Evaluating the Council's New Risk Policy in the context of Acceptable Biological Catch Control Rules

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Funding:

New England Fishery Management Council

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NEFMC Meeting

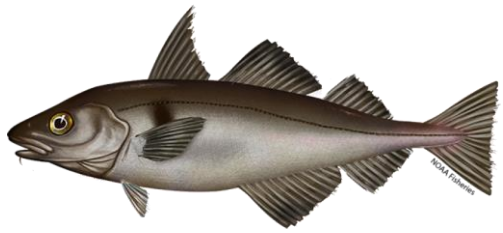
Project Goals and Objectives

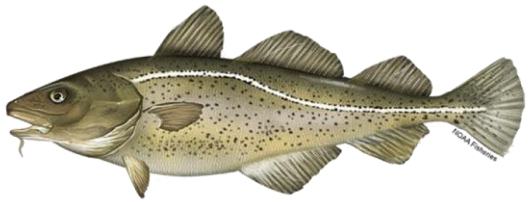
Goal: To evaluate the performance of the NEFMC's new Risk Policy and how it might integrate with ABC control rules.

Obj. 1: Evaluate the Council's updated Risk Policy and demonstrate factor scoring and potential for integration with ABC Control Rules.

Obj. 2: Develop Management Strategy Evaluation framework to evaluate the performance of the Risk Policy in the context of groundfish ABC Control Rules.

Obj. 3: Work with the NEFMC project oversight team to co-develop priorities and alternative scenarios for the MSE and conduct simulation testing.





Project Oversight Team

Robin Frede (NEFMC staff, contract lead)

Jonathan Peros (NEFMC staff, Risk Policy Working Group)

Gareth Lawson (CLF, NEFMC SSC, Risk Policy Working Group)

Angelia Miller (NEFMC contractor, Maris Collaborative)

Roles:

- Attend project team meetings
- Advise on project goals, priorities and methodology
- Facilitate interactions with relevant scientists and stakeholders

New NEFMC Risk Policy

- Scored
- Weighted
- Combined

Higher Risk Tolerance ← → Lower Risk Tolerance

FACTOR	-4	-3	-2	-1	0	1	2	3	4
SSB/Stock Status	Well Above SSB Target		Rebuilt		SSB ≥75% but < 100%		< 75% but above Threshold		Overfished
Recruitment	Multiple Large Year Classes		Recent Large Year Class		Average, No Trend		Recent Low Recruitment		Persistent Low Recruitment
Climate Vulnerability					Low	Moderate	Moderate, Negative Direction	High	High Negative Direction
Commercial Fishery Characterization	Negative Outlook		Fishery Signals ⇄		Positive Outlook				
Recreational Fishery Characterization	Negative Outlook		Fishery Signals ⇄		Positive Outlook				

Provides a quantitative value representing a recommended level of risk tolerance

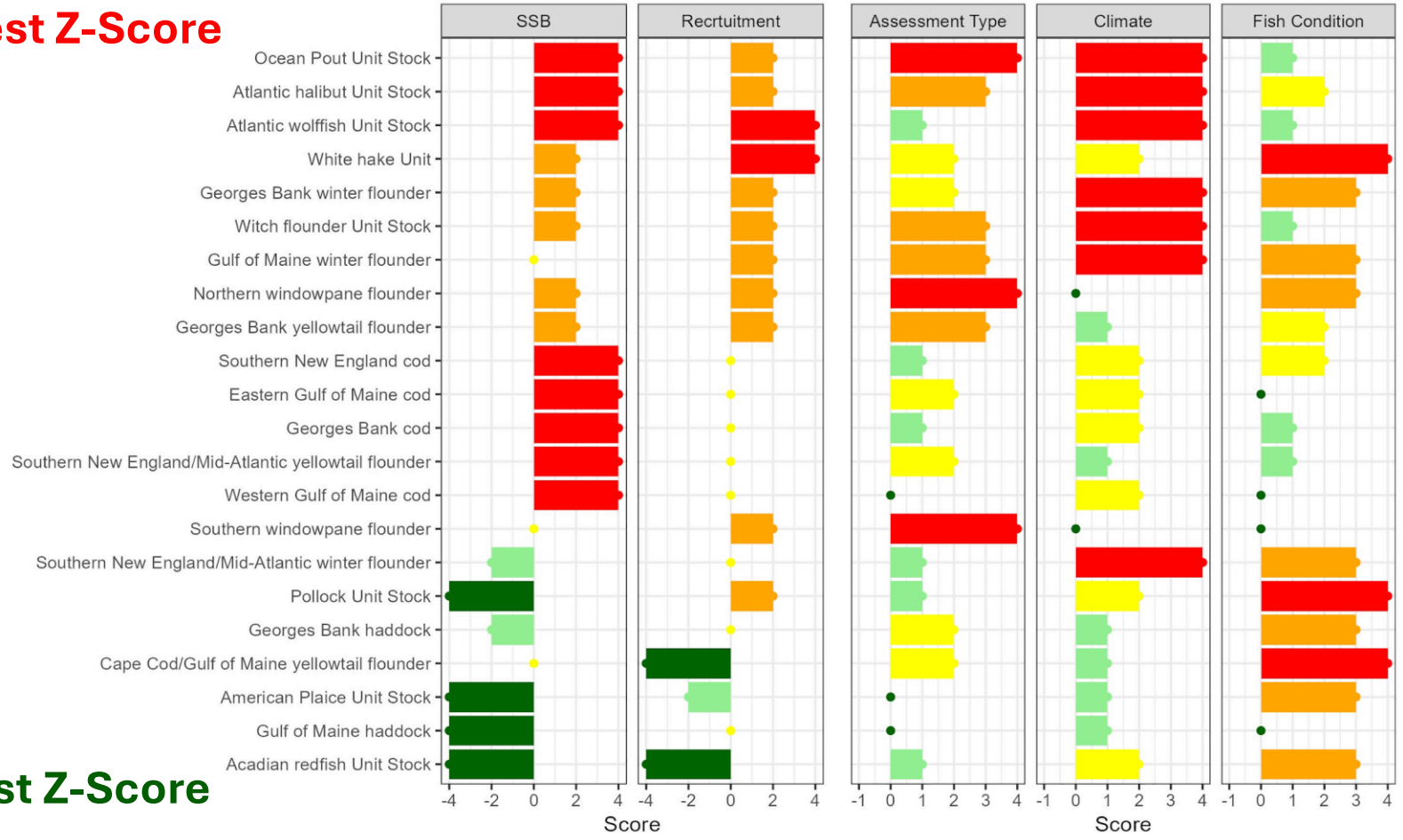
Integrating the Risk Policy into Groundfish ABC Control Rules Could:

- Incorporates a wider range of criteria when setting catch advice. Including many identified as goals for revised ABC control rules:
  - Current stock status and future productivity
  - Climate impacts on stock dynamics
  - Socioeconomic impacts and importance

- Potential for ABC's that are closer to the OFL and farther from the OFL
  - Might lead to more fishing opportunities and faster rebuilding
- Provide objective criteria defining when to move in each direction

Scoring Demonstration for 22 Groundfish Stocks

Highest Z-Score



Lowest Z-Score

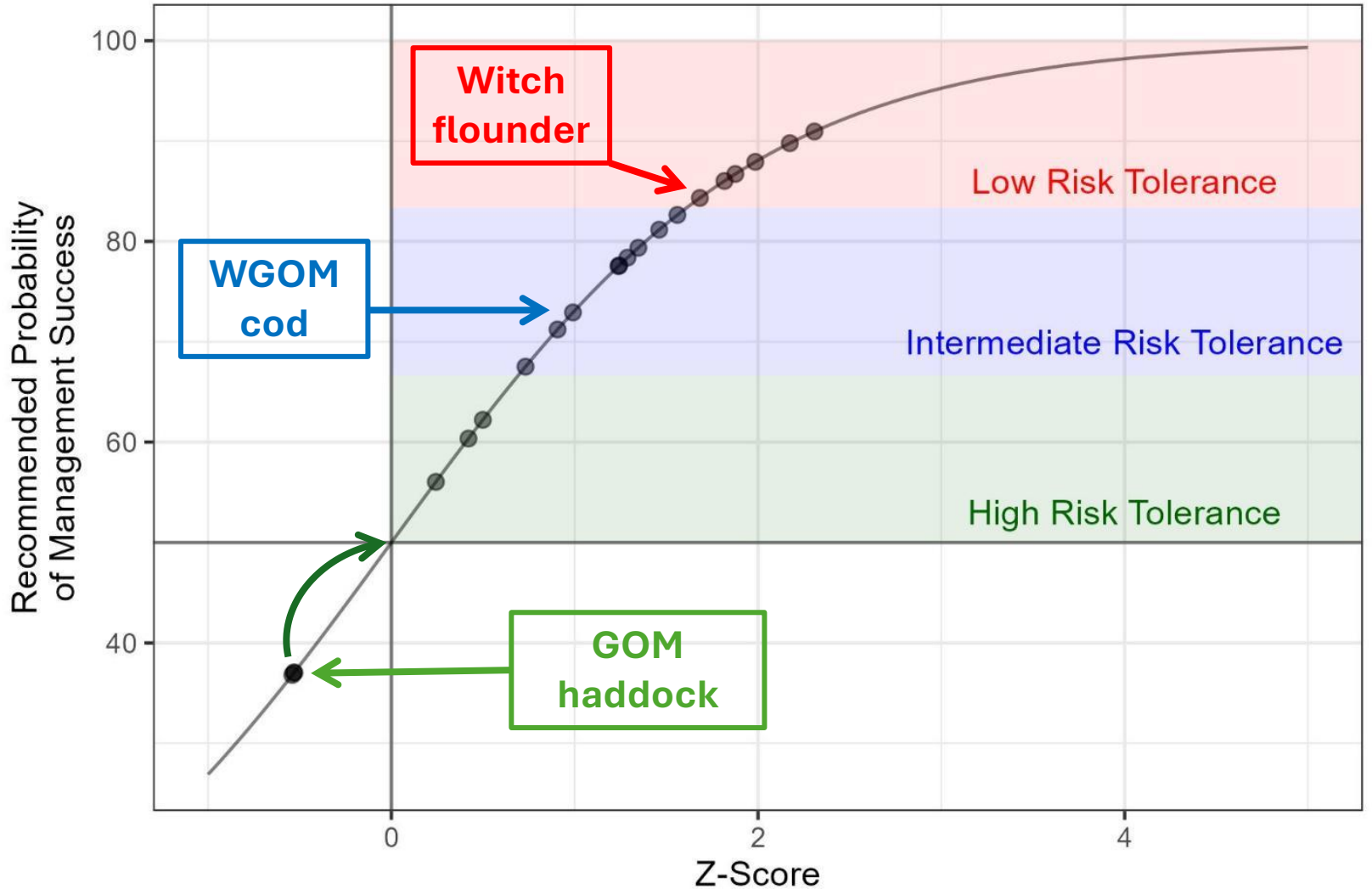
Note:
Scoring included prior factors under consideration.

Scoring did not include fishery factors as rubrics were not defined at the time.

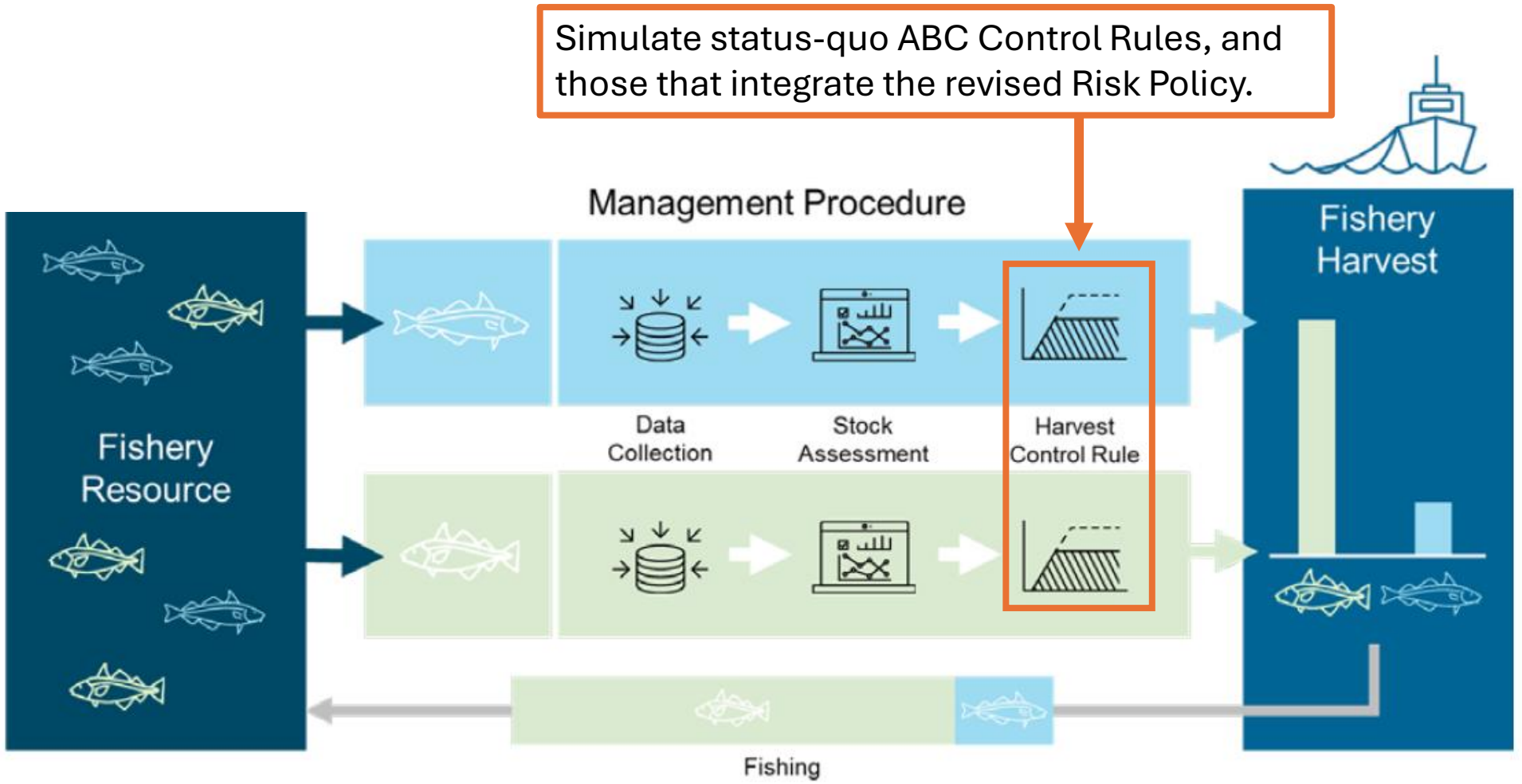
Factor scores were used to calculate a combined Z-score for each stock.

Demonstrated Risk Policy Results and focal stocks

- Z-Scores informed logistic function, which yields recommended probability of management success
- We selected 3 focal stocks, with varied assessment types and risk policy results

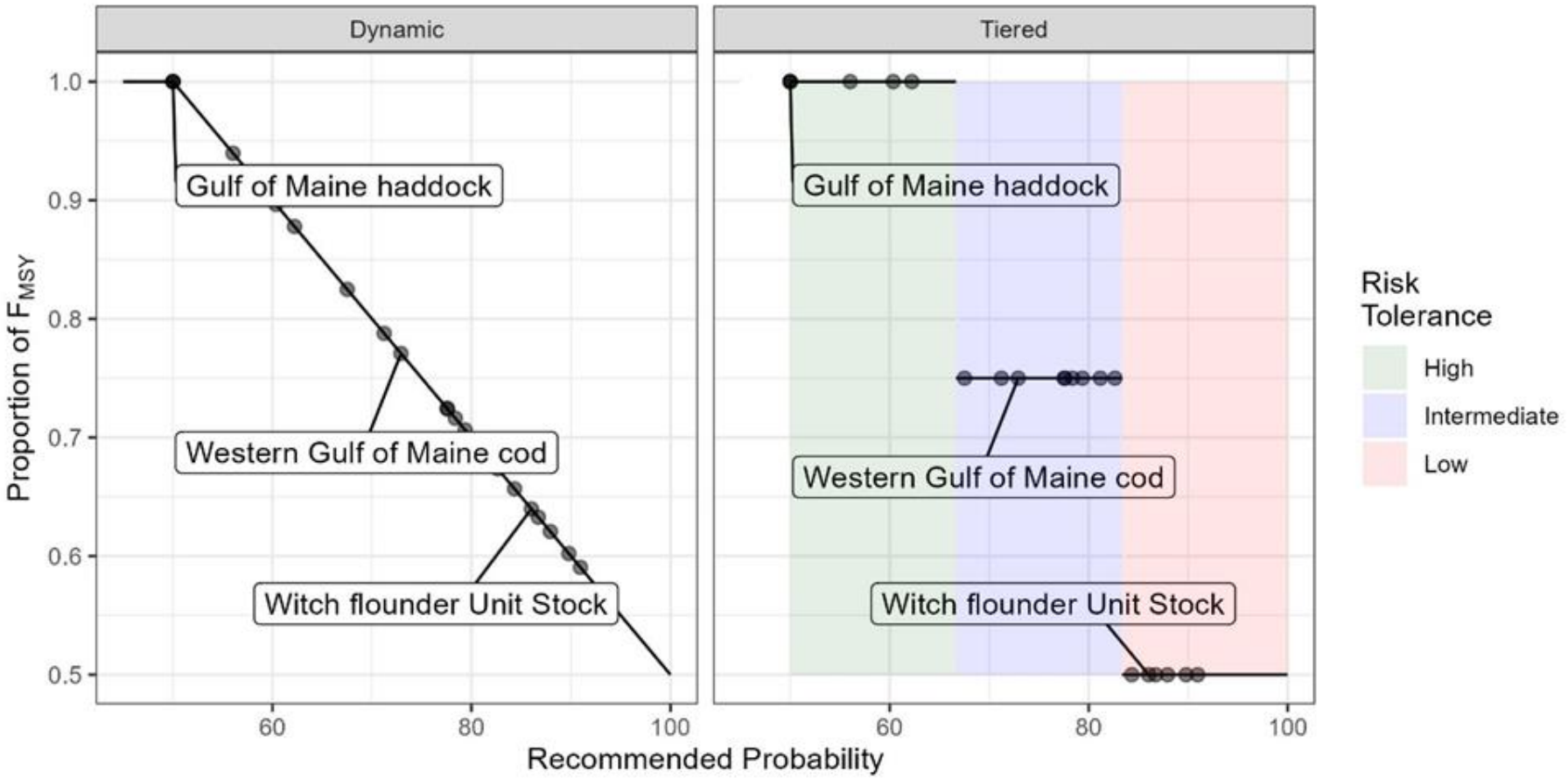


Management Strategy Evaluation (MSE)



We are expanding an existing MSE framework to compare performance of alternative groundfish ABC Control Rules (status-quo vs. risk policy integrated)

Comparing current groundfish ABC control rules with Risk Policy integrated alternatives



Simulation Plan

Scenarios for simulation:

- 3 stocks: GOM haddock, WGOM cod, Witch flounder
- 3 HCRs: status quo, risk policy-dynamic buffer, risk-policy tiered approach
- 2 Factor weightings: NEFMC global, uniform

Additional options could be explored:

- Alternative ways to integrate the Risk Policy (e.g., range of OFL-ABC buffer)
- Iterate with refined version of Risk Policy

Performance metrics:

- Responsiveness of Control Rule to changing conditions
- Stability of fishing opportunities (% of F_{MSY}, catch advice)
- Total catch over time
- Time to rebuilding (SSB and stock status trajectories)

Coordination with NEFMC processes

- Project oversight team, including Council staff and SSC members
- Risk Policy Working Group and development of the risk policy
- Groundfish committee and Groundfish Committee and ABC control rule revision process (Framework 68)

Questions?