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New England Fishery Management Council
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John Quinn, J.D., Ph.D., *Chairman* | Thomas A. Nies, *Executive Director*

To: Tom Nies, Executive Director

From: Scientific and Statistical Committee

Date: June 21, 2021

Subject: Initial discussion of candidate ABC control rules the Council could consider in the Multispecies (Groundfish) FMP and comment on 2021-2025 Council Research Priorities and Data Needs

The Scientific and Statistical Committee (SSC) met on June 8, 2021 via webinar to address the following discussion points:

1. 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?
    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.
2. Recommend whether there should be any revisions to the research priorities as approved by the Council in June 2020 and as revised thus far in 2021 by the Council's Fishery Management Plan (FMP) Committees. The SSC was asked to focus on addressing the following questions:
    a. Does the SSC agree with the recommendations for revisions made to date by the FMP committees?
    b. Should any priorities be further revised?
    c. Should there be any additions to or deletions from the list?

To address these topics, the SSC considered the following information:

1.1 Presentation: Council Staff – Review current ABC control rule, SSC input to date, and issues to consider (Dr. Jamie Cournane).

1.2 Memo from Council Staff to SSC re Groundfish ABC control rule and issues to consider (June 4, 2021)

1.3 The Council's Risk Policy Road Map (2016), that includes the Risk Policy Statement and Implementation Plan, see pp. 4-5 and 10-12. Available at: https://s3.amazonaws.com/nefmc.org/2_Risk-Policy-Road-Map_No_Implementation.pdf

1.4 National Standard 1 Guidelines – Optimum Yield (Section 600.310 (j) Council actions to address overfishing and rebuilding for stocks and stock complexes). Available at: https://www.ecfr.gov/cgi-bin/text-idx?SID=71b8c6026001cb90e4b0925328dce685&mc=true&node=se50.12.600_1310&rgn=div8
1.5 Draft Executive Summary of Evaluation of Alternative Harvest Control Rules for New England Groundfish

2.1 Presentation: Council Staff - NEFMC Research priorities and data needs for 2021-2025 (Dr. Rachel Feeney)
2.2 Memo from Chris Kellogg and Rachel Feeney on Council Research priorities for 2021 – 2025
2.3 List of Council Research Priorities (PDF and Excel)

SSC Attendance

Dr. Birkenbach, Mr. Carroll, Dr. Chen, Dr. Collie, Dr. Friedland, Dr. Jordaan, Dr. Kerr, Mr. Maguire, Dr. McManus Dr. McNamee, Dr. Merrick, Dr. O'Keefe, Dr. St. Martin, Dr. Serchuk, Mr. Stockwell, Dr. Uchida, Dr. Wiedenmann and Dr. Williams

SSC Response

Groundfish Control Rule Discussion

The SSC was given a presentation from the groundfish PDT and the researchers from the Gulf of Maine Research Institute (GMRI) on their work relating to the evaluation of the New England Fishery Management Council's (hereafter "Council") harvest control rule for groundfish. The goal of the presentations was to begin to think through the next steps with how to advise the Council on how to use the information developed by the current researchers, along with the previous research that had been done on this topic. The SSC found the context provided by the PDT and the researchers at the GMRI to be very helpful in their deliberations for the day.

The SSC offered the following comments in response to the discussion points:

- The SSC began their discussion with comments about the use of a constant allowed biological catch (ABC) in catch advice over recent years. The discussion hinged around the notion that this was being used to account for scientific uncertainty in things such as lower than expected recruitment, apparent poor stock status, and due to the anticipation that there would be stock assessment updates within the specification setting period that could alter the advice. If this strategy remains as an option after the new control rules are developed, a more explicit implementation of this should be developed to avoid the appearance of being arbitrary.
- Due to the mixed stock nature of the groundfish management plan, the SSC wondered if some of the control rules being examined were too risk averse, given that not all of the stocks in the groundfish complex are doing poorly. Given this, the SSC thought that a framework rather than a single explicit rule might be something the Council should consider in its decision process.
- Another discussion topic was about the need for a bridge rule for when a model goes from an analytical model to an index based approach. This has happened frequently in the groundfish complex and could happen in the future given some of the things that are occurring such as offshore wind development; therefore it would be good to have a defined strategy of what to do when this occurs. It presumably could work in the other direction as well (i.e., could go from a data limited approach to an analytical model). The strategy of what to do when this occurs could be incorporated into a framework as described in the bullet above.
- The group discussed a version of a ramp control rule that could be useful for the groundfish complex. A visualization of this control rule was offered to focus discussion (see Figure 1). Some on the SSC felt this would work well for some of the 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, akin to what is allowed in subsection

(c) of the current control rule (this was also a recommendation from the significant change working group).
    - The break point of the ramp and the bycatch levels would need significant discussion, though for the bycatch level, an interim level could be chosen, then after evaluation, it could be adjusted.
- There was a discussion about the research track regarding index-based assessment methods. The SSC felt that this work would be valuable to provide context for the control rule discussion so a synthesis of relevant information from the research track would be valuable for the Council and PDT as they work through the other materials provided for the control rule project.
- There was a discussion about the current control rule. The question was asked whether it was the control rule that did not work well, or if we simply were not accounting for uncertainty in the information we have well enough. Specifically, the GMRI evaluation considered the performance of control rules with and without assessment model misspecifications. Having information about the performance of the current control rule over time would be valuable context for the Council to evaluate as they review the work of the GMRI researchers. Moreover, it would aid in the selection of a new set of control rules to have these results or effects compared to the existing control rule. This could be accomplished by presenting information about the past performance of the existing control rule as summarized by the PDT or could be developed as part of the simulation testing. Either or both would provide valuable context.
- There was some discussion around step control rules. There were some negative comments made about that form of a rule, but the SSC went on to clarify that it depended on the objectives of management as to whether this type of a rule could be valuable or not. A step control rule has different trade-offs than some of the other control rules being examined, so an evaluation of the trade-offs relative to objectives would inform the value of a step control rule for groundfish management.
- The final discussion the SSC had was about providing advice on the next steps in the evaluation of different control rules. The SSC felt that developing a working group (WG) would be valuable to help synthesize what is a large amount of work. The SSC felt that any SSC members on the WG, including members with an economics background, would be able to help translate the results of the analyses back to the SSC during subsequent meetings that are focused on the development of the final rule. They would also provide valuable information to the PDT and Council members on the working group.

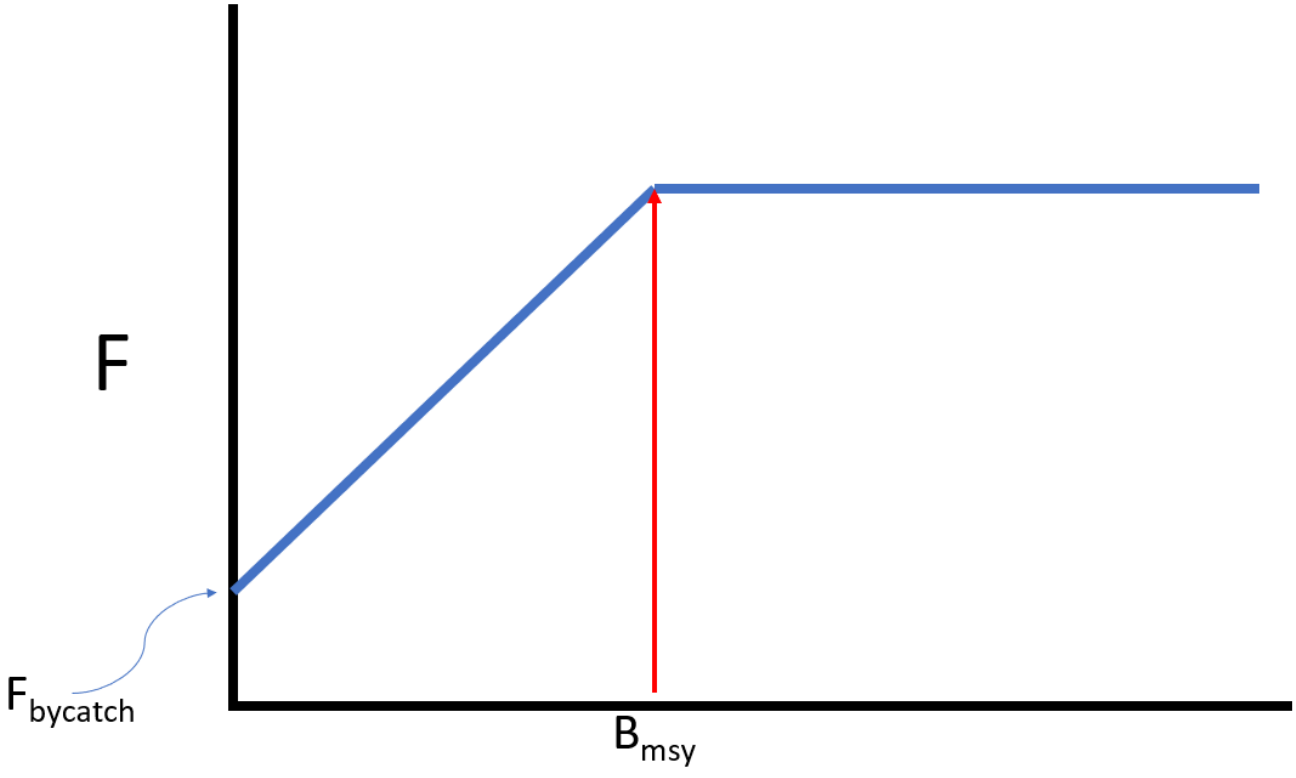

Figure 1 – Visualization of a hypothetical control rule discussed by the SSC.

Research Priorities

The SSC was provided a brief synopsis of the research priorities, focusing in on the things that have changed since the last review of the priorities. Additionally, the SSC was provided with both a PDF and excel version of the priorities for review prior to the meeting. The following is the feedback from the SSC on the Councils 2021 – 2025 research priorities:

- The SSC applauded how well the list had evolved over recent years into a product that was easily filtered and searched.
- The SSC thought that improved life history information on stocks that use index-based methods for status determinations would be helpful.
- Expanding the scallop priority about model comparisons (number 34 in the spreadsheet) was needed. The examination of the various scallop models that are used was larger than just a comparison, so it was suggested to add the text "evaluate and…" before the word "comparison", which would adequately address this idea.
- The SSC questioned why the focus of the priority in number 107 in the spreadsheet was solely on cod in the Gulf of Maine. It was discussed that cod was highlighted based on stock status, but that concern applies to other stocks too. A solution could be to edit with "Consider GOM region *in addition to SNE/MAB;* focus on *assuring effective sampling for overfished stocks*." The red font would be the new text within the existing priority.
- The SSC wondered about early life history information for herring that may inform recruitment drivers. This was an important factor to consider researching further. The discussion noted that the priority numbers 10 and 11 touched on those issues, but this could be supported by editing the priority number 54 to "Identify spawning components on a spatial and temporal scale for Atlantic herring *including an evaluation of spawning success* and define whether localized

depletion has negative impacts on spawning capacity." The red font would be the new text within the existing priority.

- In the priority number 101, the SSC stated that current harvest control methods may be unfairly constraining harvest given climate change effects. This could be addressed by adding a note about the impacts of having industry try to achieve what is unachievable, such as "This could avoid forcing the industry to rebuild stocks to unachievable levels."
- The SSC recommended adding the priority: "Study the continued effectiveness of NEFSC trawl survey design under climate change." Council staff noted that this is currently part of the priority in number 101, but to make sure it was clear, text could be added to that row, namely "Information is needed to build resiliency into FMPs and surveys *(strata based on historic distribution)*, …". The red font would be the new text within the existing priority.
- The SSC also recommended adding the priority: "A study of whether dynamic reference points should be used given a changing climate."
- The SSC offered that for all human dimension priorities, a check should be done for a cross-listing with the NOAA Fisheries Human Integrated Ecosystem Based Fishery Management, Research Strategy 2021-2025.
- In the priority in row 4, the question was asked by the SSC as to whether we are approaching the time when the Bigelow based trawl survey can be used as a stand-alone series in stock assessments? If the answer was yes, this priority could likely be removed.
- The priority in row 5 could be considered for deletion. A red crab survey was identified as important in 2009 but has not yet occurred. The idea in this case was that since the priority had been on the list for so long without action, it might be valuable to re-evaluate whether the priority was still relevant.