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## UPDATE ON THE ACTIONS ARISING FROM THE 17<sup>TH</sup> SESSION OF THE IPHC SCIENTIFIC REVIEW BOARD (SRB017)

PREPARED BY: IPHC SECRETARIAT (11 MAY 2021)

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### PURPOSE

To provide the Scientific Review Board (SRB) with an opportunity to consider the progress made during the intersessional period, on the recommendations/requests arising from the SRB017.

### BACKGROUND

At the SRB017, the members recommended/requested a series of actions to be taken by the IPHC Secretariat, as detailed in the SRB017 meeting report ([IPHC-2020-SRB017-R](#)) available from the IPHC website, and as provided in [Appendix A](#).

### DISCUSSION

During the 18<sup>th</sup> Session of the SRB (SRB018), efforts will be made to ensure that any recommendations/requests for action are carefully constructed so that each contains the following elements:

- 1) a specific action to be undertaken (deliverable);
- 2) clear responsibility for the action to be undertaken (such as the IPHC Staff or SRB officers);
- 3) a desired time frame for delivery of the action (such as by the next session of the SRB or by some other specified date).

### RECOMMENDATION/S

That the SRB:

- 1) **NOTE** paper IPHC-2021-SRB018-03, which provided the SRB with an opportunity to consider the progress made during the inter-sessional period, in relation to the consolidated list of recommendations/requests arising from the previous SRB meeting (SRB017).
- 2) **AGREE** to consider and revise the actions as necessary, and to combine them with any new actions arising from SRB018.

### APPENDICES

[Appendix A: Update on actions arising from the 17<sup>th</sup> Session of the IPHC Scientific Review Board \(SRB017\)](#)

**APPENDIX A**  
**Update on actions arising from the 17<sup>th</sup> Session of the IPHC Scientific Review Board (SRB017)**

**RECOMMENDATIONS**

Action No.	Description	Update
SRB017– Rec.01 ( <a href="#">para. 14</a> )	<b>IPHC Fishery-independent setline survey (FISS)</b> The SRB <b>RECOMMENDED</b> that the Commission endorse the final 2021 FISS design as proposed by IPHC Secretariat, and provided at <a href="#">Appendix IVa</a> .	<b>Completed:</b> Endorsed at SS09: <a href="#">IPHC-2020-ID016</a> (para. 8)
SRB017– Rec.02 ( <a href="#">para. 31</a> )	<b>Biological and ecosystem science program research updates</b> <b>NOTING</b> the improved presentation of the research integration plan, the SRB <b>RECOMMENDED</b> that the research planning table shown in the meeting presentation for paper IPHC-2020-SRB017-08, be improved by adding clear prioritization of biological research needs for addressing uncertainties in the stock assessment and MSE programs. Ideally, this would be in the form of ranked biological uncertainties/parameters for the stock assessment and MSE operating model along with an explanation for deviations from this ranked list.	<b>Completed:</b> See papers IPHC-2021-SRB018-10 and 08
SRB017– Rec.03 ( <a href="#">para. 49</a> )	<b>Genetics and Genomics</b> <b>NOTING</b> IPHC Secretariat responses to SRB016-Req. 15 that requested additional methodological detail pertaining to ongoing genomics research, the SRB <b>RECOMMENDED</b> that the IPHC Secretariat work with collectors to develop a series of benchmark summary statistics that characterize the quality of the Pacific halibut genome developed.	<b>Completed:</b> See paper IPHC-2021-SRB018-08
SRB017– Rec.04 ( <a href="#">para. 53</a> )	<b>Research integration</b> The SRB <b>RECOMMENDED</b> that the IPHC Secretariat incorporate prioritization of research activities, as well as the timeline of available research outputs as inputs into the stock assessment and MSE processes.	<b>Completed:</b> See paper IPHC-2021-SRB018-10
SRB017– Rec.05 ( <a href="#">para. 54</a> )	The SRB <b>RECOMMENDED</b> that the IPHC Secretariat identify those research areas with uncertainty and indicate research questions that would require the SRB to provide input and/or decision in future documentation and presentations provided to the SRB.	<b>Completed:</b> See papers IPHC-2021-SRB018-10 and 08



Action No.	Description	Update
SRB017– Rec.06 ( <a href="#">para. 57</a> )	<b>Management Strategy Evaluation</b> The SRB <b>NOTED</b> three options for estimation error are available and currently the option of simulating estimation is the most appropriate option to evaluate results in 2020, but <b>RECOMMENDED</b> continuing work to incorporate actual estimation models, as in the third option, because that method would best mimic the current assessment process.	<b>Pending:</b> See paper IPHC-2021-SRB018-07, Section 3.1.5 for a detailed description of the ongoing investigations of a suitable estimation model.
SRB017– Rec.07 ( <a href="#">para. 59</a> )	The SRB <b>RECOMMENDED</b> using the current MSE results to compare and contrast management procedures incorporating scale and distribution elements, but <b>NOTED</b> that, current results are conditional on some parameters and processes that remain uncertain. The uncertainty in applying the untested current approach potentially creates greater risk than adopting a repeatable management procedure that has been simulation tested under a wide range of uncertainties.	<b>Completed:</b> See paper IPHC-2021-SRB018-07, Section 3.1.6 stating that this was communicated to the Commission.
SRB017– Rec.08 ( <a href="#">para. 60</a> )	The SRB <b>RECOMMENDED</b> that Exceptional Circumstances be defined to determine whether monitoring information has potentially departed from their expected distributions generated by the MSE. Declaration of Exceptional Circumstances may warrant re-opening and revising the operating models and testing procedures used to justify a particular management procedure.	<b>Pending:</b> See paper IPHC-2021-SRB018-07, Section 3.1.7 for a listing of topics for exceptional circumstances that will be discussed with the Commission in the near future.

### REQUESTS

Action No.	Description	Update
SRB017– Req.01 ( <a href="#">para. 16</a> )	<b>IPHC Fishery-independent setline survey (FISS)</b> The SRB <b>REQUESTED</b> clarification of the FISS design workflow and timeline to make it clear that when FISS design proposals are presented to the SRB, the current year's FISS data will not be available, and therefore evaluation of design proposals for the subsequent three years will be based on past years' data only.	<b>Completed:</b> See paper IPHC-2021-SRB018-05
SRB017– Req.02 ( <a href="#">para. 17</a> )	The SRB <b>REQUESTED</b> that at SRB018, the IPHC Secretariat present information on changes in space-time model parameters and output over time:	<b>Completed:</b>



Action No.	Description	Update
	<ul style="list-style-type: none"> <li>a) covariate parameter estimates over several years should be provided in order to assess their sensitivity to the addition of each year's new data;</li> <li>b) comparison maps of estimates of WPUE or NPUE at each FISS station for the same calendar year based on models fitted in different years to determine how station estimates are affected by the addition of new data;</li> <li>c) estimates of the relative contributions of covariates vs. spatio-temporal interpolations in predictions at unsampled locations.</li> </ul>	See paper IPHC-2021-SRB018-05 and accompanying presentation
SRB017– Req.03  ( <a href="#">para. 18</a> )	The SRB <b>REQUESTED</b> that the IPHC Secretariat present at SRB018, a review of the methods used for adjusting WPUE and NPUE indices for the effects of hook competition in the FISS, given the SRB's interest in the following: <ul style="list-style-type: none"> <li>a) the potential benefits of further analysis and/or hook timer experiments to better inform bait mortality rates used in FISS hook competition adjustments;</li> <li>b) an evaluation of hook competition incorporated into the space-time model to account for potential spatio-temporal patterns in hook competition and linking the hook competition adjustment to covariates of competitor (e.g. dogfish) abundance;</li> <li>c) a quantitative evaluation of the assumptions that the same hook competition adjustment factor can be applied to both NPUE and WPUE, as well as uniformly across regions, because the biomass to numbers (i.e. the mean weight) apparently changes over time.</li> </ul>	<b>Pending:</b>  To be presented at SRB019
SRB017– Req.04  ( <a href="#">para. 21</a> )	<b><i>Pacific halibut stock assessment: 2020</i></b>  The SRB <b>REQUESTED</b> that the IPHC Secretariat continue to update data weighting on an annual basis, even for updated stock assessments (such as 2020), in order to maintain internal model consistency and to best reflect changes in existing and new data as they arise.	<b>Completed:</b>  See paper IPHC-2021-SRB018-06
SRB017– Req.05	The SRB <b>REQUESTED</b> that the IPHC Secretariat first investigate the consequences of implementing a logistic-normal likelihood for composition data	<b>Pending:</b>



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(para. 23)	assuming no correlation structure. This would provide an initial estimate of the benefits of self-weighting fairly quickly compared to developing a full age/sex correlated version.	See paper IPHC-2021-SRB018-06
SRB017– Req.06 (para. 24)	The SRB <b>REQUESTED</b> that the IPHC Secretariat continue to evaluate whether the Stock Synthesis modelling framework is the most efficient for Commission needs, and to coordinate future development with the MSE framework as features and technical needs evolve together for the two efforts.	<b>Completed:</b> See paper IPHC-2021-SRB018-06
SRB017– Req.07 (para. 33)	<b>Biological and ecosystem science program research updates</b> The SRB <b>REQUESTED</b> that the IPHC Secretariat further develop planning for the remainder of the current 5-year planning period and to revise and submit a comparable synthesis planning document for review at SRB018. In terms of the current research activities and research outcomes, further detail is needed in several areas, including: a) further detail for (i) specific research outcomes, (ii) specific relevance for stock assessment relevance, (iii) specific relevance for MSE (see <a href="#">Section 8.1</a> for examples); b) prioritize research activities and research outcomes.	<b>Completed:</b> See paper IPHC-2021-SRB018-08
SRB017– Req.08 (para. 34)	<b>NOTING</b> that a time line was presented by the IPHC Secretariat that provided information on likely periods in future years when research outcomes would be available for use by the Secretariat, the SRB <b>REQUESTED</b> further clarification on funding and staffing needs required to meet self-imposed deadlines.	<b>Completed:</b> See paper IPHC-2021-SRB018-08
SRB017– Req.09 (para. 37)	The SRB <b>REQUESTED</b> that the IPHC Secretariat include explicit statements describing how research activities and research outcomes for each of the five IPHC research areas have relevance to stock assessment and the MSE in all future SRB meeting briefing documents beginning with SRB018.	<b>Completed:</b> See papers IPHC-2021-SRB018-10 and 08, as well as 06 and 07.
SRB017– Req.10 (para. 43)	<b>Reproduction</b> The SRB <b>REQUESTED</b> that the Secretariat should clarify how skip-spawning research contributes to stock	<b>Completed:</b> See papers IPHC-2021-SRB018-06 and 08



Action No.	Description	Update
	<p>assessment and MSE functions. In particular, future research should develop and present:</p> <ul style="list-style-type: none"> <li>i. models for forecasting or estimating skip-spawning for Pacific halibut taking into account the timing of the sample collection, size / age and potentially condition factor of females;</li> <li>ii. estimates of the potential impact of skip-spawning scenarios on management procedure performance;</li> <li>iii. clear plans for analyses of histological data, including incorporation of age variation and locational variation;</li> <li>iv. details of experimental and sampling designs, as well as expected analyses for “measures of fecundity”</li> </ul>	
<p>SRB017– Req.11 (<a href="#">para. 44</a>)</p>	<p><b><i>Growth and Physiological Condition</i></b></p> <p>The SRB <b>NOTED</b> ongoing studies aimed at describing the role of some of the factors responsible for the observed changes in size-at-age and to provide tools for measuring growth and physiological condition in Pacific halibut. Studies in this research area would benefit from greater integration with the genomics area. The SRB <b>REQUESTED</b> that the Secretariat provide a plan for integration of research outcomes in this research area with outcomes in the genetics and genomics research area.</p>	<p><b>Completed:</b></p> <p>See paper IPHC-2021-SRB018-10</p>
<p>SRB017– Req.12 (<a href="#">para. 47</a>)</p>	<p><b><i>Discard Mortality Rates (DMRs) and Survival</i></b></p> <p>The SRB <b>REQUESTED</b> that IPHC Secretariat provide the grant proposal funding the DMR work, and provide a more detailed presentation at SRB018.</p>	<p><b>Completed:</b></p> <p>See paper IPHC-2021-SRB018-08</p>
<p>SRB017– Req.13 (<a href="#">para. 51</a>)</p>	<p><b><i>Genetics and Genomics</i></b></p> <p><b>NOTING</b> SRB016-Req. 18 was addressed and that the Pacific halibut genome has been annotated, the SRB <b>REQUESTED</b> that the IPHC Secretariat prepare a research plan for describing and justifying how the knowledge (and all the resources expended in getting it) of the genome will be used to inform SA and MSE information needs (i.e. as per above request to further elaborate the research plan for this research area). This will likely require some form of interaction (e.g. collaborations, workshops) with outside researchers and/or agencies.</p>	<p><b>Completed:</b></p> <p>See papers IPHC-2021-SRB018-10 and 08</p>



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SRB017– Req.14 ( <a href="#">para. 61</a> )	<b><i>Management Strategy Evaluation</i></b> The SRB <b>REQUESTED</b> that the IPHC Secretariat include plotting function in the MSE Explorer to visualize among-Regulatory Area trade-offs in various yield statistics.	<b>Completed:</b> See paper IPHC-2021-SRB018-07 and the <a href="#">MSE Explorer webpage</a>