Bluefish Fishery Information Document

June 2021

This Fishery Information Document provides a brief overview of the biology, stock condition, management system, and fishery performance for bluefish with an emphasis on 2020. Data sources for Fishery Information Documents are generally from unpublished National Marine Fisheries Service (NMFS) survey, dealer, vessel trip report (VTR), permit, and Marine Recreational Information Program (MRIP) databases and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

- According to 2019 operational assessment, bluefish is overfished and overfishing is not occurring. The bluefish stock will enter a rebuilding plan in 2022 to rebuild the stock to the SSB_{MSY} proxy = 438.10 million lbs (198,717 mt).
- Given the COVID-19 pandemic, many of the recreational estimates for 2020 were developed through imputations or proxy estimates.
- Recreational landings decreased from 15.56 million pounds to 13.58 million pounds from 2019 to 2020 (~13% decrease).
- Commercial landings decreased from 2.78 million pounds to 2.16 million pounds from 2019 to 2020 (~22% decrease).
- The 2020 bluefish Acceptable Biological Catch = Annual Catch Limit was exceeded by 3.65 million pounds.

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

The last bluefish benchmark stock assessment was peer reviewed in June 2015 and approved for use by management at SAW/SARC 60. This benchmark assessment uses a forward-projecting statistical catch-at-age model called ASAP (Age Structured Assessment Program). For the most recent benchmark, the catch-at-age matrices were completely reconstructed to incorporate new age data, including archived historical samples that had not been processed at the time the last benchmark (SAW/SARC 41; 2005) was conducted, and to correct aging errors in the earlier years of the time series (NEFSC 2015).

2019 Operational Assessment Update

In August 2019, a bluefish operational assessment, which included revised bluefish MRIP estimates through 2018 changed the stock status and biological reference points from SAW 60, which utilized data through 2014. All information from this operational assessment were and should be interpreted as preliminary results until publication of the final report.

The biological reference points for bluefish revised through the 2019 operational assessment include a fishing mortality threshold of $F_{MSY} = F_{35\%}$ (as the F_{MSY} proxy) = 0.183, and a biomass reference point of $SSB_{MSY} = SSB_{35\%}$ (as the SSB_{MSY} proxy) = 438.10 million lbs (198,717 mt). The minimum stock size threshold (1/2 SSB_{MSY}), is estimated to be 219.05 million lbs (99,359 mt); Table 3. SSB in 2018 was 200.71 million lbs (91,041 mt).

Operational assessment results indicated that the bluefish stock was overfished, and overfishing was not occurring in 2018 relative to the biological reference points. Fishing mortality on the fully selected age 2 fish was 0.146 in 2018, 80% of the updated fishing mortality threshold reference point F_{MSY} proxy = $F_{35\%}$ = 0.183.

2021 Management Track Assessment

In late June/early July 2021, a bluefish management track assessment will be conducted. This assessment will update all fishery and survey data through 2019 using the most recent ASAP model configuration with no changes; biological reference points (BRPs) will be updated, stock status determined relative to BRPs, and the lead will perform standard projections of the

overfishing limit. The analyst is proposing to use the 2020 and 2021 allowable biological catch (ABC) as assumed catch for those years, and project 2022-2023 at $F = F_{MSY}$. In light of this work plan, the analyst proposed a level 1 assessment, direct delivery to the Council's Scientific and Statistical Committee (SSC).

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.

Currently for bluefish, the annual catch target (ACT) is split 83 percent and 17 percent into recreational and commercial ACTs, respectively, and the discarded component of that catch is deducted to arrive at recreational and commercial total allowable landings (TAL). Additionally, landings above the expected recreational harvest can be "transferred" from the recreational to the commercial fishery as long as the final commercial quota does not exceed 10.5 million pounds. However, the Council and ASMFC's Bluefish Board are taking final action on Bluefish Allocation and Rebuilding Amendment in June 2021. This amendment addresses reallocation and the ability to transfer quota from one sector to the other. All preferred alternatives will be implemented for the 2022 fishing year. Amendment documentation is available at: https://www.mafmc.org/actions/bluefish-allocation-amendment.

The Council's SSC reviews assessment results and the Advisory Panel's fishery performance report and determines the ABC for the upcoming year. 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.

Fishery Performance Relative to Management Measures

The current commercial landings are slightly behind the 2020 landings (Figure 1; as of May 18, 2021). The recreational and commercial landings relative to specified management measures are provided in Table 1. In 2020, MRIP reported the recreational fishery landed 13.58 million pounds compared to the 9.48 million pounds RHL. This (2020) is the first year that all catch/landings can be compared to the ABC/Commercial quota/RHL using the new MRIP estimates. This RHL overage will be reviewed by the Monitoring Committee and Council and Board, as well as the Greater Atlantic Regional Fisheries Office to identify if/how accountability measures will be triggered. The commercial fishery landed 2.16 million pounds compared to the 2.77-million-pound quota. Total landings in 2020 are 15.74 million pounds when calculated using the new MRIP estimates and commercial landings.

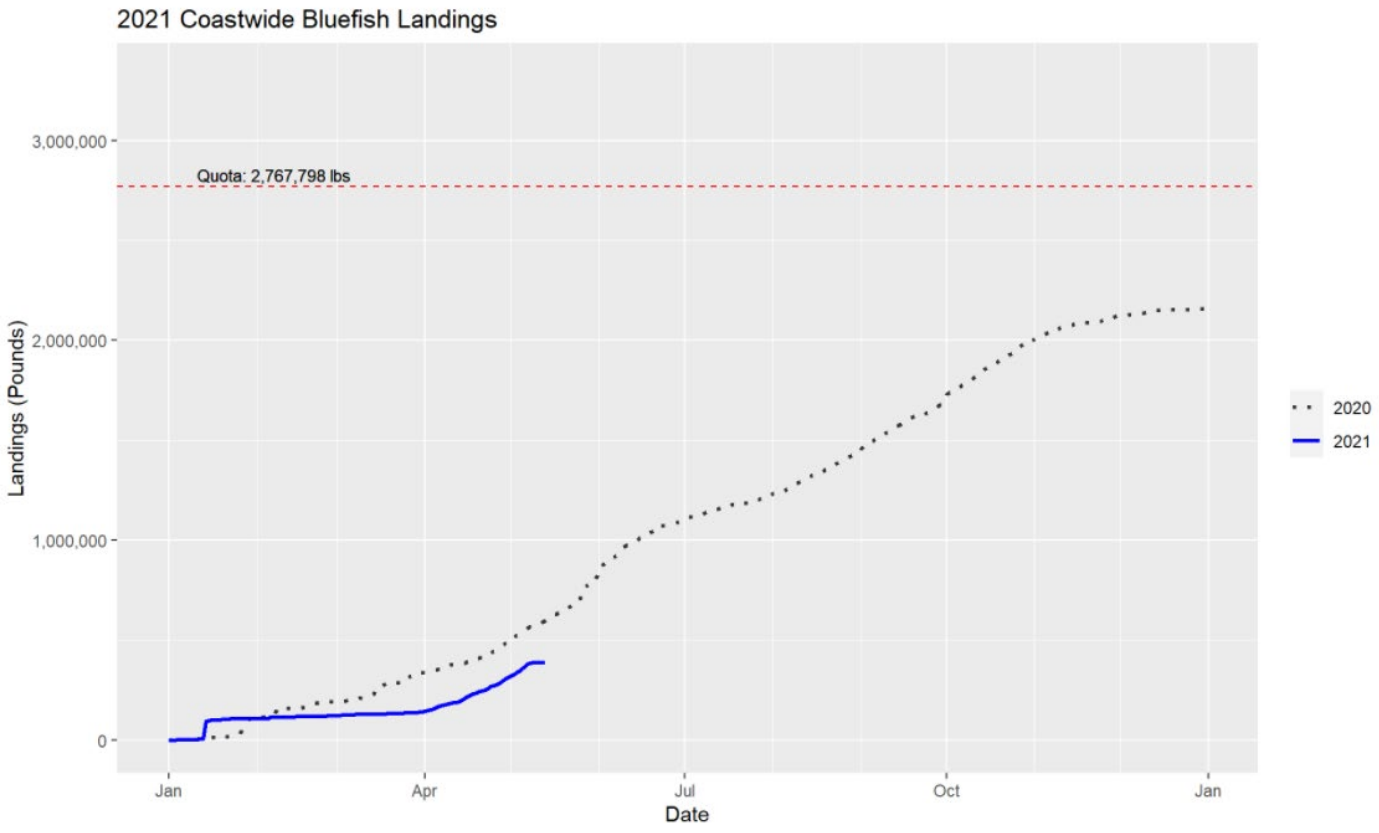

Figure 1. Atlantic bluefish commercial landings for 2021 fishing year to date (May 18, 2021).

Table 1. Summary of bluefish management measures, 2009 – 2021 (Values are in million pounds).

Management Measures	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019[8]	2020[9]	2021
TAC[1]/ **ABC**[2]	34.08	34.38	31.74	**32.04**	**27.47**	**24.43**	**21.54**	**19.45**	**20.64**	**21.81**	**21.81**	**16.28**	**16.28**
TAL[3]	29.36	29.26	27.29	28.27	23.86	21.08	18.19	16.46	18.19	18.82	19.33	12.25	12.25
Comm. Quota[4]	9.83	10.21	9.38	10.32	9.08	7.46	5.24	4.88	8.54	7.24	7.71	2.77	2.77
Comm. Landings[5]	7.1	7.55	5.61	4.66	4.12	4.77	4.02	4.1	3.64	2.20	2.78	2.16	
Rec. Harvest Limit[4]	19.53	18.63	17.81	17.46	14.07	13.62	12.95	11.58	9.65	11.58	11.62	9.48	8.34
Rec. Landings, Old MRIP[6]	14.47	16.34	11.5	11.84	16.46	10.46	11.67	9.54	9.52	3.64	N/A	N/A	N/A
Rec. Landings, New MRIP	40.73	46.30	34.22	32.53	34.40	27.04	30.10	24.16	32.07	13.27	15.56	13.58	
Rec. Possession Limit (# fish)	15	15	15	15	15	15	15	15	15	15	15	3: Private 5: For-Hire	3: Private 5: For-Hire
Total Landings	21.57	23.89	17.11	16.5	20.58	15.23	15.69	13.64	13.16	5.84	18.34	15.74	
Overage/Underage	-7.79	-5.37	-10.18	-11.77	-3.28	-5.85	-2.5	-2.82	-5.03	-12.98	N/A*	3.49	
Total Catch[7]	25.10	27.93	20.39	19.26	24.06	17.96	18.65	16.09	15.65	6.96	23.50	19.93	
Overage/Underage	-8.98	-6.45	-11.35	-12.78	-3.41	-6.47	-2.89	-3.36	-4.99	-14.85	N/A*	3.65	

[1] Through 2011. [2] 2012 fwd. [3] Not adjusted for RSA. [4] Adjusted downward for RSA. [5] Dealer and South Atlantic Canvas data used to generate values from 2000-2011; Dealer data (cfders) was used to generate commercial landings. [6] Old MRIP. [7] Recreational discards were calculated assuming MRIP mean weight of fish landed or harvested in a given year multiplied by the MRIP B2s and assumed discard mortality rate of 15% . [8] Values for 2019 and beyond are presented using the new MRIP estimates. [9] 2020 will be the first year that the new MRIP landings can be compared to the RHL – this will allow for calculation of total landings, catch, and overage/underages.

*Note: 2019 is the transition year for when recreational landings are reported using only new MRIP estimates. The 2019 ABC, RHL, and Commercial Quota was developed using old MRIP estimates and cannot be directly compared to the new recreational landing estimates.

Landings History

Bluefish catches were estimated via the Marine Recreational Fisheries Statistic Survey (MRFSS) starting in 1981 thought 2003. Recreational data for years 2004 and later are available from the Marine Recreational Information Program (MRIP), the data collection that followed MRFSS.

From the early 1980s to the early 1990s, recreational landings declined about 70% (avg. 1981-1983 = 156.34 million pounds; avg. 1991-1993 = 46.14 million pounds) when using new MRIP estimates. Recreational landings continued to decline at a slower rate until reaching a low level in 1999-2000 but have since grown to a peak of over 46 million pounds in 2010 (new MRIP). In 2018 and 2019, recreational landings dropped to a time series low of 13.27 and 15.56 million pounds, respectively. In 2020, landings remain low at 13.58 million pounds.

Historically, landings have been relatively stable, however, overall landings have been trending downward since 2010 (Figure 2). Commercial discards are insignificant and are not estimated in the current assessment.

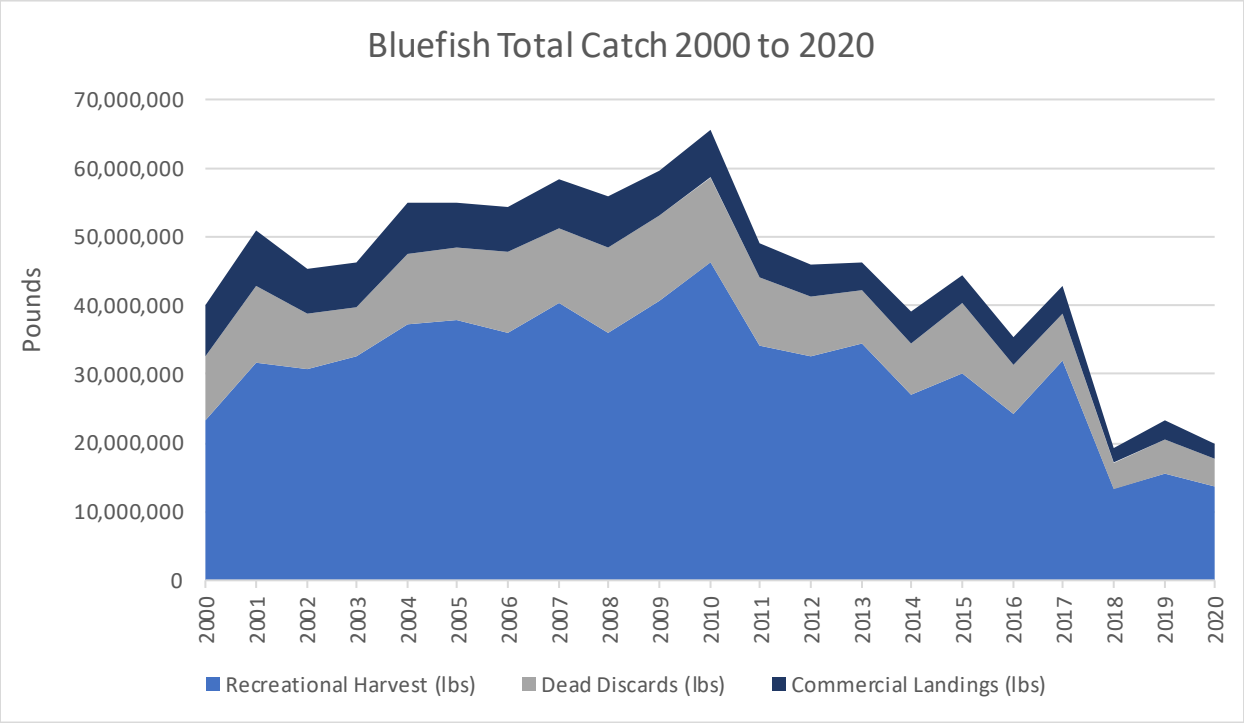

Figure 2. Bluefish catch (landings [AB1] and dead discards [B2*0.15*Avg wt. each year]), 2000-2020. Recreational dead discards are calculated as the average weight of a harvested fish by year, state and mode multiplied by the B2s and 15% discard mortality rate (Source: MRIP and Dealer data – cfders)

Recreational Fishery

Recreational fishery data is reported from MRIP using the new re-calibrated estimates. Trends in recreational trips associated with targeting or harvesting bluefish from 2000 to 2020 are provided

in Table 2. Since 2000, the lowest annual estimate of bluefish trips was 7.17 million (2018). The highest annual estimate of bluefish trips in this timeframe was 13.32 million in 2007. Over the last 5 years (2016-2020), the number of bluefish trips have ranged from 7.17 million trips in 2018 to 10.62 million trips in 2016 with an average of 8.95 million trips.

While the COVID-19 pandemic disrupted the Access Point Angler Intercept Survey (APAIS), its overall impact on recreational fishing data collection was lower than first expected, and NOAA Fisheries was able to fill gaps in 2020 catch data with data collected in 2018 and 2019. These proxy data match the time, place, and fishing mode combinations that would have been sampled had the APAIS continued uninterrupted. Proxy data were combined with observed data to produce catch estimates using the standard estimation methodology. The mail and telephone surveys that collect effort data continued largely uninterrupted.

Table 2. Number of bluefish recreational fishing trips, landings per trip, harvest, catch and releases/discards from 2000 to 2020, ME-FL. Source: MRIP.

Year	bluefish trips[1] (N)	Recreational landings per "bluefish" trip	Recreational Harvest (N)	Recreational Harvest (lbs)	Released Alive (N)	Dead Discards[2] (lbs)	Catch (N)	Catch (lbs)
2000	9,414,330	1.37	12,879,485	23,357,120	34,223,385	9,136,762	47,102,869	32,493,882
2001	11,184,219	1.61	18,048,645	31,654,978	42,463,607	11,145,791	60,512,252	42,800,769
2002	11,609,147	1.52	17,607,380	30,654,388	32,202,742	8,172,282	49,810,122	38,826,670
2003	11,270,920	1.46	16,411,932	32,758,670	21,334,305	6,882,295	37,746,238	39,640,965
2004	12,494,269	1.49	18,631,904	37,133,463	30,607,172	10,405,576	49,239,076	47,539,039
2005	12,816,693	1.43	18,341,452	37,742,807	30,141,215	10,584,246	48,482,667	48,327,053
2006	12,166,411	1.59	19,397,272	36,081,958	34,912,777	11,657,418	54,310,049	47,739,376
2007	13,324,958	1.44	19,189,747	40,239,101	37,123,644	10,982,452	56,313,391	51,221,553
2008	11,416,665	1.30	14,845,435	36,166,834	31,199,569	12,326,758	46,045,003	48,493,592
2009	11,805,296	1.53	18,085,386	40,731,438	31,781,201	12,394,411	49,866,587	53,125,849
2010	13,514,815	1.62	21,929,517	46,302,792	40,420,592	12,296,774	62,350,109	58,599,566
2011	11,921,366	1.75	20,814,884	34,218,748	37,475,767	9,850,040	58,290,651	44,068,788
2012	12,817,838	1.45	18,578,838	32,530,917	32,079,529	8,743,161	50,658,367	41,274,078
2013	9,353,805	2.14	19,975,051	34,398,327	33,519,613	7,733,548	53,494,664	42,131,875
2014	12,441,771	1.73	21,510,651	27,044,276	33,583,115	7,317,237	55,093,766	34,361,513
2015	9,406,704	1.46	13,725,106	30,098,649	28,423,854	10,170,472	42,148,960	40,269,121
2016	10,626,957	1.40	14,899,723	24,155,304	27,629,023	7,106,707	42,528,746	31,262,011
2017	9,952,090	1.39	13,845,806	32,071,432	28,317,327	6,767,813	42,163,133	38,839,245
2018	7,169,536	1.43	10,245,710	13,270,862	20,682,992	3,897,500	30,928,703	17,168,362
2019	8,250,853	1.47	12,137,290	15,555,889	26,494,646	4,880,759	38,631,936	20,436,648
2020	8,745,993	1.07	9,336,222	13,581,218	21,345,604	4,191,779	30,681,826	17,772,997

[1] Estimated number of recreational fishing trips where the primary target was bluefish or bluefish were harvested regardless of target. [2] Each dead discard value in weight is calculated by querying MRIP releases by year, state and mode because the weights of fish discarded vary largely from state to state. MRIP B2s by year, state and mode are multiplied by their respective average weight of a landed fish and the assumed 15% discard mortality rate.

Recreational Landings by State

Recreational catch and harvest by state for 2020 are provided in Table 3. The greatest catches (includes discards) occurred in North Carolina with 8.67 million fish, followed by Florida with 7.27 million fish, and New York and New Jersey with over 3 million fish.

The greatest harvest of bluefish by weight in 2020 occurred in Florida with 5.73 million pounds, followed by North Carolina with 2.12 million pounds, and New York and New Jersey both over 1 million pounds. According to MRIP, 0 bluefish were caught in Maine and only 1,800 pounds in New Hampshire. Average weights, based on dividing MRIP landings in weight by landings in number for each state, suggest that bluefish size tends to increase along the north Atlantic coast.

Table 3. MRIP estimates of 2020 bluefish recreational harvest, total catch, and average weight.

State	Harvest			Catch	Released Alive	Dead Discards
	Pounds	Number	Average Weight[1] (pounds)	Number	Number	Number
ME	0	0	0	0	0	-
NH	1,800	376	4.8	376	0	-
MA	553,242	162,128	3.4	906,269	744,141	111,621
RI	508,227	220,556	2.3	1,089,449	868,893	130,334
CT	594,546	298,383	2.0	1,407,730	1,109,347	166,402
NY	1,478,719	885,517	1.7	3,701,474	2,815,957	422,394
NJ	1,808,548	595,103	3.0	3,372,216	2,777,113	416,567
DE	94,901	53,751	1.8	219,288	165,537	24,831
MD	214,991	173,846	1.2	494,214	320,368	48,055
VA	305,092	395,751	0.8	1,172,803	777,052	116,558
NC	2,124,224	2,108,296	1.0	8,666,047	6,557,751	983,663
SC	154,420	289,339	0.5	2,187,307	1,897,968	284,695
GA	9,902	10,795	0.9	187,272	176,477	26,472
FL	5,732,605	4,142,380	1.4	7,277,380	3,135,000	470,250
Total	13,581,217	9,336,221	-	30,681,825	21,345,604	3,201,841

[1] Average weight in Table 3 is simply the pounds harvested divided by the number of fish harvested. These average weights are calculated differently than what is presented in Table 2 due to the state and wave aspect associated with released fish.

Recreational Landings by Mode

Figure 3 presents new MRIP estimates of landings by mode (1991 through 2020) and indicates that the recent primary modes landing bluefish are shore mode and private boats. Based on recreational harvest in 2020, landings from shore represented 73% of overall landings, followed by private rental mode at 24% and the for-hire sector at 3%. Over the last five years (2016-2020), ~66% of the total bluefish landings came from shore, ~31% from private/rental boats, and ~4% from for-hire boats.

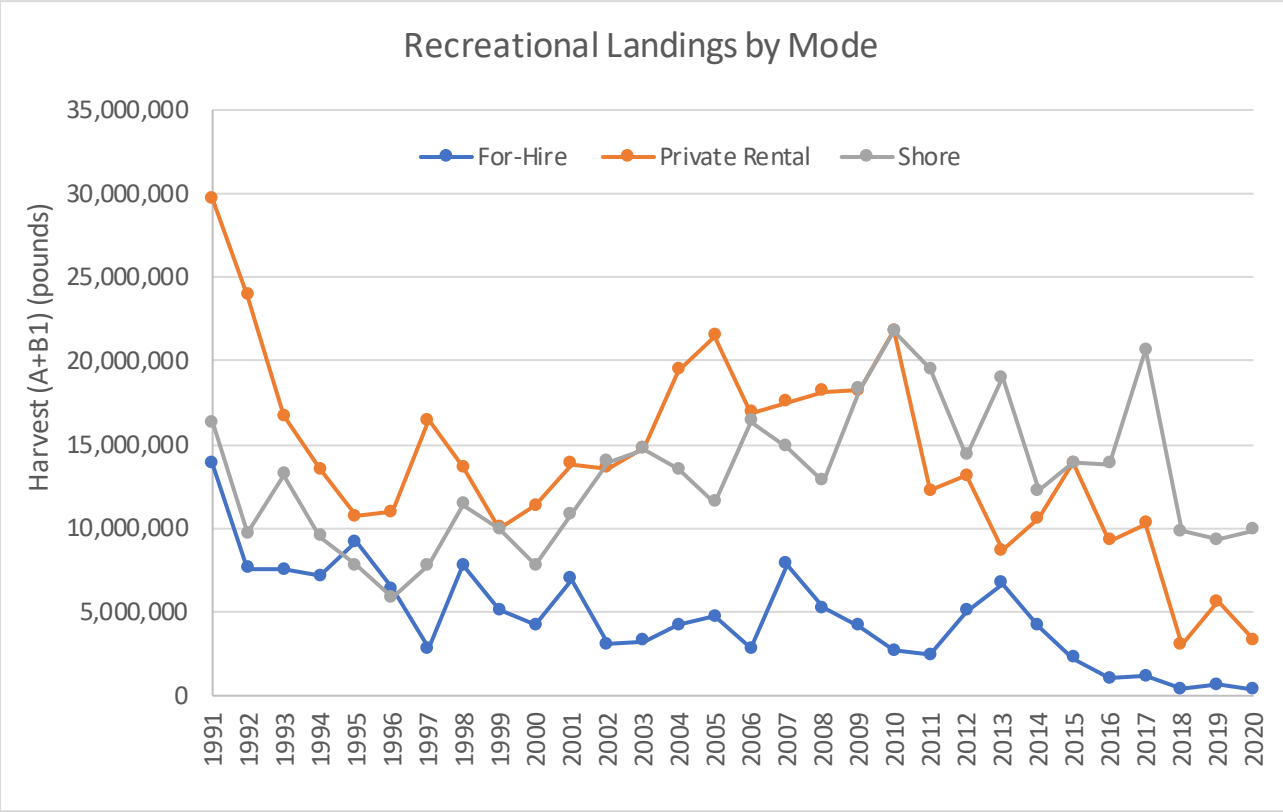

Figure 3. Bluefish recreational harvest (pounds) by mode on the Atlantic Coast, 1991-2020. Source: MRIP.

Recreational Landings by Area

MRIP classifies catch into three fishing areas: inland, nearshore ocean (< 3 mi), and offshore ocean (> 3 mi). In 2020, 40% of the landings of bluefish on a coastwide basis came from inland waters, followed by nearshore ocean at 57%, and offshore waters at 3% (Figure 4). Over the last five years (2016-2020), 39% of the total bluefish landings came from inland waters, 57% from nearshore ocean, and 4% from offshore ocean.

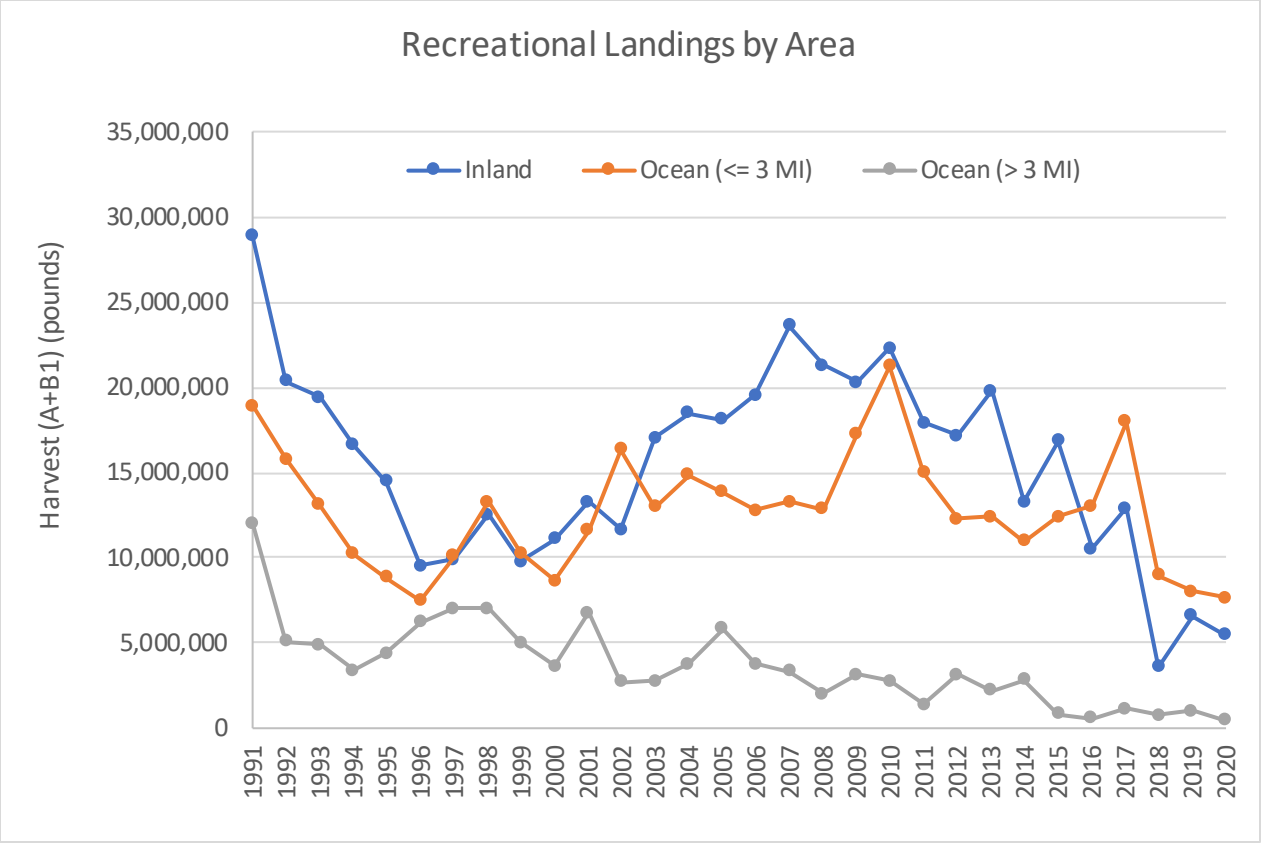

Figure 4. Bluefish recreational harvest (pounds) by area on the Atlantic Coast, 1991-2020 Source: MRIP.

Recreational Discards

In the recreational fishery, bluefish released alive (B2) are estimated by MRIP. To calculate discard mortality[1], a 15% mortality rate is applied to the B2 value. In 2020, there were 3.20 million bluefish dead discards, which represents a downward trend from the 2001 peak of 6.37 million bluefish dead discards (Figure 5).

[1] To estimate discards in pounds, multiply the number of dead discards times the average weight of fish in a given year. For more detailed results, which are used in Table 2, characterize the average weight of a bluefish by state and mode using the MRIP query tool: https://www.st.nmfs.noaa.gov/recreational-fisheries/data-and-documentation/queries/index.

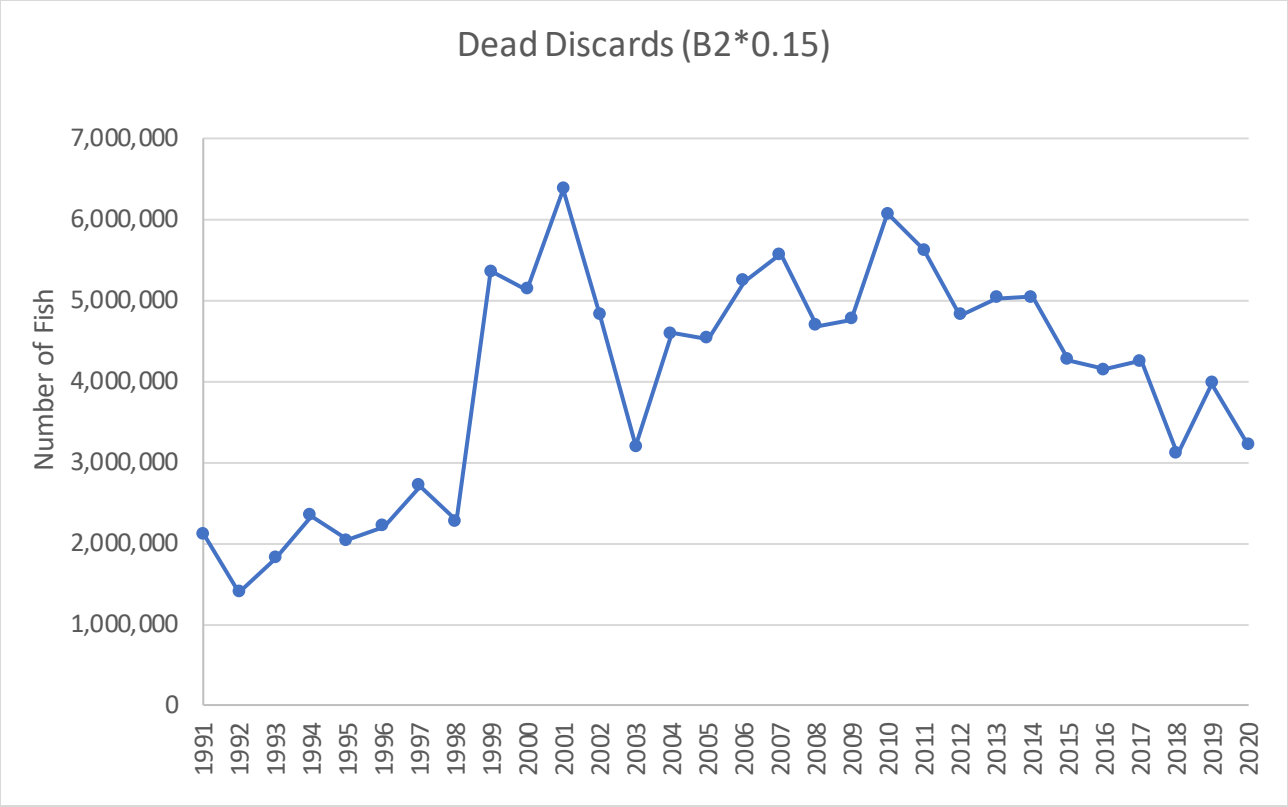

Figure 5. Bluefish dead discards (all areas and modes combined) from 1991-2020. Fish released alive (B2) are assumed to have a 15% mortality rate. Source: MRIP.

Commercial Fishery

Vessel and Dealer Activity

Federal permit data indicate that 2,351 commercial bluefish permits were issued in 2020[2]. A subset of federally permitted vessels was active in 2020 with dealer reports identifying 423 vessels with commercial bluefish permits that actually landed bluefish. Of the 307 federally permitted bluefish dealers in 2020, there were 107 dealers who actually bought bluefish.

Landings by Gear

Dealer data for 2020 indicate that the majority of the bluefish landings were taken by gillnet (52%), followed by unknown gear (24%), otter trawl/bottom fish (15%), handline (5%), and other (4%).

[2]In addition, there were 863 party/charter bluefish permit issued in 2020. A subset of federally permitted party/charter vessels was active in 2020 with VTR reports identifying 258 vessels with party/charter bluefish permits that actually landed bluefish.

Landings by Area

Commercial landings in 2020 were 2.16 million pounds. Landings by state are available in Table 4. VTR catch data was used to identify all NMFS statistical areas that accounted for at least 5 percent of the total bluefish catch or 5 percent or greater of the trips which caught bluefish in 2020 (Table 5). Eight statistical areas accounted for approximately 74% of the VTR-reported catch in 2020. The highest percentage of catch was from statistical area 539 with the most trips targeting bluefish conducted in statistical area 611. A map of statistical areas that accounted for a percentage of the Atlantic bluefish catch is shown in Figure 6.

Note: Commercial VTR landings may differ from landings reported through the dealer database because VTR data are only federal landings, and some state vessels are not required to submit VTRs.

Table 4. Commercial landings by state for 2020. Source: Dealer data (cfders).

State	2020 Landings (Pounds) [1]
ME	527
NH	0
MA	112,674
RI	334,745
CT	22,312
NY	341,623
NJ	152,799
DE	4,303
MD	21,000
VA	165,623
NC	857,719
SC	0
GA	0
FL	144,698
Total	2,158,023

[1] State only commercial landings from North Carolina and Florida are not always present in the cfders database, and thus may not yet be finalized. Final commercial catch accounting will be made available by GARFO prior to setting specifications.

Table 5. Statistical areas that accounted for at least 5 percent of the total bluefish catch or 5 percent or greater of the trips which caught bluefish in 2020. Source: VTR database.

Statistical area	Pounds of bluefish caught	Percent of 2020 commercial bluefish catch	Number of trips	Percent of 2020 bluefish trips that caught bluefish
539	142,333	21%	838	20%
613	81,676	12%	615	15%
611	63,433	9%	1,100	26%
537	51,818	8%	383	9%
626	50,526	7%	36	1%
636	49,261	7%	25	1%
632	34,409	5%	18	<1%
612	32,366	5%	314	7%

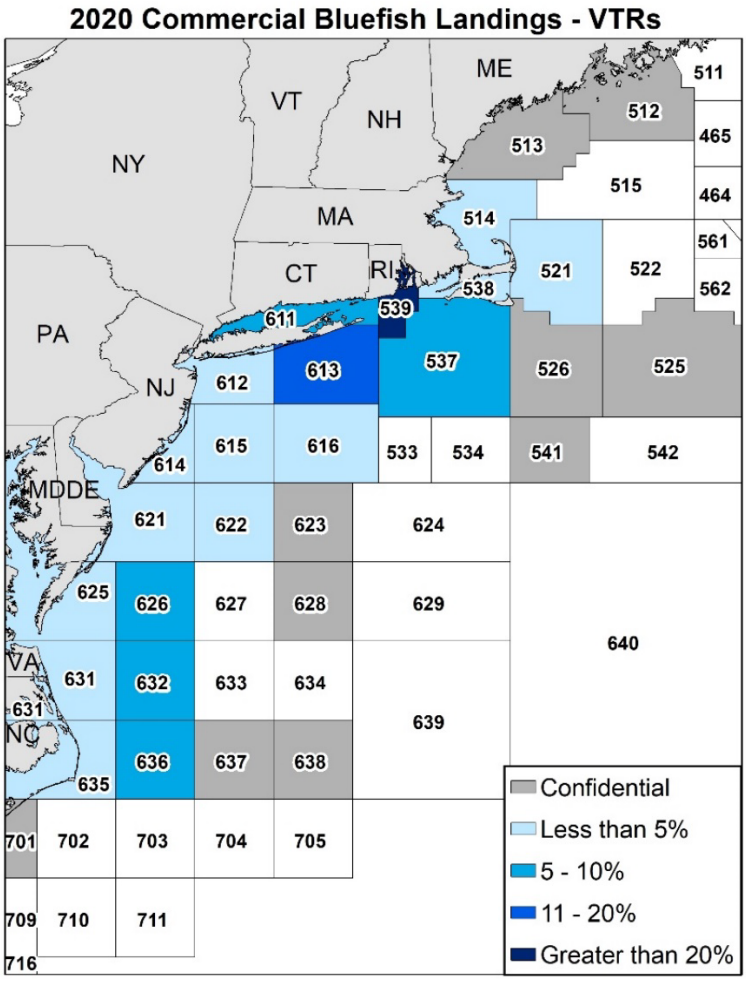

Figure 6. NMFS Statistical Areas that accounted for a percentage of the commercial bluefish landings in 2020. Source: VTR data.

The top commercial landings ports for bluefish in 2020 are shown in Table 6. Five ports qualified as "top bluefish ports," i.e., those ports where 100,000 pounds or more of bluefish were landed. Wanchese, NC was the most active commercial bluefish port with almost 400,000 pounds landed. The ports and communities that are dependent on bluefish are described in Amendment 1 to the FMP (available at http://www.mafmc.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/.

Table 6. Bluefish landings in pounds by port based on NMFS 2020 dealer data (cfders).

Port[1]	Pounds	% of total commercial bluefish landings	# vessels
Wanchese, NC	368,942	17%	16
Hatteras, NC	269,655	12%	<10
Point Judith, RI	216,060	10%	99
Montauk, NY	151,200	7%	74
Little Compton, RI	105,941	5%	<10

[1]This table includes only the "top ports" (ports where landings of bluefish were > 100,000 pounds), and thus does not include all 2020 landings.

Revenue

According to dealer data, commercial vessels landed about 2.16 million pounds of bluefish valued at approximately $1.84 million in 2020. Average coastwide ex-vessel price of bluefish was $0.85 per pound in 2020, a ~4.5% decrease from the previous year (2019 price = $0.89 per pound). The relative value of bluefish is very low among commercially landed species, less than 1% of the total value, respectively of all finfish and shellfish landed along the U.S. Atlantic coast in 2020. A time series of bluefish revenue and price is provided in Figure 7.

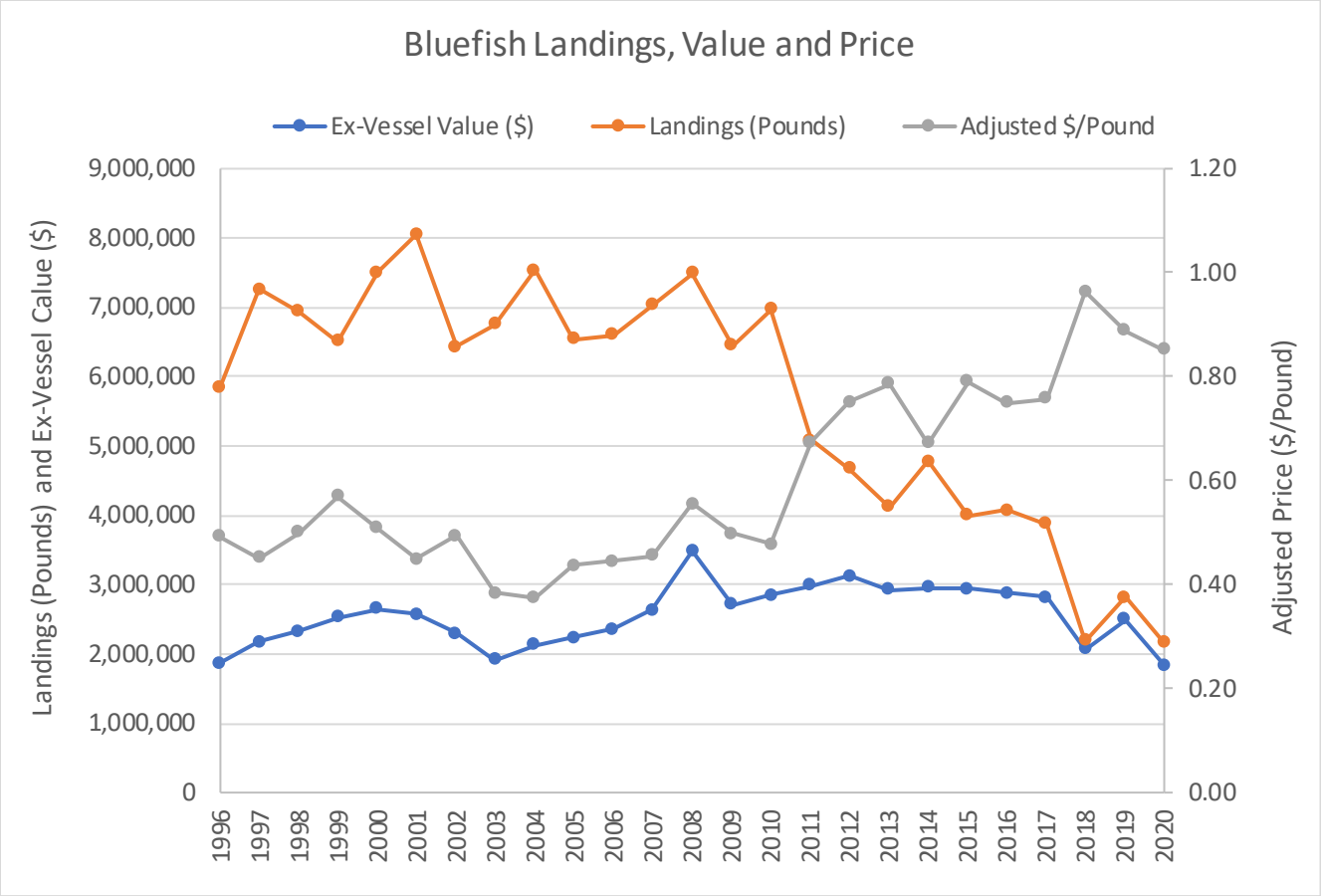

Figure 7. Landings, ex-vessel value, and price (adjusted to 2019 real dollars, 2020 unadjusted) for bluefish, 1996-2020.

Bycatch

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.

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