

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

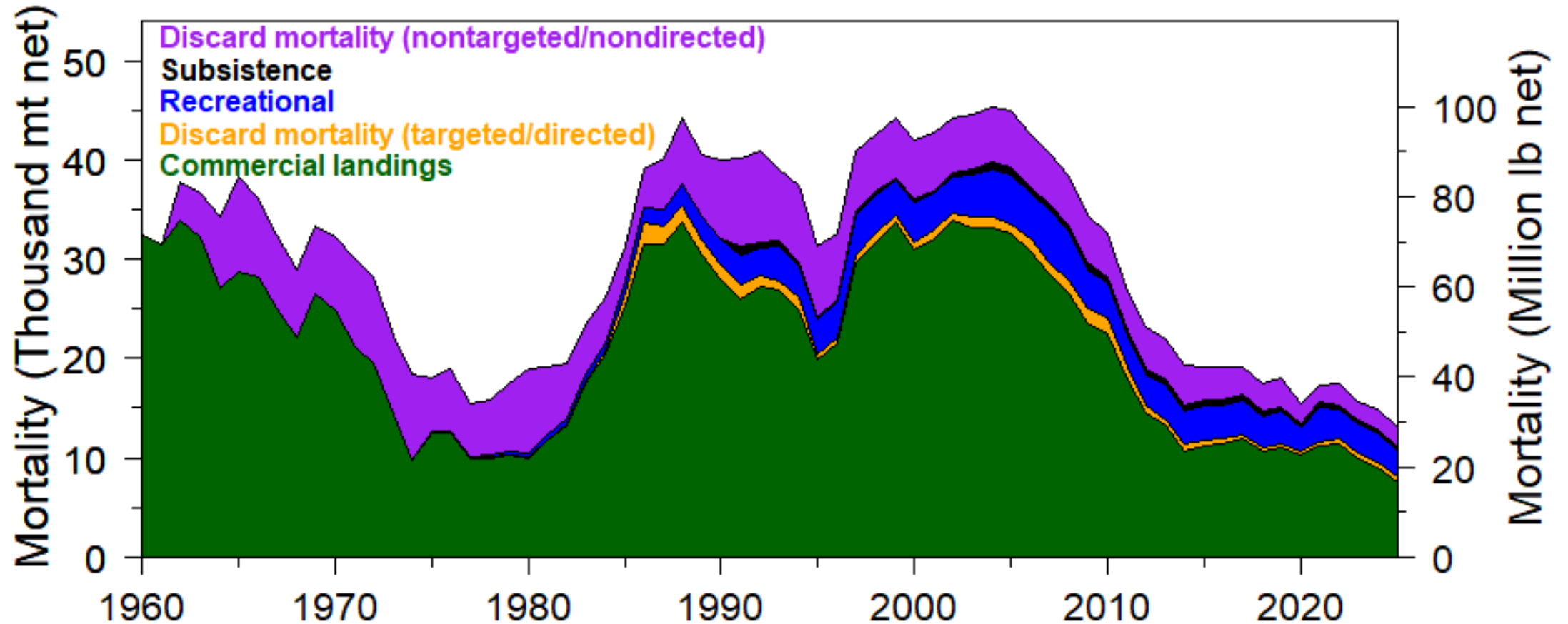
Modelling

- Process
- Results
- Reference points

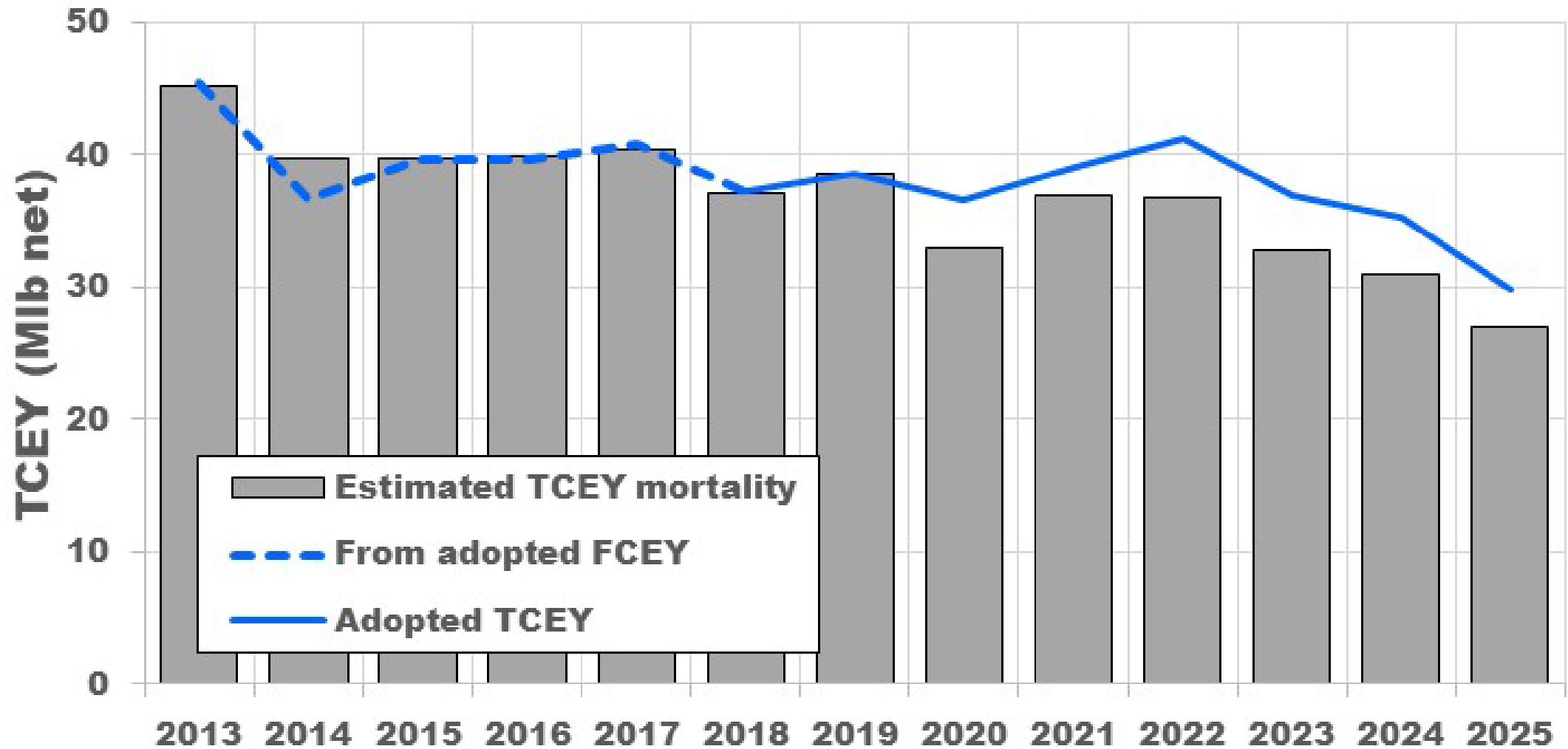
Stock projections and the harvest decision table follow in a separate presentation



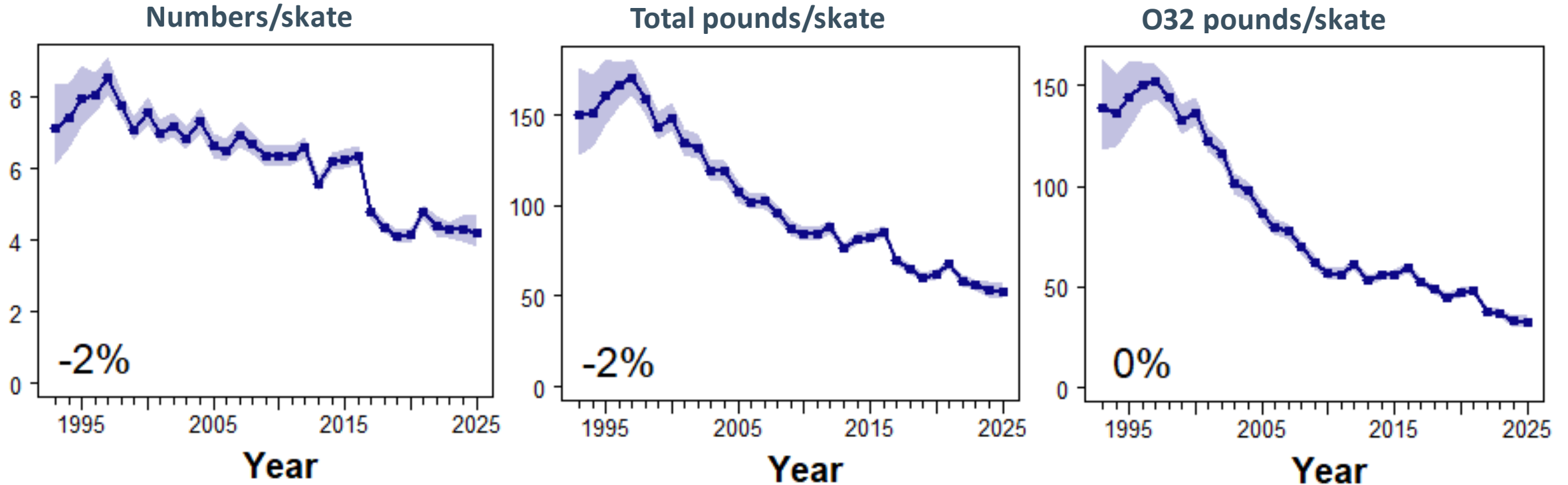
Coastwide historical mortality



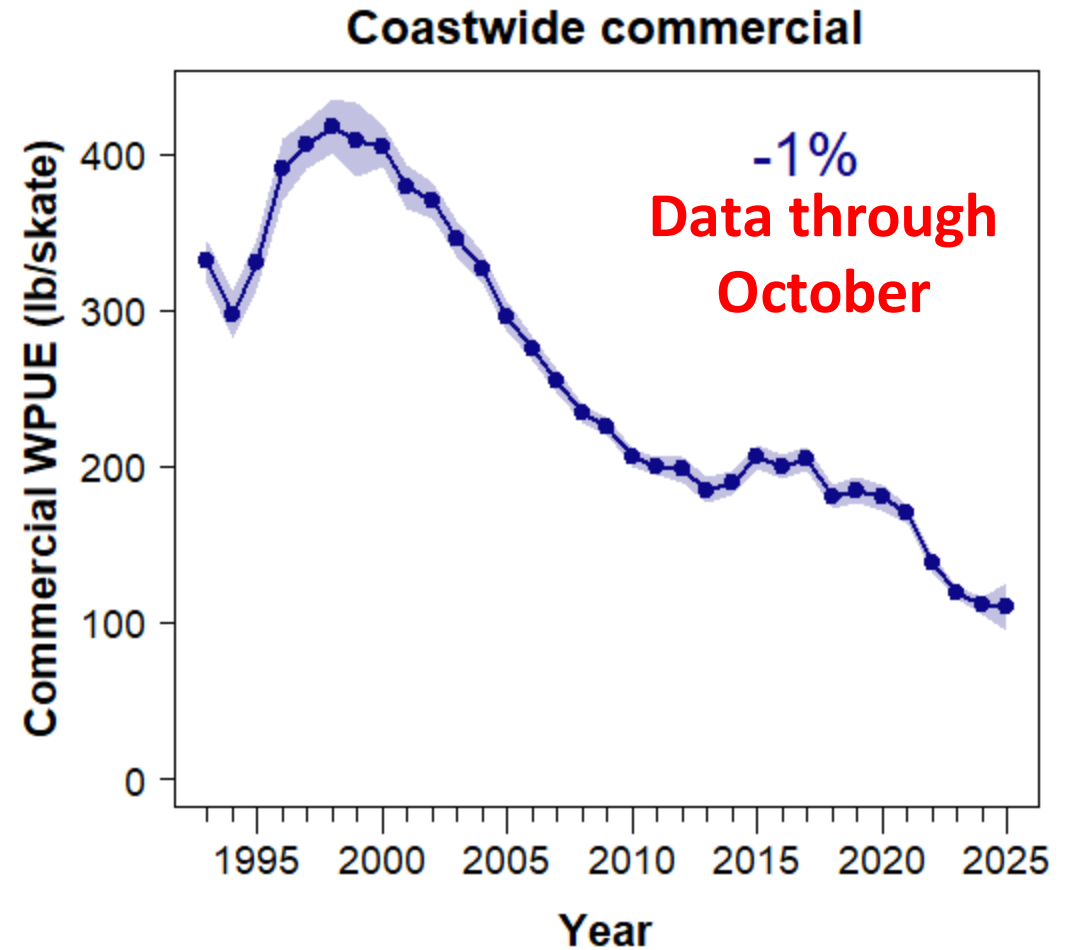
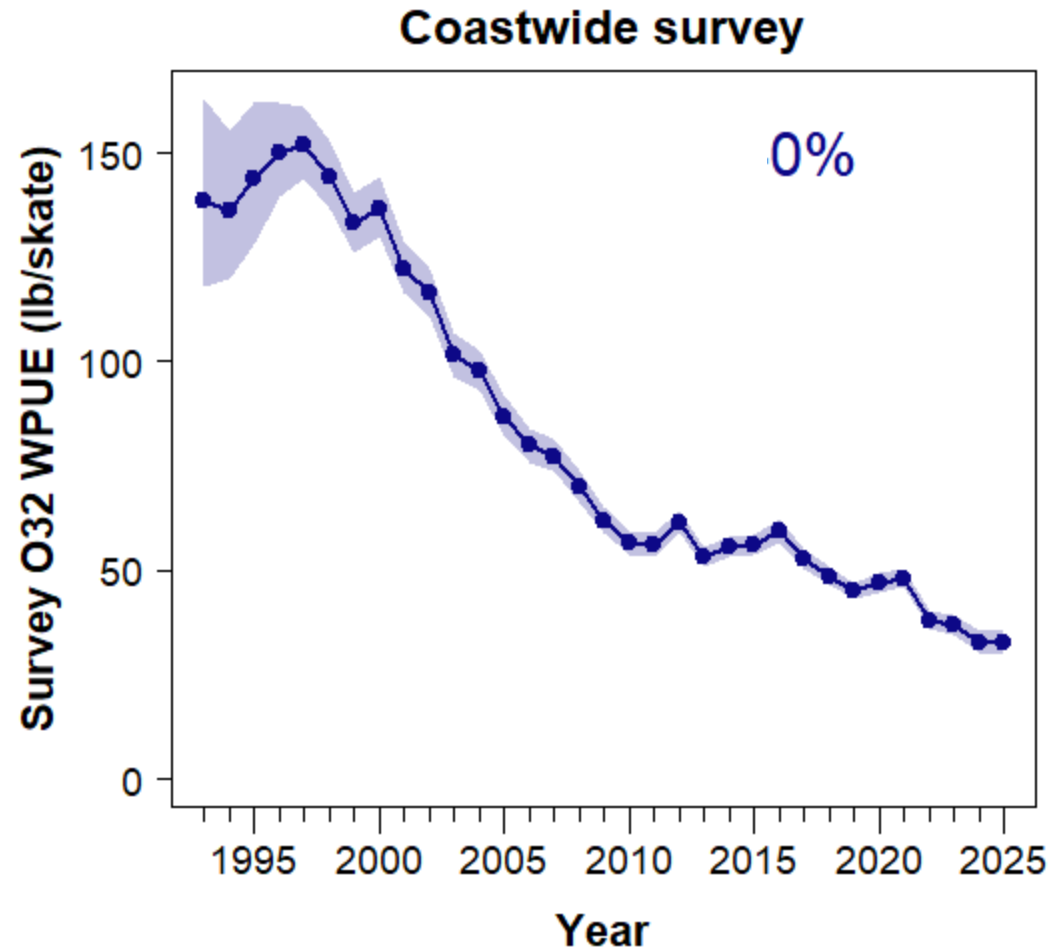
Recent coastwide TCEYs



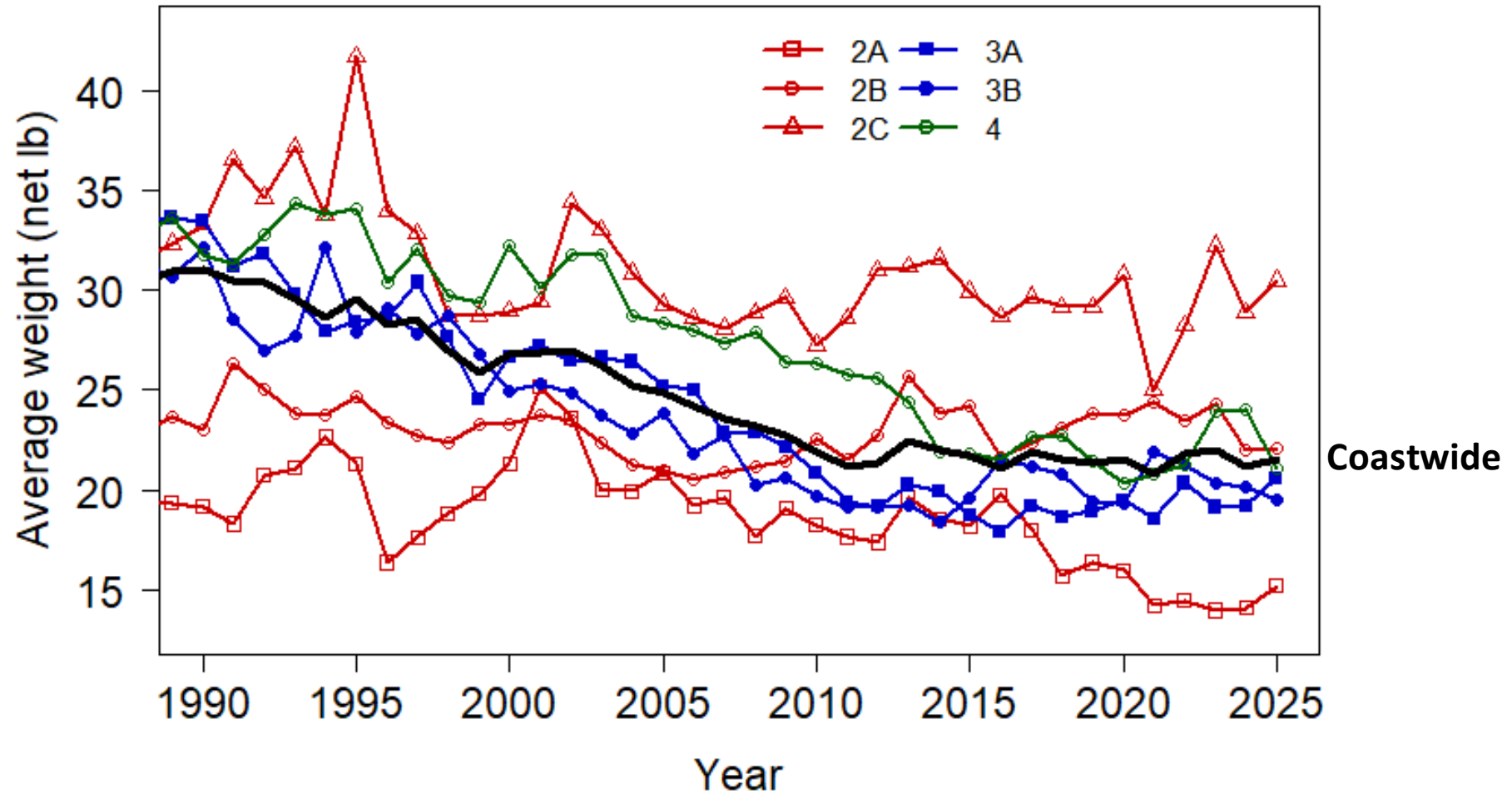
Coastwide FISS trends



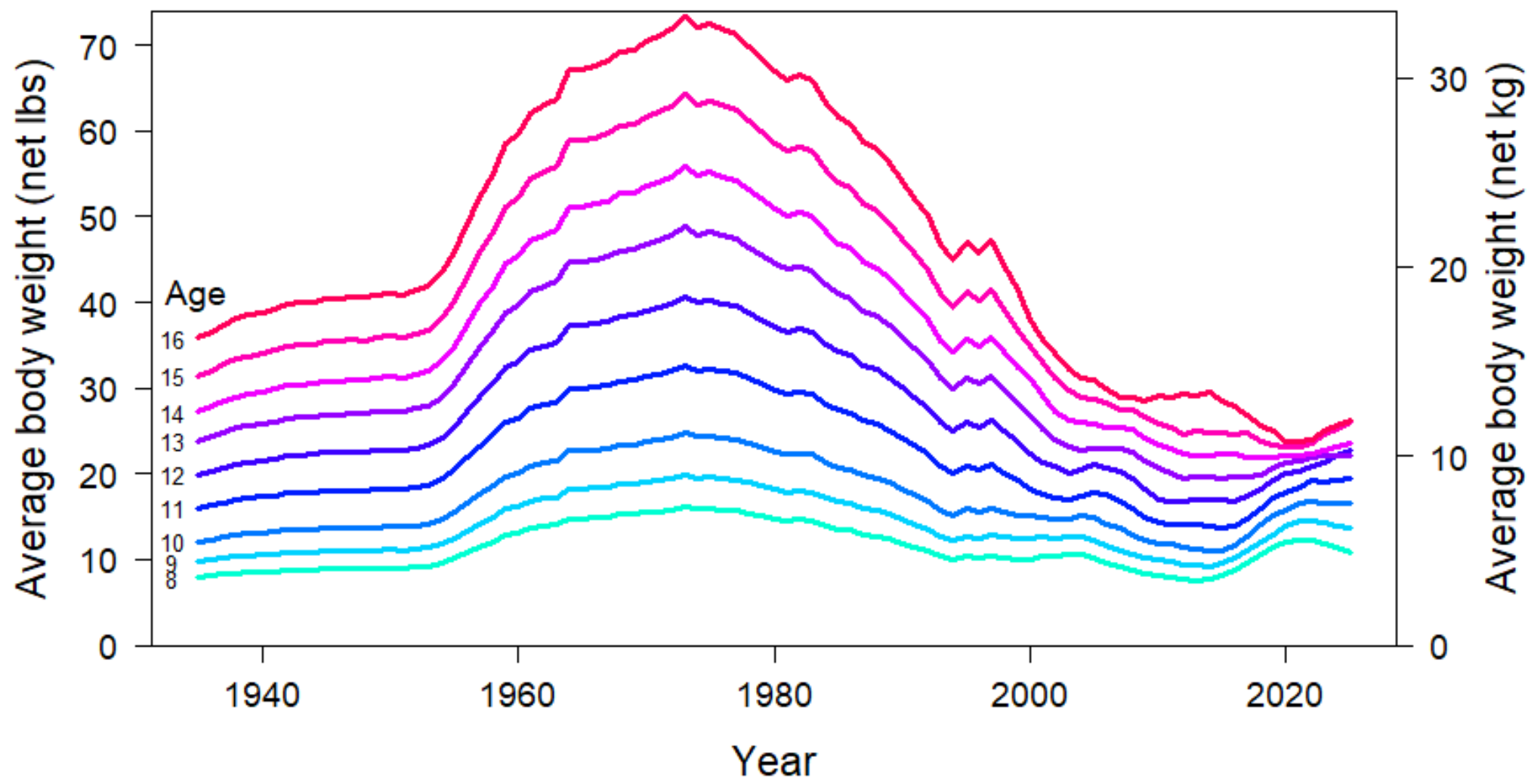
O32 FISS and Fishery trends



Average weight – landed fish

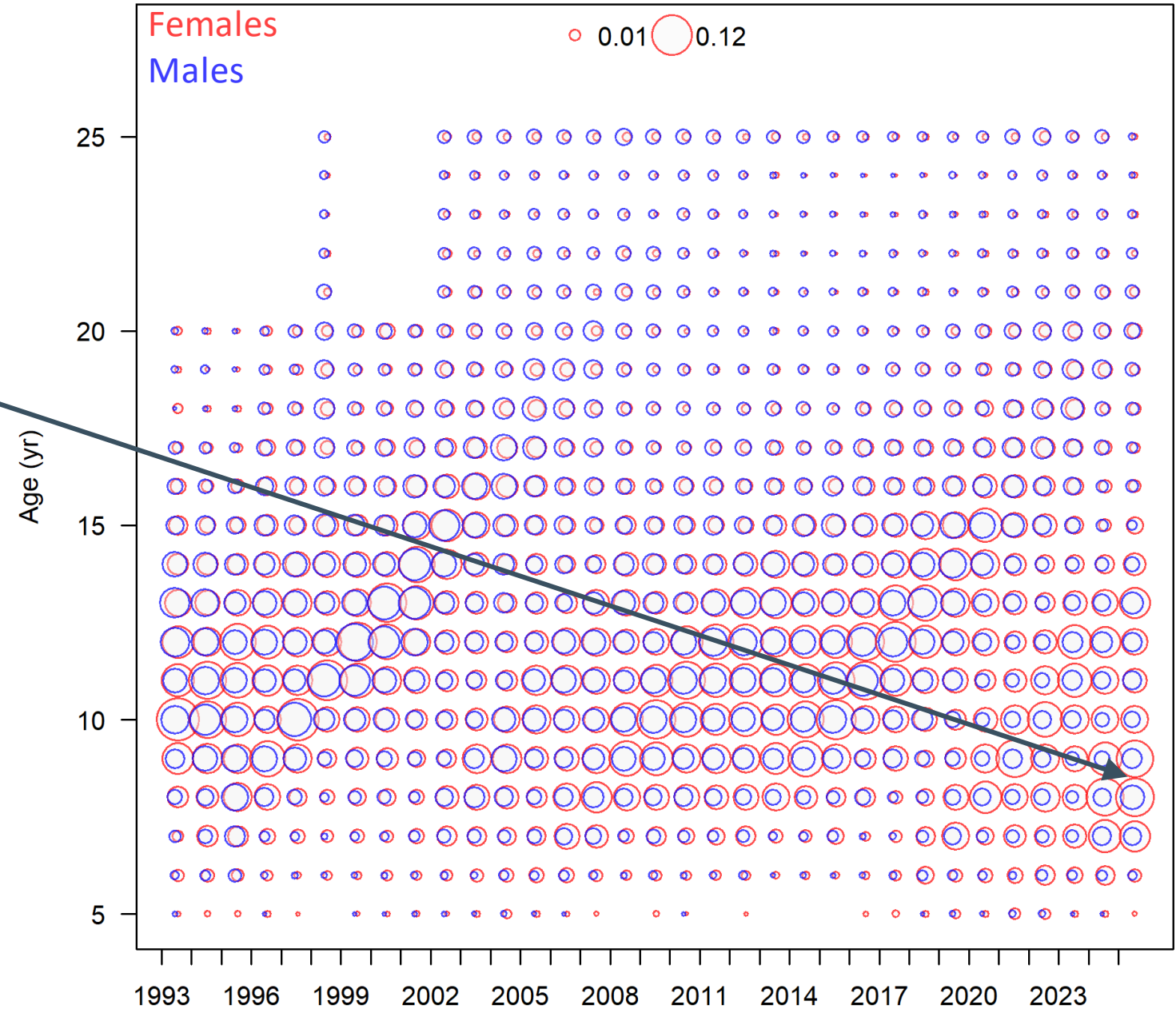


Coastwide female weight-at-age



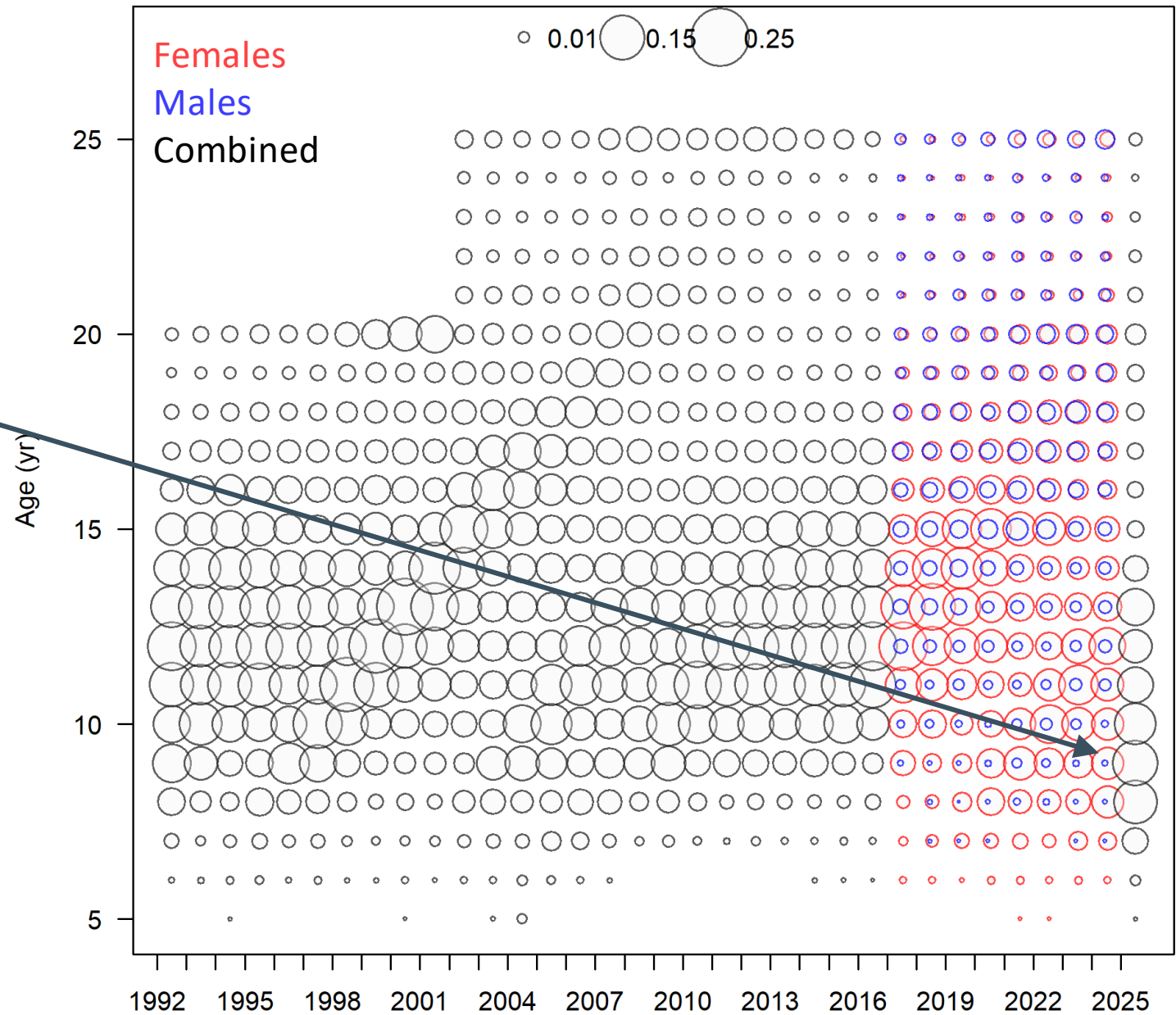
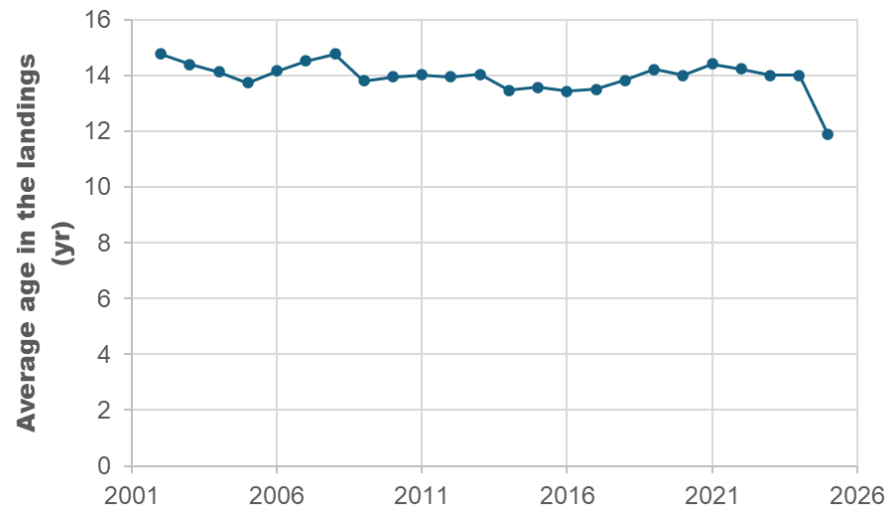
Coastwide FISS ages

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

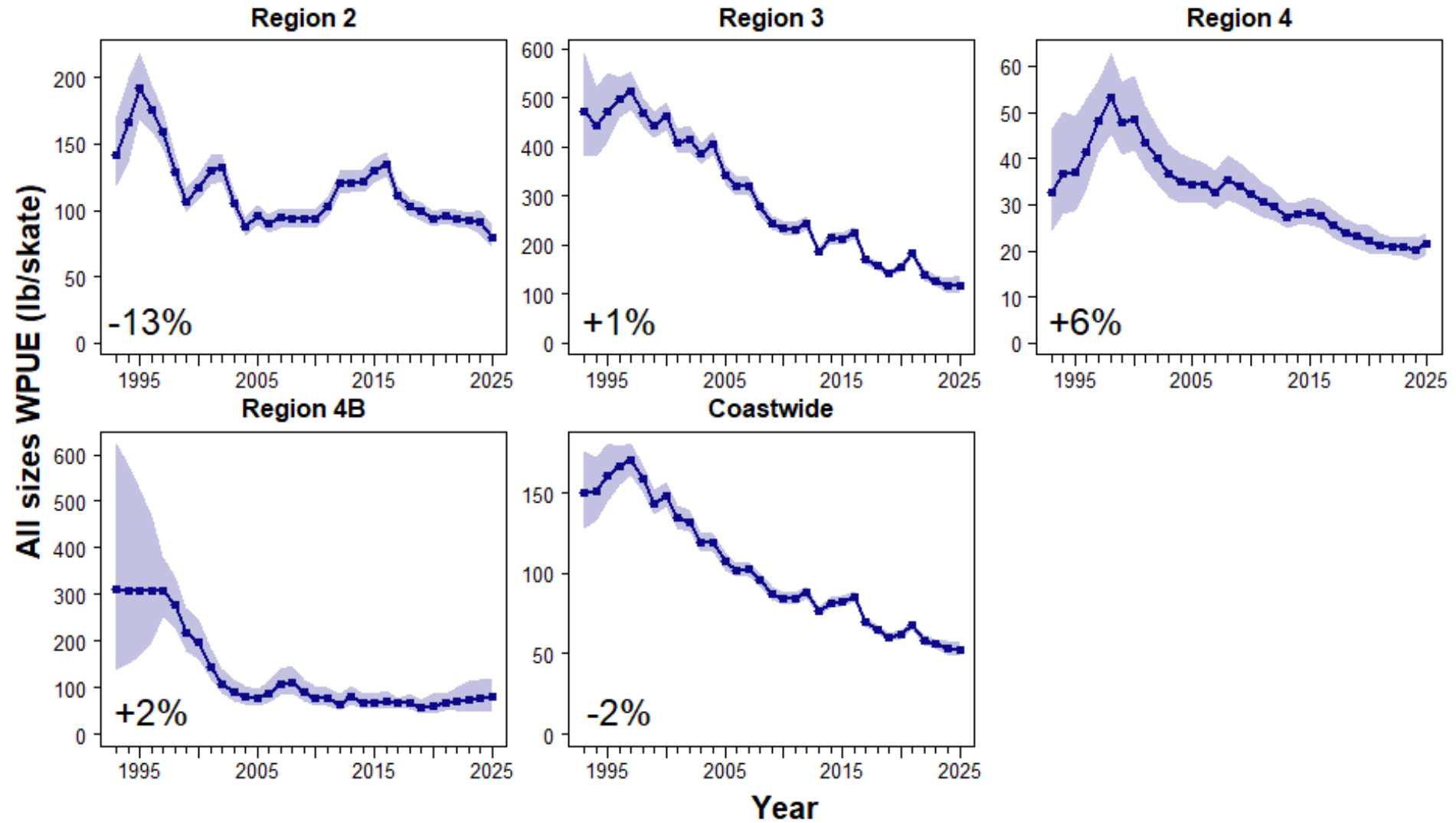


Coastwide fishery ages

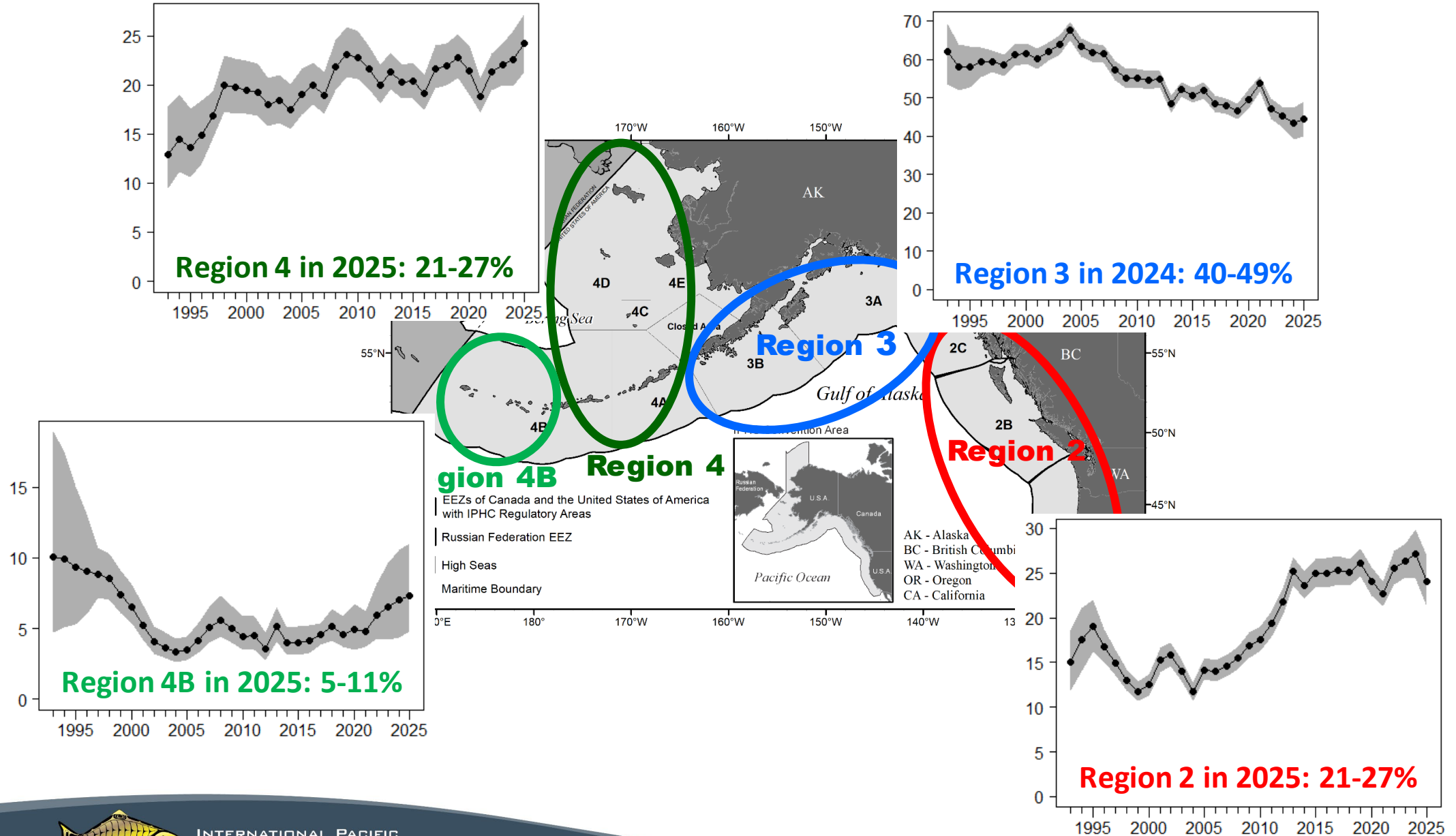
More very young fish than in recent years



Regional survey trends (all sizes)

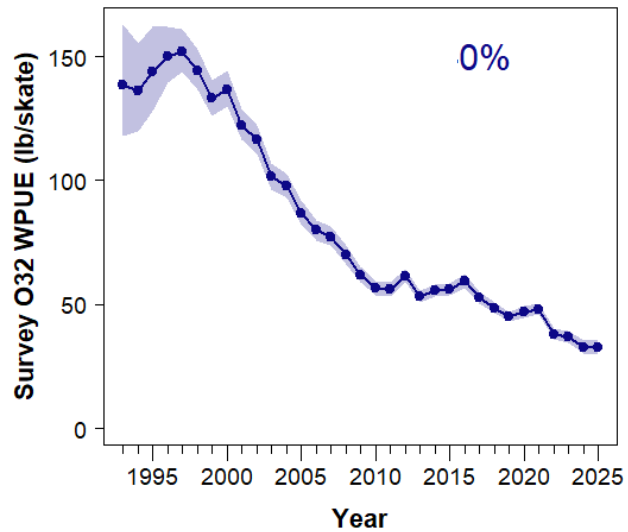


Regional stock distribution (all sizes)

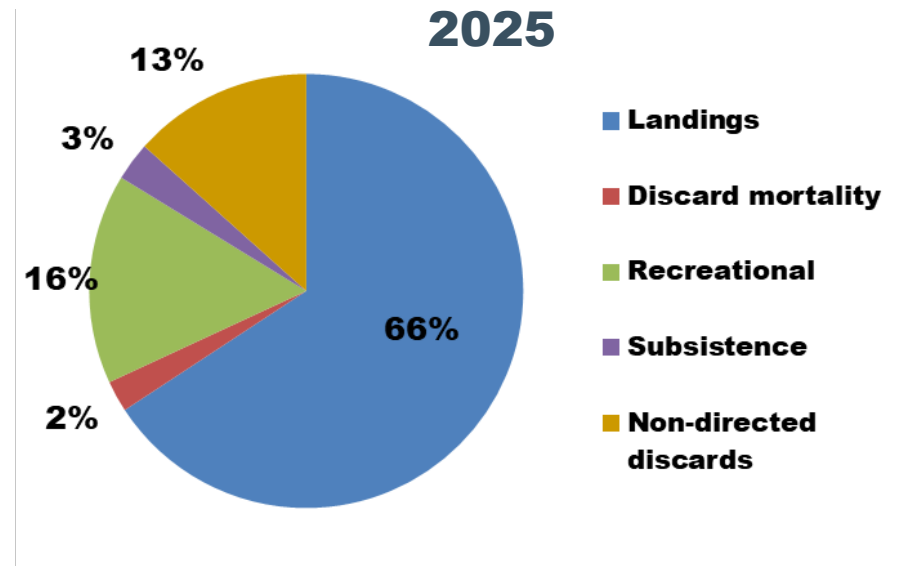
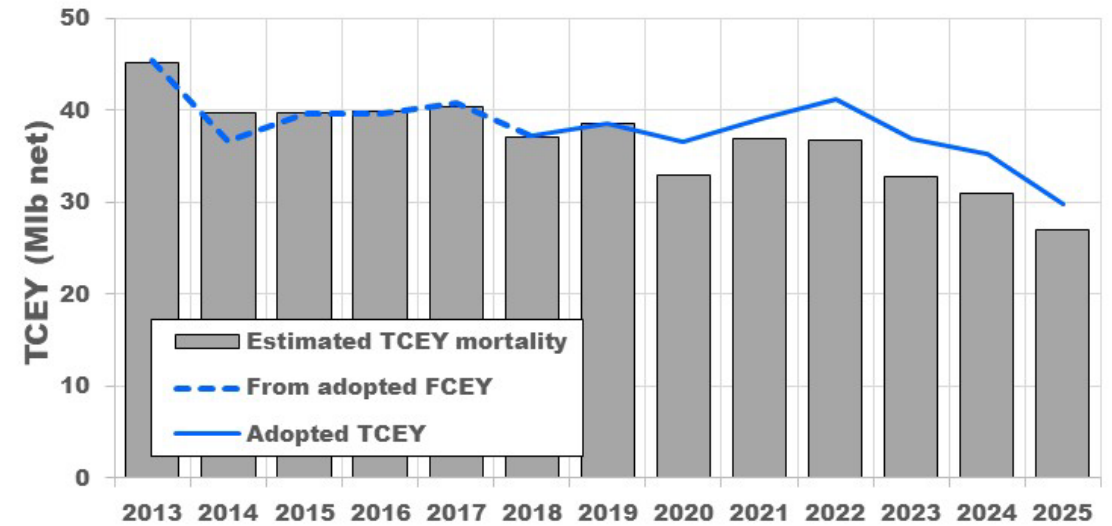
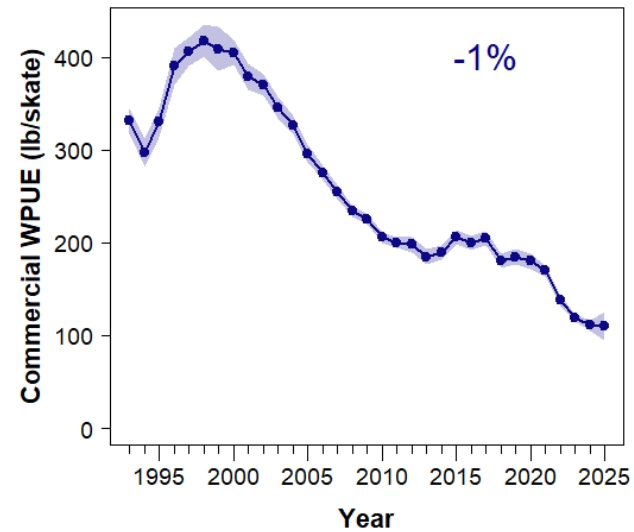


Coastwide dashboard

Coastwide survey

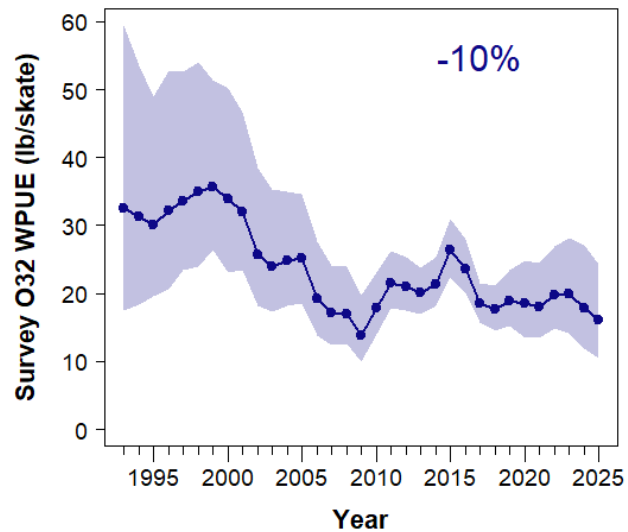


Coastwide commercial

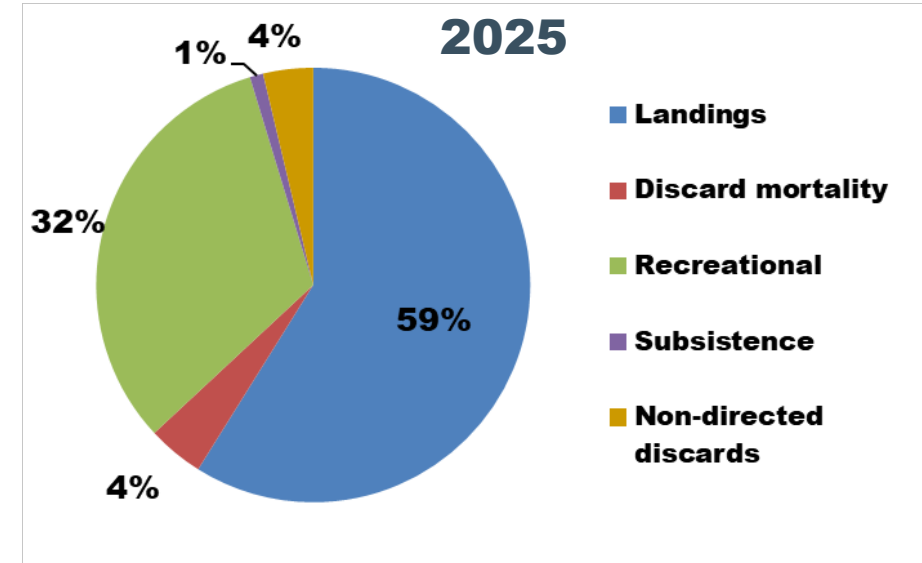
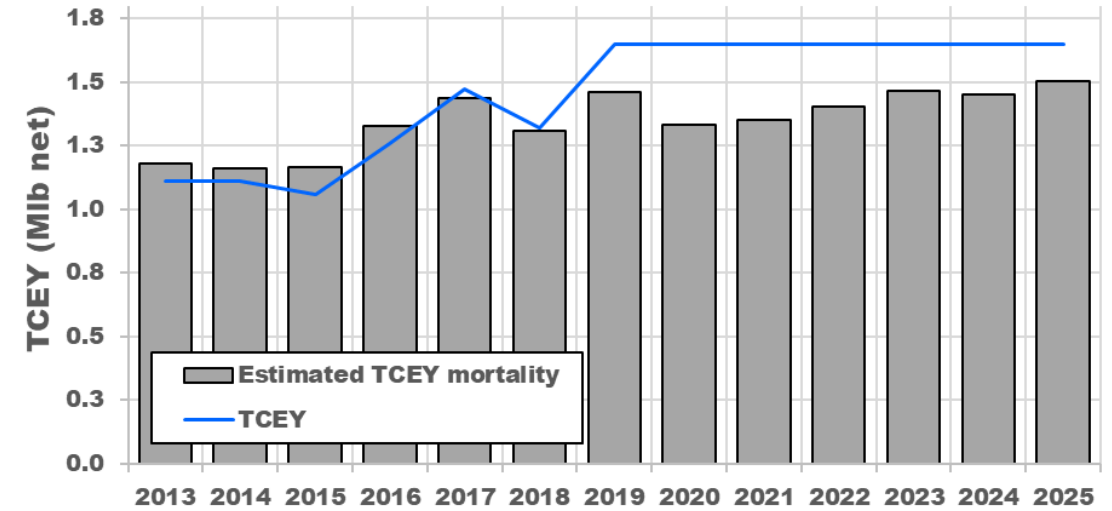
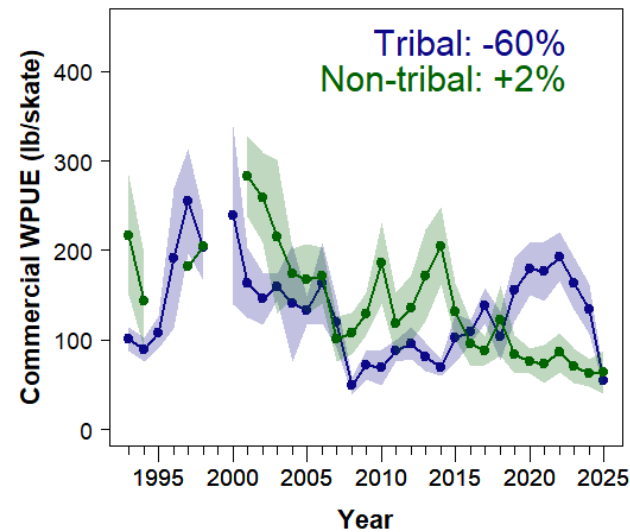


IPHC Regulatory Area 2A

2A survey

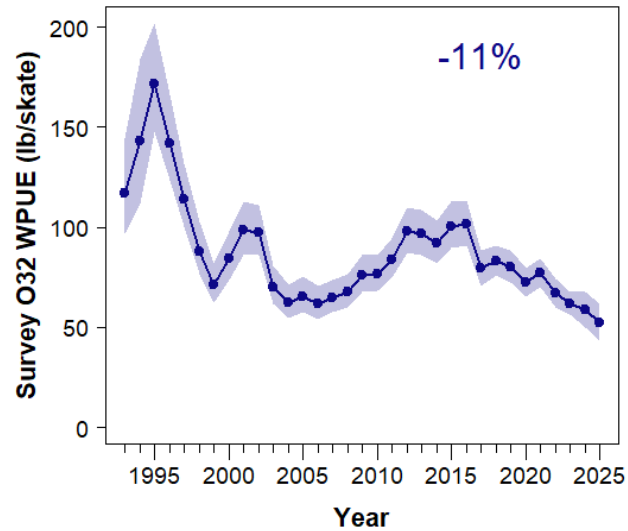


2A commercial

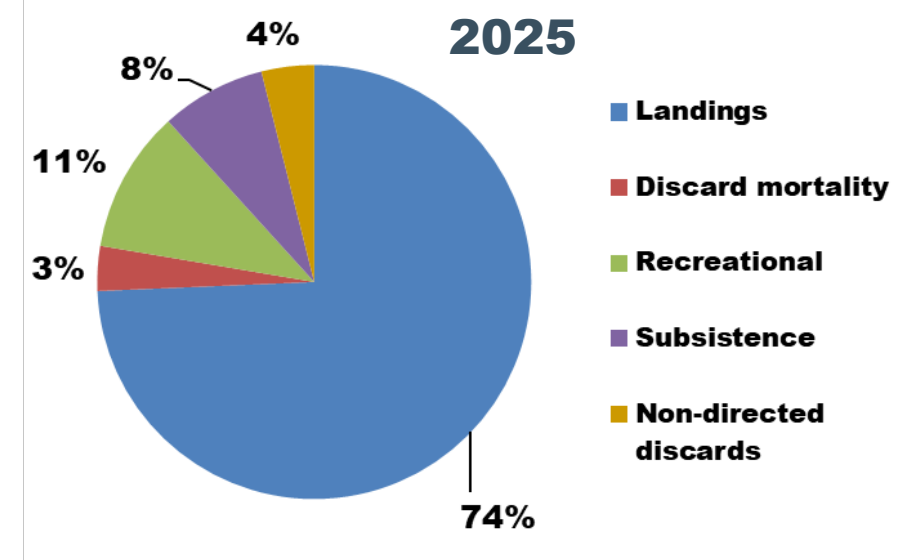
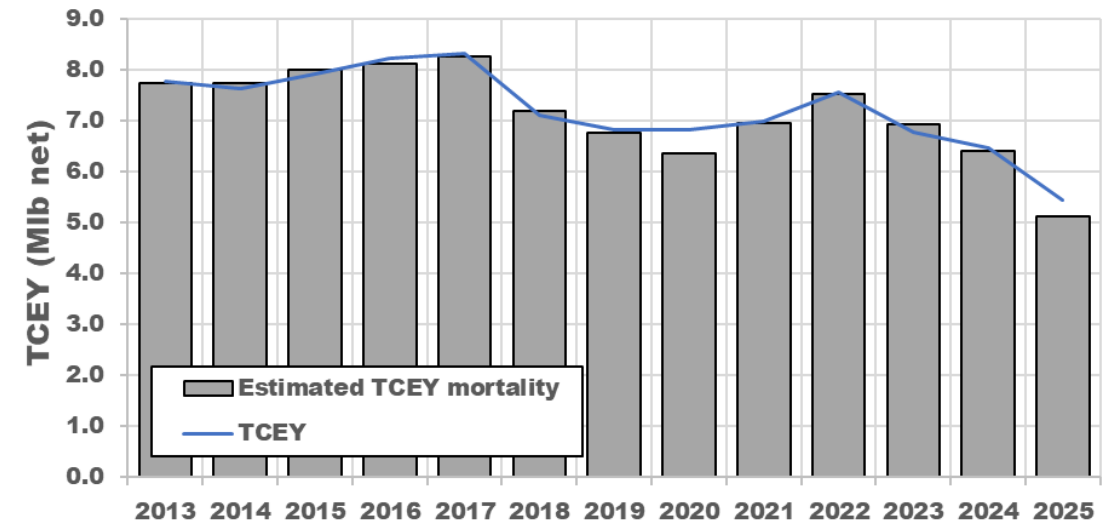
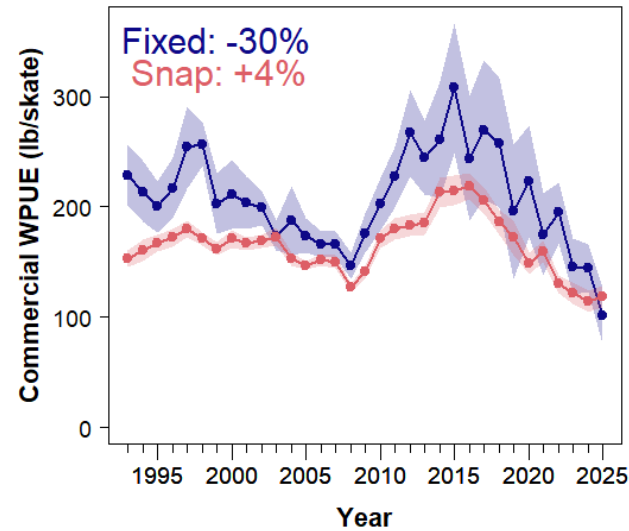


IPHC Regulatory Area 2B

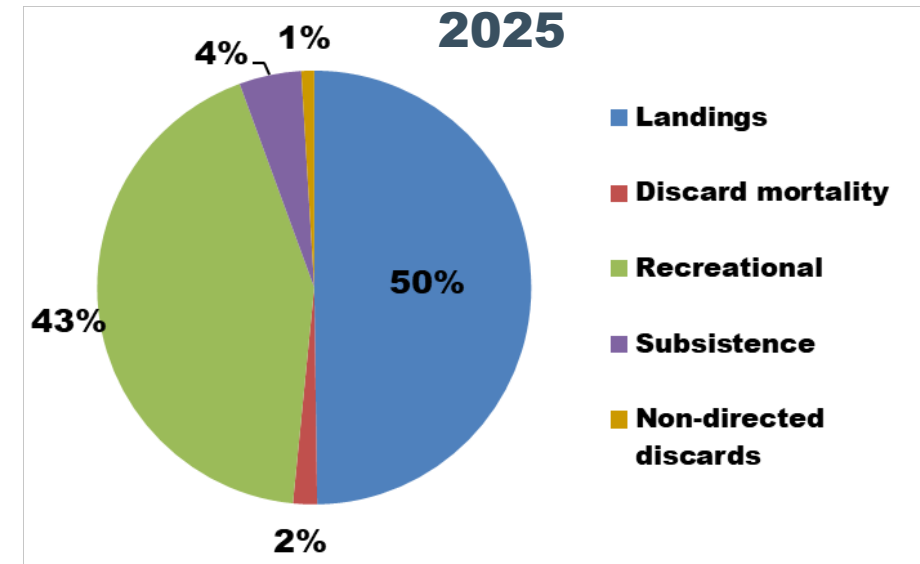
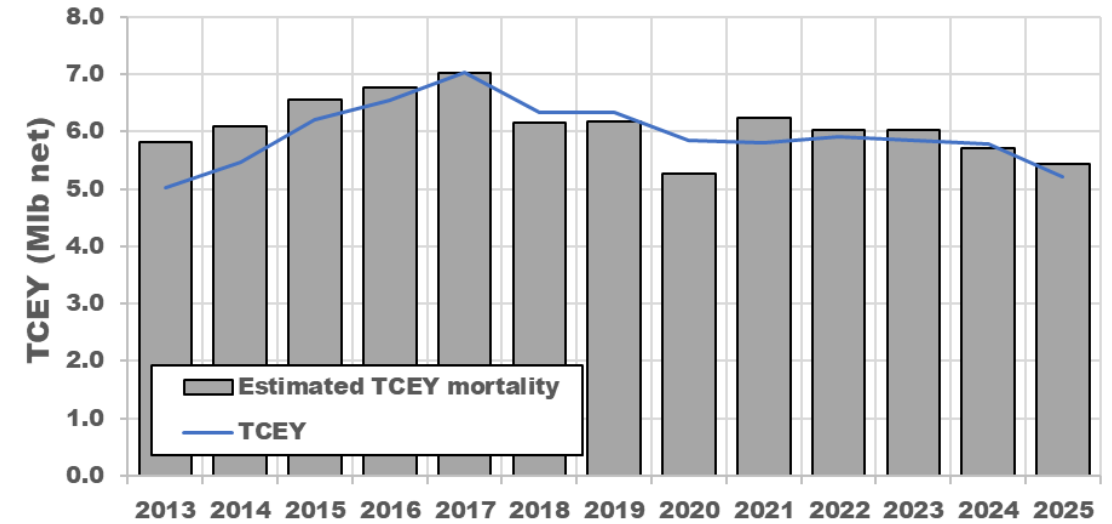
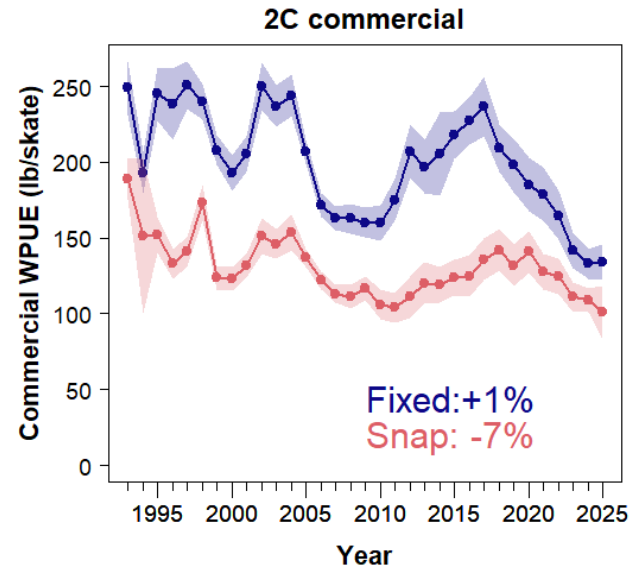
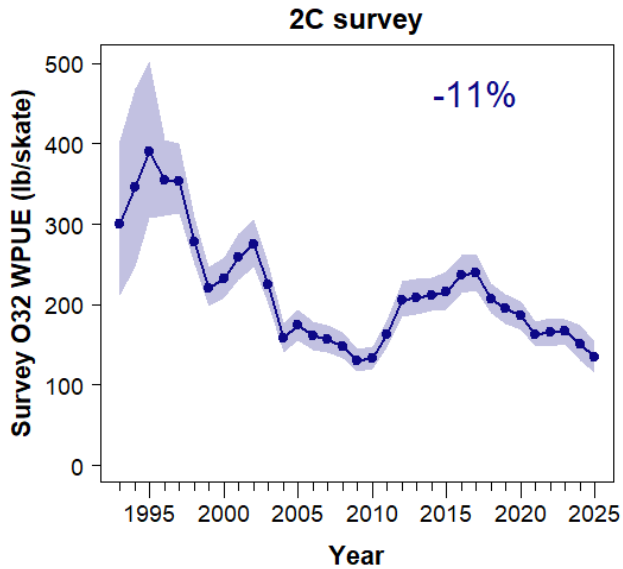
2B survey



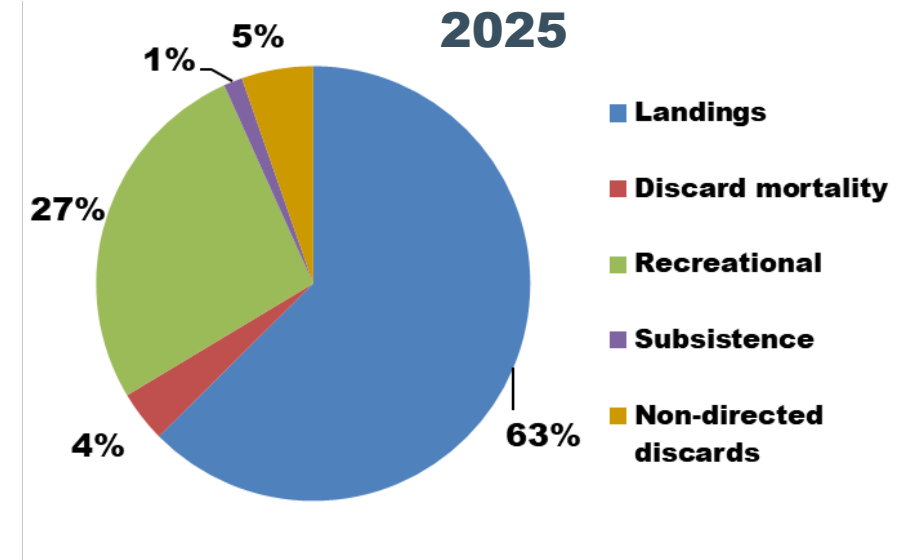
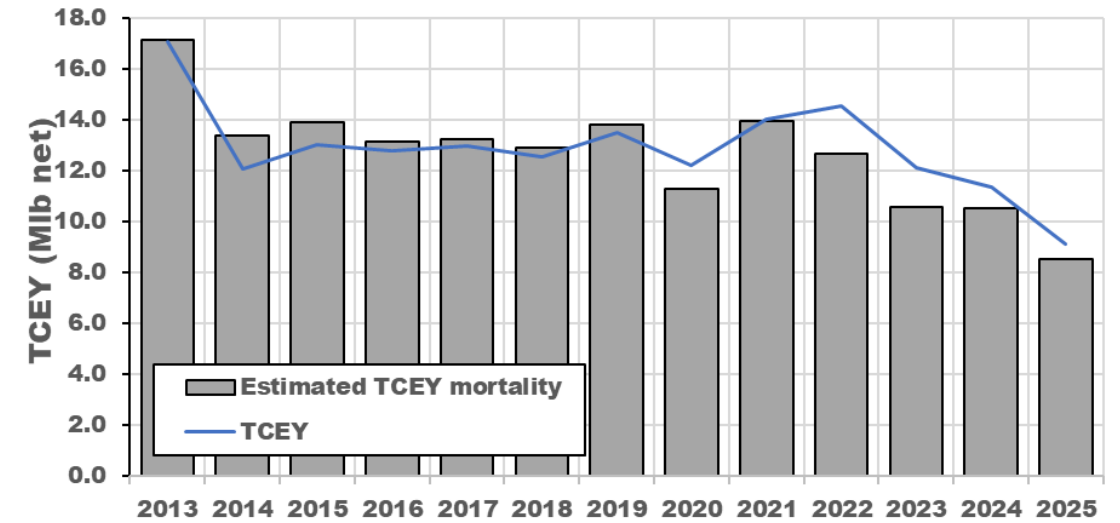
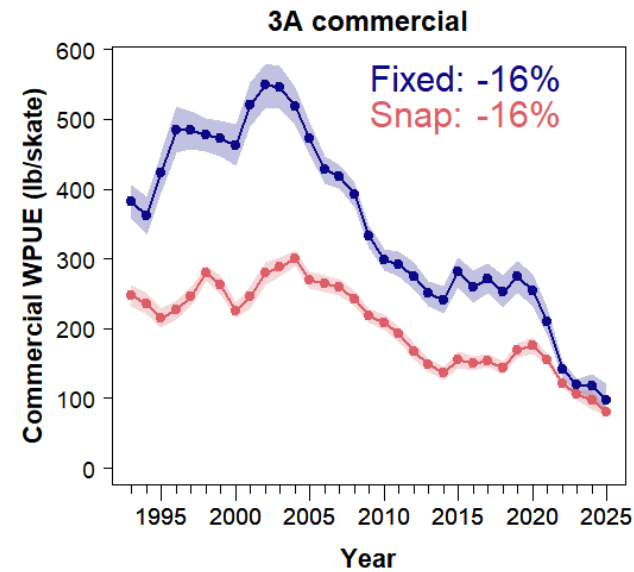
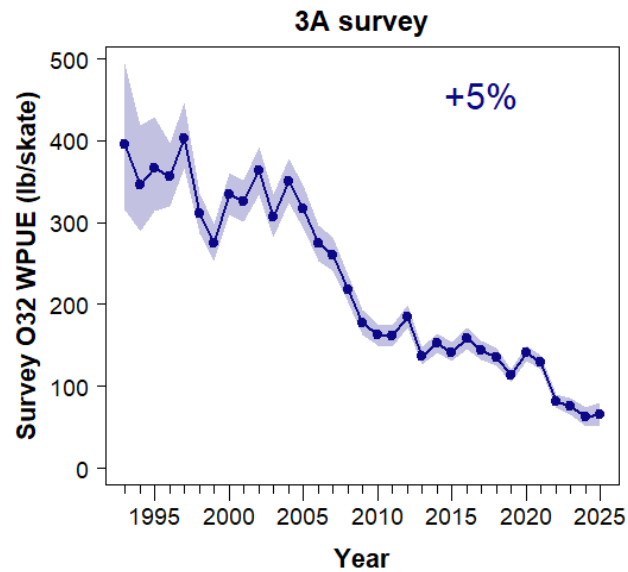
2B commercial



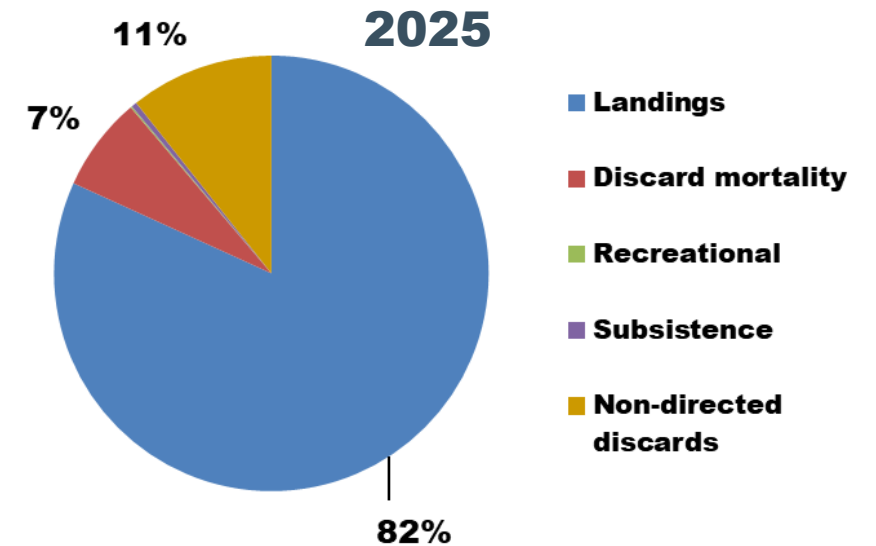
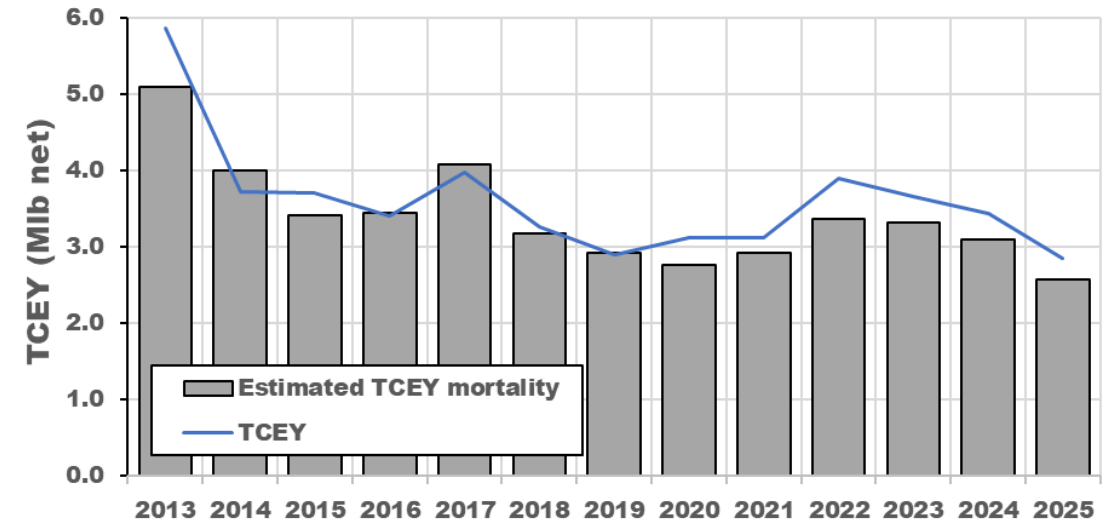
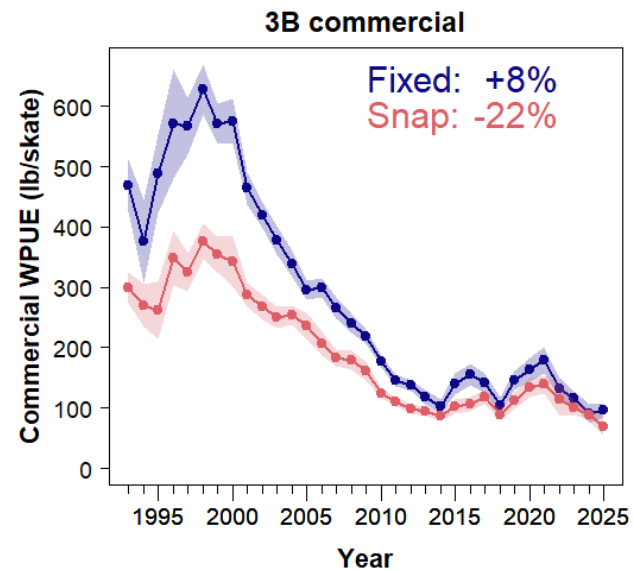
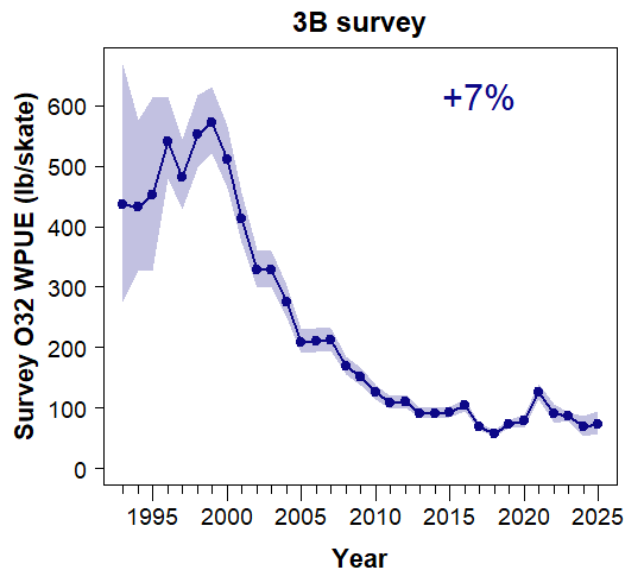
IPHC Regulatory Area 2C



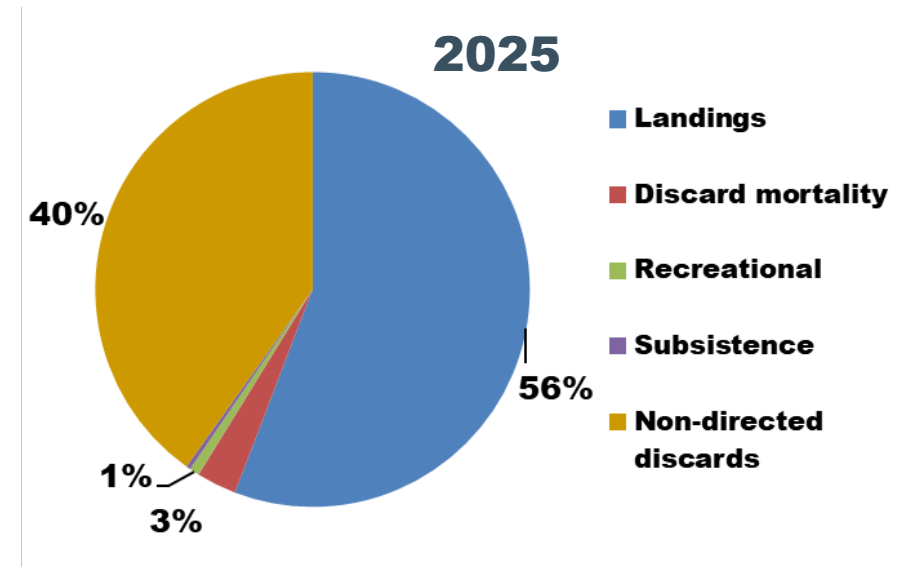
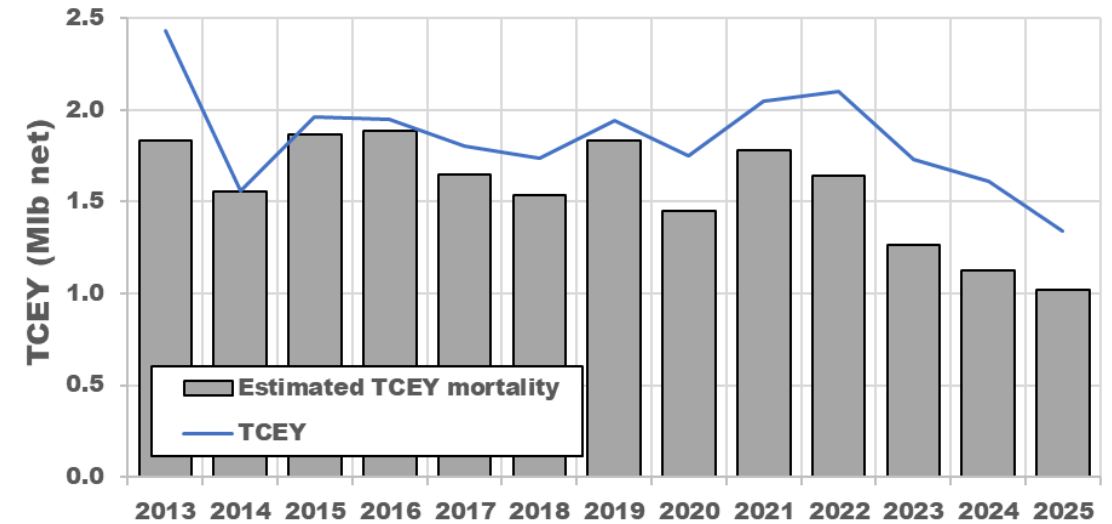
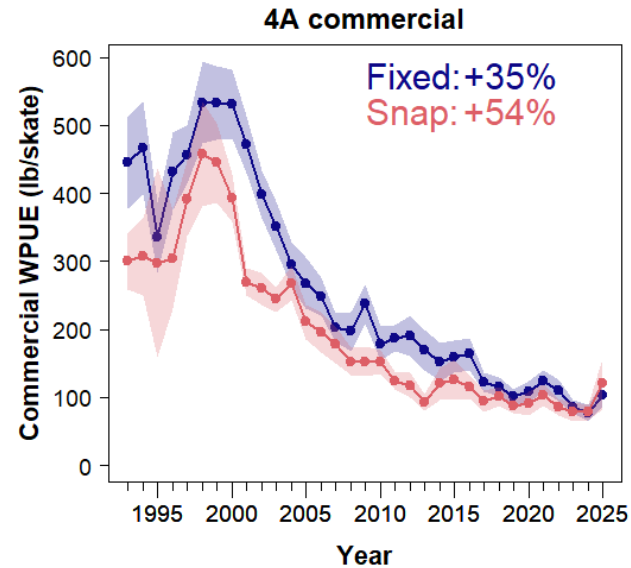
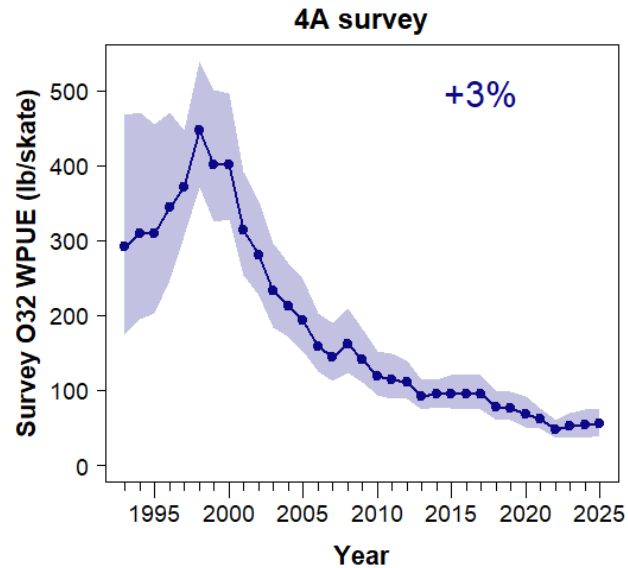
IPHC Regulatory Area 3A



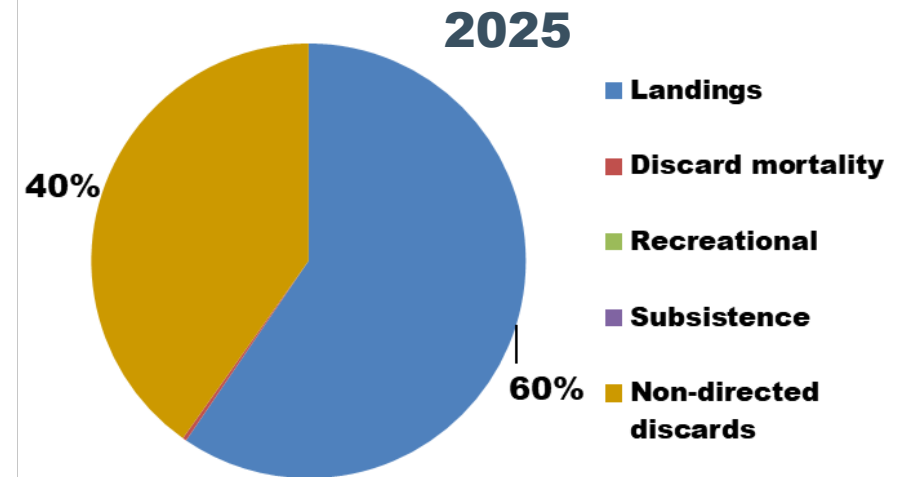
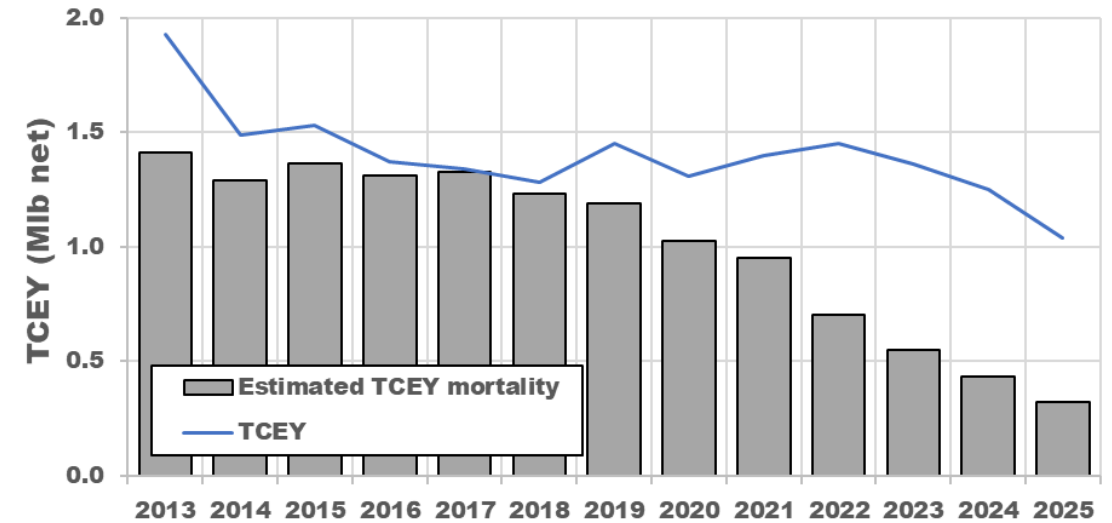
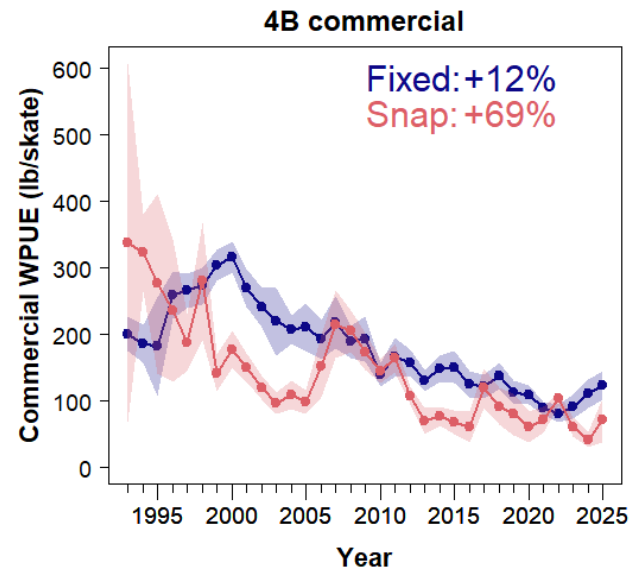
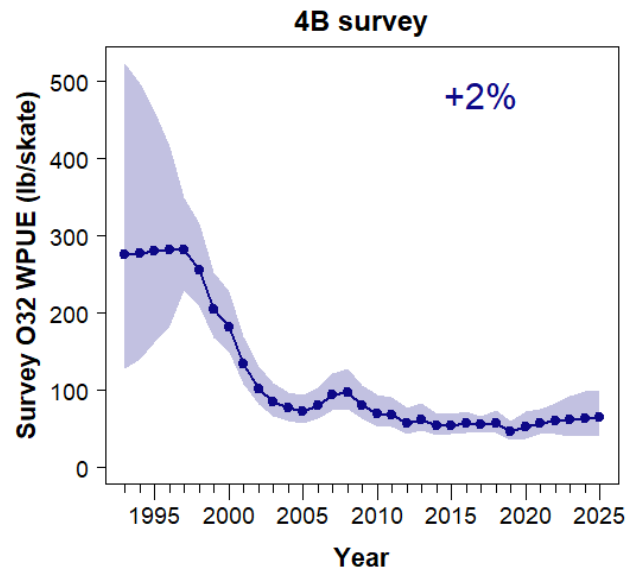
IPHC Regulatory Area 3B



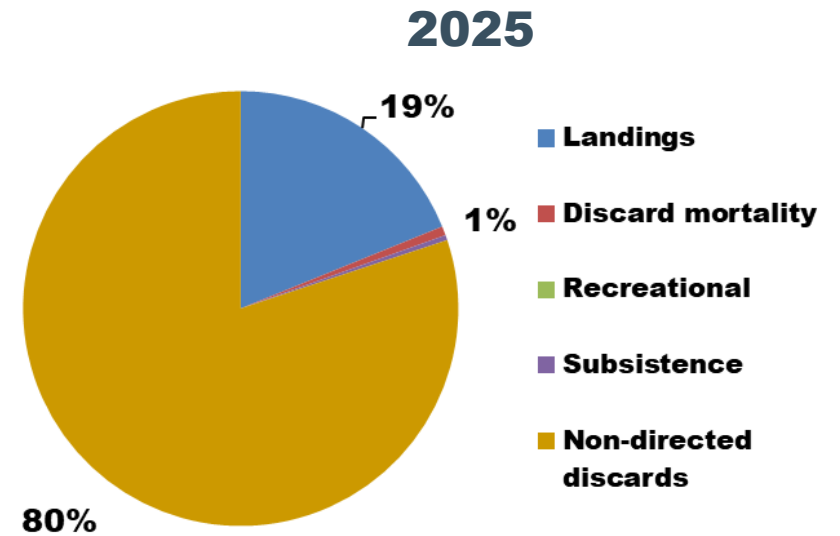
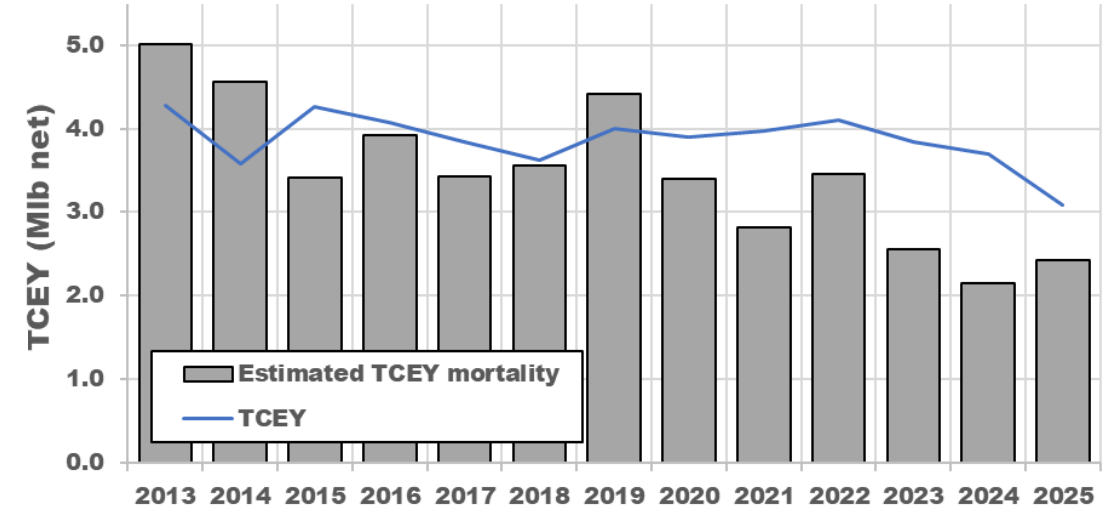
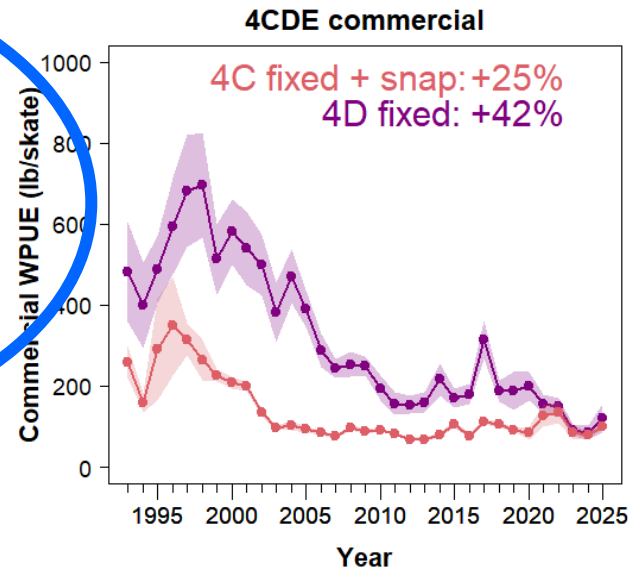
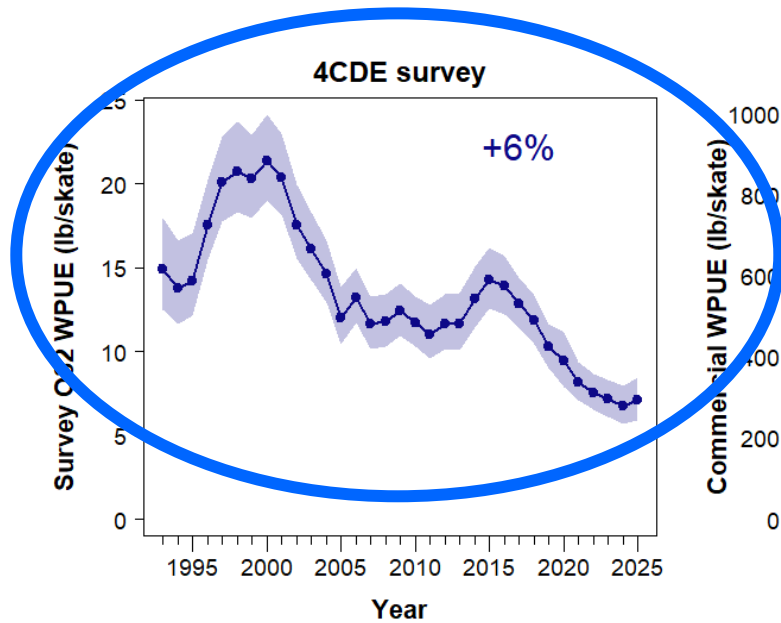
IPHC Regulatory Area 4A



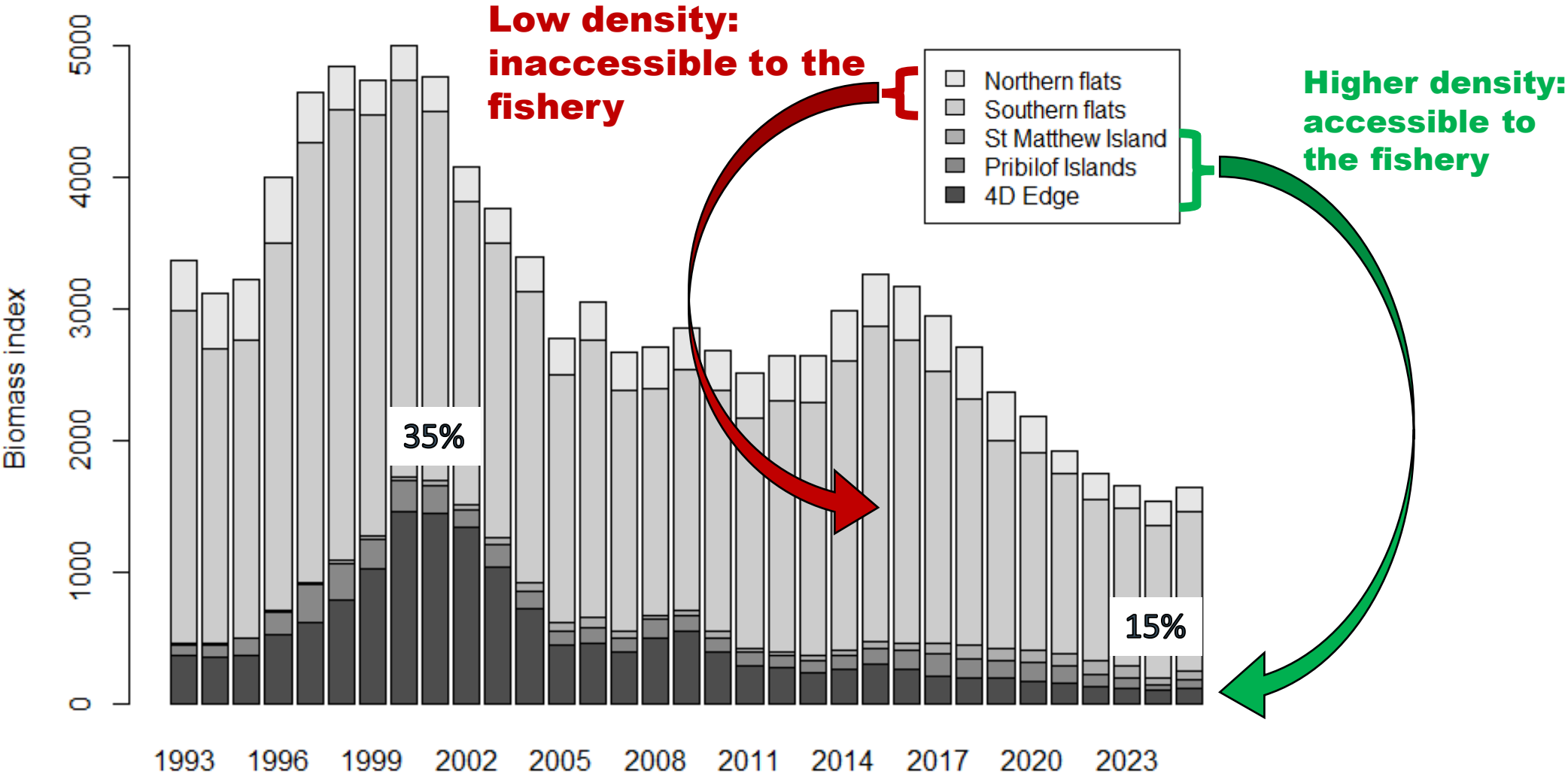
IPHC Regulatory Area 4B



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*



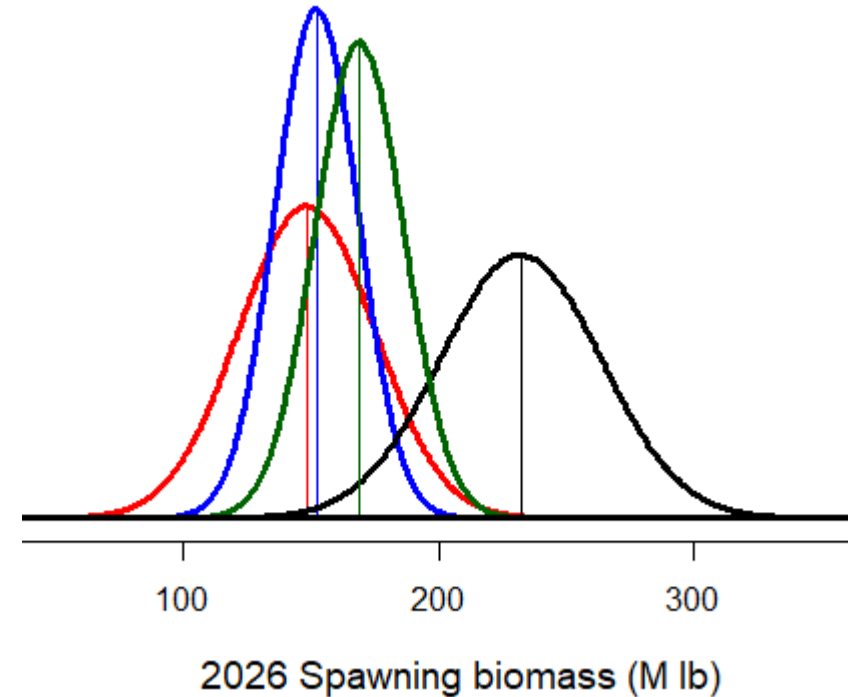
Improvements in 2025

- 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

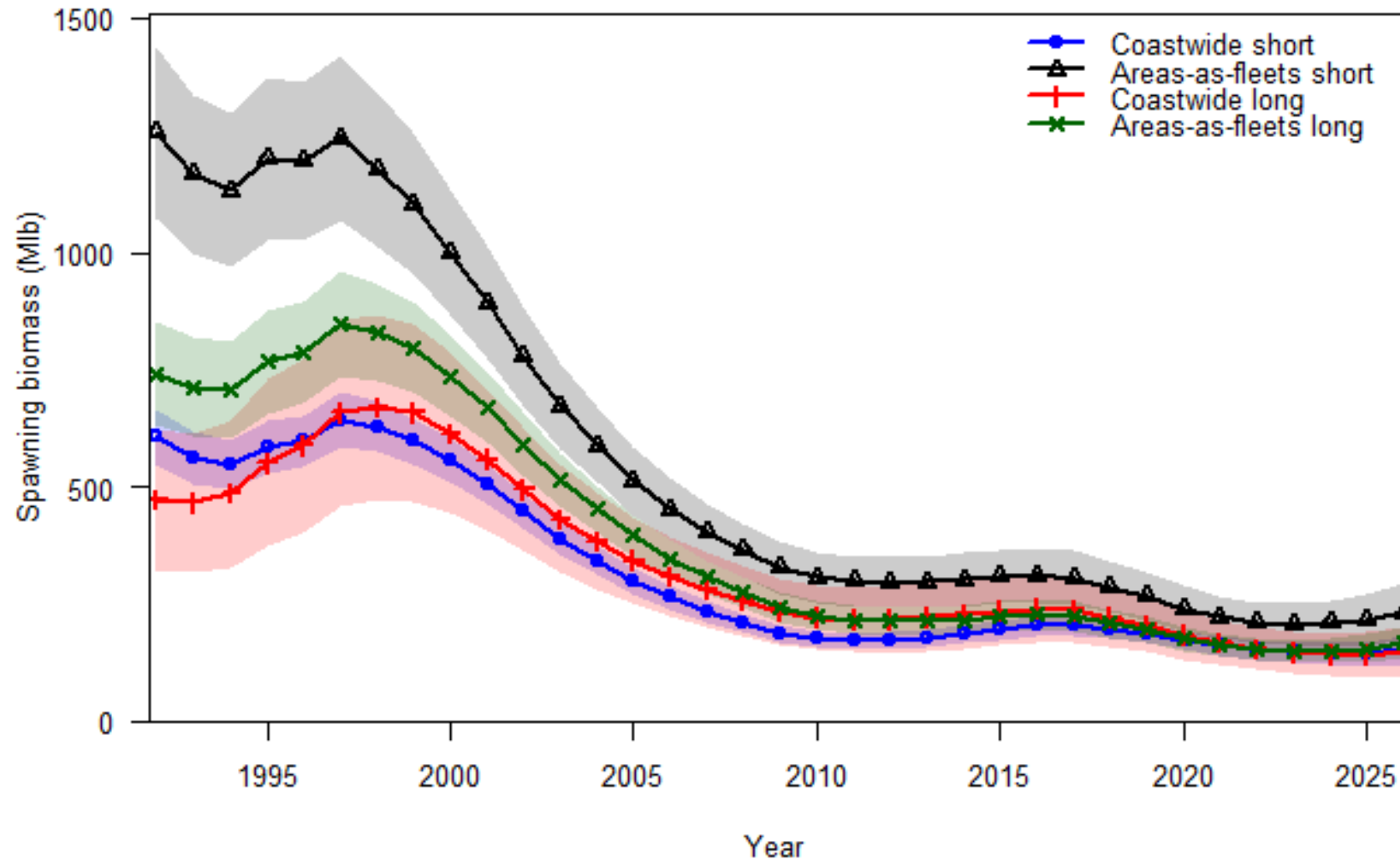
- Same 4 models as in recent assessments:
 - Long and short time-series
 - Aggregated, separate data by Region
- Each responds differently to new data and represents a different hypothesis about how the population dynamics and observations are best represented
- Results are equally weighted and integrated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



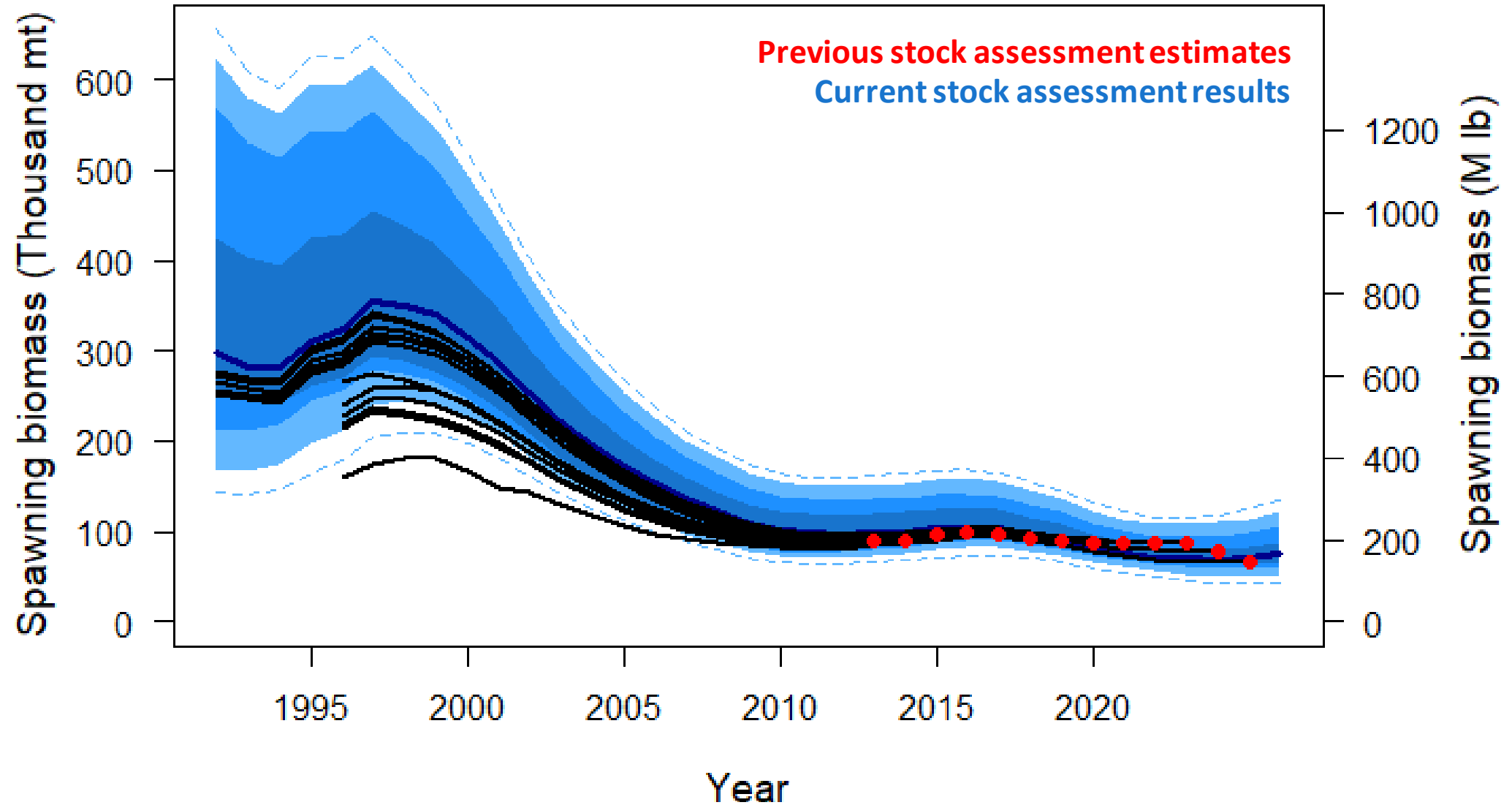
→ Unlike in 2023 and 2024 – the 2025 fishery data were largely consistent with FISS data when added to the stock assessment



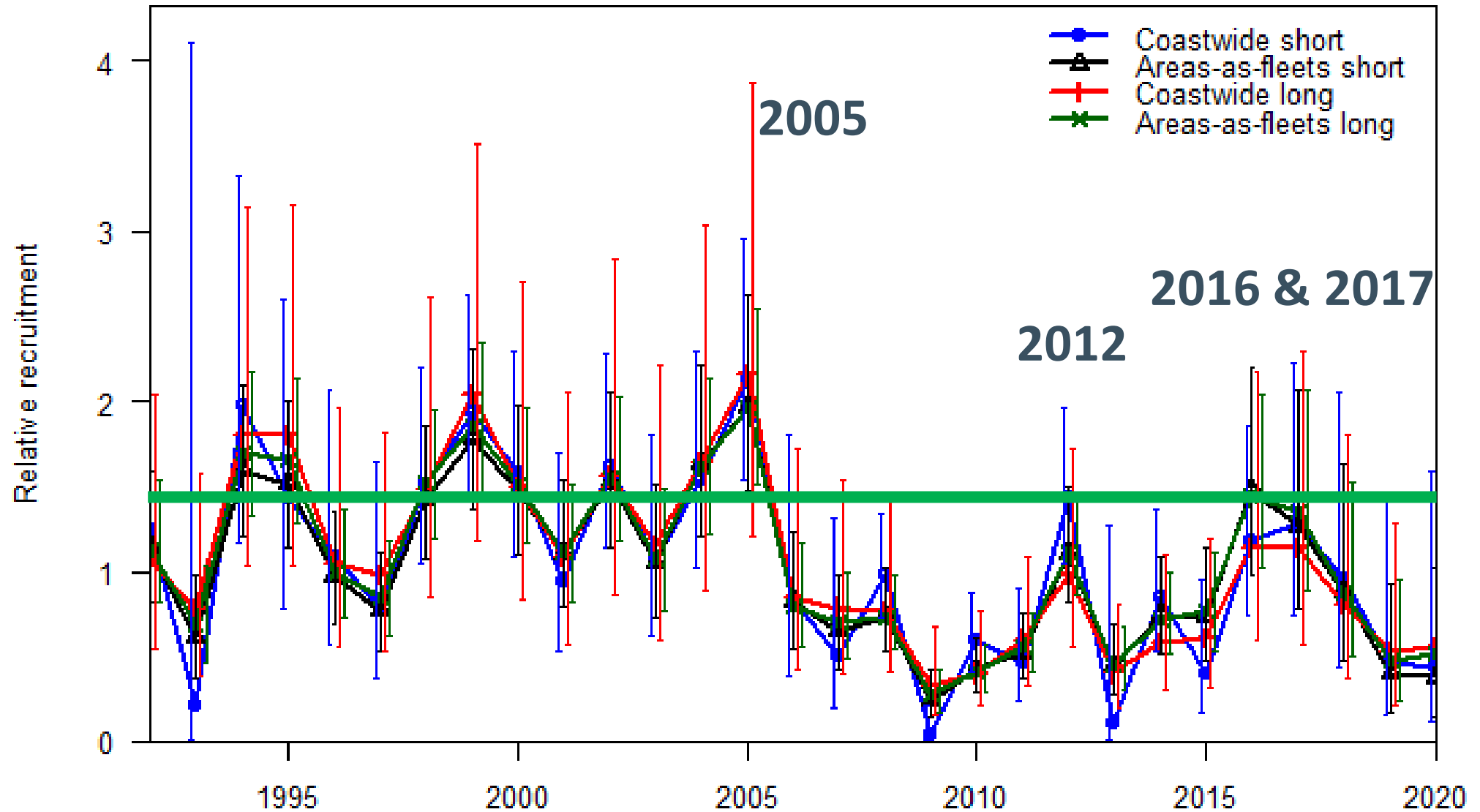
Spawning biomass from each of the four models



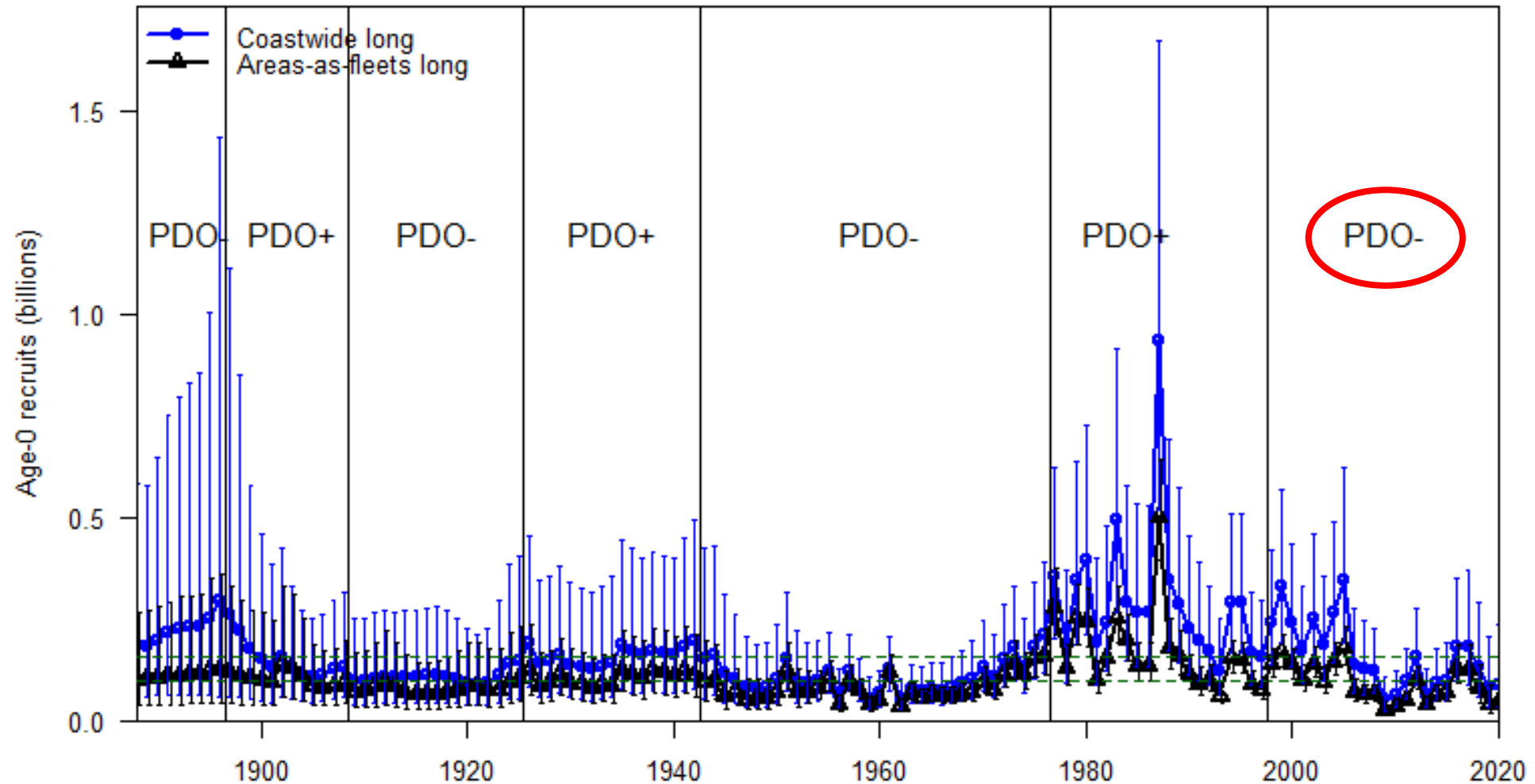
Comparison to previous assessments



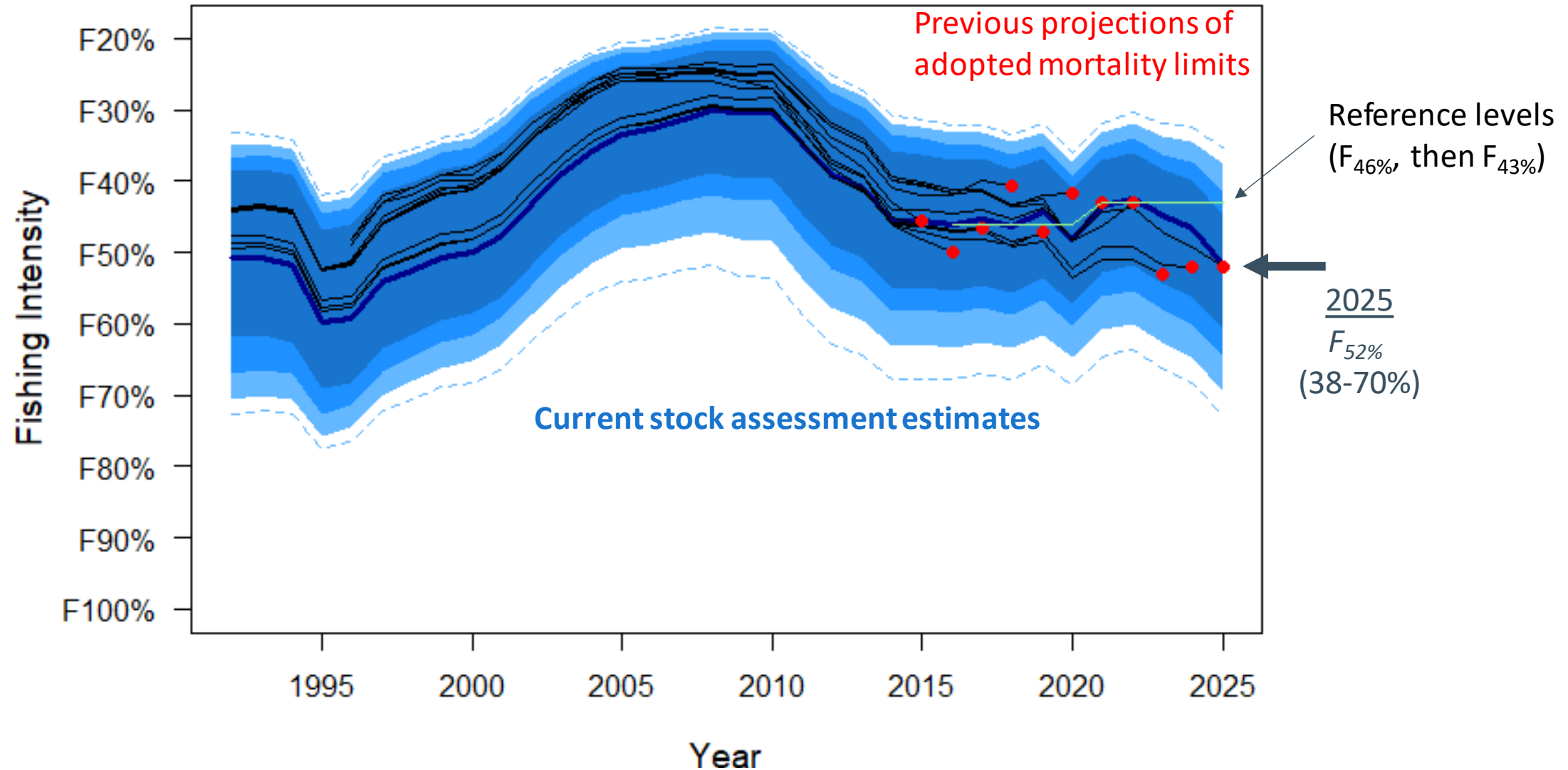
Recent relative recruitment estimates



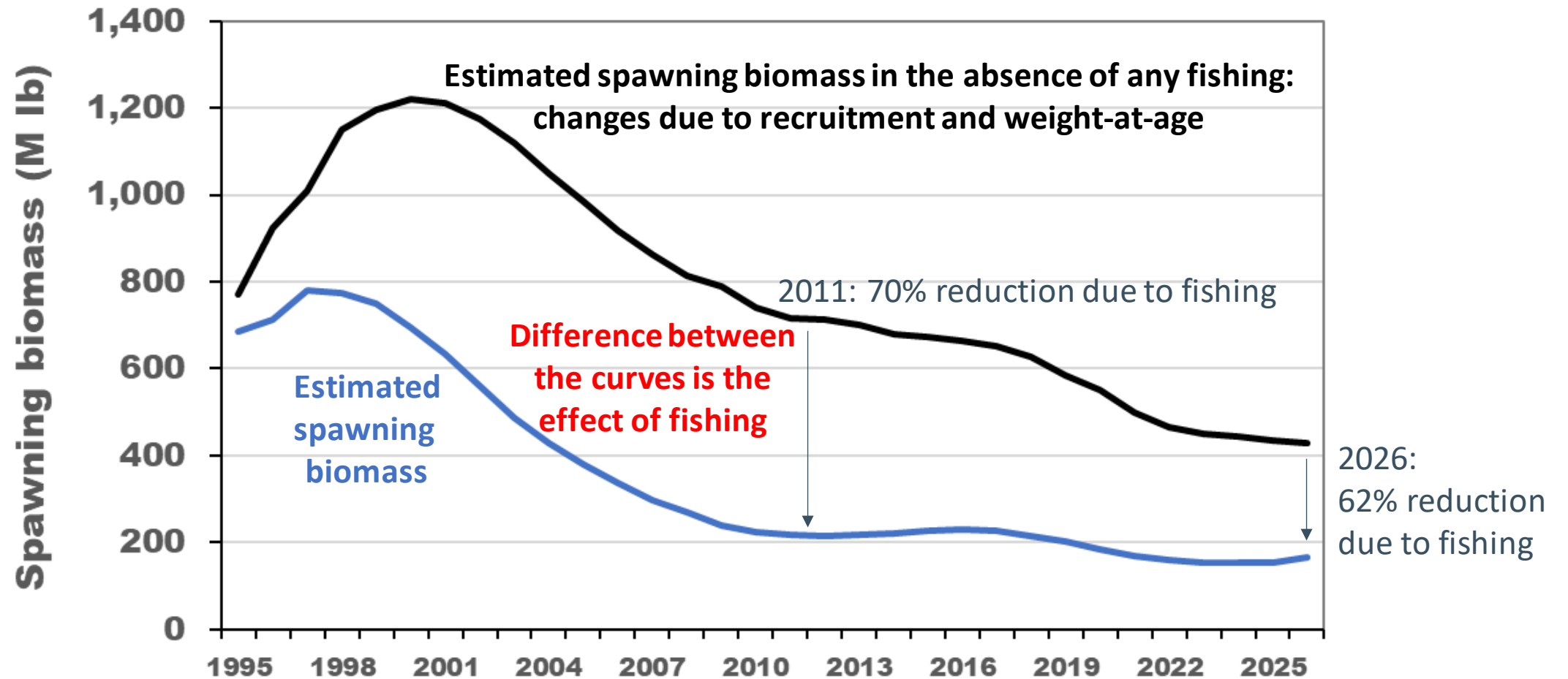
Revised environmental index



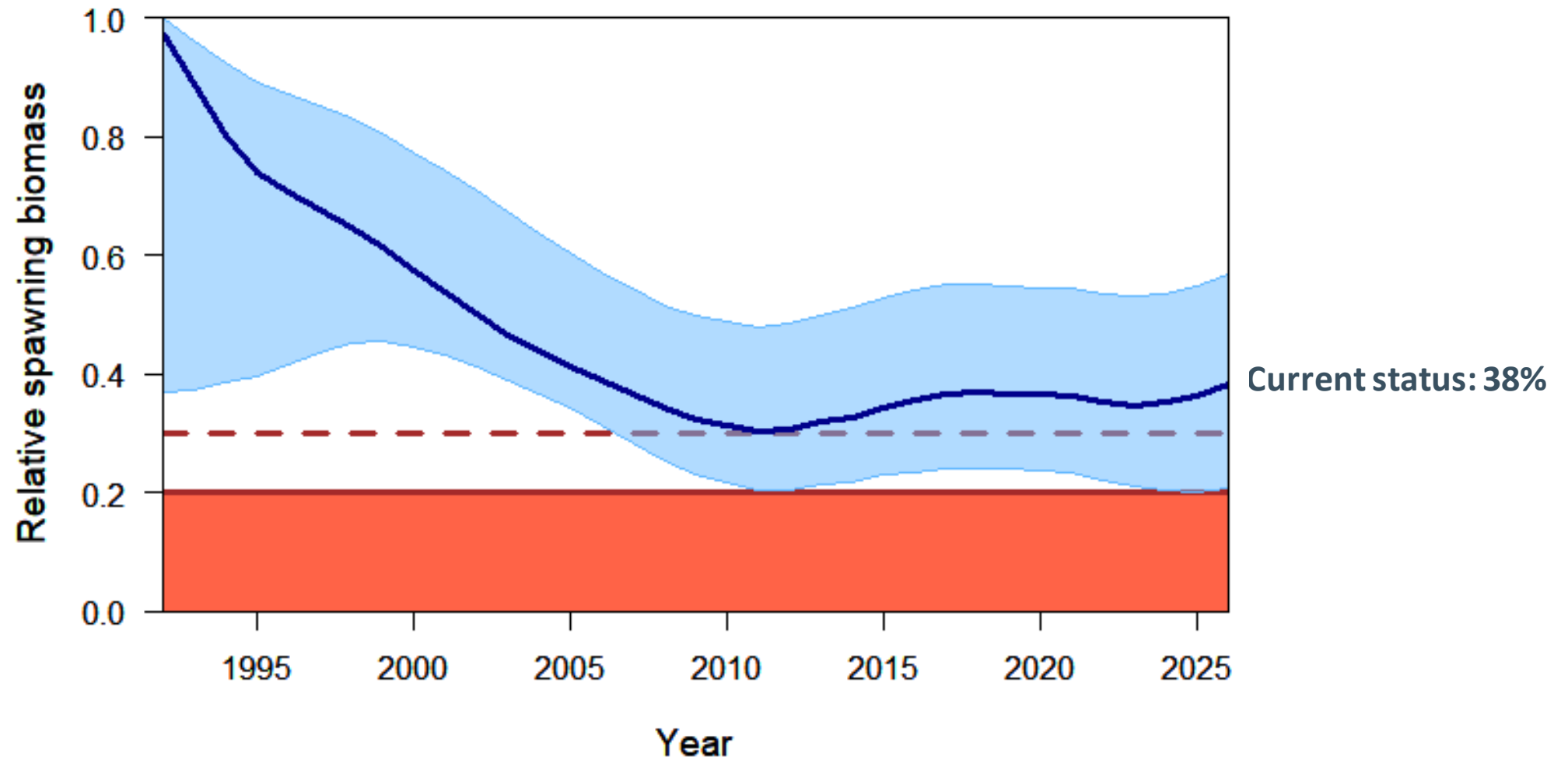
Estimated fishing intensity



Stock status – measuring the effect of fishing



Stock status – measuring the effect of fishing



Stock assessment summary table

Indicators	Values	Trends	Status
BIOLOGICAL			
SPR₂₀₂₅: P(SPR₂₀₂₅<43%): P(SPR₂₀₂₅<limit):	52% (38-70%) 19% <1%	FISHING INTENSITY REDUCED FROM 2024 TO 2025	FISHING INTENSITY BELOW REFERENCE AND LIMIT SPRS
SB₂₀₂₆ (MLBS): SB₂₀₂₆/SB₀: P(SB₂₀₂₆<SB₃₀): P(SB₂₀₂₆<SB₂₀):	166 (113–272) MLbs 38% (21-57%) 28% 1%	SB INCREASED 7% FROM 2025 TO 2026	NOT OVERFISHED
Biological stock distribution:	SEE TABLES AND FIGURES	REGION 3 INCREASED, REGION 2 DECREASED FROM 2024 TO 2025	REGION 4 AT THE HIGHEST OBSERVED PROPORTION
FISHERY CONTEXT			
Total mortality 2025: Percent retained 2025: Average mortality 2021–25:	28.80 MLbs, 13,063 t 81% 34.58 MLbs, 15,687 t	MORTALITY DECREASED FROM 2024 TO 2025	2025 WAS THE LOWEST MORTALITY 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 $F_{43\%}$



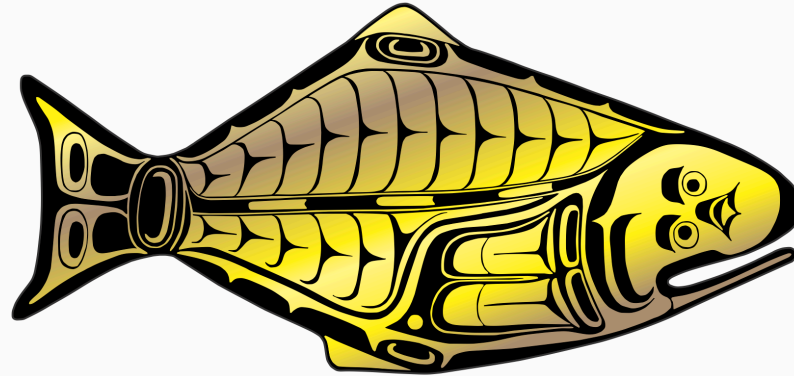
Recommendations

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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