Atlantic Herring MSE

Part III – Stakeholder Input from Workshop #2

Part IV – Initial Range of Alternatives

Deirdre Boelke
Council Staff

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Goals of Herring MSE Workshops – A Tall Order

- **Workshop 1 – May 2016**
  1. Improve understanding of MSE and provide opportunity for public input
  2. Identify and discuss: objectives of an ABC control rule (CR); metrics to measure performance; and characteristics of possible control rule alternatives

- **Workshop 2 – December 2016 (Document #4)**
  1. Provide opportunity for public input
  2. Review technical simulation results – Q&A
  3. Identify desired performance of metrics, how to balance tradeoffs, and a range of control rule alternatives

Summary of Workshop #1 Outcomes

- Example Objectives: maintain sufficient herring as forage, prevent overfishing, maximize fishery yield and profits, catch stability, maintain normal size/age structure
- Example Metrics: Herring ABC relative to catch when Fmsy, Herring ABC inter-annual fluctuation, Predator abundance/condition, revenue/profit
- Control rule characteristics: Catch changes with biomass (BB), constant catch, set-aside x% of SSB, reduce F when SSB falls below x%

June 2016 – By consensus the Council approved the outcomes from Workshop #1

MSE workshop #2 - Agenda

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Day 1

- Set the stage
- Summarize Workshop #1 outcomes
- Understand the MSE methods
- Input on refining and further identifying acceptable ranges of metrics performance

Day 2

- Understand and give input on potential tradeoffs
- Input on narrowing range of control rules
- Consider robustness to operating models
- Input on additional work before MSE is finished

MSE workshop #2 - Participation

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All Workshop Attendees		Workshop Participants*	
Council	10 (12%)	Herring fishery	12 (18%)
Advisors	12 (14%)	Lobster fishery	3 (5%)
Facilitators	4 (5%)	Other fisheries	16 (25%)
Staff/PDT	14 (17%)	Env. NGO	8 (12%)
Others	43 (52%)	State/federal	8 (12%)
Total	**83 (100%)**	Scientists/other	18 (28%)
		Total	**65 (100%)**
*Excludes facilitators, staff, and PDT members.			

Of the 65, 76% attended for both days,
49% had attended the first workshop.

MSE workshop #2 – Metrics input

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Discussion centered on 12 questions to identify specific ranges of performance.

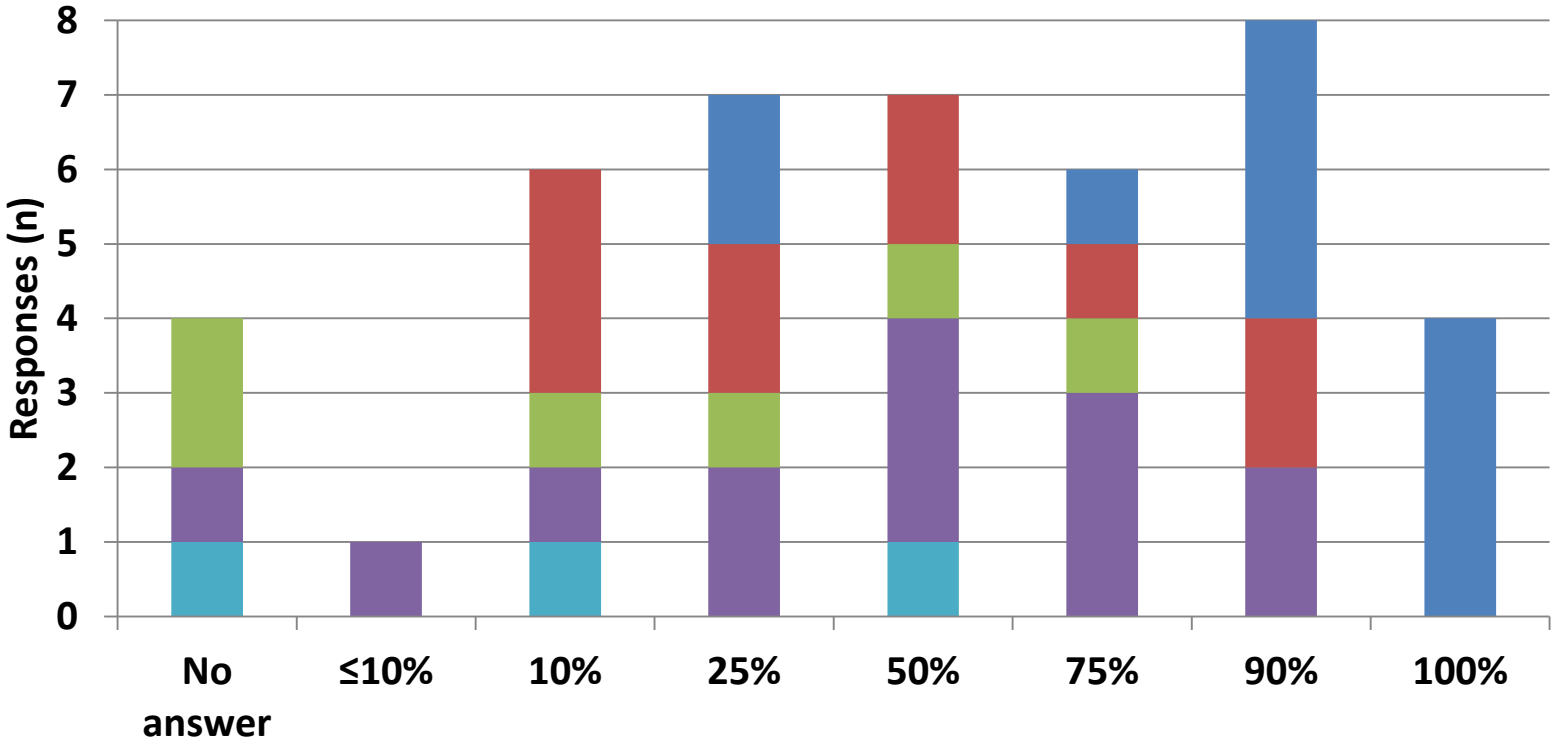
Question #1 – Acceptable Atlantic herring yield?

Range: 50,000 – 160,000 mt
Average: 95,000 mt

- *Yield should be tied to stock status, not fixed.*
- *For some, maintaining a certain yield less important than ensuring predator needs are met.*
- *For others, a yield near status quo supplies the bait market and has been sustainable.*

MSE workshop #2 – Metrics input

Question #2 – Acceptable % of MSY harvested?



- *Lower %: better accounts for ecosystem/predator needs and uncertainty (e.g., climate change).*
- *Higher %: confidence in stock assessment and in remaining near status quo conditions.*

MSE workshop #2 – CRs input

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1. Biomass based

   Broad support; responsive to latest data; however, is an annual process possible?

2. Biomass based 3-year block

   Broad support; best performance across many metrics; most feasible logistically.

3. Biomass based 5-year block

   Biomass approach preferable to constant catch; concern about poor performance for several metrics; 5 years may not be sufficiently responsive.

MSE workshop #2 – CRs input

4. Biomass based 3-year block, but catch cannot change more than 15% per year

   Biomass approach preferable to constant catch; concern about poor performance for several metrics; 15% adjustment may not be sufficiently responsive.

5. Constant catch

   Concern about poor performance for several metrics; maintaining X catch may not be sufficiently responsive.

6. Conditional constant catch (≤ 50% of F_{MSY}).

   Concern about poor performance for several metrics; maintaining X catch rate may not be sufficiently responsive.

MSE workshop #2 – Other input

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- *Several ideas for model adjustments, new models, model runs, and display of information.*
  - Some are being incorporated in the current MSE, as resources/time allow.
  - Others could be useful in developing future iterations.
- *Several ideas for future research.*
  - Some already on the Council's research priority list.
- *Generally neutral to positive responses to workshop evaluation questions.*

Part IV – Initial range of control rule alternatives

Summary of Herring PDT, AP and Committee input since the December 2016 Workshop

PDT input

- Almost the entire PDT attended Workshop #2
- PDT webinar on December 20, 2016 to review results of analyses prepared since the workshop.
- PDT input summarized in Document #5.
- PDT developed five specific recommendations/comments for the Committee to consider.

PDT Comment #1

1. Remove several control rules from further consideration based on poor performance and stakeholder input

    - Biomass based 3-year block, but catch cannot change more than 15% per year

    - Constant catch

    - Conditional constant catch (≤ 50% of F_{MSY})

PDT Comment #2

2. If time permits, the PDT could develop a method that would identify potential control rule shapes based on their performance. In addition, to capture the variability of performance, the 25% and 75% could be added to the mean plots.

Note: The PDT plans to continue work on the first idea, and the second has somewhat been addressed with the plots that compare mean results with assessment bias and without assessment bias.

PDT Comments #3 - #5

3. The AP and Committee should provide more specific input about desired performance and tradeoffs to help define control rule alternatives.
4. Does the AP or Committee have any additional recommendations for tradeoff analyses? Any plots missing that would be helpful to have?
5. The PDT wants the AP and Committee to be aware of serious caveats related to the MSE models and analyses.

Herring AP and Committee Input

- Almost the entire AP and Cmte attended
- Meetings on January 10/11, 2017 to review input from workshop and preliminary results.
- Draft motions from AP and Cmte in Document #2.
- Positive exchange of ideas and clarifying questions
- A lot of info to process – recommended focusing on only 2 of the 6 CR types presented.
- Did not recommend specific CR shapes; directed PDT to develop specific shapes to consider for April meetings.

AP/Cmte Motion

- **Cmte Motion 1: Recommend removing 4/6 of the potential control rule alternatives developed to date (See AP Motion #6).**

- Rationale: Agree with the PDT that some of the control rule alternatives have generally poor performance for many of the metrics presented. In addition, the 5 year control rule alternative seems too long. The potential benefits of short term stability for the fishery are not worth the costs.

MSE Timeline and next steps

Date	Milestone
Jan-17	Council update and initial discussion of ABC control rule alternatives to consider in A8
Feb-17	MSE final report complete and available
Mar-17	External Peer Review
Apr-17	AP/Cmte and Council meetings to approve range of ABC control rule alternatives for A8
Sep-17	Council expected to approve DEIS for public hearings
Summer 2018	Expected implementation

Ideally A8 effective before Council develops 2019-2021 specifications.