



Mid-Atlantic Fishery Management Council  
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Christopher M. Moore, Ph.D., Executive Director

## MEMORANDUM

**Date:** July 14, 2023  
**To:** Dr. Chris Moore, Executive Director  
**From:** Karson Cisneros, Staff  
**Subject:** 2024-2025 Bluefish Specifications

### Executive Summary

This memorandum includes information to assist the Mid-Atlantic Fishery Management Council's (Council's) Scientific and Statistical Committee (SSC) and Monitoring Committee (MC) in recommending 2024-2025 specifications for bluefish.

The Magnuson-Stevens Act (MSA) requires each Council's SSC to provide ongoing scientific advice for fishery management decisions, including recommendations for acceptable biological catch (ABC), preventing overfishing, and achieving maximum sustainable yield. The Council's catch limit recommendations for the upcoming fishing year(s) cannot exceed the ABC recommendation of the SSC. In addition, the MC established by the Fishery Management Plan (FMP) is responsible for developing recommendations for management measures designed to achieve the recommended catch limits. The SSC recommends ABCs that address scientific uncertainty, while the MC recommends annual catch targets (ACTs) that address management uncertainty and management measures to constrain harvest to the landings limits.

Bluefish Management Track Assessments in 2019 and 2021 indicated that the stock was overfished, and overfishing was not occurring in 2018 and 2019, respectively. The Council and the Atlantic States Marine Fisheries Commission's Bluefish Board (Board) approved the Bluefish Allocation and Rebuilding Amendment at their June 2021 meeting. The rebuilding portion of the Amendment includes a 7-year constant fishing mortality plan that began in 2022. Projections are planned to be rerun every two years through the Northeast Region Coordinating Council (NRCC) assessment process to ensure adequate rebuilding progress is being made.

A Research Track Assessment for bluefish was peer reviewed in December 2022. This assessment incorporated data through 2021 and made several changes to data inputs and the modeling framework used for bluefish. A Management Track Assessment conducted in June 2023 concluded that the stock was not overfished, however not fully rebuilt to the biomass target reference point, and overfishing was not occurring in 2022.

Two sets of 2024-2025 ABC projections are included in this document for the SSC's consideration. The first set assumes that 2023 removals are equal to the 2023 ABC, and the second set assumes 2023 removals are equal to the catch associated with  $F_{\text{rebuild}}$ . Both use an OFL CV=100%, consistent with previous SSC recommendations. The total removals from the first assumption are closer to the most recent 10-year average of total catch, while the total removals from the second assumption are closer to the most recent 3-year average of total catch (as outlined on page 10-11). Staff recommend ABCs under the second assumption, resulting in a 2024 ABC of 18.78 million pounds (8,517 mt) and a 2025 ABC of 23.04 million pounds (10,450 mt). These ABCs represent a 39% and 25% decrease from the 2023 ABC, respectively.

Staff recommend no buffers for either sector for management uncertainty, resulting in ACLs=ACTs (Table 2). Staff recommend using 2021-2022 average discards from the 2023 Management Track Assessment as expected discards for both the recreational and commercial sector to derive landings limits. Lastly, staff recommend no transfers while the stock remains under a rebuilding plan. A separate memo will outline staff recommendations for 2024-2025 recreational management measures to be discussed by the MC at their July 2023 meeting.

**Table 1.** Bluefish specifications for 2024-2025 under the Council’s 7-year rebuilding plan, using ABC projections that assume 2023 removals will be equal to the 2023 ABC and an OFL CV=100%.

Management Measure	Year				Basis
	2024		2025		
	mil lb.	mt	mil lb.	mt	
OFL	25.90	11,734	27.49	12,467	Stock assessment projections
ABC	17.48	7,929	21.83	9,903	Derived by SSC
Commercial ACL	2.45	1,110	3.06	1,386	ABC x 14% (per FMP)
Commercial Management Uncertainty	0	0	0	0	Derived by the Monitoring Committee
Commercial ACT	2.45	1,110	3.06	1,386	Comm. ACL - Comm. Management Uncertainty
Recreational ACL	15.03	6,819	18.78	8,517	ABC x 86% (per FMP)
Recreational Management Uncertainty	0	0	0	0	Derived by the Monitoring Committee
Recreational ACT	15.03	6,819	18.78	8,517	Rec. ACL - Rec. Management Uncertainty
Commercial Discards	0.02	11	0.02	11	2021-2022 ave. discards (2023 MTA)
Recreational Discards	3.08	1,396	3.08	1,396	2021-2022 ave. discards (2023 MTA)
Commercial TAL	2.42	1,100	3.03	1,376	Commercial ACT - commercial discards
Recreational TAL	11.96	5,423	15.70	7,121	Recreational ACT - recreational discards
Combined TAL	14.38	6,523	18.73	8,497	Commercial TAL + Recreational TAL
Transfer	0	0	0	0	No transfer recommended while rebuilding
Commercial Quota	2.42	1,100	3.03	1,376	Commercial TAL +/- transfer
RHL	11.96	5,423	15.70	7,121	Recreational TAL +/- transfer

**Table 2.** Staff recommended bluefish specifications for 2024-2025 under the Council’s 7-year rebuilding plan, using ABC projections that assume 2023 removals will be equal to the catch associated with fishing at the revised  $F_{rebuild} = 0.183$  and an OFL CV=100%.

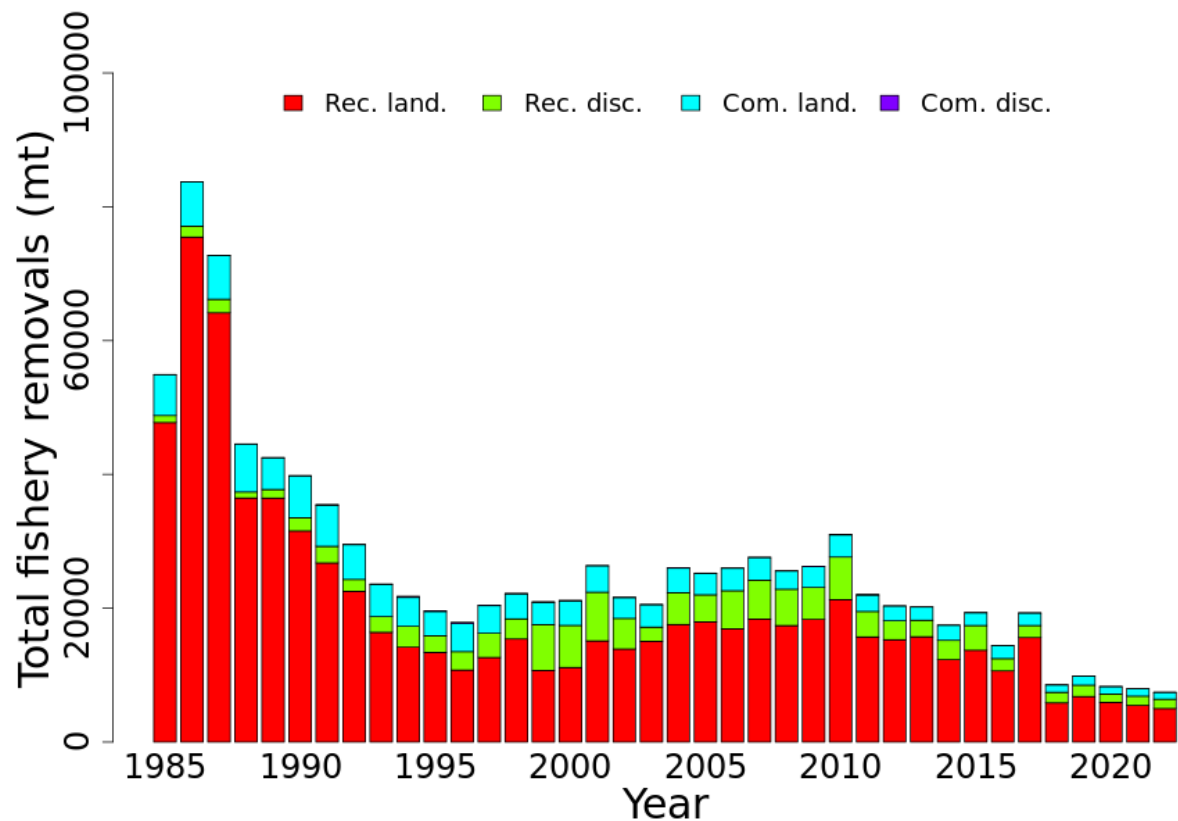
Management Measure	Year				Basis
	2024		2025		
	mil lb.	mt	mil lb.	mt	
OFL	26.82	12,166	28.26	12,818	Stock assessment projections
ABC	18.78	8,517	23.04	10,450	Derived by SSC
Commercial ACL	2.63	1,192	3.23	1,463	ABC x 14% (per FMP)
Commercial Management Uncertainty	0	0	0	0	Derived by the Monitoring Committee
Commercial ACT	2.63	1,192	3.23	1,463	Comm. ACL - Comm. Management Uncertainty
Recreational ACL	16.15	7,325	19.81	8,987	ABC x 86% (per FMP)
Recreational Management Uncertainty	0	0	0	0	Derived by the Monitoring Committee
Recreational ACT	16.15	7,325	19.81	8,987	Rec. ACL - Rec. Management Uncertainty
Commercial Discards	0.02	11	0.02	11	2021-2022 ave. discards (2023 MTA)
Recreational Discards	3.08	1,396	3.08	1,396	2021-2022 ave. discards (2023 MTA)
Commercial TAL	2.61	1,182	3.20	1,453	Commercial ACT - commercial discards
Recreational TAL	13.07	5,929	16.74	7,592	Recreational ACT - recreational discards
Combined TAL	15.68	7,111	19.94	9,044	Commercial TAL + Recreational TAL
Transfer	0	0	0	0	No transfer recommended while rebuilding
Commercial Quota	2.61	1,182	3.20	1,453	Commercial TAL +/- transfer
RHL	13.07	5,929	16.74	7,592	Recreational TAL +/- transfer

### **Recent Catch and Landings**

Total fishery removals, including recreational harvest and dead discards, and commercial landings and dead discards from 1985-2022, are presented in Figure 1. These values are from the 2023 Bluefish Management Track Assessment and may differ from the preliminary values in the Fishery Information Document. Recreational landings were 11.03 million pounds in 2022, a 1.03 million

pound decrease compared with 2021, and the lowest harvest for the time series. This coincides with lower effort, as the number of recreational trips<sup>1</sup> in 2022 (7,409,375) is the lowest reported in the 2000-2022 period. Recreational catch and harvest and commercial landings by state are shown in Table 3. In 2019, the Council and Board approved recreational management measures to constrain harvest to the RHL, which included going from a 15 fish bag limit across all modes to a 3-fish bag limit for private and shore modes and a 5-fish bag limit for the for-hire mode. The recreational management measures were not implemented by all states until mid-late 2020. The first full year of these more restrictive bag limits was 2021.

Based on dealer data, commercial landings were 2.14 million pounds in 2022, a 0.07 million pound increase compared with 2021, which had the lowest commercial landings in the time series. Dealer data for 2022 indicate that most of the bluefish commercial landings were taken by gillnet (47%), trawl/dredge (44%), handline (6%), and other (3%).



**Figure 1.** Bluefish total catch from 1985-2022. Source: 2023 Bluefish Management Track Assessment.

<sup>1</sup> Estimated number of recreational fishing trips where the primary target was bluefish or bluefish were harvested regardless of target, Maine – Florida's East Coast. Source: MRIP.

**Table 3.** Bluefish recreational catch and commercial landings information by state in 2022. Sources: MRIP query May 2023; Commercial dealer data retrieved May 2023. These values may differ from the NMFS final 2023 catch accounting.

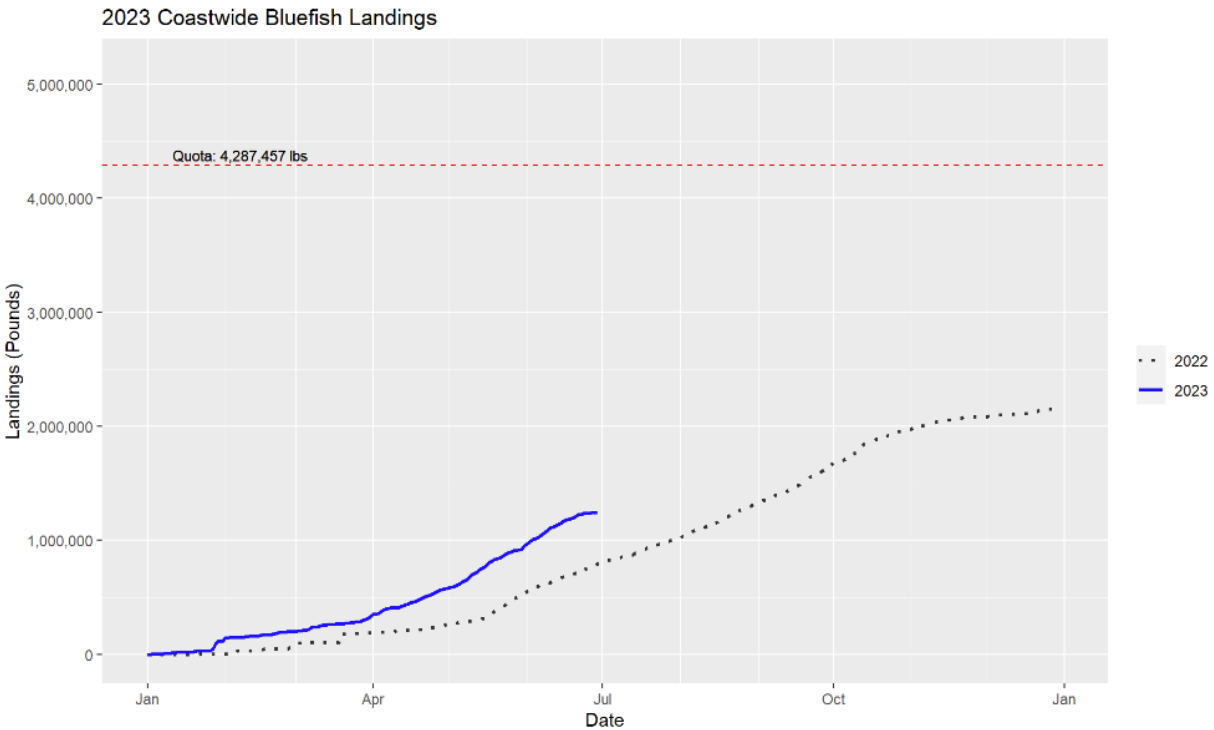
State	Recreational						Commercial
	Harvest			Catch	Released Alive	Dead Discards <sup>2</sup>	Landings
	Pounds	Number	Ave. Wt. <sup>1</sup> (lbs)	Number	Number	Number	Pounds
ME	73,697	8,326	8.9	31,061	22,735	2,137	0
NH	1,598	181	8.8	1,397	1,216	114	0
MA	1,277,203	183,470	7.0	1,533,782	1,350,312	126,929	254,138
RI	593,444	92,704	6.4	341,709	249,005	23,406	240,460
CT	541,930	105,910	5.1	715,327	609,417	57,285	41,597
NY	3,446,600	1,710,502	2.0	7,144,950	5,434,448	510,838	368,473
NJ	1,077,834	510,820	2.1	1,728,918	1,218,098	114,501	203,595
DE	51,550	38,676	1.3	548,873	510,197	47,959	6,716
MD	213,345	249,382	0.9	484,947	235,565	22,143	10,059
VA	215,999	262,360	0.8	1,534,477	1,272,117	119,579	187,526
NC	1,336,592	1,533,911	0.9	9,731,098	8,197,187	770,536	736,595
SC	259,372	487,654	0.5	3,194,059	2,706,405	254,402	0
GA	35,911	43,335	0.8	317,567	274,232	25,778	0
FL	1,957,211	1,125,847	1.7	3,768,905	2,643,058	248,447	93,018
<b>Total</b>	<b>11,354,535</b>	<b>6,353,078</b>	<b>1.8</b>	<b>31,077,070</b>	<b>24,723,992</b>	<b>2,324,055</b>	<b>2,142,304</b>

<sup>1</sup> Average weight is the pounds harvested divided by the number of fish harvested. <sup>2</sup>Recreational dead discards are calculated as 9.4% of total recreational discards based on the updated discard mortality rate from the 2022 Research Track Assessment.

### ***2023 Harvest to Date***

As of July 5, 2023, preliminary recreational estimates from MRIP are only available for waves 1 and 2 combined (January through April). Preliminary 2023 recreational harvest for waves 1-2 is approximately 0.8 million pounds and total catch is 5.1 million fish. For comparison, in 2018-2022, waves 1-2 harvest has ranged from 1.2-3.6 million pounds, and total catch has ranged from 4.5-11.8 million fish.

Preliminary commercial harvest is available through June 28, 2023 and shows increased landings relative to this time last year (Figure 2). So far in 2023, 1.2 million pounds have been landed, comprising 29% of the coastwide commercial quota.



**Figure 2.** Bluefish landings coastwide in 2023 (blue solid line) through June 28, compared with 2022 (dotted line). Source: [NOAA Fisheries Atlantic Bluefish Quota Monitoring Site](#), accessed July 5<sup>th</sup>, 2023. Quota monitoring by state is also available on this page.

### **Stock Status and Biological Reference Points**

Bluefish Management Track Assessments in 2019 and 2021 indicated that the stock was overfished, and overfishing was not occurring in 2018 and 2019, respectively. The Council and Board approved a rebuilding plan that began in 2022 and includes a 7-year constant fishing mortality.

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 relative to past research recommendations including the development of an MRIP index using a species-association method to identify bluefish trips, updating the estimate of natural mortality used in the assessment model, evaluating model results that aggregated all model input data at a seasonal and regional level of resolution, combining multiple fishery independent surveys using Vector Autoregressive Spatiotemporal (VAST) as part of this assessment, examination of differences in the calibrated and uncalibrated MRIP estimates of bluefish catch, spatial stratification of recreational release length frequencies when calculating the weight of dead recreational releases, and the migration to the Woods Hole Assessment Model (WHAM) framework.

The June 2023 Management Track Assessment built upon the 2022 research track assessment and found that the bluefish stock was not overfished and overfishing was not occurring in 2022

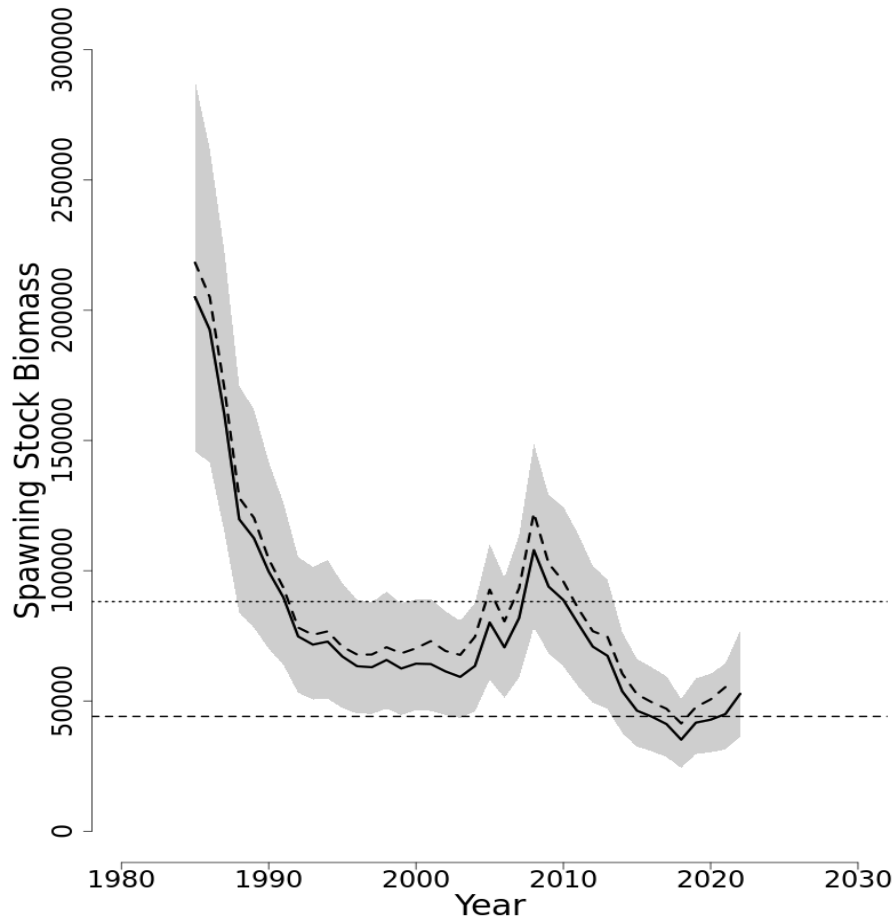
(Figures 3 and 4; Table 4). Spawning stock biomass (SSB) in 2022 was estimated to be 52,747 mt which is 60% of the biomass target (SSB<sub>MSY</sub> proxy = 88,131 mt; Figure 3). The 2022 fully selected fishing mortality was estimated to be 0.152 which is 64% of the overfishing threshold (F<sub>MSY</sub> proxy = 0.239; Figure 4).

The bluefish stock has experienced a slight increase in SSB over the past 5 years, coinciding with a decrease in F. Recruitment has increased each year since 2019, and the terminal year recruitment (137 million fish) is the highest value since 2005. Both commercial and recreational fisheries have had low catches since 2018, all well below the time series average of 26,386 mt. With the low catches since 2018, fishing mortality has decreased and remained well below F<sub>MSY</sub> (0.239).

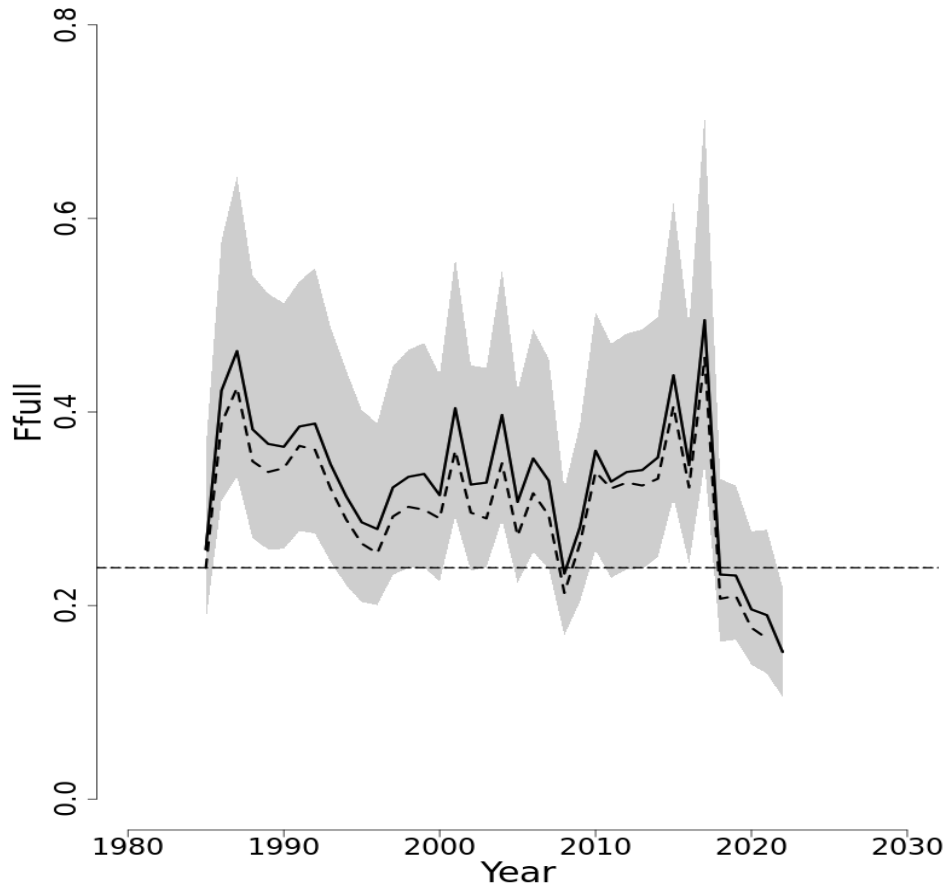
**Table 4.** Summary of stock status and biological reference points resulting from the SAW/SARC 60 process in 2015 to the Management Track Assessment in 2023. There was an Operational Stock Assessment in 2019 not included below with very similar reference points and the same stock status as the 2021 Management Track Assessment.

	<b>2015 SAW/SARC 60</b>	<b>2021 Management Track Assessment</b>	<b>2022 Research Track Assessment</b>	<b>2023 Management Track Assessment</b>
<b>Stock Status</b>	Not Overfished, Not Overfishing	Overfished, Not Overfishing	Not Overfished, Not Overfishing	Not Overfished, Not Overfishing
<b>SSB<sub>MSY</sub></b>	223.42 mil lb (101,343 mt)	444.74 mil lb (201,729 mt)	202.60 mil lb (91,897 mt)	194.30 mil lb (88,131 mt)
<b>½ SSB<sub>MSY</sub></b>	111.71 mil lb (50,672 mt)	222.37 mil lb (100,865 mt)	101.30 mil lb (45,949 mt)	97.15 mil lb (44,066 mt)
<b>F<sub>MSY</sub></b>	0.190	0.181	0.249	0.239
<b>Terminal Year of data</b>	2014	2019	2021	2022





**Figure 3.** Atlantic bluefish spawning stock biomass (SSB) from 1985-2022 from the 2023 Management Track Assessment (solid line) and the 2022 Research Track Assessment (dashed line). The horizontal dotted black line is the updated  $SSB_{MSY}$  proxy =  $SSB_{35\%}$  = 88,131 mt, and the dashed line is the  $SSB_{Threshold}$  = 44,066 mt from the 2023 Management Track Assessment. The shaded areas represent the approximate 90% lognormal confidence intervals. Source: 2023 Bluefish Management Track Assessment.



**Figure 4.** Trends in fishing mortality ( $F_{full}$ ) for Atlantic bluefish from the 2023 Management Track Assessment (solid line) and the 2022 Research Track Assessment (dashed line). The horizontal dashed line is the updated  $F_{MSY}$  proxy =  $F_{35\%}$  = 0.239. The shaded areas represent the approximate 90% lognormal confidence intervals. Source: 2023 Bluefish Management Track Assessment.

### ***Projections***

The Council’s rebuild policy for bluefish is to achieve rebuilding within a seven-year period, commencing in 2022. A constant  $F$  strategy was selected such that biomass in 2028 has a 50% chance of exceeding the  $B_{msy}$  proxy rebuilding target. Based on the 2023 Management Track Assessment,  $F_{rebuild}$  was re-calculated to be 0.183 using a projection that assumes the plan’s constant  $F$  strategy. The MAFMC risk policy (assuming an OFL CV = 100%) was applied to OFL proxies at  $F_{rebuild}$  in short term projections to generate ABC values for 2024-2025 that are consistent with implementing the rebuilding schedule as recommended by the SSC in 2021. ABC projections assuming an OFL CV=60% are also available in the July 2023 SSC meeting materials should the SSC change their OFL CV based on the recent assessment improvements.

Tables 5 and 6 below provide two different sets of projections based on different assumptions of removals in 2023 (Source: Tony Wood, NEFSC, Personal Communication). The first set (Table 5) assumes 2023 removals will be equal to the 2023 ABC of 13,890 mt. From 2020-2022, the total catch ranged from 7,436 mt to 8,294 mt and averaged 7,898 mt. Given that total catch over the past 3 years has fallen well below the 2023 ABC of 13,890 mt, this value may not be the

preferred assumption for catch in 2023. However, when comparing catch over a longer time period, the most recent 10-year average total catch is 13,285 mt, and 2013-2017 total catches were all above the 2023 ABC.

The second set of projections (Table 6) assumes 2023 removals will be equal to the catch associated with fishing at the revised  $F_{rebuild} = 0.183$ , which is very close to the average  $F$  over the past three years (0.18). Because of this, catch associated with  $F_{rebuild}$  (10,827 mt) may be a more reasonable assumption for catch in 2023 (Table 6).

**Table 5.** Short term projection of total fishery catch, spawning stock biomass (SSB: with 90% CI), and fishing mortality on fully selected ages for bluefish based on a harvest scenario assuming annual ABC values calculated from OFLs at  $F_{rebuild}$  (0.183) and the Council risk policy (CV = 100%) for 2024 and 2025. **Removals in 2023 were assumed to be equal to the previously established ABC value of 13,890 mt (grey cells).** Source: Tony Wood, NEFSC, Personal Communication.

Year	OFL Catch (mt)	OFL SSB (mt)	OFL Ffull
2023	13,890	59,135 (39,120 - 89,391)	0.239
2024	11,734	65,030 (41,240 - 102,546)	0.183
2025	12,467	70,974 (43,350 - 116,201)	0.183
Year	ABC Catch (mt)	ABC SSB (mt)	ABC Ffull
2023	13,890	59,135 (39,120 - 89,391)	0.239
2024	7,929	66,706 (41,439 - 107,379)	0.121
2025	9,903	75,757 (43,303 - 132,534)	0.137

**Table 6.** Short term projection of total fishery catch, spawning stock biomass (SSB: with 90% CI) for bluefish based on a harvest scenario assuming annual ABC values calculated from OFLs at  $F_{rebuild}$  (0.183) and the Council risk policy (CV = 100%) for 2024 and 2025. **Removals in 2023 were assumed to be the resulting catch of fishing at  $F_{rebuild} = 0.183$  (grey cells).** Source: Tony Wood, NEFSC, Personal Communication.

Year	OFL Catch (mt)	OFL SSB (mt)	OFL Ffull
2023	10,827	60,471 (41,382 - 88,364)	0.183
2024	12,166	67,719 (45,503 - 100,782)	0.183
2025	12,818	73,426 (46,758 - 115,304)	0.183
Year	ABC Catch (mt)	ABC SSB (mt)	ABC Ffull
2023	10,827	60,471 (41,382 - 88,364)	0.183
2024	8,517	69,335 (45,753 - 105,074)	0.125
2025	10,450	77,982 (46,763 - 130,043)	0.141

### Review of Prior SSC Recommendations

In July 2021, the SSC recommended new ABCs for 2022-2023, which incorporated the results of the 2021 Management Track Assessment. To make this recommendation, the SSC reviewed 2020 fishery performance and materials from the Management Track Assessment.

The SSC also discussed the Council-approved rebuilding schedule, including the treatment of the rebuilding  $F$  proposed by the Council and its implications for generating ABCs. The Council’s rebuild policy is to achieve rebuilding within a seven-year period commencing in 2022. A constant  $F$  strategy was selected such that biomass in 2028 has a 50% chance of exceeding the  $B_{msy}$  proxy rebuilding target. Given the basis for the rebuilding, the SSC determined that the constant  $F$  for rebuilding in seven years (denoted as  $F_{rebuild,7} = 0.154$ ) should be treated as a  $F_{msy}$  proxy. As such, the usual Council risk policy,  $P^*$  criteria, and OFL CV process should apply. Failure to include scientific uncertainty through the direct application of  $F_{rebuild,7}$  alone could generate instances where the probability of overfishing exceeded 0.5 between 2022 and 2028. Accounting for scientific uncertainty and the resulting lower ABCs should also increase the chance (i.e., greater than 50%) of exceeding the  $B_{msy}$  target to rebuild the stock within the seven-year timeframe.

The SSC recommended that a CV of 100% be applied to the OFL estimate as an appropriate ABC and noted that the chief uncertainty for bluefish relates to patterns in the revised MRIP estimates.

The SSC also discussed the most significant sources of uncertainty, ecosystem considerations, and research recommendations to reduce uncertainty. These discussions can be found summarized here: <https://www.mafmc.org/s/July-2021-SSC-Report.pdf>.

In 2022, the SSC reviewed 2021 bluefish fishery performance and did not recommend any changes from the previously implemented 2023 ABC of 30.62 million pounds (13,890 mt).

**Staff Recommendation for 2024-2025 ABCs**

Staff recommend ABCs of 18.78 million pounds (8,517 mt) in 2024 and 23.04 million pounds (10,450 mt) in 2025. These ABCs implement the bluefish rebuilding plan consistent with previous years (as described above) and assume that the catch associated with  $F_{rebuild}$  is caught in 2023 (Table 6). This catch is closer to recent years’ average catch than the assumption that the full 2023 ABC is caught, while still allowing for some increase in catch. It is too early to determine whether catch in 2023 will be higher than recent years, however commercial harvest is trending higher than this time last year (Figure 2) and the bluefish Advisory Panel commented on seeing many more bluefish last year than in previous years in several states.<sup>2</sup> An increase in availability may not necessarily result in increased harvest in the recreational fishery due to the high catch and release nature of the fishery, however it may result in an increased total catch due to increased discards.

**Table 7.** Staff recommended bluefish ABCs for 2024-2025 which use the catch associated with  $F_{rebuild}$  as 2023 total removals as shown in Table 6. These ABCs are consistent with the Council’s agreed upon rebuilding plan.

Year	ABC (mt)	ABC (mil lb)
2024	8,517	18.78
2025	10,450	23.04

<sup>2</sup> See 2023 Fishery Performance Report: <https://www.mafmc.org/council-events/2023/july-2023-ssc-meeting>

## **Sector Specific Catch and Landings Limits**

The flow chart in Figure 4 on page 15 was used to derive the sector specific catch and landings limits shown in Tables 1 and 2.

### ***Management Uncertainty***

The option to use management uncertainty buffers were formally incorporated into the specifications process through the [2011 Omnibus Amendment](#), which also implemented ABCs and ACLs and brought FMPs into compliance with the 2007 reauthorization of the MSA. In 2021, [Amendment 7 to the Bluefish FMP](#) was implemented, allowing for the consideration of sector specific management uncertainty buffers rather than a buffer applied before the sector specific limits are derived.

Due to recent recreational overages (2020 and 2021) and uncertainty in discards for the commercial and recreational fisheries, the MC has discussed the need to develop justified quantitative approaches to recommend a management uncertainty buffer between the ACL and ACT. The Bluefish MC/TC met in March 2023 to initiate this discussion and a small subgroup formed to further develop tools for quantifying management uncertainty. The subgroup modified the ASMFC risk and uncertainty tool to apply to areas identified by the subgroup to be potential sources of uncertainty in the bluefish fishery. The tool converts a combination of quantitative and qualitative scores into a quantitative representation of uncertainty. The full MC is reviewing the subgroup's proposed tool (emailed to the MC/TC June 27, 2023) and will consider its use while discussing management uncertainty in each sector. At their March meeting, the MC also recommended the inclusion of recent discard variability for each sector within the specifications memo to approach discard uncertainty more quantitatively (Table 8).

**Table 8.** Most recent 5- and 3-year recreational and commercial discard variability in millions of pounds as requested by the MC/TC in March 2023.

	<b>2018-2022</b>		<b>2020-2022</b>	
<b>Discards (mil lb)</b>	<b>Range</b>	<b>Standard deviation</b>	<b>Range</b>	<b>Standard deviation</b>
<b>Recreational</b>	0.99	0.3875	0.32	0.1817
<b>Commercial</b>	0.01	0.0042	0.01	0.0055

As discussed in previous sections, the Bluefish Research Track Assessment passed peer review in December 2022. This assessment incorporated commercial discard estimates that were previously unknown (though assumed to be negligible) and updated data and methods for recreational discard estimates. This accepted methodology for estimating recreational discards will be used by the Greater Atlantic Regional Fisheries Office (GARFO) and the Northeast Fisheries Science Center (NEFSC) moving forward, ensuring alignment between GARFO's catch accounting and the assessments. The improvements to discard estimation in both sectors allow for a better understanding of catch in each sector, therefore decreasing the amount of management uncertainty. Because of this, staff do not recommend buffers for either sector between the ACLs and ACTs in 2024-2025. Next year, the MC will review 2025 specifications and will revisit the need for an uncertainty buffer in 2025.

### ***Recreational***

In 2022, the recreational fishery landed 11.03 million pounds compared to the 14.11 million pounds RHL. Recreational catch totaled 14.11 million pounds and fell below the 2022 ACL; therefore, no accountability measures will be applied in 2024.

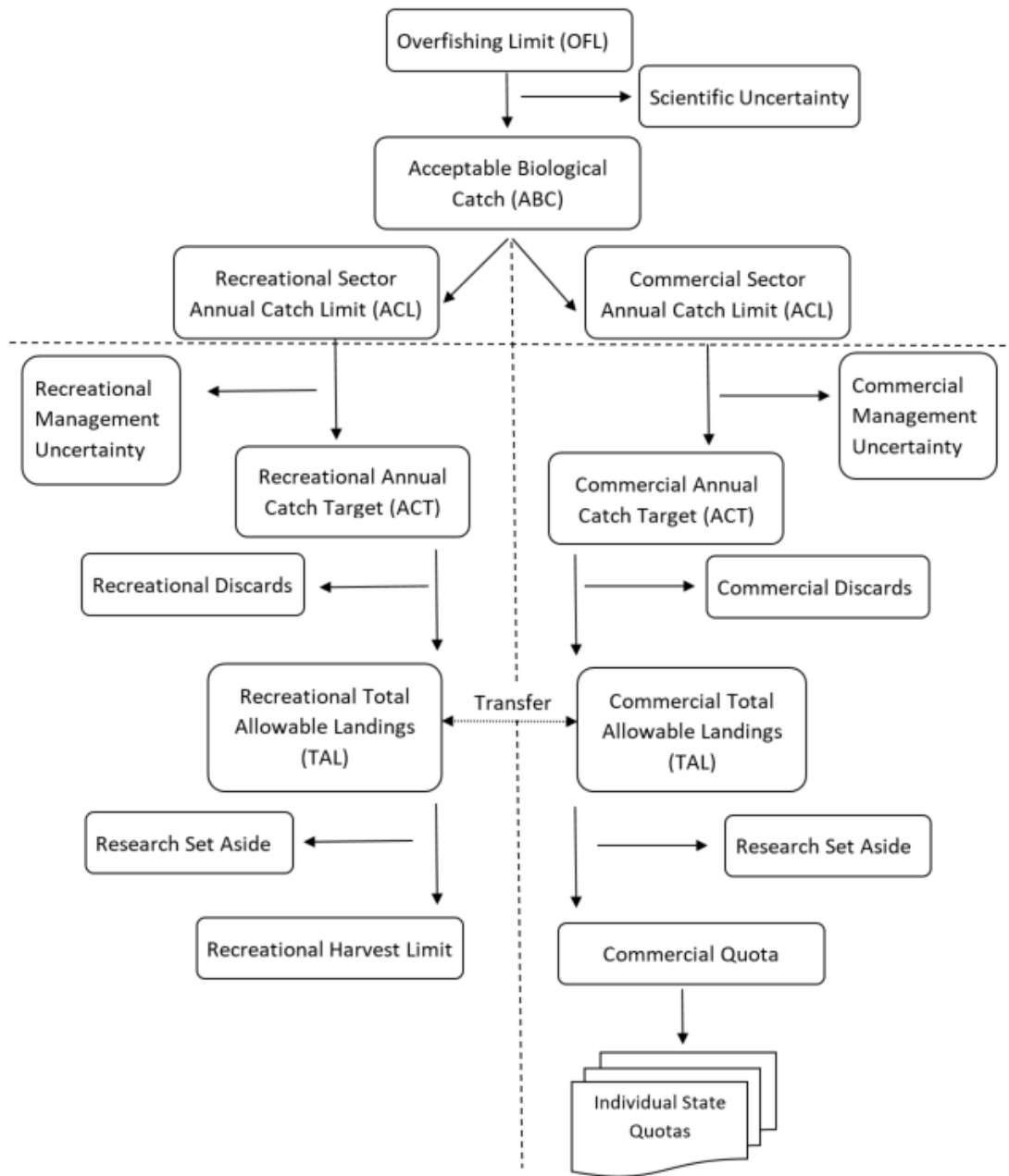
Staff recommend using the 2021-2022 average recreational discards from the 2023 Management Track Assessment for expected discards to derive the 2024-2025 RHLs. This is based on the previous MC recommendation, starting with the 2023 RHL, to use years after the decrease in bag limits which were implemented throughout 2020 (timing varied by state and federal waters).

Given the considerations in this section, staff recommend a recreational ACL=ACT of 16.15 million pounds in 2024 and 19.81 million pounds in 2025, and an RHL of 13.07 million pounds in 2024 and 16.74 million pounds in 2025 (Table 2). A separate recreational memo will outline staff recommendations for 2024-2025 recreational management measures to be discussed by the MC at their July 2023 meeting.

### ***Commercial***

In 2022, the commercial fishery landed 2.26 million pounds compared to the 3.54-million-pound quota and commercial discards were 0.02 million pounds. No commercial accountability measures have been triggered to be applied in 2024. Staff recommend using the 2021-2022 average commercial discards from the 2023 Management Track Assessment for expected discards in 2024-2025. Although a 3-year average may be preferred, staff selected 2021-2022 and excluded 2020 due to large COVID-related data gaps in 2020 observer coverage.

Based on these considerations, staff recommend a commercial ACL=ACT of 2.63 million pounds in 2024 and 3.23 million pounds in 2025, and a commercial quota of 2.61 million pounds in 2024 and 3.20 million pounds in 2025 (Table 2).



**Figure 4.** Flowchart of bluefish catch and landings limits. The research set aside program is currently discontinued so no further calculations are needed from the sector specific TALs to the RHL and commercial quota.