



**OPEN CALL FOR EXPRESSIONS OF INTEREST:
INDEPENDENT PEER REVIEWER FOR THE 2019 IPHC STOCK ASSESSMENT**

The International Pacific Halibut Commission (IPHC) invites Expressions of Interest (EOI) from quantitative scientists to undertake an independent peer review of the 2019 IPHC stock assessment, including tactical guidance for the 2019 stock assessment and strategic guidance for future data, modelling and management advice.

Material for the 2019 stock assessment will be provided for review on 27 May, however previous year's stock assessments and related material will be provided by 15 May; the review will be completed as a written report, due to the Commission no later than 10 June 2019. This review will be considered by IPHC Secretariat and the IPHC Scientific Review Board during its SRB014 session (26-28 June 2019). The reviewer may be asked to provide clarifying information on aspects of the written report following the SRB014 meeting, as needed.

The review will focus on the primary stock assessment document "Developing the 2019 Pacific halibut (*Hippoglossus stenolepis*) stock assessment", as well as a final review of the stock assessment results and associated report. Additional material will be provided in electronic form, including:

- 1) Input files for each of the assessment models (implemented in stock synthesis) included in the proposed ensemble: data file, weight-at-age file, control file with model configuration, starter and forecast files with additional settings. Each of these files will be annotated to aid in locating the various sections, as well as identifying which options and features were implemented or are irrelevant for the configuration.
- 2) Output from each of the stock assessment models: a sub-directory of all plotting and diagnostic output from each model created by the r4ss package (the entire set can be loaded at once via opening the HTML files), and the full report (text) file from each model. Content and formats can be determined from the stock synthesis user manual (Methot et al. 2019) and technical documentation (Methot and Wetzel 2013a).
- 3) Copies of the primary software documentation including the general modelling approach implemented in stock synthesis (Methot and Wetzel 2013b), the technical documentation (Methot and Wetzel 2013a) and the current user manual (Methot et al. 2019). From these documents, detailed model equations, data configurations, and control settings can be evaluated for the specific features implemented in the models for Pacific halibut.
- 4) The overview of data sources (Stewart and Webster 2019) and the stock assessment results (Stewart and Hicks 2019) from the 2018 analysis.
- 5) The documentation from the 2015 stock assessment (Stewart and Martell 2016)



- 6) Recent relevant manuscripts describing the history of the Pacific halibut stock assessment (Stewart and Martell 2014), an evaluation of data weighting and process-error considerations (Stewart and Monnahan 2017), the general rationale for the ensemble approach (Stewart and Martell 2015), and the stability properties of ensemble assessments (Stewart and Hicks 2018).

The reviewer is free to comment on any aspects of the IPHCs stock assessment process, methods and reporting; however, specific topics that should be addressed in the review via the following categories:

- 1) Aspects of data collection and analysis.
- 2) Aspects of individual model development. [Aspects of developing individual models to consider for including in the ensemble.]
- 3) The collection of models contributing to the ensemble, and the methods for combining/weighting the results.
- 4) Comments on research priorities or avenues for data, model or management advice development as appropriate.
- 5) Comments on the document and background material provided for the review.

The review should clearly delineate between tactical changes to be considered for the current (2019) stock assessment and research avenues for future work.

The reviewer will be asked to meet electronically with relevant IPHC Secretariat staff to discuss the review, and the draft and final report.

Qualifications, experience and expressions of interest (EOI):

The IPHC seeks a qualified individual with expertise in quantitative fisheries stock assessment science, potentially including:

- 1) Preparation and analysis of complex fishery data sets,
- 2) Analysis of fishery-independent surveys, particularly those based on longline gear,
- 3) Spatial modelling and index standardization,
- 4) Stock synthesis
- 5) Maximum likelihood methods,
- 6) Bayesian methods,
- 7) Multi-model inference,
- 8) Other relevant skills.

EOIs from qualified individuals are invited for this contract, and should include:

- 1) Full name
- 2) Contact information
- 3) Detailed CV



- 4) Details of past stock assessment peer reviews undertaken
- 5) Copies of at least 5 relevant journal articles
- 6) Three professional references (with contact information)

Honoraria

Fees will be commensurate with experience but will not typically exceed \$800 USD per day, in addition to expenses, and any other approved expenses. It is anticipated that the review will require up to ten (10) days to completed by the applicant.

Conflict of Interest Statement

Selected individuals will be required to provide their expert advice free from influence by government managers, fishing industry, or other interest groups. Individuals should include a statement regarding their actual or potential perceived conflicts of interest.

Key dates

- 15 May 2019: Previous year's stock assessment and related material will be provided;
- 27 May 2019: Material for the 2019 stock assessment will be provided for review;
- 10 June 2019: Draft written report to be submitted to the IPHC Secretariat for consideration;
- 14 June 2019: Latest date for comments/clarifications from the IPHC Secretariat to the Consultant; [A teleconference is likely to be scheduled between the 10 ad 14 June 2019]
- 21 June 2019: Final written report to be submitted to the IPHC Secretariat.
- 26-28 June 2019: IPHC Scientific Review Board also to consider the final written report, to be presented by the reviewer via electronic means (1-2 hours). The reviewer may be asked to provide clarifying information on aspects of the written report following the SRB014 meeting, as needed, and will be duly compensated on a pro-rated daily basis.

Application Deadline

EOIs must be received by the IPHC Secretariat via email at secretariat@iphc.int no later than the close of business on 30 April 2019.

Questions may be directed to the IPHC Secretariat at secretariat@iphc.int.



References

- Methot, R.D., Wetzel, C.R. and Taylor, I.G. (2019) Stock Synthesis User Manual Version 3.30.13.
- Methot, R.D. and Wetzel, C.R. (2013a) Stock synthesis: A biological and statistical framework for fish stock assessment and fishery management. Appendix A: Technical description of the Stock Synthesis assessment program. Fisheries Research 142, 26 p.
- Methot, R.D. and Wetzel, C.R. (2013b) Stock synthesis: A biological and statistical framework for fish stock assessment and fishery management. Fisheries Research 142(0), 86-99.
- Stewart, I. and Webster, R. (2019) Overview of data sources for the Pacific halibut stock assessment, harvest policy, and related analyses.
- Stewart, I. and Hicks, A. (2019) Assessment of the Pacific halibut (*Hippoglossus stenolepis*) stock at the end of 2018.
- Stewart, I.J. and Martell, S.J.D. (2016) Appendix: Development of the 2015 stock assessment.
- Stewart, I.J. and Martell, S.J.D. (2014) A historical review of selectivity approaches and retrospective patterns in the Pacific halibut stock assessment. Fisheries Research 158, 40-49.
- Stewart, I.J. and Monnahan, C.C. (2017) Implications of process error in selectivity for approaches to weighting compositional data in fisheries stock assessments. Fisheries Research 192, 126-134.
- Stewart, I.J. and Martell, S.J.D. (2015) Reconciling stock assessment paradigms to better inform fisheries management. ICES Journal of Marine Science 72(8), 2187-2196.
- Stewart, I.J. and Hicks, A.C. (2018) Interannual stability from ensemble modelling. Canadian Journal of Fisheries and Aquatic Sciences 75, 2109-2113.