

Risk Policy Use

SCIENTIFIC AND STATISTICAL COMMITTEE MEETING

NEW BEDFORD, MA AND WEBINAR

AUGUST 11, 2026



**New England Fishery
Management Council**

RISK POLICY OUTLOOK FOR 2026

On June 25, 2026, the Council approved revisions to the Risk Policy Concept.

Risk Policy outputs now include the Risk Policy Matrix and Z-score, Risk Tolerance (tiers), and recommended probability.

What does this mean for the SSC?

- There is no change to application of ABC Control Rules.
- Risk Tiers (and Matrix) should be considered when developing recommendations.



FINAL PRODUCT *RISK POLICY CONCEPT AND APPENDICES*

Risk Policy Statement and Concept

1. Purpose
2. Four Strategic Initiatives
3. Need and Benefits of a Risk Policy
4. Stability
5. Description of Concept
6. Process, Roles, and Responsibilities

Appendices

1. Factor Scoring Instructions
2. Factor Weighting Sheet and Instructions
3. Mechanics
4. Use Guidance
5. Decision Catalogue

Risk Tolerance Tiers for Qualitative Use



WEIGHTING, SCORING, LEVEL OF RISK

FACTORS

(Key elements to characterize risk)

WEIGHTING

(level of importance of a factor to the Council)

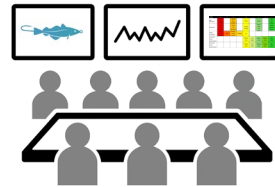
Policy Choice - Council



SCORING

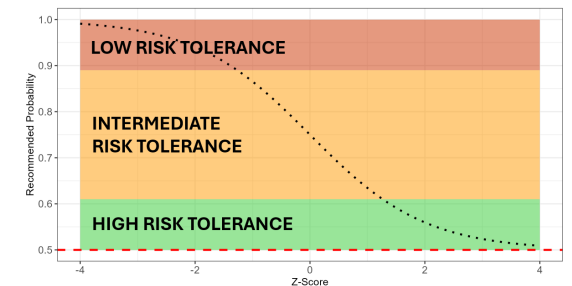
(based on recent information)

Objective - PDT



LEVEL OF RISK

(added up across factors)



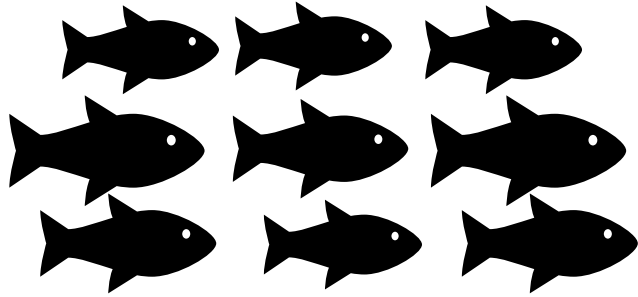
- The results for each factor are aggregated into a “Z-score” for level of risk that is plotted along the Risk Policy curve.



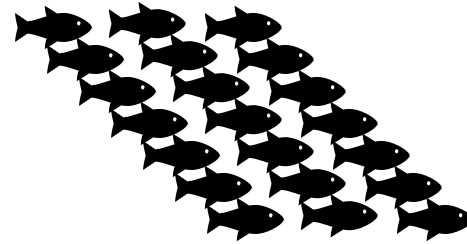
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RISK POLICY FACTORS (5)

SSB / Stock Status



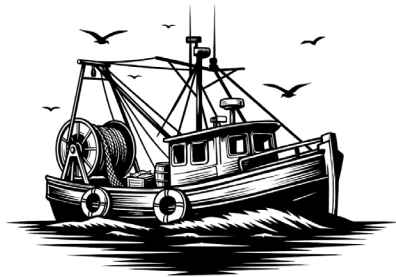
Recruitment



Climate Vulnerability



Commercial Fishery Characterization



Recreational Fishery Characterization



Risk Policy Tool / ABC Control Rules

Risk Policy Concept (Tool)

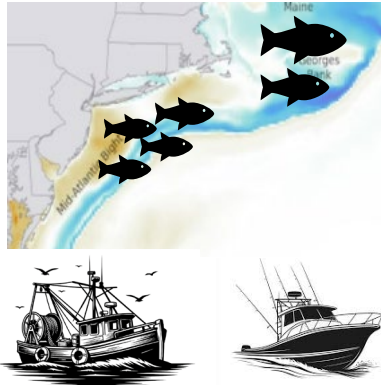
Factors (5)

1. Global Weighting



Weights apply to all stocks

2. Scoring (data)



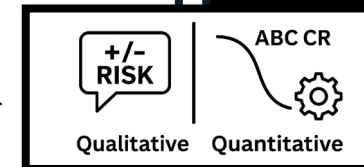
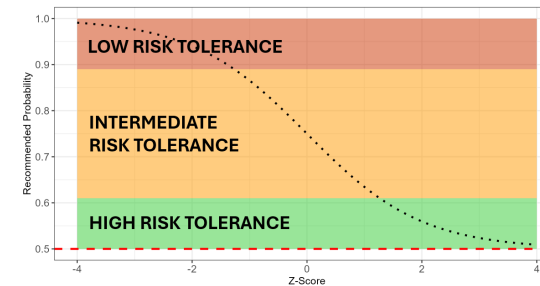
3. Z-Score

Combination of weights and scores.

$$Z = \sum (w_i s_i)$$

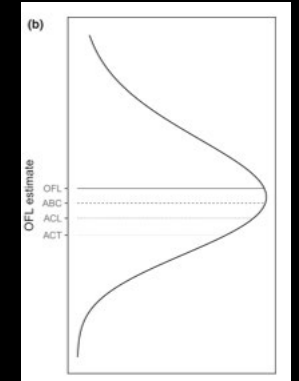
w = weights
 s = scores

4. Risk Tolerance



ABC Control Rule

5. Set ABC using Risk Policy + HCR (Example)



Risk Policy Mechanics

Risk Policy Concept (Tool)

Factors (5)

1. Global Weighting

$$\tilde{W}_f = \frac{\overline{w}_f}{\sum_{f=1}^5 \overline{w}_f}$$

Averaged and normalized the weights for each factor (f) apply to all stocks

2. Stock-level Scoring

$$S_{j,f}$$

Each stock (j) receives a score for each factor (f)

3. Z-Score

$$Z = \sum (w_i s_i)$$

The aggregated products of the weights (w) and scores (s) for each factor determines the z-score

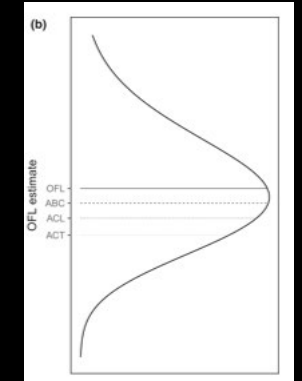
4. Risk Tolerance

$$p(Z_j) = \frac{0.5}{1+e^{-Z_j}} + 0.5$$

The z-score determines the recommended probability of management success

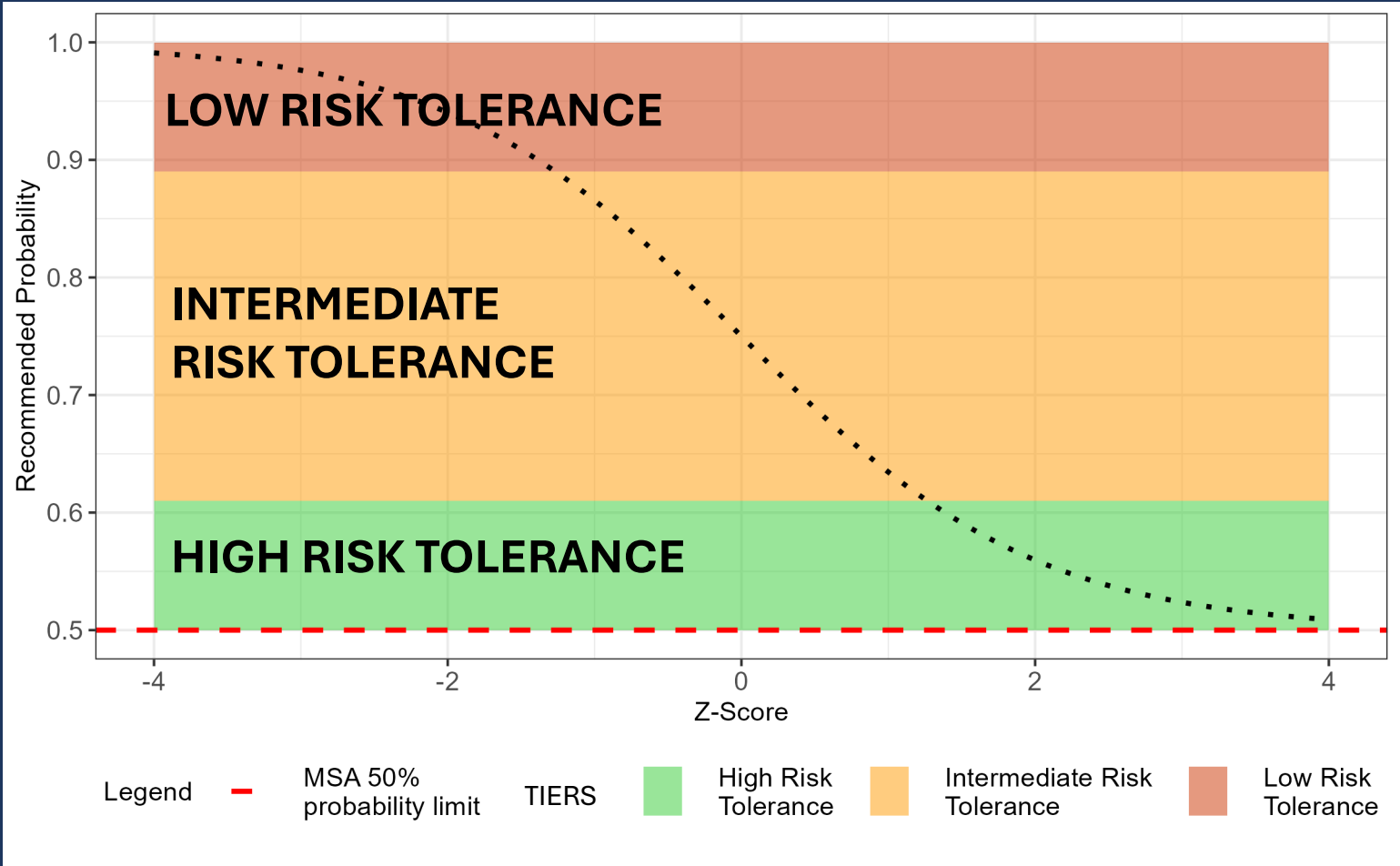
ABC Control Rule

5. Set ABC using Risk Policy + HCR (Example)



RISK TIERS

Tiers created at points where the change in slope is steepest



Objective: Apply a structured way to interpret Risk Policy outputs for management discussions.

Design of the Tiers:

- Follow shape of the curve.
- Flat areas reflect “Stability”.
- Tiers transition at the greatest change of slope in the curve.

Application: Z-Scores (x-axis) plotted on Risk Policy curve translate to a recommended probability (y-axis).

Lower Z-scores mean lower risk tolerance.



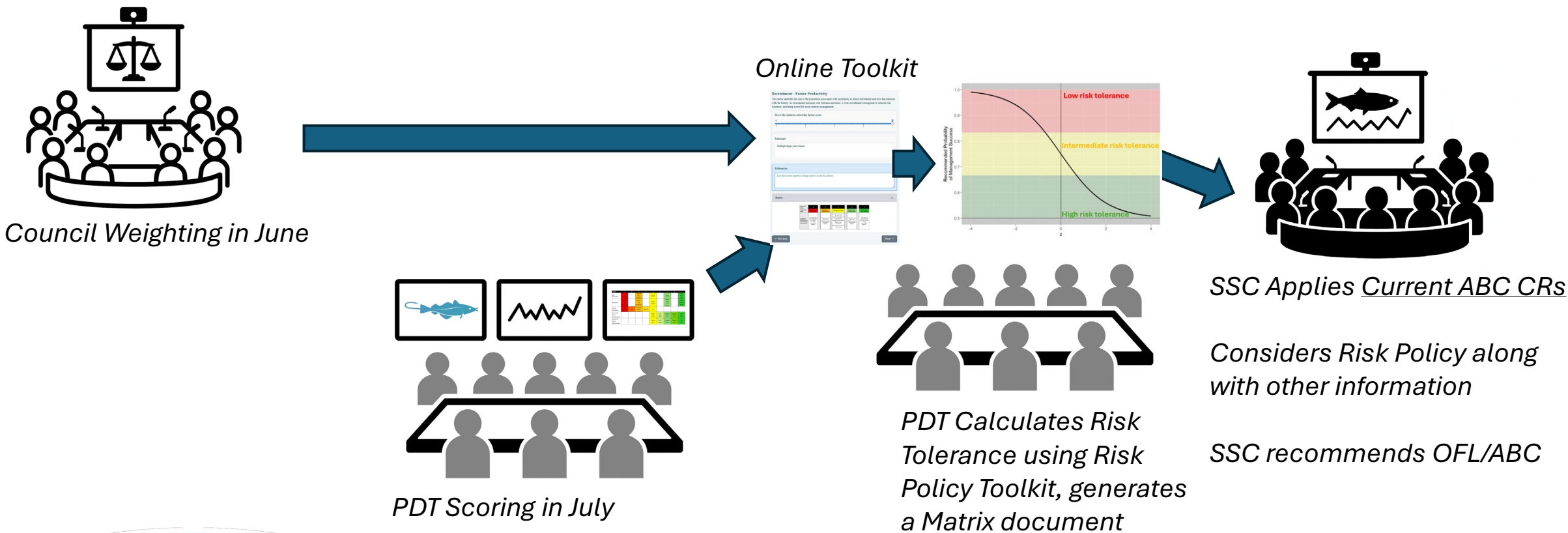
QUALITATIVE USE

Recommended Probability (Y-axis)	Level of confidence that a management action will achieve its objectives.
LOW RISK TOLERANCE	Depleted stocks with low productivity that are highly vulnerable to environmental conditions. Candidate for frequent re-evaluation.
INTERMEDIATE RISK TOLERANCE	Signals that managers should consider a balanced threshold for success based on economic stability and biological sustainability. Management decisions should aim to avoid abrupt regulatory shocks. Most Council managed stocks likely fall in this tier.
HIGH RISK TOLERANCE	Applied when conditions are favorable, such as a stock is well above its biomass target, recent recruitment indicates multiple large year classes, and/or the stock has low climate vulnerability. Candidate for frequent re-evaluation.



WHAT DOES THE PROCESS LOOK LIKE?

2026 PROCESS WITH AUGUST SSC MEETING



HOW WILL THE RISK POLICY BE USED IN 2026?

More information, Standardized Outputs

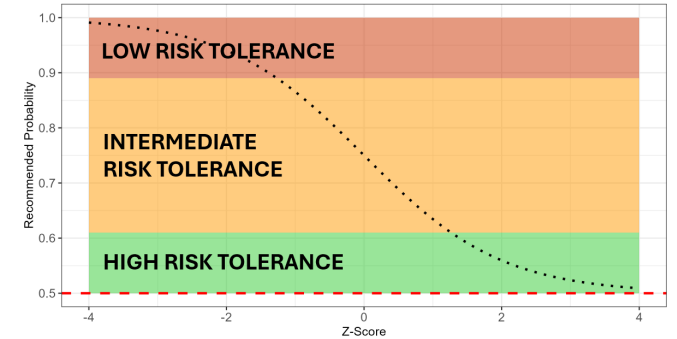
- Risk Matrix (similar to what was used in 2025).
- Level of Risk Tolerance (weights and scores combined into Z-score, risk tiers, recommended probability).

Both Matrix and Risk Tolerance are qualitative, intended to inform decision making.

Continue to apply ABC Control Rule.

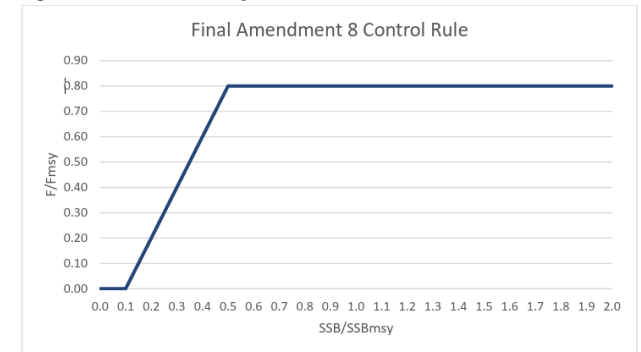


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Qualitative Tiers are now considered as part of existing Spec setting process.

Figure 1. ABC control rule adopted in Amendment 8.



***APPLY THE ABC Control Rule,
Risk Policy is not integrated with
herring ABC CR. Added information.***

SSC USE IN 2026

What are ways the SSC can use the risk policy in 2026?

Rationale for Recommendations (Examples)

- Tiers, along with Z-Score and Probability can be used as justification
- Example: This could include how to treat Y2-Y5 “out-year” projections → constant catch vs. increasing/decreasing

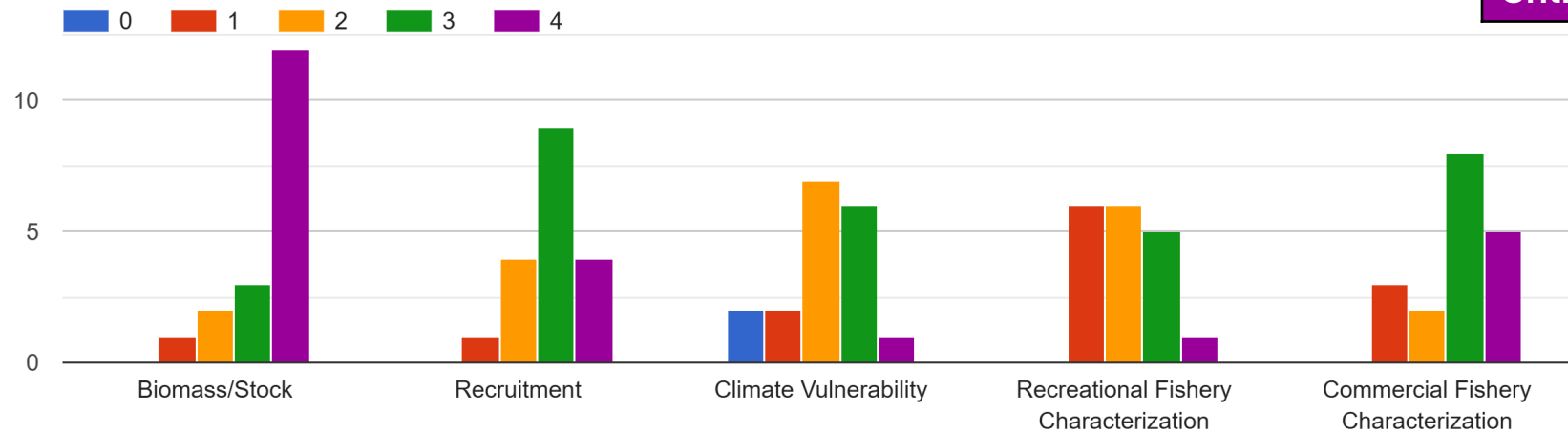
Can inform research recommendations of the SSC



RESULTS: GLOBAL WEIGHTING DISTRIBUTION

All Managed Resources (All FMPs)

Distribution of weights for each factor by voting Council members (n=18)



	SSB/ Stock Status	Recruitment	Climate Vulnerability	Recreational	Commercial
Mean (0-4)	3.44	2.89	2.11	2.06	2.83
Normalized	0.26	0.22	0.16	0.15	0.21



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RISK POLICY SCORING MATRIX

FACTOR	-4	-3	-2	-1	0	1	2	3	4
SSB / Stock Status	Below Threshold		<75% but Above Threshold		Neutral		Rebuilt		Well Above Target
Recruitment	Persistent Low Recruitment		Recent Low Recruitment		Average, No Trend		Recent Large Year Classes		Multiple Large Year Classes
Climate Vulnerability	High Negative Direction	High	Moderate, Negative Direction	Moderate	Low				
Commercial Fishery Characterization					Minimal stress	Low stress	Moderate stress	Elevated stress	High stress
Recreational Fishery Characterization					Minimal stress	Low stress	Moderate stress	Elevated stress	High stress

RISK POLICY SCORING MATRIX

FACTOR	-4	-3	-2	-1	0	1	2	3	4
SSB / Stock Status	As stock size decreases, risk tolerance decreases As stock size increases, risk tolerance increases								
Recruitment	As recruitment decreases, risk tolerance decreases As recruitment increases, risk tolerance increases								
Climate Vulnerability	As climate suitability decreases, risk tolerance decreases								
Commercial Fishery Characterization					As socioeconomic stress increases, risk tolerance increases				
Recreational Fishery Characterization					As socioeconomic stress increases, risk tolerance increases				

Risk Policy Tools / Products for SSC to Consider



Scores and Weights

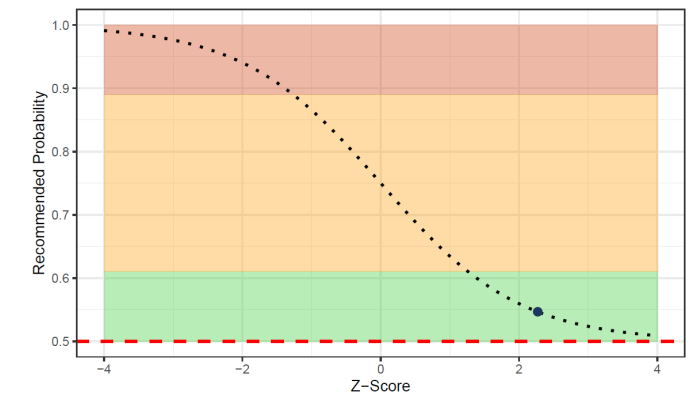
Report Year	Stock	Factor	Score	Average Weight
2026	GOM Haddock	Biomass	4	3.29
2026	GOM Haddock	Recruitment	4	3.00
2026	GOM Haddock	Climate	-1	2.95
2026	GOM Haddock	Commercial	2	3.24
2026	GOM Haddock	Recreational	2	1.90

The calculated z-score is **2.27**

The recommended probability is **54.7%**

Recommended Probability

The level of risk that should be considered based on the z-score and recommended probability for GOM Haddock is *High Risk Tolerance*.



Legend

— MSA 50% probability limit • Recommended Probability

Tiers

High Risk Tolerance Intermediate Risk Tolerance Low Risk Tolerance



RISK POLICY MAINTENANCE AND SUPPORT

- Risk Policy Working Group completed its Terms of Reference and has been disbanded.
- Future work on Risk Policy will be determined by Council as part of priority setting process. EX: Changing the number of factors.
- Technical support for Risk Policy will come from an FMAT-type group.
- The Climate and Ecosystem Steering Committee will continue to support communication of the Risk Policy.
- Consideration of new data (e.g., climate vulnerability and port indicators) to be applied when scoring factors.



INTEGRATING RISK POLICY AND ABC CONTROL RULES

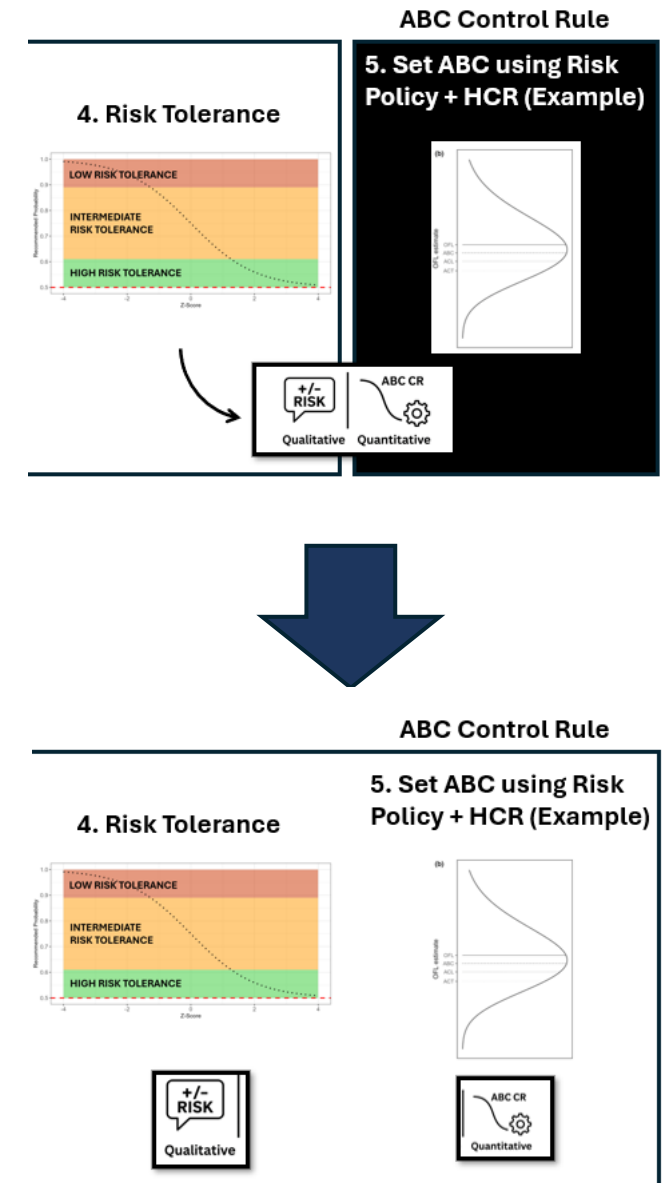
SSC received an update from Dr. Roger Brothers in March 2026.

Integration of the Risk Policy with ABC Control Rules continues to be pursued through Groundfish Framework 68, with contract work being completed by University of Maine.

Final Action for Framework 68 is anticipated in April of 2027.



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Questions?



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