

UPDATE ON THE MANAGEMENT STRATEGY EVALUATION PROCESS FOR PACIFIC HALIBUT

The International Pacific Halibut Commission (IPHC) has been undertaking a stakeholder-informed, scientifically-driven Management Strategy Evaluation (MSE) process to aid in selection of a long-term management strategy. This effort is led by the IPHC Secretariat, with stakeholder guidance provided by a Management Strategy Advisory Board (MSAB) consisting of 24 members from the U.S. and Canada, including a representative of the Pacific Fishery Management Council (Council), as well as Treaty Tribes and West Coast recreational fisheries. The MSAB has been tasked with defining measurable objectives and performance measures for the fishery, developing potential management strategies, advising on plausible scenarios for investigation, and facilitating stakeholder understanding, input, and support for the MSE process.

In 2020, the MSAB defined performance objectives and developed and evaluated potential Management Procedures (MPs). Primary performance objectives include keeping female spawning biomass above a limit, providing directed fishing yield, and limiting catch variability. Each MP is a set of specifications regarding how the stock is distributed across the coast, maximum fishing intensity, constraints on catch limit variability between years, relative harvest rates across IPHC regulatory areas, etc. Several of the MPs incorporate one or both elements of the IPHC's "interim agreement" that provides a fixed share of the coastwide Total Constant Exploitation Yield (TCEY, harvest of halibut greater than 26" in length) to Area 2A and a formula-based share to 2B.

Eleven MPs were evaluated against the objectives using a web-based interactive tool that allows users to compare the relative performance of MPs across a suite of metrics. All candidate MPs met the conservation objectives, except that none maintained a minimum stock distribution in Regulatory Area 4B, even when the model assumed no fishing. Noting that selection of one or more preferred MPs therefore comes down to yield and variability tradeoffs between Regulatory Areas, the MSAB recommended further consideration of five MPs which generally maintained spawning biomass closer to the target, limited catch variability for multiple Regulatory Areas, and provided higher yield in multiple Regulatory Areas relative to the other MPs.

Two MPs were identified for particular focus (MP-D and MP-J). They differ in how the IPHC setline survey is used in the distribution of TCEY to Regulatory Area. In addition, MP-D incorporates a floor of 1.65M lbs for 2A, whereas MP-J as originally specified did not. The MSAB recommended adding two variations of MP-J, with a "fixed" or "floor" TCEY of 1.65M lbs for 2A and total coastwide mortality rebalanced among remaining U.S. Regulatory Areas so that overall fishing intensity is not increased, for further evaluation.

At the IPHC's 97th Annual Meeting in January 2021, stakeholder advisory bodies recommended that the MSE process continue, with potential topics including the effects of changes in size limits and impacts of bycatch on the coastwide halibut resource and fisheries. The Commissioners

indicated an intent to consult with the IPHC Secretariat and MSAB co-chairs and provide additional direction for the MSE process and focal topics for MSAB engagement in the near future.

Additional information and resources can be found at the following links:

Description of the MSE framework and evaluation of management procedures

- Report: <https://iphc.int/uploads/pdf/am/am097/iphc-2021-am097-11.pdf> (See appendices for performance objectives and management procedures)
- Presentation: <https://iphc.int/uploads/pdf/am/am097/ppt/iphc-2021-am097-11-p.pdf>

MSAB Reports

- Presentation at the 97th Session of the IPHC Annual Meeting:
<https://iphc.int/uploads/pdf/am/am097/ppt/iphc-2020-msab016-r-p.pdf>
- 16th Session of the IPHC Management Strategy Advisory Board:
<https://iphc.int/uploads/pdf/im/im096/iphc-2020-msab016-r.pdf>
- 15th Session of the IPHC Management Strategy Advisory Board:
<https://iphc.int/uploads/pdf/msab/msab015/iphc-2020-msab015-r.pdf>

The MSE Explorer Tool

- Tool: <http://shiny.westus.cloudapp.azure.com/shiny/sample-apps/MSE-Explorer/>
- Documentation: <https://iphc.int/uploads/pdf/am/am097/iphc-2021-am097-inf03.pdf>