



Bluefish Fishery Information Document

April 2024

This Fishery Information Document provides a brief overview of the biology, stock condition, management system, and fishery performance for bluefish with an emphasis on 2023. Data sources for Fishery Information Documents are generally from unpublished National Marine Fisheries Service (NMFS) survey, dealer, vessel trip report (VTR), permit, and Marine Recreational Information Program (MRIP) databases and should be considered preliminary. For more resources, including previous Fishery Information Documents, please visit <http://www.mafmc.org/bluefish/>.

Key Facts

- The bluefish stock entered a rebuilding plan in 2022 to rebuild the stock. The 2023 Management Track Assessment used data through 2022 and indicated that the stock was no longer overfished; however, not yet fully rebuilt to the biomass target.
- Recreational landings were 11.08 million pounds in 2023, a 0.27 million pound decrease compared with 2022.
- In 2023, 80% of recreational bluefish catch was released while 20% was harvested, with the majority of harvest occurring from the shore mode and in state waters.
- Commercial landings were 2.67 million pounds in 2023, a 0.53 million pound increase compared with 2022.

Basic Biology

Bluefish are found worldwide in tropical and subtropical waters, but in the western North Atlantic range from Nova Scotia and Bermuda to Argentina. Bluefish travel in schools of like-sized individuals and undertake seasonal migrations, moving into the Middle Atlantic Bight (MAB) during spring and then south or farther offshore during fall. Within the MAB they occur in large bays and estuaries as well as across the entire continental shelf. Juvenile stages have been recorded in all estuaries within the MAB, but eggs and larvae occur in oceanic waters (Able and Fahay 1998). Bluefish have fast growth rates and reach lengths of 3.5 ft and can weigh up to 27 pounds (Bigelow and Schroeder 1953). Bluefish live to age 12 and greater (Salerno et al. 2001).

Bluefish eat a wide variety of prey items. The species has been described by Bigelow and Schroeder (1953) as “perhaps the most ferocious and bloodthirsty fish in the sea, leaving in its

wake a trail of dead and mangled mackerel, menhaden, herring, alewives, and other species on which it preys."

Bluefish born in a given year (young of the year) typically fall into two distinct size classes suggesting that there are two spawning events along the east coast. Studies suggest, however, that spawning is a single, continuous event, but that young are lost from the middle portion resulting in the appearance of a split season (Smith et al. 1994). As a result of the bimodal size distribution, young are referred to as spring-spawned or summer-spawned. In the MAB, spring-spawned bluefish appear to be the dominant component of the stock.

Status of the Stock

2022 Research Track Assessment and 2023 Management Track Assessment

In December 2022, a Bluefish Research Track Assessment was peer reviewed and accepted which found that the stock was not overfished, however not fully rebuilt, and overfishing was not occurring in 2021. This assessment underwent several updates and evaluated new datasets and model changes to develop an improved stock assessment for bluefish. This assessment served as the basis for a 2023 management track assessment.

The 2023 management track assessment (MTA) used data through 2022 and provided updated stock status and biological reference points to be used for management in 2024-2025. The MTA found that the bluefish stock was not overfished and overfishing was not occurring in 2022. Spawning stock biomass (SSB) in 2022 was estimated to be 52,747 mt which is 60% of the biomass target (SSBMSY proxy = 88,131 mt). The 2022 fully selected fishing mortality was estimated to be 0.152 which is 64% of the overfishing threshold (FMSY proxy = 0.239).

Management System and Fishery Performance

Management

The Mid-Atlantic Fishery Management Council (Council or MAFMC) and the Atlantic States Marine Fisheries Commission (ASMFC) work cooperatively to develop fishery regulations for bluefish off the east coast of the United States. The Council and Commission work in conjunction with the National Marine Fisheries Service (NMFS), which serves as the federal implementation and enforcement entity. This cooperative management endeavor was developed because a significant portion of the catch is taken from both state waters (0-3 miles offshore) and federal waters (3-200 miles offshore, also known as the Exclusive Economic Zone or EEZ). The management unit for bluefish is the U.S. waters in the western Atlantic Ocean.

The Bluefish Fishery Management Plan (FMP) was implemented in 1990 and established the Mid-Atlantic Fishery Management Council's management authority over the fishery in federal waters. Amendment 1, implemented in 2000, addressed stock rebuilding and created the Bluefish Monitoring Committee which meets annually to make management measure recommendations to the Council. Amendment 3 incorporated the development of annual catch limits (ACLs) and accountability measures (AMs) into the specification process and Amendment 4 modified

recreational accountability measures to accommodate uncertainty in recreational management and catch estimation. The original FMP and subsequent amendments and frameworks are available at: <http://www.mafmc.org/fisheries/fmp/bluefish>.

Until 2022, the annual catch limit was split 83 percent and 17 percent into recreational and commercial limits, respectively, and the discarded component of that catch was deducted to arrive at recreational and commercial total allowable landings (TAL). Additionally, landings above the expected recreational harvest could be “transferred” from the recreational to the commercial fishery as long as the final commercial quota did not exceed 10.5 million pounds. In June 2021, the Council and ASMFC’s Bluefish Board took final action on the Bluefish Allocation and Rebuilding Amendment. This action allocates 14 percent of the fishery annual catch limit to the commercial fishery and 86 percent to the recreational fishery, which is a 3-percentage point shift to the recreational sector from the prior allocations. This amendment also adjusted the commercial state quota allocations and allows bi-directional quota transfers. Amendment documentation is available at: <https://www.mafmc.org/actions/bluefish-allocation-amendment>.

The Council's SSC reviews stock assessment results and the Advisory Panel’s fishery performance report and sets the ABCs on a two-year cycle with a review occurring between those two years. The Council's Bluefish Monitoring Committee develops and recommends specific coastwide management measures (commercial quota, recreational harvest limit) that will achieve the catch target and makes further adjustments to total catch as needed based on management uncertainty. Finally, the Council and Board meet jointly to develop recommendations to be submitted to the NMFS.

Table 1. Summary of bluefish catch, harvest, and management measures, 2015 – 2024 (Values are in millions of pounds). In 2019, recreational landings were provided using new MRIP estimates while the RHL was developed using old MRIP estimates so cannot be directly compared.

Management Measures	2015	2016	2017	2018	2019	2020	2021	2022	2023²	2024
ABC	21.54	19.45	20.64	21.81	21.81	16.28	16.28	25.26	30.62	17.48
Comm. Quota	5.24	4.88	8.54	7.24	7.71	2.77	2.77	3.54	4.29	2.42
Comm. Landings	4.02	4.1	3.64	2.20	2.78	2.16	2.07	2.16	2.67	--
Rec. Harvest Limit	12.95	11.58	9.65	11.58	11.62	9.48	8.34	13.89	14.11	11.96
Rec. Harvest, Old MRIP	11.67	9.54	9.52	3.64	--	--	--	--	--	--
Rec. Harvest, New MRIP	30.10	24.16	32.07	13.27	15.56	13.58	12.46	11.35	11.08	--
Rec. Possession Limit (# fish)	15	15	15	15	15	3: Private 5: For-Hire	3: Private 5: For-Hire	3: Private 5: For-Hire	3: Private 5: For-Hire	3: Private 5: For-Hire
Total Catch ¹	18.65	16.09	15.65	6.96	23.50	19.93	21.25	17.85	17.90	--
Overage/Underage	-2.89	-3.36	-4.99	-14.85	N/A	+3.65	+4.97	-7.41	-12.72	--

¹ Recreational discards were calculated with the coastwide mean weight of fish harvested in a given year multiplied by the MRIP B2s and the assumed discard mortality rate from the stock assessment (15% through 2021, 9.4% starting in 2022). ²Catch and landings values are preliminary and are not the final values to be used for catch accounting.

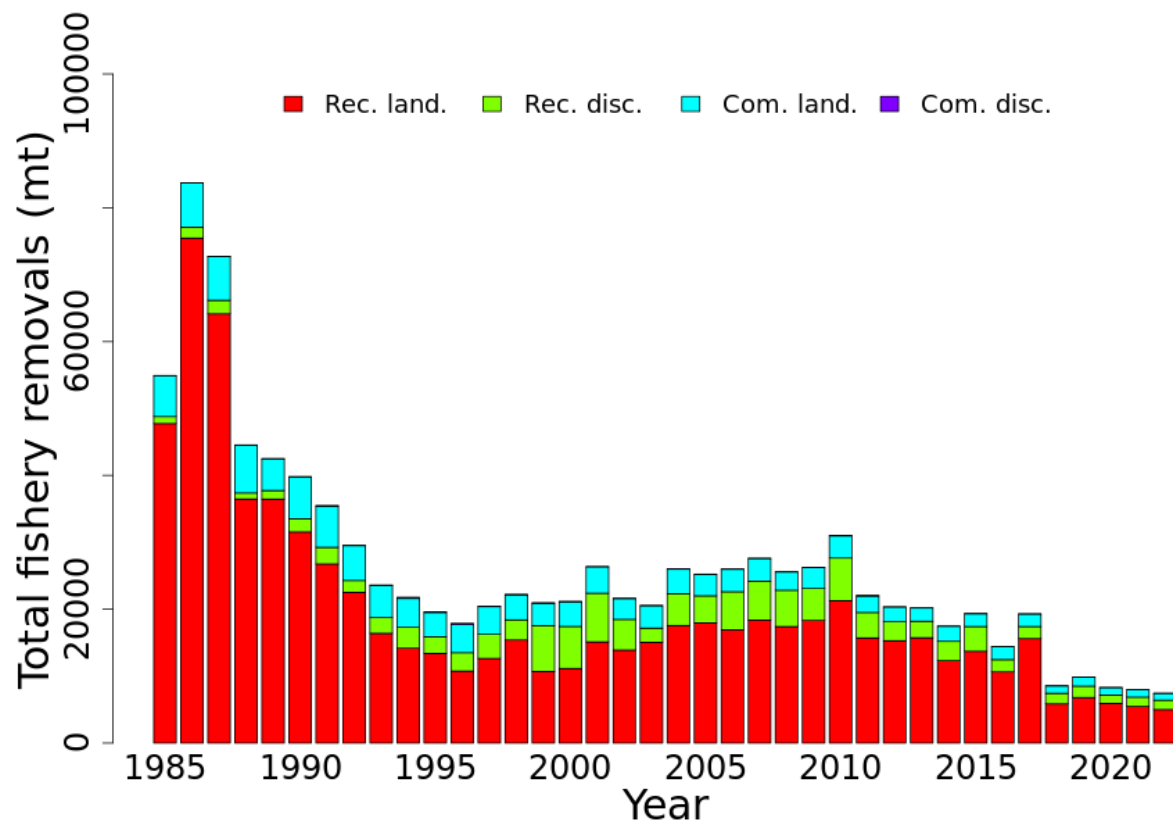


Figure 1. Bluefish commercial and recreational catch (landings and dead discards), 1985-2022 from the 2023 MTA. Commercial discards are included in the current stock assessment, however they are very low relative to the other catch components.

Fishery Performance Relative to Management Measures

The recreational and commercial landings relative to specified management measures through 2023 are provided in Table 1. In 2023, the recreational fishery landed 11.08 million pounds compared to the 14.11 million pounds RHL and the commercial fishery landed 2.67 million pounds compared to the 4.29-million-pound quota.

Recreational Fishery

In July 2018, MRIP released revisions to their time series of recreational catch and landings estimates based on adjustments for a revised angler intercept methodology and a new effort estimation methodology (i.e., a transition from a telephone-based effort survey to a mail-based effort survey). The revised estimates of catch and landings are several times higher than the previous estimates for shore and private boat modes. All recreational estimates in this document reflect revised MRIP estimates except where otherwise noted. Recreational harvest estimates for 2020 were impacted by temporary suspension of shoreside intercept surveys due to the COVID-19 pandemic. NMFS used imputation methods to fill gaps in 2020 catch data with data collected in 2018 and 2019.

Trends in recreational trips associated with targeting or harvesting bluefish from 2014 to 2023 are provided in Table 2. During the past ten years, the lowest annual estimate of bluefish trips was 5.99 million (2023) and the highest annual estimate of bluefish trips was 12.44 million in 2014. Over the last 5 years (2019-2023), the number of bluefish trips averaged 7.34 million trips and the number of trips has been decreasing in recent years.

Table 2. Number of bluefish recreational fishing trips, landings per trip, harvest, catch and releases for the past 10 years, ME-FL.

Year	bluefish trips ¹ (N)	Landings per trip	Rec. Harvest (N)	Rec. Harvest (lbs)	Released (N)	Catch (N)
2014	12,441,771	1.73	21,510,651	27,044,276	33,583,115	55,093,766
2015	9,406,704	1.46	13,725,106	30,098,649	28,423,854	42,148,960
2016	10,626,957	1.4	14,899,723	24,155,304	27,629,023	42,528,746
2017	9,952,090	1.39	13,845,806	32,071,432	28,317,327	42,163,133
2018	7,169,536	1.43	10,245,710	13,270,862	20,682,992	30,928,703
2019	8,250,853	1.47	12,137,290	15,555,889	26,494,646	38,631,936
2020	8,745,993	1.07	9,336,222	13,581,218	21,345,604	30,681,826
2021	7,409,375	0.83	6,183,783	12,462,781	23,566,217	29,750,000
2022	6,324,069	1.00	6,353,081	11,354,535	25,930,541	32,283,622
2023	5,991,432	0.75	4,505,757	11,080,678	17,624,662	22,130,416

¹ Estimated number of recreational fishing trips where the primary target was bluefish or bluefish were harvested regardless of target

From the early 1980s to the early 1990s, recreational harvest declined about 70% (avg. 1981-1983 = 156.34 million pounds; avg. 1991-1993 = 46.14 million pounds). Recreational harvest continued to decline at a slower rate until reaching a low level in 1999-2000 but then grew to a peak of over 46 million pounds in 2010. From 2000 to 2010 landings were relatively stable, however, recreational landings have been trending downward since 2010 (Figure 1). Since 2018, recreational harvest dropped to the lowest values of the time series with a 2018-2023 average harvest of 12.88 million pounds. In 2023, landings were 11.08 million pounds.

Recreational catch and harvest estimates by state for 2023 are provided in Table 3. The greatest catches (harvest plus discards) occurred in North Carolina with 6.16 million fish, followed by Florida with 3.5 million fish and New York and New Jersey with 2.5 million fish.

The greatest harvest of bluefish by weight in 2023 occurred in New York with 3.2 million pounds, followed by Massachusetts, Florida, and North Carolina with a little over 1 million pounds harvested. In 2023, 80% of recreational bluefish catch was released while 20% was harvested, however this varied by state (Figure 2).

Table 3. MRIP estimates of 2023 bluefish recreational harvest, catch, and discards by state. Harvest is in numbers of fish and pounds, while total catch, and discards are in numbers of fish. A discard mortality rate of 9.4% is assumed for the recreational fishery based on the most recent stock assessment.

State	Harvest		Catch (Number)	Total Released (Number)	Dead Discards (Number)
	Pounds	Number			
ME	12,902	1,527	221,720	220,193	20,698
NH	10,383	1,542	13,716	12,174	1,144
MA	1,475,370	175,641	1,098,741	923,100	86,771
RI	766,005	141,454	594,555	453,101	42,591
CT	841,225	168,656	915,833	747,177	70,235
NY	3,230,637	676,943	2,536,779	1,859,836	174,825
NJ	954,384	538,068	2,494,858	1,956,790	183,938
DE	118,864	40,660	552,981	512,321	48,158
MD	400,691	212,260	675,188	462,928	43,515
VA	264,130	223,530	780,871	557,341	52,390
NC	1,383,824	1,244,725	6,161,576	4,916,851	462,184
SC	247,891	312,438	2,308,552	1,996,114	187,635
GA	46,583	47,472	273,024	225,552	21,202
FL	1,327,789	720,841	3,502,025	2,781,184	261,431
Total	11,080,678	4,505,757	22,130,419	17,624,662	1,656,718

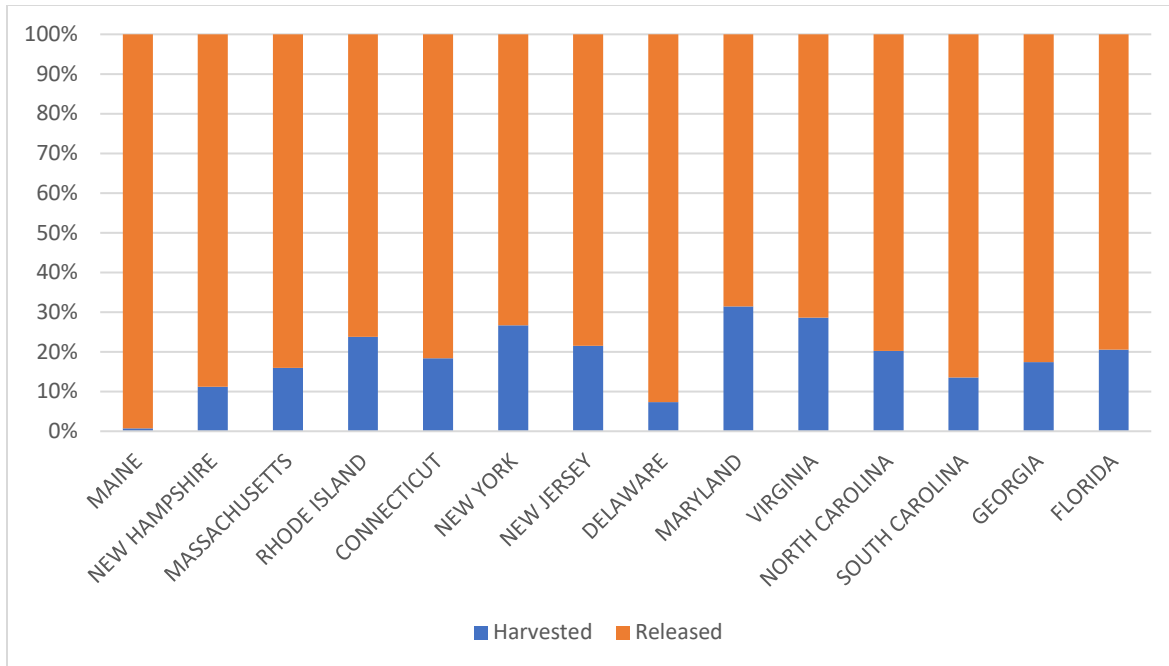


Figure 2. Proportion of bluefish recreational catch that was harvested and released by state in 2023 (in numbers of fish). Source: MRIP.

Figure 3 presents landings by mode since 2003 and indicates that the recent primary modes landing bluefish are shore mode and private boats. Based on recreational harvest in 2023, landings from shore represented 51% of overall landings, followed by private rental mode at 43% and the for-hire sector at 7%. Over the last five years (2019-2023), ~65% of the total bluefish landings came from shore, ~35% from private/rental boats, and ~5% from for-hire boats. Preliminary values indicate 941 bluefish charter boats were permitted for 2023, which decreased from 988 in 2022.

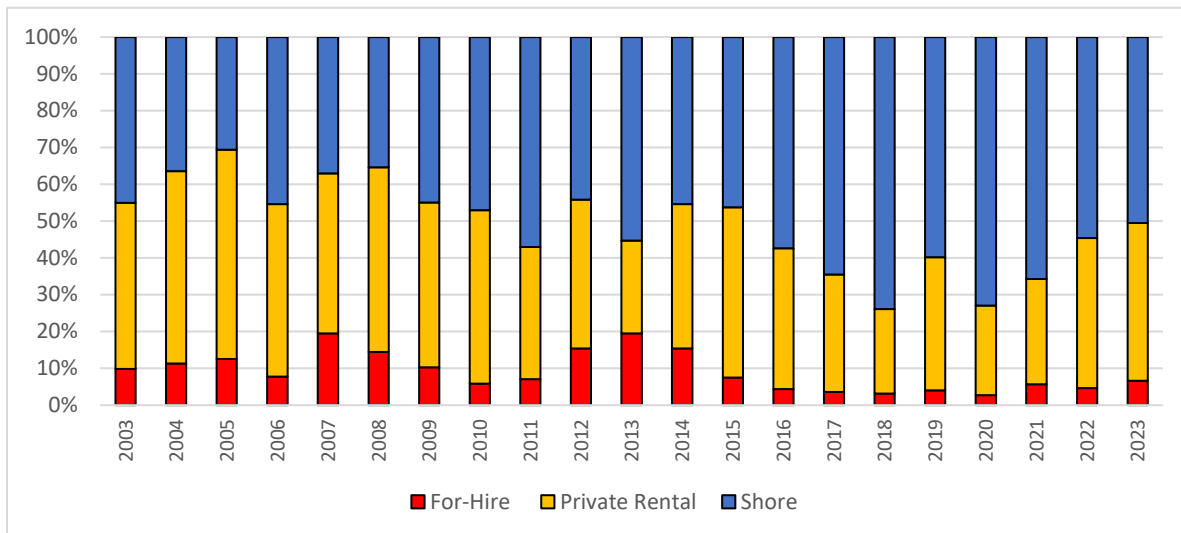


Figure 3. Bluefish recreational harvest (pounds) by mode on the Atlantic Coast, 2003-2023. Source: MRIP.

MRIP classifies catch into three fishing areas: inland, nearshore ocean (< 3 mi), and offshore ocean (> 3 mi). In 2023, the majority of coastwide bluefish harvest occurred in inland waters at 61%, followed by 35% from nearshore ocean, and 4% from offshore waters. Inland and nearshore ocean are considered state waters while offshore ocean (>3 miles) is federal waters, therefore 96% of bluefish harvest by weight occurred in state waters in 2023.

Commercial Fishery

Federal permit data indicate that 2,493 commercial bluefish permits were issued in 2023. A subset of federally permitted vessels was active in 2023 with dealer reports identifying 320 vessels with commercial bluefish permits that landed bluefish. In addition, 432 federal dealers held bluefish permits and 133 of those dealers purchased bluefish in 2023.

In 2023, the commercial fishery landed 2.67 million pounds. Dealer data for 2023 indicate that most of the bluefish commercial landings were taken by gillnet (64%), handline (17%), trawl/dredge (8%), and other (10%).

Across states, 2023 commercial landings were the highest in North Carolina with 1.28 million pounds of bluefish landed, followed by New York at 0.45 million pounds and Massachusetts at 0.31 million pounds (Table 4). CAMS landings data was used to identify all NMFS statistical areas that accounted for at least 5 percent of the total bluefish landings (Table 5). Six statistical areas accounted for approximately 81% of the landings in 2023. The highest percentage of landings and the highest number of trips were from statistical area 635.

The top commercial landings ports for bluefish in 2023 are shown in Table 6. Seven ports qualified as "top bluefish ports," i.e., those ports where 100,000 pounds or more of bluefish were landed. Wanchese, NC landed the most commercial bluefish with 459,368 pounds landed. The ports and communities that are dependent on bluefish are described in Amendment 1 to the FMP (available at <http://www.mafinc.org/fisheries/fmp/bluefish>). Additional information on "Community Profiles for the Northeast US Fisheries" can be found at http://www.nefsc.noaa.gov/read/socialsci/community_profiles/.

According to dealer data, commercial vessels landed about 2.67 million pounds of bluefish valued at approximately \$1.48 million in 2023. Average coastwide ex-vessel price of bluefish was \$0.55 per pound in 2023, a \$0.29 decrease from the previous year (2022 price = \$0.84 per pound). A time series of bluefish revenue and price is provided in Figure 5.

Table 4. Preliminary commercial landings by state for 2023 from the CAMS database. States with a “C” in the landings column are confidential. Final commercial catch accounting will be made available by GARFO prior to setting specifications.

State	2023 Landings (Pounds)
ME	C
NH	C
MA	310,596
RI	209,885
CT	37,458
NY	454,505
NJ	144,657
DE	C
MD	4,561
VA	38,248
NC	1,283,985
SC	0
GA	0
FL	186,458
Total	2,670,961

Table 5. Statistical areas that accounted for at least 5 percent of the total bluefish landings. Source: CAMS database.

Statistical Area	Landings (lbs)	Number of trips	Percent of total landings
635	1,076,869	5,330	40%
611	326,535	2,395	12%
514	238,812	547	9%
539	204,437	1,820	8%
701	184,486	993	7%
613	144,361	733	5%

Table 6. Preliminary 2023 bluefish landings in pounds for top ports (landings > 100,000 pounds) from the CAMS database.

Port	Pounds	% of total commercial landings	# vessels
WANCHESE, NC	459,368	17%	11
HATTERAS, NC	254,524	10%	<10
MONTAUK, NY	195,995	7%	77
PROVINCETOWN, MA	186,880	7%	<10
BEAUFORT, NC	180,063	7%	10
POINT JUDITH, RI	156,290	6%	87
SWAN QUARTER, NC	152,623	6%	<10

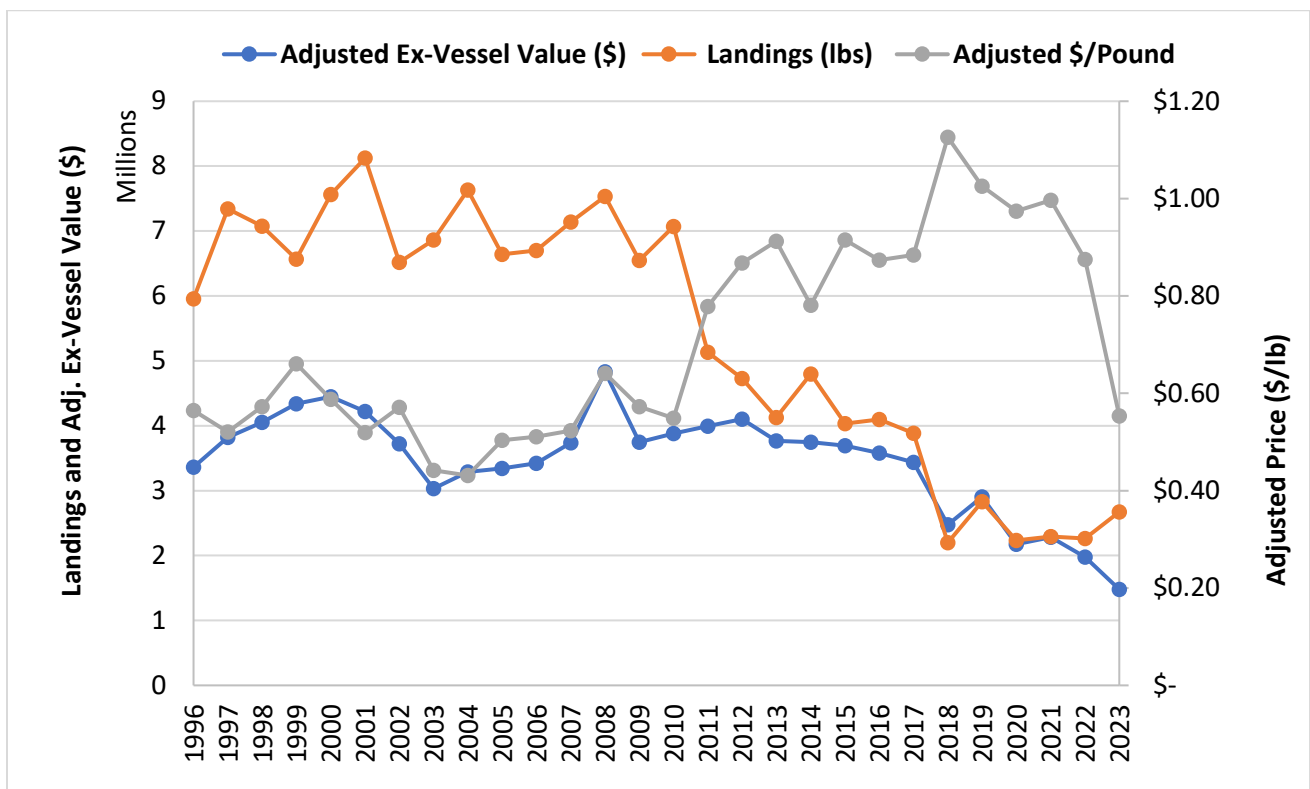


Figure 5. Bluefish commercial landings (in millions of pounds), ex-vessel value, and price per pound (adjusted to 2023 real dollars) from 1996-2023.

Bycatch species caught on bluefish targeted trips based on observer data are shown in Table 7. The commercial bluefish fishery is primarily prosecuted with gillnets and handlines, although there are other small localized fisheries, such as the beach seine fishery that operates along the Outer Banks of North Carolina. Many of these fisheries do not fish exclusively for bluefish, but target a combination of species including croaker, mullet, Spanish mackerel, spot, striped bass,

and weakfish. Given the mixed-species nature of the bluefish fishery, incidental catch of non-target species is not directly attributable to the bluefish fishery.

Table 7. Percent of top commercial non-target species caught (kept or discarded) by weight on observed trips where bluefish was either target species 1 or 2 from 2019-2023. Source: Observer data retrieved April 2024.

Species	% by weight
Smooth dogfish	10%
Scup	4%
Striped bass	2%
Spiny dogfish	2%
Atlantic bonito	1%
Black sea bass	1%

References

- Able, K.W. and M.P. Fahay. 1998. The first year in the life of estuarine fishes in the Middle Atlantic Bight. Rutgers University Press, New Brunswick, NJ. 342 p.
- Bigelow, H.B. and W.C. Schroeder. 1953. Fishes of the Gulf of Maine. U.S. Fish Wildl. Serv., Fish. Bull. 53. 577 p.
- Salerno, D.J., J. Burnett, and R.M. Ibara. 2001. Age, growth, maturity and spatial distribution of bluefish, *Pomatomus saltatrix* (Linnaeus), off the northeast coast of the United States, 1985-96. J. Northwest Atl. Fish. Sci., 29: 31-39.
- Smith, W., P. Berrien, and T. Potthoff. 1994. Spawning patterns of bluefish, *Pomatomus saltatrix*, in the northeast continental shelf ecosystem. Bull. Mar. Sci. 54(1): 8-16.
- NEFSC (Northeast Fisheries Science Center). 2015. 60th Northeast Regional Stock Assessment Workshop (60th SAW) Assessment Report. NEFSC Reference Document 15-08; 870 pp.
- Wood, T. 2014. Bluefish 2014 Stock Assessment Update Data and Model Update Through 2013. Coastal/Pelagic Working Group, Northeast Fisheries Science Center, National Marine Fisheries Service, Woods Hole, MA. 37 p.
- NEFSC (Northeast Fisheries Science Center). 2019. Atlantic Bluefish Operational Assessment for 2019, Northeast Fisheries Science Center, National Marine Fisheries Service, Woods Hole, MA.
- NEFSC (Northeast Fisheries Science Center). 2021. Atlantic Bluefish Management Track Assessment for 2021, Northeast Fisheries Science Center, National Marine Fisheries Service, Woods Hole, MA.
- Personal communication (MRIP query) from the National Marine Fisheries Service, Fisheries Statistics Division. Accessed June 2023. Available at: <https://www.st.nmfs.noaa.gov/recreational-fisheries/data-and-documentation/queries/index>.
- Unpublished NMFS Vessel Trip Report, Dealer, Observer and Permit data.