New England Fishery Management Council's Risk Policy & Road Map

Jonathon Peros (Council Staff)

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Risk Policy Working Group
Danvers, MA

New England
Fishery Management Council

Risk Policy

Two components of the Council's Risk Policy:

- Risk Policy statement approved in November 2014. Three parts.
  - Page 72 of Council's Operations Handbook.

- Risk Policy Roadmap approved in June 2016.
  - Guide for implementing the Risk Policy.

Risk Policy Statement

- Recognizing that all fishery management is based on uncertain information and that all implementation is imperfect, it is the policy of the New England Fishery Management Council (Council) to weigh the risk of overfishing relative to the greatest expected overall net benefits to the Nation.

Risk Policy Statement - Purpose

- The purpose of the New England Fishery Management Council's risk policy is to:
  1. Provide guidance to the Council and its subordinate bodies on taking account of risk and uncertainty in Fishery Management Plans and specification-setting;
  2. Communicate the priorities and preferences of the Council regarding risk and uncertainty to NOAA Fisheries; and
  3. Make fishery management more transparent, understandable, and predictable while better achieving FMP objectives in the face of uncertain information and imperfect implementation.

Risk Policy Statement - Strategic Approaches

- This risk policy will be supported by the following strategic approaches:
  - The probability of outcomes that have a long-term negative impact on ecosystem function should be low.
  - The cumulative effects of addressing risk at all levels of the fishery management process will be taken into account.
  - Harvest control rules and management procedures will consider stability in the face of uncertain information and inherent variability in ecosystems.
  - Implementation of the policy will be analysis-based.

Risk Policy Road Map

- Guidance on how to interpret and implement the Risk Policy Statement.
- Appendix 1: Risk Policy Matrix
- Appendix 2: Summary of Best Practices
  - Punt MSE paper (2014)

2.0 Risk Policy Statement

- Council's policy with respect to risk and uncertainty for setting ABCs, ACLs, and other management measures.
- Compliments, and works in conjunction with, ABC control rules and harvest control rules.
- Risk tolerance as a policy decision, informed by scientific advice from SSC.
- Address risk and uncertainty across all aspects of fisheries management → Council, NOAA Fisheries (GARFO, NEFSC)

Roadmap – Areas of Focus

- Net Benefits to the Nation
  - Interpretation, Optimum yield, National Standards
- Stability
  - Within the management system, evaluating trade-offs, extracting signal from noise
- Evaluation of Management Procedures
  - Examples of qualitative analyses (fishery performance), MSE

Roadmap Implementation

- Prepare a guidance document that lays out the process for the technical work to be done in each FMP in compliance with the policy.
- Five Track Plan:
  1. Document Current Management Procedures
  2. Analyze Uncertainty of Management Procedures
  3. Conduct a Generic MSE
  4. Conduct a MSE
  5. Revisit/Re-evaluate the Risk Policy in 3-5 years

Track 1: Document Current Procedures

- Risk Policy Matrix (Appendix 1)
  - Updated after assessments
  - Standardized format
  - Provided to SSC and Council

- Examples provided as background materials.

Track 2. Applying the Risk Policy to Council Decisions: Initial Application, Apply the Risk Policy to ABC Control Rules and ABC decisions

Guiding Questions:

- What is the purpose of their recommendation for ABC?
- What is the information that is required to make the ABC successful?
- What is the quality of that information?
- What are the probabilities and severities of undesirable outcomes?
- Does the benefit of achieving the purpose outweigh the risk?

Track 3: Conduct a Generic MSE

- Conducted by NMFS (NEFSC)
- “…address management issues that affect multiple fisheries.”
- “Examination of common scenarios on which we often base management decisions.”

Track 4: Conduct a MSE

- MSE should be pursued whenever possible
- Would require support from NEFSC
- Long-term priority

Track 5: Revisit/Re-evaluate in 3-5 years

- Time needed to implement across FMPs, annual check-in
- Oversight needed over time → Exec. Director could report to Executive Committee
- Council and NMFS → Fund/support MSE
- Re-evaluate after 3-5 years

Appendix 2:

- Summary of best practices guidelines for MSE from Punt et. al. (2014)

Table 1 Summary of Best Practices Guidelines (Punt et. al, 2014)

Selection of objectives and performance metrics

- Involve decision-makers and stakeholders (e.g. using workshops) throughout the process to ensure the performance statistics capture the management objectives and are understandable.
- At a minimum, report statistics related to average catches, variation in catches and the impact on stock size.

Selection of uncertainties

- Consider a range of uncertainties, which is sufficiently broad that new information collected after the management strategy is implemented should generally reduce rather than increase this range.
- Include trials for each potential source of uncertainty (unless there is clear evidence that the source does not apply) and for the factors considered in Table 3.
- Consider the need for spatial structure, multiple stocks, predator-prey interactions and environmental drivers on system dynamics; modelling the last by imposing trends on the parameters of the operating model is often sufficient to understand its implications.
- Include predation effects using minimum realistic models and examine the potential for technical interactions amongst major fished species, especially in multispecies fisheries.
- Divide the trials into 'reference' and 'robustness' sets.
- Use Bayesian posterior distributions to capture the parameter uncertainty for each trial if possible.

Identification of candidate management strategies

- This should be the primary responsibility of the stakeholders/decision–makers, but with guidance from the analysts given the limitations of the management strategy evaluation (MSE). Care needs to be taken that the management strategy can be implemented in practice.
- Evaluate the entire management strategy. In cases in which the management strategy is complex, this may be impossible computationally, in which case a simplification of the assessment method is needed – the nature of the simplification should be

Questions?