



Atlantic States Marine Fisheries Commission

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MEMORANDUM

TO: Atlantic Menhaden Management Board
FROM: Kristen Anstead Ph.D., Stock Assessment Scientist
DATE: December 7, 2022
SUBJECT: Board Task to Determine the Risk Associated with 2023-2025 TAC

During the November 2022 meeting of the Atlantic Menhaden Management Board (Board), the Board reviewed a projection analysis from the Technical Committee (TC) and set the 2023 total allowable catch (TAC) for Atlantic menhaden. The Board set the 2023-2025 TAC at 233,550 mt, a value that did not correspond to a specific probability value of exceeding the ecological reference points (ERP) provided in the examples. While the probability of 2023 TAC exceeding the ERP target was estimated during the meeting to be less than 40% based on the other values available in the presentation, the Board requested a follow-up analysis to provide the specific values.

Using the same methods as the analysis provided in the [Stock Projection Memo](#) and a 233,550 mt TAC, there is a 0% probability of exceeding the ERP threshold of 0.57 in 2023-2025. The probability of exceeding the ERP target of 0.19 is 1% in 2023, 19% in 2024, and 25.5% in 2025. Please note that this analysis used the allocations from Amendment 3 and at the November meeting, the Board approved Addendum I to Amendment 3 which changed the allocations. An additional analysis was done using the 233,550 mt TAC and the new allocations which determined that there is a 0% probability of exceeding the ERP threshold of 0.57 across all years. The probability of exceeding the ERP target of 0.19 is 2% in 2023, 22% in 2024, and 28.5% in 2025.

Table 1. The TACs associated with a 40-60% probability of exceeding the ERP target (0.19) for 2023-2025 combined and as separate years.

Probability of Exceeding the ERP Target	TAC for 2023-2025	TAC for 2023	TAC for 2024	TAC for 2025
40%	259,500	290,900	271,100	259,500
45%	270,500	303,800	281,800	270,500
50%	284,600	318,600	294,100	284,600
55%	301,000	335,100	308,200	301,000
60%	326,500	350,200	326,500	329,700

Table 2. Percent risk of exceeding the ERP target (0.19) and ERP threshold (0.57) for five different total allowable catch (TAC) projections.

TAC	Probability of Exceeding ERP Target			Probability of Exceeding ERP Threshold		
	2023	2024	2025	2023	2024	2025
174,960 mt (-10%)	0%	0%	2%	0%	0%	0%
184,680 mt (-5%)	0%	1%	3%	0%	0%	0%
194,400 mt (current TAC)	0%	1%	6%	0%	0%	0%
204,120 mt (+5%)	0%	4%	10%	0%	0%	0%
213,840 mt (+10%)	0%	8%	14%	0%	0%	0%