SSC Report to NEFMC

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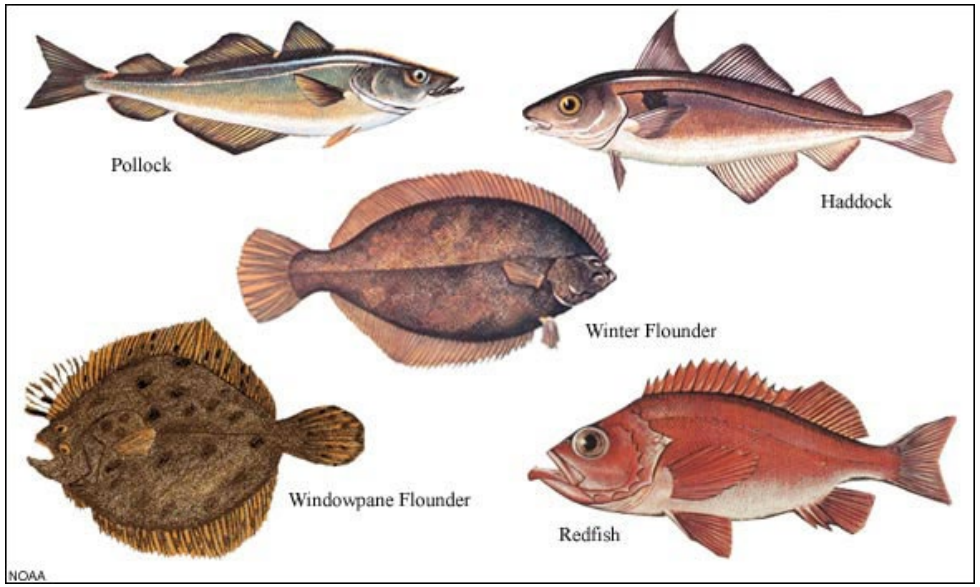


June 23, 2021

Jason McNamee, SSC Chair

Topics

- SSC meetings on May 11 and June 8 covered the evaluation of alternative harvest control rules for New England groundfish along with beginning to think through next steps of this work

Discussion Points – May 11

1. Provide feedback on the approach and technical aspects of modeling harvest control rule (HCR) performance;

2. Provide feedback on the scenarios that have been simulated and identify any key gaps;

3. Develop suggestions on visualization and framing of results to support decision making on HCRs;

4. Discuss relevant results for the Council to consider when it develops ABC control rule options.

Discussion Points – June 8

Which ABC control rules does the SSC recommend the Council consider for the Multispecies FMP?

a. Should the rule apply to all stocks, or should different rules be considered for stocks with various life histories?

b. Should the rule be proscriptive, or is flexibility needed?

c. Should the rule be different for stocks under a rebuilding plan, or for stocks experiencing overfishing?

d. Should the rule vary based on the level stock assessment uncertainty, i.e., retrospective patterns, uncertainty in fishery independent or dependent data, uncertainty caused by environmental trends or predation, uncertainty in estimating fishing mortality or spawning stock biomass?

Discussion Points – June 8 cont.

Which ABC control rules does the SSC recommend the Council consider for the Multispecies FMP?
e. Are there control rules that could better account for environmental trends and ecosystems considerations?

f. Are there control rules that could address the multispecies nature of this plan? Catch limits for some stocks are more constraining than others and this can be challenging.

Evaluation of Alternative HCRs for New England Groundfish – SSC Comments

- SSC noted that work did not include an evaluation of a fixed exploitation rate
  - a “step control rule” had been developed; conceptually performed similar to a fixed exploitation rule

- Ramp control rule; the SSC indicated that the breakpoint where the “ramp” might start could be SSBmsy (or some proxy of this threshold)
  - Classification of an optimal control rule would depend on the definition and prioritization of management objectives for the groundfish fishery
  - Suggestion could subsequently be incorporated into their evaluations

Evaluation of Alternative HCRs for New England Groundfish – SSC Comments

- SSC felt that the error in the outcomes seemed constrained relative to what had actually been experienced in management
  - Including some management uncertainty in the simulations might add value
  - Could focus on worst outcomes of the simulations as a more realistic subset of the simulated outcomes

- Productivity regime of the Northeast ecosystem is changing with characteristics that remain largely unknown
  - This is very important for the Council to understand, particularly regarding any management risks associated with implementation of the HCRs

Evaluation of Alternative HCRs for New England Groundfish – SSC Comments

- Density dependent growth was not considered in the HCR evaluations, so suggested that this dynamic be included in subsequent haddock HCR analyses

- Showing the performance of the new control rules in the context of the existing control rule would be valuable for the Council

Evaluation of Alternative HCRs for New England Groundfish – SSC Comments

- Showing how factors or metrics change relative to the various scenarios examined would be informative
  - I.e., indicate which scenarios produced lowest biomasses would place the other scenarios in context
  - Info should be quantified and tabulated

- Separating the different types of errors in the report, such as directional errors versus random errors, would help the Council better understand the effects of these errors on the simulation outcomes

Evaluation of Alternative HCRs for New England Groundfish – SSC Comments

- A clear summary of HCR findings is essential to facilitate the synthesis of this information into the Council's management process:
  - Guidance from PDT to help create a summary that's relevant for Council
  - Creating tables of info would help convey information that can be easily conveyed and compared
  - Examining/referencing the Atl. herring MSE would be valuable as a model on how to present the HCR findings

Evaluation of Alternative HCRs for New England Groundfish – SSC Comments

- A clear summary of HCR findings is essential to facilitate the synthesis of this information into the Council's management process:
  - Showing outcomes of various metrics in context of short term, medium term, and long-term will help the Council understand various trade-offs and how these may - or may not - change over time

- Regarding discussion point four, the SSC felt that when the HCR report was finalized, the SSC would be in a better position to provide more direct guidance to the Council

Initial Discussion of Candidate ABC Control Rules – SSC Comments

- Goal of follow up meeting was to begin to think through next steps on how to advise Council on using info developed by the current researchers, along with previous research on this topic

- Use of a constant allowed biological catch (ABC) in catch advice over recent years:
  - Being used to account for scientific uncertainty
  - If strategy remains as an option in new control rules, more explicit implementation should be developed

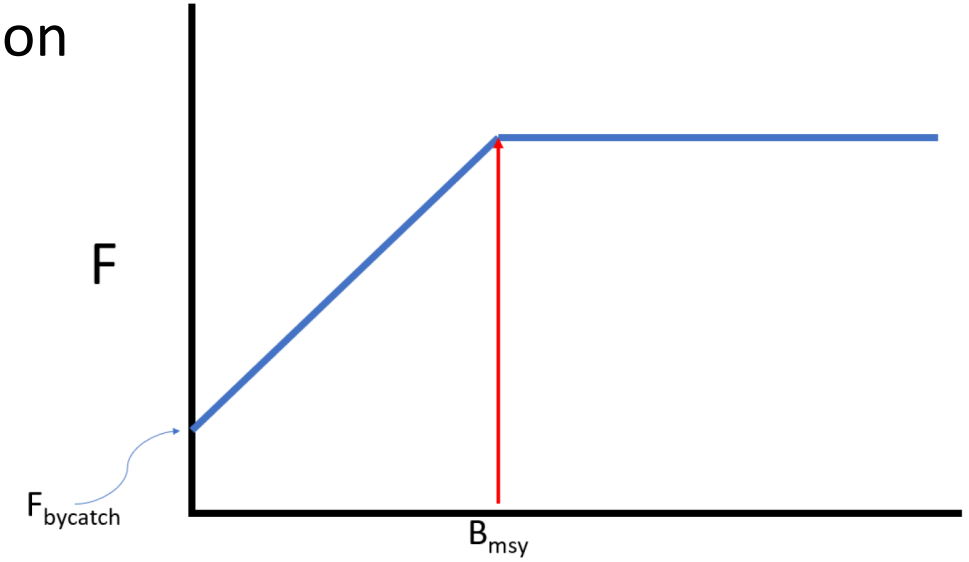
Initial Discussion of Candidate ABC Control Rules – SSC Comments

- Due to the mixed stock nature of the plan, SSC thought that a framework rather than a single explicit rule might be something the Council should consider

- A bridge rule for when a model goes from an analytical model to an index-based approach is needed

Initial Discussion of Candidate ABC Control Rules – SSC Comments

- Ramp control rule :
  - Could work well for some groundfish species and depending on the way the rule was constructed, it could incorporate some important features such as a lower biomass threshold that could be based on a bycatch level
  - Break point of the ramp and the bycatch levels would need significant discussion



Initial Discussion of Candidate ABC Control Rules – SSC Comments

- Research track regarding index-based assessment methods would be valuable to provide context for the control rule discussion

- Having info about performance of current control rule over time would be valuable context for Council
  - Could be accomplished by presenting info about past performance as summarized by PDT or could be developed as part of the simulation testing

Initial Discussion of Candidate ABC Control Rules – SSC Comments

- Step control rules:
  - Some negative comments but clarified that it depended on the objectives of management as to whether this type of a rule could be valuable or not
  - Has different trade-offs than some of the other control rules being examined; evaluation of trade-offs relative to objectives would provide insight into the value

- Developing a working group would be valuable to help synthesize what is a large amount of work
  - Should include members of PDTs, Council, and SSC (economists would add valuable insight)

Questions?