Atlantic States Marine Fisheries Commission

DRAFT ADDENDUM XXX TO THE SUMMER FLOUNDER, SCUP, BLACK SEA BASS FISHERY MANAGEMENT PLAN

Black Sea Bass Recreational Management in 2018

This draft document was developed for Management Board review and discussion. This document is not intended to solicit public comment as part of the Commission/State formal public input process. Comments on this draft document may be given at the appropriate time on the agenda during the scheduled meeting. If approved, a public comment period will be established to solicit input on the issues contained in the document.

ASMFC Vision:
Sustainably Managing Atlantic Coastal Fisheries

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1.0 Introduction

This Draft Addendum is proposed under the adaptive management/framework procedures of Amendment 12 and Framework 2 that are a part of the Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan (FMP). Summer flounder, scup, and black sea bass fisheries are managed cooperatively by the states through the Atlantic States Marine Fisheries Commission (Commission) in state waters (0-3 miles), and through the Mid-Atlantic Fishery Management Council (Council) and the NOAA Fisheries in federal waters (3-200 miles).

The management unit for summer flounder, scup, and black sea bass in US waters is the western Atlantic Ocean from Cape Hatteras North Carolina northward to the US-Canadian border. The Commission's Summer Flounder, Scup, and Black Sea Bass Management Board (Board) approved the following motions on May 10, 2017:

> *Move to initiate an addendum for 2018 recreational black sea bass management with options as recommended by the Working Group and Plan Development Team. Options for regional allocations shall include approaches with uniform regulations (e.g., number of days) and other alternatives to the current North/South regional delineation (MA-NJ/DE-NC) such as those applied for summer flounder, i.e., one-state regions.*

This Draft Addendum proposes alternate approaches for management of the recreational black sea bass fishery for the 2018 fishing year and beyond.

2.0 Overview

2.1 Statement of Problem

The Commission's Interstate Fishery Management Program (ISFMP) Charter establishes fairness and equity as guiding principles for the conservation and management programs set forth in the Commission's FMPs. In recent years, challenges in the black sea bass recreational fishery have centered on providing equitable access to the resource in the face of uncertain population size, structure, and distribution. In the absence of an accepted peer reviewed stock assessment, biomass estimate, and reference points, the Board and Council had set coastwide catch limits at conservative levels to ensure sustainability of the resource. Coastwide catch limits set from 2010-2016 were largely based on a constant catch approach used to maintain or increase the size of the population based on historical catch data; for 2016, a Management Strategy Evaluation was considered and approved by the Board and Council to increase both the recreational and commercial catch limits. In recent years, fishery independent and dependent information and the 2016 Benchmark Stock Assessment have indicated a much higher abundance of the resource than previously assumed. This presented challenges in both maintaining recreational harvest to the coastwide catch limits as well as crafting recreational measures that ensured equitable access to the resource along the coast.

Starting in 2011, the Board approved addenda that allowed states to craft individual measures in an aim to reduce harvest to the annual coastwide catch limit while

maintaining state flexibility. After a single year of management by state shares, the Board adopted what became officially known as the ad-hoc regional management approach, where the Northern Region states of Massachusetts through New Jersey would individually craft state measures aimed at reducing harvest by the same percent, while the Southern Region states of Delaware through North Carolina set their regulations consistent with the federal waters measures. This approach, while allowing the states flexibility in setting their measures, created discrepancies in conservation measures that were not tied to any original management plan baseline or goal (e.g., state allocations). Inequities resulted in how much of a harvest reduction states were addressing through their measures, with no accountability for the effectiveness of regulations. Most visibly, the ad-hoc approach did not provide uniformity in measures nor in evaluating harvest reductions.

2.2 Background

The black sea bass recreational fishery is managed on a "target quota" basis. Fifty-one percent of the total allowable landings are allocated to the recreational sector as the coastwide recreational harvest limit (RHL) and forty-nine percent is allocated to the commercial sector through a coastwide quota with each state allocated a percentage based on historical landings data.

From 1996 to 2010, uniform coastwide size, season, and bag limits were used by the Commission and Council to constrain the recreational fishery to the annual RHL. Over time, the states grew concerned the coastwide regulations disproportionately impacted states within the management unit; therefore, the Board approved a series of addenda which allowed for state-by-state flexibility, first through state shares in 2011 and then through the ad-hoc regional management approach for 2012–2017. The Northern Region states have been subject to harvest reductions in all years except 2012 (liberalization), while the Southern Region states have been largely status quo. Under ad-hoc regional management in 2017, the Board initially allowed for status quo measures for all states, but then responded to the final 2016 harvest estimates by approving a reduction in the possession limit to 5 fish for wave 6 (November 1-December 31) for the states of Rhode Island through New Jersey in May 2017.). In August 2017, after taking into consideration the finding of the 2016 Benchmark Stock Assessment that stock is not overfished and overfishing is not occurring, and concern over the uncertainty in the wave 6 harvest estimate for New York, the Board rescinded its previous action establishing a 5 fish possession limit. As a result, states maintained their 2016 measures for 2017 (Table 1).

Table 1. State by State Black Sea Bass Recreational Measures for 2017.

State	Minimum Size (inches)	Possession Limit	Open Season
Maine	13	10 fish	May 19-September 21; October 18-December 31
New Hampshire	13	10 fish	January 1-December 31
Massachusetts	15	5 fish	May 20-August 29
Rhode Island	15	3 fish	May 25 - August 31
		7 fish	September 1 - September 21; October 22 - December 31
Connecticut (Private & Shore)	15	5 fish	May 1-December 31
CT Authorized Party/Charter Monitoring Program Vessels		8 fish	
New York	15	3 fish	June 27- August 31
		8 fish	September 1-December 31
		10 fish	November 1-December 31
New Jersey	12.5	10 fish	May 26-June 18
		2 fish	July 1-August 31
		15 fish	October 22-December31
Delaware, Maryland, Virginia, and North Carolina, North of Cape Hatteras (N of 35° 15'N)	12.5	15 fish	May 15-September 21; October 22-December 31

Note: cells are shared to help with table readability and do not indicate regional alignment.

2.3 Description of the Fishery

Black sea bass are a popular recreational fishing target in the mid-Atlantic and southern New England regions. Most recreational harvest of black sea bass occurs in the state waters of Massachusetts through New Jersey when the fish migrate inshore during the spring through summer months.

For much of the last decade, coastwide harvest has exceeded the coastwide RHL (Table 2). In 2016, MRIP data indicate that an estimated 5.19 million pounds of black sea bass were harvested recreationally from Maine through Cape Hatteras, North Carolina, exceeding the 2016 RHL by 2.37 million pounds. In 2016, about 65% of black sea bass harvested were caught in state waters and about 35% in federal waters, although the proportion varies state by state (Table 3). In recent years, the majority of black sea bass were harvested in New Jersey, New York, Connecticut, Rhode Island and Massachusetts. These five states account for 94% of all black sea bass harvest north of Cape Hatteras in 2016 (Table 4; Figure 1). Additionally, MRIP data indicate that 84% of harvest in 2016

came from anglers on private or rental boats, and 16% came from party/charter boats (Figure 2).

Table 2. Black Sea Bass Recreational Harvest relative to coastwide RHL 2006-2016. **Note**: Coastwide Harvest includes only harvest post-stratified from Cape Hatteras, North Carolina north to the US/Canadian Border

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Coastwide Harvest (mil. lb)	1.78	2.18	2.03	2.56	3.19	1.17	3.19	2.46	3.66	3.79	5.19
Coastwide RHL (mil. lb)	3.99	2.47	2.11	1.14	1.83	1.78	1.32	2.26	2.26	2.33	2.82
Percent of RHL harvested	45%	88%	96%	**225%**	**174%**	66%	**242%**	**109%**	**162%**	**163%**	**184%**

Table 3. Percentage of state by state harvest (in pounds) taken from state vs. federal waters for 2007-2016. Note: North Carolina is omitted due to post-stratification of harvest north of Cape Hatteras.

Years: 2006-2016	MA	RI	CT	NY	NJ	DE	MD	VA
State Waters (<= 3 MI)	81%	77%	41%	63%	30%	7%	0%	4%
Federal Waters (>3 MI)	19%	23%	59%	37%	70%	93%	100%	96%

Table 4. State-by-state recreational harvest of black sea bass (in numbers of fish), Maine through Cape Hatteras, North Carolina, 2006 through 2016.

Year	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Maine						0	0				
New Hampshire					0		3,195	12,283	0	0	0
Massachusetts	149,993	149,434	246,136	430,748	702,138	194,752	519,910	291,678	457,099	342,554	392,239
Rhode Island	67,076	44,024	52,303	35,972	160,427	50,203	102,548	74,727	214,463	233,631	254,704
Connecticut	4,684	23,574	59,751	465	15,682	8,378	110,858	109,807	397,033	330,628	435,624
New York	455,213	409,697	259,511	566,483	543,243	274,473	321,516	353,036	469,150	876,630	1,032,604
New Jersey	690,651	724,591	579,617	583,373	687,451	148,487	734,928	345,337	468,402	310,298	294,312
Delaware	140,931	93,147	22,621	37,345	21,028	42,961	40,141	36,557	23,879	22,899	24,168
Maryland	136,064	38,669	26,429	33,082	36,018	47,445	33,080	29,677	68,469	57,631	79,951
Virginia	105,134	36,152	38,045	114,805	29,718	18,964	4,076	21,295	18,802	38,763	28,913
North Carolina Post-Stratified	28,352	8,517	9,353	3,307	10,850	30,975	3,664	8,002	696	1,920	864

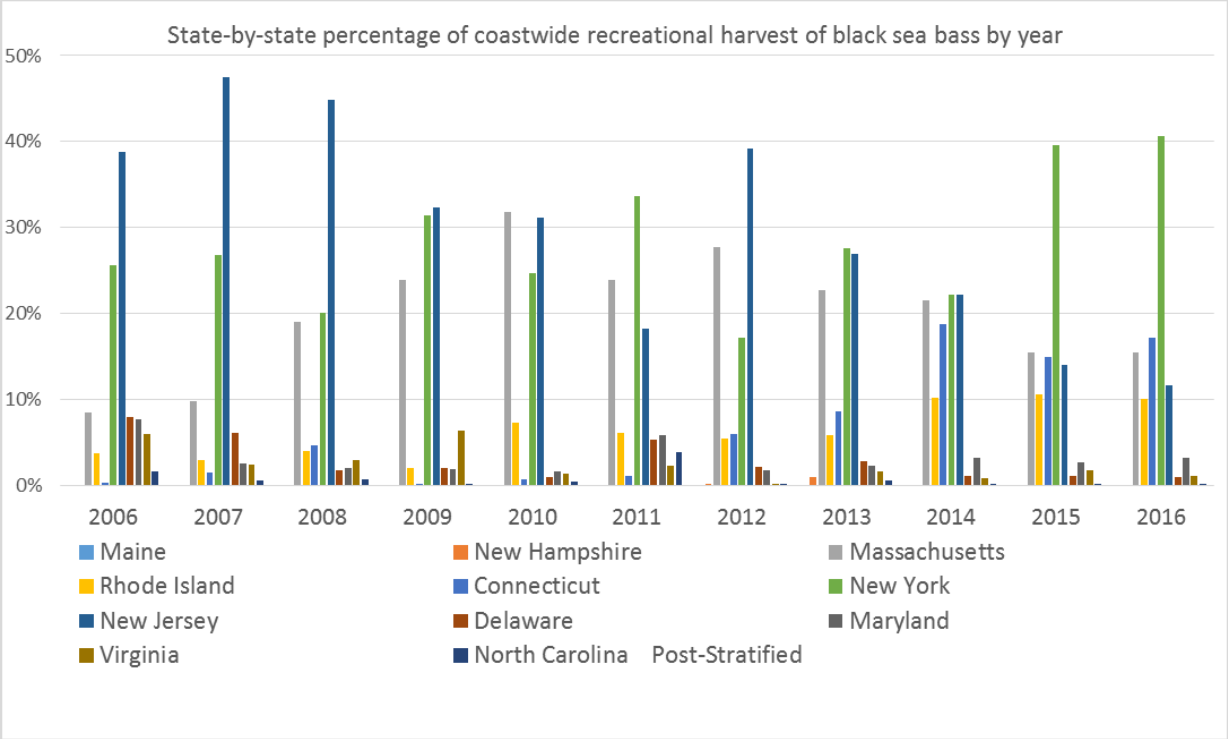

Figure 1. State-by-state contribution (as a percentage) to total recreational harvest of black sea bass (in numbers of fish), Maine through Cape Hatteras, North Carolina, 2006 through 2016.

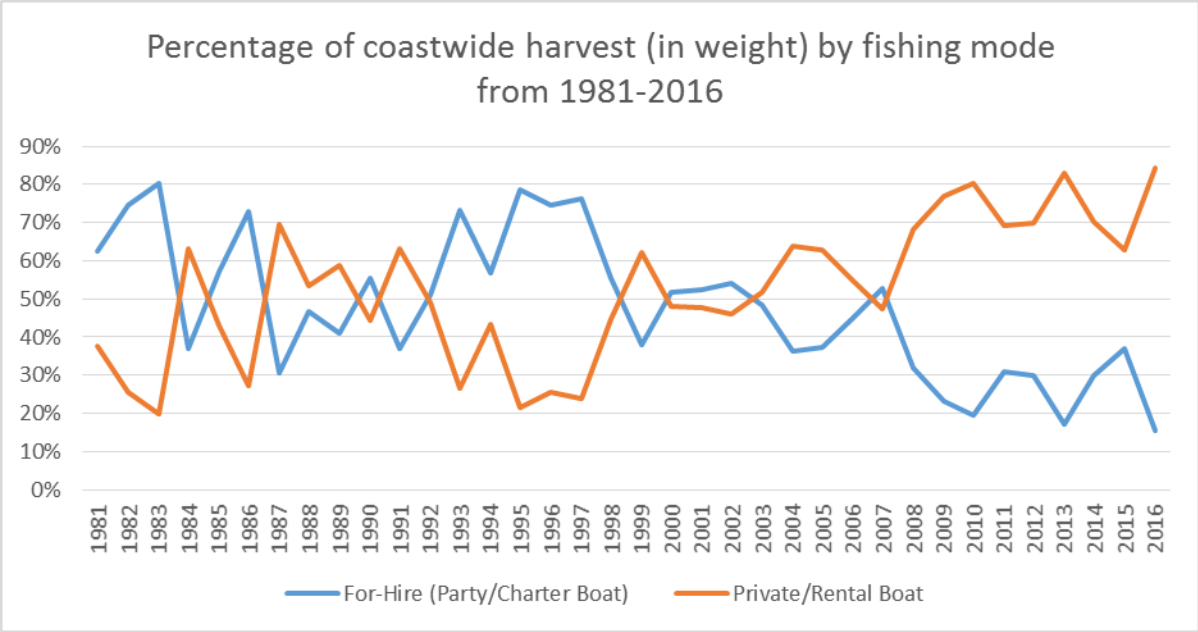

Figure 2. Percentage of coastwide harvest (in weight) by fishing mode from 1981-2016.

2.4 Status of the Stock

The last peer reviewed and accepted benchmark stock assessment was approved in December 2016 (SARC 62). The assessment indicated that the black sea bass stock north of Cape Hatteras, North Carolina was not overfished and overfishing was not occurring in 2015.

For modeling black sea bass north of Cape Hatteras, the stock was partitioned into two sub-units approximately at Hudson Canyon to account for spatial differences in abundance and size at age. The sub-units are not considered to be separate stocks. Based on the assessment modelling, biomass is considered underestimated and the large 2011 year class is dominant in the northern area (north of Hudson Canyon) and less so in the southern area (south of Hudson Canyon). Although the stock was assessed by sub-unit, the combined results were put forth to develop reference points and harvest specifications.

Spawning stock biomass (SSB), which includes both mature male and female biomass, averaged around 6 million pounds from the late 1980's and early 1990's and then steadily increased from 1997 to 2002 when it reached 18.7 million pounds. Since 2007, the SSB has increased, reaching its highest level in 2015 (48.89 million pounds) (Figure 1). The fishing mortality rate (F) in 2015 was 0.27, below the fishing mortality threshold reference point (F_{MSY} PROXY= F40%) of 0.36. Fishing mortality has been below the F_{MSY} PROXY for the last five years. Model estimated recruitment was relatively constant throughout the time series except for large peaks from 1999 and 2011 year classes. Average recruitment of age 1 black sea bass from 1989–2015 equaled 24.3 million fish with the 1999 year class estimated at 37.3 fish and the 2011 year class estimated at 68.9 million fish.

Based on the stock assessment, the Board and Council set the 2017 RHL at 4.29 million pounds. In light of the projected decline in biomass in 2018, the 2018 RHL is set at 3.66 million pounds, an approximate 15% reduction from the 2017 RHL.

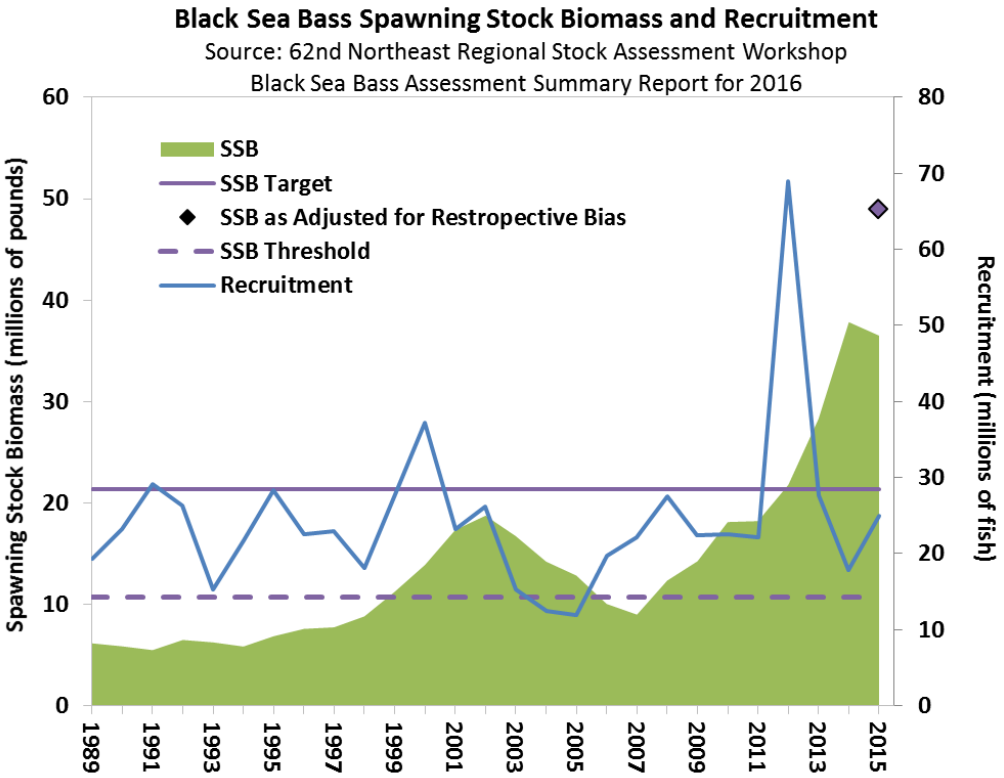

Figure 3. Black Sea Bass spawning stock biomass (SSB) and recruitment at age 0 by calendar year.

3.0 Proposed Management Program

The following options were developed from the May 2017 Board motion with guidance from the Black Sea Bass Recreational Working Group. The options are based on the adjusted coastwide 2018 RHL, which the Board and Council modified in October 2017 to allow a 100,000 pound recreational fishery in federal waters in February 2018. These options can be further modified by the Board prior to approval of the document for public comment.

Option 1: Default Management program

For 2018, two coastwide sets of measures (size limit, possession limit, season length) would be specified: 1) for the February 2018 fishery in federal waters which include a minimum size limit of 12.5 inches, a possession limit of 15 fish, open from February 1-28 for participating states) and 2) a set of measures that would apply in both state and federal waters to achieve the adjusted 2018 RHL of 3.56 million pounds.

Option 2: Regional Allocation of Annual RHL

For 2018, the adjusted RHL (3.56 million pounds) would be allocated to regions (Sub-option 2A) based on specified allocation timeframes (Sub-option 2B). The states in each region would be collectively responsible for developing measures that constrain harvest to their allocation. Consistency in management measures for states within in region will

need to be specified (Sub-option 2C). The collective states within a region will develop proposals for the Board to consider for approval no later than the 2018 ASMFC Winter Meeting.

PLEASE NOTE: 1) with an open recreational black sea bass fishery in February 2018, some states within the following regions may potentially have two sets of measures: those specific to the February fishery and those for the remainder of the year. States declaring participation in the February 2018 fishery will be identified at the joint ASMFC/MAFMC Meeting and will need to indicate what their likely measures would be for the following regional options prior to the ASMFC Winter Meeting in February 2018.

2) There are currently 16 possible combinations for option 2 based on the range of sub-options regarding regional alignments, allocation timeframes, and consistency in measures. To aid the public in selecting a preferred management program for 2018, the Board should consider eliminating/consolidating some of the following sub-options.

Sub-option 2A: Regional alignment
The following groupings would specify the regional alignment & regional allocation in 2018. (**Note**: Allocation scenarios under the regional alignment and timeframe options are included in Appendix I)

A) **2 Regions**: Massachusetts through New Jersey (North Region); Delaware through North Carolina north of Cape Hatteras (South region). This regional alignment was in place during ad-hoc regional management (2012-2017). They were based on both amount of landings and area of harvest (state vs federal waters).

B) **2 Regions**: Massachusetts through New York (North Region); New Jersey through North Carolina north of Cape Hatteras (South region). This regional alignment is based in part on the results of the 2016 benchmark stock assessment, which indicated different levels of abundance for black sea bass north of Hudson Canyon.

C) **3 Regions**: Massachusetts through New York (North Region); New Jersey as a state specific region (New Jersey Region); Delaware through North Carolina north of Cape Hatteras (South region). This regional alignment is based in part on the results of the 2016 benchmark stock assessment, which indicated different levels of abundance for black sea bass north of Hudson Canyon. As the demarcation line of abundance is not fixed, this regional alignment seeks to allow New Jersey to set state level measures to address spatial variation in size and abundance of black sea bass along the New Jersey coast.

D) **4 Regions**: Massachusetts through Rhode Island (North Region); Connecticut through New York (Long Island Region); New Jersey as a state specific region (New Jersey Region); Delaware through North Carolina north of Cape Hatteras (South region). This regional alignment seeks to create more consistency between neighboring states and shared water bodies.

Sub-option 2B: Timeframes for specifying allocation
Under this specification, harvest data would be used to determine each state's share of the annual RHL. One of the following timeframe options would be used to set harvest allocations:

A) **2006-2015 (10 years)**

B) **2011-2015 (5 years)**

(Note: Allocation scenarios under each regional alignment and timeframe combination are included in Appendix I)

*Sub-option 2C: Management measures within a region**

A) **Uniform regulations within a region**: the states within a region must implement a set of uniform management measures (size limit, possession limit, and season length).

B) **Regulatory standard with Conservation Equivalency allowed**: A uniform set of regulations is developed for a region, but states within the region can submit proposals for conservation equivalency regulations, although the management measures are not to differ more than 1" in size limit, 3 fish in possession limit, and 30 days in season length from the regulatory standard.

*As noted above, some states may have two sets of measures depending on their participation in the February 2018 recreational black sea bass fishery.

The following process will take place if this option is selected:

December 2017: the Board approves the draft document for public comment. The Commission and Council set the 2018 Black Sea Bass measures for federal waters.

February 2018: The Board considers draft Addendum XXX for Final Action. If Option 2 is selected with a specified region and timeframe, collectively the states will develop regional proposals for their 2018 management measures. The Board will review and consider action on the methodology of the regional proposals by Wednesday February 28th.

March-April 2018: States will go through implementation process to set 2018 regional management measures.

For 2019 and beyond: Annually, the states within a region will collectively develop management measures to achieve their regional allocation prior to the beginning of the recreational season.

Option 3: Alternative allocation-based recreational management

Recreational management of highly sought after species along the US Mid-Atlantic coast are monitored through NOAA's Marine Recreational Information Program or MRIP. MRIP generates a harvest estimate (Landed fish "Type A" data + unavailable landings and dead discards "Type B1" data= Harvest) that has been used for much of the last 15+ years as a metric for evaluating recreational removals. In recent years, there have been changes to how those recreational harvest and catch estimates have been calculated, creating additional challenges in evaluating harvest estimates year to year at the state level relative to implemented management measures. To better evaluate the recreational fishery and improve management decisions on issues such as allocation and access to the resource, a new approach is needed to address changes in the both resource's distribution and abundance, and the avidity of the recreational angling community targeting black sea bass.

In addition to fishery independent survey indices of abundance, the 2016 Black Sea Bass Benchmark Stock Assessment (SAW/SARC 62) incorporated a fishery dependent index of abundance (catch per angler trip) developed from MRIP[1] data (pg 28-30). To account for recreational effort (rather than just positive trips or self-reported directed trips), effort was estimated for a species guild (group of recreational targeted species that are targeted on the same trip). Species associations were evaluated at the regional level (i.e. north region including data from New York- Maine; south region including data from New Jersey- Cape Hatteras, North Carolina). For each potential black sea bass trip identified through the guild analysis, trip level CPUE was estimated as black sea bass catch divided by the number of anglers contributing to the catch (catch per angler or CPA). CPA in the northern region remained below 0.25 fish per angler trip between 1989 and 1998. Over the last decade, recreational catch rates of black sea bass in the northern region have increased significantly, rising from 0.23 fish per angler trip in 2005 to 1.7 fish per angler trip in 2015.

CPA in the southern region increased from around 1.0 fish per trip in early years to over 3.0 fish per trip by the early 2000s. CPA subsequently dropped by approximately 35% by 2004, and has since varied without trend around 2.0 fish per angler trip. Recreational

[1] Although the Marine Recreational Fisheries Statistics Survey (MRFSS) was officially replaced by the MRIP in 2012, MRFSS-based raw data files are available through 2015, allowing a continuous time series of MRFSS data for this analysis.

black sea bass CPA in the southern region was estimated at 1.74 fish per angler trip in 2015.

The 2016 stock assessment used the regional catch per angler trip metrics as an annual index of abundance. The assessment model used the information as part of a suite of indices to predict abundance and develop estimates of exploitable biomass. The CPA indices were correlated with the resulting annual estimates of exploitable biomass in each region, although there was a stronger relationship between CPA and exploitable biomass in the northern region. The model also estimates a catchability coefficient (q) which serves to scale the CPA to exploitable biomass.

Under this management option, the recreational management of black sea bass from North Carolina (north of Cape Hatteras) to the US/Canadian border will be split into two regions; the northern region will contain the states of Maine through New York and the southern region will contain the states of New Jersey through North Carolina (North of Cape Hatteras). All states will agree to the regulations implemented within the region and states will implement consistent regulations to allow for similar recreational management programs within the region. The annual recreational harvest limit (RHL) will be allocated to the two regions based on a time series average of the recreational catch per angler (CPA) effort data divided by the catchability coefficient on the regional level. Both estimates are drawn from the 2016 Benchmark Stock Assessment Report. The following tables outline the regions, regional allocations of the annual RHL based on CPA & coefficient, and potential 2018-2019 management measures under the potential allocation timeframes (2011-2015 and 2006-2015). The adjusted 2018 RHL has been modified to reflect the 100,000 pound recreational black sea bass fishery in federal waters in February 2018.

Table 1. 3A: Regional Allocation based on CPA/q for 2011-2015

Region	Time series average (2011-2015) CPA by Region (2016 Stock Assessment)	Catchability coefficient (q) scaler (For entire time series)	Regional Allocation under time series 2011-2015 (CPA/q for time series)	2018 Recreational Harvest Limit	Regional Allocation under time series 2011-2015 (Pounds)	Potential 2018-2019 Management Measures		
North: ME-NY	1.51 fish per trip	0.0000528	65.7%	3.56 million pounds	2.34 million pounds	**Min. Size Limit**	**Bag Limit**	**Season**
						XX inch	X fish	XX

South: NJ- NC*	1.78 fish per trip	0.0001197	34.3%		1.22 million pounds	XX inch	X fish	XX

Table 2. 3B Regional Allocation based on CPA/q for 2006-2015

Region	**Time series average (2006-2015) CPA by Region (2016 Stock Assessment)**	**Catchability coefficient (q) scaler (For entire time series)**	**Regional Allocation under time series 2006-2015 (CPA/q for time series)**	**2018 Recreational Harvest Limit**	**Regional Allocation under time series 2006-2015 (Pounds)**	**Potential 2018-2019 Management Measures**		
North: ME-NY	1.09 fish per trip	0.0000528	57%	3.56 million pounds	2.03 million pounds	**Min. Size Limit**	**Bag Limit**	**Season**
						XX inch	XX fish	XX
South: NJ- NC*	1.87 fish per trip	0.0001197	43%		1.53 million pounds	XX inch	XX fish	XX

*North Carolina north of Cape Hatteras

Management Program

For 2018-2019, the northern region states will implement recreational black sea bass management programs that utilize minimum size limits, maximum possession limits, and season lengths in state waters designed to achieve the regional allocation. The southern region states will set their management measures consistent with the federal measures that will apply in both state and federal waters. Northern region states will use management measures such as a minimum size limits (e.g. 13.5 inches), low bag limits (e.g. no more than 5 fish), and a common season to achieve the regional allocation. The common season seeks to account for spring participation for many northern states with an earlier season closure for all northern states in the fall to buffer against late season variability in catch estimates. Northern region states would develop proposals to implement improved data collection and compliance from both private anglers and state only permitted for-hire vessels[2] recreationally targeting black sea bass. State proposals would need to demonstrate that by the 2020 fishing season, significant improvements would be achieved in the following five parameters:

1) Biological sampling (length and weight)
2) Reduction in refusal rates of dock side MRIP intercepts/interviews
3) Discard composition information (i.e. discarded due to undersized fish, bag limit, etc.)
4) Reduction in discarding relative to 2010-2015
5) Improved compliance with management measures

Collectively, the states will develop consistent regional management measures for the 2018-2019 fishing seasons that are similar to 2017 measures for state waters[3]. The states of New Jersey through North Carolina North of Cape Hatteras would set their recreational measures consistent with the measures established for federal waters for 2018-2019. This is due to the fishing effort and harvest in these states being primarily focused in federal waters (3-200 miles).

The following process will take place if this option is selected:

November-December 2017: States of New York through Maine will cooperatively develop a set of regional measures to achieve the allocation. These proposals need to quantitatively demonstrate how the regional allocation will be achieved, show that the coastwide F_{MSY} target will not be exceeded, and provide an initial timetable for states to

[2] Effective March 12, 2018 as federally permitted for-hire vessels are required to submit electronic Vessel Trip Reports (VTRs) electronically and within 48 hours of ending a fishing trip (reporting all trips and all fish). VTRs from federally permitted vessels are required to report all fish kept or discarded (not just fish the vessel is permitted for) and for all fishing-related trips the vessel conducts. http://www.mafmc.org/newsfeed/2017/mid-atlantic-for-hire-vessel-permitting-and-reporting-electronic-only-submission-requirement-starts-march-12-2018

[3] States that participate in the February 2018 fishery will have two sets of management measures: 1) for February 2018 and 2) regional management measures for the remainder of the year.

address the five parameters listed above. The proposals will be due January 15, 2018 for the Board's consideration at the 2018 ASMFC Winter Meeting.

December 2017: the Board approves the draft document for public comment. The Commission and Council set the 2018 Black Sea Bass measures for federal waters.

January 15, 2018: Regional Proposals for 2018 Black Sea Bass measures are due for Technical Committee Review.

February 2018: The Board considers draft Addendum XXX for Final Action. If Option 3 is selected, states must develop implementation plans for addressing the five reporting parameters by July 1, 2018.

February-April 2018: States of New York through Maine go through implementation process to set 2018 management measures for their state waters.

Review and Evaluation of Management Program
With this option, the goal is to move away from only evaluating the recreational fishery performance annually based on harvest (A+B1 data) against the RHL given uncertainty in MRIP/MRFSS harvest estimates. Instead, it proposes a performance evaluation process that better incorporates biological information into the metrics used for evaluation and the management response. This option seeks to integrate information from the 2016 Benchmark Stock Assessment into the management process, improve the angling experience of the recreational community, and improve the reporting of recreational information to better inform management responses to changes in the condition of the resource.

The 2016 Benchmark Stock Assessment specified new Biological Reference Points (BRPs) and catch limits for 2017-2018. An operational stock assessment update is tentatively scheduled for review in early 2019; depending on the results of that assessment specific to stock status and the BRPs, recreational measures for both state and federal waters would be evaluated and potentially adjusted for 2019. The following evaluation process would occur for 2019*:

- If the operational stock assessment update finds the coastwide F_{MSY} target has been exceed, all states must reduce their management measures to achieve the F_{MSY} target. Northern region states would be able to draw on improved data collection from the recreational sector demonstrate how measures will achieve the needed reduction.

- If the coastwide F_{MSY} target is found not to have been exceeded, states may demonstrate that maintaining current or similar management measures will achieve their regional allocation of the RHL and the coastwide F_{MSY} target. This analysis must be prepared before the Joint ASMFC/MAFMC meeting annually scheduled in December to set recreational specifications for the upcoming year.

*If the assessment schedule is delayed, the measures would be evaluated and subsequently adjusted following an update of a three year moving average of the CPA by region and use the catchability coefficient by region estimated in the 2016 stock assessment.

The regional allocations may be addressed following the next stock assessment but triggered for revaluation no later than the expiration of this addendum.

3.1 Timeframe for Addendum provisions

Option 1: 2 years (2018-2019)
The management program outlined in section 3.0 will be in place for 2018. The Board could take action, through a Board vote, to extend the addendum for one year, expiring at the end of 2019. After 2019, measures would revert back to the FMP status quo of coastwide measures.

Option 3: 3 years (2018-2020)
The management program outlined in section 3.0 will be in place for 2018. The Board could take action, through a Board vote, to extend the addendum for up to two years, expiring at the end of 2020. After 2020, measures would revert back to the FMP status quo of coastwide measures.

4.0 Compliance

TBD

Appendix I. Regional Allocation Scenarios

Please note: Harvest from New Hampshire are used in coastwide time series numbers

1) 2 Regions: Massachusetts through New Jersey (North Region); Delaware through North Carolina north of Cape Hatteras (South region).

Table 5. Time Series Option "A" 2006-2015 harvest in numbers of fish

State	Harvest	Regional Harvest	Percentage Allocation
MASSACHUSETTS	3,484,442	15,382,763	91%
RHODE ISLAND	1,035,374		
CONNECTICUT	1,060,860		
NEW YORK	4,528,952		
NEW JERSEY	5,273,135		
DELAWARE	481,509	1,519,463	11%
MARYLAND	506,564		
VIRGINIA	425,754		
NORTH CAROLINA	105,636		
Grand Total	16,917,704		

Table 6. Time Series Option "B" 2011-2015 harvest in numbers of fish

State	Harvest	Regional Harvest	Percentage Allocation
MASSACHUSETTS	1,805,993	7,740,526	93%
RHODE ISLAND	675,572		
CONNECTICUT	956,704		
NEW YORK	2,294,805		
NEW JERSEY	2,007,452		
DELAWARE	166,437	549,896	7%
MARYLAND	236,302		
VIRGINIA	101,900		
NORTH CAROLINA	45,257		
Grand Total	8,305,900		

2) 2 Regions: Massachusetts through New York (North Region); New Jersey through North Carolina north of Cape Hatteras (South region).

Table 7. Time Series Option "A" 2006-2015 harvest in numbers of fish

State	Harvest	Regional Harvest	Percentage Allocation
MASSACHUSETTS	3,484,442	10,109,628	60%
RHODE ISLAND	1,035,374		
CONNECTICUT	1,060,860		
NEW YORK	4,528,952		
NEW JERSEY	5,273,135	6,792,598	40%
DELAWARE	481,509		
MARYLAND	506,564		
VIRGINIA	425,754		
NORTH CAROLINA	105,636		
Grand Total	16,917,704		

Table 8. Time Series Option "B" 2011-2015 harvest in numbers of fish

State	Harvest	Regional Harvest	Percentage Allocation
MASSACHUSETTS	1,805,993	5,733,074	69%
RHODE ISLAND	675,572		
CONNECTICUT	956,704		
NEW YORK	2,294,805		
NEW JERSEY	2,007,452	2,557,348	31%
DELAWARE	166,437		
MARYLAND	236,302		
VIRGINIA	101,900		
NORTH CAROLINA	45,257		
Grand Total	8,305,900		

3) 3 Regions: Massachusetts through New York (North Region); New Jersey as a state specific region (New Jersey Region); Delaware through North Carolina north of Cape Hatteras (South region).

Table 9. Time Series Option "A" 2006-2015 harvest in numbers of fish

State	Harvest	Regional Harvest	Percentage Allocation
MASSACHUSETTS	3,484,442	10,109,628	60%
RHODE ISLAND	1,035,374		
CONNECTICUT	1,060,860		
NEW YORK	4,528,952		
NEW JERSEY	5,273,135	5,273,135	31%
DELAWARE	481,509	1,519,463	9%
MARYLAND	506,564		
VIRGINIA	425,754		
NORTH CAROLINA	105,636		
Grand Total	16,917,704		

Table 10. Time Series Option "B" 2011-2015 Harvest in numbers of fish

State	Harvest	Regional Harvest	Percentage Allocation
MASSACHUSETTS	1,805,993	5,733,074	69%
RHODE ISLAND	675,572		
CONNECTICUT	956,704		
NEW YORK	2,294,805		
NEW JERSEY	2,007,452	2,007,452	24%
DELAWARE	166,437	549,896	7%
MARYLAND	236,302		
VIRGINIA	101,900		
NORTH CAROLINA	45,257		
Grand Total	8,305,900		

4) 4 Regions: Massachusetts through Rhode Island (North Region); Connecticut through New York (Long Island Region); New Jersey as a state specific region (New Jersey Region); Delaware through North Carolina north of Cape Hatteras (South region).

Table 11. Time Series Option "A" 2006-2015 Harvest in numbers of fish

State	Harvest	Regional Harvest	Percentage Allocation
MASSACHUSETTS	3,484,442	4,519,816	27%
RHODE ISLAND	1,035,374		
CONNECTICUT	1,060,860	5,589,812	33%
NEW YORK	4,528,952		
NEW JERSEY	5,273,135	5,273,135	31%
DELAWARE	481,509	1,519,463	9%
MARYLAND	506,564		
VIRGINIA	425,754		
NORTH CAROLINA	105,636		
Grand Total	16,917,704		

Table 12. Time Series Option "B" 2011-2015 Harvest in numbers of fish

State	Harvest	Regional Harvest	Percentage Allocation
MASSACHUSETTS	1,805,993	2,481,565	30%
RHODE ISLAND	675,572		
CONNECTICUT	956,704	3,251,509	39%
NEW YORK	2,294,805		
NEW JERSEY	2,007,452	2,007,452	24%
DELAWARE	166,437	549,896	7%
MARYLAND	236,302		
VIRGINIA	101,900		
NORTH CAROLINA	45,257		
Grand Total	8,305,900		