



Mid-Atlantic Fishery Management Council

Scientific & Statistical Committee

OFL CV Sub-Group

March 30, 2023 from 9:00 – 11:00

Meeting Summary/Notes

Attendees: O. Jensen, M. Wilberg, S. Gaichas, P. Rago, B. Muffley

Background:

In 2019, the SSC developed, and the Council approved, the OFL CV guidance document which is intended to provide a clear, consistent, and transparent process in documenting SSC conclusions regarding the scientific uncertainty of the OFL estimate. The guidance document identifies nine different decision criteria to be considered to help define an appropriate OFL CV when setting new or revised ABC recommendations. The guidance document was designed to be a living document and would get updated periodically as new scientific information becomes available and as the SSC learns, adjusts, and refines its decision process. Changes to the OFL CV guidance document were last approved in 2020.

Since then, the SSC has followed the guidance document to determine the OFL CV value for many Council-managed species when making ABC recommendations and each time has identified areas in the document that could use potential updates to provide greater clarity and direction in the future.

To help frame the topics and discussion with the sub-group, Council staff put together a document summarizing comments and suggestions for potential issues and areas for updates mentioned by the SSC during the last couple of years (Attachment 1). In addition, staff put together a spreadsheet of all OFL CV decisions made, by species and decision criteria, since the SSC started to use the more structured process outlined in the guidance document (see Excel file).

Sub-Group Discussion:

- Two different areas to focus on for guidance document updates – (1) refine the categories and (2) a broader discussion on the current binning values and where we go and how to apply
 - Wilberg lab getting a paper out this summer regarding OFL CV – generally support the conclusions of the Bi et al paper (included as part of March SSC meeting materials)
 - Uncertainty is greater than the model estimates and lots of uncertainty overall
 - Even when the model is well specified lower bound is still high and can go really high
- Given the different simulation studies and peer review, the Mid-Atlantic SSC OFL CV bins of 60-100-150 tend to fall in the right range and maybe need to communicate this to Council and stakeholders.

- General perception on the science application of information will tend to lead to more uncertainty (at least perception) or the OFL CV bins are score on the quality of an assessment
- Our SSC really takes a different approach than other SSCs – we take a more holistic approach – and other SSCs tend to have a CV of 30% or lower and take what comes out of assessment
- Documenting our decisions – generally sufficient. Place we can add some specificity and detail is in the decision document
 - Document has turned out to be really important given how much the SSC refer to during deliberations
- Is the current rubric appropriate to capture the central tendency of all models considered during the assessment development process but only have one presented to SSC
 - Bias versus uncertainty – just adjusting for bias was (retro adj) is not enough to account for all uncertainty
 - Support for not trying to capture/correct for bias – work done shows that model bias is not really an issue
- Multiple model considerations – obtaining information on other models could be considered if provided information. Data gathering, processing, and calculations are really a critical area as well
 - Obtaining information on these steps is needed
 - SSC would need this information if we were to step away from expert judgment for our OFL CV process
 - Maybe have assessment lead provide some information on range of models considered
 - Documenting model configurations and OFL associated with those runs
 - Fmsy proxy – another area of uncertainty and maybe not appropriately captured in criteria
 - Part of model uncertainty?
 - Half of the OFL uncertainty is from OFL uncertainty
 - Really dealing with uncertainty with biomass and not F
- Where does natural mortality fit in rubric and need to make sure we are not double counting in different criteria
- Including some of the other analyses/publications to support our approach and how our application is similar to what is done nationally/globally
- More description of process and approach to be clear for SSC and public
- Ecosystem criterion and information developed as part of the ecosystem ToR
 - Develop a list of considerations
 - Productivity
 - Susceptibility
 - How much has the environment changed for the stock
 - Have a trend in recruitment criteria but also connected to ecosystem
 - Does/how much does the projection change under different recruitment stanzas – that is true uncertainty
 - Not a “did the analyst deal with recruitment appropriately”, just trying to capture uncertainty

- Work with assessment lead to look at different projection stanzas
 - How does changes in the ecosystem change reference points and the implications
 - Sum of the stresses on the stock compared to when the ref pts for stock were developed
 - If we don't have, what can we look – size/growth/maturity at age
 - May be well accounted for in assessment but how does it impact the ref. pts.
 - Directionality matters
 - Want to make sure we are considering ecosystem factors that the assessment is not accounting for – beyond if the assessment includes an environmental covariate. Other ways an assessment can be including/accounting for environmental information
- Weighting criterion – generally within heads individually, but using analysis Paul and Brian are working on
 - Tend to need lots of 60's to get an overall score of 60; only need a few 150's to get an overall score of 150
- Implications of assessments moving to WHAM given the different way its parameterized and makes projections
 - Current categories likely still appropriate, but SSC will need additional familiarity and understanding of WHAM/state-space models and how capturing uncertainty
- Weight of short-term and long-term projections and considerations
 - Long-term ref pt calculations versus short-term projections for catch advice and assumptions used
 - Decreasing the SSB ref. pt. will end up resulting in increased catch recommendations
 - New paper published on this topic and presented at 2022 National SSC meeting
 - Making sure the SSC has some of the most recent literature this might impact SSC decisions
 - Develop a paper on the SSC OFL CV process to help document and provide additional detail on why and how the criteria are used
 - Setting catch limits: approaches and processes (*potential topic for National SSC meeting*) – how accounting for environmental conditions/change, recruitment, uncertainty

Next steps:

- Short-term – put together a marked up version of the guidance document to include some updates to clarify text in document, adding some language about other simulation analyses/comparison to Mid-Atlantic SSC and other recommendations by sub-group
 - M considerations – specify under model appropriateness
- Longer-term - at the Fall/Sept SSC meeting, have a full SSC discussion on changes and approaches that will take longer than prior to July SSC meeting. Communicating information with SSC and broader audience (Council, stakeholders). Review of literature and implications for guidance document. Any updates or changes to guidance document from this review would occur in 2024.

- Group is comfortable with current process of species lead pre-populating the OFL CV table, with no scores, to help provide a starting point for full SSC consideration and discussion. Agreed was needed to help with meeting efficiency.
- Brandon to put together a Google folder with current guidance document to mark up and include meeting notes to help create a meeting summary
 - Both documents will be background material for May SSC meeting

OFL CV comments or issues raised by the SSC

For discussion by the SSC OFL CV Sub-Group

March 2023

Note: text in blue references specific OFL CV decision criteria

Relevant comments from July 2021 SSC meeting

- [Comparison with simpler/empirical analysis criteria \(#4\)](#) – consideration of information available within the assessment or looking to other outside information outside to help inform the primary assessment.
 - Different language in table versus decision criteria text (e.g., methods mentioned in text)
 - Application to F and B reference points
- Application of Hare et al. species vulnerability assessment and other [ecosystem factors \(criterion #5\)](#) to consider and apply in a more consistent way – work for SSC Ecosystem Work Group
- [Assessment accuracy under different fishing pressure criterion \(#8\)](#) – need to consider/further refinement as to how the SSC evaluates
- [Informed by measures of trend in recruitment criterion \(#6\)](#) – the SSC is not specifically looking at/considering trends in recruitment per se. Further review of criterion would be useful
 - Binning level when OFL calculations are using a truncated recruitment timeseries to account for recent patterns
 - Lots of variability in application and considerations.
 - Quantify recruitment variability or range observed
- [Model appropriateness and identification criterion \(#2\)](#) – how to consider multiple models that an assessment work group might have reviewed/developed but were removed from consideration

Relevant comments from September 2021 SSC meeting

- Where does M information fit – [data quality \(criterion #1\)](#) or [model appropriateness \(criterion #2\)](#)
 - Need clarity on how to apply and where to consider

Relevant comments from July 2022 SSC meeting

- [Model appropriateness and identification criteria \(#2\)](#) – questions about how to evaluate and whether or not consistently applied
 - Connection with [data availability criteria \(#1\)](#) and influence on assessment
 - Fixing variables in model such as M or q – sometimes model has been “penalized” and others times not