INTERNATIONAL PACIFIC HALIBUT COMMISSION

Reports of the IPHC Scientific Review Board (2024)

Agenda item: 3.5
IPHC-2024-SRB024-R

IPHC-2024-SRB025-R
(S. Cox)

SRB Members

SRB consisted of four (4) members, required to be independent of Contracting Parties

Dr. Sean Cox
Simon Fraser University
(Emeritus)
May 2013-current
(10 years)

Dr. Olaf Jensen
U Wisc, Madison

June 2020-current
(3 years)

Dr. Anna Kuparinen
University of Jyväskylä

Sept 2023--current
(1.5 years)

SRB Meetings

- **SRB024:** 24thSession of the IPHC Scientific Review Board was held from 18-20 June 2024 and focused on research

- **SRB025:** 25th Session of the IPHC Scientific Review Board was held from 24-26 September 2024 and focused on FISS and MSE.

SRB024 - Research

RECOMMENDATIONS

Management strategy evaluation

SRB024–Rec.01 (para. 19) The SRB **NOTED** that the MSE is designed to address the concerns expressed by both the Canadian and USA science advisors and **RECOMMENDED** that the Commission develop a timeline for adopting a MP so that realistic answers to such concerns can be provided.

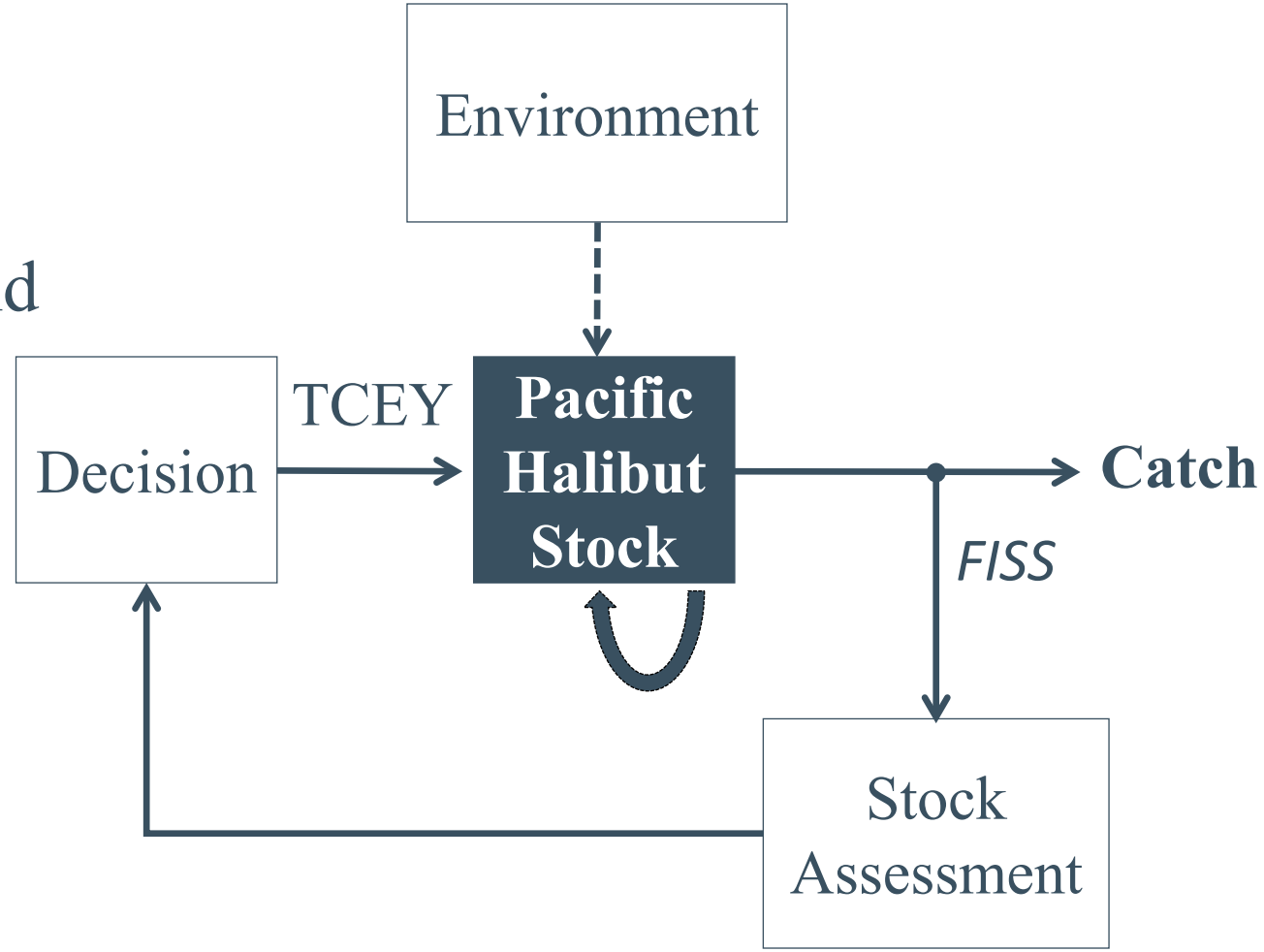
SRB024–Rec.02 (para. 20) The SRB **RECOMMENDED** a separate meeting between the SRB and Commissioners to clarify the intended use of the MSE and possible processes for adopting a formal MP.

Should decisions be more precautionary under reduced FISS?

FISS is embedded with a system involving Pacific halibut, environment, stock assessment, and decision-making

Impacts of reduced FISS are not easily isolated from this system

MSE addresses these types of questions



RECOMMENDATIONS

SRB024–Rec.03 (para. 22) The SRB **RECOMMENDED** that the Commission develop a more specific and quantifiable catch objective to replace Objective c) (from AM099–Rec.02) "*Optimize average coastwide TCEY*".

Optimization is very difficult in fisheries and has probably NEVER been achieved: lack of control, many dimensions, unclear objectives weighting

Optimization requires precise control. If exploitation rates are not very high, then Nature is mostly in control

Being "adaptive" to what Nature decides is probably a more practical long-term aspiration

RECOMMENDATIONS

SRB024–Rec.04 (para. 23) The SRB **RECOMMENDED** that the Commission consider revising Objective b) (from AM099–Rec.02) "*Maintain the long-term coastwide female spawning stock biomass at or above a biomass reference point (B36%) 50% or more of the time*" to utilise a lower percentile than the 50th (median) to reflect concerns associated with the implications of low CPUE for the fishery at the 36% target for relative spawning biomass. A lower percentile better captures the role of uncertainty in this performance measure.

The MEDIAN (50th %-ile) is NOT sensitive to the spread of a distribution - it is just the middle.

If fishery participants ARE sensitive to outcomes worse than the middle, then some lower percentile should also be reported in MSE because that will better reflect the range of possible outcomes.

RECOMMENDATIONS

SRB024–Rec.05 (para. 24) **NOTING** that the Operating Model (OM) requires a distribution of harvest across the IPHC Regulatory Areas even though distribution of the TCEY is not a recommended part of the MP, the SRB **RECOMMENDED** capturing uncertainty in future TCEY distribution via the approach described in IPHC-2024-SRB024-07, where the TCEY is distributed similar to what is done annually as part of the decision table construction process in the stock assessment.

TCEY distribution is probably not "optimizable", so attempt to represent the actual process as implemented now to the extent possible in MSE projections

SRB025

IPHC 5-Year Program of Integrated Research and Monitoring (2022-26)

SRB025–Rec.01 (para. 14) The SRB **RECOMMENDED** that the IPHC 5-year Program of Integrated Research and Monitoring be revised by SRB026 to reflect changing priorities in light of major progress on biological research and ongoing monitoring challenges.

SRB commends the Secretariat for completing major projects on genomics and stock structure (yes, clap now!!)

Time for some new research priorities…

SRB025

SRB025–Rec.02 (para. 15) The SRB **RECOMMENDED** incorporating evaluation of new technologies into the 5-year Program of Integrated Research and Monitoring. Initial examples include:

a) testing samples of AI-generated age compositions in the assessment model as soon as is practicable to determine their potential value for that purpose;

b) using AI to support ageing requirements for gene-tagging and/or CKMR methods to estimate abundance. These ages would be required beyond ageing workloads for normal assessment purposes;

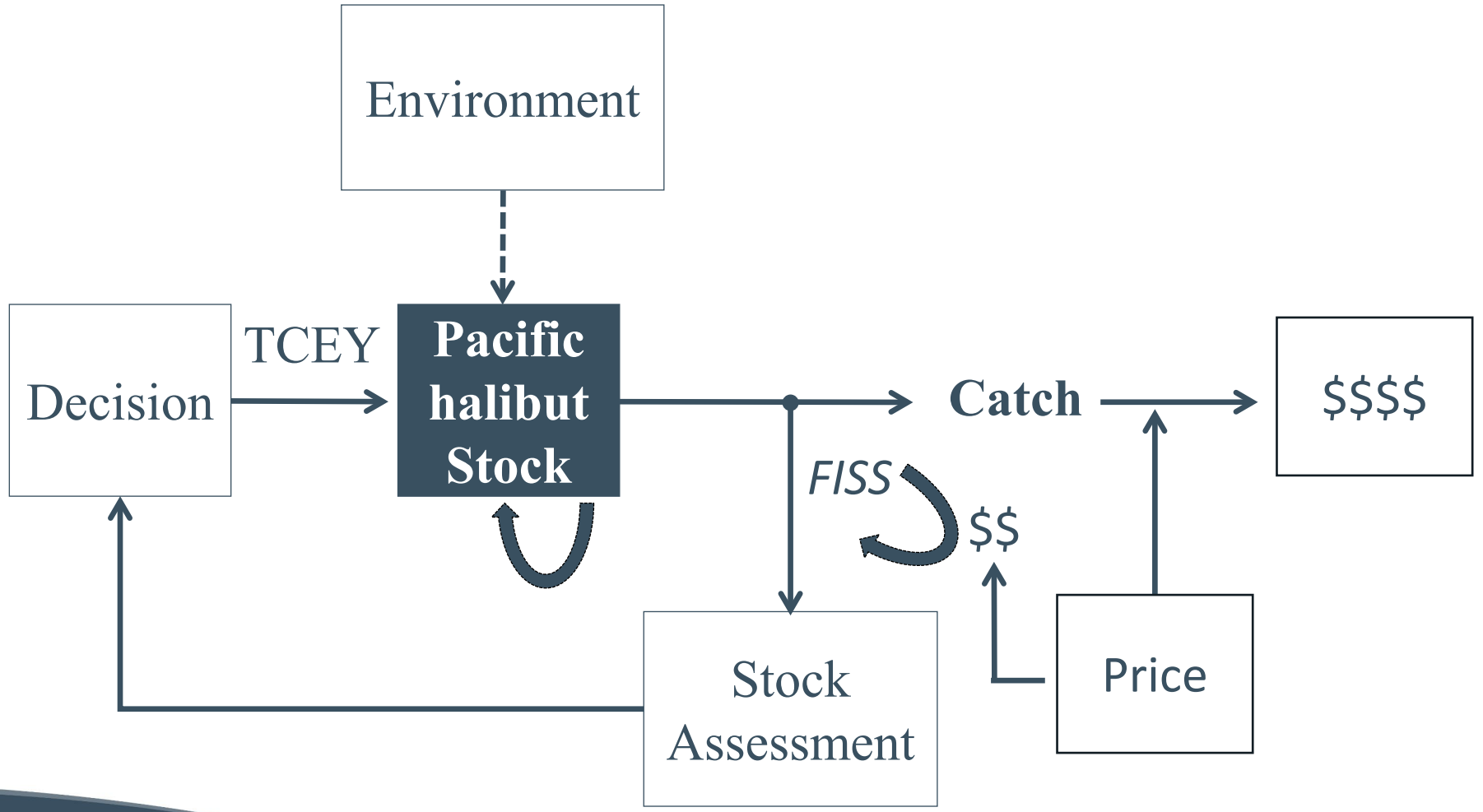
c) epigenetic ageing (a new project beginning 2025), which could provide more reliable and unbiased ages than AI and perhaps comparable in precision to human-read ages.

…like new technologies

SRB025

SRB025–Rec.06 (para. 27) The SRB **RECOMMENDED** including performance metrics expressing impacts of alternative FISS designs and MP options in terms of the dollar value of foregone yield to more directly capture economic outputs. The SRB **RECOGNISED** that there is long-term price uncertainty and complicated economics. Nevertheless, it is not unreasonable to present economic performance for the short-term projections.

SRB025


Environment
Decision
TCEY
Pacific halibut Stock
Catch
$$$$
FISS
$$
Stock Assessment
Price

SRB025

2025 FISS design evaluation

SRB025–Rec.11 (para. 44) The SRB **RECOMMENDED** a preliminary analysis of potential alternative approaches to generating Pacific halibut abundance estimates in the future. For example, the MSE simulations could be used to generate projected survey deficits over the next 3-5 yrs to estimate the distribution of cumulative "supplemental funding" (CSF) required over that time. The CSF can then be compared to the estimated cost of developing and executing alternative abundance estimators such as gene-tagging and/or CKMR, which partially rely on less expensive commercial catch sampling. Genetic methods require up-front development costs that may look more reasonable against the prospect of the CSF. Annual CKMR costs could be substantially less than annual FISS costs, while providing reliable absolute biomass estimates regardless of stock status.

Include FISS cumulative supplemental funding (CSF) requirements over short-/medium-term to better assess cost feasibility of future alternatives

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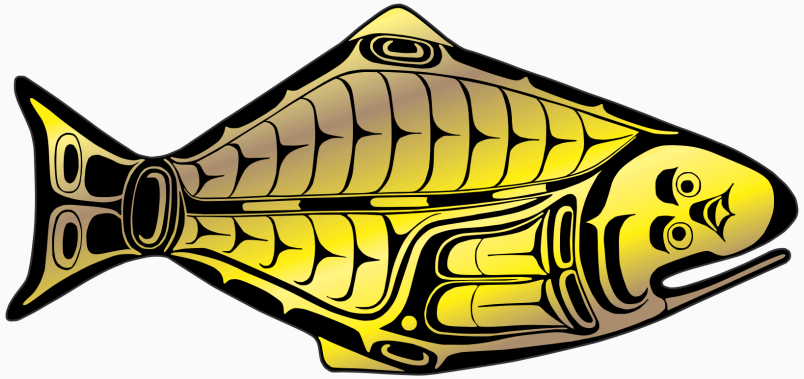

HALIBUT COMMISSION

https://www.iphc.int/