

INTERNATIONAL PACIFIC



HALIBUT COMMISSION

# Data overview and stock assessment for Pacific halibut at the end of 2025

Agenda item: 5.2  
IPHC-2026-AM102-10  
(I. Stewart, A. Hicks, R. Webster & D. Wilson)



# Summary of results

- Coastwide trends showed little change from 2024 to 2025
  - But there were important differences among Biological Regions and IPHC Regulatory Areas
- The 2016 and 2017 year-classes were important to both FISS and fishery catches
- 2025 assessment results indicate similar stock trend and scale as estimated in 2024
- The stock remains in a low productivity regime that began in 2006



# Outline

## Data sources

- Coastwide
- Regional
- Dashboards by Area

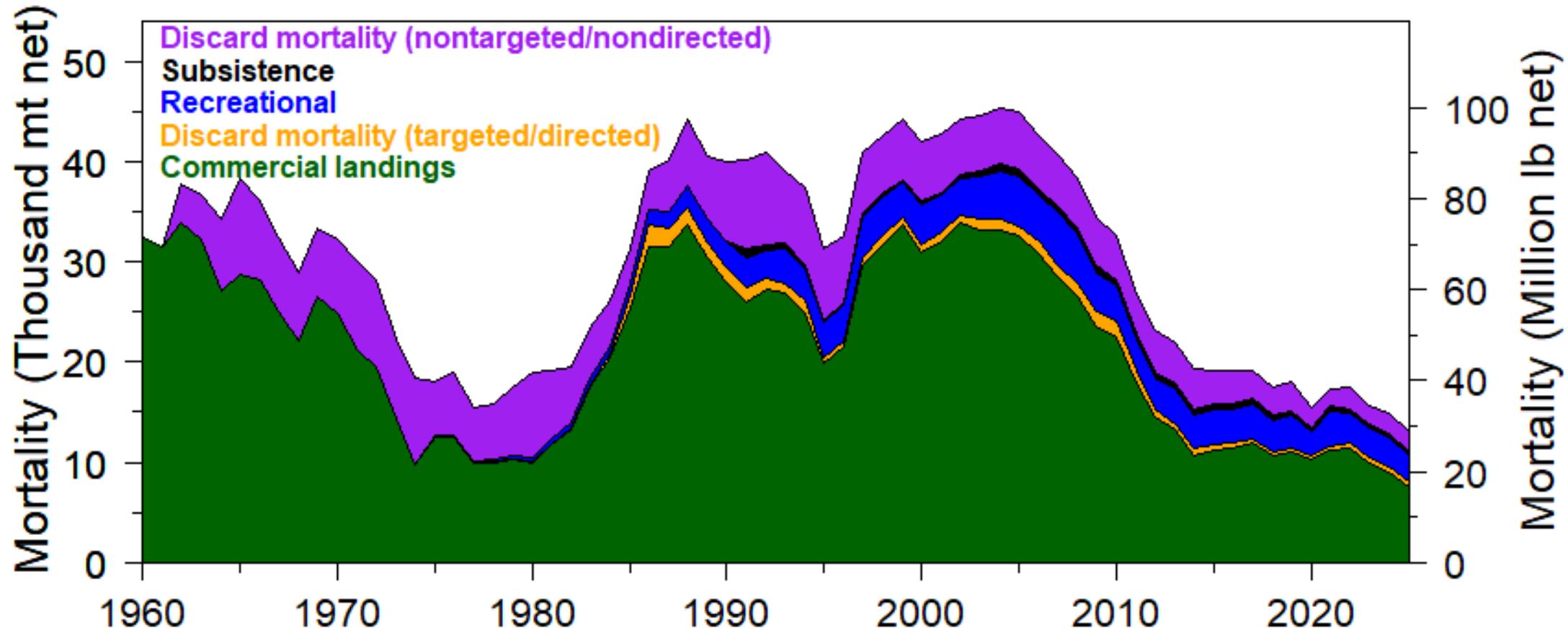
## Modelling

- Process
- Results
- Reference points

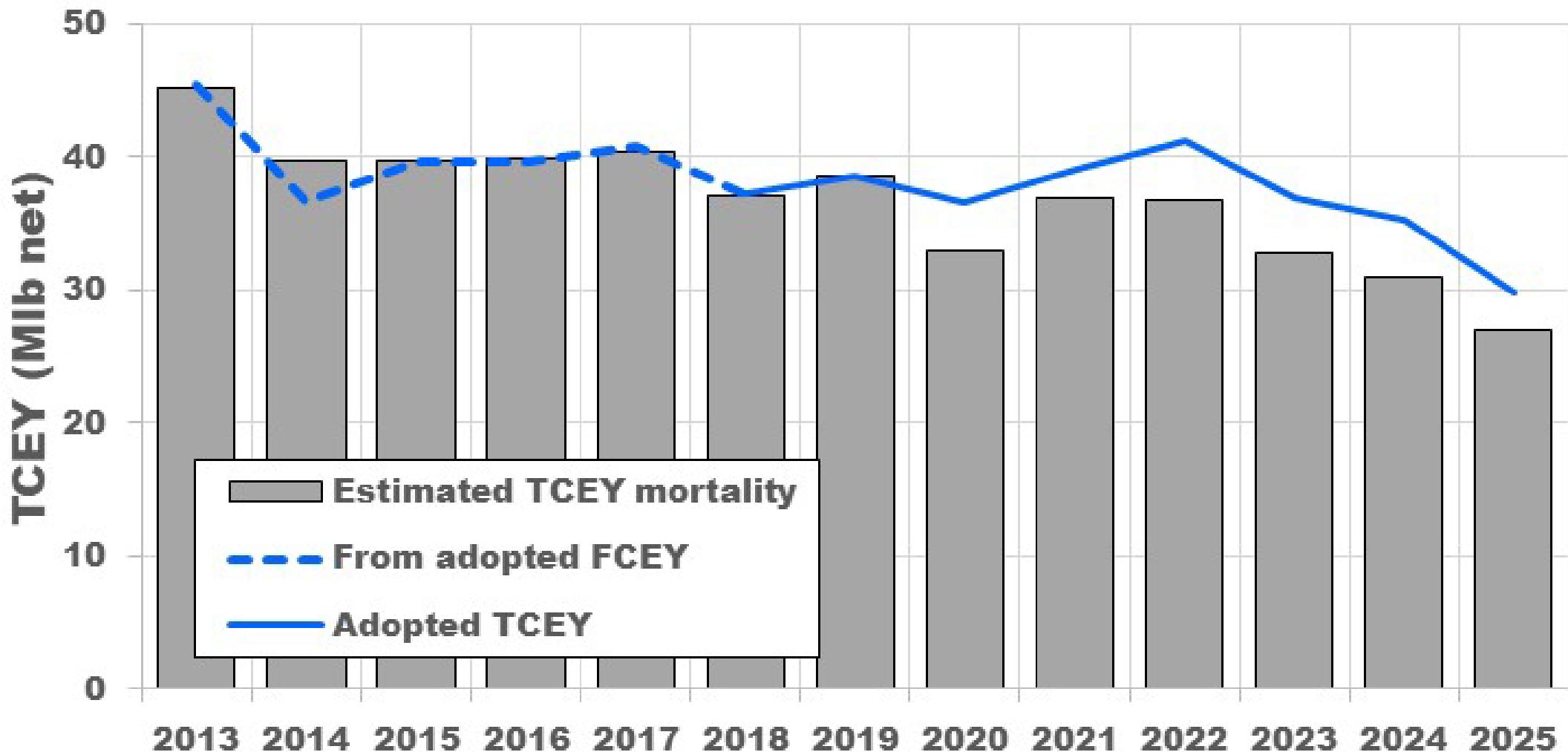
Stock projections and the harvest decision table follow in a separate presentation



# Coastwide historical mortality

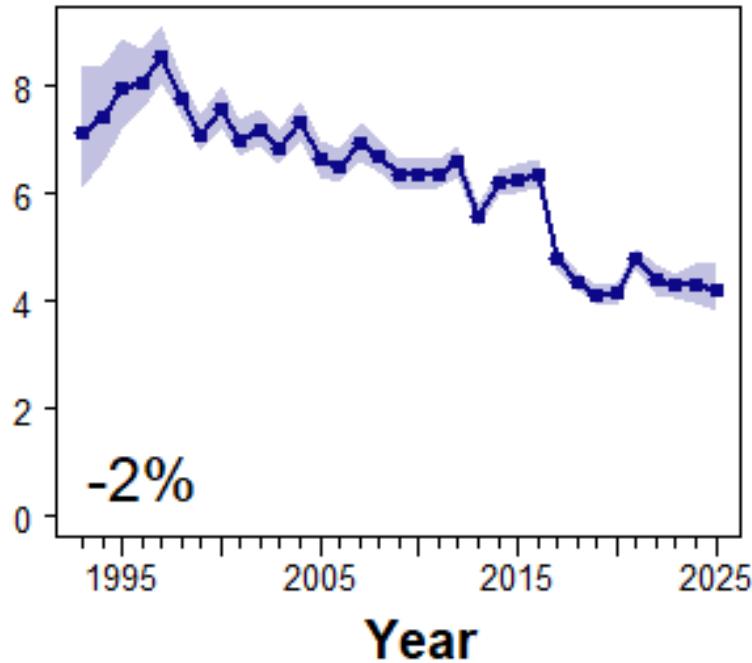


# Recent coastwide TCEYs

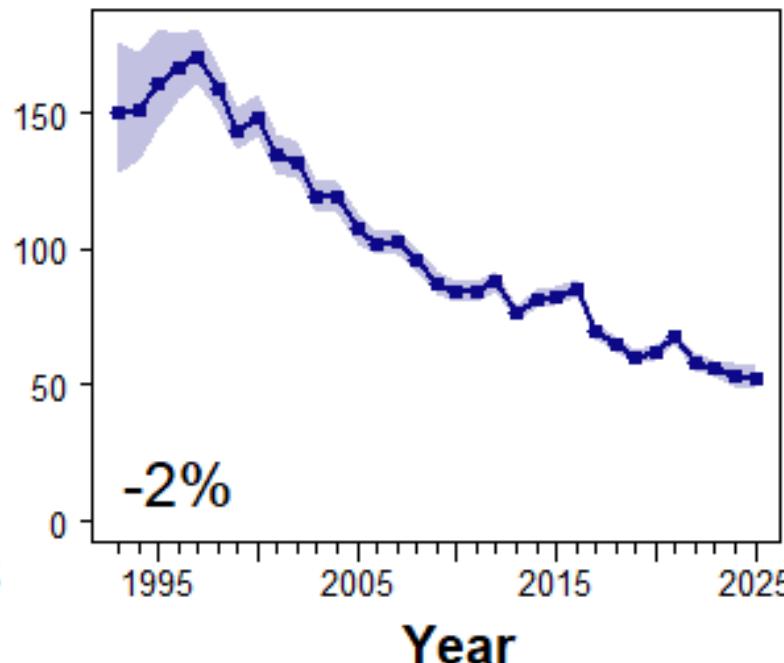


# Coastwide FISS trends

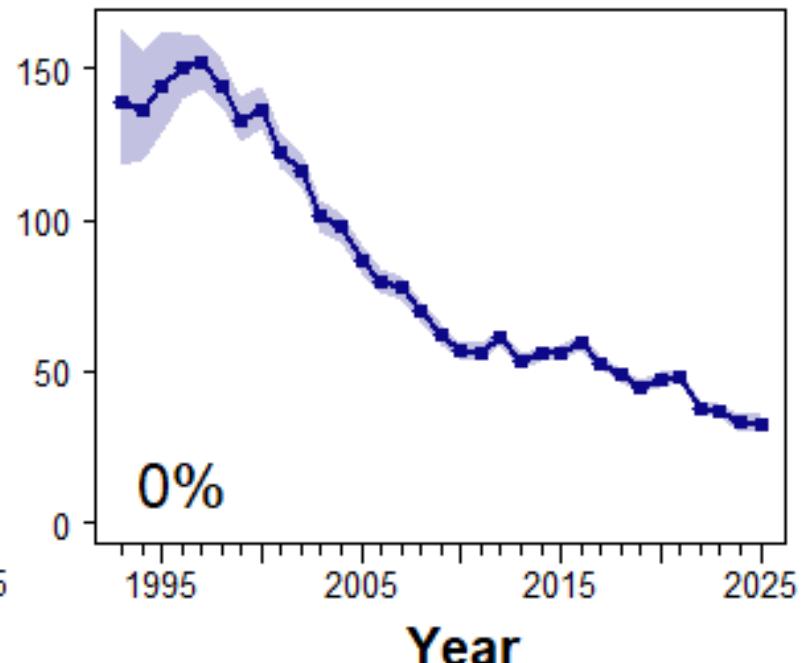
Numbers/skate



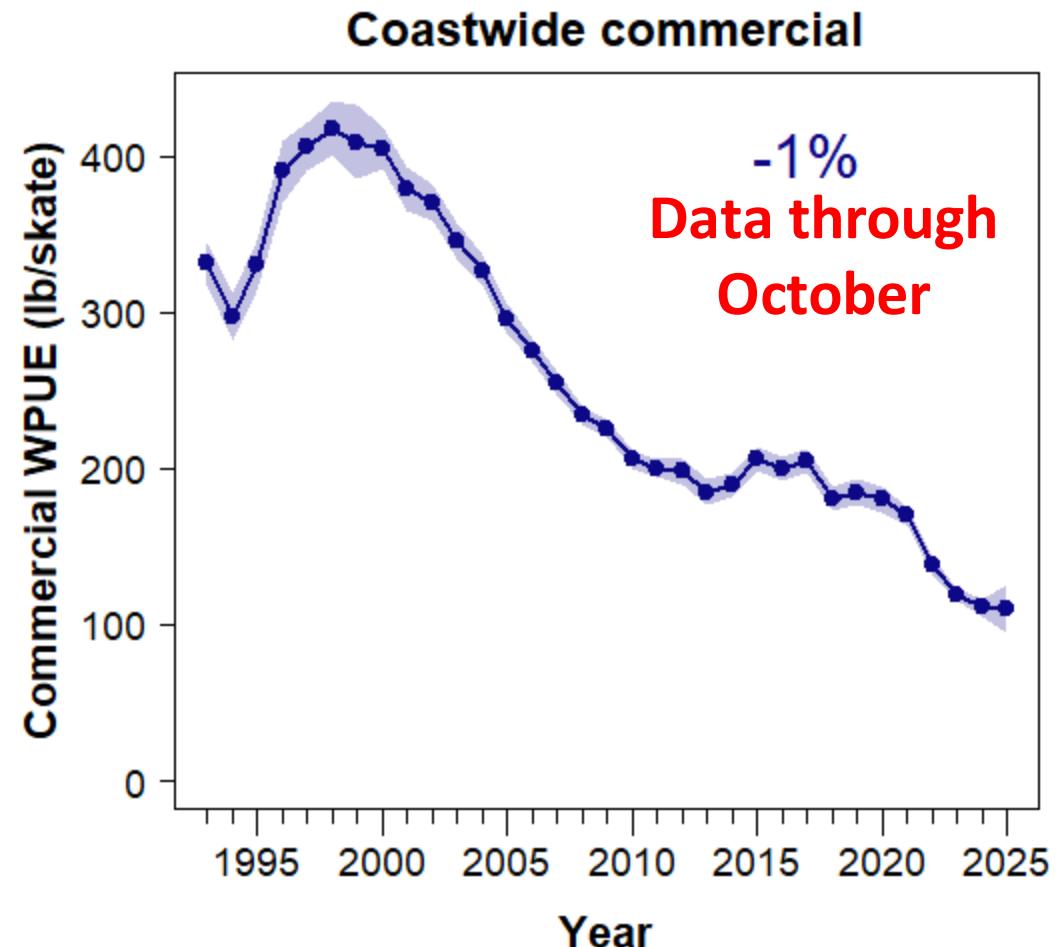
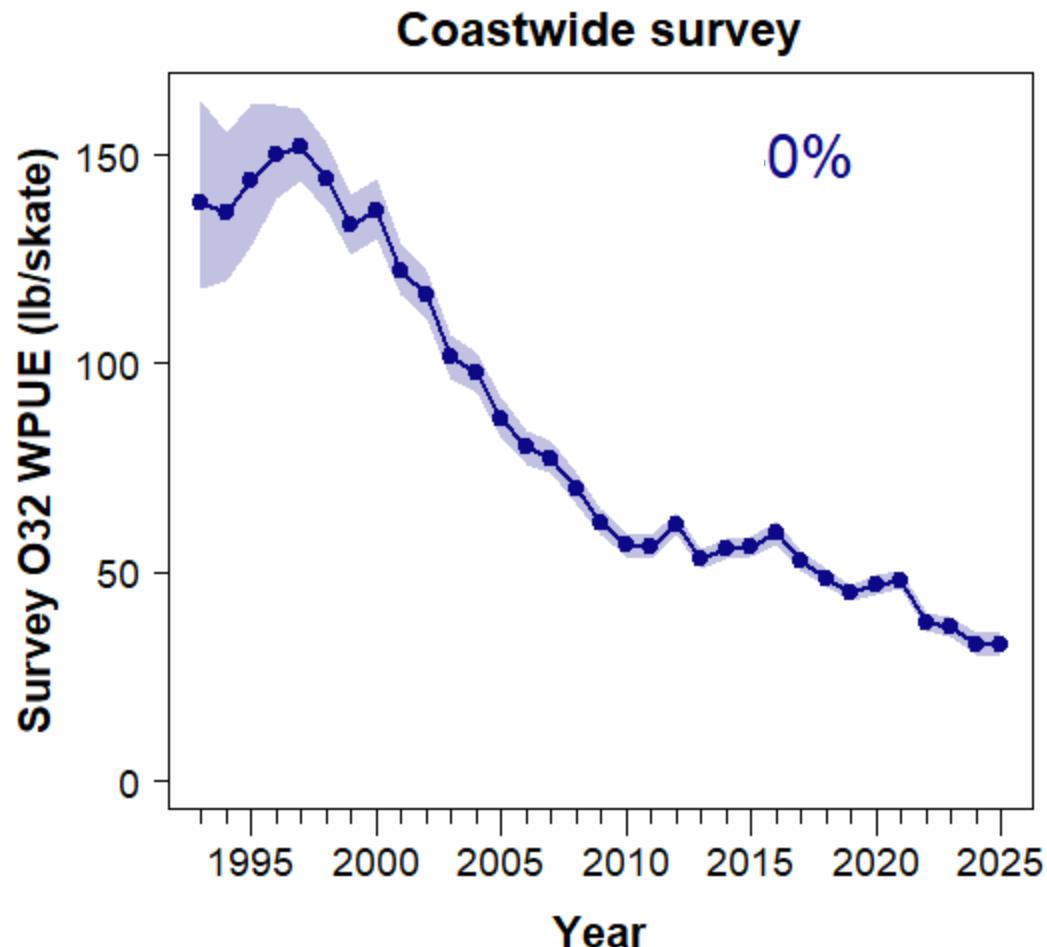
Total pounds/skate



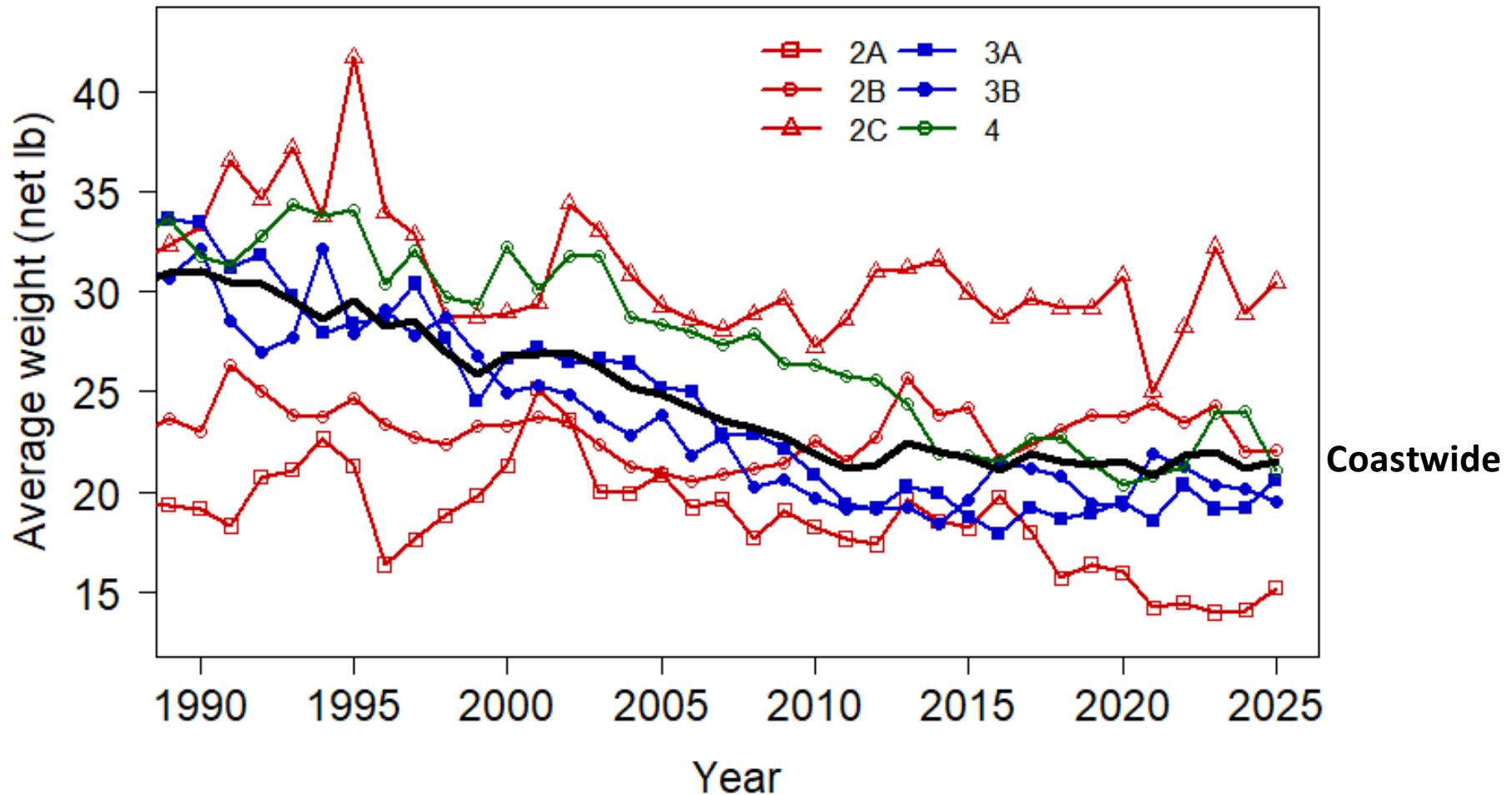
O32 pounds/skate



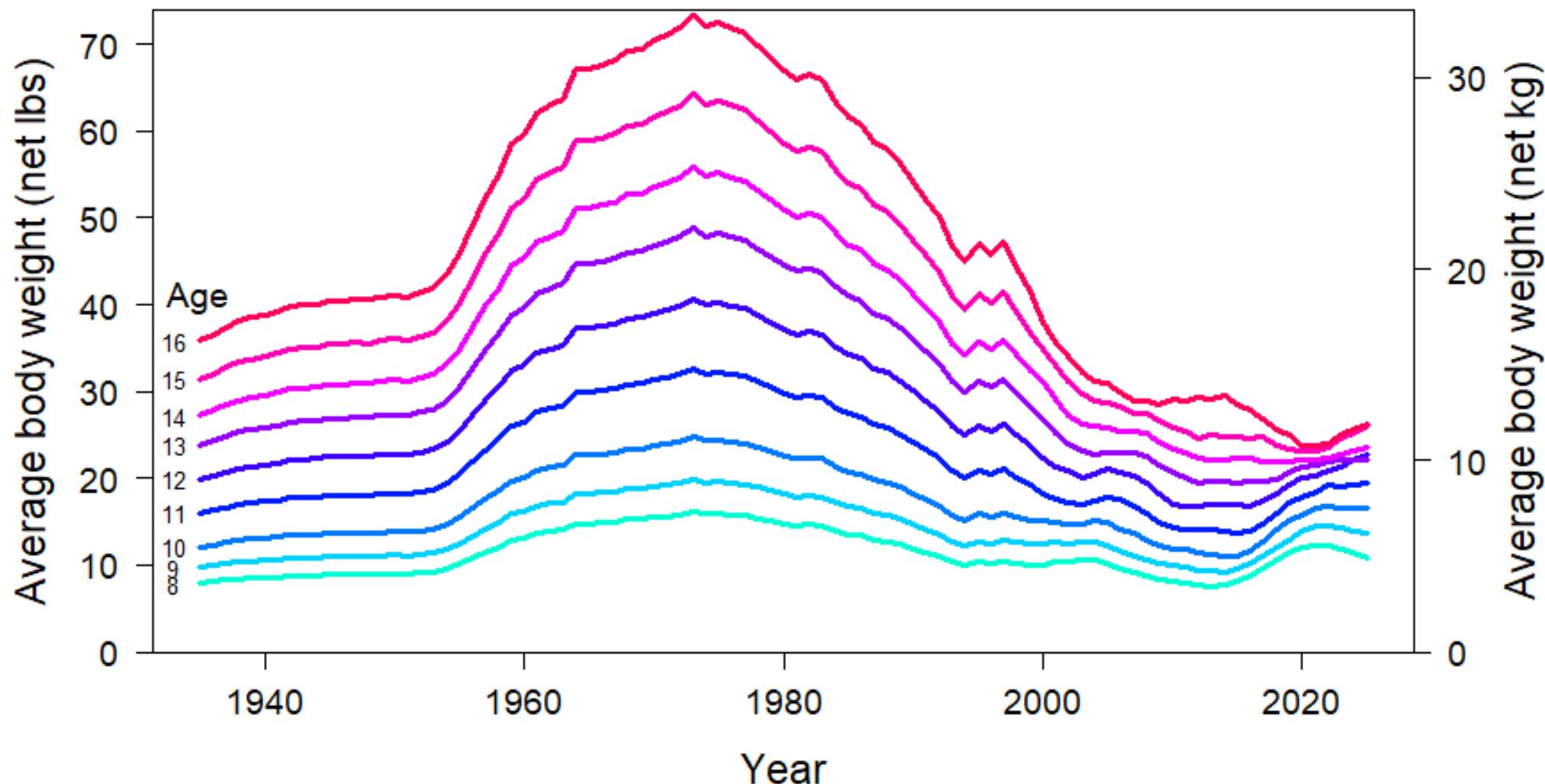
# O32 FISS and Fishery trends



# Average weight – landed fish

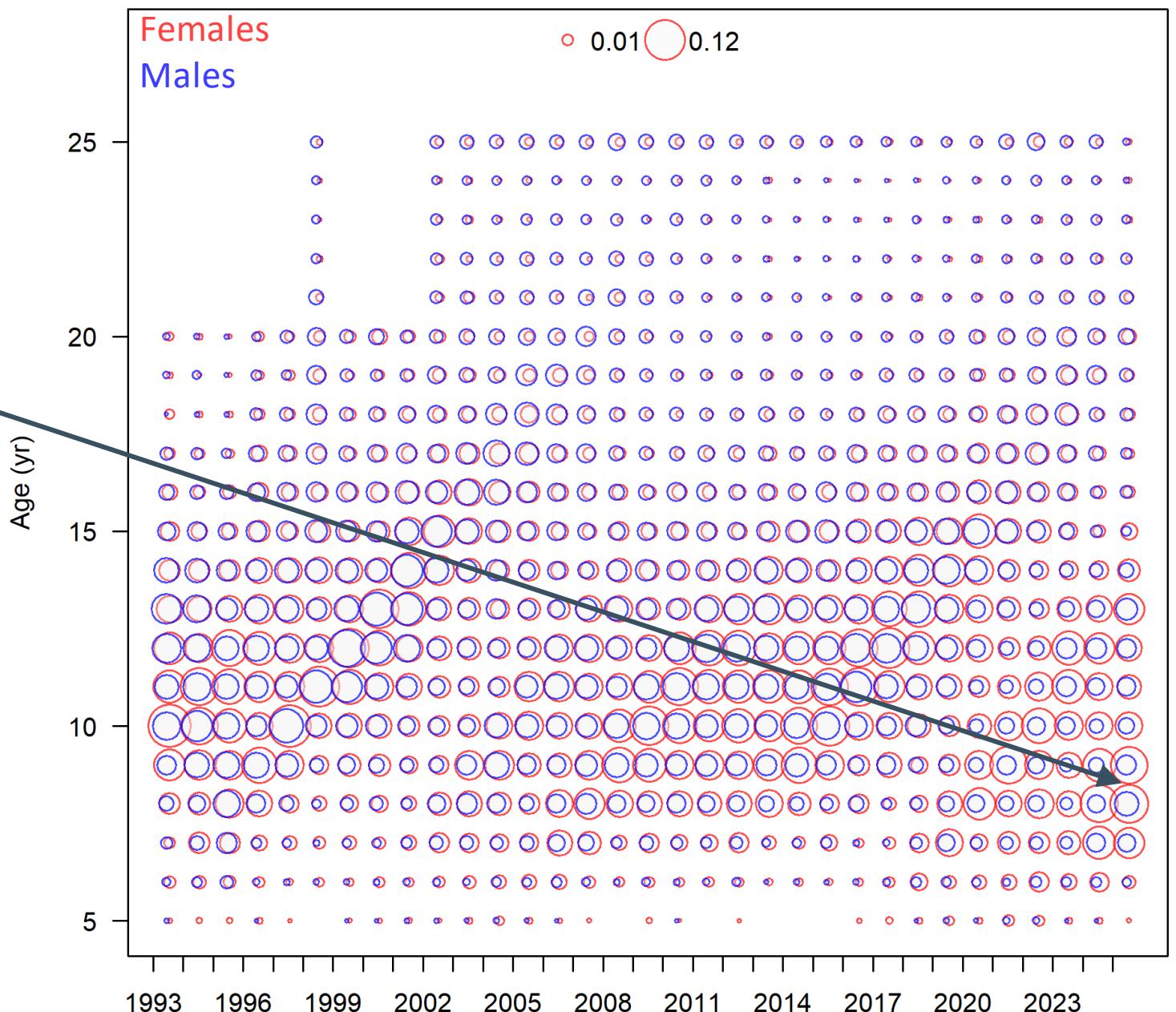


# Coastwide female weight-at-age



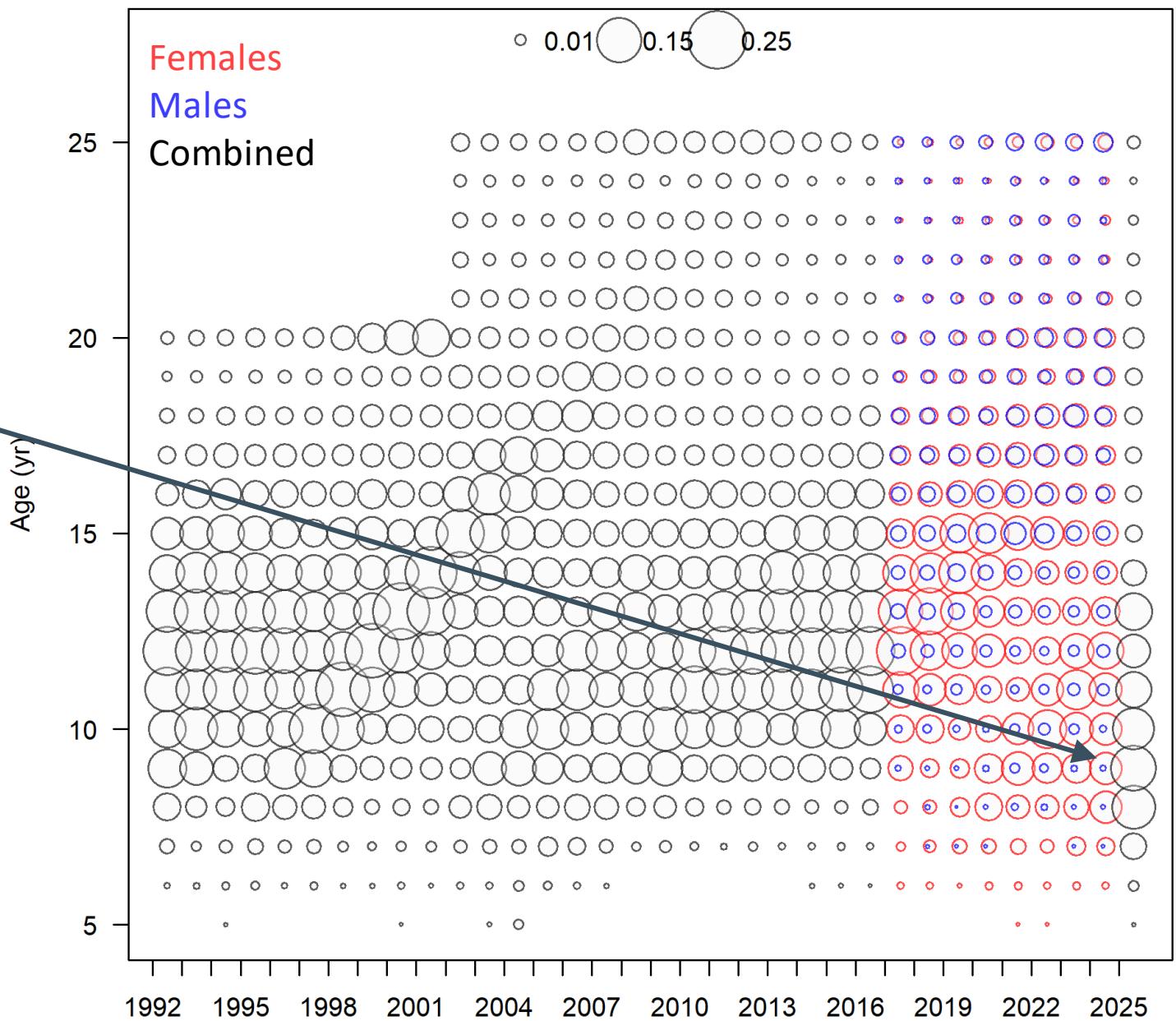
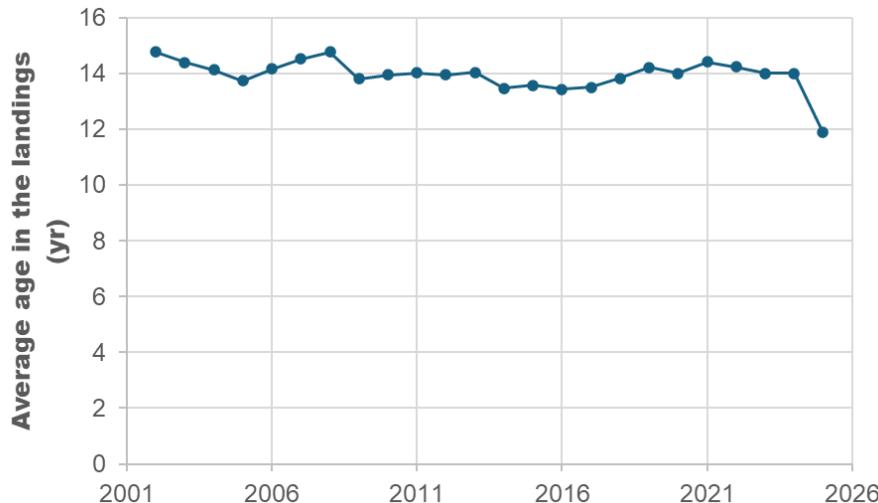
# Coastwide FISS ages

8 & 9 year-old fish  
(2016 & 2017 year-classes)

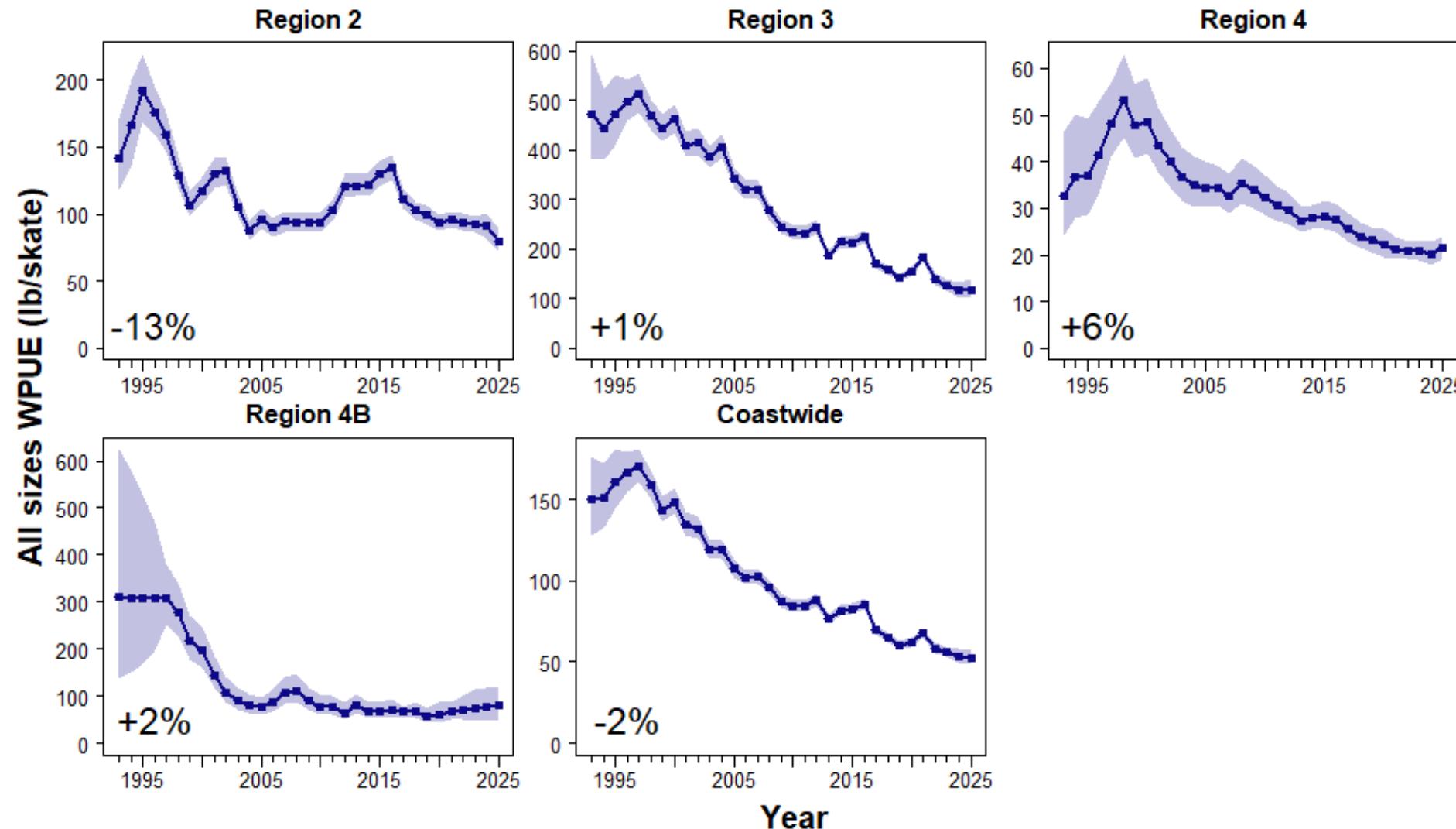


# Coastwide fishery ages

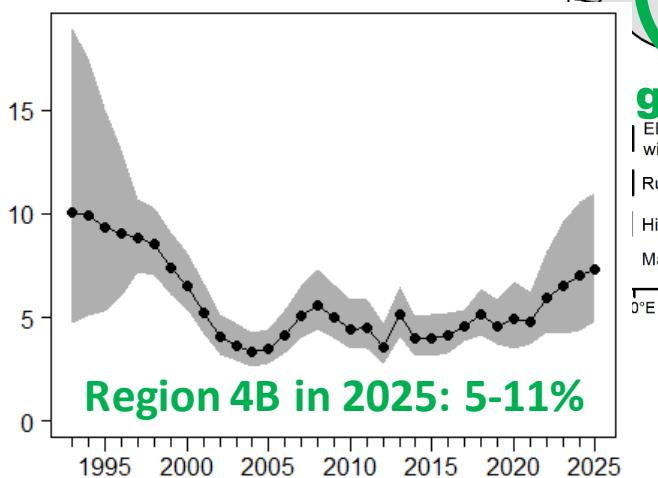
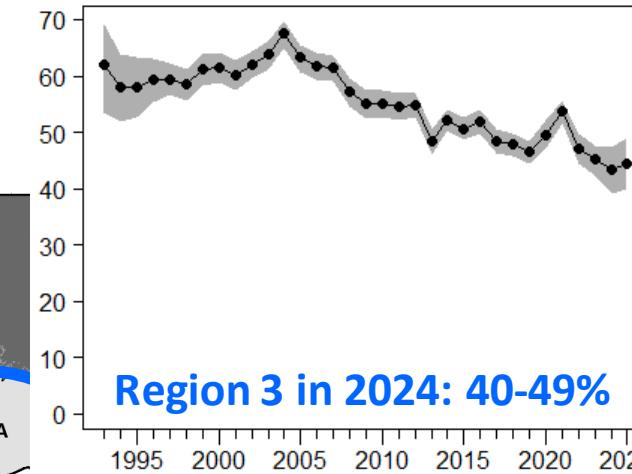
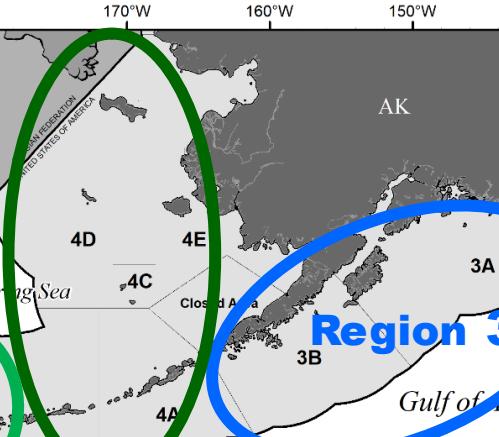
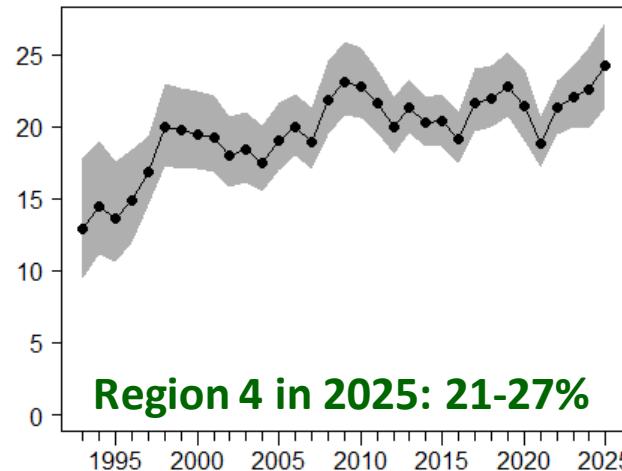
More very young fish than in recent years



# Regional survey trends (all sizes)



# Regional stock distribution (all sizes)



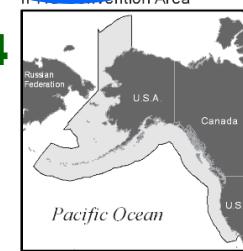
Region 4B

EEZs of Canada and the United States of America with IPHC Regulatory Areas

Russian Federation EEZ

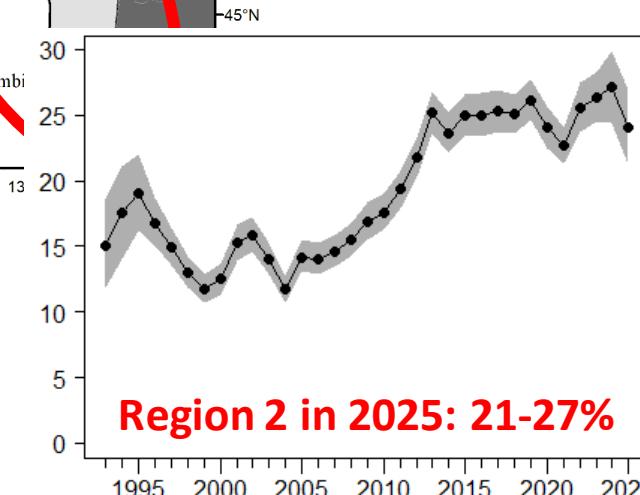
High Seas

Maritime Boundary

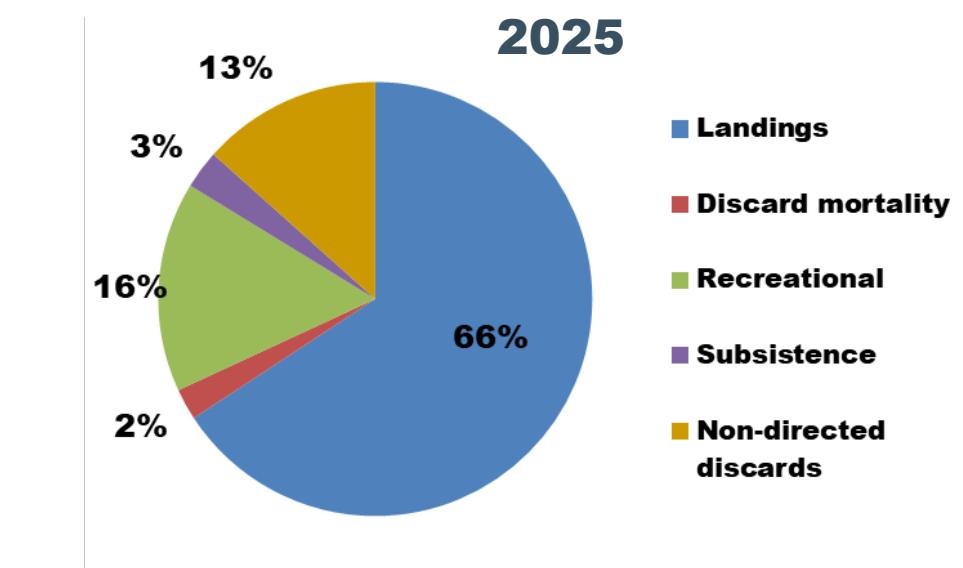
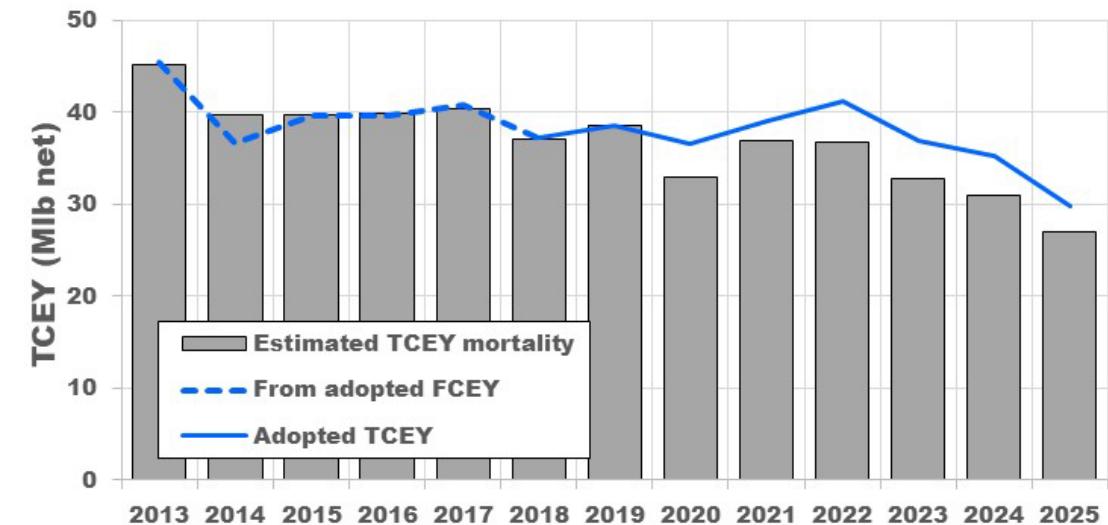
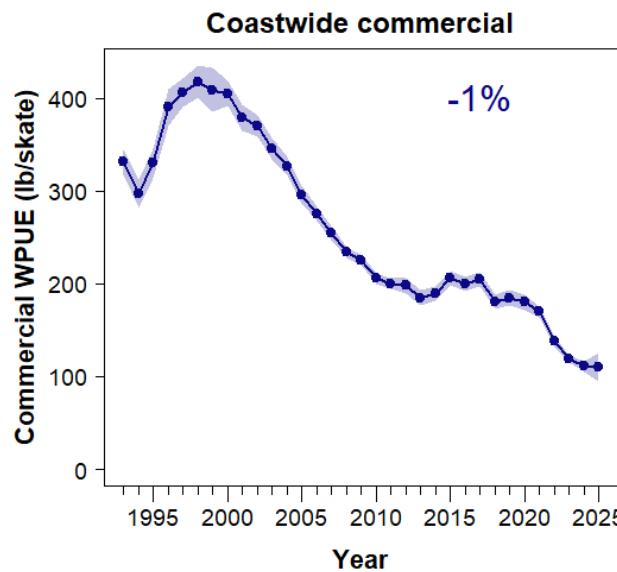
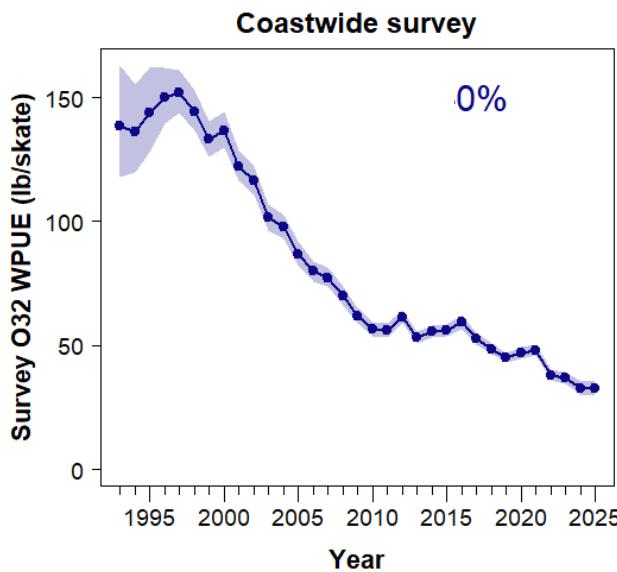


AK - Alaska  
BC - British Columbia  
WA - Washington  
OR - Oregon  
CA - California

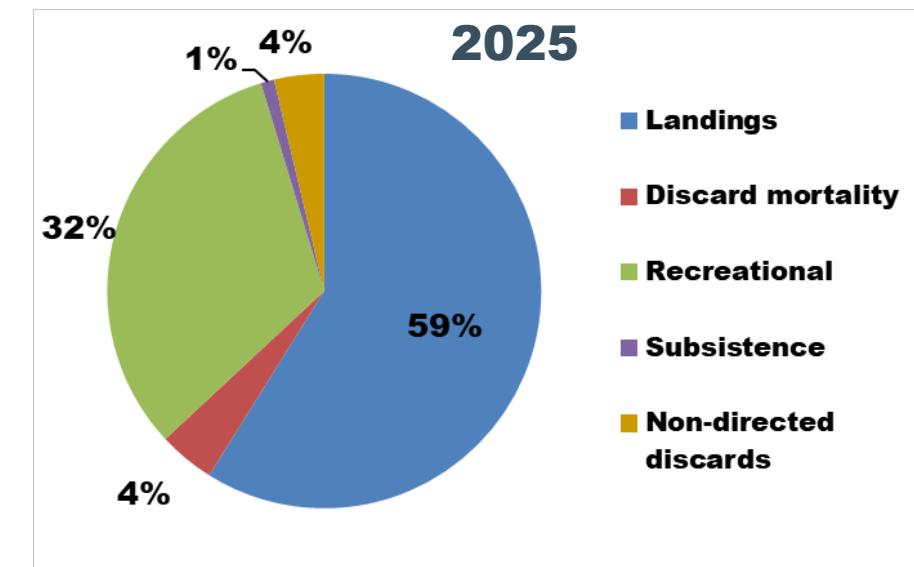
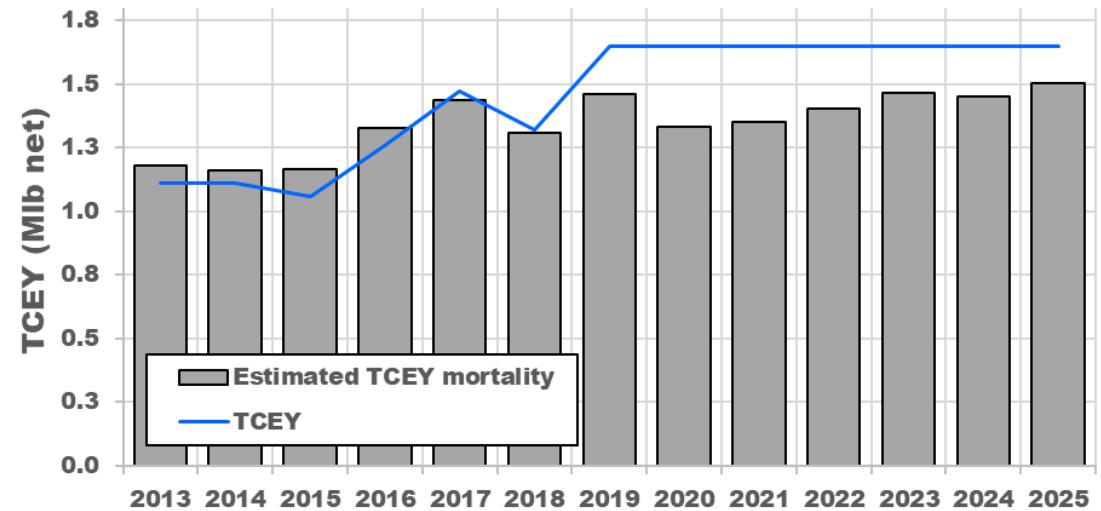
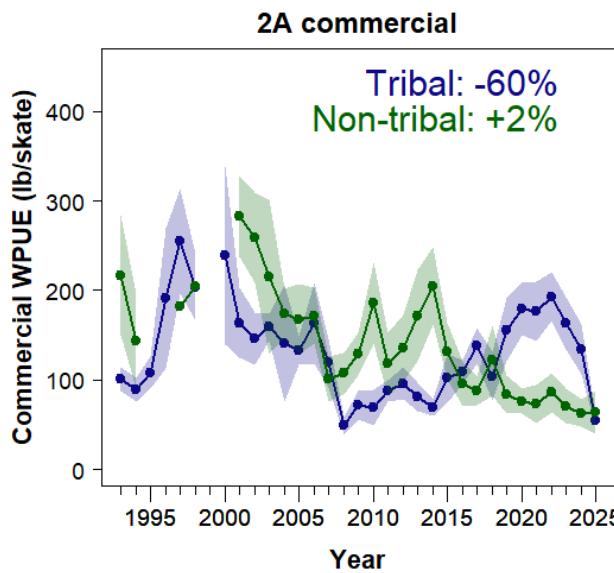
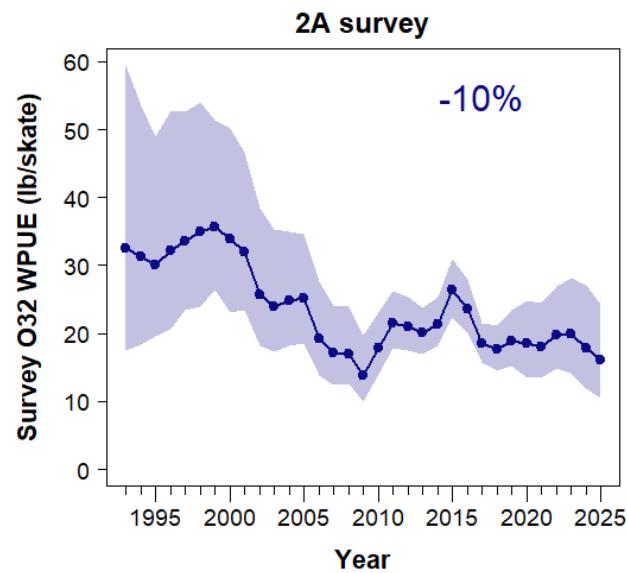
Region 2



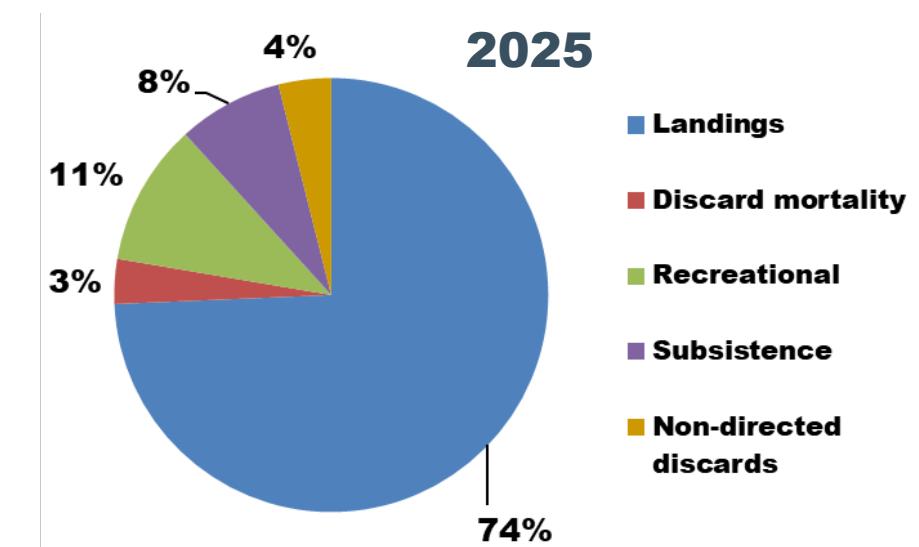
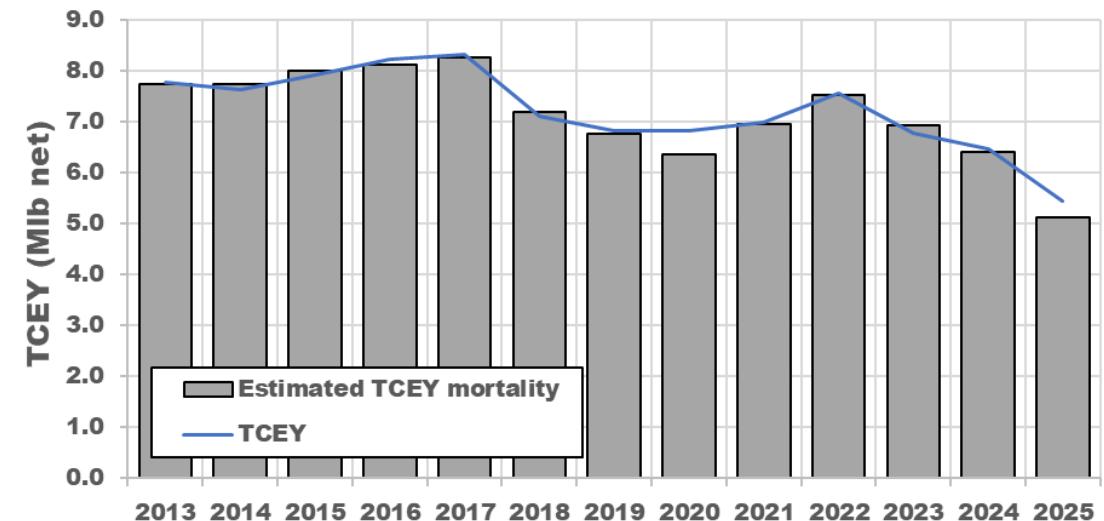
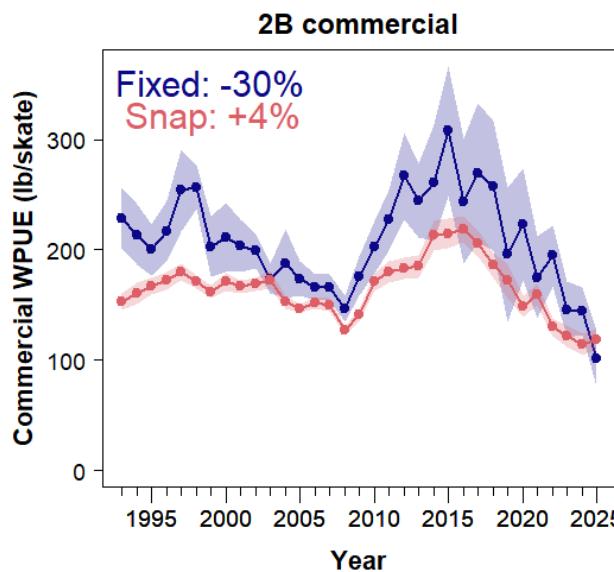
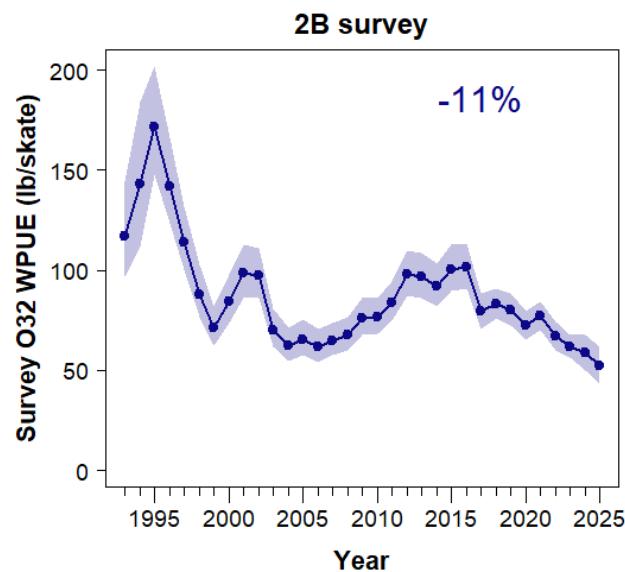
# Coastwide dashboard



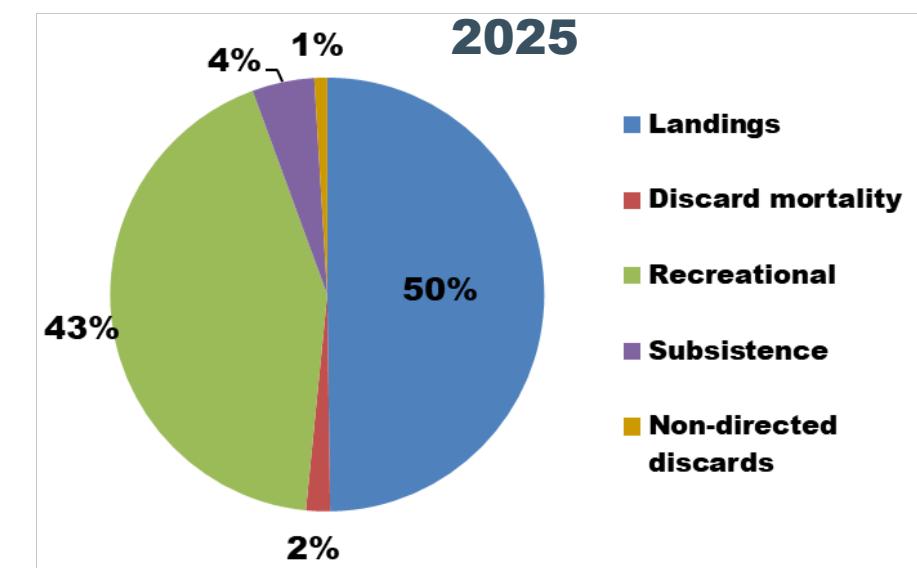
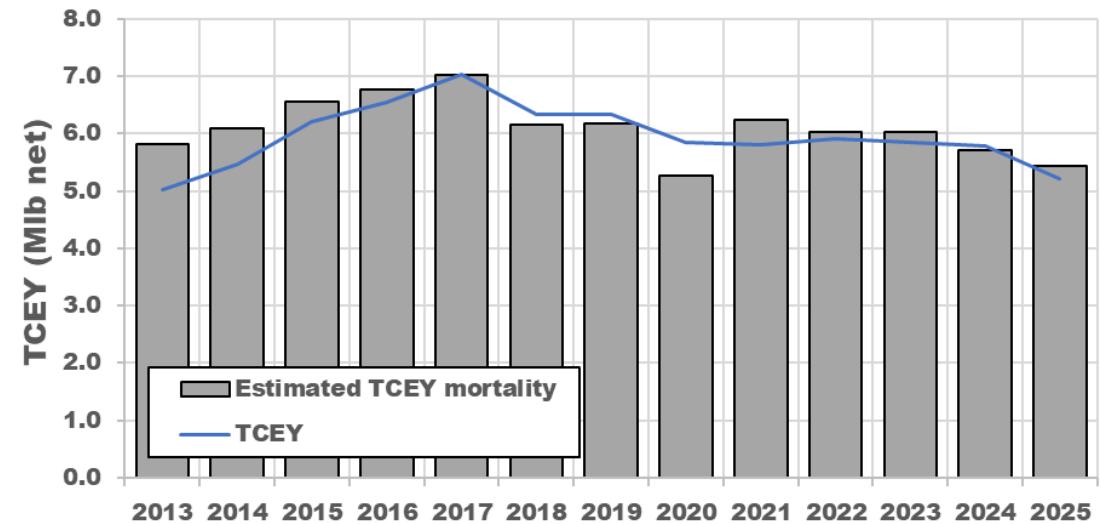
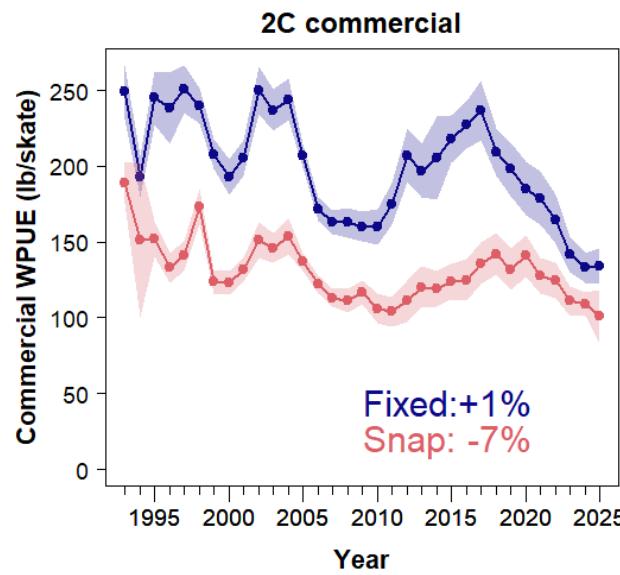
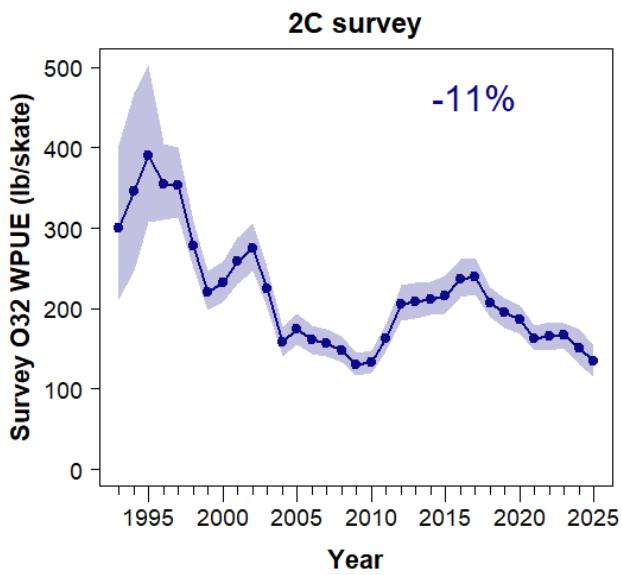
# IPHC Regulatory Area 2A



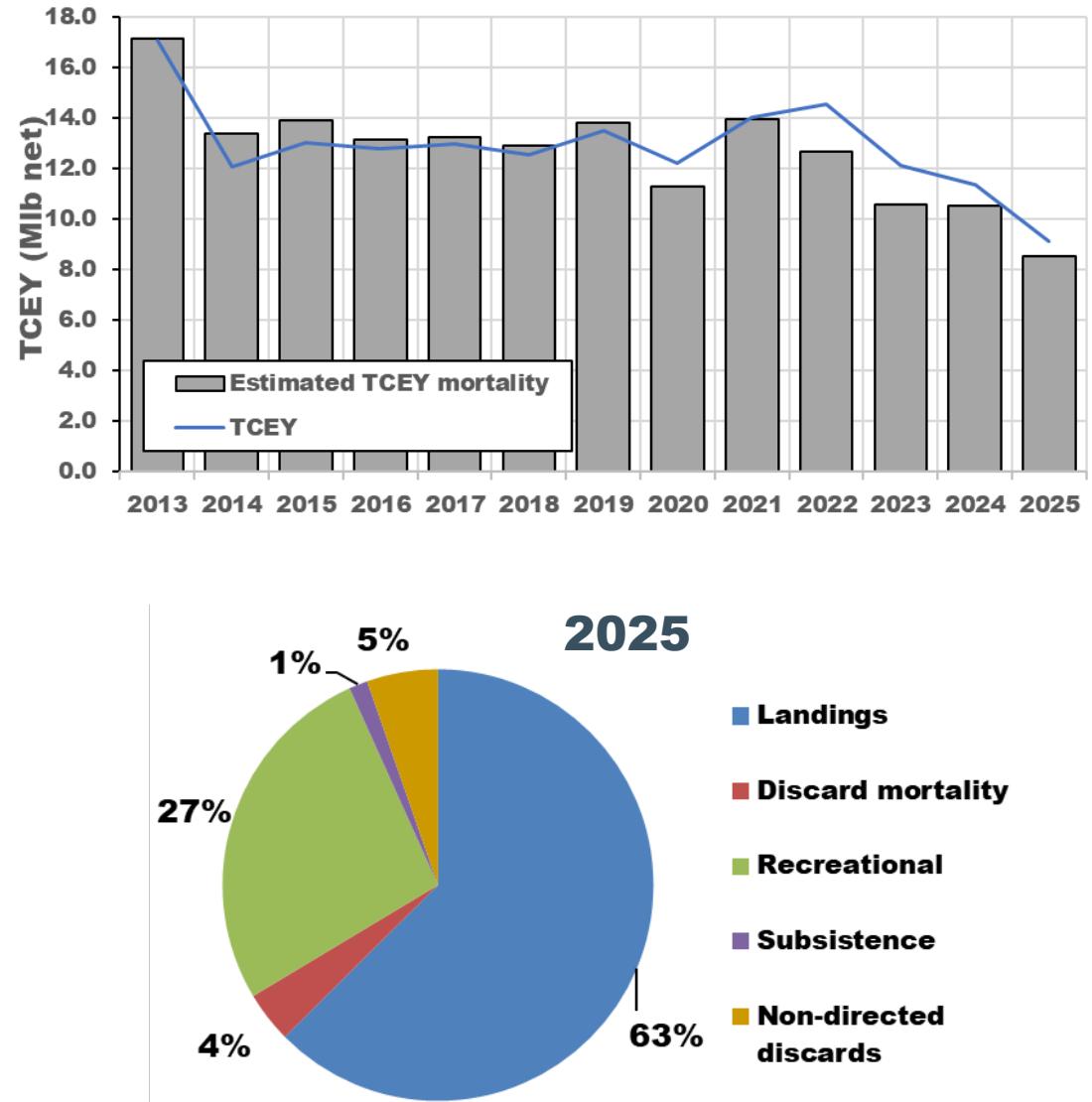
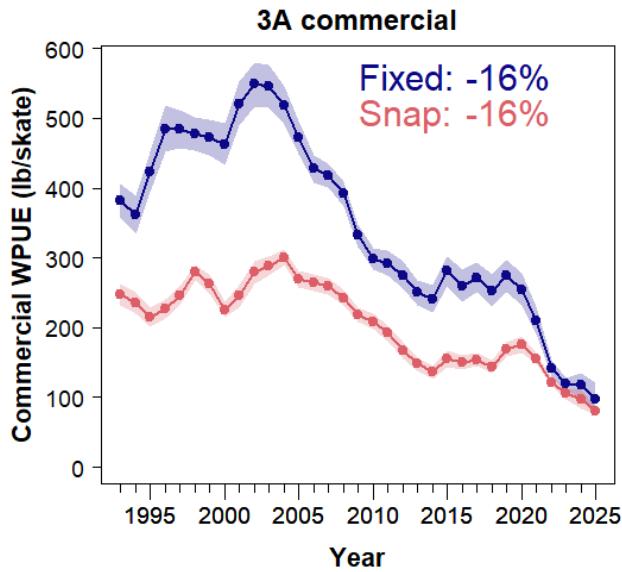
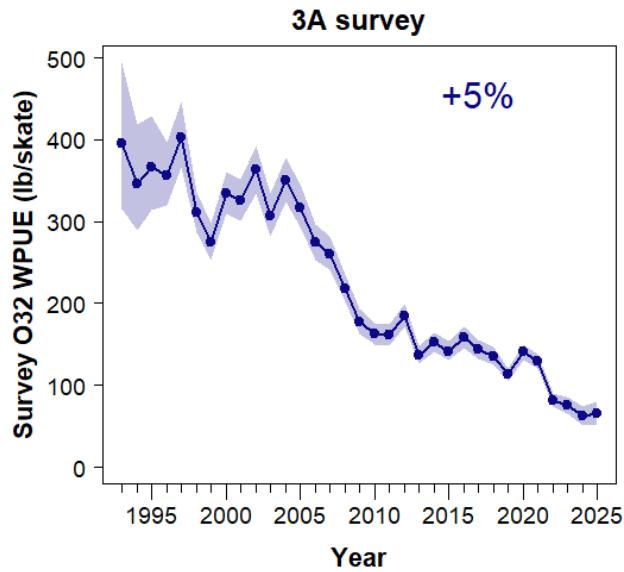
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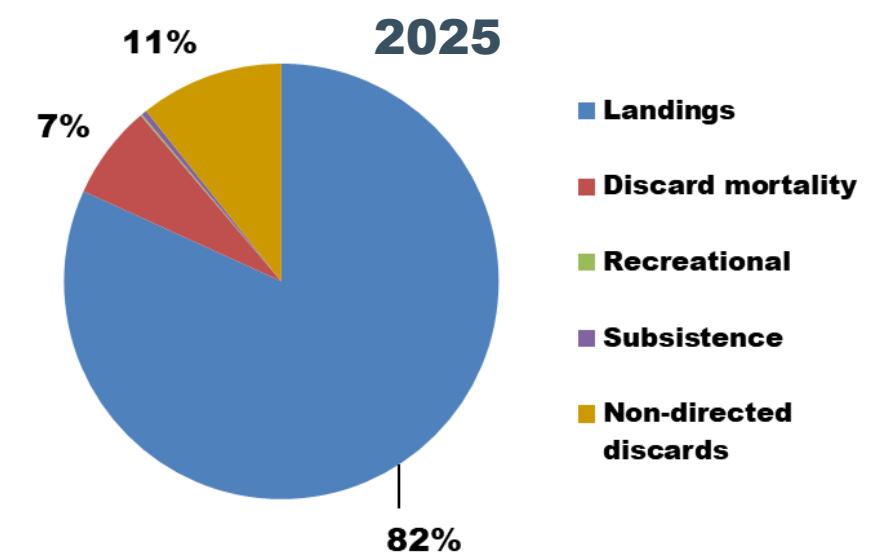
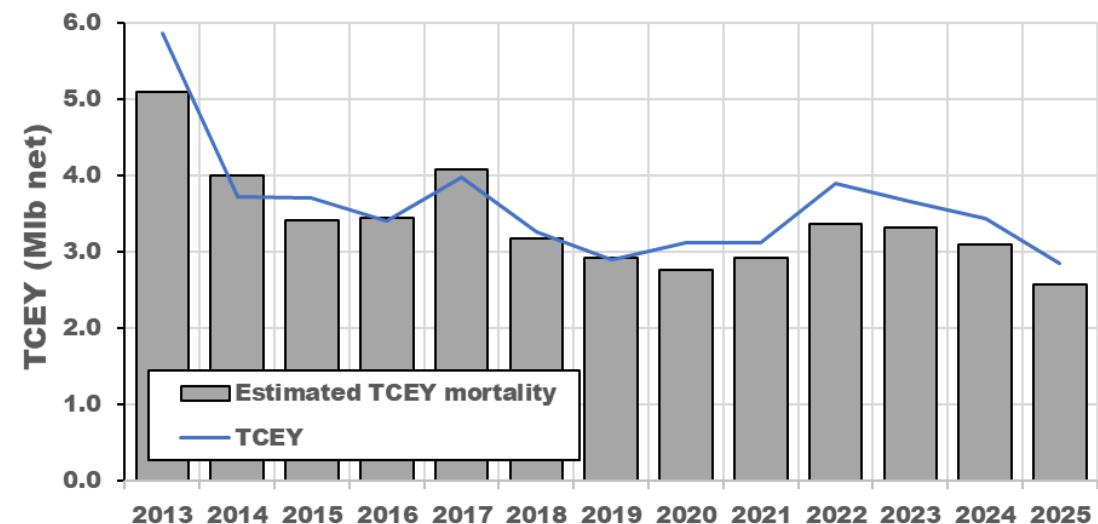
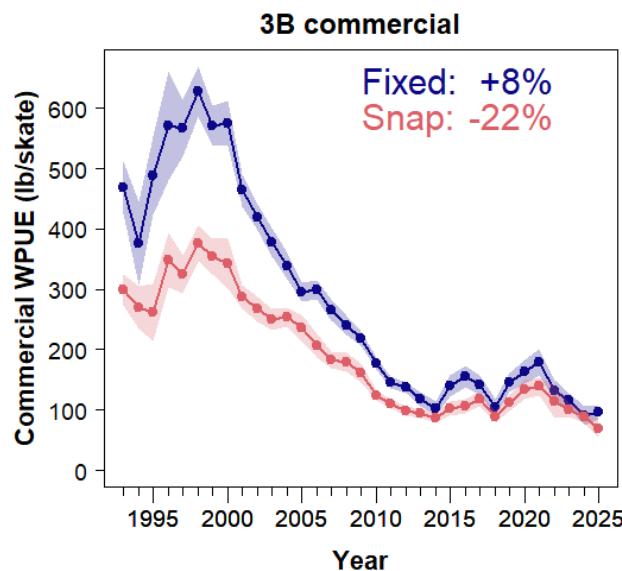
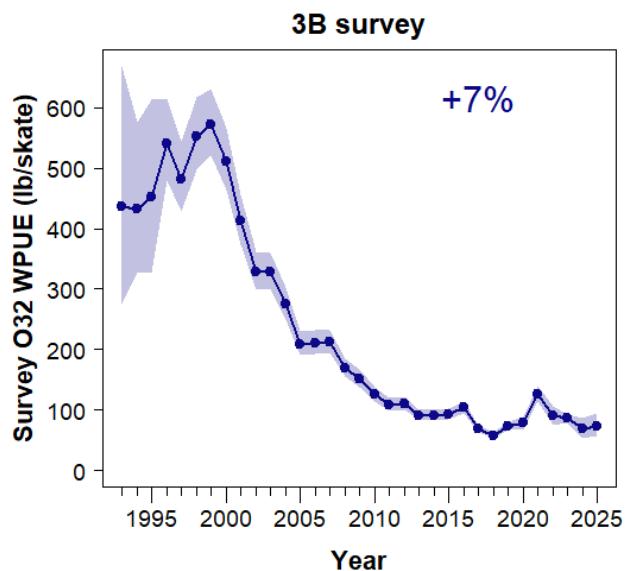
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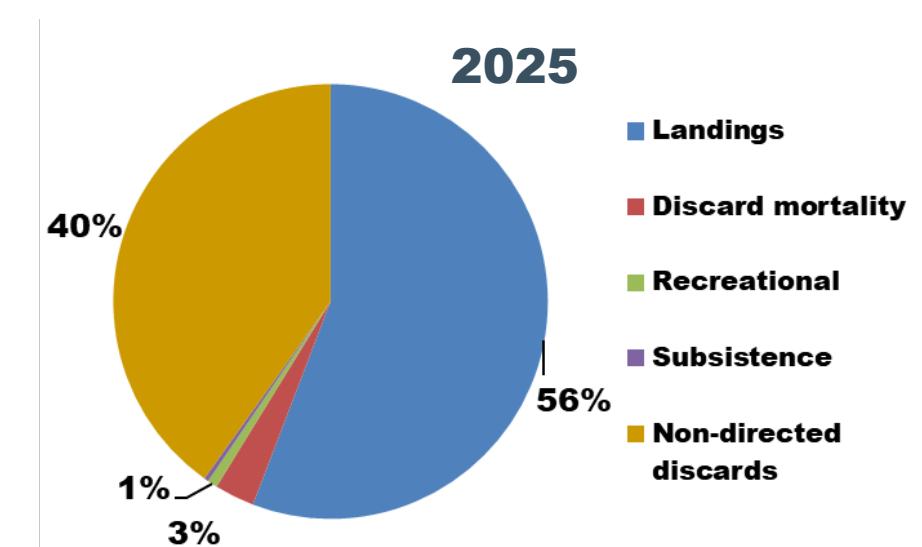
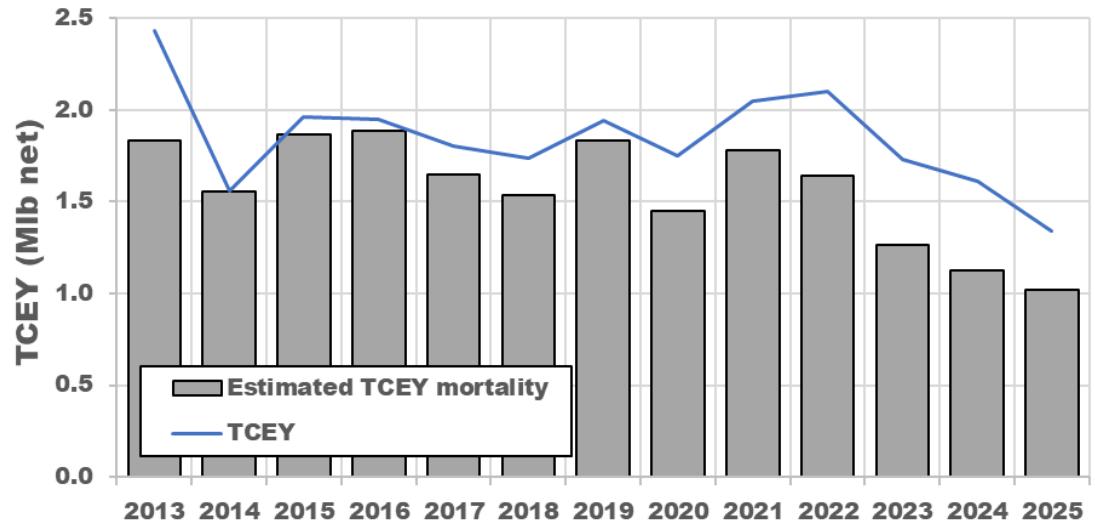
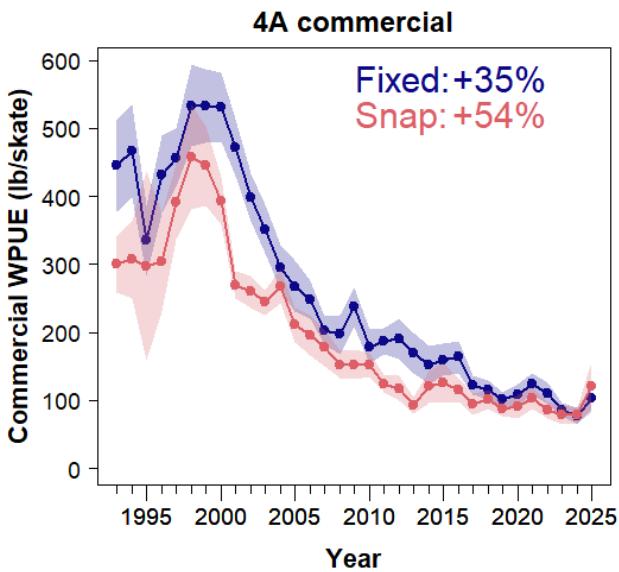
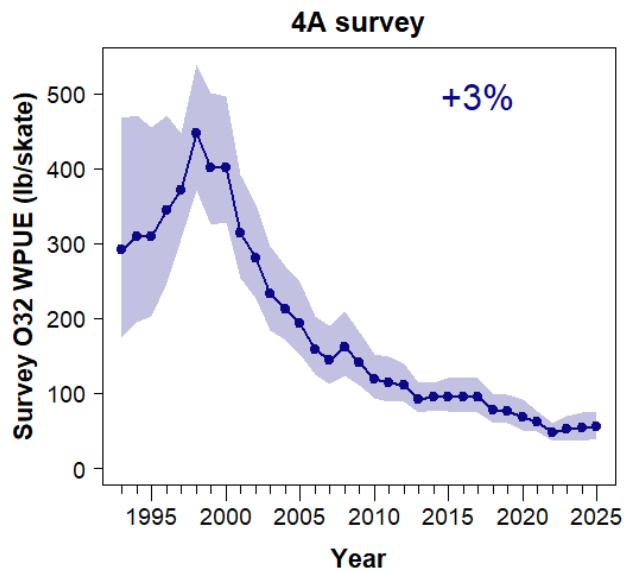
# IPHC Regulatory Area 3A



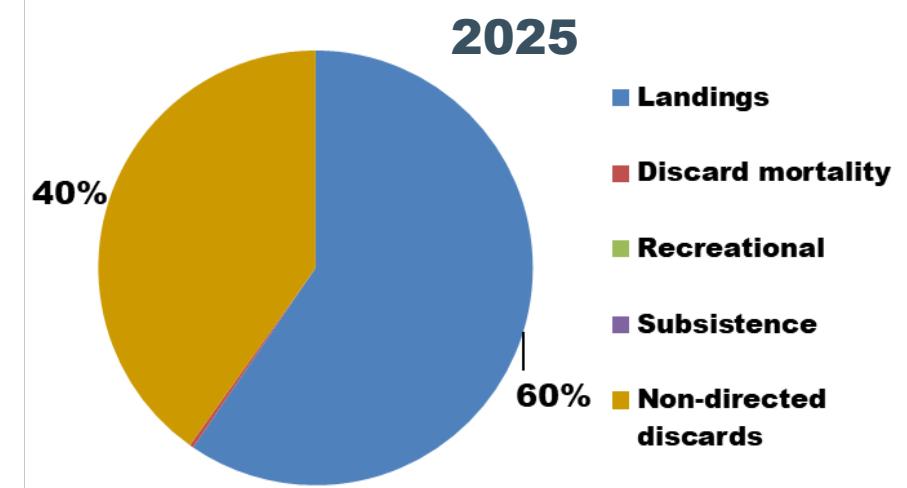
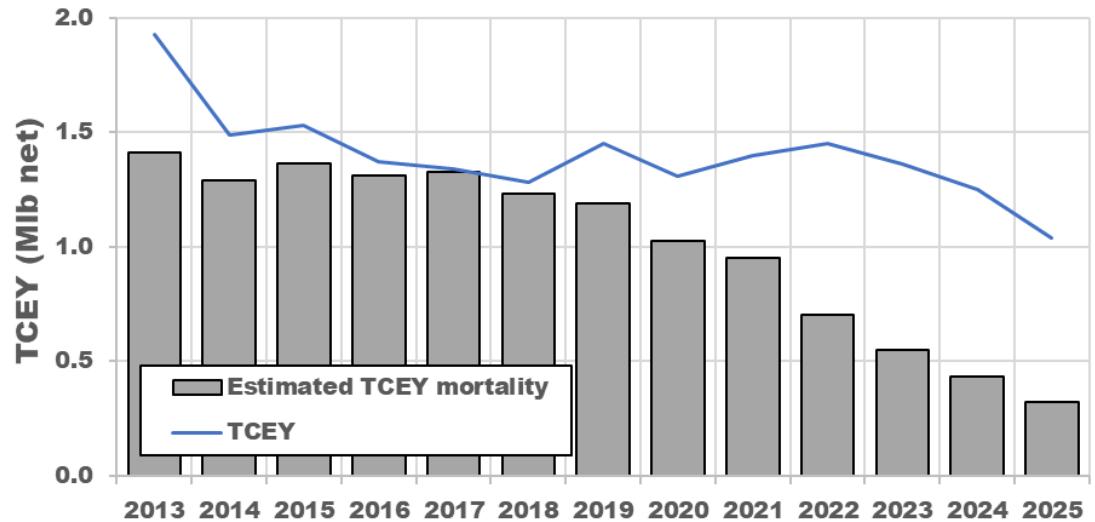
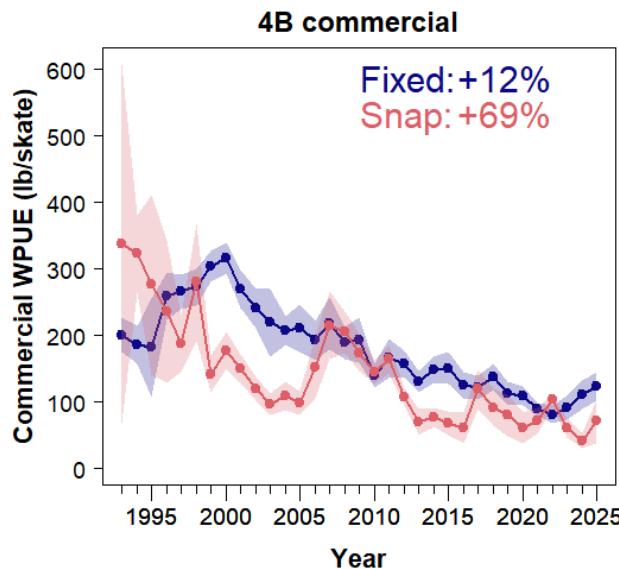
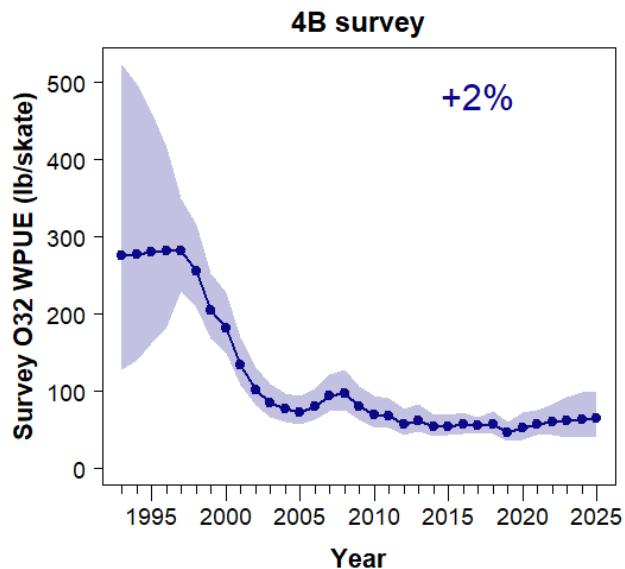
# IPHC Regulatory Area 3B



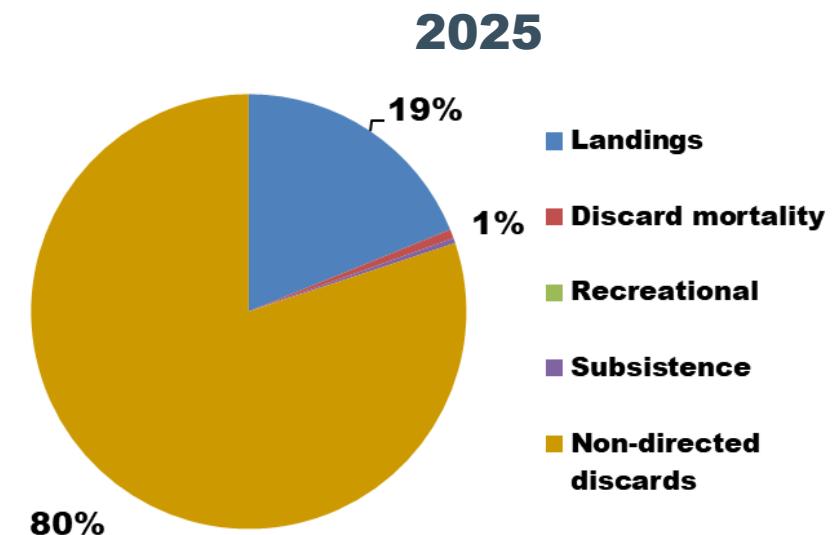
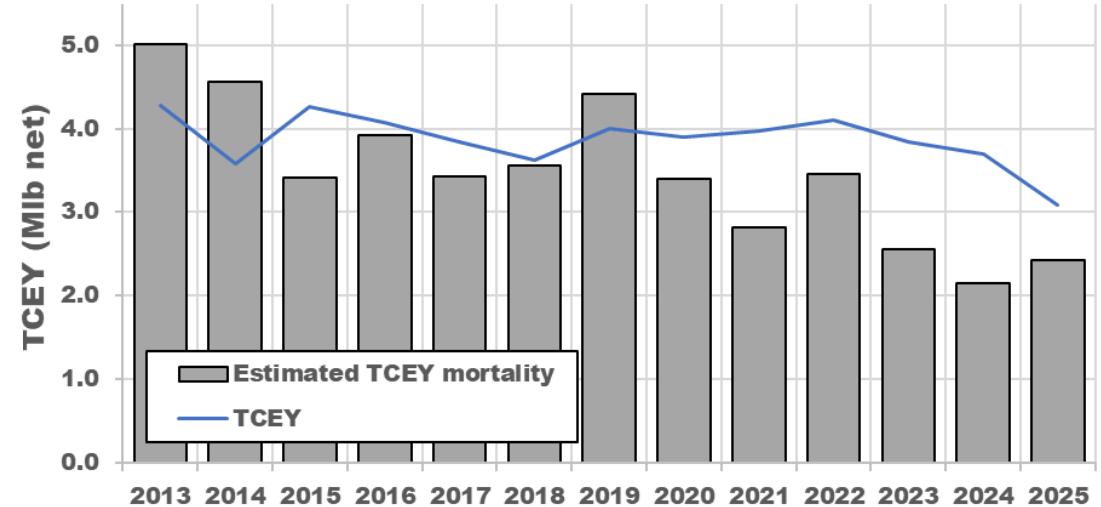
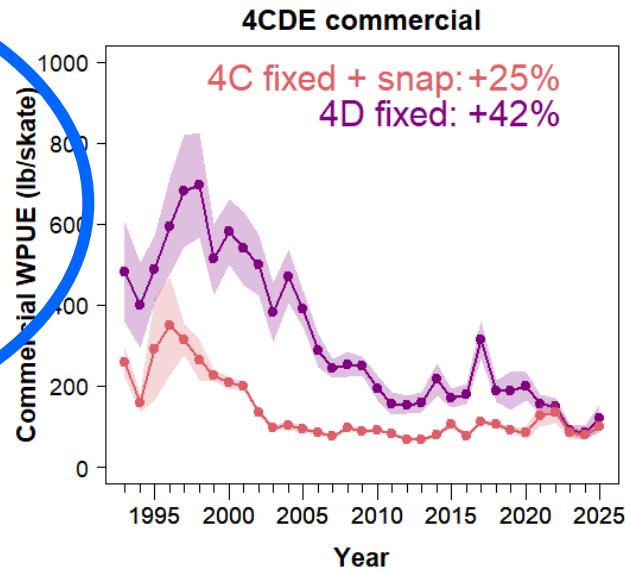
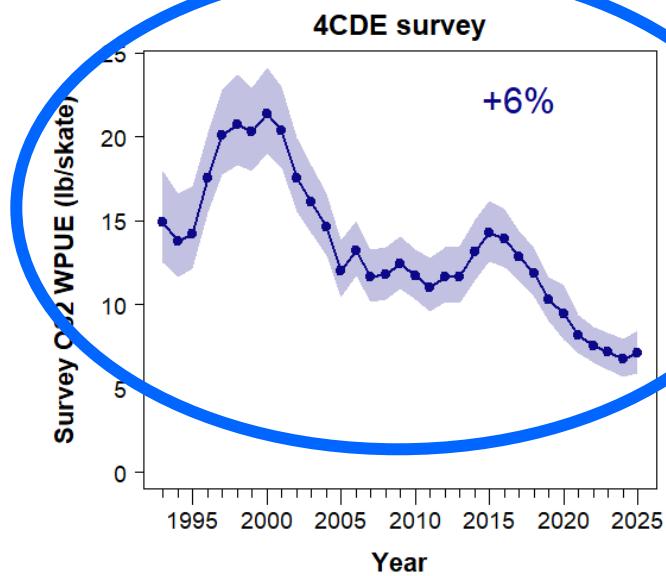
# IPHC Regulatory Area 4A



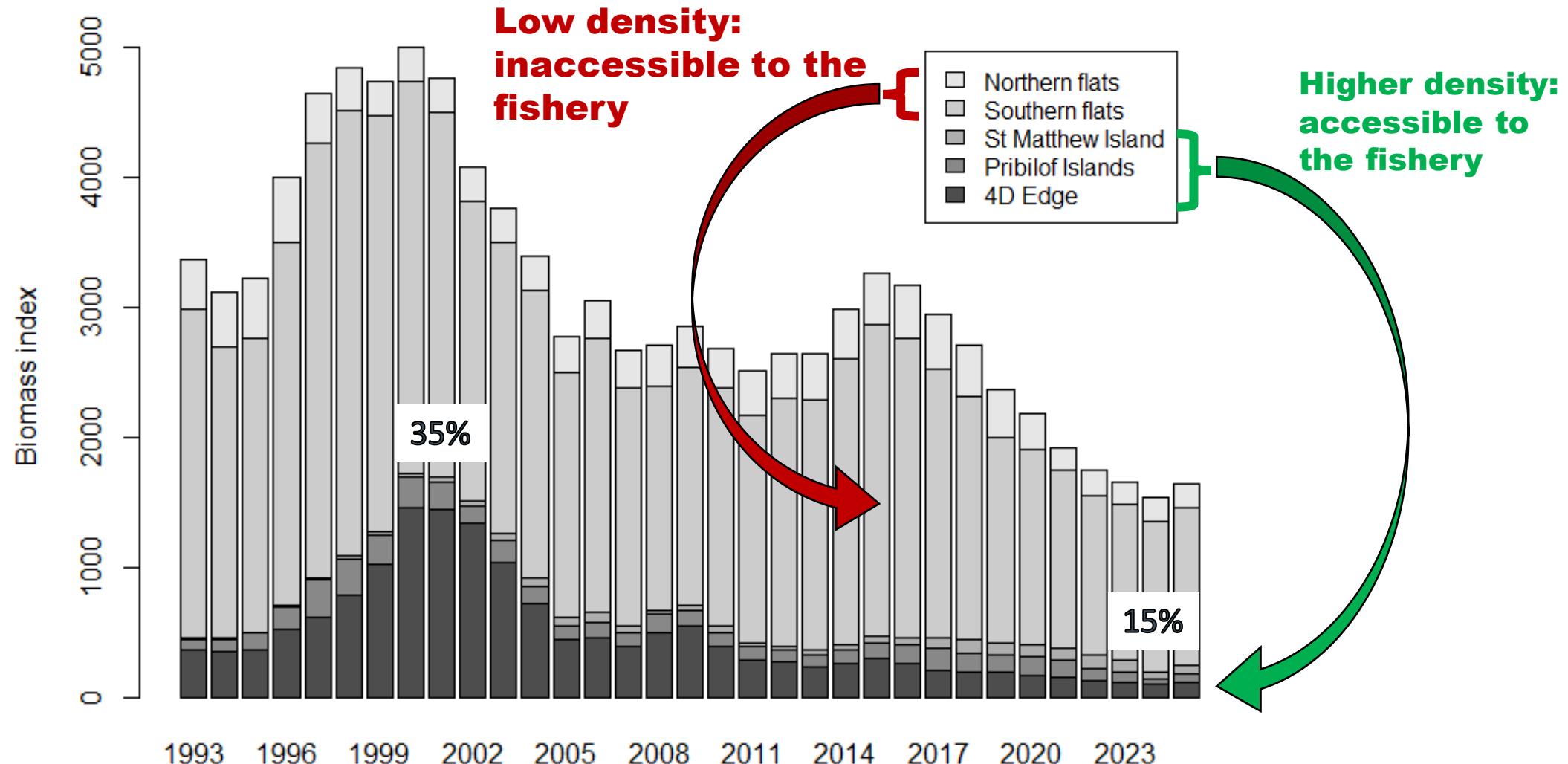
# IPHC Regulatory Area 4B



# IPHC Regulatory Area 4CDE



# IPHC Regulatory Area 4CDE – O32 biomass distribution



# Outline

## Data sources

- Coastwide
- Regional
- Dashboards by Area

## Modelling

- Process
- Results
- Reference points



# Stock assessment process

- Full assessments ~ every 3 years
  - 2015: Full assessment – formalized 4-model ensemble methods
  - 2019: Full assessment – included new commercial fishery sex-ratio data
  - 2022: Full assessment – improved treatment of natural mortality
- Updates in between - no major changes to treatment of data or model structure
- 2025: Full assessment
  - *SRB review in June and September*



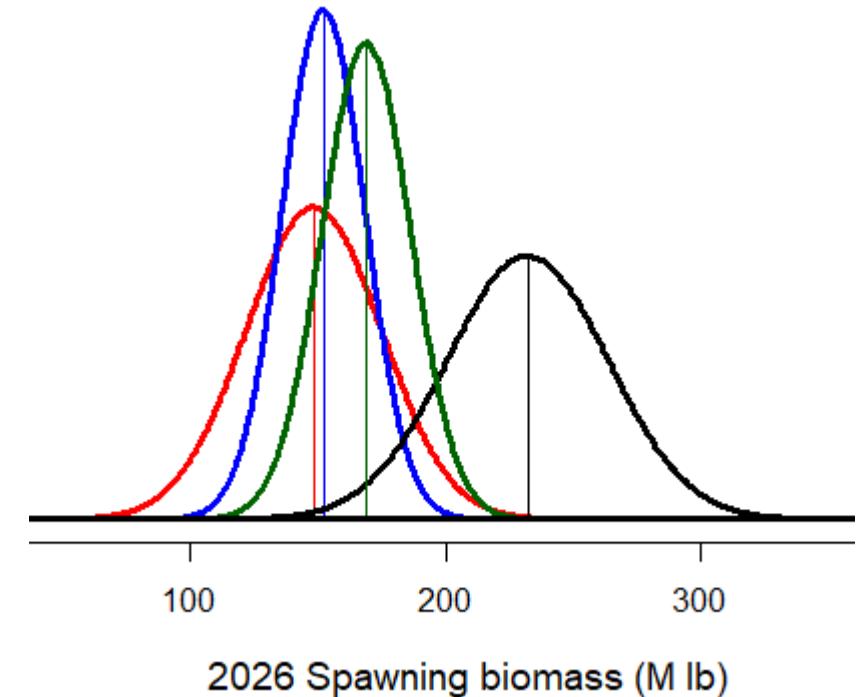
# Improvements in 2025

- Routine software updates
- Revised Pacific Decadal Oscillation relationship (covariate to recruitment)
- Improved treatment of input sample sizes (age data)
- Better propagation of uncertainty in selectivity
- Standard updating of process and observation error variances to achieve internal model consistency
- Updates to commercial CPUE time series (1981+) including additional data, revised hook-spacing relationship and extensive error checking
- **Updated maturity ogive reflecting histology-based estimates produced by the IPHC's Biological and Ecosystem Sciences Branch**



# 2025 stock assessment

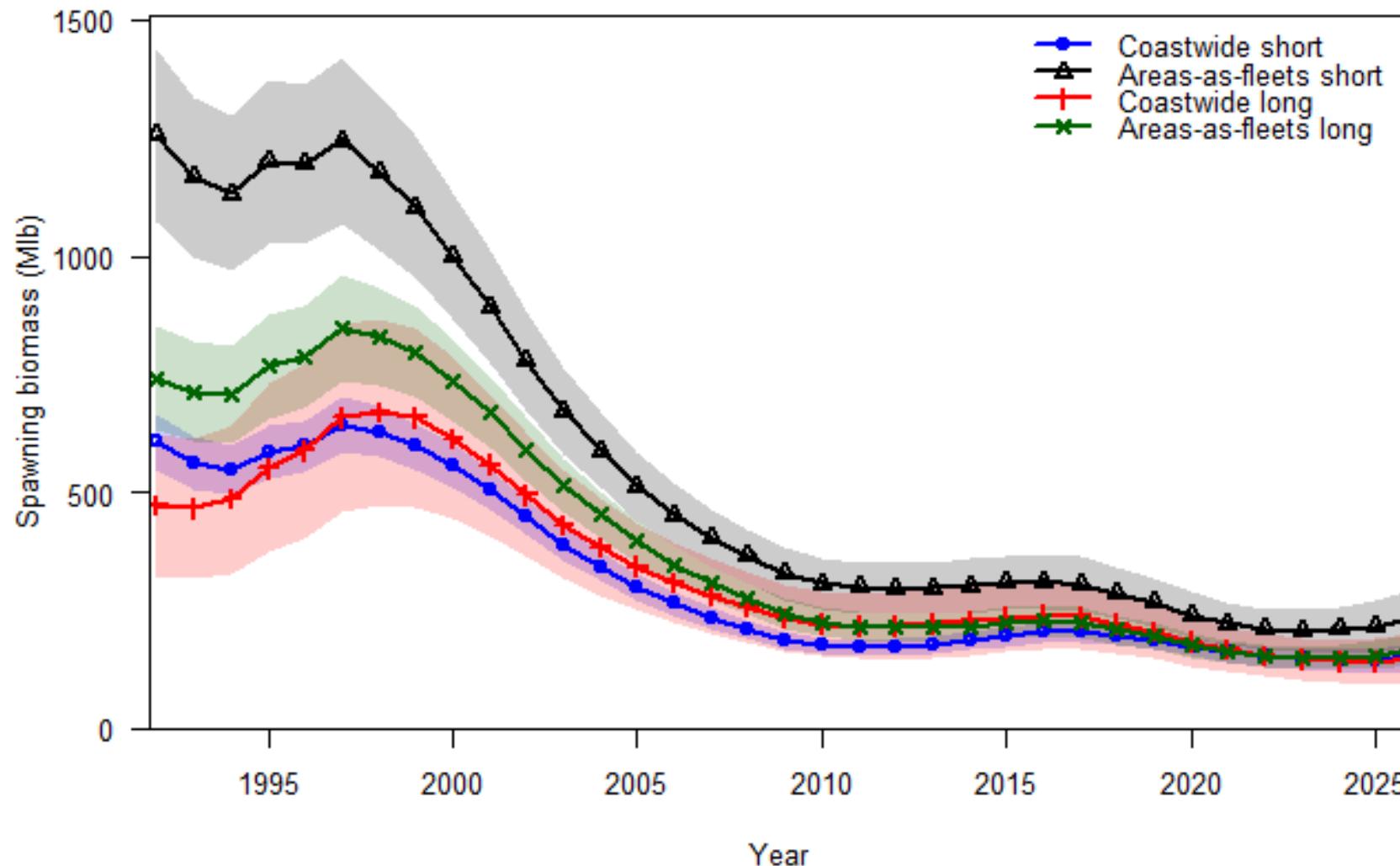
- Same 4 models as in recent assessments:
  - Long and short time-series
  - Aggregated, separate data by Region
- Each responds differently to new data and represents a different hypothesis about how the population dynamics and observations are best represented
- Results are equally weighted and integrated into a single probability distribution



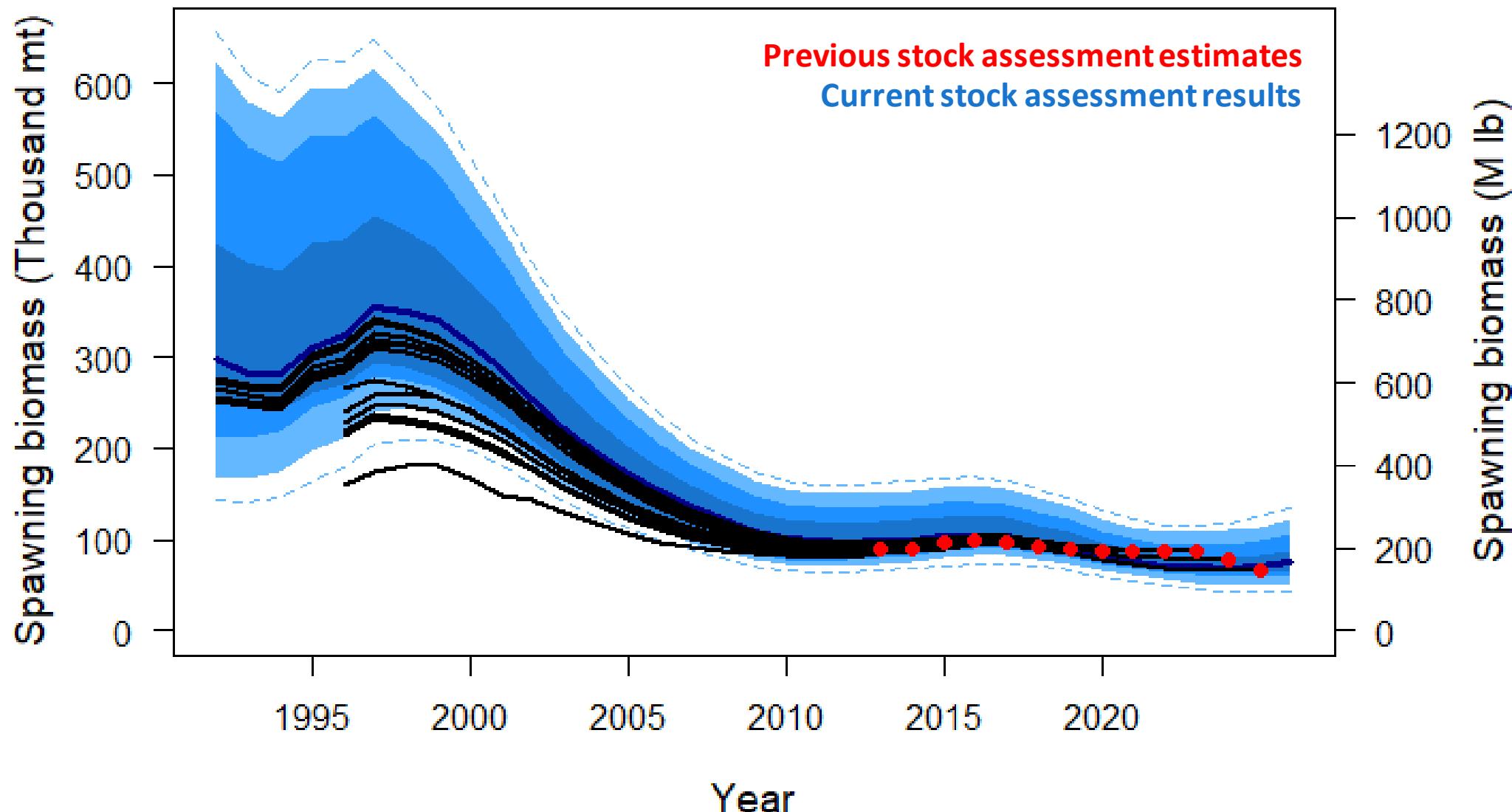
→ Unlike in 2023 and 2024 – the 2025 fishery data were largely consistent with FISS data when added to the stock assessment



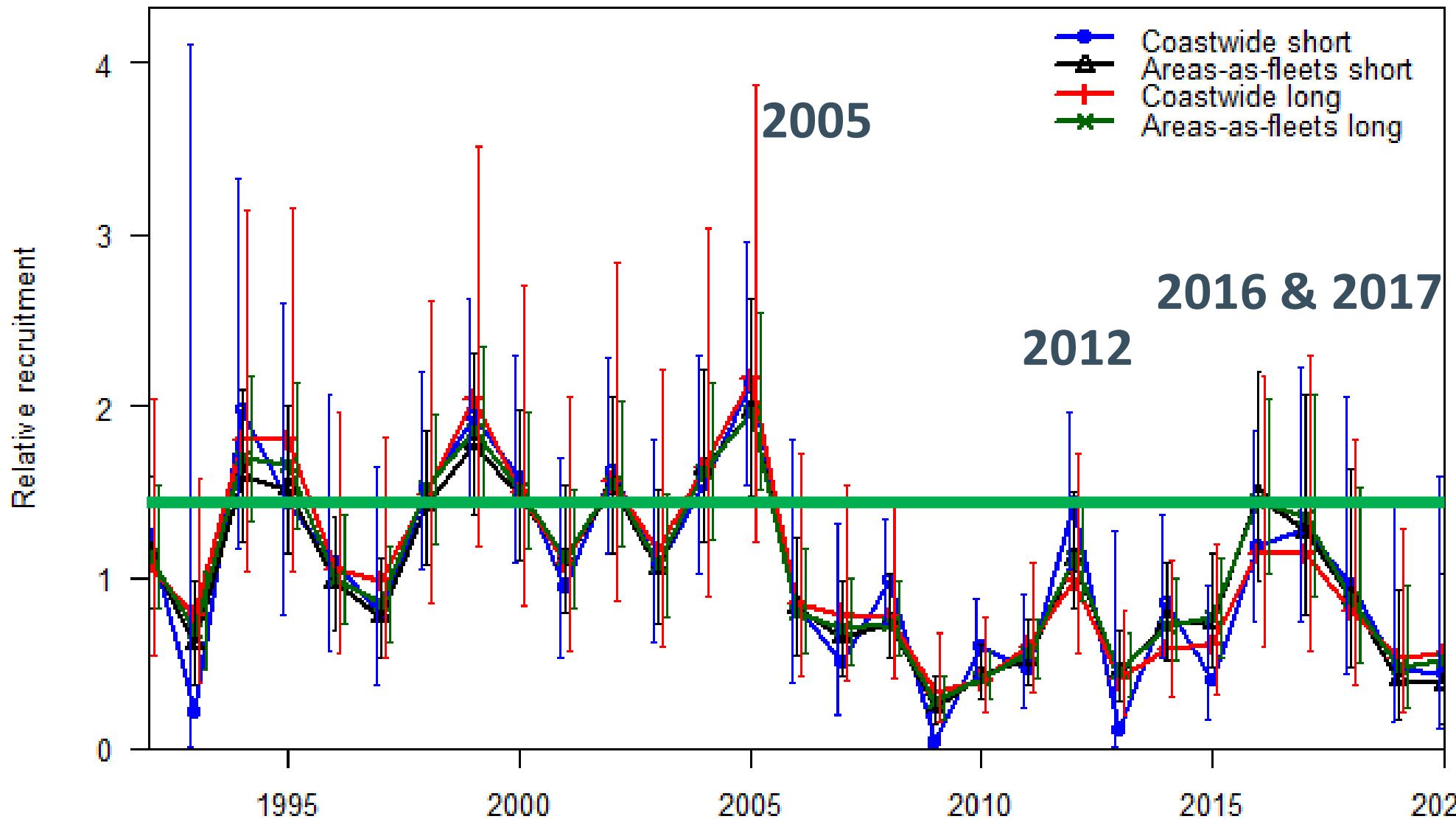
# Spawning biomass from each of the four models



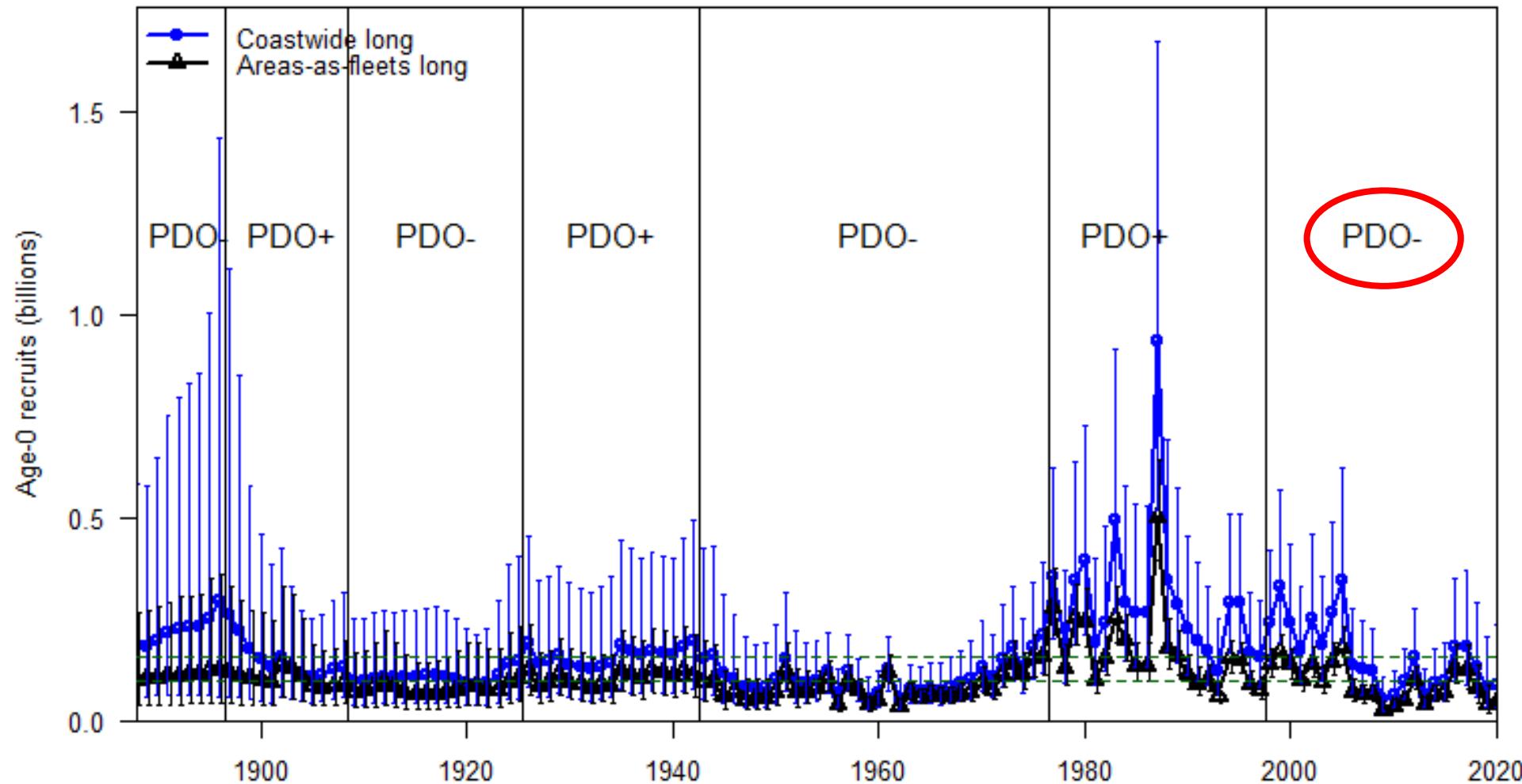
# Comparison to previous assessments



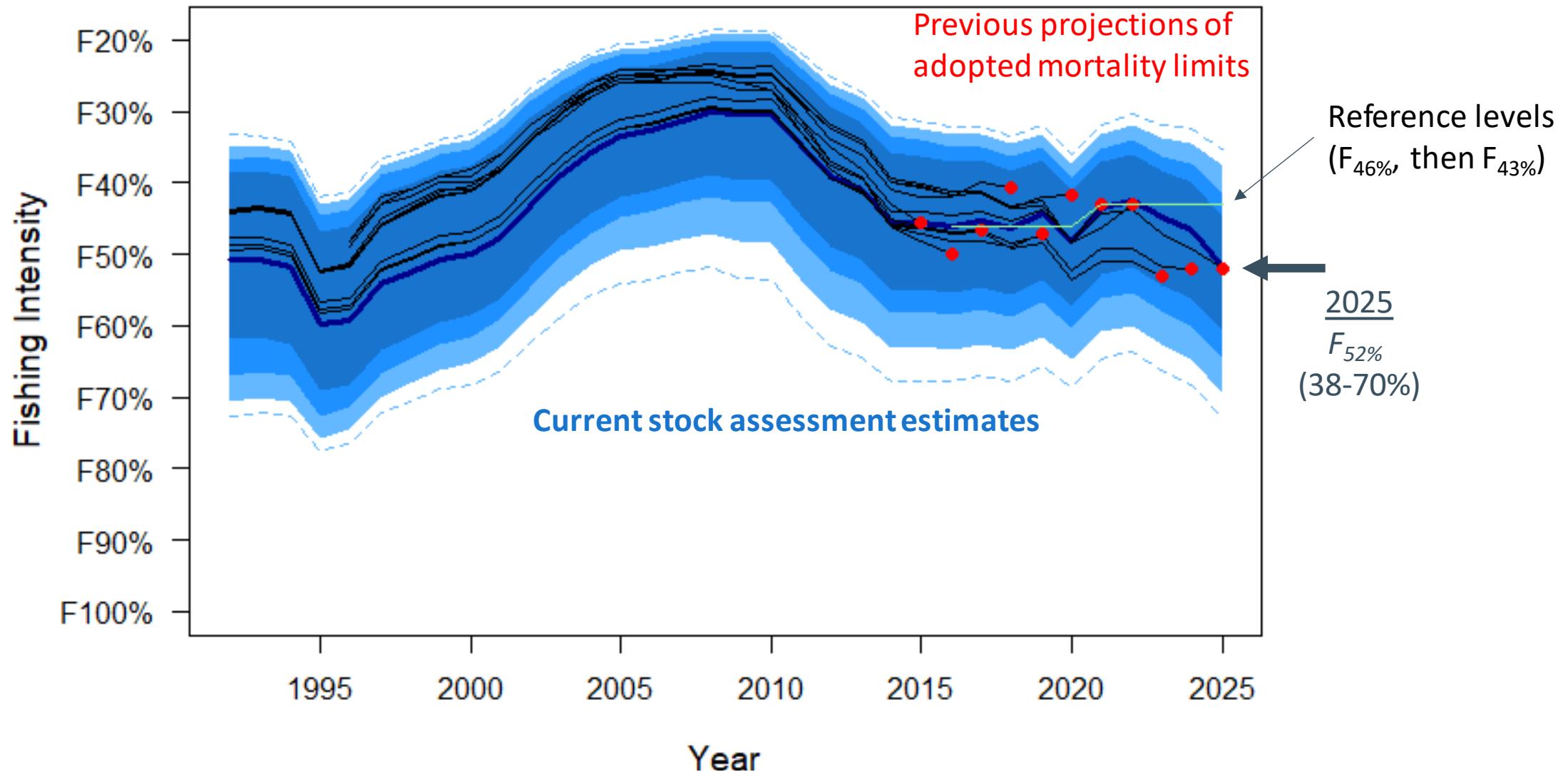
# Recent relative recruitment estimates



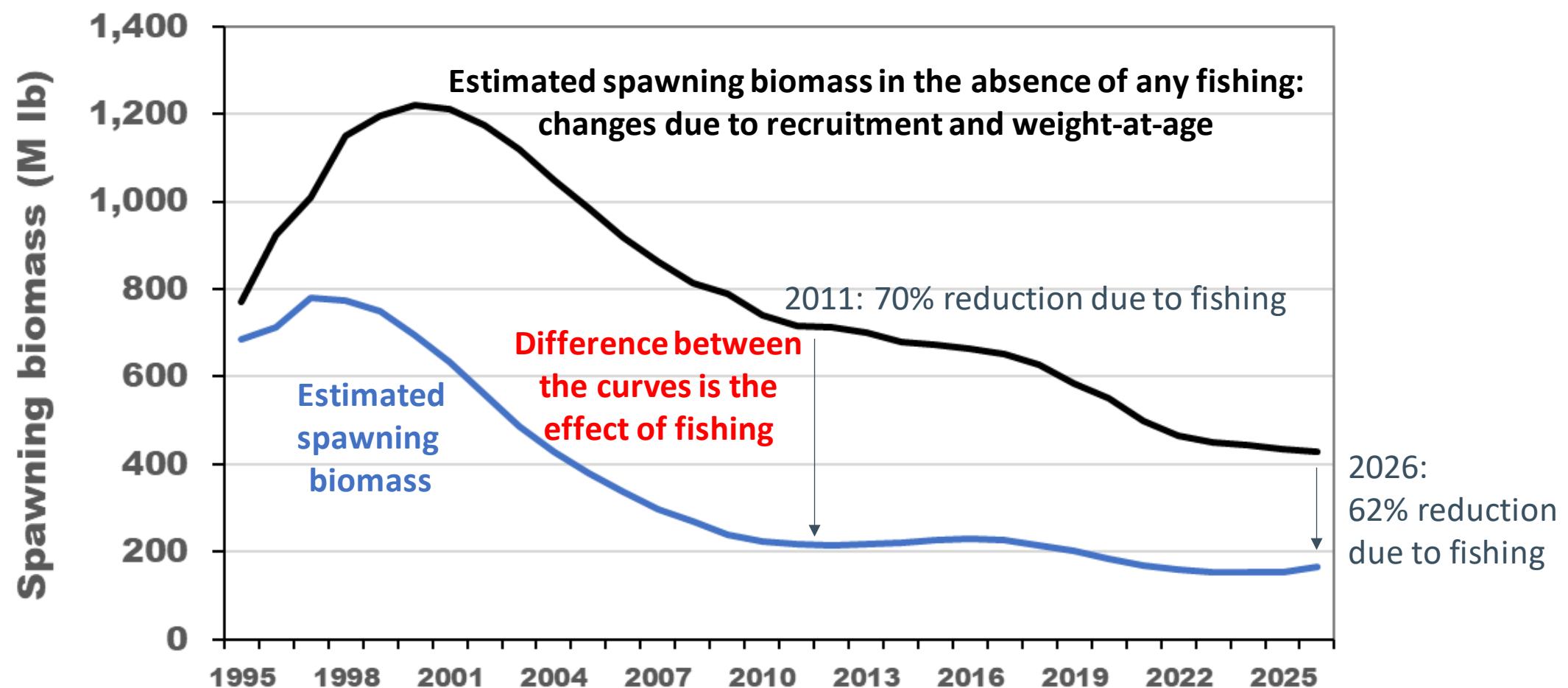
# Revised environmental index



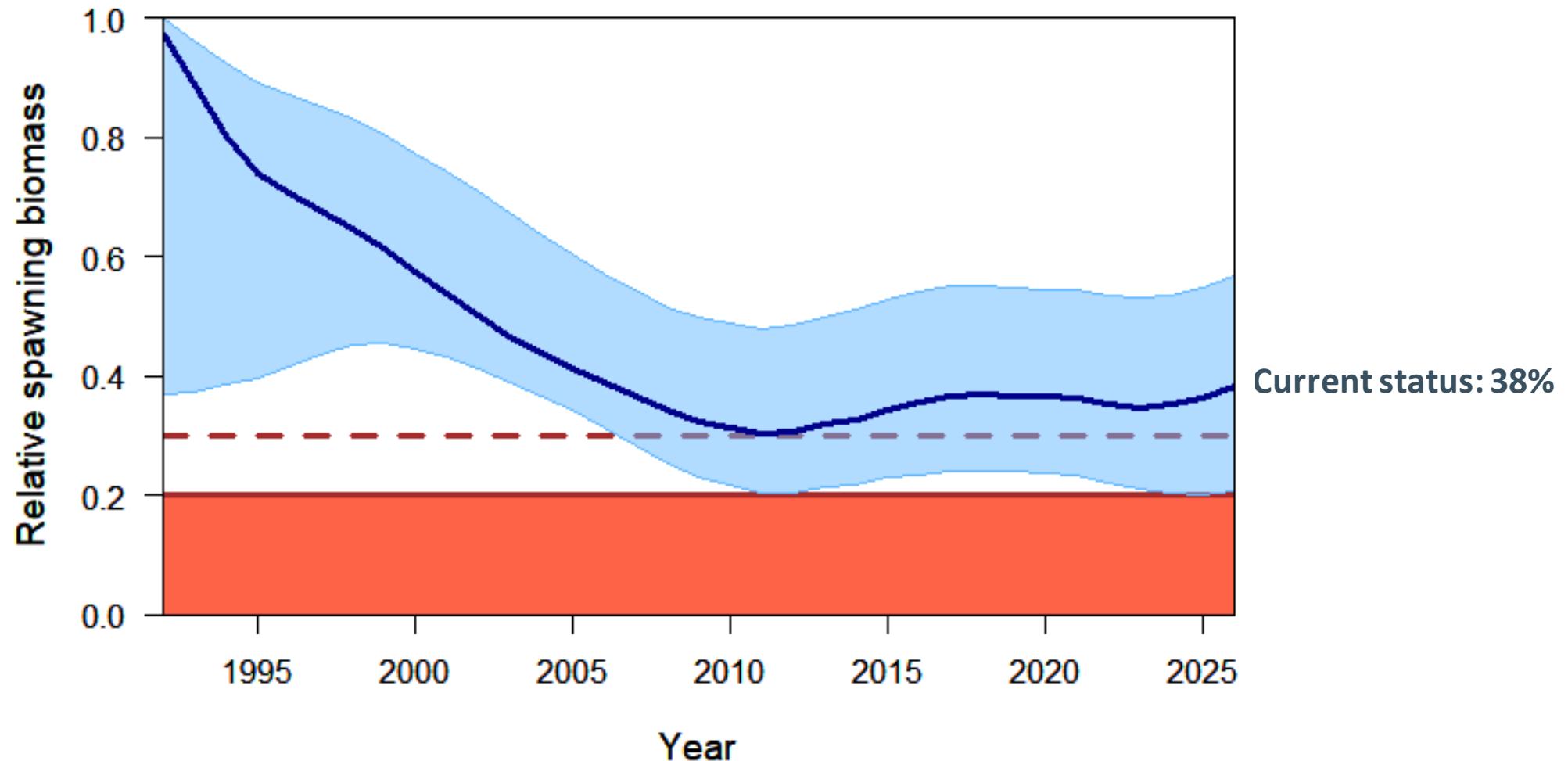
# Estimated fishing intensity



# Stock status – measuring the effect of fishing



# Stock status – measuring the effect of fishing



# Stock assessment summary table

Indicators	Values	Trends	Status
<b>BIOLOGICAL</b>			
<b>SPR<sub>2025</sub>:</b>	52% (38-70%)	FISHING INTENSITY	FISHING INTENSITY
<b>P(SPR<sub>2025</sub>&lt;43%):</b>	19%	REDUCED FROM 2024	BELOW REFERENCE
<b>P(SPR<sub>2025</sub>&lt;limit):</b>	<1%	TO 2025	AND LIMIT SPRs
<b>SB<sub>2026</sub> (MLBS):</b>	166 (113–272) MLbs	SB INCREASED 7% FROM 2025 TO 2026	NOT OVERFISHED
<b>SB<sub>2026</sub>/SB<sub>0</sub>:</b>	38% (21-57%)		
<b>P(SB<sub>2026</sub>&lt;SB<sub>30</sub>):</b>	28%		
<b>P(SB<sub>2026</sub>&lt;SB<sub>20</sub>):</b>	1%		
<b>Biological stock distribution:</b>	SEE TABLES AND FIGURES	REGION 3 INCREASED, REGION 2 DECREASED FROM 2024 TO 2025	REGION 4 AT THE HIGHEST OBSERVED PROPORTION
<b>FISHERY CONTEXT</b>			
<b>Total mortality 2025:</b>	28.80 MLbs, 13,063 t	MORTALITY	2025 WAS THE
<b>Percent retained 2025:</b>	81%	DECREASED FROM	LOWEST MORTALITY
<b>Average mortality 2021–25:</b>	34.58 MLbs, 15,687 t	2024 TO 2025	IN LAST 100 YEARS



# Summary of results

- Reduced mortality limits appear to have reached levels consistent with surplus production created by the 2012, 2016 and 2017 year-classes
- FISS and fishery indices remain at historically low levels
- The stock remains at a low productivity level due to low average weight-at-age and recruitment
- Despite low absolute spawning biomass, the stock is estimated to be above  $B_{30\%}$  and the fishing intensity much lower than  $F_{43\%}$



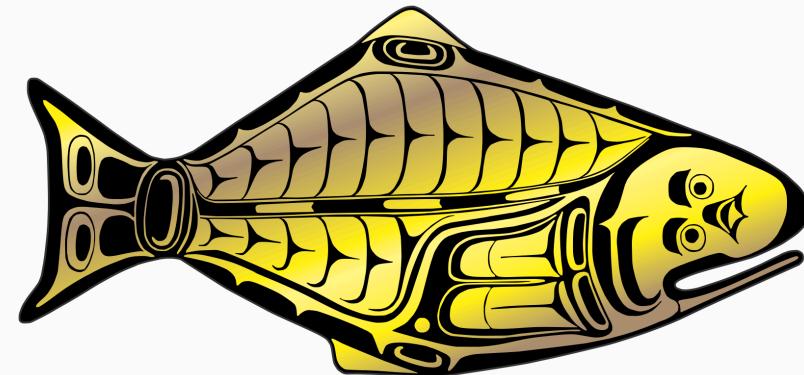
# Recommendations

*That the Commission:*

- 1) **NOTE** paper IPHC-2026-AM102-10, which provides a summary of the data and the results of the 2025 stock assessment.



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