



**Mid-Atlantic Fishery Management Council**  
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Michael P. Luisi, Chairman | P. Weston Townsend, Vice Chairman  
Christopher M. Moore, Ph.D., Executive Director

## MEMORANDUM

**Date:** March 8, 2022  
**To:** Chris Moore, Executive Director  
**From:** Jason Didden, staff  
**Subject:** Atlantic Mackerel Rebuilding

With the context that each rebuilding option would represent a distinct rebuilding risk policy to be selected by the Council, staff recommends that the implied 2023/2024 Acceptable Biological Catches (ABCs) for each rebuilding option in Table 1 on the next page be endorsed as the best scientific information available. Tables for each projection (run by NMFS NEFSC staff) are posted at <https://www.mafmc.org/council-events/2022/march-2022-ssc-meeting>. Among other considerations:

- The projection methodology aligns with the peer-reviewed assessment.
- The options are focused on the probability of rebuilding by 2032 (ten years), given the Scientific and Statistical Committee's (SSC) July 2021 Meeting advice that "Preliminary rebuilding scenarios indicate long-term rebuilding will be required for this stock" and that higher rebuilding probabilities "are associated with shorter rebuilding time and greater catch stability."
- The catch estimates for 2020-2022 utilize up-to-date data and/or specifications, including actions by NMFS to limit catch in 2021 to 12,220 metric tons (mt) and in 2022 to 12,055 mt, on an interim/emergency basis.
- The first alternative uses only 2009-2019 recruitments so it requires very low catches to rebuild. Options 2-5 utilize recruitment draws constrained to 2009-2019 estimates unless spawning stock biomass is above 50% of the target (then 1975-2019 recruitments are used). The SSC identified these two recruitment approaches as "defensible and supported by the data" at its September 2021 SSC Meeting. The results of each scenario are contingent on the assumed recruitment dynamics for the projection time period.
- A 150% coefficient of variation (CV) was used for P\* risk policy deductions, where applicable, as recommended by the SSC at its September 2021 SSC Meeting.

Table 1. Atlantic Mackerel Rebuilding Options Summary

Run ID	Name	Implied Rebuilding Risk Policy	Recruitment	CV	Probability Rebuild by 2032	F (2023/2024 if multiple)	Rebuilt by (median)	Implied Total 2023 median Catch/ ABC (mt)	Implied Total 2024 median Catch/ ABC (mt)
1	2009+ Rebuild	50% chance of rebuilding by 2032	2009+	na	56.6%	0.01	June 2031	703	865
2	Split standard P*	Use basic P* as rebuilding plan.	Split at 1/2 Bmsy	150	51.5%	0.07/ 0.08	June 2031	4,539	6,207
3	Split 60% rebuild	60% chance of rebuilding by 2032	Split at 1/2 Bmsy	na	60.5%	0.12	June 2031	8,094	9,274
4	Split 50% rebuild	50% chance of rebuilding by 2032	Split at 1/2 Bmsy	na	53.4%	0.14	June 2032	9,371	10,591
5	Split 50% rebuild with P* deduction	Use rebuild F from split 50% chance of rebuild and then deduct per P* as if rebuild F was overfishing F	Split at 1/2 Bmsy	150	62.3%	0.04/ 0.05	June 2029	2,976	4,168