



## Mid-Atlantic Fishery Management Council

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# MEMORANDUM

**Date:** April 19, 2023

**To:** Ecosystem and Ocean Planning Committee and Advisory Panel

**From:** Brandon Muffley, Council staff

**Subject:** EAFM Risk Assessment Review: Summary of Risk Element Feedback

In November 2022, the Ecosystem and Ocean Planning (EOP) Committee and Advisory Panel (AP) initiated a comprehensive review of the Mid-Atlantic Council's Ecosystem Approach to Fisheries Management (EAFM) risk assessment. The initial EAFM risk assessment was completed in 2017 and has been updated annually using the utilizing information from the NEFSC Mid-Atlantic State of the Ecosystem Report to provide a snapshot of the current risks to meeting the Council's management objectives.

As part of the initial review meeting, the EOP Committee and AP agreed to the following process and timeline for conducting the review in 2023:

- **Meeting 1 (late winter/early spring) – consider risk elements and definitions**
- Meeting 2 (early summer) – consider indicators and risk ranking criteria
- Meeting 3 (late summer/early fall) – review updated risk assessment components and application(s) for Council needs
- Present updated risk assessment to Council in fall 2023

On April 27, 2023, the EOP Committee and AP will hold **Meeting 1** and, as outlined above, will review and potentially modify and update the risk elements and their definitions for inclusion in a revised risk assessment. To help prepare and streamline the risk element discussion, EOP Committee and AP members were asked to provide their initial feedback on the existing risk elements currently included in the risk assessment and on potentially new elements to be added to the risk assessment.

Below is a high-level summary of the feedback received from 18 EOP Committee and AP members regarding the existing and potentially new risk elements (Tables 1-3). Staff will provide a summary analysis and review the feedback in greater detail during the meeting. This information will be used to help focus the discussion and identify those risk elements we need to spend more time on as a group discussing – ie., those recommended for change, deletion, or addition. By the end of the meeting, the group should identify a working list of specific risk

elements to be considered for further evaluation and review at Meetings 2 and 3. A final list of risk elements is not needed at this point, but the number and scope of the risk elements for further consideration should be kept in mind to ensure priority risks are fully evaluated.

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**Table 1.** Current EAFM risk elements, their definitions, and the proportion of EOP Committee and AP members that recommended keeping, keeping but with modifications (modify), or removing (delete).

Risk Element	Definition: Risk to What?	Proportion of Responses		
		Keep	Modify	Delete
<i>Ecological Elements</i>				
Stock Assessment Performance	Risk of not achieving OY due to analytical limitations	0.87	0.13	0.00
F Status	Risk of not achieving OY due to overfishing	1.00	0.00	0.00
B Status	Risk of not achieving OY due to depleted stock	1.00	0.00	0.00
Food Web (MAFMC Predator)	Risk of not achieving OY due to MAFMC managed species interactions	0.93	0.07	0.00
Food Web (MAFMC Prey)	Risk of not achieving OY due to MAFMC managed species interactions	0.93	0.07	0.00
Food Web (Protected Species Prey)	Risk of not achieving protected species objectives due to species interactions	0.73	0.27	0.00
Ecosystem Productivity	Risk of not achieving OY due to changing system productivity	0.93	0.07	0.00
Climate	Risk of not achieving OY due to climate vulnerability	0.60	0.33	0.07
Distribution Shifts	Risk of not achieving OY due to climate-driven distribution shifts	0.75	0.25	0.00
Estuarine habitat	Risk of not achieving OY due to threats to estuarine/nursery habitat	1.00	0.00	0.00
<i>Economic Elements</i>				
Commercial Revenue	Risk of not maximizing fishery value	0.80	0.13	0.07
Recreational Angler Days/Trips	Risk of not maximizing fishery value	0.87	0.07	0.07
Commercial Fishery Resilience (Revenue Diversity)	Risk of reduced fishery business resilience	1.00	0.00	0.00
Commercial Fishery Resilience (Shoreside Support)	Risk of reduced fishery business resilience due to shoreside support infrastructure	0.93	0.07	0.00
<i>Social Elements</i>				
Fleet Resilience	Risk of reduced fishery resilience (number and diversity of fleet)	0.86	0.14	0.00
Social-Cultural	Risk of reduced community resilience (vulnerability, reliance, engagement)	0.93	0.00	0.07
<i>Food Production Elements</i>				
Commercial	Risk of not optimizing seafood production	0.93	0.07	0.00
Recreational	Risk of not maintaining personal food production	0.60	0.20	0.20
<i>Management Elements</i>				
Control	Risk of not achieving OY due to inadequate control	0.63	0.38	0.00
Interactions	Risk of not achieving OY due to interactions with species managed by other entities	0.87	0.07	0.07
Other Ocean Uses	Risk of not achieving OY due to other human uses	0.73	0.27	0.00
Regulatory Complexity	Risk of not achieving compliance due to complexity	0.93	0.07	0.00
Discards	Risk of not minimizing bycatch to extent practicable	0.86	0.14	0.00
Allocation	Risk of not achieving OY due to spatial mismatch of stocks and management	0.75	0.25	0.00

**Table 2.** Potentially new EAFM risk elements, their definitions, and the proportion of EOP Committee and AP members that recommended keeping, keeping but with modifications (modify), or removing (delete). These risk elements were previously considered during the development of the initial risk assessment in 2017 or suggested during the November 2022 EOP Committee and AP meeting.

Risk Element	Definition: Risk to What?	Proportion of Responses		
		Keep	Modify	Delete
<i>Tabled Elements from 2017 Risk Assessment</i>		Keep	Modify	Delete
Offshore Habitat	Risk of not achieving OY due to changing offshore habitat	0.81	0.06	0.13
Population Diversity	Risk of not achieving OY due to reduced diversity (size, sex, genetic)	0.81	0.06	0.13
Ecological Diversity	Risk of not achieving OY due to reduced diversity (species)	0.63	0.06	0.31
Fishery Resilience (2)	Risk of reduced business resilience due to access to capital	0.50	0.06	0.44
Fishery Resilience (3)	Risk of reduced business resilience due to insurance availability	0.40	0.07	0.53
Fishery Resilience (5)	Risk of reduced business resilience due to access to emerging markets/opportunities	0.50	0.13	0.38
Commercial Employment	Risk of not optimizing employment opportunities	0.44	0.19	0.38
Recreational Employment	Risk of not optimizing employment opportunities	0.44	0.19	0.38
Seafood Safety	Risk of not maintaining market access, human health	0.50	0.13	0.38
<i>Potential Elements identified during November 2022 EOP webinar</i>				
Other Food Web Interactions (HMS, Seabird)	Risk of not achieving OY due to MAFMC managed species interactions	0.67	0.11	0.22
Offshore Wind (1) (separate from Other Ocean Uses)	Risk of not achieving OY due to biological impacts to stock productivity	0.71	0.06	0.24
Offshore Wind (2) (separate from Other Ocean Uses)	Risk of not achieving OY due to fishery impacts to due access, stock availability	0.71	0.06	0.24
Invasive Species	Risk of not achieving OY due to interactions with MAFMC managed species	0.40	0.13	0.47

**Table 3.** Potentially new EAFM risk elements and their definitions identified by EOP Committee or AP members as part of the pre-meeting feedback process. Risk elements were binned into existing risk element categories that seemed most appropriate.

<b>Risk Element</b>	<b>Definition: Risk to What?</b>
<i>Ecological Related Elements</i>	
Overfished Stocks	Risk of not timely rebuilding overfished stocks
EFH Identification	Risk of not identifying essential fish habitat
EFH Protection	Risk of not assuring protection of essential fish habitat
Nearshore habitat	Risk of not achieving OY due to threats to nearshore habitat (sand mining, beach replenishment, etc.)
Aggregate Forage Base	Risk of negatively impacting the integrity of the forage base.
Recruitment	Risk of not achieving OY due to reduced juvenile abundance
<i>Economic Related Elements</i>	
Commercial Fishery Resilience	Risk of reduced business resilience due to access to support businesses (i.e., local processors)
Recreational Fishery Resilience (Shoreside Support)	Risk of reduced fishery business resilience due to shoreside support infrastructure (marinas, bait and tackle shops, etc.)
<i>Social Related Elements</i>	
Recreational fleet diversity	Risk of reduced recreational fishery business resilience
Commercial Fishing	Risk of not maximizing commercial fishing labor
Foreign Interference	Risk of not achieving OY due to foreign fishing vessel fleets
<i>Management Related Elements</i>	
Stock Assessment Performance	Risk of not achieving OY due to reduced survey access/modified survey design/survey calibration methodology due to offshore wind
Offshore energy	Risks from other energy production not as habitat beneficial as offshore wind turbines
Aquaculture	Risks from escapes, contamination of native populations