Mid-Atlantic Fishery Management Council
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MEMORANDUM

Date: February 24, 2020

To: Scientific and Statistical Committee

From: Brandon Muffley, Staff

Subject: Changes to the Mid-Atlantic Council risk policy

Background:

The Mid-Atlantic Fishery Management Council (Council) implemented the current risk policy and Acceptable Biological Catch (ABC) control rule in 2011 in order to comply with the 2006 re-authorization of the Magnuson-Stevens Act (MSA). Five years after implementation, the Council agreed to conduct a review of the current risk policy and determine if any modifications were necessary to meet the Council's goals and objectives for its managed fisheries. In 2017, during the risk policy review, the Council expressed interest in evaluating not only biological factors but to also more comprehensively consider economic and social factors and the potential implications of any modifications to the risk policy. The Council specified that the evaluation should assess the short and long-term trade-offs between stock biomass protection, fishery yield, and economic benefits. In addition, the Council agreed that any alternative developed and considered would retain the biologically based foundation of the existing risk policy of specifying a probability of overfishing (P*) that is conditional on the current stock biomass relative to B_{MSY} and would not explicitly include but consider economic factors, targets or thresholds.

In 2019, a workgroup comprised of NOAA Fisheries staff, SSC members, academia and Council staff was formed and tasked with further developing and analyzing the current risk policy and any potential alternatives in order to assess the short and long-term trade-offs between stock biomass protection and economic yield and benefits. Members of the workgroup built off their existing biological[1] and economic[2] management strategy evaluation (MSE) models. These models were updated to include the 2018 summer flounder benchmark assessment data, the 2019

[1] For additional information on the original biological MSE, see the summary report and presentation at: http://www.mafmc.org/briefing/february-2018.
[2] For additional information on the original summer flounder economic MSE, please see the summary report and presentation at: http://www.mafmc.org/briefing/december-2018.

scup management track assessment data, the new MRIP recreational catch information, and were refined to address specific Council objectives.

Rick Policy Changes:

Nine different risk policy alternatives, including *status quo*, were developed and approved for Council consideration[3]. The alternatives considered included constant, stepped, and ramping configurations with a variety of combinations of different maximum P* limits and stock replenishment thresholds (i.e. biomass levels where P* = 0). One alternative also considered retaining/eliminating the atypical/typical species designation and its application to the risk policy.

At the December 2019 meeting, the Council reviewed the results of the biological and economic MSEs (note: final reports for both analyses are provided as supplemental material) and considered the recommendations of the workgroup and Council staff. In general, the results of the analyses indicated that several alternatives would allow for increased yield and economic benefit when compared to the current risk policy and would still minimize the risk of overfishing or a stock becoming overfished.

The Council primarily debated the merits and implications of Alternative 2 and Alternative 8 (see Figure 1). Alternative 2 is similar to the current risk policy but with a maximum P* = 0.45 when the B/B_{MSY} ratio is >/= 1.0 and retains the current stock replenishment threshold when the B/B_{MSY} ratio is </= 0.1; while Alternative 8 retained the linear ramping approach with a maximum P* of 0.45 when the B/B_{MSY} ratio is </= 1.0, a linear ramping to a maximum of 0.49 when the B/B_{MSY} ratio is >/= 1.5, and modifies the stock replenishment threshold to a P* = 0 when the B/B_{MSY} ratio </= 0.3.

The Council was interested in allowing for increased risk under high stock biomass conditions such as those currently observed with black sea bass and scup. They were also supportive of reducing fishing effort and the probability of overfishing as stock size falls below the target but were concerned about the potential implications and consequences of modifying the slope of the linear ramping due to changes in the stock replenishment threshold. The Council initially approved Alternative 2 but later reconsidered the decision and ultimately approved an approach that combines aspects of both Alternative 2 and Alternative 8 (Figures 1 and 2). The modified alternative utilizes the stock replenishment threshold and subsequent ramping associated with Alternative 2 and the higher P* values under high stock biomass conditions associated with Alternative 8. In addition, the Council also approved removing the typical/atypical designation associated with the current risk policy.

[3] For more information on each alternative and workgroup considerations, please see the August and December risk policy discussion documents, respectively, at: http://www.mafmc.org/briefing/august-2019; http://www.mafmc.org/briefing/december-2019.

Figure 1. Comparison of Alternatives 2, 8, and the modified alternative

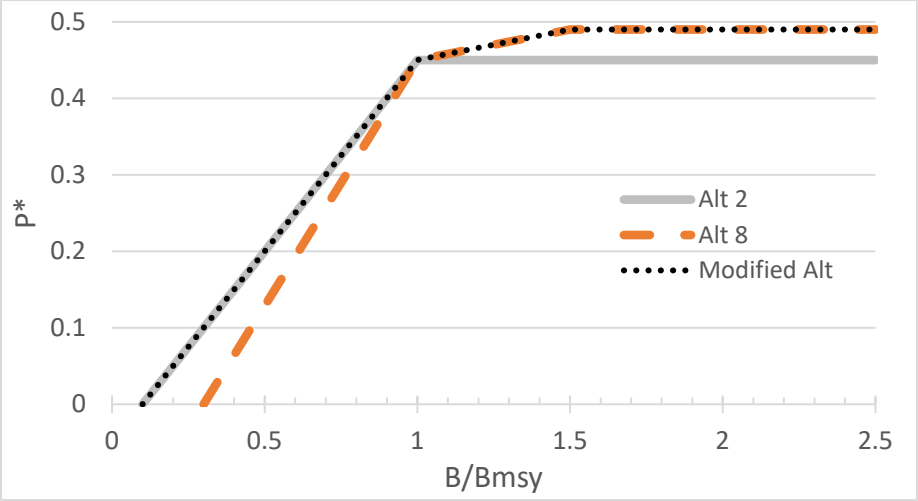
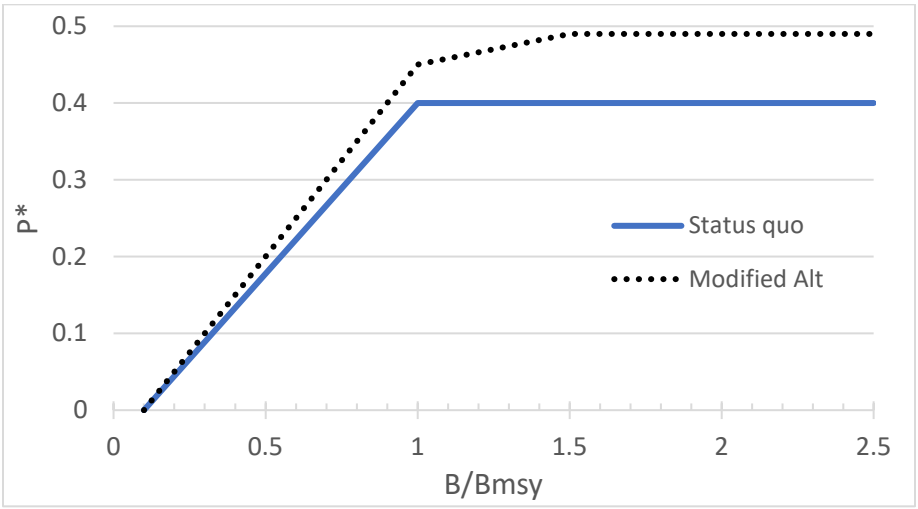


Figure 2. Comparison of the current risk policy (*status quo*) and the modified alternative



Timeline and Implications:

Council and GARFO staff are currently working on the Environmental Assessment (EA) to implement the new risk policy. In addition, the biological and economic MSE models are being updated to analyze the hybrid alternative approved by the Council. Those results can then be incorporated in the EA. The anticipated timeline is to submit the initial EA to GARFO in the spring (April/May) with a proposed rule sometime in summer (August) and, assuming GARFO approval, implementation in fall (October/November).

Under the proposed timeline mentioned above, the new risk policy would be in effect by the end of the year and applied to 2021 specifications. Therefore, the 2020 management track assessments for butterfish, Atlantic mackerel, surfclam, and ocean quahog will use the updated risk policy when setting new ABC recommendations (note: longfin squid is also scheduled for a

management track assessment in 2020 but the assessment currently does not specify an OFL and therefore does not use the risk policy). In addition, the SSC will also need to revisit previously approved 2021 specifications for summer flounder, scup, black sea bass, bluefish, and spiny dogfish and re-approve updated 2021 ABCs utilizing the new risk policy.