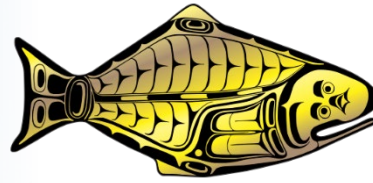


INTERNATIONAL PACIFIC



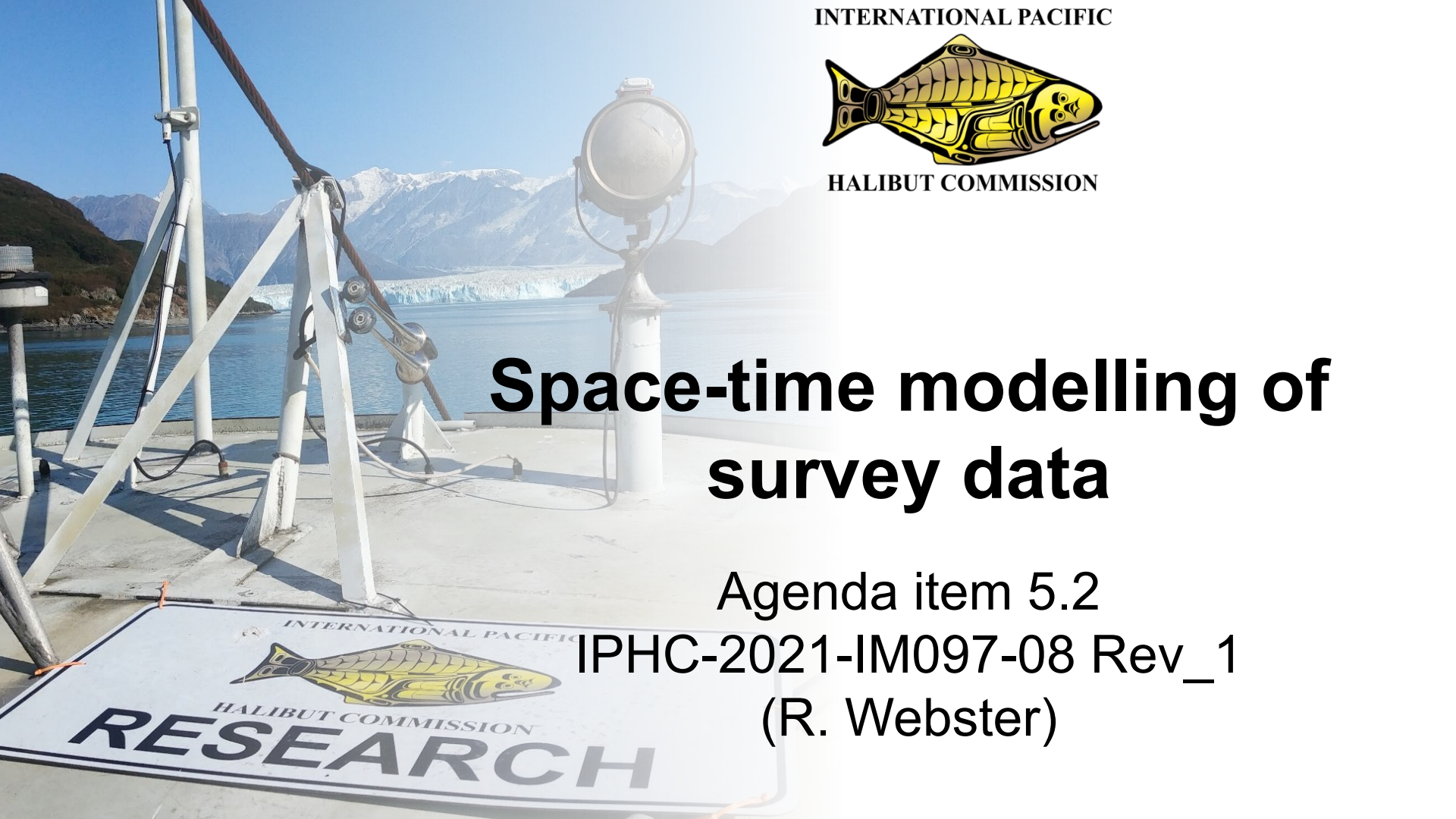
HALIBUT COMMISSION

# Space-time modelling of survey data

Agenda item 5.2

IPHC-2021-IM097-08 Rev\_1

(R. Webster)

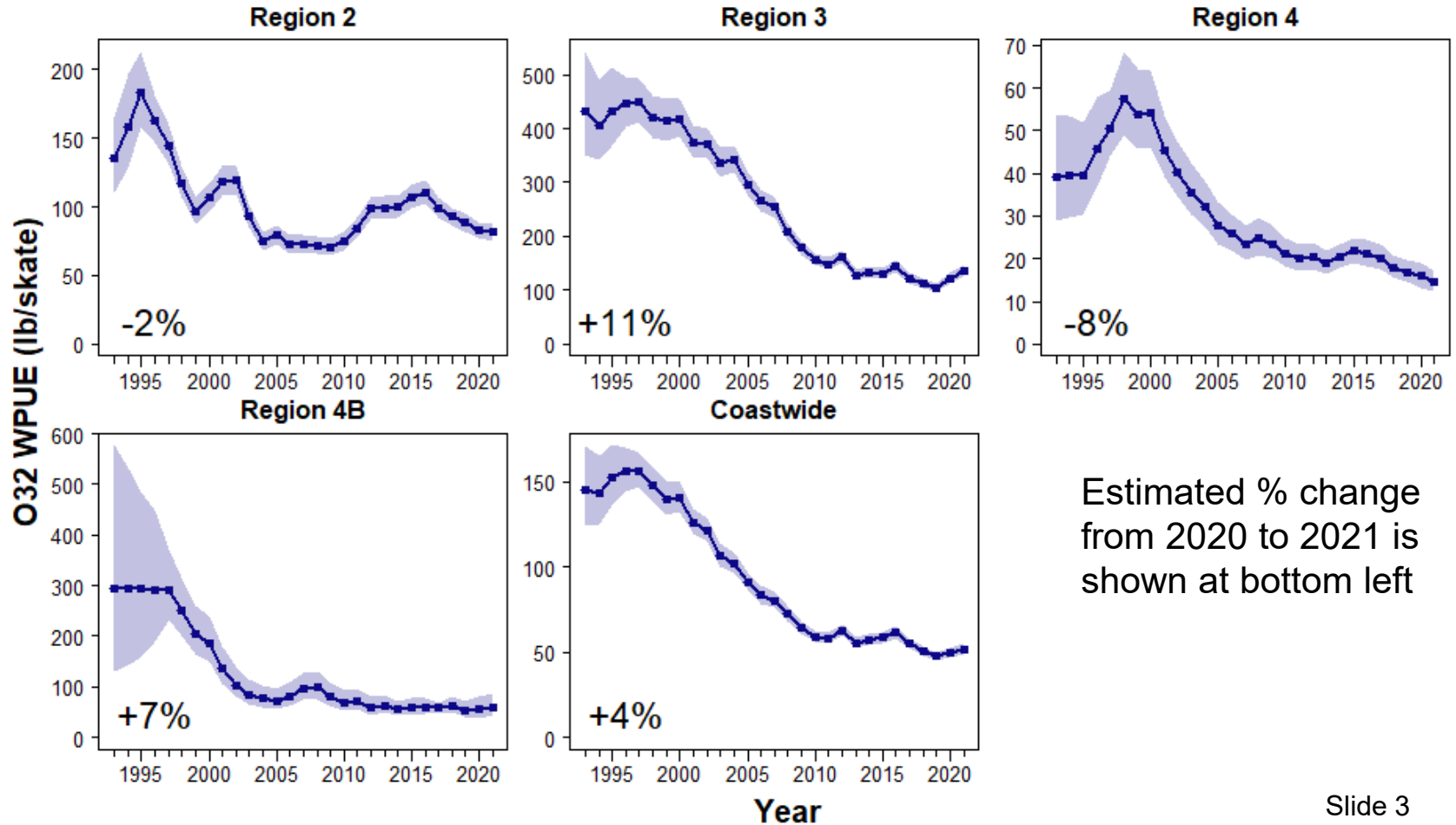


# Space-time model estimates of WPUE and NPUE

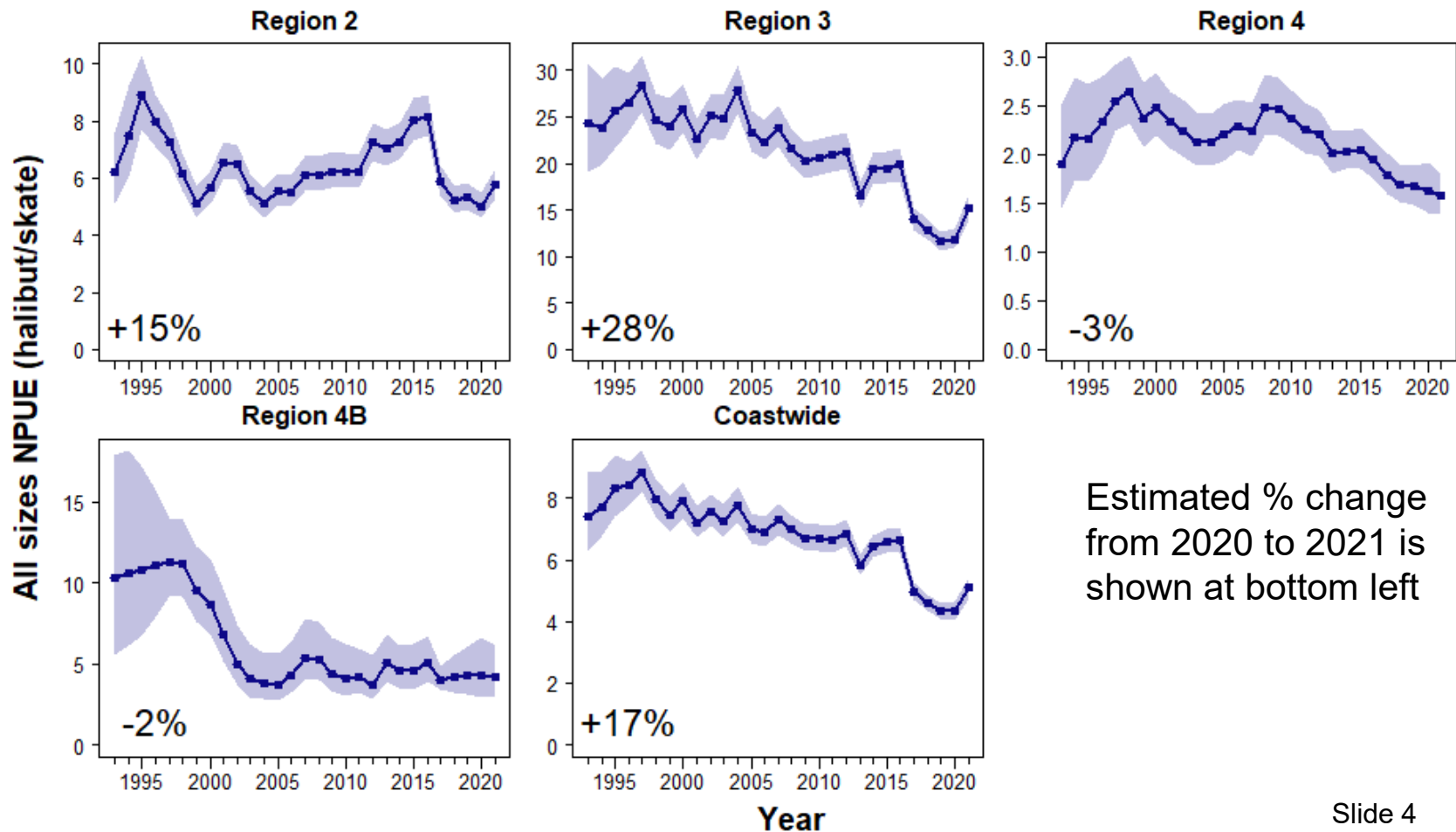
- As in 2016-20, space-time modelling was used to estimate O32 and all sizes WPUE, and all sizes NPUE indices from 1993 onwards
- Estimates computed for:
  - Biological Regions
  - IPHC Regulatory Areas
  - Coastwide IPHC Convention waters, from San Francisco Bay to Bering Strait



# O32 WPUE by biological region



# All sizes NPUE by biological region

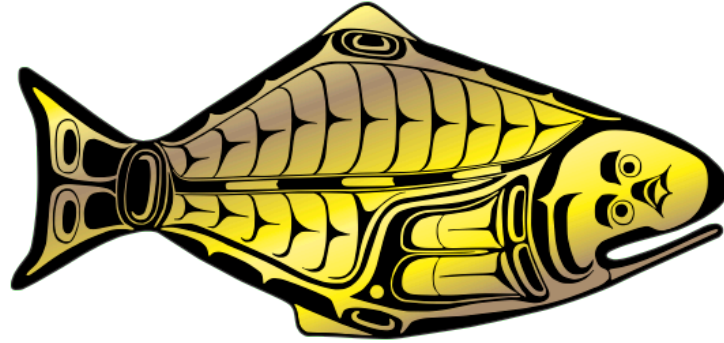


# Gear comparison study in IPHC Regulatory Area 3A

- 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



**INTERNATIONAL PACIFIC**



**HALIBUT COMMISSION**

