Atlantic States Marine Fisheries Commission

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

Summer Flounder and Black Sea Bass Recreational Management in 2016

ASMFC Vision: Sustainably Managing Atlantic Coastal Fisheries

Approved February 2, 2016

1.0 Introduction

This Addendum is adopted 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 the southern border of 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 November 2, 2015:

1) *Move to initiate an addendum to extend ad hoc regional management for black sea bass recreational fisheries in 2016 and 2017.*
2) *Move to initiate an addendum to address the discrepancies in measures within Delaware Bay.*

This Addendum establishes management of the 2016 recreational summer flounder and black sea bass fisheries.

2.0 Overview

2.1 Statement of the Problem

2.1.1 Summer Flounder

It is important that Commission FMPs strive to provide recreational anglers with equitable access to shared fishery resources throughout the range of each managed species. While equitable access is difficult to characterize, it generally relates to the distribution, abundance, and size composition of the resource with the abundance and distribution of anglers along the coast.

To address the growing concern over equitable access to the resource through state-by-state management measures developed under conservation equivalency, the Board approved Addendum XXV in February 2014 to adopt regional management for the summer flounder recreational fishery for one year. Regions were defined as following: 1) Massachusetts, 2) Rhode Island, 3) Connecticut-New Jersey, 4) Delaware-Virginia, and 5) North Carolina. As Addendum XXV was only specified for 2014, Addendum XXVI continued regional management in 2015 and 2016.

This addendum replaces addendum XXVI, continues regional management, and establishes a management program that allows New Jersey area specific regulations in the Delaware Bay under regional management for 2016 only.

2.1.2 Black Sea Bass

During the past 15 years, the black sea bass recreational harvest target was exceeded seven times, most recently in 2010, 2012-2014 when the harvest target was the lowest in the time series. Extremely high availability of black sea bass in the northern states (Massachusetts

through New Jersey) is resulting in recreational overages despite very restrictive management measures. For the past few years, catch and harvest limits have been set at levels that are not reflective of current abundance, placing undue stress on the fisheries. For 2016, catch limits were set using as new method which incorporates important abundance indices. The Commission's Summer Flounder, Scup, and Black Sea Bass Technical Committee (Technical Committee) recognizes this is a positive step toward reconciling the disconnect between abundance, catch limits, and harvest. The Technical Committee expects this will reduce recreational management uncertainty in 2016.

The FMP for black sea bass does not provide an opportunity to craft recreational management measures by regions or state, it only allows for a set of coastwide management measures. Due to the wide geographic range of black sea bass, the application of coastwide minimum size, possession limit, and season restrictions may not affect every area involved in the fishery the same way. Starting in 2011, the Board approved addenda which allowed for state-specific and regional management measures. These addenda addressed the concern that the coastwide regulations have disproportionately impacted states within the management unit. Each of the addenda have had a sunset provision that for either one or two years. The provisions of the most recent addendum (XXV) expires at the end of 2015, and without a new addendum the FMP will require coastwide regulations. This addendum continues the ad hoc regional approach for 2016 with the option of extending it through 2017 by Board action.

2.2 Background

2.2.1 Summer flounder

Amendment 2 (1993), which introduced quota-based management to the summer flounder fishery, initially required each state (Massachusetts to North Carolina) to adopt the same minimum size and possession limit as established in federal waters, allowing only for different open seasons. The consistent measures were intended to achieve conservation equivalency in all state and federal waters throughout the species range. However, states soon found that one set of management measures applied coastwide did not achieve equivalent conservation due to the significant geographic differences in summer flounder abundance and size composition.

To address this disparity, the FMP was amended (in 2001 via Addendum IV and again in 2003 via Addendum VIII) to allow for the use of state conservation equivalency to manage recreational harvests. From 2001-2013, the FMP has allowed for, and the Commission and Council utilized, a state-by-state allocation formula based on estimates of state recreational landings in 1998, to establish individual state harvest targets. Individual states have the flexibility to tailor their regulations – namely, minimum size, possession, and season limits – to meet the needs and interests of their fishermen, provided that the targets are not exceeded. The individual state allocations, as a percentage of the total coastwide recreational harvest limit, are set forth in Table 2.

Re-assessing in the Face of Changing Conditions:

The interim solution of state-by-state conservation equivalency based on estimated state harvests in 1998 was successful initially in mitigating the disparity in conservation burden among states, but the approach is increasingly being viewed as an inadequate long-term solution given recent changes in resource status and fishery performance. Seventeen years

have passed since 1998. Even if the allocations were perfectly equitable when adopted over a decade ago, they are now likely out of synch given the substantial variation in stock dynamics that has occurred since then. Over the many years since Amendment 2 was first implemented, the summer flounder spawning stock biomass has increased approximately six-fold, and the number of age classes has increased from 2-3 to 7 or more. These changes have led to geographic shifts in the distribution of the resource (As the stock has rebuilt, its range has expanded). Climate change may also be contributing to shifts in migratory patterns, spatially and temporally. Taken together, these changing conditions have altered the dynamics regarding the challenge of maintaining balance in equivalent conservation burden across the management unit.

Further, the 1998-based allocation formula set forth by the FMP does not reflect changes in socio-economic patterns over the past sixteen years, particularly with regard to the number and distribution of anglers along the coast. During this time, estimates of angler participation have increased 33% from 4.6 million in 1998 to 6.1 million in 2014 (Table 3). Harvest by fishing mode (Shore-based, Party/Charter, and Private/Rental) have also changed over time, with a larger percentage of harvest coming from private and rental boats in recent years (Table 4). Summer Flounder Advisory Panel members for the Commission and Council have noted the continual rise in the cost of fuel, bait and other trip expenditures have impacted anglers financially.

Finally, any attempt to allocate harvest opportunities on the basis of estimated recreational harvests for a given year is necessarily fraught with uncertainty and error, given the general difficulty of measuring recreational catch and effort on a state-by-state basis. Over the past seventeen years, there have seen strides made by NOAA Fisheries to more accurately estimate catch and effort data by reducing the potential for bias. This has been and will continue to be a process in improving precision in estimates for species such as summer flounder, due to factors including weighting survey intercepts, variety of fishing modes, and catch rates.

Alternative Approaches:
A more realistic and flexible gauge of equitable conservation may be needed to enable the summer flounder management program to adjust to past, current, and future changes in the resource and the fishery. The biological characteristics of the summer flounder stock have changed with the rebuilding of the stock. In particular, there has been a substantial expansion in the size and age composition, as more large summer flounder and greater overall abundance have resulted from management conservation measures over the course of a decade. Since 2011 there have been reductions in the recreational harvest limit (RHL) partly because the spawning stock biomass has been less than the biomass target (SSBMSY proxy = SSB35% = 137.555 million pounds). In addition, from 2010-2013 recruitment was below average. These two stock conditions could lower future recreational harvest limits, presenting additional challenges to equitability in fishing and harvest opportunities among states.

2.2.2 Black Sea Bass

The black sea bass recreational fishery is managed on a “target quota” basis. Fifty-one percent of the total allowable landings are allocated as a recreational harvest target and

forty-nine percent is allocated to the commercial sector. From 1996 to 2010, a uniform coastwide size, season, and bag limits had been used by the Commission and Council to constrain the recreational fishery to the annual RHL (Table 5). States were concerned the coastwide regulations disproportionately impacted states within the management unit; therefore, the Board approved several addenda which allowed for state-by-state and regional measures for 2011 through 2013 in state waters only. Each of the addenda expired at the end of one year. The Board passed Addendum XXIII in 2013 to provide the necessary management flexibility to mitigate potential disproportionate impacts through the use of regional ad hoc management. Table 6 shows the individual state regulations for the 2015 fishing year. In 2015, the coastwide harvest is estimated at 3.52 million pounds through wave 5 and is approximately 1.19 million pounds over the harvest limit (2.33 million pounds) (Tables 5 and 7). The FMP for black sea bass does not provide an opportunity to craft recreational measures by regions or state, it only allowed for a single coastwide measure. Due to the wide geographic range of this species, the application of coastwide minimum size, possession limit, and season restrictions may not affect every area involved in the fishery the same way. Additionally, black sea bass migrations may result in differences in availability to the recreational fishery in each state.

2.3 Description of the Fishery

2.3.1 Summer Flounder

In practice, the recreational fishery for summer flounder is managed on a "target quota" basis. A set portion of the total allowable landings is established as a RHL, and management measures are implemented by the states that can reasonably be expected to constrain the recreational fishery to this limit each year. Managing the RHL with a quota system is not practical because landings data are not available in a timely manner.

In assessing the performance of the summer flounder recreational fishery over the last 6 years, fishing opportunities and success vary across the range of the management unit (Appendix A assesses the performance of summer flounder fishery from 2009 through wave 4 of 2015). Using metrics including retention rate, fishing trips, possession limits, season length, and scoring each state in relation to each of other, the fishing opportunity differs on a state-by-state basis with little to no regional distinction; for example, retention rates are highest in the states of Virginia, Delaware Rhode Island, and Massachusetts, and the lowest in New York, New Jersey, and Maryland (Tables 9A-9D). Fishing seasons also vary significantly along the coast, with states such as Delaware through North Carolina open all year, while Connecticut through New Jersey have the shortest seasons within the management unit (128 days in recent years). Interest or avidity in relation to successful trips also varies widely as well; for example, trips targeting summer flounder are lowest in Massachusetts (2.1-2.78 % of all trips between 2013-2015) and highest in New Jersey and New York, yet the highest success rates for targeted trips in relation to harvest is in Massachusetts (Tables 9A-9D). Bag limits also vary across the states from the most restrictive in Delaware through Virginia (4 fish possession limit) to least in Rhode Island (8 fish possession limit). In comparing states to their nearest neighboring state regarding size limit, Massachusetts[1] and New Jersey have the highest difference between their two neighbors (2 inch average difference compared to Rhode Island in recent years) and

[1] Please note that Massachusetts has only one neighboring state with a declared interested in Summer Flounder, which increases the weighting of size limit difference relative to Rhode Island.

smallest average difference between neighbors was Connecticut, New York, and Maryland. In scoring the recreational performance in recent years, New Jersey has had the largest drop in score relative to other states' performance (below average in 2013 to <-2 in 2015).

Recreational Survey Estimates
The Marine Recreational Information Program, or MRIP, is the new way NOAA Fisheries is counting and reporting marine recreational catch and effort. It is an angler-driven initiative that will not only produce better estimates, but will do so through a process grounded in the principles of transparency, accountability and engagement. MRIP replaces the Marine Recreational Fisheries Statistics Survey, or MRFSS, which has been in place since 1979. MRIP is designed to meet two critical needs: (1) provide the detailed, timely, scientifically sound estimates that fisheries managers, stock assessors and marine scientists need to ensure the sustainability of ocean resources and (2) address head-on stakeholder concerns about the reliability and credibility of recreational fishing catch and effort estimates.

The MRIP is an evolving program with ongoing improvements. Most recently, NOAA Fisheries scientists, in partnership with leading outside experts, have created an improved method for estimating recreational catch using data from existing shoreside angler survey data as well as moving from the phone survey to an improved mail survey. The new method addresses a major concern raised by the National Research Council's evaluation of MRFSS –that the MRFSS catch estimation method was not correctly matched with the sampling design used gathering data, leading to potential bias in the estimates. Eliminating potential sources of bias is a fundamental change that lays the groundwork for future improvement and innovations, many of which are already being piloted and implemented. More detailed information on the improvement to the MRIP program can be found at http://www.st.nmfs.noaa.gov/recreational-fisheries/index .

2.3.2 Black Sea Bass

Black sea bass are generally considered structure oriented, preferring live-bottom and reef habitats. Within the stock area, distribution changes occur on a seasonal basis and the extent of the seasonal change varies by location. In the northern end of the range (Massachusetts to New York), sea bass move offshore crossing the continental shelf, then south along the shelf edge. By late winter, northern fish may travel as far south as Virginia, however most return to the northern inshore areas by May. Black sea bass along the Mid-Atlantic (New Jersey to Maryland) head offshore to the shelf edge during late autumn, traveling in a southeasterly direction. They also return inshore in spring to the general area from which they originated, (Moser and Shepherd, 2009). Black sea bass in the southern end of the stock range (Virginia and North Carolina) move offshore in late autumn/early winter. Because they are close to the continental shelf, they transit a relatively short distance, due east, to reach over-wintering areas (Moser and Shepherd, 2009). Fisheries also change seasonally with changes in distribution; recreational fisheries generally occur during the period that sea bass are inshore.

An examination of the previous five years of recreational harvest data shows there is no systematic pattern in state harvest. For the past three years, the states of Massachusetts,

New York and New Jersey make up the majority of the coastwide harvest. An examination of average state-specific MRIP harvest estimates by 'Area Harvested' (State v. EEZ waters) for the last three years indicate that the majority of the black sea bass fishery occurs in state waters in Massachusetts, Rhode Island, Connecticut, and New York (60%). For the states of New Jersey to North Carolina, the majority of fishery operates in the waters of the EEZ (NJ and VA 31% and DE, MD and NC 9%).

2.4 Status of the Stock

2.4.1 Summer Flounder

The most recent peer-reviewed benchmark assessment for summer flounder (SAW 57, NEFSC 2013) was updated in July 2015. The assessment uses an age-structured assessment model called ASAP. Results of the assessment update indicate that the summer flounder stock was not overfished but overfishing was occurring in 2014 relative to the updated biological reference points established in the 2013 SAW 57 assessment. The fishing mortality rate has been below its threshold since 1997, but was estimated to be 0.359 in 2014, above the threshold fishing mortality reference point F_{MSY} = 0.309. Spawning stock biomass (SSB) was estimated to be 88.9 million pounds (40,323 mt) in 2014, about 65% of the SSB_{MSY} = 137.6 million pounds (62,394 mt). The 2014 year class is estimated to be about 41 million fish, higher than the previous four below average year classes in 2010-2013 (34, 20, 23, and 27 million fish). NOAA Fisheries declared the summer flounder stock rebuilt in 2010, based on the 2011 assessment update.

2.4.2 Black Sea Bass

The most recently approved benchmark assessment on black sea bass was peer-reviewed and accepted in December 2008 by the Data Poor Stock Work Group (DPSWG) Peer Review Panel. Based on the June 2012 update, the stock is not overfished and overfishing is not occurring, relative to the biological reference points. Fishing mortality in 2011 was F = 0.21, below the fishing mortality threshold. Estimates for 2011 total biomass remain above the biomass maximum sustainable yield. SSB in 2011 was 24.6 million pounds, which is 0.6 million pounds above the SSB_{MSY} target (24 million pounds) and a small decrease from the 2010 SSB estimate. Recruitment at age 1 averaged 26.4 million fish during 1968-1999 and 2000, peaking at 56 million fish. Recruitment estimated by the model was relatively constant through the time series with the exception of high recruitment in the 1975, 1999, and 2001 year classes. The 2011 year class was 21.0 million fish.

3.0 Management Program

3.1 Summer Flounder Recreational Fisheries Management

Adaptive Regional Management

The 2016 summer flounder recreational fishery will divide the coast into six management regions: 1) Massachusetts 2) Rhode Island 3) Connecticut-New York 4) New Jersey 5) Delaware-Virginia and 6) North Carolina. The combined management program of all 6 regions is designed to not exceed the 2016 recreational harvest limit.

Dividing the coastal states into regions allows states the flexibility to mitigate potential disproportionate impacts resulting from coastwide measures. Additionally, regional management allows states to pursue more equitable harvest opportunities, while providing consistent measures to states within the same region, in many cases sharing the same fishing grounds. **This management program is not intended to implement new state allocations and is not intended to set a precedent for new state allocations. Under the adaptive regional approach, states would not give up their (1998-based) allocated portion of the RHL and would not be held accountable for anything other than their allocated portion of the RHL. Lastly, states would retain the future opportunity to continue managing their fisheries in accordance with their allocated portion of the RHL.**

Under adaptive regional management, the Technical Committee will develop proposed measures for each region that, when combined with all regions, would constrain the coastwide harvest to the RHL. The measures will be similar to the 2014 and 2015 regulations for each state, but allow for some flexibility to achieve consistent harvest opportunities among the regions. States within each region would be required to implement the same bag, size limits and season length. Each state would implement a season that, when combined with the other states' seasons length and regional bag and size limit, will constrain the combined regions harvest to the coastwide RHL. Individual state regions (e.g. Massachusetts, Rhode Island, and North Carolina in 2014 and 2015) may set area specific management measures. Once the Technical Committee develops proposed measures for each region, the Board would review and approve a set of regional regulations that, when combined, would constrain the coastwide harvest to the RHL.

For 2016, New Jersey will become its own region. New Jersey would become its own region due to the stipulation outlined under ASMFC Addenda XIV and XVII and the MAFMC's Framework 2 that require each state within a region to have the same management measures. This management program allows more equitable regulations in Delaware Bay between Delaware and New Jersey by allowing New Jersey to craft different regulations on the New Jersey side of Delaware Bay (NJ DelBay) and the rest of New Jersey. Outside of Delaware Bay, the New Jersey regulations will remain consistent (i.e. same size limit, possession limit, and season length) with those in the Northern Region of New York and Connecticut; while the New Jersey Delaware Bay area will have a similar size limit as Delaware, the same possession limit as Delaware and the same season as the rest of New Jersey north of Delaware Bay. The line of demarcation will be along the COLREGS Demarcation Line at the western end of Cape May. Example regional management measures for 2016 are listed in Table 1.

This management program allows for a smaller size limit on New Jersey's portion of Delaware Bay to create a more equitable size limit difference (e.g. 1 inch difference versus the 2 inch difference in 2014 and 2015) while at the same time constraining harvest with a lower possession limit and shorter season. Based on analysis using preliminary 2015 harvest estimates, an additional 5,455 fish or 1% of the New Jersey Delaware Bay total harvest, when compared to the status quo option would be needed under the example option below. This additional amount of fish would be available because the projected harvest estimates for all the regions combined is anticipated to be below the 2016 RHL.

In 2014 and 2015, Connecticut and New Jersey allowed for a separate shore-based minimum size limit (e.g. 16 TL minimum size) at select sites. This was allowed under regional management as all states in the region had and continue to have the option to have shore-based management measures. Under this option, both Connecticut and New Jersey will plan to continue the separate shore-based minimum size limit in 2016 at select sites under this option in each of their respective regions.

Table 1. Example 2016 Regional Management Measures

STATE	Example Size Limit	Example Possession Limit	Example Season (in number of days)	2016 Regional Harvest Estimate	2016 RHL
MASSACHUSETTS	16"	5	132	77,899	
RHODE ISLAND	18"	8	245	158,185	
CONNECTICUT	18"	5	128		
NEW YORK	18"	5	128	596,823	
NEW JERSEY*	18"	5	128		
NEW JERSEY/ DELAWARE BAY COLREGS**	17"	4	128	490,626	
DELAWARE	16"	4	365		
MARYLAND	16"	4	365	244,852	
VIRGINIA	16"	4	365		
NORTH CAROLINA	15"	6	365	39,466	
Total				1,607,852	1,882,562

***New Jersey east of the COLREGS line at Cape May, NJ will have management measures consistent with the northern region of Connecticut – New York.**

****New Jersey west of the COLREGS line at Cape May, NJ inside Delaware Bay will have a similar size limit to the southern region (DE-VA), the same possession limit as the southern region (DE-VA), and the same season length as the northern region of Connecticut – New York.**

3.1.1 Timeframe for Summer Flounder Measures

For 2016 fishing year only

The regions approved in section 3.1 of this addendum are effective immediately and will expire at the end of 2016 (December 31, 2016). States will go through their administrative procedure to implement regional management measures in early spring 2016. After 2016, the management program would revert back to the FMP status quo: The Board and Council specify coastwide measures to achieve a coastwide recreational harvest limit or permit conservation equivalent management measures (e.g. state-by-state measures or voluntary regions) using guidelines agreed upon by both management authorities in Framework 2 and Addenda XIV and XVII.

3.2 Black Sea Bass Recreational Fisheries Management

Ad Hoc Regional Measures for 2016

This addendum establishes a northern and southern region. The northern region will contain the states of Massachusetts through New Jersey and the southern region will contain the states of Delaware through North Carolina (North of Cape Hatteras). All states will agree to the regulations implemented within the region. While not required, states will work to develop consistent regulations to allow for similar recreational management programs within the region. The northern region states of Massachusetts through New Jersey will reduce their regulations based on the region's performance in 2015. The northern region states will implement recreational black sea bass management programs that utilize minimum size limits, maximum possession limits and seasonal closures designed to achieve the required coastwide reduction for 2016 of 23% compared to 2015 projected harvest. The southern region states will set their management measures consistent with the federal measures. Federal measures will be set by NOAA Fisheries in the late spring of 2016. The Technical Committee recommends the following 2016 federal measures: 12.5 inch TL minimum size, 15 fish possession limit, and open season of May 15-September 21 and October 22-December 31. The regulations of the two regions combined will meet the require reduction to achieve the 2016 RHL (2.82 million).

If the northern region state measures do not address the required reduction, a backup set of measures will need to be implemented to constrain landings to the 2016 RHL. The Technical Committee recommends the backup coastwide measures include a 14 inch TL minimum size, 3 fish possession limit, and an open season from July 15-September 15.

Reduction tables, provided by the Technical Committee, will be used to determine which suite of possession limits, size limits and closed seasons would constrain recreational landings to the recreational harvest limit for the state/region. Tables would be adjusted for each region to account for past effectiveness of the regulations. Each region would propose a combination of size limit, possession limit, and closed seasons that would constrain landings to the appropriate level. These regulations will be reviewed by the Technical Committee and approved by the Board.

Note: The 23% reduction in harvest necessary to achieve the RHL is based on preliminary harvest estimates and projections for the remainder of 2015. This value may change as new data are made available.

The federal FMP does not allow for conservation equivalency and would require an amendment to the FMP to make the necessary changes consistent with those in this addendum; therefore, a single coastwide measure is set in federal waters. Federal permit holders have to follow regulations set by the NOAA Fisheries regardless of where they are fishing.

3.2.1 Timeframe for Black Sea Bass Measures

For 2016 fishing year, one year extension option

The regions approved in section 3.2 of this addendum are effective immediately. The final state waters measures for the northern region states will be available in Spring 2016. The Board can take action, through a Board vote, to extend the provisions in section 3.2 ad hoc regional black sea bass management for one year, expiring at the end of 2017 (December 31, 2017). After 2016, measures will revert back to the FMP status quo: one set of coastwide measures in both state and federal waters.

4.0 Compliance:

The management programs for summer flounder and black sea bass contained in Section 3.0 of Addendum XXVII are effective immediately upon its approval (February 2, 2016). States will go through their administrative procedure to implement regional management measures for 2016. States measures will made available to the public as soon as they are finalized.

Tables and Figures

Table 2. State summer flounder harvest in 1998 and the proportion of harvest that state-by-state harvest targets under conservation equivalency are based on

State	1998 estimated harvest (thousands)	Percent of the 1998 harvest
MA	383	5.5%
RI	395	5.7%
CT	261	3.7%
NY	1,230	17.6%
NJ	2,728	39.1%
DE	219	3.1%
MD	206	3.0%
VA	1,165	16.7%
NC	391	5.6%

Table 3. Angler Participation on the Atlantic Coast with percent change from 1998-2014

Angler Participation coastwide from 1998-2014				
Year	Coastal	Non-Coastal	Total	Percent Change from 1998
1998	4,137,554	447,172	4,584,726	
1999	3,797,901	480,630	4,278,531	-6.68%
2000	5,074,359	653,104	5,727,463	24.92%
2001	5,537,676	717,490	6,255,166	36.43%
2002	4,660,668	597,327	5,257,995	14.69%
2003	5,697,540	768,372	6,465,912	41.03%
2004	5,623,004	832,386	6,455,390	40.80%
2005	6,965,785	892,768	7,858,553	71.41%
2006	6,886,353	889,097	7,775,450	69.59%
2007	7,799,919	910,168	8,710,087	89.98%
2008	6,541,755	944,118	7,485,873	63.28%
2009	5,581,259	812,991	6,394,250	39.47%
2010	5,848,691	882,858	6,731,549	46.83%
2011	5,293,098	726,760	6,019,858	31.30%
2012	5,399,706	821,199	6,220,905	35.69%
2013	5,215,365	634,369	5,849,734	27.59%
2014	5,380,148	758,782	6,138,930	33.89%
Source: Personal Communication from National Marine Fisheries Service, Fisheries Statistics Division, 11/30/2015				

Table 4. The number of summer flounder harvested from Maine through North Carolina by mode, 1981-2014.

Year	Shore	Party/Charter	Private/Rental
1981	3,145,683	1,362,252	5,058,639
1982	1,120,521	5,936,006	8,416,173
1983	3,963,680	3,574,229	13,458,398
1984	1,355,595	2,495,733	13,623,843
1985	786,185	1,152,247	9,127,759
1986	1,237,033	1,608,907	8,774,921
1987	406,095	1,150,095	6,308,572
1988	945,864	1,134,353	7,879,442
1989	180,268	141,320	1,395,177
1990	261,898	413,240	3,118,447
1991	565,404	597,610	4,904,637
1992	275,474	375,245	4,351,387
1993	342,225	1,013,464	5,138,352
1994	447,184	836,362	5,419,145
1995	241,906	267,348	2,816,460
1996	206,927	659,876	6,130,182
1997	255,066	930,633	5,981,121
1998	316,314	360,777	6,302,004
1999	213,447	300,807	3,592,741
2000	569,612	648,755	6,582,707
2001	226,996	329,705	4,736,910
2002	154,958	261,554	2,845,647
2003	203,717	389,142	3,965,811
2004	200,368	463,776	3,652,354
2005	104,295	498,614	3,424,557
2006	154,414	315,935	3,479,934
2007	98,418	499,160	2,510,000
2008	79,339	171,951	2,098,583
2009	62,691	176,997	1,566,490
2010	59,812	160,109	1,281,546
2011	34,849	137,787	1,667,240
2012	106,342	96,386	1,996,407
2013	117,289	284,048	2,120,990
2014	62,248	440,750	1,938,626
% of Total, 1981-2014	9%	14%	78%
% of Total, 2008-2014	4%	10%	86%
Source: Personal Communication from National Marine Fisheries Service, Fisheries Statistics Division, 11/30/2015			

Table 5. Black Sea Bass Specifications and Harvest estimates from 1998-2015

Year	1998	1999	2000	2001	2002	2003	2004	2005
Harvest Limit (m lb)	3.15	3.15	3.15	3.15	3.43	3.43	4.01	4.13
Harvest (m lb)	1.51	1.94	4.30	3.98	4.65	3.44	2.88	2.55
Size (inches)	10	10	10	11	11.5	12	12	12
Bag^	--	--	--	25	25	25	25	25
Open Season	1/1-7/30 and 8/16-12/31	All year	All year	1/1-2/28 and 5/10-12/31	All year	1/1-9/1 and 9/16-11/30	1/1-9/7 and 9/22-11/30	All year

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Harvest Limit (m lb)	3.99	2.47	2.11	1.14	1.83	1.84	1.32	2.26	2.26	2.33
Harvest (m lb)	2.31	2.64	2.40	2.56	3.19	1.17	3.19	2.46	3.61	3.52**
Size (inches)	12	12	12	12.5	12.5	Varied by region	Varied by region	Varied by region	Varied by region	Varied by region
Bag^	25	25	25	25	25	Varied by region	Varied by region	Varied by region	Varied by region	Varied by region
Open Season	All year	All year	All year	All year*	5/22-10/11 and 11/1-12/31	Varied by region	Varied by region	Varied by region	Varied by region	Varied by region

^ The state of Massachusetts has a more conservative bag limit of 20 fish.

* In 2009 Federal waters were closed on October 5, 2009

**Preliminary Harvest estimates are only available through wave 5 (September/October) of 2015

Table 6. 2015 Black Sea Bass recreational management measures.
Note: Cells are shaded to help with table readability.

State	Minimum Size (inches)	Possession Limit	Open Season
Maine	13	10 fish	May 19-September 18
New Hampshire	13	10 fish	January 1-December 31
Massachusetts	14	8 fish	May 23-August 27
Rhode Island	14	1 fish	July 2- August 31
		7 fish	September 1-December 31
Connecticut (Private & Shore)	14	3 fish	June 1-August 31
		5 fish	September 1-December 31
CT Authorized Party/Charter Monitoring Program Vessels	14	8 fish	June 21-December 31
New York	14	8 fish	July 15- October 31;
		10 fish	November 1-December 31
New Jersey	12.5	2 fish	July 1-July 31
		15 fish	May 27-June 30; October 22-December 31
Delaware	12.5	15 fish	May 15-September 21; October 22-December 31
Maryland	12.5	15 fish	May 15-September 21; October 22-December 31
Virginia	12.5	15 fish	May 15-September 21; October 22-December 31
North Carolina, North of Cape Hatteras (N of 35° 15'N)	12.5	15 fish	May 15-September 21; October 22-December 31

Table 7. Black Sea Bass MRIP Harvest Estimates (in numbers of fish).

State	Year					
	2010	**2011**	**2012**	**2013**	**2014**	**2015Wv5***
NH	0	0	3,195	12,284	0	0
MA	702,138	194,753	519,910	291,678	457,100	351,424
RI	160,428	50,204	102,548	75,097	214,464	231,609
CT	15,682	8,377	110,858	107,900	406,785	261,446
NY	543,245	274,475	321,516	353,034	423,406	710,694
NJ	687,450	148,486	734,928	345,333	468,400	384,013
DE	21,029	42,962	40,141	36,559	23,878	9,899
MD	36,019	47,444	33,080	29,678	68,468	12,309
VA	29,717	18,964	4,075	21,296	14,368	37,919
NC**	10,850	30,975	3,664	7,785	696	
Total	2,206,558	816,640	1,873,915	1,280,644	2,077,565	1,999,313
NH-NJ	2,129,972	719,257	1,833,096	1,221,885	1,994,033	1,949,085
DE-NC	76,586	97,383	40,819	58,759	83,532	50,228
*2015 estimates are preliminary through wave 5						
**post-stratified data for 2015 is unavailable						

Table 8. 2015 Summer Flounder recreational management measures.
Note: Cells are shaded to help with table readability.

State	Minimum Size (inches)	Possession Limit	Open Season
Massachusetts	16	5 fish	May 22-September 23
Rhode Island	18	8 fish	May 1-December 31
Connecticut	18	5 fish	May 17- September 21
CT Shore Program (45 designed shore sites)	16		
New York	18	5 fish	May 17- September 21
New Jersey	18	5 fish	May 23- September 26
NJ pilot shore program 1 site	16	2 fish	May 22-September 26
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
North Carolina	15	6 fish	January 1- December 31

Appendix I.

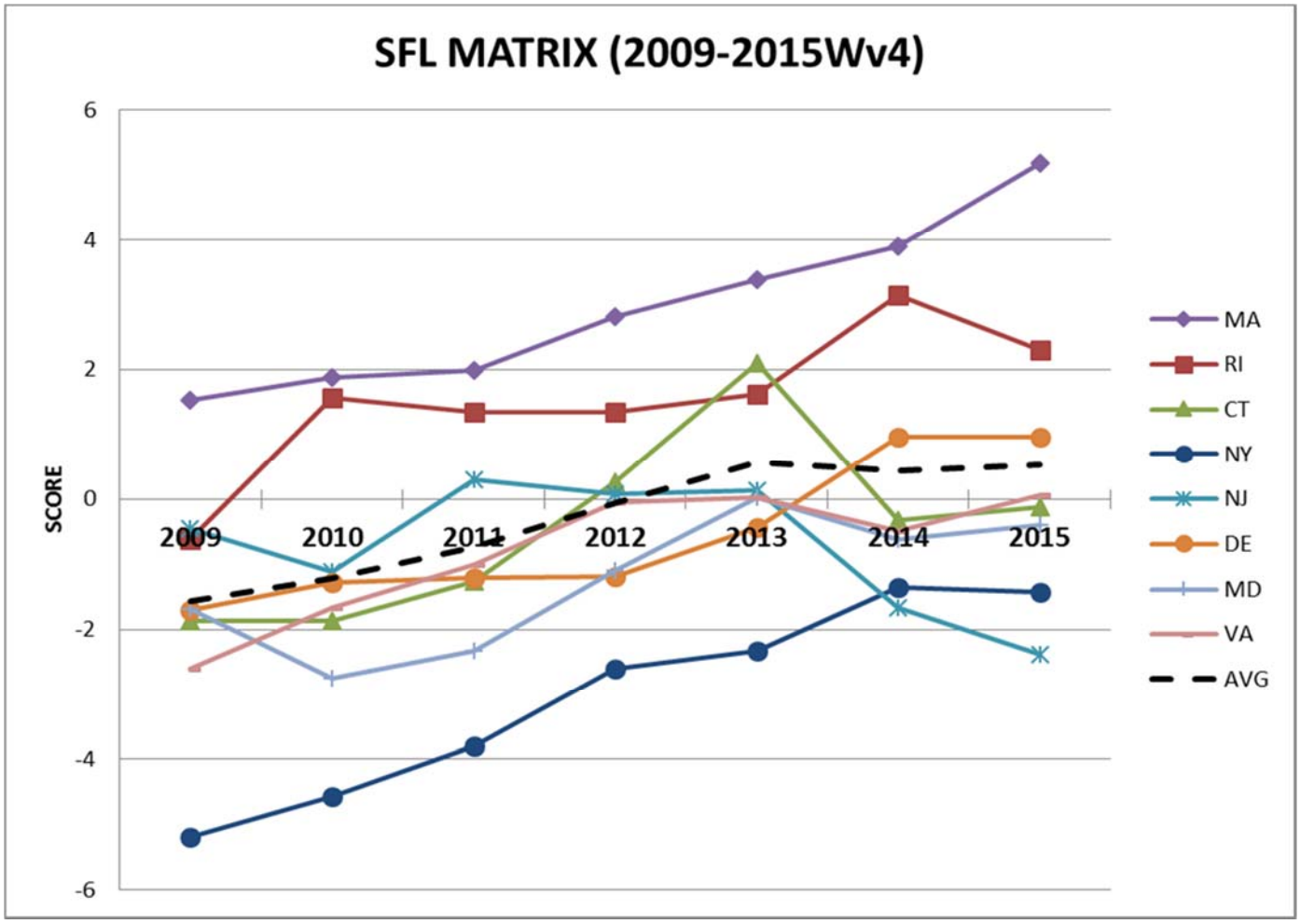

Figure 1. Summer Flounder Recreational Performance by State 2009-2015 Wave 4*#

*The North Carolina recreational flounder fishery regularly catches 3 species of flounder. Due to problems with angler identification of species, released flounder are included in MRIP categories for left eye flounder genus or family. Trip targets are also generally reported as left eye flounder although it is likely that some trips are more likely to catch a particular flounder species. Determining the number of releases and targeted trips for summer flounder based on available information would require assumptions that cannot be tested without further study. Therefore, any fishery metric that includes released or trips targeting summer flounder for North Carolina is too uncertain to be used for management decisions and is listed as NA. For this reason, North Carolina is excluded from this analysis.

#Harvest estimates through wave 4 for 2015 are preliminary and are subject to change as subsequent wave estimates become available.

Table 9A. Recreational Summer Flounder Fishery Performance 2009-2010

YEAR	2009	2009	2009	2009	2009	2009	2009	2009	2010	2010	2010	2010	2010	2010	2010	2010
STATE	MA	RI	CT	NY	NJ	DE	MD	VA	MA	RI	CT	NY	NJ	DE	MD	VA
METRIC	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
RETENTION RATE	34.3%	15.8%	9.5%	5.1%	7.3%	8.3%	7.3%	7.4%	17.4%	34.0%	8.6%	4.8%	5.0%	8.0%	2.0%	9.7%
INTERCEPTS HARVEST : CATCH	0.47	0.32	0.27	0.15	0.29	0.21	0.27	0.16	0.55	0.31	0.24	0.18	0.19	0.22	0.07	0.28
BAG LIMIT	5	6	3	2	6	4	3	5	5	6	3	2	6	4	3	4
#. FISH HARVEST: #. TARGETED TRIPS	0.54	0.49	0.26	0.24	0.44	0.28	0.25	0.33	0.95	0.83	0.25	0.27	0.27	0.25	0.09	0.41
% CORE SEASON (1% of total harvest in wave 1996-1998)	31.7%	100.0%	35.9%	41.3%	57.1%	100.0%	62.0%	100.0%	77.7%	100.0%	56.0%	62.5%	54.9%	100.0%	89.4%	100.0%
% of ALL S/W TRIPS TARGETING SFL	2.7%	14.9%	12.1%	26.0%	35.2%	33.7%	8.8%	28.8%	1.4%	11.5%	9.2%	28.5%	35.0%	26.4%	9.5%	24.4%
NEAREST NEIGHBOR SIZE LIMIT	-2.5	2.0	-1.5	2.3	-1.8	0.5	-0.8	2.5	-1.0	0.5	-0.75	2.25	-1.75	0	0.5	1.5

Table 9B. Recreational Summer Flounder Fishery Performance 2011-2012

YEAR	2011	2011	2011	2011	2011	2011	2011	2011	2012	2012	2012	2012	2012	2012	2012	2012
STATE	MA	RI	CT	NY	NJ	DE	MD	VA	MA	RI	CT	NY	NJ	DE	MD	VA
METRIC	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
RETENTION RATE	24.2%	18.2%	12.0%	4.9%	8.3%	9.8%	3.1%	13.8%	23.2%	21.3%	16.9%	9.2%	13.9%	15.2%	9.6%	23.3%
INTERCEPTS HARVEST : CATCH	0.40	0.43	0.24	0.18	0.26	0.20	0.08	0.29	0.50	0.43	0.28	0.22	0.35	0.23	0.20	0.41
BAG LIMIT	5	7	3	3	8	4	3	4	5	8	5	4	5	4	3	4
#. FISH HARVEST: # TARGETED TRIPS	0.81	0.78	0.39	0.27	0.39	0.28	0.10	0.49	0.79	0.69	0.27	0.43	0.57	0.27	0.18	0.43
% CORE SEASON (1% of total harvest in wave 1996-1998)	95.0%	100.0%	61.4%	83.2%	77.2%	100.0%	93.5%	100.0%	95.0%	100.0%	92.4%	83.2%	79.9%	100.0%	100.0%	100.0%
% of ALL S/W TRIPS TARGETING SFL	2.6%	18.6%	9.3%	33.5%	36.4%	25.8%	5.5%	22.4%	3.4%	13.9%	17.2%	31.7%	39.3%	19.2%	5.7%	23.7%
NEAREST NEIGHBOR SIZE LIMIT	-1.0	0.5	-1	2.25	-1.25	0	0.25	1	-2.0	1.25	-1	1.75	-1.25	0.75	-0.25	0.5

Table 9C. Recreational Summer Flounder Fishery Performance 2013-2014

YEAR	2013	2013	2013	2013	2013	2013	2013	2013	2014	2014	2014	2014	2014	2014	2014	2014
STATE	MA	RI	CT	NY	NJ	DE	MD	VA	MA	RI	CT	NY	NJ	DE	MD	VA
METRIC	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
RETENTION RATE	34.4%	19.6%	23.8%	9.8%	16.0%	18.8%	15.0%	26.8%	25.1%	30.7%	15.8%	10.1%	11.0%	24.1%	11.2%	17.8%
INTERCEPTS HARVEST : CATCH	0.63	0.51	0.54	0.29	0.50	0.31	0.27	0.35	0.61	0.73	0.41	0.30	0.32	0.40	0.24	0.30
BAG LIMIT	5	8	5	4	5	4	4	4	5	8	5	5	5	4	4	4
#. FISH HARVEST: #. TARGETED TRIPS	0.52	0.77	0.98	0.41	0.79	0.35	0.32	0.44	1.30	0.99	0.51	0.39	0.63	0.48	0.32	0.40
% CORE SEASON (1% of total harvest in wave 1996-1998)	95.0%	100%	92.4%	82.6%	70.7%	100%	100%	100%	95.0%	100%	69.6%	69.6%	69.6%	100%	100%	100%
% of ALL S/W TRIPS TARGETING SFL	2.1%	14.0%	24.4%	35.1%	42.9%	20.5%	5.9%	19.6%	2.5%	16.9%	17.2%	32.8%	38.2%	22.3%	9.9%	16.2%
NEAREST NEIGHBOR SIZE LIMIT	-2	1.25	-1	1.5	-0.5	0.25	-0.5	0.5	-2.0	1.0	0.0	0.0	1.0	-1.0	0.0	0.5

Table 9D. Recreational Summer Flounder Fishery Performance 2015 (Through Wv4)

STATE	MA	RI	CT	NY	NJ	DE	MD	VA
METRIC	1	2	3	4	5	6	7	8
RETENTION RATE	45.2%	28.9%	17.9%	12.9%	9.8%	26.0%	16.3%	20.0%
INTERCEPTS HARVEST : CATCH	0.63	0.63	0.38	0.31	0.27	0.40	0.24	0.41
BAG LIMIT	5	8	5	5	5	4	4	4
#. FISH HARVEST: #.TARGETED TRIPS	1.56	0.85	0.63	0.48	0.34	0.46	0.30	0.54
% CORE SEASON (1% of total harvest in wave 1996-1998)	95.0%	100.0%	69.6%	69.6%	69.6%	100.0%	100.0 %	100.0%
% of ALL S/W TRIPS TARGETING SFL	2.78%	29.56%	16.27%	48.85%	45.69%	25.75%	8.03%	18.93%
NEAREST NEIGHBOR SIZE LIMIT	-2.0	1.0	0.0	0.0	1.0	-1.0	0.0	0.5