

## SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON SABLEFISH ECOSYSTEM INDICATORS: MANAGEMENT STRATEGY EVALUATION

Dr. Melissa Haltuch (Northwest Fisheries Science Center) presented a draft management strategy evaluation (MSE) for sablefish. Decadal scale recruitment forecasts that were developed using sea level predictions from global climate models were used to inform future sablefish population scenarios in the MSE. The Scientific and Statistical Committee (SSC) expresses appreciation to the sablefish MSE team for continued progress on this topic.

### **Current Iteration of the Sablefish MSE**

The sablefish MSE is a tool that can be used for long-term strategic planning, not for informing near-term assessments or management options. Although significant progress has been made developing the MSE framework, it currently incorporates a limited representation of uncertainty associated with the assessment and management system, which limits the applicability of the framework to broader questions of interest. A step to make this MSE more useful would be adding the ability to evaluate transboundary stock structure and connectivity. The SSC recommends continued development of the sablefish MSE and receiving periodic updates from MSE analysts, as progress dictates, through either the Ecosystem or Groundfish Subcommittee.

Results provided by Dr. Haltuch indicate that the long-term use of the 40-10 harvest policy leads to the stock being, on average, in the precautionary zone rather than at the target level. This suggests that the spawning biomass per recruit (SPR) fishing mortality rate policy ( $F_{SPR45\%}$ ) and the target biomass ( $B_{40\%}$ ) reference point are internally inconsistent, although this type of inconsistency is not a sablefish-specific issue ([Agenda Item I.2, Attachment 2, March 2017](#)). MSE is an appropriate analytical tool to explore the broader implications of such inconsistencies.

### **Future Iterations of the Sablefish MSE**

Dr. Haltuch indicated a general plan, pending funding, to advance the sablefish MSE by creating a spatially-structured operating model for the northeast Pacific. Such a spatially-structured operating model would provide a basis for evaluating U.S./Canada straddling stock issues, as well as spatial stock structure, gear, and allocation scenarios. The SSC recommends that the Council solicit input from advisory bodies and the public for guidance to the MSE team on:

- the objectives for the next iteration of the MSE;
- management strategies to consider;
- performance metrics of interest;
- alternative population dynamic and fishery operating models to consider (hypotheses about alternative states of nature); and
- a process for engaging and soliciting feedback from stakeholders.

## **Potential Application to Sablefish Assessments in the Near-Term**

The SSC continues to encourage the exploration of Regional Ocean Modelling Systems (ROMS) data for developing near-term forecasts of recruitment (1 to 4 years) based on environmental covariates ([Agenda Item F.2.a, Supplemental SSC Report, March 2017](#)). As mentioned in 2017, the sablefish modelling group is also encouraged to continue working with Canadian and Alaskan colleagues in understanding sablefish stock structure and developing a population model consistent with that understanding. This would not only contribute to long-term MSE, but also could inform the next assessment for sablefish. The next assessment should consider revisiting the tide gauge sea-level analysis, because observations in central and southern California indicate different trends and the previous analysis is now dated.

PFMC  
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