

INTERNATIONAL PACIFIC



HALIBUT COMMISSION

# Space-time modelling of survey data

Agenda item 5.2

IPHC-2022-AM098-08

(R. Webster)

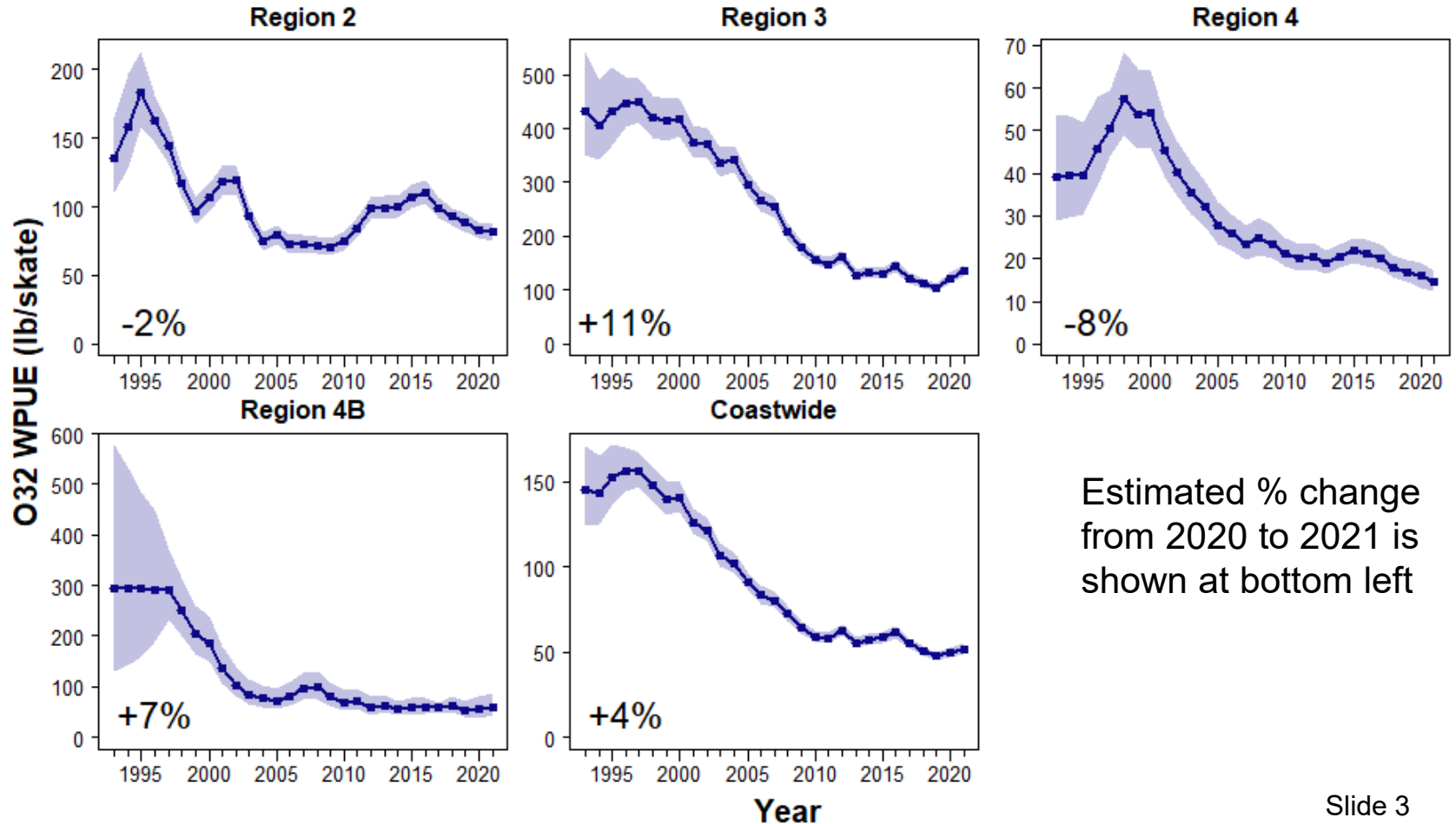


# Space-time model estimates of WPUE and NPUE

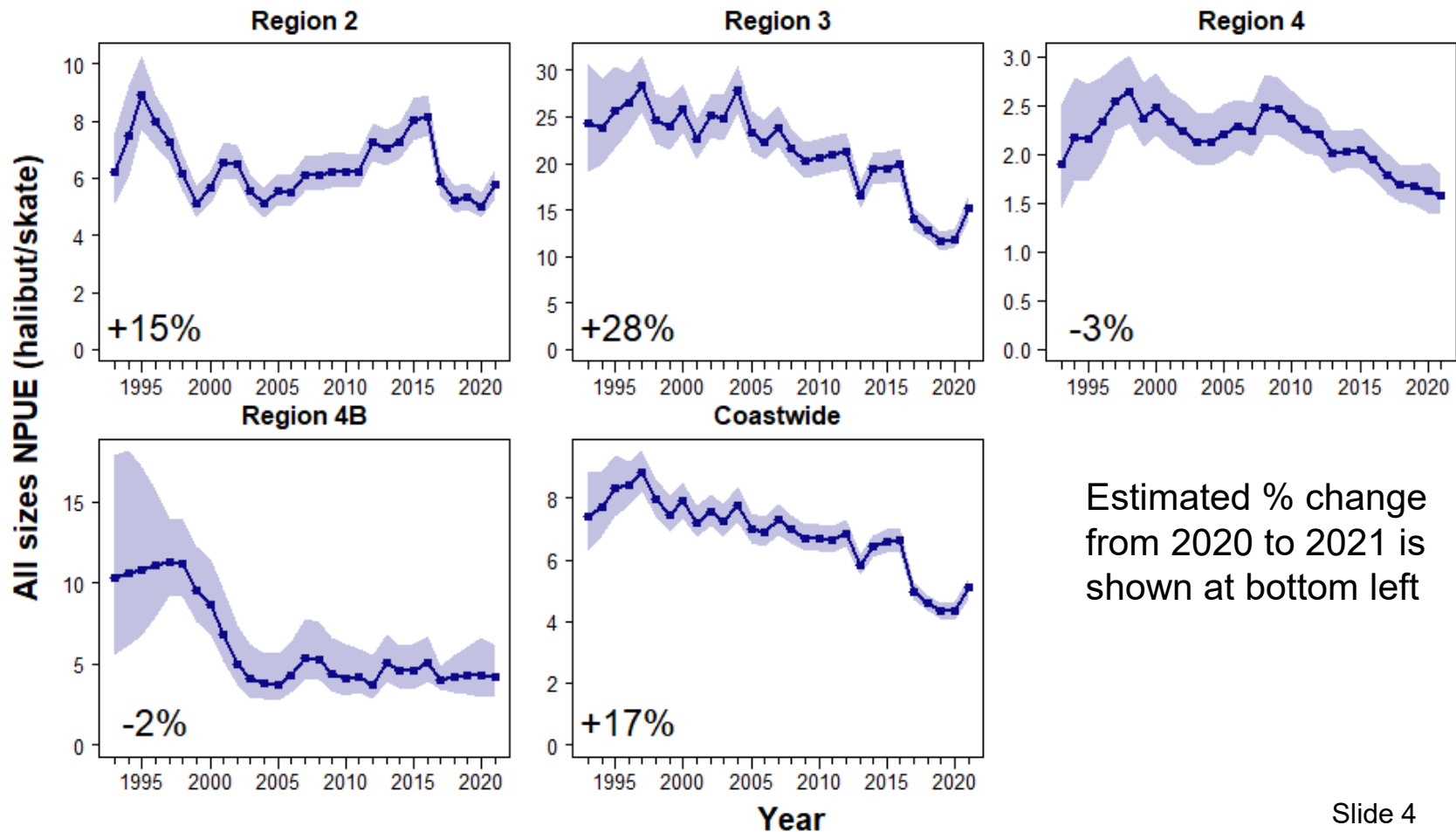
- As in 2016-20, space-time modelling was used to estimate O32 and all sizes WPUE, and all sizes NPUE indices from 1993 onwards
- Estimates computed for:
  - Biological Regions
  - IPHC Regulatory Areas
  - Coastwide IPHC Convention waters, from San Francisco Bay to Bering Strait, including all depths from 0-732 m (0-400 ftm) and encompassing all stations on the full FISS grid



# O32 WPUE by biological region



# All sizes NPUE by biological region



# Gear comparison study in IPHC Regulatory Area 3A

- Space-time modelling included parameters allowing for gear differences in catch rates
- Results were not consistent with the 2019 and 2020 studies in IPHC Regulatory Area 2C and 2B
  - Average WPUE and NPUE higher on snap gear: 118-143% of fixed gear average
  - 2019 comparison (2C): 86%
  - 2020 comparison (2B): 72-83%
- Any gear effects are confounded with vessel and survey timing differences in the 2021 study
  - One vessel per gear type
  - Almost no overlap in dates of fishing between vessels
- Results imply the need for a larger and more carefully designed comparison in this geographic region, similar to the design implemented in IPHC Regulatory Area 2C in 2019



# Online interactive tool for model output

- An interactive Space-time Explorer tool is now available on the IPHC website:

<https://www.iphc.int/data/datatest/fishery-independent-setline-survey-fiss>

- The tool allows users to:
  - View maps of WPUE and NPUE from 1993-2021
  - Create figures and tables of WPUE and NPUE for any user-selected region of interest
  - Review the “official” space-time model output by IPHC Regulatory Area or combinations of areas (e.g., by Biological Region)
- An information document for the tool is also available:

<https://www.iphc.int/uploads/pdf/am/am098/iphc-2022-am098-inf06.pdf>

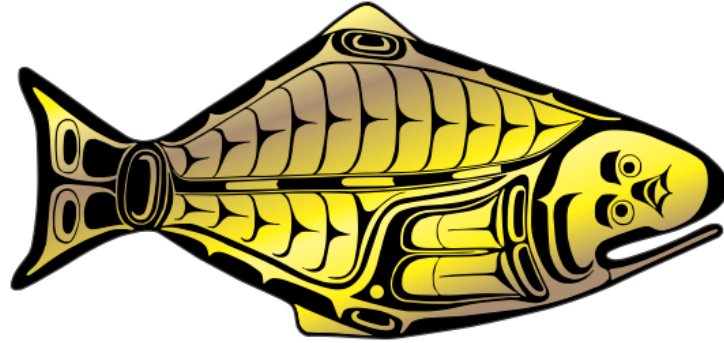


# Recommendation

That the Commission **NOTE** paper IPHC-2022-AM098-08 which provides results of the space-time modelling of Pacific halibut survey data for 1993-2021.



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