Annex 2: Terms of Reference (ToRs) for the Peer Review

Review of the Alaska-wide Sablefish Assessment

CIE reviewers are contracted to complete their independent peer review based on the ToRs. Therefore, the CIE-NOAA Fisheries review and approval process is based on whether the CIE independent reports addressed each of the ToRs.

1) Review the disseminated documents and analyses and provide recommendations on which proposed assessment model provides the most suitable basis for operational management advice:
   i) Model *26.1_Pan_2_Flts* (current single region panmictic assessment);
   ii) Model *26.2_FAA* (proposed fleets-as-areas spatially implicit assessment)*.*
   b) What are the tradeoffs in using the FAA model for dealing with ontogenetic movement patterns and recent survey design changes compared to the current single region panmictic assessment?
      i) Provide recommendations on the most appropriate parametrization of fleet structure (number of fleets per fishery/survey, as a proxy for regions) and selectivity (asymptotic vs. domed, to address availability by region) in the FAA model.

2) Highlight potential strengths and weaknesses of the proposed assessments, including model assumptions, estimates, fits to data (survey indices and age compositions along with fishery catch-at-age data), model diagnostics, and major sources of uncertainty.
   a) Provide feedback on which model provides the best scientific information available for estimating current stock status, projecting future abundance, and determining Overfishing Levels (OFLs) and Acceptable Biological Catches (ABCs).
   b) Provide feedback on whether further model complexity (i.e., time-varying selectivity and/or growth) is warranted given model complexity/parsimony/sample size tradeoffs, particularly in the context of a highly parametrized sex-specific FAA model (if recommended). Are time-block approaches sufficient to address potentially time-varying processes?

3) Provide advice on the primary limitations/uncertainties for using a spatial model as the basis of sablefish management in the future, as well as research recommendations for improving the spatial models.
   a) Do the results of the research-oriented spatially explicit model that estimates movement and integrates tagging data provide any further insight for parametrizing a single region assessment?

   Reviewers must provide details for the basis of their responses to the review ToRs.