Risk Policy Working Group

JUNE 3, 2026

WEBINAR

New England Fishery Management Council

REVIEW OF RISK POLICY OBJECTIVES

- Overarching; not species or decision specific
  - Flexible, transparent, can be broadly implemented
- Use of factors which are weighted and scored.
- Can produce qualitative and quantitative outcomes.
- Will connect to ABC control rules, with an aim to improve implementation through clear linkages.
  - Will need follow-on actions (ABC control rules).
- Can accommodate various factors that are important to consider in the context of risk (biology, climate change, social impacts).

Risk Policy Tool / ABC Control Rules

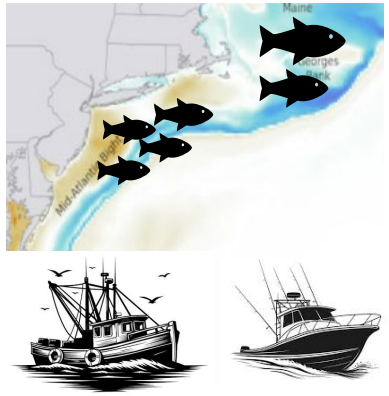
Risk Policy Concept (Tool)

Factors (5)

1. Global Weighting

Weights apply to all stocks

2. Scoring (data)



3. Z-Score

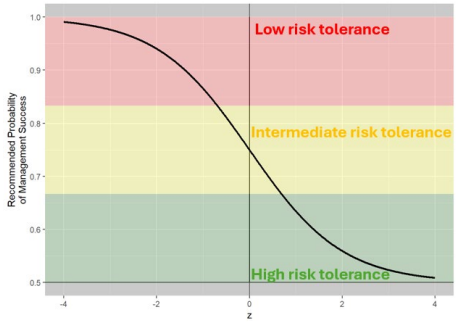
Combination of weights and scores.

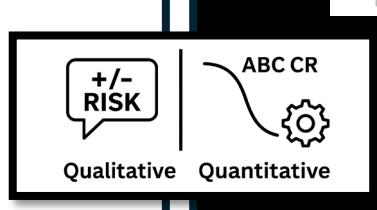
$$Z = \sum (w_i s_i)$$

w = weights
s = scores

4. Risk Tolerance

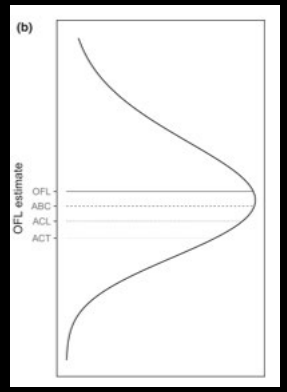
NEW





ABC Control Rule

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



Risk Policy Outlook

- **January and April 2026:** Council affirmation of proposed revisions (# factors, shape of curve)

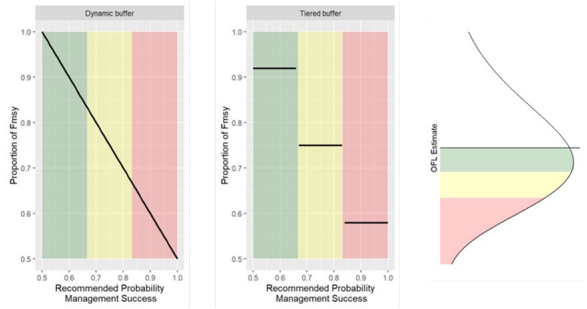
- **June 2026:** Council approve revised Risk Policy Concept, complete weightings, guide use
  - ❑ Revised Concept document and appendices (scoring, weighing, mechanics, catalogue).
  - ❑ Global weightings (1 weight for each factor that applies to all stocks).

- **Summer/Fall 2026:**
  - Council weights and PDT scores generate Z-score, level of risk tolerance.
  - Apply guidance to inform qualitative and continue to develop quantitative use of the Risk Policy.
  - Other ongoing processes, notably Groundfish Framework 68.

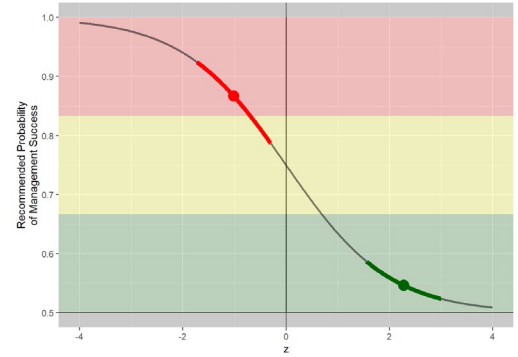
Planned Use of Risk Policy

- Recent consideration around how the Scientific and Statistical Committee (SSC), PDTs use the Risk Policy.
- Two key areas:
  1. LATER: Integration with ABC Control Rules. (Dr. Brothers)
  2. **NOW: Qualitative use of the Risk Tolerance output (Z-score on curve – see Guidance Document).**
- Council will direct how its bodies use Risk Policy (PDT, SSC).

1. Integration with ABC CRs



2. Use of Risk Tolerance



New England Fishery Management Council

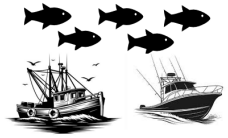
SHORT-TERM OUTLOOK

Factors (5)

1. Global Weighting

Weighting guidance

2. Scoring (data)



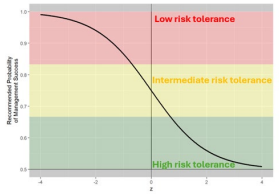
Finalize data and scoring guidance

3. Z-Score

Combination of weights and scores.

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

4. Risk Tolerance



Qualitative interpretation

- *June 3rd – RPWG Meeting (Webinar @1pm)*
  - *Three areas of focus: Finalize weighting and scoring guidance, and qualitative interpretation.*
- *June 23rd-25th – June Council Meeting – Approve Concept and Council Weightings*

Risk Policy Scoring

Risk Policy Working Group

June 3, 2026

Risk Policy Scoring

- Guidance contained in Appendix I. (Five factors)
- Scoring is conducted by Plan Development Teams.
  - Replicable and formulaic. Strict adherence to guidelines.
  - Diagnostic to address potential for double-counting of uncertainty.
  - Criteria for deviating from scoring procedures, and documenting justification.
  - Document expert opinion and recommendations around alternative methods of data streams.
- Following slides include scoring topics that the RPWG should be ready to discuss on June 3, 2026.

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

Quantile Method – Proposed Scoring

- Recruitment Factor uses a “quantile method” to translate recent data in regimes.
    - Evaluate the time series, compute quantiles, and use them to define periods of below-average, average, or above average recruitment.
- Method can be applied in scoring other factors, such as SSB / Stock Status when there is not an analytical assessment.
    - Staff Recommendation: Utilize the quantile method when there is a need to interpret time-series for scoring. Avoid trying to interpret “trends” from five years of data.

Risk Policy Working Group Decision: Does the working group recommend using this method more broadly for scoring?

Any updates to the language → “Abundance regime” for SSB / Stock Status Factor?

Commercial Fishery Characterization

- Five Questions around:
    1. Resource utilization
    2. Fishing Communities
    3. Revenue
    4. Fisheries Interactions
    5. Advisory Panel Input
- Answers translate to points (-1, 0, +1), sum for final score
- Scale 0-4, neutral to more risk tolerant.

Commercial Fishery Characterization Scoring Rubric:

- **High Stress (4)** Responses to questions result in a score of 4 or more.
- **Elevated Stress (3).** Responses to questions result in a score of 3.
- **Moderate Stress (2)**. Responses to questions result in a score of 2.
- **Low Stress (1)**. Responses to questions result in a score of 1.
- **Minimal Stress (0).** Responses to questions result in a score of 0 or less.

Resource Utilization

Has greater than 80% of the allowable limit been harvested in at least two of the last three years?

- Scoring guidance:
  - If the answer is yes, score as 1.
  - If the answer is no, score as 0.
  - For this question, assess the 80% against the stock- or complex- specific target (see right).

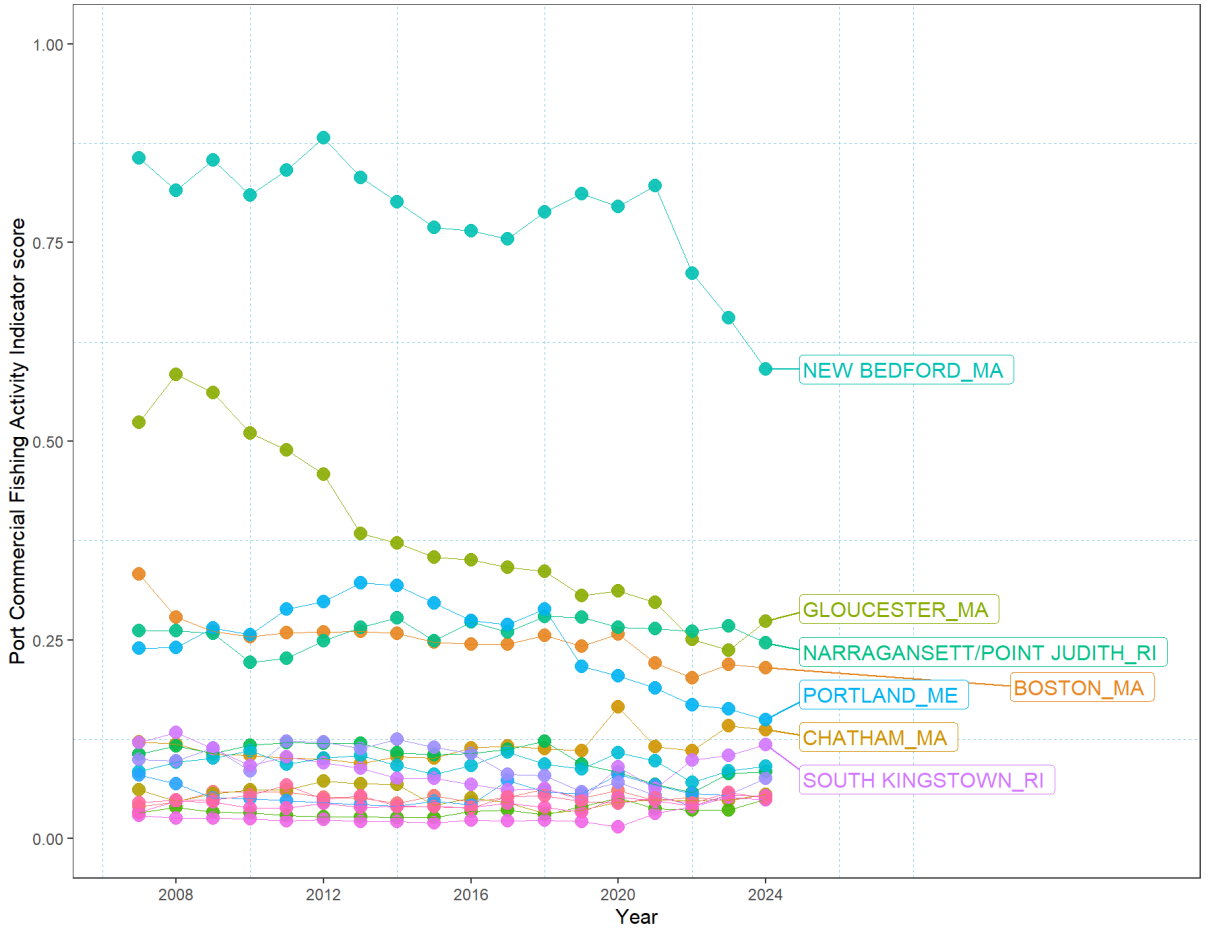
RPWG Feedback Needs:

- **Quota → Allowable Limit**
- **Guidance table (confirm?)**
- **Data sources for three years**
  - **Year-end reports, quota monitoring, mix?**
- **FMP specific thresholds based on regulations**
  - **Small mesh thresholds for possession limit changes.**

Species, Complex	Fishery Target used for Scoring
Atlantic Herring	Annual Catch Limit (ACL)
Atlantic Sea Scallops	Annual Projected Landings (APL)
Small Mesh Whiting	
Northern Red Hake	Total Allowable Landings (TAL)
Southern Red Hake	Total Allowable Landings (TAL)
Northern Whiting	Total Allowable Landings (TAL)
Southern Whiting	Total Allowable Landings (TAL)
Skate Complex	
Wings	Total Allowable Landings (TAL)
Bait	Total Allowable Landings (TAL)
Monkfish	
Northern Monkfish	Total Allowable Landings (TAL)
Southern Monkfish	Total Allowable Landings (TAL)
Northeast Multispecies	
All stocks	Annual Catch Limit

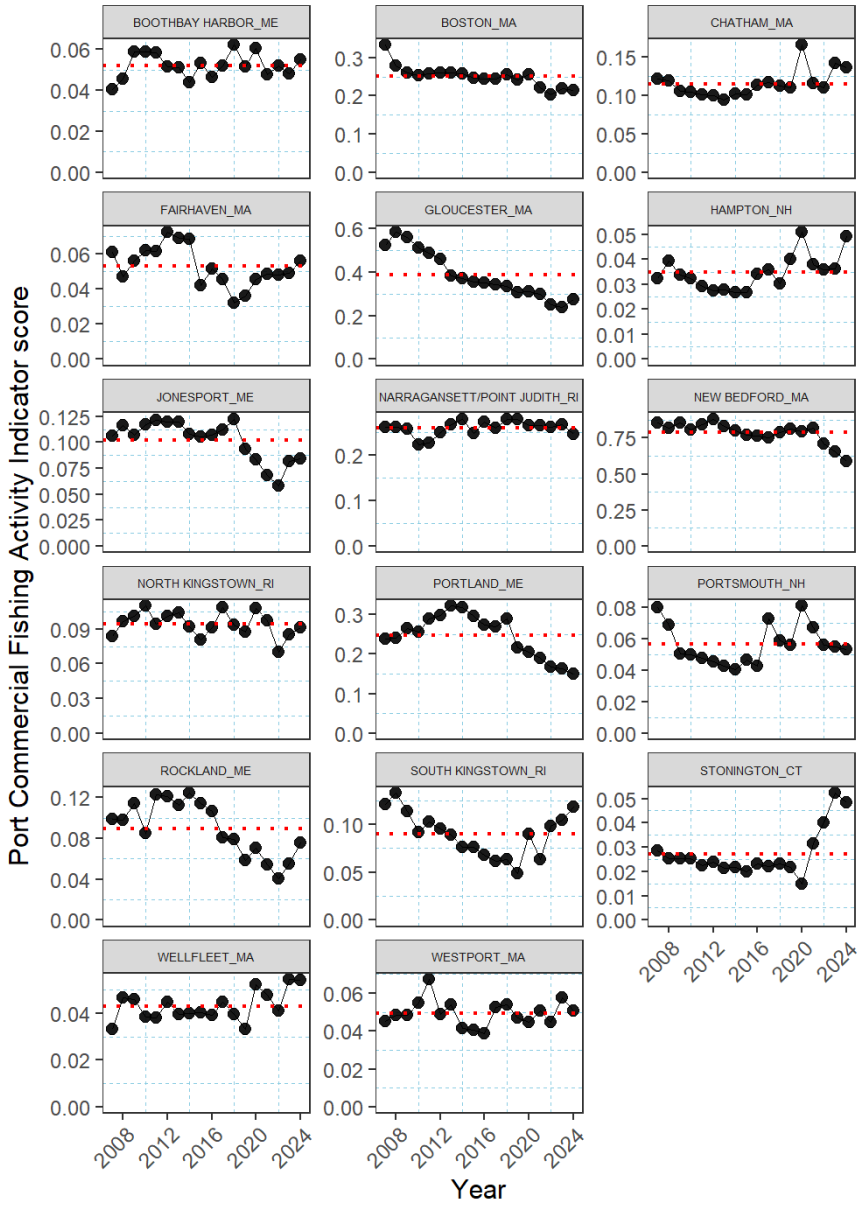
Fishing Communities

- Used Port Commercial Fishing Activity (PCFA) Indications which uses NOAA data on dealers, landings, revenue, and active commercial permits.
- PCFA prepared for use in the 2026 Risk Policy selects for New England ports where lobster landings constitute >50% of total landings, with selected ports to ensure geographic representation from all New England states. (17 total)
- **Q: Is the most recent PCFA score for a port above or below the time-series average for a majority of ports? (Yes=1, No=0)**



Fishing Communities – Proposed Scoring

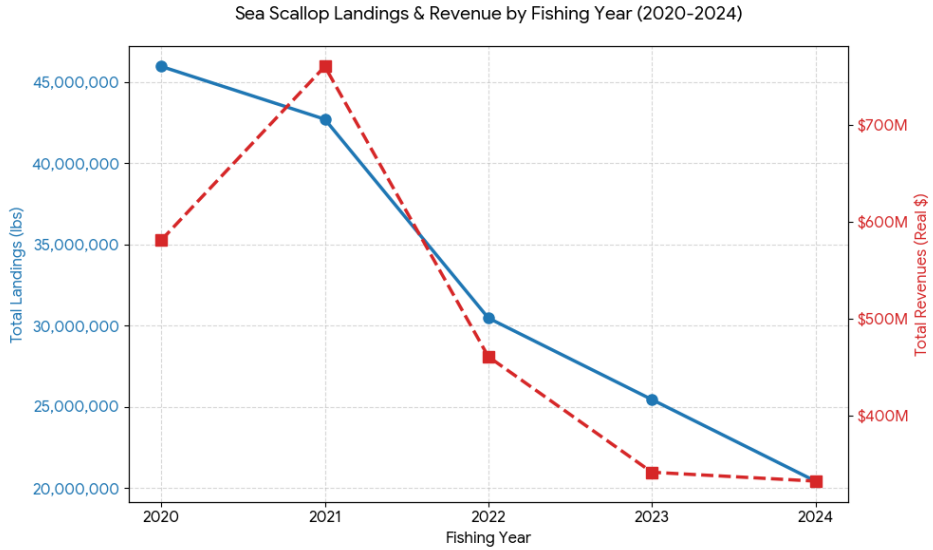
- To score, the terminal year (2024) data was assessed as being "above" or "below" the mean of the time series (2007-2024) for each port. Differences less than .01 were categorized as "neutral."
- Port analysis suggests that while major fishing hubs like **New Bedford, MA**, **Gloucester, MA**, and **Portland, ME** show substantial drops from their historical averages, current activity for several ports is near or above the mean.
- Seven ports scored as "below", while 5 were assessed as being above the mean, 5 neutral.
- **Recommend for 2026: +1 for all stocks. Request PDT feedback for future iterations.**
- **Updates to PCFA expected in next SOE.**



Revenue – Proposed Scoring

- Revenue - Has revenue in the fishery (FMP level) had a declining trend over the last five years (+1). For groundfish, instead consider if stock revenue contributes to 10% or more of overall groundfish fishery revenue (+1).
  - **RPWG Feedback Needed: Consider use of 5-year "trend" vs. another metric.**

FY	Sea Scallop Landings (pounds)			Total Revenues	Price per pound
	LAGC	LA	Total Landings	Real $	Real $
2020	2,717,611	42,672,438	45,967,229	581,389,308	12.65
2021	2,255,316	39,717,058	42,713,444	760,887,506	17.81
2022	2,435,031	27,525,974	30,461,860	460,909,005	15.13
2023	1,708,744	23,351,515	25,436,987	341,435,618	13.42
2024	1,605,854	18,582,224	20,411,321	332,288,128	16.28



Fisheries Interactions –

Is quota for this species limiting the execution of other fisheries? Is there a sub-ACL, accountability measure, or inter-FMP interaction associated with this stock that limits the execution of another fishery?

- **Proposed Scoring**
  - **If the answer is yes, score as 1.**
  - **If the answer is no, score as 0.**
- **RPWG Feedback Needs:**
  - **Consider framing, and guidance that has been provided (see right).**
  - **What information should be provided? How specific? (examples vs. concepts)**

- **Stock Level Examples:**
  - GB Haddock → Herring
  - GOM Haddock → Herring
  - GB Yellowtail → Scallops, Small-mesh
- **Allocations/AMs that could impact within FMPs:**
  - Northern Windowpane → Groundfish
  - Atlantic Halibut → Groundfish
  - Ocean Pout → Groundfish
- **Fishery Interactions Recommended by Industry:**
  - Skates limiting Southern monkfish

Advisory Panel Input

- Advisory Panel input – Focusing on the current fishing year and the current outlook, do the answers to the Commercial Fishery Characterization continue to be correct?
- If they "still hold" and are correct, score this question as a 0.
- If there are recent changes to the socio-economic status of the fishery, then score in the following ways:
    - If the AP reports that the socio-economic health of the fishery has improved, score this question as a -1.
    - If the AP reports that the socio-economic health of the fishery has declined further, and is not captured in the answers to questions 1-4, score as a +1.

Recreational Fishery Characterization

- Six Questions around:
    1. Sub-ACL utilization
    2. Fleet Diversity
    3. Angler Trips
    4. Data Quality (PSE)
    5. Management Consistency
    6. Advisory Panel Input
- Answers translate to points (-1, 0, +1), sum for final score
- Scale 0-4, neutral to more risk tolerant.
- Applies to stocks managed with sub-ACLs (2026)

Recreational Fishery Characterization Scoring Rubric:

- **High Stress (4)** Responses to questions result in a score of 4 or more.
- **Elevated Stress (3).** Responses to questions result in a score of 3.
- **Moderate Stress (2)**. Responses to questions result in a score of 2.
- **Low Stress (1)**. Responses to questions result in a score of 1.
- **Minimal Stress (0).** Responses to questions result in a score of 0 or less.

Recreational – Considerations for Working Group

Scoring of recreational factor will only be done for stocks with recreational allocations.

- For stocks that the recreational factor is NOT scored, should they be a “0” in the calculation of a Z-Score, or should the recreational factor not be included in the Z-score?
- Sub-ACL utilization (Q1) – Focus is currently on cod and haddock. Can be expanded in future years to more stocks. **Consider appropriate data streams.**
- Fleet Diversity (Q2) and Angler Trips (Q3) – **Trends. Apply quantile method for scoring?** (Recruitment method, focus on five years relative to trend).
- Data Quality (PSE) (Q4)
- Management Consistency (Q5) – **Consistency with time-series of other questions?**
- Advisory Panel Input (Q6)

Risk Policy Weighting Process

Risk Policy Working Group

June 3, 2026

Council Weighting Process

- One weight for all Council managed resources → "Global Weighting"
- Done on paper.
- Only voting Council members participate.
- Limit the number of factors that can be weighted as "critically important".
  - **RPWG: How many?**
  - **Staff Rec: 2 of 5 (Same ratio as 3 of 7).**
- Conducted after approval of revised concept.

Weighting Exercise

Complete the grid below by assigning a weight to each factor using a whole number between 0 and 4. A weighting of 0 indicates the factor holds the lowest relative importance in determining the Council's risk tolerance for that managed resource, while a 4 indicates it is critically important. You may only designate a maximum of two factors as "Critically Important (4)."

Factor	*Least Important* 0	*Slightly Important* 1	*Important* 2	*Highly Important* 3	*Critically Important* 4
Biomass/Stock					
Recruitment					
Climate Vulnerability					
Recreational Fishery Characterization					
Commercial Fishery Characterization					

Preview of Weighting Process at June Council Meeting

Wednesday Afternoon:

- Council approves Risk Policy Concept.
- Council completes weights in closed session.

Thursday Morning:

- Council staff present the weighting results.
- Motion to confirm/approve weights.
  - Council member input.
  - Public input.

Factor	*Least Important* 0	*Slightly Important* 1	*Important* 2	*Highly Important* 3	*Critically Important* 4
Biomass/Stock					
Recruitment					
Climate Vulnerability					
Recreational Fishery Characterization					
Commercial Fishery Characterization					

	Risk Policy Mock Factor Weights (NEFMC mean)				
Scale	**SSB**	**Recruitment**	**Climate**	**Recreational**	**Commercial**
Mean (0-4)	3.29	3.00	2.95	1.90	3.24
Normalized, Sum(weights)=1	0.23	0.21	0.21	0.13	0.23

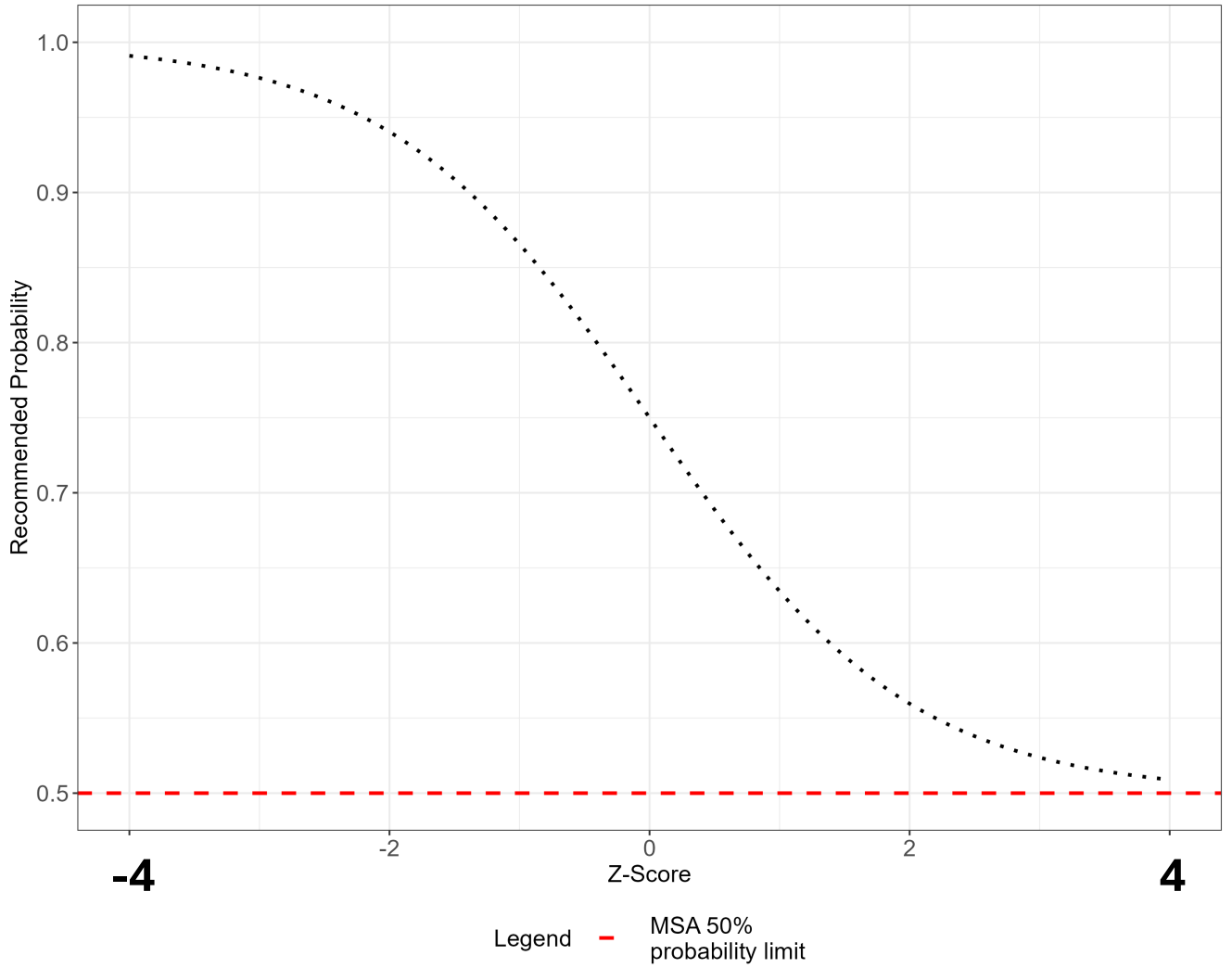
Risk Policy Use Guidance

Risk Policy Working Group

June 3, 2026

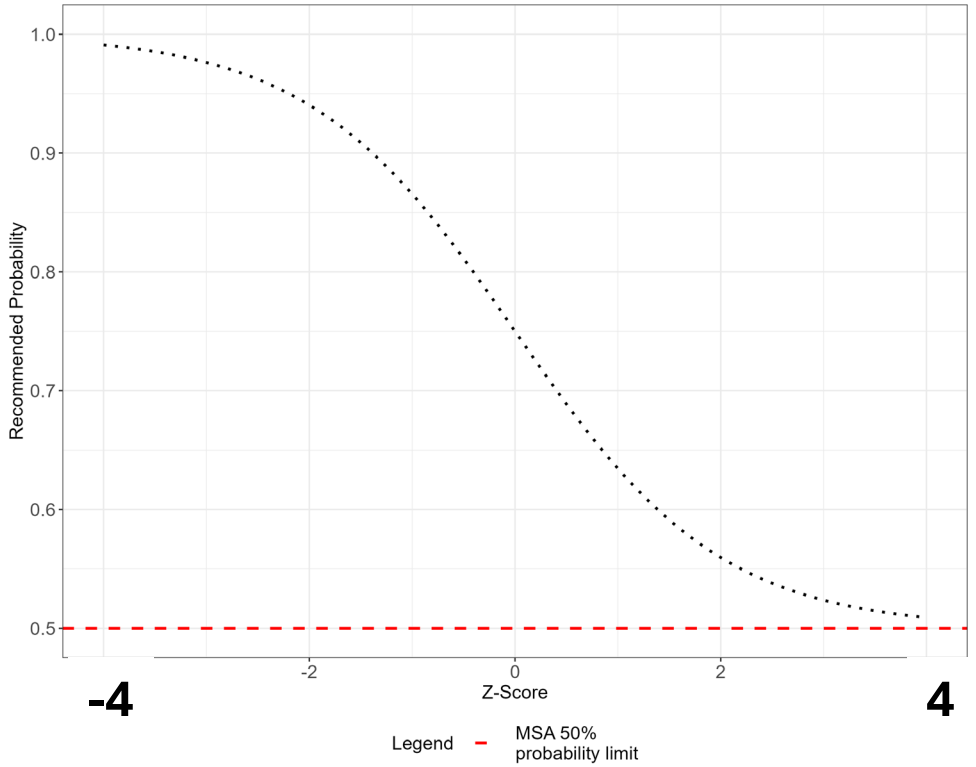
Risk Policy Curve

- Inverted the curve.
- Flipped the scaling.

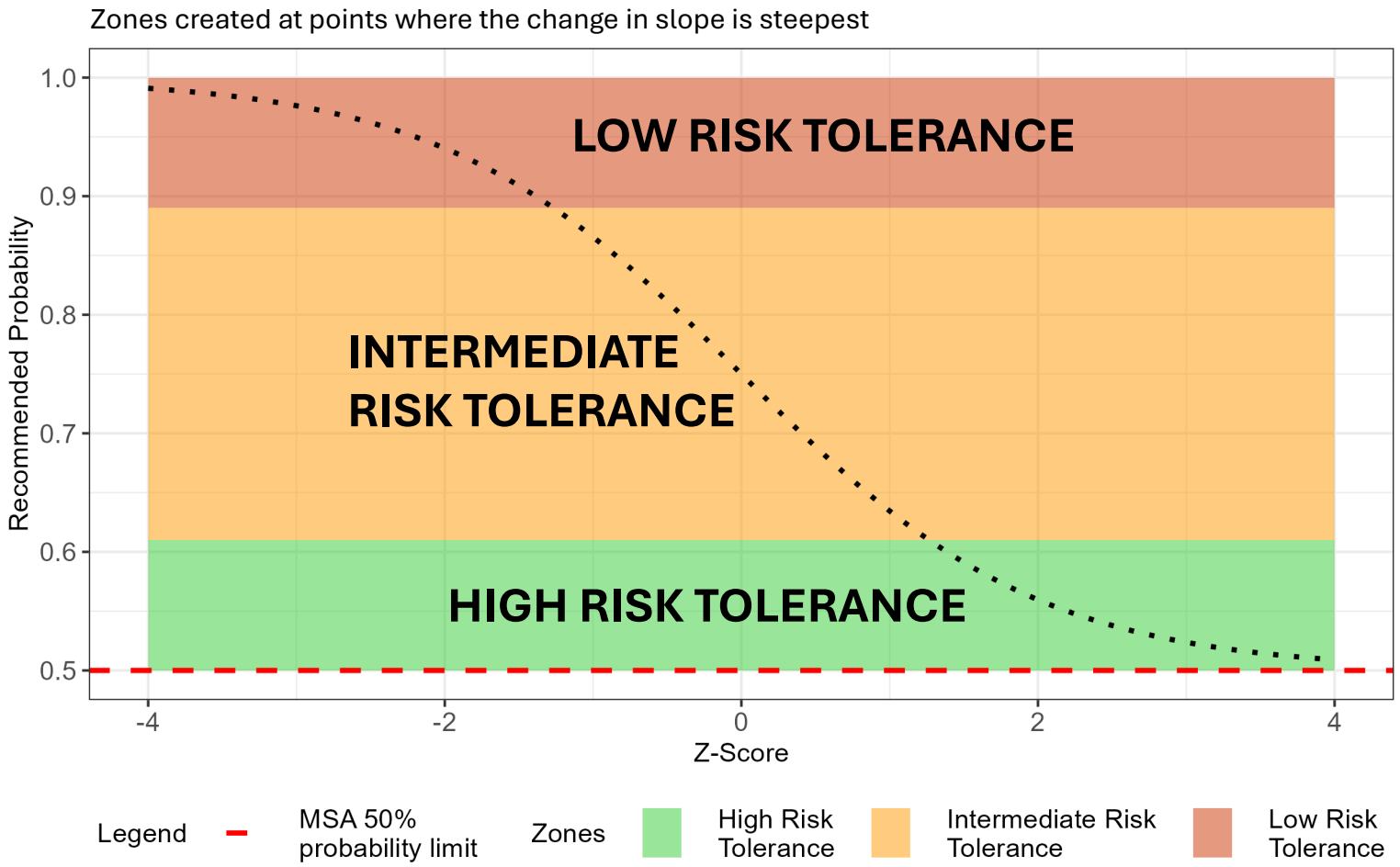


Working Group Input Needed – Tiers and Interpretation

- How to design the tiers?
  - Proposed method relies on shape of curve, changes in slope.
- How to interpret each tier for use in management?
  - What conditions / scores underpin the tier rank?
  - What response might managers take?
- RPWG should be ready to comment on both at meeting.



Apply Tiers/Zones For Qualitative Use



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

Design of the zones/tiers:

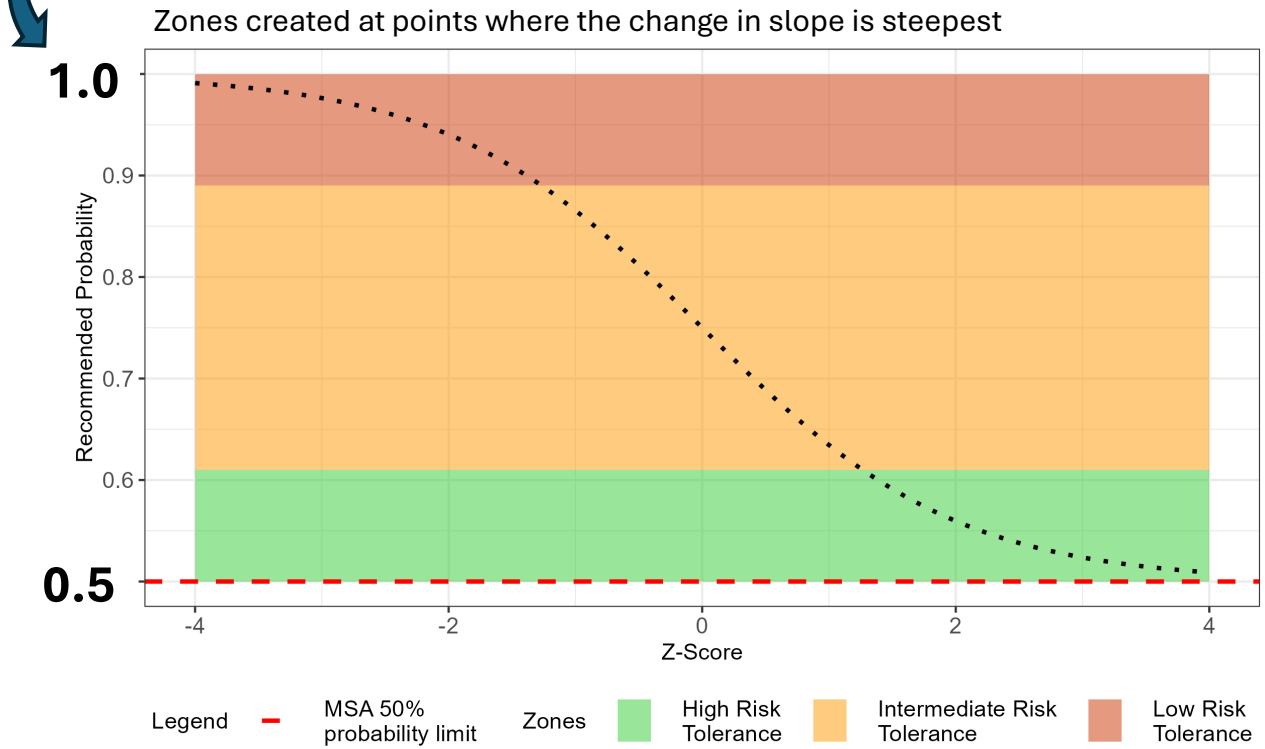
- Follow shape of the curve
- Flat areas reflect "Stability"
- Zones transition at the greatest change of slope in the curve.

Risk Policy – Recommended Probability

<u>Acceptable probability of success:</u>

- Level of confidence that a management action will achieve its desired objectives.
- Ranges from 50% - 100% (Y-axis)
- Threshold increases from 50 → 100, the Council is expressing lower risk tolerance and favors more reliable outcomes.

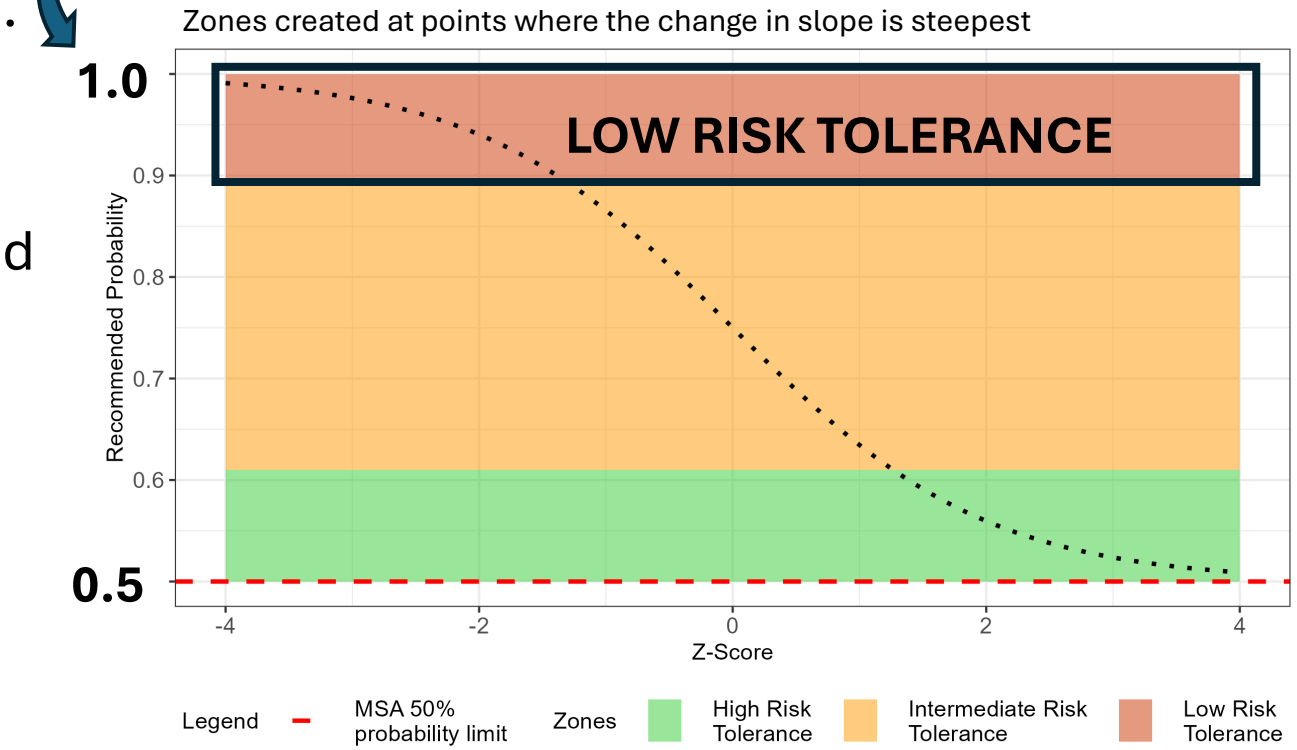
A 100% threshold represents the least risk tolerant position, un-willing to accept uncertainty, actions should be certain to achieve objectives.



Low Risk Tolerance

- Primarily reserved for depleted stocks with low productivity that are highly vulnerable to environmental conditions.
- A low risk tolerance signals that managers should increase the likelihood for success in decision making.
- Possible Action: Constant catch advice in the short- to –medium term (3-5 yrs).

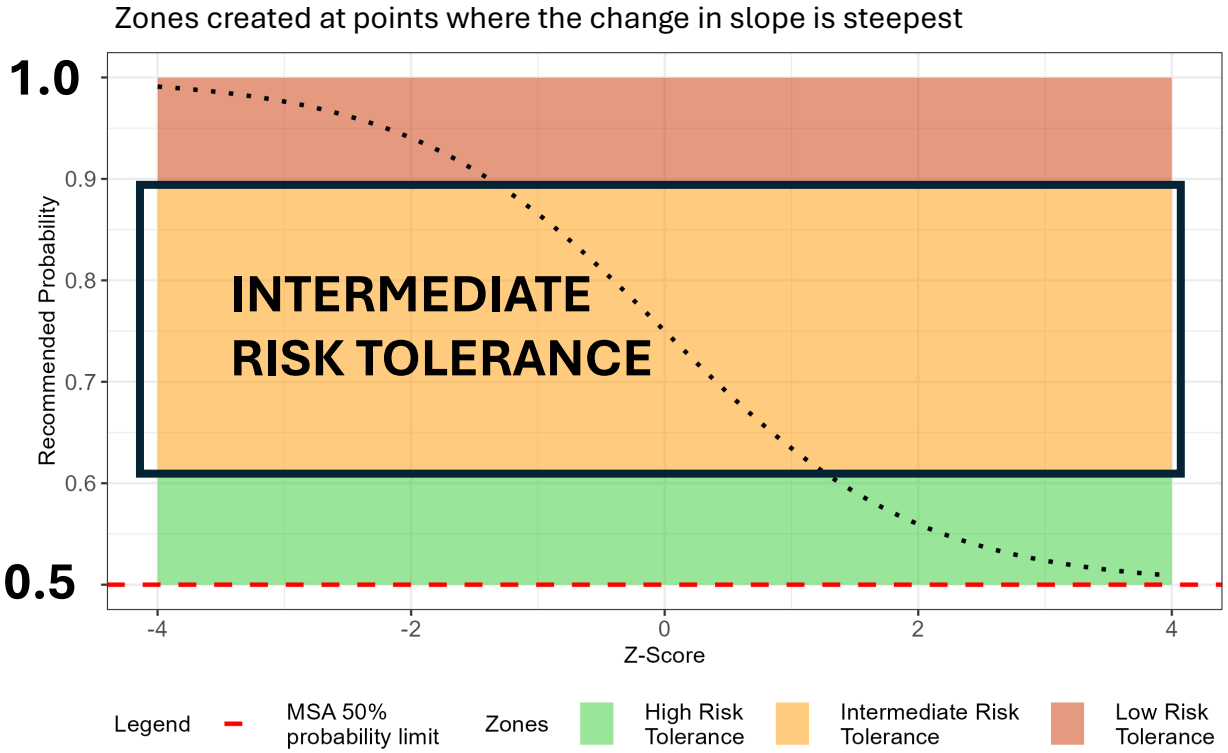
A 100% threshold represents the least risk tolerant position, un-willing to accept uncertainty, actions should be certain to achieve objectives.



Intermediate Risk Tolerance

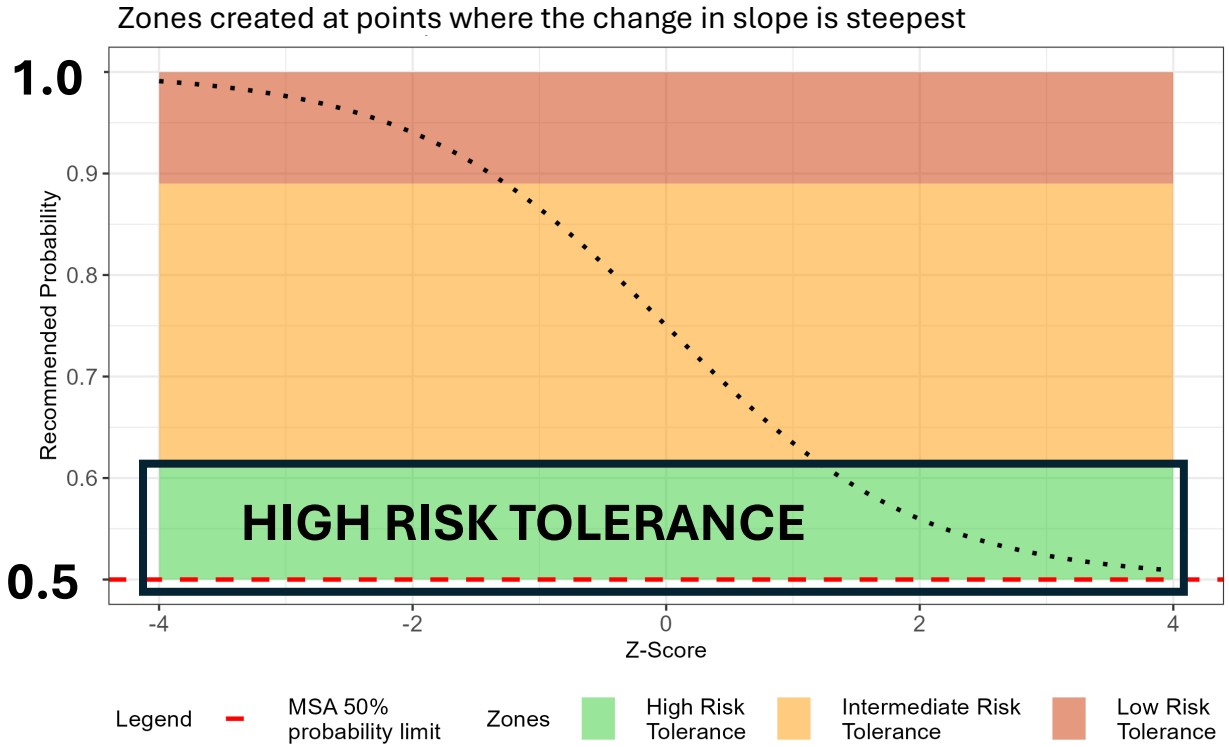
- Signals that managers should consider a balanced threshold for success based on economic stability and biological sustainability.
- Management decisions should aim to avoid abrupt regulatory shocks
- In practice, this may result in moderate buffers between the OFL and ABC, could apply "phase-in" approaches.

- The majority of Council managed stocks likely fall in this tier.



High Risk Tolerance

- Applied when a stock is well above its biomass target, recent recruitment indicates multiple large year classes, and the stock has low climate vulnerability.
- Possible Action: The uncertainty buffer between the OFL and the ABC is reduced to promote maximum sustainable harvest.
- The Council should consider relatively frequent evaluation of stocks to ensure that higher risk tolerance is sustaining acceptable success thresholds.
- This tier is reserved for highly productive, resilient stocks that are experiencing favorable environmental conditions.



Risk Policy Toolkit

Updates provided in demonstration.

Risk Policy Working Group

June 3, 2026

Risk Policy Next Steps

Risk Policy Working Group

June 3, 2026

RISK POLICY MAINTENANCE AND SUPPORT

- Risk Policy Working Group was formed in early 2024 to review old Risk Policy and recommend revisions.
- Following the Council approval of the Risk Policy Concept, WG will have fulfilled the TORs, and the WG will be discontinued.
- Future work on Risk Policy will be determined by Council as part of priority setting process.
- Technical support for Risk Policy will come from an FMAT-type group.
- Anticipate a need for annual updates to Risk Policy data / scoring to align with new data products (CVA 2.0, PCFA Indicator, ect.) Not a rolling process.
- The Climate and Ecosystem Steering Committee will continue to support communication of the Risk Policy.

RISK POLICY USE IN 2026

- Qualitative Outputs of “High” “Intermediate” or “Low” Risk Tolerance.
    - Council weights (June)
    - Plan Development Team scoring (July – September)
    - Risk Policy Toolkit supports Z-score calculation and consistent outputs.
    - Information considered by SSC, PDT, AP, Committee, Council.

- Four FMPs developing specifications in 2026:
    - Herring
    - Small-mesh
    - Scallops
    - Groundfish

WHAT COMES AFTER JUNE COUNCIL MEETING?

Qualitative use of Risk Policy.

2026 Risk Policy Report for GOM Haddock

May 29, 2026

Factor	Value	Supporting Information
Assessment and Uncertainty	Assessment Type	The stock has an analytical assessment.
	Assessment Model	WHAM
	Terminal Assessment Year	2023
	Retrospective Pattern	There was minor retrospective pattern.
	Retrospective Values	0.22 for SSB and -0.17 for F
	Data Used	NMFS Trawl Survey (spring and fall) and NMFS Bottom longline survey (spring and fall)
	Missing Data	Spring 2023 NMFS Trawl Survey due to lack of samples in GOM haddock strata
	Uncertainty Sources	The level of survival of the above-average 2020- and 2021-year classes, which will determine population biomass in the short-term.
Biomass	Overfished	The stock is not overfished.
	Overfishing	Overfishing is not occurring for this stock.
	Rebuilding Plan	The stock is not in a rebuilding plan.
	Rebuilding Target	NA
	SSB	17,836
	Relative SSB	194
Recruitment	Recruitment is estimated	Yes
	Recruitment Model	NA
	Initial year of time series	NA
	Other Recruit Info	Recruitment modeled as deviations from the mean.

Scores and Weights

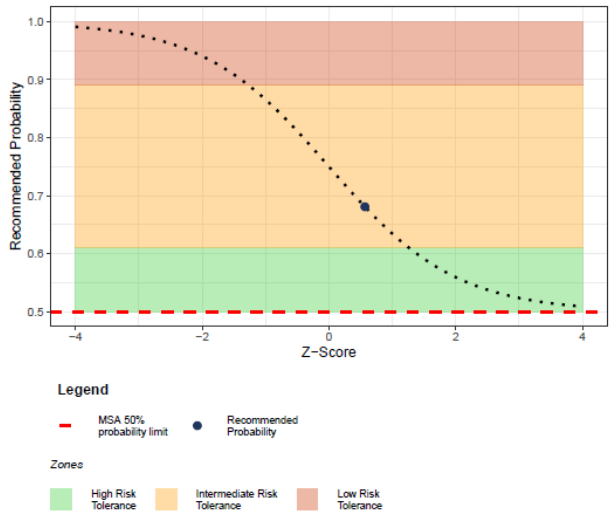
Report Year	Stock	Factor	Score	Average Weight
2026	GOM Haddock	Biomass	4	3.29
2026	GOM Haddock	Recruitment	4	3.00
2026	GOM Haddock	Climate	-1	2.95
2026	GOM Haddock	Commercial	2	3.24
2026	GOM Haddock	Recreational	2	1.90

The calculated z-score is **0.5675**

The recommended probability is **68.1%**

Recommended Probability

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



New England Fishery Management Council
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Daniel Salerno, *Acting Chair* | Cate O'Keefe, PhD, *Executive Director*

MEMORANDUM

DATE: August 11, 2025

TO: Scientific and Statistical Committee (SSC)

FROM: Cate O'Keefe, Executive Director

SUBJECT: **Terms of Reference – Overfishing limits (OFL) and acceptable biological catch (ABC) for northern and southern monkfish for fishing years (FY) 2026 to 2030**

TERMS OF REFERENCE

A. Consider the results of the Northeast Fisheries Science Center's (NEFSC) 2025 Data Update for northern and southern monkfish and information provided by the Council's Monkfish Plan Development Team (PDT).

B. Recommend OFLs and ABCs for monkfish in both the northern and southern management areas for FY 2026 – 2030 (defaults for FY 2029 and 2030) that will prevent overfishing, meet the objectives of the fishery management plan, and consider the Council's Risk Policy Statement and Concept.

INFORMATION

a. NEFSC Monkfish Data Update Report, July 29, 2025
   i. Monkfish North Data Update
   ii. Monkfish South Data Update
b. Monkfish Plan Development Team
   i. Presentation by Council staff
   ii. Monkfish PDT memo to SSC re FY 202[illegible]–2028 (and default for FY 2029-2030) OFLs and ABCs for monkfish, August 12, 2025
   iii. Risk Policy Matrix for monkfish
c. Monkfish SAFE Report, including the most recent description of the social and economic status of the fishery (Framework Adjustment 13, Affected Environment Human Communities), monitoring and assessment reports, etc.
d. FY 2024 monkfish catch accounting, GARFO
e. Previous SSC recommendations regarding monkfish
   i. Meeting materials, January 20, 2023
   ii. SSC memo, January 23, 2023
f. Correspondence (if any)

Risk Policy Document Now includes: Z-Scores, Level of Risk Tolerance

Background Documents

1. The Council's Risk Policy Statement and Concept, implemented January, 2025
2. NOAA/NEFSC 2025 State of the Ecosystem Reports for the Northeast U.S. Shelf

QUESTIONS?