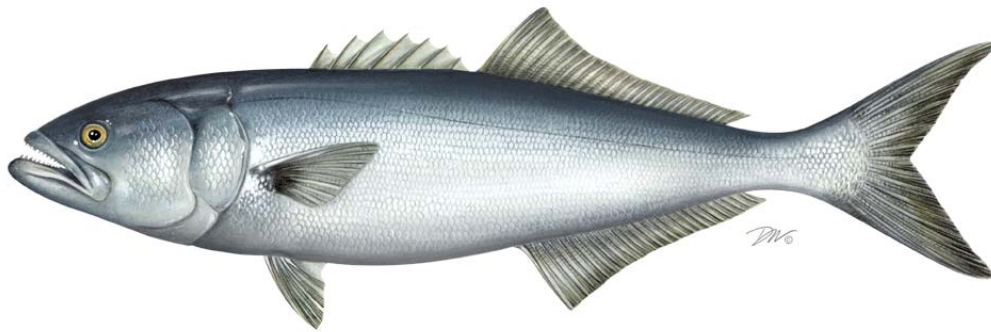


2016 REVIEW OF THE
ATLANTIC STATES MARINE FISHERIES COMMISSION
FISHERY MANAGEMENT PLAN FOR

BLUEFISH
(Pomatomus saltatrix)

2014 AND 2015 FISHING YEARS



Bluefish Plan Review Team

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Approved August 8, 2016

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 August 2015. The 2015 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.

In 2014 and 2015, total bluefish harvest (i.e., commercial landings and recreational harvest) were estimated at 15.60 and 18.00 million pounds, respectively. Commercial harvest represented 33% and 24% of the total harvest, respectively. The recreational fishery harvested 10.51 and 13.73 million pounds (5.88 and 4.28 million fish), respectively. Dead discards from the recreational fishery are estimated at 1.53 and 1.00 million fish, respectively.

In 2014 and 2015, all states implemented management programs consistent with Amendment 1 and Addendum I to the FMP. All commercial state fisheries harvested below their commercial quota allocations, and all states implemented a recreational possession limit not exceeding 15 fish per person. South Carolina and Georgia met the requirements for *de minimis* status in their 2014 and 2015 commercial fisheries and requested *de minimis* status for their 2015 and 2016 commercial fisheries.

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2016 REVIEW OF THE ASMFC 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, MAFMC Coastal Migratory Species Committee, Technical Committee, Plan Review Team, and Stock Assessment Subcommittee

The bluefish fishery management plan (FMP) was adopted by the Atlantic States Marine Fisheries Commission (Commission) and the Mid-Atlantic Fishery Management Council (MAFMC) in October 1989. It is a joint management plan and 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:

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 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, jointly, 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 process.

In February 2012, the ASMFC Bluefish Management Board approved Addendum I to Amendment 1 of the Bluefish FMP. The Addendum establishes a coastwide biological monitoring program to improve the quantity and quality of information available for use in future 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 harvest 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 the Bluefish TMC annually review the best available information and make fishery specification recommendations to the Council and Board for the following season. Recommendations include commercial quota, RHL, research set-aside (RSA), and other management measures such as minimum size 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, then quota may be transferred from the recreational to the commercial sector, not to exceed a commercial quota of 10.5 million pounds. The final commercial quota is then allocated state-by-state, from Maine through Florida, based on a percentage share detailed in the FMP.

II. Status of the Stock

The 2015 bluefish benchmark stock assessment was peer reviewed at the 60th SAW/SARC. The assessment passed peer review 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 FMSY 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 2015 (Figure 1). Fishing mortality (F) in 2014 (Figure 2) was estimated to be 0.16 which is below the F threshold ($F_{35\%SPR}=0.19$).

III. Status of the Fishery

Recreational catch of bluefish in U.S. waters of the Atlantic coast has averaged 17.7 million fish since 1981, and 16.2 million fish over the most recent 10-years (2006-2015; Table 1 and Figure 3). In 2014, recreational catch was close to the long term average at 16.1 million bluefish. In 2015, recreational anglers caught 11.0 million bluefish, well below the long term average and the lowest catch since 1998.

In 2014, recreational anglers harvested 37% more bluefish by number than in 2015 (5.9 and 4.3 million fish, respectively). However, in 2015, recreational harvest was 30% higher by weight compared to that in 2014 (Table 2 and Figure 4), indicating that the average weight of individual bluefish landed in 2015 was considerably larger than those fish landed in 2014.

Commercial bluefish landings have been regulated by quota since implementation of Amendment 1 in 2000 and since then have averaged 3.3 million pounds annually (Table 2 and Figure 4). Although the proportion of total landings from the commercial bluefish fishery (i.e., recreational harvest plus commercial landings) has increased in recent years, commercial landings have been consistently lower than the recreational catch. In 2015, commercial landings were estimated at 4.3 million pounds, a 16% decrease compared to 2014 (5.1 million pounds). In 2015, the majority of the harvest came from New York (22%), North Carolina (19%), New Jersey (17%), Massachusetts (14%) and Rhode Island (12%).

V. Status of Research and Monitoring

Many states, NMFS, and SEAMAP conduct fishery-independent surveys (see Table 3 for state-conducted survey results). New Hampshire, Massachusetts, Connecticut, New York, New Jersey, Delaware, Maryland, and Florida monitor juvenile bluefish abundance. Rhode Island, Connecticut, New Jersey, Delaware, North Carolina, South Carolina, Georgia, and Florida monitor adult abundance. Year class strength is monitored through a number of fishery-independent surveys (NEFSC 2015).

Commercial landings information is collected by most states from dealer or fisherman reporting programs. Fishermen in the EEZ are required to report their landings to NOAA Fisheries. North Carolina and Virginia are the only states that significantly sample bluefish commercial fisheries

for size and age composition of the catch. Recreational 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. As part of Addendum I, states that account 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). For the 2014 and 2015 fishing years, the following states were required to collect age data: Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Virginia, and North Carolina. The majority of states were able to collect the minimum of 100 age samples in 2014 and 2015 (Table 4), and all states made a good effort to collect 50 age samples from both spring and fall. 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, the PRT recommends that the TC conduct periodic reviews as the program continues.

VI. Status of Management Measures and Issues

The Commission and MAFMC adjust the commercial quota and recreational harvest limit annually using the specification setting process detailed in Amendment 1 and in Section I of this report. The recreational fishery is allocated 83% of the ACL, and the commercial fishery is allocated the remaining 17%. The coastwide commercial quota is divided into individual state-by-state quotas based on landings from 1981-1989. The table below details fishery specifications for 2014 and 2015. Limits and quotas are presented in million pounds.

Specifications	ACL	Commercial Quota	RHL	RSA
2014	24.43	7.46	13.52	0.99
2015	21.54	5.24	12.95	N/A

In 2014, all sectors harvested within their harvest limits. In 2015, the recreational sector exceeded the RHL (13.73 million pounds > 12.95 million pounds). However, since the ACL was not exceeded (i.e., in 2015, commercial harvest + recreational harvest + recreational discards ≤ 21.54 million pounds), no accountability measures have been triggered for 2016.

Historically, with the help of quota transfers between states, states have harvested below both the coastwide and state-specific commercial quotas. However, since the coastwide commercial quota is expected to remain low for the foreseeable future, states will have to be increasingly strategic with quota transfers in order to maintain harvest below their respective allocations.

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

These states or 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 that each state and jurisdiction implemented a management program for 2014 and 2015 that was consistent with the requirements of Amendment 1 and Addendum I to the bluefish FMP. Refer to Table 4 for state-by-state fishery regulations in 2014 and 2015, and Tables 5a and 5b for commercial quota monitoring and harvest.

South Carolina and Georgia have requested *de minimis* status for 2015 and 2016. Although data are confidential, 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.

Planned State Regulatory Changes for 2016

- RI – adopted an 18” minimum size, as well as three seasons for its commercial fishery with weekly possession limits per vessel (Jan 1- April 30, 500 pounds; May 1 – Nov 15, 4000 pounds, Nov 16 – Dec 31, 500 pounds)
- NJ – potential regulation changes related to gear allocations and quota overages

VIII. Prioritized Research Needs

The following new 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 Recommendations

- The PRT found that all states implemented regulations consistent with Amendment 1 and Addendum I of the Bluefish Interstate FMP, and recommends the Board approve the 2016 Bluefish FMP Review of the 2014 and 2015 fishing years and *de minimis* status for South Carolina and Georgia in 2015 and 2016.
- In regards to Addendum I, the PRT recommends that the TC periodically review the effectiveness of the sampling design and evaluate the optimal geographic range and sample size for bluefish age data.

X. References

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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 number of bluefish caught (A + B1 + B2), harvested (A + B1), discarded dead (15% of B2) and total removals by marine recreational anglers, 1985 to 2015. Source: MRIP. Estimates may differ from MRIP website depending on query date.

Year	Catch	Harvest	Dead Discards	Total Removals
1985	22,473,866	19,245,724	484,221	19,729,945
1986	30,410,509	24,440,850	895,449	25,336,299
1987	27,603,371	21,076,290	979,062	22,055,352
1988	13,364,985	9,905,011	518,996	10,424,007
1989	18,637,255	13,599,938	755,598	14,355,536
1990	16,446,178	11,365,358	762,123	12,127,481
1991	18,291,823	11,942,607	952,382	12,894,989
1992	11,400,060	7,157,755	636,346	7,794,101
1993	9,925,256	5,725,356	629,985	6,355,341
1994	11,920,225	5,767,951	922,841	6,690,792
1995	10,493,882	5,167,979	798,885	5,966,864
1996	9,520,910	4,205,104	797,371	5,002,475
1997	12,573,549	5,413,037	1,074,077	6,487,114
1998	9,204,266	4,202,111	750,323	4,952,434
1999	11,487,685	3,681,840	1,170,877	4,852,717
2000	16,260,384	4,897,007	1,704,507	6,601,514
2001	20,412,005	6,663,237	2,062,315	8,725,552
2002	15,217,193	5,300,189	1,487,551	6,787,740
2003	15,049,303	6,045,063	1,350,636	7,395,699
2004	19,344,306	7,250,405	1,814,085	9,064,490
2005	20,353,082	7,949,180	1,860,585	9,809,765
2006	19,571,623	7,035,179	1,880,467	8,915,646
2007	23,380,318	8,373,899	2,250,963	10,624,862
2008	19,954,719	6,664,152	1,993,585	8,657,737
2009	13,644,475	5,194,242	1,267,535	6,461,777
2010	16,142,140	6,090,830	1,507,697	7,598,527
2011	14,691,649	5,061,393	1,444,538	6,505,931
2012	14,110,596	5,523,285	1,288,097	6,811,382
2013	13,690,018	5,589,752	1,215,040	6,804,792
2014	16,078,398	5,875,337	1,530,459	7,405,796
2015	10,971,681	4,280,413	1,003,690	5,284,103
Total Avg	16,213,733	8,086,789	1,219,041	9,305,831
10-year Avg	16,223,562	5,968,848	1,538,207	7,507,055

Table 2. Bluefish Commercial Landings and Recreational Harvest (A + B1) by weight (thousands of pounds), 1985-2015. Source: Annual state compliance reports, and MRIP. Estimates may differ from MRIP website depending on query date.

Year	Commercial	Recreational	Total	% Commercial
1985	1,496	52,515	54,011	3%
1986	1,603	92,887	94,490	2%
1987	1,829	76,653	78,481	2%
1988	2,583	48,222	50,805	5%
1989	1,254	39,260	40,513	3%
1990	1,642	30,557	32,198	5%
1991	1,859	32,997	34,856	5%
1992	1,393	24,275	25,668	5%
1993	1,377	20,292	21,669	6%
1994	1,741	15,541	17,282	10%
1995	1,401	14,307	15,707	9%
1996	1,027	11,746	12,772	8%
1997	1,235	14,302	15,536	8%
1998	2,553	12,334	14,887	17%
1999	2,043	8,253	10,296	20%
2000	2,157	10,606	12,763	17%
2001	2,437	13,230	15,667	16%
2002	2,079	11,371	13,451	15%
2003	1,595	13,136	14,731	11%
2004	3,200	17,316	20,517	16%
2005	3,138	19,863	23,001	14%
2006	3,243	16,653	19,896	16%
2007	3,846	21,761	25,607	15%
2008	3,160	19,793	22,953	14%
2009	3,415	14,472	17,887	19%
2010	2,987	16,339	19,326	15%
2011	2,506	11,497	14,004	18%
2012	4,910	11,842	16,752	29%
2013	4,272	15,281	19,553	22%
2014	5,092	10,506	15,599	33%
2015	4,279	13,725	18,004	24%
Average*	3,270	14,837	18,107	18%

*Average since implementation of state-by-state commercial quotas, 2000 to present.

Table 3. 2014 and 2015 Status of State Fishery-Independent Monitoring Programs for Bluefish. Due to case-specific data limitations, not all surveys are utilized for stock assessment. Source: annual state compliance reports.

State	Program*	CPUE**		Comments
		2014	2015	
ME				no fishery-independent monitoring results reported
NH	Annual Juvenile Fish Seine Survey	0.05	0.00	bluefish < 22cm TL
MA	Annual Fall Resource Assessment Trawl Survey	15	0.0	estimated from compliance report; YOY \leq 25 cm FL
RI	Fall Finfish Resource Trawl Survey	70.2	27.8	
CT	Long Island Sound Trawl Survey (LISTS)	18.6	8.4	
NY	Peconic Bay Small Mesh Survey	0.12	0.03	July-October targeting young of year
	Western Long Island Seine Survey	12.4	11.8	targets YOY and yearling striped bass
NJ	Delaware River Seine Survey	0.59	0.26	targets YOY striped bass
	Ocean Trawl Survey	3.4	1.5	
DE	16-foot Trawl Survey	0.18	0.08	estimated from compliance report; YOY index
	30-foot Trawl Survey	0.19	0.05	estimated from compliance report; age-1 index
MD	Chesapeake Bay Juvenile Finfish Survey	0.09	0.02	lowest value of 35-year time series
	Costal Bay Seine Survey	0.49	0.41	
PRFC	Chesapeake Bay Juvenile Finfish Survey	0.09	0.00	index specific to the Potomac River
VA	Chesapeake Bay Multispecies Survey			No values reported; slight increase in 2012 and 2015
NC	Pamlico Sound Gillnet Survey	4.4	2.7	lowest value in the time series
SC				no fishery-independent monitoring results reported
GA	Ecological Monitoring Trawl Survey	17	25	
	Marine Sportfish Health Survey	22	17	entanglement gear
FL	Northeast Florida Sampling Program	0.03	0.06	Age-1+ (two young-of-year indices also available)

*Program descriptions and inter-annual trends are detailed in annual state compliance reports.

**CPUE standardization methodologies vary by F-I monitoring program.

Table 4. 2014 and 2015 Status of Bluefish Fishery Management Plan Implementation by State.

State	Recreational			Commercial		Addendum I Sampling (2014/2015)
	Bag Limit	Season	Size Limit	Trip and Size Limit	Open Season	
ME	3 fish	All year	None	None	All year	N/A
NH	10 fish	All year	None	None reported	July 1 – Sept 30	N/A
MA	10 fish	All year	None	5,000 lbs/day	All year	114/146
RI	15 fish	All year	None	Unlimited**	All year	93/96
CT	10 fish	All year	None	*	All year	190
NY	15 fish	All year	Only 10 fish under 12" TL	9" TL min size and 1,000 lbs; 5,000 lbs Jan - April	All year	518/390
NJ	15 fish	All year	None	9" TL min size	Closed to H&L from Jan 1 - June 15 and Aug 8-Dec 31	261/221
DE	10 fish	All year	None		All year	N/A
MD	10 fish	All year	8" TL min size		All year	N/A
PRFC	10 fish	All year	None	Daily limits after 80% of VA and MD CQ met	All year	N/A
VA	10 fish	All year	None		All year	340/442
NC	15 fish	All year	Only 5 greater than 24" TL		All year	792/530
SC	15 fish	All year	None	No directed fishery	All year	N/A
GA	15 fish	MAR 16 – NOV 30	12" FL min size	15 fish	MAR 16 – NOV 30	N/A
FL	10 fish	All year	12" FL min size	7,500 lbs/day	All year	N/A

* 9" minimum size, variable trip limits by season and percentage of total quota harvested.

** subject to modifications throughout the year.

Table 5a. 2014 State Commercial Bluefish Quotas and Estimated Harvest. Landings Source: ACCSP Data Warehouse, June 2016.

State	% of Federal Quota	2014 Federal Quota (lbs)	2014 Transfers	Final Quota	2013 Landings	2014 Landings	% Quota Used	% Coastwide Total
ME [^]	0.6685	49,861	-45,000	4,861				
NH [^]	0.4145	30,916		30,916				
MA	6.7167	500,970	45,000	545,970	591,710	471,412	86.3%	9.29%
RI	6.8081	507,787	100,000	607,787	457,000	504,902	83.1%	9.95%
CT	1.2663	94,448		94,448	31,735	31,065	32.9%	0.61%
NY	10.3851	774,580	250,000	1,024,580	1,153,258	943,125	92.0%	18.58%
NJ	14.8162	1,105,077	-50,000	1,055,077	349,249	509,105	48.3%	10.03%
DE	1.8782	140,087		140,087	10,074	8,592	6.1%	0.17%
MD ¹	3.0018	223,891	-50,000	173,891	44,590	84,805	48.8%	1.67%
PRFC	N/A	N/A		N/A	32,035	66,209	N/A	1.30%
VA ¹	11.8795	886,041		886,041	300,308	290,993	32.8%	5.73%
NC	32.0608	2,391,277		2,391,277	1,159,787	2,019,279	84.4%	39.78%
SC [^]	0.0352	2,625		2,625				
GA [^]	0.0095	709		709				
FL	10.0597	750,310	-250,000	500,310	142,199	209,954	42.0%	4.14%
TOTAL^{^^}	100	7,458,577		7,458,577	4,240,166	5,075,800	68%	

¹ In 2014, 6,533 lbs caught in PRFC waters and landed in MD; 49,676 lbs caught in PRFC waters and landed in VA.

[^]Landings values are confidential.

^{^^}Totals in table may not match listed quotas due to rounding.

Table 5b. 2015 State Commercial Bluefish Quotas and Estimated Harvest. Landings Source: ACCSP Data Warehouse, June 2016.

State	% of Federal Quota	2015 Federal Quota (lbs)	2015 Transfers	Final Quota	2014 Landings	2015 Landings	% Quota Used	% Coastwide Total
ME [^]	0.6685	35,037	-30,000	5,037				
NH [^]	0.4145	21,725		21,725				
MA	6.7167	352,036	250,000	602,036	471,412	599,968	99.7%	14.18%
RI	6.8081	356,826	180,000	536,826	504,902	514,236	95.8%	12.16%
CT	1.2663	66,369		66,369	31,065	40,305	60.7%	0.95%
NY	10.3851	544,304	550,000	1,094,304	943,125	956,819	87.4%	22.62%
NJ	14.8162	776,547		776,547	509,105	710,610	91.5%	16.80%
DE	1.8782	98,440		98,440	8,592	72,581	73.7%	1.72%
MD ¹	3.0018	157,330		157,330	84,805	91,105	57.9%	2.15%
PRFC	N/A	N/A		N/A	66,209	48,223	N/A	1.14%
VA ¹	11.8795	622,629	-250,000	372,629	290,993	192,317	51.6%	4.55%
NC	32.0608	1,680,371	-550,000	1,130,371	2,019,279	804,349	71.2%	19.01%
SC [^]	0.0352	1,845		1,845				
GA [^]	0.0095	498		498				
FL	10.0597	527,249	-150,000	377,249	209,954	247,061	65.5%	5.84%
TOTAL^{^^}	100	5,241,207		5,241,207	5,075,800	4,230,545	81%	

¹ In 2015, 5,389 lbs caught in PRFC waters and landed in MD; 42,834 lbs caught in PRFC waters and landed in VA.

[^] Landings values are confidential.

^{^^} Totals in table may not match listed quotas due to rounding.

XII. Figures

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

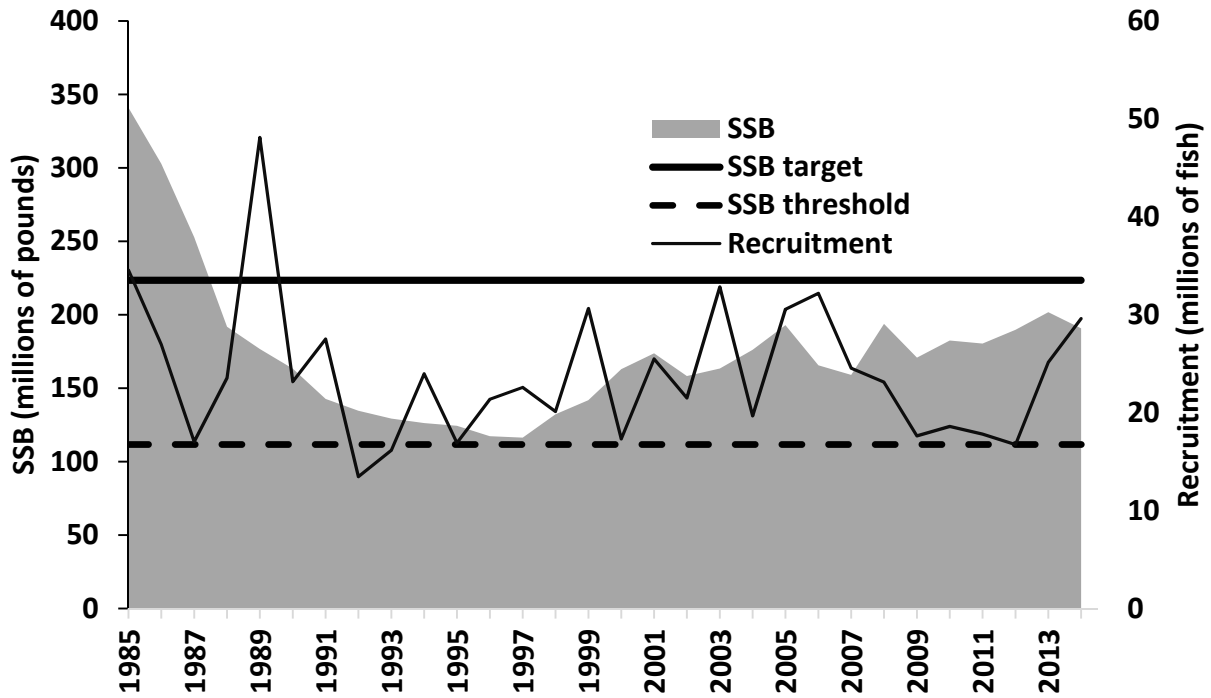


Figure 2. Bluefish fishing mortality (F), 1985-2014. Source: SAW 60 Assessment report, 2015.

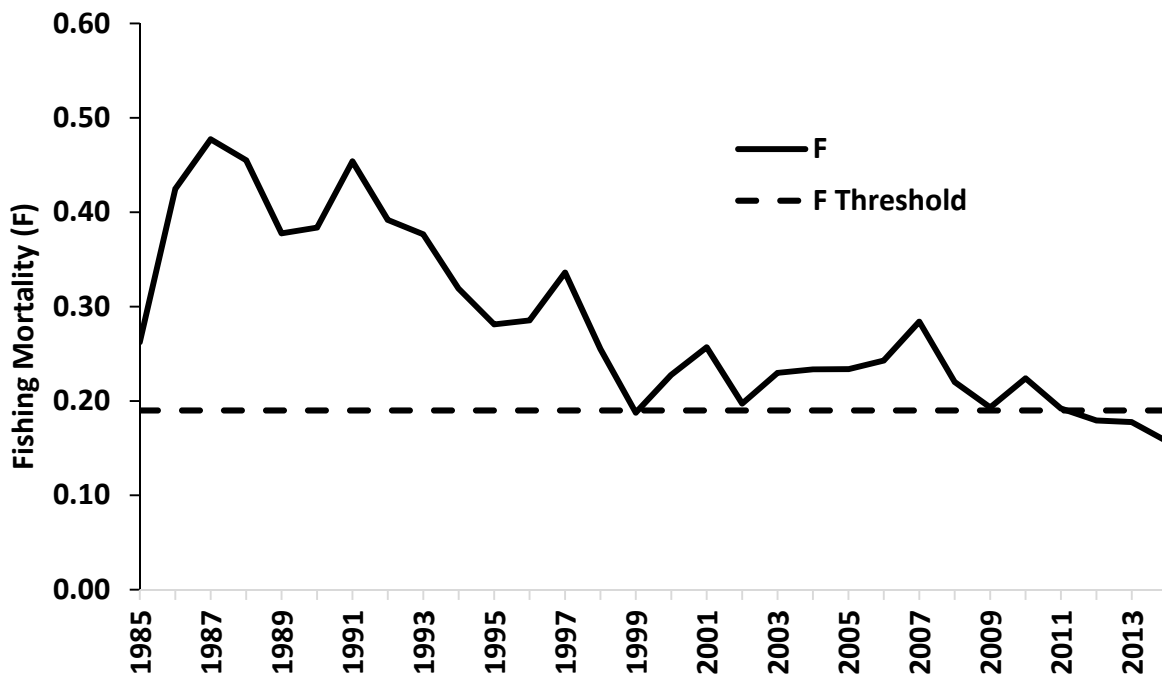


Figure 3. Estimate number of bluefish caught (A+B1+B2) and the estimated number of bluefish harvested (A+B1) by marine recreational anglers, 1981-2015. Source: MRIP.

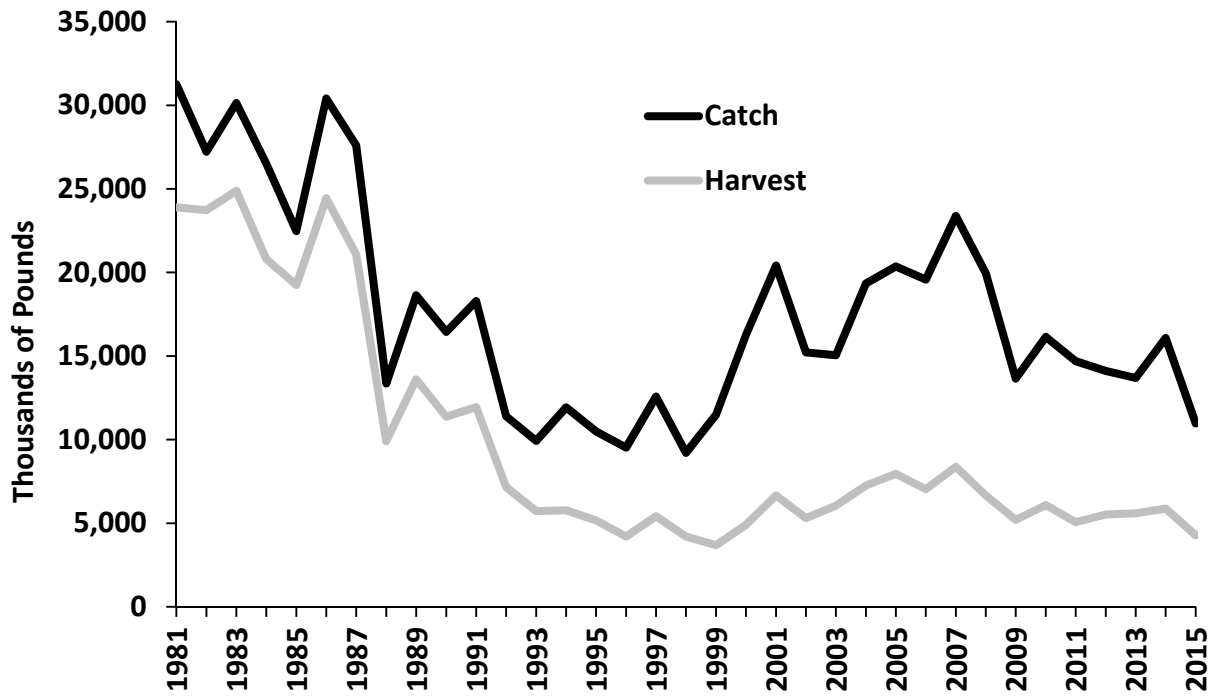


Figure 4. Bluefish commercial landings and recreational harvest estimates, 1981-2015. Source: MRIP.

