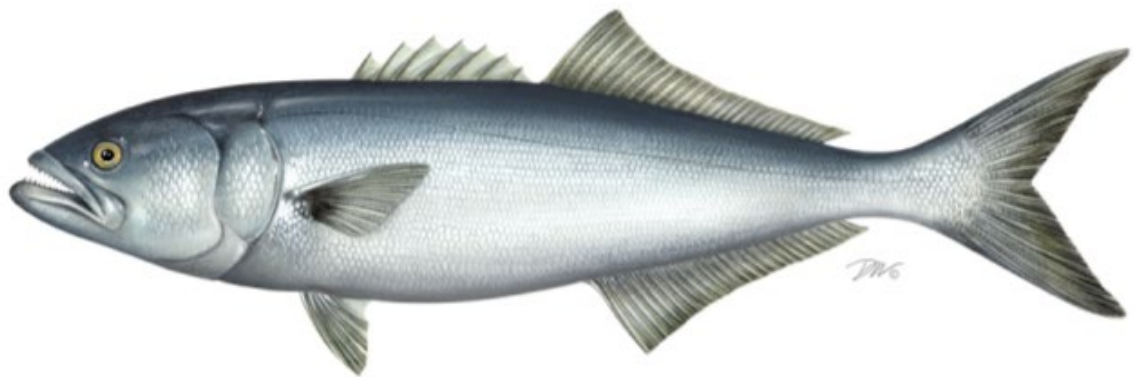


ATLANTIC STATES MARINE FISHERIES COMMISSION

REVIEW OF THE INTERSTATE FISHERY MANAGEMENT PLAN

FOR BLUEFISH
(Pomatomus saltatrix)

2016 FISHING YEAR



Prepared by the Plan Review Team

Approved by the Bluefish Management Board
August 2017

Executive Summary

Bluefish from Maine through Florida are jointly managed by the Mid-Atlantic Fishery Management Council and the Atlantic States Marine Fisheries Commission under Amendment 1 and Addendum I to the Interstate Fishery Management Plan.

A benchmark stock assessment was peer reviewed by the 60th Stock Assessment Review Committee in June 2015. The benchmark assessment was approved by the Management Board and Council for management use. The benchmark assessment concluded that the U.S. bluefish population is not overfished and overfishing is not occurring relative to the new biological reference points defined in the assessment. An assessment model update is scheduled for 2018.

2016 recreational bluefish harvest was estimated at 4.30 million fish weighing 9.54 million pounds (4,326 metric tons) and recreational dead discards were estimated at 1.10 million fish. 2016 commercial bluefish landings were estimated at 4.25 million pounds (1,930 metric tons). Each sector harvested under its respective harvest limit and quota.

Connecticut overharvested its 2016 commercial quota by 6,134 pounds. Several states requested and received commercial transfers in 2016.

In 2016, all states implemented management programs consistent with Amendment 1 and Addendum I to the ISFMP. South Carolina and Georgia requested *de minimis* status for 2017. South Carolina and Georgia both qualify for *de minimis* status because their commercial landings in 2016 were less than 0.1% of the coastwide commercial landings estimate.

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REVIEW OF THE INTERSTATE FISHERY MANAGEMENT PLAN FOR BLUEFISH (*Pomatomus saltatrix*)

I. Status of the Fishery Management Plan

<u>Date of FMP Approval:</u>	1989
<u>Amendments:</u>	Amendment 1 (1998); Addendum I (2012)
<u>Management Unit:</u>	Migratory stocks of bluefish in U.S. state and federal waters of the western North Atlantic
<u>States with Declared Interest:</u>	Maine through Florida, excluding Pennsylvania and the District of Columbia
<u>Active Committees:</u>	ASMFC: Bluefish Management Board, Technical Committee, Advisory Panel, Plan Review Team, and Stock Assessment Subcommittee MAFMC: Demersal and Coastal Migratory Species Committee, Monitoring Committee, Advisory Panel, and Scientific and Statistical Committee

The bluefish fishery management plan (FMP) was adopted by the Atlantic States Marine Fisheries Commission (ASMFC or Commission) and the Mid-Atlantic Fishery Management Council (MAFMC) in October 1989. It is the first FMP developed jointly by an interstate commission and a federal fishery management council.

Bluefish is currently managed under Amendment 1 to the FMP approved in October 1998 and implemented in 2000. The goal of the Amendment is to conserve the bluefish resource along the Atlantic coast, specifically to:

1. Increase understanding of the stock and fishery
2. Provide highest availability of bluefish to U.S. fishermen while maintaining, within limits, traditional uses of bluefish
3. Provide for cooperation among the coastal states, the various regional marine fishery management councils, and federal agencies involved along the coast to enhance the management of bluefish throughout its range
4. Prevent recruitment overfishing
5. Reduce the waste in both the commercial and recreational fisheries.

States with a declared interest in the bluefish FMP include all ASMFC member states and jurisdictions, with the exception of Pennsylvania and the District of Columbia. Management issues are addressed jointly through the ASMFC Bluefish Management Board (Board) and the MAFMC Demersal and Coastal Migratory Species Committee (Council). The MAFMC's Bluefish Technical Monitoring Committee (MC) conducts annual plan monitoring, which is reviewed jointly by the Council's and Board's Bluefish Advisory Panels (AP), and all committee recommendations are then provided to the Board and Council for review. A working group

comprised of members from the Commission's Bluefish Stock Assessment Subcommittee (SAS), the Commission's Bluefish Technical Committee (TC), and the MC, addresses stock assessment matters. The Board may implement changes to the FMP in state waters through the adaptive management process. The TC, Plan Review Team (PRT), Plan Development Team (PDT), and AP, provide technical and industry advice to the Board throughout the adaptive management process.

In February 2012, the Board approved Addendum I to Amendment 1 to the Bluefish FMP. The Addendum establishes a coastwide biological monitoring program to improve the quantity and quality of information available for use in bluefish stock assessments. A summary of these findings from the most recent year are found in Section V.

Annual Fishery Specifications

Commercial and recreational bluefish harvests are managed via sector-specific landings limits (i.e., a coastwide commercial fishery quota and a recreational harvest limit, or RHL). The Council's Scientific and Statistical Committee (SSC) and Bluefish MC annually review the best available information and make fishery specification recommendations to the Council and Board for the subsequent fishing year. Recommendations include commercial quota, RHL, research set-aside (RSA), and other management measures such as minimum size limits and bag limits. The Council and Board meet jointly (typically in August) to consider the SSC's and MC's fishery specification recommendations and formalize commercial and recreational catch limits, and other management measures.

Annual fishery specification recommendations are typically developed as follows: final commercial quota and RHL recommendations are derived from an annual catch limit (ACL), which the FMP defines as equal to the allowable biological catch (ABC), and is in turn equal to or less than an overfishing limit (OFL). After accounting for management uncertainty, 17% of the ACL is allocated to the commercial sector and 83% to the recreational sector; these are the commercial and recreational annual catch targets (ACTs). Discard estimates are deducted from ACTs to derive commercial and recreational total allowable landings (TALs). If the recreational fishery is not projected to land its TAL (by comparison of the recreational landings estimate from the previous year), then quota may be transferred from the recreational to the commercial sector, not to exceed a commercial quota of 10.5 million pounds (the average commercial landings during the period 1990-1997). The final commercial quota is then allocated to the states of Maine through Florida based on average commercial landings during 1981-1989. The state-specific shares are detailed in Table 5.

II. Status of the Stock

The 2015 benchmark stock assessment for bluefish was peer reviewed at the 60th SAW/SARC and was approved by the Board and Council for management use. The biological reference points from SARC 41 were based on maximum sustainable yield (MSY). MSY reference points require a reliable stock-recruitment relationship and the 2015 SAS determined that this relationship is poorly defined for bluefish. Therefore, for SAW 60, spawning potential ratio

(SPR) reference points were used as a proxy for MSY reference points. $F_{40\%SPR}$ was selected at SAW 60 as the F_{MSY} proxy for the overfishing threshold. This threshold was modified by the SSC to $F_{35\%SPR}$, noting that $F_{40\%SPR}$ might be inappropriate for bluefish, a highly productive species. The biomass target (SSB_{MSY} proxy) was established by projecting the population forward until an equilibrium spawning stock biomass was reached (NEFSC 2015).

The results of the 2015 benchmark assessment indicates that bluefish are not overfished and overfishing is not occurring. Spawning stock biomass (SSB) in 2014 (Figure 1) was estimated at 191 million pounds which is below the SSB target (223 million pounds) but above the SSB threshold (112 million pounds). Although variable across the time series, recruitment (age-0 fish) has increased from 16.74 million fish in 2012 to 29.61 million fish in 2014 (Figure 1). Fishing mortality (F) in 2014 (Figure 2) was estimated to be 0.16 which is below the F threshold ($F_{35\%SPR}=0.19$). It is anticipated that the assessment model will be updated in 2018.

III. Status of the Fishery

From 1985-2016, recreational catch (harvest plus releases) of bluefish in U.S. waters of the Atlantic coast averaged 16.1 million fish annually (Table 1 and Figure 3). In 2016, recreational catch (i.e., harvest plus fish caught and released) was estimated at 11.7 million fish which is a 6% increase relative to 2015. In 2016, recreational anglers harvested an estimated 4.30 million fish weighing 9.54 million pounds (4,326 metric tons) (Table 1, Table 2, and Figure 4). This represents a marginal increase relative to 2015 in terms of number of fish (<1.0%), but a 31% decrease by weight indicating that bluefish harvested recreationally in 2016 were considerably smaller than those harvested in 2015. The majority of the recreational harvest (number of fish) came from North Carolina (27%), New Jersey (21%) and New York (16%). In 2016, recreational dead discards (15% of B2) were estimated at 1.10 million fish (Table 1).

From 2000-2016 (under the Amendment 1 quota system), commercial landings of bluefish in U.S. waters of the Atlantic coast have averaged 6.45 million pounds (2,924 metric tons) annually (Table 2 and Figure 4). In 2016, commercial landings were estimated at 4.25 million pounds (1,930 metric tons), a less than 1% increase relative to 2015. The majority of the commercial landings came from North Carolina (27%), New York (21%), New Jersey (16%), Massachusetts (12%) and Rhode Island (11%). Commercial dead discards are considered negligible.

V. Status of Research and Monitoring

Many states, the National Marine Fisheries Service (NMFS), the Northeast Area Monitoring and Assessment Program (NEAMAP), and the Southeast Area Monitoring and Assessment Program (SEAMAP) conduct fishery-independent surveys. New Hampshire, Rhode Island, New York, New Jersey, Maryland, and Virginia provide indices of juvenile bluefish abundance for stock assessment, and Connecticut, New Jersey and North Carolina provide indices of adult abundance. Year class strength is monitored through a number of fishery-independent surveys (NEFSC 2015). Although not included in the 2015 benchmark assessment (NEFSC 2015),

Massachusetts, Delaware, Georgia and Florida are also required to maintain indices of abundance from surveys that encounter bluefish. Refer to Table 3 for status of monitoring efforts by state in 2016.

Commercial landings information is collected by most states from dealer or fisherman reporting programs, which is provided to the Atlantic Coastal Cooperative Statistics Program's (ACCSP) Standard Atlantic Fisheries Information System (SAFIS). Fishermen fishing in federal waters are required to report their landings to NMFS. North Carolina and Virginia are the only states that significantly sample bluefish commercial fisheries for size and age composition of the catch. Recreational catch and harvest is monitored by the Marine Recreational Information Program (MRIP).

Addendum I to Amendment 1 (2012) implemented a biological monitoring program to enhance age and length data used in bluefish stock assessments. Under Addendum I, states that accounted for more than 5% of total coastwide bluefish harvest (recreational and commercial combined) for the 1998-2008 period are required to collect a minimum of 100 bluefish ages (50 from January through June, 50 from July through December). Those states are Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Virginia, and North Carolina. Age samples are primarily collected from fishery-dependent sources (e.g., party/charter boats, fishing tournaments and volunteer anglers), although samples collected from fishery-independent sources are sometimes utilized as needed to fulfil this requirement. In 2016, these states were able to collect the minimum of 100 age samples (Table 3), and all states made a good effort to collect 50 age samples from both spring and fall. Some states (e.g., Rhode Island and Connecticut) noted difficulties collecting samples during the season before July 1st (bluefish are typically unavailable in Long Island Sound before July). South Carolina also reported 227 age samples collected by personnel of the SEAMAP-SA coastal trawl survey, and four (4) from the South Carolina Inshore Finfish Monitoring program.

As prescribed in the addendum, following the end of the first year of the sampling program, the TC reviewed the sampling design and evaluated the optimal geographic range and sample size for bluefish age data. The TC found the sampling program design to be satisfactory. However, additional TC reviews may be warranted as the program continues, especially in light of the difficulties expressed by some states to collect samples before July.

VI. Status of Management Measures and Issues

The Board and Council recommend adjustments to the commercial quota and RHL annually using the specification setting process detailed in Amendment 1 (Section 3.1.1.6) and in Section I of this report. The recreational fishery is allocated 83% of the ACL, and 17% is allocated to the commercial fishery. The coastwide commercial quota is allocated to the states via state-specific percentage shares based on landings from 1981-1989 (and at the time of amendment development).

The 2016 ACL was 19.45 million pounds (8,825 metric tons), the commercial quota was 4.88

million pounds (2,215 metric tons) and the RHL was 11.58 million pounds (5,253 metric tons). In 2016, each sector harvested under its respective quota and harvest limit, therefore no federal accountability measures have been triggered for 2017.

In 2016, Connecticut exceeded its state-specific share by 6,134 pounds resulting in a 2017 initial state-specific share of 102,036 pounds. 2016 state-specific shares and landings, and initial 2017 state-specific shares are listed in Table 5.

In 2016, some states requested commercial quota transfers totaling 695,000 pounds. Rhode Island received an additional 40% relative to its initial quota, Massachusetts received an additional 69%, and New York received an additional 83% (Table 5). The donor states were Maine, New Hampshire, New Jersey, Delaware, Maryland, Virginia, North Carolina and Florida. The PRT also notes that the current 83/17 sector-specific quota allocation was based on the proportion of recreational and commercial landings for the period 1981-1989 (ASMFC 1998). However, due to sector transfers described in Section I under "*Annual Fishery Specifications*," the proportion of commercial landings has averaged 33% from 1990-2016, and was estimated as high as 46% in 1999 (Figure 4). In 2016, the proportion of commercial landings was 31%.

Reasons for the aforementioned transfers may include changes in the distribution of prey species resulting in changes in the distribution and availability of bluefish, regulatory changes and distribution shifts of other commercially important species, changes in market conditions, variables pertaining to the productivity of the bluefish stock, or other factors. Accordingly, a thorough review of recent state-level fishery performance and the possible cause(s) for quota transfer requests (including potential changes in bluefish distribution) and increased proportion of commercial to recreational harvest (including changes in market conditions) may be warranted to assess if changes to the FMP should be considered. However pressing, outcomes of the anticipated bluefish assessment update, changes in MRIP estimates in 2018, and a preliminary 2017 commercial quota that is approximately 75% greater than the quota in 2016 would help inform the timing of when or if such a review should take place.

VII. Current State-by-State Implementation of FMP Compliance Requirements

These states and jurisdictions are required to comply with the provisions of the Bluefish FMP: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Potomac River Fisheries Commission, Virginia, North Carolina, South Carolina, Georgia, and Florida. The following are specific FMP compliance requirements:

- Each state must restrict the possession of bluefish by anglers to not more than fifteen fish per day, or have an ASMFC-approved equivalent conservation program.
- Each state must restrict its commercial fishery to the quota adopted under procedures specified in the FMP.

- States required to collect a minimum of 100 age samples per Addendum I to Amendment 1: Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Virginia, and North Carolina.
- States must submit annual compliance reports verifying that the above listed FMP requirements have been implemented. Compliance reports should also include an overview of permitting requirements for commercial and party/charter vessels and commercial dealers.

Based on the annual state compliance reports, the PRT determined all states and jurisdictions implemented a management program in 2016 consistent with the requirements of the ISFMP for Bluefish (Amendment 1 and Addendum I). All states implemented a recreational possession limit not exceeding 15 fish per person. Refer to Table 4 for fishery regulations by state in 2016, and Table 5 for commercial quota monitoring and harvest.

South Carolina and Georgia requested *de minimis* status for 2017. South Carolina and Georgia both qualify for *de minimis* status because their commercial landings from the most recent year were less than 0.1% of the coastwide commercial landings estimate (Table 5).

VIII. Prioritized Research Needs

The following research recommendations were identified at the 60th SAW/SARC:

High Priority

1. Determine whether NC scale data from 1985-1995 are available for age determination; if available, re-age based on protocols outlined in ASMFC (2001); if re-aging results in changes to age assignments, quantify the effects of scale data on the assessment.
2. Develop additional adult bluefish indices of abundance (e.g., broad spatial scale longline survey or gillnet survey).
3. Expand age structure of SEAMAP index.

Moderate Priority

4. Investigate species associations with recreational angler trips targeting bluefish (on a regional and seasonal basis) to potentially modify the MRIP index used in the assessment model.
5. Explore age- and time-varying natural mortality from, for example, predator-prey relationships; quantify effects of age- and time-varying mortality on the assessment model.
6. Continue to evaluate the spatial, temporal, and sector-specific trends in bluefish growth and quantify their effects in the assessment model.
7. Continue to examine alternative models that take advantage of length-based assessment frameworks. Evaluate the source of bimodal length frequency in the catch (e.g., migration, differential growth rates – also multiple cohorts as noted by the PRT).

8. Modify thermal niche model to incorporate water temperature data more appropriate for bluefish in a timelier manner [e.g., sea surface temperature data & temperature data that cover the full range of bluefish habitat (SAB and estuaries)].

IX. Plan Review Team Comments and Recommendations

- The PRT found that all states implemented regulations consistent with Amendment 1 and Addendum I of the Bluefish Interstate FMP.
- South Carolina and Georgia meet the requirements for *de minimis* status for 2017.
- The TC should periodically review the effectiveness of the Addendum I sampling design and evaluate the optimal geographic range and sample size for bluefish age data.
- The PRT notes that Massachusetts, Rhode Island and New York have received quota transfers in recent years, and that the commercial fishery has accounted for 33% of the coastwide harvest (commercial landings plus recreational harvest), on average, since 1990.

X. References

Mid-Atlantic Fishery Management Council (MAFMC) and Atlantic States Marine Fisheries Commission (ASFMC). 1998. Amendment 1 to the Bluefish Fishery Management Plan.

Northeast Fisheries Science Center. 2015. 60th Northeast Regional Stock Assessment Workshop (60th SAW) Assessment Summary Report. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 15-07; 36 p. doi: 10.7289/V5D21VKV

Fisheries of the Northeastern United States. Atlantic Bluefish Fishery; 2015 Final Atlantic Bluefish Specifications. 50 CFR Part 648. Vol 80, No. 151. Thursday, August 6, 2015.

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XI. Tables

Table 1. Estimated bluefish harvest (A + B1), releases (B2), dead discards (DD; 15% of B2), total catch (A+B1+B2), and total removals (Harvest+DDs) in numbers of fish by marine recreational anglers, 1985 to 2016. Source: MRIP. These estimates may differ from MRIP estimates depending on query date (2016 data queried June 14, 2016).

Year	Harvest (A+B1)	Released (B2)	DDs (15% of B2)	Total Catch (A+B1+B2)	Total Removals (Harvest + DDs)
1985	19,245,724	3,228,142	484,221	22,473,866	19,729,945
1986	24,440,850	5,969,659	895,449	30,410,509	25,336,299
1987	21,076,290	6,527,081	979,062	27,603,371	22,055,352
1988	9,905,011	3,459,974	518,996	13,364,985	10,424,007
1989	13,599,938	5,037,317	755,598	18,637,255	14,355,536
1990	11,365,358	5,080,820	762,123	16,446,178	12,127,481
1991	11,942,607	6,349,216	952,382	18,291,823	12,894,989
1992	7,157,755	4,242,305	636,346	11,400,060	7,794,101
1993	5,725,356	4,199,900	629,985	9,925,256	6,355,341
1994	5,767,951	6,152,274	922,841	11,920,225	6,690,792
1995	5,167,979	5,325,903	798,885	10,493,882	5,966,864
1996	4,205,104	5,315,806	797,371	9,520,910	5,002,475
1997	5,413,037	7,160,512	1,074,077	12,573,549	6,487,114
1998	4,202,111	5,002,155	750,323	9,204,266	4,952,434
1999	3,681,840	7,805,845	1,170,877	11,487,685	4,852,717
2000	4,897,007	11,363,377	1,704,507	16,260,384	6,601,514
2001	6,663,237	13,748,768	2,062,315	20,412,005	8,725,552
2002	5,300,189	9,917,004	1,487,551	15,217,193	6,787,740
2003	6,045,063	9,004,240	1,350,636	15,049,303	7,395,699
2004	7,250,405	12,093,901	1,814,085	19,344,306	9,064,490
2005	7,949,180	12,403,902	1,860,585	20,353,082	9,809,765
2006	7,035,179	12,536,444	1,880,467	19,571,623	8,915,646
2007	8,373,899	15,006,419	2,250,963	23,380,318	10,624,862
2008	6,664,152	13,290,567	1,993,585	19,954,719	8,657,737
2009	5,194,242	8,450,233	1,267,535	13,644,475	6,461,777
2010	6,090,830	10,051,310	1,507,697	16,142,140	7,598,527
2011	5,061,393	9,630,256	1,444,538	14,691,649	6,505,931
2012	5,523,285	8,587,311	1,288,097	14,110,596	6,811,382
2013	5,589,752	8,100,266	1,215,040	13,690,018	6,804,792
2014	5,875,337	10,203,061	1,530,459	16,078,398	7,405,796
2015	4,280,413	6,691,268	1,003,690	10,971,681	5,284,103
2016	4,301,224	7,355,897	1,103,385	11,657,121	5,404,609
Average	7,968,491	8,102,848	1,215,427	16,071,338	9,183,918

Table 2. Bluefish Commercial Landings and Recreational Harvest (A + B1) by weight (thousands of pounds), 1985-2016. Source: SAFIS and MRIP. Estimates may differ from source websites depending on query date (2016 data queried June 14, 2016).

Year	Commercial		Recreational (A + B1)		Total	
	MT	Pounds	MT	Pounds	MT	Pounds
1985	6,380	14,064,599	23,821	52,514,794	30,200	66,579,393
1986	6,865	15,134,392	42,133	92,886,710	48,998	108,021,102
1987	6,781	14,948,727	34,769	76,652,756	41,550	91,601,483
1988	7,484	16,498,333	21,873	48,222,226	29,357	64,720,559
1989	4,973	10,962,629	17,808	39,259,674	22,781	50,222,303
1990	6,426	14,167,521	13,860	30,556,567	20,287	44,724,088
1991	6,309	13,909,740	14,968	32,997,410	21,277	46,907,150
1992	5,351	11,796,203	11,011	24,275,169	16,362	36,071,372
1993	4,897	10,796,805	9,204	20,292,072	14,102	31,088,877
1994	4,415	9,732,398	7,049	15,540,856	11,464	25,273,254
1995	3,745	8,256,026	6,489	14,306,583	10,234	22,562,609
1996	4,253	9,375,125	5,328	11,745,938	9,580	21,121,063
1997	4,154	9,157,500	6,487	14,301,762	10,641	23,459,262
1998	3,755	8,277,576	5,595	12,334,000	9,349	20,611,576
1999	3,238	7,139,525	3,744	8,253,114	6,982	15,392,639
2000	3,680	8,112,019	4,811	10,605,826	8,490	18,717,845
2001	3,957	8,723,588	6,001	13,229,770	9,958	21,953,358
2002	3,139	6,920,503	5,158	11,371,483	8,297	18,291,986
2003	3,373	7,435,068	5,958	13,135,895	9,331	20,570,963
2004	3,669	8,089,662	7,855	17,316,476	11,524	25,406,138
2005	3,222	7,103,027	9,010	19,862,849	12,232	26,965,876
2006	3,262	7,190,856	7,554	16,653,456	10,816	23,844,312
2007	3,417	7,532,022	9,871	21,760,882	13,287	29,292,904
2008	2,734	6,027,113	8,978	19,793,322	11,712	25,820,435
2009	3,137	6,915,525	6,565	14,472,306	9,701	21,387,831
2010	3,310	7,298,147	7,411	16,339,281	10,722	23,637,428
2011	2,458	5,418,960	5,215	11,497,371	7,673	16,916,331
2012	2,220	4,893,437	5,372	11,842,303	7,591	16,735,740
2013	1,994	4,396,929	6,931	15,280,887	8,926	19,677,816
2014	2,280	5,026,123	4,766	10,506,311	7,045	15,532,434
2015	1,922	4,237,385	6,226	13,725,061	8,148	17,962,446
2016	1,930	4,253,923	4,326	9,537,922	6,256	13,791,845
Average (2000-2016)	2,924	6,445,546	6,589	14,525,377	9,512	20,970,923

Table 3. Status of compliance with monitoring and reporting requirements, 2016 (Y = compliance standards met, N = compliance standards not met, NA = not applicable).

State/ Jurisdiction	Fishery-independent monitoring		Fishery-dependent monitoring		Annual Reporting Status
	Survey(s)	Status	Type(s)	Status (num. of age samples)	
ME	NA	NA	Rec and Com harvest	NA	Y
NH	Juvenile	Y	Rec and Com harvest	NA	Y
MA	Juvenile	Y	Rec and Com harvest, Age Samples	Y (110)	Y
RI	Juvenile, Adult	Y	Rec and Com harvest, Age Samples	Y (203)	Y
CT	Juvenile, Adult	Y	Rec and Com harvest, Age Samples	Y (324)	Y
NY	Juvenile	Y	Rec and Com harvest, Age Samples	Y (382)	Y
NJ	Juvenile, Adult	Y	Rec and Com harvest, Age Samples	Y (127)	Y
DE	Juvenile, Adult	Y	Rec and Com harvest	Y	Y
MD	Juvenile	Y	Rec and Com harvest	Y	Y
PRFC	Juvenile	Y	Rec and Com harvest	Y	Y
VA	Juvenile, Adult	Y	Rec and Com harvest, Age Samples	Y (422)	Y
NC	Adult	Y	Rec and Com harvest, Age Samples	Y (599)	Y
SC*	NA	NA	Rec and Com harvest	Y	Y
GA*	NA	NA	Rec and Com harvest	Y	Y
FL	Juvenile	Y	Rec and Com harvest	Y	Y

*granted *de minimis* for 2016 fishing season

Table 4. Fishery regulations by state, 2016. Minimum size are in total length (TL) except for GA and FL are in fork length (FL).

State/ Jurisdiction	Recreational			Commercial	
	Bag Limit	Season	Size Limit	Trip and Size Limit	Open Season
ME	3 fish	All year	None	No Restrictions	All year
NH	10 fish	All year	None	No Restrictions	July 1 - Sept 30
MA	10 fish	All year	None	5,000 lbs/day or trip (whichever is longer)	All year
RI	15 fish	All year	None	18" min size limit; 500 lbs/wk (1.1- 4.30,11.16-12.31) 4000 lbs/wk (5.1-11.15)	All year
CT	10 fish	All year	None	9" min size limit; 1000 lbs/trip	All year
NY	15 fish	All year	Only 10 fish <12"	9" min size; Trip Limit: 2,000 lbs (Jan- April); 500 lbs (May-Aug); 1,000 lbs (Sept-Dec)	All year
NJ	15 fish	All year	None	9" min size	Closed to H&L from 1.1-6.15 and 8.8-12.31
DE	10 fish	All year	None	No Restrictions	All year
MD	10 fish	All year	8" min size		All year
PRFC	10 fish	All year	8" min size	Trip limits after 80% of VA- MD quota is landed	All year
VA	10 fish	All year	None		All year
NC	15 fish	All year	Only 5 fish > 24"		All year
SC	15 fish	All year	None	No directed fishery	All year
GA	15 fish	All year	10" min size	10" min size; 15 fish	All Year
FL	10 fish	All year	12" min size	7,500 lbs/day	All year

Table 5. 2016 state-specific shares of commercial bluefish quota and estimated Harvest. Landings data source: SAFIS (query date: June 16, 2017). C = landings values are confidential.

State	% of Federal Quota	2016 Initial Quota	2016 Transfers	2016 Final Quota	2016 Landings	Overages	% Quota Used	% Coastwide Total	2017 Initial Quota*
ME	0.6685	32,655	-32,000	655	C	C	C	C	57,105
NH	0.4145	20,247	-20,000	247	C	C	C	C	35,408
MA	6.7167	328,096	225,000	553,096	500,354	0	90.5%	10.24%	573,755
RI	6.8081	332,561	132,000	464,561	463,419	0	99.8%	9.49%	581,563
CT	1.2663	61,856		61,856	67,990	6,134	109.9%	1.39%	102,036
NY	10.3851	507,289	420,000	927,289	913,472	0	98.5%	18.70%	887,118
NJ	14.8162	723,739	-40,000	683,739	669,110	0	97.9%	13.70%	1,265,633
DE	1.8782	91,746	-50,000	41,746	15,713	0	37.6%	0.32%	160,440
MD	3.0018	146,631	-50,000	96,631	67,366	0	69.7%	1.38%	256,420
VA	11.8795	580,287	-210,000	370,287	199,281	0	53.8%	4.08%	1,014,773
NC	32.0608	1,566,100	-225,000	1,341,100	1,147,876	0	85.6%	23.50%	2,738,704
SC	0.0352	1,719		1,719	181	0	10.6%	<0.1%	3,007
GA	0.0095	464		464	C	C	C	<0.1%	812
FL	10.0597	491,394	-150,000	341,394	209,132	0	61.3%	4.28%	859,322
TOTAL[^]	100	4,884,780	0	4,884,785	4,253,923	6,134	87%		8,536,096

[^] totals in table may not match listed quotas due to rounding

*accounts for a mid-season transfer of 5,033,101 pounds from the recreational to commercial sector (effective March 10, 2017), and any quota overages from the previous season

XII. Figures

Figure 1. Bluefish spawning stock biomass (SSB), 1985-2014. Source: SAW 60 Assessment report, 2015.

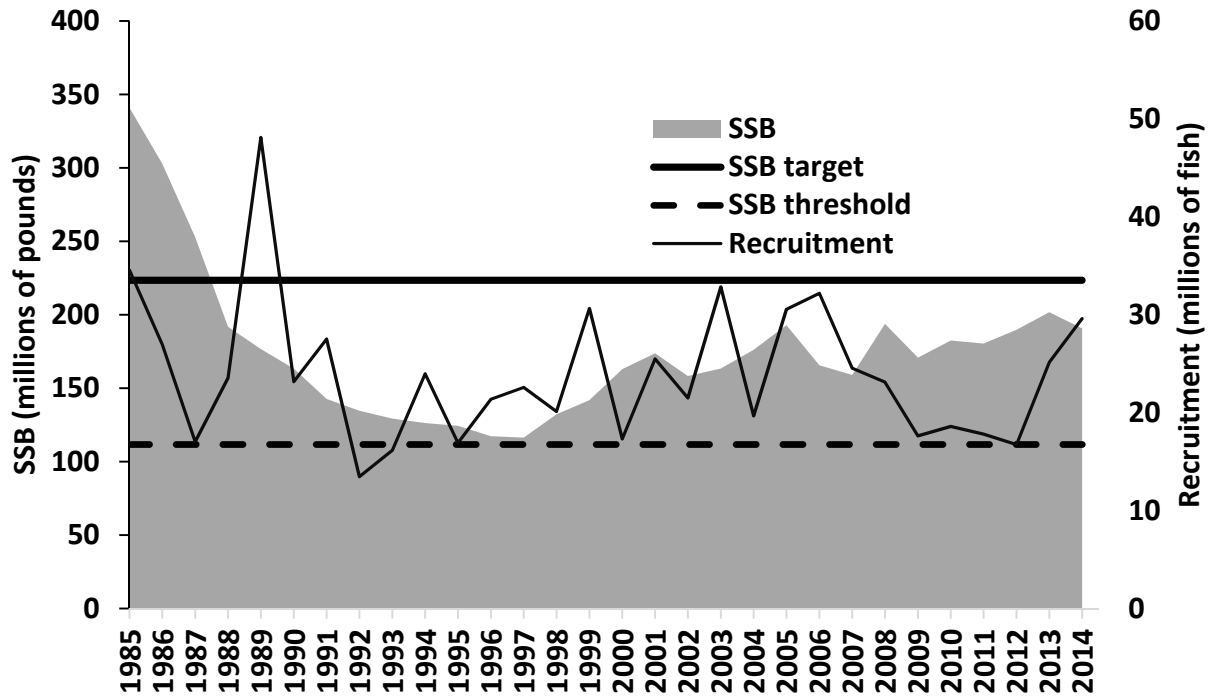


Figure 2. Bluefish fishing mortality (F), 1985-2014. Source: SAW 60 Assessment report, 2015.

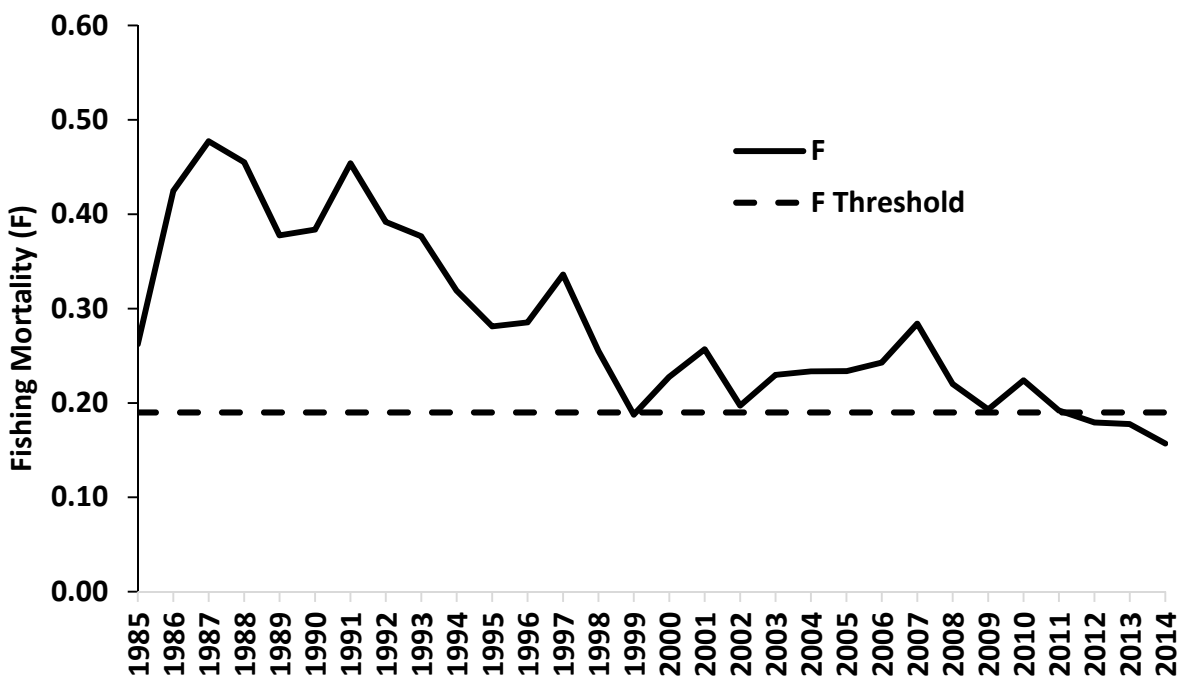


Figure 3. Estimated recreational bluefish harvest (A + B1), releases (B2) and dead discards by recreational anglers in numbers of fish, 1985-2016. Source: MRIP. Estimates may differ from source websites depending on query date (2016 data queried June 14, 2016).

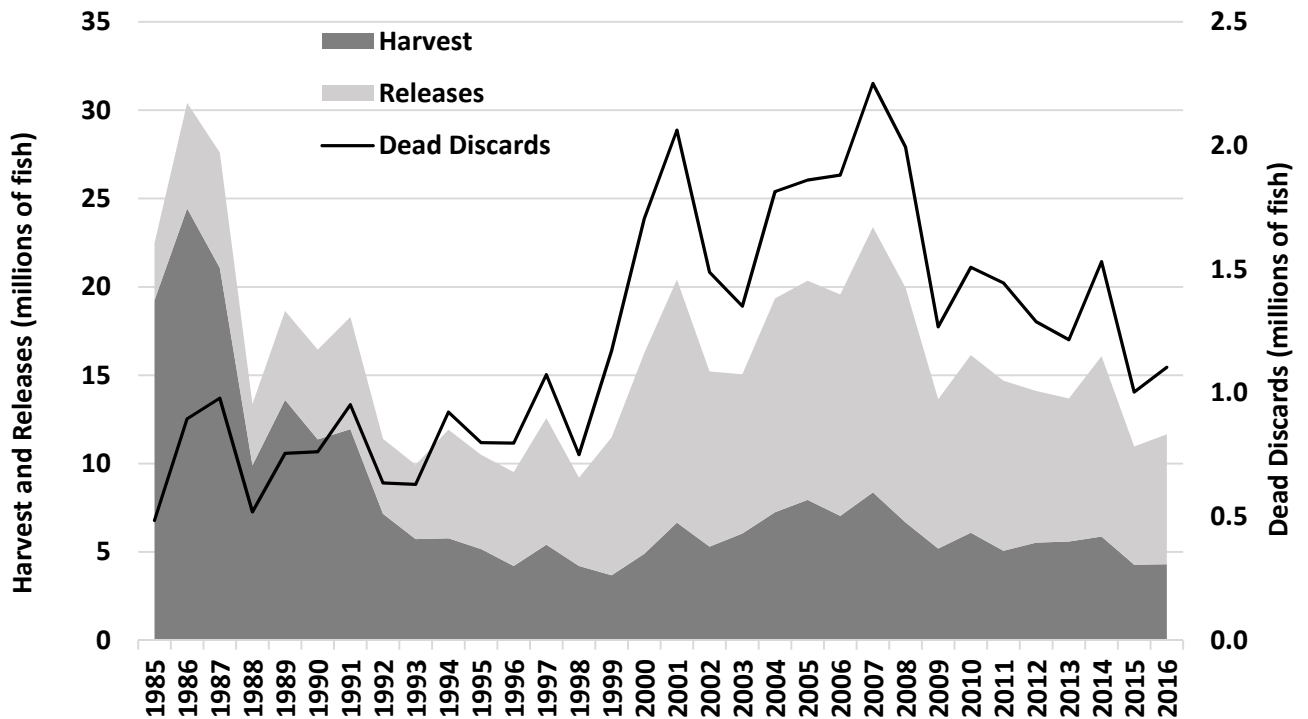


Figure 4. Bluefish recreational harvest and commercial landings estimates by weight, 1985-2016. Source: SAFIS and MRIP. Estimates may differ from source websites depending on query date (2016 data queried June 14, 2016).

