



**Mid-Atlantic Fishery Management Council**  
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## **M E M O R A N D U M**

**Date:** November 21, 2014  
**To:** Council  
**From:** Kiley Dancy, Staff  
**Subject:** Black Sea Bass Recreational Measures for 2015

The following materials are enclosed for Council consideration of the above subject:

- 1) Monitoring Committee meeting summary for black sea bass
- 2) Black sea bass staff memo dated November 10, 2014

The advisory panel will meet via webinar on December 3, 2014. A summary of advisory panel comments and recommendations will be provided to the Council and Board prior to the joint meeting to set recreational measures.



**Summer Flounder, Scup, and Black Sea Bass Monitoring Committee**  
**Meeting Summary – Black Sea Bass**  
**November 13, 2014**

**Attendees:** Mike Bednarski (MA-DMF), Jason McNamee (RI-DFW), Peter Clarke (NJ-F&W), Greg Wojcik (CT-DEEP), Sally Roman (VMRC), Rich Wong (DNREC), Steve Doctor (MD-DNR), Moira Kelly (NMFS GARFO), John Maniscalco (NY-DEC), Tom Wadsworth (NC-DMF), Kiley Dancy (Council Staff), Kirby Rootes-Murdy (Commission Staff), Mike Luisi (MD-DNR; MAFMC Demersal Committee Chair), Mark Terceiro (NEFSC; via webinar)

The Monitoring Committee met on Thursday, November 13, 2014 in Linthicum, MD to recommend recreational management measures for summer flounder, scup, and black sea bass in 2015.

### **Black Sea Bass**

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For 2015, based on currently projected 2014 black sea bass landings, a coastwide reduction of 28% would be required in order to constrain landings to the 2015 recreational harvest limit. Extremely high availability of black sea bass in the northern states (New Jersey through Massachusetts) is resulting in recreational overages despite very restrictive management measures. Catch and harvest limits have been set at levels that are not reflective of current abundance, placing undue stress on the fisheries. Under the constraints of the current system, the Monitoring Committee is being forced to recommend severely restrictive measures to ensure that landings remain under the harvest limit.

The Committee notes that the 2011 year class of black sea bass is much larger than any other recent year class, and is contributing significantly to high availability in the northern states. There has been no indication of high recruitment after 2011, and the Committee expects the 2011 year class to be fully recruited to the fishery by the spring of 2015. The Committee noted that this year class is currently being fished down quickly, with no similarly large year classes coming in behind it.

A benchmark assessment for black sea bass is tentatively scheduled to go through the SAW/SARC process in the spring of 2016. Many members of the Monitoring Committee (who also sit on the Commission's Technical Committee) have been working on black sea bass data and modeling approaches that will lead into the assessment process. These members of the Committee could bring forward additional materials to the SSC as soon as possible for a potential re-evaluation of the constant catch level used to set catch limits. This would include updated information to address concerns raised by the SSC in response to similar information presented by the Technical Committee in January 2013, specifically, recreational catch per unit effort (CPUE) and age-stratified survey indices. This information could be used to inform a Term of Reference where the SSC and Monitoring Committee could re-evaluate approaches to setting constant catch levels for species with level 4 assessment designations. The current approach could be modified in a way that would allow constant catch to be applied in a manner that would not create an abundance of

regulatory discards. External information could be used to inform a catch limit that would be protective, but not overprotective, of a rebuilding/rebuilt stock.

The Monitoring Committee notes that the difficulty of analyzing the effects of new regulations increases with management complexity and hyper-customization of measures. One of the intended benefits of ad-hoc regional management was to have similar regulations by region. Complex sets of measures, including splits by mode, season, and sector, continue to be implemented, contrary to previous recommendations of the Monitoring and Technical Committees. Additionally, MRIP data for state, wave, and mode combinations is typically associated with very high PSEs that often are higher than the percentage of the landings adjustment required. The Monitoring Committee also notes that MRIP has undergone many changes in recent years, including changes to sampling, statistical design, and effort surveys (yet to be implemented). The effects of these changes do not appear to be consistent across states or regions.

When crafting state regulations in the northern region, the Committee recommends that particular attention should be paid to modes and waves that result in particularly volatile harvest estimates, in order to comply with the Council's Accountability Measures by more fully considering the performance of previous recreational measures and taking into account the conditions that have precipitated recent overages. With regard to the need to develop better methods and tools for analysis of regulations, the Monitoring Committee proposes to hold a meeting for recreational data exploration and tool development to inform future recreational analyses.

The Committee discussed the increase in the average weight of black sea bass (see staff memo), and notes that the Technical Committee's current adjustments under ad-hoc regional management are typically made in numbers of fish and don't necessarily account for changes in fish weight. This has implications for a species managed with a weight-based harvest limit.

For 2015, the Monitoring Committee agrees with the staff recommendation of *status quo* measures for Federal waters and the southern states (Delaware through North Carolina), as well as the recommendation that the necessary reduction in harvest should be taken in the northern states (New Jersey through Massachusetts). Because the southern states are projected to result in only 1.5% of coastwide landings in 2014, any restrictions of measures in that region are unlikely to result in significant reductions in harvest. Additionally, the southern states are projected to land less than half of what they landed in 2013. A very low percentage of black sea bass landings come from Federal waters in the north, while the opposite is true in the south. Because anglers would be bound by the more restrictive state waters measures in the north, the Monitoring Committee recommends keeping Federal regulations *status quo* to allow reductions to be taken where the vast majority of harvest is occurring. For the northern states, the Committee recommends continuing with the ad-hoc regional approach, but continues to have concerns with the ability to analyze harvest and predict future harvest as regulations become more complex.

**If** the adjustments to the northern states measures **do not** address the required reduction, a backup set of measures would need to be implemented that would be expected to constrain landings to the RHL. If the ad-hoc regional measures do not address the required reduction, the Committee recommends backup coastwide measures including a 14-inch TL minimum size, a 3 fish possession limit, and an open season from July 15-September 15. These measures represent the most restrictive size, possession, and seasonal limit across all states.

## MEMORANDUM

**Date:** November 10, 2014  
**To:** Chris Moore  
**From:** Kiley Dancy, Staff  
**Subject:** Black Sea Bass Recreational Management Measures in 2015

In August 2014, the Council and the Atlantic States Marine Fisheries Commission's (Commission's) Summer Flounder, Scup, and Black Sea Bass Board (Board) reviewed previously implemented commercial quotas and recreational harvest limits for black sea bass for the 2015 fishing year. These limits were recommended by the Council and Board in 2013 as part of multi-year specifications for 2014-2015. At the August 2014 meeting, the Council and Board, after considering the recommendations of the Scientific and Statistical Committee (SSC) and Monitoring Committee, recommended no changes to the current specifications.

The final rule implementing the 2015 commercial quota and recreational harvest limit (RHL) published on May 22, 2014, and included an adjusted 2015 recreational harvest limit for black sea bass of 2.26 million lbs. However, the Council voted at its August 2014 meeting to suspend the 3% Research Set-Aside (RSA) allowance for 2015 pending a review of the RSA program. Therefore, NMFS will redistribute the previous 3% RSA deduction back to the landings limits, resulting in a 2015 RHL of 2.33 million lb (1,056 mt).

The Monitoring Committee must recommend recreational management measures for 2015 that will constrain landings to the recreational harvest limit. Additionally, these measures must address the average 2012-2013 recreational overage, consistent with the Council's recreational accountability measures (AMs) as revised in 2013. The following is a review of recreational catch and landings data for the black sea bass fishery to aid in the Monitoring Committee's deliberations.

### **Recreational Catch and Landings**

Recreational catch of black sea bass has fluctuated since 1981, from a peak in 1986 at 28.9 million fish to a low of 3.4 million fish in 1984 (Table 1). Landings have fluctuated from a peak of 12.39 million lb in 1986 to a low of 1.15 million lb in 1998. Landings were estimated to be 2.33 million lb in 2013 (Table 1), approximately 3% above the 2013 RHL of 2.26 million lb.

The 2014 Marine Recreational Information Program (MRIP) data are incomplete and preliminary. To date, only the first four waves (January through August) of catch and landings data for the current year

are available (Table 2). The Monitoring Committee does an early review of the MRIP data because the Council and Commission agreed that recommendations would have to be made late in the current year (i.e., 2014) to give the states enough time to enact changes in their regulations for the upcoming year (i.e., 2015). Preliminary data indicate that 6.05 million black sea bass have been caught and 1.20 million black sea bass have been landed through wave 4 in 2014 (north of Cape Hatteras, NC). By weight, landings through wave 4 were 2.31 million lb, with the mean weight at approximately 1.93 lb. Note that these preliminary estimates indicate that the 2014 harvest limit of 2.26 million lb has already been exceeded by approximately 2%.

Preliminary wave 1-4 data for 2014 can be used to project catch and landings for the entire year, by assuming the same proportion of catch and landings by wave in the previous year. Because prior year proportions are used in the projections, landings will likely be overestimated for states with more restrictive seasons in 2014, and for those with less restrictive seasons, landings will likely be underestimated. Projected catch for 2014 is 10.49 million fish, and projected landings are 3.23 million lb (Table 1).

### **Past Harvest Limits and Management Measures**

Recreational harvest limits for black sea bass have ranged from a high of 4.13 million lb in 2005 to a low of 1.14 million lb in 2009 (Table 6). In 2014, the harvest limit was 2.26 million lb. Until 2010, the black sea bass recreational fishery was managed with coastwide measures as dictated by the FMP, which included an identical minimum fish size, possession limit, and an open season that were implemented in both state and Federal waters. Since 2011, the Commission has developed addenda which have enabled state-specific measures to be implemented in state waters. These measures have varied substantially among the states and from the measures implemented in Federal waters.

In 2014, measures in Federal waters are similar to those states in the southern half of the stock range, and include a 12.5-inch TL minimum size, a 15 fish possession limit, and open seasons of May 19-September 21 and October 18-December 31 (Table 6). States implemented state-specific measures in 2014 with minimum fish sizes ranging from 12.5 to 14 inches TL, possession limits from 3 to 20 fish, and various seasons (Table 7).

### **Accountability Measures**

In 2013, the Council modified the recreational accountability measures (AMs) for Mid-Atlantic species through an Omnibus Recreational Accountability Measures Amendment. This amendment removed the in-season closure authority for the black sea bass recreational fishery that was previously held by the NMFS Regional Administrator. Additionally, in the event of an Annual Catch Limit (ACL) overage, recreational accountability measures will no longer necessarily include a direct pound-for-pound payback of the overage amount in a subsequent fishing year. Instead, accountability measures are now tied to stock status, and though paybacks may be required in some circumstances, any potential payback amounts would be scaled relative to biomass, as described below.

As modified, the recreational AMs are as follows: the recreational sector ACL is evaluated based on a 3-year moving average comparison of total catch (landings and dead discards). Both landings and dead discards are evaluated in determining if the 3-year average recreational sector ACL has been exceeded. If

the recreational ACL is exceeded, the appropriate accountability measure will be 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:
  - a. 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 measure and conditions that precipitated the overage.
  - b. 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 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 measure and conditions that precipitated the overage.

In 2012, recreational black sea bass catch (landings and discards) was estimated at 5.78 million lbs., exceeding the recreational ACL of 2.52 million lb by 129%. In 2013, recreational catch was estimated at 2.99 million lbs., exceeding the recreational ACL of 2.90 million lb by 3%. Following the ACL evaluation methodology described above, comparing the 2012-2013 average recreational catch (4.38 million lb) to 2012-2013 average recreational ACL (2.71 million lb) results in an overage of approximately 62%. Because the most recent estimate of black sea bass biomass is above the target, this overage must be accounted for by making adjustments to the recreational management measures (bag, size, and season), and the Monitoring Committee will need to take into account the performance of past measures and conditions that precipitated the overage. The Monitoring Committee may consider updating the data and methodology used to calculate effective recreational measures and reductions, as a way to take into consideration the performance of past measures and improve understanding of how adjustments have effected recent recreational performance.

### **Methodology**

The Monitoring Committee must consider and recommend measures that will ensure the recreational harvest limit of 2.33 million lb will not be exceeded in 2015. Based on the projected landings estimate for 2014 of 3.23 million lb, and assuming similar fishery conditions and angler success in 2015, landings would have to be reduced by 28% to avoid exceeding the harvest limit in 2015.

Table 8 provides the distribution of landings by wave from 2006-2008. In recent years, this table has been used to calculate the expected effects of seasonal adjustments on landings. Data from 2006-2008 have

been used because it is the most recent period of time when the minimum size, season, and possession limit were consistent across all states and Federal waters. Additionally during this time period, state and Federal waters were open year round, resulting in landings by wave that were largely reflective of availability for a given state and wave. Significant changes have been made to state and Federal regulations since this time, and measures have been complicated and varied in recent years. Thus, it is increasingly difficult to use this table to accurately predict the effects of seasonal reductions. The Monitoring Committee should consider developing alternate methods of calculating seasonal adjustments, using more recent data and taking into consideration the variations in measures by state and fishing mode.

In August 2014, the Council considered modifications to the black sea bass recreational season through a Framework action. This included consideration of opening wave 1 (January and February) to the recreational fishery, as well as modifying the start date of the Federal recreational season in May.<sup>1</sup> The Council did not take action to open the wave 1 fishery, but did vote to move the opening date for black sea bass in Federal waters from May 19 to May 15, 2015. These additional 4 open days in May will have to be accounted for elsewhere in the season.

### **Fishing Trips and Year Class Effects**

Predicting the number of trips that might be taken in 2014 is complicated (Table 9). Changes in fishing site characteristics (travel costs, catch rates, available species, water quality, etc.), fishery management policies (possession limits, size restrictions, closed seasons), and angler characteristics (age, gender, race, income, etc.) affect the demand for angler fishing trips. Changes in angler behavior may result in a breakdown in the assumptions associated with specific sets of regulations and their anticipated results. Year-class effects in terms of fish availability can influence the expected impacts of management measures and should be considered.

### **2015 Staff Recommendation**

Based on the preliminary data available at this time, 2015 landings would have to be reduced by 28% in order to achieve the 2015 recreational harvest limit of 2.33 million lb. Staff recommend that this reduction be taken by adjusting measures for the northern states (New Jersey through Massachusetts), where the bulk of landings have occurred in recent years with overages (Table 3), and where the majority of landings are projected to occur in 2014 (Table 5). For the past several years, the Commission has developed addenda to allow for adoption of state-specific measures, and last year's addendum was previously approved for extension into 2015. This process would allow the flexibility to address the reductions where most of the landings are occurring. The Commission's process also follows a slightly later timeline, meaning that modifying measures in state waters allows more complete 2014 data to be used. Because the 28% reduction amount is based on preliminary data and projections with associated caveats, the actual amount of reduction required may change prior to finalizing recreational measures.

The majority of sea bass in recent years have been landed in state waters by the states of Massachusetts through New Jersey (Table 3; Figure 1). The overall contribution of landings from the southern states

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<sup>1</sup>For more information, see <http://www.mafmc.org/briefing/august-2014> under "Black Sea Bass Opening Framework Meeting 2."

(Delaware to North Carolina) has decreased in recent years, and these states are projected to contribute only about 1.5% of total coastwide landings in 2014 (Figure 2). Measures in southern states have typically been set consistent with Federal measures, given that a majority of landings from southern states are taken in the EEZ (Table 3). Where state and Federal measures differ, anglers are typically bound by whichever regulations are more restrictive (with the exception of when Federal measures are more restrictive, and state-only permitted charter/party boats or private anglers are fishing only in state waters). For this reason, staff recommend that Federal and southern states measures remain essentially *status quo*, except for a slight seasonal adjustment to account for an earlier season opening. As previously mentioned, the Council voted to move the opening of the recreational season by 4 days, from May 19 to May 15, 2014. Staff recommend accounting for these additional 4 days by closing 4 days in wave 5 (September/October), resulting in Federal open seasons of either May 15-September 17 and October 18-December 31, or May 15-September 21 and October 22-December 31.

Staff do not recommend increasing the current minimum fish size in Federal waters above the current 12.5 inch TL minimum fish size. For a species such as black sea bass with an unusual life history (protogynous hermaphrodite), where the very large fish tend to be dominant males, a high minimum fish size may result in skewed or unbalanced sex ratios for this species with potential implications on stock productivity. Instead, staff recommend adjustments be made to the seasons and possession limits for the northern states to achieve the required reduction in landings. Staff recommend the Federal minimum size be maintained at 12.5 inches. The length frequency of landed black sea bass from 2012 and 2013, based on MRIP data, is shown in Figure 3.

In summary, staff recommend that Federal measures remain unchanged for the 2015 fishing year, except for the approved earlier opening in May and the subsequent adjustment later in the year to account for this change. Staff recommend that the reduction required to constrain landings to the 2015 harvest limit be taken in the northern states of New Jersey through Massachusetts. Federal measures would include a 12.5 inch minimum fish size, a 15 fish possession limit, and an open season from May 15-September 17 and October 18-December 31, or May 15-September 21 and October 22-December 31.



**Table 1. Black sea bass recreational catch and landings by year, 1981 to 2013, Maine to Cape Hatteras, NC. The number of fish released is presented as a proportion of the total catch (% Released).**

<b>Year</b>	<b>Catch<sup>a</sup> ('000 fish)</b>	<b>Landings<sup>a</sup> ('000 fish)</b>	<b>Landings<sup>a</sup> ('000 lb)</b>	<b>% Released</b>	<b>Mean weight (lb)</b>
1981	3,681	1,886	1,232	48.8	0.65
1982	11,386	10,045	9,894	11.8	0.98
1983	7,561	4,537	4,079	40.0	0.90
1984	3,428	1,780	1,447	48.1	0.81
1985	6,047	3,388	2,097	44.0	0.62
1986	28,946	21,742	12,392	24.9	0.57
1987	5,052	2,883	1,924	42.9	0.67
1988	8,186	3,088	2,869	62.3	0.93
1989	6,427	4,239	3,289	34.0	0.78
1990	9,135	3,881	2,761	57.5	0.71
1991	10,829	5,269	4,186	51.3	0.79
1992	7,722	3,592	2,706	53.5	0.75
1993	9,023	6,007	4,842	33.4	0.81
1994	7,166	3,430	2,948	52.1	0.86
1995	14,059	6,747	6,207	52.0	0.92
1996	8,143	3,624	3,993	55.5	1.10
1997	10,646	4,739	4,268	55.5	0.90
1998	5,146	1,148	1,152	77.7	1.00
1999	7,400	1,378	1,664	81.4	1.21
2000	16,927	3,629	3,988	78.6	1.10
2001	13,869	2,841	3,421	79.5	1.20
2002	14,703	3,351	4,349	77.2	1.30
2003	12,128	3,251	3,289	73.2	1.01
2004	7,238	1,531	1,973	78.8	1.29
2005	7,041	1,263	1,883	82.1	1.49
2006	7,602	1,286	1,800	83.1	1.40
2007	8,727	1,528	2,175	82.5	1.42
2008	10,653	1,294	2,031	87.9	1.57
2009	9,224	1,806	2,558	80.4	1.42
2010	9,964	2,207	3,190	77.9	1.45
2011	4,737	817	1,171	82.8	1.43
2012	12,536	1,874	3,185	85.1	1.70
2013	9,426	1,198	2,333	87.3	1.95
2014 <sup>b</sup>	10,488	1,667	3,225	84.1	1.93

<sup>a</sup>For 1981-2003 data are MRFSS, 2004-2014 are MRIP. Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 30, 2014. <sup>b</sup>Projected using proportion by wave from 2013 MRIP data and 2014 MRIP wave 1-4 data (Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 30, 2014).

**Table 2. Black sea bass recreational catch and landings for waves 1-4, Maine through North Carolina, 1998-2014.**

Year	Catch (‘000 fish)	Landings (‘000 fish)	Landings (‘000 lb)	Mean Weight (lb)
1998	3,631	1,032	930	0.90
1999	4,150	924	911	0.99
2000	11,514	2,252	2,377	1.06
2001	9,303	2,169	2,324	1.07
2002	9,096	2,661	3,386	1.27
2003	6,645	2,022	1,957	0.97
2004	3,831	1,321	1,155	0.87
2005	4,678	1,326	1,573	1.19
2006	4,306	1,117	1,135	1.02
2007	4,884	1,443	1,674	1.16
2008	6,554	820	1,048	1.28
2009	7,236	1,670	2,114	1.27
2010	5,525	1,705	2,053	1.20
2011	3,234	725	771	1.06
2012	9,068	1,517	2,389	1.57
2013	6,377	992	1,740	1.75
2014	7,059	1,441	2,383	1.65

Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 30, 2014. Note: All of NC, both North and South of Hatteras. For 1998 - 2003 data are MRFSS, 2004-2014 are MRIP.

**Table 3: Landings of black sea bass by state and area (state vs. Federal waters), 2012-2013, Maine to Cape Hatteras, NC. Area information is self-reported based on the area where the majority of fishing activity occurred per angler trip.**

State	2012 Landings (lb)	2013 Landings (lb)	% of Coastwide Landings 2012-2013	% from State Waters, ≤ 3 mi	% from EEZ, > 3 mi
NH	4,587	19,198	0.5%	100.0%	0.0%
MA	1,052,049	602,799	29.4%	97.9%	2.1%
RI	226,130	137,610	6.5%	83.1%	16.9%
CT	261,163	255,477	9.6%	97.2%	2.8%
NY	545,221	707,524	23.7%	78.6%	21.4%
NY	993,615	500,410	26.3%	51.0%	49.0%
DE	49,967	30,217	1.4%	8.1%	91.9%
MD	42,173	35,057	1.4%	0.9%	99.1%
VA	2,599	33,667	0.8%	20.0%	80.0%
NC	7,153	9,597	0.3%	12.0%	88.0%
<b>Total</b>	<b>3,305,124</b>	<b>2,390,186</b>	<b>100.0%</b>	<b>74.3%</b>	<b>25.7%</b>

**Table 4. Black sea bass recreational landings (number '000) by state, waves 1-4, Maine through Cape Hatteras, NC, 2005-2014.**

State	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
ME	-	-	-	-	-	-	-	-	-	-
NH	-	-	-	-	-	-	-	3	12	-
MA	155	63	69	154	367	641	159	454	177	331
RI	75	16	11	12	23	133	12	55	45	108
CT	<1	3	1	60	0	15	3	87	96	163
NY	108	133	265	111	429	227	105	271	248	267
NJ	349	253	614	203	483	210	129	314	228	311
DE	58	84	77	18	34	16	14	33	22	12
MD	58	75	32	22	24	18	38	31	8	<1
VA	16	69	14	29	109	17	13	3	12	4
NC	4	14	7	9	2	7	6	2	8	<1

Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 30, 2014. All are data are from MRIP.

**Table 5. Black sea bass recreational landings (number '000) by state, waves 1-6, Maine through Cape Hatteras, NC, 2005-2014.**

State	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014 <sup>a</sup>
ME	-	-	-	-	-	-	-	-	-	-
NH	-	-	-	-	-	-	-	3	12	-
MA	175	105	149	246	431	702	195	520	252	471
RI	85	41	44	52	36	160	50	103	71	170
CT	0	3	24	60	0	16	8	111	107	181
NY	143	269	410	260	566	543	274	322	341	368
NJ	660	531	725	580	583	687	148	735	333	455
DE	68	114	93	23	37	21	43	40	25	13
MD	91	121	39	26	33	36	47	33	26	1
VA	34	83	36	38	115	30	19	4	21	8
NC	6	19	9	9	3	11	31	4	8	<1

Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 30, 2014. All are data are from MRIP. <sup>a</sup> Projected using proportion by wave from 2013 MRIP data and 2014 MRIP wave 1-4 data (Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 30, 2014).

**Table 6. Summary of management measures for the black sea bass recreational fishery, 1996-2015.**

Measure	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
<b>Harvest Limit (m lb)</b>	-	-	3.15	3.15	3.15	3.15	3.43	3.43	4.01	4.13
<b>Landings (m lb)<sup>a</sup></b>	4.0	4.3	1.2	1.7	4.0	3.4	4.4	3.3	2.0	1.9
<b>Possession Limit</b>	-	-	-b	-b	-b	25	25	25	25	25
<b>Size Limit (TL in)</b>	9	9	10	10	10	11	11.5	12	12	12
<b>Open Season</b>	1/1 - 12/31	1/1-12/31	1/1-7/30 and 8/16-12/31	1/1-12/31	1/1-12/31	1/1-2/28 and 5/10-12/31	1/1-12/31	1/1-9/1 and 9/16-11/30	1/1-9/7 and 9/22-11/30	1/1-9/7 and 9/22-11/30
Measure	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>Harvest Limit (m lb)</b>	3.99	2.47	2.11	1.14	1.83	1.84	1.32	2.26	2.26	2.33 <sup>c</sup>
<b>Landings (m lb)<sup>a</sup></b>	1.8	2.2	2.0	2.6	3.2	1.2	3.2	2.3	-	-
<b>Possession Limit</b>	25	25	25	25	25	25	20 or 25	20	15	-
<b>Size Limit (TL in)</b>	12	12	12	12.5	12.5	12.5	12.5	12.5	12.5	-
<b>Open Season</b>	1/1-12/31	1/1-12/31	1/1-12/31	1/1-12/31	1/1-10/5	5/22-10/1 and 11/1-12/31	1/1-2/29, 5/19-10/14, and 11/1-12/31	5/19-10/14, and 11/1-12/31	5/19-9/21, and 10/18-12/31	-

<sup>a</sup> Maine through Cape Hatteras, NC. For 1996-2003 data are MRFSS, 2004-2013 are MRIP. <sup>b</sup> There was no Federal possession limit but some states implemented a 20 fish possession limit in these years. <sup>c</sup> Includes 3% RSA added back to the harvest limit, as per the Council's August 2014 decision to suspend the RSA program in 2015.

**Table 7. Black sea bass recreational management measures by state, 2013 and 2014.**

**a) 2013 measures by state.**

State	Minimum Size (inches)	Possession Limit	Open Season
New Hampshire	--	--	--
Massachusetts (private and for-hire)	14	4 fish	May 11-October 31
Massachusetts For-Hire vessels with MA DMF Letter of Authorization	14	10 fish	May 11- June 14
		20 fish	July 1- August 11 and September 1- October 10
Rhode Island	13	3 fish	June 15- August 31
		7 fish	September 1- December 31
Connecticut (private & shore)	13	3 fish	June 15-August 31
		8 fish	September 1-October 29
Connecticut (for-hire)	13	8 fish	June 15-November 30
New York	13	8 fish	July 10-December 31
New Jersey	12.5	20 fish	May 19-August 8, September 27-October 14, and November 1- December 31
Delaware	12.5	15 fish	January 1- February 28
		20 fish	May 19 - October 14 and November 1 - December 31
Maryland	12.5	15 fish	January 1- February 28
		20 fish	May 19 - October 14 and November 1 - December 31
Virginia	12.5	15 fish	January 1- February 28
		20 fish	May 19 - October 14 and November 1 - December 31
North Carolina, North of Cape Hatteras (N of 35° 15'N)	12.5	15 fish	January 1- February 28
		20 fish	May 19 - October 14 and November 1 - December 31

**b) 2014 measures by state.**

State	Minimum Size (inches)	Possession Limit	Open Season
New Hampshire	13	10 fish	January 1-December 31
Massachusetts	14	8 fish	May 17-September 15
Massachusetts For-Hire vessels with MA DMF Letter of Authorization	14	8 fish	May 17-May 31
		20 fish	September 1-September 30
Rhode Island	13	3 fish	June 29- August 31
		7 fish	September 1-December 31
Connecticut (private & shore)	13	3 fish	June 21-August 31
		8 fish	September 1-December 31
CT Authorized Party/Charter Monitoring Program Vessels	13	8 fish	June 21-December 31
New York	13	8 fish	July 15-December 31
New Jersey	12.5	3 fish	July 1-August 31
		15 fish	May 19-June 30; September 1- 6; October 18-December 31
Delaware	12.5	15 fish	May 19-September 21; October 18-December 31
Maryland	12.5	15 fish	May 19-September 21; October 18-December 31
Virginia	12.5	15 fish	May 19-September 21; October 18-December 31
North Carolina, North of Cape Hatteras (N of 35° 15'N)	12.5	15 fish	May 19-September 21; October 18-December 31

**Table 8. a) Average percent of black sea bass landed (in number) by wave, 2006 to 2008, based on MRIP landings data and b) projected reduction in black sea bass landings (in number) associated with closing one day per wave, based on 2006 to 2008 MRIP landings data.**

**a.**

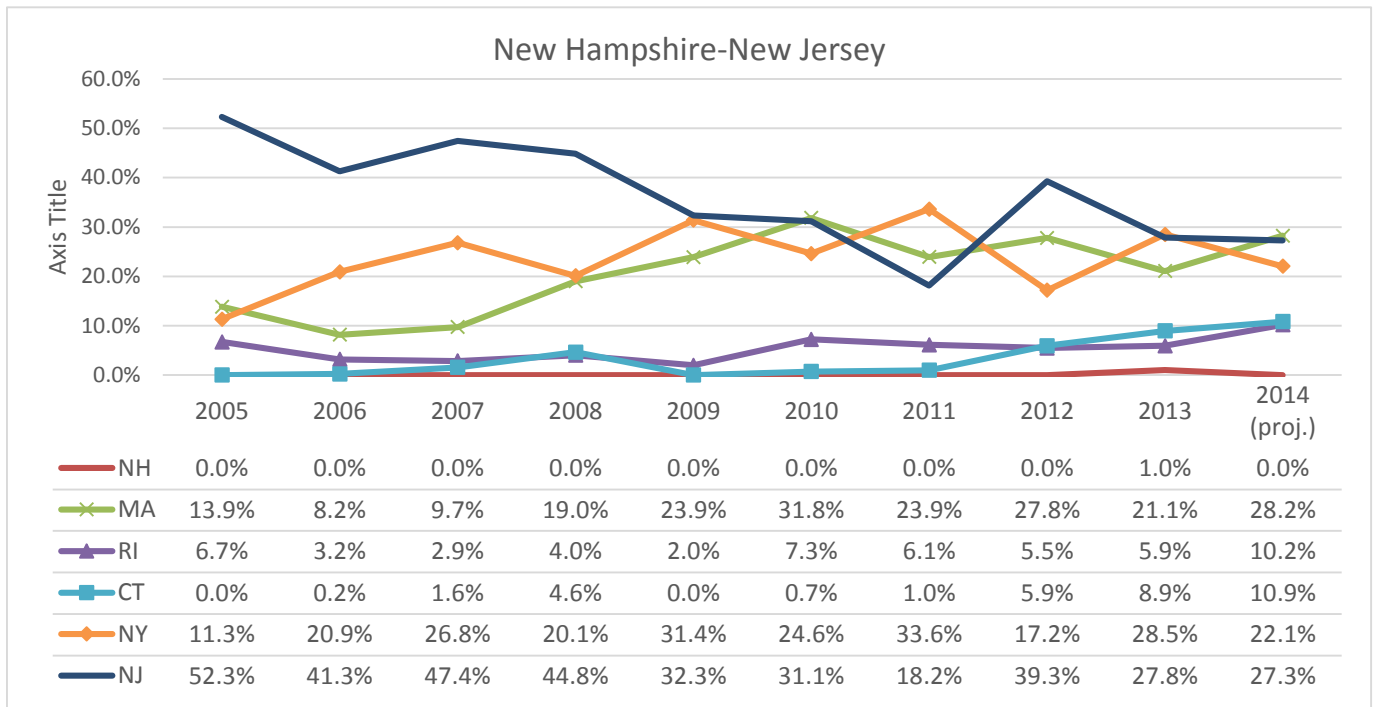
State	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6
MA	0.0000	0.0000	37.1113	20.0479	42.8408	0.0000
RI	0.0000	0.0058	4.3758	24.4527	64.0531	7.1126
CT	0.0000	0.0000	2.0370	72.2979	0.9908	24.6742
NY	0.0000	0.0000	24.8098	29.4535	36.1107	9.6260
NJ	0.0000	0.1494	41.5411	16.6213	38.7958	2.8924
DE	0.0000	4.5314	51.5769	21.7233	20.4979	1.6704
MD	0.0000	0.6181	59.0091	9.5374	24.6708	6.1646
VA	0.0000	2.4764	42.8817	25.7301	17.4615	11.4503
NC <sup>a</sup>	2.4157	5.4607	24.6746	23.6117	30.6216	13.2157
Coast	0.0508	0.5525	36.2126	21.8059	36.1011	5.2770

<sup>a</sup> North of Hatteras.

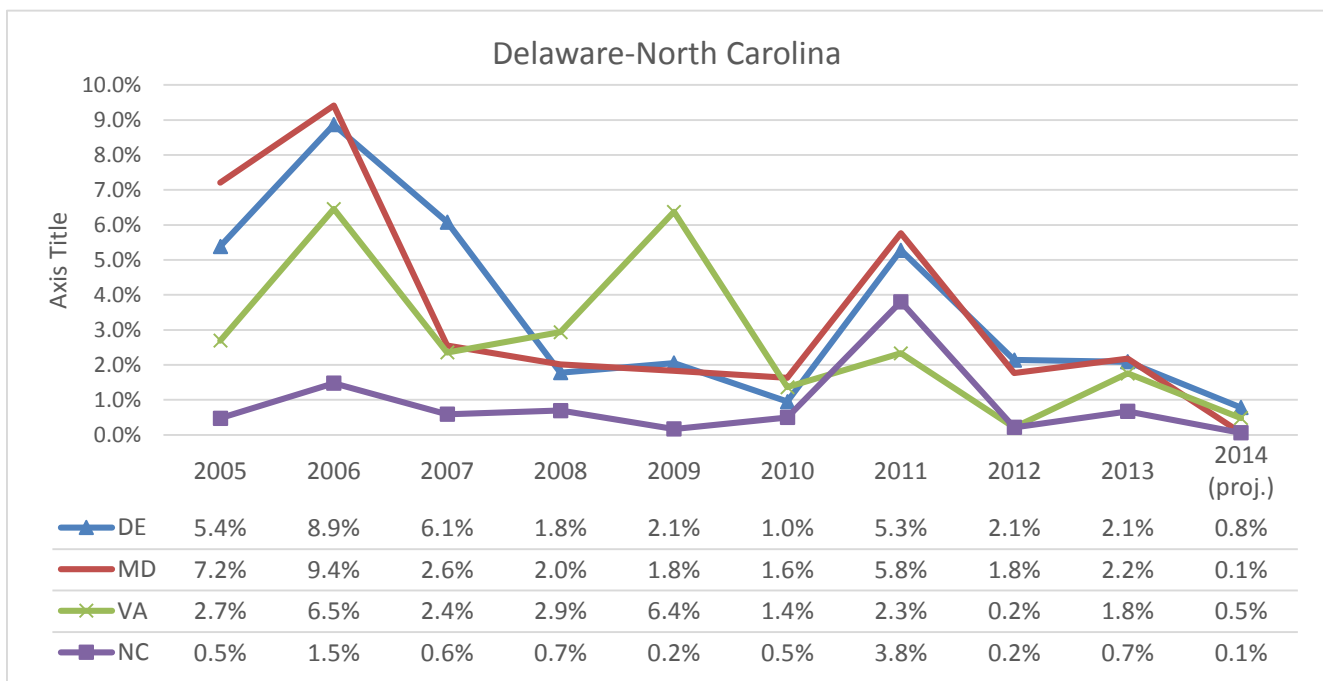
**b.**

State	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6
MA	0.0000	0.0000	0.6084	0.3234	0.7023	0.0000
RI	0.0000	0.0001	0.0717	0.3944	1.0501	0.1166
CT	0.0000	0.0000	0.0334	1.1661	0.0162	0.4045
NY	0.0000	0.0000	0.4067	0.4751	0.5920	0.1578
NJ	0.0000	0.0024	0.6810	0.2681	0.6360	0.0474
DE	0.0000	0.0743	0.8455	0.3504	0.3360	0.0274
MD	0.0000	0.0101	0.9674	0.1538	0.4044	0.1011
VA	0.0000	0.0406	0.7030	0.4150	0.2863	0.1877
NC <sup>a</sup>	0.0409	0.0895	0.4045	0.3808	0.5020	0.2167
Coast	0.0009	0.0091	0.5936	0.3517	0.5918	0.0865

<sup>a</sup> North of Hatteras.



**Figure 1: Percentage of coastwide black sea bass landings (in number of fish) by state, 2005-2014 for New Hampshire-New Jersey.**



**Figure 2: Percentage of coastwide black sea bass landings (in number of fish) by state, 2005-2014 for Delaware-North Carolina.**



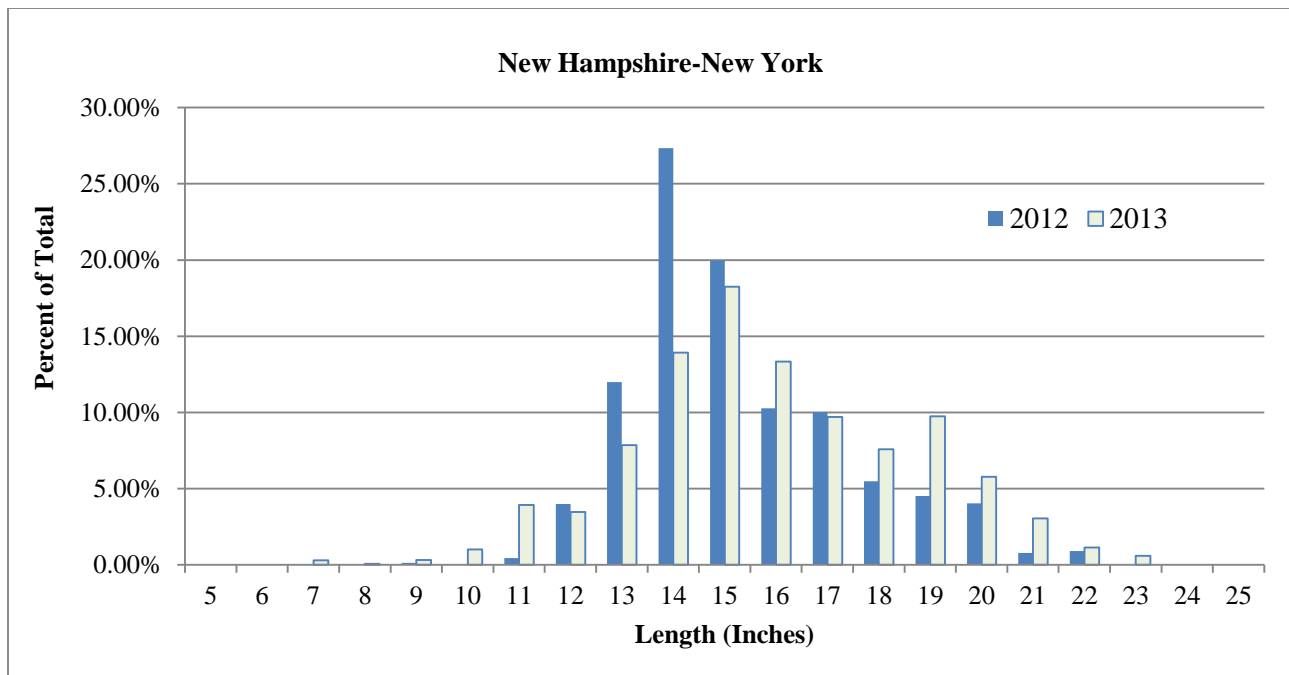
**Table 9. Number of coastwide black sea bass recreational fishing trips, recreational harvest limits, recreational landings, and fishery performance from 1994 to 2015.**

<b>Year</b>	<b>Number of Directed Fishing Trips<sup>a</sup></b>	<b>Percentage of Directed Trips relative to Total Trips<sup>b</sup></b>	<b>Recreational Harvest Limit (million lb)</b>	<b>Recreational Landings of BSB (million lb)<sup>d,e</sup></b>	<b>Percentage Overage (+%)/ Underage (-%)</b>
<b>1994</b>	253,888	0.9	None	3.05	None
<b>1995</b>	313,537	1.2	None	6.34	None
<b>1996</b>	231,090	0.8	None	3.99	None
<b>1997</b>	310,898	1.0	None	4.26	None
<b>1998</b>	137,734	0.5	3.15	1.14	-64
<b>1999</b>	136,452	0.5	3.15	1.64	-48
<b>2000</b>	255,789	0.7	3.15	3.98	+26
<b>2001</b>	293,191	0.8	3.15	3.41	+8
<b>2002</b>	283,537	0.9	3.43 <sup>c</sup>	4.37	+27
<b>2003</b>	285,861	0.8	3.43 <sup>c</sup>	3.30	-4
<b>2004</b>	149,670	0.4	4.01 <sup>c</sup>	1.97	-51
<b>2005</b>	199,603	0.5	4.13 <sup>c</sup>	1.88	-54
<b>2006</b>	253,040	0.7	3.99 <sup>c</sup>	1.80	-55
<b>2007</b>	368,042	1.0	2.47 <sup>c</sup>	2.18	-12
<b>2008</b>	256,341	0.7	2.11 <sup>c</sup>	2.03	-4
<b>2009</b>	393,389	1.3	1.14 <sup>c</sup>	2.56	+125
<b>2010</b>	417,663	1.4	1.83 <sup>c</sup>	3.19	+74
<b>2011</b>	193,655	0.7	1.83 <sup>c</sup>	1.17	-36
<b>2012</b>	267,932	1.0	1.32 <sup>c</sup>	3.19	+142
<b>2013</b>	239,885	1.0	2.26 <sup>c</sup>	2.33	+3%
<b>2014</b>	NA	NA	2.26 <sup>c</sup>	NA	NA
<b>2015</b>	NA	NA	2.33	NA	NA

<sup>a</sup>Estimated number of recreational fishing trips (expanded) where the primary target species was black sea bass, Maine through North Carolina. Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, November 4, 2014. <sup>b</sup>Source of total trips for all species combined: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, November 4, 2014. <sup>c</sup>Adjusted for research set-aside. <sup>d</sup>Maine through Cape Hatteras, NC. <sup>e</sup>For 1994-2003 data are MRFSS, 2004-2014 are MRIP. Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, November 3, 2014. NA = Data not available.

**Figure 3. Expanded length frequencies of landed black sea bass from 2012 and 2013 MRIP data, as a percent of total landed fish, for a) New Hampshire through New York (13 or 14 inch size limits )and b) New Jersey through North Carolina (12.5 inch size limit). Each length bin contains fish from X.0 to X.99 inches.**

**a.**



**b.**

