



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

## MEMORANDUM

**Date:** July 20, 2022  
**To:** Dr. Chris Moore, Executive Director  
**From:** Karson Cisneros, Staff  
**Subject:** Review of 2023 Bluefish Recreational Management Measures

### **Introduction and Background**

In August 2021, the Council and Board set 2022-2023 annual catch targets (ACTs), total allowable landings (TALs), commercial quotas, recreational harvest limits (RHLs), and other associated management measures (Final Rule 2/2/2022, 87 FR 5739). In December 2021, the Council and Board set recreational management measures for 2022-2023, maintaining the 3 fish possession limit for private angler modes and a 5 fish possession limit for the for-hire modes (Table 1). The Monitoring Committee is tasked with reviewing the currently implemented 2023 recreational ACTs, RHLs and recreational management measures and recommending any changes if warranted.

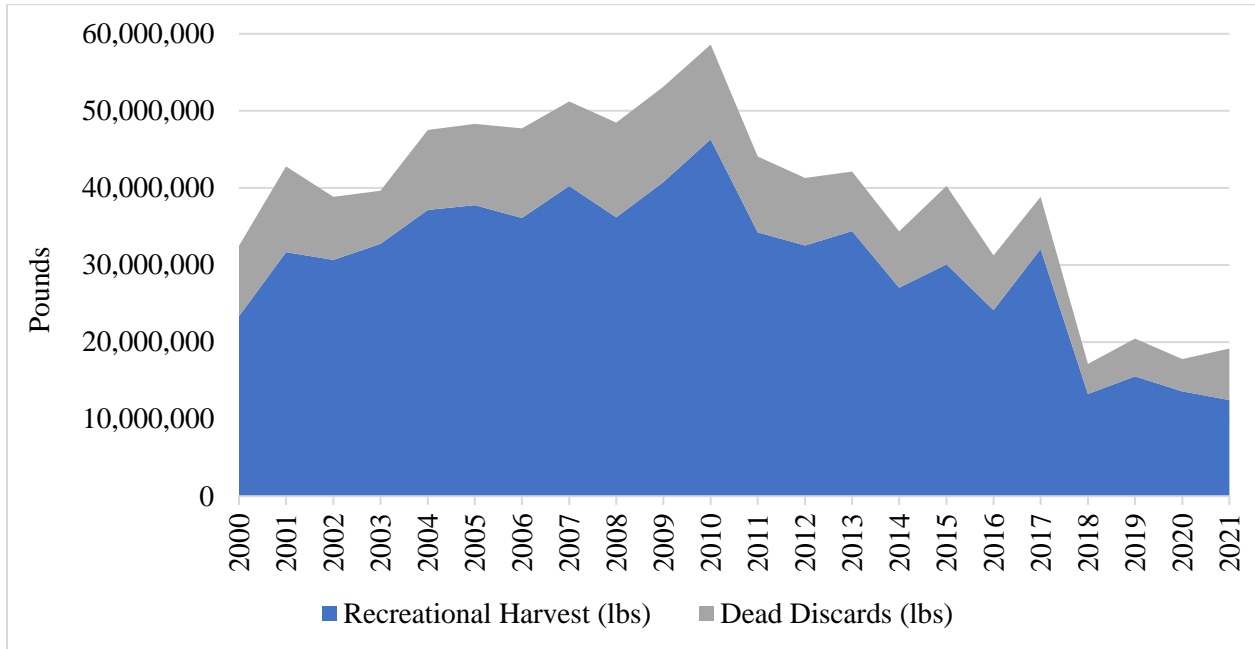
This memo describes recent recreational fishery performance and several considerations related to 2023 recreational management measures. Notably, recreational landings and dead discards in 2021 resulted in an ACL overage and accountability measures are triggered for 2023 (Table 3). Bluefish recreational accountability measures require a pound for pound overage payback when the stock is overfished. To make a recommendation on recreational management measures for 2023, the MC needs to compare expected recreational harvest to a payback adjusted RHL for 2023 to recommend if any changes in measures are warranted.

### **Recent Fishery Performance**

In 2021, MRIP estimated recreational landings were 12.46 million pounds and dead discards were 6.64 million pounds (based on the GARFO discard methodology; Table 1, Figure 1). Since 2018, recreational landings have dropped to the lowest values of the time series with a 2018-2021 average harvest of 13.72 million pounds.

Recreational catch and harvest estimates by state for 2021 are provided in Table 2. The greatest catches occurred in Florida with 13.88 million fish, followed by North Carolina with 4.52 million fish, New York with 3.57 million fish, and New Jersey with 2.90 million fish. The greatest harvest of bluefish by weight in 2021 occurred in Florida with 3.55 million pounds, followed by New

Jersey with 3.36 million pounds, New York with 2.35 million pounds and North Carolina with just over 1 million pounds. 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.



**Figure 1:** Recreational bluefish harvest and dead discards in pounds from 2000-2021 using MRIP estimates and GARFO discard methodology.

**Table 1:** Summary of bluefish recreational harvest and management measures, 2016-2023. 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	RHL	Rec. Harvest, Old MRIP	Rec. Harvest, New MRIP	RHL Overage/underage	Rec. Bag Limit (# fish)	
<b>2016</b>	11.58	9.54	24.16	-2.04	15	
<b>2017</b>	9.65	9.52	32.07	-0.13	15	
<b>2018</b>	11.58	3.64	13.27	-7.94	15	
<b>2019</b>	11.62	--	15.56	--	15	
<b>2020*</b>	9.48	--	13.58	+ 4.10	3: Private*	5: For-Hire*
<b>2021</b>	8.34	--	12.46	+ 4.12	3: Private	5: For-Hire
<b>2022</b>	13.89	--	--	--	3: Private	5: For-Hire
<b>2023</b>	22.14	--	--	--	3: Private	5: For-Hire

\* The bag limit reductions from 15 to 3/5 fish were not implemented by all states until mid-late 2020.

**Table 2:** MRIP estimates of 2021 bluefish recreational harvest, total catch, and average weight.

State	Harvest			Catch	Total Released	Dead Discards
	Pounds	Number	Average Weight <sup>1</sup> (pounds)	Number	Number	Number
ME	3,633	673	5.4	6,104	5,431	815
NH	3,796	698	5.4	698	-	-
MA	833,962	116,547	7.2	855,041	738,494	110,774
RI	718,950	140,504	5.1	774,409	633,905	95,086
CT	206,429	263,966	0.8	1,180,092	916,126	137,419
NY	2,353,527	861,060	2.7	3,565,667	2,704,607	405,691
NJ	3,357,809	921,667	3.6	2,895,008	1,973,341	296,001
DE	8,460	14,019	0.6	179,562	165,543	24,831
MD	117,545	105,711	1.1	316,949	211,238	31,686
VA	153,199	216,317	0.7	719,804	503,487	75,523
NC	1,031,761	982,391	1.1	4,521,724	3,539,333	530,900
SC	107,268	172,528	0.6	722,532	550,004	82,501
GA	12,870	13,811	0.9	136,588	122,777	18,417
FL	3,553,572	2,373,891	1.5	13,875,822	11,501,931	1,725,290
<b>Total</b>	<b>12,462,781</b>	<b>6,183,783</b>	-	<b>29,750,000</b>	<b>23,566,217</b>	<b>3,534,932</b>

<sup>1</sup> Average weight is the pounds harvested divided by the number of fish harvested. Recreational dead discards are calculated as 15% of total recreational discards.

### **Dead Discard Estimation**

Last year, the MC discussed the two approaches used to characterize discards in the recreational fishery.<sup>1</sup> The Greater Atlantic Regional Fisheries Office (GARFO) and the Council have used an approach that uses the MRIP estimated mean weight (by year, state, and wave) of harvested fish (A+B1) times the number of released fish (MRIP-B2s by year, state, and wave) and an assumed 15% release mortality. The MC generally agreed that this estimate does not fully capture recreational fishery dynamics because this approach uses the mean weight of harvested fish, not discards, and the length frequency data suggests that released fish tend to be larger than retained fish. The second approach uses the NEFSC discard estimates, which applies a length-weight relationship to released fish data from the MRIP, American Littoral Society tag releases, and volunteer angler surveys from Connecticut, Rhode Island, and New Jersey. However, this

<sup>1</sup> A summary of the past MC discard discussion can be found in the [August 2021 briefing materials](#) on page 6.

sampling approach does not characterize the entire coast, which adds to the uncertainty in these estimates.

**2021 Recreational Catch Accounting**

In 2021, MRIP reported the recreational fishery landed 12.46 million pounds compared to the 8.34 million pounds RHL. The dead discard estimate from GARFO for 2021 is 6.64 million pounds. Recreational landings and dead discards in 2021 result in an ACL overage and accountability measures are triggered for 2023. Bluefish recreational accountability measures require a pound for pound overage payback when the stock is overfished. For example, due to a recreational ACL overage in 2020, a pound for pound payback was applied to the 2022 recreational ACT (along with recreational discards) to derive the RHL.

**Table 3:** Bluefish recreational estimates for 2021 catch accounting in millions of pounds. Landings, dead discards (GARFO methodology), and catch were provided by GARFO on July 19, 2022. Recreational ACL overage was calculated by Council staff.

<b>2021 Recreational Value</b>	<b>Millions of Pounds</b>
Landings	12.46
Dead discards	6.64
Catch	19.10
Rec. ACL	13.51
<b>Rec. ACL overage</b>	<b>+5.59</b>

**2023 Payback Adjusted RHL**

Adjusted RHLs that incorporate the accountability measure (AM) payback and updated 2021 discards are shown in Table 4. When the 2022 and 2023 RHLs were set in 2021, the 2020 GARFO discard estimate was used as a proxy for expected discards for both 2022 and 2023. Given the disparate discard methodologies, Table 4 illustrates an adjusted 2023 RHL based on the 2021 NEFSC discards and 2021 GARFO discards. Next year, GARFO has indicated that they will use the estimate resulting from the research track assessment that is scheduled for peer review in December 2022, and there will no longer be two different estimates to consider. The discard estimation methodology resulting from the ongoing research track assessment may differ from that used by the NEFSC in recent years.

From 2001-2019, the recreational bag limit was set at 15 fish. As a result of the 2019 operational assessment, the bluefish stock was designated as overfished with overfishing not occurring. For 2020, the recreational sector was projected to land 13.27 million pounds, which exceeded the RHL by 28.56%. Therefore, the Council and Board approved recreational management measures to constrain harvest to the reduced RHL, which included a 3-fish bag limit for private and shore modes and a 5-fish bag limit for the for-hire mode. These bag limit reductions were not implemented by all states until mid-late 2020. In addition, MRIP used data from 2018 and 2019 to fill in COVID-19 related data gaps in 2020. Because of this, there are imputed 2020 data using years that had a 15 fish bag limit. Given these considerations, 2021 discards may be more indicative of 2023 fishery conditions and expected 2023 discards than 2020 discards.

For the above reasons, staff recommend using 2021 GARFO discard estimates as expected discards for the updated 2023 RHL, resulting in a payback adjusted RHL of 14.11 mil lb. Staff recommend no changes to the recreational ACL or ACT.

**Table 4:** Adjusted calculations of the 2023 RHL accounting for the 2021 AM payback and using either NEFSC or GARFO discards as a proxy for expected 2023 discards.

<b>2023 RHL Calculations</b>	<b>Millions of Pounds</b>	<b>% Difference from 2021 Harvest</b>
Rec. ACL=ACT	26.34	n/a
Unadjusted RHL	22.14	
2021 overage payback	5.59	
<b>Adjusted RHL with 2021 NEFSC Discards</b>	<b>8.15</b>	<b>-34.60%</b>
<b>Adjusted RHL with 2021 GARFO Discards</b>	<b>14.11</b>	<b>+13.24%</b>

### **2023 Expected Recreational Harvest**

As mentioned in the previous section, COVID-related MRIP imputations used 2018 and 2019 data to estimate 2020 harvest, which were years where the 3 and 5-fish bag limits were not in place. Therefore, the 2020 data may not reflect a harvest estimate that takes into consideration the smaller bag limits. In addition, last year’s projections for 2021 based on 2020 harvest and waves 1-3 in 2021 overestimated 2021 harvest by about 2.8 million pounds.

The first full year of the currently implemented recreational management measures of a 3 fish bag limit for private and shore modes and a 5 fish bag limit for the for-hire mode was 2021. Because of this, staff recommend using 2021 recreational harvest of 12.46 million pounds as the expected harvest in 2023, for comparison with the 2023 RHL. In future years, multi-year averages can be used if recreational measures remain similar across those years.

### **2023 Recreational Management Measures**

In December 2021, the Council and Board requested that the MC analyze the impacts of increasing the for-hire sector bag limit from a 5 fish limit to a 7 fish bag limit. Three sets of percent change in harvest relative to status quo measures using three methodologies are presented in Table 5. The MC discussed that viewing all three methods could be a useful comparison of the potential impacts of bag limit liberalizations given that various assumptions are required for each. All methods use the 2021 MRIP survey microdata available for download.<sup>2</sup> Method one assumes that anglers who caught the full bag limit at 5 fish would retain the higher bag limits. This method may overestimate harvest if all anglers that kept 5 fish would not keep 7 if allowed. However, it may underestimate harvest by not making any changes to the number of anglers who kept 6 fish. The second method calculates the percent reduction in harvest and assumes that the percent liberalization would be equal to that reduction. A third method assumes a log linear relationship between the bag limit and percent change in harvest. Under this modeling approach, harvest still increases as bag limits liberalize, however the rate of increase tapers, which may better describe the data. This method was used for summer flounder bag limit liberalizations by some states in 2022.

<sup>2</sup> <https://www.fisheries.noaa.gov/recreational-fishing-data/recreational-fishing-data-downloads>

Under these methodologies, increasing the bag limit from 5 fish to 7 fish for the for-hire sector would yield a 0.20% to 0.39% increase to overall expected recreational harvest. This small percentage is largely due to the for-hire sector making up only 6% of harvest in 2021.

**Table 5:** Three sets of calculations estimating the percent change in harvest relative to status quo bag limits by sector. Negative numbers indicate a reduction in harvest and positive numbers indicate an increase in harvest.

<b>Percent liberalization or reduction: method 1</b>					
<b>Bag Limit</b>	3	4	5	6	7
<b>Private Angler</b>	Status quo	8.03%	16.07%	24.10%	32.14%
<b>For Hire</b>	-0.30%	-0.10%	Status quo	0.10%	0.20%
<b>Total</b>	-0.30%	7.93%	16.07%	24.20%	32.34%
<b>Percent liberalization or reduction: method 2</b>					
<b>Bag Limit</b>	3	4	5	6	7
<b>Private Angler</b>	Status quo	8.03%	27.05%	66.77%	*
<b>For Hire</b>	-0.30%	-0.10%	Status quo	0.10%	0.30%
<b>Total</b>	-0.30%	7.93%	27.05%	66.87%	0.30%
<b>Percent liberalization or reduction: method 3</b>					
<b>Bag Limit</b>	3	4	5	6	7
<b>Private Angler</b>	Status quo	7.97%	13.54%	18.08%	21.92%
<b>For Hire</b>	-0.38%	-0.12%	Status quo	0.25%	0.39%
<b>Total</b>	-0.38%	7.85%	13.54%	18.33%	22.31%

\*This methodology would require calculating a reduction based on a negative bag limit so cannot be used for liberalizations over a 6 fish bag limit.

A member of the MC and a few members of the AP discussed the consideration of a minimum size limit to complement an increased bag limit and achieve harvest similar to status quo. However, given that the size of bluefish available to anglers can vary across the coast, and the importance of the snapper fishery (small bluefish) to some states, size limits may be a more appropriate tool for individual states to consider. Similarly, seasonal availability varies by state so coastwide seasonal closures to allow for increased bag limits are currently not recommended for consideration.

**Staff recommendations are shown in Table 6. Staff recommend no changes to the current recreational management measures that were set for 2022-2023 for the following reasons:**

The difference between the two discard estimates for 2021 result in an estimated 13% liberalization (GARFO discards) or a 35% reduction (NEFSC discards) needed in 2021 harvest compared to the 2023 RHL. While staff recommend using the GARFO methodology for 2023 for consistency with the estimates used to set measures and evaluate ACLs, the NEFSC methodology has been discussed as the more scientifically sound approach, though it lacks comprehensive data inputs. The ongoing bluefish research track assessment is addressing this issue and the peer reviewed approach from that assessment will be used by GARFO moving forward. If the current NEFSC discard estimates were used to adjust the RHL, restrictions to the bag, size, or season for bluefish would be needed to achieve the 2023 RHL.

Bluefish recreational measures were set in 2021 for 2022-2023, and the Council and Board have indicated that setting measures for two years can increase stability and predictability. In June 2022 the Council and Board took final action on the Harvest Control Rule (HCR) which changes the recreational fisheries management programs for summer flounder, scup, black sea bass, and bluefish, however the new process will not be used for bluefish until the stock is declared rebuilt. Although it is not required to implement the HCR in 2023 for bluefish, the ability to maintain status quo measures without a predicted overage (using the GARFO discards) aligns with the intent of stability in recreational management measures.

There is currently only one full year of data to assess the impacts of the bag limit change from 15 fish to 5 fish (for-hire) and 3 fish (private angler). A comparison of 2018-2019 average harvest (15 fish bag) to 2021 harvest (3/5 fish bag) shows a 1.95 million pound decrease in harvest. Several other factors may influence harvest including availability of the fish and economic considerations for anglers, so multi-year averages of harvest may be more informative.

The ongoing bluefish research track assessment is evaluating new data and approaches used to assess the stock and is scheduled for peer-review in December 2022. The results of the research track assessment are expected to be available for an updated management track assessment to set measures in 2024-2025. Through this process, a new set of biological reference points and updated stock status will be available that may result in liberalizations or restrictions to recreational management measures. Because of this, recommending changes to recreational measures may be more appropriate with the updated stock information that is expected to be available next year.

**Table 6:** Original 2023 bluefish specifications (left) and adjustments (right) to the RHL based on the 2021 recreational ACL overage payback and staff recommended updated 2021 discard information. Measures are in millions of pounds.

Management Measure	Year		Basis
	2023 (original)	2023 (adjusted)	
<b>OFL</b>	45.17	45.17	Stock assessment projections
<b>ABC</b>	30.62	30.62	Derived by SSC; Follows the rebuilding plan through NEFSC projections
<b>ACL</b>	30.62	30.62	Defined in FMP as equal to ABC
<b>Comm. ACL=ACT</b>	4.29	4.29	ABC x 14% sector allocation, no adjustment for management uncertainty
<b>Rec. ACL=ACT</b>	26.34	26.34	ABC x 86% sector allocation, no adjustment for management uncertainty
<b>Recreational AMs</b>	0	5.59	Adjusted to estimated 2021 rec. ACL overage payback
<b>Comm. Discards</b>	0	0	Value used in assessment
<b>Rec. Discards</b>	4.19	6.64	2020 GARFO estimate (original), 2021 GARFO estimate (adjusted)
<b>Commercial Quota</b>	4.29	4.29	Comm. ACT minus discards
<b>RHL</b>	22.14	14.11	Rec. ACT minus discards and AM payback
<b>Possession limit</b>	3: private 5: for-hire	3: private 5: for-hire	2023 implemented, and 2023 staff rec.