Mid-Atlantic Fishery Management Council
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MEMORANDUM

Date: March 10, 2023

To: Bluefish Monitoring Committee/Technical Committee

From: Karson Cisneros, Staff

Subject: Consideration of Management Uncertainty Buffers in the Bluefish Fishery

Meeting Objective

Due to recent recreational overages and uncertainty in discards for the commercial and recreational fisheries, the bluefish Monitoring Committee (MC) has discussed the need to develop justified quantitative approaches to recommend a management uncertainty buffer. The MC felt that holding a meeting in advance of the typical specifications meeting would allow for a more robust discussion, and the objective of this meeting is to develop considerations and potential buffer calculations to use in the future as appropriate.

Background

The Magnuson-Stevens Act requires the Mid-Atlantic Fishery Management Council's (MAFMC) Science and Statistical Committee (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. 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 is responsible for recommending ABCs that address scientific uncertainty, while the MC recommends Annual Catch Targets (ACTs) that consider management uncertainty and management measures to constrain landings to the harvest limits (Figure 1).

Management uncertainty can include uncertainty in the ability of managers to control catch and uncertainty in quantifying the true catch (i.e., estimation errors). Management uncertainty may occur because of a lack of sufficient information about the catch (e.g., due to late reporting, underreporting, and/or misreporting of landings or bycatch) or because of a lack of management precision (i.e., the ability to constrain catch to desired levels).

The option to use management uncertainty buffers were formally incorporated into the MAFMC 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 (Figure 1).

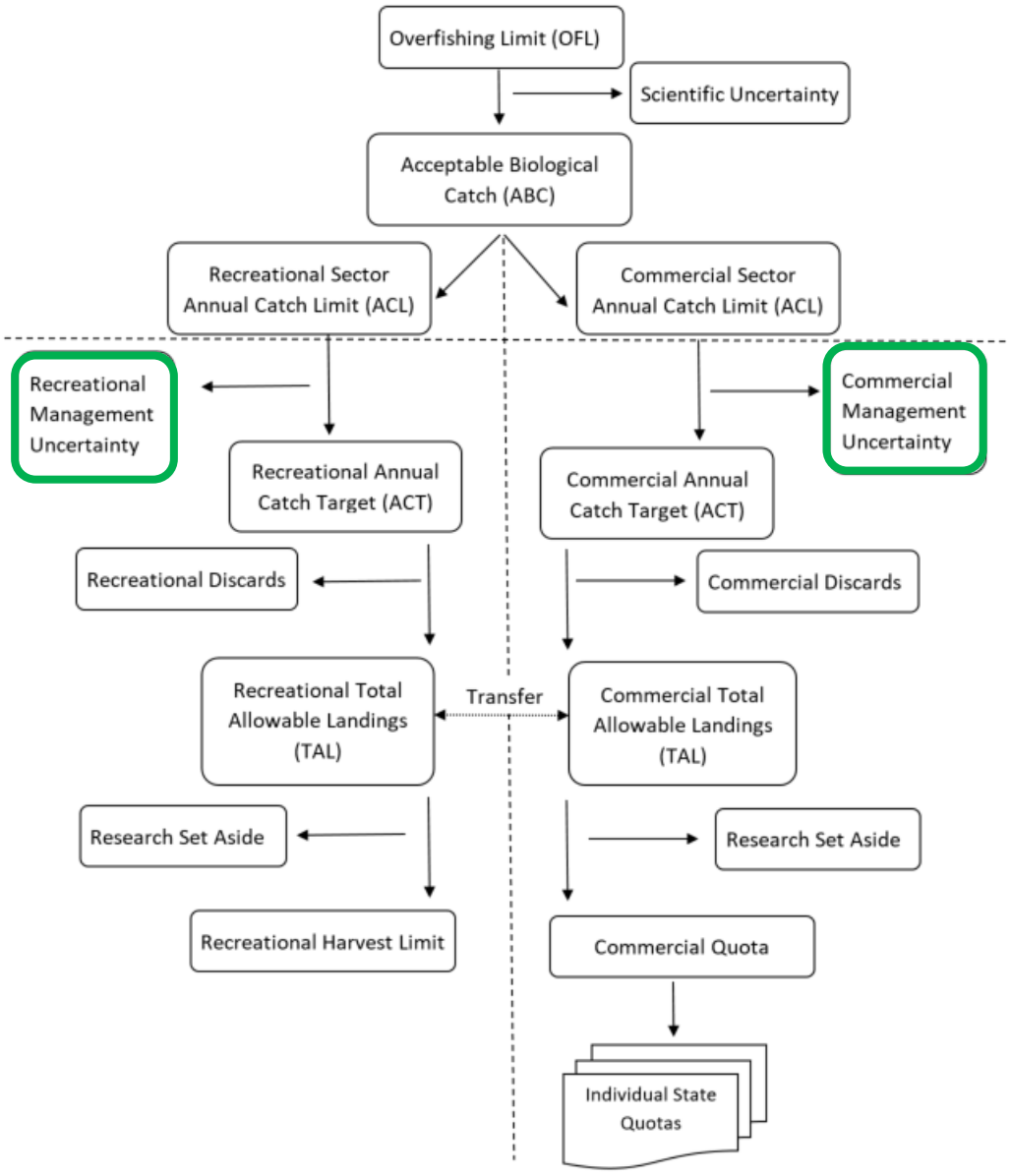

Figure 1. Bluefish flow chart from the Bluefish Allocation and Rebuilding Amendment (Amendment 7), which includes sector specific management uncertainty (highlighted in green). Prior to the Amendment, management uncertainty was applied at a combined ACL level before sector allocations were applied. The research set aside program is currently discontinued so no further calculations are needed from the sector specific TALs to the RHL and commercial quota.

Management Uncertainty Buffer Examples

Since the implementation of the 2011 Omnibus Amendment, management uncertainty buffers have been recommended and/or applied for Mid-Atlantic Council managed FMPs somewhat infrequently, and under various circumstances (Table 1). Uncertainty buffers have been developed and implemented due to underestimation or variability in discards, uncertainty related to a newly managed stock, and to provide stability during a time of large changes to ABCs. Management uncertainty buffers have not been applied in the bluefish commercial or recreational fisheries to date.

In some cases, MCs for other species have considered a management uncertainty buffer but recommended against it due to their belief that a reduction in catch was unnecessary or counterproductive in those situations. Uncertainty buffers that lead to lower harvest limits and more restrictive management measures may increase the amount of management uncertainty in some cases. There has been some frustration by MC members that while management uncertainty exists in both directions, the process only allows the MC to recommend an adjustment that results in a reduction.

Table 1: Summary of proposed or implemented buffers applied to Annual Catch Limits (ACLs) to derive Annual Catch Targets (ACTs) for various MAFMC-managed fisheries.

Species	Year(s)	Sector	Buffer to ACL	Basis/Justification	Result
Black Sea Bass	2012	Recreational	37%	- Based on the underestimation of projected discards - 2010 projected discards were 0.60 mil lbs, observed discards were 1.56 mil lbs - Discards were expected to remain high	- Implemented
Summer Flounder	2013	Recreational	8%	- Value of the MRIP PSE on coastwide summer flounder recreational catch	- Proposed by staff, not recommended by MC, not implemented - Already accounted for in the assessment/scientific uncertainty
Butterfish	2012-2022	Commercial	5%	- Discard variability - Fishery closure system is untested	- Implemented
Scup	2019	Both Sectors	7%	- Set 2018 and 2019 specifications constant for the ACT, commercial quota, and RHL, provide stability - Resulted in a lower ACT relative to the ACL in 2019	- Implemented

Chub Mackerel	2020-2023	Commercial	4%	- Newly managed stock - Potential for misreporting and under-reporting -	- Implemented
Atlantic Mackerel	2012-2021	Both Sectors	3-15%	- Discard variability in commercial sector - There are rec. landings but no rec. measures	- Implemented
Spiny Dogfish	2023	Commercial	5%	- Discard variability	- Recommended by MC but not implemented

Recent Bluefish Fishery Performance

Tables 2 and 3 illustrate recent recreational catch and harvest estimates relative to the limits implemented. Table 4 represents recent commercial harvest compared with recent quotas. Because commercial discards have been assumed to be zero, the quotas and ACTs have been equivalent. Although commercial discards have been negligible, estimates based on observer data are summarized in the NEFSC annual discard reports and recently have been provided through GARFO catch accounting. These sources can provide some insight into recent commercial discards as shown in Table 4.

Table 2: Summary of bluefish RHL performance and management measures in millions of pounds, 2018-2023. 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	Rec. Harvest, Old MRIP	Rec. Harvest, New MRIP	RHL	Overage/ underage	Rec. Bag Limit (# fish)	
2018	3.64	13.27	11.58	-7.94	15	
2019	--	15.56	11.62	N/A	15	
2020*	--	13.58	9.48	+ 4.10	3: Private	5: For-Hire
2021	--	12.46	8.34	+ 4.12	3: Private	5: For-Hire
2022	--	11.08 (prelim.)	13.89	-2.81(prelim.)	3: Private	5: For-Hire

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

Table 3: Recent recreational discard estimates and catch performance in millions of pounds 2018-2022. In 2018 and 2019, recreational discards were provided using new MRIP estimates while the ACL/ACT was developed using old MRIP estimates so cannot be directly compared. Total recreational catch was calculated using new MRIP harvest estimates and the GARFO discard estimates.

Recreational Fishery	Discards (GARFO Estimates)	Discards (NEFSC Estimates)	Total Rec. Catch	Rec. ACL/ACT	Overage/ underage
2018	4.03	9.90	17.30	18.11	N/A
2019	4.88	15.41	20.44	18.11	N/A
2020	4.19	8.30	17.77	13.51	+4.26
2021	6.64	12.60	19.10	13.51	+5.59
2022	TBD based on new assessment		TBD	21.73	TBD

Table 4: Commercial fishery performance 2018-2021 in millions of pounds. Estimated commercial discards in this table from 2018-2019 are based on the NEFSC annual discard reports which use observer data and SBRM methodology. Estimated commercial discards from 2020-2021 are based on the GARFO catch accounting values.

Commercial Fishery	Harvest	Quota	Overage/ underage	Estimated Discards
2018	2.2	7.24	-5.04	0.02
2019	2.78	7.71	-4.93	0.05
2020	2.16	2.77	-0.61	0.04
2021	2.07	2.77	-0.70	0.04

Other Considerations

- To increase stability and address the uncertainty in recreational management, the Council and ASMFC's Policy Board are currently considering both short-term and long-term modifications to the recreational management system. 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. The new process was implemented for all species except bluefish for 2023 and will be used for bluefish once the stock is declared rebuilt. The new percent change approach considers biomass compared to the target and estimated recent recreational harvest compared to future harvest limits, to determine if management measures need to change and, if so, by how much. A table outlining this approach is available here.
- The bluefish research track assessment passed peer review in December 2022. This assessment incorporated commercial discard estimates and updated data and methods for

recreational discard estimates, potentially decreasing management uncertainty surrounding discards. Results of the research track assessment will inform a management track assessment in June 2023 to set measures in 2024-2025. Through this process, a new set of biological reference points and updated stock status will be available.