International Pacific Halibut Commission

Preliminary results of the 2020 FISS

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PURPOSE

To update SRB members on space-time modelling data inputs and provide preliminary results of space-time modelling of FISS data for 2020.

BACKGROUND/INTRODUCTION

Since 2016, IPHC Secretariat staff has used a space-time modelling approach to estimate indices of density and biomass for use in stock assessment modelling and estimation of stock distribution. Among other advantages over the previous empirical method, the modelling allows easy integration of data from expansions of the IPHC fishery-independent setline survey (FISS), removing the need for computing ad-hoc adjustment scalars each time new regions are covered by the FISS. In 2019, the planned IPHC FISS expansion program was completed, resulting in 2020 being the first year in which the FISS was based on the full expanded grid. However, due to budgetary constraints and the impact of COVID-19, a reduced FISS was implemented, with coverage only in IPHC Regulatory Areas 2B, 2C, 3A and 3B. In addition to these expansions, a comparison of fixed and snap gear was conducted using a randomised design at FISS stations in Regulatory Area 2B, following a similar experiment in Regulatory Area 2C in 2019. At the time of writing, the FISS is currently nearing completion, and results (including modelling output) are in progress.

DATA INPUT CHANGES OR UPDATES

- The FISS timing adjustment will be updated using 2019 data (this adjustment has a one-year lag).
- The NMFS Bering Sea trawl survey was also not undertaken in 2020. However, the Alaska Department of Fish and Game trawl survey for Norton Sound was successfully completed, and will provide our only source of data in the Bering Sea in 2020.

- Routine weighing of Pacific halibut on the FISS was introduced in 2019 and continued in 2020. As in 2020, direct measurements of weights will be used in computing weight per unit effort (WPUE) indices for space-time modelling input.

SPACE-TIME MODELLING

Space-time modelling for IPHC Regulatory Areas 2A, 4B and 4A is currently in progress. As the FISS was not undertaken in these areas in 2020, estimates of WPUE and NPUE (numbers per unit effort) indices will depend on spatial and temporal correlation and covariate relationships estimated from previous years' data. Preliminary modelling for other IPHC Regulatory Areas will begin when data become available in coming weeks.

RECOMMENDATION

That the SRB:

1) **NOTE** paper IPHC-2020-SRB017-05 which provides an update on space-time modelling data inputs for 2020 and preliminary results of 2020 FISS modelling, noting a ppt will be presented in session with latest results.