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## TERMS OF REFERENCE FOR A LIFE HISTORY MODELER

PREPARED BY: IPHC SECRETARIAT (16 DECEMBER 2019)

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### PURPOSE

To provide the Commission with a proposal for a potential Life History Modeler position to join the IPHC Secretariat, as requested by the Commission.

### BACKGROUND

As noted in the [Report of the 11<sup>th</sup> Session of the Scientific Review Board \(SRB11\)](#):

SRB11–Rec.04 (para. 36) The SRB **RECOMMENDED** that IPHC consider hiring a life-history modeler to provide more explicit linkage between the empirical biological program and the applied assessment and MSE modeling programs.

In response to the Scientific Review Board recommendation, as noted in the [Report of the 95<sup>th</sup> Session of the IPHC Annual Meeting \(AM095\)](#):

AM095–Req.05 (para. 117) The Commission **REQUESTED** that the IPHC Secretariat continue to develop a proposal for a potential Life History Modeler to join the IPHC Secretariat and for this to be provided to the Commission for consideration inter-sessionally.

### DISCUSSION

The IPHC Secretariat developed a position description ([Appendix I](#)) that was provided to the Commissioners inter-sessionally via IPHC [Circular 2019-022](#) and that will be discussed informally prior to the AM096 in February 2020 where the Commission may choose to appropriate funds for the position.

The Life History Modeler will work with the Biological and Ecosystem Sciences Branch and the Quantitative Sciences Branch of the IPHC to evaluate biological data on Pacific halibut in light of life history/evolutionary history and provide quantitative dynamic estimates of Pacific halibut life history traits relevant to the assessment and management strategy evaluation programs.

### RECOMMENDATION

That the Commission:

- 1) **NOTE** paper IPHC-2020-AM096-INF04, which provided the Commission with a proposal for a Life History Modeler position.

### Appendices

**Appendix I:** Proposal for an Evolutionary Ecologist/Life History Modeler position.



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## Appendix I

### Proposal for an Evolutionary Ecologist/Life History Modeler

The International Pacific Halibut Commission (IPHC) is seeking a qualified researcher for a three-year appointment to assist the IPHC Secretariat in conducting life history modeling studies on Pacific halibut.

The IPHC manages the Pacific halibut resource for the governments of Canada and the United States of America, with offices in Seattle, WA, USA.

#### Principal Duties

The researcher will work with the Biological and Ecosystem Sciences Branch and the Quantitative Sciences Branch of the IPHC to evaluate biological data on Pacific halibut in light of life history/evolutionary history and provide quantitative dynamic estimates of Pacific halibut life history traits relevant to the assessment and management strategy evaluation programs. Research will be conducted within the IPHC Secretariat and focus on the following topics:

- Develop novel analytical techniques to perform synthesis of biological information for use in stock assessment and management strategy evaluation.
- Analyse and model data from a variety of biological research areas, including migration and distribution, growth, and age-specific reproduction and survival, size and age at sexual maturity on Pacific halibut.
- Evaluate effects of environmental and climate variability on large-scale patterns of distribution, productivity, and life-history traits on Pacific halibut.
- Participate in the design of research projects to collect data that will contribute to further understanding of Pacific halibut life history.
- Write scientific reports and assist with and/or author peer-reviewed papers
- Develop existing and create novel scientific collaborations with agencies and academic institutions, both nationally and internationally.
- Present scientific research at scientific conferences and meetings, as well as in stakeholder and board meetings.

#### Deliverables (in approximate months from commencement):

- Investigate the influence of reproductive traits (e.g. size/age-at-maturation; frequency of reproduction) for population dynamics (18).
- Synthesize results from past and ongoing studies on migration, growth and physiological condition of Pacific halibut to improve current understanding of the spatial and temporal changes in productivity of the stock (36).



- Develop grant proposals (12)
- Publish at least two manuscripts in leading peer-reviewed journals (36).

## **Qualifications and Experience**

Education: Ph.D. degree in a scientific discipline related to evolutionary biology and population ecology.

Professional experience: Three or more years of experience in quantitative biological research with a focus on life history evolution.

### Required qualifications/experience:

- Experience in life history modeling.
- Experience analyzing and fitting life history models to complex and/or unbalanced biological data sets.
- Experience programming in R;
- Potential to learn and use other coding and analysis tools such as C++, ADMB, and TMB
- Creative problem-solving ability;
- Demonstrated ability to develop new methods for life history modeling and to interpret results collaboratively with other scientists;
- Proficiency in writing scientific reports and papers as well as research proposals and grants;
- Demonstrated ability to create tables and graphics to communicate information to a wide range of stakeholders;
- Experience communicating complex concepts, models, and results through discussion and oral presentation.

### Desired qualifications/experience:

- Expertise in aquatic sciences, fish ecology, fisheries, and applied fisheries management.

## **Salary and Benefits**

The annual salary for this position is equivalent to a IPHC-GS-11/12 level which ranges from \$67,816 to \$114,464 (2019 rates), depending on experience and demonstrated skills. The IPHC offers a range of benefits including medical (100% employer-paid), life insurance, cancer care, and long-term disability insurance, vacation, sick leave, and 403(b) program (employer contribution and match).



## **Application**

The IPHC is an International Governmental Organization and as such will consider applicants regardless of nationality. Due to the nature of the work and the organization, a background check is also a condition of employment.

Applications must be submitted by **XX XXXX YYYY**. Applications may be submitted through the IPHC website at <https://www.iphc.int/the-commission/opportunities>. Candidates will be selected for an interview based on meeting basic qualifications and additional demonstrated experience.

For more information about this position, please email [secretariat@iphc.int](mailto:secretariat@iphc.int) and cite **Job Reference Number 20XX-XXX**.