



# Atlantic States Marine Fisheries Commission

1050 N. Highland Street • Suite 200A-N • Arlington, VA 22201  
703.842.0740 • 703.842.0741 (fax) • www.asmfc.org

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## MEMORANDUM

September 28, 2020

**To: Bluefish Management Board**

**From: Bluefish Technical Committee**

**RE: Recommendations on Bluefish Age and Length Frequency Data Sampling**

**Technical Committee Members:** Mike Celestino (Chair, NJ), Sam Truesdell (Vice Chair, MA), Kevin Sullivan (NH), Nicole Lengyel Costa (RI), Kurt Gottschall (CT), Sandra Dumais (NY), Richard Wong (DE), Eric Durell (MD), David Behringer (NC), Amy Zimney (SC), Joseph Munyandorero (FL), Anthony Wood (NEFSC), Matt Seeley (MAFMC), Katie Drew (ASMFC), Joseph Myers (ACCSP), Dustin Colson Leaning (ASMFC)

### Introduction

In August 2020, the Bluefish Management Board (Board) tasked the Technical Committee (TC) with reviewing the effectiveness of the Addendum I sampling design, specifically reevaluating the optimal geographic range and sample size for bluefish age data. The Board also tasked the TC with reviewing the increased importance of recreational discards in stock assessments. Currently, Rhode Island, Connecticut, and New Jersey have volunteer angler survey programs that provide release length data; additionally, data on released lengths also comes from the American Littoral Society (ALS) and the Marine Recreational Information Program (MRIP) (I9 at-sea releases from headboats), but more data may be needed to accurately capture discard trends along the entire coast. The robustness of stock assessments and catch accounting can be improved by generating reliable discard length data from recreational anglers and collecting age samples year round that are representative of all size classes and regions.

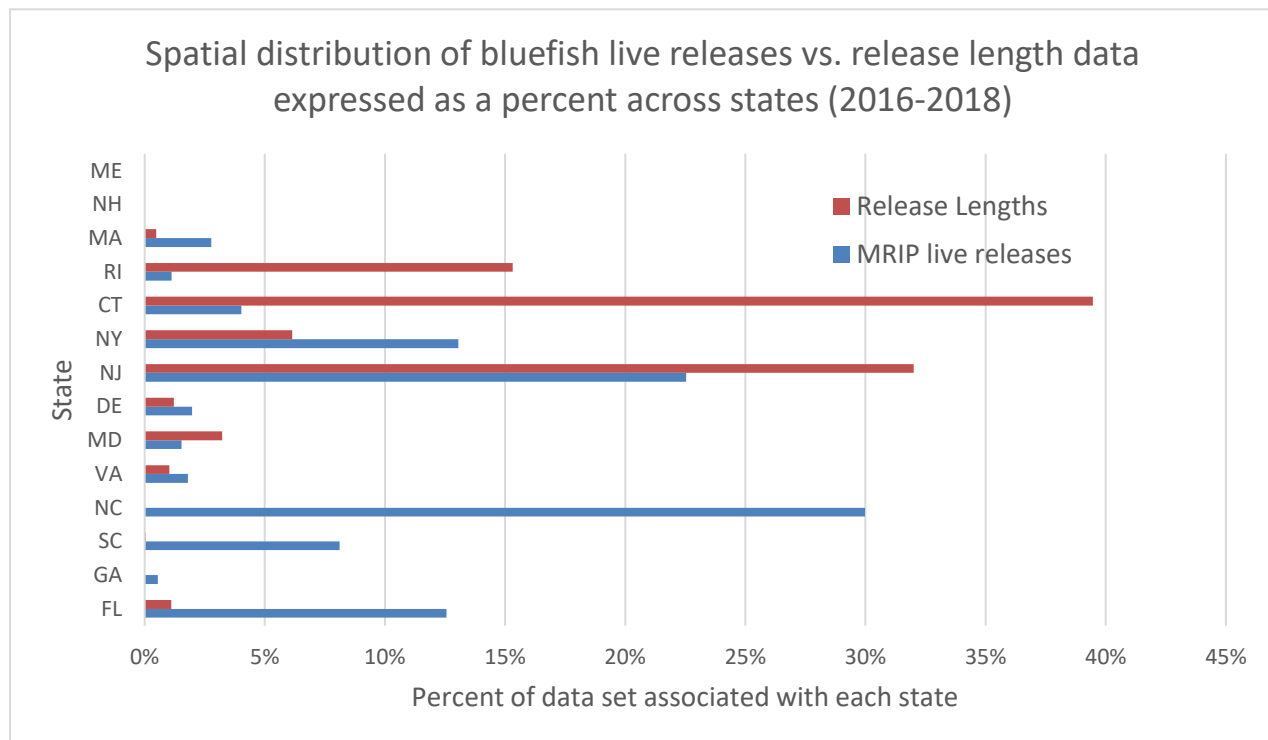
### Statement of the Problem

During the annual Plan Review Team's (PRT) review of the Bluefish Fishery Management Plan (FMP), the PRT identified a geographic and temporal mismatch between the age data sampling requirements under Addendum I and the current trends in bluefish landings across states. Under Addendum I, states that account for more than 5% of total coastwide bluefish harvest for the 1998-2008 period are required to collect a minimum of 100 bluefish ages (50 from January through June, 50 from July through December). Addendum I used MRIP data that relied upon the Coastal Household Telephone Survey for calculating the recreational state-specific apportionment of total harvest. MRIP has since transitioned to a new mail-in fishing effort survey. In July 2018, MRIP revised recreational catch estimates with a calibrated 1982-2017 time series that corresponds to the new MRIP survey methods. As such, the PRT thought it important that state contributions to coastwide harvest should be recalculated using the newly calibrated MRIP estimates as well as data from a more recent time period. In addition, the PRT noted the difficulty faced by some northern states in collecting age samples in the first half of the year when bluefish availability is frequently low due to the migratory nature of the stock. The PRT recommended the TC analyze state contribution to coastwide removals across two seasons (January-June and July-December) to resolve the mismatch between the Addendum I age sampling requirements and current trends in seasonal availability.

The 2019 operational stock assessment acknowledged the scaled up recreational landings and discards resulting from the new calibrated MRIP estimates had a significant impact on the assessments results. The report emphasized that accurately characterizing the recreational release lengths is integral to the assessment and any improvement to the methodology used to collect these data is recommended. Subsequently, the TC identified the need to expand the geographic range of where release lengths are sampled so they more accurately represent the stock-wide size composition of released bluefish. Currently Rhode Island, Connecticut, and New Jersey have volunteer angler survey programs that provide release length data; additionally, data on released lengths also comes from ALS and MRIP (19 at-sea releases), but more data are needed to accurately capture discard trends along the entire coast. Figure 1 displays the spatial distribution of live releases and release length samples along the Atlantic coast. The figure demonstrates the lack of release length data coming from North Carolina and South Carolina, even though these two states comprised approximately 38% of the coastwide releases during the 2016-2018 period.

**Figure 1. Spatial distribution of bluefish live releases and release length data**

Legend and source: Red = release lengths – RI, CT, NJ volunteer angler surveys (RI 297 samples, CT 1057 samples, NJ 380 samples), American Littoral Society (660 samples), MRIP Type 9 (328 samples); blue = MRIP estimates of live releases (B2s) across Atlantic coast states.



**Technical Committee Discussion on Age Data Sampling Requirements**

Addendum I required Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Virginia, and North Carolina to collect age samples. Although Virginia did not meet the 5% threshold of total coastwide harvest, it was required to maintain its sampling program that existed prior to Addendum I to sustain its collection of valuable age data. The TC determined the Addendum I sampling requirements should be revisited by analyzing recent trends in removals, relying upon new calibrated MRIP estimates. Table 1 displays coastwide removals

(landings plus dead discards<sup>1</sup>) by state using the base years 2010-2019. Percentages are provided for the full year (January-December), spring (January-June), and fall (July-December). Recent fishery trends and MRIP calibration has transitioned Florida from a less than 5% contributor to coastwide harvest (Addendum I) to an approximately 15.4 % contributor to coastwide harvest. Revised MRIP methods increased Florida’s estimated landings of bluefish by an average of approximately 600% by weight during 1998-2008.

**Table 1. Coastwide Bluefish Removals (commercial and recreational landings and dead discards) by State 2010-2019, based on revised MRIP estimates**

Full year: January-December, Spring: January-June, Fall: July-December

Source: commercial data – ACCSP Data Warehouse, recreational data – Personal communication from the National Marine Fisheries Service, Fisheries Statistics Division. [September 2020]

Green indicates 4% threshold has been met. The TC chose 4% as the threshold because it would maintain all of the states that previously met the Addendum I threshold percentage while also accounting for inclusion of additional states as a result of MRIP calibration. As was done in Addendum I, Virginia would be required to maintain its biological monitoring program to support the age data collection effort.

The TC proposed to change the seasonal collection of 50 samples in the spring and 50 in the fall from a requirement to a target (seasonal target columns); targets based on fishery performance provides a range of target samples sizes that could be collected based on average availability (as suggested by average total removals).

State	Coastwide Bluefish Removals			Seasonal target		Annual mandate	Targets based on fishery performance	
	Full year	Spring	Fall	Spring	Fall		Spring	Fall
ME	0.10%	0.00%	0.50%	-	-	-	-	-
NH	0.10%	0.00%	0.20%	-	-	-	-	-
MA	12.50%	3.60%	15.00%	50	50	100	11-50	50-89
RI	4.10%	2.70%	6.80%	50	50	100	24-50	50-76
CT	8.40%	2.10%	11.20%	50	50	100	9-50	50-91
NY	20.70%	17.90%	21.20%	50	50	100	33-50	50-67
NJ	17.70%	20.90%	19.50%	50	50	100	44-50	50-56
DE	1.30%	2.30%	1.00%	-	-	-	-	-
MD	1.60%	0.50%	3.20%	-	-	-	-	-
VA	1.90%	2.30%	2.60%	50	50	100	47-50	50-53
NC	13.70%	18.20%	8.20%	50	50	100	50	50
SC	1.90%	2.90%	1.00%	-	-	-	-	-
GA	0.10%	0.10%	0.10%	-	-	-	-	-
FL	15.80%	26.60%	9.50%	50	50	100	50-63	37-50

<sup>1</sup> The approach used by the Greater Atlantic Regional Fisheries Office (GARFO) to monitor removals in the recreational fishery was used to generate estimates of dead discards. Discards in pounds were calculated by multiplying the live releases (B2s) numbers estimate by the mean weight of landed fish specified at the wave and state level. For specific state and wave entries lacking data on harvested fish, an average weight of harvested fish from a similar wave/state were calculated. This imputation occurred for at least a few states for each year in the dataset. In this way, live releases in numbers of fish were converted to an estimate in weight. This value was then multiplied by the 15% discard mortality rate that is assumed in Bluefish stock assessments to produce the dead discard estimates in pounds.

Table 1 also demonstrates the seasonal trends in bluefish availability to the recreational fishery as suggested by total seasonal removals. The challenge of collecting 50+ samples in the spring is highlighted by the contrast in New England states' spring and fall removals. Massachusetts, Rhode Island, and Connecticut have a much smaller contribution to spring coastwide removals compared to their contribution to the fall coastwide removals. In light of the collection challenges, the TC proposed to change the seasonal collection of 50 samples in the spring and 50 in the fall from a requirement to a target; the table above provides a range of target samples sizes that could be collected based on average availability (as suggested by average total removals). A target would preserve the importance of acquiring age data throughout the year, while still providing recognition of the historical seasonal availability of bluefish in certain states. The TC was concerned spring collections could become voluntary without some seasonal target sample size guidance. Most importantly, the TC agreed the requirement of collecting 100 samples should remain and states should not be penalized when unable to collect a seasonal target due to availability of fish when a good faith effort to collect samples has been made.

### **Technical Committee Discussion on Release Length Sampling**

An Atlantic Coastal Cooperative Statistics Program (ACCSP) staff member presented to the TC three options for electronic trip reporting that could be used for collecting recreational angler release data to remove the need for a state to create a new data collection system. SAFIS eTrips, SAFIS eLogbook, and the SAFMC Scamp Release application are all viable alternatives. SAFIS eTRIPs is the most robust reporting application that is mobile compatible. However, a potential drawback is the large number of required data entry fields, which could deter the average angler. SAFIS eLogbook is specifically designed for voluntary recreational reporting with the intent of reducing burden for private recreational captains. The downside is that SAFIS eLogbook is currently only offered on a web-based platform with no mobile version. The Scamp Release application is designed to collect information on scamp (*Myxeroperca phenax*) releases from commercial, for-hire, and recreational fishermen via a mobile platform, and could be modified to suit the needs of collecting bluefish release data. ACCSP is currently in the process of conducting scoping meetings and finding funds to develop a landings and discards reporting application that may be customized for use for multiple species. While the future development of this application is perhaps the most promising, its functionality is currently not readily available for bluefish.

While the TC expressed interest in these applications and the potential benefits to fisheries management, some TC members were concerned about the potential for bias in reporting by recreational anglers (self-selection bias, avidity bias, etc.). It was noted, it is possible to examine and correct for bias in data that are collected; but that assessment cannot occur without data. The TC pointed out that states have limited control over angler participation in a release length sampling program; thus there was some reticence about implementing specific state requirements related to participation. Ultimately the TC stressed the importance of acquiring additional information on bluefish releases as soon as possible, but not as a compliance requirement. Additionally, the TC recognized this need was not specific to bluefish, and the ASMFC's ISFMP Policy Board may be better suited for addressing this across all species.

The TC recommends the Board advance the importance of broadly collecting reliable recreational release length frequency data from all recreational species. The TC is supportive of ACCSP's efforts to develop a discard reporting application for multi-species use. The Policy Board is best suited to address the needs of a multi-species application and coordinating with the ACCSP Recreational Technical Committee. The TC emphasizes the importance of advancing a comprehensive data collection program that applies to more species than just bluefish. As such, the TC recommends the Bluefish Management Board ask the Policy Board to task either the Assessment Science Committee or the Management and Science Committee to work with ACCSP to develop a

comprehensive program for reporting released fish of all recreationally important species the Commission manages.

### **Biological Monitoring Program recommendations**

The TC recommends that the Board consider the following revisions to the Addendum 1 Biological Monitoring Program:

States that account for more than 4% of total coastwide bluefish removals (recreational and commercial landings and dead discards) for the 2010-2019 period are required to collect a minimum of 100 bluefish ages. These states are: Massachusetts, Rhode Island, Connecticut, New York, New Jersey, North Carolina, and Florida. Virginia must continue its current sampling regime for bluefish and provide that same minimum 100 samples as the other states. States are required to achieve the target of collecting at least 50 samples in the spring (January-June) and 50 samples in the fall (July-December) subject to fish being available for collection. Table 1 provides additional guidance on seasonal targets that account for average seasonal availability. Additionally, every effort should be made to cover the full range of bluefish sizes with these samples.<sup>2</sup> States who fail to meet the sampling targets due to availability of fish shall not be found out of compliance as long as it is demonstrated that a good faith effort was made to achieve the targets.

The PRT will continue to annually review the effectiveness of the sampling design and evaluate the optimal geographic range and sample size for bluefish age data. If changes are necessary to the sampling program, as recommended by the PRT or the TC, then sampling protocols should be modified through Board action for example, as part of the specification setting process.

In addition, states that comprise greater than 4% of coastwide removals (Massachusetts, Rhode Island, Connecticut, New York, New Jersey, North Carolina, and Florida) for the period 2010-2019 are asked to make a good faith effort to collect discard length frequency data from their recreational fishery as soon as possible as part of a coastwide pilot program using the best tool for their stakeholders (e.g., one or more of the programs described above).

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<sup>2</sup> Inspection of recent coastwide age data collections suggests missing age samples within the largest size classes'.