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## Outcomes of the 13<sup>th</sup> Session of the IPHC Scientific Review Board (SRB013)

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### PURPOSE

To provide the MSAB with the outcomes of the 13<sup>th</sup> Session of the IPHC Scientific Review Board (SRB) relevant to the mandate of the MSAB.

### BACKGROUND

The agenda of the 13<sup>th</sup> Session of the IPHC Scientific Review Board (SRB) included an agenda item dedicated to Management Strategy Evaluation (MSE).

### DISCUSSION

During the course of the 13<sup>th</sup> Session of the IPHC Scientific Review Board (SRB013), a number of specific requests and recommendations regarding the IPHC MSE process were proposed by the SRB. Relevant sections from the report of the meeting are provided in [Appendix A](#) for the MSAB's consideration.

### RECOMMENDATION

That the MSAB:

- 1) **NOTE** paper IPHC-2019-MSAB013-05 which details the outcomes of the 13<sup>th</sup> Session of the IPHC Scientific Review Board (SRB013) relevant to the mandate of the MSAB.

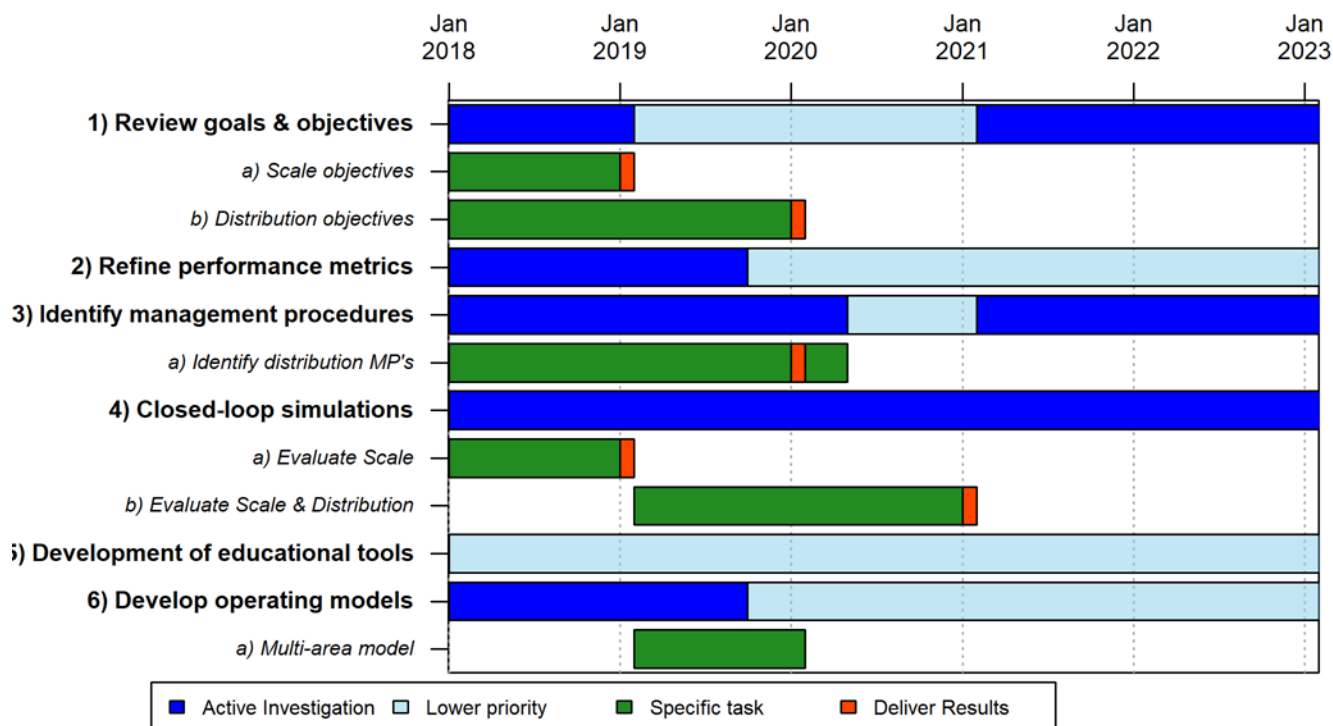
### APPENDICES

[Appendix A](#): Excerpt from the 13<sup>th</sup> Session of the IPHC Scientific Review Board (SRB013) Report ([IPHC-2018-SRB013-R](#)).

**APPENDIX A**  
**Excerpt from the 13<sup>th</sup> Session of the IPHC Scientific Review Board (SRB) Report**  
**([IPHC-2018-SRB013-R](#))**

**6. MANAGEMENT STRATEGY EVALUATION: UPDATE**

22. The SRB **NOTED** paper IPHC-2018-SRB013-06 which provided an update on the progress of the IPHC Management Strategy Evaluation (MSE) process in 2018. The SRB appreciated the progress made by the IPHC Secretariat and MSAB in developing objectives and an initial operating model, and the suite of candidate management procedures that have been applied.
23. The SRB **NOTED** that all readers of this report need to understand that an MSE process is iterative and that the first iteration is still underway. Typically, the iterative process involves refining the operating model, defining robustness tests, developing management procedures, and exploring performance with stakeholders. This process is usually on a specified timeline. The SRB uses the word “preliminary” in subsequent paragraphs with this in mind.
24. The SRB **NOTED** the IPHC MSE program of work indicates that results on scale will be reported to the Commission at its 95<sup>th</sup> Annual Meeting (AM095) in January 2019 and results on distribution and scale will be reported to the Commission at its 97<sup>th</sup> Annual Meeting (AM097) in January 2021 ([Fig. 1](#)).



**Fig. 1.** Gantt chart for the IPHC MSE 5-year Program of Work. Tasks are listed as rows. Dark blue indicates when the major portion of the main tasks work will be done. Light blue indicates when preliminary or continuing work on the main tasks will be done. Dark green indicates when the work on specific sub-topics will be done. The orange colour shows when results will be presented at an Annual Meeting.

25. The SRB **NOTED** that the current IPHC MSE goals and objectives are useful to evaluate harvest strategies using the three primary performance metrics and additional statistics of interest. Further refinements to the fishery related objectives may be made at MSAB012, and reported to the SRB for review.
26. The SRB **REQUESTED** that the MSAB consider listing prioritized objectives used to guide the selection of a management procedure. These could include any combination of short, medium, and long-term objectives, provided Commission objectives be given highest priority. All performance

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metrics in the MSE must be computed from the operating model. See [paragraph 30](#) for further clarification.

### ***6.1 Updates to MSE framework and closed-loop simulations***

27. The SRB **AGREED** that the current conditioned operating model, described in paper IPHC-2018-SRB013-06, be used in a preliminary evaluation of harvest strategies and that this approach be used to present interim coast-wide management procedure performance to the upcoming MSAB012 meeting.
28. The SRB **AGREED** that the improvements and additions to the preliminary simulation framework, including updated allocation of the Total Mortality to bycatch and discard mortality, variable selectivity as a function of weight-at-age, can be used in the closed-loop simulations, including the current algorithm for simulating weight-at-age.
29. The SRB **REQUESTED** that in future iterations of the MSE, the IPHC Secretariat and MSAB consider:
  - a) the use of estimation error in the proxy assessment method with coefficients of variation equal to 0.15, a correlation of 0.5, and autocorrelation equal to 0.2 represents one plausible scenario. A larger error and autocorrelation could be considered in robustness tests or as alternative scenarios;
  - b) a management procedure include a constraint on the TMq change to be consistent with the maximum change that has happened historically;
  - c) the current conditioned operating model be used to simulate a coast-wide survey index and that such data be used to consider an alternative survey-based management procedure (this may provide a more transparent TMq-setting algorithm than the current SPR based control-rule and help with MSAB deliberations).

### ***6.2 MSE Simulation results***

30. The SRB **RECOMMENDED** a clear separation between the current stock assessment process and MSE process, so that it is understood:
  - a) these two processes, including statistics and performance metrics, are distinct and not comparable;
  - b) the purpose of the current ensemble stock assessment approach is to develop a decision table to assist the Commission in setting an annual TCEY. This TCEY setting process lacks specificity and how decisions are made is unclear. Furthermore, repeated application of this process is difficult to evaluate relative to Commission objectives;
  - c) the purpose of the MSE is to compare alternative management procedures against Commission objectives over a wide range of plausible uncertainties within the operating model and management procedures. Therefore, these procedures by definition must be specific and repeatable.

### ***6.3 Distribution procedures***

31. The SRB **REAFFIRMED** that defined Bioregions (i.e. 2,3,4, and 4b described in paper IPHC-2018-SRB012-08) are presently the best option for implementing a precautionary approach given uncertainty about spatial population structure and dynamics of Pacific halibut. Better options may arise in the future should additional biological data become available.
32. The SRB **NOTED** the procedures and considerations for distributing the TCEY, which includes Regional Stock Distribution, Regional Allocation Adjustment, and a Regulatory Area Allocation.
33. The SRB **NOTED** a separation of scientific and management elements in procedures to distribute the TCEY.