

Halibut Abundance-based management (ABM) work plan for revised initial review draft

The SSC reviewed the draft ABM Halibut PSC management analysis in October, in particular the model formulation, and in general, approved of the model formulation for purposes of this action while providing some specific suggestions for additional model simulations and analyses. The Council then requested that the analysts consider SSC requests and provide an update on the proposed timing and ability to address all SSC comments for the next initial review draft of the Halibut ABM DEIS. A summary of the major SSC requests and tasks for revising the initial review draft are listed below. In addition to these items, model modifications outside of the specific SSC requests will be considered. The analysts intend to address all SSC requests.

The time needed to complete some of these tasks is difficult to predict reliably, as many tasks may require troubleshooting dependent upon model behavior. An example of this is the model validation process that occurred in preparation for the October 2019 Council Meeting, where the work group thought that this could be a fairly straightforward task, but was much more complex due to conflicts among data sources that required resolution. The primary difference between bringing an initial review draft back in June as compared to October is the relative amount of time allotted for troubleshooting problems with the modeling updates as well as review and synthesis of results in the overall document.

If the Council wishes to have an initial review document in June, there may be less time available for modeling a range of different assumptions and scenarios. The document would need to be posted by the first week of May. There would be less time for internal review and revisions by the workgroup under this scenario. However, the work group would strive to be as efficient as possible to accommodate this timing in addressing the requests by the Council and the SSC. Modeling work cannot be started until January with additional modeling team staff time taken up with other responsibilities throughout the winter and spring. This is an inter-agency working group and modeling staff have non-Council-related on-going scientific job responsibilities. Non-modeling work on the revised initial review draft has begun and will continue through the next several months.

Once the modeling results are available, the analysts will meet to review and discuss those results and work to incorporate them into analyses which require model results as an input. This may also require iterative revisions, interpretation and concise presentation of results. Depending upon the Council's decision on whether to take up the initial review draft in June or October the work group will streamline review and revisions as possible to accommodate that timing. A document for October Council review would be available by the end of August and would provide the most time for synthesis and revisions as well as additional review time by the public in advance of the Council meeting.

Summary of major SSC requests and revisions:

1. PSC usage assumption-
 - a. Characterize the range in variability of usage relative to limits. There are a variety of ways to do this, so the simplest will be a good starting point and would involve taking a look at usage, limits, and encounter rates over all species and a couple of periods in history. We will simultaneously work to understand whether characteristics of the distribution of the usage to limit relationship changes as a function of what species are targeted, environmental conditions, and other factors.
 - b. Incorporate this characterization of variability in usage to limit ratio into the model
 - c. Given the model's sensitivity to this assumption it is difficult to predict how much time this will take.

2. Approach to approximated directed fishing harvest rate. There were suggested modifications to the harvest rate approximation approach which related directed fishery catch, spawning stock biomass (SSB) and total mortality (2007-2018). This might include:
 - a. Test sensitivity to the period selected and/or alternative “slopes”
 - b. Provide better justification for time frame selected (and/or consider different periods).
 - c. Consider different variances at low and high stock abundance, possibly downweight earlier years (higher weight to more recent years)
 - d. Potentially allow for temporal autocorrelation in directed fishery harvest rate
 - e. Implement an approximation of the 30:20 rule so that the expected directed fishery catches are better represented at low levels of abundance
3. Low and alternative recruitment scenarios and 30:20 harvest control rule simulation-
 - a. Here the intention ideally would be to run at least 3 scenarios: a low, medium, and high recruitment scenario.
 - b. Running these additional scenarios requires additional coding in the model, and troubleshooting may be required to finalize the results for all alternatives, which can be time-consuming
4. Stakeholder scenarios revised
 - a. Work ongoing now and file to be posted in December
 - b. This will take minimal time to incorporate into the model
5. Other ongoing work
 - a. Revise description of alternatives and rank by complexity
 - b. Simplify results presentation and impact analysis
 - c. Investigate economic background conditions, revenue estimates, analytical methodology, conduct SIA revisions

The SSC results and additional tasks summarized here primarily relate to model modifications and scenarios to be considered. However it is important to note that interpretation of results and subsequent analyses requiring model results as inputs will take considerable time following availability of model results. Therefore sufficient time must be allocated to these tasks following availability of the model results.