



June 2020 Council Meeting Webinar

Tuesday, June 16 – Thursday, June 18, 2020

Due to public health concerns related to the spread of COVID-19 (coronavirus), the Mid-Atlantic Fishery Management Council's June meeting will be conducted by webinar only. This webinar-based meeting replaces the in-person meeting previously scheduled to be held in Virginia Beach, VA.

Briefing materials and webinar connection information will be posted on the Council's website at <http://www.mafmc.org/briefing/june-2020>.

Agenda

Tuesday, June 16th

- | | |
|-------------------------|--|
| 9:00 a.m. | Council Meeting with the Atlantic States Marine Fisheries Commission's Summer Flounder, Scup, and Black Sea Bass Management Board |
| 9:00 a.m. - 10:00 a.m. | Summer Flounder Commercial/Recreational Allocation Study Model Update (Tab 1)
<i>Kurt Schnier and Rob Hicks</i> <ul style="list-style-type: none">- Review updated economic model results |
| 10:00 a.m. - 12:00 p.m. | Black Sea Bass Commercial State Allocation Amendment (Tab 2) <ul style="list-style-type: none">- Review scoping comments and PDT recommendations- Discuss draft range of alternatives |
| 12:00 p.m. - 1:00 p.m. | Lunch |
| 1:00 p.m. – 4:00 p.m. | Summer Flounder, Scup, and Black Sea Bass Commercial/Recreational Allocation Amendment (Tab 3) <ul style="list-style-type: none">- Review FMAT recommendations- Refine range of draft alternatives |
| 4:00 p.m. – 4:30 p.m. | Recreational Reform Initiative (Tab 4) <ul style="list-style-type: none">- Review Steering Committee and Monitoring Committee input- Determine next steps |
| 4:30 p.m. | Council and Board Adjourn |

Wednesday, June 17th

- | | |
|-----------|---|
| 9:00 a.m. | Council Meeting with the Atlantic States Marine Fisheries Commission's Bluefish Management Board |
|-----------|---|

- 9:00 a.m. - 12:00 p.m.** **Bluefish Allocation and Rebuilding Amendment (Tab 5)**
- Review FMAT recommendations
 - Refine range of draft alternatives
- 12:00 p.m.** **Council and Board Adjourn**
- 12:00 p.m. - 1:00 p.m.** **Lunch**
- 1:00 p.m.** **Council Convenes**
- 1:00 p.m. - 2:00 p.m.** **Mackerel, Squid, Butterfish Committee, Meeting as a Committee of the Whole - *Illex* Specifications (Tab 6)**
- Review SSC, Advisory Panel, Monitoring Committee, and staff recommendations
 - Adopt and/or revise 2020-2021 specifications
- 2:00 p.m. - 3:30 p.m.** **Update on Habitat Activities (Tab 7)**
- Update on progress on Northeast Regional Habitat Assessment – *Victoria Kentner and Chris Haak (Integrated Statistics/NMFS, Monmouth University/NMFS)*
 - Overview of Habitat Climate Vulnerability Assessment results – *Emily Farr, Mark Nelson, Mike Johnson (NMFS)*
 - Habitat Conservation Division review of regional projects of interest, including offshore wind - *Karen Greene (NMFS)*
 - Developments at the Regional Offshore Science Alliance (ROSA) – *Lyndie Hice-Dunton (ROSA)*
- 3:30 p.m. - 4:00 p.m.** **Unmanaged Landings Update (Tab 8)**
- Review annual report on landings of unmanaged species
- 4:00 p.m.** **Council Adjourns**

Thursday, June 18th

- 9:00 a.m.** **Council Convenes**
- 9:00 a.m. - 1:00 p.m.** **Business Session**
- Committee Reports (Tab 9)**
- Scientific and Statistical Committee Report
 - Research Steering Committee Report
- Executive Director's Report (Tab 10)**
Chris Moore
- Organization Reports (Tab 11)**
- NMFS Greater Atlantic Regional Office
 - NMFS Northeast Fisheries Science Center
 - NOAA Office of General Counsel
 - NOAA Office of Law Enforcement
 - US Coast Guard
- Liaison Reports (Tab 12)**
- New England Council
 - South Atlantic Council

Continuing and New Business

April 2020 Council Meeting – Motions

Golden Tilefish

Move to establish the golden tilefish specifications (ABCs, ACLs, ACTs, and TALs) for 2021 and 2022 (interim) as specified in the table below (which is status quo except for the Incidental TAL). There would be no changes to any management measures.

Heins/DiLernia - **Nolan recusal**

Motion passes by consensus with one recusal.

	2021	2022 (interim)	Basis (2021-2022)
OFL	NA	NA	NA
ABC	1.636 m lb. (742 mt)	1.636 m lb. (742 mt)	Recommendation based on recent fishing trends and scheduled 2021 management track assessment update
ABC % of OFL	NA	NA	
ACL	1.636 m lb. (742 mt)	1.636 m lb. (742 mt)	ABC = ACL
IFQ ACT	1.554 m lb. (705 mt)	1.554 m lb. (705 mt)	IFQ 95% of ACL Incidental 5% of ACL. Deduction for management uncertainty = 0
Incidental ACT	0.082 m lb. (37 mt)	0.082 m lb. (37 mt)	
IFQ Discards	0	0	Discards in the IFQ fishery are prohibited
Incidental Discards	0.011 m lb. (5 mt)	0.011 m lb. (5 mt)	Avg. discard (2015-2019) mostly sm/lg mesh OT and Gillnet gear
IFQ TAL	1.554 m lb. (705 mt)	1.554 m lb. (705 mt)	IFQ ACT - IFQ Discards
Incidental TAL	0.070 m lb. (32 mt)	0.070 m lb. (32 mt)	Incidental ACT - Incidental Discards

Move that given the COVID-19 national emergency, to request the service to consider an emergency action to allow a 5% rollover of unused IFQ 2020 quota allocation for the golden tilefish fishing year November 1, 2020 thru October 31, 2021.

Hughes/Cimino (16/2/0/1) - **Nolan recusal**

Motion Carries

Move to postpone until June 2020.









Nowalsky/Clark








3/14/1/1 Motion fails

The above agenda items may not be taken in the order in which they appear and are subject to change as necessary. Other items may be added, but the Council cannot take action on such items even if the item requires emergency action without additional public notice. Non-emergency matters not contained in this agenda may come before the Council and / or its Committees for discussion, but these matters may not be the subject of formal Council or Committee action during this meeting. Council and Committee actions will be restricted to the issues specifically listed in this agenda. Any issues requiring emergency action under section 305(c) of the Magnuson-Stevens Act that arise after publication of the Federal Register Notice for this meeting may be acted upon provided that the public has been notified of the Council's intent to take final action to address the emergency. The meeting may be closed to discuss employment or other internal administrative matters.

Stock Status of MAFMC-Managed Species

(as of 6/2/20)

SPECIES	STATUS DETERMINATION CRITERIA		Stock Status	Most Recent Assessment
	Overfishing $F_{\text{threshold}}$	Overfished $\frac{1}{2} B_{\text{MSY}}$		
 Summer Flounder	$F_{35\%MSP}=0.448$	63 million lbs	No overfishing Not overfished	Most recent benchmark assessment was 2018.
 Scup	$F_{40\%MSP}=0.215$	103.64 million lbs	No overfishing Not overfished	Most recent operational assessment was 2019.
 Black Sea Bass	$F_{40\%MSP}=0.46$	15.53 million lbs	No overfishing Not overfished	Most recent operational assessment was 2019.
 Bluefish	$F_{35\%SPR}=0.183$	219.05 million lbs	No overfishing Overfished	Most recent operational assessment was 2019.
 Illex Squid (short finned)	Unknown	Unknown	Unknown Unknown	Most recent benchmark assessment was 2006; not able to determine current exploitation rates or stock biomass.
 Longfin Squid	Unknown	46.7 million lbs	Unknown Not overfished	Most recent assessment update was 2017; not able to determine current exploitation rates.
 Atlantic Mackerel	$F_{40\%}=0.26$	217.0 million pounds	Overfishing Overfished	Most recent benchmark assessment was 2017
 Butterfish	$F_{\text{Proxy}}=2/3M=0.81$	50.3 million lbs	No overfishing Not overfished	Most recent assessment update was 2017.

SPECIES	STATUS DETERMINATION CRITERIA		Stock Status	Most Recent Assessment
	Overfishing $F_{\text{threshold}}$	Overfished $\frac{1}{2} B_{\text{MSY}}$		
Surfclam 	$F/F_{\text{threshold}} = 1^a$	$SSB/SSB_{\text{threshold}} = 1^b$	No overfishing Not overfished	Most recent benchmark assessment was 2016.
Ocean Quahog 	$F/F_{\text{threshold}} = 1^c$	$SSB/SSB_{\text{threshold}} = 1^d$	No overfishing Not overfished	Most recent benchmark assessment was 2017.
Golden Tilefish 	$F_{38\%MSP} = 0.310$	10.46 million lbs	No overfishing Not overfished	Most recent assessment update was 2017.
Blueline Tilefish 	Unknown	Unknown	South of Cape Hatteras: No overfishing Not overfished North of Cape Hatteras: Unknown Unknown	Most recent benchmark assessment was 2017.
Spiny Dogfish (Joint mgmt with NEFMC) 	$F_{\text{MSY}} = 0.2439$	175.6 million lbs Female SSB	No overfishing Not overfished	Most recent assessment update was 2018.
Monkfish (Joint mgmt with NEFMC) 	NFMA & SFMA $F_{\text{MAX}} = 0.2$	NFMA - 1.25 kg/tow SFMA - 0.93 kg/tow (autumn trawl survey)	Unknown Unknown	Recent benchmark failed peer review and invalidated previous 2010 benchmark assessment results. Operational assessment in 2019 used survey data to scale earlier ABC.
Chub Mackerel 	At least 3,026 MT of catch per year ^e	At least 3,026 MT of catch three years in a row	No overfishing Not overfished	No stock assessment.

SOURCES: Office of Sustainable Fisheries - Status Report of U.S. Fisheries; SAW/SARC, SEDAR, and TRAC Assessment Reports.

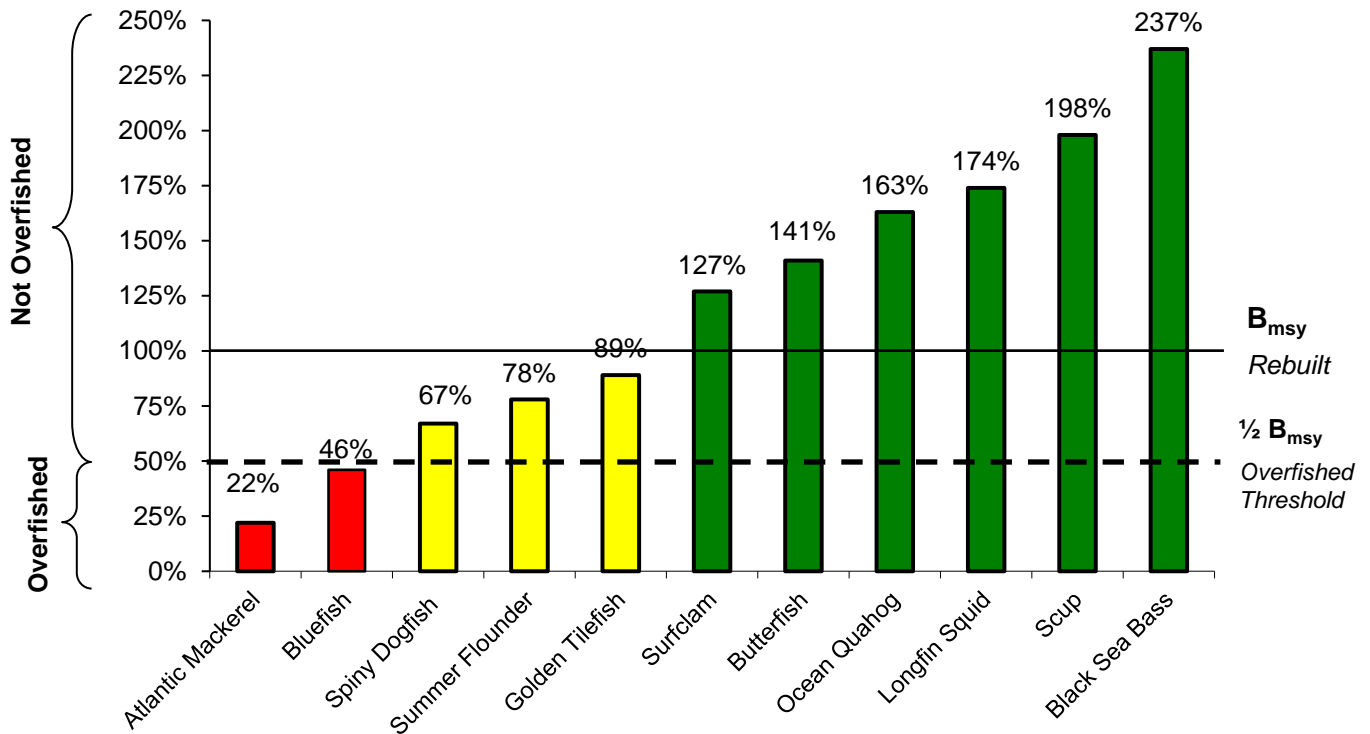
^a $F_{\text{threshold}}$ is calculated as 4.136 times the mean F during 1982 - 2015

^b $SSB_{\text{threshold}}$ is calculated as $SSB_0/4$

^c $F_{\text{threshold}}$ is 0.019

^d $SSB_{\text{threshold}}$ is calculated as $0.4 * SSB_0$

Stock Size Relative to Biological Reference Points (as of 6/2/20)



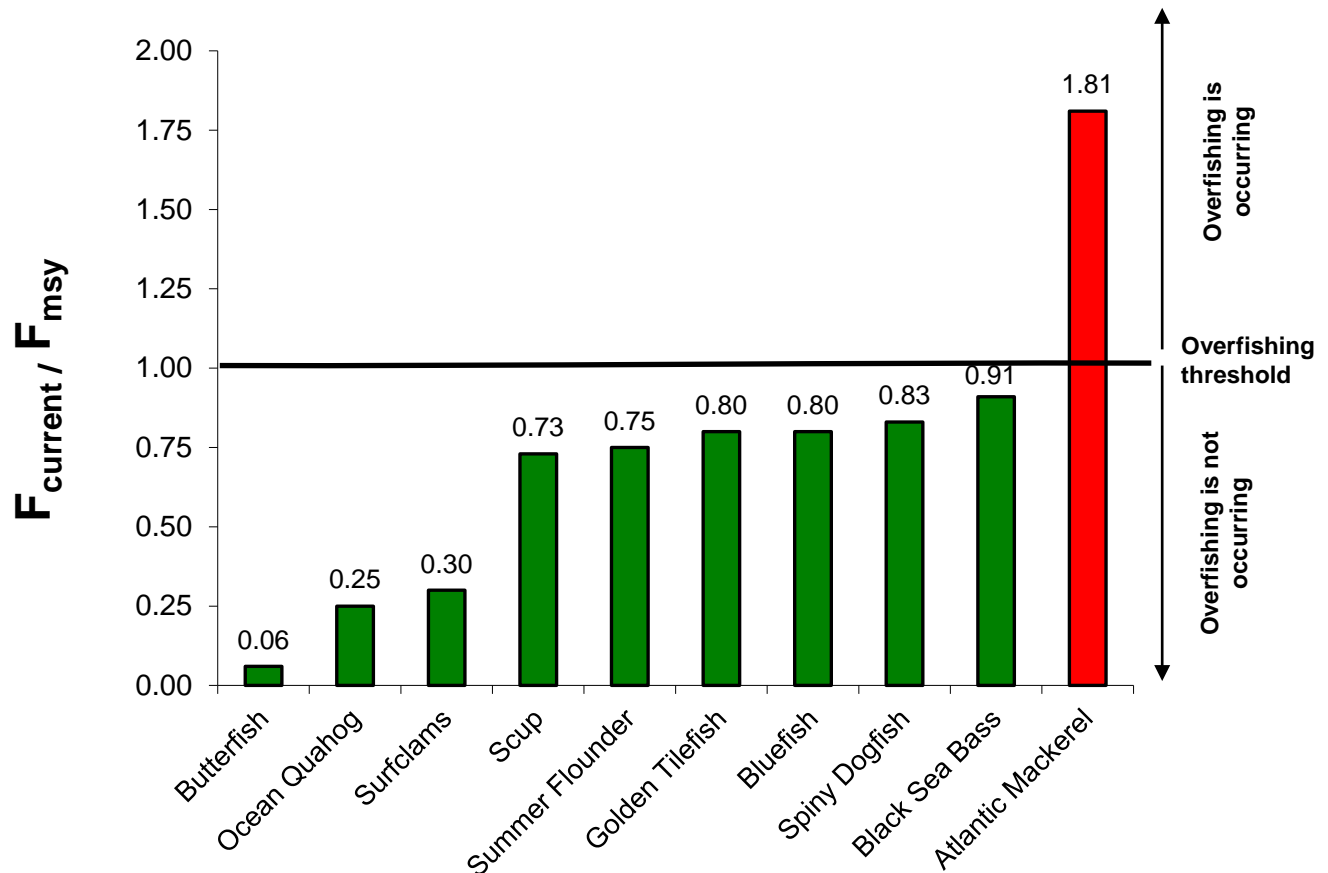
Notes:

- Unknown B_{msy} - *Illex* squid, monkfish (NFMA & SFMA), blueline tilefish (North of Cape Hatteras), and chub mackerel.
- Of the 15 species managed by the Council, 6 are above B_{msy} , 5 are below B_{msy} , and 4 are unknown.

Year of data used to determine stock size	
Atlantic Mackerel	2016
Black Sea Bass	2018
Bluefish	2018
Butterfish	2016
Golden Tilefish	2016
Longfin Squid	2016
Ocean Quahog	2016
Spiny Dogfish	2018
Surfclam	2015
Scup	2018
Summer Flounder	2017

Fishing Mortality Ratios for MAFMC-Managed Species

(as of 6/2/20)



Notes:

- Unknown fishing mortality: *Illex* squid, Longfin squid, monkfish (NFMA and SFMA), blueline tilefish (North of Cape Hatteras), and chub mackerel.
- Of the 15 species managed by the Council, 9 are above F_{msy}, 1 is above, and 5 are unknown.

Year of data used to determine stock size	
Atlantic Mackerel	2016
Black Sea Bass	2018
Bluefish	2018
Butterfish	2016
Golden Tilefish	2016
Ocean Quahog	2016
Spiny Dogfish	2017
Surfclam	2015
Scup	2018
Summer Flounder	2017



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MEMORANDUM

Date: June 3, 2020
To: Council and Board
From: Kiley Dancy, Staff
Subject: Summer Flounder Commercial/Recreational Allocation Economic Model Update

On Tuesday, June 16, the Council and Board will receive preliminary results of an update to the summer flounder commercial/recreational economic model to evaluate the 60/40 summer flounder sector allocation. The model, developed by Dr. Kurt Schnier (University of California, Merced) and Dr. Rob Hicks (College of William & Mary), aims to determine which allocations would maximize marginal economic benefits to the commercial and recreational sectors, by combining recreational and commercial spatial discrete choice models to simulate behavior under alternative allocations between the sectors. The original model was peer reviewed in November 2016¹ and presented to the Council and Board in December 2016.

Because the study previously used MRIP data prior to the 2018 revisions, the developers are currently updating the model to reflect revised MRIP estimates. A report with updated model results is not yet available, but additional information will be posted in supplemental materials prior to the June meeting. Attached to this memo is the original model report from 2016.

¹ The peer review report can be found at: https://www.mafmc.org/s/Summer-Flounder-Allocation-Review_review_panel_report_FINAL_Dec5_2016.pdf.

Commercial and Recreational Allocation for Summer Flounder

Robert Hicks
Kurt Schnier

April 11, 2017

Executive Summary

This work develops economic models for assessing the economic efficiency from allocation decisions made between the recreational and commercial fishing sectors for summer flounder along the Atlantic Coast of the United States. In this work, we rely on existing datasets to analyze economic welfare changes for commercial and recreational stakeholders having direct engagement fishing for summer flounder. Our work shows that

- The existing 60/40 commercial/recreational allocation is not suboptimal from an economic efficiency perspective
- Minor changes to a 60/40 allocation *in either direction* would most likely not lower the economic benefits received from the fishery

In the work, we note numerous caveats and will not list them again here. But any discussion or use of the results in this report must bear in mind the limitations of the models, the data, and the policy analysis. Even given these caveats, this work provides a useful metric for assessing the economic efficiency of various allocations across the commercial and recreational sectors for directly engaged stakeholders.

Document Roadmap

Chapter 1 provides a broader introduction to this report. To motivate the empirical approaches taken in this report we present a small description of some historical data characterizing the commercial and recreational fisheries in Chapter 2. We develop economic models for the recreational (Chapter 3) and commercial (Chapter 4) sectors. In Chapter 5 we combine the recreational and commercial models for performing the allocation analysis, describe important caveats, and provide recommendations.

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Chapter 1

Introduction

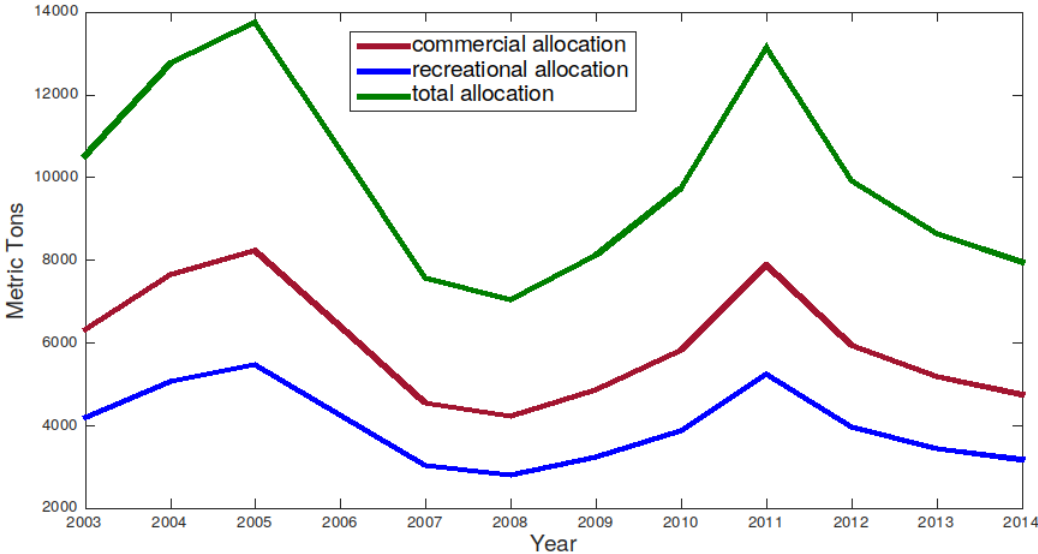
Summer flounder, also known as fluke, is an important commercial and recreational species, and are found in pelagic and demersal waters from the Gulf of Mexico through North Carolina, with larger concentrations in the mid-Atlantic and northwest Atlantic region. They spawn during the Fall and Winter along the continental shelf and they exhibit a strong seasonal inshore-offshore movement. They inhabit shallow coastal waters in the warmer months and then remain offshore during the colder months (MAFMC 2016). This strong seasonality is an important aspect of the commercial fleet, which consists of a winter offshore and a summer inshore fishery. The recreational fishery also responds to this seasonality with most directed summer flounder trips occurring during the warm summer months. The nature of the harvesting also requires management coordination because fishermen operate within both state (less than 3 miles offshore) and federal (3-200 miles offshore) waters.

The commercial and recreational landings for summer flounder were exceptionally high in the late 1970s through the 1980s, peaking at 26,100 metric tons in 1983. During the late 1980s and early 1990s the landings substantially decreased as the stock was overfished and a limited access fishery program was implemented. The first Fishery Management Plan (FMP) for summer flounder was conducted in 1988, shortly after the stock had been declared overfished Terceiro (2012). The management of the stock is conducted jointly by the Mid-Atlantic Fishery Management Council (MAFMC) and the Atlantic States Marine Fisheries Commission (ASMFC). Official policies are established by the National Marine Fisheries Service (NMFS). In 2012 the stock was declared rebuilt. The most recently published stock assessment for summer flounder was conducted in 2013. At that time it was concluded that the summer flounder stock was not overfished and that fishing mortality had decreased since 1997 (57th SAW 2013). However, in 2016

the summer flounder quota was reduced by 29% because of the observed overfishing in 2014 and the below-average recruitment rates observed in the year classes from 2010-2013 (MAFMC 2015). This reduction is part of a larger phase-in policy to reduce the total allowable catch over the coming years (MAFMC 2015). Therefore, the stock dynamics for summer flounder have recently undergone a substantial transition in the perception of overall health.

Under Amendment 2 (ratified in 1992) of the summer flounder FMP, the total allowable catch for summer flounder is divided between the commercial and recreational sectors. Currently, 60% of the total allowable catch is allocated to the commercial sector and 40% is allocated to the recreational sector. All allocations were based on historical catch rates observed between 1980-89. In addition, the commercial landings were further subdivided among the states that landed summer flounder based on their historical landings between 1980-1989 (Terceiro 2012). Sector allocations from 2003-2014 are illustrated in Figure 1.1 and are based on the limits reported on the MAFMC website.

Figure 1.1: Historical Recreational and Commercial Summer Flounder Allocations Plots



1.1 Allocation Analysis

To formulate a recommendation regarding the allocation of summer flounder across the commercial and recreational fishing sectors we will employ the equimarginal principal.

This method solely focuses on the economic impacts of the allocation, however distributional issues and social impacts may also be an important concern for policymakers (Edwards 1990). Given that one's value for summer flounder will depend on the current allocation of summer flounder to their respective sector, we account for this by calculating one's marginal value for a pound of summer flounder conditional on their current sector allocation. By equating marginal values between the commercial and recreational sectors we will be able to determine the sector allocations that maximize the total welfare.

Estimating the marginal value per a pound of summer flounder in the recreational sector utilizes a random utility model of site choice and follows an established literature discussed in Chapter 4. We develop a full model of recreational fishing along the Atlantic Coast and the model allows for mode, target, and species choice.

In order to estimate the marginal value per a pound of summer flounder in the recreation sector we use data from the NOAA Fisheries Office of Science and Technology's Marine Recreational Information Program. This data allows us to use better weighting methodology to improve our valuation models considerably (compared to the Marine Recreational Fisheries Statistics Survey Data). By linking policy changes to changes in expected catch in our model, we are able to develop measures of changes in the economic value of recreational fishing due to policy changes. Our measures are comparable to previous summer flounder studies (Gentner et al. (2010)) and Massey, Newbold and Gentner (2006)) and from our model we are able to develop marginal value estimates for a wide range of allocation possibilities.

Estimating the marginal value per a pound of summer flounder in the commercial sector has been traditionally approached from the consumer demand perspective (Carter et al. 2008; Gentner et al. 2010). However a limitation of this method is that it approaches it from a profit function perspective where harvest rates are a selection variable in a firm's profit maximization problem, whereas the modeling used to estimate recreational demand comes from a random utility model specification. The approach we elect to utilize in our modeling efforts utilizes the same random utility model foundation used in the recreational demand literature and combines it with fishery simulations to estimate the marginal values per a pound of summer flounder.

To estimate marginal value per a pound of summer flounder in the commercial fleet we will use observer data as well as trip level cost data from 2000 through 2014. The observer data contains detailed landings data for a sub-sample of the fleet operating off the east coast of the United States from Maine down to North Carolina. This includes

the vessel's trip-level landings of summer flounder as well as all other species caught. The trip-level cost data contains detailed information on the costs vessels incurred during their fishing trips. These costs include fuel, food, bait, ice and other supply costs associated with the trip. Combining the information garnered from these two data sets we are able to construct expected profits from fishing in a particular location at a particular point in time and construct a fishery simulation to estimate marginal values.

1.2 Document Roadmap

To motivate the empirical approaches taken in this report, we next present a small description of some historical data characterizing the commercial and recreational fisheries. We focus our discussion on the data we will ultimately use for the analysis since numerous fisheries summaries exist elsewhere (e.g. Terceiro (2012))

To perform the allocation analysis, we develop parallel models in the recreation (Chapter 3) and commercial (Chapter 4) sectors. In the recreational chapter, we discuss conceptual issues relating to defining the recreational choice problems, implement these, and present estimation results for a behavioral model of summer recreational flounder fishing. We describe how we use the model results to develop and marginal value schedule for quota allocation changes and discuss caveats. In the commercial chapter, we develop a new way of analyzing the impacts of policies on commercial fishermen. The model uses a similar methodology to Chapter 3, but then uses this methodology to simulate fleet behavior when quota allocation changes. This allows us to measure changes in seasonal profits under various quota allocation levels, from which we derive the marginal value schedule for the commercial fishery.

In conclusion, we perform the allocation analysis, describe important caveats, and provide recommendations in Chapter 5

Chapter 2

Fishery Summaries

2.1 Commercial Fishery Summary

The commercial allocation, annual landings and annual value for summer flounder from 2000 through 2014 are illustrated in Table 2.1. The recent commercial allocations have been decreasing, however the market value has remained relatively stable. In 2014 the commercial landings for summer flounder were 4,941.2 metric tons, which is slight over the commercial allocation of 4,767.3 metric tons. This catch resulted in a value of \$32,299,399. Between 2000 and 2014 the commercial allocation has not always been completely executed. This occurred in 2003, 2004, 2007, 2008, 2010 and 2013.

The commercial allocation is divided up among the states that harvest summer flounder. The state allocations are contained in Table 2.2. The states with the largest share of the summer flounder quota are North Carolina, Virginia, New Jersey and Rhode Island. The annual landings by state and year are contained in Table 2.3. The distribution of annual landings by state is similar to the percentages allocated to each state, which implies that no one state systematically executes lower than their percentage allocation.

2.2 Fisheries Data

The primary data set we utilize for our analysis is the fishery observer data. This data set contains detailed spatial production data, however only a small percentage of vessels are contained in the observer data. To investigate the robustness of this data set we will compare it to the vessel trip report (VTR) data that contains a larger percentage of the fleet activity. Because the VTR data does not contain detailed and sequenced spatial

Table 2.1: Annual Landings and Value for Summer Flounder

Year	Commercial Allocation	Metric Tons Landed	Pounds Landed	Value
2000	5,039.9	4,998.3	11,019,193	19,692,892
2001	6,480.4	4,860.6	10,715,630	17,331,869
2002	6,316.4	6,453.5	14,227,332	21,071,477
2003	6,341.2	6,499.2	14,328,181	23,188,120
2004	7,674.8	8,139.8	17,945,026	28,882,286
2005	8,246.3	7,749.1	17,083,575	30,118,259
2006	6,418.3	6,331.9	13,959,339	29,764,388
2007	4,549.5	4,445.5	9,800,522	23,848,565
2008	4,227.5	4,096.1	9,030,351	21,926,159
2009	4,871.6	4,896.6	10,795,138	22,358,627
2010	5,842.3	5,971.1	13,163,869	28,562,911
2011	7,883.4	7,218.0	15,912,725	31,775,642
2012	5,960.2	5,672.2	12,504,943	30,389,195
2013	5,189.1	5,395.3	11,894,588	28,613,558
2014	4,767.3	4,941.2	10,893,454	32,299,399

Table 2.2: State Allocations of Summer Flounder as a Percentage of Total Allocation

State	Percentage SF
ME	0.0476%
NH	0.0005%
MA	6.8205%
RI	15.6830%
CT	2.2571%
NY	7.6470%
NJ	16.7250%
DE	0.0178%
MD	2.0391%
VA	21.3168%
NC	27.4458%

Table 2.3: Annual Landings by Year and State in Metric Tons

Year	ME	MA	RI	CT	NY	NJ	DE	MD	VA	NC
2000	3.1	357.9	772.2	112.2	368.3	838.3	5.6	0.0	1,001.0	1,536.1
2001	10.0	314.8	815.9	112.1	341.0	791.7	3.4	0.0	1,206.4	1,263.2
2002	0.2	457.9	1,037.1	161.8	477.6	1,091.8	1.2	0.0	1,347.3	1,873.0
2003	0.0	419.9	988.0	143.7	486.8	1,081.9	2.5	0.0	1,597.5	1,620.5
2004	0.1	541.0	1,399.1	184.2	723.2	1,192.9	3.4	119.1	1,771.8	2,197.3
2005	1.6	578.1	1,326.9	203.5	815.9	1,065.5	2.5	153.2	1,755.0	1,843.6
2006	0.0	417.5	963.1	143.6	553.3	1,079.5	1.6	112.4	1,250.5	1,806.0
2007	0.0	299.4	687.5	93.0	427.1	769.7	1.0	103.8	841.7	1,211.2
2008	0.0	292.4	668.3	100.1	388.4	698.9	0.6	94.4	750.1	1,091.6
2009	0.0	331.7	813.7	113.7	517.9	815.9	1.3	96.9	898.3	1,296.9
2010	0.0	386.4	1,038.5	139.9	618.5	982.2	0.8	118.6	1,175.8	1,501.9
2011	0.0	513.6	1,281.0	182.1	688.1	1,284.0	0.4	117.7	1,843.7	1,294.6
2012	0.0	404.4	1,092.9	143.1	561.5	1,029.1	0.4	75.0	1,869.8	494.5
2013	0.0	389.8	994.5	128.9	468.7	909.1	0.4	80.7	2,174.6	245.7
2014	0.0	315.7	932.1	115.0	378.1	828.5	0.8	117.4	929.4	1,320.8

behavior information we are unable to utilize it for our analysis. Table 2.4 contains information on the spatial distribution of effort within the VTR and observer data from 2012 through 2014, the last few years of our analysis. For the most part the spatial distribution of effort is similar across both data sets, however there a few sites where the rates of visitation are different.¹

Table 2.4: Commercial Percentage of Effort by Year and Area

area_id	VTR Data			Observer Data		
	2012	2013	2014	2012	2013	2014
464	0.15	0.11	0.21	0.46	0.04	0.29
465	0.03	0.05	0.05	0.00	0.16	0.00
511	0.01	0.02	0.01	0.00	0.12	0.00
512	0.80	0.99	0.68	0.62	0.37	0.00
513	3.39	5.49	5.30	4.29	3.17	5.59
514	8.03	6.50	5.41	16.75	8.39	13.64
515	2.95	3.57	3.95	5.36	3.64	8.67
521	7.37	9.51	7.76	8.72	9.36	6.12
522	8.55	6.90	6.27	10.74	10.51	7.57
525	2.20	1.80	2.78	2.47	2.27	0.92
526	2.23	3.29	1.71	0.36	1.42	0.77
533	0.00	0.01	0.01	0.01	0.00	0.00
537	9.53	11.02	11.64	9.28	7.61	17.11
538	1.23	1.12	1.47	1.81	1.18	0.00
539	5.32	5.95	4.99	4.09	6.62	5.64
561	2.25	1.97	1.10	2.02	0.94	0.72
562	3.26	2.09	2.31	1.09	1.31	0.53
611	2.29	2.73	2.32	1.26	4.08	1.20
612	4.95	4.60	5.45	4.95	6.54	0.48
613	8.07	7.53	10.02	4.70	7.05	2.22
614	0.92	1.17	0.89	0.19	1.07	0.00
615	7.14	6.23	4.78	0.94	1.76	1.01
616	4.38	4.26	6.55	11.29	9.90	15.18
621	2.30	1.78	2.27	1.67	3.08	0.96
622	3.45	2.53	1.84	3.19	4.57	6.70
623	0.21	0.05	0.15	1.01	0.18	0.29
625	1.22	1.03	0.66	0.00	0.16	0.00
626	0.90	0.71	1.32	1.18	2.65	1.88
627	0.01	0.02	0.03	0.15	0.16	0.00
631	1.40	1.07	0.53	0.07	0.21	0.00
632	0.24	0.23	0.18	0.51	1.13	0.00
635	1.24	1.84	3.46	0.79	0.14	0.77
636	0.06	0.15	0.19	0.03	0.22	1.59
701	0.09	0.33	0.21	0.00	0.00	0.05
702	0.01	0.02	0.01	0.00	0.00	0.10

¹VTR and Observer site selection by year are highly correlated (.754) for the period 2012-2014.

Table 2.1 contains information on the average daily, weekly and monthly price for summer flounder in 2014. The price for summer flounder is lower in the winter months, the time period when much of the summer flounder quota is landed, and higher in the summer months, the time period when landings are lower. Therefore, there does appear to be a correlation between the availability of summer flounder in the market and its ex-vessel price.

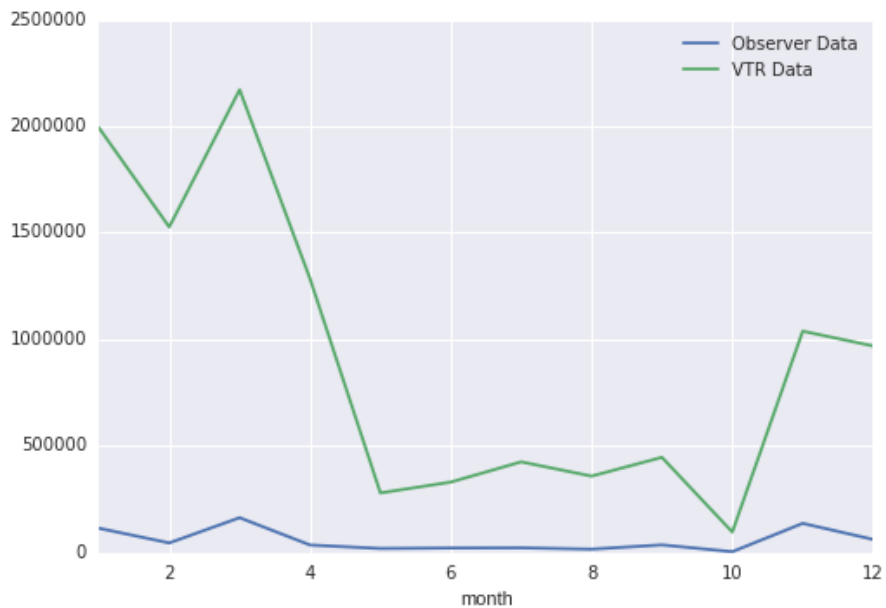
Figure 2.1: Summer Flounder Ex-Vessel Price (2014)



The seasonal variation in the catch of summer flounder is observed in Table 2.5 and Figure 2.2. The bulk of the summer flounder allocation is landed between the winter months of November through March. However, the sites visited differ between November and December and those fished from January through March. The predominate sites

visited in November and December are 615, 616 and 621 with increased activity in site 537 in December. Site 537 is a highly fished site in January through March as well as sites 525 and 526. Fishing activity in the summer months is more spread out across the other sites, but little effort is spent fishing in the more highly visited winter sites. This pattern is a result of the seasonal migration patterns for summer flounder. The seasonal fishing patter figure, Figure 2.2, graphical illustrates the fishing patterns. Given that the observer data contains only a fraction of the total harvest observed in the VTR data the patters are not as evident. However, as will be illustrated in the upcoming sections of the report (see Figure 4.3) the seasonal patterns are similar to those observed in the VTR data.

Figure 2.2: Commercial Summer Flounder Catch By Month (2013)



2.3 Recreational Fishery Summary

In this section, we outline the important trends with respect to summer flounder catch, regulation, and participation by recreational anglers. Unless otherwise stated, all summary statistics in this section are obtained from *National Marine Fisheries Service* (2016). The summer flounder fishery is one of the largest and extensive recreational fisheries along the Atlantic Coast of the United States, if not the entire United States. For example, from North Carolina to Rhode Island in 2014 of the approximately 25 million recreation fishing trips 16.13% were primarily targeting summer flounder and 14.13% caught summer flounder.

2.3.1 Regulatory Background

There are three primary management policies set annually for limiting recreational harvest: Bag and Minimum Size Limits; and season limits. Tables 2.6 and 2.7 show the levels set for these management policies for the years 2009 and 2014, respectively.² Examining minimum size limits shows there is substantial variation across states. In 2009, Connecticut and New York anglers are required to release more fish (smaller than 21 and 19.5 inches respectively), whereas anglers further south in some states could keep fish as small as 15 inches in 2009 (North Carolina). In comparison, in 2014 there is somewhat more harmonization in Minimum Size Limits with a more stark North/South divide at New Jersey.

We see similar patterns with respect to bag limits. In 2009 there was more heterogeneity than in 2014, with a similar North/South delineation around New Jersey, except that from New Jersey northwards (excluding Massachusetts), anglers were allowed to retain more summer flounder. We also see that seasons are more restricted in the Northern Regions of the study area, in particular in New York, New Jersey, and Connecticut.

What variation we do see in the policies are dependent on seasonal trends with respect to harvest (a function of both biological factors and angler decisions), and as we will see shortly, the majority of recreational harvest occurs in New Jersey and New York. The net effect of the three policies enacted by managers is an annual harvest in the recreational sector, that is estimated because not every recreational trip is observed landing at the dock. The policies outlined in Table 2.7 lead to the mean total summer

²These data are supplied by the Mid-Atlantic Fisheries Management Council, data for years 2009-2014 are available from the authors.

flounder harvest of 7,398,558 pounds as reported in Table 2.8³

2.3.2 Historical Recreational Trends

The mean estimated catch, harvest, and pounds harvested are reported in Table 2.8.⁴ Notice that catch has been declining while harvest and harvested pounds has been mostly increasing (from 2009-2014).

Catch Trends

Table 5.1 contains the detailed catch data by state and year that fleshes out the trends we saw in Table 2.8.⁵ What stands out is the catch amounts from New York and New Jersey making these states a really important focus for management. This table also shows the percentage standard errors (% SE), which demonstrates the sizable amount of uncertainty associated with the state-level totals.

To visualize what has been happening with respect to catch, we have Figures 2.3a and 2.3b showing the declining catch trends by year (for New York and New Jersey) and mostly declining trends (for other states). With the exception of Connecticut and North Carolina, nearly every state is exhibiting declining total catch per year.

³It is also highly likely that polices with respect to other recreational species also impact summer flounder harvest, but for the purposes of this study we ignore this.

⁴It is important to note that the point estimates presented in this table are point estimates that have associated uncertainties associated with them. For example, total catch in 2014 has a +- error of 7.3%.

⁵By catch, we mean any fish caught whether harvested or released, comprised of what NMFS calls A+B1+B2.

Table 2.5: Commercial Summer Flounder Catch By Area and Month (Observer Data)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
514	0.0	0.0	0.0	0.0	5.9	2.0	0.0	0.0	0.0	0.0	0.0	0.0
522	0.0	0.0	0.0	19.8	100.5	154.0	1012.0	76.0	0.0	95.0	0.0	0.0
525	24113.0	473.0	0.0	6441.2	162.0	502.9	0.0	0.0	0.0	0.0	0.0	0.0
526	40668.0	3545.0	16494.0	306.0	88.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0
537	9015.0	19771.0	100426.4	15676.5	768.0	621.5	281.2	50.0	30.0	0.0	911.1	39775.9
538	0.0	0.0	0.0	4.1	45.1	132.0	504.0	0.0	0.0	0.0	0.0	0.0
539	1740.0	541.0	454.0	4711.9	813.5	1779.9	1390.7	804.0	658.0	268.0	4084.5	1568.2
561	0.0	0.0	0.0	0.0	0.0	43.0	0.0	0.0	0.0	0.0	0.0	0.0
562	322.0	0.0	0.0	0.0	14.4	0.0	0.0	0.0	0.0	0.0	0.0	10.0
611	0.0	0.0	0.0	735.9	1981.9	3180.2	2800.9	50.0	410.0	484.0	503.2	0.0
612	80.0	54.0	24.0	258.5	8686.1	8506.9	10202.5	6854.8	28120.2	481.0	18532.7	50.0
613	21814.0	9948.0	3960.0	204.3	2620.0	1210.5	986.1	1907.4	397.0	187.3	10574.6	311.0
614	0.0	0.0	0.0	0.0	0.0	3076.0	2871.9	3378.3	3987.0	0.0	6.3	0.0
615	129.0	100.0	772.0	0.0	173.1	75.0	0.0	667.0	110.0	0.0	30506.4	355.0
616	14079.5	4396.5	26449.4	4756.8	1512.1	0.0	0.0	0.0	0.0	0.0	44707.1	17384.0
621	0.0	15.0	0.0	0.0	0.0	69.0	94.3	40.0	282.0	130.9	21015.5	184.0
622	199.0	3472.4	12814.5	293.0	0.0	0.0	0.0	0.0	0.0	0.0	41.6	0.0
623	69.0	726.0	4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
625	0.0	0.0	0.0	0.0	0.0	0.0	77.0	0.0	0.0	0.0	1370.0	0.0
626	0.0	0.0	231.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1765.0	0.0
627	0.0	134.3	24.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1000.0	0.0
631	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	290.0	0.0	0.0

Table 2.6: Summer Flounder Recreational Regulations by State 2009

State	Minimum Size (inches)	Possession Limit	Open Season
Massachusetts	18.5	5 fish	July 1 – Aug. 13
Rhode Island	21.0	6 fish	June 17 – Dec. 31
Connecticut	19.5	3 fish	June 15 – Aug. 19
New York	21.0	2 fish	May 15 - June 15 and July 3-Aug. 17
New Jersey	18.0	6 fish	May 23 – Sept. 4
Delaware	18.5	4 fish	All Year
Maryland: Atlantic & Coastal Bays Chesapeake Bay	18.0 16.5	3 fish 1 fish	April 15 - Sept. 13
Potomac River Fisheries Commission	16.5	1 fish	April 15-Sept. 13
Virginia	19.0	5 fish	All year
North Carolina	15.0 in all waters except the following: 14.0 in Pamlico Sound ^D , Albemarle Sound ^E , and Browns Inlet South ^F (lat/log are listed below)	8 fish	All Year

- A. **PAMLICO SOUND** - No person may possess flounder less than 14 inches total length taken from internal waters for recreational purposes **west of a line** beginning at a point on Point of Marsh in Carteret County at 35° 04.6166'N – 76° 27.8000'W, then running northeasterly to a point at Bluff Point in Hyde County at 35° 19.7000'N – 76° 09.8500'W. In Core and Clubfoot creeks, the Highway 101 Bridge constitutes the boundary north of which flounder must be at least 14 inches total length.
- B. **ALBEMARLE SOUND** - No person may possess flounder less than 14 inches total length taken from internal waters for recreational purposes **west of a line** beginning at a point 35° 57.3950'N – 76° 00.8166'W on Long Shoal Point; running easterly to a point 35° 56.7316'N – 75° 59.3000' W near Marker "5" in Alligator River; running northeasterly along the Intracoastal Waterway to a point 36° 09.3033'N - 75° 53.4916'W near Marker "171" at the mouth of North River; running northwesterly to a point 36° 09.9093'N – 75° 54.6601'W on Camden Point.
- C. **BROWNS INLET-SOUTH** – No person may possess flounder less than 14 inches total length in internal and Atlantic Ocean fishing waters for recreational purposes **west and south of a line** beginning at a point 34° 37.0000'N – 77° 15.000'W; running southeasterly to a point 34° 32.0000'N – 77° 10.0000'W.

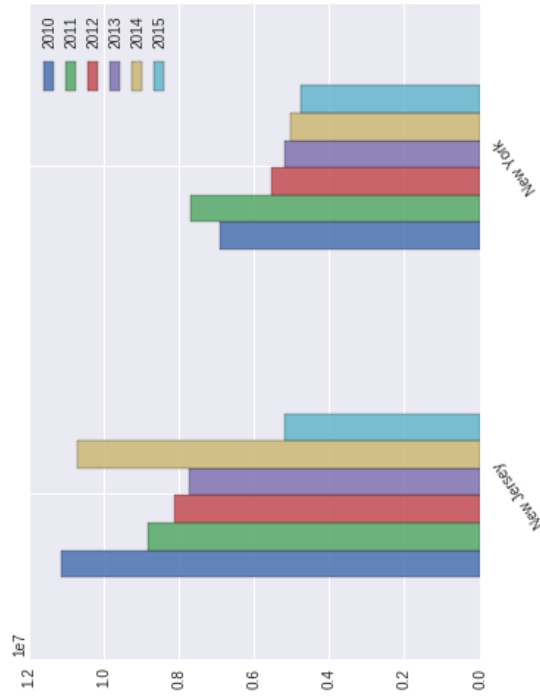
Table 2.7: Recreational Regulations by State 2014

Region	State	Minimum Size (inches)	Possession Limit	Open Season
1	Massachusetts	16	5 fish	May 22-September 30
2	Rhode Island	18	8 fish	May 1-December 31
3	Connecticut	18	5 fish	May 17- September 21
		16 (at 45 designated shore sites)		
	New York	18	5 fish	May 17- September 21
	New Jersey	18	5 fish	May 23- September 27
16 (1 pilot shore site)		2 fish	May 23-September 27	
4	Delaware	16	4 fish	January 1- December 31
	Maryland	16	4 fish	January 1- December 31
	PRFC	16	4 fish	January 1- December 31
	Virginia	16	4 fish	January 1- December 31
5	North Carolina	15	6 fish	January 1- December 31

Table 2.8: Total Recreational Catch, Harvest, and Pounds Landed (2010-2014)

Year	Catch	Harvest	Pounds
2010	23,721,520	1,501,465	5,108,357
2011	21,558,699	1,839,877	5,955,716
2012	16,528,040	2,272,135	6,489,675
2013	16,151,332	2,534,355	7,386,644
2014	19,455,661	2,459,205	7,398,558
2015	12,485,456	1,676,794	4,870,174

(a) New York and New Jersey



(b) Other Atlantic States

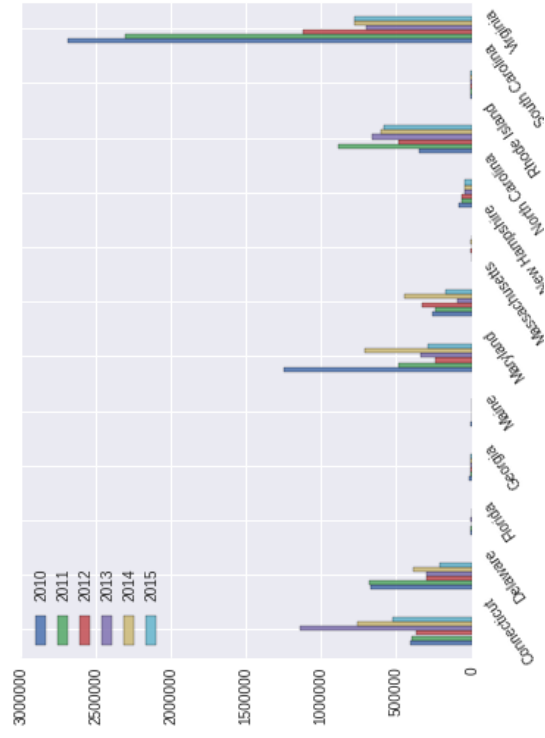


Figure 2.3: Total Recreational Catch (2010-2014)

Harvest Trends

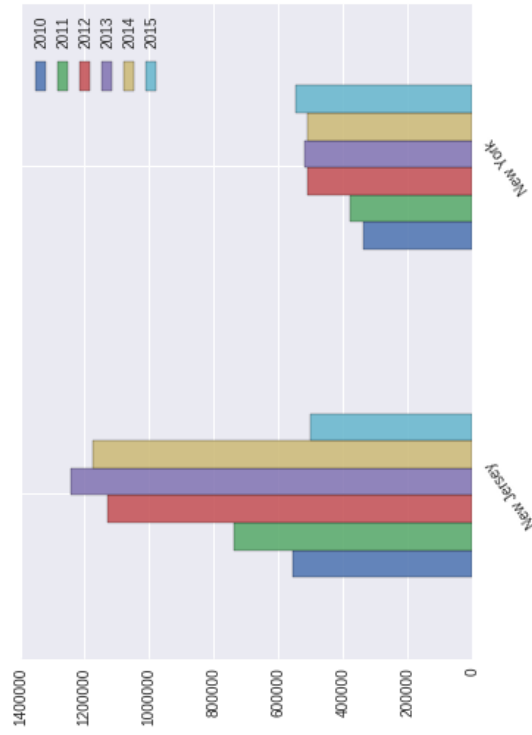
State level harvest for years 2010-2015 are reported in Table 5.2 and the data can be visualized in Figure 2.4a for New York and New Jersey and 2.4b for other Atlantic States.

⁶

Despite seeing catch falling in nearly every state during the period 2010-2015, we see harvest increasing substantially in New Jersey (except for a really steep decline in 2015) and generally upward trends in nearly every state except North Carolina and Virginia. Examining regulatory changes in New Jersey from 2014 to 2015 reveal no real change in management with bag limits stable at 5, size limits unchanged at 18 inches, and season length virtually unchanged. We also see stable regulations for Virginia and North Carolina. We see a fairly large drop in trips to New Jersey and in Virginia from 2014 to 2015.

⁶Harvest is fish landed and is comprised of what NMFS calls A+B1, which is observed and reported harvest.

(a) New York and New Jersey



(b) Other Atlantic States

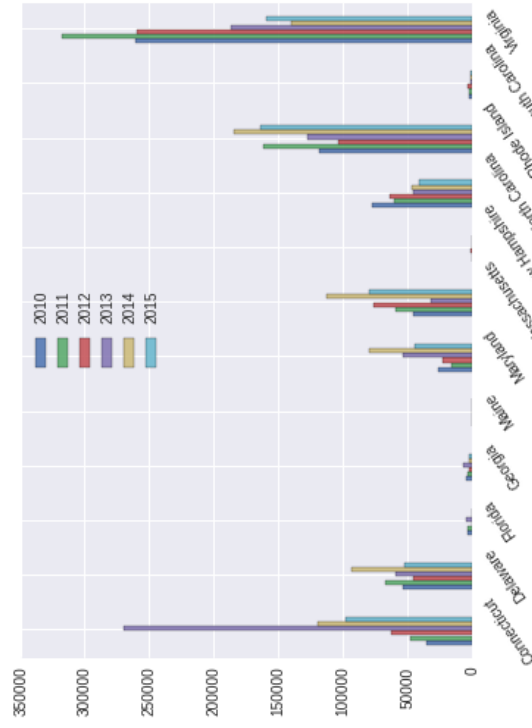
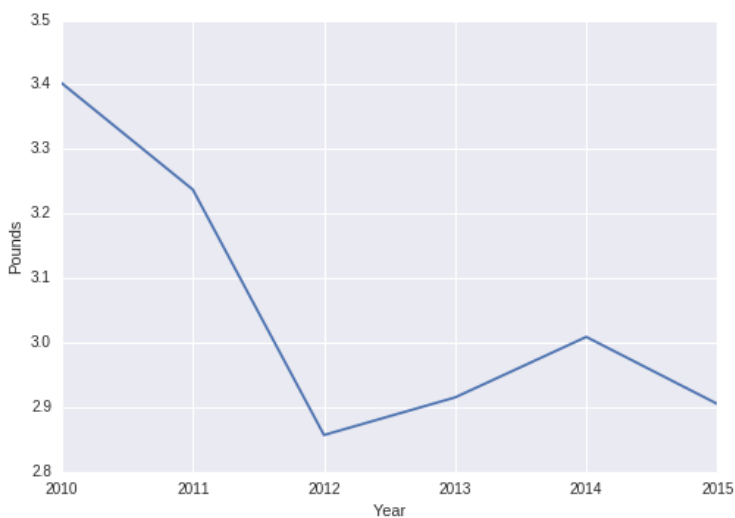


Figure 2.4: Total Recreational Harvest (2010-2014)

We see very similar trends in harvested weight in Figure 5.2. Averaging across states for a given year, the weight of the average fish harvested declined.⁷ Figure 2.5 shows the average weight of summer flounder caught per year taken across all summer flounder catches, states, and waves. This average is influenced by biological factors (annual recruitment patterns and the spatial distribution of fish), regulation (more stringent size limits will lower catch but increase the average size of this fish), and the spatial distribution of fishing (trips taken to states with lower size limits will tend to lower the average weight.).

Figure 2.5: Average Recreational Weight per Fish Landed by Year



⁷This number is absolutely a function of recreational regulations and should not be confused with the average summer flounder size.

2.3.3 Study Year: 2014

The recreation demand model in the next chapter uses data from year 2014, consequently, we focus on the 2014 data more here. From Table 2.9 we see New Jersey alone accounts for 47.80% of harvest and 48.78% of the pounds landed in the recreational fishery in 2014. New York and New Jersey combined account for 68.5% of harvest and 71.46% of pounds landed. The next largest states are Rhode Island, Connecticut, and Virginia (the ranking depend on if you examine numbers of fish caught or pounds landed).⁸

In Table 2.10, we see that the states of North Carolina and New Jersey have the largest number of trips (accounting for approximately 40% of the trips in our study area), followed by New York and Massachusetts. Within states, we see that a very high percentage of trips are directly targeting summer flounder in New York and New Jersey (28.53% and 36.86%, respectively), and in every state in the study area (except Massachusetts, Maryland, and North Carolina), summer flounder are targeted by more than 10% of trips.

In Table 2.10, we see similar patterns with respect to trips harvesting summer flounder. In New Jersey, nearly one third of trips come back with summer flounder. For many other states (except Massachusetts, Maryland, and North Carolina), more than 10% of trips land summer flounder.

2.3.4 Catch Compositions

In other work not included here for the sake of brevity, we have examined catch compositions by state for

1. trips targeting summer flounder (based on reported `prim1` from the MRIP survey), in order to ascertain what other species are commonly caught with summer flounder on “summer flounder” trips by state.
2. trips not actively targeting summer flounder, but that caught summer flounder, in order to ascertain what other species are commonly targeted on trips that have non-targeted catch summer flounder.

We find that summer flounder is such a dominant species in recreational fishing and that it is quite common to find small game (e.g., striped bass and bluefish) and

⁸This table omits the states of Maine, New Hampshire, South Carolina, Georgia, and Florida since they are dropped from the analysis due to the relatively small amounts of summer flounder activity relative to the core study area.

bottom fish (e.g. sea basses and blackdrum) catch when summer flounder is targeted. Furthermore, it is common for targeters of small game and bottom fish to catch summer flounder. What wasn't common was mixes of summer flounder with big-game fish such as tuna or marlin.

Table 2.9: Total Recreational Summer Flounder Harvest and Harvested Weight 2014

State	Harvest	% SE	Weight (lbs)	% SE
Connecticut	119502	21.1	391168	20.1
Delaware	93029	15.8	227913	16.5
Maryland	79513	56.1	179313	56.0
Massachusetts	112840	41.1	238604	36.0
New Jersey	1175383	11.7	3608939	12.1
New York	509131	14.7	1677717	16.1
North Carolina	45708	20.2	67791	22.1
Rhode Island	184668	22.5	636207	22.7
Virginia	139431	15.3	370906	17.0

Table 2.10: Recreational Trips by State 2014

State	Total		SF Directed		SF Harvested	
	Trips	% SE	Trips	% SE	Trips	% SE
Connecticut	1364928	10.9	208154	20.8	188305	16.4
Delaware	867379	10.3	182728	10.0	128873	10.1
Maryland	2472802	6.8	219234	22.7	184802	22.8
Massachusetts	3397199	6.9	66630	29.3	78065	31.0
New Jersey	4868080	6.6	1794480	9.7	1513879	10.6
New York	3955151	7.1	1128222	9.7	1019136	9.9
North Carolina	4954073	5.3	884	59.0	41738	17.4
Rhode Island	1099260	10.3	147442	16.3	121575	14.3
Virginia	2182392	8.3	310947	9.2	278128	11.6

Chapter 3

Recreational Model

Our work closely follows previous work in the valuation of marine recreational fishing using recreational fishing data from the National Marine Fisheries Service. Unlike many previous studies using the Marine Recreational Fishing Statistics Survey (Bockstael, McConnell and Strand (1989), McConnell and Strand (1994), McConnell, Strand and Blake-Hedges (1995), McConnell, Strand and Blake-Hedges (1995), Hicks et al. (1999), Haab, Whitehead and McConnell (2001), and Haab et al. (2008)), our work uses the new Marine Recreational Information Program (MRIP). This data continues to support recreational valuation models like those estimated using MRFSS data, but includes more refined survey methodology enabling for better estimation accounting for on-site sampling (see Lovell and Carter (2014), Hindsley, Landry and Gentner (2011), and Gentner et al. (2010)) and uses the Marine Recreational Information Program survey data (hereafter MRIP). Taken together, the recreational valuation model presented here

- Accounts for on-site sampling and weights the statistical model appropriately
- Constructs a full choice structure of recreational fishing
 - Anglers not observed targeting summer flounder may still receive economic value from an allocation change
 - Anglers observed targeting summer flounder have many other species substitutes for targeting
- Estimates the WTP for summer flounder angling consistent with values observed in the literature (e.g. Massey, Newbold and Gentner (2006) and Gentner et al. (2010))

- Allows for the simulation of behavior and angler willingness to pay under different quota allocations.

3.1 The Choice Structure

It is important to note that our model considers choices *ex ante*, that is before any targeting or location decisions are made. This allows our model to capture angler choices over the full range of species they might catch. This feature of our model is important as summary data suggests that even those not directly targeting summer flounder may catch summer flounder and therefore, we develop a model that allows expected trip values to be influenced by a broad range of species.

Consistent with prior work in recreational fishing valuation (e.g. McConnell and Strand (1994), Gentner et al. (2010), and Hicks et al. (1999)) we model the choice of mode [shore, private/rental, party/charter], species group [small game, bottom fish, summer flounder]¹, and fishing site (at the county level). Furthermore, we calculate site-specific quality measures (e.g. mean catch) per wave. Taken as a whole, the entire choice structure consists of $80 \times 3 \times 3 = 720$ potential choice alternatives per observed trip in the data.

3.1.1 Species Groupings

To implement the choice structure, we had to make some aggregations over species. As shown by Haab et al. (2008), it isn't possible to include species-specific choice nodes for every (or even many) species, because for each choice node we must calculate expected catch for each site and wave. This places high data requirements and to overcome this problem, past studies (e.g. McConnell and Strand (1994) and Hicks et al. (1999)) have aggregated over many species for which there is insufficient data.

We employ the McConnell and Strand (1994) aggregation scheme shown in Figure 3.1, with two notable exceptions.²

1. Because we have (a) a policy interest in summer flounder and (b) summer flounder

¹Other species groups such as big game, other flat-fish, non-specific targets are omitted from our analysis based on our analysis of catch profiles for recreational trips involving summer flounder.

²The reader may notice some species listed which are rarely, if ever, caught in the study area. This is because McConnell and Strand (1994) examined the entire Atlantic seaboard as well as the panhandle of Florida. However, their species group assignment is valid for the study area as it embodies both biological characteristics and recreational fishing experience when categorizing species.

is one of the most targeted and caught species in the United States, we break summer flounder out of the flat fish group

2. After breaking summer flounder out of the flat fish group, we don't have enough data to include an "other flatfish" category, so all other flatfish are dropped for our analysis.
3. When conducting our species composition analysis, we found that there was virtually no overlap between McConnell and Strand's "big game" category and summer flounder, so it is dropped from the analysis.

Table 3.1: The McConnell Strand Species Groupings Employed in this Study

Small Game		
Striped Bass	Bluefish	Jack
Pompano	Seatroun	Bonefish
Bonito	Snook	Red Drum
Barracuda	Mackerel	
Bottom Fish		
Sandbar Shark	Dogfish Shark	Cat Shark
Sand Tiger Shark	Smooth Dog Shark	Carp
Catfish	Toadfish	Cod/Codfish
Pollack	Hake	Sea Robin
Sea Bass	Sawfish	Grunt
Kingfish	Mullett	Tautog
Butterfish	Nurse Shark	Brown Cat Shark
Porgy/Scup	Sheepshead	Pinfish
Snapper	Grouper	Perch
Black Drum		
Flat Fish		
Summer Flounder	Winter Flounder	Southern Flounder
Sole	Founders	
Big Game		
Blue Shark	Tuna	Marlin
Thresher Shark	Great Hammerhead	Swordfish
Shortfin Mako Shark	Tiger Shark	White Shark
Smooth Hammerhead	Scalloped Hammer	Tarpon
Billfish	Sailfish	Dolphin
Cobia	Wahoo	
Other Fish		
Herring	Eel	Skate
Puffer	Blacktip Shark	Requiem Shark
Dusky Shark	Atlantic Sharpnose	Bull Shark
Smalltail Shark		

3.1.2 Limiting the Choice Set Based on Distance

From the MRIP survey we have approximately 30,000 trips (in NC-MA in 2014) \times 720 choice alternatives.³ Past studies (e.g. McConnell and Strand (1994) and Hicks et al. (1999)) have limited the choice structure by only modeling single-day trips where the one way travel distance is less than 150 miles from the recreator's home. We use the NOAA Fisheries S&T distance files (these files calculate the distance from each intercepted angler's home to every coastal county within 150 miles), and therefore, we continue with past practices for limiting the choice structure to those sites within 150 miles of the respondents home. This necessarily eliminates all persons in the MRIP sample living far away (>150 miles) from their chosen site. Practically speaking, this reduces the size of the choice set from 720 to approximately 220 choices per individual in the intercept survey.

It is important to note that there are *very good* behavioral reasons for reducing the choice set in this way. Individuals on single-day angler trips are making decisions in a way consistent with our theoretical model. Multiple day trips (e.g. an angler from NC going to Maine who takes a marine fishing trip) are probably engaging in a plethora of other activities and this makes the link between travel cost and the resource we are valuing tenuous at best.

3.1.3 Summary Statistics Weighting

This study uses the MRIP data, which has information enabling proper weighting for summary statistics (e.g. mean catch of summer flounder per wave). Since strata are potentially over or under sampled in MRIPS, we use the supplied sample weights for calculating **any** summary statistic (e.g. average per site catch for summer flounder) in this study unless noted otherwise.⁴

3.1.4 Opportunity Cost of Time and the Price of the Trip

In the valuation of recreational resources, we need to link a non-market resource like trip quality (which for our case is catch) to a trade-off made by recreators. This study makes this link using the travel cost method. The choice set describes the trip quality along

³When we estimate the model, this would equate to 21.6 million rows of data

⁴We use the R Survey package for all summary statistics weighting in this chapter Lumley et al. (2004).

the coast and we construct the price of the trip as travel cost to each site s for individual i based on distance as follows:

$$tc_{is} = \$0.56 \times dist_{is}$$

where \$.56 is the federal reimbursable rate for 2014 per mile. In this study we don't have access to an economic add-on information for discerning what the literature terms "opportunity cost of time" (McConnell and Strand, 1981). Past studies using MRFSS data such as McConnell and Strand (1994) and Hicks et al. (1999) employed data for which there was a complementary economic add-on for discerning if the individual took time off work, without pay as a signal for whether the time spent traveling or on-site had costs to the individual by way of foregone wages. Gentner et al. (2010) also don't have an available economic add-on survey but does follow a similar methodology to ours. They however, approximate the "opportunity cost of time" using Census data. In our work we don't attempt the approximation and agree with Gentner et al. (2010) that our model presents a lower-bound estimate.

3.2 Random Utility Model of Recreational Site Choice

We assume an individual will choose species group g , mode m , and site s by comparing the alternative specific utilities if it is the best one:

$$U(g, m, s) + \epsilon_{g,m,s} > U(i, j, k) + \epsilon_{i,j,k} \forall i \in G, j \in M, k \in S$$

where all species groups are denoted by G , all modes M , and all sites S . In this study we need to be able to alter landings (keep) of SF, so we calculate mean landings and release rates (numbers of fish) for each mode and site for summer flounder.

Ignoring subscripts indexing individuals, we have for summer flounder the utility at each site k and mode j :

$$\begin{aligned} U(SF, j, k) = & \beta_{tc} TC_k + \beta_{lnm,k} \log(M_k) \\ & + \beta_{SH}(mode_j == SHORE) \\ & + \beta_{PR}(mode_j == PRIVATE/RENTAL) \\ & + \beta_{SF,K} \sqrt{Keep_{SF,j,k}} + \beta_{SF,R} \sqrt{Release_{SF,j,k}} \end{aligned} \quad (3.1)$$

For the other two species, we have similar specifications. For example, for bottom fish the utility at each site k and mode j :

$$\begin{aligned}
U(BT, j, k) = & \beta_{tc}TC_k + \beta_{lnm,k}\log(M_k) \\
& + \beta_{SH}(mode_j == SHORE) \\
& + \beta_{PR}(mode_j == PRIVATE/RENTAL) \\
& + \beta_{BT}\sqrt{Catch_{BT,j,k}}
\end{aligned} \tag{3.2}$$

Following normal conventions on assumptions about site, mode, and species specific errors (ϵ), we can model the probability that an individual chooses g (species), m (mode), and s (site) as

$$P(d_{g,m,s}^i | \beta, \mathbf{X}) = \frac{e^{U(g,m,s)}}{\sum_{l \in G} \sum_{m \in M} \sum_{k \in S} e^{U(l,j,k)}}$$

Using likelihood contributions like this for each individual, we define the log-likelihood function using the Weighted Exogenous Sample Maximum Likelihood Estimation (WESMLE) approach that accounts for on-site sampling (see Lovell and Carter (2014) and Manski and Lerman (1977)),⁵

$$LL(\mathbf{d} | \beta, \mathbf{X}) = \sum_{i \in N} \sum_{g \in G} \sum_{m \in M} \sum_{s \in S} \frac{Q_s}{H_s} d_{igms} \log P(d_{g,m,s}^i | \beta, \mathbf{X})$$

where the weight ($\frac{Q_k}{H_k}$) is comprised of

$$Q_k = \frac{T_k}{T}, H_k = \frac{s_k}{S}$$

and where d_{igms} is equal 1 if individual i chooses alternative $[g, m, s]$ and T_k are total (population) trips taken to site k , T are total trips (across all sites), s_k are sampled trips from site k and S is the survey sample size.⁶

3.3 Estimation Methods

We experimented with using classical maximum likelihood techniques for estimating the model but due to the size of the dataset, we resorted to using Bayesian Sampling techniques for recovering the posterior distribution of our parameters by constructing Monte

⁵We didn't attempt a nested estimation of this model.

⁶Using Monte-Carlo techniques generating toy data consistent with the MRIP data collection method (where sites are over and under sampled), we found the WESMLE to out-perform the choice-based sampling weight approach outlined in Haab and McConnell (2002)). These results are unreported but available from the authors.

Carlo Markov Chains. From Bayes Rule, the posterior of our parameters ($P(\beta|\mathbf{d}, \mathbf{X})$) is

$$P(\beta|\mathbf{d}, \mathbf{X}) \propto P(\mathbf{d}|\beta, \mathbf{X})P(\beta|\beta^0)$$

where $P(\mathbf{d}|\beta, \mathbf{X})$ is the likelihood function where $P(\beta|\beta^0)$ are our priors on the model parameters. In this work we assume flat priors (any real numbered parameter vector is equally likely based on our prior knowledge), making our posterior

$$P(\beta|d_{g,m,s}^i, \mathbf{X}) \propto P(\mathbf{d}|\beta, \mathbf{X})$$

consequently, when we use sampling techniques to sample from the posterior distribution of parameters, we are sampling exactly from the distribution of parameters that maximizes the likelihood. When constructing our markov chain, we used the weights employed by WESMLE to account for on-site sampling. Sampling from the posterior in this way allows us to construct the distribution of our parameter estimates directly and all inference (e.g. parameter estimates and standard errors) are self weighting.

We implemented this approach in Python using the `pymc3` package (Salvatier, Wiecki and Fongesbeck, 2016) employing the “No U-turn Sampler” (Hoffman and Gelman, 2014). This package is capable of very fast sampling when likelihood functions are computationally expensive.

3.4 Results

Summaries of the posterior distribution of the parameters are reported in Table 3.2.⁷ Note that our Monte Carlo Markov Chain is comprised of 1000 samples (after burn-in) from the posterior distribution of the parameters. We summarize these samples in this table. We report the mean, the standard deviation (analogous to standard errors), and various percentiles. Looking at the parameters, we can see that the the 99% confidence intervals never overlap zero. For example, for travel cost (β_{tc}), the 99% confidence interval is [-.101449,-.096878]. P-values (not shown) for each of these variables shows these are all significant at the 5% (and 1%) levels. We also see that the dummy variables on mode (normalizing on party charter) are positive and roughly equal. This indicates that anglers are more likely to choose something besides party/charter trips.

All of the parameters are also of the expected sign. The travel cost coefficient is negative, the aggregation term (β_{inm}) correcting for the number of sites in each county

⁷Recall that in our specification, catch rates (and keep rates for summer flounder) enter in square root form.

is positive. All of the catch coefficients for each of our species/species groups are also positive. Note that in relative terms, the bottom fish has the smallest mean estimate, whereas summer flounder is the highest (landed). Summer flounder landed ($\beta_{sf,land}$) is significantly higher than summer flounder caught and released ($\beta_{sf,rel}$). This indicates that while anglers might enjoy catching summer flounder and releasing them, they are much happier keeping landed summer flounder.⁸

Figure 3.1 summarizes our results visually for five separate Monte Carlo Markov Chains (we construct 5 so we can test that the chains have converged, which they have based on the Geweke (Geweke, 2005) and Gellman-Rubin tests (Gelman et al., 2014)). In the left pane we see for each parameter the marginal distribution. These can be viewed like a histogram. For example, the probability mass for β_{tc} is centered around -.9995 and the bulk of the samples are in the approximate range [-.102,-.0975]. In the right hand pane we have the trace plot for the Markov Chain sampling process where the x-axis is the sample number. Notice these “flat-line” trace plots show that the sampler is moving around the posterior space near the model parameters that maximize the likelihood function and visually confirm convergence.

3.5 Welfare Estimation

The standard welfare calculation (defined as compensating variation (CV)) for a change in policy affecting site-specific variables from \mathbf{x}^0 to \mathbf{x}^1 for individual i is defined as:

$$CV(\mathbf{x}_i^0 \rightarrow \mathbf{x}_i^1) = \frac{\log\left(\sum_{i \in S} e^{\mathbf{x}_i^0 \beta}\right) - \log\left(\sum_{i \in S} e^{\mathbf{x}_i^1 \beta}\right)}{\beta_{tc}} \quad (3.3)$$

This gives us the mean compensating variation *per trip*.⁹

3.5.1 Modeling Policy Changes

For our purposes, all \mathbf{x}_i 's will remain as observed in the data from year 2014, except for landings and released historical catch averages for summer flounder. Note that by assumption the allocation policy

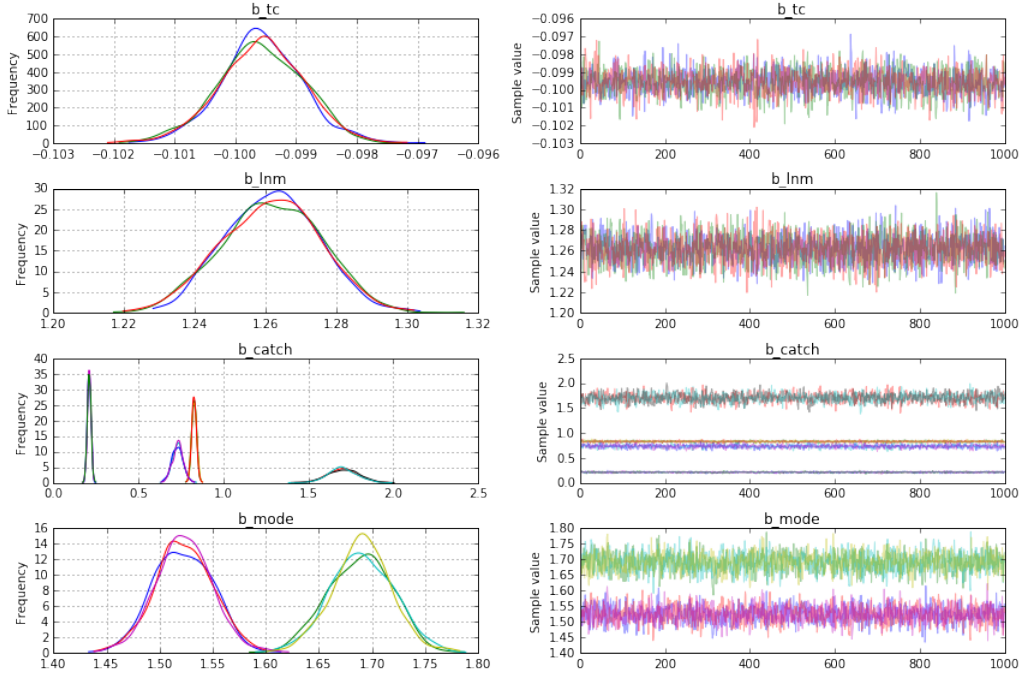
⁸It bears mentioning again that all of the catch rate variables included in the model are calculated from *sample weighted* MRIPS data that accounts for the problems with on-site sampling.

⁹Recall that since there is no economic add-on in 2014, the results presented in this section are lower bound estimates.

Table 3.2: Recreational Random Utility Model Estimates

	β_{tc}	β_{mm}	b_{bt}	β_{sg}	$\beta_{sf,land}$	$b_{sf,rel}$	β_{pr}	β_{sh}
Mean	-0.099572	1.261703	0.210776	0.828308	1.704043	0.730967	1.522743	1.690098
Std Dev	0.000687	0.013695	0.010831	0.014509	0.087752	0.032410	0.027029	0.029306
min	-0.102108	1.216995	0.169941	0.777885	1.384343	0.628437	1.433269	1.584659
0.5%	-0.101449	1.227577	0.184025	0.789383	1.471976	0.647675	1.454465	1.614740
2.5%	-0.100980	1.235180	0.189104	0.799830	1.531269	0.665325	1.469813	1.631867
5%	-0.100733	1.238977	0.192635	0.804790	1.561199	0.677568	1.479011	1.640069
50%	-0.099575	1.261834	0.210678	0.828181	1.702743	0.731825	1.522283	1.690711
95%	-0.098457	1.284005	0.228427	0.852046	1.850422	0.784601	1.566065	1.736475
97.5%	-0.098255	1.287781	0.231412	0.856292	1.877102	0.796230	1.574819	1.747441
99.5%	-0.097822	1.296705	0.238011	0.865643	1.932048	0.815577	1.593135	1.765785
max	-0.096878	1.315996	0.250116	0.877409	2.004679	0.841560	1.621508	1.788339

Figure 3.1: Recreational Random Utility Model Posterior Distribution Plots



- Does not alter expected total catch (combined keep and release)¹⁰
- Does alter the distribution of expected total catch between keep and release categories.

Pre-policy expected Keep and Release rates for summer flounder at site s , mode m is $Keep_{SF,s,m}^0$ and $Release_{SF,s,m}^0$. Following the policy change (for example giving the fraction Δ more Keep to recreational anglers) Keep and Release change to

$$Keep_{SF,s,m}^1 = Keep_{SF,s,m}^0 \times (1 + \Delta) \quad (3.4)$$

$$Release_{SF,s,m}^1 = Release_{SF,s,m}^0 - \Delta \times Keep_{SF,j,k}^0 \quad (3.5)$$

Note that: $Keep_{SF,s,m}^1 + Release_{SF,s,m}^1 = Keep_{SF,s,m}^0 + Release_{SF,s,m}^0$.

To make this more concrete, consider summer flounder landings and release averages in the Table 3.3, before (denoted as Policy 0) and after (Policy 1) a 10% increase in summer flounder landings at some site. Under policy 1, more of the released fish are allowed to be kept. So the way we model the policy, total catch (combined catch and

¹⁰This analysis doesn't consider cases where total recreational and commercial TAC *and* allocations are changed. Consequently, we can think of the Welfare estimation as from a 2014 baseline and TAC.

release) is unchanged, but the policy alters the distribution of that total between catch and release categories.

Table 3.3: Example Policy Impacts on Catch and Keep Rates

Policy	Total Catch	Landings	Release
0	5	3	2
1	5	3.3	1.7

Equation 3.3 is the compensating variation for angler i on an intercepted trip. Since angler i is part of the on-site sample, she might be over or under-represented compared to a population based random sample. Taking the simple mean across all CV_i 's gives us an incorrect mean welfare effect. Consequently, we again used R's Survey package and the provided MRIP weights to calculate a weighted and correct mean CV . We have to do this for *every* allocation rule under consideration. We also sample from our posterior parameter values to calculate these weighted CV 's for a wide range of likely parameter vectors. In the end, we are able to construct confidence intervals around our mean CV estimate.¹¹

3.5.2 Aggregation to Population

Once we have recovered the correct mean compensating variation per trip, we perform aggregations to project our estimates into total economic values and total economic values per pound. Since policies impact the distribution of catch between kept and released summer flounder, we perform the following simple steps in our analysis for computing the totals described in our results below.

1. For a $\Delta\%$ change in quota, change every expected catch and keep rate for summer flounder as described above.
2. Using this change calculate CV as described above
3. From the NOAA Fisheries website, we know the total harvested summer flounder and total weight harvested (along with standard deviations) for each state.

¹¹In addition to our uncertainty about parameter estimates, our confidence intervals also include uncertainty associated with 1) total landings and 2) summer flounder weight per fish.

Draw randomly from each states distribution and sum for total harvest and total harvested weight.

4. For the $\Delta\%$ change in quota, scale total harvest and total harvested weight.
5. Calculate changes in compensating variations and changes in quota allocations across each subsequent quota allocation¹². We then approximate the marginal value for the region between each policy step t and $t+1$ as $MWTP_{t+1} = \frac{TWTP_t - TWTP_{t+1}}{Landings_t - Landings_{t+1}}$ and for graphing purposes center at the mid-point between the two quota amounts $\frac{Landings_t - Landings_{t+1}}{2}$.

Note that this method explicitly assumes

1. that what fishermen value *ex ante* is exactly what will be observed with respect to aggregate harvests and weights *ex post*.
2. that landings will be consistent with quota levels.

3.5.3 Results

In Table 3.4 we show compensating variation for divergences from the 2014 quota allocation baseline. So a change in quota of 50,000 means that +50,000 more pounds are given to the recreational sector for total harvest of 7,398,558 + 50,000 pounds of fish. A negative change in quota is taking pounds away from the recreational sector. In Table 3.5 we calculate the marginal willingness to pay for quota allocation levels (rather than changes in quota as in Table 3.4). In Table 3.5 we also report quota allocation levels in metric tons for more direct comparison to the commercial chapter.

Based on estimation available from NOAA National Marine Fisheries Service, the total summer flounder harvested weight (in the study region) in 2014 was 7,398,558. Consequently, in our analysis, we consider a 100% reduction and 100% increase to the summer flounder recreational allocation.

Notice that as quota approaches zero, the required total compensating variation gets larger (more negative) at a non-linear rate. This is consistent with what economists call “diminishing marginal returns” and supports intuition about how fishermen value summer flounder quota: the less quota the angler community has, the higher the relative

¹²In our work, we examine the following quota changes: -100%, -80%, -60%, -40%, -20%, -5%, +5%, +20%, +40%, +60%, +80%, +100% relative to the *observed* 2014 landings

value a pound of quota. Conversely, if we increase quota to the recreational sector, the angler community benefits, but the incremental benefit for a pound of quota enjoyed by the community is less than the first pound of quota they receive.

Figures 3.2 and 3.3 show visually the total economic value and the marginal value, respectively, of quota for the recreational sector. In Figure 3.2 at a quota change of 0 pounds, Compensating Variation is zero. In Figure 3.2, we see that doubling the recreation quota leads to a gain in economic value for recreational anglers of approximately \$20 million per year. By contrast, reducing the recreational sector leads to a loss in economic value of approximately \$35 million per year.¹³

We see similar patterns in Figure 3.3. For very small quota allocations in the recreational sector, the value per pound of summer flounder is approximately \$10. As quota is increased, the value per pound declines (this is due to diminishing marginal returns as discussed above), so that after a doubling of recreational quota, the value per pound is approximately \$2.

It should be noted that in both of these figures, the confidence intervals flare out from the Change in Pounds Allocated at 0 (for Figure 3.2) and for Pounds Allocated at approximately 7.4 million pounds (for Figure 3.3) because both of these points represent the baseline observed levels in 2014. As we move further from that baseline, the uncertainty of our estimated economic values increase.

¹³While the model can be used for analyzing these large swings in quota relative to 2014, we are more confident in our model for analyzing smaller quota changes.

Table 3.4: Total Compensating Variation for Recreational Sector by Quota Change from 2014 Observed Landings

Change in Quota (Pounds)	Change in Quota (Metric Tons)	Lower 95% CI	Mean CV	Upper 95% CI
-7,398,558	-3,356	-40,518,534	-35,025,888	-29,756,109
-5,918,846	-2,685	-23,569,401	-20,433,425	-17,564,884
-4,439,135	-2,014	-15,833,755	-13,835,185	-11,959,676
-2,959,423	-1,342	-10,236,713	-8,653,824	-7,318,248
-1,479,712	-671	-4,795,840	-4,045,957	-3,366,934
-369,928	-168	-1,112,268	-983,208	-835,250
369,928	168	779,031	955,284	1,111,872
1,479,712	671	3,190,313	3,732,857	4,464,099
2,959,423	1,342	6,199,854	7,412,389	8,448,261
4,439,135	2,014	8,971,631	10,746,294	12,733,040
5,918,846	2,685	11,953,536	13,915,225	16,191,597
7,398,558	3,356	14,331,487	16,972,007	20,119,153

3.6 Caveats

As with any model, we make assumptions and simplifications over very rich economic and biological systems in order to distill important impacts due to policy changes in the fishery. Below we list the major caveats with our work:

1. This analysis focuses *only* on recreational fishermen and ignores changes in economic value in related sectors (e.g. party/charter owner operator profits, bait and tackle shop profits, etc.) that can be solely attributed to summer flounder quota changes. Consequently, this means the estimates presented here are *lower bound estimates*.
2. As discussed previously, our estimates ignore the opportunity cost of time and again means we are providing *lower bound estimates*. We discuss this in more detail in the following section where we present our preferred model.
3. Our analysis *does not* account for changes in trips due to quota changes. We might imagine that as quota is lowered trips decrease (via bag, seasonal restriction, bag and size limit changes, etc.). We hold trips constant at 2014 observed levels. This again means that our estimates are *lower bound estimates*.

Table 3.5: Marginal Willingness to Pay by Quota Allocation

Quota (Pounds)	Quota (Metric Tons)	Lower 95% CI	Mean CV	Upper 95% CI
739,856	336	6.02	9.86	14.02
2,219,567	1,007	2.03	4.46	6.93
3,699,279	1,678	1.91	3.50	5.40
5,178,991	2,349	2.22	3.11	4.13
6,473,738	2,936	2.17	2.76	3.37
7,398,558	3,356	2.31	2.62	2.92
8,323,378	3,775	2.01	2.50	3.08
9,618,125	4,363	1.66	2.49	3.38
11,097,837	5,034	0.86	2.25	3.80
12,577,549	5,705	0.39	2.14	3.91
14,057,260	6,376	-0.35	2.07	4.52

4. When altering expected catch and release of summer flounder as described in Section 3.5.1, we assume that there is some combination of bag, size limit, and season limit that could be changed to meet quota goals. Whether this tends to push our estimate towards an upward or lower bound is unknown.

3.7 Discussion

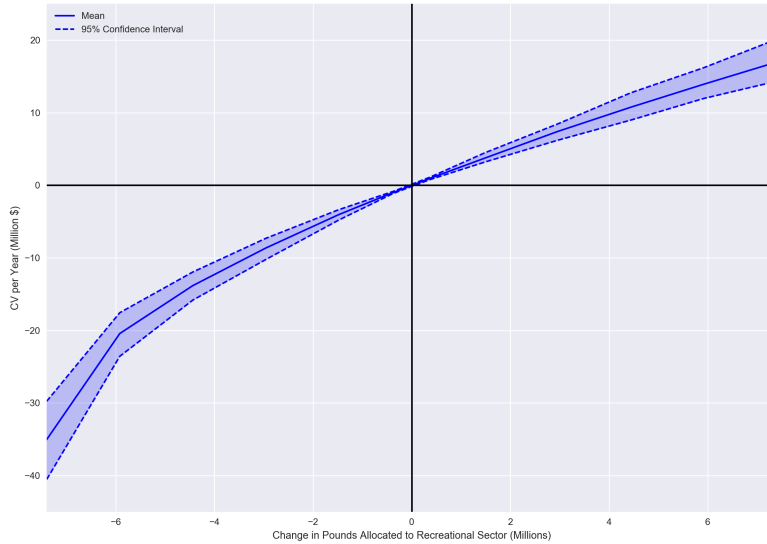
Despite the limitations of our work mentioned in the above section, the provided estimates are a very defensible *lower bound* estimates for the change in economic value associated with quota changes in the Summer Flounder Fishery. Table 3.6 lists several other studies and point estimates for marginal values associated with summer flounder.

To compare the results, it is important to note that all of the values per pound reported in Table 3.6 except ours, calculate a +1 fish change in expected catch *at each site for all trips*. Consequently, the policy change examines a case where every summer flounder trip probably catches and keeps an additional summer flounder. This change is much larger in magnitude than any considered in this study¹⁵. The most comparable estimate we produce to either Gentner et al. (2010) or Massey, Newbold and Gentner

¹⁴Calculated by dividing +1 fish estimate (\$4.22) by 2.77 (Average weight of summer flounder used by (Gentner et al., 2010)). Also uses a sample of Maryland anglers who fished and not NOAA Fisheries MRIP data.

¹⁵4,061,024 trips (MRIP estimated Summer Flounder directed trips along the Atlantic Coast) \times + 1 fish \times 2.77 pounds per fish = 11,249,036 additional pounds of recreational harvest.

Figure 3.2: Recreational Total Change in Economic Value



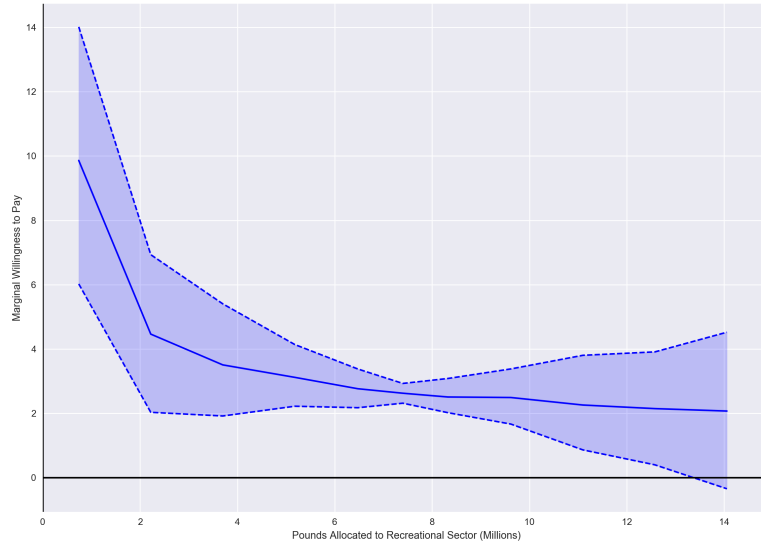
(2006) is \$2.07 which corresponds to an allocation of an additional 7.4 million pounds of recreational quota.

Due to data constraints we were unable to estimate a model that fully accounts for the travel cost of recreation trips because a lack of data precluded us from accounting for the opportunity cost of time. It is well known and an established finding in the recreation demand literature that failing to include the opportunity cost of time in recreation demand models will bias welfare results (Bockstael, Strand and Hanemann (1987)). Examining the results in Gentner et al. (2010), they find that after using their opportunity cost of time correction, their economic value estimate was approximately 1.85 times higher for their preferred model.¹⁶ Since we don't have access to data allowing us to include time in the construction of travel costs, we perform a benefits transfer by applying Gentner et al. (2010) scaling ratio to our estimates to approximate the results we would have found given complete data.¹⁷ After applying the benefits transfer

¹⁶From Table 5.15 page 59.

¹⁷There is a well established literature on benefits transfer and the conditions under which it is a valid technique to use, particularly in a random utility model context (Parsons and Kealy (1994)). Given that both our study and Gentner et al. (2010) are using the same data (except for the including travel cost), the same study region, and the same modeling technique the literature shows benefits transfer to yield reliable estimates for welfare measures ((Parsons and Kealy (1994)).

Figure 3.3: Marginal Willingness to Pay Time Costs Excluded



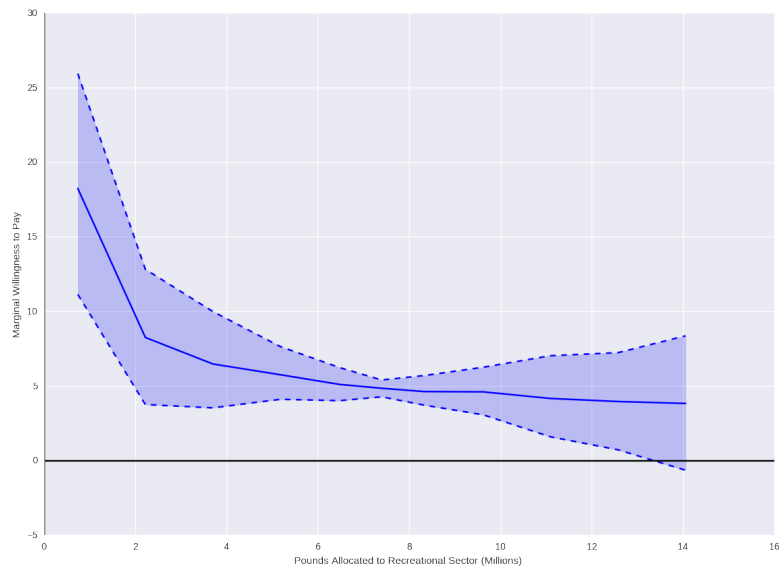
to approximate a situation where the opportunity cost of time had been included in our model, the marginal willingness to pay would have resided in the range [\$18.24 to \$3.83] depending on the quota level being analyzed. Consequently, our preferred marginal willingness to pay estimates include the opportunity cost of time and are given in Figure 3.4 and are calculated by scaling either Figure 3.3 or the values in Table 3.5 by 1.85.

Our results show that the recreational summer flounder fishery is extremely valuable notwithstanding our caveats above. Furthermore, our results clearly show that this value responds to allocation decisions made by managers and responds in ways that we think is reasonable: when recreational anglers don't have very much quota they value an additional pound of quota more than if the sector had lots of quota. However, even as sector allocations for the recreational sector get large (relative to observed catches in 2014), they continue to have high value per pound for summer flounder.

Table 3.6: A comparison of Summer Flounder Valuation Estimates

Study	Mean Value per Pound	Opportunity Cost of Time	Weighting	Nested
Current Study	\$9.86 - \$2.07	Not Included	Yes	No
Gentner et al. (2010)	\$3.48	Included	No	Yes
	\$2.38	Not Included	No	Yes
	\$1.45	Included	No	No
	\$0.80	Not Included	No	No
	\$0.99	Included	Yes	No
	\$0.53	Not Included	Yes	No
Massey, Newbold and Gentner (2006) ¹⁴	\$1.59	Unknown	Unknown	No

Figure 3.4: Marginal Willingness to Pay (Time Costs Included)



Chapter 4

Commercial Model

Our analysis of the commercial sector substantially differs from the previous work that has been conducted on sector allocation Gentner et al. (2010), Carter, Agar and Waters (2008). However, the modeling structure closely follows the empirical methodology used in our analysis of the recreational sector as the random utility model is the foundation McFadden (1978). Our modeling efforts consist of four distinct steps that allow us to estimate the marginal value per a pound of summer flounder within the commercial sector. In the first stage we estimate trip-level costs for the trawl fleet targeting summer flounder. In the second stage we estimate a site choice model for vessels that caught summer flounder between 2000 and 2014. In our third stage we combine the trip-level cost estimates with site choice estimates to simulate fleet activity and the execution of the summer flounder fleet allocation. Lastly, using a convolution method we estimate the marginal value per a pound of summer flounder by determining the incremental profits earned when the allocation is increased for the commercial summer flounder fleet. In the following description we divide up each estimation step and discuss them in more detail.

4.1 Estimating Trip Costs

The first step in our analysis was estimating the expected trip-level costs using the trip-level cost data from 2000 through 2014. This data has been collected by the Social Sciences Branch (SSB) of the NMFS Northeast Fisheries Science Center on an annual basis as part of Northeast Fishery Observer Program's (NEFOP) data collection efforts Das (2013). The data are obtained either through the direct observation of the observer or through interviewing the vessel captain. The data used to construct our expected costs is a subset of the broader data set constructed by the NEFOP as it focuses on just

those vessels who have landed summer flounder between 2000 and 2014 and are trawl vessels. Therefore, our estimation techniques and data utilized are slightly different from those used by Das (2013).

Given the narrowly defined subset of vessels that we elected to use in our analysis we extracted the tons of ice, the price of ice, the gallons of fuel purchased, the fuel price, costs incurred for vessel damages, general supply costs, food costs, water costs and bait costs from the NEFOP cost data to construct a total trip level cost. We also extracted information on the number of crew members employed, the month and year of harvest, vessel characteristics (i.e., gtons, hp, hold, length), the vessel's state, the steam time on the trip and the number of hauls conducted on the trip. This data was used to estimate a log-log ordinary least squares regression for trip-level costs. The covariates used to explain the total trip level costs included year fixed effects, month fixed effects, vessel-state fixed effects, vessel capital (i.e., vessel characteristics), crew, steam time, days fished and hauls conducted. The parameter estimates from our regression are contained in Table 4.1.

The regression results indicate that trip-level costs were the lowest in the early 2000s, which is most likely driven by the substantially lower fuel costs during this time period. Costs are also lower during the months of August and October which roughly corresponds with the seasonal fishing patterns within the summer flounder fishery. Vessels fishing from Connecticut, Maryland, New York and Rhode Island have lower trip level costs. This roughly corresponds with the areas that have the largest concentration of summer flounder. The fixed inputs that increase trip level costs are the vessels length and gross tonnage, whereas their horsepower and hold capacity have little impact on costs. As far as the variable inputs of production, the larger the crew size the higher the costs, but the second order effect is negative. Steam time also increases the trip-level costs but again the second order term is negative. The number of days increases the trip-level costs at an increasing rate and lastly, the number of hauls increases costs but at a decreasing rate.

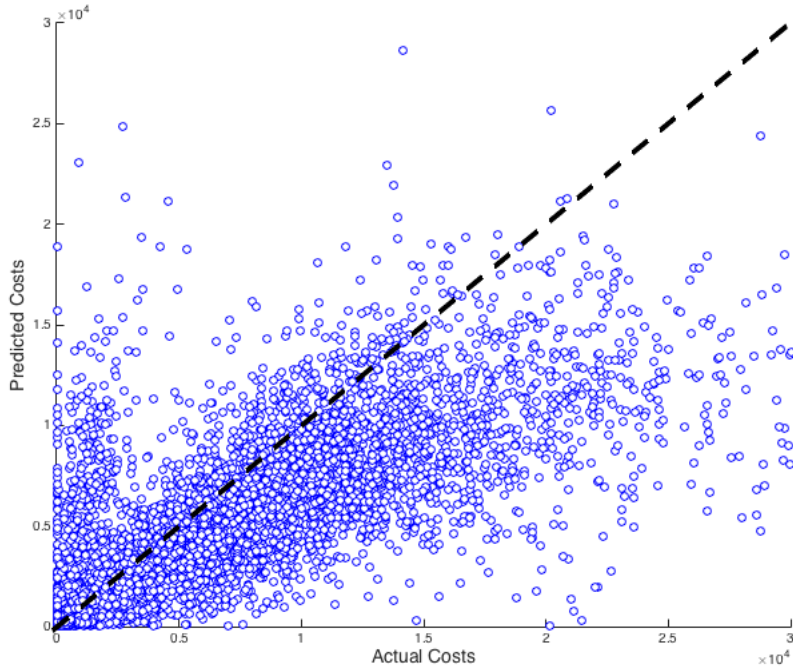
Using these parameter estimates we will estimate the expected costs per a haul within our simulation. Given the need for an accurate profile of costs we plot the actual and expected costs resulting from our regression estimates in Figure 4.1. In general our predicted trip-level costs are closely in line with those observed in the trip cost data. However, our estimates do tend to underestimate the expected trip level costs. This can be easily observed by noting that clustering of the data in Figure 4.1 below the 45-degree

Table 4.1: Trip-Level Cost Estimates

Parameter	Estimate	Parameter	Estimate	Parameter	Estimate
Constant	-0.0457 (0.7732)	February	-0.0858 (0.0916)	New York	-0.4056*** (0.1472)
Year 2000	-0.6720*** (0.1996)	March	0.0151 (0.0918)	North Carolina	0.0253 (0.1783)
Year 2001	-0.7971*** (0.1894)	April	0.0024 (0.1000)	Rhode Island	-0.3363*** (0.1343)
Year 2002	-0.3774** (0.1798)	May	-0.0509 (0.0927)	ln(length)	0.8328*** (0.2516)
Year 2003	-0.2969* (0.1703)	June	-0.0830 (0.0894)	ln(gtons)	0.2952*** (0.0897)
Year 2004	-0.4045** (0.1596)	July	-0.1384 (0.0854)	ln(hp)	0.0197 (0.0724)
Year 2005	0.0972 (0.1541)	August	-0.2273*** (0.0876)	ln(hold)	0.0076 (0.0244)
Year 2006	0.2378 (0.1610)	September	-0.1249 (0.0903)	ln(crew)	0.2631** (0.1268)
Year 2007	0.1946 (0.1597)	October	-0.1713* (0.0893)	ln(crew)*ln(crew)	-0.0659*** (0.0704)
Year 2008	0.3645** (0.1598)	November	-0.0655 (0.0882)	ln(steam)	0.3362*** (0.0673)
Year 2009	-0.2033 (0.1553)	Connecticut	-1.7158*** (0.1972)	ln(steam)*ln(steam)	-0.0746*** (0.0212)
Year 2010	0.1628 (0.1583)	Maine	0.2317 (0.1620)	ln(days)	0.7823*** (0.1060)
Year 2011	0.3049* (0.1582)	Maryland	-1.0701*** (0.1826)	ln(days)*ln(days)	0.1319*** (0.0524)
Year 2012	0.1211 (0.1598)	Massachusetts	0.0894 (0.1299)	ln(hauls)	0.7095*** (0.0707)
Year 2013	0.1334 (0.1593)	New Hampshire	-0.1484 (0.1724)	ln(hauls)*ln(hauls)	-0.1407*** (0.0224)
January	-0.1165 (0.0888)	New Jersey	-0.0608 (0.1365)		
Number of Obs.		13,667			
Adjust. R^2		0.4064			

line. Although this does introduce a bias into our simulation results, as long as this bias permeates all of the trips within the simulation this will not introduce a substantial bias to our marginal valuation estimates. This will become more evident in our discussion of the simulation results.

Figure 4.1: Predictive Accuracy for the Trip-Level Cost Estimates



4.2 Random Utility Model

The random utility model has been extensively used in the fishery economics literature focused on spatial discrete choices Curtis and Hicks (2000), Hicks and Schnier (2008), Haynie, Hicks and Schnier (2009), Holland and Sutinen (1999), Holland and Sutinen (2000) and Smith and Wilen (2003). Assuming that there are N different sites that a fisherman can select from, they will select location i in time period t if the utility of selecting location i exceeds the utility they can derive from all other locations. This is expressed as,

$$U(i, t) + \epsilon_{i,t} > U(j, t) + \epsilon_{j,t} \forall j \in N$$

The error structure $\epsilon_{i,t}$ is assumed to be known by the decision agent (the fisherman) but not by the researcher. Ignoring the subscripts indexing locations and time the utility specification we utilize for our model is,

$$\begin{aligned}
 U(i, t) = & \gamma_i + \beta_1 Distance + \beta_2 SF_{Catch} + \\
 & \beta_3 BSB_{Catch} + \beta_4 SCUP_{Catch} + \\
 & \beta_5 Other_{Catch} + \beta_6 No_{Choice} + \epsilon
 \end{aligned}
 \tag{4.1}$$

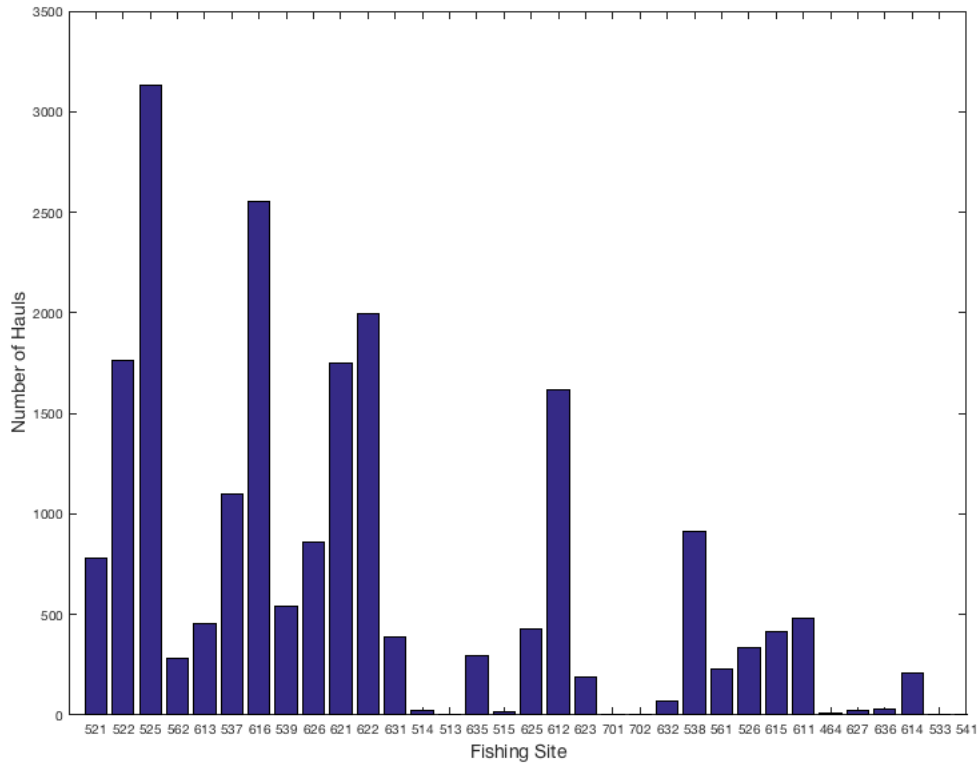
In this model γ_i are site specific constants to control for site-specific factors that are unobserved in our data set, but that drive site choice selection. The use of these alternative specific constants have proven to be exceptionally valuable in the fishery economics literature (Timmins and Murdock (2007), Smith (2005) and Hicks, Horrace and Schnier (2012)). *Distance* is the expected distance that a vessel will travel from the current location to all other potential locations. Within the data set on a vessel's first haul we calculated the distance using their home port as the point of origination. *SF_{Catch}* is the expected summer flounder catch that a fisherman will obtain if they visit the site in question in the current time period. *BSB_{Catch}*, *SCUP_{Catch}* and *Other_{Catch}* are similar variables constructed for black sea bass, scup and all other species landed. All expected catch calculations are constructed using a 60-day lag of the observed catch earned in the respective locations ¹. We elected to partition out black sea bass and scup from the other species as these two species are jointly managed with summer flounder. The variable *No_{Choice}* is a dummy variable that indicates whether or not a location has not been visited within the past 60-days (the time window used for the catch expectations). This helps to control for temporal variations in the sites that vessels fish, which is important given the seasonal trends that exist within this fishery.

To estimate our model we use observer data from 2000 through 2014. To ensure that we are capturing vessels that caught summer flounder during this time period we restrict the sample to trawl vessels that landed summer flounder during this time period. There were 33 distinct 3-digit NFMS zones that were fished by vessels during this time. Figure 4.2 plots a histogram of the number of hauls that were conducted in each of these sites within our sample. The top five most visited sites were locations 525, 616, 622, 621 and 522. The data set consists of 2,337 unique fishing trips and 20,900 unique hauls.

The parameter estimates from our random utility model are contained in Table 4.2. The parameter estimates are consistent with the site visitation rates. The highest

¹We explored the use of alternative lagged time framings (i.e., 30-day, 60-day, 90-day, 180-day, 1-year) and our results were relatively robust to alternative specifications

Figure 4.2: Histogram of Hauls per a Site



valued site is location 525, which is also the most visited site, and the other highly visited sites (i.e., 616, 622, 621 and 522) have high site-specific constants. The sites with low visitation rates (i.e., 701 and 702) have negative site-specific constants that are consistent with our expectations. We only estimate 30 site-specific constants in our model because three of the sites had exceptionally small visitation rates and we set their site-specific constants to zero. The other parameter estimates are also consistent with our expectations. The coefficient on expected distance traveled is negatively and highly significant ². The expected catch coefficients indicate that a higher expected summer flounder catch as well as black sea bass catch increases the probability that a vessel will fish in a given location, whereas a high expected catch for all other species reduces the probability that one will fish in a given location. The expected catch for scup did not influence the site visitation probability. Lastly, the coefficient on No_{Choice} indicates that

²The distance variable was scaled by 1000 miles

vessels are less likely to visit a location that they have not visited in the past 60-days. The parameter estimates from this regression provides the foundation for the simulation model that will be discussed in the upcoming section.

4.3 Simulation Model

The simulation model utilizes the parameter estimates to simulate fleet activity and the execution of the total allowable catch within the commercial fishery sector. The simulation is a multi-step process that invokes different elements of existing policy limitations and seasonality to reflect the true fleet activity within the fishery. Each step is discussed in detail below.

Step One: We initialize the current total allowable catch to the commercial sector. Within the simulation we initialize the allocation at 1,000 metric tons and increase it by 1,000 metric tons until the allocation reaches 24,000 metric tons. Although 24,000 metric ton is substantially higher than recent allocations, it is near the peak catches levels observed in the 1980s and it is reasonable to assume that it is highly unlikely that future allocations will ever reach that level.

Step Two: We take a random draw from the parameter distribution resulting from the random utility model. The random draw uses the parameter estimate vector as well as the variance covariance matrix for the estimates to generate a new parameter vector. This is conducted to ensure that our parameter estimate draws reflect the underlying parameter distribution.

Step Three: We randomly draw a fishing trip from the observer data and use the parameter vector from *Step Two* to predict the site visitation probabilities for each haul on the randomly drawn trip. The estimated probabilities are calculated using the following equation

$$P(i, t) = \frac{e^{U(i,t)}}{\sum_{j \in N} e^{U(j,t)}}$$

This estimated probability surface is then multiplied by the expected catch rates, $SFExp_{i,t}$ (estimated using 60-day lags) at each location in time period t , $P(i, t) * SFExp_{i,t}$, and then is summed up across all locations, $Catch_t = \sum(P(i, t) * SFExp_{i,t})$, to determine the expected catch in time period t . These expectations are also estimated for black sea bass as well as scup.

Table 4.2: Random Utility Model Site Choice Estimates

Parameter	Estimate	Parameter	Estimate	Parameter	Estimate
Site 521	2.0442*** (0.1496)	Site 635	-0.5788** (0.2162)	Site 464	-2.0776*** (0.5861)
Site 522	3.0940*** (0.1537)	Site 515	-0.6407 (0.4107)	Site 627	-2.4724*** (0.3190)
Site 525	3.5658*** (0.1547)	Site 625	0.0261 (0.1763)	Site 636	-2.1976*** (0.2817)
Site 562	1.4981*** (0.1664)	Site 612	0.6767*** (0.1563)	Site 614	0.0069 (0.1670)
Site 613	0.6517*** (0.1495)	Site 623	-1.0422*** (0.1678)	Distance	-0.0338*** (0.0003)
Site 537	1.6887*** (0.1427)	Site 701	-1.5556*** (0.3606)	SF Catch	0.707e5*** (0.073e6)
Site 616	1.8001*** (0.1465)	Site 702	-0.9233** (0.3437)	BSB Catch	0.811e5*** (0.287e6)
Site 539	0.0431 (0.1510)	Site 632	-1.2967*** (0.2327)	SCUP Catch	0.039e5 (0.035e6)
Site 626	0.8498*** (0.1687)	Site 538	1.0285*** (0.1463)	Other Catch	-0.062e5*** (0.011e6)
Site 621	0.9726*** (0.1647)	Site 561	1.2662*** (0.1705)	No Choice	-2.2604*** (0.0946)
Site 622	1.4854*** (0.1574)	Site 526	0.8241*** (0.1546)		
Site 631	-0.2938 (0.1947)	Site 615	0.0588 (0.1586)		
Site 514	-2.1053*** (0.3988)	Site 611	0.1855 (0.1521)		
Number of Obs.		20,900			
Log Likelihood (parameters=0)		-73,077			
Log Likelihood (estimates)		-17,417			

Step Four: We reduce the allocation of summer flounder to the commercial fleet by the $Catch_t$ to determine the remaining allocation of summer flounder. In addition, we set the total allowable catch of black sea bass to 2.5 million pounds and the total allowable catch for scup to 22 million pounds. If the catch for either or these species exceeds this allocation the expected catch is set to zero to reflect that they must be discarded.

Step Five: We calculate the expected revenue from each haul using the following formula $Rev_t = \sum(P(i, t) * (SFRevenues_{i,t} + BSBRevenues_{i,t} + SCUPRevenues_{i,t} + OtherRevenues_{i,t}))$.³ To account for the costs incurred on the trip we subtracted the expected costs from fishing that trip using our cost estimates (see Table 4.1) discussed earlier to get a profile of trip-level profits. These profits were then added up for all fishing activity that occurred within the simulation to determine the fleet wide profits for the given allocation of summer flounder.

Step Six: We determine whether or not the current aggregate catch of summer flounder for the fleet has exceeded the allocation and if it has not we return to *Step Two* until the allocation of summer flounder is exhausted.

The above mentioned six steps represent the core of the simulation, which we refer to as *Model One*, however additional complexities have been added to make the simulation more realistic. The additional features are summarized below.

4.3.1 State Allocations for Summer Flounder, Black Sea Bass and Scup

The commercial fleets allocation of summer flounder is further subdivided among the states that harvest summer flounder. This is also true for the allocations of black sea bass and scup. Given this, we added these constraints to our second simulation model, *Model Two*. The state allocations we used for each of the three species are indicated in Table 4.3.

In order to incorporate the state allocations into the simulation model we tracked the catch of summer flounder (SF), black sea bass (BSB) and scup through the simulation. In the case that state allocation for summer flounder was exceeded we removed all vessel-trips originating from that state in *Step Three* of the simulation. This way only those vessel-trips that were eligible to fish for summer flounder, per the state allocation rules,

³Revenue expectations are calculated using a 60-day lag.

Table 4.3: State Allocations for Summer Flounder, Black Sea Bass and Scup

State	Percentage SF	Percentage BSB	Percentage SCUP
ME	0.0476%	0.1210%	0.5000%
NH	0.0005%	0.0000%	0.5000%
MA	6.8205%	21.5853%	13.0000%
RI	15.6830%	56.1894%	11.0000%
CT	2.2571%	3.1537%	1.0000%
NY	7.6470%	15.8232%	7.0000%
NJ	16.7250%	2.9164%	20.0000%
DE	0.0178%	0.0000%	5.0000%
MD	2.0391%	0.0119%	11.0000%
VA	21.3168%	0.1650%	20.0000%
NC	27.4458%	0.0249%	11.0000%

were eligible for random selection. If a states allocation for black sea bass or scup were exceeded, we still allowed for the vessel-trip to be selected in *Step Three*, but we zeroed out the catch of the species that had already exceeded its state allocation limit.

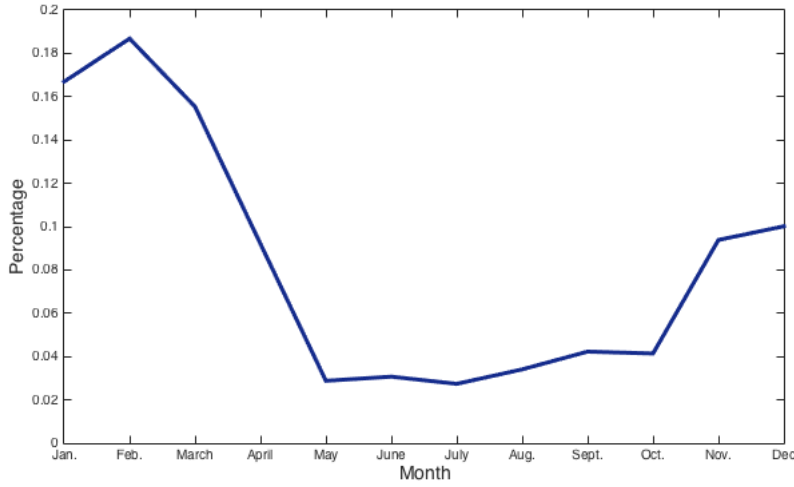
4.3.2 Seasonal Patterns in Fishing Behavior

The summer flounder fishery is a seasonal fishery will a large percentage of the catch occurring in the winter months. Figure 4.3 graphically illustrates the average percentage of the landings that occurred by month within the observer data. It is clear that a bulk of the catch arises in the months of November, December, January, February and March. Given that we are randomly generating a vessel-trip from the set of all vessel-trips, we added a seasonal constraint to the model that ensures that the simulated fleet behavior mirrors the temporal distribution of catch within the fishery. This was achieved by altering our *Step Three* by first randomly sampling a month from the distribution illustrated in Figure 4.3 and then randomly selecting a vessel-trip from within that month.

4.4 Construction of Marginal Values

For each of the different summer flounder allocations we conducted 40 different simulations. This allows us to construct confidence intervals on our estimates of the marginal value per a pound of summer flounder. To calculate the marginal value we estimated

Figure 4.3: Seasonal Pattern for Summer Flounder Harvest



the following equation

$$\text{Marginal Value}_k = (Profit_k - Profit_{k-1}) / (1000 * \text{Metric Ton})$$

where, Marginal Value_k is the marginal value when one increases the allocation of summer flounder to allocation level k , $Profit_k$ is our estimate of fleet profits when the allocation is k and $Profit_{k-1}$ is the estimated profit prior to the increase in the allocation from level $k - 1$ to k . Given that our unit of increase is 1,000 metric tons, we divide the difference in the change in profits by the incremental change in pounds landed to get a marginal value per a pound of summer flounder. Since we have 40 different simulations for each level of k , through the convolution of all 40 at one level of k with the 40 observed at level $k - 1$ we obtain 1,600 different comparisons. These 1,600 comparisons allow us to construct 95% confidence intervals by dropping the top and bottom 40 estimates of Marginal Value_k .

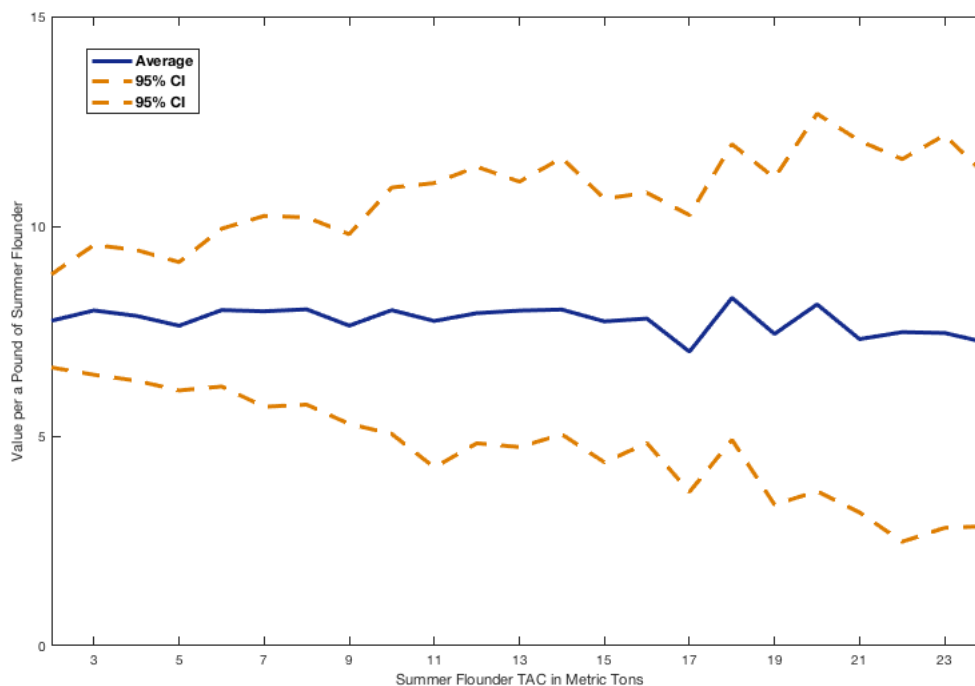
One important feature of the marginal value calculations is that they are derived from the total profits that a vessel earns while fishing. This is the sum of all species landed and not just summer flounder. Therefore, although the ex-vessel price for summer flounder ranges between two and four dollars it is possible that the marginal value for summer flounder can exceed this value. This is because summer flounder is a complement in production. When a vessel targets summer flounder they also catch other species that have market value. Therefore, the marginal value of summer flounder is not only the value they derive from summer flounder but also the additional value they derive from

the other species that are caught in conjunction with targeting summer flounder. This is an important feature of the simulation because if one reduces the allocation of summer flounder to the commercial fleet it will also impact the revenue flows that they derive from the other species that they would have caught if they were able to target more summer flounder. The following subsections discuss the results from the three different models estimated.

4.4.1 Marginal Values - Model 1

Model 1 is the simplest of the models we estimate. This model does not utilize state limits for summer flounder, black sea bass or scup and it does not invoke any seasonality. This model only uses the allocations of the three different species as the binding constraints on the simulation. The mean marginal value for each incremental increase in the allocation of summer flounder as well as the 95% confidence intervals are illustrated in Table 4.4 and graphically illustrated in Figure 4.4.

Figure 4.4: Marginal Value Estimates for Model 1



The results from *Model 1* illustrate that the average marginal value for summer

Table 4.4: Marginal Values for Model 1

Allocation (MT)	Mean	Lower 95% CI	Upper 95% CI
2,000	7.7478	6.6333	8.8544
3,000	7.9936	6.4596	9.5542
4,000	7.8628	6.3183	9.4333
5,000	7.6284	6.0852	9.1440
6,000	8.0014	6.1807	9.9411
7,000	7.9734	5.6971	10.2457
8,000	8.0192	5.7484	10.2113
9,000	7.6299	5.2897	9.8110
10,000	8.0000	5.0497	10.9225
11,000	7.7414	4.2516	11.0279
12,000	7.9279	4.8275	11.4178
13,000	7.9896	4.7374	11.0630
14,000	8.0131	5.0389	11.6264
15,000	7.7321	4.3741	10.6578
16,000	7.7991	4.8314	10.7978
17,000	7.0100	3.6677	10.2632
18,000	8.2934	4.9092	11.9560
19,000	7.4332	3.3640	11.1518
20,000	8.1377	3.6841	12.6815
21,000	7.3097	3.1786	12.0338
22,000	7.4763	2.4800	11.5981
23,000	7.4557	2.8114	12.1705
24,000	7.2222	2.8514	11.1849

flounder ranges from around \$7 to \$8.3 a pound. The confidence intervals for the estimates increase as the quota allocation increases. At the lowest quota allocation, 2,000 metric tons, the 95% confidence interval is between \$6.63 and \$8.85. At the highest quota level, 24,000 metric tons, the 95% confidence interval is between \$2.85 and \$11.18. The current allocation to commercial sector has been hovering between 8,000 and 13,000 metric tons. In this range the average marginal value is between \$7.63 and \$8.01 and the 95% confidence intervals are between \$5.75 and \$10.21 at 8,000 metric tons and \$4.73 and \$11.06 at 13,000 metric tons.

4.4.2 Marginal Values - Model 2

Model 2 augments *Model 1* by incorporating the state allocation constraints. This implies that once a given state has reached their allocation of summer flounder we no longer allowed vessels from that state to target summer flounder. If vessels reached their allocation of black sea bass and scup we did allow them to continue targeting summer flounder, but we did not allow them to retain any of the black sea bass or scup for sale (i.e., we zeroed out the revenue flow from the species). The results from this simulation are contained in Table 4.5 as well as Figure 4.5.

The results illustrate that incorporating the state allocation constraints lowered the marginal value per a pound of summer flounder by approximately 28%. Therefore, the state allocation constraints are a significant contribution to our simulation model. The average marginal values for *Model 2* range from slightly over \$5 to just slightly under \$6 a pound, with the values gradually decreasing as the allocation of summer flounder increases. The 95% confidence intervals range from between \$5.20 and \$6.72 at the lowest allocation, 2,000 metric tons, to between \$2.33 and \$8.04 at the highest allocation level, 24,000 metric tons. The current allocation to commercial sector has been hovering between 8,000 and 13,000 metric tons. In this range the average marginal value is between \$5.35 and \$5.84 and the 95% confidence intervals are between \$4.16 and \$7.44 at 8,000 metric tons and \$4.03 and \$7.55 at 13,000 metric tons. These are lower than the values observed under *Model 1*.

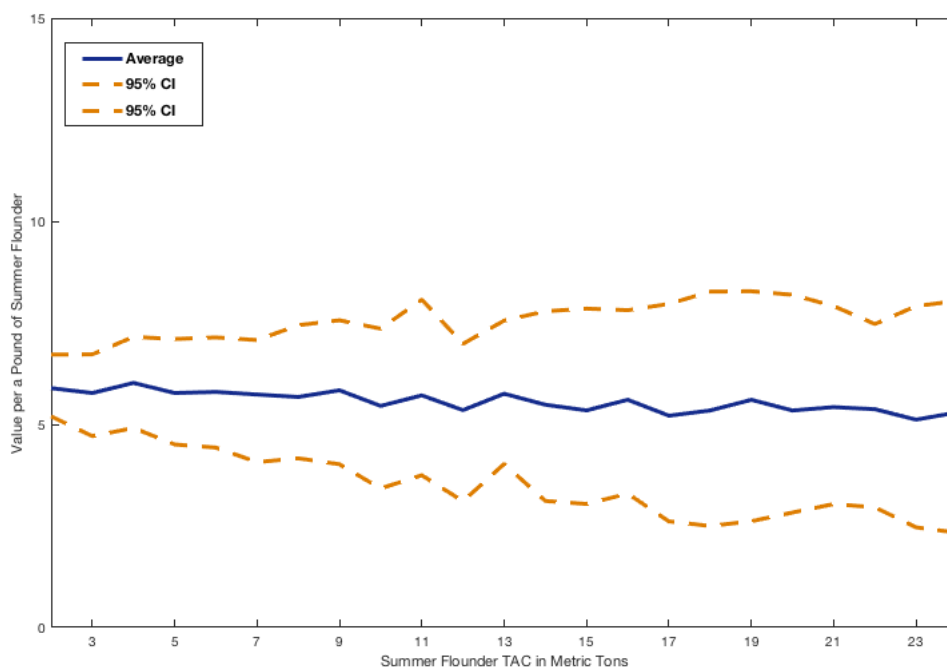
4.4.3 Marginal Values - Model 3

Model 3 builds on *Model 2* by incorporating seasonality in the execution of commercial allocation. Using the distribution of landings in Figure 3 we first randomly drew a month from this distribution and then a vessel trip as well as ensuring that the trip met the state

Table 4.5: Marginal Values for Model 2

Allocation (MT)	Mean	Lower 95% CI	Upper 95% CI
2,000	5.8912	5.1979	6.7163
3,000	5.7719	4.7107	6.7222
4,000	6.0203	4.9100	7.1536
5,000	5.7723	4.5051	7.1005
6,000	5.7984	4.4274	7.1405
7,000	5.7344	4.0708	7.0750
8,000	5.6742	4.1642	7.4412
9,000	5.8385	4.0181	7.5617
10,000	5.4538	3.4214	7.3554
11,000	5.7139	3.7474	8.0717
12,000	5.3493	3.1078	6.9818
13,000	5.7539	4.0262	7.5545
14,000	5.4830	3.1144	7.7844
15,000	5.3437	3.0401	7.8483
16,000	5.6057	3.2938	7.8103
17,000	5.2131	2.6121	7.9651
18,000	5.3416	2.4983	8.2667
19,000	5.6042	2.6154	8.2773
20,000	5.3415	2.8286	8.1890
21,000	5.4241	3.0384	7.9107
22,000	5.3730	2.9580	7.4693
23,000	5.1163	2.4650	7.9103
24,000	5.2927	2.3330	8.0395

Figure 4.5: Marginal Value Estimates for Model 2



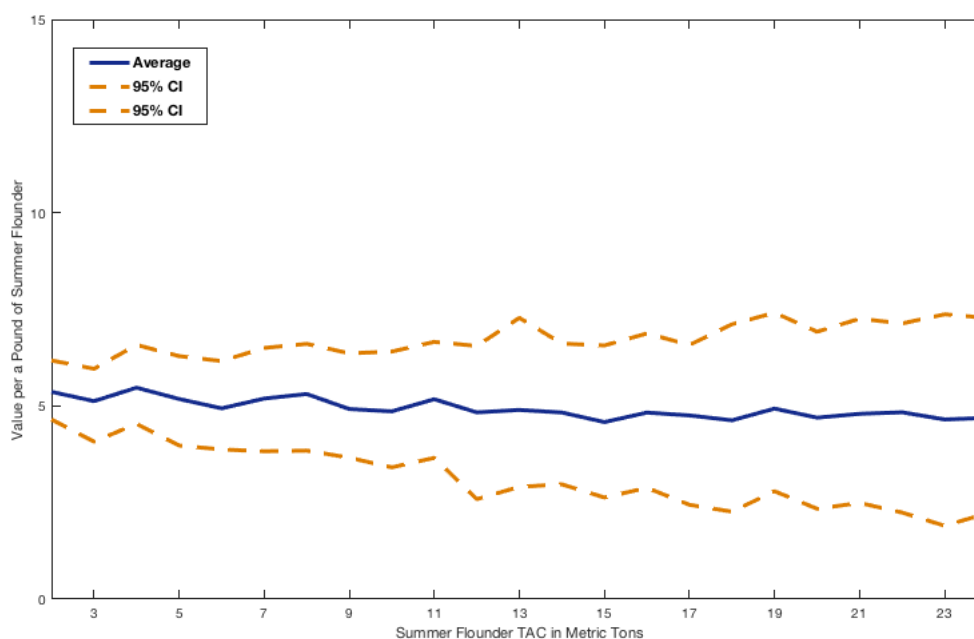
allocation constraints. This seasonality allowed the execution of the sector allocation to mirror the actual distribution of harvest observed within the sector. The results from the simulation are illustrated in Table 4.6 and Figure 4.6.

The results from *Model 3* generate slightly lower marginal value estimates than those observed in *Model 2*. This is reasonable because we have constructed the simulation so that it mimics the seasonal inshore-offshore patterns within the fishery. The average marginal value ranges from \$5.5 to around \$4.6 per a pound of summer flounder, with the marginal values decreasing as the allocation to the sector increases. The 95% confidence intervals range from between \$4.65 and \$6.18 at the lowest allocation, 2,000 metric tons, to between \$2.22 and \$7.28 at the highest allocation level, 24,000 metric tons. The current allocation to the commercial sector has been hovering between 8,000 and 13,000 metric tons. In this range the average marginal value is between \$4.83 and \$5.31 and the 95% confidence intervals are between \$3.84 and \$6.61 at 8,000 metric tons and \$2.91 and \$7.28 at 13,000 metric tons. These estimates are approximately \$0.63 lower than *Model 2* and around \$2.82 per a pound lower than *Model 1*. Given that *Model 3* most closely follows the seasonal harvesting trends as well as the state allocation constraints, the

Table 4.6: Marginal Values for Model 3

Allocation (MT)	Mean	Lower 95% CI	Upper 95% CI
2,000	5.3647	4.6499	6.1764
3,000	5.1244	4.0759	5.9617
4,000	5.4723	4.5370	6.5790
5,000	5.1795	3.9753	6.2888
6,000	4.9376	3.8741	6.1608
7,000	5.1906	3.8274	6.4999
8,000	5.3084	3.8437	6.6055
9,000	4.9202	3.6601	6.3619
10,000	4.8595	3.4107	6.4060
11,000	5.1734	3.6569	6.6575
12,000	4.8325	2.5880	6.5516
13,000	4.8965	2.9068	7.2792
14,000	4.8295	2.9711	6.6132
15,000	4.5819	2.6307	6.5645
16,000	4.8280	2.8806	6.8749
17,000	4.7540	2.4417	6.5781
18,000	4.6277	2.2631	7.1122
19,000	4.9304	2.7936	7.4110
20,000	4.6968	2.3390	6.9201
21,000	4.7958	2.4909	7.2562
22,000	4.8346	2.2409	7.1341
23,000	4.6497	1.8990	7.3699
24,000	4.6912	2.2228	7.2767

Figure 4.6: Marginal Value Estimates for Model 3



results from this model are our preferred estimates of the marginal value per a pound of summer flounder.

4.4.4 Caveats

As with any empirical study, there are limitations to our analysis. These limitations are a result of the modeling conducted as well as the available data we have used to conduct our analysis. Listed below are the major caveats with our work:

1. The data used in our analysis relies on the observer data set. This data set captures only a small portion of the total summer flounder landings. Although the observer data does closely align with the vessel trip reports it is important to note its limited coverage. The vessel trip report data can not be used in our analysis because it does not contain detailed and sequenced spatial behavior. Therefore, the observer data is the best available data set for our analysis.
2. Our analysis is a short run analysis of the commercial fleet. In our model the price of summer flounder is not endogenous and we do not account for the free entry and

exit of fishermen within the summer flounder fishery. These factors may result in different results, but the data does not allow us to investigate these factors.

3. Our analysis does not account for the localized depletion within the fishery. As the quota increased, and more fishing occurs one might expect that the cost per a haul increases.

Chapter 5

Allocation Analysis and Recommendations

We conclude with our allocation analysis, which examines for a particular quota level the marginal benefits (or marginal willingness to pay) for each sector if an additional unit of quota was allocated to them. Following the equimarginal principle, we examine allocation levels where each sector's marginal benefit for the last quota unit allocated to them is equalized. Economists call this optimal because once we have established the optimal allocation, any other allocation necessarily lowers total economic benefits in the fishery.¹

5.1 Allocation Analysis

The earlier chapters clearly demonstrate that both sectors benefit when quota is allocated to them. In this section, we compare these marginal benefits to examine

1. How the current allocation (60% Commercial and 40% recreational) compares to the optimal allocation
2. The quota allocation change that could increase economic benefits in the fishery

Both the commercial and recreational methodologies produce marginal value estimates that show what the sector is “willing to pay” for an additional unit of quota. We combine the marginal value estimates from Model 3 in the commercial Chapter 4

¹This is a strong statement and we note the caveats to our work mentioned in this chapter and elsewhere in the document.

Figure 4.6 (the preferred model) with the marginal value schedule from the recreation Chapter 3 Figure 3.4 (also the preferred estimate). In order to do this, we assume a grand total allowable catch of 8,000 Metric Tons (as that was the approximate TAC level in 2014 and the last year of data included in our models) and imposed the following constraint on the commercial and recreational sectors:

$$Harvest_{Recreational} + Harvest_{Commercial} = 8000$$

This allows us to solve for one sector's harvest as a function of the other. The commercial harvest can be written as

$$Harvest_{Commercial} = 8000 - Harvest_{Recreational}$$

Using these constraints we combine the marginal value schedules for each sector in Figure 5.1. Note that in the figure, we use the preferred models from both the recreational and commercial sectors.

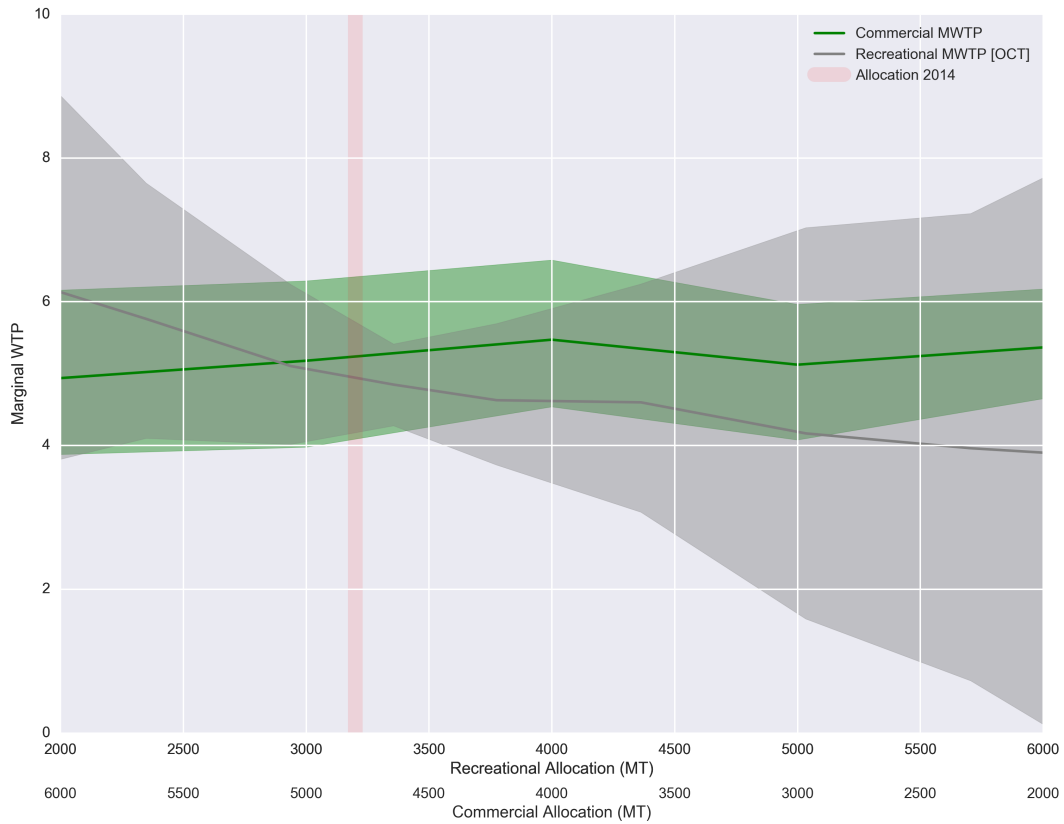
This figure shows, that once the 95% confidence intervals are included, there is no clear-cut difference in marginal value schedules for a wide swath of quota allocation levels between 2000 and 6000 metric tons. Once the uncertainty is factored into the equimarginal analysis,

- The current allocation can't be said to be sub-optimal since stakeholders directly engaged in summer flounder fishing have a very similar "Willingness to Pay" for an additional pound of fish in the neighborhood of the current allocation.
- Modest changes from the current allocation would most likely not lower benefits in the fishery.
- Large changes severely limiting one sector over another would most likely lower benefits in the fishery.

5.1.1 Caveats

The aforementioned analysis hinges on a number of key assumptions and we want to make clear some that we think are quite important to note alongside our main results. Besides the caveats broken down by sector and listed below, we also acknowledge additional caveats that impact the overall analysis:

Figure 5.1: Marginal Benefits of Quota by Sector



- Both the commercial and recreational models use *past* fishing outcomes to characterize fishing quality for each of the sites in the spatial fishing model. Since past fishing outcomes are a product of past management and ecological conditions the quality measures we use may not fully capture the current quality expectations that is important for characterizing fishermen’s preferences. However, since the models require fishing quality expectations that are spatially detailed, we have no choice but to use past fishing data for characterizing current expectations.
- As pointed out by Holzer and McConnell (2014), the equimarginal principle (that we use for allocation above) reaches an efficient allocation when property rights can be attached to the resource. We don’t have that in this case, since once allocations occur for each sector an open access fishery ensues. We note this important caveat

and argue that we can't do better without a *per-fisherman* participation model for both sectors and models of preference heterogeneity.

- Neither sector model allows for localized biological depletion.
- Due to the timeliness of producing the research we were forced to work off of the year 2014 as the baseline.

Recreation Caveats

1. By focusing on angler behavior, we ignore any other changes in consumer or producer surplus in the recreation sector that is *due to quota changes in the summer flounder fishery* such as losses/gains in profits at bait shops and boating repair and supply businesses. This means we are tending to underestimate the marginal value schedule for the recreation sector.
2. Our adjustment above in Figure 5.1 to account for the opportunity cost of time is an estimate of what the complete model might look like. In a sense, we are performing a benefits transfer with all of the issues that accompany it. We think it is a reasonable approximation since both studies examine the same resource, use the same data, and employ similar methods.
3. Our methods do not account for changes in participation and numbers of trips due to policy changes. Consequently, we are tending to underestimate the marginal value schedule for the recreational sector.

Commercial Caveats

1. The benefits accruing to commercial anglers occur in the *short-run*, since an extensive literature (see Grafton et al. (2006) for a brief overview) has shown that exogenous changes in profitability in regulated open access fisheries are often driven to low levels as commercial vessels try to out-compete each other to catch the fleet quota. Consequently, we would expect the marginal value schedule in 5.1 to decline over time.
2. Like the recreation analysis, this study only focuses on at-sea commercial behavior and ignores any changes in consumer and produce surplus in the commercial sector *solely due to quota changes* such as boating and dock services, and losses in consumer surplus for consumers of summer flounder. Consequently, we are tending to underestimate the marginal value schedule for the commercial sector.

5.1.2 Recommendations

Deciding the sector allocation of summer flounder between the commercial and recreational sectors is an impactful policy decision that alters the welfare of these respective sectors. In our analysis we have focused on making conservative recommendations regarding sector allocation because each of the models developed in our analysis possess important caveats and limitations that are relevant to policy. Although, the methods and data used are the best available we have made a concerted effort to acknowledge the limitations of our efforts and its efficacy for public policy. Given our results, there are a number of short-run implications of our analysis.

In the short-run, we don't see any statistical difference between the marginal value schedules of the two sectors using the preferred set of results. This suggests that the current sector allocations conform with our results. Although the mean estimates for the commercial sectors marginal valuation lie below those within the recreational sector when the recreational allocation is below approximately 2,700 metric tons, the confidence intervals for both sectors overlap. This indicates that our results provide little empirical support for altering the current allocation. Our results also suggest that modest changes in allocation *in either direction* would most likely not lower the economic benefits in the fishery. Large changes that severely restricted one sector over another would most likely lower the economic benefits in the fishery.

Our results can not be used to inform any long-run policy analysis as both sectors are likely to change their behavior should the existing allocation change. On the recreational side our results ignore any changes that may arise in related sectors (i.e., party/charter owners, bait and tackle shops, etc..) and changes in recreational effort that could impact their marginal valuation. On the commercial side our results do not address any changes in the prevailing market (i.e, ex-vessel prices), fleet behavior (i.e, entry and exit), or in related sectors should the allocation to the commercial sector change. Consequently, based solely on the equimarginal analysis performed here with accompanying caveats, we do not recommend changing the quota allocation as the marginal value schedules (Figure 5.1) are nearly equalized at the current allocation level.

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Appendix

Table 5.1: Total Recreational Summer Flounder Catch by State (2010-2015)

		2010	2011	2012	2013	2014	2015
Connecticut	Catch	408103.0	391627.0	368752.0	1135976.0	757270.0	522428.0
	% SE	23.1	29.7	22.8	14.6	20.7	22.2
Delaware	Catch	672223.0	682321.0	298917.0	296722.0	385462.0	207777.0
	% SE	14.6	16.6	16.6	12.2	12.2	14.1
Maryland	Catch	1250666.0	487883.0	236175.0	333283.0	710356.0	288387.0
	% SE	33.9	22.8	33.2	14.4	32.6	24.3
Massachusetts	Catch	259869.0	240958.0	326079.0	93176.0	449391.0	168620.0
	% SE	56.3	22.6	24.1	19.1	47.0	20.7
New Jersey	Catch	11117078.0	8832808.0	8111333.0	7705212.0	10688470.0	5174878.0
	% SE	8.9	10.1	10.9	12.3	11.8	9.0
New York	catch	6905742.0	7671293.0	5521735.0	5184731.0	5033970.0	4732687.0
	% SE	11.6	10.4	11.8	13.0	10.4	11.5
North Carolina	Catch	79184.0	61629.0	63505.0	45469.0	47026.0	40561.0
	% SE	13.0	16.3	17.0	17.0	19.7	23.1
Rhode Island	Catch	348766.0	885522.0	484903.0	654975.0	601986.0	576822.0
	% SE	17.3	23.8	17.2	35.1	21.3	20.9
Virginia	Catch	2679889.0	2304658.0	1116641.0	701788.0	781730.0	773296.0
	% SE	13.4	17.6	15.3	14.9	10.7	23.7

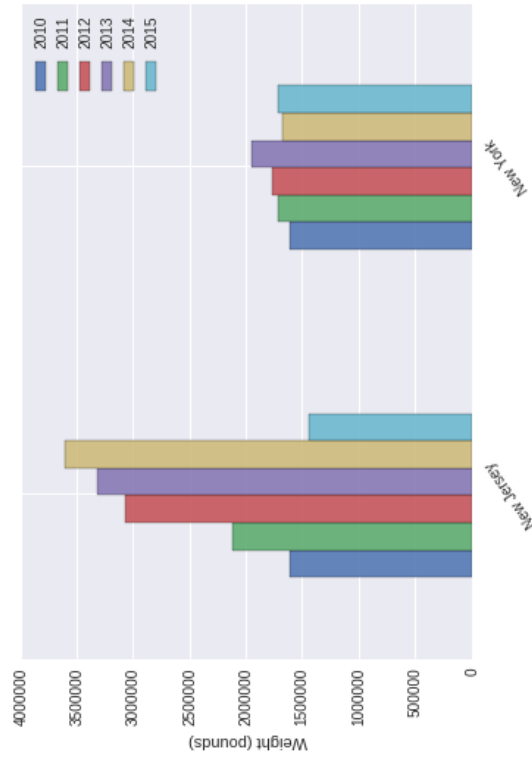
Table 5.2: Total Recreational Summer Flounder Harvest by State (2010-2015)

		2010	2011	2012	2013	2014	2015
Connecticut	Harvest	35028.0	47071.0	62501.0	269650.0	119502.0	97215.0
	% SE	30.7	33.9	41.5	18.7	21.1	28.9
Delaware	Harvest	53512.0	66820.0	45474.0	58279.0	93029.0	51450.0
	% SE	18.2	21.9	23.7	13.7	15.8	13.9
Maryland	Harvest	25215.0	15347.0	22617.0	53180.0	79513.0	44437.0
	% SE	35.7	44.8	32.2	22.1	56.1	27.9
Massachusetts	Harvest	45156.0	58372.0	75803.0	31228.0	112840.0	79109.0
	% SE	48.0	36.8	34.1	26.1	41.1	34.5
New Jersey	Harvest	552401.0	736848.0	1130407.0	1244432.0	1175383.0	497482.0
	% SE	13.7	13.0	11.8	14.6	11.7	11.1
New York	Harvest	334491.0	376198.0	509123.0	518016.0	509131.0	543278.0
	% SE	16.8	16.3	17.2	16.0	14.7	11.2
North Carolina	Harvest	77157.0	60422.0	63135.0	44941.0	45708.0	40561.0
	% SE	13.2	16.6	17.1	17.2	20.2	23.1
Rhode Island	Harvest	118455.0	161125.0	103102.0	127713.0	184668.0	164028.0
	% SE	33.0	31.3	32.9	25.8	22.5	24.9
Virginia	Harvest	260050.0	317674.0	259973.0	186916.0	139431.0	159234.0
	% SE	15.2	19.0	16.9	31.7	15.3	25.0

Table 5.3: Total Summer Flounder Harvested Weight (Pounds) for Atlantic States (2010-2015)

		2010	2011	2012	2013	2014	2015
Connecticut	Pounds	132013.0	186834.0	191119.0	888906.0	391168.0	346179.0
	% SE	31.3	35.0	39.2	18.5	20.1	29.4
Delaware	Pounds	159976.0	182733.0	141935.0	159185.0	227913.0	114638.0
	% SE	18.1	22.4	24.6	13.9	16.5	14.7
Maryland	Pounds	91834.0	55686.0	61514.0	108690.0	179313.0	103613.0
	% SE	38.3	46.7	33.1	21.7	56.0	31.7
Massachusetts	Pounds	137611.0	202665.0	175110.0	64365.0	238604.0	146532.0
	% SE	44.4	51.6	32.6	27.9	36.0	27.5
New Jersey	Pounds	1614357.0	2116951.0	3063723.0	3316971.0	3608939.0	1442827.0
	% SE	14.0	13.2	11.8	14.3	12.1	11.0
New York	Pounds	1612298.0	1718121.0	1760650.0	1954821.0	1677717.0	1708882.0
	% SE	16.8	17.4	17.3	17.2	16.1	11.7
North Carolina	Pounds	111539.0	100543.0	101642.0	70874.0	67791.0	64065.0
	% SE	13.4	16.0	17.0	17.3	22.1	23.5
Rhode Island	Pounds	458873.0	511544.0	335506.0	371948.0	636207.0	600597.0
	% SE	31.3	29.0	36.7	24.8	22.7	27.9
Virginia	Pounds	789856.0	880639.0	658476.0	450884.0	370906.0	342841.0
	% SE	15.0	18.8	17.2	31.2	17.0	23.9

(a) New York and New Jersey



(b) Other Atlantic States

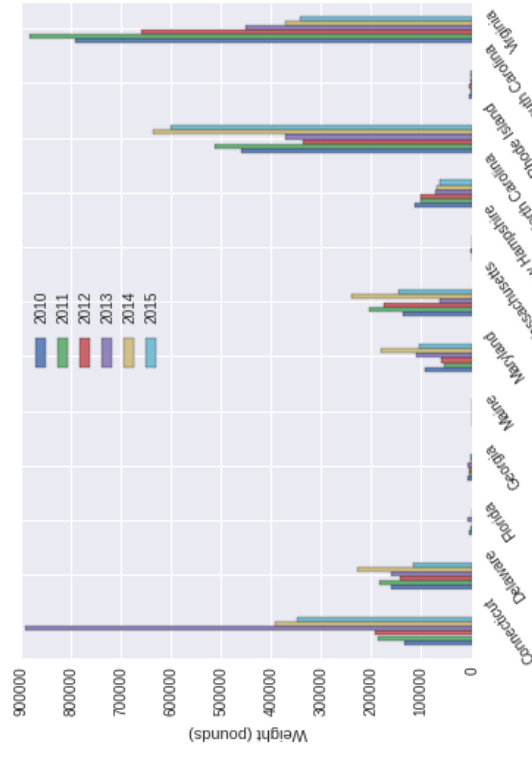


Figure 5.2: Total Recreational Harvested Weight (Pounds) (2010-2014)



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Michael P. Luisi, Chairman | G. Warren Elliott, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

Date: June 5, 2020
To: Council and Board
From: Julia Beaty (MAFMC staff) and Caitlin Starks (ASMFC staff)
Subject: Black Sea Bass Commercial Allocation Amendment

The Mid-Atlantic Fishery Management Council (Council) and the Atlantic States Marine Fisheries Commission's (Commission's) Summer Flounder, Scup, and Black Sea Bass Management Board (Board) are working on a joint amendment/addendum to consider changes to the allocations of the black sea bass commercial quota among states and to consider whether these allocations should be added to the Council's FMP.

During their June 2020 joint meeting, the Council and Board will review comments received during the scoping period and will discuss the range of alternatives that may be included in this action. It is anticipated that both groups will approve a final range of alternatives during their August 2020 joint meeting.

The following documents are included behind this tab for consideration by the Council and Board:

- Staff memo on draft management alternatives.
- Summary of scoping comments.



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 Christopher M. Moore, Ph.D., Executive Director

M E M O R A N D U M

Date: June 5, 2020
To: Council and Board
From: Julia Beaty (MAFMC staff) and Caitlin Starks (ASMFC staff)
Subject: Draft Alternatives for Black Sea Bass Commercial Allocation Amendment

Introduction and Background

The Mid-Atlantic Fishery Management Council (Council) and the Atlantic States Marine Fisheries Commission’s (Commission’s) Summer Flounder, Scup, and Black Sea Bass Management Board (Board) are working on a joint amendment/addendum to consider changes to the allocations of the black sea bass commercial quota among states and to consider whether these allocations should be added to the Council’s Fishery Management Plan (FMP). Currently the state allocations are only included in the Commission’s FMP.

The black sea bass commercial quota is managed on a coastwide basis in federal waters. In state waters, it is allocated among the states of Maine through North Carolina using the percentages shown in Table 1. These percentages were approved in 2002 and are loosely based on landings data from 1980-2001. Although these allocations are not currently in the Council’s FMP, the Council was closely involved in their initial development, as described in more detail in the amendment scoping document (available at <https://www.mafmc.org/actions/bsb-commercial-allocation>).

Table 1: Current allocations of the black sea bass commercial quota among states.

State	Percent of Coastwide Quota
Maine	0.5 %
New Hampshire	0.5 %
Massachusetts	13.0 %
Rhode Island	11.0 %
Connecticut	1.0 %
New York	7.0 %
New Jersey	20.0 %
Delaware	5.0 %
Maryland	11.0 %
Virginia	20.0 %
North Carolina	11.0 %

As shown in Table 1, under the current allocations, 67% of the annual coastwide quota is divided among the states of New Jersey through North Carolina and 33% is divided among the states of New York through Maine.

The most recent black sea bass stock assessment shows that spawning stock biomass in the northern region (i.e., approximately Maine through Hudson Canyon) has greatly increased since 2002, while the amount of biomass in the southern region (i.e., approximately south of Hudson Canyon through Cape Hatteras) has not greatly changed (Figure 1). Although the state allocations were not based on distribution of the stock, some northern region states have noted that changes in availability and distribution have made it increasingly difficult to constrain landings to their current allocations.

In October 2019, the Board initiated Draft Addendum XXXIII to address these concerns. In December 2019, the Council initiated a complementary amendment. Both the addendum and amendment will consider whether changes should be made to the state allocations and whether the allocations should be managed under both the Commission and Council FMPs, rather than only under the Commission’s FMP as is currently the case.

Goals of Amendment/Addendum

- Consider adjusting the current commercial black sea bass allocations using current distribution and abundance of black sea bass as one of several adjustment factors to achieve more balanced access to the resource. These adjustment factors will be identified as the development process moves forward.
- Consider whether the state allocations should continue to be managed only under the Commission's FMP or whether they should be managed under both the Commission and Council FMPs.

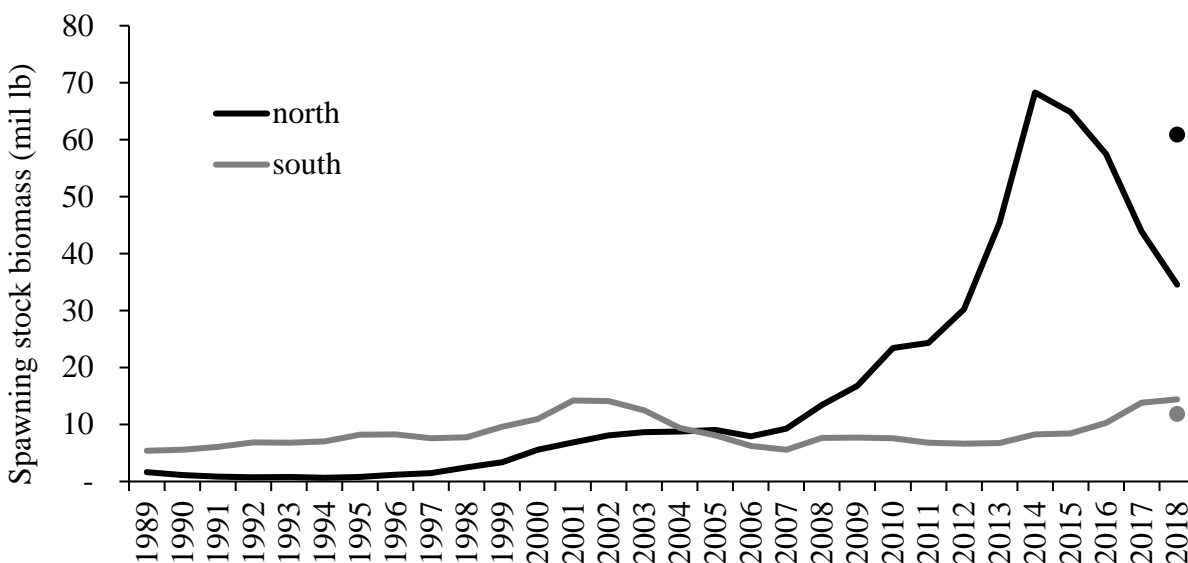


Figure 1. Black sea bass spawning stock biomass by region from the 2019 Operational Assessment Update. Open marks represent retro-adjusted values (used to set catch limits). Source: Personal communication with Northeast Fishery Science Center.

Objective of Council and Board discussion

During their joint June 2020 meeting, the Council and Board will provide input on the draft range of management alternatives for this action. Staff will then further develop the alternatives in anticipation of approval of a final range of alternatives and a draft addendum document for public comment at the joint August meeting. If the Council and Board wish to maintain the current timeline for next steps (see page 8), major changes to the draft alternatives should be agreed to during the June joint meeting to allow time for staff to further develop alternatives prior to the August joint meeting.

Discussion questions

- Is the range of management approaches listed below appropriate for inclusion in a public hearing document? Should any approaches or sub-options be removed? Should any be added?
- For some approaches, the Plan Development Team (PDT) recommended a range of sub-options. In some cases, these are minimum and maximum values with the intent that the Council and Board could chose final options from within that range. Are the proposed ranges of sub-options appropriate?

Potential management approaches

The potential management approaches summarized below are based on PDT recommendations, previous Council and Board input, and staff recommendations.

A. Status quo (current commercial state allocations)

This option would maintain the current state allocation percentages (Table 1). This alternative must be included in the amendment/addendum.

B. Increase Connecticut quota to 5%

This option aims to increase Connecticut's 1% allocation to 5% as a standalone option or prior to applying other options described below. Connecticut has experienced a notable increase in black sea bass abundance in state waters over the last several years. This option attempts to reduce the disparity between the abundance of black sea bass in Connecticut waters and Connecticut's current 1% allocation by increasing Connecticut's allocation to 5%, using the following approach:

1. Hold New York and Delaware allocations constant. New York has experienced a similar increase in black sea bass abundance in state waters as Connecticut; therefore, a reduction to the New York allocation is not proposed under this approach. Delaware's current allocation is 5%. This option does not seek to make Connecticut's allocation larger than any other state (except Maine and New Hampshire, see below).
2. Move 1/2 of the Maine and New Hampshire allocations to Connecticut. Since 2012, neither Maine nor New Hampshire has reported commercial black sea bass landings, and neither state has a current declared interest in the fishery.
3. Move allocation from the remaining states proportional to each state's current allocation.

C. Dynamic Adjustments to Regional Allocations (DARA)

The Dynamic Adjustments to Regional Allocations (DARA) approach is a dynamic, formulaic method that aims to balance stability based on historical allocations with gradual allocation adjustments based on regional shifts in stock distribution derived from stock assessments or

surveys.¹ There are two phases to this approach. The first is the transition phase, during which the initial allocations (i.e. current, or modified through option B) are gradually adjusted to allocations partially based on distribution of the stock. After the transition phase is complete, the component of the allocations that is based on stock distribution is updated on a regular basis in response to updated distribution information.

As described below, there are various sub-options to set the scale and pace of the change in allocations both during and after the transition period. The sub-options for each component represent the minimum and maximum bounds on the range of options recommended by the PDT. The Council and Board could select final options from within this range.

Sub-options for relative importance of historical allocations compared to resource distribution

The PDT recommends the options below to determine the final relative importance of the historical allocations compared to stock distribution at the end of the transition period. It is intended that the Council and Board could chose values from within the range of the two options listed below. The length of the transition period will depend on other options chosen.

- **Allocations based 90% on stock distribution and 10% on historic allocations.** This could result in more change from the starting allocations compared to the following option.
- **Allocations based 50% on stock distribution and 50% on historic allocations.** This could result in less change from the starting allocations compared to the previous option.

Sub-options for change in relative importance of historical allocations and stock distribution per adjustment

The transition to allocations based on a combination of the historical allocations and stock distribution would occur through incremental adjustments to the relative importance of each factor. The Board and Council would determine the degree of the change in relative weights of each factor per adjustment. Larger adjustments could result in a faster transition to the final weighting scheme (see above).

- **The PDT recommends that the change in the relative importance of each factor fall within the range of 5% to 20 % per adjustment.**

Sub-options for frequency of adjustments to allocations

As previously noted, the DARA approach would result in dynamic allocations. The Board and Council should determine how frequently the allocations would be revised both during and after the transition period. During the transition period, the revisions would be based both on incremental changes in the relative importance of the historical allocations compared to distribution information, as well as based on updated distribution information, if available. After the transition period, the adjustments would be based only on updated distribution information, if available.

- **The PDT recommends consideration of alternatives for allocation adjustments either on an annual basis, or every other year.**

¹ This option is modeled after the Transboundary Management Guidance Committee (TMGC) approach, which was developed and used for the management of Georges Bank resources shared by the United States and Canada (NEFMC, 2003).

Sub-options for maximum regional allocation change per adjustment

A cap could be set for the maximum amount by which the regional allocations could change per adjustment.

- **If a cap is desired, the PDT recommends consideration of caps ranging from 3% to 10%.**

D. Trigger approach

Under this approach, a minimum level of coastwide quota in pounds would be established as a trigger for a change in the state allocations. The amount of coastwide quota up to and including the trigger value would be distributed to the states according to the base allocations. Any remaining quota above the trigger would be distributed differently (see sub-options below).

Sub-options for trigger value

The PDT recommends consideration of trigger values ranging from 3 to 4 million pounds. See Figure 2 for a comparison of these trigger values to past black sea bass commercial quotas.

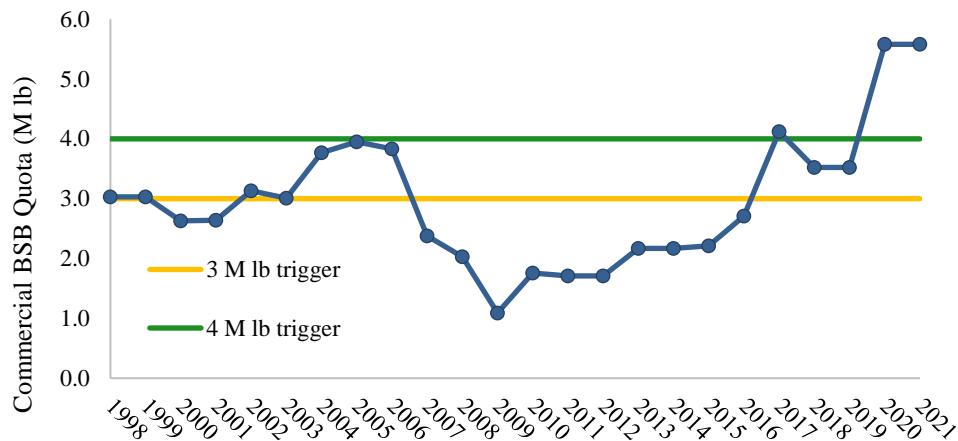


Figure 2: Black sea bass commercial quotas, 1998-2021 compared to potential 3 million and 4 million pound trigger values.

Sub-options for distribution of surplus quota

Quota up to and including the trigger value would be distributed to the states according to the base allocations. Surplus quota above the trigger could be distributed according to one of the following options:

- **Even distribution of surplus quota** among the states of Massachusetts through North Carolina. Maine and New Hampshire would each receive 1% of the surplus based on their historically low participation in the fishery.
- **Distribution of surplus quota among regions based on regional biomass from stock assessment.** The regional allocations would then be divided among the states within each region by either dividing quota evenly among states within a region, or in proportion to base allocations. It is proposed that Maine and New Hampshire would each receive 1% of the northern region surplus quota to account for their historically low participation in the fishery.

Sub-options for static or dynamic base allocations

If surplus quota is distributed based on regional biomass from stock assessment, **the Board and Council could consider either static or dynamic base allocations under the trigger approach.**

- **Static base allocations** would mean the quota up to and including the trigger amount would be allocated every year according to either the current allocations or the allocations as modified by option B.
- **Dynamic base allocations** would mean the quota up to and including the trigger amount would be allocated according to the previous year's final state allocations. This has the potential to change allocations much more quickly than the static base allocations sub-option. The PDT has raised some concerns about the potential pace of allocation changes under this approach.

E. Trigger approach with increase in Connecticut and New York allocations prior to adjusting other states

An option was proposed for a 3 million pound trigger (see previous section), with quota up to and including 3 million pounds distributed based on the current allocations (Table 1). Surplus quota above 3 million pounds would first be used to increase Connecticut's allocation to 5% of the overall quota, and then to increase New York's allocation to 9%. Any remaining additional quota would be split among regions according to the proportion of biomass in each region based on the most recent stock assessment information and allocated among states within each region in proportion to the initial allocations.

F. Percentage of coastwide quota distributed based on historical allocations

This approach would allocate a percentage of the annual coastwide quota using the base allocations (i.e., either the current allocations or the allocations as modified by option B as previously described). The remaining quota would be distributed based on the sub-options described below. Fluctuations in the annual quota would result in similar fluctuations in the number of pounds allocated using the base allocations.

Sub-options for percentage of quota to be allocated using base allocations

- **The PDT recommends consideration of alternatives to allocate 25% to 75% of the commercial quota according to the base allocations.** This range could be modified based on Board and Council feedback.

Sub-options for distribution of remaining quota

Similar to the trigger approach, the remaining percentage of quota could be distributed using one of the following options:

- **Equal distribution of surplus quota** among the states of Massachusetts through North Carolina, with Maine and New Hampshire each receiving 1% of the surplus based on their historically low participation in the fishery.
- **Distribution of surplus quota among regions based on regional biomass from stock assessment.** The regional allocations would then be divided among the states within each region by either dividing quota evenly among states within a region, or in proportion to base allocations. It is proposed that Maine and New Hampshire would each receive 1% of the northern region surplus quota to account for their historically low participation in the fishery.

G. Options for regional configurations

Many of the approaches listed above consider changing the current state allocations to incorporate regional distribution information, which would require a regional configuration to be established. The following sub-options consider different regional configurations. Both would allow for consideration of distribution information from the stock assessment. Other regional configurations may require the use of different data (e.g., trawl survey data).

- **MA-NY and NJ-NC**
- **MA-NY, NJ, and DE-NC.**

These two regional options generally align with those used for the assessment, which used Hudson Canyon as the dividing line between the spatial sub-units of the stock. The second option would treat New Jersey as its own region, considering its geographic location straddling the border between the northern and southern spatial sub-units used in the stock assessment.

Under both sub-options, Maine and New Hampshire's allocations would each remain at 0.5% (or 0.25% if option B is selected) as they do not currently have a declared interest in the fishery.

H. Hybrid approach

A hybrid approach could be developed to allocate the coastwide quota among the states using two or more of the above methods. Combining several approaches could offer flexibility and/or compromise for different perspectives, but at the cost of increased complexity. The development of this option would require specific guidance from the Council and Board and additional analysis by the PDT. **The PDT recommends that the Council and Board consider removing hybrid approaches from further consideration through this action** because they may not add additional benefits beyond the other alternatives already under consideration, and they would add additional complexity.

I. Federal management of state allocations

This action will also consider whether the state allocations should be added to the Council's FMP or if they should remain only in the Commission's FMP. Other changes could also be considered if the allocations are added to the Council's FMP (see sub-options below). If the allocations are added to the Council's FMP, both groups would vote on future changes to the allocations. It would also require that GARFO monitor landings at the state level. Transfers of quota between states would continue to be allowed, but would be managed by GARFO, rather than the Commission.

Sub-options for response to state quota overages under Council FMP

Staff recommend consideration of the following two options related to paybacks of state quota overages.

- **Paybacks only if coastwide quota is exceeded.** Under this option, states would only pay back quota overages if the entire coastwide quota is exceeded. This is the current process for state-level quota overages under the Commission's FMP. No changes would be made to the current commercial accountability measures.
- **States always pay back overages.** Under this option, the exact amount in pounds by which a state exceeds its allocation would be deducted from their allocation in a following year. This is similar to how state quota overages are addressed for summer flounder. All other aspects of the commercial accountability measures would remain unchanged.

Sub-alternatives for in-season closures

Staff recommend consideration of the following two options related to federal in-season closures.

- **No action - coastwide federal in-season closure when the coastwide quota is projected to be exceeded.** Under this alternative, individual states would close in-season if their allocations are reached prior to the end of the year, as is currently required under the Commission's FMP. The entire fishery would close in-season for all federally permitted vessels and dealers, regardless of state, once the coastwide quota is projected to be landed, as is currently required under the Council's FMP.
- **Coastwide federal in-season closure when the commercial ACL is projected to be exceeded.** Under this alternative, individual states would close in-season if their allocations are reached prior to the end of the year, as is currently required under the Commission's FMP. The entire fishery would close in-season for all federally permitted vessels and dealers, regardless of state, once the coastwide commercial ACL is projected to be landed, rather than when the quota is projected to be landed under the current regulations. Discards in weight cannot be monitored in-season using current discard estimation methods. Therefore, in practice, this option would require GARFO to either make assumptions about discards in the current year, or to close when landings alone are projected to exceed the ACL. States would continue to close when their individual allocations are reached; therefore, it is not anticipated that this option would result in major ACL overages. Depending on how current-year discards are addressed, this option may slightly reduce the likelihood of an in-season closure occurring. However, it should be noted that an in-season federal closure has not occurred to date under the current process.

Next steps

It is anticipated that the Council and Board will approve a final range of management alternatives and a draft addendum document during their joint August 2020 joint meeting. Public hearings could take place in the fall of 2020. The Council and Board could then take final action during their joint meeting in December 2020. Any changes to the Commission's FMP could be implemented for the 2021 fishing year. Changes to the Council's FMP will require an additional federal rulemaking period and could be implemented mid-2021.



**Black Sea Bass Commercial State Allocation Amendment
Scoping Summary**

June 2020

The Council held two webinar scoping hearings on the Black Sea Bass Commercial State Allocation Amendment in May 2020 and solicited written comments from April 13 through May 31, 2020.

A total of 44 individuals (not including MAFMC or ASMFC staff) attended one or both webinar hearings. Twenty-five individuals and organizations provided comments either during a hearing or in writing.

The comments are summarized below by topic. Some comments expressed by only one individual or organization and not directly related to the goal of the amendment are not included in this summary but can be found in the attached scoping hearing transcripts and written comments.

Demographics of individuals and organizations providing comments

Of the 25 individuals and organizations that provided comments, 19 (76%) were primarily affiliated with the commercial fishery, two (8%) were primarily affiliated with the recreational fishery, and three (12%) had another primary affiliation. Table 1 lists the states in which commenters primarily fish or reside.

Table 1: State(s) where individual commenters primarily fish or reside, or state represented by organizations that provided comments.

State	Count	% of total
Virginia	7	28%
New Jersey	7	28%
Maryland	2	8%
North Carolina	2	8%
New York	2	8%
Massachusetts	1	4%
Rhode Island	1	4%
Multiple	2	8%
Unknown	1	4%

General comments

- Eight commenters said biomass is very high off the southern states and landings in the southern states have not decreased. For this reason, two commenters said the premise of this amendment (i.e., consider adjusting the current commercial black sea bass allocations using current distribution and abundance of black sea bass as one of several adjustment factors to achieve more balanced access to the resource) is “unsound.”
- Two commenters said the allocations should account for distribution of the stock as well as patterns of landings. Other commenters may have agreed with this concept without stating their support explicitly.
- Four individuals expressed concerns about discards, for example, saying discards are too high and/or the current allocations are creating unnecessary discards.
- Four commenters noted that the current allocations were based on a compromise approach rather than a quantitative analysis and this was not fair to all states. For example, three commenters noted that New Jersey’s 20% allocation is lower than it would have been if the allocations had been based on historical landings. Two commenters said the New Jersey allocation should not decrease for this reason.

Data considerations

- Four individuals said the data used to inform the allocations should be carefully considered. Examples considerations are listed below.
 - Two individuals said spatial patterns of fishing effort are influenced by factors other than distribution of black sea bass. For example, commercial fishermen from North Carolina and Virginia travel to the Hudson Canyon area to target summer flounder and will harvest black sea bass on the same trips. They can catch black sea bass in areas farther south, but they chose to do combination trips with summer flounder for efficiency. In addition, the requirement for turtle excluder devices has led to reduced fishing effort off North Carolina.
 - One individual noted that the current allocations were based on landings in years with intentional under-reporting by some dealers in New York.
 - One individual noted that different states landed different sizes of fish during the years used to set the allocations. For example, some states had minimum fish size limits, but these limits were not consistent across states. Other states did not have minimum size limits and had markets for very small fish, for example for zoo and aquarium feed.
- Three individuals expressed concerns about information generated by the stock assessment.
 - One individual said biomass is higher than the assessment suggests.
 - One individual asked if the dramatic spike in biomass in the northern region shown in the assessment could be an artifact of the change in trawl survey vessels from the Albatross to the Bigelow.
 - One individual asked if changing natural mortality over time, which is not accounted for in the stock assessment, could play a role in the declining biomass

in the northern region compared to the recent peak. This individual added that the Council should take an ecosystem approach to fisheries management.

Comments against changing the allocation percentages

- Eleven commenters (six from Virginia, four from New Jersey, and one from Maryland) said the current allocation percentages should not change, for example because this would create negative socioeconomic impacts or because stock distribution is constantly changing and therefore the allocations should not be tied to distribution.
- Six commenters (three from Virginia, two from New Jersey, and one from Rhode Island) said allocation should not be taken from the southern states and given to the northern states.

Comments on specific alternatives in the scoping document

- Three commenters said they were not in favor of the DARA approach, for example because it “has too many moving parts” and due to concerns about time lags in data availability.
- Two commenters said they specifically oppose the trigger approach as it would result in a lower allocation to New Jersey.
- Three individuals (from Massachusetts, New York, and North Carolina) supported an increase in Connecticut’s allocation to address the disconnect between high availability and their 1% current allocation.

Considerations for Council management of state allocations

- Nine commenters said the state allocations should be added to the Council’s FMP or that the Council should play a greater role in determining the allocations.
- One organization said the state allocations should not be added to the Council’s FMP as this is unnecessary and would raise concerns about fair representation of New England states in the process.
- Three commenters recommended that if the state allocations are added to the Council’s FMP, then the federal regulations should allow for transfers of quota among states, as is currently allowed under the Commission’s FMP.
- One individual asked if consideration could be given to managing the state allocations under *either* the Council’s FMP *or* the Commission’s FMP, rather than only the Commission’s FMP or both FMPs as described in the scoping document.

Frequency of changes to allocations

- Two commenters said allocations should be re-evaluated on a regular basis and considerations related to distribution of the stock should be part of this evaluation.
- One organization supported dynamic allocations or the use of sunset provisions.
- One organization said if any allocation changes would reduce an individual state’s quota below historical levels, then that change should be made incrementally.

Suggestions for alternatives not included in the scoping document

- One individual said the amendment should consider an option that treats New Jersey and New York as a region. He emphasized that New Jersey should not be included with the southern region as New Jersey is currently the center of the black sea bass biomass.
- One individual asked if unused quota from the previous year could roll over to the next year and be applied only to those states that feel especially constrained by their low allocations. As an example, this individual suggested that unused quota from Maine and New Hampshire could be applied to Connecticut in the following year.
- Three individuals recommended that more states use an ITQ system and that ITQ fishermen be allowed to purchase quota from fishermen in other states. This would allow fishermen in states with low allocations to purchase quota.

Scoping Hearing Transcripts

The Mid-Atlantic Fishery Management Council (MAFMC) held two webinar scoping hearings on the Black Sea Bass Commercial State Allocation Amendment in May 2020. This is a joint action with the Atlantic States Marine Fisheries Commission (ASMFC). The ASMFC is developing an addendum, rather than an amendment; therefore, only the MAFMC held scoping hearings and a written scoping period.

Verbal comments provided at the hearings are transcribed below. Comments were transcribed verbatim to the extent practicable with some paraphrasing and minor edits for clarity.

Webinar Hearing #1

Monday May 11, 2020, 2:00 pm - 3:30 pm EDT

Attendees: Katie Almeida (*the Town Dock, AP member*), Josh B, Chris Batsavage (*MAMFC member, ASMFC Board member, NCDMF*), Julia Beaty (*MAFMC staff*), Rick Bellavance, Alan Bianchi (*NCDMF*), Bore, Joe Cimino (*MAMFC member, ASMFC Board member, NJ DEP*), Greg DiDomenico (*Lund's Fisheries, AP member*), Tony DiLernia (*MAFMC member and hearing officer*), Steven Doctor (*MD DNR*), Michelle Duval, Steven Ellis, James Fletcher (*United National Fishermen's Association, AP member*), Jason, Jon Grant, Sonny Gwin (*MAFMC member*), Emerson Hasbrouck (*ASMFC Board member*), Mark Hodges (*AP member*), Olaf Jensen (*Rutgers*), Jeff Kaelin (*Lund's Fisheries*), Julia Kaplan, Alexa Kretsch (*VMRC*), Tim Krusell, Carl LoBue (*TNC*), Katie Longo (*Marine Stewardship Council*), John Maniscalco (*NY DEC*), Meghan, Nichola Meserve (*ASMFC Board member, MA DMF*), Mike Plaia (*AP member*), Joanne Pellegrino (*NOAA Fisheries*), Eric Reid (*MAFMC member, ASMFC Board member*), Stephanie Rekemeyer, Robert Rühle (*AP member*), Mary Sabo (*MAMFC staff*), Jared Silva, Caitlin Starks (*ASMFC staff*), Mark Terceiro (*NEFSC*), Charles F. Tekula Jr., Wes Townsend (*MAFMC member*), Nick Wilbur, Angel Willey (*MD DNR*)

Comments:

Tony DiLernia: Is there a provision in this document to allow quota to be transferred among the states if the allocations are added to the Council's FMP?

Julia Beaty: That's not in there yet. That could be considered.

Charles F. Tekula, Jr. (via chat): Have you considered allowing the commercial side to dip into the unused recreational allocations because of the lockdown in certain states?

Julia Beaty: No. And it's complicated because we don't know what recreational harvest is going to look like. We know for-hire fishing is shut down, but private angler fishing is not. We also have the complication of the data estimates changing. The recreational fishery actually has been harvesting more than their harvest limit because of the change in the data. It's not clear yet what's going to happen with the recreational fishery in terms of is there even going to be extra fish available at all and we don't know what the current shut down will mean for the recreational

fishery. And we don't have provisions in the FMP to allow for transfer from one sector to another.

Charles F. Tekula, Jr. (via chat): There is an emergency waiver provision - and this is an emergency.

Tony DiLernia: At last week's ASMFC meeting, there was a discussion about moving unused recreational quota from the spring of this year to later in this year. It was just a discussion. No analysis. No proposals. That does add to the uncertainty.

Charles F. Tekula, Jr.: Your answer about sharing the quota doesn't seem to make much sense. What ever happened to the Green Sheet data? I forget when it stopped, but there were federal agents going into Fulton Market in New York getting information on the landings and where it came from and the wholesale prices. It was hard paper data and then they put it online. I know the federal government doesn't throw anything out. The problem with New York was there was no hard data to go by, or it wasn't reliable because of who was running the market. But I was wondering if anyone has an answer to that. I've been asking around and have gotten no answers... I did follow the presentation for the last quota meeting that was held in Stony Brook. It looks like all the data on the commercial side has to be hard data. I know through all the years that any data that was anecdotal was disregarded as not being science. But the recreational data is all anecdotal. I'm just wondering how can that be? ... We've been cheated out of fish we should have had. In the past, the federal government has allowed the fact that that has happened to be somehow satisfied. With fluke, about 20 years ago, when it was discovered that the recreational side went way over their allocations, the federal government forced the issue in the state and actually punished the recreational side by giving a big portion of their landings to recreationals. This went on for like 10 years. All I'm pointing out is that we're still laboring under the original amendment and we're trying to get to a point that we can change it. I just hope that can somehow be factored into the whole scheme. The commercial fishery in New York, and in Connecticut, has basically been screwed by how the system was done.

Tony DiLernia: Your comment is that we should try use the green sheet data in determining the allocations?

Charles F. Tekula, Jr.: I'm just saying that there's been a negligence on the part of the federal government somewhere, saying that they don't have the records when they have them.

Mark Terceiro (via chat): The 'Green Sheets' were formally known as NMFS 'Market News'. It is now available online under GARFO's website. The underlying data are in NMFS computer files and are the data used in assessment and management.

Emerson Hasbrouck: To the issue of the Green Sheets, Chuck is right, it was put together by the National Marine Fisheries Service. The information was collected by people who worked for the National Marine Fisheries Service in an office in the city. They would go to Fulton Market and ask each dealer how much fish they received by species from each different state. Quite a few years ago, myself with some people from the DEC reviewed all of the Green Sheet data from the time period for the summer flounder allocation, which is similar to sea bass. I don't think the years are exactly the same. What we found there was that reported landings for New York that were being used for the allocation was greater than what was reported on the Green Sheets. Now that was summer flounder. Peter Anderson at DEC had the data at one time. I think he ended up

getting an electronic version from NMFS. I don't know if Peter still has all that information. At the time he was just analyzing summer flounder. I'm not sure if he has the data for sea bass.

Mike Plaia (via chat): Mark, when did they stop collecting the Green Sheet data?

Mark Terceiro (via chat): NMFS has never 'stopped collecting the data.' The paper copy of Market News did stop (I think). One can go to GARFO's website under Commercial Fisheries and find the current electronic version of Market News.

www.fisheries.noaa.gov/national/sustainable-fisheries/fishery-market-news

James Fletcher: Your figure of landings by region of catch over time does not reflect that the NEAMAP survey shows a tremendous abundance of sea bass in the southern portion of the range. Flounders have also shifted according to landings by region of catch. But the whole problem behind this is the federal government requires the TEDs - Turtle Excluder Devices - used in these nets to be aluminum rather than cable. If we were to allow cable TEDs, then the fishermen would come back to the south and flounders and sea bass would pick up. But this is landings by region and trawl boats have been forced, because of the TEDs, to go north into these areas. We are getting ready to shift the whole thing and it's not because the fish have changed, it's because the equipment we've been forced to use has changed... The Plan Development Team has basically changed the whole way of thinking without using science.

Tony DiLernia: Jim, let me ask you a question. If we compared the NEAMAP catch to the table that Julia has on the screen here, it should be different. Because NEAMAP is not using a TED. If the use of the TED causes relocation of the effort, then there should be a difference between the NEAMAP catch and what's on the screen here. Is that correct?

James Fletcher: That's correct. And we've got Mr. Ruhle on here that can tell you. I just called his dad. He said there's an expansion of the black sea bass in the south, but we are not seeing it reflected in the catch because of the gear. The thing of it is, the Council has not put in any effort to change the TED rules. God knows I have argued for that. The United National Fishermen's Association has argued for that. The Council has turned a deaf ear. The other question is, getting back to the executive order, what fish are we importing to take the black sea bass market?

Michael Plaia: Does this re-allocation change require an amendment or an addendum?

Tony DiLernia: On the Council's side, it has to be an amendment.

Michael Plaia: Given that, I would encourage everyone to think a couple years out in the future. We're not going to get an amendment done in 2020 or 2021. Who knows what this whole COVID situation is going to do by the time we get an amendment done?

Julia Beaty: This action is kind of unique in that it's a joint action and the Council has to do an amendment, but for the Commission, it's an addendum. This action is also unique in that there has been a lot of Plan Development Team work done before scoping. So it is possible that the Council and Board could take final action in December of this year. Because it's an addendum for the Commission, the changes to the Commission's FMP could be done for 2021 if we stay on our current timeline. Any changes to the Council's FMP would take longer. So it's not a typical timeline because so much work has been done by the PDT and it's an addendum for the Commission.

Michael Plaia: I take your point as far as the Commission goes. But it would still have to go through the formal public input process with the Council, correct?

Julia Beaty: Yes. And both groups will do public hearings later this year.

Michael Plaia: But for the Council, after public hearings, you have public comment periods and GARFO will publish it in the Federal Register and there will be additional comment periods. I take your point that a lot of work has been done. But in terms of public input in the Council process, we still have a long way to go.

Greg DiDomenico: One of the things that this addendum is going to have to contemplate is whether or not these actions are permanent. I would like the staff of the Commission and the Council to look back at addendum 5 or 6. I believe it was in 2005, where the states voluntarily gave up fluke quota in a time of very high abundance and high quota. I think there should be something similar to that in this current addendum. Because while it was difficult to voluntarily give up fish - I believe New Jersey gave up 55,000 pounds of fluke over a two year period to what they referred to as donor states. I think if there is an issue of availability or abundance in other areas, that certainly could be temporary, then I think you could look at a temporary fix of a voluntary nature.

Tony DiLernia: Are you referring to the ability to transfer or trade quota on a regular basis after the percentages are finalized?

Greg DiDomenico: The fluke addendum at the time just stipulated that there were certain states that had “enough fluke” because of the high quota that was implemented. It was just a two time voluntary donation to donor states that had low allocations.

Tony DiLernia: I’m chairing the meeting, but if I were to put on my New York hat, my comment would be that if the state quotas are codified in the federal plan, that they be re-evaluated on a regular basis, whether they sunset or be evaluated every 10 years or whatever. Fisheries management is supposed to be reflective of changes and movement of fish. Putting out something permanent is not consistent with the philosophy of fisheries management. If I was making a comment, I would suggest that we re-examine these quotas on a regular basis. I would also suggest that we keep in the ability to voluntarily transfer quota between states.

Robert Rühle: As far as NEAMAP, yes, we have seen a strong sense of the population in both the northern and southern reaches of the survey. Bear in mind that’s only out to 90 feet. NEAMAP is an inshore survey. Mr. Fletcher is correct that for the last 5, 8, 10 years there has been a big decrease in effort in the southern region because of the turtle line. There has been a shift in effort north because of that. I thought it would be interesting to tease out what was a dedicated sea bass trip versus a combination trip because just about all of North Carolina’s sea bass is caught with summer flounder and scup. I think the lion’s share of, certainly just about all of the trawl caught fish in Virginia is the same thing. The logic from the industry side is you go where you can get the fluke first. For the past few years, around Hudson is where everybody’s been congregating, mainly because it seems to be cleaner. There are less dogs there and the flounder themselves seem to be denser. You can get your trips quicker. It may not always be the case that the sea bass or scup are as plentiful there, but you can whittle away at them as you work down. Most of the Virginia trips are going to be under the incidental limit anyway. So they’re not high poundage landings versus what would be a dedicated trip in Virginia. That’s basically an ITQ.

Jeff Kaelin: I wanted to speak in support of the second goal here. Going out on a limb on my own - I work for Lund’s Fisheries and I think our position would be that we would like the

Council to continue to be involved in this amendment to the extent possible and if the role needs to increase using this amendment the way it's been described, and also the fish trading issue that's been discussed, we would be in support of that.

James Fletcher: We have a tremendous amount of resource out there that is not showing up on the research surveys or whatever. NEAMAP is inshore. They really should not see that many sea bass. So it brings up that fact, is the science center survey correct? If it's not, then we have a tremendous amount of resource that we're wasting. And our whole management, especially on recreational, where we cause fish to be discarded, is both - ASMFC, which I have brought up a number of times, article 1, section 1: prevent physical waste. The Council and ASMFC totally ignores it. We need to bring that point up. Given the new presidential executive order, under Magnuson Act, 101-627, 104-297, it brings up minimize bycatch and avoid unnecessary waste of fish. The Council has a way of total length to do away with any waste of recreational fish. The mentality of the Council and ASMFC is to continue waste. When is this going to change? We have an executive order. We've had rules in effect since ASMFC was passed. We've had rules in effect since Magnuson was passed. Who on the Council is responsible for allowing the laws to be violated?

Webinar Hearing #2

Thursday May 14, 2020, 6:00 pm - 7:30 pm EDT

Attendees: Chris Batsavage (*MAMFC member, ASMFC Board member, NCDMF*), Julia Beaty (*MAFMC staff*), Tony DiLernia (*MAFMC member and hearing officer*), Harry Doernte, David Dow, Jon Grant, Sonny Gwin (*MAFMC member*), Mark Hodges (*AP member*), Jim Lovgren (*AP member*), Robert Ruhle (*AP member*), Brandi Salmon (*NCDMF*), Corinne Truesdale (*RI DEM*), Wes Townsend (*MAFMC member*)

Comments:

Jim Lovgren: New Jersey here is included in the southern part. New Jersey is the dead center of the black sea bass abundance now. We are fishing in the same waters. So why is New York in the northern area and we're in the southern area? Where are you drawing that division line?... Offshore fisheries, we're fishing in the same bottom that New York guys are fishing in. The difference with New York is you have fisheries going on in Long Island Sound. Really, if you want to do a region, it should be New York and New Jersey. It's the New York Bight. Maybe that should be considered a region. A line off Montauk Point heading right down offshore. That's probably around 7200 line south and the 39 degree line east/west.

David Dow: One of your slides showed the northern area had a recent decline in landings. I was wondering if you looked at any relationship between the natural mortality component of the assessment and the factors listed in the ecosystem status report for the Mid-Atlantic and New England Regions.

Julia Beaty: Part of it is that there was a huge year class in 2011. It was the biggest in the time series. And that year class was more prevalent in the northern region than the southern region. It's declining partially because that year class is moving out of the fishery.

David Dow: In the recently released ecosystem status report it shows there's been major changes in the environment in which the fishers reside, so that could have an effect on the natural mortality component of the stock assessment and partially account for why, in addition to the year class, the northern biomass seems to be declining rapidly after a big peak.

Julia Beaty: I think the assessment assumes natural mortality is constant across the time series.

David Dow: That's what my concern is, because that's not reality.

Sonny Gwin: What's the percentage of fish that are caught in federal versus state waters?

Julia Beaty: It's around 60-70% federal waters.

Sonny Gwin: Going back to the amendment goal statement - "consider whether the state allocations should continue to be managed only under the Commission's FMP or whether they should be managed under both the Commission and Council FMPs." Could we change that to say either the Council or the Commission?

Jim Lovgren: It seems real to me that 70% of the commercial landings are caught in federal waters. I have no doubt about that. So how did the ASMFC become the lead agency to manage it? That's because they wanted to be able to put a state by state quota in place. You know where I stand on the state by state issue with sea bass, Tony. I would love to see the Mid-Atlantic have at least an equal partnership with the ASMFC in regard to managing black sea bass. But if we bring in the Mid-Atlantic, there's an awful large part of the population of sea bass that's in New England waters. So if you're going to have federal management, you're going to need to have participation from the New England states too because otherwise they would feel like they weren't getting their fair share. We've seen this with monkfish and scallops. The region that gets the lead, they're wagging the dog... I would like to see a lot more participation from the Mid-Atlantic Council.

Wes Townsend: Could you provide information on the percentage of state and federal waters by state? The further north, the more state waters it's going to be.

Robert Ruhle: In the last 5 years, what's the percentage of underutilized quota for any given state? Would we have the ability in this action to change the way the allocation is handled in terms of unused quota? Could it be rolled over?

Julia Beaty: I don't have a breakdown by state. I do know that the overall landings have come close to the quota over the past 5 years. There have been some transfers among states. I don't think there have been major overages or underages among the states.

Jim Lovgren: You're seeing increased landings. By the VTRs, the landings are coming from Hudson Canyon to Block Canyon in the winter time, late fall through the spring. That's where the biomass of sea bass is. Same thing with fluke. A lot of northern boats - New York, Rhode Island, even Massachusetts boats - have bought Virginia or North Carolina fluke permits. That permit allows them X amount of sea bass in many cases. Like 3,000 pounds for trips with 10,000 or 12,000 - there was a set percentage of bass that that permit was allowed to take in. That's reallocated a lot of sea bass being caught up there is coming into North Carolina or Virginia. We're talking a lot of landings here. These boats are bringing in pretty good trips. That's not counting the ITQ. That data has to be clarified between where the fish was caught and where it was landed... I was on the Council when these state by state allocations were approved. Nowhere in the amendment was New Jersey's allocation that they were going to get less than

28%. It ranged from 28% up to 38% of the total coastwide quota. Yet we got 20%. So New Jersey got shafted thanks to a certain person who worked for our state. My point being, New Jersey's not giving up another pound. If northern states want more quota, get it somewhere else. Don't come looking to New Jersey. We are the center of the biomass. You can't claim that the stock has moved to the east and it certainly didn't move away from New Jersey. It moved into New Jersey.

Robert Rühle: There is an issue with less effort in the southern region because of the turtle lines. I was thinking about a question I asked Julia during the last meeting, as far as how to break out a dedicated black sea bass trip compared to a combination trip. Just about all the trawl trips in North Carolina are going to be combination trips. The reason the fish are caught in the Hudson area is because that's where the fluke are. You pick up the sea bass while you're there. You're not going to go out of your way for 3,000 pounds or whatever the trip limit is. I don't like the idea of either the ASFMC or the Council being solely in control of this. It should be a joint plan with 50/50 participation on both ends. I don't really trust ASMFC... I don't like the idea of the DARA approach. There are a lot of moving parts. And your ability to react, even in the best case, you're still going to be a few years behind the data. And the data is a couple of years behind the actual fishery. So I'm not a big proponent of that. The reason I asked earlier about underutilized quota - I'm well aware that the 2011 year class bloomed and the inshore fishery versus the offshore fishery - and Connecticut is unique because they have a fair amount of access to the fishery but they have very limited access to quota.

Tony DiLernia: We've got to do something for Connecticut. Imagine being in Connecticut and having that low percentage and having the sea bass swarming up on your beach. I'm departing from my impartiality as committee chair. But that's my personal feelings.

Robert Rühle: What I've seen in the last 13 years for sea bass productivity in Long Island Sound, literally right off their door - there's a lot of fish there and it's creating a lot of discards and a lot of waste, which I'm dead against. The reason I asked about unutilized quota, if Maine and New Hampshire only have a half a percent, but if they don't achieve that, then what would be the harm in creating a rollover system where you could basically pull any unused quota for one year? Right now, where we have an increase in sea bass, and states with lower levels of quotas weren't able to harvest it all, it doesn't make sense to increase it. Maybe you could take their increase and give it to Connecticut.

Tony DiLernia: One question could be, if a state has an underage, do they transfer it to another state or hold on to it in case they need it for the following year?

Robert Rühle: It's got some positives and negatives, but it's a way to think outside of the box and use the fish and not waste them.

Tony DiLernia: My philosophy for fisheries management has been that we should manage for what's off our coast. What's in front of the fishermen off their states, somehow we have to manage to let them catch what's there in front of them, not to make them move around. Fisheries management is supposed to be reactive to the stocks and how they increase and decrease and move around.

Jim Lovgren: Your biomass chart shows a big spike in biomass in the northern region. It's kind of too big of a spike to be true. It just makes me wonder if there are any problems with the trawl surveys. This was after the transition to the Bigelow. Were there any adjustments made?... I've

been fishing 45 years. You go out by Hudson Canyon, January through March, and you can literally tow through miles of sea bass. I've never seen anything like it. They breed like porgies. They school like porgies. There's nothing there but sea bass... They're hitting the beach now. They don't hit the beach in New Jersey though. There's a lot of sea bass going into Long Island and Nantucket Sound and so forth.

From: [Tom Taylor](#)
To: [Beaty, Julia](#); [Tom Taylor](#)
Subject: Black Sea Bass Commercial Allocation Amendment
Date: Wednesday, April 15, 2020 11:30:47 AM

To the Committee,

Government intrusion in the lives of their constituents should be as little as possible, so without amending that intrusion from one area to the detriment of another, why not reduce the amount of intrusion unilaterally and allow the quotas to raised for all.

Black Sea Bass will spawn and go where the food sources are and as the northern states see an increase in bio mass, then those fish will find their way south eventually.

keep it the same and let the fish and fishermen be.

thanks

Tom Taylor
Maryland Resident
Seafood Lover



ATLANTIC OFFSHORE LOBSTERMEN'S ASSOCIATION

Grant Moore, President
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April 21, 2020

Dr. Chris Moore, Executive Director
Mid-Atlantic Fishery Management Council

Dear Dr. Moore,

I'm writing as representative of the Atlantic Offshore Lobstermen's Association to provide comments toward the Council's Black Sea Bass Commercial State Allocation Amendment Scoping Document. Our primary interest in this issue relates to black sea bass (BSB) being unavoidable bycatch in lobster gear, as most of our members do not directly target the species. The goal for BSB management, and for all fisheries, in a changing climate regime should be to allow fleets to catch what is abundant off their respective coasts. This requires flexibility to adjust state quotas in response to shifting distributions.

The Association supports revising BSB state-based allocations. As stated in the scoping document, state allocations are based on 20-40 year old data and were initially intended to stay status quo for only a few years in the early 2000s. Since then species distribution has shifted considerably, as demonstrated by The Nature Conservancy's analysis of NEFSC bottom trawl survey data (see Mid-Atlantic Ocean Portal's Fish Species Through Time). Presently, the small quotas in some states coupled with increased BSB abundance creates unnecessary discard which could be avoided if the quota system was realigned to reflect the spatial distribution of the stock. The best example of this situation is Connecticut, where fishery independent surveys indicate very high abundance of BSB in Long Island Sound, yet that state only gets 1% of the commercial quota. NY is in a similar situation in its portion of Long Island Sound.

Regarding the Council's proposed inclusion of state-based allocations in an Amendment, we do not think it necessary at this time. It will take years to affect that change in policy, especially during the Covid-19 pandemic, as it will surely complicate the decision-making process. We also believe it's unnecessary given that the Mid-Atlantic states are well represented on the ASMFC's BSB Board, giving them control of the vote if they choose to exercise that prerogative. We also note that there are no members of the New England states on the Mid-Atlantic Council, so it is hard to envision how New England fishermen would be able to provide meaningful input into the process. We have no objections to inclusion of the Mid-Atlantic Council in deliberations on coastal allocation issues, but duplicate and redundant regulations are unwarranted.

As to specific management approaches, the Association supports a solution that strikes a balance between historic allocations and current biomass, while also considering recent trends in fisheries utilization, discards, and fleet capacity. The approach should be dynamic or, at a minimum, static allocations should sunset after 2-3 years, to prevent this issue arising again. The approach should readjust coastal state allocations to reflect local abundance and include provisions to shift allocations to the more southern states if the current trends reverse. If an approach is selected that will reduce states' quotas below historic landings, adjustments should be made incrementally to minimize financial disruption.

Thank you for the opportunity to comment.

Heidi Heninger
Program & Science Manager

From: [James Fletcher](#)
To: [Beaty, Julia](#); [Moore, Christopher](#)
Subject: Black Sea Bass Commercial Allocation Amendment
Date: Monday, May 11, 2020 12:20:40 PM

COULD OCEAN RANCHING BE DISCUSSED AS A METHOD TO INCREASE ALLOCATION?

COULD RECREATION TOTAL LENGTH BE DISCUSSED FOR MAGNUSON 101 - 627, 104 - 297 COMPLIANCE OR ASMFC AIRTCAL 1 SECTION 1 COMPLIANCE WHY DISCUSS ALLOCATION & NOT WASTE? WILL THIS COMPLY WITH EXECUTIVE ORDER ON FISH ,SEAFOOD & AQUACULTURE ?

--

James Fletcher
United National Fisherman's Association
123 Apple Rd.
Manns Harbor, NC 27953
252-473-3287

From: [Jean Public](#)
To: [Beaty, Julia](#); information@sierraclub.org; info@peta.org; humanelines@hsus.org
Subject: Fw: Reminder: Black Sea Bass Commercial State Allocation Amendment Webinars - Today @ 2:00 p.m. and Thursday @ 6:00 p.m.
Date: Monday, May 11, 2020 12:24:59 PM

public comment

cut commercial allocation proposed by govt by 50%. this quota is because of far too close relationship of govgt agency with commercial profiteers and not enough allowance of protecting th epublic. jean publicee jean upblic1@yahoo.com

----- Forwarded Message -----

From: Mid-Atlantic Fishery Management Council <contact@mafmc.org>
To: "jeanpublic1@yahoo.com" <jeanpublic1@yahoo.com>
Sent: Monday, May 11, 2020, 10:21:19 AM EDT
Subject: Reminder: Black Sea Bass Commercial State Allocation Amendment Webinars - Today @ 2:00 p.m. and Thursday @ 6:00 p.m.

View this message in your [browser](#)

MAFMC Logo



May 11, 2020

Reminder:
**Mid-Atlantic Council to Hold Two Scoping Webinars for
Black Sea Bass Commercial State Allocation Amendment**

Monday, May 11, 2:00 - 3:30 p.m.

Thursday, May 14, 6:00 - 7:30 p.m.

The Mid-Atlantic Fishery Management Council will hold two scoping webinars to gather public input on a management action to consider potential modifications to the allocations of the black sea bass commercial quota among the states of Maine through North Carolina. Learn more about this action in the [scoping announcement](#) or at the links below.

[Read the Amendment Scoping Document](#)

[Watch the Scoping Presentation Video](#)

Webinar Schedule

Both scoping hearings will be conducted by webinar.

1. **Monday May 11, 2020**, 2:00 pm - 3:30 pm EDT
2. **Thursday May 14, 2020**, 6:00 pm - 7:30 pm EDT

To join the webinar, go to <http://mafmc.adobeconnect.com/bsb-com-allocation-scoping/>. Audio connection instructions appear upon connecting, or you can call 800-832-0736 and enter room number 5068871#.

Written Comments

In addition to providing comments at either of the scoping hearing webinars, you may submit written comments by 11:59 pm EDT on Sunday **May 31, 2020**. Written comments may be sent by any of the following methods:

1. **ONLINE:** <http://www.mafmc.org/comments/bsb-com-allocation-amendment>
2. **EMAIL:** jbeaty@mafmc.org
3. **MAIL:** Dr. Christopher Moore, Executive Director
Mid-Atlantic Fishery Management Council
800 North State Street, Suite 201
Dover, DE 19901
4. **FAX:** 302.674.5399

Please include "Black Sea Bass Commercial Allocation Amendment" in the subject line if using email or fax, or on the outside of the envelope if submitting written comments. All comments, regardless of submission method, will be shared with the Commission and Council and will be made publicly available on their respective websites. It is not necessary to submit the same comments to both the Council and Commission or through multiple channels.

Learn More

For additional information and updates on development of this action, please visit the [Black Sea Bass Commercial State Allocation Amendment action](#)

[page](#). The [scoping document](#) contains background information and details on potential management approaches.

Contact

Please direct any questions about the amendment to Julia Beaty, Mid-Atlantic Fishery Management Council, at jbeaty@mafmc.org or (302) 526-5250.

Mid-Atlantic Fishery Management Council

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800 North State Street, Suite 201, Dover, DE 19901

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This message was sent to jeanpublic1@yahoo.com from contact@mafmc.org

Mid-Atlantic Fishery Management Council
800 N. State St. Suite 201
Dover, DE 19901



From: [Beverly Lynch](#)
To: [Beaty, Julia](#)
Subject: Black Sea Bass Commercial Allocation Amendment
Date: Tuesday, May 12, 2020 3:23:40 PM

Regarding: Black Sea Bass Commercial State Allocation Amendment

I favor status quo OR changing the allocation to federal individual quotas based on current state quotas (some are issued to individuals under the state quotas). Then if northern fishermen wanted more quota, they could buy it. Other wise, you would redistribute quota from fishermen who a landing their quotas and need them to other fishermen.

I also favor status quo because your data shows a decline in the northern stock spawning biomass, which means a future decline in the northern stock.

Also you are giving credence to global warming, a debatable and unproven issue.

The Mid-Atlantic council should have a vote on this.

Beverly R. Lynch and Tom Smith, Painter, VA

From: [LEE MOMSWORRY](#)
To: [Beaty, Julia](#)
Subject: BSB minimum size limits in NENG prior to NMFS FMP
Date: Wednesday, May 13, 2020 6:39:34 PM

Hi Julia,

I believe the state by state percentages were a negotiated number for each state based primarily on 'the more landed in your state, the more you get'without any (or very little) consideration given to minimum size limit and other (?) management measures in effect in some New England states previously and at that time.. Do you have any records of those size limits prior to the Plan? In the Plan historical files, are there any models or projections that indicate where the stock would or could have been without those regulations in place?

I started in the BSB fishery in the early 1980's. I vividly remember pallet after pallet (tons and tons) of juvenile (pins) BSB being packed and shipped for zoo food. At that time I knew nothing of the regulatory process. As a small time commercial fisherman I was so concerned tha, in about 1990, I wrote VA Commissioner Bill Pruitt and ask him to do something about it. After two jabs, he finally answered and said NMFS was working on a BSB Plan.

They are working on the small boat horsepower exemption amendment even at a slower pace than they did the original Plan! Since this re-allocation amendment might get some attention this year, could the small boat horsepower exemption amendment be included? lol .

Harry Doernte

From: [David Duncan Dow](#)
To: [Beaty, Julia](#)
Cc: [David Duncan Dow](#); [deFur, Peter](#); [Weis, Judith](#)
Subject: Comments on Black Sea Bass Commercial Allocation Amendment
Date: Thursday, May 21, 2020 3:37:12 AM

I am a retired marine scientist from the Fisheries Laboratory in Woods Hole and grassroots environmental activist living on Cape Cod. I participated in the May 14 online MAFMC Scoping session and asked the question about the link between the “natural mortality” component of the Black Sea Bass (BSB) 2019 Operational Stock Assessment and the recently released State of the Ecosystem 2020 Response Memo as a possible cause of the recent downturn in the BSB landings in the northern portion of the species range (New York through Maine). Since I haven’t heard back from the MAFMC on this question, I presume that you feel that this represents a decline of the record 2011 BSB recruiting class. As the former Recreational Fisheries Coordinator in the Northeast and a member of the New England Fisheries Management Council Habitat Plan Development Team which helped develop Omnibus Habitat Amendment 2, I feel that this downturn may reflect shifts in the ocean baseline and the marine food chain between 2001 and the present (with the Gulf of Maine providing a good case study).

The Ecosystem Status report describes use of data from National Estuarine Research Reserves and regional ocean planning data portals to supplement the fisheries surveys performed by the states and the Northeast Fisheries Science Center (NEFSC) Bottom Trawl Survey. I chaired two working groups at the NEFSC on their ecosystem survey and fishery monitoring programs which described options to support an adaptive, Ecosystems-based Management approach. I am not aware that these suggestions have been implemented. I worked on the EMaX (Energy Modeling and Analysis Exercise) carbon modeling project for the Northeast Continental Shelf Ecosystem which introduced the microbial food web at the base of the food chain to balance primary production estimated from ocean color satellite data with the yield of Living Marine, Protected and Natural trust Resources managed by NOAA Fisheries. Effectively this lengthened the marine food chain and increased community respiration which lowered the net primary production and reduced the yield at the top of the food chain. The Ecosystem Status 2020 report discusses this matter in more detail and assumes that the trophic level transfer is 15% because carbon is recycled (this transfer co-efficient would be 10% if one was utilizing energy units- calories or joules). In the Gulf of Maine increased warming has reduced net primary production and the yields of LMRs with shifts in the distribution of forage fish (sea herring and river herring declining) and altered predation/ competition at the top of the food chain. I recently participated in an Environment America webinar on the Stellwagen Bank National Marine Sanctuary where Dr. Les Kaufman (Boston University Marine Scientist) described this process much better than I can.

The Ecosystem Status 2020 memo used the Waquoit Bay National Estuarine Research Reserve (WEBNERR) as case study for grassroots science

and monitoring. I live in this watershed and have been engaged in the Joint Base Cape Cod SDWA/CERCLA cleanup for over 20 years and serve on the Cape Cod Advisory Committee of the University of Rhode Island STEEP (Sources, Transport, Exposure and Effects of PFAS) grant (representing the local partner- Cape Cod Group- Sierra Club). I am a member of the national Sierra Club Toxics Team CORE Group of activists which is quite active in PFAS contamination of drinking water. I live in the Yearling Meadows development and PFOS/PFOA from the Ashumet Valley Plume has contaminated public and private drinking water wells in Falmouth and Mashpee. I mention this because the sources of the PFOS/PFOA include the water and sediments in Ashumet Pond which is part of the Waquoit Bay Watershed. I participated in the EPA-lead Waquoit Bay Watershed Ecological Risk Assessment project which identified nutrients (“N” in Waquoit Bay and “P” in Ashumet pond) as the major human stressors in the watershed. This study explored the relationship in Waquoit Bay between excess “N” loading and loss of eelgrass beds/decline in bay scallop harvests. In more recent times, we have had hypoxic events in Cape Cod Bay which have killed lobsters in their pots. This hypoxia may have come from “N” eutrophication, warming waters in the Summer; increased ocean acidity and stronger water column stratification due to the lack of thunder storm mixing.

When I worked at NASA’s Earth Resources Laboratory, I participated in the “productive capacity of wetlands project” which explored the relationship between the primary production in salt marshes and the yield of shrimp in the northern Gulf of Mexico. I worked on the use of Landsat satellite data to estimate the primary production of the salt marsh vegetation. Dr. Joan Browder (NOAA Fisheries Southeast Fisheries Science Center) and marine scientists from LSU’s Center for Wetland Resources worked out the relationships with shrimp yield. The SEFSC utilizes this approach in evaluating Essential Fish Habitat (EFH) for some of their wetland related managed fish/shellfish species. The shifting fish species and altered marine food chain in the Mid-Atlantic and New England regions might be explored as part of the EFH for BSB. This species often occupies complex habitats and might benefit from offshore wind farms (an issue discussed in the 2020 Ecosystem Status Report). This report also discusses North Atlantic right whales and the possible increased mortality from American lobster pot gear. Both the lobsters and NARWs have moved further offshore or northward into the Gulf of Maine as result of warming waters and increased noise inshore. A similar situation could exist for BSB prey and their predators in the northern portions of their range.

I feel that the Atlantic States Marine Fisheries Commission (ASMFC) and their state partners should coordinate with the MAFMC in developing the BSB Commercial Allocation Amendment. They would have to coordinate this with NOAA Fisheries. This concept was mentioned by some of the commercial fishermen in the May 14 scoping meeting. Since BSB distribution and abundance varies seasonally and with different life stages, it makes little sense to separate management in state jurisdictional waters (0-3 miles) from that in federal jurisdictional waters (3-200 miles). I support increasing the Connecticut quota allocation above 1%, but don’t know about the 0.5% allocations for New Hampshire and Maine where I presume

much of the catch is by the recreational sector. Since a lot of the recreational catch is by charter vessels and head boats, these operators refer to themselves as saltwater anglers and are often constrained by a lack of a working waterfront here on Cape Cod and elsewhere. Thus there are socioeconomic consequences and effects on the “Blue Economy” on Cape Cod and elsewhere in coastal New England. Some of these issues are mentioned in the 2020 Ecosystem Status Report.

I feel that the MAFMC should add a sustainable commercial fisheries allocation option based on the adaptive, Ecosystem-based management (a,EbM) approach. There numerous recent scientific papers on “sustainable fishing’ and a,EbM approaches which I presume the MAFMC staff are aware (if not I can provide some suggestions from 2019). In 1995 the Massachusetts Chapter- Sierra Club released its Sustainable Fisheries Policy which was developed by the Cape Cod & the Islands Group when Dr. Chris Neill (Woods Hole Research Center wetlands scientist) was chair and Keith Smith (retired NOAA Fisheries scientist) and Bille Bates (saltwater angler) were Excom members. This served as the basis for the national Sierra Club policy passed by the Board of Directors in 2002. Thus there is both scientific and ENGO support for my suggestion. Hopefully active scientists and ENGOS will submit comments on the Mid-Atlantic FMC Black Sea Bass Commercial allocation, since they were absent from the scoping session in which I participated.

Thanks for your consideration of these comments.

Dr. David Dow
East Falmouth, Ma.

From: [Jim Dawson](#)
To: [Beaty, Julia](#)
Cc: [Hodges, Mark L.](#); [Doernte, Harry L.](#); [Bolen, Ellen](#)
Subject: Comments for reallocating black sea bass
Date: Friday, May 29, 2020 1:29:13 PM
Importance: High

Hello, with all of this mess going on, quite a “distraction” from reality. It has caused a tremendous hardship with respect to what USED TO BE our restaurant “high end” sea bass market, with absolutely devastating and what will be an “unknown” with respect to when these restaurants will EVER reopen to business as it once was!

Such a hard blow, then we understand that once again, here we go, attempts to TAKE again? We already gave up years ago here in Virginia as well as NJ, MD, etc.. We really want to be left alone because nobody should deviate due to a nonsensical nor logical rationale. Have our VTR records indicated a shift or less catch such as myself for instance? Has ANYONE taken a long look into this situation, or is this just a lobbying effort? My landing records have indicated and would corroborate what Mr. Hodges and Jimmy Rhule have stated that “the stock size has expanded everywhere”. My personal landings for 2019 were the highest since the beginning of the VTR record keeping, so exactly what does this mean? Only one thing...there MUST be more fish available! I can also tell you that I could have caught much more if I had the quota available, which brings me to the next point:

If our councils and agencies continue their efforts to constantly make changes to our livelihoods without actually looking at the truth, then perhaps we must look into the agencies and councils as to what may be going on.

The truth is we should NOT be looking into changing anything due to the immense complexities in doing so. Virginia has IFQ, so changes are deduction that take from one and would give to another for an unjustifiable reason. We have more fish down south as well, so the added quota must be added to the overall stock and not “re-distributed” to others with no statistical proof nor verification that our stocks have “moved further north” because they have not! The reproductive rate of our sea bass has been surpassing that of the death rate for years ongoing.

There ARE more balances and numbers that need to be entered into all of the equations well BEFORE we consider redistributions. We also must be reminded that we should NEVER grant extra fish during the MIDDLE of ANY one season! It simply is favorable to others and destroys everyone else! We just now received the increase for 2020 in Virginia? Our trawl season is over until November, we now have the northern states receiving THEIR increase well before the fish arrive, so with the increase they will receive, our markets will be in the tank until the end of 2020, NO marketability due to Covid 19 through the end of 2020, which hurts the individual fishermen, the small guy, while the larger operations will benefit because they have the quota and/or ability to catch larger quantities, which then will hurt the species...so what are our councils/agencies attempting to really do?

What is the real reasoning/effort behind this?

Jim Dawson

Chincoteague

36 year veteran of the sea bass fishery.

May 28,2020

COMMENTS ON COMMERCIAL BLACK SEA BASS STATE ALLOCATION

Please accept these comments from the Fishermans Dock Co-op Inc in regard to the ASMFC and the MAFMC scoping hearings for the commercial Black Sea Bass state by state allocation Amendment. In the last 10 years the stock biomass of Black Sea Bass has exploded along the US east coast causing much inter-action with these fish in multiple fisheries, resulting in discards of perfectly legal sized fish, because many states don't have enough quota to allocate to their fishermen, or the fishermen do not possess a permit for them. During the development of the original State by state system, it was noted that northern states were at that time experiencing a growth in abundance of the stock in their waters and that problem was addressed by taking quota that should have been allocated to New Jersey and giving it to everybody else to get their vote. Under the proposed scenario's from the ASMFC, NJ should have received anywhere from 28 to 38 per cent of the coastwide quota, instead we got 20%. No other state in any other fishery has had this happen to them, [North Carolina wasn't asked to give up any of their extra fluke quota, because they had too much], and they wouldn't have agreed to give it up anyway.

Yet New Jersey, thanks to our state representative on the council and Commission did, against the consent of its own fishermen. Consequently we feel that if the need to reallocate quota to northern states is needed, that quota should be taken from other states, we already gave enough, and will not stand for the thief of another pound. There have been two regions defined in the scoping hearing, New York and North, and New Jersey and south, of course the northern states want to take the quota from the southern states, were the biomass had historically been centered. While data shows a shift of the center of the biomass to directly off of NJ, it does not show that the southern states have lost any biomass, it just shows the population is so large that it has expanded north as far as the Gulf of Maine.

There is not anyway possible to justify including NJ in with the southern states, the only reason is so that quota can be taken from us again. Not only has NJ not lost access to BSB, we have gained access, they are literally in our backyard most of the year. Taking more quota from us will result in more discards by NJ fishermen. If northern states need more quota then increase the over all quota, but keep in mind that many of these states complaining are doing so to create new fisheries for their fishermen, many who are hook and line day fishermen, formerly known as recreational fishermen, but now because of stringent regulations regarding the ability to sell the catch, they have become commercial and catch commercial quota. So states like NY, Rhode Island, and Massachusetts should provide the data that shows how much BSB is being caught by hook and line, and how much by traditional pot and trawl fishermen who are the ones that caught the original fish that state by state quota's were based on. Those states further screwed their traditional fishermen by having lax qualifying criteria that allowed almost anybody to get a permit. The states that actually protected their traditional fishermen should not be expected to give up their quota to states that did a poor job of management in the first place. There are plenty of NJ fishermen who would love to have a Jersey permit but they didn't qualify for it, our

qualifying criteria was designed to protect the fishermen that actually depended on that fishery. We further defined the fishery into gear categories meaning that if you caught the fish with a trawl net that is the only gear you may use, same with pots, fishermen with a BSB permit that qualified for a permit with pots can only use pots. We only have about a half dozen hook and line BSB permits in the state, because we didn't create one after the fact like the northern states. This gear specific requirement also means that if NJ wanted to go to an ITQ system, pot fish quota could only be landed by pots.

This is an important point to make because much of the quota from Maryland and Virginia was historically caught by pot fishermen, yet now is being rented to trawlers who come in with huge 20,000 pound plus trips and disrupt and collapse the market for a week at a time. So my proposal for addressing the need for more quota for northern states is for those states to buy the quota from the ITQ holders from Maryland and Virginia and then rent it back to their own state fishermen until such time as the purchase price was recovered. There should also be a 10,000 pound possession limit of BSB in federal waters, to prevent one or two fishermen from destroying the market every winter with their ITQ bought fish. Its also important to note that those ITQ fish were previously caught in the summer months by potters and are now being caught in the winter by trawlers and this has affected the market, and its price. NJ, in both Summer Flounder and BSB has set up fishing seasons based on the average landings of the species throughout the year and divided those landings into specific seasons based on the percentage of the catch during those seasons, so we have maintained market stability as much as we possible could have.

Our members support the no action alternative.

States like Connecticut can buy BSB quota from the states that have implemented ITQ's in their fisheries, and both the ASMFC and the MAFMC need to seriously rethink any proposals to create more systems that would be based on ITQ management, either on the state or Federal level.

We do not support DARA it is just another reallocation scheme.

We do not support any type of management that creates a trigger using historical landing history for an initial allocation and then changing the allocation percentage above a certain quota level. That trigger system would still result in the loss of New Jersey quota, and that is unacceptable. If you must steal, do it from some other states, we already gave enough.

We support the MAFMC being more involved in the state by state management of this fishery, probably 90 % of the commercial BSB landings are from the EEZ, the only reason that the ASMFC has the lead in managing this species was that they were the only management body that could implement the state by state system. In fairness if the MAFMC does become more involved in the state by state system then more involvement needs to be granted to the New England states that would have little representation through the MAFMC, so a joint advisory committee would need to be formed.

Thanks for your consideration

James Lovgren Fishermens Dock Co-op

From: [Fishthewizard](#)
To: [Beaty, Julia](#)
Subject: Black Sea Bass Commercial Allocation Amendment
Date: Friday, May 29, 2020 2:10:36 PM

To Whom It May Concern:

The only option that should be considered is status quo, keeping the current state commercial allocations. All of the other alternatives will not work, and will lead to management uncertainties every year. If anything, NJ should have a larger percentage of the quota. Too much time and effort was put into the original amendment to have it changed so quickly.

Joan Berko
F/V Wizard

From: [Joe](#)
To: [Beaty, Julia](#)
Cc: [Jim Dawson](#); [Hodges, Mark L.](#); vagrumpy@aol.com
Subject: Black Sea Bass Commercial Allocation Amendment
Date: Sunday, May 31, 2020 9:22:06 AM

I am a major stakeholder in the Virginia black Seabass fishery. I am in favor of status quo. We have no quota that is being unutilized! To take quota from us and distributing it to other states is stealing plain and simple. IFQ stakeholders in Virginia have major financial investments in our quota. If our quota is taken away and redistributed there should be financial compensation involved.

Capt Joe DelCampo
VA directed permit number 21

Sent from my iPhone

From: [JACK STALLINGS](#)
To: [Beaty, Julia](#)
Subject: Black Sea Bass Commercial Allocation Amendment
Date: Sunday, May 31, 2020 6:49:26 PM

Hi Julia, I have been involved in the Virginia Black Sea Bass fishery since 1972. I can remember when the northern states who are after the southern states quota could not have cared less about a Black Sea Bass. One day about 20 or so years ago when I was having a new boat built in Maine I had a fisherman take me over to his lobster pound to get me to identify a fish he had caught in one of his pots. You guessed it, it was a Black Sea Bass, and that was in the Portland Maine area. So 20 years ago they didn't know what they were and now they want more quota.

As far as I know all the southern states catch our quota or come close and it's not because the fish are not here that we that we don't, if that's the case. There are plenty of sea bass. In Maryland to North Carolina the sea bass are available 12 months of the year, why would anyone consider taking that away? I am definitely for STATUS QUO.

Sincerely,
Jack G. Stallings, Jr

Sent from my iPad



Managing the Needs of our Customers Through our Commitment to Sustainable Fisheries

June 1, 2020

Dr. Chris Moore, Executive Director
Mid-Atlantic Fishery Management Council
800 North State Street, Suite 201, Dover, DE 19901
By email: jbeaty@mafmc.org
Re: Black Sea Bass Commercial Allocation Amendment

Dear Dr. Moore:

Thank you for this opportunity to comment on and raise concerns about the management alternatives outlined in the scoping document for the proposed reallocation amendment. I also appreciate your accepting these comments today, with the comment period closing yesterday, unusually, on a Sunday.

We can only support the status quo and feel strongly that this proposed action needs to consider that the State of New Jersey was not given its historical landings percentage when the ASMFC first allocated the fishery. In order to satisfy the other states, who did not have a historical participation in the fishery, our historic allocations were diminished significantly at that time.

In addition, the justification for this potential reallocation is based upon an analysis that indicates the resource has moved north of its historic range, but not, however, outside of the range of our mobile fishing fleet. The slow progression of the stock from its historic center, off Delaware, does not mean that our region has seen a decline in abundance, nor does it mean that this shift will necessarily be permanent. The premise that the stock's range has shifted beyond New Jersey, and in such amounts that our quota should be limited and given away, is operationally and scientifically unsound.

While we oppose a black sea bass reallocation amendment moving ahead, we do support the proposed change to the FMP to provide for both the Council and the Commission to have a voting role in any future changes to the allocations. States interested in increasing their quotas should be able to accept unused quota from other states, through the Commission process, and their fishermen can purchase fishing permits from other states in order to increase their fisheries' economic benefit, as we have done as a company.

With best regards,

Wayne Reichle

Wayne Reichle, President
wreichle@lundsfish.com

Black Sea Bass Commercial State Allocation Amendment

Scoping comments submitted via online form through May 31, 2020

Name	State(s)	Primary role in the fishery	Comments
Beverly Lynch		Commercial	<p>You should not redistribute quota. Normally (this is not a normal year due to restaurant closers and the loss of markets) Southern fishermen land all their sea bass quota. You say nothing has changed as far as sea bass reproduction in the south, so why would you cut these fishermen's quotas?</p> <p>If the northern states have an increase in sea bass, then increase the quota for them, but don't take from someone else. If they have more sea bass, then why can't you increase the quota?</p> <p>There is also the consideration that fish change their habits constantly. After a few good years, they could slack off again.</p> <p>And don't use, so called, climate change as a reason to redistribute quota. It hasn't been proven.</p>
John Smith	ME, RI, CT, NY	Recreational	<p>Black sea bass Are eating everything they are invasive species . The season should open with Ct And RI. Decline in fluke numbers are from Seabass eating Everything in site . All three States better wake up and see what these fish are doing to eco System .</p>
Aaron Gewirtz	RI	Commercial	<p>Increase the quota coast wide to reflect the robust condition and health of the stock. We don't need the southern state's quota in the North...the quota in the north should rise independently based not only on movement of the stock but its overall growth and obvious abundance</p>

WALTER CHEW	NJ	Commercial	<p>Sir:</p> <p>In your most recent email notification concerning Black Sea Bass, you said: "The most recent black sea bass stock assessment shows that spawning stock biomass in the northern region (approximately Maine through Hudson Canyon) has greatly increased since 2002, when the state allocations were first approved, while the amount of biomass in the southern region (approximately south of Hudson Canyon through Cape Hatteras) has not experienced significant change."</p> <p>This indicates that either there are two different stocks, or that the mid-Atlantic fisheries are being constrained so much that the larger spawning fish are having the opportunity to migrate northward.</p> <p>If there is no genetic difference between northern and southern region fish, the answer as to which situation is occurring could be found in analyzing the size distribution of each section's biomass. If the first situation is true, then the size distribution in each region will be similar and both the Commission, and MAFMC need to manage these as two different stocks. However, if the second situation is true, then the average size of a northern region fish will be significantly greater than those in the southern region and the mid-Atlantic fleet should be rewarded with an even greater share of the TAC because of their past constraint in allowing the larger (spawning stock) to pass thru their area and gather in the northern region.</p> <p>Simply giving the northern region states a larger percentage of the TAC because there a lot of fish there might be giving the northern region's states the benefit of the southern region's states' past restrained harvest. What's fair in that??</p> <p>Walt Chew -The Old Fisherman->)))"></p>
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<p>Mark HODGES</p>	<p>VA</p>	<p>Commercial</p>	<p>I have been a full time commercial BSB trap fisherman since the early 90's. I feel the ASMFC state percentages should remain the same, status quo. Va. has a substantial history in commercial BSB fishery since the 1960's. Va. gave up some percentages of history back in 2002 when the ASMFC agreement was negotiated to help make it fairer to the northern states. The northern states did not have as much history in BSB because the fish were not there in today's numbers and the fishermen were concentrating on other fish species.</p> <p>The BSB population has not shifted north, they have expanded to the north. The BSB have replaced the top predator fish which has been overfished for decades, the cod fish. The population of striped bass is also down. Mother nature is very opportunistic, BSB are simply filling a natural void by replacing the top predators. This expansion trend could easily be reversed if the cod could ever come back to historic populations.</p> <p>The commercial BSB landed in the southern states are landed by a very high percentage of full time commercial fishermen. I do not feel it is very fair to take some amount of the southern states quota just because the BSB numbers have increased in the northern waters. I also do not feel it is very fair to take quota from full time commercial fishermen in the southern region and basically distribute it to recreational fisherman in the northern states. The major northern states of NY, RI, & MA. have a 50 lb. trip limit for most of their seasons. That is not a commercial fishery. The northern states propose to take our quota history and sell state commercial licenses to recreational fishermen so they can land 50 lbs. of BSB and other fish species to sell and help pay for their fishing hobby. To me this is ridiculous. I really can not blame the northern states for trying to secure more southern quota, it is a commerce windfall. They first sell licenses to many recreational fisherman, then the state profits from not only the sale of the BSB but all of the expenses associated with the catching of the BSB, boats, bait, tackle, dockage, ramps, gas, and on and on.</p> <p>I am simply trying to show where the quota will come from and to what the quota will be used for, this is a commercial fishery, not an attempt to expand their recreation fishery.</p> <p>Thank you, Mark Hodges</p>
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Ernie Panacek	NJ	Commercial	<p>I am writing on behalf of the Garden State Seafood Association. We understand this is our opportunity to provide input and raise concerns about the management alternatives which may be considered via the “black sea bass commercial allocation amendment ”.</p> <p>The BSB population has exploded along the US east coast and expanded its range into the Gulf of Maine, resulting in new interaction of BSB with other fisheries that never experienced them before. It is important to note that the population has not moved north, they are still just as plentiful in the southern region, it’s just that the growth of the population has been to the north. This increase in availability in New England waters has been happening for years, and was addressed in the initial state by state allocation, where the commission took quota that should have been allocated to NJ and gave it to northern states, this NJ give away amounted to anywhere from 8 to 18 % of the total coast wide quota.</p> <p>We can only support the status quo and feel strongly that this potential action needs to consider that the State of New Jersey was not given it historical landings percentage when the ASMFC first allocated the fishery. In order to satisfy the other states who did not have a historical participation in the fishery our allocations were diminished significantly.</p> <p>Furthermore, in 2005 via Addendum XV, the State of New Jersey was compelled to transfer approximately 55,000 pounds of Fluke quota in two consecutive years.</p> <p>In addition, the justification for this potential reallocation is based upon an analysis that indicates the resource has moved north of its historic range. The slow progression of the stock from its historic center off of Delaware does not mean that our region has seen a decline in abundance. The premise that the range has shifted beyond New Jersey and in such amounts that our quota should be limited and given away is unsound.</p> <p>We do support that the allocations of quotas should be added to the Fishery Management Plan under the authority of the Mid Atlantic Fishery Management Council.</p> <p>Our members support the no action alternative, there are other ways for states to acquire more quota, or their fishermen can do what many have already done, purchase fishing permits from other states that have more quota.</p> <p>Because of our states previous generosity, we do not support DARA as it will result in a lower percentage of quota to New Jersey because after a certain level of quota is met under the old historical allocation the increase would be divided equally among the states and that means we get less quota. So no trigger option.</p> <p>Thanks for your consideration, Ernie Panacek Pres. GSSA</p>
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Mid-Atlantic Fishery Management Council
800 North State Street, Suite 201, Dover, DE 19901
Phone: 302-674-2331 | FAX: 302-674-5399 | www.mafmc.org
Michael P. Luisi, Chairman | G. Warren Elliott, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

Date: June 4, 2020
To: Council and Board
From: Kiley Dancy, Karson Coutre, and Julia Beaty, Staff
Subject: Refining Draft Alternatives for the Summer Flounder, Scup, and Black Sea Bass Commercial/Recreational Allocation Amendment

On Tuesday, June 16, the Council and Board will discuss draft alternatives and Fishery Management Action Team (FMAT) recommendations for the Summer Flounder, Scup, and Black Sea Bass Commercial/Recreational Allocation Amendment. The purpose of this discussion is for the Council and Board to further refine draft management approaches that could achieve the amendment objective, including reviewing additional detail and considerations for each option and identifying which approaches to include in a complete draft range of alternatives for approval at the August 2020 joint meeting.

Meeting Materials

- 1) Draft Alternatives and FMAT Recommendations from May 21 and May 26, 2020
- 2) Amendment Action Plan as of April 24, 2020

Supplemental:

- 1) Final Scoping Comment Summary, April 2020
- 2) Advisory Panel Meeting Summary from April 2, 2020

Discussion Questions

- Which approaches should be used to further develop a concrete range of draft alternatives for consideration in August? Do the Council and Board agree with the FMAT's recommendations for removing certain approaches?
- Among the approaches that the Council and Board would like to see further developed, how should the FMAT narrow the range of sub-alternatives to reduce redundant options and simplify decision making and analysis?
 - Do the Council and Board support narrowing sub-options based on similar outcomes within a given approach (for example, narrowing the 5-year, 10-year, and 15-year options for recent base years, based on similarities in results)?

- As per the FMAT's suggestion, do the Council and Board support adding an approach based on the average outcomes from other approaches (see Appendix D in the FMAT summary)?
- Should the FMAT re-structure the alternatives into species-specific groups of alternatives, and if so, are there options that should be further pursued only for one or two species?
- Do the Council and Board support including landings-based and catch-based sub-alternatives for each approach where possible (note FMAT caveats about the ability to generate catch-based options for the existing base years)?
- Do the Council and Board have any concerns with the data or methods used for a particular draft option? Are there suggested modifications to the approaches used in this document?

**Summer Flounder, Scup, Black Sea Bass
Commercial/Recreational Allocation Amendment**

FMAT Meeting Summary

**May 21, 2020, 9AM-12PM, and
May 26, 2020, 1PM-4PM**

Attendees

FMAT members: Greg Ardini, Julia Beaty, Dustin Colson-Leaning, Karson Coutre, Kiley Dancy, Marianne Ferguson, Emily Keiley, Gary Shepherd (day 1 only), Caitlin Starks, Mark Terceiro (day 1 only)

Others: Tony Wood, Bonnie Brady, Steve Cannizzo, Joe Cimino (day 1 only), Greg DiDomenico, Dewey Hemilright, Meghan Lapp (day 1 only), Adam Nowalsky, Mike Waine, Kate Wilke (day 2 only)

Meeting objective

The objective of this meeting was for the Fishery Management Action Team (FMAT) to further refine draft alternatives for the Summer Flounder, Scup, and Black Sea Bass Commercial/Recreational Allocation Amendment.

Recommendation Summary

Category	Approach	Summary of FMAT recommendation
1. No action/status quo	1. No action/status quo	Must include in amendment.
2. Revised percentages based on different data or time series	2.1 Existing base years with revised data	Keep for further development. May not be appropriate for catch-based options for summer flounder and black sea bass due to lack of discard estimates.
	2.2 Revised base years based on recent landings/catch	Keep for further development; however, should be evaluated for bias toward recreational sector for some species given recent sector performance.
	2.3 Revised base years based on post-rebuilding years	Recommend removal. No strong justification for using these years and similar in outcome to recent base years.
	2.4 Based on socioeconomic analyses	Recommend removal for scup and black sea bass. Conditionally support for summer flounder based on the summer flounder economic model results if appropriate.
	2.5 Allocate in numbers instead of pounds	Recommend removal.

3. Allocations attempting to maintain roughly status quo harvest by sector from the most recent year prior to last assessment update		Keep for further development. Additional analysis needed.
4. Recreational sector separation	4.1 Separate allocations to for-hire vs. private sectors	Keep for further development.
	4.2 Separate management measures for for-hire vs. private sectors	Recommend removal. If separate measures are desired without separate allocations, Council and Board can develop a policy outside of this amendment process.
5. Harvest control rule based approaches		Recommend removal from this amendment and consider similar concepts through a separate action (e.g., the recreational reform initiative).
6. Recreational accountability alternatives	More frequent overage paybacks or in-season closures.	Recommend removal as an alternative and recommend AM modifications be considered as they relate to other alternatives.
7. Recreational catch accounting alternatives	Mandatory private angler reporting, issuing tags, mandatory tournament reporting, requiring VTRs for state for-hire vessels, reinstating did not fish reports.	Recommend removal from this action but continued exploration through other avenues.
8. Dynamic allocation approaches and options for future revisions	8.1 Moving average approach	Recommend removal. Concerns about rewarding overages. Potentially consider in the future as a tool to evaluate allocation changes.
	8.2 Allocation changes through frameworks/addenda	Keep for further development.
	8.3 Trigger approach	Keep for further development.
9. Allocation transfers between sectors		Keep for further development.
10. Allocation percentages based on an average of multiple approaches.		Recommend adding for consideration.

Meeting summary

For each category of alternatives below, background information discussed by the FMAT is provided along with FMAT comments and recommendations.

1. No action/status quo alternative

The no action/status quo alternative would keep the existing allocations as specified in Table 1.

Table 1: Current allocations and base years for summer flounder, scup, and black sea bass.

Species & Basis	Allocation	
	Com	Rec
Summer flounder: 1980-1989 (landings-based allocation) ^a	60%	40%
Scup: 1988-1992 (catch-based allocation) ^b	78%	22%
Black sea bass: 1983-1992 (landings-based allocation) ^c	49%	51%

^a The source of commercial landings used in Amendment 2 was "NMFS General Canvass Data," and recreational data used was "unpublished NMFS Marine Recreational Fisheries Statistics Survey (MRFSS) Data." MRFSS was a precursor to MRIP.

^b Data sources used in Amendment 8 include NMFS commercial fish dealer weighout data, MRFSS, and Northeast Fisheries Science Center data.

^c The data sources identified in Amendment 9 include MRFSS and NMFS general canvass data.

Due to revised MRIP estimates that are much higher than those used to calculate the current allocations, status quo allocations are expected to pose challenges for constraining the recreational fisheries to their recreational harvest limits (RHLs). Catch limits from recent assessments did not increase to the degree necessary to account for increased recreational catch for all species.

For summer flounder, recreational measures were able to stay mostly status quo between 2018-2020, as the 2019-2020 revised RHLs have been close to projected recreational harvest in the new MRIP currency. For scup and black sea bass, the recreational fisheries faced potential large harvest reductions when recreational measures were considered in December 2019. Due to the ongoing development of this amendment to address allocation-related impacts of the revised MRIP data, the Council and Board were able to adopt status quo recreational measures for 2020. For 2021 and beyond, this is not likely to be possible based on the current constraints of the FMP.

For example, final 2019 MRIP scup harvest was estimated at 14.12 million pounds, or 54% higher than the 2020 RHL of 6.51 million pounds. In 2021, the scup RHL decreases to 5.34 million pounds. For black sea bass, final 2019 MRIP harvest was estimated at 8.61 million pounds, or 48% higher than the 2020-2021 RHL of 5.82 million pounds. Under the current allocations, these fisheries could face large restrictions in recreational management measures in future fishing years.

FMAT Comments and Recommendations:

One FMAT member expressed a number of concerns with continued use of 1980s-1990s data in these allocations given recent data revisions and trends in the fisheries over time. The large differences between the old MRIP numbers and the recalibrated estimates are more pronounced in recent years, which results in different ratios of commercial and recreational catch. While there is a lack of acceptance of the MRIP data among some stakeholders, it is peer reviewed and accepted, and has been used in the assessments. Unless there is a decision to decouple regulations and specifications from the assessment and catch data, there needs to be consistency across the

management system in the data used. As previously stated, the way the current allocations are set up, the recreational fisheries are expected to exceed their catch limits.

2. Modified percentage allocations based on different data or time series

The following approaches would revise the percentage allocations based on modified base years or different data sets. Both catch-based and landings-based allocation options are included within these categories and could be developed into sub-alternatives where appropriate (see additional discussion of the implications of catch vs. landings-based allocations in **APPENDIX A**).

2.1 Update existing base years with the most recent recreational and commercial data.

This method would maintain the existing base years and re-calculate the percentage allocations using the best available data for each species, including the revised MRIP data as well as any changes in the commercial data that have occurred since the original allocations were set. Data considerations for the base years for each species are summarized below. In some cases, data may need to be pulled from multiple sources given the varying time series available for different data streams, as described below and in Table 2.

Summer Flounder (1980-1989 base years):

- Catch-based allocations cannot be calculated for summer flounder for the existing base years without additional work to estimate dead discards for the early base years. While the current stock assessment time series of catch components goes back to 1982, dead discard estimates are not provided until 1989. Observer data cannot be used to develop summer flounder discard estimates for years prior to 1989. Discard were assumed to be very low relative to landings during 1982-1988 (due to lack of minimum sizes and gear restrictions in the EEZ) but to have increased since 1989 with the implementation of fishery regulations in the EEZ.
- MRIP data are only available starting in 1981, so the full 1980-1989 base years cannot be re-calculated for the recreational fishery in catch or harvest.
- Commercial landings data for 1980-1981 are not used in the current stock assessment, but were provided by NEFSC staff and match the estimates used in Amendment 2.

Scup (1988-1992 base years):

- The stock assessment time series covers 1984-2018, and data provided in the 2019 operational assessment provides catch component time series starting in 1981. The base years for scup can be updated for both catch and landings.
- Because scup uses a catch-based allocation, it is important to consider revised dead discard data. Dead discard estimates have been revised through various stock assessments, including recently through the 2015 stock assessment¹ to address the Standardized Bycatch

¹ Northeast Fisheries Science Center. 2015. 60th Northeast Regional Stock Assessment (60th SAW) assessment report. Northeast Fisheries Science Center Reference Document 15-08. Available at: <http://www.nefsc.noaa.gov/publications/>

Reporting Methodology (SBRM) requirements.² On average over the base years, current scup total commercial catch estimates are 8% lower than the estimates used in Amendment 8.

Black sea bass (1983-1992 base years):

- The stock assessment time series covers 1989-2018. The time series starts in 1989 for several reasons:
 - The observer program began in 1989, so empirical estimates of discards began then. Discards prior to 1989 would have had to be hind-cast based on some relation to landings or survey data. The stock assessment workgroup felt this not appropriate for black sea bass.
 - Biological data from commercial landings is limited before 1989.
 - There were problems presented by extremely high recreational landings in 1982 and 1986 that were considered outliers.
- Revised MRIP data are available from 1981, and commercial landings data prior to 1989 are available through ACCSP. Neither of these time series includes discard estimates in weight.

The allocation outcomes of updating existing base years with recent data are described in **Table 2**.

Given recent recreational harvest levels under the revised MRIP estimates, these changes may not be enough to prevent future recreational sector restrictions in the near term for scup and black sea bass. As described above, harvest estimates from the revised MRIP data are substantially above 2020-2021 RHLs for these species. Summer flounder recreational measures were able to stay status quo in 2019 and 2020, but future adjustments will be evaluated based on recent recreational data so it is not possible to predict whether near-term restrictions will be needed for summer flounder.

² The Standardized Bycatch Reporting Methodology (SBRM) Omnibus Amendment to the fishery management plans of the Northeast region was implemented in February 2008 to address the requirements of the Magnuson-Stevens Fishery Conservation and Management Act to include standardized bycatch reporting methodology in all FMPs of the New England Fishery Management Council and Mid- Atlantic Fishery Management Council.

Table 2: Allocation outcomes based on using existing base years updated with recent data, with comparison to current allocations.

		Catch-based		Landings-based	
		Current	Revised	Current	Revised
Summer flounder: 1981-1989^a	Com	N/A	^b	60%	55%
	Rec	N/A	^b	40%	45%
Scup: 1988-1992	Com	78%	65%	N/A	57%
	Rec	22%	35%	N/A	43%
Black sea bass: 1983-1992	Com	N/A	^b	49%	45%
	Rec	N/A	^b	51%	55%

^a Summer flounder base years are 1980-1989; however, MRIP data is only available back to 1981, so these calculations are based on 1981-1989.

^b Estimates of discards in weight are not available over the full range of base years, thus, catch-based allocations cannot be calculated.

Data sources: Summer flounder data are from the most recent benchmark stock assessment (2018). Scup data are from the most recent stock assessment update (2019). For black sea bass, the recreational data are from MRIP and the commercial data are from the ACCSP as the black sea bass assessment does not include all of the allocation base years.

FMAT Comments and Recommendations:

The FMAT recommends further development of alternatives using this approach.

One FMAT member commented that while discard estimates for summer flounder are not currently available prior to 1989 when the observer program started, it would be possible to estimate discards based on nearby years. However; it is assumed that for summer flounder that commercial discards were negligible before 1989, so they are assumed to be zero. A catch-based allocation for summer flounder could be developed if that assumption is made.

The FMAT discussed data differences for black sea bass between ACCSP and NEFSC data and determined that the two data sets should have identical landings values.

Expected Future Analysis:

- Further explore how the fisheries and the data quality (including reporting and monitoring requirements) have changed since the 1980s and 1990s and the implications for maintaining the existing base years in allocations.
- For the allocation base years for each species, identify and describe all differences between the commercial data used to set the current allocations and the current commercial data sets.

2.2 Revised base years, based on recent catch or landings averages

This concept uses more recent base years, for example, the last 5, 10, or 15 years of catch or landings as shown in **Table 3**. These examples were all suggested through scoping.

Table 3: Example allocations based on revised base years of catch or landings from the last 5 years, 10 years, and 15 years, with comparison to current allocations.

		Catch-based				Landings-based			
		Current	5 Years: 2014-2018	10 years: 2009-2018	15 years: 2004-2018	Current	5 Years: 2014-2018	10 years: 2009-2018	15 years: 2004-2018
Summer flounder	Com	N/A	40%	43%	44%	60%	41%	45%	45%
	Rec	N/A	60%	57%	56%	40%	59%	55%	55%
Scup	Com	78%	62%	61%	60%	N/A	57%	57%	56%
	Rec	22%	38%	39%	40%	N/A	43%	43%	44%
Black sea bass	Com	N/A	25%	24%	28%	49%	22%	22%	27%
	Rec	N/A	75%	76%	72%	51%	78%	78%	73%

Data from most recent assessment updates with data through 2018 (final 2019 data is not yet available).

The FMAT previously noted that these changes would represent fairly substantial shifts in allocation for all three species.

Using recent years to define allocations is confounded by the fact that these are all years when the fisheries were theoretically constrained by the current allocations. However, the FMAT previously noted that the commercial fisheries have been closer to their allocation in each of these years than the recreational fishery. Species specific recreational performance and management in recent years is discussed below. Note that **all recreational fishery performance evaluations described here use the prior MRIP estimates** before the 2018 revisions, given that revised MRIP estimates cannot be compared to limits set using the past data.

Summer Flounder

Since 2004, summer flounder commercial landings have been relatively close to the commercial quota in most years with minor overages/underages. Recreational harvest has been more variable relative to the RHLs, with years of more substantial overages/underages. Recreational overages occurred from 2006-2008, and in 2014 and 2016. On average, recreational underages since 2004 have been greater in magnitude than overages (see APPENDIX B).

Scup

Both the recreational and commercial scup fisheries have under-harvested since catch limits were substantially increased in 2011. Prior to 2011, there were some years with RHL overages, but the commercial fishery was generally at or under their quota (see APPENDIX B). For scup, it should be considered whether using pre-2011 years makes sense given that quotas from that time do not reflect current biomass and catch limit conditions. Prior to 2011, the fisheries were constrained, whereas they have not been truly constrained in recent years. On the other hand, looking at performance from the last time the fisheries were constrained could be informative.

Black Sea Bass

A constant catch approach was used to set commercial black sea bass quotas from 2010-2015 due to lack of an accepted stock assessment. Commercial landings have generally been well constrained to the quotas since they were implemented, with very minor overages occurring in a few years (see APPENDIX B). In recent years, recreational harvest and catch have not been constrained to recreational limits, despite restrictions in recreational management measures; recreational harvest has exceeded the RHL in every year since 2007. It seems that high availability has driven recreational catch in recent years more so than the recreational measures.

For all three species, considering these significant differences in the performance of the fisheries relative to their catch limits, it may not be considered fair and equitable to use landings in recent years as the basis for future allocations, because the ability of the commercial fishery to constrain landings to their limits would essentially prevent it from receiving an increased share of the catch, while the recreational fishery would receive a larger share as a result of its high overages. However, it may be worth evaluating the overall benefit to the nation that would result from changing the allocations to the commercial and recreational fisheries. Additional evaluation of trends in recreational effort and trips targeting each species could be explored to see how it has changed and how it should be factored into allocation changes.

FMAT Comments and Recommendations:

The FMAT supports further consideration of this approach. The same comments made in section 1 above (no action/status quo) regarding the use of 1980s-1990s data also apply here.

When considering the use of more recent base years, the FMAT noted several tradeoffs. Using more recent data likely reflects the current needs of the fisheries better, and is responsive to changes that have occurred in the fisheries and stocks. However, the FMAT has concerns about reallocating based on time periods when the recreational fishery was effectively less constrained to their limits than the commercial fishery. These issues need to be carefully balanced. A major intent of this action is to address recreational data changes that update our understanding of the magnitude of recreational catch, but we should also be careful to avoid rewarding large past overages. Species-specific considerations may come into play when considering using recent years as the basis for allocations.

The FMAT noted that in addition to landings limit performance, it will be important to further evaluate catch limit performance and discard trends in each sector. In addition, the FMAT could further explore ways to use recent base years that take into account metrics other than just catch, for example, combining multiple data sources or scaling allocation changes to changes in other metrics such as effort. Any of these approaches would need to have a solid rationale on which to base a percentage allocation. However, the FMAT also pointed out that there is not necessarily a clear, objective scientific basis for a single best way to approach these allocations, and that this a policy and judgement call between a number of defensible options. One way to consider narrowing the focus of the range of alternatives in this action could be to analyze the similarities in outcomes and group together alternatives with multiple elements of supporting rationale for the same outcome.

The FMAT supported continuing to analyze all of the current recent years options (5 years, 10 year, and 15 years), in part so the Council and Board can consider the similarities of the outcomes and discuss whether it makes sense to narrow or combine alternatives.

If major changes are proposed, the Council and Board could consider an incremental phased-in change, as has been done with other management issues by management bodies such as ICES.

Expected Future Analysis:

- Describe sector-specific performance of catch against the ACLs over these time frames for all three species. For commercial catch data, consideration will need to be given to whether to use GARFO discard estimates, NEFSC estimates, or both, as these estimates can vary.

2.3 Revised base years based on time period after rebuilding

A concept suggested during scoping was developing revised base years using the 5 years following the rebuilt declaration for each species (**Table 4**).

Table 4: Example allocations based on the 5-year time period following rebuilding for each species, with comparison to current allocations.

		Catch-based		Landings-based	
		Current	Revised	Current	Revised
Summer flounder: 2012-2016	Com	N/A	39%	60%	42%
	Rec	N/A	61%	40%	58%
Scup: 2010-2014	Com	78%	60%	N/A	58%
	Rec	22%	40%	N/A	42%
Black sea bass: 2010-2014	Com	N/A	24%	49%	24%
	Rec	N/A	76%	51%	76%

Data from most recent assessment updates with data through 2018 (final 2019 data is not yet available).

The FMAT previously noted that these changes would represent fairly substantial shifts for all three species, shifting 18% of landings to the recreational fishery for summer flounder, 18% of catch to the recreational fishery for scup, and 25% of landings to the recreational fishery for black sea bass.

The FMAT previously recommended further exploration of biomass trends, availability, and fishery performance over these years. Some information is provided below. Note that **all recreational fishery performance evaluations described here use the prior MRIP estimates** before the 2018 revisions, given that revised MRIP estimates cannot be compared to limits set using the past data.

Summer Flounder

During the 5-year post-rebuilding time frame of 2012-2016, the commercial fishery was generally close to its commercial quota (on average 2% over the commercial quota). The recreational fishery over this time frame had more variable performance, from 36% under the RHL in 2015 to 14% over in 2016, averaging 9% under from 2012-2016 (see APPENDIX B). Catch performance relative to ACLs should be further evaluated if this option remains in consideration.

While the summer flounder stock was declared rebuilt in 2011, later assessments revised both the biomass estimates and the spawning stock biomass reference point. The current assessment indicates that summer flounder biomass has not been above its target since 2012. The current assessment indicates that estimated summer flounder biomass steadily declined from 2012-2016, declining about 47% over the five-year period (see **Figure 10**; APPENDIX C).

Scup

During the 5-year post-rebuilding time frame of 2010-2014, the scup commercial fishery was typically well under its commercial quota after quotas were raised substantially in 2011. Since 2011, market factors have prevented full utilization of the commercial quota, resulting in an average of a 25% underage of the commercial quota from 2010-2014. The recreational fishery, after a 98% overage in 2010, has similarly under-harvested after 2011, resulting in an average underage of 37% from 2011-2014 (see APPENDIX B). Catch performance relative to ACLs should be further evaluated if this option remains in consideration.

The scup stock was declared rebuilt in 2009 based on a data poor stock assessment that used data through 2007. The current assessment indicates that scup biomass was relatively stable at approximately 2.4-2.5 times the target biomass during the years 2010-2014, implying very high availability of scup (see **Figure 11**; APPENDIX C).

Black Sea Bass

During the 5-year post-rebuilding time frame of 2010-2014, the black sea bass commercial fishery was typically close to the commercial quota, averaging a 2% overage during this time. The recreational fishery over-harvested relative to its RHL each year from 2010-2014, ranging from a 70% overage in 2011 to a 322% overage in 2010 based on old MRIP data (see APPENDIX B). Catch performance relative to ACLs should be further evaluated if this option remains in consideration.

The black sea bass stock was declared rebuilt in 2009 based on a data poor stock assessment that used data through 2007. The current assessment indicates that black sea bass biomass was approximately at its biomass target in 2010, and steadily increased to approximately twice the biomass target in 2014 (see **Figure 12**; APPENDIX C).

As previously noted, black sea bass was managed under a constant catch approach during these years, due to the lack of an accepted stock assessment. As such, these years may not be appropriate base years for black sea bass given that the catch limits at the time did not reflect biomass. Recreational overages during this time period occurred as the result of high availability combined with artificially low catch limits. Meanwhile, the commercial fishery was constrained by quotas that in retrospect were lower than biologically necessary.

FMAT Comments and Recommendations:

Previously, the FMAT discussed struggling with the rationale for this alternative, and at this meeting they reaffirmed that there does not seem to be a strong justification for tying allocation to post-rebuilding years. The group noted that some of the assumed rationale supporting this approach in scoping comments, such as basing allocations on years when stocks were highly

available to both fisheries and increasing in biomass, do not hold true for all three stocks when looking at the data. Biomass was not necessarily at its peak in post-rebuilding years nor was it increasing for all three species.

The allocations resulting from this approach are very similar to the range of outcomes presented under section 2.2 (revised base years based on recent catch or landings), and as such the FMAT did not see a compelling reason to consider this alternative further, and **recommended its removal from this action.**

2.4 Alternatives for allocations based on socioeconomic considerations

Alternatives could be based on socioeconomic information such as evaluating the economic efficiency of the recreational and commercial fisheries.

The Council funded an update to an economic model to evaluate the 60/40 summer flounder sector allocation. The model, developed by Dr. Kurt Schnier (University of California, Merced) and Dr. Rob Hicks (College of William & Mary), aims to determine which allocations would maximize marginal economic benefits to the commercial and recreational sectors. The original model was peer reviewed in November 2016 and presented to the Council and Board in December 2016. Because the study used MRIP data prior to the 2018 revisions, the developers are currently updating the model to reflect revised MRIP estimates. Preliminary results are expected to be available in summer 2020 and presented to the Council and Board at their June joint meeting. Following this meeting, alternatives could be developed based on the project results for consideration by the Council and Board in August. This project is only applicable to summer flounder.

For scup and black sea bass, the FMAT previously discussed that other models and data sources could possibly be used to develop socioeconomic based alternatives for these species, but that this idea needed further exploration. There is a NMFS Commercial Fishing & Seafood Industry Input/Output Model that could be used to estimate the economic impacts associated with the commercial fisheries.

FMAT Comments and Recommendations:

The FMAT noted that analyses and options based on socioeconomic analysis are of interest conceptually, but the major concerns regarding these approaches are the timeline for this action and feasibility. These types of alternatives are also highly dependent on specific objectives, which would need to be further defined if exploring these options, since there are various ways to look at social and economic data.

At this point, given the amendment timeline, the FMAT is not in a good position to develop alternatives based on social and economic analysis with the possible exception of an alternative for summer flounder based on the results of the updated economic model by Schnier and Hicks. Results of this model update are expected this summer, but it is unclear what the model results will look like, when they could be incorporated into an alternative, and if they will offer a specific possibility for reallocation or a range of potentially appropriate allocations.

While there are other ongoing socioeconomic projects that could provide insight into this amendment process in terms of background information and evaluation of other alternatives, they are unlikely to be appropriate as the basis for alternatives. For example, the NEFSC Social Sciences Branch is working on a study of employment statistics for each sector, but it is based on FMPs and not species. These results may be available this fall/early winter, but are probably not appropriate as the sole basis for an allocation. A variety of social and economic data (prices, utilization, distributional impacts, employment, etc.) are expected to be included in the amendment document for the purposes of describing fishery conditions and the impacts of various alternatives. This information could also be used to build out the rationale for alternatives even if it does not form the basis for allocations.

For these reasons, **the FMAT did not recommend further consideration of a socioeconomic basis for scup and black sea bass allocations in this action. The FMAT conditionally supported developing alternatives for summer flounder based on the economic model results if appropriate, but could not definitively recommend using the model until seeing the study results.** The FMAT agreed that a socioeconomic basis for commercial/recreational allocations could be worth exploring in the future and could be identified as a longer-term research priority by the Council and Board.

Public Comments:

A member of the public commented that an external study he is involved with includes an economic analysis for summer flounder and scup that they would be willing to share. This study includes economic impact information for the commercial fishery beyond ex-vessel price, including information on shore-based support industries.

2.5 Allocations derived from historical catch or landings in numbers of fish (as opposed to pounds)

A few scoping comments suggested that allocation should be in numbers of fish instead of in pounds, at least for the recreational fishery. The FMAT previously noted that the perceived benefits of this approach are more related to development of recreational management measures, rather than allocation between the commercial and recreational sectors. At the May joint meeting, Council and Board members expressed interest in further discussion of this issue due to interest in managing the recreational fishery in numbers of fish.

This concept is not directly related to the issue of commercial/recreational allocation, unless the Council and Board want to specify overall catch limits and sector-specific catch limits in numbers of fish, and specify that the commercial/recreational allocation consists of a division of the number of fish to each sector.

Currently, the recreational ACL and RHLs are set in pounds, consistent with the weight basis for the ABC and the stock biomass estimates. The Technical Committee typically analyzes state recreational measures in numbers of fish, using various average weight estimates to approximate state or coastwide targets in numbers of fish. There are potential benefits and drawbacks of managing the recreational fishery entirely in numbers of fish which could be further explored, through this action or a separate action, depending on how the Council and Board define the scope

of this action. Analyzing the expected impacts of managing the recreational fishery in numbers of fish would shift some focus away from commercial/recreational allocation options and likely delay the timeline of this action.

FMAT Comments and Recommendations:

Managers and stakeholders have not recommended managing the commercial fishery in numbers of fish. The FMAT agreed that this issue does not appear to be related to commercial/recreational allocation and is more related to the recreational management process. One FMAT member said this issue is a red herring given that numbers and pounds are easily and regularly converted back and forth in the assessment and management process. Because of the way the assessment is structured, commercial data collected in weight and converted to numbers and recreational data is collected in numbers and converted to weight. The assessment is done in numbers and converted to weight through sample data. The only issues with toggling back and forth arise when inappropriate mean weight values are used (e.g., values different than those used in the assessment). As previously noted, the Technical Committee adjusts state management measures using analyses in numbers of fish.

The recreational ACL and RHL are currently specified in pounds. If the definition in the FMP were to change, this would likely require a management action; however, it could be further explored whether it would be possible to convert the poundage limits to numbers for the purposes of setting and evaluating management measures (without a management action).

The FMAT recommends removing this option from further consideration as it is outside the scope of this action. Managing the recreational fishery in numbers of fish could possibly be addressed through specifications or a separate action if needed.

3. Allocations attempting to maintain roughly status quo harvest in each sector compared to the years before the most recent stock assessments were incorporated into management

The intent behind this approach is to modify the percentage allocations to allow for roughly status quo harvest in both sectors under the 2020-2021 ABCs for all three species compared to year(s) prior to the recent catch limit revisions based on the most recent stock assessments. The details described below are an example of how this approach could work.

Rationale

The most recent assessments incorporating the revised MRIP data took place in 2018 (for summer flounder) and 2019 (for scup and black sea bass). Revised catch and landings limits were implemented in the following years. For summer flounder, constant catch and landings limits were implemented for 2019-2021 (i.e., identical catch and landings limits across the three years). For black sea bass, constant catch and landings limits were implemented for 2020-2021. For scup, variable catch and landings limits were implemented for 2020-2021.

For summer flounder, these changes resulted in a 49% increase in the commercial quota and RHL in 2019. Despite the increase in the RHL, recreational management measures could not be liberalized because the revised MRIP data showed that the recreational fishery was already

harvesting close to the increased RHL. Commercial landings were able to increase as a result of this change in the landings limits.

The 2019 operational assessment for black sea bass resulted in a 59% increase in the black sea bass commercial quota and RHL for 2020. Status quo recreational measures for black sea bass were expected to result in an overage of the increased 2020 RHL; however, the Council, Board, and NMFS agreed to maintain status quo recreational management measures for 2020 to allow more time to consider how to best modify recreational management in light of the new MRIP data. It is expected that commercial landings will increase in response to the 59% increase in the quota, though they may not increase by the full 59% due to the mid-year increase in the quota and decreased demand due to COVID-19.

For scup, the 2019 operational stock assessment resulted in a decrease in the commercial quota (-7%) and RHL (-12%) in 2020 compared to 2019. Status quo recreational measures for scup in 2020 were maintained based on similar justifications described above for black sea bass as well as the expectation that the commercial fishery would continue to under-harvest their quota due to market reasons.

Given these circumstances, it may be possible to modify the allocations for all three species such that harvest in each sector could remain similar to pre-2019 levels for summer flounder and pre-2020 levels for scup and black sea bass (i.e., the years prior to implementation of the most recent stock assessments for all three species), at least on a short-term basis under the current ABCs. This would require lower commercial quotas than those implemented in 2019 (for summer flounder) or 2020 (for scup and black sea bass). However, given that the commercial quotas for summer flounder and black sea bass increased by 49% and 59% respectively as a result of the most recent assessments, and given that the commercial scup quota has been under-harvested for over 10 years, this may warrant consideration as an approach to allow for some stability in the fisheries (compared to pre-2019/2020 levels), at least on a temporary basis. If the ABCs for any of the three species were to change notably in the future, this approach would not guarantee that harvest in each sector could remain similar to status quo as this approach would modify the allocation percentages.

Defining status quo for each species and sector

Due to unique circumstances in each fishery, the status quo harvest target under this example was not defined the same way across all species and sectors. As previously stated, recreational harvest can vary notably from year to year, even under similar management measures. For this reason, recreational status quo for all three species was defined as average recreational harvest in pounds during the two years prior to the most recent catch limit revisions (i.e., 2017-2018 for summer flounder and 2018-2019 for scup and black sea bass). Commercial scup landings are also variable and have been below the quota since 2007 for market reasons. For this reason, status quo for the commercial scup fishery was also defined as a recent two-year average of harvest (2018-2019). For summer flounder and black sea bass, commercial status quo was defined as landings in the last year prior to revisions based on the most recent assessments (i.e., 2018 for summer flounder and 2019 for black sea bass). This was done to reflect the fact that commercial summer flounder and black sea bass landings are generally held close to the quotas.

Status quo levels of discards for each species and sector were defined using the same years described above for landings. Discard estimates in weight for 2019 are not currently available for either sector; therefore, it was assumed that 2019 discards would be equal to the 2016-2018 average for all species and sectors.

Example method for calculating allocations to allow approximately status quo harvest

This example methodology used the 2020 - 2021 ABCs (or, in the case of scup, the average of the 2020 and 2021 ABCs) as a baseline. Because this approach would modify the commercial/recreational allocation percentages, expected harvest and discards in each sector could not be calculated with the same methods used for setting the 2020-2021 specifications. Under this example, the initial values for expected dead discards by sector were calculated by dividing the 2020-2021 ABCs into expected total (i.e., both sectors combined) landings and total dead discards based on the average proportion of total landings and dead discards during 2017-2019 (see note above about 2019 discards). The expected total amount of dead discards was then divided into commercial and recreational discards based on the average contribution of each sector to total dead discards during 2017-2019. Initial expected harvest was defined as the status quo level of landings in each sector described above. These were the target commercial quotas and RHLs. As described below, these initial values for both harvest and dead discards were modified during subsequent steps of the analysis.

For summer flounder, total expected catch was 18% below the 2020-2021 ABC. This surplus allowable catch was split evenly among the two sectors. The resulting catch and landings limits, including expected dead discards in each sector, were modified to account for this surplus. For scup, total expected catch was 9% above the 2020-2021 average ABC. For black sea bass, total expected catch was 2% above the 2020-2021 ABC. For both scup and black sea bass, the catch reduction necessary to prevent an ABC overage was evenly split between the two sectors. Thus, true status quo was not be maintained for any of the three species under this example. For summer flounder, both sectors were able to slightly liberalize compared to the definition of status quo described above. For scup and black sea bass, both sectors had to be slightly restricted. The resulting catch and landings limits were then used to define the allocation percentages in **Table 5**. These are the allocation percentages for consideration under this approach. They may be revised in the future if the FMAT recommends changes to the methods described above.

Table 5: Example allocations aiming to allow approximately status quo landings in each sector under the 2020-2021 ABCs compared to recent years prior to catch limit revisions based on the most recent stock assessments.

Sector	Catch-based			Landings-based		
	Summer flounder	Scup	Black sea bass	Summer flounder	Scup	Black sea bass
Commercial	43%	59%	32%	43%	50%	29%
Recreational	57%	41%	68%	57%	50%	71%

During the previous FMAT meeting, one FMAT member asked how the outcome of this approach would differ from simply using 2018 and/or 2019 (depending on the species) as the base years to define the allocation percentages. Allocations using 2018 as the base year for summer flounder

and 2018-2019 as the base years for black sea bass are shown in **Table 6**. 2018-2019 were used for scup and black sea bass as those species had identical catch and landings limits across those two years. A single base year was used for summer flounder because the summer flounder catch and landings limits varied each year prior to 2019.

Table 6: Allocations using 2018 as the base year for summer flounder and 2018-2019 as the base years for black sea bass (see explanation above).

Sector	Catch-based			Landings-based		
	Summer flounder	Scup	Black sea bass	Summer flounder	Scup	Black sea bass
Commercial	46%	58%	32%	45%	50%	30%
Recreational	54%	42%	68%	55%	50%	70%

FMAT Comments and Recommendations:

A few FMAT members noted that the resulting percentage allocations in **Table 5** are similar to using 2018-2019 as base years (**Table 6**), which may be a simpler approach and would be easier to communicate to stakeholders. However, many **FMAT members agreed that the rationale behind this approach is important because it attempts to provide some stability under the current ABCs and supported further consideration of this approach.** The 2018-2019 base year approach does not account for the current ABCs. The FMAT liked the intent and rationale of maintaining stability or close to recent status quo; however one FMAT member said it was important to emphasize that this would not be true stability relative to current conditions because it would require reducing the commercial quotas for all three species compared to 2019 or 2020 levels (depending on the species) and bringing them closer to 2018/2019 levels.

One FMAT member pointed out that the allocation percentages resulting from this approach are similar to those under many other approaches. He suggested considering **an additional option which would average allocation percentages across multiple approaches.** The group supported consideration of this additional option. **Appendix D** includes example average allocations based on the approaches listed in this document.

Public Comments:

One member of the public recommended removal of this approach due to concerns about the resulting catch limits under lower ABCs. He also noted that there are currently no options to consider increasing the commercial percentage allocations. He asked if the range of alternatives could be considered “reasonable” (a National Environmental Policy Act requirement) if there are no alternatives to consider increasing the commercial allocation percentages.

One Council/Board member asked if consideration could be given to the fact that for many years catch limits were not based on an approved stock assessment and may not have been reflective of stock status at the time. He asked if an evaluation could be done to consider what the catch limits might have been if they were reflective of stock status. One FMAT member mentioned that a few stock assessment leads did an exercise prior to release of the revised MRIP data in 2019 to consider various scenarios based on different assumptions about the potential increase in recreational catch and how it would impact the assessment. The exercise suggested that the commercial allocations would have been lower, but the landings could have been higher due to a higher overall ABC.

4. Recreational sector separation

Recreational sector separation can be considered through either separate allocations for the for-hire sector and private anglers, or as separate management measures for the two recreational sectors without a fully separate allocation, as summarized below.

4.1 Separate sub-allocation of the recreational annual catch limit or recreational harvest limit to for-hire sector and private anglers

This option would specify within the FMP a separate percentage allocation to the for-hire recreational sector of either the ABC, the recreational ACL, or the RHL. There are several potential ways in which a separate allocation could be created for the for-hire sector, described below with comparison to the current process which does not include sector separation. These potential options are illustrated in **Figure 1**. The differences between some of these options are nuanced, and the pros and cons of each approach should be further explored.

- A. Current FMP:** The ABC is divided into the recreational ACL and the commercial ACL. Projected recreational discards are removed from the recreational ACL to derive the RHL. Both the private and for-hire recreational sectors are held to a single combined ACL and RHL, and performance evaluation and AMs are applied to both fisheries together.
- B. Separate ACLs:** The ABC would be allocated three ways: into a private recreational ACL, a for-hire recreational ACL, and a commercial ACL. This method would require development of these three allocations, and development of separate AMs for the private recreational and for-hire sectors.
- C. Recreational Sub-ACLs:** The ABC would remain divided into the recreational ACL and commercial ACL based on the allocation approach selected through this action. The recreational ACL would be further allocated into private and for-hire sub-ACLs. This method would also require development of separate AMs for the private recreational and for-hire sectors.
- D. Separate RHLs:** The private recreational and for-hire recreational sectors would remain managed under a single recreational ACL. Separate RHLs could be developed for each sector for the purposes of determining management measures. Accountability under this option would likely be partially at the RHL level (in the sense that performance to the RHL would likely be evaluated for each recreational sector for the purposes of adjusting future management measures to constrain harvest to the RHL) and partially at the ACL level (in the sense that AMs must be established at the ACL level to trigger a response if the entire recreational ACL is exceeded). This approach includes separate management of harvest only; dead discards are not included in RHLs and would be accounted for at the ACL level.

Note that any approach creating separate ACLs or sub-ACLs would require the development of corresponding separate AMs.

In addition to determining where sector separation occurs, consideration should be given to which data sources and methods to use for sector allocation, including:

- How to use MRIP and/or VTR data in the allocations;

- Whether to allocate using catch or harvest (related to the question of whether to allocate at the ACL or RHL level);
- Whether to allocate in numbers of fish or pounds;
- The base years or other method of evaluating this recreational sector data.

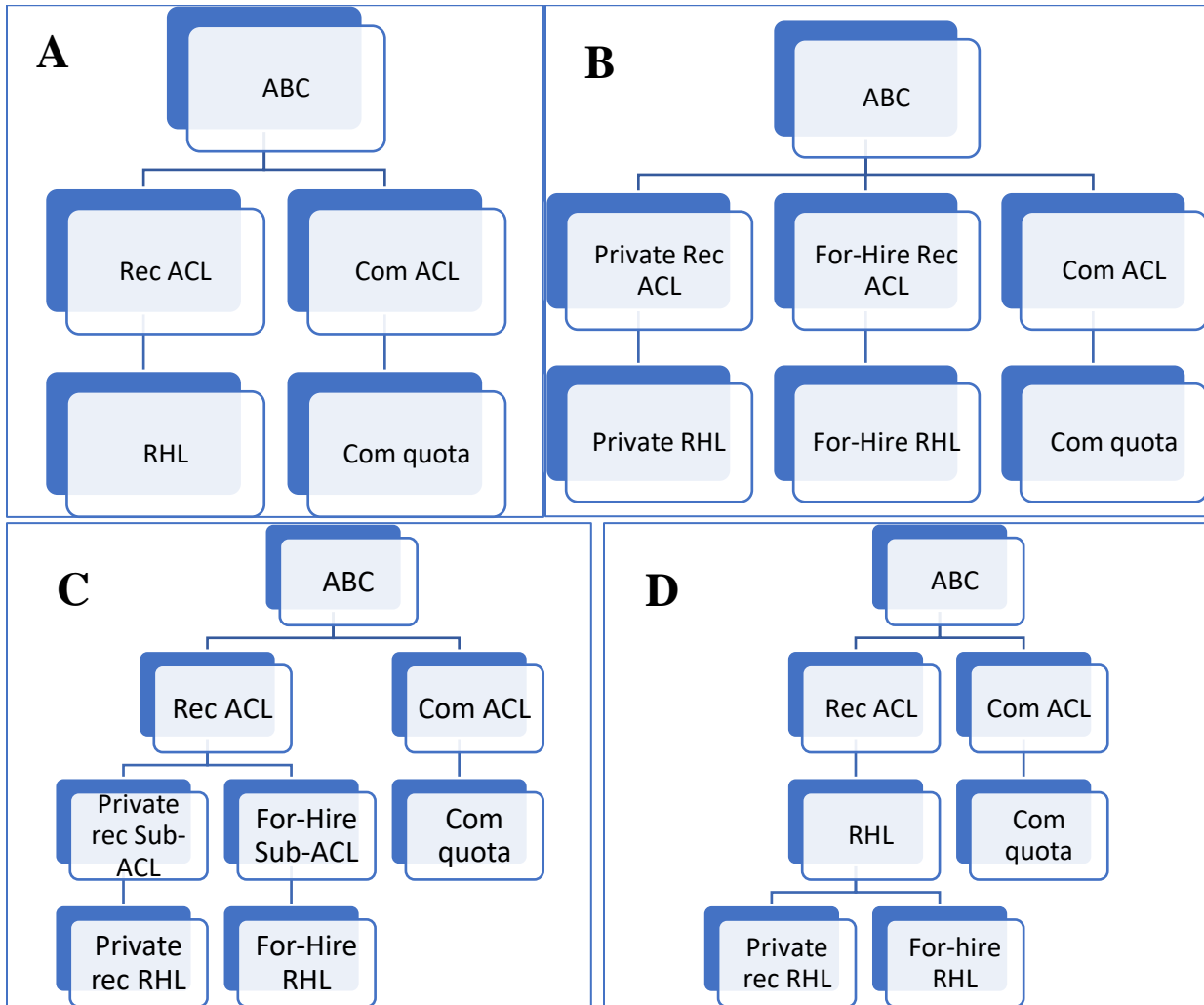


Figure 1: Conceptual flowcharts of potential recreational sector separation configurations including A) status quo, B) separate ACL allocations, C) Sub-ACL allocations, and D) separate RHLs.

Many scoping comments expressed an interest in sector separation to better make use of for-hire VTR data, which they perceive as being more accurate due to for-hire reporting requirements. However, there are also some concerns about the accuracy of self-reported for-hire VTR data. VTR data also includes only estimates of numbers of fish, not weight, so incorporating VTR data into allocations would require either establishing allocations based on numbers of fish, developing a method to estimate weights of harvested and discarded fish from the numbers reported on VTRs,

or adding a required data field for weight to the VTR electronic forms. The FMAT previously noted that some state-only permitted vessels are not required to submit VTRs and cautioned that data from these groups would be missing if VTRs are used to determine for-hire allocations.

Comparing for-hire harvest estimates from MRIP to for-hire VTR data for these species, on average, for-hire VTR harvest is lower than MRIP for-hire estimates since 1995 (**Figure 2**).

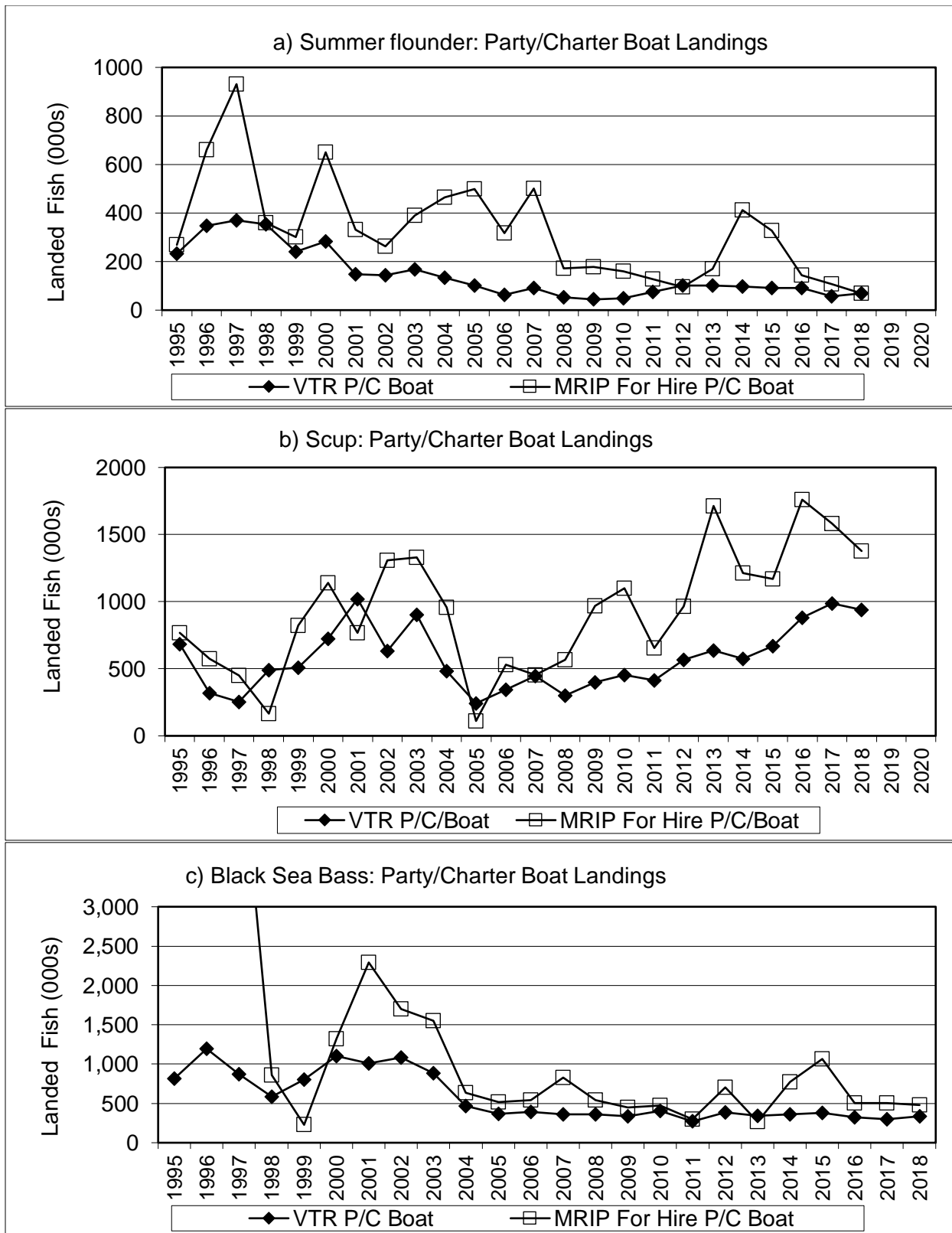


Figure 2: Comparison of federal party/charter vessel VTR estimates of landed fish vs. MRIP estimated for-hire landed fish, 1995-2018, for a) summer flounder, b) scup, and c) black sea bass.

FMAT Comments and Recommendations:

The FMAT recommends further consideration of alternatives for sector separation using separate allocations.

The FMAT noted there is currently some "borrowing" of data between the private angler and for-hire fisheries in the estimation process. There are two separate effort surveys for each recreational sector that go into MRIP. For-hire estimation by MRIP incorporates some information from VTRs. While separate estimates for each recreational sector could serve as a basis for managing them separately, the FMAT felt it was important to note that if the sectors were split completely, some improvements would likely be needed in the sampling efforts for both sectors. Currently, much of the for-hire sampling is focused on discards, which provides information on the length frequency distribution of discarded fish that contributes to the generation of discard estimates for the entire recreational fishery. For landings, many of the measurements come from private anglers, which influences the mean weight of landed fish used to generate recreational harvest estimates. Private angler and for-hire data streams may both need additional biological sampling under sector separation.

For the purposes of calculating allocation options based on past data, the FMAT noted that separate dead discard estimates in weight are not currently available by recreational sector. Technically it would be possible to generate these estimates, but it may not be entirely defensible. The FMAT agreed that calculation of options at this stage could use total dead catch in numbers of fish (for catch-based allocations for separate ACLs or sub-ACLs), or total harvest in numbers of fish or pounds (for harvest-based allocations for separate RHLs). Example allocations based on dead catch and harvest in numbers of fish are shown in **Table 7**.

For base years, the FMAT noted that using the existing commercial/recreational allocation base years from the 1980s and 1990s may not be appropriate given the changes in for-hire and private recreational effort and catch since that time. Since sector-separation has never been in place for these species, recent data is likely more appropriate to determine the allocations between these fisheries.

Table 7: Example approaches for calculating separate sub-allocations to private and for-hire sectors, based on a) dead catch in numbers of fish, and b) harvest in numbers of fish.

a)		Dead catch (numbers of fish)			
	Approach	Years	Private %	For-Hire %	
Summer flounder	Time Series	1981-2018	94%	6%	
	Base years (no data for 1980)	1980-1989	91%	9%	
	5 years post rebuilt declaration	2012-2016	96%	4%	
	5 most recent years	2014-2018	95%	5%	
	10 most recent years	2009-2018	96%	4%	
	15 most recent years	2004-2018	96%	4%	
Scup	Time Series	1981-2018	91%	9%	
	Base years	1988-1992	92%	8%	
	5 years post rebuilt declaration	2010-2014	88%	12%	
	5 most recent years	2014-2018	91%	9%	
	10 most recent years	2009-2018	89%	11%	
	15 most recent years	2004-2018	90%	10%	
Black sea bass	Time Series	1981-2018	72%	28%	
	Base years	1983-1992	65%	35%	
	5 years post rebuilt declaration	2010-2014	90%	10%	
	5 most recent years	2014-2018	89%	11%	
	10 most recent years	2009-2018	90%	10%	
	15 most recent years	2004-2018	87%	13%	
b)		Harvest (numbers of fish)			
	Approach	Years	Private %	For-Hire %	
Summer flounder	Time Series	1981-2018	93%	7%	
	Base years (no data for 1980)	1980-1989	91%	9%	
	5 years post rebuilt declaration	2012-2016	95%	5%	
	5 most recent years	2014-2018	94%	6%	
	10 most recent years	2009-2018	95%	5%	
	15 most recent years	2004-2018	95%	5%	
Scup	Time Series	1981-2018	90%	10%	
	Base years	1988-1992	92%	8%	
	5 years post rebuilt declaration	2010-2014	87%	13%	
	5 most recent years	2014-2018	89%	11%	
	10 most recent years	2009-2018	88%	12%	
	15 most recent years	2004-2018	88%	12%	
Black sea bass	Time Series	1981-2018	66%	34%	
	Base years	1983-1992	61%	39%	
	5 years post rebuilt declaration	2010-2014	85%	15%	
	5 most recent years	2014-2018	86%	14%	
	10 most recent years	2009-2018	87%	13%	
	15 most recent years	2004-2018	82%	18%	

The FMAT discussed the structure of sector separation in the specifications process (see **Figure 1**) and determined that the group should further discuss the pros and cons of each approach and clarify the differences between them before recommending an approach. Some considerations for sector separation structure include:

- A few FMAT members said that simplicity and fewer steps in the flowchart may be beneficial, in which case splitting the ABC into three separate ACLs may be preferable (approach B in the description above).
- There is probably not a need for the Council and Board to fully consider both separate ACLs (approach B) and separate sub-ACLs (approach C). These are functionally very similar in terms of process and accountability but would differ in how the allocations are determined. The FMAT will further clarify the differences between these two options.
- Separate sub-ACLs (approach C) offers a clearer division between recreational and commercial fisheries as a whole. It may be easier to consider future changes to the private vs. for-hire allocation under this structure, as these changes would not impact the commercial fishery.
- In addition, sub-ACLs (approach C) would be able to be adopted separately from the commercial/recreational allocation options. Separation at the ACL level (approach B) would require allocation alternatives that divide allocation three ways between the commercial, for-hire, and private angler sectors. This could complicate consideration of other options in this amendment.
- Stakeholder interest in sector separation seems focused on the ability to have separate management measures. This is something that could be done under all of the sector separation structure options; however, approach D (separate RHLs) may provide a straightforward way to have separate measures while keeping accountability at the level of the whole recreational fishery. Section 4.2 also describes how separate measures could be considered without a separate allocation, if desired.

Expected Future Analysis:

- Further elaborate on the differences and pros/cons of different sector separation structures, including how the options differ in terms of ACTs and management uncertainty.
- Re-calculate allocation options for two recreational sectors using total dead catch (for catch-based allocations) and total harvest (for landings-based allocations) using recent years.
- Further describe the uncertainties in the MRIP data by mode, as well as uncertainties in the for-hire VTR data to the extent possible.

4.2 Create policy for development of separate management measures for for-hire vs. private rental (without separate allocation of ACL or RHL)

Rather than creating a separate allocation for the for-hire sector, a degree of sector separation could be achieved by setting different management measures to account for the differing priorities of and data sets for-hire vs. private anglers.

Separate management measures by recreational sector are currently used in a limited manner in state waters for scup and black sea bass. Specifically, in the states of New York and north, there are different scup possession limits to the for-hire sector at certain times of year. For black sea bass, Connecticut has a different possession limit for for-hire vessels during a certain time of the year. Separate management measures for the for-hire sector have not been applied in federal waters for these species.

The FMAT previously discussed that it would be beneficial to develop a policy on how sector-specific measures should be developed, how accountability should be evaluated, and how adjustments are applied to both recreational sectors. Creating a framework for future sector-specific adjustments would reduce confusion when future adjustments are necessary for one or both recreational sectors, and would clarify the process for stakeholders and managers, reducing process uncertainty and increasing transparency when setting recreational measures each year.

FMAT Comments and Recommendations:

The FMAT discussed that creating a policy for separate measures for for-hire vs private anglers does not require an amendment. This could possibly be done through specifications, or if not, through a framework/addendum process. If separate allocations were created as described under section 4.1, describing the process for setting separate recreational measures would be an inherent part of that option. Otherwise, the FMAT felt that this type of option on its own could overload this amendment with issues that could be done outside this process. The FMAT recommends that this action remain focused on allocations, especially given the implementation target of 2022. If separate measures are desired without separate allocations, the FMAT recommends that the Council and Board develop a policy to do so outside of this amendment process. **Therefore, the FMAT recommends removal from this action.**

5. "Harvest control rule" based approaches

Under this approach, proposed by six recreational organizations (see pages 147-152 of [this document](#) for the full proposal), recreational "allocation" would not be defined as a set percentage of the total catch limit but as a specific combination of bag/size/season limits preferred by recreational fishermen in each state, which would become more restrictive when estimated biomass changes declines below the target level. The restrictions would occur in a pre-determined, stepwise manner. The commercial "allocation" would be the commercial quota preferred by the commercial industry when biomass is high and it would be reduced as biomass declines below the target level in proportion with the restrictions on the recreational fishery. This approach is largely conceptual at this stage and is not yet associated with specific proposed measures.

The FMAT and Council/Board previously discussed that this approach as currently configured may be less directly related to the allocation of catch between the commercial and recreational sectors and more related to how measures are determined for each sector. The FMAT previously recommended exploring how this proposal could be tied in more directly with allocation and whether it would be feasible under our current management system and legal constraints.

FMAT Comments and Recommendations:

The FMAT recommended removing this approach from consideration in this amendment and considering similar concepts through a separate action, likely the ongoing recreational reform initiative. The FMAT recognized that there is interest in further pursuing this approach from members of the public as well as Council/Board members; however, the FMAT still had a number of concerns about the applicability and feasibility of this proposal. Ultimately, for the reasons described below, the FMAT determined that a) this approach would likely not be consistent with the Magnuson-Stevens Act (MSA) without substantially revising its intent and design; b) this approach as currently conceptualized still does not have a strong connection to commercial/recreational allocations, and c) concepts from this proposal seem well-suited to consideration for the recreational management process, such as the ongoing recreational reform initiative. In addition, the FMAT discussed the potential for exploring ways to apply the tiered management concept from this approach to the dynamic allocation mechanisms category.

Magnuson-Stevens Act Compliance

The FMAT previously questioned whether this approach could be designed to comply with existing MSA requirements for catch limits and accountability measures. The MSA requires that ACLs be set each year in pounds or numbers of fish, and that each ACL have associated AMs to prevent exceeding the ACL and to trigger a management response if an ACL is exceeded. At this meeting, the FMAT reiterated that under the MSA, the FMP needs to define a way to measure total removals (total dead catch) and to evaluate performance relative to an ACL set in numbers of fish or pounds. This does not mean it's impossible to start with preferred measures and translate those into catch, but managers are still required to demonstrate that catch associated with the measures is not expected to exceed each sector's ACL, and collectively not expected to exceed the ABC. Ultimately, managers must demonstrate that measures are expected to prevent overfishing.

This proposal as currently described does not appear consistent with these MSA requirements, unless each set of recreational measures and commercial quotas could be clearly associated with projected catch levels and the uncertainty and variability in that process could be appropriately accounted for. A major concern with this approach is the feasibility of accurately predicting catch levels at each of the various management measure thresholds, particularly for the recreational fishery. The FMAT has previously noted that even when recreational measures have remained similar across years, the resulting MRIP estimates can vary significantly. For both fisheries, total dead catch can vary substantially with external factors such as changing total and regional availability, recruitment events, or changing effort based on factors other than measures.

In addition, there could be substantial uncertainty with projecting discards for both sectors based on the commercial quotas and recreational management measures associated with each threshold. All these factors would pose challenges for justifying how this approach could constrain catch to the ACLs and ABC without additional management uncertainty buffers.

Process/Analysis Considerations and Connection to Allocation

The proposal suggests that there is a limit to how much access each sector “needs” (e.g., there is a range and maximum amount of fish that recreational anglers will want to take home, and there is

a limit to where profit will be maximized for the commercial fishery). The proposal also suggests that measures or quotas under each threshold should consider state or regional variation in fishery needs. The FMAT noted that determining the needs of each sector under various threshold levels is likely to be a very involved and potentially political process, with heavy analysis and stakeholder input needs.

While some suggestions have been made for how to analyze and determine optimal commercial and recreational access levels at each biomass threshold, expertise outside of the FMAT and Council/Board would likely be required, particularly for establishing an economic basis for the commercial quota levels. In addition, it is still unclear how the balance of access for each sector would be negotiated. The discussion of measures at each threshold for each fishery would also need to reconcile those separate levels of access to ensure that overall catch/removals are still expected to be constrained to the ABC. For some species, such as black sea bass, it is unlikely that both sectors could operate at their preferred levels of access even under positive stock conditions without exceeding the ABC and/or OFL. A process for balancing/negotiating preferred levels of access between the commercial and recreational sectors could be very time and work intensive in terms of analysis and gathering stakeholder input and would potentially delay this action.

The FMAT also discussed that the step-wise approach proposes that higher levels of biomass correspond to higher levels of access, which could allow for liberalization of recreational measures. However, the very large recreational fishery capacity means that effort and catch also typically scales with biomass and availability, in some cases even under highly restrictive recreational measures. This complicates the assumption that recreational measures can liberalize when biomass increases. In addition, changes in the recreational fishery over the years (general effort increases, species-specific effort changes, legal/policy constraints, and improved technology for targeting fish) further complicate the assumption that past recreational measures can be used to estimate expected future catch. The FMAT also noted that it could be easier to agree on measures associated with good stock biomass conditions, but setting measures for lower biomass thresholds may be much more difficult.

Potential Application of Ideas Through a Separate Action

The FMAT agreed that there are several concepts in this proposal that would be worthwhile to explore in terms of application to the process of setting recreational measures. For example, the FMAT noted benefits of the transparency provided by a tiered management approach with clearly defined measures at each level. Additional exploration of the relationship between the effectiveness of recreational management measures and estimated biomass would also be worthwhile. Recreational reform is currently identified as a priority for the Council and Board, and an action to address recreational management is listed on the Council's 2020 implementation plan. The FMAT felt comfortable recommending removal of this option from this action given that there is a pre-existing process that appears to be more appropriate for its discussion.

The FMAT also suggested the possibility of creating a tiered allocation approach under "dynamic allocation approaches" (section 8). While this would not necessarily have the same basis and intent as this approach, some of the ideas discussed under this proposal could be transferable to an allocation framework where thresholds for different allocations could be created. This differs from a trigger-based allocation approach (section 8.2) given that it would not involve completely

separate allocation tiers as opposed to a baseline allocation up to a certain point with excess quota allocated differently.

Public Comments:

One member of the public stated that this feels like an apples to oranges conversation, and that if both sectors are not held to the same standards, the commercial sector will get penalized. She stated that the recreational sector has gone way over their limits in recent years. When this happens, stock biomass can go down which impacts both sectors. She stated that this option seems likely to negatively impact the commercial fishery.

Another member of the public stated that although this approach would require difficult in-depth analysis, he supported its further evaluation.

6. Recreational accountability alternatives

The theme of increased recreational accountability was prominent in many scoping comments. For example, some comments suggested more frequent recreational overage paybacks and bringing back recreational in-season closures. The FMAT previously noted that large scale revisions to recreational accountability may be outside the intended scope of this action as the FMAT understands it.

At the May joint meeting, the Council and Board discussed this issue and agreed to leave it in the range of alternatives until it becomes more clear what types of allocation alternatives will be considered. Some Board and Council members suggested that while the current AMs may be appropriate for the current allocations, alternatives that would drastically change the management approach may require modified or additional AMs.

Current Recreational Accountability Measures

Federal regulations include proactive AMs to prevent the recreational ACL from being exceeded and reactive AMs to respond when an ACL is exceeded. Proactive recreational accountability measures include **adjusting management measures (bag limits, size limits, and season) for the upcoming fishing year** that are designed to prevent the RHL and ACL from being exceeded. The NMFS Regional Administrator no longer has in-season closure authority for the recreational fishery if the RHL or ACL is expected to be exceeded. For reactive AMs, **paybacks of ACL overages may be required in a subsequent fishing year, depending on stock status and the magnitude of the overage**, as described below. ACL overages in the recreational fishery are evaluated by comparing the most recent 3-year average recreational ACL against the most recent 3-year average of recreational dead catch (i.e., landings and dead discards). If average catch exceeds the average ACL, then the appropriate AM is determined based on the following criteria:

1. If the stock is overfished ($B < \frac{1}{2} B_{MSY}$), under a rebuilding plan, or the stock status is unknown: The exact amount, in pounds, by which the most recent year's recreational ACL has been exceeded, will be deducted in the following fishing year, or as soon as possible once catch data are available.
2. If biomass is above the threshold, but below the target ($\frac{1}{2} B_{MSY} < B < B_{MSY}$), and the stock is not under a rebuilding plan:

- If only the recreational ACL has been exceeded, then adjustments to the recreational management measures (bag, size, and seasonal limits) would be made in the following year, or as soon as possible once catch data are available. These adjustments would take into account the performance of the measures and the conditions that precipitated the overage.
 - If the Acceptable Biological Catch (ABC = recreational ACL + commercial ACL) is exceeded in addition to the recreational ACL, then a single year deduction will be made as a payback, scaled based on stock biomass. The calculation for the payback amount in this case is: (overage amount) * $(B_{msy} - B) / \frac{1}{2} B_{msy}$.
3. If biomass is above the target ($B > B_{MSY}$): Adjustments to the recreational management measures (bag, size, and seasonal limits) would be considered for the following year, or as soon as possible once catch data are available. These adjustments would take into account the performance of the measures and the conditions that precipitated the overage.

FMAT Comments and Recommendations:

The FMAT recommended removing recreational AMs as a separate alternative and felt that recreational accountability could be considered within this action as it relates to other management alternatives being considered. For example, if the sector separation approach is pursued, different AMs may need to be developed as a part of that alternative. The current AMs were established through the Omnibus Recreational Accountability Amendment (Amendment 19 to this FMP, adopted in 2013). This amendment removed the in-season closure authority held by the NMFS regional administrator, which allowed for coastwide closures of the recreational fisheries if they were projected to exceed the RHL based on preliminary data. Amendment 19 also increased the flexibility in evaluation and response to recreational overages given the uncertainty associated with the MRIP data and tied overage responses to stock status as described above. The FMAT felt that much of the rationale for the changes made through Amendment 19 remains valid. For example, the timing of recreational data availability and the potential for revisions between preliminary and final estimates still pose challenges for in-season closures. One potential avenue for reconsideration of recreational AMs is through the recreational reform initiative.

Public Comments:

One member of the public commented that in-season closures or changes are tough on the for-hire industry and did not support bringing that back as an AM.

7. Recreational catch accounting alternatives

Examples of changes to recreational catch accounting recommended through scoping are listed below. The intent behind these recommendations is to reduce uncertainty in the recreational data. It is worth keeping in mind that MRIP is currently considered the best scientific information available for the recreational fisheries and will continue to be used for stock assessments and catch limit evaluations for the foreseeable future. MRIP is a national-level program and the Council and Commission have a very limited ability to influence changes to the MRIP estimates.

- **Mandatory private angler reporting:** Private angler reporting through smart phone apps has been explored in specific fisheries in other regions, and will soon be required in this

region for blueline tilefish. Consideration could be given to the feasibility of private angler reporting for summer flounder, scup, and black sea bass given that these fisheries take place in state and federal waters, from shore and from private and for-hire vessels, and that there are millions of directed trips per year for each species (e.g., an estimated 8.7 angler trips for which summer flounder was the primary target, 2.7 million for which scup was the primary target, and 1.4 million for which black sea bass was the primary target in 2019). Given the scale of these recreational fisheries, mandatory private angler reporting may be a challenge to implement. Thorough consideration should be given to the potential levels of non-compliance and how this may impact the resulting data.

- **Tagging programs:** A few scoping comments suggested that anglers be issued tags for a specific number of fish each year. Tagging programs are used in some recreational fisheries, but they may be more appropriate for species with much lower harvest levels than summer flounder, scup, and black sea bass. The FMAT should consider the pros and cons of moving forward with this approach compared to a traditional possession limit, especially considering the millions of participating anglers in the fisheries for these species. Ensuring that the program is fair and equitable is a challenge. For example, consideration would need to be given to who receives tags, how they are distributed, and how the program is administered.
- **Mandatory tournament reporting:** A few scoping comments recommended mandatory catch reporting for recreational fishing tournaments. During the May 2020 joint meeting, one Council/Board member questioned the value of mandatory reporting for tournaments given that tournament catch likely constitutes a very small percentage of total catch. An evaluation of summer flounder, scup, and black sea bass catch in tournaments has not been performed and may not be possible given that there does not seem to be a central list of non-HMS tournaments. Recreational catch from tournaments for summer flounder, scup, and black sea bass should be included in MRIP estimates but is not specifically designated as tournament catch.
- **Enhanced VTR requirements:** A few scoping comments recommended additional VTR requirements, such as requiring VTRs for for-hire vessels that do not have federal permits and reinstating “did not fish” reports for federal permit holders to better understand fishing effort.

FMAT Comments and Recommendations:

The FMAT recommended removing this issue from the amendment but supported the continued exploration of improving recreational data through other avenues. Although the FMAT felt that this alternative was outside of the scope of this allocation action, especially with implementation timeline concerns, they recognized that these recreational catch accounting and accountability topics were important issues. The FMAT also noted that recreational catch accounting is an issue that fisheries outside of this FMP are addressing so it may be more appropriate to pursue for multiple species outside of this amendment. One FMAT member asked about scoping comments related to this topic and whether the general sentiment was to address recreational catch accounting before considering changes to the allocations. Staff responded that

several scoping comments suggested this, while other scoping comments voiced a general mistrust or need to improve MRIP with no additional comments regarding allocation.

Public Comments:

One member of the public is currently involved in helping with private angler reporting for blueline tilefish and noted that although it is a relatively small group of anglers, the process is already a large undertaking and felt that for summer flounder, scup and black sea bass, this concept should be held off for a later time.

A Council and Board member noted that since the FMAT recommended the removal of some alternatives it would be helpful if there were time allocated to have a specific discussion with the Council and Board to understand what potential management actions would be appropriate for those issues.

One member of the public commented that he had mentioned mandatory reporting for tournaments during scoping because he believes it would be important to have more information on that. He added that less than 50% of permit holders are reporting in some cases. Because of this, he feels it is very important to either reinstate did not fish reports or attempt to determine for-hire effort in state waters. One FMAT member agreed that it would be worth exploring ways to identify or quantify tournament catch in the future, separate from this action. A Council and Board member wondered why it was important to estimate tournament catch separately from the current MRIP surveys or if there is evidence that tournament catch is not being captured adequately.

8. Dynamic allocation approaches and options for future modification

Consideration could be given to moving average approaches, trigger mechanisms, and allowing for allocations to be changed via a framework/addendum process.

The Council already has an allocation review policy³, where each relevant allocation will be reviewed at least every 10 years; however, the Council may choose to conduct reviews more frequently based on substantial public interest in allocation review or other factors.

8.1 Moving average approach

This approach would base the allocations on a moving average of past years' catch or landings. This approach was recommended through scoping.

FMAT Comments and Recommendations:

A few FMAT members raised concerns with this approach and recommended removal. After further discussion after the meeting, **all FMAT members agreed to recommend removing this alternative from further consideration through this action**, though it may be useful in the future as a way to evaluate the impact of allocation changes. The primary concern was that this approach is difficult to design in a way that does not create a cycle of rewarding sectors for going over their allocations. In particular, this could have a negative effect on the commercial sector, which is more effectively held to their quota than the recreational sector. This effect would likely be compounded

³ https://www.mafmc.org/s/MAFMC-Fishery-Allocation-Review-Policy_2019-08.pdf

over time under a moving average approach. Another FMAT member noted that this approach could also incentivize the commercial sector to harvest more than they otherwise would based on market conditions, just to maintain their allocation.

One FMAT member suggested revising the approach so that any overage above the landings limits would not be taken into account for allocations. Depending on its configuration, this approach may only be meaningfully different from the current allocations for fisheries where regular underages occur, in which case, that issue may be better addressed by transfers or by one of the other reallocation options.

8.2 Trigger approach

Under this approach, catch up to a specified ABC level would be allocated to each sector using the current (or modified) allocations and any additional allowable catch above that level would be divided differently between the sectors. For example, if a higher percent of the surplus were allocated to the recreational sector, this could address some concerns that it is harder to constrain the recreational fishery in times of high availability.

FMAT Comments and Recommendations:

The FMAT recommended further development of this approach. This approach could help address concerns about major changes to the allocations because it limits the amount of change that can occur under different stock conditions. The trigger approach could also provide more flexibility in years of high abundance. Board and Council guidance on the following questions is requested prior to further evaluation of this approach: What might be an appropriate trigger threshold level? Is it appropriate to allocate a higher percentage of landings or catch to the recreational fishery when the ABC is above a certain level? If so, how much should the allocations change?

Expected Future Analysis:

- An evaluation of the historical commercial/recreational share of catch and landings at different biomass levels could help inform the development of this approach.

8.3 Framework/addendum options

Allowing allocation changes through frameworks/addenda would allow for a more expedient process but could also reduce public input on a very contentious issue. The federal regulations list which types of management changes can be made through frameworks. Changes to the commercial/recreational allocation are not on this list. This amendment may consider whether commercial/recreational allocation changes should be added to the list of changes that can be made through a framework. However, even if it were an option to use a framework, the Council and Board could still decide it is more appropriate to use an amendment if significant changes are proposed. Being able to use frameworks could be a helpful tool in the toolbox if for minor changes.

FMAT Comments and Recommendations:

The FMAT recommends leaving this approach in for further analysis. There could be instances in the future when minor changes to data or small allocation issues could be resolved

quickly through a framework/addendum instead of a more lengthy amendment process. Several FMAT members suggested developing language to clarify when future changes to allocations could be made through a framework/addendum versus an amendment.

9. Allocation transfers between sectors

The Council and Board recommended further consideration of alternatives which would allow for the transfer of allocation between sectors. As shown in **Appendix B**, with the exception of the commercial scup fishery, there have not been notable landings limit underages in either sector for any of the three fisheries in recent years. Therefore, transfers between sectors may not be used on a regular basis. However, it could still be a useful “tool in the toolbox” and a change to the FMP is required to allow for this as an option in future years.

For the purposes of understanding how allocation transfers between sectors would function, the following discusses the different components of the transfer process.

Key components of a transfer provision include:

- **Bidirectionality:** For the purpose of equity, the plan could allow for transfers from both sectors. However, a one-way transfer is used in the bluefish fishery (recreational to commercial).
- **Transfer cap:** A transfer cap defined as a percentage of the ABC or a fixed value in pounds could be considered.
- **Projection methodology:** The decision for the Board/Council to approve/recommend a transfer would likely take place during specifications. An average of the past three years of landings could be used to project each sector’s landings in the upcoming year to determine whether a transfer is warranted. Depending on the timing of specifications and data availability for the current year, it may be possible to use recreational and commercial landings progress in part of the year to develop projections for the remainder of the year before providing final approval of a transfer. This is done in the bluefish fishery. **Table 8** below outlines the scenarios in which transfers would occur.
- **Criteria prohibiting a transfer:** One advisory panel member voiced concern about additional fishing pressure that occurs with the introduction of sector transfers. It may be useful to develop criteria tied to stock status for when sector transfers are prohibited. For example, it may be beneficial to prohibit transfers when a stock is below its target.

Table 8: Scenarios in which a transfer would or would not be warranted.

Scenario	Commercial Sector	Recreational Sector	Outcome
1	projected to achieve quota	projected to achieve RHL	no transfer
2	projected to achieve quota	projected to not achieve RHL	transfer to comm
3	projected to not achieve quota	projected to achieve RHL	transfer to rec
4	projected to not achieve quota	projected to not achieve RHL	no transfer

FMAT Comments and Recommendations:

The FMAT agreed that this approach should remain in the action for further development.

The details concerning how the projections are calculated and the timing of the transfer process are still to be determined. One FMAT member noted that consistency is crucial when calculating projections for recreational specifications and the transfer process. All FMAT members who spoke on the issue agreed that the transfers should continue to be explored as a bi-directional option. The FMAT did express concern in the ability to project recreational harvest, in particular in situations when projections are especially uncertain, for example when significant or variable amounts of harvest occur late in the year. FMAT members noted that it would be helpful to explore in more detail how transfers work for other fisheries. Additional information will be compiled prior to the June joint meeting.

APPENDIX A: Catch vs landings based allocations

This appendix describes the potential implications of catch and landings-based allocations.

Under the current catch-based allocation for scup, the ABC is divided into a commercial and recreational ACL based on the allocation percentages defined in the FMP. Sector-specific expected discards are subtracted from the sector-specific ACLs to derive a commercial quota and a recreational harvest limit.

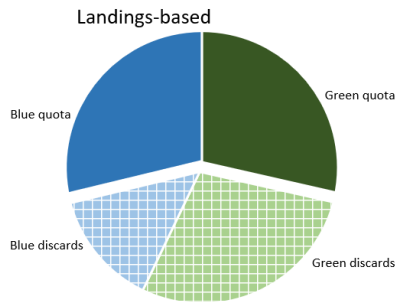
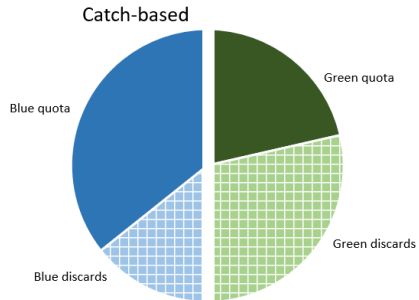
Under the current process for landings-based allocations for summer flounder and black sea bass, the ABC is first divided into expected landings and expected discards based on the advice of the Monitoring Committee. The sector allocations are applied to the landings portion of the ABC. The sector-specific ACLs are equal to the landings-based allocations plus the expected discards by sector. Under this system, higher expected discards in one sector can result in a reduced ACL in the other sector. Under a catch-based allocation (as for scup), expected discards in one sector do not impact the ACL in the other sector.

In addition, if discards are included directly in the allocation (i.e., a catch-based allocation), there may be a greater incentive for each sector to reduce discards in order to increase their allowable landings. This was part of the rationale for creating a catch-based allocation for scup. Commercial scup discards were a concern at the time of development of Amendment 8 which implemented the current allocations.

Figure 3 below demonstrates this concept through a comparison of a hypothetical catch-based 50/50 allocation and a landings-based 50/50 allocation for the "blue" and "green" fisheries. In this example both sectors have equal expected landings but the green sector has higher expected dead discards than the blue sector. Under a landings-based 50/50 allocation, the green sector will have a higher ACL than the blue sector due to its greater expected discards. Under a catch-based 50/50 allocation, both sectors will have equal ACLs. The blue sector will have a higher quota than the green sector due to its lower expected discards.

The reliability and timeliness of discard estimates should be considered when assessing catch-versus landings-based allocations. Depending upon the methodology and data used, recreational discard estimates can be quite variable. MRIP does not provide weight estimates for recreational releases, and thus the method used for stock assessments by the Northeast Fisheries Science Center has previously been used to develop estimates of dead discards in pounds of fish. Dead discards estimates are integral to both catch- and landings-based allocations.

Equal landings by sector, expected green discards 2x blue discards



Equal landings by sector, expected green discards 3x blue discards

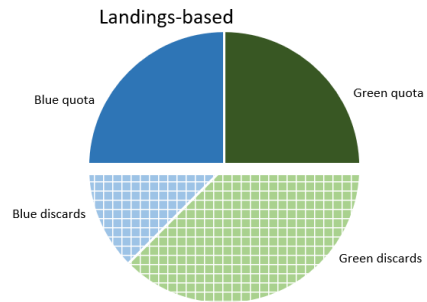
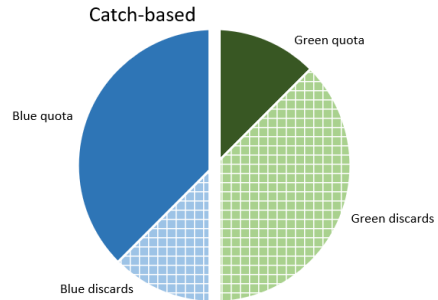


Figure 3: Comparison of hypothetical catch-based 50/50 allocation and landings based 50/50 allocation for the "blue" and "green" sectors under two different scenarios for expected landings and discards.

APPENDIX B: Trends in Fishery Performance Relative to Catch and Landings Limits

Summer Flounder

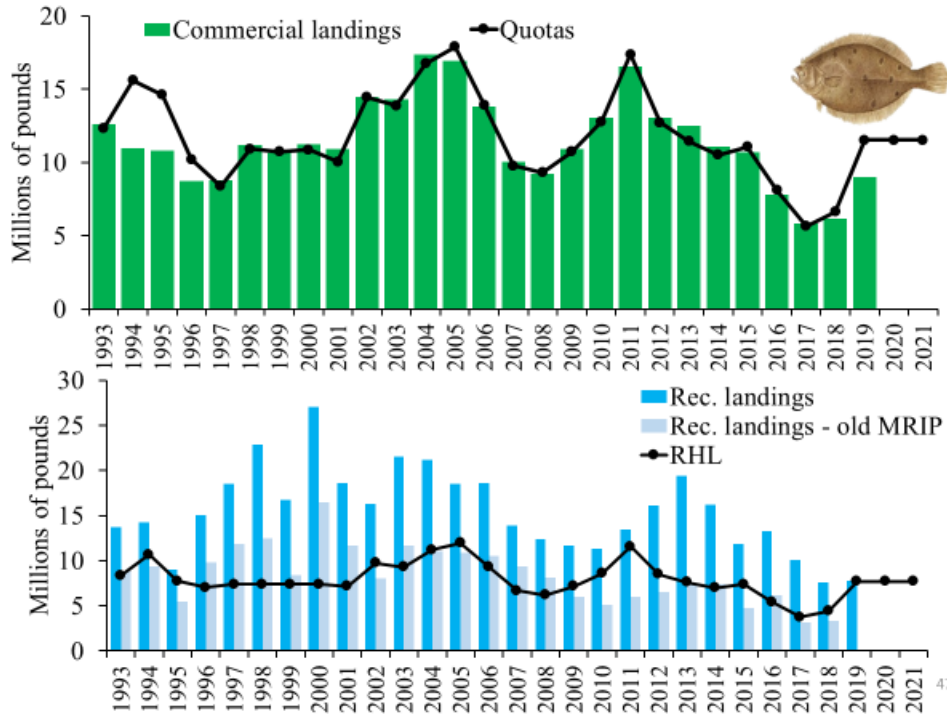


Figure 4: Summer flounder commercial landings relative to commercial quota, and recreational harvest estimates (old and new MRIP) relative to recreational harvest limits, 1993-2019.

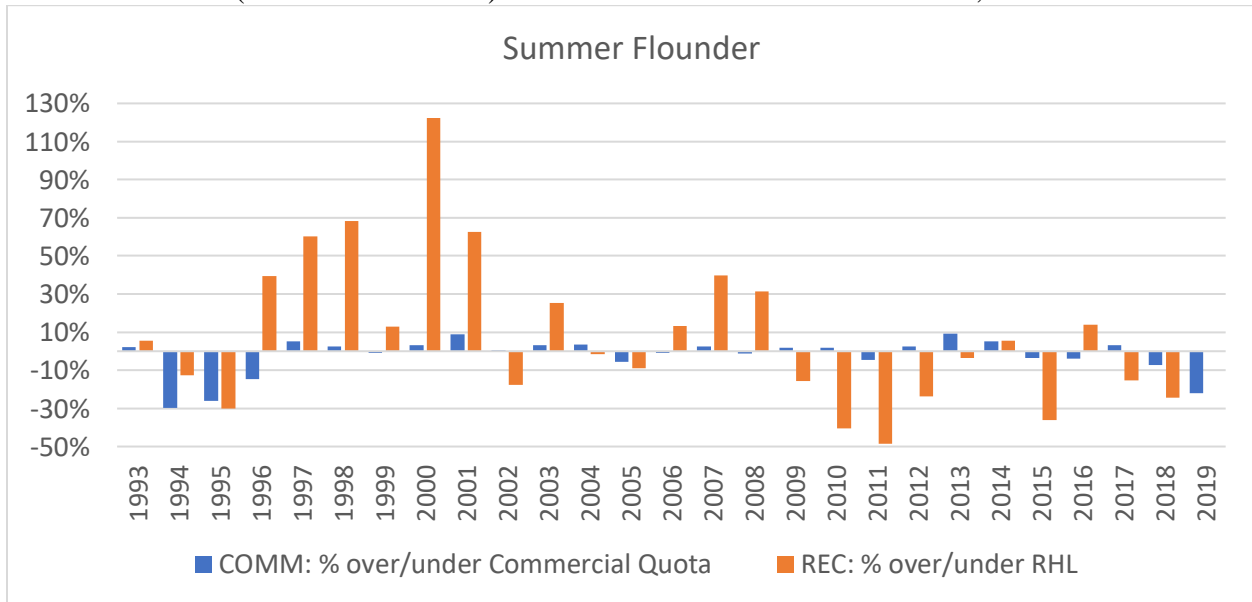


Figure 5: Summer flounder percent over/under the recreational harvest limit and commercial quota in pounds, 1993-2019. Recreational evaluation is based on OLD MRIP data. Note that revised MRIP data cannot be fairly used in this evaluation given that limits were set using the prior estimates of recreational catch. Back-calibrated recreational estimates are not available for 2019.

Scup

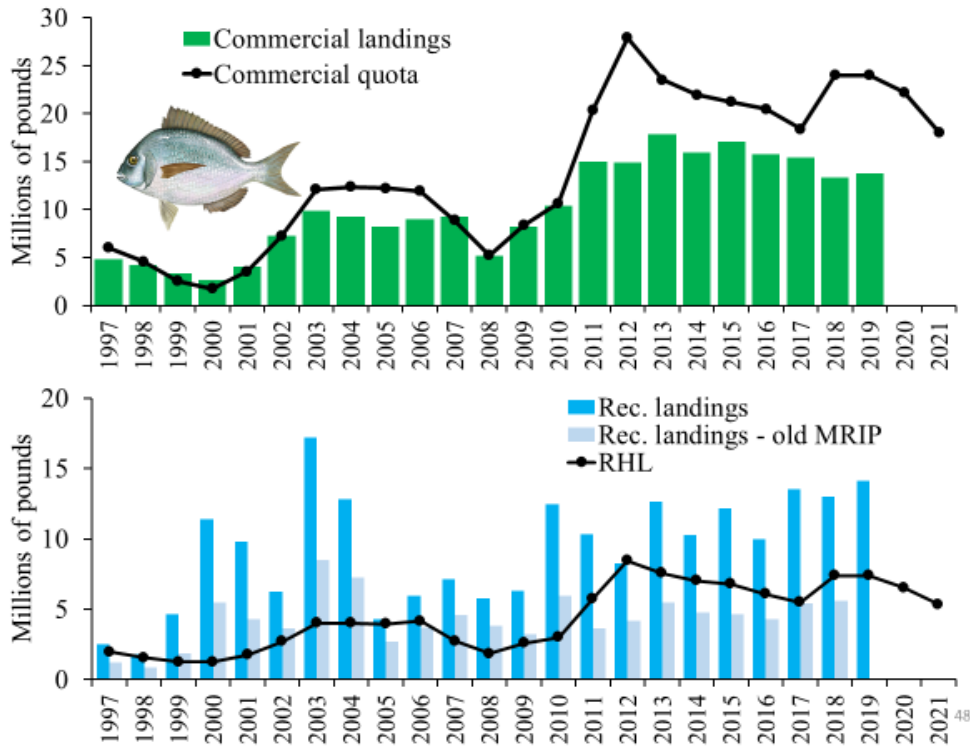


Figure 6: Scup commercial landings relative to commercial quota, and recreational harvest estimates (old and new MRIP) relative to recreational harvest limits, 1997-2019.

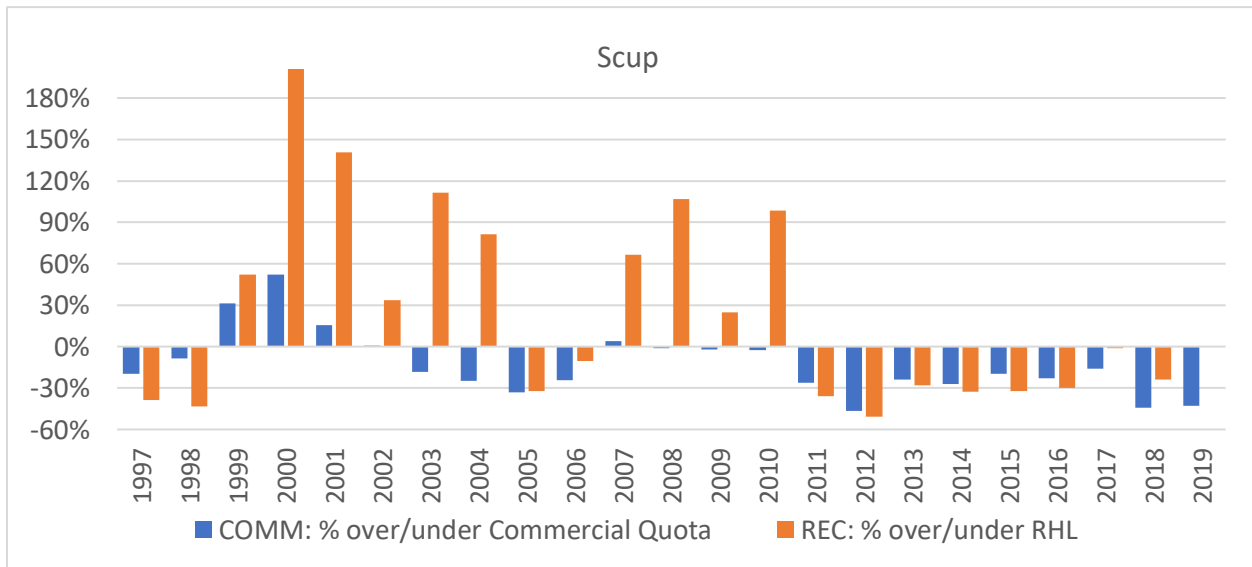


Figure 7: Scup percent over/under the recreational harvest limit and commercial quota in pounds, 1997-2019. Recreational evaluation is based on OLD MRIP data. Note that revised MRIP data cannot be fairly used in this evaluation given that limits were set using the prior estimates of recreational catch. Back-calibrated recreational estimates are not available for 2019. Note that the percent over the recreational harvest limit in 2000 was 330%.

Black Sea Bass

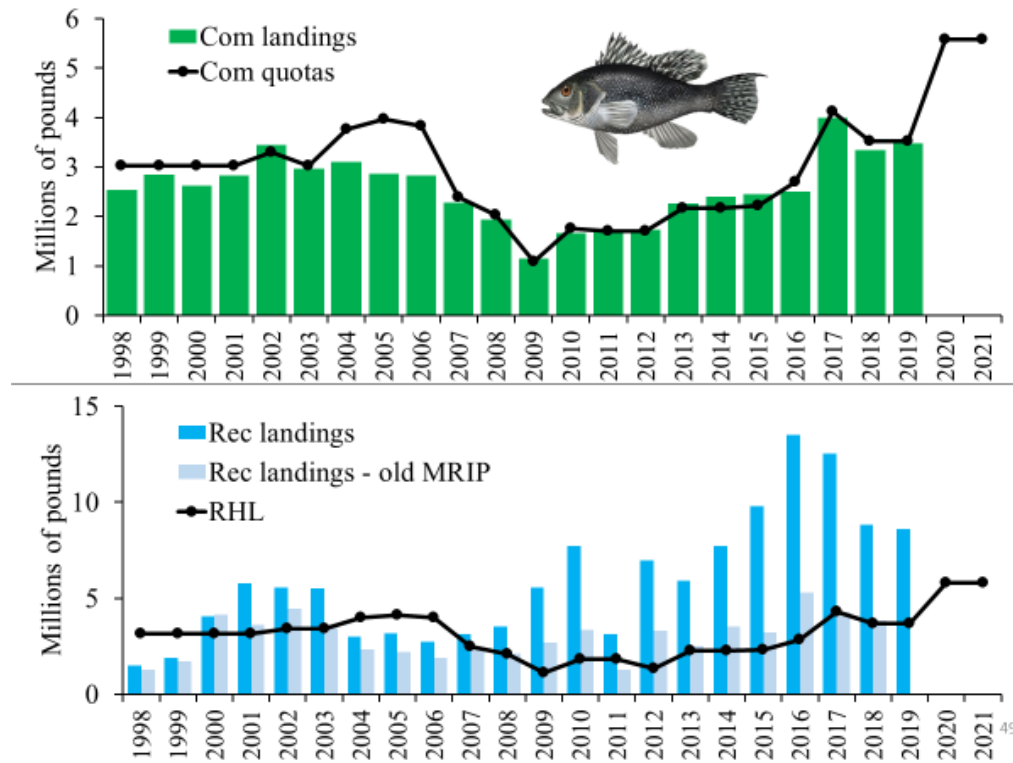


Figure 8: Black sea bass commercial landings relative to commercial quota, and recreational harvest estimates (old and new MRIP) relative to recreational harvest limits, 1998-2019.

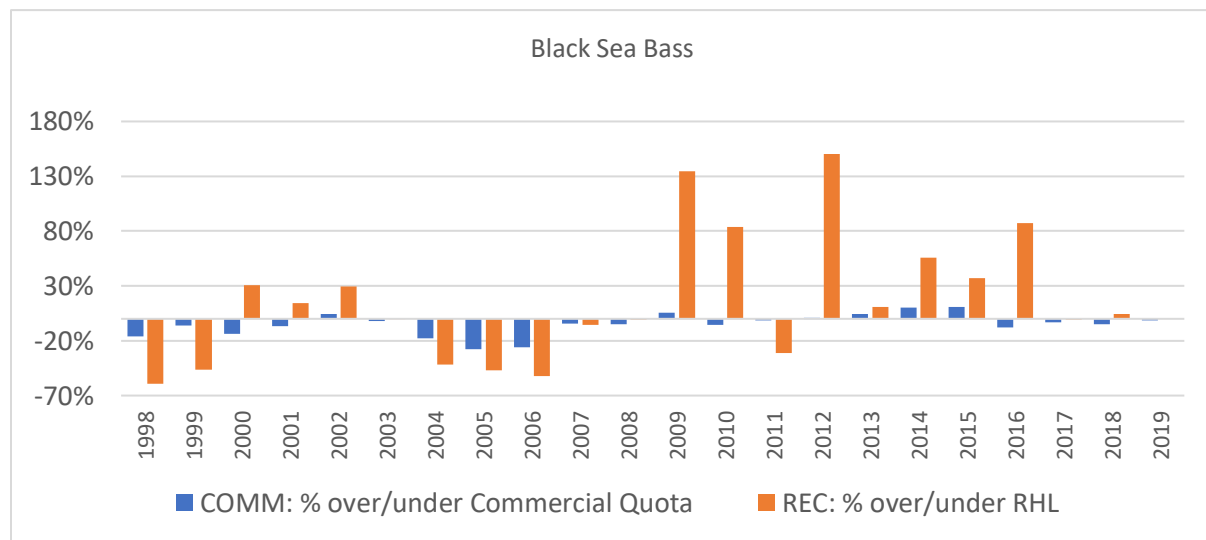


Figure 9: Black sea bass percent over/under the recreational harvest limit and commercial quota in pounds, 1998-2019. Recreational evaluation is based on OLD MRIP data. Note that revised MRIP data cannot be fairly used in this evaluation given that limits were set using the prior estimates of recreational catch. Back-calibrated recreational estimates are not available for 2019. Note that this figure was updated on 6/11/20 to correct a calculation error.

APPENDIX C: Biomass Trends by Species

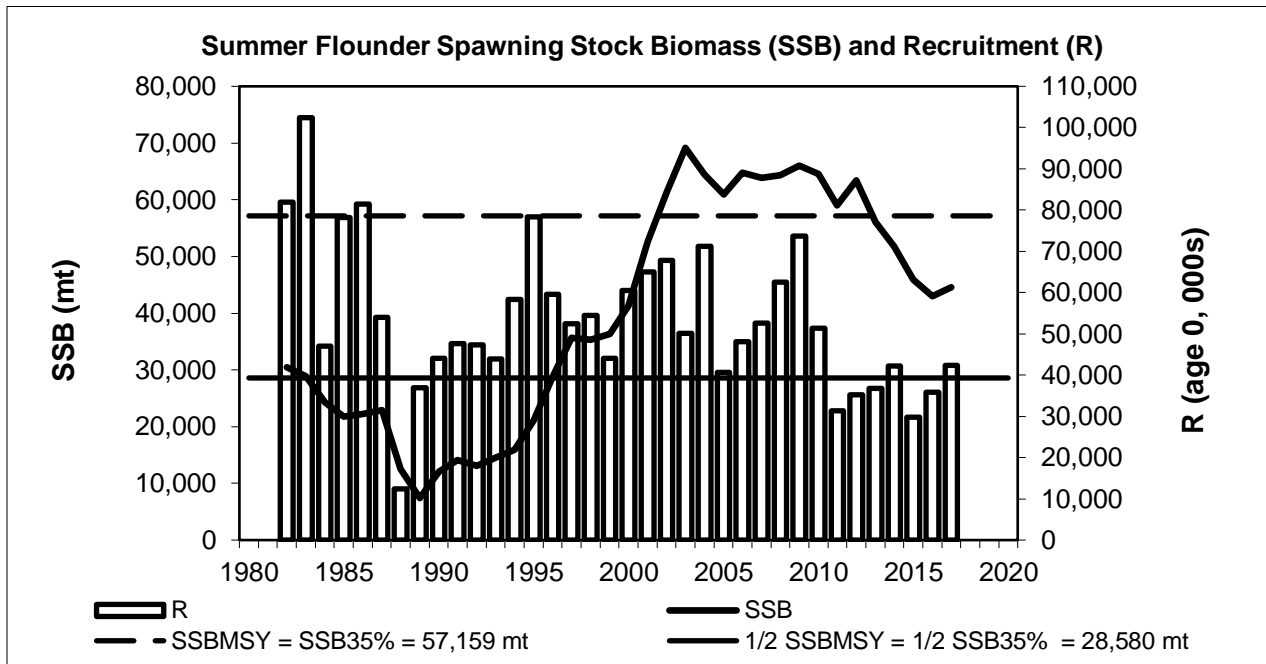


Figure 10: Summer flounder spawning stock biomass (SSB; solid line) and recruitment at age 0 (R; vertical bars) 1980-2017. The horizontal dashed line is the 2018 SAW66 target biomass reference point proxy, $SSB_{MSY} = SSB_{35\%} = 57,159$ mt. The horizontal solid line is the 2018 SAW66 threshold biomass reference point proxy $\frac{1}{2} SSB_{MSY} = \frac{1}{2} SSB_{35\%} = 28,580$ mt. Source: NEFSC 2019.

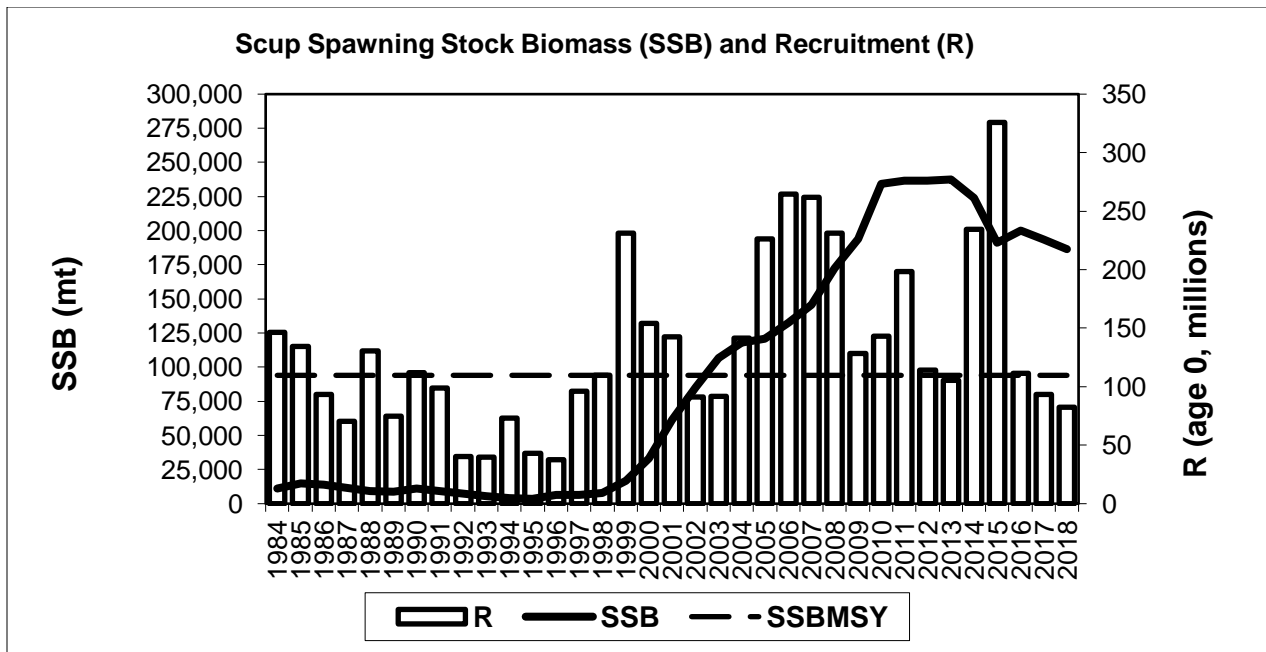


Figure 11: Scup SSB and recruitment at age 0, 1984-2018 from the 2019 operational stock assessment (NEFSC 2019).

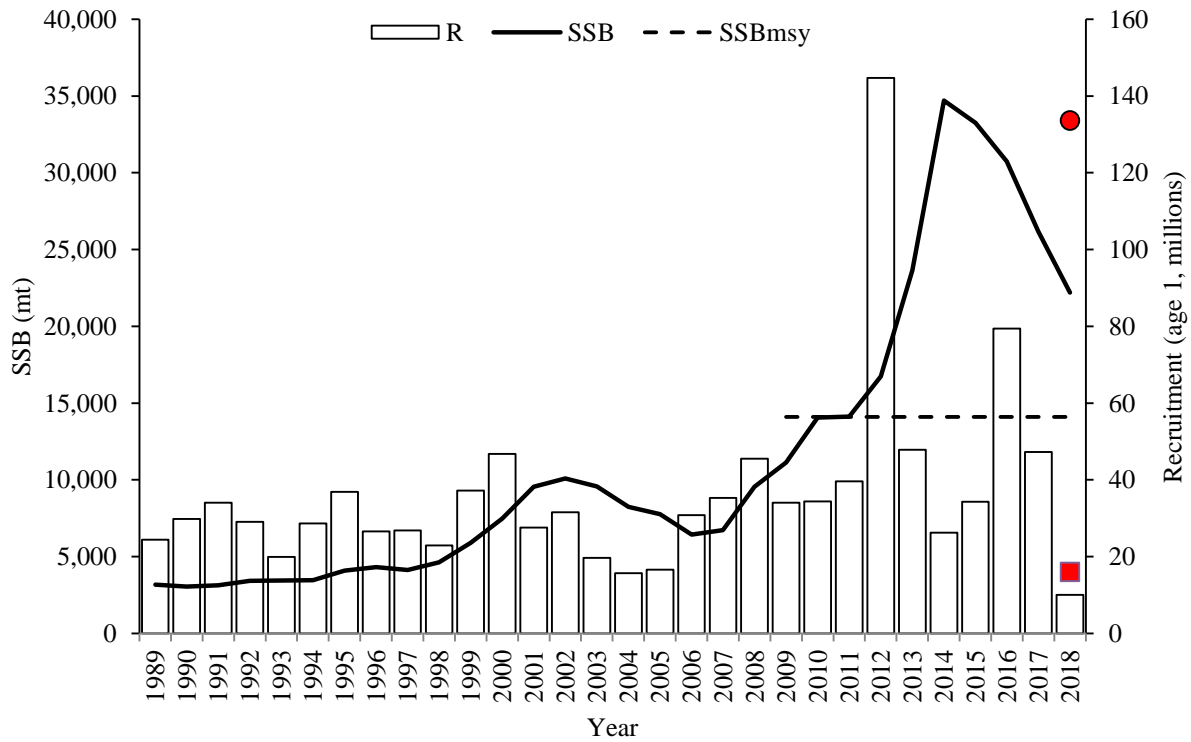


Figure 12: Black sea bass SSB and recruitment, 1989-2018 from the 2019 operational stock assessment. The horizontal dashed line is the updated biomass reference point. (Source: NEFSC 2019).

APPENDIX D: Allocation percentages recommended by FMAT for further consideration

Table 9: Catch-based allocation percentages for summer flounder recommended by the FMAT for further consideration.

Summer flounder: catch-based		
Com. allocation	Rec. allocation	Basis
N/A	N/A	No action (see section 1)
N/A	N/A	Same base years, new data (see section 2.1)
40%	60%	2014-2018 base years (see section 2.2)
43%	57%	2009-2018 base years (see section 2.2)
44%	56%	2004-2018 base years (see section 2.2)
43%	57%	Attempt to maintain close to status quo harvest in each sector (see section 3)
46%	54%	2018 base year (see section 3)
43%	57%	Average of all (see section 3)
43%	57%	Average of all but no action alternative (see section 3)

Table 10: Landings-based allocation percentages for summer flounder recommended by the FMAT for further consideration.

Summer flounder: landings-based		
Com. allocation	Rec. allocation	Basis
60%	40%	No action (see section 1)
55%	45%	Same base years, new data (see section 2.1)
41%	59%	2014-2018 base years (see section 2.2)
45%	55%	2009-2018 base years (see section 2.2)
45%	55%	2004-2018 base years (see section 2.2)
43%	57%	Attempt to maintain close to status quo harvest in each sector (see section 3)
45%	55%	2018 base year (see section 3)
48%	52%	Average of all (see section 3)
46%	54%	Average of all but no action alternative (see section 3)

Table 11: Catch-based allocation percentages for scup recommended by the FMAT for further consideration.

Scup: catch-based		
Com. allocation	Rec. allocation	Basis
78%	22%	No action (see section 1)
65%	35%	Same base years, new data (see section 2.1)
62%	38%	2014-2018 base years (see section 2.2)
61%	39%	2009-2018 base years (see section 2.2)
60%	40%	2004-2018 base years (see section 2.2)
59%	41%	Attempt to maintain close to status quo harvest in each sector (see section 3)
58%	42%	2018 base year (see section 3)
63%	37%	Average of all (see section 3)
61%	39%	Average of all but no action alternative (see section 3)

Table 12: Landings-based allocation percentages for scup recommended by the FMAT for further consideration.

Scup: landings-based		
Com. allocation	Rec. allocation	Basis
N/A	N/A	No action (see section 1)
57%	43%	Same base years, new data (see section 2.1)
57%	43%	2014-2018 base years (see section 2.2)
57%	43%	2009-2018 base years (see section 2.2)
56%	44%	2004-2018 base years (see section 2.2)
50%	50%	Attempt to maintain close to status quo harvest in each sector (see section 3)
50%	50%	2018 base year (see section 3)
55%	46%	Average of all (see section 3)
55%	46%	Average of all but no action alternative (see section 3)

Table 13: Catch-based allocation percentages for black sea bass recommended by the FMAT for further consideration.

Black sea bass: catch-based		
Com. allocation	Rec. allocation	Basis
N/A	N/A	No action (see section 1)
N/A	N/A	Same base years, new data (see section 2.1)
25%	75%	2014-2018 base years (see section 2.2)
24%	76%	2009-2018 base years (see section 2.2)
28%	72%	2004-2018 base years (see section 2.2)
32%	68%	Attempt to maintain close to status quo harvest in each sector (see section 3)
32%	68%	2018 base year (see section 3)
28%	72%	Average of all (see section 3)
28%	72%	Average of all but no action alternative (see section 3)

Table 14: Landings-based allocation percentages for black sea bass recommended by the FMAT for further consideration.

Black sea bass: landings-based		
Com. allocation	Rec. allocation	Basis
49%	51%	No action (see section 1)
45%	55%	Same base years, new data (see section 2.1)
22%	78%	2014-2018 base years (see section 2.2)
22%	78%	2009-2018 base years (see section 2.2)
27%	73%	2004-2018 base years (see section 2.2)
29%	71%	Attempt to maintain close to status quo harvest in each sector (see section 3)
30%	70%	2018 base year (see section 3)
32%	68%	Average of all (see section 3)
29%	71%	Average of all but no action alternative (see section 3)

APPENDIX E: Examples of Transfer Provisions in Other Fisheries

Bluefish

Under Amendment 1 to the Atlantic Bluefish FMP, the Board and the Council have the ability to recommend that quota be transferred from the recreational sector to the commercial sector. The need for a sector transfer is assessed annually through the specifications process. During specifications in August, an average of the last three years of recreational landings are used to project the next year's landings. These projected recreational landings are compared to the initial proposed recreational harvest limit for the upcoming fishing year. If, based on this comparison, the recreational fishery is not anticipated to land its limit, the Council and Board can recommend that a portion of the recreational harvest limit be transferred to the commercial fishery up to a maximum commercial quota of 10.50 million lbs (4,763 mt). This 10.50 million pound threshold is equal to the average commercial landings for the period 1990-1997. However, if the recreational sector is projected to achieve the RHL for that year, then no transfer is recommended.

Following the August meeting, NOAA Fisheries implements specifications in January for the new fishing year. Once preliminary prior year MRIP estimates are available in February, NOAA Fisheries compares the estimate of recreational landings for the previous year to the RHL to make any necessary adjustments before finalizing the amount of quota transferred. The adjustment notice with final specifications is usually published in March/April.

The recreational Accountability Measures (AMs) for bluefish were updated in Omnibus Amendment 3 to the Bluefish FMP. The AMs indicate that special consideration be given when a sector transfer contributes to a fishery-level ACL (which includes recreational and commercial catch) overage. ACL overages can potentially result from too much quota being transferred away from the recreational sector. Recreational landings may exceed projected catch in a given year and thus may exceed the transfer-adjusted-RHL. In these instances, the Bluefish Monitoring Committee can recommend that the amount transferred between the recreational and commercial sectors be reduced by the ACL overage amount in a subsequent fishing year.

Yellowtail Flounder and Scallops

The New England Fishery Management Council uses a transfer mechanism in the management of groundfish that allows transfer of unused quota for Georges Bank (GB) and Southern New England (SNE)/Mid-Atlantic yellowtail flounder from the Atlantic scallop fishery back to the Northeast multispecies fishery. Each year by January 15th, GARFO estimates the total amount of yellowtail flounder catch in the scallop fishery (for both the GB and SNE/Mid yellowtail stocks). GARFO also produces a projection (a range low-high estimates) of how much the scallop fishery will catch through the end of its fishing year (March 31). If GARFO determines that the scallop fishery is expected to catch less than 90 percent of its sub-ACL for each yellowtail stock, they can reduce the scallop fishery's sub-ACL by to the amount projected to be caught using the high-end estimate of catch. GARFO then increases the groundfish fishery's sub-ACL by the amount taken away from the scallop fishery. Part of the reason this works is that the fishing years are staggered; the scallop fishing year ends before the groundfish fishing year ends, so there is more time for the groundfish fishery to use the quota, and less time for which a projection is needed. Yellowtail bycatch is also

fairly well estimated, and with the rotational access program GARFO also has a good idea of when the scallop fishery is more likely to have high bycatch events. The most recent transfer action (April 2020) is described at: <https://www.federalregister.gov/d/2020-06460>.



**Action Plan for Commercial/Recreational Allocation Amendment to the Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan
Draft as of 4/24/2020**

<http://www.mafmc.org/actions/sfsbsb-allocation-amendment>

Amendment Goal: The purpose of this amendment is to review and consider revisions to the commercial/recreational sector allocations for the summer flounder, scup, and black sea bass fisheries. This action aims to address the allocation-related impacts of the revised data on catch and landings for the recreational and commercial sectors. This is a joint amendment of the Mid-Atlantic Fishery Management Council and Atlantic States Marine Fisheries Commission.

Type of NEPA Analysis Expected: To be determined - Environmental Assessment (EA) or Environmental Impact Statement (EIS), depending on scope of action and alternatives considered.

Additional Expertise Sought: The Fisheries Management Action Team (FMAT) for this action will be composed of Council and Commission staff and management partners from the Greater Atlantic Regional Fisheries Office and Northeast Fisheries Science Center, with input from other organizations as appropriate.

Agency	FMAT Role	Person(s)
MAFMC	Council staff (summer flounder)	Kiley Dancy
MAFMC	Council staff (scup)	Karson Coutré
MAFMC	Council staff (black sea bass)	Julia Beaty
ASMFC	Commission staff (summer flounder and scup)	Dustin Colson Leaning
ASMFC	Commission staff (black sea bass)	Caitlin Starks
NMFS GARFO	Sustainable fisheries	Emily Keiley
NMFS GARFO	NEPA	Marianne Ferguson
NMFS NEFSC	Socioeconomics	Greg Ardini
NMFS NEFSC	Stock assessment/population dynamics (consult as needed)	Gary Shepherd
NMFS NEFSC	Stock assessment/population dynamics (consult as needed)	Mark Terceiro
NMFS GARFO	General counsel (consult as needed)	John Almeida

Types of Measures Expected to be Considered: The Council and Board will review and consider revisions to the commercial/recreational sector allocations for summer flounder, scup, and black sea bass. Specific possible reallocation approaches have not yet been identified. Following the scoping process, the Council and Board will confirm the issues to be addressed and the scope of the amendment. The FMAT is expected to develop a range of management options specific to commercial/recreational allocation for the Council and Board to consider, potentially including, but not limited to the following approaches:

- No action/*status quo*;
- Updating the current allocation percentages using the existing base years but with revised MRIP data;
- Using alternative base years to derive new allocation percentages;
- Using different allocation approaches which do not rely on base years;
- Considering whether each allocation should be catch based or landings based;
- Using socioeconomic data or evaluations to consider modifying the allocations based on optimization of economic efficiency and socioeconomic benefits from each fishery;
- Considering separate allocations to modes within the recreational fishery (for-hire vs. private/shore fisheries);
- Considering whether a transfer of allocation from one sector to another should be allowed through specifications or a framework action;
- Considering whether allocations should be made in pounds and/or numbers of fish;
- Considering whether future allocation changes could be made through a framework/addendum rather than an amendment;
- Considering whether allocations should be static or dynamic, including possible approaches that evaluate these allocations on a more frequent basis;
- Other approaches to be determined.

Applicable laws/issues:

Magnuson-Stevens Act	Yes
National Environmental Policy Act	Yes
Administrative Procedures Act	Yes
Regulatory Flexibility Act	Yes
Paperwork Reduction Act	Possibly; depends on data collection needs
Coastal Zone Management Act	Possibly; depends on effects of the action on the resources of the coastal states in the management unit
Endangered Species Act	Possibly; level of consultation, if necessary, depends on the actions taken
Marine Mammal Protection Act	Possibly; depends on actions taken
E.O. 12866 (Regulatory Planning and Review)	Yes
E.O. 12630 (Takings)	Possibly; legal review will confirm
E.O. 13123 (Federalism)	Possibly; legal review will confirm
Essential Fish Habitat	Possibly
Information Quality Act	Yes

Expected Amendment Timeline (as of April 2020; assuming EA; subject to change):

October 2019	Amendment initiated
Early 2020	FMAT formed
December 2019	Council and Board approve a scoping document for public comment
February-March 2020	Scoping hearings and comment period
April 2020	APs review scoping comments and provide input to Council and Board
April 2020	FMAT reviews scoping comments and provides recommendations to Council and Board on scope of action and possible approaches
May 2020	Council and Board review scoping comments and FMAT and AP recommendations; define scope of action
May 2020	FMAT begins to develop draft alternatives
June 2020	Summer Flounder, Scup, Black Sea Bass Committee of the Whole and Board meeting to refine draft alternatives
June-July 2020	Continued FMAT development and analysis of alternatives; Advisory Panel input on draft alternatives
August 2020	Council and Board approve a range of alternatives for inclusion in a public hearing document
Fall 2020	Development of public hearing document and hearing schedule
December 2020	Council and Board approve public hearing document
Early 2021	Public hearings
Spring 2021	Final action
Summer 2021	EA finalized and submitted; NMFS and other agencies review; final edits completed
Summer/Fall 2021	Rulemaking and comment periods (4-7 months from after EA finalized)
Late 2021	Final rule effective



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Michael P. Luisi, Chairman | G. Warren Elliott, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

Date: June 5, 2020
To: Chris Moore, Executive Director
From: Julia Beaty, staff
Subject: Recreational Reform Initiative

During their June 2020 joint meeting, the Mid-Atlantic Fishery Management Council (Council) and the Atlantic States Marine Fisheries Commission’s Summer Flounder, Scup, and Black Sea Bass Management Board (Board) will discuss next steps for the Recreational Reform Initiative.

Council staff recommend initiation of a joint framework and addendum to address priority recreational reform topics.

The following documents are included behind this tab for Council and Board consideration:

- Draft outline of the Recreational Reform Initiative developed by the Recreational Reform Steering Committee
- Summary of May 28, 2020 Monitoring Committee discussion of the Recreational Reform Initiative
- Additional public comments in response to May 28, 2020 Monitoring Committee meeting

Recreational Management Reform

Joint initiative of the Mid-Atlantic Fishery Management Council (MAFMC), Atlantic States Marine Fisheries Commission (ASMFC), and the NOAA Fisheries Greater Atlantic Regional Fisheries Office (GARFO) addressing recreational management of black sea bass, summer flounder, scup, and bluefish

Draft initiative outline developed by the Recreational Management Reform Steering Committee
This document is intended for discussion purposes by the Monitoring and Technical Committees.
It has not been approved by the MAFMC and ASMFC for other purposes.

4/27/2020

Goal/Vision

- **Stability** in recreational management measures (bag/size/season)
- **Flexibility** in the management process
- **Accessibility** aligned with availability/stock status*

* This component of the goal/vision is meant to address the perception from some stakeholders that management measures are not aligned with stock status (e.g., restrictive black sea bass measures when spawning stock biomass is more than double the target level). The intent is not to circumvent the requirement to constrain recreational catch to the annual catch limit, nor is the intent to change the current method for deriving catch and landings limits as defined in the fishery management plans (FMPs).

Objective 1: Better incorporate uncertainty in the MRIP data into the management process

- This is not a standalone objective. Everything listed below could be used in conjunction with all other objectives.
- Adopt a process for **identifying and smoothing outlier estimates**, to be applied to both high and low outlier estimates as appropriate. Develop a standard, repeatable process to be used each year. The Monitoring and Technical Committees would maintain the discretion to deviate from this process if they provide justification for doing so. The process currently used by the Monitoring and Technical Committees is not codified in the FMPs; therefore, it is not anticipated that a change to this method would require an FMP framework/addendum or amendment. However, it would be beneficial to include an approved process in a technical statement of organization, practices, and procedures (SOPPs) document for the development of recreational measures.
 - *Status*: Starting in 2018, the Summer Flounder, Scup, Black Sea Bass Technical Committee recommended using the Modified Thompson's Tau approach to identify outlier MRIP estimates. They used two different approaches to smooth two black sea bass outlier estimates (i.e., New York 2016 wave 6 for all modes and New Jersey 2017 wave 3 private/rental mode only). They agreed that the appropriate smoothing method may vary on a case by case basis.
 - *Potential next steps*: Establish a process to be used for all four species to identify and smooth outlier MRIP estimates, as appropriate. The process described above

for black sea bass could be used for this purpose. Discuss whether smoothed estimates should be used in other parts of the process, in addition to determining if changes to recreational management measures are needed (e.g., ACL evaluation and discards, should low estimates also be smoothed). Guidelines for how these smoothed estimates will be used should also be established. Monitoring/Technical Committee input would be beneficial.

- *Suggested immediate next step*: Task the Monitoring/Technical Committees with developing a draft process for identifying and smoothing outlier MRIP estimates for all four species.
- Use an **envelope of uncertainty approach** when determining if changes in recreational management measures are needed. Under this approach, a certain range above and below the projected harvest estimate (e.g., based on percent standard error) would be defined to be compared against the upcoming year's RHL. If the RHL falls within the pre-defined range above and below the projected harvest estimate, then no changes would be made to management measures. The intent is to develop a standard, repeatable, and transparent process to be used each year. The Monitoring and Technical Committees would maintain the discretion to deviate from this process if they saw sufficient justification to do so. The process currently used by the Monitoring and Technical Committees to determine if changes are needed to recreational management measures is not codified in the FMPs; therefore, a change to this method may not require an FMP framework/addendum or amendment. However, it would be beneficial to include an approved process in a technical SOPPs document for the development of recreational measures.
- *Status*: The 2013 Omnibus Recreational Accountability Measures Amendment considered a similar approach using confidence intervals around catch estimates to determine if the recreational ACL had been exceeded; however, that amendment proposed using only the lower bound of the confidence interval, rather than the upper and lower bounds. For this reason, that portion of the amendment was disapproved by NOAA Fisheries. In some recent years, the Monitoring and Technical Committees have made arguments for maintaining *status quo* measures for black sea bass and summer flounder based on percent standard error (PSE) values associated with MRIP estimates.
 - *Potential next steps*: Work with the Monitoring/Technical Committee to define the most appropriate confidence interval around the projected harvest estimate for comparison against the upcoming year's RHL (e.g., +/- 1 PSE). Technical analysis (e.g., simulations) may also be needed to evaluate the impacts of maintaining *status quo* recreational management measures when small to moderate restrictions or liberalizations would otherwise be required or allowed.
 - *Suggested immediate next step*: Task the Monitoring/Technical Committee with developing recommendations for this approach.
- **Evaluate the pros and cons of using preliminary current year data** combined with data from a single previous year, or multiple previous years, to project harvest for comparison against the upcoming year's RHL. The FMPs do not currently prescribe which data should be used to develop recreational management measures, beyond requiring use of the best scientific information available. If the Council and Board wish to provide guidance to the Monitoring and Technical Committees on which data to use, or if they wish to place restrictions on the use of certain types of data (e.g., preliminary

current year data), then a technical SOPPS document or an FMP framework/addendum or amendment may be necessary

- *Status:* Each year MAFMC staff develop initial projections of recreational harvest of summer flounder, scup, and black sea bass in the current year to compare against the upcoming year's RHL. These projections combine preliminary current year harvest estimates through wave 4 with the proportion of harvest by wave in one or more past years. The Monitoring Committee provides recommendations on the appropriate methodology in any given year and the data used (e.g., one or multiple previous years) varies on a case by case basis. A different process is used for bluefish. Historically, expected bluefish recreational harvest has been evaluated when considering a recreational to commercial transfer. Expected bluefish harvest was typically based on the previous year or a multiple year average and did not account for preliminary current year data. These different methodologies were developed based on Monitoring Committee guidance and are not prescribed in the FMP. The Recreational Reform Steering Committee has suggested that consideration should be given to the appropriateness of using preliminary current year data and data from one or multiple previous years. No progress has been made on this topic beyond preliminary discussions at the steering committee level.
- *Potential next steps:* Evaluate the various methodologies that have been used to project recreational harvest of the four species in the past and how this intersects with other changes under consideration (e.g., setting measures for two years at a time, objective 3). Discuss if changes should be considered and if analysis is needed.
- *Suggested immediate next step:* Seek Monitoring/Technical Committee input on whether changes to the current process for calculating expected recreational harvest are needed.

Objective 2: Develop guidelines for maintaining *status quo* measures

- This is not a standalone objective. It could be used in conjunction with objectives 1, 3 (with the exception of the interim year, as described under objective 3), and 5.
- Develop a process for considering both recreational harvest data (all considerations under objective 1 could apply) and multiple stock status metrics (biomass, fishing mortality, recruitment) when deciding if measures should remain unchanged. For example, poor or declining stock status indicators could require changes when *status quo* would otherwise be preferred. Depending on the specific changes under consideration, an FMP framework/addendum or amendment may be necessary, or a technical SOPPS document could be developed.
 - *Status:* The steering committee drafted a preliminary example which was discussed at the [October 2019 joint Council/Board meeting](#).
 - *Potential next steps:* Recommend draft guidelines for maintaining *status quo* measures and consider which, if any, types of technical analysis are needed to consider the potential impacts. Consider if socioeconomic factors (e.g., trends in fishing effort) should also be included in these guidelines.
 - *Suggested immediate next step:* Seek Monitoring/Technical Committee input on the initial draft guidelines developed by the steering committee.

Objective 3: Develop process for setting multi-year recreational management measures

- This is not a standalone objective. It could be used in conjunction with objectives 1, 2, and 5.
- Develop a process for setting recreational management measures for two years at a time with a commitment to making no changes in the interim year. This would include not reacting to new data that would otherwise allow for liberalizations or require restrictions. Objective 2 (control rules for maintaining *status quo* measures) would not apply in the interim year. Everything under objective 1 (incorporate uncertainty in the MRIP data) could also apply here. An FMP framework/addendum may be needed to make this change. For example, changes to the current accountability measure regulations may be needed. Additional discussions with GARFO are needed regarding Magnuson-Stevens Act requirements.
 - *Status:* The steering committee drafted a preliminary example process which was discussed at the [October 2019 joint Council/Board meeting](#). Previous steering committee discussions indicated that this is a high priority topic and it is central to the draft mission statement previously proposed by the steering committee (i.e., allow for more regulatory stability and flexibility in the recreational management programs for summer flounder, scup, black sea bass, and bluefish by revising the current annual timeframe for evaluating fishery performance and setting recreational specifications to a new multi-year process.)
 - *Potential next steps:* Consider if changes are needed to the draft timeline included in the [October 2019 joint meeting briefing materials](#). Further evaluate how the Magnuson-Stevens Act requirement for annual evaluation of annual catch limit overages and accountability would factor into this approach.
 - *Suggested immediate next step:* Work with GARFO to determine if there are major impediments to this potential change based on Magnuson-Stevens Act requirements.

Objective 4: Consider improvements to the process used to make changes to state and federal recreational management measures

- This is not a standalone objective. It could be used in conjunction with objectives 1, 3 (with the exception of the interim year, as described under objective 3), and 5.
- The steering committee has discussed various considerations related to maintaining *status quo* management measures; however, they have not discussed the process that should be used when changes are needed. In recent years, federal waters measures have been adjusted at the coastwide level and state waters measures have been adjusted at the state/region and wave level. Improvements to various aspects of the current process for changing measures may warrant consideration. Topics which could be addressed could include state by state versus regional management measures, the federal conservation equivalency process, guidelines for using MRIP data at coastwide/regional/state/wave/mode levels, using data sources other than MRIP, and other topics. Depending on the specific changes desired, this may require an FMP framework/addendum or amendment.
 - *Status:* Not currently identified as a priority by the steering committee.

- *Suggested immediate next step*: Clarify if this is a priority for the Council and Board and which specific topics should be addressed.

Objective 5: Consider making recommendations for federal waters recreational management measures earlier in the year

- This is not a standalone objective. Everything listed below could be used in conjunction with all other objectives.
- The steering committee has discussed the idea of recommending federal waters recreational management measures in August or October rather than December of each year (or every other year, see objective 3). The current process of recommending federal waters measures for the upcoming year in December can pose challenges for implementing needed changes in both federal and state waters in a timely and coordinated manner. It also limits how far in advance for-hire businesses can plan their trips for the upcoming year. In recent years, changes to the federal recreational measures for summer flounder, scup, and/or black sea bass have not been implemented until May-July of the year in which the changes are needed. Adopting recommendations for federal waters measures in August or October could allow for changes to be implemented earlier in the year; however, fewer data on current year fishery performance would be available for consideration. If there is a significant change in the process to establish measures, an FMP framework/addendum or amendment may be necessary.
 - *Status*: Has been identified by steering committee as a potential priority, but the pros and cons have not yet been given thorough consideration.
 - *Potential next steps*: Evaluate the pros and cons of this change and how it would intersect with other changes under consideration (e.g., setting measures for two years at a time, objective 3). Discuss if analysis is needed. Monitoring/Technical Committee input could be beneficial, especially regarding implications related to the timing of data availability.
 - *Suggested immediate next step*: Seek Monitoring/Technical Committee input on the pros and cons of recommending federal waters recreational management measures for the following year in August, October, or December of the current year.

Steering Committee membership (in alphabetical order):

Julia Beaty (MAFMC staff)
 Joe Cimino (MAFMC Summer Flounder, Scup, Black Sea Bass Committee Vice Chair)
 Justin Davis (ASMFC Summer Flounder, Scup, Black Sea Bass Management Board Vice Chair)
 Tony DiLernia (MAFMC Summer Flounder, Scup, Black Sea Bass Committee Chair)
 Emily Keiley (GARFO staff)
 Toni Kerns (ASMFC staff)
 Mike Luisi (MAFMC chair)
 Adam Nowalsky (ASMFC Summer Flounder, Scup, Black Sea Bass Management Board Chair)
 Mike Ruccio (GARFO staff)
 Caitlin Starks (ASMFC staff)



**Summer Flounder, Scup, and Black Sea Bass Monitoring Committee
Webinar Meeting
May 28, 2020
Partial Meeting Summary (Recreational Reform Initiative Only)**

Monitoring Committee Attendees: Julia Beaty (MAFMC staff), Peter Clarke (NJ DEP), Dustin Colson Leaning (ASMFC staff), Karson Coutré (MAFMC staff), Kiley Dancy (MAFMC staff), Steve Doctor (MD DNR), Emily Keiley (GARFO), Alexa Kretsch (VMRC), John Maniscalco (NY DEC), Lee Paramore (NC DMF), Caitlin Starks (ASFMC staff), Rachel Sysak (NY DEC), Mark Terceiro (NEFSC), Corinne Truesdale (RI DEM), Sam Truesdell (MA DMF), Greg Wojcik (CT DEP), Rich Wong (DNREC), Tony Wood (NEFSC)

Additional Attendees: Annie, Steve Cannizzo (NY RFFA), Mike Celestino (NJ DEP, Bluefish MC), Nicole Lengyel Costa (RI DEM, Bluefish MC), Maureen Davidson (NY DEC, Council/Board member), Greg DiDomenico (Lund's Fisheries), Tony DiLernia (Council member), Cynthia Ferrio (GARFO, Bluefish MC), James Fletcher (United National Fishermen's Association), Jeff Kaelin (Lund's Fisheries), Joseph Munyandorero (FL FWC, Bluefish MC), Adam Nowalsky (Council/Board member), Eric Reid (Council member), SRW, Mike Waine (ASA), Kate Wilke (Council member), Amy Zimney (SC DNR, Bluefish MC)

Meeting Summary

The Summer Flounder, Scup, and Black Sea Bass Monitoring Committee met via webinar on Thursday May 28, 2020 to discuss several topics. The Bluefish Monitoring Committee was invited to participate in the discussion of the Recreational Reform Initiative as this initiative also addresses bluefish.

Briefing materials considered by the Monitoring Committee are available at:
<https://www.mafmc.org/council-events/2020/sfsbsb-mc-may28>.

Note: This document summarizes only the Monitoring Committee's discussion of the Recreational Reform Initiative. A more complete summary addressing all topics discussed by the Monitoring Committee will be compiled at a later date.

Recreational Reform Initiative

Council staff summarized a draft outline of the Recreational Reform Initiative developed by the Recreational Reform Steering Committee. The Monitoring Committee was generally supportive of continued development of all approaches in the Steering Committee outline. Comments on each objective in the outline are summarized below.

Objective 1: Better incorporate uncertainty in the MRIP data into the management process

Objective 1 in the Steering Committee outline contains three specific suggestions for better considering uncertainty in the MRIP data. The first suggestion is to adopt a standardized process for identifying and smoothing outlier MRIP estimates to be applied to both high and low outliers. The Monitoring Committee agreed that it would be very beneficial to adopt such a process.

The group agreed that outliers could be identified using the Modified Thompson Tau approach used in the past for some black sea bass outliers, or other methods. One Monitoring Committee member said there are multiple potentially appropriate methods for identifying outliers and consideration should be given to which methods are most appropriate for different circumstances. For example, a multi-faceted approach could be considered. Another Monitoring Committee member said consideration should be given to the appropriate level at which the estimates are examined for outliers, for example, at the state/wave/mode/year level or the coastwide annual level.

MRIP estimates are used in many parts of the management process, including in the stock assessment, development of annual catch and landings limits, comparison of catch to the annual catch limit (ACL) to determine if accountability measures are triggered, and development of recreational management measures. To date, smoothed outliers have only been used in a few instances to develop recreational management measures for black sea bass. They have not been used for other purposes for summer flounder, scup, and black sea bass. For example, the smoothed black sea bass estimates for 2016 and 2017 were not used in the 2019 operational stock assessment due to concerns about the appropriateness of smoothing only two high estimates in recent years without examining the entire time series for both high and low outliers. Several Monitoring Committee members noted that this creates a potentially problematic disconnect with other parts of the management process. The group agreed that adoption of a standardized method for identifying and smoothing both high and low outliers would increase the likelihood of being able to use smoothed estimates in all parts of the management process. The group agreed that it would be very important to identify and smooth both high and low outliers and to have a standardized process.

One Monitoring Committee member noted that even if smoothed estimates are used in management, no change would be made to the official MRIP estimates. The group agreed that it could be beneficial to have MRIP staff provide feedback on the process to identify and smooth outliers to help increase buy-in for using smoothed estimates in multiple parts of the management process. The intent would not be to have MRIP staff approve the smoothed estimates, but rather to provide feedback on the appropriateness of any methods developed.

The second specific suggestion under objective 1 is to use an “envelope of uncertainty” approach to determine if changes to recreational management measures are needed. Under this approach, a certain range above and below the projected harvest estimate (e.g., based on percent standard error) would be defined for comparison against the upcoming year’s recreational harvest limit (RHL). If the RHL falls within the pre-defined range above and below the projected harvest estimate, then no changes would be made to management measures. The Monitoring Committee agreed that this is worth pursuing and that further discussion is needed on defining the appropriate envelope. One Monitoring Committee member noted that the group has struggled to define similar metrics in the past and asked if the Council and Board would determine how to define the envelope or if it would be a Monitoring Committee decision. One Monitoring

Committee member said that, given their technical expertise, it may be more appropriate for the Monitoring Committee to recommend the appropriate envelope, rather than the Council and Board.

The third specific suggestion under objective 1 is to consider the appropriateness of using preliminary current year MRIP data in the management process. The Monitoring Committee agreed that this may warrant further consideration. One member noted that MRIP has changed the timing of when they incorporate for-hire data into their estimates. In the past, preliminary estimates were sometimes released without the incorporation of for-hire vessel trip report (VTR) data. VTR data were incorporated into the final estimates. Under the current process, VTRs are incorporated into the preliminary estimates, so the differences between the preliminary and final estimates may not be as great as they were in the past. He recommended an evaluation of the scale of the change from preliminary to final estimates under the current MRIP estimation methodology. He also noted that final data may be appropriate for longer-term decisions including development of management measures that are intended to be in place for multiple years. However, he cautioned that if only final data are used for annual adjustments to measures, there will be a greater disconnect between the data used and current operating conditions than if preliminary current year data were also considered. A few Monitoring Committee members agreed that there are certain situations in which it is beneficial to use preliminary current year data, including making annual adjustments to measures and considering how variation in harvest might be influenced by factors such as year class strength.

One Steering Committee member said the Steering Committee's intent for all three suggestions under objective 1 was not to ask the Monitoring Committee to second-guess and revise the MRIP estimates, but rather to think about the impact outliers can have on recreational management. For example, outlier estimates can lead to significant changes in management measures from year to year which may not be reflective of a true conservation need.

Objective 2: Develop guidelines for maintaining status quo measures

The second objective in the Steering Committee outline is to develop a process for considering both recreational harvest data (all considerations under objective 1 could apply) and multiple stock status metrics (biomass, fishing mortality, recruitment) when deciding if measures should remain unchanged. The Monitoring Committee was generally supportive of this approach.

One Monitoring Committee member said it would be helpful to give greater consideration to how expected catch (i.e., landings and dead discards) compares to the ACL, rather than focusing on the RHL as the primary management target when setting management measures for the following year. She questioned whether the Fishery Management Plan would need to be modified to provide more flexibility in this regard.

Another Monitoring Committee member said the group tends to be most comfortable with estimates of expected landings and dead discards when they are based on assessment data. He thought it could be helpful to give stock status metrics from the assessments greater consideration in the process of determining how to change management measures. For example, he feels more confident in the need for more restrictive measures in response to a stock assessment rather than in response to recreational harvest estimates alone, which can be quite variable.

Objective 3: Develop process for setting multi-year recreational management measures

The third objective in the Steering Committee outline is to develop a process for setting recreational management measures for two years at a time with a commitment to making no changes in the interim year. This would include not reacting to new data that would otherwise allow for liberalizations or require restrictions. The Monitoring Committee was very supportive of this approach.

The Monitoring Committee agreed that this approach could lead to compounding overages or underages of catch and harvest limits. However, this could represent just as much of a conservation benefit as a conservation risk.

Multiple Monitoring Committee members said maintaining the same measures for at least two years can allow for better evaluation of the effectiveness of the measures at constraining harvest. The group discussed how harvest can fluctuate widely under constant management measures. Having more years of constant measures would allow for a better understanding of the variations in harvest.

One member clarified that the proposal was for two years and not a longer time period because it is anticipated that updated stock assessment information will be available every two years. This would allow management to react to updated stock assessment information.

One Monitoring Committee member said this approach could pull together many aspects of the other approaches in the Steering Committee outline and it could be a good way to move forward with the goal of stability in management measures. For example, it could allow for use of final MRIP estimates (see objective 1), would allow for consideration of the timing of the management measures recommendation (see objective 5), would allow for changes to be considered in response to updated stock assessment information, and would allow for year-to-year stability in recreational management measures.

Another Monitoring Committee member said this approach would work best if the RHL is the same across the two years.

The group discussed how state conservation equivalency could work under this approach. There was a general consensus that the approach would work best with a strong commitment to no changes at the federal or state level during the two years, including no changes made through conservation equivalency.

One Monitoring Committee member noted that it could be difficult to explain to stakeholders why they may have to forego potential liberalizations in the interim year under this approach. She recommended that this approach be evaluated from a socioeconomic perspective. Another Monitoring Committee member recommended consideration of the benefits of this approach in terms of compliance with and enforcement of the management measures.

Objective 4: Consider improvements to the process used to make changes to state and federal recreational management measures

The fourth objective in the Steering Committee outline relates to improvements to the process used to make changes to state and federal waters recreational management measures. The Steering Committee has not discussed this objective in great detail.

A few Monitoring Committee members said it would be beneficial to have guidelines on how to best use MRIP data at the state/mode/wave levels. The group agreed that additional analysis is

needed to better understand the limitations of the MRIP data for any given species before recommendations can be made for how to best use the MRIP data. For example, one Monitoring Committee member said it may be challenging to develop robust guidelines that could be applied uniformly across all states as MRIP sampling is not consistent across states and states with more frequent intercepts of the species in question may be put at an advantage. Other Monitoring Committee members agreed.

One bluefish Monitoring Committee member said regional measures, especially for shared water bodies, are worth considering and can help address concerns about using MRIP data at too fine of a scale.

Objective 5: Consider making recommendations for federal waters recreational management measures earlier in the year

The Steering Committee has discussed the idea of recommending federal waters recreational management measures in August or October rather than December of each year. The Monitoring Committee supported further consideration of this approach. Many members noted that it has been challenging for states to develop measures and for the Technical Committee to review proposals under the tight deadlines that are needed under the current process. Moving some of the decision making to earlier in the year could allow more time for robust review of proposals. However, the group also noted that earlier decision making would not allow for consideration of preliminary current year data when developing recreational management measures for the following year. This may be acceptable when measures are intended to be in place for multiple years (e.g., see objective 3).

General comments on the Recreational Reform outline

The group noted that the Council and Board may wish to include additional topics in the Recreational Reform Initiative after discussing the ongoing commercial/recreational allocation amendment during their next meeting.

Several Monitoring Committee members supported consideration of an additional approach that would more explicitly tie changes in management measures to the stock assessment, for example by considering changes only when new stock assessment information is available. This may be feasible under the anticipated every other year timeline for stock assessment updates in the future.

One member of the public asked how the Recreational Reform Initiative complies with the recent executive order to produce seafood. One Steering Committee member emphasized that the initiative relates to recreational fishing only and not commercial fishing. Another Steering Committee member said the initiative would help ensure a supply of seafood by maintaining harvest at sustainable levels.

Summer flounder Scup Black Sea Bass Comments
from James Fletcher
123 Apple Rd
Manns Harbor NC 27953

Dear Sir,

Is the council bound by Magnuson & Presidential Executive Order?
Review, Monitoring Committee comments; a committee member of federal employee; implied
this legislation / rules {DO NOT APPLY TO FISHERY MANAGEMENT}

Use of smart phone technology for data was not discussed.
QUESTION FOR COUNCIL TO ANSWER TO ME IN WRITTEN FORM.***

IS THE LACK OF SMART PHONE REPORTING BE REQUIRED. THAT***

1. THE SCIENCE CENTER & STATE EMPLOYEES, MODLERS ETC. DO NOT WANT TO
BE SHOWN HOW INCORRECT PAST SCIENCE HAS BEEN?

Fishermen have repeatedly stated the science is incorrect! YET GROUP THINK
CONTINUES FORWARD!

2. What needs to be accomplished to dramatically increase the production of fish for food?
Council & Atlantic States Marine Fisheries Commission by legislation has the ability to use
stock enhancement COMMITTEES REFUSE TO DISCUSS!

My comments sent to monitoring following received little comment. My web comments
received no discussion.

From: James Fletcher <bamboosavefish@gmail.com>

Sent: Thursday, May 21, 2020 10:46 AM

To: Beaty, Julia <jbeaty@mafmc.org>

Subject: Black Sea Bass SF Scup Mentoring Committee

COMMITTEE SHOULD STATE IF COMMITTEE SUPPORTS REDUCTION OF FISH AS
FOOD OR PRODUCTION OF FISH FOR FOOD

The Committee MUST DISCUSS A RECREATIONAL POLICY OF NO DISCARDS TO
COMPLY WITH MAGNUSON 101 627 104 -297 "avoid unnecessary waste of fish" total
retention meets this requirement. Monitoring needs to discuss and request the
SSC [*SAME STUPID CONCLUSION COMMITTEE*] discussion of why past policy of
targeting females of all three species to select for slower maturing fish has been policy
suggested to council. Discuss 101 627 104 297 & ASMFC 1 section 1 waste of
fish Monitoring could review Yamaha Fishery Journal Fishery archives on
internet ALTHOUGH 30 YEARS OLD IS BETTER THAN WHAT U.S. IS USING FOR
PRODUCTION OF FOOD, & discuss ocean ranching

IS JULIA THE STAFF TO BRING OCEAN RANCHING & STOCK ENHANCEMENT BY
COUNCIL AS MANAGEMENT? IF NOT WHO ON STAFF?

--

James Fletcher
United National Fisherman's Association
123 Apple Rd.
Manns Harbor, NC 27953
252-473-3287

3. WHY SHOULD THE PUBLIC CONTINUE TO COMMENT IF THE FEDERAL MEMBERS OF COMMITTEES THINK THE LAWS THAT APPLY TO THE PUBLIC {for fisheries} DO NOT APPLY TO THE COMMITTEES AND FEDERAL EMPLOYEES?

Can the committees recommend total length retention for all recreational caught fish?
Could a policy to target male fish be enacted?
Could Ocean ranching be enacted by Atlantic States Marine Fisheries Commission & Council.
Would the Council by pass NMFS & NOAA going straight to Commerce Department for Aquaculture guidance in the EEZ?

SIMPLE:: * SUMMER FLOUNDER, SCUP, BLACK SEA BASS, REGULATIONS ******

RECREATIONAL: TOTAL RETENTION BY LENGTH, NO DISCARDS! THIS CONVERTS DISCARDS TO LANDINGS & ALLOWS SHORE SIDE FISHERMEN FISH FOR FOOD.

COMMERCIAL: REDUCE NET / TAIL BAG & NET TO 5 INCHES & REQUIRE ALL FISH OF THE THREE SPECIES CAUGHT TO BE SOLD. REMOVE SIZE LIMITS NO DISCARDS.

FIND A METHOD TO FUND STOCK ENHANCEMENT::: **BREEDING ALL FEMALE FISH FOR RELEASE, WHEN THE COMMITTEE MEMBER STATES GENETIC DIVERSITY ASK THEM TO EXPLAIN HOW NET SIZE REGULATIONS & TARGETING FAST GROWING FEMALES IN THE PAST HAS ALREADY ALTERED THE GENETICS OF THESE SPECIES.**

RESULTING IN UNITED STATES IMPORTING 92 % TO 93% OF ALL CONSUMMED SEAFOOD.

WHY DOES THE COUNTRY WITH THE SECOND LARGEST EEZ IN THE WORLD IMPORT 92% TO 93% OF CONSUMMED SEAFOOD?

BIASED FISHERY SCIENCE & POOR MANAGEMENT DECISIONS not listening to fishermen! FEMALE SHOULD NOT BE THE TARGETED PORTION OF THESE SPECIES!

**James Fletcher
123 Apple Rd Manns Harbor NC 27953
5-30-2020**



Mid-Atlantic Fishery Management Council
800 North State Street, Suite 201, Dover, DE 19901
Phone: 302-674-2331 | FAX: 302-674-5399 | www.mafmc.org
Michael P. Luisi, Chairman | G. Warren Elliott, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

Date: June 3, 2020
To: Council and Board
From: Matthew Seeley, Council staff
Subject: Bluefish Allocation and Rebuilding Amendment – Refining Draft Alternatives

On Wednesday, June 17th, the Council and Board will discuss draft alternatives and Fishery Management Action Team (FMAT) recommendations for the Bluefish Allocation and Rebuilding Amendment. The purpose of this discussion is for the Council and Board to further refine draft management approaches that could achieve the amendment objective, including reviewing additional details and considerations for each option and identifying which approaches to include in a complete draft range of alternatives for approval at the August 2020 joint meeting.

The following briefing materials are enclosed on this topic:

- 1) Cover memo – Dated June 3, 2020
- 2) FMAT Meeting Summary – Dated June 3, 2020
- 3) Action Plan – Updated as of April 2020

Discussion Points

General

- Do the Council and Board have any concerns with the data or methods used for a particular draft option? Are there suggested modifications to the approaches used in this document?
- Among the approaches that the Council and Board would like to see further developed, how should the FMAT narrow the range of alternatives to reduce redundant options and simplify decision making and analysis?

FMP Goals and Objectives (Issue 1)

- Are there any revisions to the FMP Goals and Objectives?

Sector and Commercial State-to-State Allocations (Issue 2 and 3)

- Which discard estimation methodology should the FMAT use for developing allocations?

- Which time series alternatives can be dropped from this Amendment?
- Should the FMAT pursue allocations based on catch or landings data?
- Should phase-in or trigger-based alternatives be developed?
- Should alternatives that result in similar allocations be removed?
- Should the regional-based commercial allocations proposal from the state of Florida be further pursued?

Transfers (Issue 4)

- Should the FMAT continue to pursue the transfer cap (4.2.2) as a percentage of the ABC?
- The FMAT recommended to remove alternative 4.1.2 from the Amendment.

Rebuilding Plan (Issue 5)

- Are there any rebuilding plans that should be dropped from consideration?

Other - For-Hire Sector Separation and de minimis status (Issue 6)

- The FMAT recommended to remove the for-hire sector separations alternatives (6.2) from the Amendment.
- For *de minimis*, is a 1% threshold an appropriate cutoff to be considered *de minimis* given that the cutoff under the current Commission *de minimis* provision is 0.1% of total commercial landings?
 - What would be the repercussions if a state exceeded the 1% threshold? Would a state be required to adopt the latest recreational measures the following year or be found out of compliance?



Bluefish Allocations and Rebuilding Amendment

FMAT Meeting: May 28, 2020, 1:00 p.m. - 4:00 p.m.

Meeting Summary (Dated: June 3, 2020)

The objective of this meeting was for the Fishery Management Action Team (FMAT) to further refine draft alternatives, including identifying alternatives that should not be further pursued in this action due to feasibility or timing concerns. The FMAT discussed the implications of each draft approach and worked to identify any additional analyses needed to guide the Council and Board during their next discussion of this action in mid-June. The Council/Board are scheduled to approve draft alternatives for inclusion in a public hearing document in August.

A summary of the FMAT's prior April 13th meeting can be found in the May Council/Board briefing materials at: <https://www.mafmc.org/briefing/may-2020>.

At their joint May 6 meeting, the Council and Board agreed to retain for further development all alternative categories previously discussed by the FMAT. All issues are listed below with discussion and summary points.

FMAT members present: Ashleigh McCord (GARFO), Cynthia Ferrio (GARFO), Matt Cutler (NEFSC), Samantha Werner (NEFSC), Tony Wood (NEFSC), Mike Celestino (NJ DFW), Dustin Colson Leaning (ASMFC Staff), and Matthew Seeley (MAFMC Staff)

Others present: Greg DiDomenico (GSSA), Mike Waine (ASA), Rusty Hudson (DSF), and Jose Montanez (MAFMC Staff)

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1. Fishery Management Plan Goals and Objectives

1.1 Existing FMP Goals and Objectives

The no action/status quo alternative keeps the existing Fishery Management Plan (FMP) Goals and Objectives.

Goal: Conserve the bluefish resource along the Atlantic coast.

1. **Objective:** Increase understanding of the stock and of the fishery.
2. **Objective:** Provide the highest availability of bluefish to U.S. fishermen while maintaining, within limits, traditional uses of bluefish.
3. **Objective:** Provide for cooperation among the coastal states, the various regional marine fishery management councils, and federal agencies involved along the coast to enhance the management of bluefish throughout its range.
4. **Objective:** Prevent recruitment overfishing.
5. **Objective:** Reduce the waste in both the commercial and recreational fisheries.

1.2 Revised Draft FMP Goals and Objectives

The proposed FMP Goals and Objectives will continue to be revised based on input at subsequent Council/Board meetings with final decisions being made in August.

Goal 1. Conserve the bluefish resource through stakeholder engagement to maintain sustainable recreational fishing and commercial harvest.

Objective 1.1. Achieve and maintain a sustainable spawning stock biomass and rate of fishing mortality.

Objective 1.2. Promote practices that reduce discard mortality within the recreational and commercial fishery.

Objective 1.3. Maintain effective coordination between the National Marine Fisheries Service, Council, Commission, and member states to support the development and implementation of management measures.

Strategy 2.1. Promote compliance and effective enforcement of regulations.

Strategy 2.2. Promote science, monitoring, and data collection that support and enhance effective ecosystem-based management of the bluefish resource.

Goal 2. Provide fair and equitable access to the fishery across all user groups throughout the management unit.

Objective 2.1. Ensure the implementation of management measures provides fair and equitable access to the resource across to all groups along the coast.

Objective 2.2. Consider the economic and social needs and priorities of all groups that access the bluefish resource in the development of new management measures.

Objective 2.3. Maintain effective coordination with stakeholder groups to ensure optimization of economic and social benefits.

2. Commercial and Recreational Sector Allocations

Under the current Fishery Management Plan (FMP) for bluefish, the Acceptable Biological Catch (ABC) equals the fishery level Annual Catch Limit (ACL), which is then divided into a commercial

and recreational Annual Catch Target (ACT) based on the allocation percentages defined in the FMP. Sector-specific expected discards are subtracted from the sector-specific ACTs to derive a commercial quota and a Recreational Harvest Limit (RHL). Aside from the status quo option, the following approaches revise the allocation percentages based on modified base years or different data sets.

2.01 No Action/Status Quo

The no action/status quo alternative keeps the existing sector allocation percentages, which were based on old General Canvass and MRFSS landings data from 1981-1989 (Table 1). The recreational and commercial allocations are 83% and 17%, respectively.

Table 1. Bluefish landings (000's lbs) along the U.S. Atlantic coast from 1981-1989 (see Table 23 in Amendment 1).

Year	Rec	Comm	Total	%Rec	%Comm
1981	95,288	16,454	111,742	85%	15%
1982	83,006	15,430	98,436	84%	16%
1983	89,122	15,799	104,921	85%	15%
1984	67,453	11,863	79,316	85%	15%
1985	52,515	13,501	66,016	80%	20%
1986	92,887	14,677	107,564	86%	14%
1987	76,653	14,504	91,157	84%	16%
1988	48,222	15,790	64,012	75%	25%
1989	39,260	10,341	49,601	79%	21%
1990	30,557	13,771	44,328	69%	31%
1991	32,997	13,581	46,578	71%	29%
1992	24,275	11,478	35,753	68%	32%
1993	20,292	10,122	30,414	67%	33%
1994	15,541	9,453	24,994	62%	38%
1995	14,174	7,847	22,021	64%	36%
1996	14,735	9,288	24,023	61%	39%
Avg. 81-89	71,601	14,262	85,863	83%	17%
Avg. 81-96	49,811	12,744	62,555	75%	25%

Source: Unpublished NMFS General Canvass and MRFSS data.

2.02-2.05 Sector Allocations Based on Catch Data: GARFO Discard Estimation Method

These alternatives use catch data and a specified time series (see Table 2) to develop allocations between the commercial and recreational sectors. The recreational landings and catch data were pulled from the Marine Recreational Information Program (MRIP) query website. Landings (A+B1) includes the estimate of all harvested fish in pounds. MRIP provides estimates of live releases in numbers of fish and not in pounds. The approach used by the Greater Atlantic Regional

Fisheries Office (GARFO) to monitor the recreational fishery was used to generate estimates of dead discards.

Discards in pounds were calculated by multiplying the live releases (B2s) estimate by the mean weight of landed fish specified at the wave and state level. For specific state and wave entries lacking data on harvested fish, an average weight of harvested fish from a similar wave/state were calculated. In this way, live releases in numbers of fish were converted to an estimate in weight. This value was then multiplied by the 15% discard mortality rate that is assumed in Bluefish stock assessments to produce the dead discard estimates in pounds.

The commercial data was pulled from the ACCSP data warehouse in the form of a data request on May 12, 2020 from the ACCSP bluefish data lead Joseph Myers. Landings data were validated by staff from each state. One potential shortcoming of developing sector allocations based on catch data is that no estimates of commercial discards are available. According to the 2019 Operational Stock Assessment and the 2015 Benchmark Stock Assessment for Bluefish, commercial discards are considered negligible and thus were assumed to be zero for the purposes of developing the sector allocations.

Table 2. Recreational and commercial sector allocation alternatives based on catch data using the GARFO discard estimation methodology

Alternative	Allocation Time Series	Recreational Allocation	Commercial Allocation
Status quo	1981-1989 (Landings-based)	83%	17%
2.02	5 year (2014-2018)	89%	11%
2.03	10 year (2009-2018)	89%	11%
2.04	20 year (1999-2018)	87%	13%
2.05	Full Time Series (1981-2018)	86%	14%

2.06-2.09 Sector Allocations Based on Catch Data: NEFSC Discard Estimation Method

These alternatives use catch data and a specified time series (see Table 3) to develop sector allocations. The recreational landings data set (A+B1) is identical to the data set used for alternatives 2.02-2.05, but the methodology used to estimate dead discard in weight differs from the method used by GARFO. The Northeast Fisheries Science Center (NEFSC) relies on the same MRIP estimates of released alive fish (B2s). However, the method differs in how the released fish mean weight values are calculated. This calculation relies on release data from the MRIP intercept survey, survey data from the American Littoral Society, and volunteer angler surveys from CT, RI and NJ. The surveys provide weight at lengths data, which are then used to produce the live release

estimates in weight¹. A 15% discard mortality rate is applied to generate the estimate of dead discards in pounds. Ultimately, these dead discard estimates are used in the benchmark and operational stock assessments. The same commercial data set was used to develop alternatives 2.02-2.09.

Table 3. Recreational and commercial sector allocation alternatives based on catch data using the NEFSC discard estimation methodology

Alternative	Allocation Time Series	Recreational Allocation	Commercial Allocation
Status quo	1981-1989 (Landings-based)	83%	17%
2.06	5 year (2014-2018)	91%	9%
2.07	10 year (2009-2018)	91%	9%
2.08	20 year (1999-2018)	90%	10%
2.09	Full Time Series (1981-2018)	N/A*	N/A*

*NEFSC dead discard estimates are only available 1985-2018

The Council/Board, Monitoring Committee, and FMAT have all had discussions concerning which dead discard estimation methodology should be used for bluefish management. Proponents for the NEFSC method have said that this method is more scientifically rigorous because unlike the GARFO method, it utilizes a discard length data set, which paired with a length-weight key can produce more accurate estimates of discards in pounds. Those opposed to its use say that the American Littoral Society target larger fish than the average angler, which creates an upward bias of the estimate of dead discards in pounds. Additionally, some were concerned that the NEFSC method has a geographic bias because the majority of the release at length data comes from Rhode Island, Connecticut and New Jersey.

The two methodologies of estimating dead discards in pounds are displayed side by side in Figure 1. The NEFSC method produces discard estimates that vary between 1.1 to 3.9 times that of the discard estimates produced by the GARFO method.

¹ Shepherd, Gary R., et al. "The migration patterns of bluefish (*Pomatomus saltatrix*) along the Atlantic coast determined from tag recoveries." *Fishery Bulletin*, vol. 104, no. 4, 2006, p. 559+. *Gale Academic OneFile* Accessed 1 June 2020.

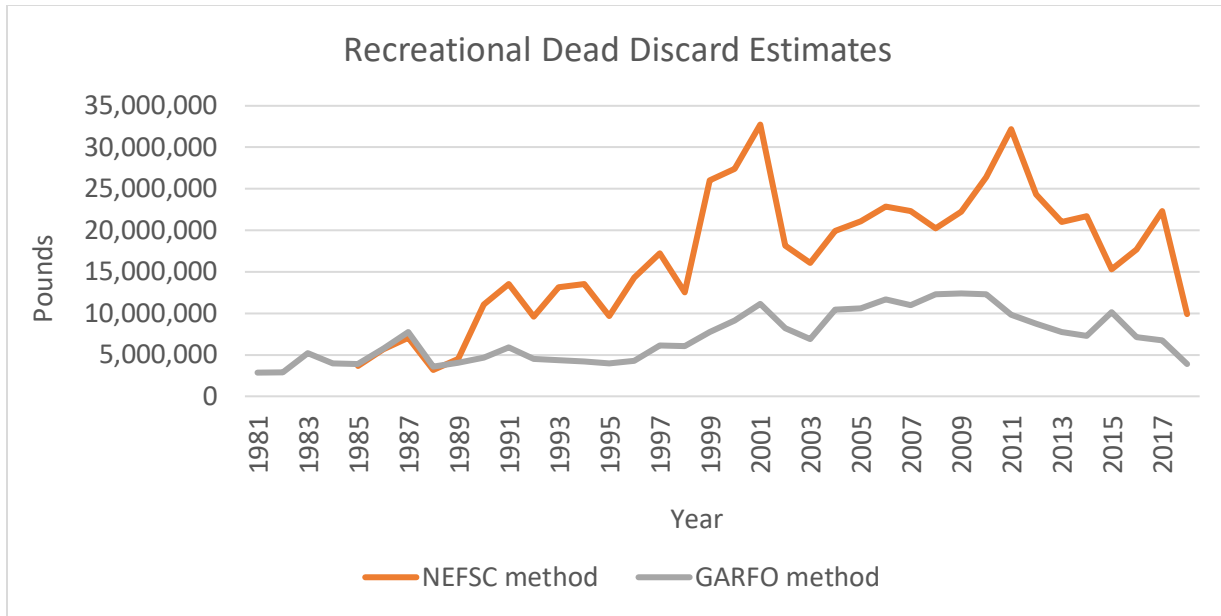


Figure 1. Recreational dead discard estimates from 1981-2018 calculated using the GARFO and NEFSC method.

2.10-2.13 Sector Allocations Based on Landings Data

These alternatives use landings data and a specified time series (see Table 4) to develop the allocations between sectors. The recreational data was pulled from MRIP with landings in weight equal to A+B1. The commercial data is from the ACCSP data warehouse (data request).

Table 4. Recreational and commercial sector allocation alternatives based on landings data

Alternative	Allocation Time Series	Recreational Allocation	Commercial Allocation
Status quo	1981-1989 (Landings-based)	83%	17%
2.10	5 year (2014-2018)	86%	14%
2.11	10 year (2009-2018)	86%	14%
2.12	20 year (1999-2018)	84%	16%
2.13	Full Time Series (1981-2018)	84%	16%

FMAT Comments/Recommendations on Issue 2

The FMAT noted that many of the allocation time series produce very similar percentages. The FMAT agreed that the selection of an allocation time series alternative should have a biological or socioeconomic reasoning. The most recent time series reflects the current performance of the recreational and commercial fisheries. While the 20-year average and the full time series are designed to also recognize the historical importance of bluefish for each sector.

The FMAT also discussed the merits of developing allocations based on catch data versus landings data. A few FMAT members indicated that many comments received through the public scoping period spoke of the importance of recognizing the catch and release nature of the fishery when allocating between the commercial and recreational sectors. Allocating on a landings basis would ignore this aspect of the fishery.

Several FMAT members recommended further exploration of the assumption that commercial discards are negligible before further developing allocations based on catch data. One FMAT member recalled an analysis conducted for the 2015 benchmark stock assessment, which revealed that commercial dead discards represented about 1-2% of total catch in any given year. At the time, this analysis was conducted using old MRIP estimates. The recalibrated MRIP estimates are much higher by comparison, and thus commercial dead discards are likely to comprise an even smaller percentage of total catch. On the other hand, reports from states in recent years, as states have started to approach or meet their quota, have begun to question whether this remains true.

One FMAT member supported further exploration of developing allocations in numbers of fish as opposed to pounds of fish. This approach would remove the need to choose between the GARFO or NEFSC method of estimating recreational dead discards in pounds since both methods use the same number of released fish. However, another FMAT member noted that the current method of setting ABCs, ACTs, RHL and commercial quota are all set in pounds and not in numbers of fish. Discussion within the FMAT ensued as to whether specifications could be set in numbers (which would eliminate the need to choose between GARFO and NEFSC release weight methods that produce very different estimates), and the FMAT is looking into this. The FMAT believes it is important to ensure that units used in the specification process (pounds or number of fish) match those used for reallocation. To develop allocations based on numbers of fish as opposed to pounds of fish creates a disconnect between how the sectors are allocated catch and how that catch is accounted for.

The FMAT analyzed both the NEFSC and GARFO method of estimating recreational dead discards and determined that both have their strengths and weaknesses. The FMAT acknowledged that the strength of the NEFSC method is in its use of length frequency of release data to inform the average weight of discarded fish. The GARFO method's assumption that the length frequency of releases is equal to the length frequency of landed fish is problematic. However, analysis of where the release at length data is collected versus where MRIP recreational releases are occurring revealed a geographic bias. It appears that on average about 30% of live releases occur annually in NC, yet none of the release at length data comes from NC. On the other hand, RI, CT, and NJ volunteer angler surveys on average represent over 75% of the release at length data when these states represent less than 30% of live releases annually. As such, the FMAT was unable to come to a consensus on which method is clearly the more scientifically rigorous of the two. Further guidance is needed from the Board and Council on which dead discard estimation methodology should be pursued for developing sector allocations.

FMAT members also inquired as to whether an alternative should be developed that incorporates as phased-in reallocation (versus instantly changing allocations in a given year). The FMAT also discussed whether allocation triggers might be appropriate (one allocation under one set of

conditions, and an alternate allocation under alternate conditions). Discussion ensued as to whether a phased-in approach, with or without triggers, would be complicated by a rebuilding schedule and the FMAT is requesting guidance from the Council/Board as to whether these alternatives (changes to allocations over time, allocation triggers) should be further developed.

Expected Future Analysis:

- Evaluate an updated time series of commercial discards to determine whether commercial discards are a negligible portion of overall catch.

Public Comment:

One member of the public spoke in opposition to developing allocations between the sectors based on catch data. Allocations based on catch rather than landings dilutes the importance of quota transfers that occurred for many years from the recreational to the commercial fishery. The stakeholder also indicated that transfers never impacted recreational regulations, but were an important part of the bluefish fishery.

3. Commercial Allocations to the States

3.1 No Action/Status quo

The no action/status quo alternative keeps the existing landings-based commercial allocations to the states which were set through Amendment 1 using General Canvass Data (Table 5).

Table 5. State-by-state commercial bluefish allocations along the U.S. Atlantic coast set using data from 1981-1989 (see Table 60 in Amendment 1).

State	Pounds	%	Quota Without Increase in Landings	Quota Allowing for Increase in Landings
ME	858,177	0.6675%	39,740	70,093
NH	532,032	41.3800%	24,637	43,454
MA	8,621,803	6.7063%	399,255	704,198
RI	8,739,090	6.7975%	404,686	713,777
CT	1,625,500	1.2644%	75,273	132,765
NY	13,330,736	10.3690%	617,314	1,088,806
NJ	19,018,645	14.7932%	880,707	1,553,374
DE	2,410,900	1.8753%	111,643	196,914
MD	3,853,253	2.9972%	178,435	314,720
VA	15,248,930	11.8610%	706,141	1,245,477
NC	41,154,504	32.0110%	1,905,766	3,361,351
SC	45,161	0.1000%	5,953	10,501
GA	12,205	0.1000%	5,953	10,501
FL	12,912,995	10.0440%	597,970	1,054,687
Total	128,363,931	100	5,953,473	10,500,618

Source: NMFS General Canvass Data

3.2-3.6 Commercial State-to-State Allocations

At the joint May meeting the Council and Board agreed to move forward with developing six alternatives using only landings data for the commercial state-to-state allocations because commercial discards are considered negligible in both the benchmark and operational stock assessments. The commercial data is from the ACCSP data warehouse (data request).

Table 6. State-by-state commercial bluefish allocations along the U.S. Atlantic coast using different proposed time series.

Landings-Based Allocation Alternatives						
	3.1	3.2	3.3	3.4	3.5	3.6
State	Status quo (1981-1989)	5 year (2014-2018)	10 year (2009-2018)	20 year (1999-2018)	Time Series (1981-2018)	1/2 '81-'89 1/2 '09-'18
ME	0.67%	0.00%	0.01%	0.01%	0.43%	0.49%
NH	0.41%	0.03%	0.12%	0.17%	0.65%	0.33%
MA	6.71%	10.64%	10.16%	7.53%	7.18%	7.66%
RI	6.80%	11.81%	9.64%	8.00%	7.96%	7.59%
CT	1.26%	1.18%	1.00%	0.73%	1.12%	1.19%
NY	10.37%	20.31%	19.94%	19.44%	14.76%	13.01%
NJ	14.79%	11.23%	13.94%	15.23%	15.57%	14.57%
DE	1.88%	0.58%	0.40%	0.39%	1.09%	1.47%
MD	3.00%	1.50%	1.84%	1.54%	2.10%	2.68%
VA	11.86%	4.62%	5.85%	6.92%	8.79%	10.26%
NC	32.01%	32.06%	32.38%	36.94%	33.52%	32.13%
SC	0.10%	0.00%	0.00%	0.00%	0.02%	0.03%
GA	0.10%	0.00%	0.00%	0.01%	0.01%	0.01%
FL	10.04%	6.07%	4.75%	3.10%	6.91%	8.59%
Total	100.00%	100.01%	100.03%	100.02%	100.10%	100.00%

FMAT Comments/Recommendations on Issue 3

As with Issue 2, several FMAT members also inquired as to whether an alternative should be developed that incorporates as phased-in reallocation (versus instantly changing allocations in a given year). The FMAT also discussed whether allocation triggers might be appropriate (one allocation under one set of conditions, and an alternate allocation under alternate conditions). Discussion ensued as to whether a phased-in approach, with or without triggers, would be complicated by a rebuilding schedule and the FMAT is requesting guidance from the Council/Board as to whether these alternatives (changes to allocations over time, allocation triggers) should be further developed. The FMAT expressed support for the alternatives as listed but questioned whether “phasing in” changes to allocations would be advisable. A phased in approach has the potential to mitigate socioeconomic consequences of big changes in quota for states. However, one FMAT member noted that phasing in allocation changes could be challenging to coordinate during a rebuilding period that has the potential to already be complex and

destabilizing. The FMAT noted they want to ensure altering the commercial allocations to the states does not make management unduly complicated for the respective states.

Several FMAT members thought that there should be consistency in selecting base years for developing the sector allocations and the commercial state allocations. For example, if a 10-year time series is selected for the sector-based allocations, then the FMAT would recommend a 10-year time series be selected for the commercial allocations to the states. However, the Board and Council could certainly justify that one time series is appropriate for generating allocations between sectors and an altogether different time series may be more appropriate for developing allocations of commercial quota between the states.

The FMAT received a proposal from the state of Florida to reorganize how states receive their commercial allocation. In summary, the proposal suggests regional based allocations (New England: ME-CT, Mid-Atlantic: NY-VA, South Atlantic: NC-FL) instead of state-by-state allocations. If there are concerns regarding one state harvesting too much of the allocated quota, Florida proposes imposing commercial trip limits to ensure all states within a region have access to the resource. The proposal is attached to this document as Appendix 1. Upon review of this proposal, the FMAT recommended presenting it to the Council/Board at the joint June meeting for discussion to see if it should be included as an alternative for further development. The FMAT does want to caution the Council/Board that this regional approach will have major implications for how the transfer provisions need to change. Additionally, the FMAT noted that moving away from state allocations has the potential to benefit states with low allocations, while potentially negatively impacting states with large quotas. While this proposal does provide flexibility, the real challenge would be the details concerning how and when commercial trip limit regulations are implemented within regions.

4. Transfers

4.1.1 Commercial State-to State Transfers: No Action/Status Quo

The no action/status quo alternative keeps the existing commercial state-to-state transfer provisions in place as described in Amendment 1.

4.1.2 Commercial State-to-State Transfers: Refereed

This alternative offers a neutral party (e.g. ASMFC) to match up transfer partners and make sure that one or more states are not requesting quota transfers too early. This approach warrants individual states to project their landings and identify when they will land their individual state quotas. Once states reach a certain percentage of their own quota, they can notify the neutral party that they want to request a quota transfer. The neutral party will then need to review which states are not going to land their quota based on the reported projections. This will then allow the neutral party to initiate a quota transfer from the two states and ensure additional quota will be available for other states that are projected to land their own state quota later in the year.

This approach was proposed to the FMAT by leadership, but still requires further development. The discussion questions below identify key areas that require more specific guidelines.

Note: The potential reallocation of commercial state-to-state quotas (Alternatives 3.2-3.6) will most likely reduce the need for transfers in the near future, however, as the fishery continues to change transfers requests are likely to increase in occurrence.

Discussion Questions:

1. What should be the threshold quota at which states are allowed to request a transfer?
2. Is it equitable to provide preference to states that land their quota earlier in the fishing year by allowing them to request transfers before states that land their quota later in the year?
3. When excess quota is scarce, and multiple states are requesting quota, what metric should be used to determine which states receive transferred quota?

FMAT Comments/Recommendations on Issue 4: Commercial State-to-State Transfers

Staff presented the commercial state-to-state transfer refereed alternative to the FMAT and noted that if this alternative is pursued further refinement is still needed. The FMAT recognizes the objective of the refereed approach is to promote fair and equitable access across states; however, the FMAT noted that if this approach is to be developed further, analysis would need to be conducted to better understand each state's landing trends, when transfers are requested, and how long they take to process. The refereed approach may also need to be coupled with the development of commercial seasons to ensure availability to all states. Ultimately, the FMAT is unsure how much this approach improves the current method. States requesting a transfer will still need to communicate with other states that are willing to transfer quota. This alternative may simply be adding a neutral party to broker the deal, while adding additional administrative burden on ASMFC. Overall, the FMAT identified multiple constraints and complications to the refereed approach which could ultimately inhibit states from utilizing this transferring tool altogether. Thus, the FMAT recommends the status quo alternative.

If this alternative is pursued further, the FMAT requests guidance from the Board and Council on the following items: 1) Defining a uniform approach for how states calculate their landings projections, 2) Determining the need for commercial seasons, 3) Defining the threshold level at which states can request quota, and 4) How quota would be distributed between states requesting transfers.

4.2.1 Sector Transfers: No Action/Status Quo

The no action/status quo alternative keeps the existing sector transfer provisions in place as described in Amendment 1. In summary, recreational landings from the prior year would be compared to the proposed RHL. If, based on this comparison, the recreational fishery was not anticipated to land their limit, the commercial quota could be set above the 17 % sector allocation up to 10.50 million lb (4,763 mt); with the RHL adjusted down accordingly. This is the average commercial landings for the period 1990-1997. However, if the recreational landings were projected to reach the harvest limit for that year, then the commercial quota would be implemented without the sector transfer.

4.2.2 Sector Transfers: Transfer Cap

Under this alternative, a transfer cap is defined as a fixed percentage of the ABC. This approach allows quota transfers to scale with biomass. Unlike the provisions described in the status quo option, transfers could still occur even when the commercial quota is above 10.5 million pounds.

Through the supplemental scoping process, it became clear many recreational stakeholders are not supportive of transfers from the recreational to commercial sector. Many comments indicated concern about the effect of transfers on the abundance of fish available to the recreational sector. As such, it may be useful to develop criteria tied to stock status for when sector transfers are prohibited. For example, it may be beneficial to prohibit transfers until the stock has been rebuilt. A less stringent option could be the prohibition of transfers while the stock is below the threshold.

4.2.3 Sector Transfers: Bi-directional Transfers

In the current plan, transfers are determined through the specifications process. The Council and Board has the ability to recommend a sector transfer when recreational landings are projected to not achieve the recreational harvest limit. During specifications, an average of the last three years of recreational landings are used to project the next year's landings. NOAA Fisheries then has the ability to adjust the transfer total in March/April once the prior year of recreational landings is finalized. Similarly, the Board and Council could determine whether a transfer from the commercial to the recreational sector is warranted. Table 6 below outlines when a transfer could occur as well in which direction quota would be transferred.

Table 6. Proposed triggers for bi-directional transfers across sectors.

Scenario	Commercial Sector	Recreational Sector	Outcome
1	Projected to achieve quota	Projected to achieve RHL	No transfer
2	Projected to achieve quota	Projected to not achieve RHL	Transfer to comm
3	Projected to not achieve quota	Projected to achieve RHL	Transfer to rec
4	Projected to not achieve quota	Projected to not achieve RHL	No transfer

FMAT Comments/Recommendations on Issue 4: Sector Transfers

The FMAT supported the continued development of bi-directional transfers as well as adjusting the transfer cap. Several FMAT members noted there is plenty of public support for allowing sector transfers to go both ways and that it encourages equitable allocation and economic efficiency. The FMAT supported the idea of utilizing a percentage of the ABC to determine the transfer cap in a given year because of its ability to scale a transfer with biomass. One FMAT member noted that the transfer cap was initially developed when biomass was below the threshold, and that it would likely need adjustment for when the stock rebuilds. A more dynamic transfer cap based on biomass also makes more sense if the transfer is to occur in both directions.

The FMAT had some difficulty conceptualizing how a transfer from the commercial sector to the recreational sector would occur. Some FMAT members thought that uncertainty in projections and administrative challenges may preclude fishery managers' ability to efficiently liberalize recreational measures. Some thought this approach could instead be used as a mechanism to

prevent accountability measures. The idea being that quota transferred from the commercial to the recreational sector in a given year would provide an additional buffer to the RHL and prevent an overage. One FMAT member noted that there are some equity concerns with this approach and wondered how much this would actually benefit the recreational fishery. The FMAT requests further guidance from the Board and Council on how a transfer from the commercial to the recreational fishery would work regarding setting recreational measures.

Public Comment: One member of the public fully supported the concept of bi-directional sector transfers. The stakeholder also spoke in favor of liberalizing recreational measures should a transfer from the commercial to the recreational sector occur. Another member of the public spoke in support of maintaining commercial state-to-state transfers, as well as transfers between sectors. The stakeholder also noted that their support of implementing commercial trip limits to ensure the commercial sector does not exceed its quota.

5. Rebuilding Plan

Six different rebuilding alternatives are offered below (Table 7). Under a rebuilding plan, the stock will be considered rebuilt once spawning stock biomass (SSB) reaches the SSB_{MSY} proxy equal to 198,717 mt (Figures 2 and 3). The Magnuson-Stevens Fishery Conservation and Management Act (MSA) requires the overfished stock to be rebuilt within ten years once the regional office notifies the Council of the overfished state. Under the current amendment timeline, the rebuilding plan would be implemented at the beginning of the year 2022.

The rebuilding plans will begin in 2021 with the 7,385 mt ABC that was already approved by the Council/Board (pending review and approval of this ABC in August 2020) regardless of which alternative is selected. The rebuilding plans assume that the full ABC will be caught. Regardless of which approach is selected, the assessment scientist will perform assessment updates and rerun projections every two years. The SSC will use the projections to develop recommendations for the specification packages that remain in line with the goals of the rebuilding plan. For example, if a constant harvest approach is selected the SSC will use the projections to recommend an ABC associated with the rebuilding catches. If an F rebuild approach is taken, the assessment scientist will rerun the projections under the yearly specified F rebuild to generate updated ABCs. If the P* approach is selected, the assessment scientist will generate new OFLs based on the assessment updates. The SSC will then recommend ABCs associated with the rebuilding plan for the next two years.

Table 7. Rebuilding projection alternatives and the duration until rebuilt.

Alternative	Rebuilding Plan	Duration	Adjustment to Council Risk Policy
5.1	Status Quo	N/A	N/A
5.2	Constant Harvest	4 years	No
5.3	Constant Fishing Mortality	10 years	Yes
5.4	Constant Fishing Mortality	7 years	Yes
5.5	Constant Harvest (Highest Catch)	10 years	Yes
5.6	P* (Council Risk Policy)	5 years	N/A

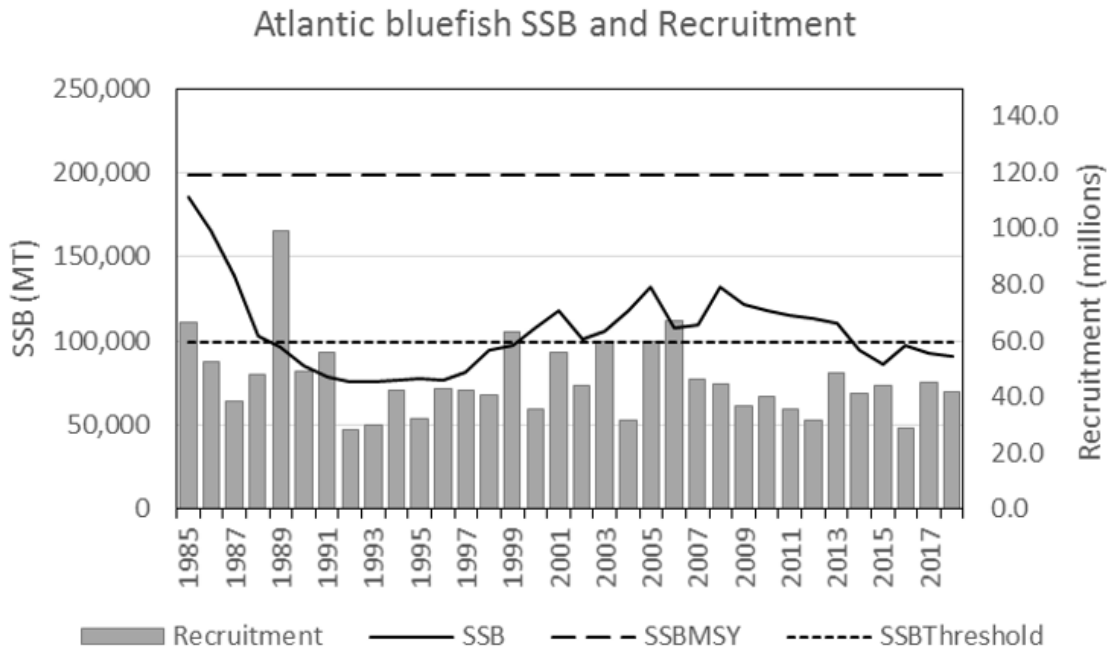


Figure 2. Atlantic bluefish spawning stock biomass (SSB; solid black line) and recruitment at age 0 (R; gray vertical bars) by calendar year. The horizontal dashed line is the updated $SSB_{MSY \text{ proxy}} = SSB_{40\%} = 198,717$ mt. The dotted black line is the $SSB_{Threshold} = 99,359$ mt.

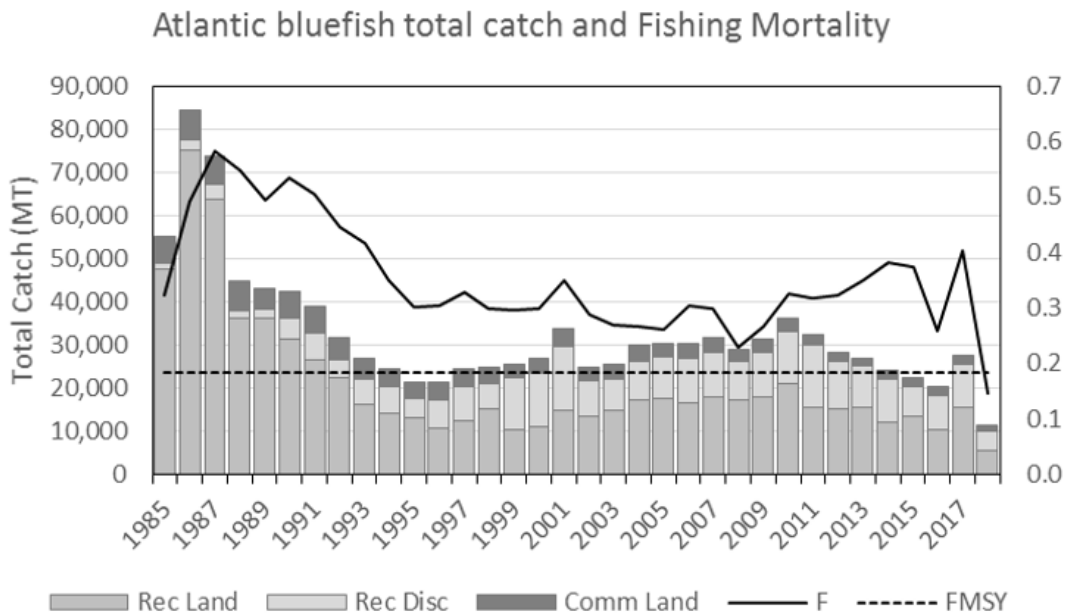


Figure 3. Total fishery catch (metric tons; mt; solid line) and fishing mortality (F, peak at age 3; squares) for Atlantic bluefish. The horizontal dashed line is the updated $F_{MSY \text{ proxy}} = F_{35\%} = 0.183$.

5.1 No Action/Status Quo

The no action/status quo alternative would not initiate a rebuilding plan and thus, would keep the bluefish stock in an overfished state. The Council is legally bound to develop a rebuilding plan and this alternative is included as a formality.

5.2 Constant Harvest: 4-year Rebuilding Plan

For this projection alternative, the FMAT requested a constant harvest approach (current ABC) be utilized until the stock is rebuilt (Table 8 and Figure 4). This projection rebuilds the stock by end of year 2025 (4-year rebuilding plan). *This alternative does not require an adjustment to the Council risk policy because the catches are less than those described under the P* approach.*

Table 8. Constant harvest rebuilding projection.

Year	SSB (MT)	Recruits (000s)	F	Catch (MT)	SSBMSY (MT)	SSBthresh (MT)
2019	92,779	43,282	0.279	22,614	198,717	99,359
2020	102,165	43,455	0.087	7,385	198,717	99,359
2021	115,085	43,428	0.075	7,385	198,717	99,359
2022	137,450	43,460	0.064	7,385	198,717	99,359
2023	162,495	43,353	0.052	7,385	198,717	99,359
2024	197,141	43,239	0.045	7,385	198,717	99,359
2025	229,121	43,379	0.039	7,385	198,717	99,359
2026	269,777	43,362	0.034	7,385	198,717	99,359

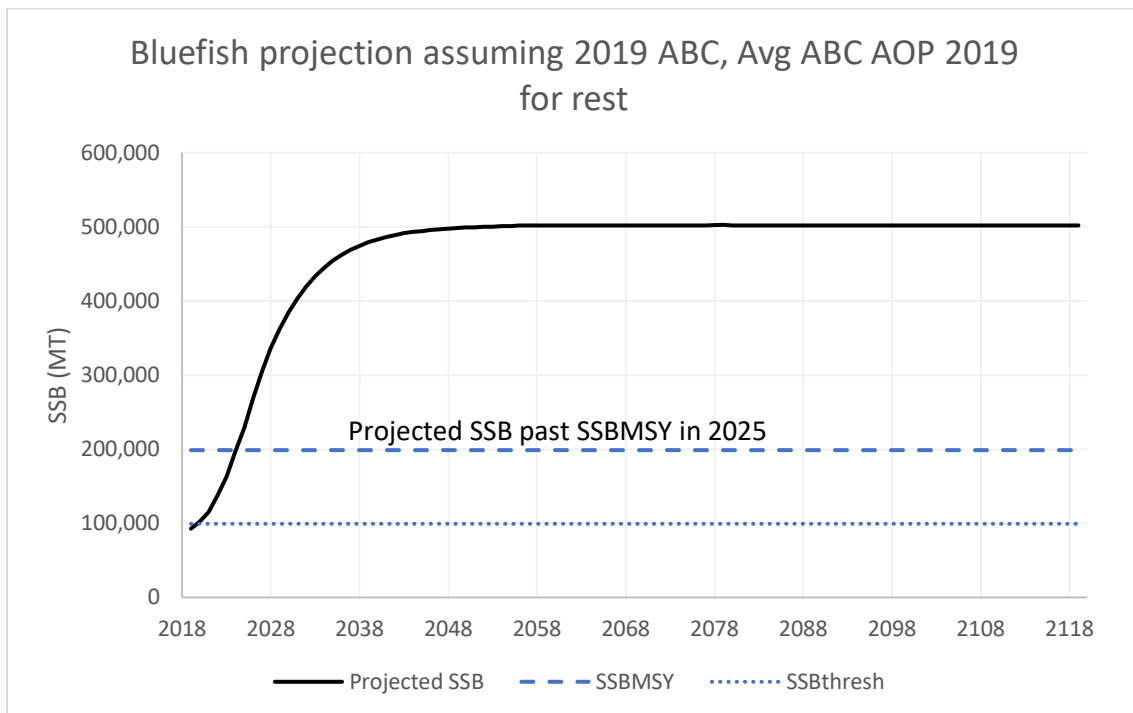


Figure 4. Constant harvest rebuilding projection.

5.3 Constant Fishing Mortality (10 years): 10-year Rebuilding Plan

For this projection alternative, the FMAT requested a constant fishing mortality approach (F) be utilized until the stock is rebuilt (Table 9 and Figure 5). This projection rebuilds the stock by end of year 2031 (10-year rebuilding plan). *This alternative requires an adjustment to the Council risk policy for this rebuilding plan only because the catches are higher than those described under the P* approach.*

Table 9. Constant 10-year F rebuilding projection.

Year	SSB (MT)	Recruits (000s)	F	Catch (MT)	SSBMSY (MT)	SSBthresh (MT)
2019	92,732	43,262	0.281	22,614	198,717	99,359
2020	102,174	43,402	0.088	7,385	198,717	99,359
2021	115,012	43,304	0.076	7,385	198,717	99,359
2022	131,624	43,389	0.177	19,616	198,717	99,359
2023	141,297	43,274	0.177	21,894	198,717	99,359
2024	154,661	43,462	0.177	22,990	198,717	99,359
2025	162,976	43,235	0.177	24,398	198,717	99,359
2026	175,734	43,367	0.177	25,907	198,717	99,359
2027	184,062	43,488	0.177	26,904	198,717	99,359
2028	189,900	43,425	0.177	27,595	198,717	99,359
2029	193,952	43,561	0.177	28,100	198,717	99,359
2030	197,035	43,300	0.177	28,463	198,717	99,359
2031	199,167	43,326	0.177	28,723	198,717	99,359

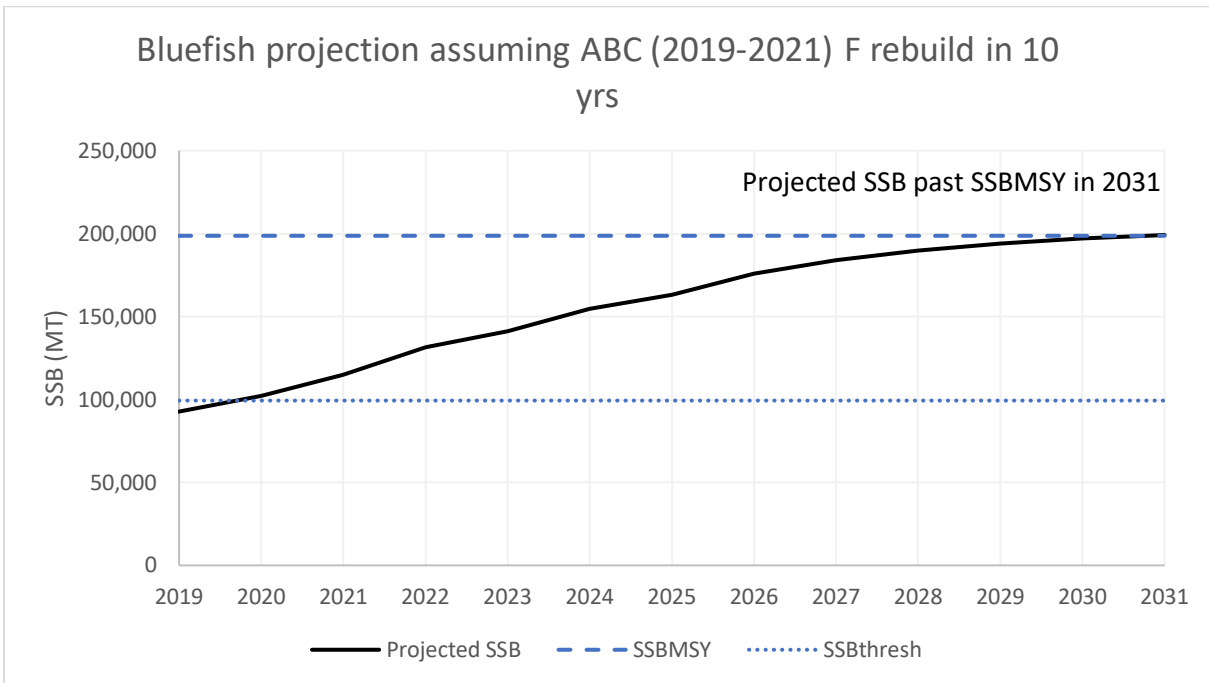


Figure 5. Constant 10-year F rebuilding projection.

5.4 Constant Fishing Mortality (7 years): 7-year Rebuilding Plan

For this projection alternative, the FMAT requested a constant fishing mortality approach (F) be utilized until the stock is rebuilt (Table 10 and Figure 6). This projection rebuilds the stock by end of year 2028 (7-year rebuilding plan). *This alternative requires an adjustment to the Council risk policy for this rebuilding plan only because the catches are higher than those described under the P* approach.*

Table 10. Constant 7-year F rebuilding projection.

Year	SSB (MT)	Recruits (000s)	F	Catch (MT)	SSBMSY (MT)	SSBthresh (MT)
2019	92,755	43,320	0.279	22,614	198,717	99,359
2020	102,186	43,531	0.087	7,385	198,717	99,359
2021	115,073	43,310	0.075	7,385	198,717	99,359
2022	132,150	43,390	0.166	18,477	198,717	99,359
2023	143,271	43,292	0.166	20,813	198,717	99,359
2024	158,152	43,272	0.166	22,033	198,717	99,359
2025	168,006	43,395	0.166	23,532	198,717	99,359
2026	182,311	43,336	0.166	25,121	198,717	99,359
2027	191,855	43,578	0.166	26,191	198,717	99,359
2028	198,520	43,411	0.166	26,939	198,717	99,359

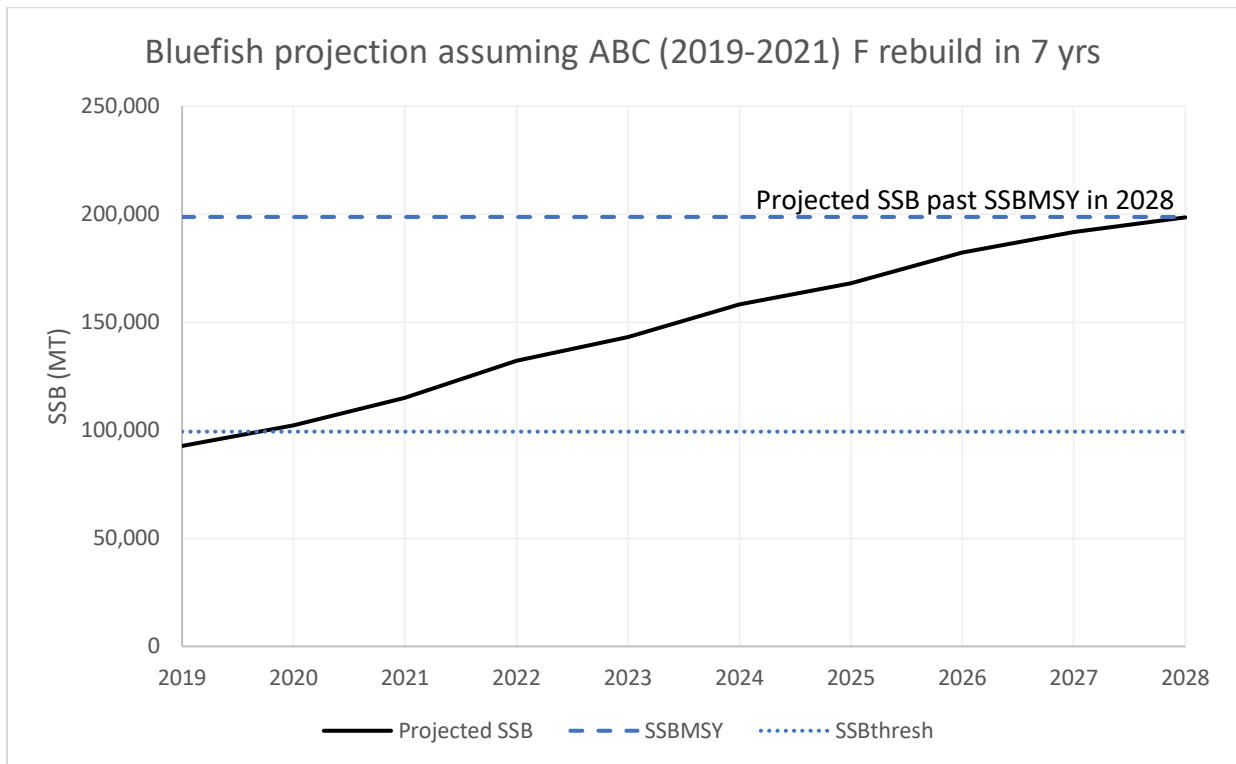


Figure 6. Constant 7-year F rebuilding projection.

5.5 Constant Harvest (Highest Catch): 10-year Rebuilding Plan

For this projection alternative, the FMAT requested a constant harvest approach with the highest possible catch to rebuild the stock in 10 years (Table 11 and Figure 7). This projection rebuilds the stock by end of year 2031 (10-year rebuilding plan). *This alternative requires an adjustment to the Council risk policy for this rebuilding plan only because the catches are higher than those described under the P* approach.*

Table 11. Constant harvest rebuilding projection using the highest catch to rebuild over 10-years.

Year	SSB (MT)	Recruits (000s)	F	Catch (MT)	SSBMSY (MT)	SSBthresh (MT)
2019	92,732	43,262	0.280	22,614	198,717	99,359
2020	102,174	43,402	0.087	7,385	198,717	99,359
2021	115,012	43,304	0.075	7,385	198,717	99,359
2022	128,975	43,389	0.231	25,094	198,717	99,359
2023	133,420	43,274	0.215	25,094	198,717	99,359
2024	142,065	43,462	0.209	25,094	198,717	99,359
2025	147,216	43,235	0.200	25,094	198,717	99,359
2026	158,145	43,367	0.188	25,094	198,717	99,359
2027	166,971	43,488	0.180	25,094	198,717	99,359
2028	175,055	43,425	0.173	25,094	198,717	99,359
2029	183,301	43,561	0.166	25,094	198,717	99,359
2030	191,143	43,300	0.160	25,094	198,717	99,359
2031	198,717	43,326	0.154	25,094	198,717	99,359

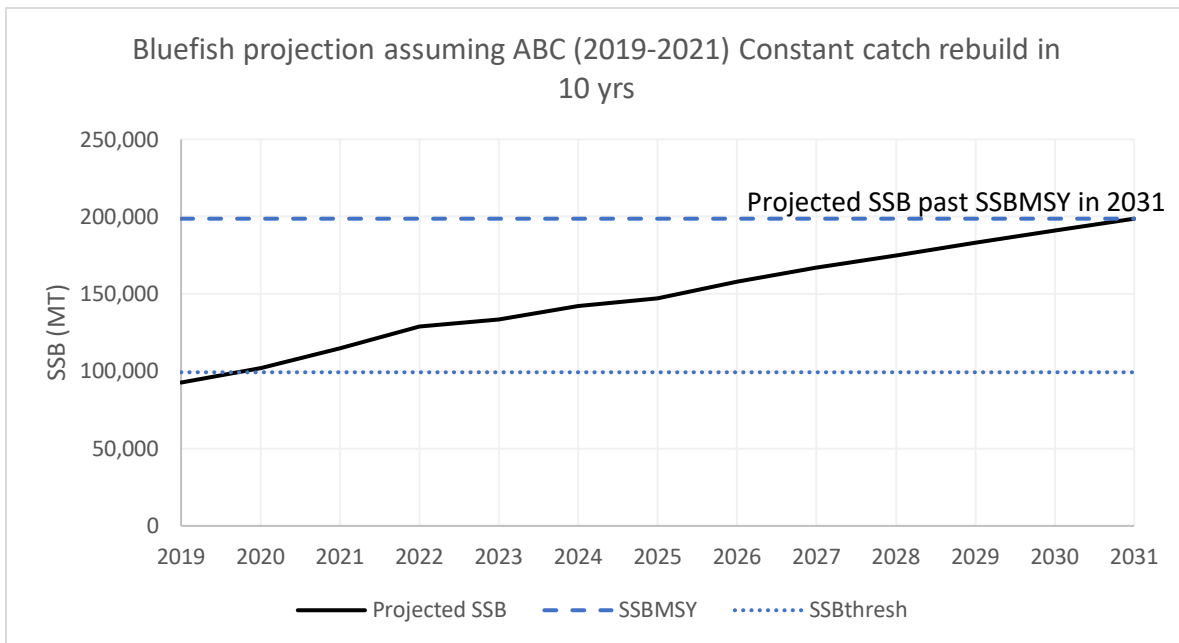


Figure 7. Constant harvest rebuilding projection using the highest catch to over 10-years.

5.6 P* Approach (Council Risk Policy): 5-year Rebuilding Plan

For this projection alternative, the FMAT requested using the Council’s risk policy to rebuild the stock (Table 12 and Figure 8). This projection rebuilds the stock by end of year 2026 (5-year rebuilding plan).

Table 12. Rebuilding projection based on P* using the Council’s risk policy to rebuild over 5-years.

Year	OFL Total Catch (MT)	ABC Total Catch (MT)	ABC F	ABC Pstar	ABC SSB (MT)	SSBMSY (MT)	SSBthresh (MT)
2019	15368	22,614	0.280	0.183	92,732	198,717	99,359
2020	16212	7,385	0.087	0.207	102,174	198,717	99,359
2021	17205	7,385	0.075	0.239	115,012	198,717	99,359
2022	20237	11,222	0.098	0.291	135,586	198,717	99,359
2023	23998	15,181	0.113	0.338	154,257	198,717	99,359
2024	26408	18,653	0.127	0.394	176,619	198,717	99,359
2025	28807	23,048	0.144	0.431	191,063	198,717	99,359
2026	30848	26,677	0.157	0.450	207,619	198,717	99,359

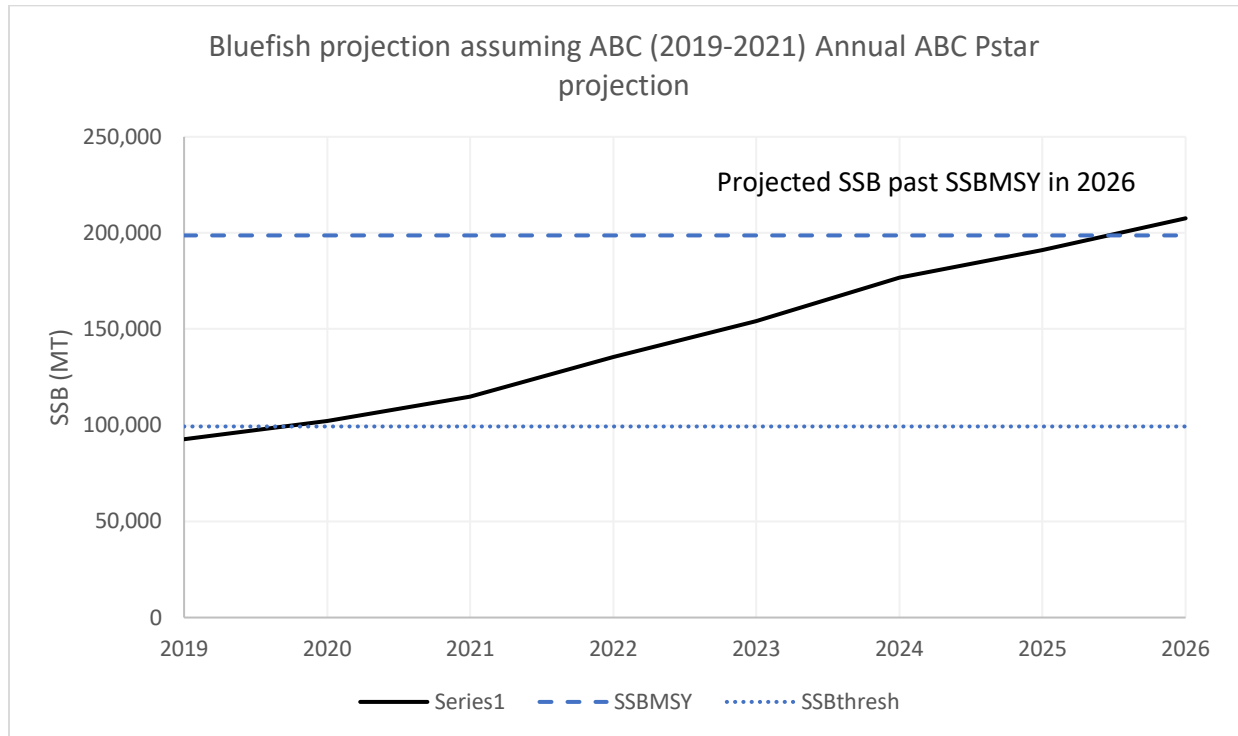


Figure 8. Rebuilding projection based on P* using the Council’s risk policy to rebuild over 5-years.

FMAT Comments/Recommendations on Issue 5

Staff presented projections for the six rebuilding plan alternatives to the FMAT. The FMAT noted that longer projections may have more uncertainty, however, ABCs or F values will be adjusted (depending on which projection is selected) as specifications are developed and reviewed to ensure the stock is rebuilt within the proposed timeline.

Staff briefed the FMAT of the potential need to adjust the Council’s risk policy under alternatives 5.3, 5.4, and 5.5. If one of these alternatives are selected, the Council would adjust its risk policy for this rebuilding plan only. The Council’s current risk policy states that the SSC should provide ABCs that are the lesser of rebuilding ABCs or standard risk policy (P*) ABCs (Alternative 5.6 follows the current P* approach). The catches in 5.2 are lower than in 5.6 (the P* approach) and would not warrant a revision to the risk policy. In absence of a risk policy adjustment, ABCs prescribed under 5.6 would override rebuilding plans that result in higher ABCs (Alternative 5.3, 5.4, or 5.5). So for alternatives 5.3, 5.4, or 5.5, the Council would adjust its risk policy to indicate that in this, and only this, specific case of bluefish rebuilding initiation, the risk policy of the Council is adjusted to use this the number of years associated with the rebuilding timeline (thus limiting this adjustment both temporally and by species). This is the only way that the Council can consider a rebuilding plan longer than five years and allow the higher associated catches.

The FMAT is now requesting guidance from the Council/Board on which alternative(s) they prefer and if there are any other rebuilding alternatives they would like to request. Figure 9 presents catch and SSB comparisons for each rebuilding alternative.

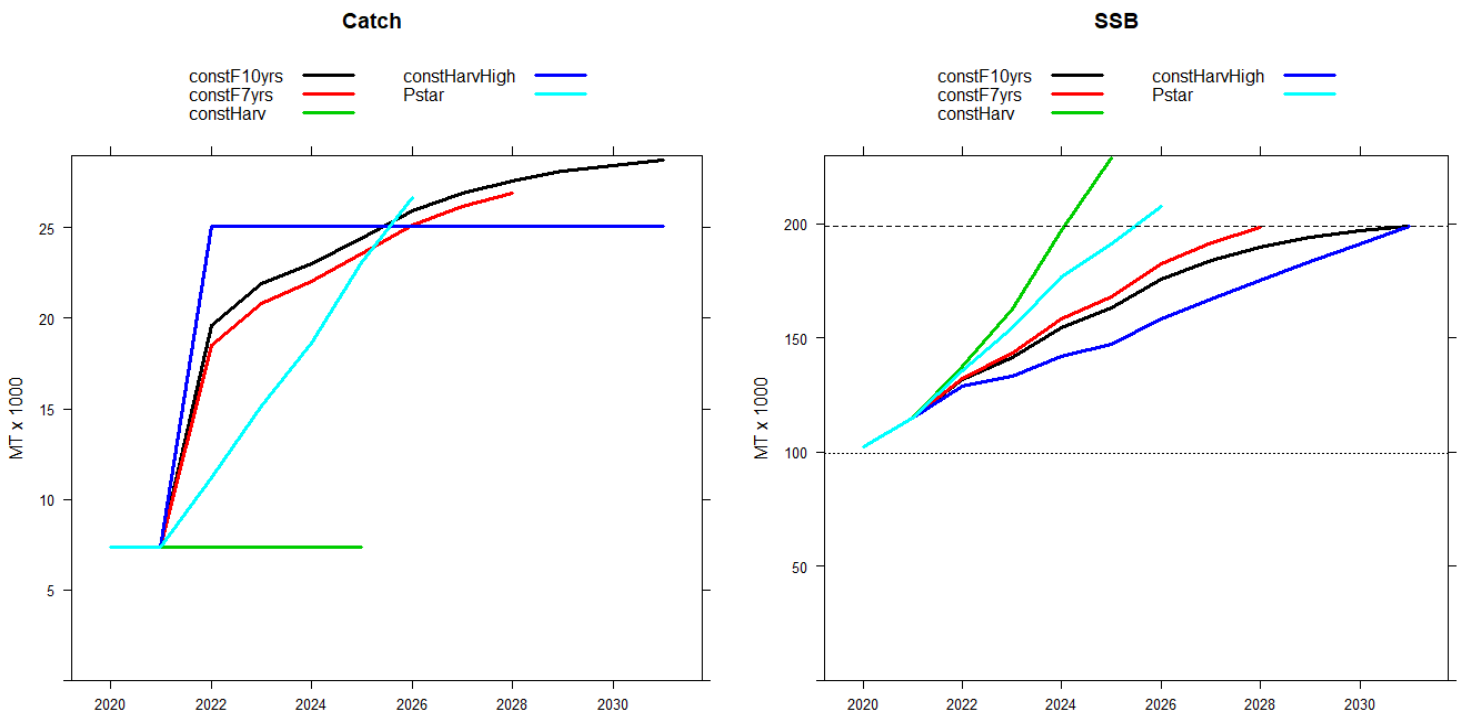


Figure 9. Catch (left) and spawning stock biomass (right) comparisons under each rebuilding alternative over time.

6. Other (Management Uncertainty, For-Hire Sector Separation, *de minimis*)

6.1 Management Uncertainty

This alternative set is available to potentially alter the bluefish flowchart. Specifically, the proposed flowchart created sector specific ACLs that allow for management uncertainty to be accounted for within each sector.

6.1.1 Management Uncertainty: No Action/Status Quo

The no action/status quo alternative keeps the existing management uncertainty provisions in place as described in Amendment 1 (Figure 10).

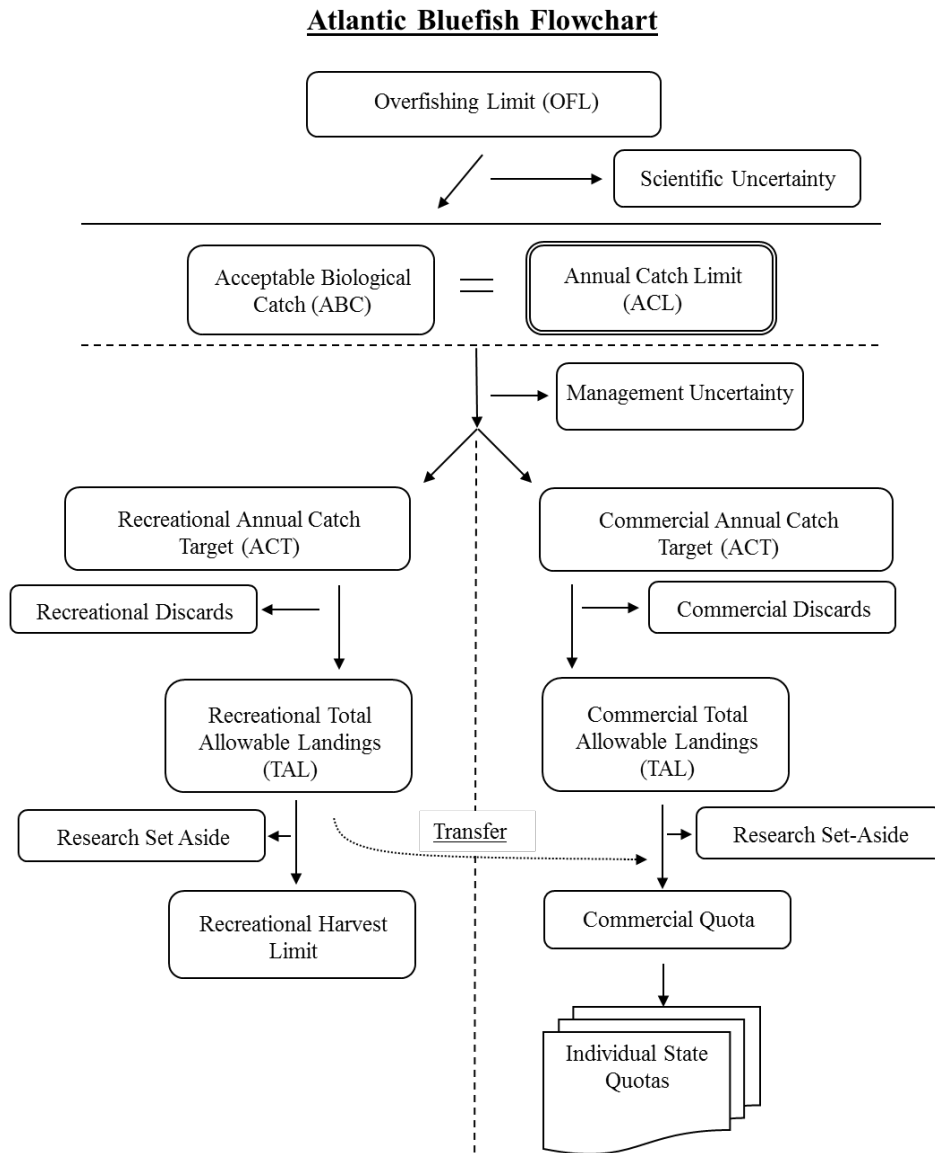


Figure 10. Current bluefish flow chart representing a reduction for management uncertainty prior to the sector split.

6.1.2 Management Uncertainty: Post-Sector Split

Under this alternative, the ABC is allocated between two sector-specific ACLs and management uncertainty is accounted for within each sector. (Figure 11).

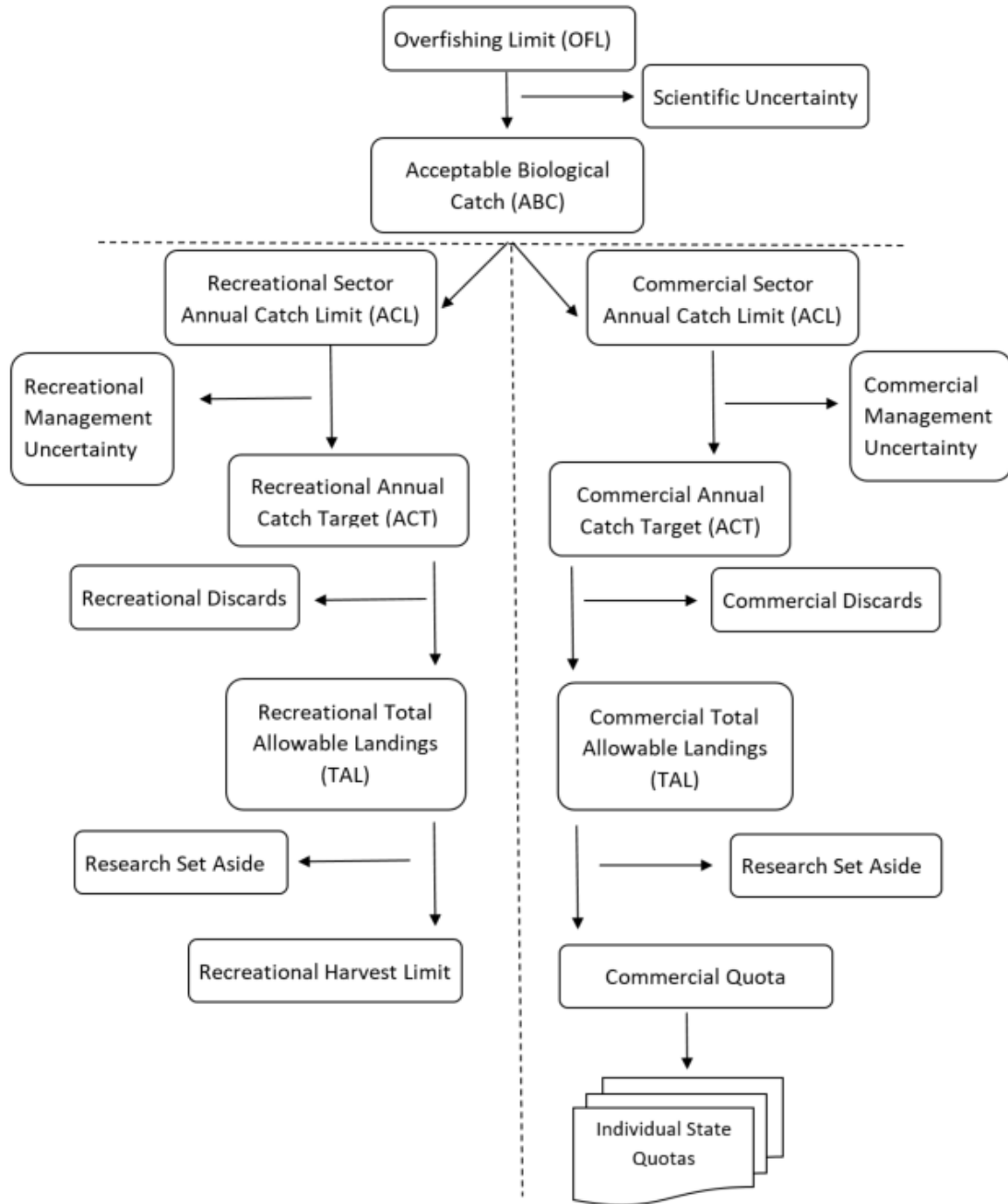


Figure 11. Proposed bluefish flow chart representing a reduction for management uncertainty within each sector, respectively.

FMAT Comments/Recommendations on Issue 6: Management Uncertainty

The FMAT agreed that this concept should be left in the amendment for further consideration. Alternative 6.1.2 would refine the management uncertainty tool to enable it to target one specific sector while not negatively affecting the other sector.

6.2 For-Hire Sector Separation (Reference Material – Alternatives are 6.2.01 - 6.2.10)

Recreational sector separation can be considered through either separate allocations for the for-hire sector and private anglers, or as separate management measures for the two recreational sectors without a fully separate allocation, as is currently allowed in the plan.

This option would specify within the FMP a separate percentage allocation to the for-hire recreational sector of either the ABC limit, the recreational ACT, or the RHL. There are several potential ways in which a separate allocation could be created for the for-hire sector, described below with comparison to the current process which does not include sector separation. These potential options are illustrated in Figure 12. The differences between some of these options are nuanced, and the pros and cons of each approach should be further explored by the FMAT if these alternatives remain in the amendment.

- A. Current FMP:** The ABC is divided into the recreational ACT and the commercial ACT. Projected recreational discards are removed from the recreational ACT to derive the recreational harvest limit. Both the private and for-hire recreational sectors are held to a single combined ACT and RHL, and performance evaluation and accountability measures are applied to both fisheries together.
- B. Separate ACTs:** The ABC would be allocated three ways: into a private recreational ACT, a for-hire recreational ACT, and a commercial ACT. This method would require development of these three allocations, and development of separate accountability measures for the private recreational and for-hire sectors.
- C. Recreational Sub-ACTs:** The ABC would remain divided into the recreational ACT and commercial ACT based on the allocation approach selected through this action. The recreational ACT would be further allocated into private and for-hire sub-ACTs. This method would also require development of separate accountability measures for the private recreational and for-hire sectors.
- D. Separate RHLs:** The private recreational and for-hire recreational sectors would remain managed under a single recreational ACT. Separate RHLs could be developed for each sector for the purposes of determining management measures. Accountability under this option would likely be partially at the RHL level (in the sense that performance to the RHL would likely be evaluated for each recreational sector for the purposes of adjusting future management measures to constrain harvest to the RHL) and partially at the ACT level (in the sense that accountability measures must be established at the ACT level to trigger a response if the entire recreational ACT is exceeded). This approach includes separate management of harvest only; dead discards are not included in RHLs and would be accounted for at the ACT level.

Note: Any approach creating separate ACTs or sub-ACTs would require the development of corresponding separate accountability measures.

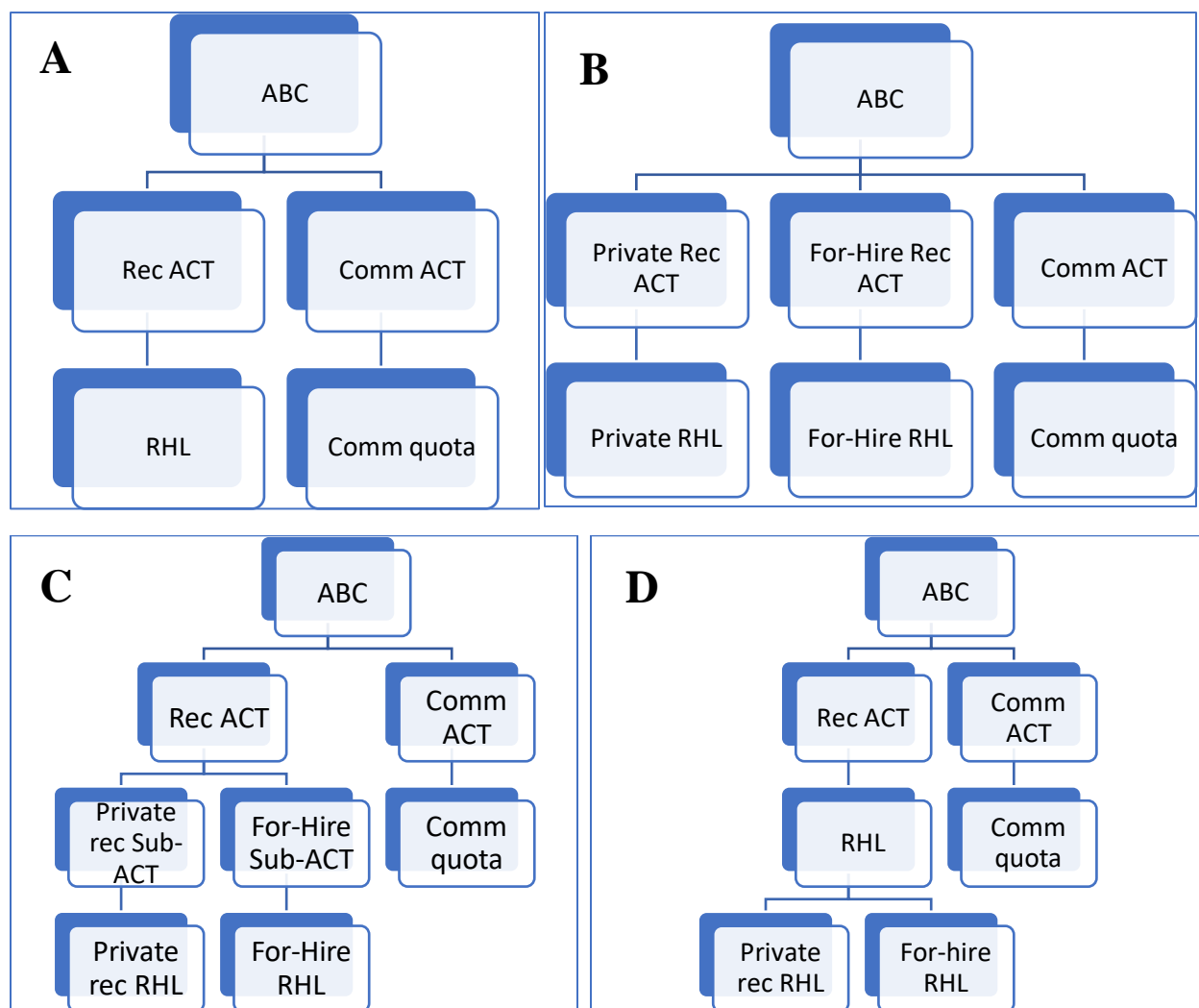


Figure 12. Conceptual flowcharts of potential recreational sector separation configurations including A) status quo, B) separate ACT allocations, C) Sub-ACT allocations, and D) separate RHLs.

In addition to determining where sector separation occurs, consideration should be given to which data sources and methods to use for sector allocation, including:

- How to use MRIP and/or VTR data in the allocations;
- Whether to allocate using catch or harvest (related to the question of whether to allocate at the ACT or RHL level);
- Whether to allocate in numbers of fish or pounds;
- The base years or other method of evaluating this recreational sector data.

Many stakeholders during scoping expressed an interest in sector separation to better make use of for-hire VTR data, which they perceive as being more accurate due to for-hire reporting requirements. However, there are also some concerns about the accuracy of self-reported for-hire

VTR data. VTR data also includes only estimates of numbers of fish, not weight, so incorporating VTR data into allocations would require either establishing allocations based on numbers of fish, developing a method to estimate weights of harvested and discarded fish from the numbers reported on VTRs, or adding a required data field for weight to the VTR electronic forms. The FMAT previously noted that some state vessels are not required to submit VTRs for state-only vessels and cautioned that data from these groups would be missing if VTRs are used to determine for-hire allocations.

Comparing for-hire harvest estimates from MRIP to for-hire VTR data for bluefish shows that on average for-hire VTR harvest is lower than MRIP for-hire estimates since 1997 (Figure 13).

Table 13 and Table 14 include examples of sector separation using MRIP estimates to generate landings and catch-based allocations, respectively. However, these are just a few examples of the several possible ways to look at these splits and the FMAT should discuss whether these approaches are appropriate for presentation at the June Council and Board meeting.

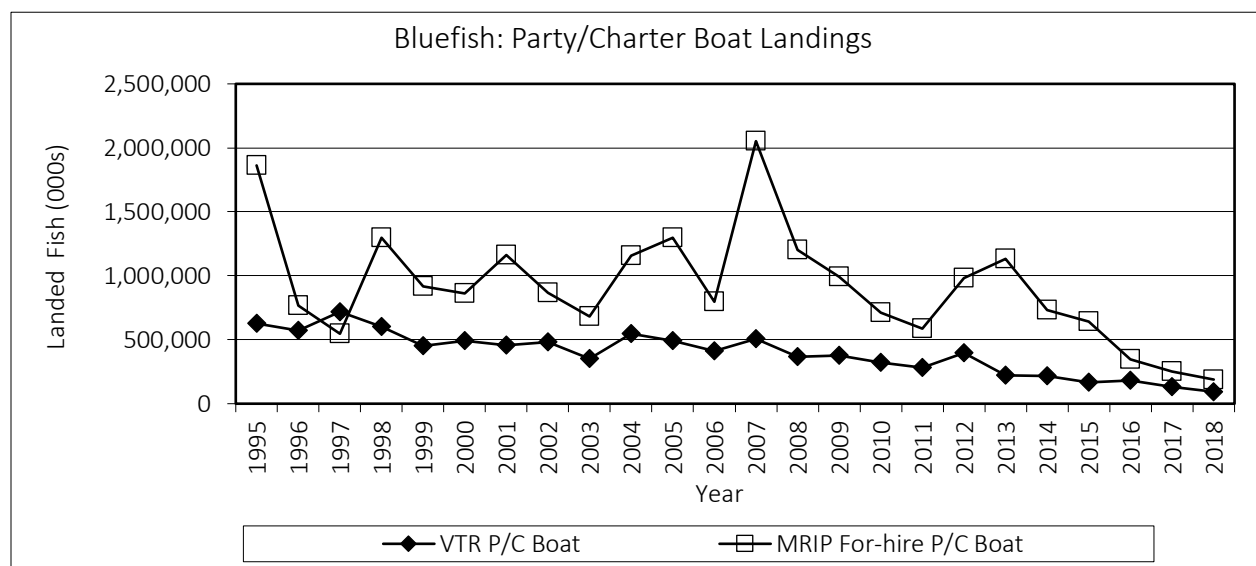


Figure 13. Comparison of federal party/charter vessel VTR estimates of landed bluefish vs. MRIP estimated for-hire landed bluefish, 1995-2018.

6.2.01 For-Hire Sector Separation: No Action/Status Quo

The no action/status quo alternative does not include for-hire sector separation in the Amendment. The recreational sector would remain as described in Amendment 1.

6.2.02-6.2.04 For-Hire Sector Separation Based on Landings Data

Under these alternatives, the recreational fishery has separate allocations for the for-hire and private/shore fishing modes (Table 13).

Note: Quota monitoring for the for-hire sector will likely have to be conducted using MRIP data because not all for-hire vessels submit Electronic Vessel Trip Reports (eVTR) (e.g. state vessels in state waters) and data needs to be compared to the private sector, which does not have eVTR requirements.

Table 13. Recreational for-hire and private/shore allocation alternatives based on landings data

Alternative	Allocation Time Series	For-Hire Allocation	Private/Shore Allocation
Status quo	N/A	N/A	N/A
6.2.02	5 year (2014-2018)	7%	93%
6.2.03	10 year (2009-2018)	9%	91%
6.2.04	20 year (1999-2018)	12%	88%

6.2.05-6.2.07 For-Hire Sector Separation Allocations Based on Catch Data: Modified-GARFO Discard Method

Under these alternatives, the recreational fishery has separate allocations for the for-hire and private/shore fishing modes (Table 14).

Since the GARFO method for calculating dead discards lacks a mode-specific component, a modified version of the GARFO method was needed to generate catch-based allocations for the recreational sectors. Discards in pounds were calculated by multiplying the live releases (B2s) estimate by the mean weight of landed fish specified at the mode (charter, shore, private/rental, etc.) and year level. In this way, live releases were converted from an estimate in numbers of fish to weight. This value was then multiplied by the 15% discard mortality rate that is assumed in Bluefish stock assessments. One admitted shortcoming of the modified GARFO method is that it lacks a regional and temporal component, but it has the added benefit of a mode component. Figure 14 displays how the modified GARFO method compares to the original GARFO method and the NEFSC method for generating estimates of dead discards.

Note: Quota monitoring for the for-hire sector will likely have to be conducted using MRIP data because not all for-hire vessels submit eVTR (e.g. state vessels in state waters) and data needs to be compared to the private sector, which does not have eVTR requirements.

Table 14. Recreational for-hire and private/shore allocation alternatives based on catch data

Alternative	Allocation Time Series	For-Hire Allocation	Private/Shore Allocation
Status quo	N/A	N/A	N/A
6.2.02	5 year (2014-2018)	6%	94%
6.2.03	10 year (2009-2018)	8%	92%
6.2.04	20 year (1999-2018)	10%	90%

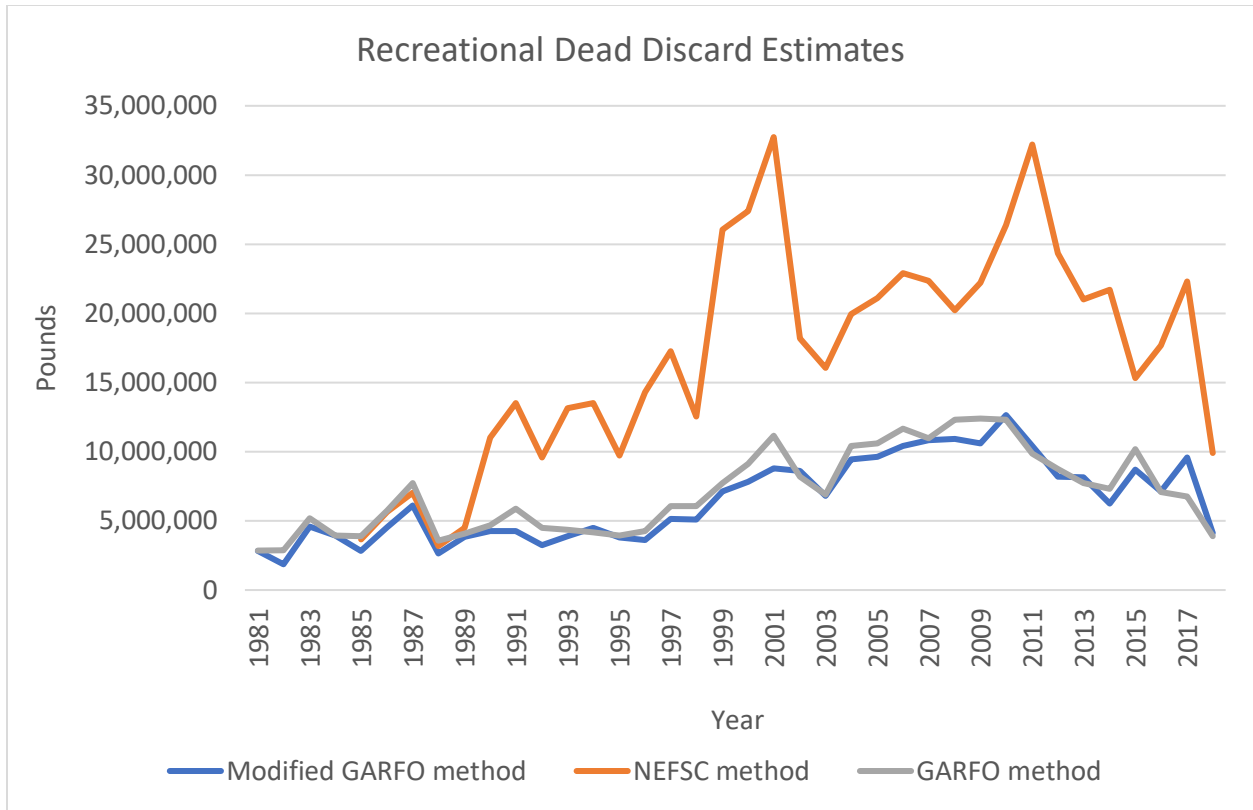


Figure 14. Recreational dead discard estimates from 1981-2018 calculated using the GARFO method, modified GARFO method and the NEFSC method.

6.2.08-6.2.10 For-Hire Sector Separation Allocations Based on Catch Data: NEFSC Discard Method

These alternatives were excluded from the analysis because there was a lack of data necessary to generate dead discards by recreational fishing mode using the NEFSC methodology.

FMAT Comments/Recommendations on Issue 6: For-Hire Sector Separation

The FMAT reached consensus that for-hire sector separation should be removed from the amendment. The FMAT expressed several concerns with pursuing this issue further. Foremost, the FMAT thought that developing for-hire sector allocations is such a large task that it could significantly delay the amendment timeline. FMAT members were concerned about the reliability of MRIP data at the mode level when generating allocations. MRIP data with high PSE values poses additional issues for catch accounting and accountability. There is also the difficulty of determining how accountability measures are implemented between modes. Lastly, according to MRIP data, the for-hire sector is a relatively small portion of the recreational fishery and for-hire fishermen may draw issue with the resultant small allocation.

Furthermore, the FMAT indicated that the current recreational management measures in place offer the for-hire sector different measures than private anglers. Those management measures (5-fish bag limit for for-hire and 3-fish bag limit for private anglers) will be reviewed every year as part of the specifications packages and will be revised accordingly in relation to stock status and

the ABCs. Given the vast uncertainties in how the fishery will perform under these proposed alternatives and the ability to change management measures through specifications, the FMAT recommended removal of the for-hire sector separation alternatives from the amendment. However, the FMAT suggests that if the Council and Board decide that this issue should be pursued further, for-hire sector separation could be addressed through a separate action at a later date. For-hire sector separation may also be better addressed in the context of a multi-species action.

6.3 Recreational *de minimis*

Under the Commission's Fishery Management Plan, states which land less than 0.1% of the coastwide commercial landings in the year prior are exempt from fishery independent monitoring requirements for the following year. However, the federal plan does not require states to submit fishery independent monitoring reports, and as such has no *de minimis* provision.

6.3.1 Recreational *de minimis*: No Action/Status Quo

Under this alternative, *de minimis* status would remain excluded from the Bluefish Amendment maintaining status quo for both the Commission and Federal plan.

6.3.2 Recreational *de minimis*: State Waters

This alternative expands upon the Commission's *de minimis* provision to include a recreational component. During scoping, Georgia DNR proposed that a three-year average of combined recreational and commercial landings compared against coastwide landings for the same period with a 1% threshold would be used to determine status. A *de minimis* determination would relieve a state from having to adopt fishery regulations in addition to the existing exemption of the requirement to conduct fishery independent monitoring.

This alternative does complicate coastwide management of bluefish in that it poses additional challenges from an enforcement perspective and potential unforeseen challenges from a catch-accounting perspective. From an enforcement perspective, anglers will need to be cognizant of the differing regulations between state and federal waters, as well as differing regulations when crossing state lines. However, these concerns are already at play when states implement recreational measures within state lines under the Commission's conservation equivalency policy that differ from the coastwide measures. From a catch accounting perspective, the proposed *de minimis* provision would reduce a state's accountability for its recreational harvest. Currently, the plan ensures that all states are held accountable by adjusting recreational measures to ensure coastwide recreational catch does not exceed the recreational harvest limit (RHL). A state that meets the *de minimis* criteria would not be held accountable the same way, which raises questions about fairness and equity across state user groups.

FMAT Comments/Recommendations on Issue 6: *de minimis* status

The FMAT agreed that the *de minimis* provision should be kept in the amendment but should remain a state waters only provision. The FMAT agreed that applying the *de minimis* provision to federal waters would overcomplicate the issue and would likely not be approved by NOAA

Fisheries. If the Board is interested in pursuing this further, the FMAT requests further guidance on the two questions below.

Questions for the Board:

1. Is a 1% threshold an appropriate cutoff to be considered *de minimis* given that the cutoff under the current Commission *de minimis* provision is 0.1% of total commercial landings?
2. What would be the repercussions if a state exceeded the 1% threshold? Would a state be required to adopt the latest recreational measures the following year or be found out of compliance?

Appendix 1

Florida Proposal: Regional Commercial Allocations Instead of Commercial Allocations to the States

Currently, the commercial quota is allocated to the states using historical landings data from 1981-1989. In the past, this has been an effective way to fairly distribute the commercial quota to allow each state to have a profitable bluefish fishery. However, given the overfished status and new specifications that will likely go into effect, if the Council and Commission were to move forward with updating the 1981-1989 time series that sets the current state allocations, it will disproportionately impact states like Florida. Under the new specifications, the commercial sector quota decreased by about 64%, meaning that all states took a significant decrease in the amount of bluefish they can commercially harvest. If the state-to-state commercial allocation percentages are adjusted using the methods proposed in the “Rebuilding Plan and Reallocation Amendment” the commercial fishery in Florida will lose the opportunity to be a viable and profitable fishery.

Alternative allocation option:

An alternative option to address the issue described above would be to move from individual state allocations to region-wide allocations. Could the Fishery Management Action Team (FMAT) potentially look into separating the commercial allocation based on region instead of by state?

Suggested regions

- **New England region** – Maine, New Hampshire, Massachusetts, Rhode Island, and Connecticut
- **Mid-Atlantic region** – New York, New Jersey, Pennsylvania, Delaware, Maryland, and Virginia
- **South Atlantic region** – North Carolina, South Carolina, Georgia, and Florida

If states are concerned with a single state harvesting too much of the regional allocation, additional precaution can be put in place to help avoid this. For example, in-season commercial vessel limit step downs could be used, similar to what is currently in place for the south Atlantic Spanish Mackerel fishery.

Example: The bluefish season could start off with no commercial vessel limit (current regulations). As the fishing season continues, once 75% of the regional quota is harvested, or predicted to be harvested, a 1000 lb. commercial vessel limit would go into effect. Once 90% of the regional quota is harvested, the vessel limit would step down to 500 lbs. This idea would help slow down the overall harvest and extend the fishing season.

The alternative allocation option described above will not disproportionately impact states compared to what is currently proposed in the “Rebuilding Plan and Reallocation Amendment” and will continue to allow access to all commercial fishermen, regardless of what state they fish in.



Bluefish Allocation and Rebuilding Amendment - Action Plan

(Updated as of April 2020)

Amendment Goal

The goal of this amendment is to review and possibly revise the allocation between the commercial and recreational fisheries and the commercial allocations to the states. This action is needed to rebuild the bluefish stock, avoid overages, achieve optimum yield, prevent overfishing, and reduce the need for quota transfers off the U.S. east coast.

Fishery Management Action Team

The Council will form a team of technical experts, known as a Fishery Management Action Team (FMAT) to develop and analyze management alternatives for this amendment. The FMAT is led by Council staff and includes management partners from the National Marine Fisheries Service (NMFS) Greater Atlantic Regional Fisheries Office (GARFO), the Northeast Fisheries Science Center (NEFSC), the Southeast Fishery Management Council (SAFMC), and the Atlantic States Marine Fisheries Commission (ASMFC). The FMAT will work with other experts to address specific issues, as needed.

FMAT Membership

Name	Role/Expertise	Agency
Matthew Seeley	FMAT Chair	MAFMC
Danielle Palmer	Protected Resources	NMFS GARFO
David Stevenson	Habitat Conservation	NMFS GARFO
Cynthia Ferrio	Sustainable Fisheries	NMFS GARFO
Ashleigh McCord	NEPA	NMFS GARFO
Tony Wood	Population Dynamics	NEFSC
Matthew Cutler	Social Sciences	NEFSC
Samantha Werner	Economist	NEFSC
Dustin Colson Leaning	Plan Coordinator	ASMFC
Mike Celestino	Bluefish Technical Committee	NJDFW

Applicable Laws

Magnuson-Stevens Act	Yes
National Environmental Policy Act	Yes – will require an Environmental Assessment or Environmental Impact Statement
Administrative Procedure Act	Yes
Regulatory Flexibility Act	Yes
Paperwork Reduction Act	Possibly; depends on data collection needs
Coastal Zone Management Act	Possibly; depends on effects of the action on the resources of the coastal states in the management unit
Endangered Species Act	Possibly; level of consultation will depend on the actions taken
E.O. 12866 (Regulatory Planning and Review)	Yes
E.O. 12630 (Takings)	Possibly; legal review will confirm
E.O. 13123 (Federalism)	Possibly; legal review will confirm
E.O. 13771 (Reducing Regulation and Controlling)	Possibly; legal review will confirm
Essential Fish Habitat	Possibly
Social Impact Analysis	Possibly
Information Quality Act	Yes

Expected Document

Acronym	NEPA Analysis	Requirements
EA	Environmental Assessment	NEPA applies, no scoping required, public hearings required under MSA
EIS	Environmental Impact Statement	NEPA applies, scoping required, public hearings required

Draft Timeline for Amendment Development and Implementation

Task Description	Date (subject to change)
Initiation and request of FMAT participants	December 2017
Formation of FMAT	January 2018
Initial FMAT discussion	March 2018
ASMFC meeting - review scoping plan and document	May 2018
Scoping hearings / scoping comment period	June-July 2018
Council Meeting - review scoping comments and FMAT, Advisory Panel (AP), and Monitoring Committee recommendations; discuss next steps	August 2018
AP Meeting - review amendment goals and objectives, FMAT recommendations, develop recommendations for alternatives; any amendment issues?	July 2019
FMAT Meeting – review comments and develop draft alternatives	August 2019
Joint Council and Board Meeting – discuss incorporating rebuilding and review the issues to be covered in the Amendment	October 2019
Joint Council and Board Meeting – approve supplemental scoping document for additional scoping hearings	December 2019
Supplemental scoping hearings / scoping comment period	February-March 2020
FMAT Meeting – review comments and provide recommendations for the scope of the action	April 2020
Joint Council & Board Meeting - review scoping comments and FMAT recommendations; identify potential alternatives to consider	May 2020
FMAT Meeting – develop draft alternatives	May 2020
AP Meeting – provide recommendations on draft alternatives	June 2020
Joint Bluefish Committee and Board Meeting - review and refine draft alternatives	June 2020
FMAT Meeting – Finalize draft alternatives for the August Joint Council Board Meeting	July 2020
Joint Council & Board Meeting – review and approve alternatives for public hearing document	August 2020
Development of public hearing document and hearing schedule	Fall 2020
Joint Council & Board Meeting – Approve public hearing document and EA/EIS	December 2020
Public hearings	January-February 2021

AP Meeting - recommendations for final action	March 2021
Bluefish Committee Meeting - recommendations for final action	Spring 2021
Joint Council & Board Meeting - final action	Spring 2021
Submission of draft EA/EIS to GARFO	Spring/Summer 2021
Draft EA/EIS revisions and resubmission	Summer/Fall 2021
Rulemaking (proposed rule)	Fall 2021
Rulemaking (final rule)	Winter 2021



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Michael P. Luisi, Chairman | G. Warren Elliott, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

Date: June 4, 2020
To: Council
From: J. Didden
Subject: May 27, 2020 MSB Monitoring Committee Summary and Staff Recommendations

The Mackerel, Squid, and Butterfish (MSB) Monitoring Committee (MC) met to make recommendations for *Illex* specifications based on the Scientific and Statistical Committee's (SSC) recommendation of a 30,000 metric ton (MT) Acceptable Biological Catch for both 2020 and 2021.

MC members attending included Jason Didden, Doug Christel, Lisa Hendrickson, and Ben Galuardi. Others attending included: Drew Minkiewicz, Kara G, Katie Almeida, Peter Hughes, Kate Wilke, Alissa Wilson, Jeff Kaelin, Eric Reid, Greg DiDomenico, Aly Pitts, Pam Lyons Gromen, James Fletcher, and Dan Farnham Jr.

J. Didden provided an overview of the regulatory charge to the MC: to make recommendations from a list of measures (see §648.22) to ensure that the specifications are not exceeded. Quotas were exceeded by about 5% in 2018 and 10% in 2019. GARFO staff indicated that the causes of the 2019 overage included higher prediction error associated with higher volumes, and incomplete data at the time closure projections are made (due to typical reporting lags).

The MC noted that for 2020, measures to change closure thresholds, discards, and/or reporting are not feasible. The best route forward for 2020 would be for GARFO to make an in-season adjustment after consulting with the Council in June 2020. Council staff will create the necessary NEPA documents, and staff recommends that the Council should request that *Illex* processors voluntarily decrease the time lag between vessel landing and dealer reporting to not more than 48 hours, especially after 50% of the quota is landed.

Subsequent examination of reporting lag by GARFO staff indicates that there was generally consistent and meaningful (but often legal) lag in 2019, and GARFO can use that information and data from 2020/21 to improve their forecasting in 2020/21 by correcting projections for reporting lag. This will reduce the likelihood of exceeding the specifications, especially if the main processors adhere to 48-hour (or less) reporting.

The MC discussed several aspects of potential 2021 specifications. Expected discards are deducted from the ABC, and currently the Council sets aside 4.52% (mean plus one standard deviation of most recent 10 years of observed discard rates in the last assessment: 1994-2004). 2016 and 2017

SBRM-year (July-June) discard rates were very similar to the current set-aside. The preliminary July 2018-June 2019 rate was about double however. The upcoming assessment will estimate typical calendar-year estimates and explore seasonal trends. If the assessment confirms consistently higher discard rates, additional quota may need to be set aside for discards.

The MC discussed whether changes to closure thresholds or reporting requirements may help ensure that the 2021 specifications are not exceeded. Reporting requirements are technically outside the scope of the MC's regulatory direction, but the MSB Committee and Council could make such recommendations. Subsequent analysis by GARFO staff (attached) indicates that a substantial number of trips and amount of landings are reported more than 4 days after a vessel lands (4 days is still often within current requirements). This suggests to staff that moving to requiring reporting within 48 hours of landing could improve GARFO's ability to monitor this fishery. Pending clarification that daily catch VMS reporting by vessels is required (in the *Illex* Amendment) should also improve monitoring, but will be most effective if coupled with faster dealer reporting.

The MC recommended that the Council consider some lower closure threshold depending on reporting changes the Council might also recommend, informed by the additional analysis by GARFO (attached below). Staff reached out to several dealers, and a 48-hour reporting requirement after July 15 for landings over 50,000 pounds (50,000-pound trips covered 95% of August 2019 landings) appears practicable. Public comments on the call were generally supportive of investigating reporting options rather than measures that would decrease available quota.

The MC discussed that lowering the closure threshold from 95% would reduce the likelihood of overages, but could lead to under-harvest. Staff noted the fishery was catching near 10% of the quota per week before increasing to near 15% of the quota per week just before the 2019 closure. If partnered with reporting improvements (e.g. 48-hour reporting), and a commitment from GARFO to continue exploring projection improvements, staff currently recommends a system where the closure threshold is tied to the rate of landings from the most recently-available week (so it may change week to week), with some closure thresholds slightly more cautionary than current when the fishery is most active:

- Closure threshold 95% if catching less than 5% of quota/week
- Closure threshold of 94% if catching 5-10%/week
- Closure threshold of 93% if catching >10%/week

GARFO would continue to attempt to close the fishery on the day landings are projected to hit the threshold in effect at the time.

While there will be some uncertainty until tested, staff believes that the combination of improved reporting, improved projecting, and incrementally-lowered closure thresholds during high-volume periods will likely result in the specifications not being exceeded. Monitoring performance will be evaluated on an ongoing basis, and it is likely that additional modifications (more or less restrictive) may be appropriate to consider in the future. Staff believes that consistent adherence to more rapid reporting may be critical to avoid overages and additionally-restrictive future closure thresholds. Likewise, if there is **not** hastening of reporting planned for 2021, staff currently

recommends the following reduced closure thresholds to ensure avoid exceeding the specifications:

- Closure threshold 95% if catching less than 5% of quota/week
- Closure threshold of 91% if catching 5-10%/week
- Closure threshold of 87% if catching >10%/week

The resulting specifications for the option **with** reporting modification would be:

2020: ABC of 30,000 MT and IOY = DAH = DAP = 28,644 MT. Other measures would stay the same. The Council could write a letter to the relevant processors encouraging voluntary rapid reporting.

2021: ABC of 30,000 MT and IOY = DAH = DAP = 28,644 MT.

- Closure threshold 95% if catching less than 5% of quota/week
- Closure threshold of 94% if catching 5-10%/week
- Closure threshold of 93% if catching >10%/week

Require a 48-hour reporting requirement after July 15 for landings over 50,000 pounds.

The MC is meeting for a second time June 15, 2020 and may provide some additional input for the Council meeting. Staff will produce a follow-up memo highlighting any substantial findings.

Other Included Briefing Materials:

SSC Report – see Tab 9

Supplemental GARFO reporting analyses

Staff ABC Memo

2020 Advisory Panel Fishery Performance Report

2020 Fishery Information Document

May 2020 *Illex* Working Group Summary

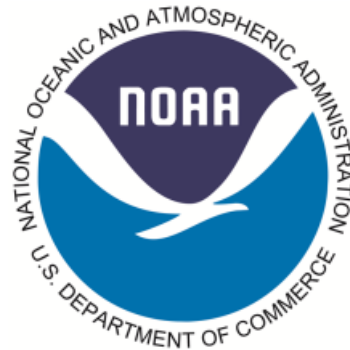
Public Comments received for inclusion in the briefing book

For a deep dive, see the *Illex* Working Group materials for the May 2020 SSC meeting: <https://www.mafmc.org/ssc-meetings/2020/may-12-13>.

Illex 2019 Landings Dates vs. Dealer Reporting Dates

Benjamin Galuardi (NOAA/NMFS/GARFO/APSD)

2020-05-29



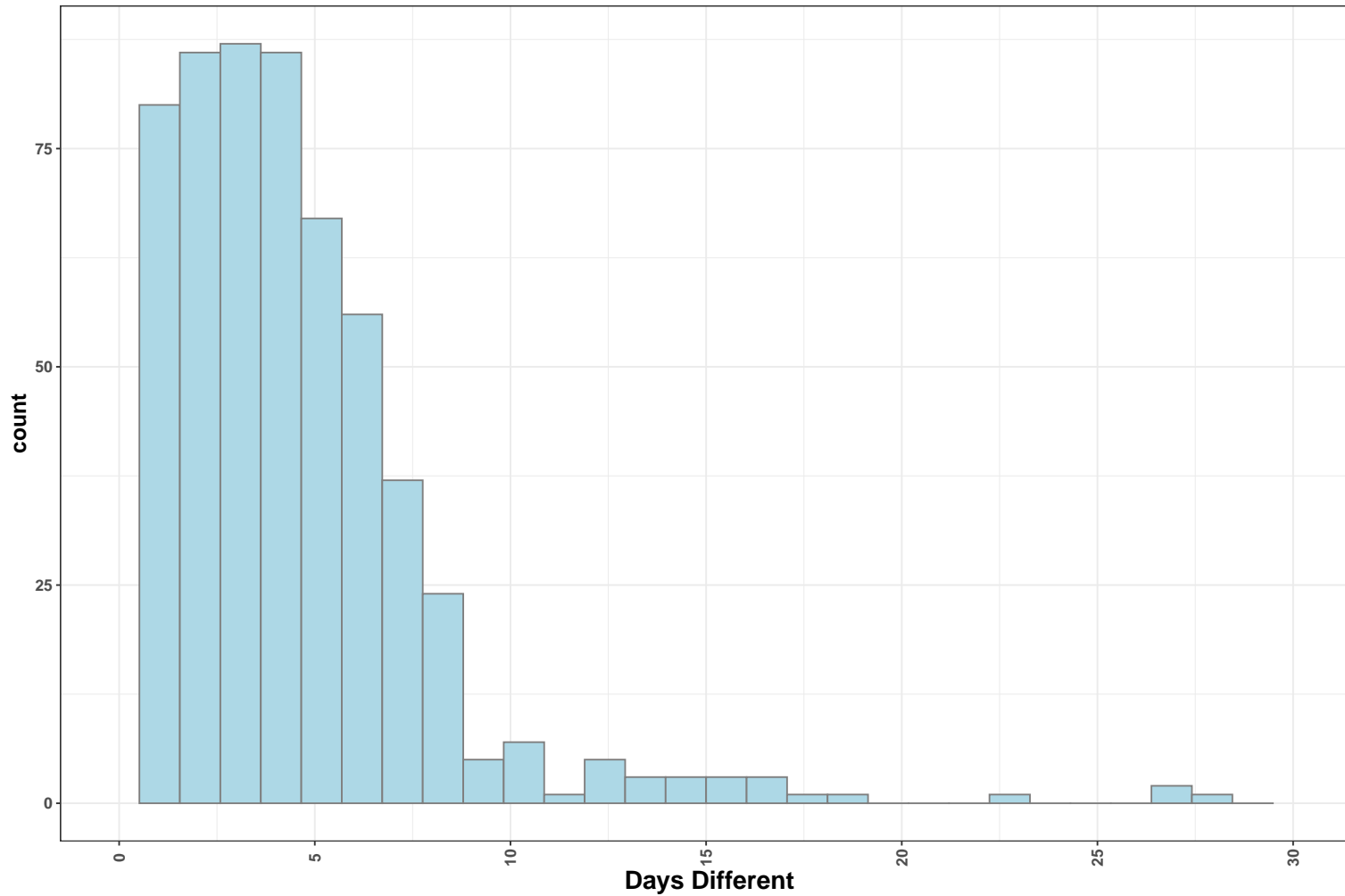


Figure 1: Lag, in days, between date sold and date recorded

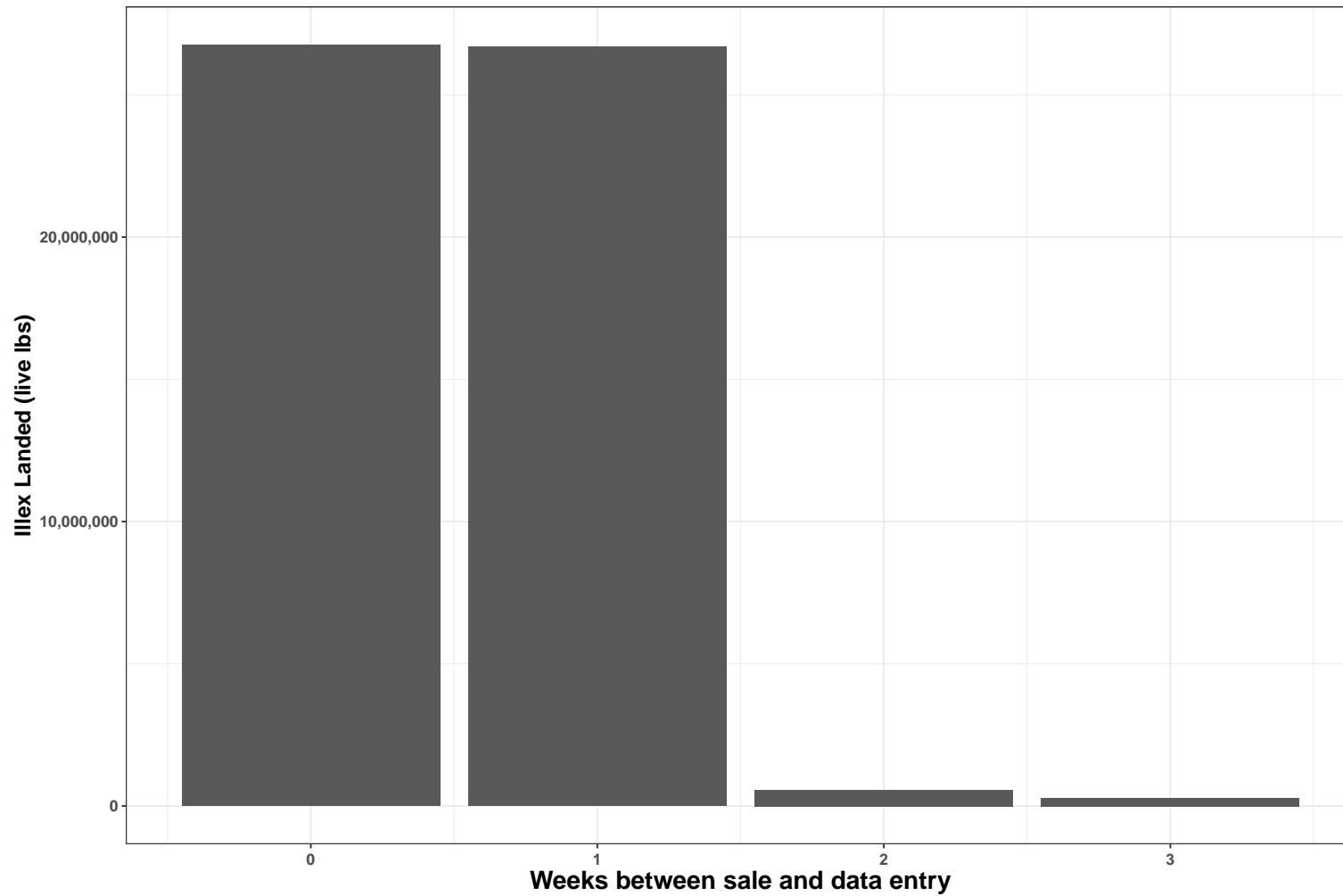


Figure 2: Week Difference between Sale and Report. Week begins on Sunday

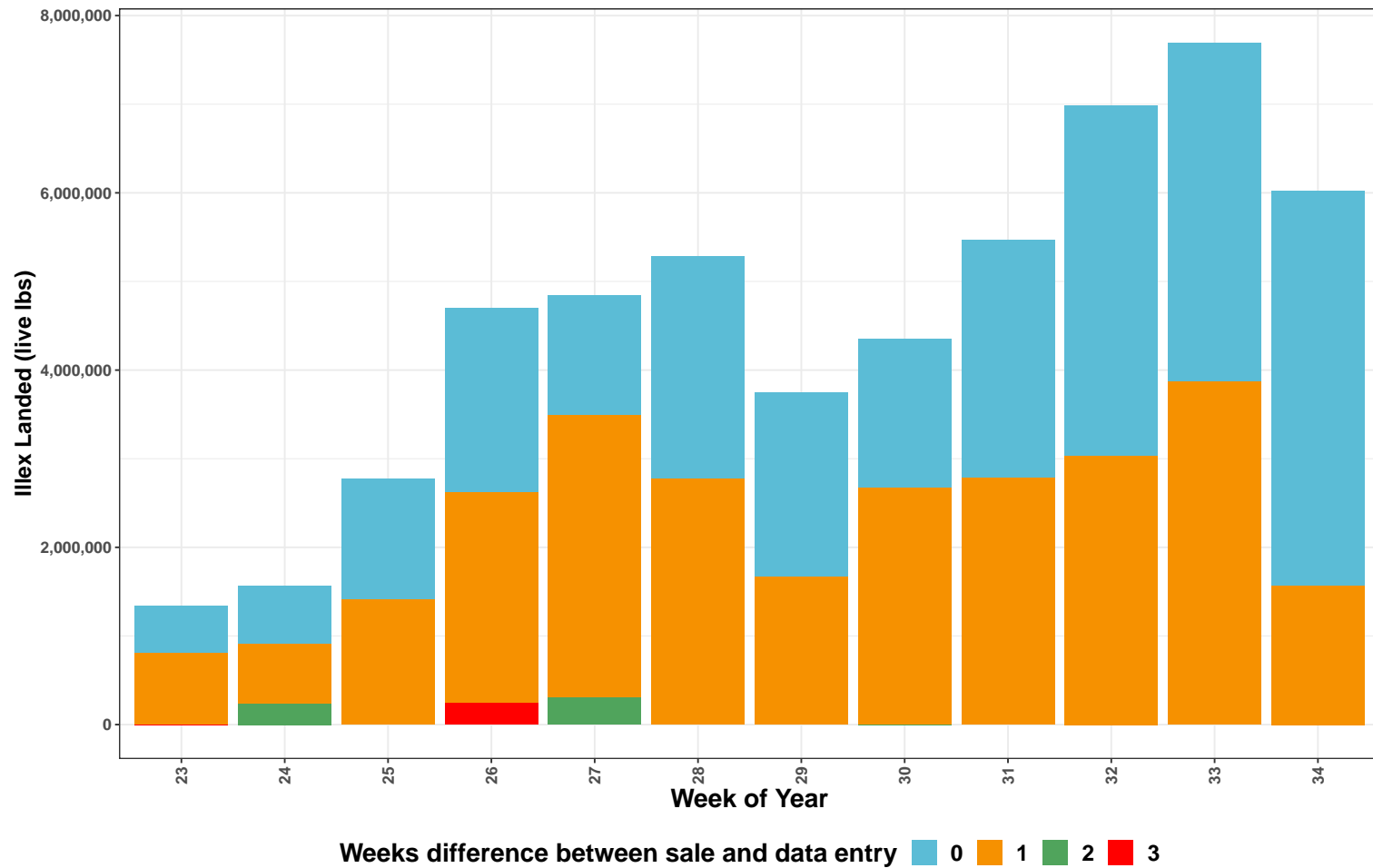


Figure 3: Difference in weeks, by week, between date sold and and date entered

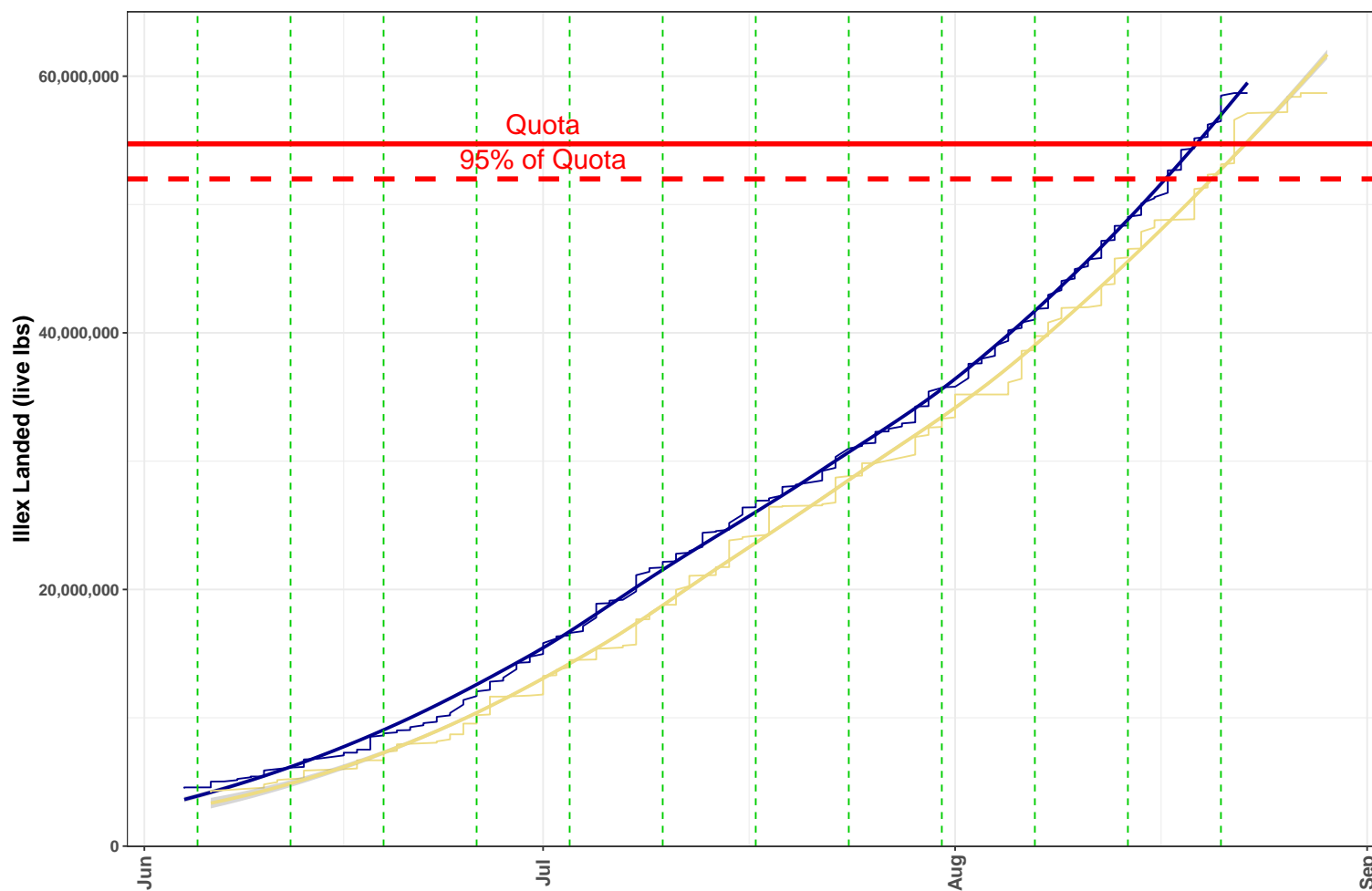


Figure 4: Illex 2019: Daily comparison of date sold (blue) vs. date entered (yellow). Green lines represent the Wednesday of each week



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Michael P. Luisi, Chairman | G. Warren Elliott, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

Date: May 5, 2020
To: SSC, Council
From: J. Didden, staff
Subject: *Illex* Squid ABC

The current *Illex* acceptable biological catch (ABC) of 26,000 MT is based on the SSC's 2018 finding that landings of 24,000-26,000 MT (the highest catches in the time series to that point) do not appear to have caused harm to the *Illex* stock. The SSC judged that *Illex* has been lightly exploited historically given the relatively small portion of its range within which the commercial fishery operates.

2019 *Illex* landings totaled 27,163.5 metric tons. Given the assumed 4.52% discard rate (the mean plus one standard deviation of the most recent 10 years of observed discard rates in the last assessment), this would translate into a 2019 catch of 28,449.4 MT. Recent SBRM discard rates have been similar.

Given the fall 2019 NMFS NEFSC survey was within the range of typical variability, and the *Illex* working group materials generally support that recent landings are still unlikely to have caused harm to the *Illex* stock, an ABC of 28,449.4 MT for 2020 appears justifiable. Staff understands that there is some danger of catch "creep" if NMFS continues to have difficulty closing the fishery on time, but approaches to mitigate monitoring challenges can be addressed from the management perspective, separately from the setting of ABC.

Staff recommends that the SSC also authorize a conditional 2020 in-season increase to 30,000 MT based on a trigger from the Cusum approaches developed through the *Illex* working group. The exact trigger would be determined by the SSC after reviewing and discussing the materials from the *Illex* working group. If the 3-4 primary *Illex* processors can produce sample data voluntarily in an electronic format provided by NMFS to allow rapid analysis, NMFS already has the authority to make in-season adjustments to the *Illex* quota.

Staff recommends that the SSC also provide an identical preliminary ABC recommendation for 2021. Staff will build in additional alternatives into relevant 2021 NEPA documents, so that flexibility would be available for 2021 if a modification to the preliminary recommendation became warranted (after reviewing the 2020 season and any related future analyses).



***Illex* Fishery Performance Report**

March 2020

The Mid-Atlantic Fishery Management Council's (Council) Mackerel-Squid-Butterfish (MSB) Advisory Panel (AP) met via webinar on March 31, 2020 to review the *Illex* Fishery Information Document and develop the following Fishery Performance Report. The purpose of this report is to contextualize catch histories for the Scientific and Statistical Committee (SSC) by providing information about fishing effort, market trends, environmental changes, and other factors. Fishery Performance Reports for the other MSB species will be developed later in the year. Trigger questions noted below were posed to the AP to generate discussion. Please note: the advisor comments described below are not necessarily consensus or majority statements.

Advisory Panel members present: Katie Almeida (MA -Towndock (RI)), Howard King (MD), Eleanor Bochenek (NJ - Rutgers), Gerry O'Neil (MA - Cape Seafoods), Jeff Kaelin (NJ - Lund's Fisheries), Meghan Lapp (RI - Seafreeze), Pete Kaizer (MA - Althea K Sportfishing), Hank Lackner (NY - FV Jason and Danielle), Pam Lyons Gromen (Wild Oceans), and Greg DiDominico (NJ - GSSA).

Others present: Jason Didden, Alissa Wilson, Andy Jones, Anna Mercer, Ben Galuardi, Brooke Wright, Chris Batsavage, Kim Hyde, Lisa Hendrickson, John Manderson, Paul Rago, Sarah Gaichas, Sonny Gwin, and Doug Christel.

Trigger questions:

The AP was presented with the following trigger questions:

1. What factors have influenced recent catch (markets/economy, environment, regulations, other factors)?
2. Are the current fishery regulations appropriate? How could they be improved?
3. What would you recommend as research priorities?
4. What else is important for the Council to know?

General

It has been previously requested that the NEFSC data updates include information on what is known and not known about ecosystem relationships for MSB species and how the various assessments already account for natural mortality/forage needs. Some AP members believe that consumption of forage stocks by marine mammals likely dwarfs mortality from fishing. There are both concerns that natural mortality may be over or under considered, and some AP members think the Council should direct the SSC to consider forage needs through a forage-based ABC control rule and further implement the policy goals of the Ecosystem Approaches to Fishery Management (EAFM) Guidance Document (<http://www.mafmc.org/eafm>). See 2018 FPR for additional details on this point <http://www.mafmc.org/ssc-meetings/2018/may-8-9>).

Staff mentioned that a new process is being developed for assessment and data updates.

A request was made previously for more information on the size distribution of landings and discards, and/or more information regarding the numbers of various fish species discarded (staff note: these are not traditionally part of the MSB FPR process but could be requested from NMFS).

AP members continued to note that several factors could be negatively impacting catches for all MSB species. Spiny Dogfish can create interference (loading nets), and/or be an ecological barrier (e.g. maybe mackerel won't go into areas with high dogfish concentrations). High dogfish populations seem to be associated with other species declining and this issue should be an important component of ecosystem management. Existing regulations, including the Northeast Canyons and Seamounts Marine Monument reduce fishing opportunities. There is strong concern that the size and breadth of all wind energy areas need consideration in terms of not just fishing but also related to loss of survey access, which could then in turn impact uncertainty/ABCs/quotas. Also, the various opportunities in the entire suite of fisheries in the area can drive effort into and out of particular fisheries in a given year.

Market/Economic Conditions

Demand drives the *Illex* fishery and participation. Price/demand are mostly dependent on the international market, which drives world trade prices and/or demand for U.S. *Illex*. Annual variability and price combine to drive interest in fishing for *Illex*. A strong dollar may also impact demand and effort. Market demand for *Illex* was robust in 2016-2019 and new markets are opening up (bait and food). MSC certification should help open new markets and increase prices. Meghan Lapp followed up after the call that SeaFreeze's sales personnel noted that combined world production of Japanese flying squid, Argentine shortfin squid, our *Illex*, and Jumbo flying squid has been down, and these species fill similar product niches, contributing to higher prices for our *Illex*.

Environmental Conditions

Availability changes quickly even in a year (waves of squid "come up onto the bank"). Quota levels have not hurt the stock and are unnecessarily impacting catches in some years; we need to think out of the box regarding quotas. Understanding migration is key and we don't understand the migration behavior and only access a small portion of the population. Real-time

assessment would be optimal to avoid leaving excess *Illex* (and revenues) in the water without a conservation purpose during natural peaks. We need to research ways to take advantage of boom years, including considering the size of squid (taking large squid means harvesting fewer animals). Current management is not sensitive to actual *Illex* productivity or the impact of the fishery. The fishing community should be an integral part of any effort; make changes carefully but don't just get stuck where we are.

Abundance generally and of large squid was unprecedented in 2017-2018, especially near the closures (300-400 grams). One industry representative reported slightly smaller squid in 2018 but noted the early closure prevented access to larger squid later in the year as they grow. In a follow-up email exchange, multiple AP members reported they saw very good size near the end of the 2019 season, and that landing rates improved right up to the end of the 2019 season.

Some have noted the decline in survey indices (individual weight) and high variability of *Illex* should give the SSC pause for concern.

There is also interest in learning more about spawning habitat and timing, and NEFSC staff noted that they have been discussing with the observer program about getting more data on spawning condition from samples.

Management Issues

In the future, deep-sea coral closures may impact the ability of vessels to operate depending on where squid are in a given year – this may become an issue especially in slower years that last longer – *Illex* patterns are changing like other fish – they seem to be deeper in recent years.

Reduced herring quotas may increase participation in the *Illex* fishery.

A higher incidental longfin limit for *Illex* vessels during longfin closures or a more gradual slowing of longfin fishing could avoid regulatory longfin discarding. The new (since 2014) higher limit (15,000 pounds for Tier 1 longfin permit, 5,000 pounds for Tier 2 when on an offshore *Illex* trip and having more than 10,000 pounds of *Illex*) may not totally solve this problem. There is also interest in seeing commercial size data included annually for review by the AP (this is being used by the working group). Staff notes that some public comments for the *Illex* Amendment also recommended for the primary *Illex* vessels an incidental possession limit increase to 20,000 pounds when possessing 10,000 pounds or more of longfin squid, after the *Illex* fishery closes, to allow for bycatch of *Illex* in the longfin squid fishery to be turned into landings.

Advisors noted ongoing Lobster/RGA issues and were interested in a better way to transition gears/area. (the Council tried to engage the ASMFC a number of years ago but there was not much interest). Fixed/mobile gear “gentlemen agreements” are used inshore and may be a solution, but might not be practicable for *Illex* given the patchiness of fish and the amount of gear out in the depth where *Illex* is fished. GARFO did have incidents of lobster gear interactions in 2020.

Jonah crab fixed gear is also an issue – boats are seeing more of this gear and it's becoming a problem.

Other Issues

For refrigerated sea water vessels to participate, they need high densities to drive participation because they have to return to the dock within two days of starting to put *Illex* onboard due to spoilage issues. The fleet is changing from freezers to RSW, increasing catch rates. 3 boats in last 18 months have been converted from freezers to RSW. Some new mackerel/herring boats (besides the ones that have typically participated in *Illex*) have jumped in with more efficient pumping technology, increasing landing rates.

2019 was another really good season but did not unfold as similar to 2018 as the quota line suggests. Catches were low the first few weeks and started later in the southern areas. The quota would have been caught even faster if the southern areas had started strong at more recently typical (higher) catch rates. One of primary Sea Freeze vessels was out of the fishery early for a few weeks but we didn't see overall slower landings due to more vessels participating.

Passing of vessels is getting more difficult with the amount of vessels in the fishing areas given the length of tow line (500 fathoms of wire) out in deep water.

Research Priorities noted included:

Real-time management with cooperative research.

Spawning information.



***Illex* Fishery Information Document**

March 2020

This Fishery Information Document provides a brief overview of the biology, stock condition, management system, and fishery performance for *Illex* squid with an emphasis on 2019. Data sources for Fishery Information Documents include unpublished National Marine Fisheries Service (NMFS) survey, dealer, vessel trip report (VTR), permit, and Marine Recreational Information Program (MRIP) databases and should be considered preliminary. For more resources, including previous Fishery Information Documents, please visit <http://www.mafmc.org/msb>.

Key Facts

- 2019 was the third banner year in a row for *Illex*, with the quota being harvested on a similar timeline as 2018. 2017-2019 represent the first sequence in the history of the fishery of three consecutive boom *Illex* years.
- Substantial variability is to be expected with any squid species.

Basic Biology

Illex squid is a semi-pelagic/semi-demersal schooling cephalopod species distributed between Newfoundland and the Florida Straits, and lives less than one year. *Illex* is a semelparous, terminal spawner whereby spawning and death occur within several days of mating. The northern stock component, located north of the USA-Canada border in NAFO Subareas 3 and 4, is assessed annually and is managed by the Northwest Atlantic Fisheries Organization (NAFO), though landings have been low in recent years. The NAFO assessment is not based on recent data. The southern/U.S. stock component is located in NAFO Subareas 5 and 6 between the Gulf of Maine and Cape Hatteras, NC and is managed by the Mid-Atlantic Fishery Management Council (the Council or MAFMC). Additional life history information is detailed in the EFH document for the species, located at:

<http://www.nefsc.noaa.gov/nefsc/habitat/efh/>.

Status of the Stock

The status of *Illex* is unknown with respect to being overfished or not, and unknown with respect to experiencing overfishing or not. Results from the NEFSC Trawl surveys are highly variable and without apparent long-term trend. The Council has established a working group (<http://www.mafmc.org/actions/illex-working-group>) to investigate if current information

suggests that adjustments to the *Illex* quota are appropriate, and if there are ways to make the quota more responsive to real-time conditions. There is also a benchmark *Illex* assessment planned for 2021. At this time, the outcome of these endeavors is uncertain. Some short-term results of the workgroup will be known by June 2020 and may influence SSC discussions regarding short-term ABCs, but there are also longer-term tasks that may be in progress beyond 2020.

Management System and Fishery Performance

Management

The Council established management of *Illex* in 1978 and the management unit includes all federal East Coast waters.

Access is limited with moratorium permits. Trip limits are triggered when the quota is approached. Incidental permits are limited to 10,000 pounds per trip. Additional summary regulatory information is available at <https://www.fisheries.noaa.gov/new-england-mid-atlantic/resources-fishing/resources-fishing-greater-atlantic-region>. An ongoing action may change *Illex* permitting – see <https://www.mafmc.org/newsfeed/2020/msb-illex-public-hearing-webinars>.

The current quota is 24,825 MT¹, based on a 26,000 MT Acceptable Biological Catch (ABC) and a 4.52% discard rate (the mean plus one standard deviation of the most recent 10 years of observed discard rates in the last assessment). Recent SBRM discard rates have been similar.

Recreational catch of *Illex* is believed to be negligible. There are no recreational regulations except for party/charter vessel permits and reporting.

Commercial Fishery

Figure 1 describes *Illex* catch 1963-2019 and highlights the early foreign fishery and then domestication of the fishery. Figures 2-3 describe domestic landings, ex-vessel revenues (nominal), and prices (inflation adjusted) since 1982. Figure 4 illustrates preliminary 2018 (yellow-orange) and 2019 (blue) landings through the year.

Table 1 describes 2019 *Illex* landings by state, and Table 2 describes 2019 *Illex* landings by gear type. Figure 5 describes the location of 2018 *Illex* landings. Table 3 provides preliminary information on *Illex* landings by statistical area for 2019.

¹ 1 metric ton = approximately 2,204.62 pounds

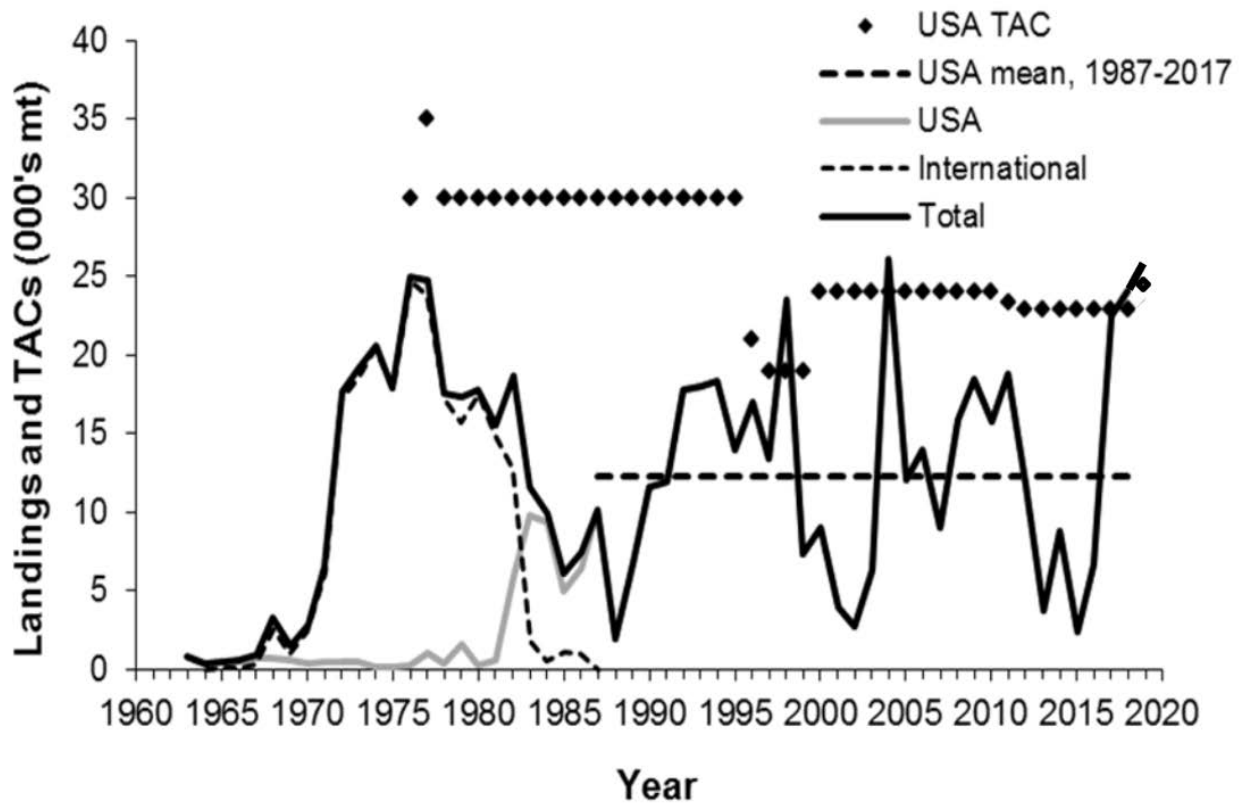


Figure 1. Total annual *Illex* landings (mt) by the U.S. and other countries for 1963-2019. Sources: NEFSC *Illex* Data update, available at <http://www.mafmc.org/ssc-meetings/2018/may-8-9> and NMFS unpublished dealer data.

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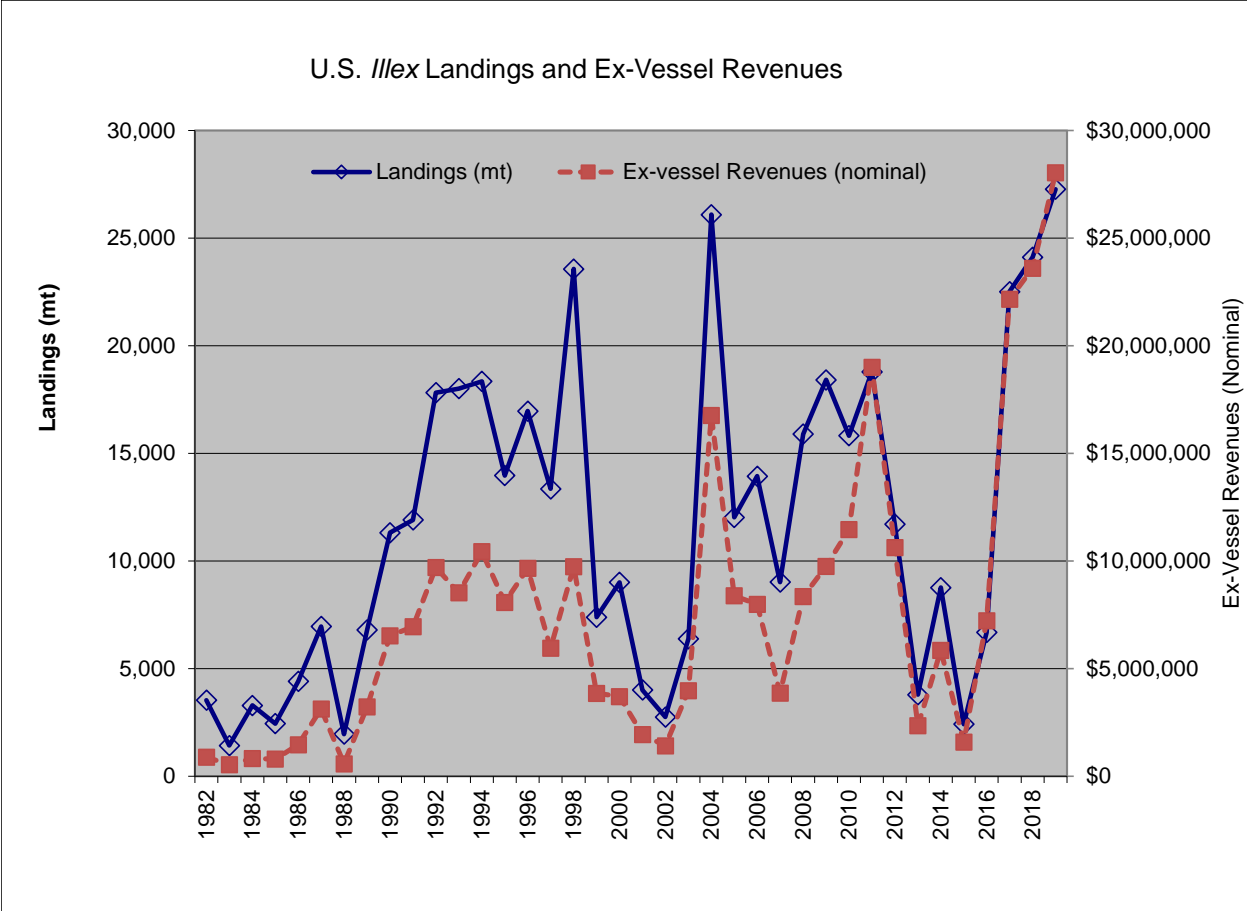


Figure 2. U.S. *Illlex* Landings and Nominal *Illlex* Ex-Vessel Values 1982-2019. Source: NMFS unpublished dealer data.

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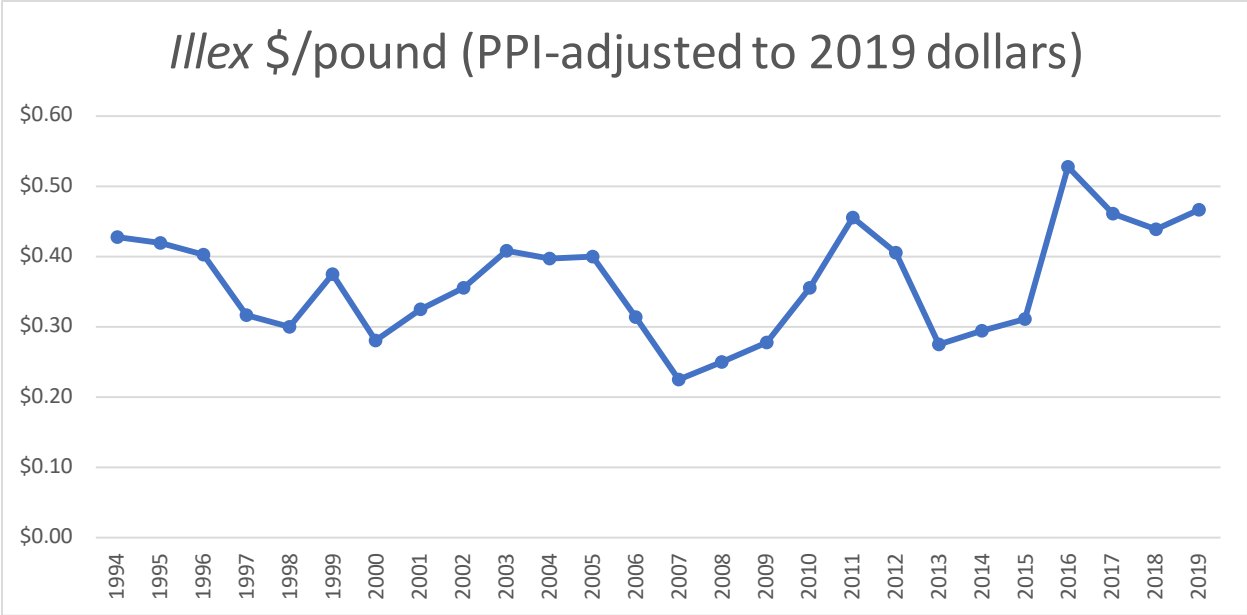


Figure 3. Ex-Vessel *Illlex* Prices 1994-2019 Adjusted to 2019 Dollars Based on Producer Price Index (PPI). Source: NMFS unpublished dealer data.

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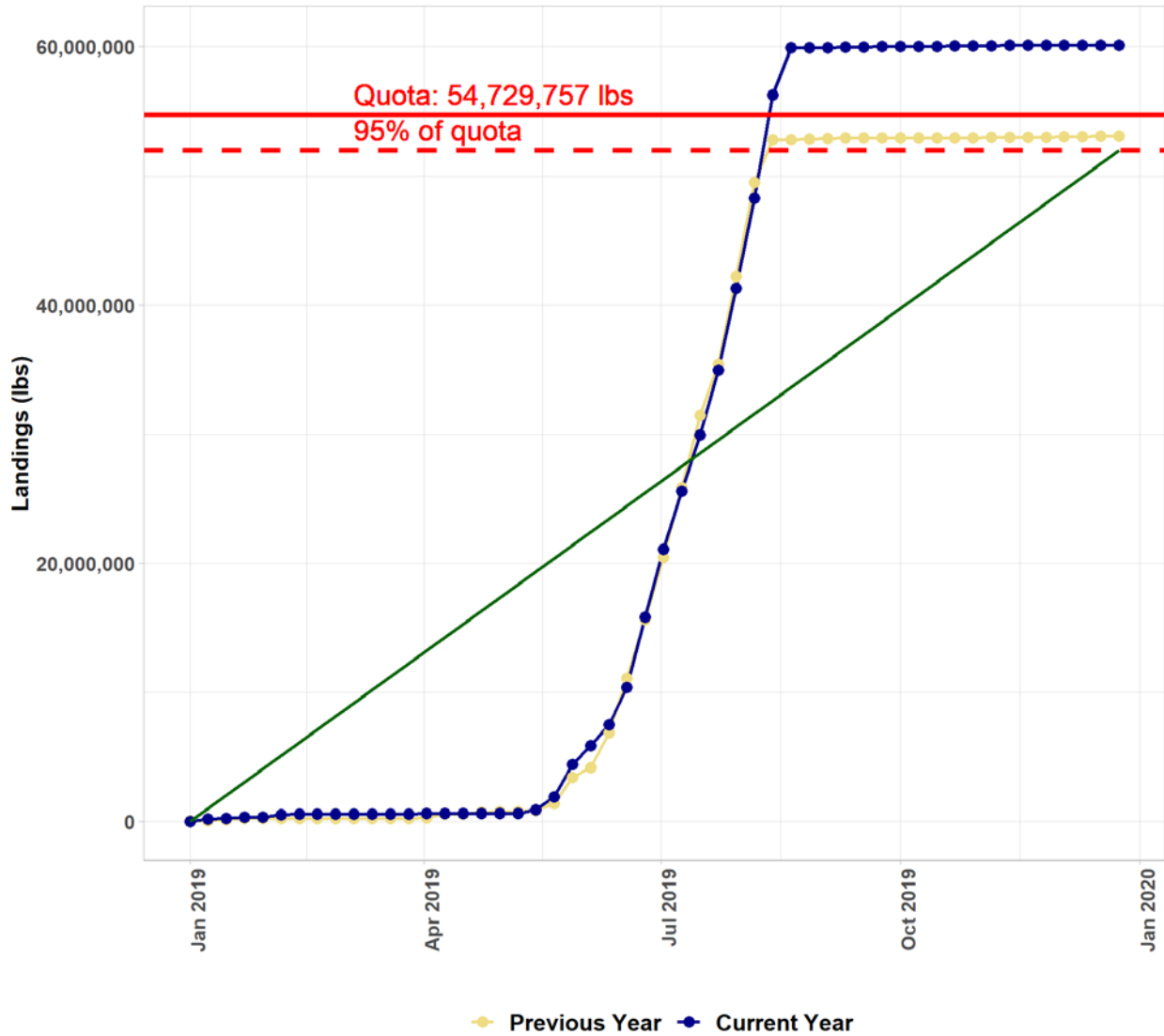


Figure 4. U.S. Preliminary *Illex* landings; 2019 in blue, 2018 in yellow-orange. Source: <https://www.fisheries.noaa.gov/new-england-mid-atlantic/commercial-fishing/quota-monitoring-greater-atlantic-region>.

Table 1. Commercial *Illex* landings (live weight) by state in 2019. Source: NMFS unpublished dealer data.

State	Metric Tons	Percent of Total
NJ	9,910	36%
RI	8,480	31%
MA	8,146	30%
Other	740	3%
Total	27,276	100%

Table 2. Commercial *Illex* landings (live weight) by gear in 2019. Source: NMFS unpublished dealer data.

GEAR	Metric Tons	Percent
TRAWL,OTTER,BOTTOM,FISH	24,276	89%
TRAWL,OTTER,MIDWATER	1,213	
PAIRED		4%
TRAWL,OTTER,MIDWATER	488	2%
Other/Unknown	1,300	5%
Total	27,276	100%

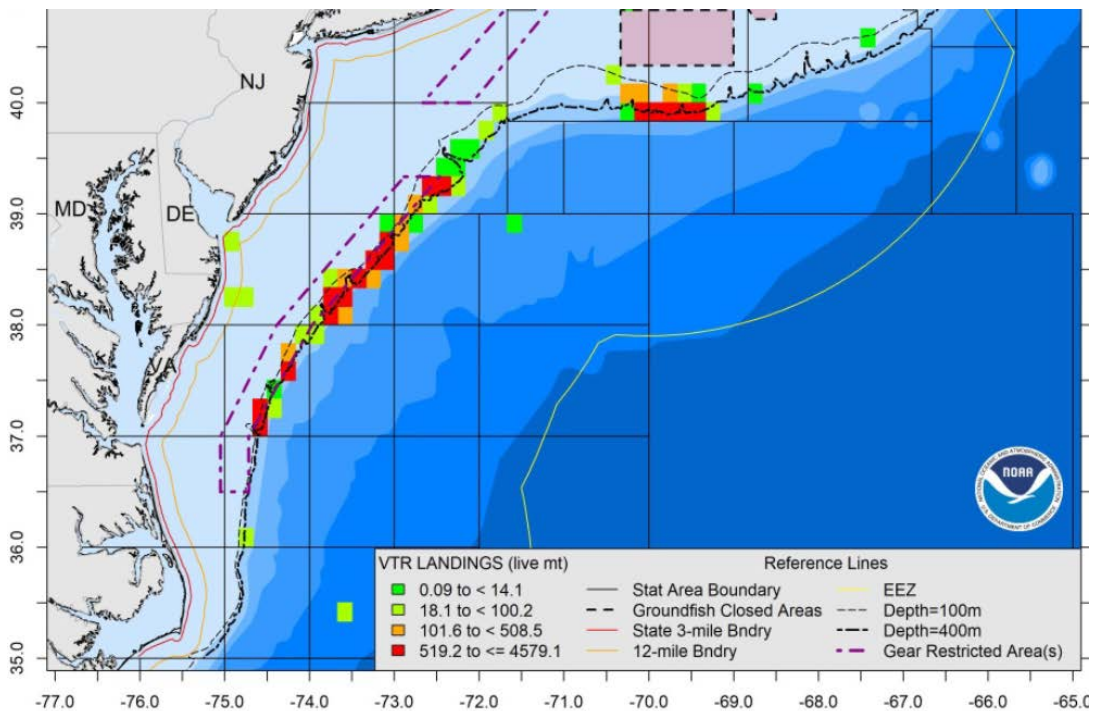


Figure 5. Approximate Primary 2018 *Illex* Catch Locations (from dealer and VTR data)

Table 3. Commercial *Illex* landings by statistical area in 2019. Source: NMFS unpublished VTR data.

Stat Area	Metric Tons 2019	Percent
622	12,474	47%
526	8,801	33%
537	2,135	8%
525	1,211	5%
616	985	4%
Other	1,161	4%
Total	26,766	100%

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Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

Date: May 5, 2020
To: SSC
From: J. Didden, P. Rago
Subject: Co-Chairs' *Illex* Working Group Update/Short Term Tasks Results Summary

Since May 2019, the *Illex* working group (WG) has been meeting and working to explore options for alternative *Illex* ABCs and/or ABC-setting processes. Efforts were divided into short, medium, and long-term terms of reference (TORs) (<https://www.mafmc.org/s/2019-10-Illex-WG.pdf>).

Short-term TORs included reviewing squid management approaches, listing key data sources, summarizing growth/industry sampling data, initiating analysis of growth and age from 2019 samples provided by industry, conducting CPUE analyses, and exploring implications of the NAFO assessment. The goal was to address these to the extent possible for the May 2020 Scientific and Statistical Committee (SSC) meeting. All of these tasks have been initiated and most have produced some results.

Medium-term TORs include considering additional surveys, developing details on in-season dynamics, and incorporating environmental parameters into analyses of CPUE. Even longer-term tasks include exploring acoustics, developing alternative processes for in-year quota adjustments, considering the influence of harvesting on stock dynamics, identifying cohorts in-season, developing other real-time management approaches, determining the persistence of linkages (CPUE, environmental) to abundance, and developing a prototype model of *Illex* immigration/emigration dynamics. Work on short-term TORs has started to at least inform possible explorations of some medium and longer-term TORs.

Documents were prepared by the WG to address the short-term terms of reference. They should be considered preliminary analyses unless otherwise noted. In addition, a summary document from the *Illex* Summit [S1], held in November 2019, was influential in guiding various investigations of the WG. Many of the WG members participated in the Summit, which reflected on perspectives of harvesters, processors, scientists, and managers. Collectively the working papers represent a broad overview of the current state of the *Illex* fishery, its management, and either underlying or developing science. The methodologies described in these papers may prove useful for addressing future needs related to real-time management of the *Illex* resource and/or ABC-setting in the meantime. Integration of industry-based information is a common theme throughout the reports. The Mackerel, Squid, and Butterfish (MSB) Advisory Panel (AP) was incorporated at the initiation of the WG, and asked for input periodically in 2019. Beginning in 2020 the MSB AP was formally

convened when the workgroup met. There is also an MSB AP meeting scheduled for May 11 for a final round of input from the AP after they had a chance to review the working group documents.

As a starting point, five papers (3,4,5,6,7) address either current conditions in the U.S. fishery and/or other assessment/management approaches. All assessment approaches identify the difficulties of dealing with short-lived species. These difficulties have been addressed using a variety of approaches whose utility seems to depend on the magnitude and value of the fishery which in turn affects the availability and timing of information for updating current harvest recommendations. Few assessment or monitoring approaches seem to exist that have proven track records of accurately predicting outcomes.

Available data include survey data from both federal and NEAMAP bottom trawl surveys [6], comprehensive Vessel Trip Reports [17, 9, 10, 13, 8, 6] and Vessel Monitoring Systems [11]. Quota monitoring data collected by GARFO was used to examine its use for real-time monitoring [16a]. Industry-sponsored data include biological samples from harvesters [6, 10, 13, 14, 16b] and information from study fleets [8]. A research project on aging of *Illex* [15] is ongoing but incomplete.

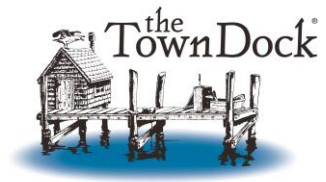
The process of providing information for real-time management of *Illex* can be conceptualized as three distinct steps: Identification, Estimation and Detection. First is identifying the relative status of the fishery and the resource in a given year (Identification). “Status” can be determined on an ordinal or ratio scale and can be done on a post hoc basis. Catch per unit effort from the commercial fleet was investigated in paper [10] and for a subset of study fleet data in paper [8]. Both [10] and [8] used advanced state of the art generalized linear models to account for differences associated with year, season, vessel type and permit. Further comparisons of the results in [10] and [8] would be useful to evaluate the representativeness of the study fleet data. Crude rates of CPUE estimation were combined with other metrics of fishery performance, average weight, price, and survey data to examine the potential utility of multivariate methods for identifying system state [13]. Survey data from several sources were combined with information from VTRs to estimate probability of occurrence over the entire resource area and measures of overlap with the fishing fleet [9]. The model-based survey estimation methodology could be valuable for refining the overall distribution of *Illex*.

One of the central tenets of current management is that the fishery has had a modest or low effect on stock dynamics (Estimation). Nothing produced by the WG has suggested otherwise. Under this premise, upward adjustments to the quota are assumed to have a low effect on the potential for overfishing if “good years” can be identified. Depletion models are used in many squid fisheries around the world and have been applied to *Illex* in earlier NEFSC assessments. The Leslie-Davis version of the depletion model was applied to 1997 to 2018 data base in [14]. Results suggested a high degree of indeterminacy owing to failures to satisfy many of the underlying model assumptions. An alternative approach, using assumptions about minimum and maximum values of assumed fishing mortality and trawl capture efficiency was used to develop an “envelope” of potential biomass levels that are constrained by the extremes of each assumption [12]. A similar range of potential fishing mortality rates can then be compared to a suite of possible biological reference points for fishing mortality. Additional confirmation of the low potential mortality rates for *Illex* was obtained by examining VMS records for 2017-2019 [11]. VMS reveals that overall fishing effort is highly concentrated along the shelf break. The consequences for the magnitude of

fishing mortality were investigated in terms of necessary replenishment of squid from adjacent areas and exploration of overlap with the total resource area as estimated in working paper [9].

Detection is the third essential component for real-time management of *Illex*. Currently, there are no accepted procedures for estimating or projecting pre-season abundance of *Illex*. Post hoc determination of system state {poor, average, good} is not useful if real time measures are desired. A methodology developed for statistical process control, known as Cusum was modified to test whether the system state could be determined within the year. This approach was tested by applying it to weekly landings data collected by GARFO for the period 1996-2019 [16a]. Fishermen and processors reported that changes in average size of landed squid were also important factors in characterizing the season. The Cusum method was also applied to the industry-supplied weekly average weight data for 1997-2019 [16b]. The Cusum approach appears promising for identification of system state using either approach and may serve as a basis for testing in the 2020 fishing year. The process for collecting weekly landings data is already in place. If the weekly changes in average weight in the fishery were judged acceptable, rapid processing of representative biological samples by industry would be necessary.

2019 landings totaled 27,163.5 metric tons. In order to facilitate the same landings, an ABC of 28,449.4 MT would be needed (4.52% of the ABC is set aside for expected discards). Given A) the current approach of setting the ABC around the highest observed catch as long as no ill effects have been observed, B) the WG results, and C) that the fall 2019 survey was within the range of typical variability, 28,449.4 MT could be an option for a 2020/2021 ABC. The only other option that appears close to shelf-ready would be to use the Cusum approach for average weight per landed squid, total landing by week, or both variables to modify the quota in-season. Given the generally early detection of non-poor and above average status in good years (weeks 22, 20, 28, 22, 22), data through July 1 (week 26) could potentially be used to determine the existence of a “non-poor and above average” year, and a quota modification be made. This would by nature be experimental to some degree, and an incremental approach might be warranted. The only way for such an experiment to run in 2020 would be for the three major processors to supply weight data on a voluntary basis in an electronic format supplied by GARFO. GARFO already has the authority to make in-season adjustments to the *Illex* quota, in consultation with the MAFMC, during the fishing year by publishing notification in the Federal Register. A particular weight-based statistical trigger criterion would need to be identified. A combined approach, starting at 28,449.4 MT, and followed by a potential modification based on the weight-based Cusum approach could also be utilized. Given timing and regulatory issues, the most that that 2020 ABC could practically be increased to is 30,000 MT. There is substantially more flexibility for 2021, and the results of any 2020 processes could be evaluated post-season and integrated into final 2021 specifications through GARFO’s in-season adjustment authority or expedited regulatory measures, if appropriate.



45 STATE STREET | PO BOX 608
NARRAGANSETT, RI 02882

June 2, 2020

Dr. Chris Moore
800 North State Street
Suite 201
Dover, DE 19901

Dear Dr. Moore,

As an active AP Member and participant on the Council's *Illex Working Group*, I am writing to support the recent actions and suggestions by the SSC, Council staff, and Monitoring Committee. Last month, the SSC approved the Council staff's recommendation of an ABC of 30,000 MT for Illex for FY 2020 and 2021. This is an increase from 2019's ABC of 26,000 MT. During the two-day SSC meeting the group delivered and discussed many positive findings from the Illex Working Group regarding the Illex stock.

These positive findings include:

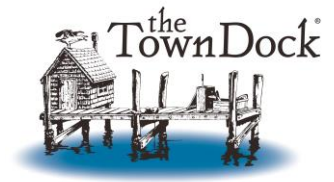
- The stock is still considered "lightly exploited"
- Only a very small portion of the Illex Biomass is exposed to fishing activity each season
- Illex are not vulnerable to the fishery at a single chokepoint
- The mortality rate is low
- There are multiple cohorts thought the year
- Along with many other positive findings with this stock

These reasons, in addition to many others, contributed to the SSC's decision to increase the ABC by 4000 tons (8.8 million pounds). After reading through the many working group documents and listening to the SSC's discussion we were pleased to hear the conclusions and ultimately their show of support to increase the ABC.

We are in support of both the Monitoring and S/M/B Committee looking into possibly revising Illex reporting requirements and in-season adjustments to prevent future quota overages. "*Monitoring Difficulties*" is mentioned in the Illex Amendment as a reason to move forward with reducing participation and effort for some permit holders. In our public comments and conversations with Council members we have stated that this issue can be resolved through other management measures, rather than a reduction of permits and access to the fishery. In recent correspondence, it seems that the Council Staff and the RO also agree. We



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are pleased to see a solution to the problem that does not take the drastic step of reducing permits or fishing effort.

Sincerely,

Katie Almeida
Fishery Policy Analyst



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Northeast Regional Marine Fish Habitat Assessment

The Northeast Regional Marine Fish Habitat Assessment (NRHA) is a collaborative effort to describe and characterize estuarine, coastal, and offshore fish habitat distribution, abundance, and quality in the Northeast. The project aims to align habitat science goals and priorities with human and financial resources to develop habitat science products that support an assessment. Work associated with the NRHA is expected to occur over a three-year time period from July 2019 through July 2022.

The project is being led by a Steering Committee composed of leadership from the major habitat conservation, restoration, and science organizations in the region.

Core Actions

Four core actions have been identified to support the habitat assessment:

1. **Abundance and trends in habitat types in the inshore area.** This action will map the location and extent of habitat types utilized by the focus species and quantify the areal coverage, status and trends of these habitats. It will also compile metrics that may inform an assessment of habitat quality.
2. **Habitat vulnerability.** This action will involve Council and Commission staff coordination with, and participation in, the NOAA Habitat Climate Vulnerability Assessment (HCVA). That assessment will use habitat experts to examine fish habitat vulnerability to climate and non-climate stressors.
3. **Spatial descriptions of species habitat use in the offshore area.** This action will use model-based and empirical approaches to identify, predict, and map habitat use for each of the focus species and track and quantify changes in habitat use over time (e.g. seasonal, annual, and future predicted use).
4. **Habitat data visualization and decision support tool.** Habitat information will be incorporated into a publicly accessible decision support tool, making this information available to partners to visualize habitat location, extent, and use throughout the region, and provide access to relevant data and habitat metrics developed by the assessment. Please see the workplan linked in the “Documents” section for additional information about key outcomes and timelines for each of these actions.

Documents

- [Northeast Regional Marine Fish Habitat Assessment Work Plan as of 6/24/19](#)

Recent Meetings

[Northeast Regional Habitat Assessment Joint Action Teams Webinar](#)

Apr 30, 2020

[Northeast Regional Marine Fish Habitat Assessment – Steering Committee Meeting \(Webinar\)](#)

Jan 16, 2020

Steering Committee Member Organizations

- Mid-Atlantic Fishery Management Council (Chair)
- Atlantic States Marine Fisheries Commission
- Atlantic Coast Fish Habitat Partnership
- Duke University
- Monmouth University
- National Fish Habitat Partnership
- New England Fishery Management Council
- NOAA Fisheries Offices of Habitat Conservation (Headquarters and Region)
- NOAA Fisheries Offices of Science and Technology (Ecosystems and Monitoring)
- NOAA Northeast Fisheries Science Center
- NOAA NCCOS Marine Spatial Ecology Division
- The Nature Conservancy

Contacts

For more information, please contact the action leads:

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- **Jessica Coakley, MAFMC** - overall project coordinator, inshore co-lead (jcoakley@mafmc.org, 302-526-5252)
- **Chris Haak, Monmouth University/NMFS NEFSC** - technical/modeling lead (chrishaak@gmail.com)
- **Victoria Kentner, Integrated Statistics/NMFS NEFSC** - technical/modeling lead (victoria.kentner@noaa.gov)
- **Laurel Smith, NMFS NEFSC** - offshore lead (laurel.smith@noaa.gov, 508-495-2278)

NOAA Fisheries Northeast Habitat Climate Vulnerability Assessment

Project leads: Mark Nelson, Mike Johnson, Emily Farr, Jon Hare

Objective of the Northeast Habitat Climate Vulnerability Assessment (HCVA) Project

The goal of this project is to provide regional fisheries, habitat, and protected species managers and scientists with a practical tool to efficiently assess the relative vulnerability of habitats to climate change. The results of the assessment may be used to improve essential fish habitat (EFH) designations and aid in EFH consultations, set habitat conservation priorities, understand cumulative impacts of fishery management actions, and provide long-term context for the management of protected and fishery species.

Project Scope

The Northeast HCVA is focused in the Northeast U.S. coastal region (Cape Hatteras, NC to the Maine/Canada border) with the aim of building a framework that can be applied to other U.S. regions. The assessment includes fifty-two habitat subclasses in the riverine, estuarine, and marine systems, based on a modified Cowardin classification. These sub-classes correspond to the range of habitats used by fishery and protected species managed by NOAA Fisheries.

Assessment Framework

The HCVA uses a similar framework as the [Northeast Fish and Shellfish Climate Vulnerability Assessment](#) (Hare et al. 2016). The HCVA considers the overall vulnerability of a habitat to climate change to be a function of two main components: exposure and sensitivity. Exposure is a measure of the predicted environmental change that a habitat may experience within the study area. It is the overlap between the current distribution of habitat and the magnitude and spatial distribution of the expected environmental change. The sensitivity component is composed of habitat attributes that are believed to be indicative of the response of a habitat to potential changes in climate. The assessment relies heavily on expert opinion to score the sensitivity and exposure of each habitat, in addition to published literature, spatial habitat distribution data, and climate projections.

The HCVA is assessing climate exposure under end-of-century projections based on the Intergovernmental Panel on Climate Change RCP 8.5 emissions scenario using two climate models—the Regional Ocean Modeling System: Northwest Atlantic Dynamical Downscaling (ROMS-NWA) and the Coupled Model Intercomparison Project 5 (CMIP5). The **exposure factors** used in this assessment are: sea surface temperature, bottom temperature, surface salinity, bottom salinity, pH, sea level rise, precipitation, stream temperature, and streamflow. The **sensitivity attributes** used in this assessment are: habitat condition, habitat fragmentation, distribution/range, mobility/ability to spread or disperse, resistance, resilience, sensitivity to changes in abiotic factors, sensitivity/intensity of non-climate factors, and dependency on ecological linkages.

Assessment Outputs

The assessment will develop a ranked list of the relative vulnerability of the fifty-two assessed habitat subclasses. Detailed results for each habitat will be discussed in a short narrative to describe the key drivers of vulnerability. The results will be written up in an article to be published in a scientific journal, in addition to more tailored products for end users as needed.

Project Timeline

The project kicked off in Fall 2017, and is anticipated to be completed by Summer 2020.

Overview of the Northeast Habitat Climate Vulnerability Assessment Methods

The goal of this project is to provide regional fisheries, habitat, and protected species managers and scientists with a practical tool to efficiently assess the relative vulnerability of habitats to climate change. The results of the assessment may be used to improve essential fish habitat (EFH) designations and aid in EFH consultations, set habitat conservation priorities, understand cumulative impacts of fishery management actions, and provide long-term context for the management of protected and fishery species. The assessment complements the [Northeast Fish and Shellfish Climate Vulnerability Assessment](#)¹ completed in 2016, and uses a similar framework.

Project Geographic Scope: The northern and southern boundaries of the study area are the U.S./Canadian border and Cape Hatteras, NC, respectively. The assessment focuses on marine, estuarine, and riverine habitats out to the U.S. EEZ and up-river to capture the full habitat range of diadromous species.

Key Elements of the Assessment

- This assessment considers the overall vulnerability of habitat to climate change to be a function of two main components: exposure and sensitivity.
- The exposure component considers the magnitude and overlap of the projected changes in climate with the distribution of each habitat.
- The sensitivity component includes habitat characteristics, or traits, that are believed to be indicative of the response of a habitat to potential changes in climate.
- Exposure and sensitivity scoring relies on expert elicitation which is based on defined criteria, but allows experts to use their expert opinion to account for the complexities of these habitats.

Vulnerability Assessment Methodology Selection

- We reviewed eleven existing climate vulnerability assessment methodologies, and selected four for further consideration at an in-person workshop in summer 2018. The steering committee decided to develop a hybrid assessment based on the NOAA Fisheries Climate Vulnerability Assessment methodology² and the Northeastern

¹ Hare JA, Morrison WE, Nelson MW, Stachura MM, Teeters EJ, Griffis RB, et al. (2016) A Vulnerability Assessment of Fish and Invertebrates to Climate Change on the Northeast U.S. Continental Shelf. PLoS ONE 11(2): e0146756. doi:10.1371/journal.pone.0146756

² Morrison et al. (2015). Methodology for Assessing the Vulnerability of Marine Fish and Shellfish Species to a Changing Climate. NOAA Technical Memorandum NMFS-OSF-3. <https://www.st.nmfs.noaa.gov/Assets/ecosystems/climate/documents/TM%20OSF3.pdf>

Association of Fish and Wildlife Agencies' Vulnerabilities of Northeastern Fish and Wildlife Habitats to Climate Change³.

- We surveyed potential users of the assessment results (e.g., NOAA Fisheries' regional programs including Habitat Conservation Division, fishery management council staff, etc.) to inform the assessment design and scope.

Development of Assessment Framework

- We selected fifty-two habitat sub-classes to be assessed. Habitats are organized based on a modified Cowardin classification, and include the riverine, estuarine, and marine systems to capture the range of habitats used by NOAA trust species (Appendix 1).
- We developed descriptions for nine sensitivity attributes that are indicative of a habitat's response to changes in climate. These are:
 - Habitat condition
 - Habitat fragmentation
 - Ability to spread or disperse
 - Resilience, resistance
 - Changes in abiotic factors
 - Sensitivity and intensity of non-climate stressors
 - Dependence on critical ecological linkages
- The sensitivity attributes descriptions contain information about the relationship of that attribute to climate change, guidance on how to use expert opinion, and definitions for scoring bins indicative of low, moderate, high, and very high sensitivity (Appendix 2).
- Please note: This assessment does not utilize a separate adaptive capacity component; rather, we include these traits within our sensitivity attributes. Sensitivity and adaptive capacity are difficult concepts to characterize, as they are often the inverse of each other. Traits that confer low sensitivity can also be thought to confer high adaptive capacity (e.g., ability to spread or disperse). By defining all traits as sensitivity, we have eliminated the need to create an arbitrary distinction. Furthermore, work done on the Fish Climate Vulnerability Assessment has shown that arbitrary changes in how traits are classified, sensitivity or adaptive capacity, can have unintended consequences of the outcome of the assessments.
- We developed habitat profiles that contain information about each habitat relevant for each sensitivity attribute primarily from published literature, as well as professional judgement.

³ Galbraith, Hector. 2013. The Vulnerabilities of Fish and Wildlife Habitats in the Northeast to Climate Change. A report to the Northeastern Association of Fish and Wildlife Agencies and the North Atlantic Landscape Conservation Cooperative. Manomet, MA. <https://lccnetwork.org/resource/vulnerabilities-fish-and-wildlife-habitats-northeast-climate-change>

- We selected ten exposure factors, which are climate variables that could impact the habitat. These are:
 - Sea surface temperature
 - Bottom temperature
 - Air temperature
 - Stream temperature
 - Sea surface salinity
 - Bottom salinity
 - pH
 - Sea level rise
 - Precipitation
 - Streamflow
- Not all exposure factors are relevant to all habitats -- the exposure of each habitat is assessed for between two and six exposure factors.
- The HCVA is assessing climate exposure under end-of-century projections based on the Intergovernmental Panel on Climate Change RCP 8.5 emissions scenario using two climate models:
 - [The Regional Ocean Modeling System: Northwest Atlantic Dynamical Downscaling \(ROMS-NWA\)](#) was used for exposure factors, when available. The end-of-century time frame is 2070-2099. The historic reference period is 1976-2005.
 - [The Coupled Model Intercomparison Project 5 \(CMIP5\)](#) was used for exposure factors where ROMS-NWA does not have projections. The end-of-century time frame for this model is 2050-2099. The historic reference period is 1956-2005.
- For exposure factors not represented directly in the ROMS-NWA or CMIP5 climate models, we developed a scoring system based on published literature of projections driven by climate models (stream temperature⁴, streamflow⁵, sea level rise⁶).
- We compiled existing spatial data of the distribution of each habitat in the assessment across the study region for use in the exposure scoring, when available. Text descriptions of habitat distribution were developed for habitats with limited spatial data.

⁴ Letcher, Benjamin H., Daniel J. Hocking, Kyle O'Neil, Andrew R. Whiteley, Keith H. Nislow, and Matthew J. O'Donnell. 2016. "A Hierarchical Model of Daily Stream Temperature Using Air-Water Temperature Synchronization, Autocorrelation, and Time Lags." *PeerJ* 4: e1727. doi:[10.7717/peerj.1727](https://doi.org/10.7717/peerj.1727).

⁵ Demaria, EMC, Palmer, RN, and Round, JK 2015. Regional climate change projections of streamflow characteristics in the Northeast and Midwest U.S. *Journal of Hydrology: Regional Studies* 5: 309-323.

⁶ Sweet, WV, Kopp, RE, Weaver, CP, Obeysekera, J, Horton, RM, Thieler, ER, Zervas C. 2017. Global and regional sea level rise scenarios for the United States. National Oceanic and Atmospheric Administration, National Ocean Service. NOAA Technical Report NOS CO-OPS 083. p. 1-56.

Pilot Assessment

- The project team conducted a pilot assessment to evaluate the assessment methodology and make necessary modifications. Participants scored the sensitivity of three trial habitats.
- Feedback from the pilot test scorers was used to improve the sensitivity attribute descriptions, tighten up the scoring bins, and identify additional information that needed to be added to the habitat profiles.

Sensitivity Scoring

- Fifteen habitat experts were selected to conduct the sensitivity scoring--five each for the marine, estuarine, and riverine systems. The experts were from several federal agencies and academic institutions.
- Training: Each expert attended a web-based training in which they were introduced to all materials, scoring protocols, and the online scoring database.
- Preliminary scoring: Each expert independently scored each attribute for every habitat in their system by using a 5 tally scoring system. This system allows each scorer to indicate the uncertainty or geographic variability in their score by distributing the five tallies between the four scoring bins (low, moderate, high, very high). Scorers also provided a data quality score (between one and three) to reflect the availability and caliber of information for each attribute.
- Final scoring: Scorers gathered at an in-person workshop to compare and discuss the preliminary scores. This process helps identify errors and allows for sharing of information among the experts with the purpose of leveraging the collective knowledge of the group. The experts were encouraged to make adjustments to the distribution of their tallies (score) based on these discussions; however, we were not searching for consensus and no expert was compelled to change their scores.

Exposure Scoring

- Five experts relied on climate projections and spatial habitat data (distribution) to score the exposure of each habitat to each of the exposure factors.
- As with sensitivity scoring, scorers distributed five tallies between the four scoring bins (low, moderate, high, very high), and provided a data quality score to reflect the availability or confidence in the information for each exposure factor and habitat distribution. Scoring bins were based on the standardized historic anomaly (z-score, difference between the projected end-of-century mean for each exposure factor and the variability of the historic mean).

Vulnerability Analysis

- For every habitat we calculate a weighted mean for each sensitivity attribute and exposure factor. This is done by summing all the tallies in each scoring bin across experts (5 experts per habitat) and calculating a weighted mean (1=low; 2=Moderate, 3=High; 4=Very High).
- Sensitivity attribute means were used to determine the overall sensitivity component score using a logic rule described in Table 1 below. The same was done for the exposure factors.
- Overall vulnerability rank is determined in the same way as described in Morrison et al. (2015). Low, moderate, high and very high component scores are assigned 1, 2, 3, and 4, respectively. The product of the exposure and sensitivity component scores is then classified where 1-3 results in a low vulnerability rank, 4-6 a moderate vulnerability rank, 8-9 a high vulnerability rank, and 12-16 a very high vulnerability rank. Results can be displayed visually using a vulnerability matrix, to show final ranks as well as component scores (Figure 1).

Bootstrap Analysis

- A bootstrap analysis was conducted to determine the habitat vulnerability rank probability considering the distribution of the tallies in each attribute. This is useful in determining threshold effects, when the distribution of tallies is very close to a threshold used in scoring. The bootstrap consists of: for each attribute or factor, resample the tallies summed across scorers (with replacement) then recalculate the attribute or factor mean using the resampled tallies. Use the same scoring rubric to find the sensitivity and exposure component scores, and vulnerability rank. Repeat the process 1,000 times and record the occurrence of each outcome.

Overall Sensitivity or Exposure Score	Numeric Score	Logic Rule
Very High	4	3 of more attributes or factors mean ≥ 3.5
High	3	2 of more attributes or factors mean ≥ 3.0
Moderate	2	2 of more attributes or factors mean ≥ 2.5
Low	1	All other scores

Table 1. Logic rule for calculating overall habitat’s climate exposure and sensitivity. The scoring rubric is based on a logic model where a certain number of individual scores above a certain threshold are used to determine the overall climate exposure and sensitivity. Adapted from Hare et al. 2016⁷.

⁷ Hare JA, Morrison WE, Nelson MW, Stachura MM, Teeters EJ, Griffis RB, et al. (2016) A Vulnerability Assessment of Fish and Invertebrates to Climate Change on the Northeast U.S. Continental Shelf. PLoS ONE 11(2): e0146756. doi:10.1371/journal.pone.0146756

SENSITIVITY	Very High [4]	Moderate (4)	High (8)	Very High (12)	Very High (16)
	High [3]	Low (3)	Moderate (6)	High (9)	Very High (12)
	Moderate [2]	Low (2)	Moderate (4)	Moderate (6)	High (8)
	Low [1]	Low (1)	Low (2)	Low (3)	Moderate (4)
		Low [1]	Moderate [2]	High [3]	Very High [4]
		EXPOSURE			

Figure 1. Matrix for determining habitat vulnerability rank based on component scores for exposure and sensitivity. Component scores are given a value of 1-4 (in brackets). Vulnerability rank is determined by multiplying the two component scores (in parentheses). Adapted from Morrison et al. 2015.

Appendix 1: Habitat Classification and Definitions

Habitat Class	Sub-Class Habitats Included in Class	Definition
<p>Marine System: Open ocean overlying continental shelf and its associated high energy coastline with salinities > 30 ppt. The nearshore marine subtidal subsystem includes areas from the shoreline to locations where the depth reaches 200 meters, while the offshore marine subtidal system includes locations where the water is deeper than 200 meters. Intertidal sub-classes encompasses mean high to mean low water line, and include both the benthic habitat and the water from diurnal tidal inundation.</p>		
<p>Marine Rocky Bottom</p>	<ul style="list-style-type: none"> ● Marine subtidal rocky bottom bedrock, rubble, cobble/gravel (offshore; >200m) ● Marine subtidal rocky bottom bedrock, rubble, cobble/gravel (nearshore; <200m) ● Marine intertidal rocky bottom bedrock, rubble, cobble/gravel ● Artificial fishing reefs and wrecks; groins/jetties 	<p>Rocky bottom habitat established on surfaces and crevices of relatively immobile rocky surfaces, including loose rocks of various sizes (rubble, cobble/gravel) and exposed bedrock. In addition, this habitat profile includes the epibenthic flora and fauna associated with hard bottoms, including calcareous algae (but not non-calcareous algae, which are included in marine aquatic bed habitat profile). Includes shallow corals growing on rocky bottom in <150m water depths. Artificial sub-class includes artificial fishing reefs and wrecks, groins/jetties.</p>
<p>Marine Unconsolidated Sand Bottom</p>	<ul style="list-style-type: none"> ● Marine subtidal unconsolidated sand bottom (offshore; >200m) ● Marine subtidal unconsolidated sand bottom (nearshore; <200m) ● Marine intertidal unconsolidated sand bottom 	<p>Subtidal offshore, inshore, and intertidal zone sand habitats. The nearshore marine subtidal sub-class includes areas from the mean low water to locations where the depth reaches 200 meters, while the offshore marine subtidal sub-class includes locations where the water is deeper than 200 meters. Intertidal sub-subclass includes the mean high to mean low water lines. This habitat subclass includes the epifauna and infauna associated with unconsolidated sand bottom, such as non-reef-forming mollusks (e.g., soft-shell clams, hard clams, sea scallops, surf clams, ocean quahogs), marine worms, small crustaceans, gastropods, and polychaetes. This subclass excludes specific habitats identified elsewhere (i.e., non-calcareous algal bed, rooted vascular beds, and reef-forming mollusks, i.e., blue mussels, eastern oysters).</p>

<p>Marine Unconsolidated Mud Bottom</p>	<ul style="list-style-type: none"> ● Marine subtidal unconsolidated mud bottom (offshore; >200m) ● Marine subtidal unconsolidated mud bottom (nearshore; <200m) ● Marine intertidal unconsolidated mud bottom 	<p>Subtidal offshore and nearshore zone mud habitats. The nearshore marine subtidal subclass includes areas from the mean low water to locations where the depth reaches 200 meters, while the offshore marine subtidal subclass includes locations where the water is deeper than 200 meters. This habitat subclass includes the epifauna and infauna associated with unconsolidated mud bottom, such as non-reef-forming mollusks (e.g., soft-shell clams, hard clams, sea scallops, surf clams, ocean quahogs), marine worms, small crustaceans, gastropods, and polychaetes. This subclass excludes specific habitats identified elsewhere (i.e., non-calcareous algal bed, rooted vascular beds, and reef-forming mollusks, i.e., blue mussels, eastern oysters).</p>
<p>Marine Reef (Offshore)</p>	<ul style="list-style-type: none"> ● Marine subtidal reef, coral-dominated hardbottom, Gulf of Maine (offshore) ● Marine subtidal reef, coral-dominated hardbottom, canyons and seamounts (offshore) 	<p>Hard-bottom coral and sponge habitats in offshore zone (>150 m), including coral gardens, sponge gardens, coral thickets, etc. dominated by hard corals, soft corals, black corals, glass sponges, and demosponges. Shallow water corals (<200 m) are included in marine rocky bottom profile. <i>Note that the canyons and seamounts subclass is characterized as “Mid-Atlantic” in the scoring database.</i></p>
<p>Marine Reef (Mollusk)</p>	<ul style="list-style-type: none"> ● Marine subtidal reef, mollusk (oyster/mussel) (nearshore; <200m) ● Marine intertidal reef, mollusk (oyster/mussel) ● Cultured mollusks (aquaculture) in subtidal and intertidal zone 	<p>Bivalve reefs in the subtidal and intertidal zones in the marine system. May be on hard or soft substrates. Specifically focused on reef-building shellfish (e.g. mussels, oyster) that create a biotic hard substrate at the sediments. Note: non-reef-building shellfish (e.g., scallop, soft-shell clam, surf clam) are included in unconsolidated sand and mud bottom subclasses. The intertidal subclass includes both the reef and the water from diurnal tidal inundation. Differences between natural reefs and cultured shellfish are considered.</p>
<p>Marine Aquatic Bed</p>	<ul style="list-style-type: none"> ● Marine nearshore subtidal and intertidal kelp algal habitats 	<p>Algal and rooted vascular (seagrass) species occurring throughout the study area. Both</p>

	<ul style="list-style-type: none"> ● Marine nearshore subtidal and intertidal non-kelp algal habitats ● Marine nearshore subtidal and intertidal rooted vascular bed 	<p>groups photosynthesize, so are limited to the photo zone of the water column. This class also includes aquaculture for macroalgae (e.g., kelp farms in New England). Seagrasses occurring in the Marine system of the study area include species occurring only in full salinity waters (> 30 ppt). Algal species include, non-rooted, benthic macrophytes separated by kelp species and non-kelp species occurring in the Marine system. Both groups generally occur in both the subtidal and intertidal zones, although are mostly limited to the lower and middle elevations of the intertidal zone due to sensitivity to dessication.</p>
<p>Marine Water Column</p>	<ul style="list-style-type: none"> ● Marine subtidal water column, shallow / well-mixed ● Marine subtidal water column, shelf / stratified-surface ● Marine subtidal water column, shelf / stratified-bottom ● Marine subtidal water column, epipelagic ● Marine subtidal water column, mesopelagic/bathypelagic 	<p>The water column is a concept used in oceanography to describe the physical (temperature, salinity, light penetration) and chemical (pH, dissolved oxygen, nutrient salts) characteristics of seawater at different depths. Water column habitats create the foundation for marine food webs, home to primary producers such as phytoplankton and microbes. These habitats are highly dynamic and exhibit swift responses to environmental variables. The marine water column encompasses open ocean overlying continental shelf and its associated high energy coastline with salinities > 30 ppt. The shallow/well-mixed sub-class refers to the shallow inner shelf (<20m water depth), and is vertically mixed year round. The shelf/stratified surface are surface waters above the seasonal thermocline for areas <200m in depth, while the shelf/stratified bottom are bottom waters below the seasonal thermocline for areas <200m in depth. The epipelagic sub-class is the surface (0 to 200m) of slope waters (areas>200m in depth), while the mesopelagic and bathypelagic are the intermediate and bottom waters (200-1000m) of those slope waters.</p>

Estuarine System: Semi-enclosed bodies with salinities ≤ 30.0 to > 0.5 ppt, brackish water. Includes subtidal and intertidal zones, where the intertidal sub-classes include both the benthic habitat and the water from diurnal tidal inundation.

<p>Estuarine Rocky Bottom</p>	<ul style="list-style-type: none"> ● Natural estuarine subtidal rocky bottom bedrock, rubble, cobble/gravel ● Natural estuarine intertidal rocky bottom bedrock, rubble, cobble/gravel ● Non-natural estuarine subtidal rocky bottom bedrock, rubble, cobble/gravel ● Non-natural estuarine intertidal rocky bottom bedrock, rubble, cobble/gravel 	<p>Bedrock, Rubble, Cobble/Gravel. Profile includes artificial reefs and wrecks in the subtidal, estuarine zone. Includes separate sub-classes for natural and non-natural bedrock rubble, cobble/gravel for both subtidal and intertidal zones in the estuarine system. This habitat subclass includes the epibenthic flora and fauna associated with these hard bottoms, but exclude the specific habitats identified elsewhere (i.e., non-calcareous algal and rooted vascular beds, coral-dominated hard bottom, mollusk reef). Calcareous algae is included in this class. Non-natural subclass includes riprap, artificial reefs and wrecks, and groin/jetties in the subtidal and intertidal, estuarine zones.</p>
<p>Estuarine Unconsolidated Bottom</p>	<ul style="list-style-type: none"> ● Estuarine subtidal unconsolidated sand bottom ● Estuarine intertidal unconsolidated sand bottom/shore ● Estuarine subtidal unconsolidated mud bottom ● Estuarine intertidal unconsolidated mud bottom/shore 	<p>Includes intertidal and subtidal sub-classes for both mud and sand habitats, as well as the overtopping water column for intertidal sub-classes. This habitat type includes the epifauna and infauna associated with unconsolidated bottom, such as non-reef-forming mollusks (e.g., soft-shell clams, hard clams, sea scallops, surf clams, ocean quahogs), marine worms, small crustaceans, gastropods, and polychaetes. This subclass excludes specific habitats identified elsewhere (i.e., non-calcareous algal bed, rooted vascular beds, and reef-forming mollusks, i.e., blue mussels, eastern oysters).</p>
<p>Estuarine Aquatic Bed</p>	<ul style="list-style-type: none"> ● Estuarine subtidal and intertidal kelp algal habitats ● Estuarine subtidal and intertidal non-kelp algal habitats ● Estuarine subtidal and intertidal rooted vascular bed 	<p>Algal and rooted vascular (seagrass) species occurring throughout the study area. Both groups photosynthesize, so are limited to the photo zone of the water column. This class also includes aquaculture for macroalgae (e.g., kelp farms in New England). Seagrasses occurring in the Estuarine system of the study area include species occurring in brackish (≤ 30 ppt to > 0.5 ppt). Algal species include non-rooted, benthic macrophytes separated by</p>

		kelp and non-kelp species occurring in the salinity range of the Estuarine system. Both groups generally occur in both the subtidal and intertidal zones, although are mostly limited to the lower and middle elevations of the intertidal zone due to sensitivity to desiccation.
Estuarine Reef	<ul style="list-style-type: none"> ● Estuarine subtidal mollusk reef (oyster/mussel) ● Estuarine intertidal mollusk reef (oyster/mussel) ● Cultured mollusk reefs (aquaculture) in subtidal and intertidal zone 	Bivalve reefs in the subtidal and intertidal zones in the estuarine system. May be on hard or soft substrates. Specifically focused on reef-building shellfish (e.g. mussels, oyster) that create a biotic hard substrate at the sediments. Note: non-reef-building shellfish (e.g., scallop, soft-shell clam, surf clam) are included in unconsolidated sand and mud bottom subclasses. The intertidal subclass includes both the reef and the water from diurnal tidal inundation. Differences between natural reefs and cultured shellfish are considered.
Estuarine Emergent Wetland	<ul style="list-style-type: none"> ● Mid-Atlantic Estuarine intertidal emergent wetland, native persistent & non-persistent ● Mid-Atlantic Estuarine intertidal emergent wetland, invasive spp. ● New England Estuarine intertidal emergent wetland, native persistent & non-persistent ● New England Estuarine intertidal emergent wetland, invasive spp. 	Wetlands dominated by perennial plants (characterized by erect, rooted, herbaceous hydrophytes), in a estuarine system where salinity is greater than 0.5 ppt. Includes brackish to full salinity emergent wetlands, persistent and non-persistent.
Estuarine Water Column	<ul style="list-style-type: none"> ● Estuarine subtidal water column (well-mixed) 	The estuarine water column encompasses the stratum from the surface (mean low water) to a maximum depth of 200 m (although few if any estuaries approach this depth). This includes all estuaries types based on circulation (salt-wedge, well-mixed, partially-mixed, and fjord).

Riverine System: Terminates at the downstream end where the concentration of ocean-derived salts in the water \geq 0.5 ppt. during the period of annual average low flow, or where the channel enters a lake.		
Riverine Rocky Streambed and Bank	<ul style="list-style-type: none"> ● Riverine rocky streambed bedrock, rubble, cobble/gravel, tidal and non-tidal 	Bedrock, rubble, cobble/gravel streambed and banks for tidal and non-tidal rivers. This includes the epibenthic flora and fauna associated with these hard bottoms but exclude specific habitats (algal beds, rooted vascular, emergent wetlands) that are included in other subclasses. Riverine rocky shores support sparse plant and animal communities, including lichens and blue-green algae. Also includes large woody debris, boulders, tree roots, and other structural elements that characterize rocky streambed/bank.
Riverine Unconsolidated Streambed and Bank	<ul style="list-style-type: none"> ● Riverine sand streambed and bank, tidal and non-tidal ● Riverine mud streambed and bank, tidal and non-tidal 	Sand and mud streambeds and banks of tidal and non-tidal rivers, including large woody debris, tree roots, and other structural elements that occur in unconsolidated streambed/bank. Characterized by substrates lacking vegetation except for pioneering plants during brief favorable periods. This includes the epifauna/infauna and epiflora associated with these hard bottoms (e.g., freshwater mussels) but exclude specific habitats (algal beds, rooted vascular, emergent wetlands) that are included in other subclasses.
Riverine Aquatic Bed	<ul style="list-style-type: none"> ● Riverine algal bed, tidal and non-tidal ● Riverine rooted vascular bed, tidal and non-tidal 	Riverine aquatic beds where the salinity is $<$ 0.5 ppt. during the period of annual average low flow. Terminates where the river or stream channel enters a lake. Algal beds occur in both tidal and non-tidal portions of a river. Algal bed species include filamentous green algae occurring in tidal portions of rivers (e.g., <i>Spirogyra</i> sp. and <i>Cladophora</i> sp.). Non-tidal, freshwater green algae species include muskgrass (<i>Chara</i> sp.) and brittle grass (<i>Nitella</i> sp.). Rooted vascular beds occur in the lower river within the influence of tidal action and include widgeon grass (<i>Ruppia maritima</i>)- a freshwater plant that is tolerant of both fresh

		<p>and saltwater and wild celery (<i>Vallisneria americana</i>). In addition, the pondweed community, including sago pondweed (<i>Stuckenia pectinata</i>) and redhead grass (<i>Potamogeton perfoliatus</i>) are freshwater submerged plants that have some tolerance to salinities up to about 10 ppt. Hydrilla (<i>Hydrilla verticillata</i>) is an invasive freshwater plant that tolerates some salinity (up to 7 ppt). In freshwater, non-tidal portions of rivers, rooted vascular beds in the study area include water stargrass (<i>Heteranthera dubia</i>), widgeon grass, wild celery, Eurasian watermilfoil (<i>Myriophyllum spicatum</i>), and hydrilla.</p>
<p>Riverine Emergent Wetland</p>	<ul style="list-style-type: none"> ● Riverine tidal emergent wetland, native persistent and non-persistent ● Riverine non-tidal emergent wetland, native persistent and non-persistent ● Riverine tidal emergent wetland, invasive spp. ● Riverine non-tidal emergent wetland, invasive spp. 	<p>Wetlands dominated by perennial plants (characterized by erect, rooted, herbaceous hydrophytes), in a riverine system where salinity is less than or equal to 0.5 ppt. Includes both tidal and non-tidal wetlands, and both native (persistent and non-persistent) and invasive species. Native tidal species include <i>Spartina</i> spp. and native non-tidal species include <i>Typha</i> spp. Invasive tidal species include common reed (<i>Phragmites australis</i>) and invasive non-tidal species include common reed and purple loosestrife (<i>Lythrum salicaria</i>)</p>
<p>Riverine Water Column</p>	<ul style="list-style-type: none"> ● Riverine water column, tidal and non-tidal 	<p>The 3-dimensional space of water for both tidal and non-tidal zones in the river. The class includes the physical, chemical, and biological components of the water, but not the river bottom/banks, submerged vegetation, or emergent and riparian vegetation. Terminates at the downstream end where the concentration of ocean-derived salts in the water ≥ 0.5 ppt. during the period of annual average low flow, or where the channel enters a lake.</p>



RESPONSIBLE OFFSHORE SCIENCE ALLIANCE



Who We Are

The **Responsible Offshore Science Alliance (ROSA)**, is a new, 501 (c) 3 nonprofit organization dedicated to provide for and advance regional research and monitoring of fisheries and offshore wind interactions in US state and federal waters through collaboration and cooperation.

ROSA seeks to involve states, federal agencies, fishermen, wind energy developers, and fishery scientists from Maine to South Carolina in regional science questions around offshore wind development and fisheries. ROSA is led by a board of directors comprised equally of wind energy developers, fishermen, and fishing industry leaders.

What We Do

ROSA's primary focus is on research, communication, and regional collaboration. As such, ROSA will,

- Identify regional research and monitoring needs
- Provide a forum for coordinating existing research and monitoring
- Advance regional understanding through collaboration, partnerships, and cooperative research
- Help align research and monitoring protocols
- Support access to data
- Administer research by pooling funds from multiple sources
- And, communicate and share learnings.

"To date there has been limited research conducted on the areas slated for offshore wind development in federal waters,, ROSA presents a clear solution to this problem that comes with strong fishing industry support and their direct involvement."

- Janet Coit, Director,

Rhode Island Department of Environmental Management



*"Sustainable fisheries AND renewable energy is our goal
and the Regional Offshore Science Alliance will help the Northeast region get there."*

- Jon Hare, Science and Research Director,
Northeast Fisheries Science Center, NOAA Fisheries Service

For more information visit rosascience.org

The Responsible Offshore Science Alliance is a 501 (c) 3 tax exempt nonprofit organization.

How We Started

ROSA was initiated by the Responsible Offshore Development Alliance (RODA), a broad membership-based coalition of fishing industry associations and fishing companies with an interest in improving the compatibility of new offshore development and their businesses along with several offshore wind developers in January of 2019. RODA and the developers then engaged numerous states, federal agencies, additional fishermen, and others in on-going consultations and meetings through the fall of 2019.

How we are supported

ROSA's operations are jointly funded by the contributions of offshore wind developers with federal leases. Current funding companies include:

- Atlantic Shores Offshore Wind
- Equinor
- Mayflower WindEnergy
- Ørsted
- Vineyard Wind

Fishing industry leaders provide in-kind support through individual participation and extensive RODA stafftime. Events and specific research projects will be funded from a variety of federal, state and private sources.

"One of the many concerns facing offshore wind development is its potential effect on fisheries, from safety to costs to fishing patterns and gear; their concerns frequently are best studied and considered on a regional, not state-specific level. In New York's view, ROSA will provide an important opportunity for states, fisheries, developers, federal agencies, and other stakeholders to address these concerns."

- Alicia Barton, President and CEO,
New York State Research and Development Authority

ROSA Participation

ROSA has specific roles for states, commercial and recreational fishermen, offshore wind developers with federal leases, fishery management councils, and federal agencies.

ROSA will work and coordinate closely with the many states and federal agencies already undertaking research in pertinent areas along with on-going cooperative research efforts, existing regional data and monitoring networks, and interested research and academic institutions across the region.

Appointed committees of scientists from academia, research organizations, and technical firms will allow for even broader-based participation.



ROSA

**RESPONSIBLE OFFSHORE
SCIENCE ALLIANCE**



Mid-Atlantic Fishery Management Council
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Phone: 302-674-2331 | FAX: 302-674-5399 | www.mafmc.org
Michael P. Luisi, Chairman | G. Warren Elliott, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

Date: June 5, 2020
To: Chris Moore, Executive Director
From: Dr. Jerome Hermsen (GARFO APSD) and Julia Beaty (MAFMC staff)
Subject: Unmanaged species landings, 2015-2019

The tables on the following pages summarize commercial landings of unmanaged species from Maine through North Carolina. This information was compiled by staff at the Greater Atlantic Regional Fisheries Office Analysis and Program Support Division (GARFO APSD). The purpose of this report is to allow the Council to monitor commercial landings of unmanaged species in the northeast region. This report is meant to provide a high-level summary to determine if any further evaluation is needed.

In this context, “unmanaged landings” refers to landings of species from Maine through North Carolina only in locations where they are not managed at the state or federal level with a possession limit, size limit, seasonal closure, and/or limited access. For example, the blue crab landings shown on the following pages represent only those landings in states where blue crab is not managed.

The data were accessed from the Atlantic Coastal Cooperative Statistics Program (ACCSP) Data Warehouse. Both state-only and federal dealer reports are included. The data account for state-only permitted dealers located in the northeast as well as all dealers with GARFO permits, regardless of location.

The table on page 2 contains the top 25 unmanaged species by weight landed during 2015-2019. The second table contains the top 25 finfish species by weight landed. The rankings are based on average 2015-2019 landings. Confidential values are not counted in the averages. The third table contains landings of Mid-Atlantic Council ecosystem component species. The fourth table shows species with increasing rank order of landings every year from 2017 through 2019.

In 2019, blue catfish (an invasive species) had the highest amount of unmanaged commercial landings, followed by conchs, and hagfish.

When ranked from highest to lowest unmanaged commercial landings in each year from 2015 through 2019, two species had increasing rank every year: oysters and gray triggerfish. Unmanaged oyster landings totaled 144,670 pounds in 2019 and averaged 93,694 pounds during 2015-2019. Unmanaged landings of gray triggerfish totaled 2,093 pounds in 2019 and averaged 748 pounds during 2015-2019 (excluding 2017, which is confidential). When considering only the past three years (i.e., 2017-2019), 15 species increased in rank each year. These species are listed in the second table on page 4.

Top 25 Unmanaged Species Annual Landings, 2015-2019

Report Run on: 2020-05-26.

For data reported through 2020-05-25. Values are in pounds.

Cells marked with a 'C' are confidential. Averages do not include confidential data.

Common Name	Code	2015	2016	2017	2018	2019	Avg
MUSSELS	781	15,342,427	11,578,754	10,480,326	5,642,701	879,484	8,784,738
CATFISH, BLUE	067	3,697,016	4,123,309	5,199,117	5,093,158	4,981,704	4,618,861
CRAB, ROCK	712	1,774,510	1,482,765	2,216,872	2,571,016	1,934,725	1,995,978
CONCHS	775	2,666,958	1,066,324	1,234,770	2,368,253	2,434,252	1,954,111
HAGFISH	150	2,204,603	1,871,105	1,558,251	C	C	1,877,986
CRAB, BLUE	700	2,580,077	3,450,444	0	1,070,692	1,605,269	1,741,296
QUAHOG	748	3,113,556	3,028,273	159,961	58,218	24,987	1,276,999
OTHER FISH	526	1,810,527	1,291,616	656,646	844,650	752,707	1,071,229
STRIPED MULLET	235	612,729	461,742	778,353	832,924	896,851	716,520
WHITING, KING	197	564,373	582,919	814,345	327,756	482,838	554,446
CRUSTACEANS NK	834	0	160,171	234,650	170,342	527,698	273,215
TUNA, LITTLE	468	212,072	220,244	279,355	232,494	239,774	236,788
MOLLUSKS NK	804	619,872	96,249	179,234	169,826	103,077	233,652
JOHN DORY	188	206,857	209,695	246,233	122,198	102,405	177,478
HARVEST FISH	165	237,082	209,841	172,931	130,037	99,179	169,814
CUTLASSFISH, ATLANTIC	099	183,313	61,042	50,840	158,763	287,906	148,373
CLAM, BLOODARC	743	113,270	104,888	212,229	98,894	129,765	131,809
SEA ROBINS	341	122,319	206,341	149,469	77,456	69,179	124,953
KELP, SUGAR	833	0	C	101,571	99,301	256,646	114,380
PERCH, WHITE	506	135,060	139,261	79,294	99,326	110,288	112,646
OYSTERS	789	0	44,590	79,442	106,065	144,679	93,694
PUFFER, NORTHERN	429	91,413	102,934	100,913	70,606	82,403	89,654
CATFISH (SEA)	069	122,786	94,736	C	50,650	42,502	77,669
EEL, CONGER	116	44,874	47,459	57,568	90,772	49,060	57,947
SCALLOP, BAY	799	0	0	C	C	65,554	21,851

Top 25 Unmanaged Finfish Species Annual Landings, 2015-2019

Report Run on: 2020-05-26.

For data reported through 2020-05-25. Values are in pounds.

Cells marked with a 'C' are confidential. Averages do not include confidential data.

Common Name	Code	2015	2016	2017	2018	2019	Avg
CATFISH, BLUE	067	3,697,016	4,123,309	5,199,117	5,093,158	4,981,704	4,618,861
HAGFISH	150	2,204,603	1,871,105	1,558,251	C	C	1,877,986
OTHER FISH	526	1,810,527	1,291,616	656,646	844,650	752,707	1,071,229
STRIPED MULLET	235	612,729	461,742	778,353	832,924	896,851	716,520
WHITING, KING	197	564,373	582,919	814,345	327,756	482,838	554,446
TUNA, LITTLE	468	212,072	220,244	279,355	232,494	239,774	236,788
JOHN DORY	188	206,857	209,695	246,233	122,198	102,405	177,478
HARVEST FISH	165	237,082	209,841	172,931	130,037	99,179	169,814
CUTLASSFISH, ATLANTIC	99	183,313	61,042	50,840	158,763	287,906	148,373
SEA ROBINS	341	122,319	206,341	149,469	77,456	69,179	124,953
PERCH, WHITE	506	135,060	139,261	79,294	99,326	110,288	112,646
PUFFER, NORTHERN	429	91,413	102,934	100,913	70,606	82,403	89,654
CATFISH (SEA)	069	122,786	94,736	C	50,650	42,502	77,669
EEL, CONGER	116	44,874	47,459	57,568	90,772	49,060	57,947
CUSK	096	82,397	58,323	56,440	48,825	42,866	57,770
BONITO	033	69,033	47,030	51,819	41,514	63,550	54,589
SILVERSIDE, NK	363	61,286	120,019	37,976	28,314	14,196	52,358
HERRING (NK)	167	C	49,567	C	C	54,697	52,132
SILVERSIDE, ATLANTIC	362	20,810	32,470	23,132	16,805	63,417	31,327
SPADEFISH	381	21,664	23,690	35,844	25,988	30,454	27,528
HERRING, RIVER	170	24,427	C	C	C	C	24,427
RIBBONFISH	098	36,573	15,376	11,615	6,459	49,400	23,885
HERRING, ATL THREAD	174	C	C	30,482	11,515	13,432	18,476
RAY, COWNOSE	285	C	C	C	C	16,924	16,924
DOGFISH (NK)	350	28,858	C	0	4,255	C	11,038

MAFMC Ecosystem Component Species Annual Landings, 2015-2019

Report Run on: 2020-05-26.

For data reported through 2020-05-25. Values are in pounds.

Cells marked with a 'C' are confidential. Averages do not include confidential data.

Other ecosystem component species had no reported commercial landings during 2015-2019.

Common Name	Code	2015	2016	2017	2018	2019	Avg
MOLLUSKS NK	804	619,872	96,249	179,234	169,826	103,077	233,652
SILVERSIDE, NK	363	61,286	120,019	37,976	28,314	14,196	52,358
HERRING (NK)	167	C	49,567	C	C	54,697	52,132
SILVERSIDE, ATLANTIC	362	20,810	32,470	23,132	16,805	63,417	31,327
HERRING, ATL THREAD	174	C	C	30,482	11,515	13,432	18,476
SQUIDS, LOLIGINIDAE	803	659	10,940	4,526	C	1,393	4,380
EEL, SAND (LAUNCE)	206	3,367	C	C	C	C	3,367
HERRING, ROUND	166	0	0	C	C	70	23
ARGENTINE	171	C	0	0	0	0	C
BAY ANCHOVY	006	C	C	C	C	C	C

Species with Increasing Rank of Unmanaged Landings Every Year During 2017-2019

Report Run on: 2020-05-26.

For data reported through 2020-05-25. Values are in pounds.

Cells marked with a 'C' are confidential. Averages do not include confidential data.

Common Name	Code	2015	2016	2017	2018	2019	Avg
CONCHS	775	2,666,958	1,066,324	1,234,770	2,368,253	2,434,252	1,954,111
CRAB, BLUE	700	2,580,077	3,450,444	0	1,070,692	1,605,269	1,741,296
CUTLASSFISH, ATLANTIC	99	183,313	61,042	50,840	158,763	287,906	148,373
OYSTERS	789	0	44,590	79,442	106,065	144,679	74,955
PERCH, WHITE	506	135,060	139,261	79,294	99,326	110,288	112,646
SILVERSIDE, ATLANTIC	362	20,810	32,470	23,132	16,805	63,417	31,327
SHRIMP (PENAEID)	738	C	C	C	12,629	44,624	28,627
WHELK, WAVED	779	23,508	11,360	984	6,195	42,037	16,817
SHRIMP (MANTIS)	737	358	12,171	8,203	13,378	37,279	14,278
CLAM SURF, ARTIC	765	0	C	0	C	8,965	2,988
GOOSEFISH, BLACKFIN	13	1,610	1,330	C	4,474	7,329	3,686
SEA ROBIN, ARMORED	343	C	C	C	C	2,774	2,774
TRIGGERFISH, GRAY	457	0	0	C	898	2,093	748
PUFFERS	431	206	1,590	497	1,194	1,777	1,053
MACKEREL, BULLET	131	0	0	0	C	C	C



Mid-Atlantic Fishery Management Council

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Michael P. Luisi, Chairman | G. Warren Elliott, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

Date: June 3, 2020

To: Michael P. Luisi, Chairman, MAMFC

From:  Paul J. Rago, Ph.D., Chair, MAFMC Scientific and Statistical Committee

Subject: Report of the May 2020 SSC Meeting

The SSC met via webinar on the 12th and 13th of May, 2020 to address the following topics: (1) election of a new vice Chair of the SSC, (2) review products and presentations from the *Illex* Working Group, (3) review the 2020 *Illex* fishing year specifications and make recommendations for 2021 ABC, (4) review climate habitat vulnerability analyses, (5) revise and update changes to OFL CV document; and under Other Business, (6) address internal details for SSC species/topic leads, and discuss the National SSC meeting (Attachment 1).

All 20 of the SSC members participated in the meeting on May 12th and May 13th (Attachment 2) Due to the Covid 19 pandemic the meeting was held entirely via webinar. Support of Council staff was superb and allowed the meeting to proceed smoothly.

The meeting opened with the election of a new vice Chair to replace Tom Miller who had served as vice Chair for more than a decade. Michael Wilberg was nominated by Lee Anderson. No additional nominations were received from the floor. The SSC unanimously approved Mike as the vice Chair. Mike has been a member of the SSC since 2008 and a leader in the development of quantitative methods used by the SSC. Notably these include the methodologies underlying the application of risk policies for setting ABCs.

Tom Miller was thanked for his exemplary service. Gavin Fay, newly appointed to the SSC but unable to attend the March SSC meeting, was recognized. A large number of participants from the Council, Council staff, NEFSC and GARFO staff, industry, and the general public attended the meeting via webinar. Documents referenced in this report and related presentations can be accessed via the SSC's meeting website (<https://www.mafmc.org/ssc-meetings/2020/may-12-13>).

I wish to thank Tom Miller, Geret DePiper, and Sarah Gaichas for their meeting notes which greatly facilitated preparation of this report. I also thank Brandon Muffley and Jason Didden for helpful reviews of an earlier draft.

SHORTFIN SQUID

The remainder of the first day of the meeting was devoted entirely to shortfin squid. A total of 21 working papers and related documents were prepared for review by the SSC. All of the working papers were prepared in advance of the meeting and posted on the Council website. In order to efficiently address these working papers and the terms of reference a detailed agenda was followed (Attachment 3). Primary authors of each working paper were allowed between 10 and 15 minutes to highlight the primary conclusions and answer questions from the SSC. Members of the public were also offered the chance to comment and ask questions. Following the individual presentations, a general discussion period occurred prior to SSC discussion of the formal Terms of Reference. I contributed several papers to the Illex Working Group, made presentations and was supported by the Council. I therefore recused myself from the discussions related to determination of the ABC and offered only points of clarification when asked by the SSC. Tom Miller, the SSC lead for Illex, led the review of the working papers and Terms of Reference to the SSC.

Review of Illex Working Papers

The reviews began with an overview of rationale for Working Group and literature/management review. Quotas in 2017 to 2019 limited catches, possibly reflecting a new regime of Illex productivity and motivating a more detailed examination of current catch limits. Short-term goals of the Working Group were to understand the state of the science; medium-term goals include adding environmental drivers into analyses.

From a global perspective, management of squid populations is difficult and/or expensive. Despite substantial investments, assessments have been characterized by high uncertainty owing to the short life span and poorly understood dynamics of squid. The SSC discussed the approaches used for NAFO assessments and the potential applicability of such measures to the US stock area. However, staff concluded that this approach, relying primarily on survey ratios, is unlikely to be useful for the US given the seasonal timing of bottom trawl surveys. Most recent NAFO assessment noted that 2019 biomass levels extremely high, potentially moving to a high productivity state, but quotas have not changed.

Results of the industry-sponsored Illex Summit, (Nov. 25-26, 2019) were presented. The Summit focused as a forum for engaging industry directly in the scientific process and bringing industry, science and policy experts together for constructive dialog. Four members of the SSC participated in the Summit. Industry members were concerned by the inflexibility of management, particularly in the last 3 years and noted that industry perspectives of availability would be useful for guiding science-based management. Uncertainties about the role of oceanographic processes were addressed extensively as was the importance of world squid markets as primary determinants of price, and the utility of cooperative research. Price is a primary driver of fishing effort but processing capacity and vessel type (ice/refrigerated sea water/freezer) are also important factors. Results of the Summit were highly influential for directing efforts of the Illex Working Group.

A review of previous cooperative research efforts since 1995 and initial analyses of LPUE (through 2018) from Vessel Trip Reports (VTR) followed. Biological sampling of landings has increased since 1995 as have cooperative research efforts. A primary challenge for all measures of relative abundance is the distinction between availability and true abundance. Real-time measures of abundance have been proposed as a way of addressing this dilemma, but the presence of an offshore population of unknown size complicates all efforts

Initial LPUE modeling investigations of the VTR data suggest the importance of year, season and vessel as primary determinants of predicted relative abundance/availability. These basic patterns were affirmed in analyses of study fleet data. Seasonal patterns of catch rates fluctuated among years suggesting that interactions among these factors were important. These changes may also reflect changing geographical patterns across years. The congruence of patterns between study fleet-based measures and VTR is promising and suggests the need for more detailed comparisons. The composition of the overall fishing fleet is changing in recent years with the inclusion of more ice boats and conversions of freezer boats to RSW vessels.

Bottom trawl survey data from NEFSC and NEAMAP partners were combined to develop an overall probability of occurrence spatial map for the Northeast shelf using a software package known as VAST (Vector Autoregressive Spatio-Temporal). Comparison of these maps with estimates of the spatial footprint of the fishery (based on VTR data) revealed a low degree of overlap with the survey area irrespective of the cutoff criterion used for the probability of occurrence. Youden's J statistic was suggested as an additional measure of spatial overlap for consideration. Because the surveyed areas represent only a fraction of the known distribution of *Illex*, the results of these analyses suggest substantial opportunity for escapement of squid to unfished areas.

The size of landed squid varies seasonally and annually. Monitoring of body weight has been conducted since the mid 1990's by both federal port agents and via a cooperative program with industry. In the cooperative program, weekly or near weekly data were collected by industry and transferred to NEFSC for keypunching and analyses. Comparisons of the two data sets reveal substantial differences that may be due to different sampling protocols. Industry-supplied samples were based on individual measurements rather than bulk samples, and were therefore more readily interpretable. Analyses suggested significant differences across years in the rate of change of average weights over weeks. Such changes reflect the combined effects of variable growth, contributions of multiple cohorts, and migrations into and out of the fishing area. In collaboration with industry and the NEFSC, the MAFMC has funded a study to age squid samples that may help disentangle these combined effects.

Following lunch additional papers were summarized related to identification of system state (poor, average, good), estimation of fishing mortality, and in-season detection. Multivariate methods were demonstrated to have value for classifying years including discriminant analyses, tree regressions, and cluster analyses. Variables suggested by industry included average weight of squid, price and vessel capacity appeared to be good predictors. Variations in price within a season were not factored into the analyses but industry had reported that fluctuations within a year were typically small relative to changes between years.

Leslis-Davis depletion models have been used in some assessments worldwide but violations of underlying assumptions suggested that this methodology did not reliably detect the influence of catch on LPUE. Commenters noted that the absence of significant results was an indirect indicator of likely low fishing mortality.

The envelope method, previously utilized by the SSC for analysis of butterfish, reinforced the notion that fishing mortality was likely very low. Survey and catch data were independently used to develop a plausible range of population sizes based on a broad range of assumed fishing and natural mortality rates, gear efficiency and availability. The resulting envelope of population sizes could then be used to derive a range of feasible fishing mortality rates for comparison with reference points. Results suggested that maximum weekly fishing mortality rates of about 0.06 were less than half of proposed reference points based on 40% MSP published in the literature.

Vessel Monitoring System (VMS) data can be filtered by vessel speed and combined with average net widths by permit, to derive swept area estimates of fishing effort spatially. Using data from 2017 to 2019, analyses suggested that fishing activity was highly concentrated in a relatively small number of cells (6.99 nm² each), but that the overall area swept by the fishery was small (<960 nm² in 2019). Additional sensitivity analyses suggested that the maximum fishing mortality rate over the entire stock area was less than 0.54 over a 24-week fishing season (or about 0.023 per week). The VMS analyses could be useful for incorporating results from other studies of fishermen behavior (e.g. decisions to move to new fishing areas), estimates of density differences between fished and unfished areas, and potentially, the effects of price on fishing behavior.

Two papers on in-season detection of fishing status (good, average, poor) were also presented. The challenge is to find statistically significant differences prior to attainment of the quota. Total catch and average body weight were tested as response variables using a Cusum method. The Cusum method is often used in applications of statistical quality control. Detection of such changes in the fishery, particularly if catch rates and body size suggest a better than average year could be used to trigger a change in quota and prevent an early shutdown of the fishery. These response variables were chosen because they are currently being collected and might be feasible to implement in real time with only modest additional investment. The presenter and commenters noted several important areas of refinement including estimation of variances, validation of detection probabilities, and alternative methods for defining seasonal patterns. A potential extension of the algorithm to multiple indicators was also discussed. In terms of actual application of the method, it would be important to define ahead of time, acceptable error rates for false positives and false negatives, as well as critical timing for decision making (e.g., drop dead dates). Commenters noted the value of doing out of sample predictions for the Cusum approach.

Collectively the papers stimulated much discussion within the SSC. Commenters noted that methods used in the Falklands rely on identification of cohorts coming into the fishery using decomposition of polymodal length frequencies. Such methods are doable but are unlikely to be sufficiently timely for practical management especially since growth rates appear to vary annually with temperature regimes. The concept of computing escapement ratios was proposed and the Envelope method was modified to examine historical survey data with the assumption

that 30,000 mt had been caught in each year. Results of the hypothetical scenario suggested that the mid-range of escapement ratios ranged from 0.4 to 0.8 over the period 1967 to 2019.

Public comment

Reports from the *Illex* Working Group were well received by public commenters who appreciated the extensive incorporation of industry data in the analyses. Several commenters suggested moving directly to 30,000 mt as a quota given the low overlap between the fishery and the resource, and apparent low fishing mortality. It was noted that exclusion of coral zones and the low rate of fishing in Canada also provide substantial escapement opportunity. Expansion of the study fleet was also suggested as a productive future activity. One commenter noted that there may be utility in having additional fine scale information on catch rates and size compositions from fishermen after the fishery had closed officially.

Concerns were expressed that a phased implementation of quota increase, contingent on real-time information as identified in the staff recommendation, could be problematic. Nonetheless industry representatives unanimously pledged to continue supplying information for real-time management. Commenters recognized that many details regarding sample size, risk tolerance, chain of custody for samples, responsibilities for analyses, and reporting to managers. In particular, a time line for approximately 10 weeks after the start of the fishing season would be essential for implementation of a quota change to be economically feasible for industry.

ABC Determination

Following the extended period of discussion of the working papers and public comments, the SSC addressed the Terms of Reference for Shortfin Squid Responses by the SSC to the Terms of Reference (in *italics*) provided by the MAFMC are as follows:

1. Review the current 2020 *Illex* Acceptable Biological Catch (ABC) of 26,000 MT and determine if an ABC adjustment is warranted. If so, please specify an adjusted 2020 *Illex* ABC and provide any rationale and justification for the adjustment. If appropriate, specify any metrics the GARFO could monitor in 2020 to trigger an in-season ABC modification;

The SSC reviewed the material developed by the MAFMC *Illex* Working Group (WG) and the NEFSC and found clear evidence to support an adjustment of the 2020 ABC (26,000 mt). The WG analyses strengthened SSC contention in its 2017 ABC specification that the stock has been lightly exploited. Analyses conducted by the WG indicated that fishing activity from 2000-2018 occurred in 2-10% of the available shelf habitat occupied by *Illex* squid (Wright et al. 2020 ms). True values of the availability of squid to the fishery are likely lower given the full distributional range of this species. An analysis of VMS data, together with assumptions regarding gear efficiency, potential depletion thresholds, and the relative densities of squid in fished and unfished areas suggested that credible ranges of seasonal fishing mortality rates on squid that vary by about 30-fold, ranging from $F \sim 0.01 - 0.3$ with a values $< F = 0.1$ being most likely (Rago 2020a; Rago 2020 b). Other methods to estimate F often led to negative estimates, most likely because fishing mortality rates are insufficiently high to provide a clear signal to be reliably estimated in such models (Rago 2020d). A review

of the life history of *Illex* suggested that it is likely highly resilient to low levels of exploitation because of the presence of multiple cohorts, batch spawning and increased fecundity levels resulting from the presence of larger squid in the population than were present when fecundity was estimated originally.

The SSC recommends an ABC for *Illex* squid for 2020 of **30,000 mt**, based on the upper limit of values evaluated in the EA documents currently approved by GARFO. Evidence reviewed by the SSC leads it to believe that harvests in the range of 18,000-30,000 mt are unlikely to result in overfishing of the *Illex* stock. The SSC requested additional analysis from Paul Rago which confirmed that this level of ABC did not materially affect the range of estimates of F in the envelope analysis.

The SSC applauds the continued cooperation among the industry and federal and academic scientists to support exploration of real time management (e.g., Rago 2020e, f). However, the SSC believes that the specifics of the implementation of real time management for *Illex* remain sufficiently poorly identified which prevents implementation in the 2020 fishing year. The SSC strongly supports, as an active, ongoing research recommendation, to continue exploration of options by the *Illex* WG to support real time management of this stock, including factors that would trigger an in-season change in regulations, and the magnitude and direction of such a change.

- 2) Specify a 2021 *Illex* ABC (in weight) and provide any rationale and justification. If appropriate, specify any metrics the SSC could examine in late 2020 or 2021 to determine if any 2021 ABC modification might be appropriate;

The SSC recommend an ABC for *Illex* squid for 2021 of **30,000 mt**. This value is based the determination that catches in the range of 18,000-30,000 mt are unlikely to result in overfishing.

The SSC recommends that a wide range of catch levels be evaluated for the purposes of NEPA requirements pending results from the *Illex* WG

The SSC has insufficient information to recommend any specific metric that could be used to trigger adjustment of the 2021 ABC. The SSC strongly recommends that the Council continues to support work by the *Illex* WG efforts to identify and evaluate management procedures and control rules that may be used in future years. Such evaluation should seek to identify specific data needs, methods to ensure transparent data custody, and to understand regulatory requirements that would ensure efficient and effective implementation.

- 3) The most significant sources of scientific uncertainty associated with determination of the ABC;

The SSC notes the following important sources of uncertainty in determining the ABC for *Illex* squid.

- 1) Lack of an accepted stock assessment model and associated OFL means that data poor approaches are required to establish an ABC.

- 2) Incomplete understanding of *Illex* squid life history, phenology and distribution limit development of appropriate reference points. This uncertainty includes lack of (i) knowledge of the stock area, (ii) the productivity of the stock within that stock area and (iii) the portion of the stock outside of surveyed areas.
- 3) Incomplete fishery-independent data covering the distribution of *Illex* in both fished and unfished areas of their distributions.
- 4) Limited understanding of the factors controlling availability of *Illex* squid to the fishery.
- 5) Limited understanding of the impact of climate and environmental factors on recruitment, growth and understanding of *Illex* squid dynamics
- 6) Interplay of *Illex* availability to the fishery with the global supply of alternative squid product affects the distribution and level of fishing effort.
- 7) Internal within season feedbacks within the fishery that affect the distribution and level of fishing effort.
- 8) Impacts of fishery closures on our understanding of *Illex* squid growth and distribution.

4) Provide any research, data, and/or assessment considerations for the 2021 *Illex* research track assessment;

Based on its 2020 deliberations, the SSC recommends the following work, several of which re-emphasize research recommendations the SSC made in its May 2017 report to the Council:

- Evaluate stock assessment methodologies with a sub-annual time step, undertaking cooperative research with the fishing industry. Such assessment methodologies should seek to support in season management.
- Collect demographic information on growth, maturation, mortality, and reproduction by sex, season, and cohort to estimate and evaluate the level and changes in stock productivity.
- Evaluate the potential to collect real time spatial and temporal data on catch and biological characteristics of the catch to support in season management.
- Undertake fishery-independent data covering the distribution of *Illex* in both fished and unfished areas of their distributions
- Continue work to evaluate factors controlling the availability of *Illex* squid to the fishery.
- Landings time series show evidence of strong autocorrelation. As a result work should evaluate the impact of climate and environmental factors on recruitment, growth and understanding of *Illex* squid dynamics.
- Evaluate the benefits of a post-season, industry run survey to provide additional information on squid growth, distribution and dynamics.
- Explore the influence of market factors, including price, on fleet activity and its relationship to squid abundance.

Beyond the Research Track Assessment, the SSC recommends the *Illex* WG establish, in parallel:

- Protocols that would be required for RTM in 2020 moving forward. This could include developing management scenarios, coincident with revised NEPA bounds of ABC, evaluating and testing the mechanism for expanding or contracting ABCs above an initial year ABC through the use of triggers, and including evaluation of biological and economic risks and benefits of such management scenarios.
- Simulation evaluations of potential in season management procedures to evaluate their potential performance prior to implementation to support implementation of real time management.
 - Alternative in season triggering approaches, including machine learning algorithms and statistical control theory approaches.

5) The materials considered by the SSC in reaching its recommendations;

- Report to the May 2017 Mid Atlantic Fishery Management Council. Dated 2017-05-25
- 2020 Staff ABC recommendation to the SSC
- 2020 *Illex* AP report
- 2020 *Illex* AP Summary, Dated 2020-05-11
- Hendrickson, L. (2020a ms). Data requested by the MAFMC's SSC *Illex* Working Group. MAFMC SSC *Illex* WG ms
- Hendrickson, L. (2020b) Characterization of body weight data from the landings of northern shortfin squid (*Illex illecebrosus*) and preliminary annual landings-per-unit-effort for the southern (USA) stock component. MAFMC SSC *Illex* WG ms
- Jones, A. W., B, L. Wright, J. P Manderson, A. M. Mercer (2020). An investigation of fine-scale CPUE for northern shortfin squid (*Illex illecebrosus*) using NEFSC study fleet data. MAFMC SSC *Illex* WG ms.
- Rago, P. J. (2020a). Spatial patterns of fishing effort from VMS and implications for fishing mortality, 2017-2019. MAFMC SSC *Illex* WG ms
- Rago, P. J. (2020b). Application of envelope method to *Illex* squid. MAFMC SSC *Illex* WG ms
- Rago, P. J. (2020c). Identification of indicators of fishery condition and relative abundance for *Illex*. MAFMC SSC *Illex* WG ms
- Rago, P. J. (2020d). On the potential use of Leslie Davis depletion model for estimating population size for *Illex* squid. MAFMC SSC *Illex* WG ms
- Rago, P. J. (2020e). Part 1. Application of CUSUM method for in-season detection of fishery condition for *Illex* squid: Landings, 1996-2019. MAFMC SSC *Illex* WG ms
- Rago, P. J. (2020f). Part 2. Application of CUSUM method for in-season detection of fishery condition for *Illex* squid: mean weight, 1997-2019. MAFMC SSC *Illex* WG ms
- Rago, P. J. (2020 g). Supplement to envelope analysis to evaluate impacts of a 30,000 mt ABC. ms

- Wright, B. L., A. W. Jones, A. M. Mercer, J. P. Manderson (2020). Northern shortfin squid (*Illex illecebrosus*) fishery footprint on the northeast US continental shelf. MAFMC SSC *Illex* WG ms

6) A conclusion that the recommendations provided by the SSC are based on scientific information the SSC believes meets the applicable National Standard guidelines for best scientific information available.

To the best of the SSC's knowledge, these recommendations are based on the best available scientific information

Further Comments on the Illex Working Group

On the second day of the meeting the SSC affirmed its broad support for an increase in the ABC to 30,000 mt and desire to further refine and test real-time monitoring. It also acknowledged the progress of the Illex Working Group. While the methodologies developed by the Working Group collectively establish that the current level of exploitation is low, they do not, at present, establish the potential magnitude of quota adjustments that would be admissible under the Council's risk policy. SSC members recognized the dilemma of both creating the assessment architecture and reviewing it. These quantities would necessarily be the result of the Research Track Assessment, scheduled for 2021.

The SSC recognized the liabilities of an unfocused data collection program and suggested further work on the details before implementing. Members noted that many technical details need to be worked out regarding procurement, analyses, specific triggers, and timing of decisions for real time management.

Illex was characterized as a resilient species with high fecundity and multiple cohorts per year although the limits of this resiliency are unknown. The implications of maturation patterns and semelparity have been evaluated in the literature with respect to biological reference points but not with respect to resiliency. Hence it is important to characterize what overfishing might look like (e.g., biological attributes) and how it would be measured.

Analyses of the VMS data suggest several avenues for more refined data, particularly the differences in density of Illex in areas with and without intensive fishing. Another potential input from harvesters would be the criteria used for moving from one fishing area to another over the course of a trip. Consideration should also be given to potential behavioral responses of fishermen to the monitoring of catch and probability of in-season increases.

A management strategy evaluation (MSE) was proposed as integrated approach toward focusing the assessment, the data collection programs and approaches for real-time detection, but no details were provided. Machine learning algorithms may also have some utility for identification of system state, but no work on this for Illex has been conducted. Having an ABC closer to the global maximum would be a more useful starting point for in-season adjustments based on triggers.

Future management regulations should consider a wider range of catch options in the Environmental Analyses to allow for greater range of allowable catches. This might also confer a greater opportunity for accelerated rule making with a quota revision by mid August or early September. Regional Office staff noted that regulatory decisions are more difficult when discretionary authority is given in plan. The short life span exempts them from ACL provisions under the MSA, conferring additional flexibility to future management. Having a hardwired change in quota based on well-defined trigger(s) was viewed as an ideal option for rapid decision making.

HABITAT VULNERABILITY REVIEW

The second day of the meeting began with a presentation by Mark Nelson (NOAA Fisheries HQ) on the methods and draft results of the Habitat Climate Vulnerability Assessment (HCVA)

The approach is similar to that used for Northeast Fish Climate Vulnerability Assessment (NEVA)¹. It begins with a definition of habitat types (Marine, Estuarine Riverine, etc.) followed by definitions of subclasses within. Each habitat type is assigned a sensitivity level by a range of subject matter experts and the overall score is determined on the basis of sensitivity and exposure. Exposure is based on climate scenarios prepared by the IPCC; for this analysis the RCP 8.5 scenario was used. The regional ocean model from ESRL Boulder was used to overlay exposure projections with the habitat maps from multiple sources.

The modeling of impacts on habitat employed used approaches that may be useful for future analyses by the SSC for the State of the Ecosystem (SOE) including

- A “logic model” for scoring attributes against 4 thresholds: low, moderate, high, and very high.
- Sophisticated visual integration technique to compare habitat distribution with projections.
- Bootstrapping to show uncertainty in rankings.

Discussions focused on the linkages to the SOE report, the EAFM risk assessment, links to fish vulnerability assessments and other products that benefit from integration of spatial information. Following the previous day’s emphasis on the pelagic *Illex* species it was noted that most of the work focuses on the bottom habitat rather than water column which may be considered as dynamic habitat. Presenters noted that this topic had been discussed extensively during the development phase but that all water column habitats had low vulnerability. Commenters noted that the assumed persistence of these traits in the future may be an important consequence of climate change. Although not strictly a consequence of climate change, it was noted that in the shorter term ongoing human activities (dredging, hypoxia, red tides, fishing effort) are likely to exacerbate the effects of climate change.

¹ Hare JA, Morrison WE, Nelson MW, Stachura MM, Teeters EJ, Griffis RB, et al. (2016) A Vulnerability Assessment of Fish and Invertebrates to Climate Change on the Northeast U.S. Continental Shelf. PLoS ONE 11(2): e0146756. <https://doi.org/10.1371/journal.pone.0146756>

Several commenters noted the need to link the habitat vulnerability analyses with species vulnerability. For example, species with very different life histories sometimes have equal scores but the habitat drivers may be entirely different. It was acknowledged that a link with the NEVA process was planned. One member suggested the use of life table approaches as a mechanism for such research. Vulnerability of habitats to invasive species was also raised as a potential effect by commenters. Presenters requested some suggestions on appropriate species for more in-depth analyses.

Finally, it was noted that it may be useful to consider the risk-reward tradeoffs of human activity in the analyses. Presenters commented that this was beyond the current research tasks but could be incorporated in the future. Public comments also included questions on how non-climate factors, such as wind energy development could be incorporated. Habitat sensitivity did include consideration of offshore wind farms, shoreline hardening and so forth; these factors will be included in the narratives when the final report is written.

The session concluded by noting the HCVA approach is a novel extension of the Hare et al. methodology and provides a foundation for future research as well as providing linkages to other issues (wind). Questions remain regarding the ability of the methodology to capture fine scale spatial and temporal events such as ocean fronts and their utility for oceanic species such as *Illex*. Much depends on the stationarity of such features in the future. Another key area for further development is the interaction with other anthropogenic affects.

REVIEW OF OFL CV GUIDANCE DOCUMENT

The guidance document for the definition and application of the uncertainty of OFL estimates continues to evolve. The SSC discussed a set of changes proposed since the September 2019 SSC meeting. The changes related to technical or interpretive issues were resolved fairly quickly. For example, the implications of retrospective analyses and adjustments for bias for determination of an appropriate CV level were addressed. No clear consensus emerged but numerous individuals supported classification based on Mohn's rho estimates. Incorporation of ecosystem considerations also led to several suggested improvements, including Habitat Vulnerability information reviewed earlier in the day. Minor wording changes were also suggested for consideration of trends in recruitment.

Changes related to philosophical issues generated considerable discussion. The primary topic was the proposed implementation of a small working group to develop a draft decision matrix and narrative for the CV determination. The criteria for filling out the matrix are highly technical and need to be done by individuals with deep knowledge of the overall assessment and underlying technical papers. Summoning such information extemporaneously while in plenary session is both difficult and inefficient. Hence it was recognized that having a working draft for discussion ahead of an SSC meeting was efficient and would ensure greater factual accuracy in the summary. On the other hand, the absence of open discussion during the preparation of this document could be construed as violating transparency principles and a product of subjective biases.

After much discussion it was agreed that the OFL CV matrix and narrative was to be a product of the SSC but noted that it would be valuable to consult with the lead assessment scientists to

ensure accuracy. It was further agreed that no draft determination of the overall CV would be made prior to the plenary meeting of the SSC but that a template of accurate information relevant to the criteria was essential for efficient operation of the meeting. It is anticipated that the timing for development of information prior to the meeting would be difficult under the best of circumstances but that the process should get easier after a few assessment iterations.

A compromise position was reached in which the species lead from the SSC would work with the Council staff lead for the stock and the chief scientist, the chair and vice-chair of the SSC, and consult as necessary with the assessment lead to develop a draft OFL CV matrix and narrative for consideration by the full SSC in open session. Importantly, the factual information in the matrix would not be assigned to bins nor would the narrative arrive at a summary conclusion for the appropriate OFL CV level.

Public commenters noted that the industry appreciated the openness of the process and discussions but would continue to watch the process closely.

At their June meeting the Council will need to approve the recommended changes.

OTHER BUSINESS

National Scientific Coordination Subcommittee (SCS): Every two years the Council Coordination Committee (CCC) organizes a theme-oriented meeting of all the Council's SSCs. The purpose of the meetings is to allow for the exchange of ideas and approaches across council SSCs as well as to address themes of national significance. Concerns about spread of the COVID 19 pandemic led the Steering Committee to recommend postponement of the 2020 meeting that the North Pacific Council had planned to host in Sitka, Alaska, August 4-6, 2020 until the summer of 2021. The SSC noted that the planned theme, application of ecosystem indicators into stock assessments, consideration of interacting species, and the assessment of species exhibiting distributional changes, will be applicable to work of the SSC in 2021.

Species Leads. The SSC assigns members (one biologist and one social scientist) to serve as species leads for each stock managed stock and for special topics such as ecosystem-based fishery management. Species leads are responsible for maintaining an in-depth knowledge of the stock's fishery and assessment, as well as leading discussions when the SSC sets ABCs for the species. Follow circulation of the list of current species leads, several changes were made at the meeting. Alexei Sharov will become the new species lead for golden tilefish, complementing his role as a member of the South Atlantic Fisheries Management Council's SSC. John Boreman will become the species lead for scup. Sarah Gaichas will continue to serve as the ecosystems topic lead but will be assisted by Rob Latour when Sarah is presenting the State of the Ecosystem report. In addition, a new topic lead on Energy development/wind farms was added. Dave Secor will serve as the biological lead (a socio-economic lead has not yet been assigned). The revised list of species and topic leads can be found on the Council's SSC webpage at: <https://www.mafmc.org/ssc>.

NRCC Meeting and Joint Council-SSC Meeting. The SSC was informed that the NRCC would be meeting on May 14 and considering the postponement of the Atlantic mackerel Management Track Assessment review because of the unavailability of Canadian data for 2019. The NRCC

will also be making recommendations for the 2025 Research Track Assessments. Following a similar meeting in 2019, Council would like a joint meeting with the SSC in October in Riverhead, NY. The SSC will consider and identify potential topics to address during the joint meeting later in the year.



**Mid-Atlantic Fishery Management Council
Scientific and Statistical Committee Meeting**

May 12 – 13, 2020 via Webinar

Webinar Information

(Note: same information for both days)

Link: <http://mafmc.adobeconnect.com/may2020ssc/>

Call-in Number: 1-800-832-0736

Access Code: 5939710#

AGENDA

Tuesday, May 12, 2020

- 10:00 Welcome/Overview of meeting agenda (P. Rago)
- 10:05 Election of SSC Vice-Chair
- 10:10 Review of *Illex* Workgroup products (J. Didden/ P. Rago)
- 12:00 Lunch
- 1:00 Continue review of *Illex* Workgroup products
- 3:00 Review and potential change to 2020 *Illex* ABC specifications and set 2021 *Illex* ABC
 - Review of staff memo and 2020 - 2021 ABC recommendations (J. Didden)
 - SSC 2020 – 2021 *Illex* ABC recommendations (T. Miller)
- 5:30 Adjourn

Wednesday, May 13, 2020

- 9:00 Northeast Climate Habitat Vulnerability Assessment (E. Farr, NMFS)
- 10:00 Review/follow-up of *Illex* discussion, if necessary

10:30 Review updates and changes to OFL CV Guidance Document

11:30 Other business

- National SSC meeting
- SSC species/topic leads for 2020

12:30 Adjourn

Note: agenda topic times are approximate and subject to change

ATTACHMENT 2

MAFMC Scientific and Statistical Committee
May 11-12, 2020

Meeting Attendance via Webinar

<u>Name</u>	<u>Affiliation</u>
<i>SSC Members in Attendance:</i>	
Paul Rago (SSC Chairman)	NOAA Fisheries (retired)
Tom Miller	University of Maryland – CBL
Ed Houde	University of Maryland – CBL (emeritus)
Dave Secor	University of Maryland – CBL
John Boreman	NOAA Fisheries (retired)
Geret DePiper	NOAA Fisheries NEFSC
Lee Anderson	University of Delaware (emeritus)
Jorge Holzer	University of Maryland
Yan Jiao	Virginia Tech University
Rob Latour	VIMS
Brian Rothschild	Univ. of Massachusetts – Dartmouth (emeritus)
Olaf Jensen	Rutgers University
Sarah Gaichas	NOAA Fisheries NEFSC
Wendy Gabriel	NOAA Fisheries NEFSC
Mike Wilberg (Vice-Chairman)	University of Maryland – CBL
Alexei Sharov	Maryland Dept. of Natural Resources
Mike Frisk	Stony Brook University
Mark Holliday	NOAA Fisheries (retired)
Cynthia Jones	Old Dominion University
Gavin Fay	U. Massachusetts—Dartmouth

Others in attendance (includes presenters and members of public who spoke):

Jason Didden	MAFMC staff
Brandon Muffley	MAFMC staff
G. Warren Elliott	MAFMC Vice-Chair
Lisa Hendrickson	NOAA Fisheries NEFSC
Brooke Wright	NOAA Fisheries NEFSC
Andrew Jones	NOAA Fisheries NEFSC
John Manderson	Open Ocean Research
Doug Christel	GARFO
Greg DiDomenico	Lunds
Megan Lapp	SeaFreeze
Jeff Kaelin	Lunds
Robert Ruhle	F/V Darana R

Katie Almeida
Eric Reid
Emily Farr
Mark Nelson
Mike Johnson

Town Dock
Seafreeze, NEFMC Vice-Chair
NOAA Fisheries
NOAA Fisheries
NOAA Fisheries

Attachment 3. May 12, 2020 agenda for Illex discussion

<i>Time</i>	<i>Duration</i>	<i>Topic</i>	<i>Presenter</i>	<i>Working Papers</i>
10:10 AM	0:10	Opening remarks, description of review process	Miller	
10:20 AM	0:10	Overview, TOR, squid biology, fishery, previous SSC decisions, relation to NAFO	Didden	2, 3, 4, 5, 7
10:30 AM	0:15	Summit review	Manderson	18
10:45 AM	0:10	Data Sources: VTR, Dealer, VMS, Survey, Weight Data, Aging	Didden	6, 15, 17
10:55 AM	0:15	CPUE--VTR	Hendrickson	10
11:10 AM	0:15	CPUE--study fleet	Jones	8
11:25 AM	0:15	Footprint and overlap	Wright	9
11:40 AM	0:05	Break		
11:45 AM	0:15	Body weight data	Hendrickson	10
12:00 PM	0:30	AP Summary and Public Comment	Didden/ Miller	
12:30 PM	0:30	Lunch		
1:00 PM	0:10	Indicators of status	Rago	13
1:10 PM	0:15	Leslie Davis Depletion estimator	Rago	14
1:25 PM	0:10	Envelope Method	Rago	12
1:35 PM	0:15	VMS analyses	Rago	11
1:50 PM	0:15	Cusum: Seasonal Landings	Rago	16a
2:05 PM	0:10	Cusum: Average Weights	Rago	16b
2:15 PM	0:10	Break		
2:25 PM	0:15	Public Comment	Miller	
2:40 PM	0:25	Group Discussion and Follow up	All	
3:05 PM	0:45	Summary of SSC conclusions	Miller	
3:50 PM	0:40	Review of staff memo and 2020 - 2021 ABC recommendations	Didden	1
4:30 PM	1:00	SSC Discussion and Recommendationss	Miller	
5:30 PM		Adjourn		



Mid-Atlantic Fishery Management Council Scientific and Statistical Committee OFL CV Guidance Document

Approved by Council June 2019

Revised XX 2020

Introduction

The Mid-Atlantic Fishery Management Council's (MAFMC) Scientific and Statistical Committee (SSC) currently uses a control rule to specify the acceptable biological catch (ABC; catch level that sets an upper bound for the Annual Catch Limit) for stocks that have accepted estimates of the overfishing limit (OFL; the catch that is expected to achieve the fishing mortality threshold (FMT)). The control rule is based on the P^* (probability of overfishing) approach, which is used to calculate a catch level that is expected to achieve a pre-specified probability (P^*) of exceeding the maximum fishing mortality rate reference point. In addition to the P^* , which is specified by the MAFMC, the control rule requires a probability distribution for the OFL to describe uncertainty. Because of the difficulty in accurately quantifying the total uncertainty in the OFL, the SSC currently specifies a distribution for the OFL. The point estimate of the OFL from the stock assessment is used as the median of a lognormal distribution with a coefficient of variation (CV) specified by the SSC.

The true uncertainty in the OFL is needed to achieve the MAFMC's goal of a catch limit that meets a specific probability of overfishing. If the CV of the OFL is underestimated, the probability of overfishing will be higher than desired, and, conversely, if the CV of the OFL is too high, then the probability of overfishing will be lower than specified by the Council. The OFL CV is uncertain and difficult to estimate accurately. Three primary sources of uncertainty affect uncertainty in the OFL: uncertainty in the current stock biomass, uncertainty in the FMT and the OFL that is derived from it, and uncertainty from projecting into the future. Uncertainties in biomass and OFL derive from similar sources. Uncertainty is introduced by sampling variability when data are collected. Additional uncertainty is introduced as a result of assumptions and parameter estimates used in the assessment models. Since assessment models are simplifications of real-world, important uncertainties may be entirely uncharacterized. Therefore, the OFL is subject to substantial uncertainty, and the true uncertainty (instead of assessment model precision) is very difficult to estimate.

Commented [MB1]: Note: the SSC made edits to the Introduction to help streamline, re-organize, and clarify some of the original language. These edits do not modify the process, decision criteria, and approach the SSC will take when determining the OFL CV level; therefore, the Introduction edits were accepted and are incorporated into the revised document.

The SSC believes that no single model or even ensemble of models can fully capture the full assessment uncertainty. Rigorous consideration of key assessment parameters and assumptions and comparison among model simulations can improve one's understanding of the true but essentially knowable uncertainty. This document describes the criteria used for determination of bins of uncertainty levels. The ABC is derived from the OFL by assigning the assessment to an appropriate uncertainty bin. Ultimately, the final determination is dependent on expert judgement and qualitative evaluation of a suite of factors that affect uncertainty of the OFL.

The MAFMC SSC has used a range of values, 60-150%, for the CV of the OFL distribution in determining the ABC. However, the SSC, MAFMC, and stakeholders have questioned the rationale for various values of the OFL CV that have been applied by the SSC as well as the consistency underlying the decisions about OFL CVs among assessed stocks. When the ABC control rule was initially adopted, a default amount of uncertainty was estimated from a meta-analysis of accuracy of estimates from simulation studies of statistical catch-at-age model performance, including the uncertainty in biomass in the last year, uncertainty in the fishing mortality reference point, and their covariance¹. This analysis indicated that a CV = 100% was a reasonable value for the average CV of the OFL distribution. Since that time, the SSC has chosen CVs for the OFL distribution that differ among stocks (Figure 1).

The SSC's intent for this document is to elevate confidence in ABC recommendations by establishing a replicable process that meets Council risk policy objectives and identifies relevant components of assessment uncertainty to be provided to the SSC. The approach outlined here will not resolve all scientific uncertainties and problems, and exceptions will arise that are not specifically addressed in this document; however, this approach should help alleviate many issues and provide a clear, consistent, and transparent process that documents the SSC deliberations and conclusions.

The SSC's approach to setting OFL CVs is intended to:

- Result in prudent decisions for catch advice that are consistent in meeting the objectives of the Council's Risk Policy;
- Be based on clear decision criteria that are consistently applied across stocks; and
- Be supportable with evidence.

Decision Criteria

The SSC agreed to consider nine decision criteria to help define an appropriate OFL CV when setting new or revised ABC recommendations. All decision criteria will be considered by the SSC; however, the relative importance and "weighting" of each criteria will be different for each species and consistent with the approaches and analyses evaluated within each assessment

¹ For more information, please see the SSC white paper titled "Description and Foundation of the Mid-Atlantic Fishery Management Council's Acceptable Biological Catch Control Rule" found at: <http://www.mafmc.org/s/MAFMC-ABC-Control-Rule-White-Paper.pdf>.

framework. In addition, while these criteria were specifically developed to help in SSC deliberations, they may also be helpful to stock assessment workgroups as they consider and evaluate data and model appropriateness and uncertainty.

The nine decision criteria are provided below with supporting language that generally describes the considerations and information the SSC may utilize when considering each criterion.

1. Data quality

- a. Types and quality of available data are primary determinants of the accuracy of any assessment model;
- b. Important fishery-independent data considerations include survey design, coverage (of the unit stock area), and efficiency of survey gear;
- c. Fishery-dependent considerations include accuracy and precision of landings and discards;
- d. Availability of age and/or length data for fishery-independent and dependent sources; validity of underlying assumptions and any potential data borrowing (i.e., gap filling);
- e. ~~Information on natural mortality and other assumed~~ Data in support of key model parameters.

2. Model appropriateness and identification during the assessment process

- a. Model selection process and tests are important for choosing assessment models that are likely to be accurate (e.g., model sensitivities within a given model structure);
- b. Comparison ~~among~~between the assessment baseline model and models with different structures is important to determine the effects of assumptions;
- c. Model appropriateness in capturing species and fishery specific traits, such as ~~biological characteristics, fleets,~~ life history patterns, spatial/stock structure, and ~~fleets~~biological characteristics;
- d. Amount of model testing with consistent or divergent ~~estimate~~trends (particularly for management relevant quantities like the OFL or stock status)~~among models~~.

3. Informed by retrospective analysis

- a. Retrospective pattern is ~~direct~~ evidence of model misspecification and suggests directionality of change with respect to “true” or at least improved model rather than an unspecified set of alternative models;
- b. Comparison of the adjusted OFL to the uncertainty of the OFL estimated from the baseline model to determine if retrospective pattern is a larger portion of uncertainty.

4. Informed by comparison with simpler analyses

- a. Swept area biomass or gear comparisons that suggest appropriate minimum scale of population;

- b. Comparison with other empirical or simpler measures; e.g., survey Z, Beverton-Holt length-based Z.

5. Informed by ecosystem factors or comparisons with other species

- a. Stock-relevant ecosystem factors directly included in the assessment model, e.g.,:
 - Environmentally dependent growth or other population processes;
 - Factors limiting/enhancing stock productivity (habitat quality, etc.);
 - Predation, disease, or episodic environmental mortality (e.g., red tide);
- b. Ecosystem factors outside the stock assessment affecting short term prediction
 - General measures of ecosystem productivity and habitat stability (e.g., primary production amount and timing, temperature trends, etc.);
 - Comparisons among related species; e.g., recruitment, growth, condition patterns across Mid Atlantic fish species stable, varying synchronously, or varying unpredictably;
 - Climate vulnerability or other risk assessment evaluation of potential for changing increasing or decreasing productivity under changing conditions.

6. Informed by measures of trend in recruitment (primarily affecting the accuracy of forecasts)

- a. Stanzas of abundance for recruits;
- b. Decreasing R/SSB as SSB decreases (evidence of depensation).

7. Informed by prediction error

- a. Comparisons of model performance given prior assessments;
- b. Consistency among repeated assessments should be considered in light of changes in the best available information or understanding of stock and fishery dynamics.

8. Assessment accuracy under different fishing pressures

- a. Age-structured assessment approaches are generally more accurate under higher fishing mortality rates relative to natural mortality;
- b. Non-age-structured assessment approaches may require specific patterns in the data to be highly accurate (e.g., high contrast in abundance and fishing pressure for a production model);
- c. Prediction error and dynamic trends (e.g., decadal periods) in fishing selectivity patterns.

9. Informed by simulation analysis or full MSE

- a. Simulation analyses can be used to test how robust assessment approaches or management strategies are to specific misspecifications in the models or issues in the data.

General Framework Discussion Table

The framework table is intended to provide qualitative assessment of the nine criteria and is not to be used to tabulate a specific score. Instead, the table will help ~~document~~ document deliberations, ensure a consistent process is followed for all species and assessments, and help the Council and public understand the rationale for the decision reached by the SSC.

The table currently has OFL CV default values (bins) of 60%, 100%, and 150%, and were derived from a variety of simulation analyses, MSE evaluations, and expert judgement by the SSC. As new information, analyses, and assessment methods become available, the SSC may modify the default OFL CV bins or recommend a different OFL CV for a specific species assessment. If any changes to the current default OFL CV values are warranted, the SSC will provide justification and supporting documentation as to why a different value was recommended.

The framework table below provides general evaluation metrics associated with the nine decision criteria for each OFL CV bin.

Decision Criteria	Default OFL CV=60%	Default OFL CV=100%	Default OFL CV=150%
Data quality	One or more synoptic surveys over stock area for multiple years. High quality monitoring of landings size and age composition. Long term, precise monitoring of discards. Landings estimates highly accurate.	Low precision synoptic surveys or one or more regional surveys which lack coherency in trend. Age and/or length data available with uncertain quality. Lacking or imprecise discard estimates. Moderate accuracy of landings estimates.	No reliable abundance indices. Catch estimates are unreliable. No age and/or length data available or highly uncertain. Natural mortality rates are unknown or suspected to be highly variable. Incomplete <u>or highly uncertain</u> landings estimates.
Model appropriateness and identification process	Multiple differently structured models agree on outputs; many sensitivities explored. Model appropriately captures/considers species life history and spatial/stock structure (<u>e.g., bleak sea base</u>).	Single model structure with many parameter sensitivities explored. <u>Moderate agreement among different model runs indicating low sensitivities of model results to specific parameterization.</u>	Highly divergent outputs from multiple models or no exploration of alternative model structures or sensitivities.
Retrospective analysis	<u>No retrospective adjustment necessary, or OFL estimate includes retrospective adjustment. Minor retrospective patterns.</u>	<u>OFL estimate includes retrospective adjustment only if outside 95% bounds of non-adjusted terminal B and F. Moderate retrospective patterns.</u>	No retrospective analysis or severe retrospective patterns <u>observed.</u>
Comparison with empirical measures or simpler analyses	Assessment biomass and/or fishing mortality estimates compare favorably with empirical estimates.	<u>Both assessment biomass and/or fishing mortality empirical estimates highly uncertain. Moderate agreement between assessment estimates and empirical estimates or simpler analyses.</u>	Estimates of scale are difficult to reconcile and/or no empirical estimates.

Ecosystem factors accounted	Assessment considered habitat and ecosystem effects on stock productivity, distribution, mortality and quantitatively included appropriate factors reducing uncertainty in short term predictions. Evidence outside the assessment suggests that ecosystem productivity and habitat quality are stable. Comparable species in the region have synchronous production characteristics and stable short-term predictions. Climate vulnerability analysis suggests positive impacts on productivity from changing climate <u>low risk of change in productivity due to changing climate.</u>	Assessment considered habitat/ecosystem factors but did not demonstrate either reduced or inflated short-term prediction uncertainty based on these factors. Evidence outside the assessment suggests that ecosystem productivity and habitat quality are variable, with mixed productivity and uncertainty signals among comparable species in the region. Climate vulnerability analysis suggests <u>moderate risk of change in productivity</u> neutral impacts on productivity from changing climate.	Assessment either demonstrated that including appropriate ecosystem/habitat factors increases short-term prediction uncertainty, or did not consider habitat and ecosystem factors. Evidence outside the assessment suggests that ecosystem productivity and habitat quality <u>are</u> variable and degrading. Comparable species in the region have high uncertainty in short term predictions. Climate vulnerability analysis suggests <u>negative impacts-high risk of changing</u> productivity from changing climate.
Trend in recruitment	OFL estimates adjusted for recent trends in recruitment. <u>Consistent recruitment pattern with no trend.</u>	No recruitment trend or uncertain. <u>Moderate levels of recruitment variability or modest consistency in pattern or trends.</u> OFL estimates adjusted for recent trends in recruitment. Insufficient evidence to adjust OFL estimate <u>appropriately accounted for recent trends</u> in based on recruitment information available.	<u>Recruitment pattern highly inconsistent and variable.</u> Recruitment trend not considered or no recruitment estimate.
Prediction error	Low estimate of recent prediction error.	Moderate estimate of recent prediction error.	High or no estimate of recent prediction error.
Assessment accuracy under different fishing pressures	High degree of contrast in landings and surveys with apparent response in indices to changes in removals. <u>Fishing mortality at levels expected to influence population dynamics</u> Observed high fishing mortality in recent years.	Moderate contrast <u>agreement in the surveys and to changes in catches.</u> “One-way” trips for production models. Observed moderate fishing mortality in fishery (i.e., lack of high fishing mortality in recent years).	Relatively little change in surveys or catches over time. Low precision of estimates. Low fishing mortality in recent years. <u>“One-way” trips for production models.</u>
Simulation analysis/MSE	Can be used to evaluate different combinations of uncertainties and indicate the most appropriate OFL CV for a particular stock assessment.		

A worked example evaluation of the nine criteria provided in the table above is provided for Summer Flounder (see page 8).

Process for OFL Determination

The SSC’s consideration, evaluation, and discussion of the nine decision criteria in determining the appropriate OFL CV level could potentially become cumbersome and time-consuming to be handled effectively during an SSC meeting, particularly if multiple species-specific ABC recommendations are required. In an effort to add efficiency to the ABC-setting process while

still allowing for extensive SSC input and discussion, the SSC species lead will develop a pre-decisional, non-binding document evaluating the nine decision criteria ahead of the SSC meeting. This document will then be posted as part of the SSC meeting materials and available to SSC members for review ahead of the meeting in which an ABC recommendation is required. The process for developing the pre-decisional document and the SSC's OFL CV determination will follow the steps outlined below:

- Upon completion of a stock assessment, the appropriate SSC species lead, seeking input from the stock assessment lead and Council staff as necessary, ~~will work with the stock assessment lead and Council staff to~~ will evaluate the nine decision criteria and develop a draft summary document that provides an overview of relevant assessment information, key findings, and any additional pertinent information for each decision criteria ~~complete a draft framework discussion table. The summary document would also include a draft narrative (see example narrative on page 10 below) that identifies the most important decision criteria specific to the species and stock assessment under consideration and highlights any other relevant information. The narrative would not include an OFL CV recommendation.~~
- The draft summary document ~~framework table~~ would then be provided to a sub-group comprising of the SSC chair, vice-chair, and Council staff members (initially comprised of the OFL CV workgroup members) ~~for review and feedback and would likely meet via webinar.~~ This sub-group will review the information and draft narrative to ~~will~~ help ensure consistency in the interpretation and evaluation of the decision criteria. ~~The SSC species lead, and the sub-group will then develop a draft narrative summarizing the key findings based on the draft framework table. This narrative will include information on the most critical and important decision criteria specific to the species and stock assessment reviewed and highlight any other areas of extended deliberation by the sub-group. The narrative will also recommend an appropriate OFL CV level for SSC consideration. The framework table, narrative and OFL CV recommendation will all be labeled as draft and are pre-decisional and non-binding.~~
- The draft summary document ~~framework table~~ and narrative will be provided to the full SSC and posted as part of the meeting materials in advance of the meeting in which the ABC recommendations will be made.
- During the SSC deliberations to address the ABC Terms of Reference, the SSC species lead will provide an overview of the pertinent information associated with the nine decision criteria ~~evaluation, and draft narrative, and OFL CV recommendation.~~
- SSC members present at the meeting will then discuss and deliberate any/all information available in order to make an OFL CV recommendation. The SSC meeting summary report will contain both the completed framework table with an evaluation and rationale of the nine decision criteria and a summary narrative. Providing both the framework table and narrative in the meeting summary will help provide a comprehensive record of the SSC's deliberations and justification for their recommendation for future reference.

Given the additional work and ~~preparation~~~~meetings~~ necessary prior to a scheduled SSC meeting as outlined above, increased coordination ~~between~~~~among~~ the SSC, NEFSC, and Council staff will be critical to ensure stock assessment documents and information are available in a timely manner. Ideally, stock assessment documents and any other pertinent information would be available at least three weeks prior to the scheduled SSC meeting. The SSC species lead would provide the draft summary document~~and~~ to the SSC chair, vice chair, assessment lead, and Council staff~~sub-group would meet~~ at least two weeks prior to the scheduled SSC meeting ~~for~~~~to~~ review and feedback~~the framework table and develop the draft narrative~~. The ~~sub-group~~ draft summary documents would then be available to the SSC and posted to the meeting materials at least one week prior to the scheduled SSC meeting. ~~Delays in any part of this process could result in a number of implications ranging from inefficient and extended SSC meetings to potential delays in the making ABC recommendations.~~ In addition, continued SSC involvement in the SAW/SARC process (i.e., chairing SAW/SARC assessment reviews, embedding with the assessment work group) will play a critical and informative role in the process to help ensure the timing and deadlines are achieved.

Worked Example

Below is a worked example for Summer Flounder based on the results of the 2018 benchmark assessment. The worked example includes the SSC OFL recommendation, an evaluation of the nine decision criteria as outlined in the framework table and a short narrative documenting key conclusions.

Based on an evaluation of the nine decision criteria, the SSC recommends a CV of 60% be applied to the OFL estimate as an appropriate ABC for Summer Flounder in fishing years 2019-2021.

Commented [MB2]: Note: the SSC made minor edits to the Worked Example to help streamline, re-organize, and clarify some of the original language. These edits do not modify the process, decision criteria, and approach the SSC will take when determining the OFL CV level; therefore, the Worked Example edits were accepted and are incorporated into the revised document.

Decision Criteria	Default OFL CV=60%	Default OFL CV=100%	Default OFL CV=150%
Data quality	Two synoptic surveys (fall and spring) are available for all years in assessment. Additionally, 13 regional surveys are used in model tuning. Time series for R/V Albatross IV and R/V Bigelow treated separately for spring and fall trawl surveys. Bigelow estimates adjusted for results of cooperative research studies on gear efficiency. Age data available for all years in surveys, and age-length keys from surveys were applied to commercial landings, recreational landings, and commercial discards. Recreational and commercial discards are low and measured with good precision. Sex-specific information available for growth. Newly revised historical MRIP catch estimates were used in assessment.		

Model appropriateness and identification process	Models incorporating age and sex-specific growth and mortality rates were developed, tested, and reviewed. Multiple models by different assessment teams were considered. ASAP was preferred assessment model but SS and other statistical catch-at-age models were considered. These include models with age and sex-dependent rates of natural mortality, growth, and fishery selectivity. However, additional work on the more complicated models is needed to appropriately evaluate to the single sex models.		
Retrospective analysis	Retrospective pattern in current assessment is minor with retrospective errors over the last 7 terminal years averaging -4% for F, +2% for SSB, and +2% for recruitment. These retrospective errors are about one-tenth as large as their magnitude in the previous benchmark assessment. Historical retrospective comparisons show general trends of fishing mortality, stock biomass, and recruitment have been consistent since the 1990s assessments.		
Comparison with empirical measures or simpler analyses	Assessment biomass and/or fishing mortality estimates compare favorably with empirical estimates. Results of cooperative research gear experiments were used to adjust scale of biomass indices used in model tuning.		
Ecosystem factors accounted		Aspects of the ecosystem seem to be changing in recent years. Fall ocean bottom and surface temperatures are increasing, and salinity is at or near the historical high. These physical data series may have shifted around 2012, the warmest year on record for this ecosystem. Spring chlorophyll concentrations, a measure of bottom-up ecosystem production in the Summer Flounder stock area, are variable, but the fall time series has been decreasing, especially during 2013-2017. Spring abundances for key zooplankton prey are variable and may be worth examining alongside recruitment patterns for future research. Both probability of occurrence and modeled habitat area show similar patterns of increases from the 1990s to the present, which suggests, despite reduced abundance in the past five years, the distribution footprint of Summer Flounder has not contracted.	

Trend in recruitment		Average recruitment from 1982 to 2017 is 53 million fish at age 0. Recruitment has been below average since 2011, averaging 36 million fish. Overall recruitment variability is modest and it is not possible to determine if recent decline is statistically significant. Projections do not account for recruitment trend.	
Prediction error	Prior to the 2018 benchmark, comparisons of annual forecasts of stock biomass with realized estimates of stock biomass in subsequent assessments reveal a one-year ahead forecasting error with a CV=14%. For two-year forecasts the CV is 26% and for 3-year forecasts the CV= 26%. The average percentage difference between the projection and the subsequent estimate for 1-, 2-, and 3-yr projections was +12%, +23%, and +24%, respectively. Inclusion of the revised MRIP data increased the population scale, rendering prediction comparisons less useful as a metric of model performance.		
Assessment accuracy under different fishing pressures		Fishing mortality has varied over a 6-fold range over the assessment period with major decline since imposition of effective management measures around 2000. This range of fishing mortalities, subsequent fluctuations in total abundance, and success of management changes suggest a moderate level of confidence in assessment results.	
Simulation analysis/MSE	No formal MSE-type analyses have been conducted for this stock.		

Example OFL CV Recommendation Narrative

This is a data rich stock assessment and one of the most comprehensive in the Northeast US. Two synoptic surveys (fall and spring) are available for all years and multiple regional surveys are used in model tuning. Age data are available for all years in surveys, commercial landings, recreational landings, and commercial discards. Recreational and commercial discards are low and measured with good precision. The newly revised MRIP catch estimates were incorporated into the assessment for the first time. Extensive work on alternative model formulations (including size- and sex-based models) have been conducted by independent assessment teams. Spatial variations in catch rates by sex and fisheries have been examined. Multiple model formulations have been systematically evaluated. More complicated models have not been judged superior to single-sex models. The retrospective pattern for the current assessment is exceptionally low and comparisons of biomass estimates across historical assessments show good agreements with trend. Estimates of prediction error for 1- to 3-year

forecasts are less than 25%. The stock has experienced a wide range of fishing mortality rates and appears to have responded as predicted by theory to aggressive management measures in the early 2000s; this suggests a high level of confidence in the results.

Consideration of ecosystem factors apart from the model suggest some cause for concern as increases in temperature and salinity have occurred, especially since 2012. It is too early to tell if changes in chlorophyll indices and zooplankton abundance are related to recent reductions (about 31% decline) in average recruitment in this same period.

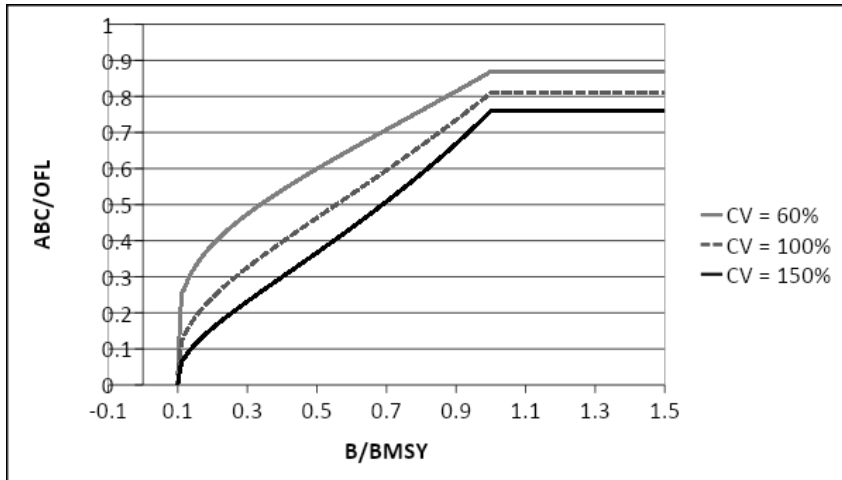


Figure 1. Effect of different CV values currently selected by the MAFMC SSC on the ratio of ABC to OFL for varying levels of biomass relative to the B_{MSY} .



Research Steering Committee Meeting

Potential Re-Development of the Mid-Atlantic Research Set-Aside Program Webinar Meeting Summary

April 2020

The Research Steering Committee (RSC) met via webinar on Tuesday, April 28, 2020 to discuss potential re-development of the research set-aside (RSA) program. The RSC's recommendations will be presented at a subsequent Council Meeting with the goal of hosting an RSA workshop in fall 2020.

RSC members present: Adam Nowalsky (Chair), Steve Heins (Vice-Chair), Chris Batsavage, Peter deFur, Tony DiLernia, Laurie Nolan, Kate Wilke, Ryan Silva (for Mike Pentony), Mike Luisi, Warren Elliott, and Matthew Seeley (MAFMC Staff)

Others present: Bob Beal (ASMFC), Toni Kerns (ASMFC), Brandon Muffley (MAFMC Staff), Cheryl Corbett, Emerson Hasbrouck (Cornell), Kristin Gerbino (Cornell), Scott Curatolo-Wagemann (Cornell), and Tara McClintock.

Summary

The RSC meeting began with a presentation from staff summarizing the goals of the webinar and workshop (proposed), the outcomes of the August 2019 RSC meeting, and the workshop logistics to be discussed on the webinar. The RSC then discussed and refined the proposed goal of the workshop along with the potential locations and scope of attendees. As discussion progressed, the RSC transitioned into developing a range of topics/options for discussion at the workshop. All recommendations for workshop development are as follows with details under each action item:

- 1. Identify the need for research via RSA in the Mid-Atlantic**
- 2. Confirm the workshop goal**
- 3. Identify workshop locations**
- 4. Identify the scope of attendees – Invitation list**
- 5. Discuss how the program will be administered**
- 6. Develop a range of topics/options for discussion at the workshop**
 - a. Discuss/Identify funding mechanisms for further development.**
 - b. Discuss how project results will be reviewed, used in management, and communicated to the Council/stakeholders**
 - c. Identify how the Council will collaborate with the Atlantic States Marine Fisheries Commission**
 - d. Develop a range of topics/options for discussion at the workshop**
- 7. Next steps**

Action Items

1. Identify the need for research via RSA in the Mid-Atlantic

The RSC noted that the workshop will help answer the question related to the need RSA fulfills. Depending on the outcomes of the workshop, the RSC and Council will evaluate whether re-development of RSA is warranted. However, the RSC indicated that RSA would allow for additional resources that address Council research needs but noted that the program must be initiated with less administrative burden and be redesigned for success. To ensure the success of a re-developed program, the RSC discussed the duration of projects that received research funds in the past and noted that funds were often awarded to long term projects as opposed to short term projects. In an effort to better monitor RSA projects and acquire data for management that fills a data need, the RSC recommends focusing on short term projects over long-term projects (i.e. not surveys).

The following discussion points surrounding the need for research in the Mid-Atlantic were proposed by the RSC for the workshop:

- A re-developed program should not fund long term projects.
- RSA funds generated from one species should not be used for research on different species.
- Identify research needs and priorities using:
 - MAFMC 5-year research
 - 2020 Advisory Panel Fishery Performance Reports
 - Research suggestions from the stock assessment reports.
 - Previously completed successful RSA projects (M-A and NE)

2. Confirm the workshop goal

Goal: Develop a final recommendation on how a re-developed MAFMC RSA program would function with justification for the need and design of the program. Identify funding mechanisms and an approach to generate funding.

The RSC noted that the above goal captures everything to justify moving forward with a workshop, as the RSC wants to clarify justification for the need that emphasizes how the program is better and different.

3. Identify workshop locations

As a result of the Covid-19 pandemic, the RSC discussed the timing and location of the workshop and noted the need to consider a venue that may be larger than what has been considered in the past due to social distancing measures. The RSC concluded that this type of workshop would be much better if conducted in person, and thus, recommended hosting the meeting later in the Fall/Winter. The RSC also recommends that remote participation be considered for Council and Committee members even if the workshop is held in-person.

Proposed Locations:

Philadelphia

Baltimore

Webinar – A webinar is being considered due to the uncertainties associated with the Covid-19 pandemic. Webinars have major limitations and it will be difficult when coordinating with individuals that Committee members are not familiar with. We should consider using video conferencing if a webinar is selected as the venue.

To ask when requesting venues:

- Are bookings available for this timeline?
- What are the cancellation policies?
- What are the constraints on the number of people allowed in a room due to social distancing?

Does the RSC recommend going forward with the workshop if it has to be a webinar in 2020?

RSC Recommendation: Host a 1 to 1.5 day in-person workshop in Philadelphia/Baltimore with consideration for Council and Committee member remote participation in Fall 2020.

4. Identify the scope of attendees – Invitation list

Primary Participants:

- Committee Members
- Mid-Atlantic Council Staff
- New England Council Staff
- Atlantic States Marine Fisheries Commission (ASMFC) Staff
- ASMFC Law Enforcement Committee
- NOAA Office of Law Enforcement (OLE)
- Northeast Fisheries Science Center
- Greater Atlantic Regional Fisheries Office (GARFO)
- Scientific and Statistical Committee (e.g. Chair)

Other Invited Participants:

- National Fisheries Institute
- State representatives (e.g. MAFMC and ASMFC Administrative Commissioners)
- MAFMC Advisory Panels
- Previously successful RSA participants
- Science Center for Marine Fisheries
- Other individuals that the RSC deems relevant

The RSC recommends sending out a broad announcement to the “Other Invited Participants” list to gauge initial interest in the workshop (include [Mid and NE] researchers and industry partners that were successful within the RSA program). The RSC deems a successful applicant as one that has previously completed a project and posted a final report.

To assist in developing the attendee list, the RSC recommends requiring pre-registration for members of the public to plan accordingly for the number of participants, with respect for social distancing.

5. Discuss how the program will be administered

- Run as a federal grant program (specific restrictions do exist)
- Do not run as a contractual program
- Noted for discussion at the workshop:
 - Should the RSC recommend the auction be used and at what level?
- Ensure OLE has the opportunity to review the specific type of administration.
 - As discussion of re-development occurs, the RSC will request a list from OLE indicating how individuals “abused the system” in order to avoid these issues in the future.
 - Continue to include a brief summary of the RSA issues.

6. Develop a range of topics/options for discussion at the workshop

a. Discuss/Identify funding mechanisms for further development.

What changes to the previous funding model (auction) are necessary?

- Overhead – Check in with leadership what costs will be covered by the Council.
- Mechanism
 - Auction
 - NE RSA approach
- Include examples of how industry funded research happens around the world (include a few case studies)
- Identify the best model for funding? (this includes revisions to the past model)

b. Discuss how project results will be reviewed, used in management, and communicated to the Council/stakeholders

Reviewed:

This topic may not be appropriate for review at the workshop and should be further discussed with the RSC and Council.

- GARFO staff indicated there is a peer review process that proposals go through prior to funding and during development.
 - Progress and final reports

- Compile a description of the old review process (see notes from Ryan Silva)
- RSC review
- Identify a peer review process for once final reports have been submitted.
 - The SSC helps design research priorities, and thus, should review whether projects helped address the research needs.
- Require interim (progress) reports
 - Conducted through GARFO's peer review process

Used in Management:

Set the expectation that approving a project fulfills a management need.

- *Do not need the workshop to answer this question:* As the RSC approves a project, we will have identified what management niche a specific project will fulfill.
- Projects should be tied to a management/assessment need
 - Bring to the workshop as a statement (not for question).
- Projects can inform management without resulting in a specific action.

Communicated to the Council/Stakeholders:

- Present results at joint meetings when species are co-managed
- Dedicate a page to RSA projects on the webpage
 - Post project results on a “presentations” page on the Council's website (possibly with visual recordings)

c. Identify how the Council will collaborate with the Atlantic States Marine Fisheries Commission

For species that are jointly managed, all RSA topics will be covered at joint Council/Board meetings.

d. Other topics

- Discuss program administration.
 - Identify what is run by GARFO/the federal grant program.
 - Identify what should be run by the Council.
- Discuss sufficient revisions to the current funding mechanisms (revised auction system) and propose other funding mechanisms.
 - Discuss methods to ensure funds are generated and used appropriately.
 - Should the program fund long term projects?
 - RSA funds generated from one species should not be used for research on different species.
- Have Law Enforcement provide detail on the intricacies of the RSA program and identify where enforcement issues often arise.
- Indicate that projects should be tied to a management/assessment need.
 - Bring to the workshop as a statement (not for question).
 - Projects can inform management without resulting in a specific action.

- Identify research needs and priorities using:
 - MAFMC 5-year research
 - 2020 Advisory Panel Fishery Performance Reports
 - Research suggestions from the stock assessment reports.
 - Previously completed successful RSA projects (M-A and NE)
- Discuss the peer review process.

7. Next steps

- Host another planning webinar?
- Look for locations in Sept-Nov in the Baltimore/Philadelphia area.
- Begin to develop a detailed workshop agenda with action items to be accomplished at the workshop.
- Look into bringing in a facilitator (possibly Andy Loftus).
- Use the primary list to start. Then convene again via webinar to refine the list.
- Draft a solicitation list and develop a timeline for when it will be sent out.
 - Solicitation will allow for recipients to notify other appropriate interested individuals.
- Note: Staff will summarize the workshop results for refinement by the RSC to make a recommendation the Council.



Mid-Atlantic Fishery Management Council
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Phone: 302-674-2331 | FAX: 302-674-5399 | www.mafmc.org
Michael P. Luisi, Chairman | G. Warren Elliott, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

Date: June 5, 2020
To: Council
From: Chris Moore
Subject: Executive Director's Report

The following materials are enclosed for Council review at the June 2020 Council Meeting during the Executive Director's Report:

1. 2020 Planned Meeting Topics
2. Status of Council Actions Under Development
3. Status of Completed Council Actions and Specifications
4. Spring NRCC Meeting Agenda
5. May CCC Meeting – Draft Recommendations
6. Offshore Wind Update for May 15, 2020
7. Staff Memo: Private Angler Reporting for Tilefish
8. MAFMC Letter to GARFO Regarding Tilefish Permitting and Reporting
9. MAFMC New eVTR Web Pages
10. CARES Act Press Release and FAQs
11. Executive Order on Promoting American Seafood Competitiveness and Economic Growth
12. Chris Oliver Letter to Councils Regarding Executive Order Request for Council Input
13. Staff Memo: COVID-19 and future Council Meeting Planning



2020 Planned Council Meeting Topics

Updated 6/4/20

June 2020 Council Meeting (Webinar)

- Black Sea Bass Commercial State Allocation Amendment: Review scoping comments and discuss draft range of alternatives
- Summer Flounder Commercial/Recreational Allocation Study: Update
- Recreational Reform Initiative: Update and determine next steps
- *Illex* Working Group: Review Findings
- 2020-2021 *Illex* Squid Specifications
- ~~*Illex* Permitting & MSB FMP Goals Amendment: Final Action~~
- Summer Flounder, Scup, and Black Sea Bass Commercial/Recreational Allocation Amendment: Refine Draft Range of Alternatives (Joint Council Meeting with Commission's Board)
- Bluefish Allocation and Rebuilding Amendment: Refine Draft Range of Alternatives (Joint Council Meeting with Commission's Board)
- ~~Updates on Offshore Wind Projects~~
- Unmanaged Landings Update
- Update on Habitat Activities

July 16, 2020 Council Meeting (Webinar)

- *Illex* Permitting & MSB FMP Goals Amendment: Final Action

August 2020 Council Meeting: August 10-13, 2020 (Meeting format TBD)

- Summer Flounder, Scup, and Black Sea Bass 2021 Specifications: Review
- Commercial Scup Discards and Gear Restricted Areas: Review
- Summer Flounder, Scup, and Black Sea Bass Commercial/Recreational Allocation Amendment: Approve Range of Alternatives
- Black Sea Bass Commercial State Allocation Amendment: Approve Range of Alternatives
- Bluefish 2021 Specifications: Review
- Bluefish Allocation and Rebuilding Amendment: Approve Range of Alternatives
- Recreational Reform Initiative: Update
- Black Sea Bass February Recreational Fishery: Review
- Atlantic Surfclam And Ocean Quahog 2021-2026 Specifications
- Mackerel and Butterfish 2021-2022 Specifications
- River Herring and Shad Cap (RH/S) (Mackerel) for 2021-2022
- Longfin Squid (Including Butterfish Cap) 2021-2023 Specifications

October 2020 Council Meeting: October 6-8, 2020 (Riverhead, NY)

- 2021 Implementation Plan: Discuss Draft Deliverables
- Research Priorities Update: Tracking Progress to Address Priorities
- Review 2021 Spiny Dogfish Specifications

- Surfclam and Ocean Quahog Commingling Issue: Update
- Surfclam Genetic Study: Update
- Joint Council-SSC meeting
- Final Report on HMS Diet Study
- Chub Mackerel 2021 Specifications: Review
- EAFM Updates: Summer Flounder Management Strategy Evaluation and other EAFM activities
- [Climate Change Scenario Planning Initiative: Update](#)

December 2020 Council Meeting: December 14-17, 2020 (Baltimore, MD)

- 2021 Implementation Plan: Approve
- Summer Flounder, Scup, and Black Sea Bass 2021 Recreational Management Measures: Develop and Approve
- Summer Flounder, Scup, And Black Sea Bass Commercial/Recreational Allocation Amendment: Approve Public Hearing Document
- Black Sea Bass Commercial State Allocation Amendment: Final Action
- Bluefish Allocation and Rebuilding Amendment: Approve Public Hearing Document
- Recreational Reform Initiative: Update
- Update on Habitat Activities
- Review RH/S White Papers

2020 Council Meeting Topics At-a-Glance

	June 16-18 Webinar	July 16 Webinar	Aug 10-13 TBD	Oct 6-8 Riverhead, NY	Dec 14-17 Baltimore, MD
Mackerel, Squid, Butterfish (MSB) and River Herring and Shad (RH/S)	<ul style="list-style-type: none"> • <i>Illex</i> Working Group: Review Findings • <i>Illex</i> Squid 2020-2021 Specs 	<ul style="list-style-type: none"> • <i>Illex</i> Permitting & MSB Goals Amd: Final Action 	<ul style="list-style-type: none"> • Mackerel and Butterfish 2021-2022 specs • RH/S Cap (Mackerel) for 2021-2022 • Longfin Squid 2021-2023 Specs (Including Butterfish Cap) 	<ul style="list-style-type: none"> • Chub Mackerel 2021 Specs Review 	<ul style="list-style-type: none"> • Review RH/S White Papers
Summer Flounder, Scup, Black Sea Bass (SF/S/BSB)	<ul style="list-style-type: none"> • SF/S/BSB Com/Rec Allocation Amd: Refine Draft Range of Alternatives (Joint Committee/ Board Mtg) • Black Sea Bass Commercial State Allocation Amendment: Review scoping comments and discuss range of alternatives • Summer Flounder Commercial/Recreational Allocation Study: Update • Recreational Reform Initiative: Update 		<ul style="list-style-type: none"> • SF/S/BSB Com/Rec Allocation Amd: Approve Range of Alternatives • SF/S/BSB 2021 Specs Review • Black Sea Bass Commercial State Allocation Amendment: Approve Range of Alternatives • BSB February Rec Fishery: Review • Commercial Scup Discards and GRAs: Review • Rec Reform Initiative: Update 		<ul style="list-style-type: none"> • SF/S/BSB Com/Rec Allocation Amd: Approve Public Hearing Doc • SF/S/BSB 2021 Recreational Mgmt Measures • Rec Reform Initiative: Update • BSB Com State Allocation Amd: Final Action
Bluefish	<ul style="list-style-type: none"> • Bluefish Amd: Refine Draft Range of Alternatives (Joint Committee/ Board mtg) 		<ul style="list-style-type: none"> • Bluefish Amd: Approve Range of Alternatives • Bluefish 2021 Specs Review 		<ul style="list-style-type: none"> • Bluefish Amd: Approve Public Hearing Doc
Tilefish					
Atlantic Surfclam and Ocean Quahog (SC/OQ)			<ul style="list-style-type: none"> • SC/OQ 2021-2026 Specs 	<ul style="list-style-type: none"> • SC/OQ Commingling Issue: Update • Surfclam Genetic Study: Update 	
Spiny Dogfish				<ul style="list-style-type: none"> • Spiny Dogfish 2021 Specs Review 	
Science Issues				<ul style="list-style-type: none"> • Research Priorities Update • Joint Council-SSC Meeting 	
Other	<ul style="list-style-type: none"> • Unmanaged landings update • Update on Habitat Activities 			<ul style="list-style-type: none"> • Review 2020 Implementation Progress and Discuss 2021 Draft Deliverables • HMS Diet Study: Final Report • EAFM Updates: Summer Flounder Management Strategy Evaluation and other EAFM activities • Climate Change Scenario Planning Initiative: Update 	<ul style="list-style-type: none"> • 2021 Implementation Plan: Approve • Update on Habitat Activities

Acronyms/Abbreviations

Amd	Amendment	MSB	Mackerel, Squid, Butterfish
BSB	Black Sea Bass	MSE	Management Strategy Evaluation
Com/Rec	Commercial/Recreational	Mtg	Meeting
Com	Commercial	NEFSC	Northeast Fisheries Science Center
Doc	Document	Pres	Presentation
EAFM	Ecosystem Approach to Fisheries Management	Rec	Recreational
FMP	Fishery Management Plan	RH/S	River Herring and Shad
GARFO	NOAA Fisheries Greater Atlantic Regional Fisheries Office	SC/OQ	Atlantic Surfclam and Ocean Quahog
GRAs	Gear Restricted Areas	SF/S/BSB	Summer Flounder, Scup, Black Sea Bass
HMS	Highly Migratory Species	Specs	Specifications
Mgmt	Management	SSC	Scientific and Statistical Committee

Actions Referenced in this Document

- **BSB Com State Allocation Amd:** Black Sea Bass Commercial State Allocation Amendment
- **Bluefish Amd:** Bluefish Allocation and Rebuilding Amendment
- **Rec Reform Initiative:** Recreational Management Reform Initiative
- **SF-S-BSB Com/Rec Allocation Amd:** Summer Flounder, Scup, Black Sea Bass Commercial/Recreational Allocation Amendment
- **Illex Permitting & MSB Goals Amd:** Illex Permitting and Mackerel, Squid, Butterfish FMP Goals and Objectives Amendment



Status of Council Actions Under Development

AS OF 6/2/20

FMP	Action	Description	Status	Staff Lead
Mackerel, Squid, Butterfish	MSB FMP Goals/Objectives and <i>Illex</i> Permits Amendment	This action will consider modifications to the <i>Illex</i> permitting system as well as revisions to the goals and objectives for the MSB FMP. http://www.mafmc.org/actions/illex-permitting-msb-goals-amendment	Final action is anticipated during a Council webinar on July 16, 2020.	Didden
Summer Flounder, Scup, Black Sea Bass	Commercial/Recreational Allocation Amendment	This joint MAFMC/ASMFC amendment will reevaluate and potentially revise the commercial and recreational sector allocations for summer flounder, scup, and black sea bass. This action was initiated in part to address the allocation-related impacts of the revised recreational data from MRIP. http://www.mafmc.org/actions/sfsbsb-allocation-amendment	The Council and Board will review FMAT recommendations and refine the range of draft alternatives at the June 2020 meeting.	Dancy/Coutre/Beaty
	Black Sea Bass Commercial State Allocation Amendment	This joint MAFMC/ASMFC action will consider adjusting the allocations of the black sea bass commercial quota among states and whether the allocations should be managed jointly by the Council and Commission.	The Council and Board will review scoping comments and discuss a draft range of alternatives at the June 2020 meeting.	Beaty
Bluefish	Bluefish Allocation and Rebuilding Amendment	This joint MAFMC/ASMFC amendment considers potential revisions to the allocation of Atlantic bluefish between the commercial and recreational fisheries and the commercial allocations to the states. This action will also review the goals and objectives of the bluefish FMP and the quota transfer processes and establish a rebuilding plan for bluefish. http://www.mafmc.org/actions/bluefish-allocation-amendment	The Council and Board will refine the range of draft alternatives at the June 2020 meeting.	Seeley

FMP	Action	Description	Status	Staff Lead
Surfclam and Ocean Quahog	Surfclam and Ocean Quahog Commingling/ Discarding Issues	As surfclams have shifted toward deeper water in recent years, catches including both surfclams and ocean quahogs (“commingling”) have become more common, resulting in increased discards of surfclams on quahog trips and vice versa. Current regulations do not allow surfclams and ocean quahogs to be landed on the same trip. The Council is exploring options to address this issue.	An FMAT will be established in June/July 2020.	Coakley/Montañez
Omnibus	Omnibus Amendment for Data Modernization	This amendment will address the regulatory changes needed to fully implement the Agency’s Fishery-Dependent Data Initiative.	The Council last received an update at the October 2018 meeting.	GARFO/ NEFSC
Non-FMP	Golden and Blueline Tilefish Private Recreational Permitting and Reporting Issues	This action will develop permitting and reporting regulations for private recreational tilefish vessels. The action was approved in a final rule amending the golden tilefish FMP to include blueline tilefish in November 2017 with delayed implementation. https://www.mafmc.org/rec-tilefish-evtr	The proposed rule for tilefish recreational permitting and reporting published on January 29, 2020 with a comment period through February 28, 2020. A final rule and implementation date are anticipated in fall 2020.	GARFO lead MAFMC Contact: Seeley
	Recreational Reform Initiative	This is a joint initiative with the ASMFC to develop strategies to increase management flexibility and stability for jointly managed recreational fisheries (i.e., black sea bass, summer flounder, scup, and bluefish).	A steering committee has met several times to prioritize specific topics to address. The Council and Board will receive an update during their joint meeting in June 2020.	Beaty

Timeline and Status of Recent MAFMC Actions and Amendments/Frameworks Under Review

As of 6/2/2020

The table below summarizes the status of actions after they have been approved by the Council. For information about the status of Council actions under development, please see the document titled "Status of Council Actions Under Development."

Status	Amendment/Framework	Action Number	Council Approval	Initial Submission	Final Submission	NOA Published	Proposed Rule Published	Approval/Disapproval Letter	Final Rule Published	Regs Effective	Notes
Complete	Atlantic Mackerel Rebuilding Framework	MSB FW 13	8/13/18	9/27/18	2/28/19	N/A	6/7/19		10/30/19	11/29/19	
Complete	Summer Flounder, Scup, and Black Sea Bass Framework on Conservation Equivalency, Block Island Sound Transit, and Slot Limits	SFSBSB FW 14	12/11/18	3/21/19	5/8/19	N/A	8/8/19		11/19/19	12/30/19	
Open	Summer Flounder Commercial Issues and Goals and Objectives Amendment	TBD	3/6/19	3/17/20	5/7/20						
Open	Chub Mackerel Amendment	MSB AM 21	3/7/19	5/31/19	10/25/19	2/14/20	3/9/20	5/5/20			
Open	Excessive Shares Amendment	TBD	12/9/19	4/24/20							
Open	Omnibus Risk Policy Framework	TBD	12/9/19								Workgroup is updating analyses to evaluate the modified alternative recommended by the Council
Open	Omnibus Commercial eVTR Framework	TBD	MAFMC: 12/11/19; NEFMC: 1/29/20	3/4/20							

Timeline and Status of Current and Upcoming Specifications for MAFMC Fisheries

As of 6/2/20

Current Specifications	Year(s)	Council Approval	Initial Submission	Final Submission	Proposed Rule	Final Rule	Regs Effective	Notes
Golden Tilefish	2018-2020	4/11/17	6/5/17	8/16/17	9/7/17	11/7/17	11/2/17	2019 specs were reviewed in April 2018. No changes were recommended.
Golden Tilefish	2021-2022	4/8/20	5/11/20					
Surfclam and Ocean Quahog	2018-2020	6/6/17	8/14/17	9/22/17	12/8/17	2/6/18	3/8/18	2020 specs were reviewed in June 2019. No changes were recommended.
Longfin Squid and Butterfish	2018-2020	6/7/17		8/24/17	12/13/17	3/1/18	4/2/18	2019 specs were reviewed in October 2018. No changes were recommended.
<i>Illex</i> Squid	2019-2020	10/3/18	12/4/18	2/11/19	5/1/19	8/2/19	8/1/19	
Atlantic Mackerel (MSB FW 13)	2019-2021	8/13/18	9/27/18	2/28/19	6/7/19	10/30/19	11/29/19	
Atlantic Mackerel (including RH/S cap)	2020	6/5/19	8/22/19	9/30/19	12/17/19	2/27/20	2/27/20	
Chub mackerel	2020-2022	3/7/19	5/31/19	10/25/19	3/9/20			
Scup	2020-2021	10/8/19	1/15/20	3/5/20		5/14/20	5/15/20	Revised specifications based on the 2019 operational stock assessment
Blueline Tilefish	2019-2021	4/11/18	8/17/18	10/24/18	11/19/18	2/12/19	2/12/19	
Bluefish	2020	3/7/19	6/11/19	7/24/19	7/26/19	10/9/19	1/1/20	Interim specs to be replaced as soon as possible after results of 2019 operational assessment are available.
Bluefish	2020-2021	12/10/19	1/23/20	3/19/20	5/25/20			
Summer Flounder	2020-2021	3/6/19	6/25/19	7/18/19	7/26/19	10/9/19	1/1/20	
Black Sea Bass	2020-2021	10/9/19	1/15/20	3/5/20		5/14/20	5/15/20	Revised specifications based on the 2019 operational stock assessment
Spiny Dogfish	2019-2021	10/2/18	11/30/18	3/5/19	3/29/19	5/15/19	5/15/19	In multi-year specs

Recreational Management Measures

Current Management Measures	Year(s)	Council Approval	Initial Submission	Final Submission	Proposed Rule	Final Rule	Regs Effective	Notes
Summer flounder recreational measures	2020	12/10/19	1/22/20	1/22/20	4/6/20			Rulemaking required each year to continue use of conservation equivalency
Black sea bass recreational measures	2020	2/14/18	3/5/18	4/10/18	4/11/18	5/31/18	5/31/18	Reviewed in 2019. No changes from previous year's measures.
Scup recreational measures	2020	12/10/14	3/20/15		5/5/15	6/19/15	6/19/15	Reviewed in 2019. No changes from previous year's measures.
Bluefish recreational measures	2020	12/10/19	1/23/20	3/19/20	5/25/20			NMFS issued interim recreational management measures while the specs package was being developed (due to Florida landings in wave 1)

2020 SPRING NRCC MEETING AGENDA

via Webinar

All times are approximate

Thursday, May 14

9:00 a.m. – 9:15 a.m.

1. Welcome, Introductions, Announcements
(Moore, Sullivan)

9:15 a.m. – 9:30 a.m.

2. Shared GARFO-NEFSC Catch Accounting and Monitoring System project (CAMS)
Discussion leader: Gouveia/Simpkins
 - Update progress on CAMS system planning and development

9:30 a.m. – 9:45 a.m.

3. East Coast Scenario Planning Working Group
Discussion leader: Pentony
 - Update on the creation of the Scenario Planning Working Group

9:45 a.m. – 12:00 p.m.

4. Stock Assessments and Related Topics
Discussion leader: Simpkins
 - Review and make decision on NRCC Assessment Working Group recommendations regarding 2025 Research Track topics/assessments
 - Review ongoing assessment process and discuss and make decisions regarding proposed clarifications/improvements to guidelines.
 - Review and make decisions on any proposed changes to assessment schedule.
 - Provide update on content of assessment reports and data portals, following staff discussions on management track assessment documentation.
 - Provide update on annual stock assessment communications.

12:00 p.m. – 1:00 p.m. *Lunch*

1:00 p.m. – 1:45 p.m.

5. Regional BSIA Framework Working Group

Discussion leader: Kelly

- Moira Kelly (GARFO Sustainable Fisheries Division, and lead on the BSIA Working Group) will present the progress of the Working Group, for review and feedback from the NRCC.

1:45 p.m. – 2:45 p.m.

6. COVID-19 Response and Implications

Discussion leader: Pentony/Hare

- Discuss and strategize for delayed or cancelled meetings, lost survey data, etc.

2:45 p.m. – 3:15 p.m.

7. Offshore Wind Energy

Discussion leader: Pentony/Hare

- Provide updates on offshore wind energy activities

3:15 p.m. – 3:45 p.m.

8. Fixed Gear

Discussion leader: Nies

- Impacts of fixed gear on surveys and mobile fishing gear operations

3:45 p.m. – 4:00 p.m.

9. Presentation of GARFO's Annual Implementation Plan

Discussion leader: Pentony

4:00 p.m. Meeting adjourns



CCC Recommendations
June 2, 2020
Approved by CCC as Preliminary

CARES Act

The CCC recommends that if additional funds are provided to mitigate the impacts of COVID-19 on the fishing industry (commercial, for-hire, recreational, subsistence, or traditional), distribution of those funds should take into account the use of other relief programs. Some entities may have additional opportunities to access programs through the Small Business Administration, US Department of Agriculture, Paycheck Protection Program, etc. As a general principle, entities that receive support from other programs should be given lower priority than those that do not. The funding allocations should consider lost revenue during the actual period of loss and the loss should be directly related to COVID-19.

EO Promoting Seafood

The CCC expresses its appreciation to Assistant Administrator for NOAA Fisheries Chris Oliver for his unwavering support of fishing related industries and his efforts to work with the President and his administration on Executive Order 13921 Promoting American Seafood Competitiveness and Economic Growth. The purpose of which is to strengthen the American economy, improve the competitiveness of American industry, ensure food security, provide environmentally safe and sustainable seafood, remove unnecessary regulatory burdens, and establish an Interagency Seafood Trade Task Force. Each Council will be developing responses to the EO in the coming months.

In response to Chris Oliver's May 19, 2020, letter sent to the Councils on behalf of Secretary Ross, the CCC reiterates the statements and recommendations it has made in its May 16, 2017, letter to Commerce Secretary Ross and Interior Secretary Zinke; its June 27, 2016, letter to President Obama; and its May 24-26, 2017, Outcomes Statement and Recommendations regarding Marine National Monuments. The CCC agrees to expeditiously submit these by letter to Secretary Ross in advance of individual Council recommendations.

Status of Policy Directives and Prioritization Development

The CCC requests NMFS continue to develop and implement a mechanism for notifying and tracking the development of all Policy Directives, Procedural Directives, and associated Supplements (such as regional implementation plans).

NS1 Technical Guidance Workgroups

The CCC is concerned that a Tech Memo addressing data gaps and alternative management may not provide adequate guidance to resolve conflicts that arise between scientific advice and constraints imposed by current laws and policies. The CCC is also concerned that the guidance may not adequately address the need for status determination criteria for model-resistant stocks.

NMFS Guidance on Changing Stock Status from Known to Unknown

The CCC welcomes the opportunity to review and comment on the draft "Procedural Guidance for Changing Assessed Stock Status from Known to Unknown."

Funding for Basic Surveys

The CCC requests NMFS to provide more information on plans and strategies on how NMFS will deal with the delays in the NOAA ship and chartered surveys and on any alternative use of unused funding from FY2020.

Fishery Management and Services PPA.

The CCC recommends NMFS support use of one PPA with three activities for the Councils: 1) Stock Assessment Support (SAS) (former “Expand Annual Stock Assessments”); 2) Peer Review Support (PRS) (former “Council Peer Review”); and 3) Council Management Programs. In addition, the 2019 values for (SAS) and (PRS) should not change, but with one exception. The SAS and PRS should be allocated at the 2019 dollar values with the remainder of PPA allocated using the established Council formula. This approach should be revisited if total PPA declines by more than 10% from the 2019 total amount (i.e., less than ~\$28. million).

Report on Legislative Outlook and MSA Authorization.

The CCC requests NOAA provide statutory assistance for clarifying aquaculture authorities.

Legislative Work Group Report

The CCC approves the CCC Working Paper as revised including a stand-alone Executive Summary, reformatting of the issues into three major topic categories, updates to the Council comment letters section, addition of the dates when the CCC consensus is approved and perspectives modified, and inclusion of a new issue “Timing for FMP Revisions” and its associated consensus statement.

CCC Work Groups

a. Habitat

The CCC approves the habitat partner engagement letter and approves sending the letter. The CCC further approves conducting the Fisheries Science Center Engagement Webinar.

b. Council Member Ongoing Development

The CCC approves the Terms of Reference and approves the topics for the 2021 CMOD training as proposed by the steering committee.

Administrative

a. Update on Voting Recusals

The CCC requests that NOAA GC Regional Offices brief councils on details of the final rule on voting recusals.

b. Freedom of Information Act

The CCC requests that NOAA GC provide guidance on how costs are estimated for FOIA requests, as well as a point of contact for follow-up questions.

Other Business

The CCC agrees to continue holding monthly calls with NMFS.

View this message in your [browser](#)



You are receiving this email because you signed up for the Mid-Atlantic Fishery Management Council's offshore wind interested parties email list or you expressed interest in this topic through communications with Council staff or at a public meeting. If you do not wish to receive future emails on this topic, you may unsubscribe using the "Manage Your Subscription" link at the bottom of this email. If you were forwarded this email and wish to subscribe to future updates, please visit <https://www.mafmc.org/email-list> and subscribe to Offshore Wind Updates.

Greetings,

Please see below for offshore wind updates for **May 15, 2020**.

- **The Wind Turbine Radar Interference Mitigation Working Group** will hold the second webinar in a series on offshore wind development and sensitive radar systems. The webinar will take place on May 18 from 11:00 am to 1:00 pm. More information is available [here](#). Slides from the first webinar in the series are available [here](#).
- **The Mid-Atlantic Regional Council on the Ocean (MARCO)** will host an Ocean Forum webinar on Tuesday May 19 from 10 am to 12:15 pm. The agenda includes a discussion of the future of offshore wind energy technology. More information is available [here](#).
- **The Bureau of Ocean Energy Management (BOEM)** will host a webinar on a study to provide baseline habitat information on Atlantic cod and other sound-producing fish in Southern New England to help consider potential habitat changes caused by offshore wind development. The webinar will take place on May 20 at 12:00 pm EDT. More information is available [here](#).
- **The Mid-Atlantic Fishery Management Council** will meet via webinar on June 16-18. Offshore wind will be discussed during the habitat updates agenda item. More information will be posted [here](#) once it is available.
- **Fisheries liaisons** for offshore wind projects are currently unable to hold face-to-face meetings with fishermen due to the COVID-19 pandemic; however, they are available to talk with fishermen via phone or email. Contact information for all fisheries liaisons is listed [here](#).
- **Ørsted** will host virtual outreach meetings with fishermen every Monday, Wednesday, and Friday from 8:00 am until 12:00 pm until they are able to resume face-to-face outreach. More information is available [here](#). Ørsted owns or is a partner in leases for [multiple offshore wind projects](#) in the Mid-Atlantic and Southern New England.
- Vineyard Wind submitted the **Park City Wind** Environmental and Fisheries Mitigation Plan to the Connecticut Department of Energy and Environmental Policy. The Mitigation Plan is available [here](#).
- **New Jersey Governor Phil Murphy's** Wind Council released a report detailing plans for creation of the Wind Innovation and New Development (WIND) Institute. More information is available [here](#).
- **New York state** put a planned solicitation of up to 2,500 MW of offshore wind power on hold in response to the COVID-19 pandemic. More information is available [here](#).
- A new **peer reviewed study** on the impacts of anthropogenic electromagnetic fields on the behavior of American lobster and little skate has been published. More information is available [here](#).

- through North Carolina have been posted [here](#).
- **Open public comment opportunities** related to offshore wind energy development are posted [here](#).

For information on specific offshore wind projects, please see the individual developer webpages linked at: <http://www.mafmc.org/northeast-offshore-wind>.

If you wish to suggest an item for inclusion in the next update, please email jbeaty@mafmc.org.

Select wind updates from the New England Fishery Management Council are included in their periodic news roundups. To sign up for New England Fishery Management Council updates, please email Janice Plante at jplante@nefmc.org.

Thank you for your interest in this topic.

Julia Beaty

Fishery Management Specialist
Mid-Atlantic Fishery Management Council
800 North State Street, Suite 201
Dover, DE 19901-3901
302-526-5250
jbeaty@mafmc.org

Note: This email list is open to the public and will only be used by Council staff to provide information on offshore wind in the Mid-Atlantic and Southern New England. U.S. offshore wind energy development is moving at a fast pace. The Council cannot guarantee that these emails contain the most current information or all potentially relevant updates. This list serves no legal function. Recipients are advised to consult the [Federal Register](#), the Council's [website](#), and other official sources to stay up to date on actions that may impact your interests.



Mid-Atlantic Fishery Management Council
800 North State Street, Suite 201, Dover, DE 19901
Phone: 302-674-2331 | FAX: 302-674-5399 | www.mafmc.org
Michael P. Luisi, Chairman | G. Warren Elliott, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

Date: June 1, 2020
To: Christopher Moore, Executive Director
From: Matthew Seeley, Council staff
Subject: Private Angler Reporting for Tilefish

Overview

Under proposed regulations published by NOAA Fisheries on January 29, 2020, private recreational vessels will be required to obtain a federal vessel permit to target or retain golden or blueline tilefish north of the Virginia/North Carolina border. These vessel operators would also be required to submit vessel trip reports (VTRs) electronically within 24 hours of returning to port for trips where tilefish were targeted or retained. The Mid-Atlantic Fishery Management Council (Council) approved these measures in 2016 as part of Amendment 6 to the Tilefish Fishery Management Plan. *As of 6/1/20, a final rule with an implementation date for this action has not been published, however, a final rule is anticipated to publish in Summer/Fall 2020.*

Council Outreach Efforts

Recognizing that these proposed requirements represent a substantial change for many private anglers, the Council held a public webinar on April 28th to provide information on options available to recreational tilefish anglers for electronically submitting VTRs. During the webinar, staff from the Council and NOAA Fisheries discussed/presented an overview of the proposed action and approved electronic VTR applications, a step-by-step demonstration of how to obtain a permit, and a demonstration of the NOAA/GARFO Fish Online application. Webinar briefing materials and a recording can be accessed here: <https://www.mafmc.org/rec-tilefish-evtr>.

As a result of this webinar, the Council received a great deal of constructive input regarding data collection. Mostly, this input identified shortcomings in the existing applications for collecting recreational data, primarily due to those being initially designed around the commercial and for-hire fishing activities. The Council has taken all input very seriously and is implementing several actions based on these concerns. Most notably, the Council is supporting the efforts of [Harbor Light Software](#) to develop an application designed by recreational anglers for recreational anglers. Council staff/Harbor Light Software are hopeful this application will become available by August 1st as initial steps towards development have already commenced.



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Christopher M. Moore, Ph.D., Executive Director

May 1, 2020

Mr. Michael Pentony
Regional Administrator
National Marine Fisheries Service
55 Great Republic Drive
Gloucester, MA 01930-2276

Dear Mike:

On Tuesday, April 28th, the Council hosted a webinar to provide training to recreational anglers on the upcoming tilefish permitting and reporting action. During this webinar, several concerns were raised by stakeholders regarding the utility of the current reporting platforms (specifically, Fish Online) for their activities. These platforms were designed around the VTR structure which was originally developed for use by the commercial fishing industry and later adapted for the for-hire sector. These stakeholders were generally supportive of the data collection but cautioned that the reporting platform was ill-suited to collecting reliable data on their activities. These concerns were reiterated to the Council by one of our Advisory Panel members via a very constructive email following the webinar (which has been shared with GARFO staff).

This action represents the first time that the Council has required reporting by the recreational sector. Thus, it is imperative that the systems be usable and accepted by the community, resulting in data that will be effective for fishery management purposes. A reporting platform that is specifically designed for the recreational sector would be ideal but is not realistic given our (now) extremely short time frame. Council technical staff reviewed the comments and recommendations presented and provide the following suggestions on actions to address these concerns:

1. Fish Online refinements:
 - a. Customize the fields that are visible whenever a user logs in under a recreational tilefish permit and only display those that are necessary.
 - b. Eliminate "time sailed" and "time landed" (keep only date). Reason: a large portion of tilefish trips are opportunistic add-ons to HMS trips and therefore, even if the users correctly enter the time sailed and landed it is not usable for management or research purposes. A suggestion was made to include "total time fishing" which might be usable, but as of now, is not an existing VTR field.
 - c. Automatically populate gear code to "Hand Line Rod and Reel." (Note: A suggestion was made to add "Electric Reel" to aid in future management decisions).
 - d. Define "soak time" for the recreational purposes (average amount of time the lines were actually fishing).

- e. Eliminate the collection of gear quantity. As defined in the VTR, this is the number of hooks per line. The data collected from this field could not be trusted considering that the interpretation will vary with each user. Keep the number of anglers.
 - f. Location: eliminate latitude and longitude but keep chart area with a pop-up map to help anglers determine the appropriate location.
 - g. Remove (or hide) the offload tab from the required information for submission.
2. Ensure that an Android version of Fish Online is available with adequate time for stakeholders to learn how to use the platform before implementation.
3. Ensure that a support helpline for the app is available 24/7 for several weeks prior to and after implementation. The Council has reiterated this as a priority and has proposed a potential solution (with Council funding).
4. Develop an outreach plan to inform and educate affected recreational stakeholders about the new permitting and reporting requirements. It is imperative that a broad range of outreach methods be utilized before and during implementation of this action to ensure recreational awareness and compliance. The Council has previously expressed its willingness to collaborate with GARFO on training workshops and other outreach efforts.
5. Add a banner on the HMS permit page with a notice and link to the tilefish permit page. Notify everyone with the HMS permit about the need for the tilefish permit. Also, develop a social media post with the proper links so anglers can help get the information out to others when this goes live.

We feel it is critical that these issues, particularly an outreach plan (see #4), are addressed prior to the launch of this important recreational data collection program. We hope all available effort is made to address these issues. Please feel free to contact me if you have any questions.

Sincerely,



Christopher M. Moore, Ph.D.
Executive Director

cc: Mid-Atlantic Fishery Management Council
David Gouveia
Peter Couture
Matthew Seeley

Electronic Vessel Trip Reporting

In recent years, measures have been developed that require some commercial, for-hire, and recreational fishermen to submit vessel trip reports (VTRs) electronically (called eVTRs). Transitioning to electronic reporting makes the collection of important data on fishing vessel catch and effort more efficient, convenient, and timely for fishery managers, and most fishermen have found it more convenient than paper forms once they get used to it. Click on the pages linked below to learn more about electronic reporting requirements and options for different types of fishermen.

For-Hire (Party and Charter) Operators

Since March 2018, all for-hire (party and charter) vessels that hold federal permits for species managed by the Mid-Atlantic Fishery Management Council (MAFMC) have been required to submit VTRs electronically within 48 hours of completing their trip.

- [Learn more about for-hire electronic reporting](#) →

Commercial Vessels

All commercial fishing vessels with federal permits for species managed by the MAFMC or the New England Fishery Management Council (NEFMC) are currently required to submit paper or electronic VTRs for each trip. In January 2020, the MAFMC and NEFMC voted to require these VTRs to be submitted only electronically within 48 hours of entering port. This action is currently under review by NOAA Fisheries.

- [Learn more about commercial electronic reporting](#) →

Recreational Tilefish Anglers

Under a proposed rule published January 29, 2020, vessel operators will be required to submit VTRs electronically within 24 hours of returning to port for recreational trips where tilefish were targeted or retained. These vessel operators would also be required to obtain a free federal vessel permit to target or retain golden or blueline tilefish north of the Virginia/North Carolina border. A final rule for this action has not yet been published.

- [Learn more about private recreational tilefish permitting and reporting](#) →

[< Return to the main Electronic Vessel Trip Reporting page](#)

Commercial Electronic Vessel Trip Reporting



The Mid-Atlantic Fishery Management Council (MAFMC) and New England Fishery Management Council (NEFMC) have voted to require commercial fishermen to submit vessel trip reports (VTRs) electronically as eVTRs instead of on paper for all species managed by either council. This action is currently under review by NOAA Fisheries. These changes have been proposed to:

1. Increase the timeliness and availability of data submitted through VTRs;
2. Reduce the reporting burden on commercial vessel operators by eliminating the need for paper-based reporting, and
3. Increase the accuracy and quality of data by reducing errors from trying to recall catch and effort associated with delayed completion of paper forms.

Overview of Proposed Electronic Reporting Requirements

Commercial fishing vessels with permits for species managed by the MAFMC or the NEFMC are already required to submit vessel trip reports (paper or electronic) for each fishing trip. These VTRs must be filled out (but not submitted) prior to entering port. Once this action is implemented, commercial fishermen will be required to submit VTRs electronically (no paper) through a NOAA-approved eVTR software application within **48 hours** of reaching port following the end of a fishing trip (unless required sooner as with some sector allocations). This action does not change any other existing requirements associated with VTRs. For additional details, see the Commercial eVTR FAQs linked below.

[Commercial eVTR Frequently Asked Questions \(updated 5/18/20\)](#)

eVTR Software Options

Vessel operators will be able to choose between several NMFS-approved eVTR applications. You can access information about approved applications and other aspects of electronic reporting on the [NOAA Fisheries Vessel Trip Reporting in the Greater Atlantic Region web page](#). Many operators have chosen the SAFIS eTrips/mobile 2 or the NOAA Fish Online programs.

NOTE: Commercial operators already using an approved application to submit eVTRs, including the Northeast Fishery Science Center's FLDRS program, should continue to do so. All others may find it helpful to review the FAQs (coming soon) to help you choose a reporting system.

Training Opportunities

The Mid-Atlantic Fishery Management Council and NOAA Fisheries will be scheduling workshops and webinars to provide training in some of the available software applications. Details will be announced after a final rule and implementation deadline for this action have been published. Check back on this page for updates.

Each software vendor is responsible for providing training and support for their system.

Recorded Demo of 2 Free eVTR Applications: ACCSP's eTrips Mobile and NOAA's Fish Online

A training webinar was hosted by MAFMC on ACCSP's SAFIS etrips/mobile 2 and NOAA Fish Online applications and is available here:

- [Demo recording](#)
- [Presentation](#)

Documents and Related Pages

- [Commercial eVTR Frequently Asked Questions \(5/18/20\)](#)
- [Press Release: Councils Approve Omnibus Commercial eVTR Framework](#)
- [Commercial eVTR Omnibus Framework Action Page](#) (documents and information related to the development of this action)
- [GARFO Vessel Trip Reporting Page](#)

Contacts

For more information or assistance related to eVTRs, refer to the following contacts:

- [Lindsey Bergmann](#), (978) 282-8418
- [Jim St.Cyr](#), (978) 281-9369
- You may also contact your local [port agent](#) for assistance.

For questions related to the Council's role in requiring eVTRs, please contact:

- **MAFMC eVTR Outreach Liaison:** Andy Loftus, aloftus@andrewloftus.com
- **MAFMC Staff Lead:** Karson Coutre, KCoutre@mafmc.org

[< Return to the main Electronic Vessel Trip Reporting page](#)

Recreational Tilefish Permitting and Electronic Reporting

Overview of Proposed Permitting and Reporting Requirements

Under [proposed regulations](#) published by NOAA Fisheries, any vessel being used to fish for or retain golden and/or blueline tilefish for recreational purposes in waters north of the Virginia/North Carolina border will need to have a Federal private recreational tilefish permit. Vessel operators will be required to submit electronic vessel trip reports (eVTRs) for any recreational trip targeting and/or retaining tilefish within 24 hours of returning to port through any NMFS-approved electronic reporting system. This includes for-hire vessels being used for non-for-hire recreational trips fishing for or retaining tilefish. Retained fish may only be kept for personal consumption and may not be sold or bartered. A final rule and implementation deadline for this action have not yet been published but are anticipated in Fall 2020. For more information about the proposed requirements, check out the FAQs linked below.

[Recreational Tilefish Permitting and Reporting FAQs](#)

Why Are These Changes Being Proposed?

By many indications the harvest of golden and blueline tilefish has been increasing in all fisheries for several years. While these species are an important recreational fishery for certain communities/ports, the fishery occurs so far offshore that relatively few anglers partake and therefore few tilefish anglers are intercepted in traditional port access site interviews such as MRIP. So, few data for private recreational tilefish anglers exist and recreational bag limits have been set using an estimation methodology developed by MAFMC several years ago. A reporting mechanism using the eVTR structure already used for commercial and for-hire fisheries was determined to be the best way to improve private recreational data, thereby improving stock assessments and our ability to set appropriate fishing regulations in the future.

Getting Started

eVTR Software Options

Recreational tilefish anglers will be able to choose between several NMFS-approved eVTR applications. Anglers not already using another eVTR system may find NOAA Fish Online, which is available through a mobile app or a web-based portal, to be easiest for this purpose. Other systems that may be suitable for recreational anglers include SAFIS eTrips/mobile 2 and SAFIS eTrips Online.

You can access information about approved applications and other aspects of electronic reporting on the [NOAA Fisheries Vessel Trip Reporting in the Greater Atlantic Region web page](#).

Obtaining a Permit

Permits are only available through GARFO's online permitting system. For information, refer to the [NOAA Fisheries Vessel and Dealer Permitting in the Greater Atlantic Region web page](#).

Training Opportunities

A recorded training webinar is available in the section below. Details about additional outreach and training opportunities will be announced after a final rule and implementation deadline for this action have been published. Check back on this page for updates. [NOAA Port Agents](#) also have been trained in the software and can provide information on all aspects of these requirements.

Training Resources and Materials

Any video-based training materials, presentations, and other helpful outreach tools will be posted below as they become available.

April 28th Webinar on Tilefish Permitting and Reporting: The MAFMC held a [training webinar](#) on April 28, 2020 to provide information on obtaining recreational tilefish permits and options available to recreational tilefish anglers for electronically submitting VTRs. A recording from this webinar is available at the link below.

- [April 28 webinar recording](#) (Note: when viewing this recording in the Adobe Connect desktop application, you can click the narrow vertical bar on the left side of the window to display a bookmarks menu. Clicking a bookmark will allow you to jump to a specific part of the webinar.)
- [Webinar presentation \(pdf\)](#)

Documents and Related Pages

- [Proposed Rule to Implement Permitting and Reporting Requirements for Private Recreational Tilefish Vessels \(1/29/20\)](#)
- [Recreational Tilefish Permitting and Reporting FAQs \(5/5/20\)](#)

Contacts

For more information or assistance related to eVTRs, refer to the following contacts:

- [Lindsey Bergmann](#), (978) 282-8418
- [Jim St.Cyr](#), (978) 281-9369
- You may also contact your local [port agent](#) for assistance.

For other questions related to blueline and golden tilefish management or the Council's role in requiring eVTRs, please contact:

- **MAFMC Staff Leads:** Matt Seeley (blueline tilefish), mseeley@mafmc.org; José Montañez (golden tilefish), jmontanez@mafmc.org



Commerce Secretary Announces Allocation of \$300 Million in CARES Act Funding

May 07, 2020

Interstate marine fisheries commissions, Puerto Rico, and U.S. Virgin Islands will disburse funds to address coronavirus-related losses.

Today, the Secretary of Commerce announced the allocation of \$300 million in fisheries assistance funding provided by Sec. 12005 of the Coronavirus Aid, Relief, and Economic Security Act, also called the CARES Act, to states, Tribes, and territories with coastal and marine fishery participants who have been negatively affected by COVID-19.

“This relief package will support America’s fishermen and our seafood sector’s recovery,” said U.S. Department of Commerce Secretary Wilbur Ross. “Thank you President Trump, Secretary Mnuchin, and our Congressional leaders of both parties for your work to pass the historic legislation that is bringing much needed relief to America’s fishermen. This Administration stands with the men and women working to provide healthy and safe seafood during this uniquely challenging time, while our U.S. fisheries work to continue to support 1.7 million jobs and to generate \$200 billion in annual sales. The nation is grateful to our fishermen for their commitment.”

As a next step, NOAA Fisheries will use these allocations (see below) to make awards to our partners: the [Atlantic States Marine Fisheries Commission](#), the [Pacific States Marine Fisheries Commission](#), the [Gulf States Marine Fisheries Commission](#), Puerto Rico, and the U.S. Virgin Islands. They will disburse the funds to address direct or indirect fishery-related losses as well as subsistence, cultural, or ceremonial impacts related to COVID-19.

“We are going to rely primarily on our partners at the interstate marine fishery commissions during the award process because they have a demonstrated track record of disbursing funds provided to them quickly and effectively,” said Chris Oliver, Assistant Administrator for NOAA Fisheries.

The commissions then will work with each state, Tribe, and territory to develop spend plans consistent with the CARES Act and NOAA’s guidance. Puerto Rico and the U.S. Virgin Islands will submit award applications and spend plans to the agency directly. All spend plans must describe the main categories for funding, including direct payments, fishery-related infrastructure, and fishery-related education that address direct and indirect COVID-19 impacts to commercial fishermen, charter businesses, qualified aquaculture operations, subsistence/cultural/ceremonial users, processors, and other fishery-related businesses. Once

a spend plan has been approved by NOAA, the agency anticipates that the three Commissions will review applications and process payments to eligible fishery participants on behalf of the states and territories. The states will have the option to process payments themselves.

Fishery participants eligible for funding include Tribes, commercial fishing businesses, charter/for-hire fishing businesses, qualified aquaculture operations, processors, and other fishery-related businesses. They should work with their state marine fisheries management agencies, territories, or Tribe to understand the process for applying for these funds.

Also of note, for the purposes of Sec. 12005 funding, businesses farther down the supply chain—including vessel repair businesses, restaurants, or seafood retailers—are not considered “fishery-related businesses.”

Summary of Allocations*

Entity	Allocation of Sec. 12005 Funding
Alaska	\$50,000,000
Washington	\$50,000,000
Massachusetts	\$28,004,176
Florida	\$23,636,600
Maine	\$20,308,513
California	\$18,350,586
Oregon	\$15,982,827
Louisiana	\$14,785,244
New Jersey	\$11,337,797
Texas	\$9,237,949
New York	\$6,750,276
North Carolina	\$5,460,385
Federally Recognized Tribes on the West Coast	\$5,097,501
Virginia	\$4,520,475
Hawaii	\$4,337,445
Maryland	\$4,125,118
Pennsylvania	\$3,368,086
Alabama	\$3,299,821
Rhode Island	\$3,294,234

New Hampshire	\$2,732,492
American Samoa	\$2,553,194
Georgia	\$1,921,832
Connecticut	\$1,835,424
Mississippi	\$1,534,388
South Carolina	\$1,525,636
Delaware	\$1,000,000
Puerto Rico	\$1,000,000
United States Virgin Islands	\$1,000,000
Federally Recognized Tribes in Alaska	\$1,000,000
Guam	\$1,000,000
Commonwealth of the Northern Mariana Islands	\$1,000,000
Total	\$300,000,000

** Final award amounts will be different due to Hollings and other assessments.*

CARES Act Funding Questions

Q. Who should affected fishermen and communities contact about accessing this funding?

A. Fishery participants eligible for funding—including Tribes, commercial fishing businesses, charter/for-hire fishing businesses, qualified aquaculture operations, processors, and other fishery-related businesses—should work with their state marine fisheries management agencies, territories, or Tribe to understand the process for applying for these funds.

Q. Can eligible fishery participants receive direct payments?

A. Direct payments are expressly allowed under Sec. 12005 of the CARES Act. Each Commissions' grant application must meet the requirements of the CARES Act and reflect the appropriate use of funds and considerations as outlined in the Request for Applications, the Request for Applications letter and the allocation table provided.

Q. How long will it take for affected fishermen to get funding from the CARES Act?

A. It will vary, however we expect that Sec. 12005 funding will be disbursed more quickly than fishery disaster assistance funds because the CARES Act language does not require the

Secretary of Commerce to declare a fishery disaster. The CARES Act also allows the funds to be awarded on a “rolling basis,” which will enable NOAA Fisheries to execute the funds more nimbly in partnership with the states, Tribes, and territories.

Q. What types of fishing-related businesses are eligible for assistance?

A. For the purposes of carrying out the provisions in Section 12005 of the CARES Act, “fishery-related businesses” primarily include commercial fishing businesses, charter/for-hire fishing businesses, qualified aquaculture operations, processors, and dealers. States, Tribes, and territories have the discretion to determine whether marine bait and tackle operations and marine gear and vessel suppliers are eligible for Sec. 12005 assistance in their spend plans, consistent with the requirements of the CARES Act. Businesses farther down the supply chain—including vessel repair businesses, restaurants, or seafood retailers—are not considered “fishery-related businesses” for the purposes of this funding.

Q. Which Tribes are eligible for assistance?

A. The definition of “fishery participant” identified in Sec. 12005 of the CARES Act, includes Tribal fishery participants. So, Tribes in coastal states with marine or anadromous fisheries and/or marine shellfish or finfish aquaculture operations are eligible for Sec. 12005 funds. Tribes in non-coastal states with freshwater fisheries will not be eligible for Sec. 12005 funds.

Q. Which types of aquaculture operations are eligible for funding?

A. Privately owned aquaculture businesses growing products in state or federal marine waters of the United States and the hatcheries that supply them are eligible for Sec. 12005 funding. This includes all molluscan shellfish and marine algae. Non-salmonid marine finfish grown in marine waters not covered by USDA are eligible for Sec. 12005 funding.

Q: On what basis did the agency make the initial allocation decision? What data did the NOAA Fisheries use for the initial allocation decision?

A: To allocate the Sec. 12005 funds, NOAA Fisheries used a methodology that met our overriding goal to distribute the Sec. 12005 funds as quickly as possible while accounting for regional variability in the size of commercial, charter, seafood processors and dealers, and aquaculture industries.

Given the definition of “fishery participant” identified in Sec. 12005 of the CARES Act, NOAA Fisheries used readily available total annual revenue information from the commercial fishing, charter fishing, aquaculture, and seafood-related businesses of coastal states, Tribes, and territories to proportionately allocate the Sec. 12005 funding. NOAA Fisheries also took into consideration negative impacts to subsistence, cultural, and ceremonial fisheries during the allocation process.

NOAA Fisheries used readily available multi-year averages to estimate the total average annual revenues from commercial fishing operations, aquaculture firms, the seafood supply chain (processors, dealers, wholesalers and distributors) and charter fishing businesses from each coastal state, Tribe, and territory. The table below provides the proportion of revenue attributable to the specified sectors.

In general, NOAA Fisheries used a 5-year average of annual commercial fishing revenues as a baseline for this sector. Available multi-year averages of aquaculture revenues were also captured in the estimates of average commercial fisheries revenues.

Average annual landings revenue data from Alaska, New England, and Mid-Atlantic states were adjusted to attribute landings in those regions to a vessel owner's state of residence to better reflect where fishing income accrues. These adjustments were made by determining the proportion of landings in a particular state attributed to vessel owners residing in another state and distributing revenue accordingly. A similar adjustment was also applied to at-sea processors on the West Coast but was not applied broadly to other fisheries on the West Coast or Pacific Islands, Southeast, and Gulf of Mexico fisheries, because comparable state-by-state vessel ownership data was not readily available. In addition, because those regions represent a relatively small proportion of the nation's total commercial fishery landings revenues and are smaller in scale relative to Alaska fisheries and the West Coast at-sea processors, adjustments in those regions would not significantly impact the overall allocation across all applicable states, Tribes, and territories.

Average annual value-added estimates from the seafood sector (i.e., processors, dealers, and wholesalers/distributors) were calculated using NOAA Fisheries' Commercial Fishing & Seafood Industry Economic Impact Model while Alaska and West Coast value added estimates were calculated from regional models. Multipliers were applied to commercial fishing and aquaculture operations revenues to account for the value-add generated by these components of the seafood supply chain (e.g., processing crabs into crab meat). A multiplier was also applied to available multi-year averages of Tribal and territorial commercial fishing operations to account for commercial, subsistence, cultural, and ceremonial fisheries.

Furthermore, a 5-year average of for-hire angler trip expenditures was used to calculate average annual for-hire fishing revenues.

There are some exceptions where a multi-year average across all states was not available (e.g., select shellfish aquaculture) or the sources of data for an individual state or territory varied from the general data streams described above (e.g., based on data availability, for-hire revenues in Hawaii and Alaska were obtained from cost-earnings studies rather than angler expenditures.)

In addition to allocating the funds proportionately based on readily available total average annual revenue data, NOAA Fisheries established a minimum and maximum funding level that each state and territory received (\$1 million and \$50million, respectively).

Sec. 12005 Allocation: Sector-Based Revenues

NOAA Fisheries is providing this data for informational purposes only. Please note that states, Tribes, and territories are not obligated to utilize this data when developing their spend plans for their allocated Sec. 12005 funds. Specifically, allocated funds are not required to be distributed based on the proportions outlined below, as the number of eligible fishery participants across sectors may vary based on the CARES Act requirement that fishery participants must have incurred a 35% economic revenue loss or negative impacts to subsistence, cultural, or ceremonial fisheries in order to be eligible for Sec. 12005 funds.

Entity	Percentage of Total Annual Revenue (All Sectors)				Allocation
	For-Hire Fishing	Commercial Fishing and Aquaculture	Seafood Sector	Tribal Commercial Fishing, Aquaculture & For Hire	
Alaska	5.5%	35.2%	59.3%		\$50,000,000
Washington	0.6%	67.8%	31.6%		\$50,000,000
Massachusetts	1.5%	47.3%	51.2%		\$28,004,176
Florida	27.0%	30.7%	42.3%		\$23,636,600
Maine	0.4%	81.5%	18.1%		\$20,308,513
California	18.6%	30.6%	50.8%		\$18,350,586
Oregon	2.1%	45.6%	52.3%		\$15,982,827
Louisiana	11.4%	74.2%	14.4%		\$14,785,244
New Jersey	6.0%	64.2%	29.8%		\$11,337,797
Texas	10.6%	64.3%	25.1%		\$9,237,949
New York	11.6%	31.4%	57.1%		\$6,750,276
North Carolina	24.0%	64.2%	11.8%		\$5,460,385
Federally Recognized Tribes on the West Coast				100.0%	\$5,097,501
Virginia	4.9%	52.8%	42.3%		\$4,520,475
Hawaii	13.8%	69.4%	16.8%		\$4,337,445
Maryland	13.0%	42.2%	44.8%		\$4,125,118
Pennsylvania	0.0%	0.0%	100.0%		\$3,368,086
Alabama	25.9%	46.3%	27.7%		\$3,299,821
Rhode Island	3.5%	68.0%	28.5%		\$3,294,234
New Hampshire	4.3%	40.1%	55.6%		\$2,732,492
American Samoa	0.0%	8.0%	92.0%		\$2,553,194
Georgia	4.8%	23.5%	71.8%		\$1,921,832
Connecticut	6.4%	41.9%	51.7%		\$1,835,424
Mississippi	16.2%	51.9%	31.9%		\$1,534,388
South Carolina	46.4%	45.2%	8.4%		\$1,525,636
Delaware	9.1%	50.3%	40.6%		\$1,000,000
Puerto Rico	20.8%	42.1%	37.2%		\$1,000,000
United States Virgin Islands	27.8%	38.4%	33.9%		\$1,000,000
Federally Recognized Tribes in Alaska*				100.0%	\$1,000,000
Guam	0.0%	53.1%	46.9%		\$1,000,000
Commonwealth of the Northern Mariana Islands	0.0%	53.1%	46.9%		\$1,000,000

*Encompasses the only Federally-recognized Tribe in the state with a Tribally managed commercial fishery

[Download Table](#)

Q. Who will be responsible for determining if fishery losses exceed the 35 percent standard and applying for assistance?

A. Given the broad range of fisheries and entities affected across multiple jurisdictions, it will be important to provide states and territories flexibility in determining how they will identify

which fishery participants meet the requirements described in Sec. 12005(b)(1)-(2). Thus, each state/Tribe/territory will be required to determine how they will verify which fishery participants meet the threshold of economic revenue losses greater than 35 percent as compared to the prior five year average or negative impacts to subsistence, cultural, or ceremonial fisheries. The spend plans will provide details on their proposed process for making these determinations.

Q. What are the next steps? When and how do Sec. 12005 funds get to the recipient

A: NOAA Fisheries is currently working to execute and distribute the fisheries assistance funding provided by Sec. 12005 of the CARES Act as expeditiously as possible, while ensuring the proper level of executive oversight of these appropriated federal funds.

NOAA Fisheries is using the Sec. 12005 allocations to make non-competitive grant awards to the Interstate Marine Fisheries Commissions (Commissions), U.S. Virgin Islands and Puerto Rico. Between now and the start of the grants, states, Tribes, and territories will be working to develop their respective spend plans for the funding they will be receiving.

Each state, territory, and/or Tribe will develop a spend plan that determines how they will verify which fishery participants meet the requirements described in Sec. 12005(b)(1)-(2) (i.e., economic revenue losses greater than 35 percent as compared to the prior five year average or negative impacts to subsistence, cultural, or ceremonial fisheries). States, territories and/or Tribes will submit their spend plans through their respective Commission for NOAA's approval. The U.S. Virgin Islands and Puerto Rico will submit their spend plans directly to NOAA.

Spend plan submissions and approvals will occur on a rolling basis. This step in the process takes time as each state/Tribe/territory will have its own process for spend plan development. There are also special considerations that Commissions and states/territories/Tribes need to take into account, such as potentially staggering the disbursement of funds within their spend plans to account for different fisheries, fishing seasons, and industry sectors.

Once NOAA Fisheries approves a state, territory, or Tribe's spend plan, we anticipate the Commissions will disburse the payments to eligible fishery participants on behalf of the states, territories and/or Tribes. This will allow the Commissions to distribute the assistance to eligible fishery participants at the earliest date possible. However, a Commission can also allow a state, Tribe, and/or territory to disburse the money to eligible fishery participants themselves.



EXECUTIVE ORDERS

Executive Order on Promoting American Seafood Competitiveness and Economic Growth

ECONOMY & JOBS

Issued on: May 7, 2020



By the authority vested in me as President by the Constitution and the laws of the United States of America, and in order to strengthen the American economy; improve the competitiveness of American industry; ensure food security; provide environmentally safe and sustainable seafood; support American workers; ensure coordinated, predictable, and transparent Federal actions; and remove unnecessary regulatory burdens, it is hereby ordered as follows:

Section 1. Purpose. America needs a vibrant and competitive seafood industry to create and sustain American jobs, put safe and healthy food on American tables, and contribute to the American economy. Despite America's bountiful aquatic resources, by weight our Nation imports over 85 percent of the seafood consumed in the United States. At the same time, illegal, unreported, and unregulated fishing undermines the sustainability of American and global seafood stocks, negatively affects general ecosystem health, and unfairly competes with the products of law-abiding fishermen and seafood industries around the world. More effective permitting related to offshore aquaculture and additional streamlining of fishery regulations have the potential to revolutionize American seafood production, enhance rural prosperity, and improve the quality of American lives. By removing outdated and unnecessarily burdensome regulations; strengthening efforts to combat illegal, unreported, and unregulated fishing; improving the transparency and efficiency of environmental reviews; and renewing our focus on long-term strategic planning to facilitate aquaculture projects, we can protect our aquatic environments; revitalize our Nation's seafood industry; get more Americans back to work; and put healthy, safe food on our families' tables.

Sec. 2. Policy. It is the policy of the Federal Government to:

- (a) identify and remove unnecessary regulatory barriers restricting American fishermen and aquaculture producers;
- (b) combat illegal, unreported, and unregulated fishing;
- (c) provide good stewardship of public funds and stakeholder time and resources, and avoid duplicative, wasteful, or inconclusive permitting processes;

- (d) facilitate aquaculture projects through regulatory transparency and long-term strategic planning;
- (e) safeguard our communities and maintain a healthy aquatic environment;
- (f) further fair and reciprocal trade in seafood products; and
- (g) continue to hold imported seafood to the same food-safety requirements as domestically produced products.

Sec. 3. Definitions. For purposes of this order:

- (a) “Aquaculture” means the propagation, rearing, and harvesting of aquatic species in controlled or selected environments;
- (b) “Aquaculture facility” means any land, structure, or other appurtenance that is used for aquaculture;
- (c) “Aquaculture project” means a project to develop the physical assets designed to provide or support services to activities in the aquaculture sector, including projects for the development or construction of an aquaculture facility;
- (d) “Exclusive economic zone of the United States” means the zone established in Proclamation 5030 of March 10, 1983 (Exclusive Economic Zone of the United States of America);
- (e) “Lead agency” has the meaning given that term in the regulations of the Council on Environmental Quality, contained in title 40, Code of Federal Regulations, that implement the procedural provisions of the National Environmental Policy Act (NEPA) (42 U.S.C. 4321 et seq.);
- (f) “Maritime domain” means all areas and things of, on, under, relating to, adjacent to, or bordering on a sea, ocean, or other navigable waterway, including all maritime-related activities, infrastructure, people, cargo, and vessels and other conveyances;
- (g) “Maritime domain awareness” means the effective understanding of anything associated with the global maritime domain that could affect the security, safety, economy, or environment of the United States; and
- (h) “Project sponsor” means an entity, including any private, public, or public-private entity, that seeks an authorization for an aquaculture project.

Sec. 4. Removing Barriers to American Fishing. (a) The Secretary of Commerce shall request each Regional Fishery Management Council to submit, within 180 days of the date of this order, a prioritized list of recommended actions to reduce burdens on domestic fishing and to increase production within sustainable fisheries, including a proposal for initiating each recommended action within 1 year of the date of this order.

- (i) Recommended actions may include changes to regulations, orders, guidance documents, or other similar agency actions.

(ii) Recommended actions shall be consistent with the requirements of the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 et seq.); the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.); the Marine Mammal Protection Act (16 U.S.C. 1361 et seq.); and other applicable laws.

(iii) Consistent with section 302(f) of the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1852(f)), and within existing appropriations, the Secretary of Commerce shall provide administrative and technical support to the Regional Fishery Management Councils to carry out this subsection.

(b) The Secretary of Commerce shall review and, as appropriate and to the extent permitted by law, update the Department of Commerce's contribution to the Unified Regulatory Agenda based on an evaluation of the lists received pursuant to subsection (a) of this section.

(c) the Assistant to the President for Economic Policy, the Assistant to the President for Domestic Policy, and the Chair of the Council on Environmental Quality a report evaluating the recommendations described in subsection (a) of this section and describing any actions taken to implement those recommendations. This report shall be updated annually for the following 2 years.

Sec. 5. Combating Illegal, Unreported, and Unregulated Fishing. (a) Within 90 days of the date of this order, the Secretary of Commerce, acting through the Administrator of the National Oceanic and Atmospheric Administration (NOAA), shall issue, as appropriate and consistent with applicable law, a notice of proposed rulemaking further implementing the United Nations Food and Agriculture Organization Agreement on Port State Measures to Prevent, Deter, and Eliminate Illegal, Unreported, and Unregulated Fishing, which entered into force on June 5, 2016 (the Port State Measures Agreement).

(b) The Secretary of State, the Secretary of Commerce, the Secretary of Homeland Security, and the heads of other appropriate executive departments and agencies (agencies) shall, to the extent permitted by law, encourage public-private partnerships and promote interagency, intergovernmental, and international cooperation in order to improve global maritime domain awareness, cooperation concerning at-sea transshipment activities, and the effectiveness of fisheries law enforcement.

(c) The Secretary of State, the Secretary of Commerce, the Secretary of Health and Human Services, and the Secretary of Homeland Security shall, consistent with applicable law and available appropriations, prioritize training and technical assistance in key geographic areas to promote sustainable fisheries management; to strengthen and enhance existing enforcement capabilities to combat illegal, unreported, and unregulated fishing; and to promote implementation of the Port State Measures Agreement.

Sec. 6. Removing Barriers to Aquaculture Permitting. (a) For aquaculture projects that require environmental review or authorization by two or more agencies in order to proceed with the permitting of an aquaculture facility, when the lead agency has determined that it will prepare an environmental impact statement (EIS) under NEPA, the agencies shall undertake to complete all environmental reviews and authorization decisions within 2 years, measured from the date of the publication of a notice of intent to prepare an EIS to the date of issuance of the Record of Decision (ROD), and shall use the "One Federal Decision" process enhancements described in section 5(b) of Executive Order 13807 of August 15, 2017

(Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure Projects), and in subsections (a)(ii) and (iii) of this section. For such projects:

(i) NOAA is designated as the lead agency for aquaculture projects located outside of the waters of any State or Territory and within the exclusive economic zone of the United States and shall be responsible for navigating the project through the Federal environmental review and authorization process, including the identification of a primary point of contact at each cooperating and participating agency;

(ii) Consistent with the “One Federal Decision” process enhancements, all cooperating and participating agencies shall cooperate with the lead agency and shall respond to requests for information from the lead agency in a timely manner;

(iii) Consistent with the “One Federal Decision” process enhancements, the lead agency and all cooperating and participating agencies shall record all individual agency decisions in one ROD, unless the project sponsor requests that agencies issue separate NEPA documents, the NEPA obligations of a cooperating or participating agency have already been satisfied, or the lead agency determines that a single ROD would not best promote completion of the project’s environmental review and authorization process; and

(iv) The lead agency, in consultation with the project sponsor and all cooperating and participating agencies, shall prepare a permitting timetable for the project that includes the completion dates for all federally required environmental reviews and authorizations and for issuance of a ROD, and shall make the permitting timetable publicly available on its website.

(b) Within 90 days of the date of this order, the Secretary of the Army, acting through the Assistant Secretary of the Army for Civil Works, in consultation with the Secretary of the Interior, the Secretary of Agriculture, the Secretary of Commerce, the Secretary of Homeland Security, the Administrator of the Environmental Protection Agency, other appropriate Federal officials, and appropriate State officials, shall:

(i) develop and propose for public comment, as appropriate and consistent with applicable law, a proposed United States Army Corps of Engineers nationwide permit authorizing finfish aquaculture activities in marine and coastal waters out to the limit of the territorial sea and in ocean waters beyond the territorial sea within the exclusive economic zone of the United States;

(ii) assess whether to develop a United States Army Corps of Engineers nationwide permit authorizing finfish aquaculture activities in other waters of the United States;

(iii) develop and propose for public comment, as appropriate and consistent with applicable law, a proposed United States Army Corps of Engineers nationwide permit authorizing seaweed aquaculture activities in marine and coastal waters out to the limit of the territorial sea and in ocean waters beyond the territorial sea within the exclusive economic zone of the United States;

(iv) assess whether to develop a United States Army Corps of Engineers nationwide permit authorizing seaweed aquaculture activities for other waters of the United States;

(v) develop and propose for public comment, as appropriate and consistent with applicable law, a proposed United States Army Corps of Engineers nationwide permit authorizing multi-species aquaculture activities in marine and coastal waters out to the limit of the territorial sea and in ocean waters beyond the territorial sea within the exclusive economic zone of the United States; and

Sec. 7. Aquaculture Opportunity Areas. (a) The Secretary of Commerce, in consultation with the Secretary of Defense, the Secretary of the Interior, the Secretary of Agriculture, the Secretary of Homeland Security, the Administrator of the Environmental Protection Agency, other appropriate Federal officials, and appropriate Regional Fishery Management Councils, and in coordination with appropriate State and tribal governments, shall:

(i) within 1 year of the date of this order, identify at least two geographic areas containing locations suitable for commercial aquaculture and, within 2 years of identifying each area, complete a programmatic EIS for each area to assess the impact of siting aquaculture facilities there; and

(ii) for each of the following 4 years, identify two additional geographic areas containing locations suitable for commercial aquaculture and, within 2 years of identifying each area, complete a programmatic EIS for each area to assess the impact of siting aquaculture facilities there.

(b) A programmatic EIS completed pursuant to subsection (a) of this section may include the identification of suitable species for aquaculture in those particular locations, suitable gear for aquaculture in such locations, and suitable reporting requirements for owners and operators of aquaculture facilities in such locations.

(c) In identifying specific geographic areas under subsection (a) of this section, the Secretary of Commerce shall solicit and consider public comment and seek to minimize unnecessary resource use conflicts as appropriate, including conflicts with military readiness activities or operations; navigation; shipping lanes; commercial and recreational fishing; oil, gas, renewable energy, or other marine mineral exploration and development; essential fish habitats, under the Magnuson-Stevens Fishery Conservation and Management Act; and species protected under the Endangered Species Act of 1973 or the Marine Mammal Protection Act.

Sec. 8. Improving Regulatory Transparency for Aquaculture. (a) Within 240 days of the date of this order, the Secretary of Commerce, in consultation with other appropriate Federal and State officials, shall prepare and place prominently on the appropriate NOAA webpage a single guidance document that:

(i) describes the Federal regulatory requirements and relevant Federal and State agencies involved in aquaculture permitting and operations; and

(ii) identifies Federal grant programs applicable to aquaculture siting, research, development, and operations.

(b) The Secretary of Commerce, acting through the Administrator of NOAA, shall update this guidance as appropriate, but not less than once every 18 months.

Sec. 9. Updating National Aquaculture Development Plan. (a) Within 180 days of the date of this order, the Secretary of the Interior, the Secretary of Agriculture, and the Secretary of Commerce, in consultation with the Joint Subcommittee on

Aquaculture, established pursuant to the National Aquaculture Act of 1980 (16 U.S.C. 2801 *et seq.*), shall assess whether to revise the National Aquaculture Development Plan, consistent with 16 U.S.C. 2803(a)(2) and (d), in order to strengthen our Nation's domestic aquaculture production and improve the efficiency and predictability of aquaculture permitting, including permitting for aquaculture projects located outside of the waters of any State or Territory and within the exclusive economic zone of the United States.

(b) In making any revisions to the National Aquaculture Development Plan as a result of this assessment, the Secretary of the Interior, the Secretary of Agriculture, and the Secretary of Commerce shall, as appropriate:

(i) include the elements described at 16 U.S.C. 2803(b) and (c) and the appropriate determinations described at 16 U.S.C. 2803(d);

(ii) include programs to analyze, and formulate proposed resolutions of, the legal or regulatory constraints that may affect aquaculture, including any impediments to establishing security of tenure — that is, use rights with a specified duration tied to a particular location — for aquaculture operators, owners, and investors; and

(iii) consider whether to include a permitting framework, including a delineation of agency responsibilities for permitting and associated agency operations, consistent with section 6 of this order and with the “One Federal Decision” Framework Memorandum issued on March 20, 2018, by the Office of Management and Budget and the Council on Environmental Quality, pursuant to Executive Order 13807.

(c) The Secretary of the Interior, the Secretary of Agriculture, and the Secretary of Commerce, in consultation with the Subcommittee on Aquaculture, shall subsequently assess, not less than once every 3 years, whether to revise the National Aquaculture Development Plan, as appropriate and consistent with 16 U.S.C. 2803(d) and (e). If the Secretary of the Interior, the Secretary of Agriculture, and the Secretary of Commerce decide not to revise the National Aquaculture Development Plan, they shall within 15 days of such decision submit to the Assistant to the President for Economic Policy and the Assistant to the President for Domestic Policy a report explaining their reasoning.

Sec. 10. Promoting Aquatic Animal Health. (a) Within 30 days of the date of this order, the Secretary of Agriculture, in consultation with the Secretary of the Interior, the Secretary of Commerce, other appropriate Federal officials, and States, as appropriate, shall consider whether to terminate the 2008 National Aquatic Animal Health Plan and to replace it with a new National Aquatic Animal Health Plan.

(b) Any new National Aquatic Animal Health Plan shall be completed, consistent with applicable law, within 180 days of the date of this order.

(c) Any new National Aquatic Animal Health Plan shall include additional information about aquaculture, including aquaculture projects located outside of the waters of any State or Territory and within the exclusive economic zone of the United States, and shall incorporate risk-based management strategies as appropriate.

(d) If adopted, the Plan described in subsections (b) and (c) of this section shall subsequently be updated, as appropriate, but not less than once every 2 years, by the Secretary of Agriculture, in consultation with the Secretary of the Interior, the

Secretary of Commerce, other appropriate Federal officials, and States, as appropriate.

Sec. 11. International Seafood Trade. (a) In furtherance of fair and reciprocal trade in seafood products, within 30 days of the date of this order, the Secretary of Commerce shall establish an Interagency Seafood Trade Task Force (Seafood Trade Task Force) to be co-chaired by the Secretary of Commerce and the United States Trade Representative (Co-Chairs), or their designees. The Secretary of Commerce shall, to the extent permitted by law and within existing appropriations, provide administrative support and funding for the Seafood Trade Task Force.

(b) In addition to the Co-Chairs, the Seafood Trade Task Force shall include the following members, or their designees:

(i) the Secretary of State;

(ii) the Secretary of the Interior;

(iii) the Secretary of Agriculture;

(iv) the Secretary of Homeland Security;

(v) the Director of the Office of Management and Budget;

(vi) the Assistant to the President for Economic Policy;

(vii) the Assistant to the President for Domestic Policy;

(viii) the Chairman of the Council of Economic Advisers;

(ix) the Under Secretary of Commerce for International Trade;

(x) the Commissioner of Food and Drugs;

(xi) the Administrator of NOAA; and

(xii) the heads of such other agencies and offices as the Co-Chairs may designate.

(c) Within 90 days of the date of this order, the Seafood Trade Task Force shall provide recommendations to the Office of the United States Trade Representative in the preparation of a comprehensive interagency seafood trade strategy that identifies opportunities to improve access to foreign markets through trade policy and negotiations, resolves technical barriers to United States seafood exports, and otherwise supports fair market access for United States seafood products.

(d) Within 90 days of the date on which the Seafood Trade Task Force provides the recommendations described in subsection (c) of this section, the Office of the United States Trade Representative, in consultation with the Trade Policy Staff Committee and the Seafood Trade Task Force, shall submit to the President, through the Assistant to the President for

Economic Policy and the Assistant to the President for Domestic Policy, the comprehensive interagency seafood trade strategy described in subsection (c) of this section.

Sec. 12. General Provisions. (a) Nothing in this order shall be construed to impair or otherwise affect:

(i) the authority granted by law to an executive department or agency, or the head thereof; or

(ii) the functions of the Director of the Office of Management and Budget relating to budgetary, administrative, or legislative proposals.

(b) This order shall be implemented consistent with applicable law and subject to the availability of appropriations.

(c) This order is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.

DONALD J. TRUMP

THE WHITE HOUSE,

May 7, 2020.



May 19, 2020

Dear Regional Fishery Management Councils,

On May 7, 2020 the President signed [Executive Order 13921](#) on Promoting American Seafood Competitiveness and Economic Growth, “to strengthen the American economy; improve the competitiveness of American industry; ensure food security; provide environmentally safe and sustainable seafood; support American workers; ensure coordinated, predictable, and transparent Federal actions; and remove unnecessary regulatory burdens”.

On behalf of the Secretary of Commerce, I am formally requesting that each Council submit a prioritized list of recommended actions to reduce burdens on domestic fishing and to increase production within sustainable fisheries as required under Section 4 of the order.

NOAA Fisheries and the Councils continuously work together to revise or remove regulations identified as outdated, unnecessary, or ineffective to the relevant fisheries under their jurisdiction. In the summer of 2018, you provided letters with valuable recommendations for removing ineffective or unnecessary regulations in response to Executive Orders 13771 and 13777. We hope to have similar success working with you to identify recommended actions that would further reduce the regulatory burden on domestic fisheries.

Per the order, “recommended actions may include changes to regulations, orders, guidance documents, or other similar agency actions” and “shall be consistent with the requirements of the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. §§ 1801 *et seq.*); the Endangered Species Act of 1973 (16 U.S.C. §§ 1531 *et seq.*); the Marine Mammal Protection Act (16 U.S.C. §§ 1361 *et seq.*); and other applicable laws.”

By November 2, 2020, please provide your list of recommendations, including proposals for initiating each recommended action within one year of the Order (May 2021), to our Office of Sustainable Fisheries. Additional details on a template for submissions and other information will come soon.

As outlined in the order, upon submission, the Secretary of Commerce will review and, as appropriate and to the extent permitted by law, update the Department of Commerce’s contribution to the Unified Regulatory Agenda based on an evaluation your lists.

Thank you for your hard work and diligence during these challenging times. We look forward to receiving your list of recommended actions. If you have any questions on the request, please contact Jennifer Wallace, Acting Director, Office of Sustainable Fisheries, at (301) 427-8500 or Jenni.Wallace@noaa.gov.

Sincerely,

A handwritten signature in black ink that reads "Chris Oliver".

Chris Oliver
Assistant Administrator for NOAA Fisheries



cc: Caribbean Fishery Management Council
Gulf of Mexico Fishery Management Council
Mid-Atlantic Fishery Management Council
New England Fishery Management Council
North Pacific Fishery Management Council
Pacific Fishery Management Council
South Atlantic Fishery Management Council
Western Pacific Fishery Management Council



Mid-Atlantic Fishery Management Council
800 North State Street, Suite 201, Dover, DE 19901
Phone: 302-674-2331 | FAX: 302-674-5399 | www.mafmc.org
Michael P. Luisi, Chairman | G. Warren Elliott, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

Date: June 4, 2020
To: Chris Moore
From: Mary Sabo, Jason Didden, and Stephen Pearson, Council staff
Subject: COVID-19 and future Council Meeting Planning

Given the public health and safety concerns related to COVID-19, the Council has been holding exclusively webinar-based meetings since late March 2020. As restrictions are lifted and the risk to public health declines, the Council will need to consider how and when to resume in-person meetings. One idea that has been proposed is a “hybrid” meeting, which would combine in-person and remote attendance. A hybrid meeting could enable some face-to-face interaction between members, and potentially the public, while ensuring that in-person attendees can maintain safe distances from each other. This document is designed to facilitate evaluating the risks and benefits of convening a hybrid or fully in-person meeting and presents a range of options that may be appropriate for various risk scenarios.

Preliminary Staff Recommendation for August 2020 Council Meeting

Based on the information currently available, including significant underlying uncertainties, staff recommends holding the August meeting solely via webinar. Waiting until at least October 2020 to convene an in-person or hybrid meeting will allow time to better assess evolving risks as states and municipalities reduce restrictions. This will also give staff time to develop strategies for minimizing risks to Council members, staff, and the public.

Questions to Consider

1. **MOST IMPORTANT:** Based on the best scientific information currently available, what are the potential health risks to Council members, staff, and/or the public from an in-person meeting?
 - Consider risk of time spent at meeting as well as travel to get to/from the meeting
 - Consider the chance of exposure to an infected person, chance of spread, and chance of serious illness)
 - Consider potential liability or public relations issues from individuals getting sick at a Council meeting
2. What are the benefits of an in-person meeting? Are those benefits still present in a hybrid meeting scenario?
 - Are hospitality and shared meals practical/safe? Will restaurants be open for dining in?
 - Is face-to-face interaction at a safe distance practical?

- For hybrid approaches, will any efficiencies gained by having an in-person meeting be offset by the challenges of facilitating multiple participation methods?
3. Are the meeting costs justified if we cannot allow public attendance?
 4. Are member state employees permitted to travel? (May be a useful indicator of current infection rates across the Mid-Atlantic region).
 5. Will Council members feel comfortable traveling to an in-person meeting?

Meeting Options

The table below presents a range of meeting options that may be appropriate based on Council leadership’s assessment of the current or anticipated public health risk associated with an in-person meeting.

Public Health Risk	Meeting Options	Comments
Moderate-High to High Risk	Webinar-only	<ul style="list-style-type: none"> • Replicate April 2020 meeting procedures, with possible improvements (see ideas on the following page).
Low to Low-Moderate Risk	Webinar-only	<ul style="list-style-type: none"> • If the meeting objectives can be effectively addressed with a webinar-only meeting, this might still be the best option.
	Hybrid 1: Council and key staff meet in person; Council members may participate remotely; public may only participate remotely.	<ul style="list-style-type: none"> • In-person participants would be limited to Council members, key staff, and presenters. Members would have the option to participate remotely. • Member participation may be constrained by space and microphone availability. Lottery could be used if needed. • Seating 6 ft apart. Masks may be required. • Chair would recognize members and their votes and/or the public via the hand-raise feature. Roll call voting may be used as needed. • Public comments would occur entirely remotely and be broadcast in the room and to the webinar. • Due to bandwidth limitations, staff does not recommend using video for a hybrid meeting.
	Hybrid 2: Limited member and public participation in person with remote participation option available.	<ul style="list-style-type: none"> • All meeting attendees (members, staff, public) would have the option to participate in-person or remotely. Pre-registration would be required, and a lottery (possibly by topic and/or constituent type) may be needed depending on distancing requirements and available space. • Seating 6 ft apart. Masks may be required. • Would need to sanitize public mic between speakers. • Chair would recognize remote members and their votes and/or the public via the hand-raise feature. Roll call voting may be used as needed.

	<p>Hybrid 3: Council and staff meet in person in the main room with separate viewing room for public.</p>	<ul style="list-style-type: none"> • In-person participants in the main meeting room would be limited to Council members, key staff, and presenters. Members would also have the option to participate remotely. • Public would have the option to participate remotely OR attend in person and sit in a second ‘viewing’ room that live broadcasts the webinar for an appropriately distanced audience. • During public testimony, individuals could enter the Council room one at a time to make comments. • Seating 6 ft apart. Masks may be required. • This option would allow for members and the public to interface during off hours if they please. • Managing comments from the meeting room, webinar, <i>and</i> a public viewing room could get complicated.
<p>No Risk or Very Low Risk</p>	<p>In-person meeting (business as usual)</p>	<ul style="list-style-type: none"> • See in-person meeting notes on the page below regarding additional safety considerations

How can we improve webinar-based meetings?

Council staff continue to work on improving our webinar tools and procedures to make virtual meetings as efficient and engaging as possible. Below are several ideas that have been considered. Additional input from the Council and members of the public is welcome.

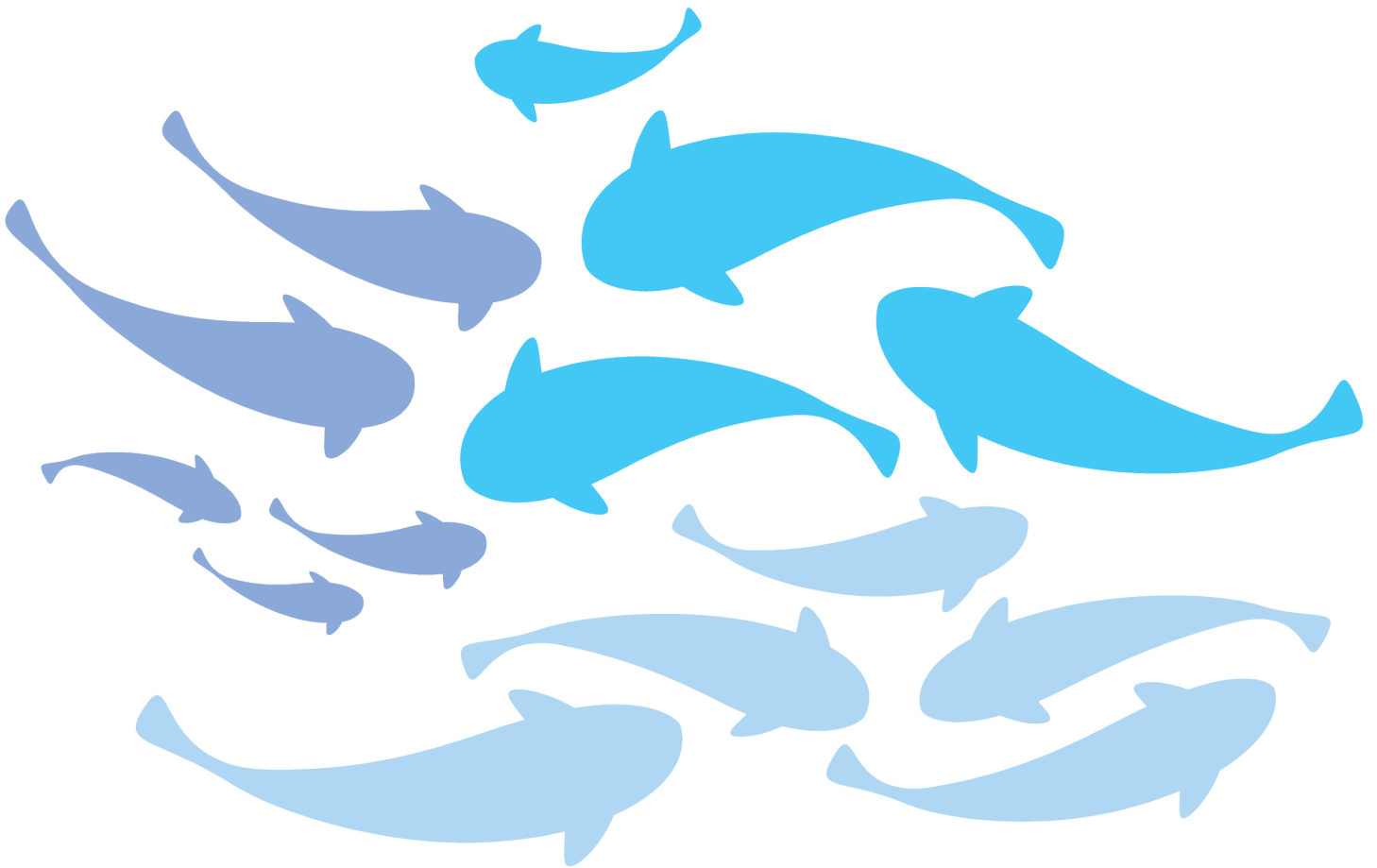
- Utilize the presenter video pod during staff presentations
- Consider pre-registration for public comments on specific topics
- Consider one public comment session per agenda item instead of per motion
- Consider virtual happy hours or coffee breaks
- Consider multiple shorter meetings to avoid meeting fatigue (i.e. two shorter meetings in August and September meetings instead of one long August meeting)
- Hold an optional webinar training session prior to Council webinars to troubleshoot and review procedures.
- Provide an opportunity for informational presentations and reports to be pre-recorded and posted for Council viewing outside of the Council webinar.
- Ensure that participants are clearly identified before speaking.

How can we make in-person meetings safer?

Even when public health risk is low, some precautionary measures should be considered for in-person meetings. Again, input from the Council and members of the public is welcome.

- Make hand sanitizer available at all times in the meeting room
- Council provides and require use of masks
- Increase distance between members at table and minimize microphone sharing
- Address issues with shared food/drink at hospitality and at the coffee/beverage station
- Consider expanding remote participation options (members and public) to avoid sick attendees
- Temperature checks
- Consult with facility regarding common area cleaning procedures

Greater Atlantic Regional Fisheries Office
2020 Annual Implementation Plan



Introduction

The Greater Atlantic Regional Fisheries Office (GARFO) and the Northeast Fisheries Science Center (NEFSC) have developed a joint geographic strategic plan for 2020-2023. Our region is made up of diverse and complex ecosystems that support some of the most valuable fisheries and oldest fishing communities in the nation. They also support iconic species such as the North Atlantic right whale, Atlantic salmon, and Atlantic cod.

Our plan recognizes our need to work together to develop and conduct sound science that support the conservation and management of our trust resources and the habitats upon which they depend, and provides joint strategies for achieving these goals. Specifically, our plan identifies strategies for modernizing our fishery dependent data systems, rebuilding fish stocks through improved understanding, monitoring, and enforcement, focusing recovery efforts on high priority protected species, implementing ecosystem-based fisheries management in the region, incorporating considerations of our trust resources and fisheries in offshore wind energy development processes, and improving international coordination to ensure the sustainability of fisheries and the recovery of endangered and protected species.

In addition to strategies to protect and conserve our trust resources, we have established joint strategies towards ensuring that we operate as effective and efficient organizations with the agility necessary to adapt and evolve to meet new challenges. These strategies recognize the importance of our people and infrastructure towards fulfilling our mission. Through our plan, we commit towards establishing a diverse workforce and developing innovative technologies that will enhance our ability to serve the public and achieve our strategic goals. We also commit to working with our partners to strengthen our collaborative science and management activities and reduce unnecessary regulatory burden on our fishing industry and other stakeholders to maximize economic growth.

There are three strategic goals that our plan pursues, based on the vision of the Department of Commerce and NOAA as an agency:

- Goal 1:** Amplify the economic value of sustainable commercial and recreational fisheries.
- Goal 2:** Conserve and recover protected species while supporting responsible fishing and resource development.
- Goal 3:** Improve organizational excellence and regulatory efficiency.

The GARFO Implementation Plan

Accompanying our joint geographic strategic plan is a GARFO-specific Annual Implementation Plan, which outlines the procedures for obtaining organizational excellence through strategic resource allocation, informed decision-making, organizational collaboration, and transparent and effective communication to accomplish core activities.

Together, our strategic plan and Implementation Process documents provide guidance for decision making within GARFO and the NEFSC with the goal of increasing the transparency of these decisions. These documents help position our region to meet our future challenges by clearly stating our core and desired research, providing focus, and enabling a concentration of resources to accomplish these goals.

Strategic Framework

This plan is structured around the aforementioned research and support themes. The full portfolio of GARFO's activities are further characterized by particular areas which describe the accomplishments we expect to achieve within the theme.

Greater Atlantic Region Strategic Plan Goals and Strategies

1. Amplify the economic value of sustainable commercial and recreational fisheries
 - 1.1. Manage stocks for optimum yield
 - 1.2. Increase U.S. marine aquaculture production
 - 1.3. Promote ecosystem-based fisheries management
 - 1.4. Adequately assess all prioritizes stocks and maintain information for currently assessed stocks
 - 1.5. Modernize fishery information collection, management, and dissemination systems, and enhance cooperative data collection and sharing
2. Conserve and recover protected species while supporting responsible fishing and resource development
 - 2.1. Stabilize highest priority protected species
 - 2.2. Review and streamline permitting and authorization processes for energy development and national defense, while maximizing fishing opportunities and conservation outcomes
 - 2.3. Minimize bycatch and entanglement of protected species while supporting fisheries
 - 2.4. Improved international cooperation and coordination
3. Improve organizational excellence and regulatory efficiency
 - 3.1. Match a diverse workforce to mission needs
 - 3.2. Recapitalize infrastructure and facilities
 - 3.3. Institutionalize prioritization and performance management practices
 - 3.4. Review agency regulations and remove or modify rules that unnecessarily burden businesses and economic growth
 - 3.5. Institutionalize the use of innovative technologies
 - 3.6. Expand regional collaborations
 - 3.7. Enhance stakeholder communication

Implementing Our Strategies

Goal 1: Amplify the economic value of sustainable commercial and recreational fisheries

We expect to amplify the economic value of regional seafood production by optimizing commercial harvest, ensuring recreational opportunities, promoting marine aquaculture, and restoring habitat. Effective science-based management is essential to reaching optimum yield while preventing overfishing. Annual commercial landings revenues total nearly \$2 billion, and recreational fisheries result in over \$5.8 billion in trip expenditures, while a number of notable species are under harvested. We intend to continue our close collaboration with the Mid-Atlantic and New England Fishery Management Councils, Atlantic States Marine Fisheries Commission, state and fishing industry partners, the Northwest Atlantic Fisheries Organization, and local organizations and stakeholders.

1.1 Manage stocks for optimum yield

Rebuild overfished stocks, prevent overfishing with improved quota monitoring and fisheries enforcement, and find ways to increase the use of legally caught fish. Support the Mid-Atlantic and New England Fishery Management Councils in addressing regulatory amendments to achieve optimum yield. Explore opportunities for alternative management strategies for recreational fisheries. Protect essential fish habitat and restore damaged habitats for managed species and their prey to help maintain productive fisheries.

Support catch share management for the Northeast multispecies fishery

Coordinate with sector managers throughout the year to reconcile data and ensure that final year-end data fully account for all catches by sectors.

Monitor annual catch limits

Monitor the fisheries throughout the year to assure that ACLs are not exceeded. For each managed stock, a year-end catch evaluation is made to determine if accountability measures are required.

Monitor catch share programs

Independently monitor the region's catch share programs using data provided to both the Regional Office and Science Center

Conduct consultation activities for high priority actions under the Essential Fish Habitat provisions of the MSA and FWCA

Conduct EFH and FWCA consultations with Federal and State agencies from Maine through Virginia. Provide conservation recommendations to avoid, minimize or mitigate impacts to living marine resources and their habitats. Consultations will focus on high priority development activities including: transportation and port development, infrastructure and energy development. Consult on all internal fishery management actions. Develop programmatic consultations to increase efficiency of consultations program.

Lead U.S. efforts to work with Canada on the joint management of shared, transboundary resources as part of the U.S./Canada Transboundary Understanding process

Staff from GARFO and regional Canadian officials meet to discuss mutual interests in the conservation and management of transboundary living marine resources.

Initiate development of a Management Plan for the Northeast Canyons and Seamounts Marine National Monument

Initiate development of Management Plan for the Northeast Canyons and Seamounts Marine National Monument (NCSMNM) in coordination with the New England and Mid-Atlantic Fishery Management

Councils, U.S. Fish and Wildlife Service, and other agency partners. Work with the Northwest Atlantic Fisheries Organization (NAFO) to determine potential for extending the management of NCSMNM in international waters. Activities for the year will involve initial GARFO staffing assignments, determining needed budget, and public outreach.

Assist with Revisions to NEPA Regulations Found in NAO 216-6

Work with HQ NEPA Staff and General Counsel on revisions to NOAA's NEPA regulations - NAO 216-6. Based on revised NAO 216-6 regulations, update Regional Office NEPA procedures outlined in GARFO's NEPA Quality Assurance Plan.

Coordinate with USFWS on issues related to the Northeast Canyons and Seamounts Marine National Monument, including research and management plan development

Work with our partners at USFWS to monitor activities proposed or occurring in the NE National Monument. This includes plans to permit the installation of cables through the Monument, along with research proposals and the development of Monument Management Plan.

Monitor GARFO and NEFSC fishery management actions to ensure compliance with CEQ and NOAA NEPA requirements

Provide general guidance on the preparation of NEPA documents relating to fisheries management, including fisheries habitat, ensure that NEPA analyses fully supports the science-based decisions made as part of the management process. Develop and recommend policy, procedures, consistency measures, technical administration and NEPA training. Recommend methods for improving NERO and Science Center Compliance with NEPA.

Complete review and update as necessary the GARFO Recreational Fishing Plan

This milestone requires that we review and, as necessary, update the GARFO recreational fishing action plan in 2020, as well as complete or make progress towards action items included in the plan (i.e., continued engagement and outreach events, explorations of new ways to manage recreational fisheries, etc.)

Sustainable management of fisheries

Work with the Councils and ASMFC on the sustainable management of fisheries by setting annual catch limits for 45 stocks as well as other conservation and management measures (e.g., review of rebuilding progress, review of commercial and recreational allocations in light of recalibrated MRIP data, and continued progress on deregulatory actions).

Collaborate with the NEFMC, MAFMC, and ASMFC to identify measures for increasing fishing opportunities, particularly for abundant and healthy fish stocks

This milestone involves working with the Councils and Commission to increase fishing opportunities, particularly for healthy and abundant fish stocks. This includes measures to increase quotas, when possible, but also to increase possession limits and other measures to provide increased flexibility and additional fishing opportunities to improve the likelihood of achieving optimum yield.

Progress towards Ecosystem-Based Fishery Management

GARFO will continue to work with the MAFMC, NEFMC, and ASMFC to make progress towards implementing ecosystem-based management.

Provide support for the development of Fishery Management Council NEPA documents.

NEPA staff will attend Council PDT and FMAT meetings as necessary throughout the year and advise Council and GARFO staff on ways to maintain and improve GARFO NEPA compliance for Council-driven actions developed in support of fishery management regulations.

1.2 Increase U.S. marine aquaculture production

Lead the Federal Government in coordinating authorizations for growth of marine aquaculture. Provide advanced marine aquaculture science and technology for ready adoption in the U.S. aquaculture industry, and provide industry incentives.

Provide and manage external grant activities that foster marine aquaculture development

In FY18, one new aquaculture project was funded regionally under the NMFS SK grant program. Aquaculture is a funding priority for Agency.

Initiate development of a GARFO Regional Aquaculture Plan

In conjunction with the new NOAA/GARFO/NEFSC Joint Geographic Strategic Plan, GARFO will start the development of a region-wide aquaculture implementation plan that will look into expanding the capacity of the agency to deliver collaborative aquaculture extension, education, and outreach services throughout the whole region. This includes the development of a regional aquaculture communications plan, consistent with the NMFS Office of Aquaculture Communications Strategic Plan.

Compile legal authorizations required for EEZ aquaculture operations in the GAR

Initiate the compilation of legal authorities, permit requirements, and permit application review protocols by various federal, interstate, state, or local agencies for approval of EEZ aquaculture operations in the Greater Atlantic region, including authorizations to farm/harvest likely proposed species.

1.3 Promote ecosystem-based fisheries management

Develop approaches to support ecosystem-based fisheries management and stock assessments and incorporate ecosystem considerations into management advice. Encourage and collaborate with the Councils to develop ecosystem-based approaches to fisheries management and address changing climate conditions.

*Initiate development of a Management Plan for the Northeast Canyons and Seamounts Marine National Monument (1.1, 3.6)*¹*

Coordinate with USFWS on issues related to the Northeast Canyons and Seamounts Marine National Monument, including research and management plan development (1.1, 3.6)

Progress towards Ecosystem-Based Fishery Management (1.1, 3.6)

1.4 Adequately assess all prioritized stocks and maintain information for currently assessed stocks

Establish target stock assessment levels and strive to meet targets for priority stocks without compromising sustainable management of other stocks. Develop incentives for industry-based (commercial and recreational) data collection and reporting.

Manage and conduct vessel reporting programs

* Items in grey italics font are already detailed in other sections of the plan, the numbers following are section numbers.

Federally-permitted vessels are required to submit detailed trip reports through various systems, depending upon the fishery. We review vessel trip reports, conduct data entry and data quality programs, and carry out compliance checks to ensure that reports are timely, complete and accurate.

Provide permit services to constituents, including fishing allocation transfers

Issue fishery permits and authorizations to eligible applicants within regulatory timeframes. In addition to vessel, dealer and operator permits, this includes the transfer of limited access vessel permits, fishing histories, fishing allocations and managing the regional cost recovery program. In FY 20 APSD will be developing and implementing an online permit application process that will converting paper applications to electronic applications.

Manage fisheries dealer reports

Federally-permitted seafood dealers are required to submit detailed reports of all purchases. We review dealer reports and conduct data quality programs and compliance checks to ensure that reports are timely, complete and accurate.

Support NEFSC's stock assessments through collection of biological samples in ports

OSD will work with the NEFSC to reduce variability in stock assessments by improving the collection of samples.

Support catch share management for the Northeast multispecies fishery (1.1, 1.5)

Monitor annual catch limits (1.1, 1.5)

Monitor catch share programs (1.1, 1.5)

Complete review and update as necessary the GARFO Recreational Fishing Plan (1.1, 3.7)

Sustainable management of fisheries (1.1, 3.4, 3.6)

Collaborate with the NEFMC, MAFMC, and ASMFC to identify measures for increasing fishing opportunities, particularly for abundant and healthy fish stocks (1.1, 3.4, 3.6)

1.5 Modernize fishery information collection, management, and dissemination systems, and enhance cooperative data collection and sharing

Support and coordinate with states to advance user-centered fishery information networks and data platforms, with greater efficiency and lower cost, to improve the ability to effectively manage stocks for optimum yield and recreational opportunities. Collaborate with industry through the Fishery Dependent Data Initiative to integrate and modernize fisheries dependent data systems to simplify fisheries reporting, improve data quality, and enhance monitoring and analysis to better support management decisions, advance scientific understanding, and facilitate the elimination of redundant reporting burdens.

Improve accessibility of fisheries information

Expand the number of non-confidential information summaries available to the public that describe fishery participation and activity (e.g., permit information, landings, catch, fishing activity)

Expand use of electronic vessel trip reports to all commercial and for-hire fisheries in the Greater Atlantic Region

Work with the NEFMC and MAFMC to convert vessel trip reports from paper to electronic submission. For-hire eVTRs became mandatory in some fisheries in the Mid-Atlantic in 2018. This milestone is intended to expand eVTR usage to all commercial and for-hire fisheries in the Greater Atlantic Region. Enhancements to mobile, tablet, and desktop applications to be used by industry to submit electronic vessel trip reports is included in this milestone.

Improve use of fishery dependent data through the development of the GARFO/NEFSC Fishery Dependent Data Initiative (FDDI)

Work with the NEFSC, SERO, HQ (for HMS species) and other offices and agencies as appropriate to develop consistent approaches for use of state and federal fishery dependent data, including quality assurance and quality control processes. For the FDDI to succeed clearly defined and well understood roles, responsibilities, authorities, and decision making process must be developed and agreed to by GARFO/NEFSC and its collaborating partners.

FDDI coordination with ACCSP

Establish ACCSP as a Data Repository of Greater Atlantic Fisheries Dependent Data. Working with ACCSP and NEFSC to prepare data, scripts, migration process, and data systems to ensure a smooth transition and to ensure ACCSP systems are compliant and compatible with existing data. Ensure NOAA Fisheries data security protocols and data confidentiality requirements are satisfied.

Collaborate in the review of cooperative research programs

This milestone entails SFD staff working with others in OSED and the NEFSC to coordinate and collaborate in the review of cooperative research programs such as the NEFSC's research set-aside programs and the S-K grant program.

Expansion of mobile app and fish tank application suite capabilities

Work on an online vessel permit renewal system. Expand our electronic reporting infrastructure to improve speed and reliability, allow for haul-by-haul reporting, and provide a single electronic submission point (the API) for existing or future approved electronic reporting software systems. Provide ongoing support and improvement for GARFO's existing electronic reporting mobile app. It works on iPhones now, with future plans to work on other mobile platforms). Continue data modernization efforts, in accord with agency-wide efforts. In the coming year, this will include infrastructure improvements to our existing sector information management tool through a secure web tool for sectors to manage their fishing activity. These changes will support future groundfish regulatory changes, and lay the groundwork for larger data modernization.

Support this years overall objectives of the Fishery Dependent Data Visioning (FDDV) from a security, data structure and web development perspective

Develop any new and modify any existing applications and data structures in support of FDDV in regards to ACCSP becoming the data warehouse. Assist ACCSP through a FISMA security audit and implementing security controls.

Manage and conduct vessel reporting programs (1.4)

Support catch share management for the Northeast multispecies fishery (1.1, 1.4, 1.5)

Monitor annual catch limits (1.1, 1.4)

Monitor catch share programs (1.1, 1.4)

Provide permit services to constituents, including fishing allocation transfers (1.4)

Manage fisheries dealer reports (1.4)

Support NEFSC's stock assessments through collection of biological samples in ports (1.4)

Goal 2: Conserve and recover protected species while supporting responsible fishing and resource development

We are responsible for recovering threatened or endangered marine species, and conserving and protecting marine mammals. Many of these species are key components of their ecosystems and have particular social and cultural importance. The focus is on recovery while using our understanding of limiting factors and threats to minimize conflict with infrastructure projects or other forms of economic growth. We will continue to improve the timeliness of our regulatory decisions and conservation outcomes when fishing and resource development projects interact with protected resources. Recovery of protected species would relieve restraints on development or other economically important projects.

2.1 Stabilize highest priority protected species

Focus science and recovery actions, and recruit partners to collaborate on actions to stabilize declining populations such as North Atlantic right whales and Atlantic salmon. Protect and restore habitat where it limits species recovery. Understand effect of changing climate on protected species and their habitats.

Complete the ESA five year review for Atlantic salmon

Under the ESA, we are required to conduct reviews every five years to determine if there has been a change in the status of and/or threats to ESA listed species. We will work with the NEFSC Atlantic salmon program to complete a five year review for Atlantic salmon in Q1 FY20 and will coordinate with USFWS.

Complete a 5-year review for the three DPSs of Atlantic sturgeon that occur in GAR

Under the ESA, we are required to conduct reviews every five years to determine if there has been a change in the status of and/or threats to ESA listed species. We will work with SERO to draft a five year review for the five distinct population segments of Atlantic sturgeon and anticipate coordinating with ASMFC for review of the draft. We anticipate completing the draft of the three GAR DPSs in Q1 and finalizing the document in Q3.

Conduct consultation activities for high priority actions under the Essential Fish Habitat provisions of the MSA and FWCA

HCD will conduct EFH and FWCA consultations with Federal and State agencies from Maine through Virginia. HCD will provide conservation recommendations to avoid, minimize or mitigate impacts to living marine resources and their habitats. Consultations will focus on high priority development activities including: transportation and port development, infrastructure and energy development. HCD will also consult on all internal fishery management actions. Develop programmatic consultations to increase efficiency of consultations program.

Implement Atlantic and shortnose sturgeon outreach and education, including the SCUTES program, to enhance public awareness of ESA listed sturgeon

Increase awareness of the status of Atlantic and shortnose sturgeon throughout the GAR through an outreach program designed for elementary, middle, and high school students. This includes increasing the number of educational kits that are at existing learning centers for lending out to states from ME to VA. Also, it includes hosting the annual teacher workshop to supply teachers with the information necessary to use the kits effectively.

Participate in Bilateral US/Canada Right Whale Working Group Meetings

We will continue to host regular meetings of the US/Canada Bilateral Right Whale Working Group to build a collaborative relationship with our counterparts in Canada on both right whale science and management. Through this working group, we have shared management lessons learned, standardized information

sharing on recovered entangling gear, planned joint aerial and passive acoustic surveillance, and collaborated on right whale prey modeling methods.

Develop revised Batch Fisheries Biological Opinion, including American Lobster, and coordinate with SFD, PRD and NEFSC partners

Due to a significant change in North Atlantic right whale abundance and the re-initiation triggers being met for both the Batched Fisheries and Lobster Biological Opinions, we will work with the Sustainable Fisheries Division and Northeast Fisheries Science Center to develop a new biological opinion that is based on the best available scientific information and collaborate closely with the Take Reduction Team, Atlantic States Marine Fisheries Commission and Fishery Management Councils to develop new right whale protective measures.

Lead U.S. participation in the international efforts for management of Atlantic Salmon

The GARFO DRA is the US Commissioner to the North Atlantic Salmon Conservation Organization (NASCO). Completion of this milestone will require coordinating the development of the US position to provide for the protection of Atlantic salmon of U.S. origin and negotiating for positions that support critical efforts to prevent the extinction of our stocks.

Implement the Species in the Spotlight Action Plan for Atlantic salmon

We will continue to implement the recovery actions identified in the Species in the Spotlight Action plan. As resources allow, we will fund our partners to also undertake the work identified in the action plan, and we will continue to encourage that our partners seek out other funding opportunities as well. We will explore creating a federal funding opportunity for our partners to pursue projects that will implement the action plan. We will also ensure that the actions undertaken under the SiS action plan are linked to the overall salmon recovery program and plan.

Coordination with Canada on programs and activities to address anthropogenic threats to protected resources

Exchange information with Canada on programs and activities to address threats to marine mammals, sea turtles, and protected fish species from commercial fishing, shipping and other threats. Attend meetings of the Species at Risk Working Group.

Implement the recommendations of the Atlantic Large Whale Take Reduction Team in a rulemaking with supporting analyses (NEPA, etc.) to reduce serious injury and mortality of Atlantic large whales, North Atlantic right whales in particular

Based on the near-consensus agreement of the ALWTRT at its meeting in April 2019, we will modify the Atlantic Large Whale Take Reduction Plan to reduce the risk of entanglement mortality to North Atlantic right whales. This will include the preparation of a proposed rule and draft Environmental Impact Statement.

Monitor GARFO protected species actions to ensure compliance with Council on Environmental Quality and NOAA NEPA requirements

Provide general guidance on the preparation of NEPA documents relating to protected resources management and ensure that the analysis prepared in support of these actions uses sound science aimed at the recovery and conservation of protected species. Develop and recommend policy, procedures, consistency measures, technical administration and NEPA training.

Coordinate the focal year for education and outreach for the International Year of the Salmon, with partners, to promote domestic and international efforts to advance science, understand and manage threats and recover salmon

We will be undertaking efforts to coordinate with our partners on the West Coast and with the North Atlantic Salmon Conservation Organization and North Pacific Anadromous Fish Commission on a large scale outreach and science effort to promote efforts to recover salmon throughout the North Atlantic and North Pacific. We will host a launch event in October 2018 in Boston in cooperation with partners including the New England Aquarium and will hold a number of partner events in 2019 aimed at increasing awareness and action towards the recovery of wild Atlantic salmon.

Work with BOEM to evaluate the effects of offshore wind projects in the Northeast and Mid Atlantic on ESA listed species and critical habitats

Coordinate with BOEM and other federal agencies permitting offshore wind projects to evaluate the effects of these actions on ESA listed species and critical habitat. We will coordinate with OPR on the issuance of any MMPA authorizations. We will adhere to the requirements of FAST-41, EO 18307/One Federal Decision to streamline consultations and carry out efficient consultation processes.

Convene webinars for Atlantic Large Whale and Harbor Porpoise Take Reduction Teams to review new abundance and bycatch estimates; and monitor compliance and effectiveness of the respective TRPs to ensure goals and objectives of MMPA are met

We will host annual monitoring webinars for both the Atlantic Large Whale Take Reduction Team and Harbor Porpoise Take Reduction Team. The purpose of these webinars is to review, according to our monitoring plans, the most recent population abundance, mortality, and PBR estimates from the annual marine mammal Stock Assessment Reports. We also update the teams on recent law enforcement efforts, new relevant scientific research, and public outreach efforts.

Work with BOEM to evaluate the effects of offshore wind projects in the Northeast and Mid Atlantic on ESA listed species and critical habitats

Coordinate with BOEM and other federal agencies permitting offshore wind projects to evaluate the effects of these actions on ESA listed species and critical habitat. We will coordinate with OPR on the issuance of any MMPA authorizations. We will adhere to the requirements of FAST-41, EO 18307/One Federal Decision to streamline consultations and carry out efficient consultation processes.

Work with our partners to implement recovery actions through the Atlantic Salmon Framework and Recovery Plan

We will work with the USFWS, Maine Department of Marine Resources, Maine Tribes, and other partners and stakeholders to implement the 2019 Recovery Plan for the Gulf of Maine DPS of Atlantic salmon. We will develop prioritized work plans for each of the three Salmon Habitat Recovery Units. We will lead the implementation of the new collaborative recovery framework and will hold at least one SHRU team meeting in each SHRU, hold quarterly interagency meetings, and hold an annual meeting to review and discuss progress towards meeting recovery goals (April 2020).

Implement the mandates of the ESA and MMPA

Implement the ESA and MMPA from Maine through Virginia including providing technical assistance, issuing marine mammal authorization permits, developing recovery plans, and working cooperatively with states, industries and interested parties.

Monitor GARFO and NEFSC fishery management actions to ensure compliance with CEQ and NOAA NEPA requirements (1.1, 3.4)

Lead U.S. efforts to work with Canada on the joint management of shared, transboundary resources as part of the U.S./Canada Transboundary Understanding process (1.1, 2.4, 3.6)

Provide support for the development of Fishery Management Council NEPA documents (1.1, 2.4)

2.2 Review and streamline permitting and authorization processes for energy development and national defense, while maximizing fishing opportunities and conservation outcomes

Promote energy independence and economic growth by creating efficiencies in our environmental review processes, including implementing guidance and policies that support conservation and effectively address major infrastructure and energy projects important to our Nation's energy independence, economy, and defense. Develop collaborative regional science and incorporate fisheries considerations in offshore development processes to ensure coexistence of fisheries, aquaculture, energy development and national defense.

Provide policy and technical guidance to MAFMC in the development of their EFH 5 year review assessment

MAFMC is undertaking a Northeast Regional Habitat Assessment as part of their 5 year review of EFH information to determine the need to revise EFH and HAPC designations and provide management measures to minimize impacts of fishing on EFH. HCD will participate in working groups, Steering Committee, provide assistance and guidance to MAFMC on their analysis, EFH designation methodologies, characterization of HAPCs for various species, and fishing gear effects analysis.

Complete BOEM Wind Energy project concurrence points for NEPA Cooperating Agency requirements of the One Federal Decision (OFD) executive order

Complete BOEM Wind Energy project concurrence points for NEPA Cooperating Agency requirements of the One Federal Decision (OFD) executive order.

Provide support for the review of GARFO/NEFSC grant proposals to determine appropriate level of NEPA compliance and ensure adequate NEPA document preparation.

Assist with the review and assessment of grant proposals. Based on CEQ and NOAA NEPA requirements, and taking into consideration impacts to fisheries resources, habitat and protected resources, make a determination regarding the required level of NEPA compliance that must be met prior to making the financial award.

Conduct consultation activities for high priority actions under the Essential Fish Habitat provisions of the MSA and FWCA (1.1, 2.1)

Work with BOEM to evaluate the effects of offshore wind projects in the Northeast and Mid Atlantic on ESA listed species and critical habitats (2.1)

Assist with Revisions to NEPA Regulations Found in NAO 216-6 (1.1, 3.4)

2.3 Minimize bycatch and entanglement of protected species while supporting fisheries

Support continued fishing opportunities and aquaculture by understanding and minimizing protected species interactions and mortality. Work with fishing industry, scientists, environmental organizations, academia, law

enforcement agencies, and other stakeholders to develop and enforce bycatch and entanglement prevention measures domestically and internationally.

Implement Atlantic and shortnose sturgeon outreach and education, including the SCUTES program, to enhance public awareness of ESA listed sturgeon (2.1, 3.6, 3.7)

Participate in Bilateral US/Canada Right Whale Working Group Meetings (2.1, 2.4, 3.6)

Develop revised Batch Fisheries Biological Opinion, including American Lobster, and coordinate with SFD, PRD and NEFSC partners (2.1)

Lead U.S. participation in the international efforts for management of Atlantic Salmon (2.1, 2.4)

Implement the Species in the Spotlight Action Plan for Atlantic salmon (2.1, 2.4, 3.7)

Coordination with Canada on programs and activities to address anthropogenic threats to protected resources (2.1, 2.4)

Implement the recommendations of the Atlantic Large Whale Take Reduction Team in a rulemaking with supporting analyses (NEPA, etc.) to reduce serious injury and mortality of Atlantic large whales, North Atlantic right whales in particular Develop revised Batch Fisheries Biological Opinion, including American Lobster, and coordinate with SFD, PRD and NEFSC partners (2.1)

Monitor GARFO protected species actions to ensure compliance with Council on Environmental Quality and NOAA NEPA requirements (2.1)

Coordinate the focal year for education and outreach for the International Year of the Salmon, with partners, to promote domestic and international efforts to advance science, understand and manage threats and recover salmon (2.1, 2.4, 3.7)

Convene webinars for Atlantic Large Whale and Harbor Porpoise Take Reduction Teams to review new abundance and bycatch estimates; and monitor compliance and effectiveness of the respective TRPs to ensure goals and objectives of MMPA are met (2.1, 3.6, 3.7)

Work with our partners to implement recovery actions through the Atlantic Salmon Framework and Recovery Plan (2.1, 3.6, 3.7)

Implement the mandates of the ESA and MMPA (2.1, 3.6, 3.7)

Provide support for the development of Fishery Management Council NEPA documents (1.1, 2.1)

2.4 Improved international cooperation and coordination

Continue to develop and improve cooperation, and collaboration with other countries and international organizations as it pertains to the recovery of endangered species, such as Atlantic salmon and the North Atlantic right whale, and other protected resources.

Participate in Bilateral US/Canada Right Whale Working Group Meetings (2.1, 2.3, 3.6)

Lead U.S. participation in the international efforts for management of Atlantic Salmon (2.1, 2.3)

Implement the Species in the Spotlight Action Plan for Atlantic salmon (2.1, 2.3, 3.7)

Coordination with Canada on programs and activities to address anthropogenic threats to protected resources (2.1, 2.3)

Coordinate the focal year for education and outreach for the International Year of the Salmon, with partners, to promote domestic and international efforts to advance science, understand and manage threats and recover salmon (2.1, 2.3, 3.7)

Lead U.S. efforts to work with Canada on the joint management of shared, transboundary resources as part of the U.S./Canada Transboundary Understanding process (1.1, 2.1, 3.6)

Goal 3: Improve organizational excellence and regulatory efficiency

To realize our first two strategic goals, we must have effective and efficient organizations with the agility to adapt and evolve to meet emerging challenges. Promoting organizational excellence is a continuous process to improve our ability to fulfill our mission, support our people, and support the organization. The key factors that determine organizational excellence include our people, our business and management processes, and our technology and infrastructure. Improving business processes and implementing best practices conducted in a priority-based environment, along with continuous regulatory reform, will ensure our operations best support our customers and partners.

3.1 Match a diverse workforce to mission needs

Plan and deploy workforce strategically to ensure flexibility and agility in support of evolving mission functions and continuity of operations. Emphasize prioritized workforce composition and succession planning (*i.e.*, the right people in the right place), diversity, competency-based management, and cross-collaborative approaches to promoting an inclusive and safe workplace.

Review, compile and prioritize tasks for Port Agent Team to develop a strategic plan for the Port Programs Section

Obtain views, opinions and suggestions of Port Agents and current customers of the Section and if time is available, other potential internal customers. Our current customers include all GARFO divisions, other NOAA Fisheries offices (NEFSC, SEFSC, SERO, OST, OSF, OLE/NEED) and other NOAA offices (NOS/ONMS, NWS). Priorities will be those organizations that manage fisheries within GARFO's area.

The prime focus of the Section's mission is to provide services to external stakeholders that have some NOAA Fisheries requirements predicated on their businesses and/or permits. Other GARFO divisions have a small number of staff with similar duties, these will also be considered.

Accomplished fact finding through interviews, either in-person or remotely. Other methods such as form completion could supplement personal methods, but not replace them. In order to ensure views were captured correctly this would be an iterative process where the participants would have an opportunity to review the summarized information and provide further comments. Existing documents compiled during the reorganization planning will also be provided.

Initiate development of the 2020-2025 GARFO Annual Implementation Plan

Complete draft of the Annual Implementation Plan following approval and public roll out of the Joint GARFO/NEFSC Regional Geographic Strategic Plan.

Develop and execute annual budget spending plans in coordination with NMFS HQ and NEFSC

This is accommodated, in part, through OBD-GARFO division budget consultations and development of an annual contract spending plan.

Review and revise, as needed, GARFO program and fiscal internal controls to reflect associated current/revised DOC/NOAA/NMFS policies and regulations

A GARFO FY2019 FMC Management Representation Memo was signed August 2019. It described FMC efforts to fulfill our responsibilities for our financial information in accordance with applicable laws and regulations, including OMB/DOC/NOAA/NMFS policies and procedures. The region had no adverse audit findings.

Maintain the safety and security of GAR facility and staff: Achieve the safety and security targets in the 2019 NMFS Safety & Environmental Action Plan (SEAP).

Among the major elements of the GARFO 2020 Safety & Environmental Action Plan (SEAP) is a follow up on: (1) Job Hazard Analysis (JHA) for field work, (2) anticipated NOAA Safety and Health Week, and (3) conduct of regular safety/emergency drills.

Conduct FOIA Training workshop for GARFO staff

GARFO's FOIA coordinator will work with NOAA FOIA office develop and conduct a FOIA Workshop/Training for GARFO staff that are either their respective divisions FOIA point of contact or staff that are often involved in FOIA requests.

3.2 Recapitalize infrastructure and facilities

Conduct facility condition assessments to evaluate properties, and prioritize and address critical maintenance needs. Evaluate the infrastructure needs for workspace in light of an evolving workforce, and propose strategies for recapitalization to NOAA and the Department of Commerce.

IT Infrastructure Upgrades and Improvements

Replace end of life core network switch, replace end of life firewalls, refresh IP desk phones, all by the end of Q1 FY20. Success is measured on these being put into production.

3.3 Institutionalize prioritization and performance management practices

Use priority-based methods to optimize investments for maximum economic return while meeting food security and conservation mandates. Analyze performance, risk, and opportunities to ensure the best value to the American public.

Provide support for the review of GARFO/NEFSC grant proposals to determine appropriate level of NEPA compliance and ensure adequate NEPA document preparation. (2.2, 3.4)

Review, compile and prioritize tasks for Port Agent Team to develop a strategic plan for the Port Programs Section (3.1, 3.7)

Initiate development of the 2020-2025 GARFO Annual Implementation Plan (3.1, 3.7)

Develop and execute annual budget spending plans in coordination with NMFS HQ and NEFSC (3.1)

Review and revise, as needed, GARFO program and fiscal internal controls to reflect associated current/revised DOC/NOAA/NMFS policies and regulations (3.1)

Maintain the safety and security of GAR facility and staff: Achieve the safety and security targets in the 2019 NMFS Safety & Environmental Action Plan (SEAP). (3.1)

Conduct FOIA Training workshop for GARFO staff (3.1)

3.4 Review agency regulations and remove or modify rules that unnecessarily burden businesses and economic growth

Implement Executive Order 13771 by reviewing regulations to identify and modify or repeal rules that add burden and costs without adding value. Continue to work with other NMFS and NOAA partners, as well as the Councils to remove outdated, unnecessary, and ineffective fishing regulations.

Provide support for the review of GARFO/NEFSC grant proposals to determine appropriate level of NEPA compliance and ensure adequate NEPA document preparation. (2.2, 3.3)

Assist with Revisions to NEPA Regulations Found in NAO 216-6 (1.1, 2.1)

Compile legal authorizations required for EEZ aquaculture operations in the GAR (1.2)

Monitor GARFO and NEFSC fishery management actions to ensure compliance with CEQ and NOAA NEPA requirements (1.1, 2.1)

Sustainable management of fisheries (1.1, 1.4, 3.6)

Collaborate with the NEFMC, MAFMC, and ASMFC to identify measures for increasing fishing opportunities, particularly for abundant and healthy fish stocks (1.1, 1.4, 3.6)

3.5 Institutionalize the use of innovative technologies

Support the development, leveraging, and use of powerful technologies (e.g., AUV/UAS platforms, advanced sensors, fishing industry platforms, molecular genetics, digital platforms, electronic reporting/monitoring, mobile applications, cloud computing) for conducting surveys, enhancing and improving the accuracy of observing systems, and collecting and sharing data in cost effective, transparent, and real-time approaches.

Improve accessibility of fisheries information (1.5, 3.7)

IT Infrastructure Upgrades and Improvements (3.2)

FDDI coordination with ACCSP FDDI coordination with ACCSP (1.5, 3.6)

Expansion of mobile app and fish tank application suite capabilities (1.5, 3.7)

Support this year's overall objectives of the Fishery Dependent Data Visioning (FDDV) from a security, data structure and web development perspective (1.5)

3.6 Expand regional collaborations

Collaborate with the Councils, Commission, Canadian Department of Fisheries and Oceans, industry, academia, international management organizations, and other partners to progress our science and management priorities and promote innovation and sustainability. Develop and implement a regional watershed program.

Ensure effective coordination of the New England Bay Watershed Education and Training Program

Maintain grant partnerships with not-for-profit organizations that promote locally relevant, experiential learning opportunities in the field of ocean sciences, for K-12 school students. Develop and administer a

competitive grants solicitation during FY2019. Success is contingent on congressional appropriations and availability of funds with adequate lead time.

Ensure effective administration of GARFO state/federal, fishery management council, ASMFC and S-K grants

Maintain state, fishery management council, and constituent partnerships to ensure that projects supported with FY 2020 grant funding are carried out to gather information and conduct activities that support management and development of domestic/ interjurisdictional fisheries. These projects include fishery management plan development, data collection (fishery statistics), fishery research, climate change, socio-economics, and community resiliency. Associated funding priorities are identified under the Atlantic Coastal Act, the Interjurisdictional Fisheries Act, the Magnuson-Stevens Act, and the Saltonstall-Kennedy grant program. Success is contingent on congressional appropriations, and HQ allocating program funds with adequate lead times.

Convene Northeast Right Whale Recovery Implementation Team

The North Atlantic right whale recovery plan Northeast Implementation Team (NEIT) was convened in 2018 as a recommendation of the 2017 North Atlantic Right Whale 5-Year Review. The NEIT will meet next in November 2019 to prioritize and execute recovery actions. The NEIT has also formed a Population Evaluation Tool subgroup, which will meet in October 2020 and thereafter, to produce a statistical population viability analysis which has been prioritized in the past two 5-year reviews.

FDDI coordination with ACCSP (1.5, 3.5)

Implement Atlantic and shortnose sturgeon outreach and education, including the SCUTES program, to enhance public awareness of ESA listed sturgeon (2.1, 2.3, 3.7)

Participate in Bilateral US/Canada Right Whale Working Group Meetings (2.1, 2.3, 2.4)

Convene webinars for Atlantic Large Whale and Harbor Porpoise Take Reduction Teams to review new abundance and bycatch estimates; and monitor compliance and effectiveness of the respective TRPs to ensure goals and objectives of MMPA are met (2.1, 2.3, 3.7)

Work with our partners to implement recovery actions through the Atlantic Salmon Framework and Recovery Plan (2.1, 2.3, 3.7)

Implement the mandates of the ESA and MMPA (2.1, 2.3, 3.7)

Lead U.S. efforts to work with Canada on the joint management of shared, transboundary resources as part of the U.S./Canada Transboundary Understanding process (1.1, 2.1, 2.4)

Initiate development of a Management Plan for the Northeast Canyons and Seamounts Marine National Monument (1.1, 1.3)

Coordinate with USFWS on issues related to the Northeast Canyons and Seamounts Marine National Monument, including research and management plan development (1.1, 1.3)

Progress towards Ecosystem-Based Fishery Management (1.1., 1.3)

Sustainable management of fisheries (1.1, 1.4, 3.4)

Collaborate with the NEFMC, MAFMC, and ASMFC to identify measures for increasing fishing opportunities, particularly for abundant and healthy fish stocks (1.1, 1.4, 3.4)

Initiate development of a GARFO Regional Aquaculture Plan (1.2, 3.7)

Collaborate in the review of cooperative research programs (1.5)

3.7 Enhance stakeholder communication

Improve communications with stakeholders by evaluating existing tools and methods and developing flexible approaches to communicate more effectively and efficiently.

Produce 2019-2020 GAR Annual Report

The Communications Team will work with all GARFO Divisions, the Deputy Regional Administrator, and the Regional Administrator to produce the GARFO 2019-2020 Year in Review, which is the Regional Office's annual report.

Complete development of a Strategic Communications Plan for the Greater Atlantic Region

Work with all GAR divisions to look ahead for FY2020-21, and possibly beyond, to identify issues for which they will likely need strategic communications support. These may be highly controversial issues, or new or existing programs they want to draw attention to or educate our stakeholders about. The result will be a strategic communications plan that will guide our communications efforts for the next two years, but will be a living document to adapt to changing needs.

Improve accessibility of fisheries information (1.5, 3.5)

Review, compile and prioritize tasks for Port Agent Team to develop a strategic plan for the Port Programs Section (3.1, 3.3)

Initiate development of the 2020-2025 GARFO Annual Implementation Plan Initiate development of the 2020-2025 GARFO Annual Implementation Plan (3.1, 3.3)

Ensure effective coordination of the New England Bay Watershed Education and Training Program (3.6)

Ensure effective administration of GARFO state/federal, fishery management council, ASMFC and S-K grants (3.6)

Implement Atlantic and shortnose sturgeon outreach and education, including the SCUTES program, to enhance public awareness of ESA listed sturgeon (2.1, 2.3, 3.6)

Implement the Species in the Spotlight Action Plan for Atlantic salmon (2.1, 2.3, 2.4)

Coordinate the focal year for education and outreach for the International Year of the Salmon, with partners, to promote domestic and international efforts to advance science, understand and manage threats and recover salmon (2.1, 2.3, 2.4)

Improve accessibility of fisheries information (1.5, 3.5)

Convene webinars for Atlantic Large Whale and Harbor Porpoise Take Reduction Teams to review new abundance and bycatch estimates; and monitor compliance and effectiveness of the respective TRPs to ensure goals and objectives of MMPA are met (2.1, 2.3, 3.6)

Work with our partners to implement recovery actions through the Atlantic Salmon Framework and Recovery Plan (2.1, 2.3, 3.6)

Implement the mandates of the ESA and MMPA (2.1, 2.3, 3.6)

Initiate development of a GARFO Regional Aquaculture Plan (1.2, 3.6)

Complete review and update as necessary the GARFO Recreational Fishing Plan (1.1, 1.4)

Expansion of mobile app and fish tank application suite capabilities (1.5, 3.5)

FIFTH COAST GUARD DISTRICT ENFORCEMENT REPORT



February 1 2020 – 1 June 2020

Presented to the Mid-Atlantic Fisheries Management Council

Prepared By:

Enforcement Branch

Fifth Coast Guard District

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List of Abbreviations

CFVS – Commercial Fishing Vessel Safety	SAR – Search and Rescue
HC-130 – USCG Fixed-Wing Aircraft	WLB – 225’ Buoy Tender
WPB – 87’ Patrol Boat	P/C – Pleasure Craft
STA – USCG Small Boat Station	F/V – Fishing Vessel
EPIRB – Emergency Position Indicating Radio Beacon	A/S – Air Station
WMEC – 210’ or 270’ Medium Endurance Cutter	SEC - Sector
M/V – Motor Vessel	M/T – Motor Tanker
FRC – 154’ Fast Response Cutter	

I. Mid-Atlantic Fisheries Enforcement and Marine Protected Species Operations

Operations Summary

During this period, major cutters, patrol boats and stations conducted fisheries patrols in the Mid-Atlantic in an effort to curtail illegal fishing and promote safety of life at sea within D5’s AOR. Throughout this period, units conducted 87 boarding’s. We did not meet our targeted boarding’s as a result of a reduction of at-sea enforcement due to COVID-19.

Boarding Statistics (Note: “This Period” data should be considered preliminary and is subject to change)

<u>1 February 2020 – 1 June 2020 Activities</u>	<u>Comparison to FY19</u>
Fisheries Boarding’s	87..... 337
Fisheries Boarding’s w/Fishery Violations.....	9..... 4
Violation Rate	10.3%..... 1.2%
<u>Activities Fiscal Year 2020</u>	<u>Comparison to FY19</u>
Fisheries Boarding’s	377..... 647
Fisheries Boarding’s w/Fishery Violations.....	20..... 25
Violation Rate	5.3%..... 3.8%

Violation Summary

Violations were issued for failure to maintain required turtle mitigation gear, fishing with more than 25% of crew on work visa’s, failure to mark sea bass pots/buoy lines, use of unauthorized hooks when fishing with hook and line gear, and possession of oversized Atlantic Blue Fin Tuna.

Marine Protected Species Support Summary

1. Sector Virginia and crews from Station Little Creek took part in the release of juvenile sea turtles east of the outer banks on Friday, 29 May. On May 31st it was reported that a possible humpback whale was entangled in fishing gear IVO of Sandy Hook, NJ.

II. Commercial Fishing Vessel Safety Efforts

(February 1, 2020 –June 1, 2020)

Fishing Vessel Dockside Safety Examinations.....	This Period.....	Fiscal Year to Date
Dockside Exams.....	109.....	243
Decals Issued	94.....	218
Commercial Fishing Vessel Safety Terminations.....	02.....	07

III. Search and Rescue Highlights

From February 1, 2020 – June 1, 2020, there were **21** marine casualties / terminations reported involving commercial fishing vessels:

- Allision – **0**
 -
- Capsize – **1**
 - NC5328EN (O.N. NC5328EN) 05 MAY2020 – The F/V NC5328EN began to take on water approximately 12 NM off Cape Lookout NC. The vessel capsized and the 3 POB were later recovered by the vessel ANITA JEAN.
- Collision – **3**
 - RAIDERS (O.N. 1141630) 29 MAR 2020 – The F/V RAIDERS was involved with another vessel 40NM offshore near Barnegat Light. No serious damage or injuries were reported.
 - LYNDA LEWIS (O.N. 698347) 08 APRIL 2020 – The F/V LYNDA LEWIS collided with the anchored a recreational in the vicinity of green lighted buoy #7 in the Atlantic Intracoastal Waterway.
 - ASTON MATTHEW (O.N. 1120278) 05 MAY2020 – The F/V ASTON MATTHEW collided with the F/V WILLIAM LEE. No damage or pollution was reported.
- Damage to Environment (Pollution/Hazmat) – **1**
 - ALWAYS'S SOMETHING (O.N. MD8865DA) 09 FEB 2020 – F/V ALWAYS SOMETHING discharged oily bilge water at Bellevue Landing.
- Death/Missing – **1**
 - INVICTUS (O.N. 914373) 15 APRIL 2020 – The F/V INVICTUS reported that a crewmember fell overboard during a haul back operation. The deceased crewmember was later recovered.
- Fire – **0**
 -
- Flooding – **1**
 - NC5328EN (O.N. NC5328EN) 05 MAY2020 – The F/V NC5328EN began to take on water approximately 12 NM off Cape Lookout NC. The vessel capsized and the 3 POB were later recovered by the vessel ANITA JEAN.
- Fouling – **0**
 -
- Grounding – **1**
 - HIGH LIFE II (O.N. NC3442CK) 28 MAR 2020 – The F/V HIGH LIFE II grounded in the vicinity of Lockwoods Folly inlet with 2 POB.

- Injury – **3**
 - JERSEY GIRL (O.N. 907380) 17 FEB 2020 – A crewmember onboard the F/V JERSEY GIRL lost his right index finger while handling fishing gear.
 - INTEPID (O.N. 1136148) 23 MAR 2020 – A crewmember suffered a head injury while conducting fishing operations.
- Loss of Propulsion/Steering – **5**
 - ENDANGERED SPIECES (O.N. NC8029AR) 17 MAR 2020 – The F/V ENDANGERED SPIECES suffered engine failure due to fuel system failure.
 - CAPT TRAVIS (O.N. 920388) 11 APRIL 2020 – The F/V CAPT TRAVIS loss propulsion resulting from a failed transmission in the vicinity of Point Pleasant Jetty.
 - CRYSTAL AMANDA (O.N. 681868) 12 APRIL 2020 – The F/V CRYSTAL AMANDA became disabled due to problems with the steering gear near Ocracoke Inlet.
 - FOUR GIRLS (O.N. 944207) 06 MAY 2020 – The F/V LYNDA LEWIS loss propulsion resulting from a failed solenoid in the governor outside the Cape May Jetty.
 - SKIRT CHASER (O.N. 983231) 29 MAY 2020 – The F/V SKIRT CHASER became disabled due to severe shaft vibrations in the vicinity of Buoy #3 at Oregon Inlet.
- MEDEVAC – **1**
 - INTEPID (O.N. 1136148) 23 MAR 2020 – a crewmember suffered a head injury while fishing and was MEDEVAC off the vessel.
- Fall(s) Overboard – **1**
 - INVICTUS (O.N. 914373) 15 APRIL 2020 – The F/V INVICTUS reported that a crewmember fell overboard during a haul back operation. The deceased crewmember was later recovered.
- Sinking – **1**
 - JENNIFER P (O.N. 1030673) 17 FEB 2020 – F/V JENNIFER P sank in the Pamlico Sound for unknown reasons.
- Terminations – **2**
 - CJII (O.N. NC2359CU) 19 MAR 2020 – The F/V CJII was terminated due to communication, firefighting, and fishery violations.
 - CAPT WILLIS (O.N. 614094) 05 MAY 2020 – The F/V CAPTAIN WILLIS was terminated due to firefighting and Lifesaving (5) violations.

IV. Outreach - CFVS Information

Current guidance regarding CFVS examination:

Commercial Fishing Vessel Safety (CFVS) Exams: U.S. flagged commercial fishing industry vessels that are due for a 5 year commercial fishing vessel safety dockside exam that is based on statutory or

regulatory requirements, will be addressed on a case-by-case basis by the local Officer in Charge, Marine Inspection (OCMI) to:

- i. Require Coast Guard attendance onboard the vessel; or
- ii. Defer the required exam for up to 90 days.

If a deferral is made, the Officer in Charge, Marine Inspector (OCMI) shall issue a letter of deferral to the vessel owner / operator. The letter of deferral will be retained on board the vessel. Accepted Organizations (AO) and Similarly Qualified Organizations (SQO) that are recognized Third Party Organizations (TPO) conducting CFVS Exams on behalf of the Coast Guard. The TPO may defer a required CFVS Exam for up to 90 days. If a deferral is made, a signed letter of deferral will be issued by the TPO to the vessel owner/operator. The letter of deferral will be retained on board the vessel. If a deferral is made, the TPO shall notify the cognizant OCMI and Coast Guard District CFVS Coordinator.

Commercial Fishing Industry: Certain CFVs request a CFVS Exam prior to carrying a National Oceanic & Atmospheric Administration National Marine Fisheries Service (NOAA-NMFS) observer. These requests shall continue to be coordinated through the cognizant OCMI. Processing and accommodating requests for a CFVS Exam will be subject to OCMI workload constraints.



New England Fishery Management Council

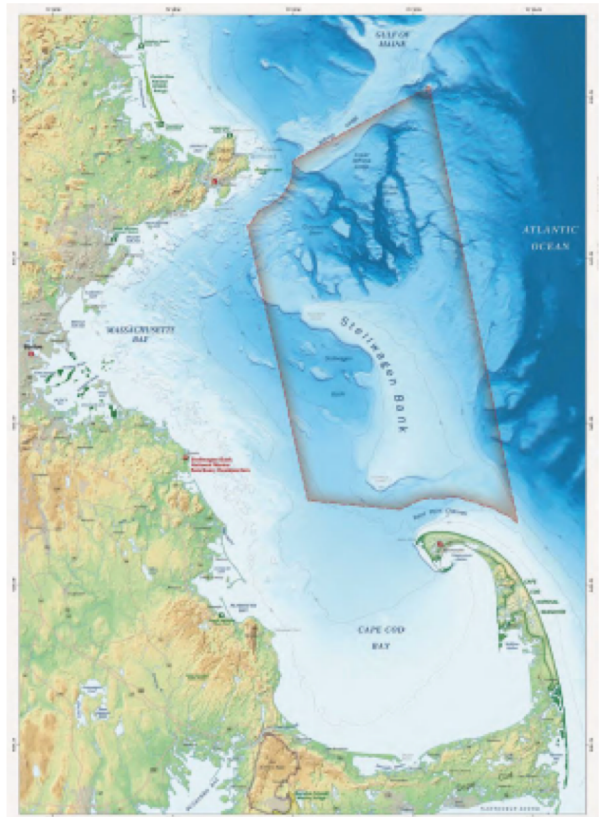
FOR IMMEDIATE RELEASE
April 29, 2020

PRESS CONTACT: Janice Plante
(607) 592-4817, jplante@nefmc.org

Council Addresses Recreational eVTRs, Chub Mackerel Issue; Receives Updates on Ecosystem, Stellwagen, Right Whales

The New England Fishery Management Council met April 14-15, 2020 by webinar and covered a wide range of issues. In addition to the actions it took on [Atlantic sea scallops](#), [groundfish](#), [Atlantic herring](#), and red hake, the Council also:

- Discussed matters involving recreational electronic vessel trip reports (eVTRs) and Atlantic chub mackerel – see pages 2 and 3 for details;
- Received a presentation from: (1) the Northeast Fisheries Science Center on the [2020 State of the Ecosystem](#) report covering New England, and (2) the Council’s Scientific and Statistical Committee, which made [recommendations](#) on the report;
- Received a short update on [work](#) being conducted by the Council’s Ecosystem-Based Fishery Management (EBFM) Committee;
- Listened to a presentation on [sand habitat research](#) in the Stellwagen Bank National Marine Sanctuary and then received an overview of the sanctuary’s [2020 Condition Report](#), which updates the 2007 report by identifying gaps in data and monitoring efforts and highlights issues for consideration in the sanctuary’s [management plan review](#) (see cutline at right); and
- Received a North Atlantic right whale [presentation](#) from NOAA Fisheries that: (1) described updates to the Atlantic Large Whale Take Reduction Plan, and (2) provided information about the reinitiation of consultation under Section 7 of the Endangered Species Act on the “continued implementation of management measures” for lobster, deep-sea red crab, northeast multispecies, monkfish, spiny dogfish, bluefish, skates, mackerel, squid, butterfish, summer flounder, scup, and black sea bass. The consultation is being conducted to



Stellwagen Bank National Marine Sanctuary lies within the area outlined above. The sanctuary’s management plan is undergoing review this year, and the new 2020 Condition Report will help shape the management updates. The revised draft management plan, environmental review, and proposed updates to regulations will be available for [public comment](#).



New England Fishery Management Council

ensure that the actions of these fisheries “do not jeopardize” the continued existence of right whales or destroy or adversely modify their critical habitat.

Recreational Electronic Vessel Trip Reports (eVTRs)

Earlier this winter, the New England and Mid-Atlantic Fishery Management Councils both took [final action](#) on an omnibus framework adjustment that, once implemented, will require commercial fishermen to submit vessel trip reports (VTRs) electronically instead of on paper for all species managed by both Councils. The framework is now under review by the National Marine Fisheries Service (NOAA Fisheries). Rulemaking is expected to begin in the near future.

A 2018 action by the Mid-Atlantic Council required the use of eVTRs for all vessels with recreational for-hire permits for species managed by that Council. As a result of this action, the majority of for-hire vessels in

New England already are subject to the eVTR requirement because they hold permits for Mid-Atlantic Council-managed species. The New England Council, taking the next step, prioritized developing an action in 2020 to address the remaining 15 or so for-hire vessels that are not yet held to the requirement.

The Greater Atlantic Regional Fisheries Office (GARFO) sent an April 2 [letter](#) to the Council about this issue. GARFO recommended that NMFS use its authority under section 305(d) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) to extend the commercial eVTR rulemaking action to cover the remaining for-hire vessels, which would help reduce confusion and streamline the outreach process.

The Council [discussed this option](#) and voted to support GARFO’s proposed course of action. GARFO said it would reach out individually to the New England for-hire vessels that will be impacted by the upcoming requirement to submit VTRs electronically.



New England
Fishery Management
Council



Regulatory Omnibus Framework Adjustment to Modify Reporting Requirements for Electronic Vessel Trip Reports (eVTRs) by Commercial Vessel Operators Holding Federal Permits for Species Managed by the MAFMC and NEFMC

Joint Action
Including a Regulatory Impact Review,
Regulatory Flexibility Analysis, and Justification for Categorical Exclusion

Prepared by:

Mid-Atlantic Fishery Management Council (MAFMC) in collaboration with the
New England Fishery Management Council (NEFMC) and the
National Marine Fisheries Service (NMFS)

- **A copy of the eVTR Omnibus Framework is available [here](#).**
- **The joint news release issued by the New England and Mid-Atlantic Councils describing this action can be found [here](#).**
- **More information is available on the eVTR [webpage](#).**

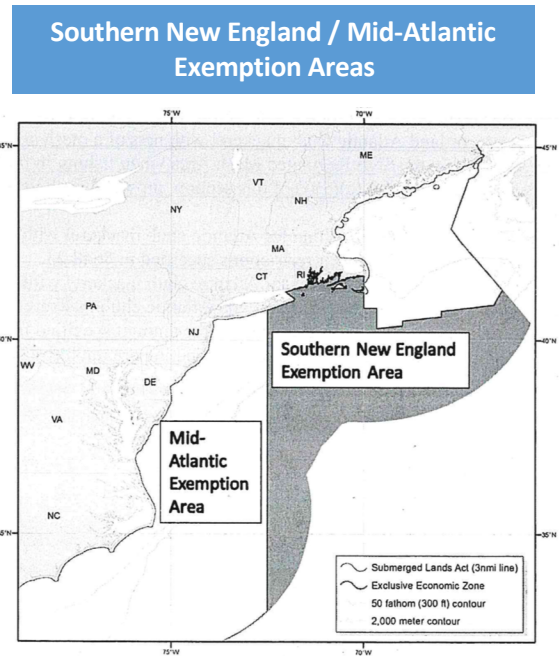


New England Fishery Management Council

ATLANTIC CHUB MACKEREL: The Council also discussed a [proposal](#) from GARFO to add Atlantic chub mackerel as an exempted species in the Southern New England Exemption Area and create an exempted Atlantic chub mackerel fishery in the Mid-Atlantic Exemption Area.

Back in March of 2019, the Mid-Atlantic Fishery Management Council adopted [Amendment 21](#) to the Atlantic Mackerel, Squid, and Butterfish Fishery Management Plan (FMP) in order to integrate chub mackerel as a stock in the FMP. While developing the proposed rule for the amendment, GARFO said it recognized exemptions from gear and mesh restrictions in the Northeast Multispecies FMP would be needed in order to allow vessels to catch chub mackerel using small-mesh bottom trawl gear. As such, GARFO wanted to consult with the New England Council on this issue.

The Council expressed some [concerns](#) about the proposal but also acknowledged that chub mackerel landings were minimal in the Southern New England Exemption Area. Since GARFO heard the Council’s comments during the discussion, the Council agreed by consensus that it did not need to draft a formal letter.



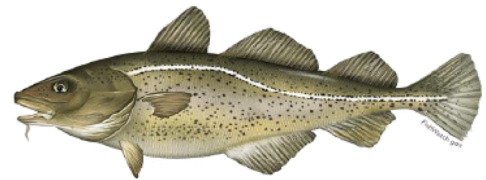
Groundfish Monitoring Amendment 23 Public Hearing Update!

The Council has scheduled two more webinar public hearings on Groundfish Monitoring Amendment 23. These will be held on:

- **Tuesday, May 12, 2020** from 4:00 p.m. to 6:00 p.m. and
- **Thursday, May 21, 2020** from 4:00 p.m. to 6:00 p.m.

Information about how to register for each webinar is available in the [hearing notice](#). Here’s what else you need to know.

- **IMPORTANT:** The deadline for public comment on this amendment has been extended to **June 30, 2020**.
- The Amendment 23 Public Hearing Document is available [HERE](#) and the staff presentation can be found [HERE](#).
- All materials related to the development of this action are posted on the Council’s [Amendment 23 webpage](#).



The Council **POSTPONED** final action on Amendment 23 until after its June meeting. Learn more about why the Council took this step in the [April Groundfish news release](#).



SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

4055 Faber Place Drive, Suite 201, North Charleston SC 29405
Call: (843) 571-4366 | Toll-Free: (866) SAFMC-10 | Fax: (843) 769-4520 | Connect: www.safmc.net

Jessica McCawley, Chair | Mel Bell, Vice Chair
John Carmichael, Executive Director

SAFMC Meeting Draft Agenda

June 8-11, 2020

Webinar

(SAFMC website webinar registration: <https://safmc.net/meeting-materials/>)

Except for advertised (scheduled) public hearings and public comment sessions, the times indicated on the agenda may be adjusted as necessary to accommodate the completion of agenda items. Interested parties should be aware that meetings may start earlier or later than indicated.

Written comments received by close of business the Monday before the meeting (6/1) will be compiled, posted to the website as part of the meeting materials, and included in the administrative record. Please use the online comment form at: <https://safmc.wufoo.com/forms/maro40v17en73l/> to ensure your comments are posted immediately to the Council's website and available for Council consideration.

Individuals that wish to submit comments after 6/2 must use the Council's online form at: <https://safmc.wufoo.com/forms/maro40v17en73l/>. Comments will automatically be posted to the website and available for Council consideration. Comments received prior to 9 am on Thursday of the Council meeting (6/11) will be a part of the meeting administrative record. To view comments <https://safmc.wufoo.com/reports/2020-june-council-meeting-public-comment-report/>.

Monday, June 8, 2020

Webinar startup and troubleshooting 9:30 am – 10:00 am

1. Webinar Startup and Connection Testing – Council Staff

COUNCIL SESSION (CLOSED)/Jessica McCawley 10:00 am – 10:45 am

1. Introduction and meeting process overview – John Carmichael
2. SSC Selection/Steve Poland (SSC Liaison)
 - a. Appoint SSC & SEP members.
3. Legal Briefing on Litigation – Monica Smit-Brunello if needed

Monday, June 8, 2020

COMMITTEE MEETINGS

Information & Education Committee/Spud Woodward 11:00 am – 12 noon

1. AP Report – Chair, Scott Baker
2. Best Practices Campaign Update – Cameron Rhodes
 - a. Draft Webpage Review
 - b. Upcoming Outreach Events
3. I&E AP Structure Discussion – Cameron Rhodes

12:00 noon to 1:30 pm Lunch

Dolphin Wahoo Committee/Anna Beckwith 1:30 pm – 4:30 pm

1. Dolphin and Wahoo Catch Level Recommendations – Genny Nesslage
2. Update on HMS Pelagic Longline BiOp– Jennifer Lee NMFS SERO
3. Revise Dolphin and Wahoo Management Measures: Amendment 10
 - a. Overview – John Hadley
 - b. Action: Provide guidance on amendment content and timing
4. Adding Bullet Mackerel and Frigate Mackerel to the FMP as Ecosystem Component Species: Amendment 12
 - a. Overview – John Hadley
 - b. Action: Provide guidance on amendment content and timing
5. Update on Dolphin Wahoo Participatory Workshops – Julia Byrd, Mandy Karnauskas and Matt McPherson NMFS SEFSC
6. Mid-Atlantic representation on the Dolphin Wahoo AP – John Hadley

Tuesday, June 9, 2020

COMMITTEE MEETINGS

Snapper Grouper Committee/Jessica McCawley 9:00 am – 12 noon

1. Status of Amendments under Formal Review – NMFS SERO
 - a. Reg 29
 - b. AF 3
 - c. Reg 33 & Red Snapper Season
2. COVID Impacts and Potential Response
3. Greater Amberjack Assessment
 - a. Science Center Report – Kevin Craig, SEFSC
 - b. SSC Report - Genny Nesslage
 - c. Action: Determine ABC and management response
4. SG Reg 34 (NC/SC SMZs)
 - a. Overview – Myra Brouwer
 - b. Action: Review public hearing comments, make final edits, and recommend for final approval – Jessica McCawley

12:00 noon to 1:30 pm Lunch

Snapper Grouper Committee/Jessica McCawley 1:30 pm – 4:30 pm

5. Red Porgy Stock Assessment
 - a. Science Center Report – Nikolai Klibansky, SEFSC
 - b. SSC Report – Genny Nesslage
 - c. Action: Determine ABC and management response

Wednesday, June 10, 2020

COMMITTEE MEETINGS

SEDAR Committee/Jessica McCawley 9:00 am – 10:00 am

1. Assessment Activities Update
 - a. SEDAR 68 Scamp Research Track Status
 - b. Other ongoing SEDAR projects
2. SEDAR Steering Committee Report
3. TORs approvals

Citizen Science Committee/Mel Bell 10:00 am – 12 noon

1. Program Evaluation
 - a. Review and provide feedback on Program goals, objectives, strategies, and indicators
 - b. Discuss Program evaluation plan options
2. Programmatic Update
3. Projects Update

12:00 noon to 1:30 pm Lunch

Executive Committee/Jessica McCawley 1:30 pm – 2:30 pm

1. Council Priorities Work Schedule:
 - a. Overview – Brian Chevront
 - b. Committee Action: Review and Revise
2. CCC Meeting Update
3. Policies
 - a. Internal Research funding and selection process
 - b. Staff Performance Evaluation Process
 - c. Sexual Harassment Prevention Training

Mackerel Cobia Committee/Steve Poland 2:30 pm – 3:45 pm

1. Status of Amendments under Formal Review – NMFS SERO
 - a. CMP Framework Amendment 8 (King mackerel, season 2)
2. King Mackerel SEDAR Assessment Results
 - a. Science Center Report
 - b. SSC Report – Genny Nesslage
 - c. Action – Determine ABC and management response
3. COVID impacts and potential response

Wednesday, June 10, 2020

PUBLIC COMMENTS

4:00 pm If you would like to provide comment during the live public comment session, please sign up at the following link:

<https://safmc.wufoo.com/forms/mqfrlv602ydz2i/>

Public comment will be accepted regarding any of the items on the Council agenda. The Council Chair, based on the number of individuals wishing to comment, will determine the amount of time provided to each commenter.

Approval for Formal Review:

- (1) Snapper Grouper Regulatory Amendment 34 (SC & NC SMZs)

Call to Order and Introductions/Jessica McCawley, Chair

Adoption of Agenda/Jessica McCawley

Approval of Minutes/Jessica McCawley

1. Allocation Discussion & Further Council Guidance
 - a. SEP discussion: Christina Wiegand & Scott Crosson
 - b. GAO report: Brian Chevront

2. Council Staff Reports
 - a. COVID Impacts on SAFMC – John Carmichael

3. COVID Impacts on SAFMC fisheries
 - a. State Impact Reports – State Representatives
 - b. CARES Act Status – SERO
 - c. Council Response & Emergency Action Consideration – Council & SERO Staff

4. Update on the Joint Council Workgroup on Section 102 of the Modern Fish Act

5. NMFS SERO Presentations
 - a. For-Hire Amendment status

6. Review Exempted Fishing Permits, as needed

7. Consider Committee recommendations and take action as appropriate
 - a. Information & Education/Spud Woodward
 - b. Dolphin Wahoo/Anna Beckwith
 - c. Snapper Grouper/Jessica McCawley
 - d. SEDAR/Jessica McCawley
 - e. Citizen Science/Mel Bell
 - f. Mackerel Cobia/Steve Poland
 - g. Executive/Jessica McCawley

8. Review the SSC selection recommendations and make appointments as appropriate

9. Agency and Liaison Reports

10. Other Business

11. Upcoming Meetings

Adjourn