Data overview and stock assessment for Pacific halibut (*Hippoglossus stenolepis*) at the end of 2025

This document is a placeholder: a Rev 1 will be published prior to IM101

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PURPOSE

To provide the Commission with a summary of the data and stock assessment at the end of 2025.

INTRODUCTION

In 2025 the International Pacific Halibut Commission (IPHC) undertook its annual coastwide stock assessment of Pacific halibut (*Hippoglossus stenolepis*). This stock assessment represents a full assessment, following updates conducted in 2023 and 2024. The most recent full stock assessment was completed in 2022 (IPHC-2023-SA01). The 2025 stock assessment revisited all data sources and structural choices; preliminary results (IPHC-2025-SRB026-07, IPHC-2025-SRB027-07) were provided for review at SRB026 (IPHC-2025-SRB026-R) and SRB027 (IPHC-2025-SRB027-R).

Starting with the final 2024 stock assessment data, models and results (Stewart and Hicks 2025b; Stewart and Webster 2025), the preliminary analysis provided a sequentially updated 'bridge' of the changes made through June 2025, including:

1) Extending the time series to include projected mortality based on limits adopted for 2025 (IPHC 2025c),
2) updating to the newest stock synthesis software version (3.30.23.1; Methot Jr 2024),
3) updating the time-series information for the Pacific Decadal Oscillation, used as a covariate to the stock-recruitment relationship,
4) retuning the constraint on the scale of male time-varying fishery selectivity (the sex-ratio of the commercial fishery) and extending this variability into the forecast,
5) improving the bootstrapping approach to pre-model calculation of maximum effective sample sizes to include ageing imprecision (Hulson and Williams 2024),
6) re-tuning the process and observation error components of these models to achieve internal consistency within each,
7) and updating the maturity ogive to reflect the recent histology-based estimates produced by the IPHC's Biological and Ecosystem Sciences Branch.

At the time this document was produced complete data were not available for 2025. Standard data sources that will be included in the final 2025 stock assessment include:

1) New modelled trend information from the 2025 FISS for all IPHC Regulatory Areas.
2) Age, length, individual weight, and average weight-at-age estimates from the 2025 FISS.

3) Directed commercial fishery logbook trend information from 2025 (and any earlier logs that were not available for the 2024 assessment) for all IPHC Regulatory Areas.
4) Directed commercial fishery biological sampling from 2025 (age, length, individual weight, and average weight-at-age) and sex-ratio-at-age information from the 2024 biological samples from all IPHC Regulatory Areas.
5) Biological information (lengths and/or ages) from non-directed discards (all IPHC Regulatory Areas) and the recreational fishery (IPHC Regulatory Area 3A only) from 2024. The availability of these data routinely lags one year.
6) Updated mortality estimates from all sources for 2024 (where preliminary values were used) and estimates for all sources in 2025.

STOCK AND MANAGEMENT

The stock assessment reports the status of the Pacific halibut (*Hippoglossus stenolepis*) resource in the IPHC Convention Area. As in recent stock assessments, the resource is modelled as a single stock extending from northern California to the Aleutian Islands and Bering Sea, including all inside waters of the Strait of Georgia and Puget Sound, but excludes known extremities in the western Bering Sea within the Russian Exclusive Economic Zone (Figure 1).

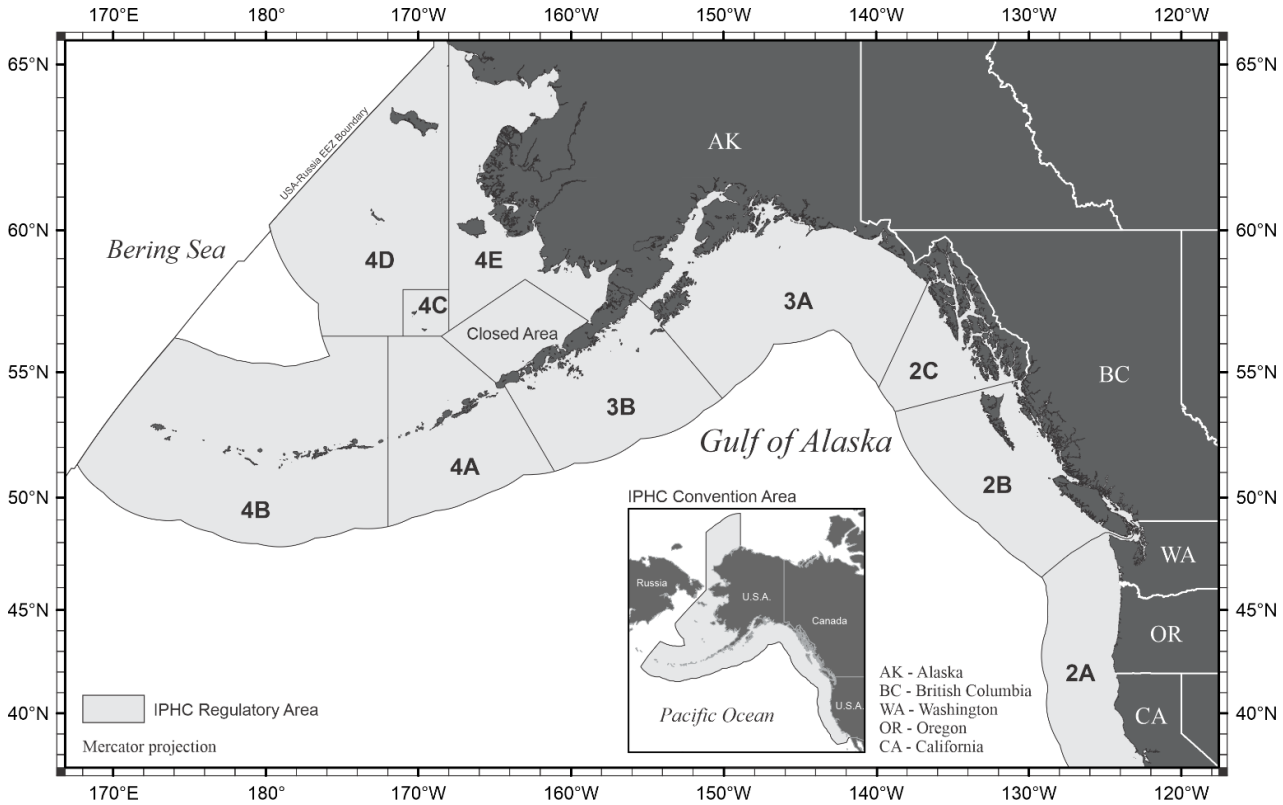

Figure 1. IPHC Convention Area (insert) and IPHC Regulatory Areas.

The Pacific halibut fishery has been managed by the IPHC since 1923. Catch limits for each of eight IPHC Regulatory Areas[1] are set each year by the Commission. The stock assessment provides a summary of recently collected data, and model estimates of stock size and trend.

[1] The IPHC recognizes sub-Areas 4C, 4D, 4E and the Closed Area for use in domestic catch agreements but manages the combined Area 4CDE.

Specific management information is summarized via a decision table reporting the estimated risks associated with alternative management actions and catch tables projecting the level of mortality for fisheries in each IPHC Regulatory Area indicated by the IPHC's interim management procedure, as well as other alternatives.

SUMMARY OF PENDING CONTENT

This document will contain a summary of the data relevant to Pacific halibut management and contributing to the 2025 stock assessment. These data include:

- Recent and historical mortality,
- The results of the 2025 (and earlier) Fishery-Independent Setline Survey (FISS) analyzed via the IPHC's space-time model:
    - Trends by Biological Region and IPHC Regulatory Area
    - Age-compositions
    - Stock distribution estimates by Biological Region

This document will also include a summary of the 2025 stock assessment results. Primary results include:

- Coastwide biomass and recruitment trends
- A comparison to 2024 and earlier stock assessment results (estimated biomass and fishing intensity scale and trends)
- Reference points
- Major sources of uncertainty

Short-term projections and the harvest decision table for 2026 will be reported in a separate document (*IPHC-2025-IM101-12*).

TIMELINE FOR REVISION

The complete document (IPHC-2025-IM101-10 Rev_1) is anticipated to be available no later than **24 November 2025**.

Detailed material for AM102 will include any further revisions to this summary document. More detailed stock assessment (IPHC-2026-SA-01) and data overview (IPHC-2026-SA-02) documents will be published directly to the stock assessment page on the IPHC's website.

REFERENCES

Hulson, P.-J.F., and Williams, B.C. 2024. Inclusion of ageing error and growth variability using a bootstrap estimation of age composition and conditional age-at-length input sample size for fisheries stock assessment models. Fisheries Research **270**. doi:10.1016/j.fishres.2023.106894.

IPHC. 2025a. Report of the 26th session of the IPHC Scientific Review Board (SRB). Meeting held in Seattle, WA, USA, 10-12 June 2025. IPHC-2025-SRB026-R. 17 p.

IPHC. 2025b. Report of the 27th session of the IPHC Scientific Review Board (SRB027). IPHC-2025-SRB027-R. 18 p.

IPHC. 2025c. Report of the 101st session of the IPHC Annual Meeting (AM101). Vancouver, BC, Canada, 27-31 January 2025. IPHC-2025-AM101-R. 52 p.

Methot Jr, R.D. 2024. Stock Synthesis User Manual Version 3.30.23.1. NOAA Fisheries. Seattle, WA. December 5, 2024. 272 p.

Stewart, I., and Hicks, A. 2023. Assessment of the Pacific halibut (*Hippoglossus stenolepis*) stock at the end of 2022. IPHC-2023-SA-01. 37 p.

Stewart, I., and Hicks, A. 2025a. Development of the 2025 Pacific halibut (*Hippoglossus stenolepis*) stock assessment. IPHC-2025-SRB026-07. 124 p.

Stewart, I., and Hicks, A. 2025b. Assessment of the Pacific halibut (*Hippoglossus stenolepis*) stock at the end of 2024. IPHC-2025-SA-01. 40 p.

Stewart, I., and Webster, R. 2025. Overview of data sources for the Pacific halibut stock assessment, harvest policy, and related analyses. IPHC-2025-SA-02. 57 p.

Stewart, I., Hicks, A., and Webster, R. 2025. Development of the 2025 Pacific halibut (*Hippoglossus stenolepis*) stock assessment. IPHC-2025-SRB027-07. 20 p.