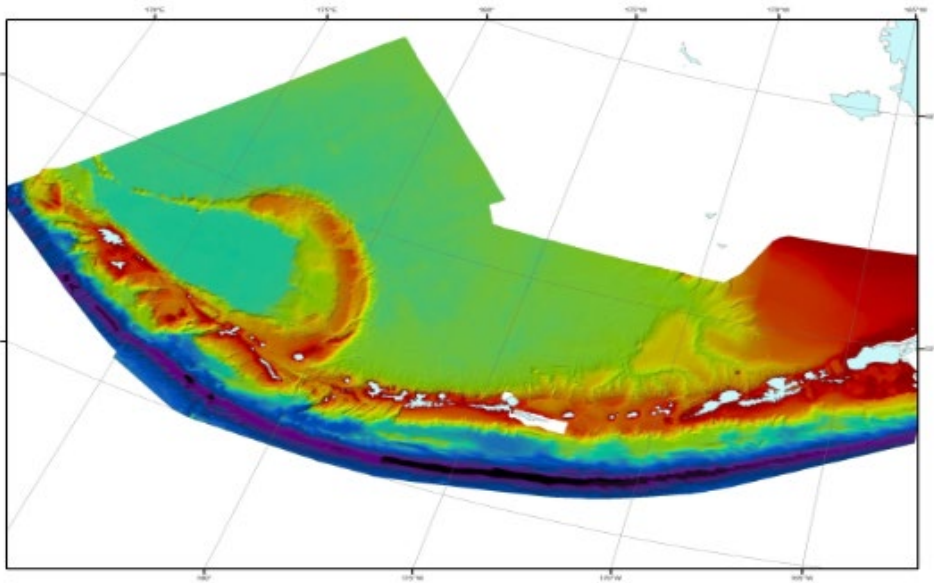


# 2024 Aleutian Islands Biennial Bottom Trawl Survey



**NOAA  
FISHERIES**



Joint Groundfish Plan Team  
Meeting

Susanne McDermott,  
Alexandra Dowlin, Bethany Riggle,  
Margaret Siple, and Ned Laman



**NOAA FISHERIES**

# 2024 AI bottom trawl survey

The 2024 AI bottom trawl survey took place between June 5th and August 3rd 2024. The previous AI survey was in 2022.

We attempted **353** trawls and successfully sampled **307** stations in total with two survey vessels.



# Survey charter vessels

## F/V Alaska Provider

2013-2016, 2021-Present

8 yrs chartering

Cpt Brian Beaver, first year  
on AI survey



## F/V Ocean Explorer

2010-2012, 2017-present

10 yrs of charter experience

Cpt Dan Carney, >20 yrs  
experience on survey





# Survey purpose

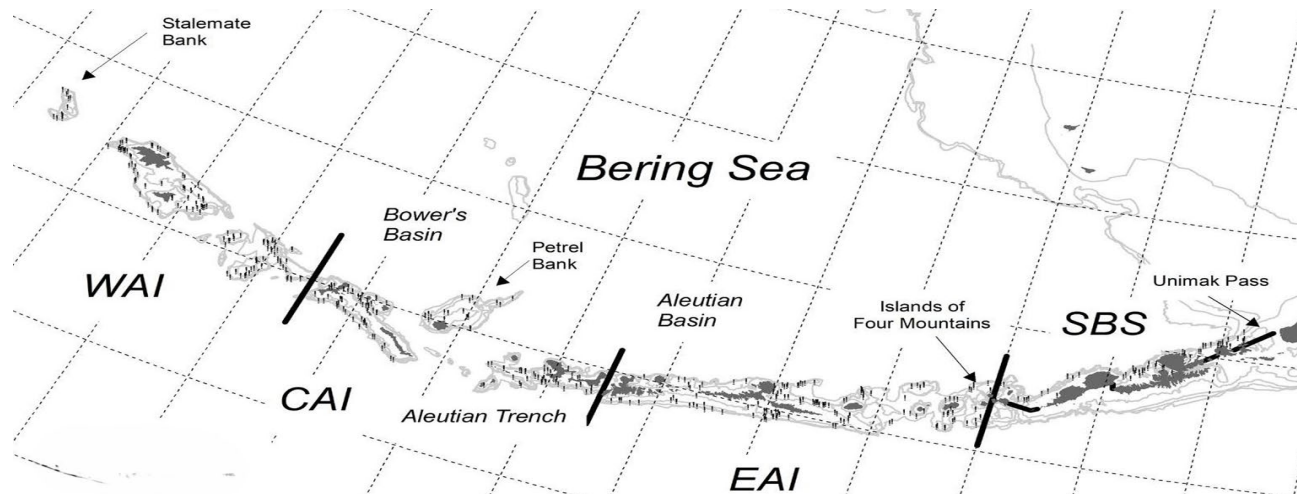
To collect standardized and fishery-independent time series of:

- Relative abundance
- Distribution
- Age and biological condition

There are 15 managed species or species groups in the Aleutian Islands presented here.

# Survey design

- Stratified random survey
- 45 strata defined by statistical and depth zone
- Station allocation based upon abundance, variance, stratum area, and economic value
- 15 minute trawls (usually about 1.5 km distance)
- *Poly Nor 'Eastern* trawl with rollers & bobbins



# Data status

- All data are finalized as of **September 11th**
- Age composition were updated with recent ageing results as of 9 September
- CPUE tables will be available on FOSS<sup>1</sup> and AKFIN<sup>2</sup> soon
- New era for survey results - GAP\_PRODUCTS<sup>3</sup> rollout and *gapindex*<sup>4</sup> package

1 - <https://www.fisheries.noaa.gov/foss/f?p=215:28>

2 - <https://akfin.psmfc.org/>

3 - [https://afsc-gap-products.github.io/gap\\_products/](https://afsc-gap-products.github.io/gap_products/)

4 - <https://github.com/afsc-gap-products/gapindex>



# Collections



# Species lengths collected (>76,000)

Common name	Lengths collected
Aleutian skate	70
white blotched skate	358
arrowtooth flounder	5,670
northern rock sole	6,470
sablefish	1,168
yellow Irish lord	2,043
Pacific cod	2,929
walleye pollock	6,152
Atka mackerel	8,366
shortspine thornyhead	2,465
rougheye rockfish	22
blackspotted rockfish	2,258
Pacific ocean perch	16,448
dusky rockfish	432
shortraker rockfish	446



# Otolith collections (> 6,500)

INPFC_AREA	Depth range	Pairs of otoliths collected
Southern Bering Sea	1 - 100 m	465
Southern Bering Sea	101 - 200 m	314
Southern Bering Sea	201 - 300 m	106
Southern Bering Sea	301 - 500 m	19
Eastern Aleutians	1 - 100 m	171
Eastern Aleutians	101 - 200 m	1,002
Eastern Aleutians	201 - 300 m	669
Eastern Aleutians	301 - 500 m	125
Central Aleutians	1 - 100 m	343
Central Aleutians	101 - 200 m	746
Central Aleutians	201 - 300 m	484
Central Aleutians	301 - 500 m	212
Western Aleutians	1 - 100 m	248
Western Aleutians	101 - 200 m	1,182
Western Aleutians	201 - 300 m	327
Western Aleutians	301 - 500 m	103



# Other projects and special collections

## Acoustics

ES 60 acoustic data collection

## Environmental Monitoring

Harmful algal bloom (HAB) toxins in Alaskan food web  
Measuring light intensity and dissolved oxygen

## Population Genetics

Pacific cod genetics  
Northern and dusky RF genetics  
Ecology of Arctic and Pacific lampreys  
POP Genetics and morphometrics  
Shark genetics and age structure (sleeper/salmon)

## Feeding Habits

Atka mackerel, arrowtooth flounder, Kamchatka flounder,  
Northern rockfish, Northern rock sole, Pacific cod, Pacific  
Halibut, Pacific ocean perch, pollock, sablefish, rex sole



## Miscellaneous

IPHC Pacific halibut data collection  
JPA Isotopes of pollock and Pacific cod  
Pacific cod antifreeze traits (blood sampling)  
Visual maturity collection  
Blackspotted rockfish reproduction (ovary collection)

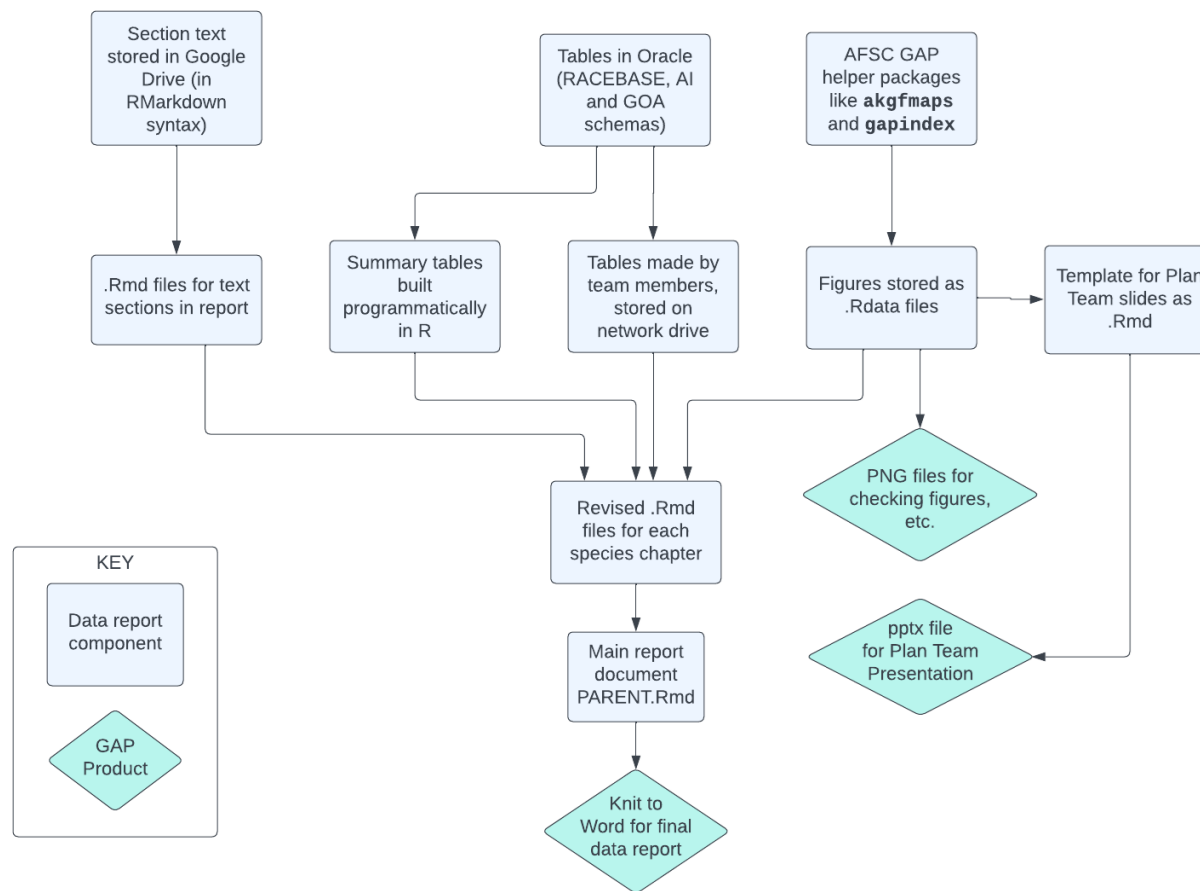
## Specimen Collection

Coral collections  
Sponge collection for cancer research  
Mollusk collection  
NWFSC + UW voucher collection  
Observer fish and crab training specimens  
Juvenile prowlfish  
Mesopelagic fish collection  
Fossilized coral collection  
North Pacific sand lance collection



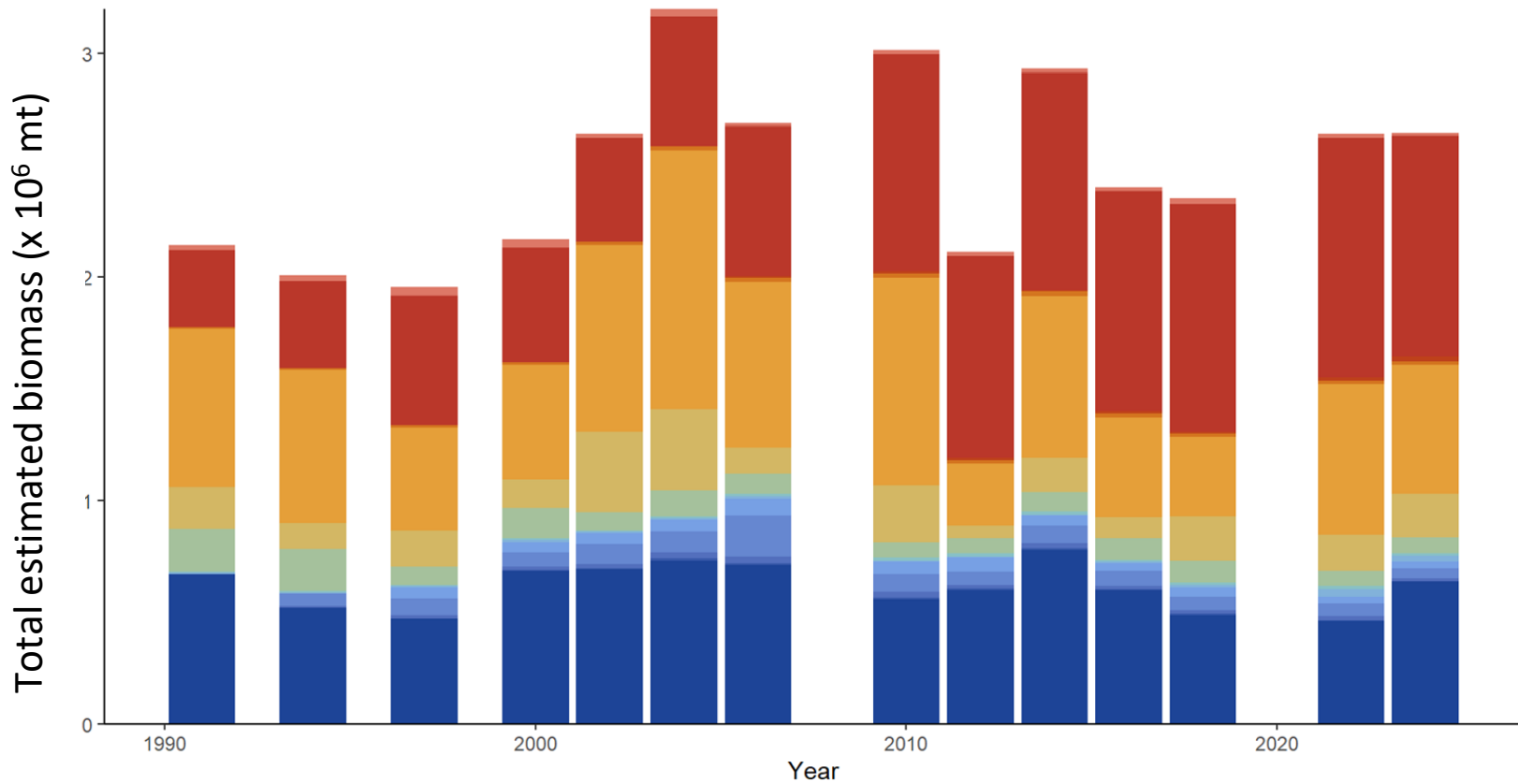
# Automated data reports

In progress at the AFSC GAP products [GitHub page](#).



Flow of new automated data reports.

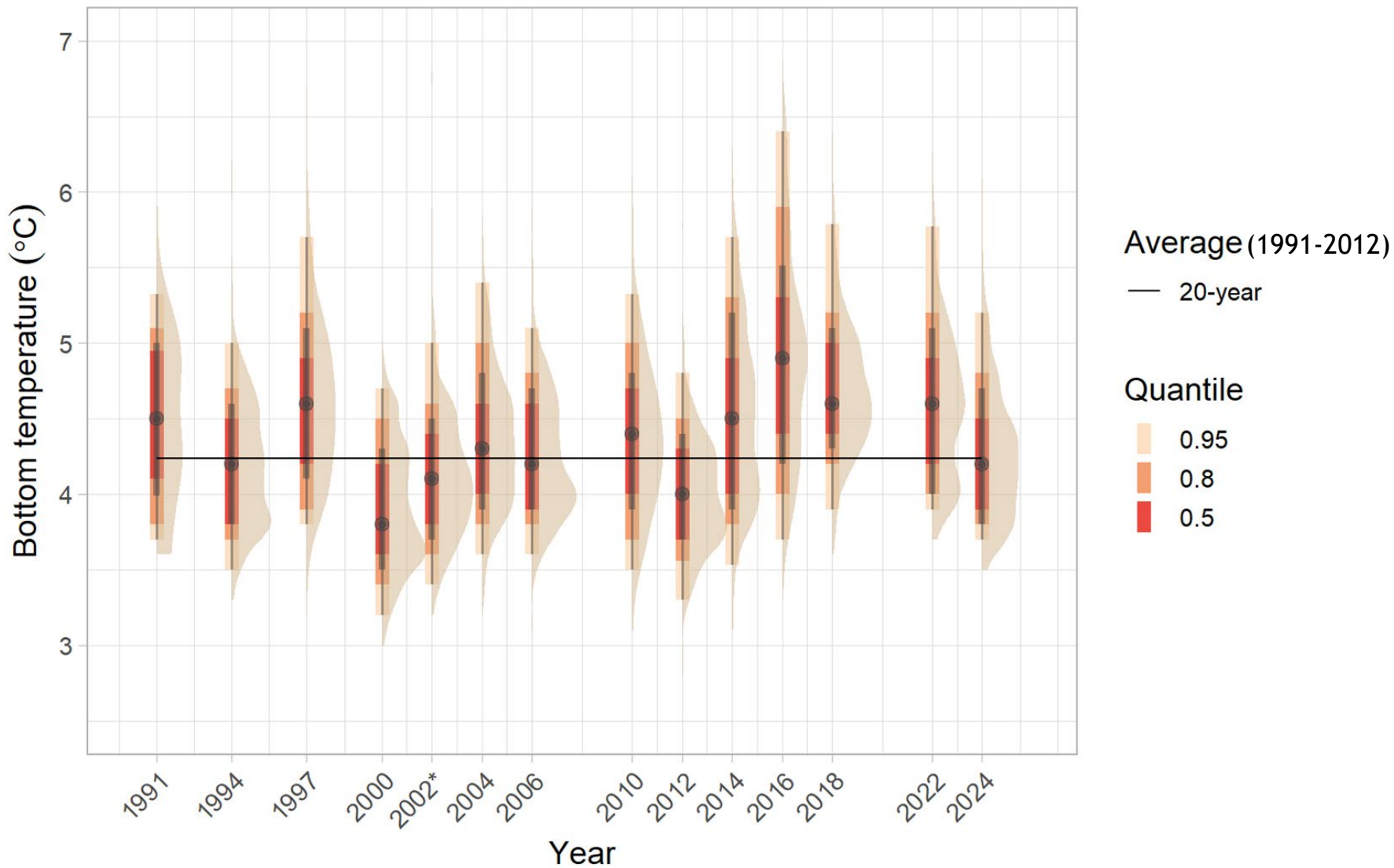
# Catch composition



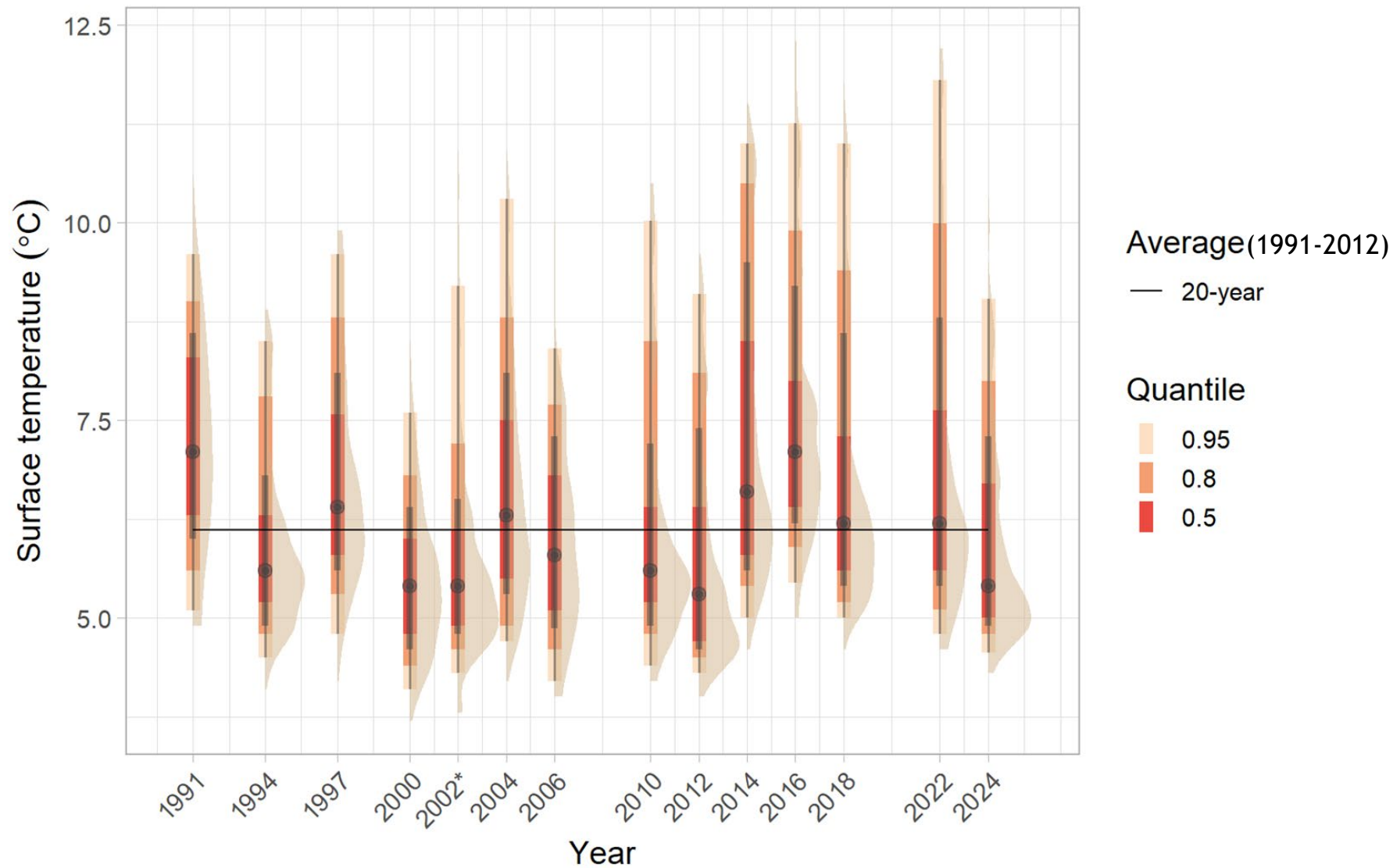
- |  |  |   |   |
|--|--|---|---|
| <span style="color: #C43A3A;">■</span> shortraker rockfish   | <span style="color: #8B4513;">■</span> rougheye rockfish     | <span style="color: #8FBC8F;">■</span> Pacific cod        | <span style="color: #4682B4;">■</span> arrowtooth flounder  |
| <span style="color: #C43A3A;">■</span> dusky rockfish        | <span style="color: #8B4513;">■</span> shortspine thornyhead | <span style="color: #66CDAA;">■</span> yellow Irish lord  | <span style="color: #4169E1;">■</span> white blotched skate |
| <span style="color: #C43A3A;">■</span> Pacific ocean perch   | <span style="color: #FFA500;">■</span> Atka mackerel         | <span style="color: #6495ED;">■</span> sablefish          | <span style="color: #00008B;">■</span> Aleutian skate       |
| <span style="color: #C43A3A;">■</span> blackspotted rockfish | <span style="color: #BDB76B;">■</span> walleye pollock       | <span style="color: #6495ED;">■</span> Northern rock sole | <span style="color: #00008B;">■</span> Other species        |



# Bottom temperature (°C)



# Surface temperature (°C)



# Biomass Trends

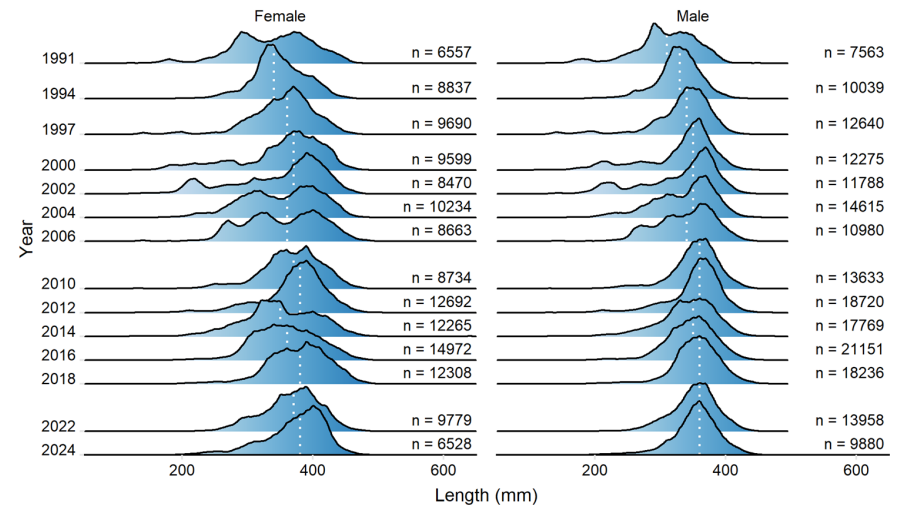
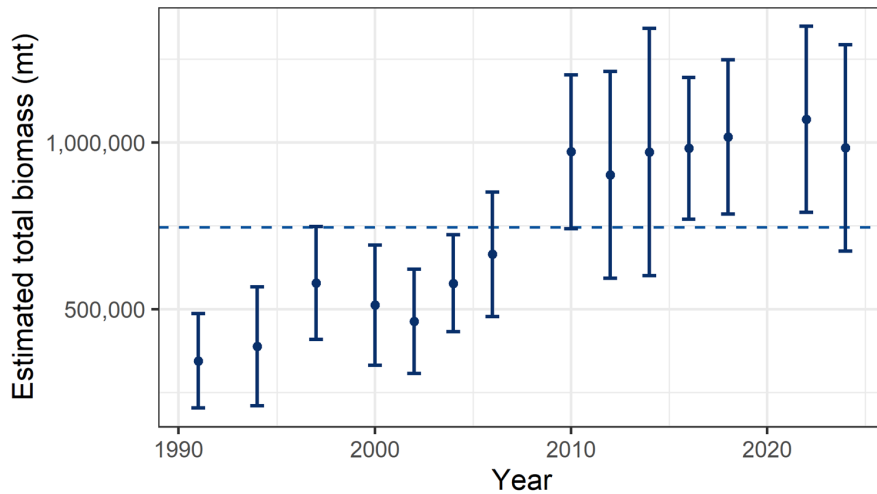
# Length Frequencies

# Distribution and Abundance



# Pacific ocean perch (*Sebastes alutus*)

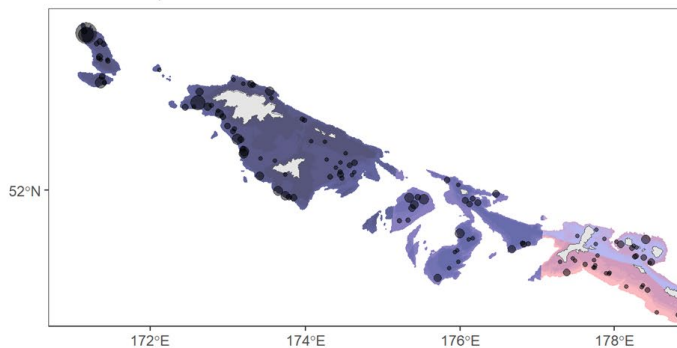
- Biomass estimate in 2024: ~983,600 mt
- -8% from 2022 ↔



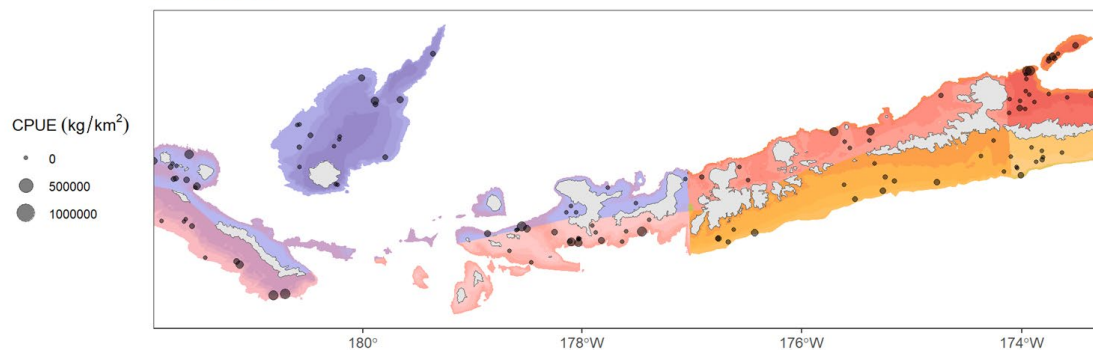


# Pacific ocean perch (*Sebastes alutus*)

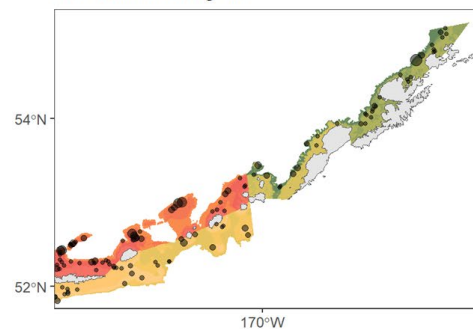
Pacific ocean perch - Western Aleutians - 2024



Central Aleutians

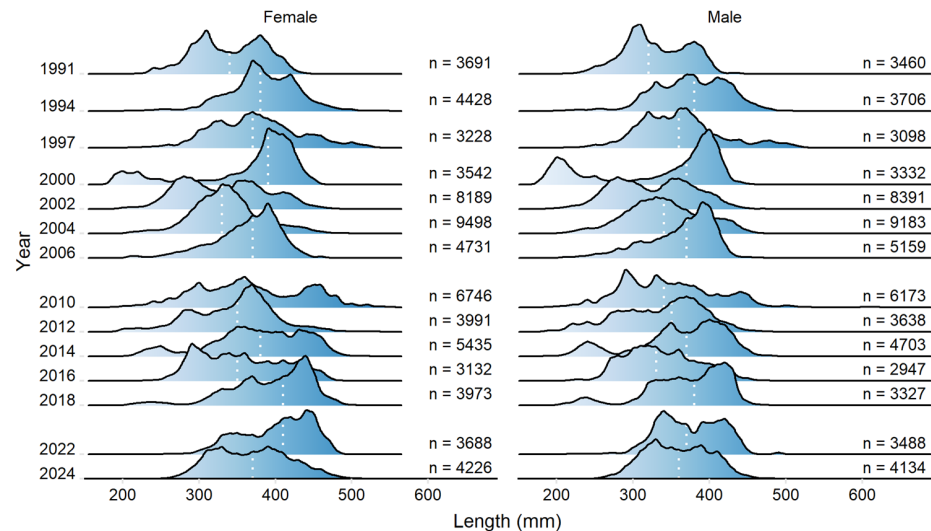
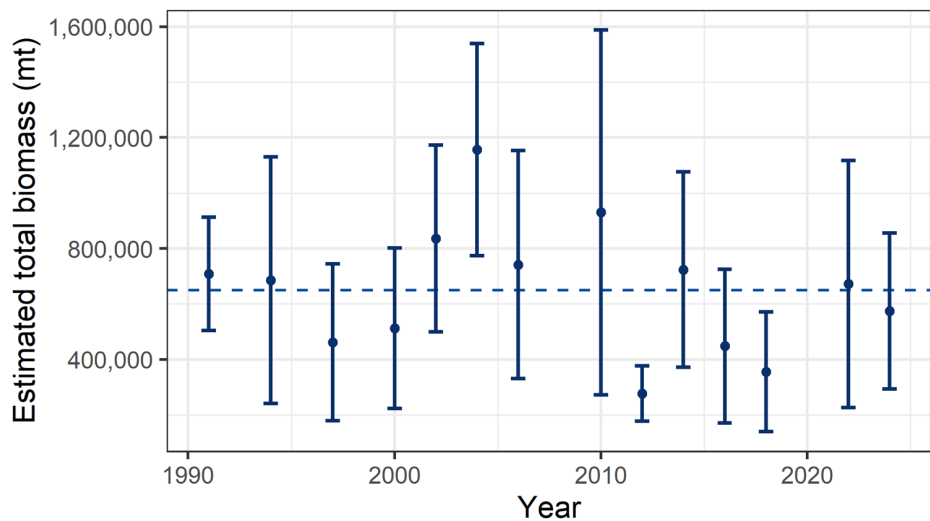


Eastern Aleutians and Southern Bering Sea



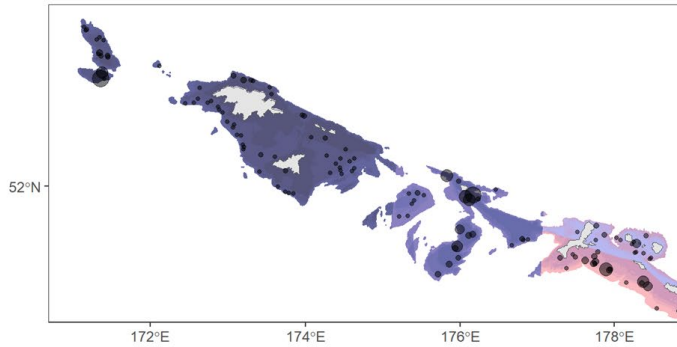
# Atka mackerel (*Pleurogrammus monopterygius*)

- Biomass estimate in 2024: ~574,800 mt
- -14.5% from 2022 ↓

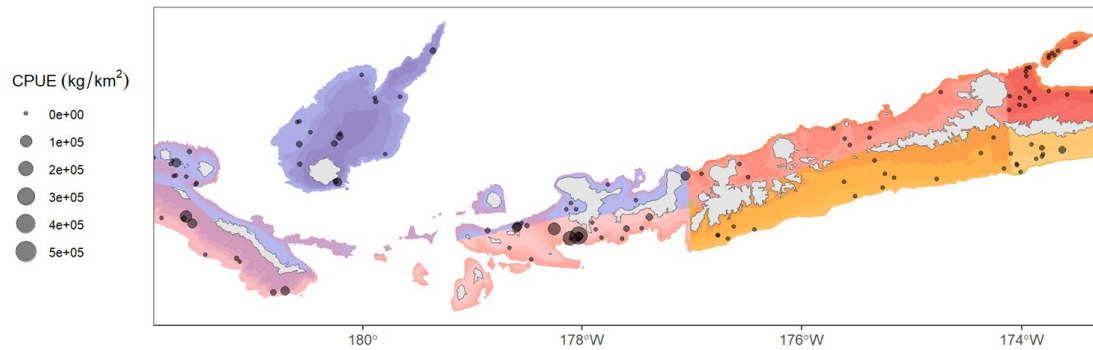


# Atka mackerel (*Pleurogrammus monopterygius*)

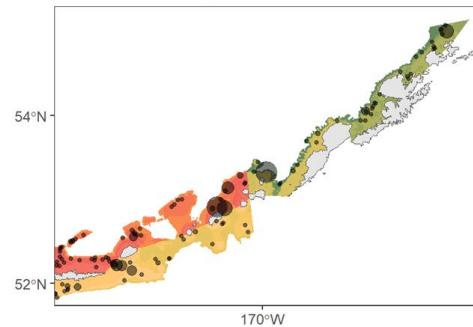
Atka mackerel - Western Aleutians - 2024



Central Aleutians

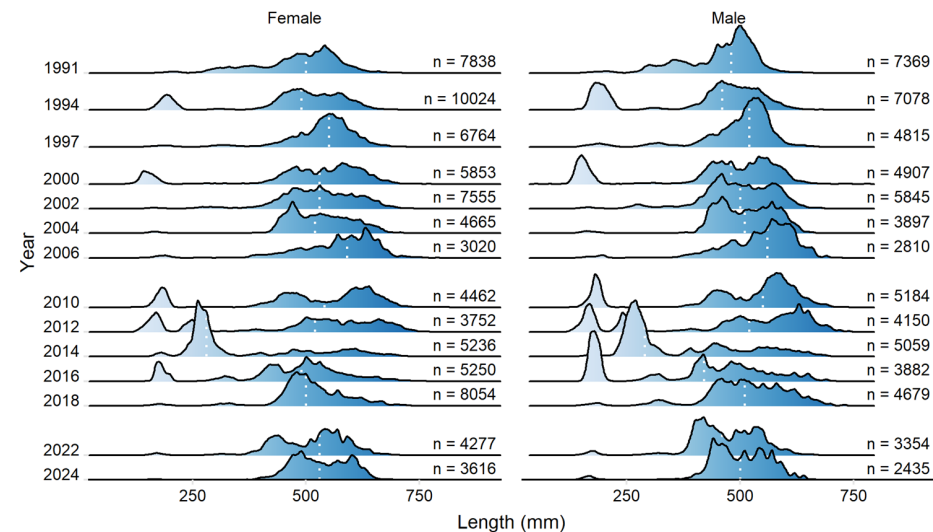
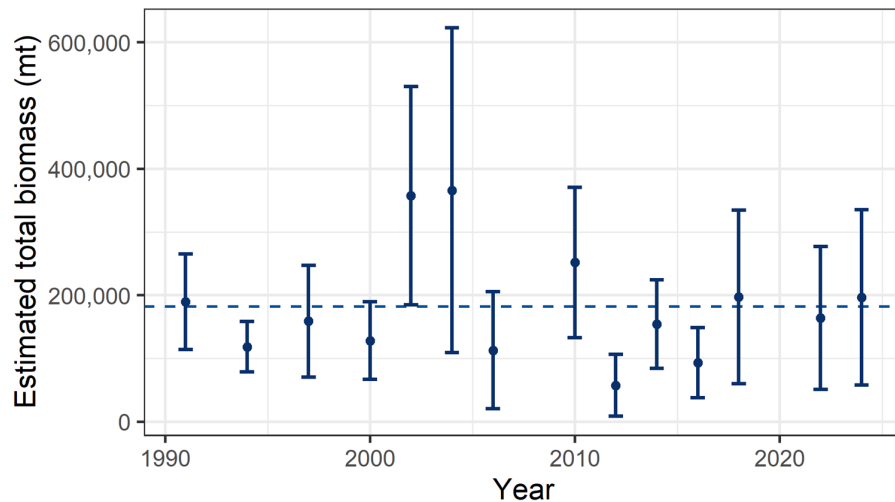


Eastern Aleutians and Southern Bering Sea



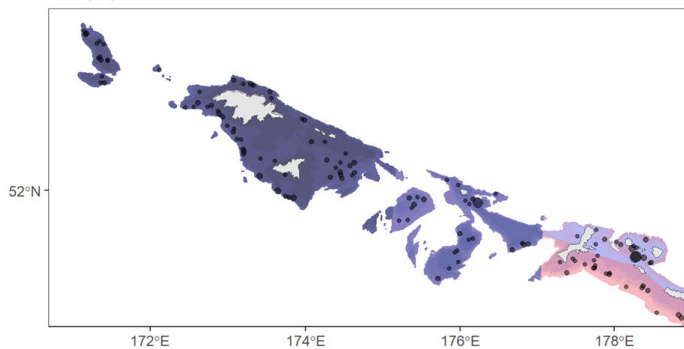
# Walleye pollock (*Gadus chalcogrammus*)

- Biomass estimate in 2024: ~196,400 mt
- +19.8% from 2022 

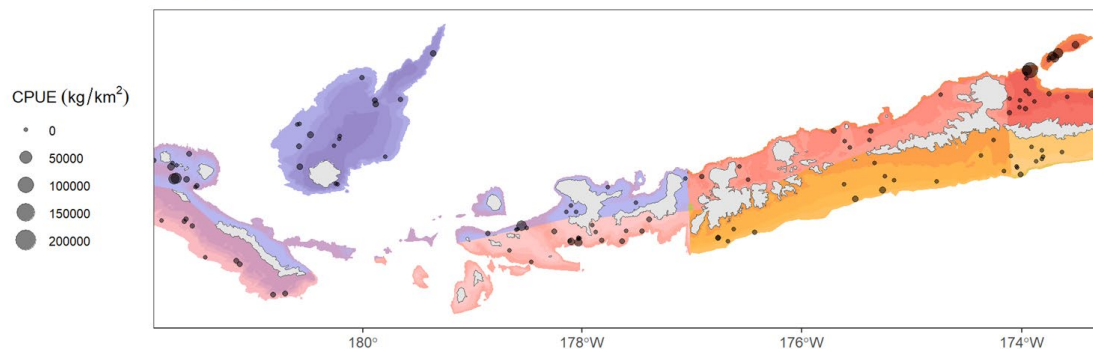


# Walleye pollock (*Gadus chalcogrammus*)

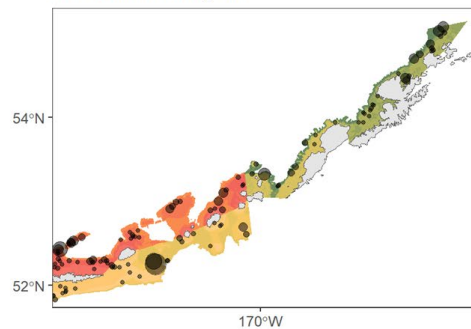
walleye pollock - Western Aleutians - 2024



Central Aleutians

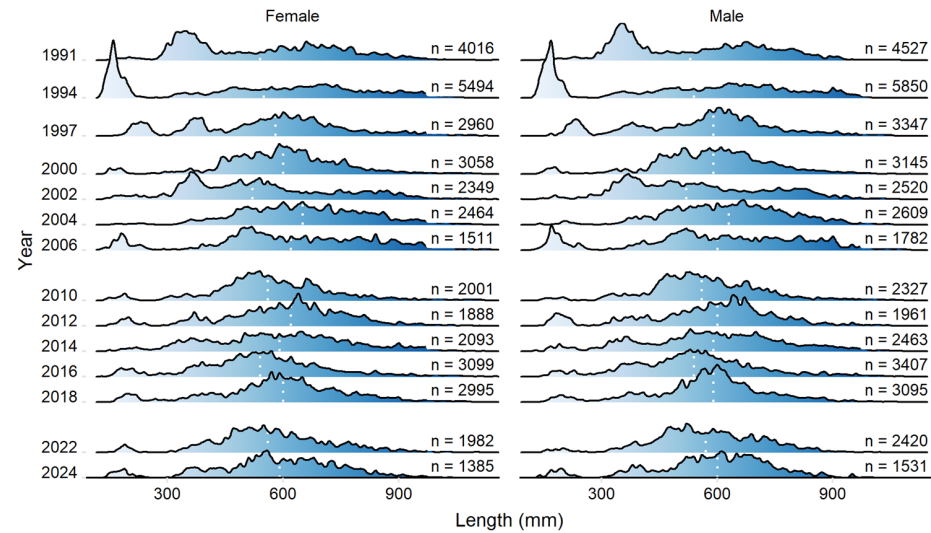
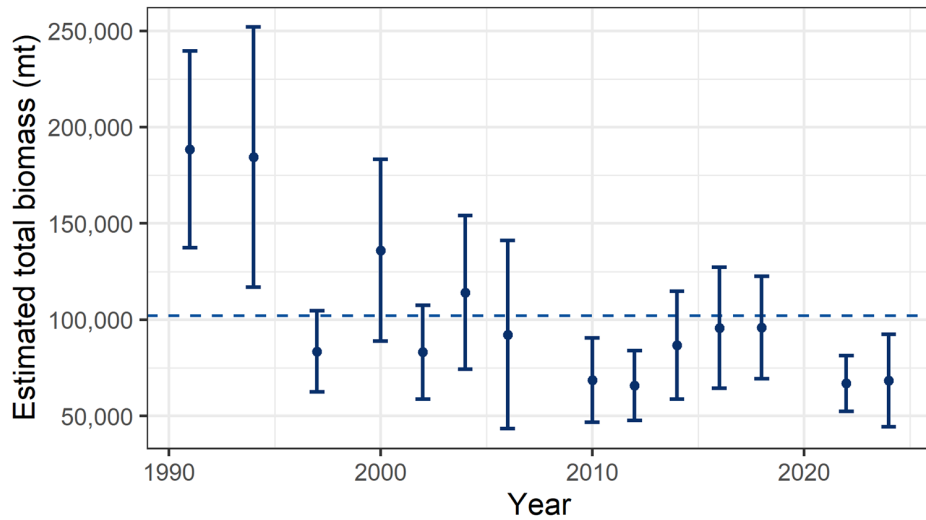


Eastern Aleutians  
and Southern Bering Sea



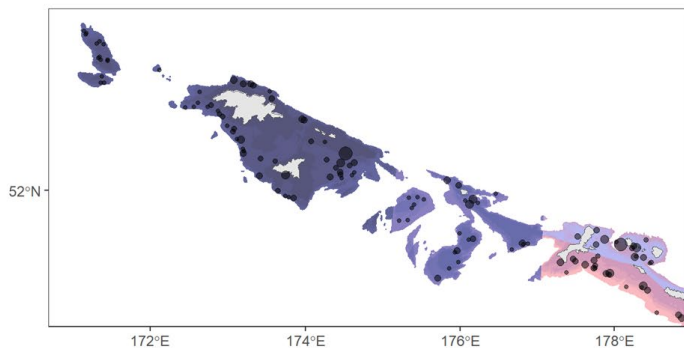
# Pacific cod (*Gadus macrocephalus*)

- Biomass estimate in 2024: ~68,500 mt
- +2.3% from 2022 ↔

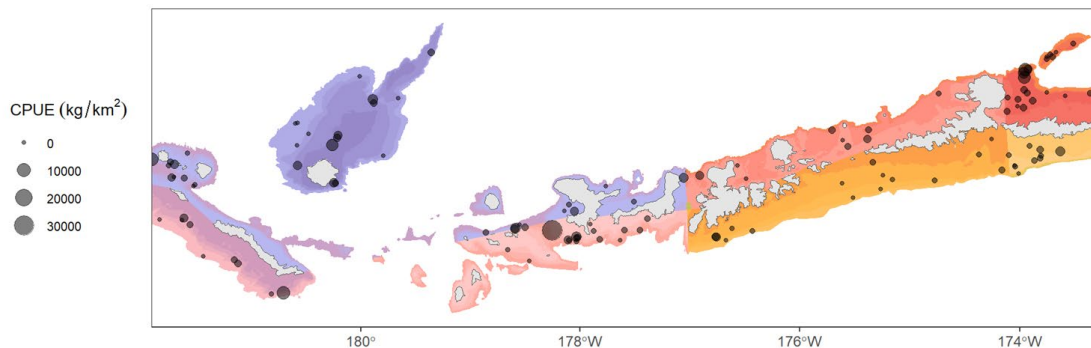


# Pacific cod (*Gadus macrocephalus*)

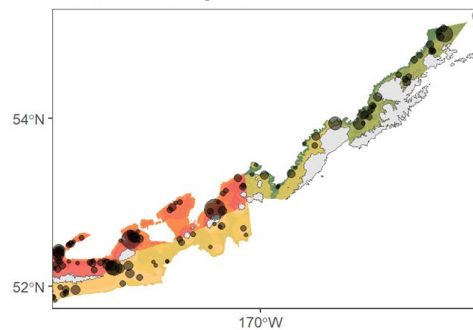
Pacific cod - Western Aleutians - 2024



Central Aleutians

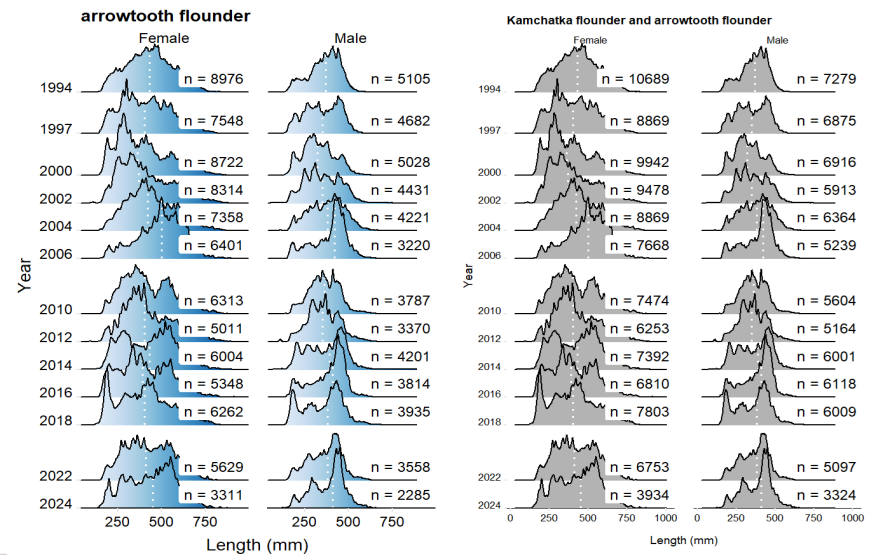
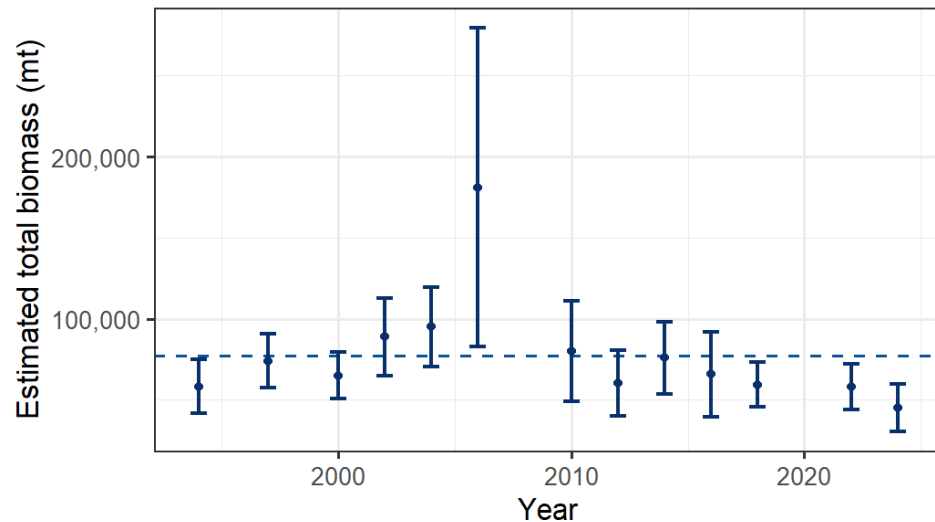


Eastern Aleutians and Southern Bering Sea



# Arrowtooth flounder (*Atheresthes stomias*)

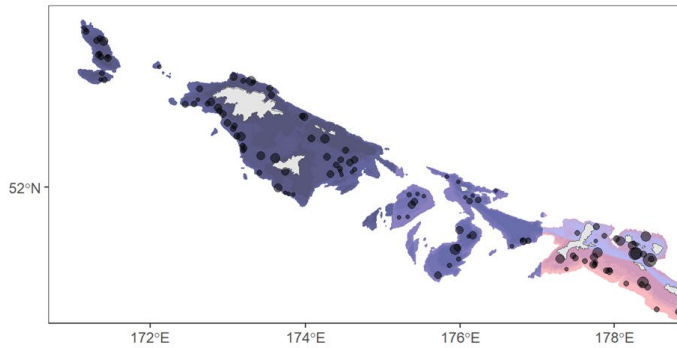
- Biomass estimate in 2024: ~45,200 mt
- -22% from 2022 ↓



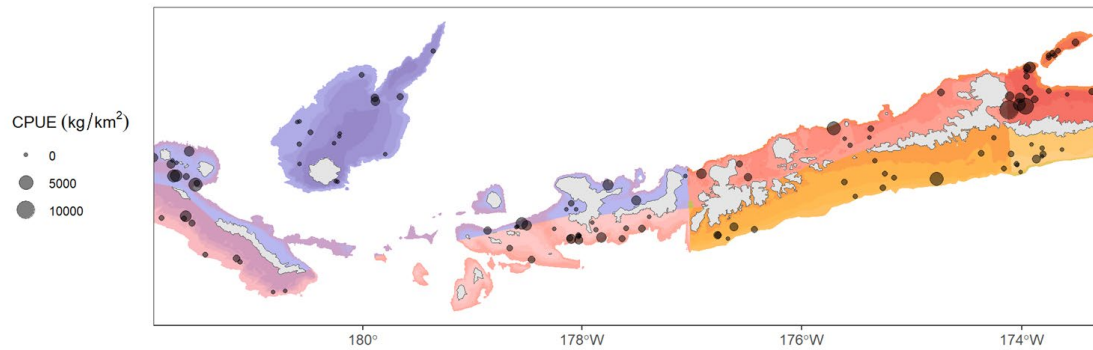


# Arrowtooth flounder (*Atheresthes stomias*)

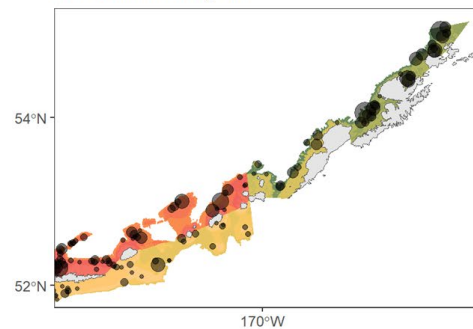
arrowtooth flounder - Western Aleutians - 2024



Central Aleutians

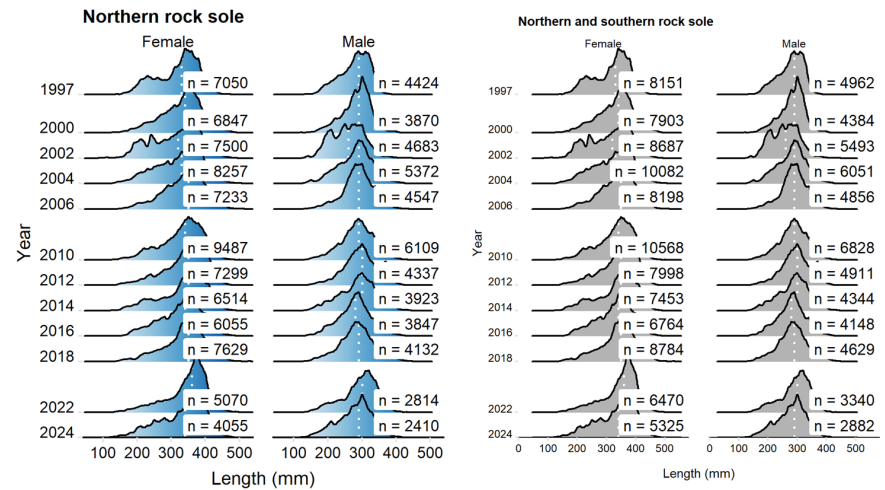
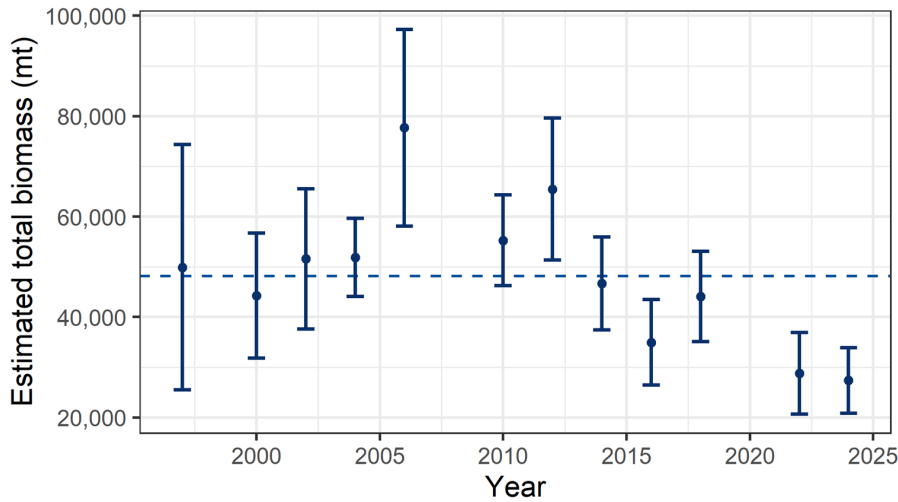


Eastern Aleutians and Southern Bering Sea



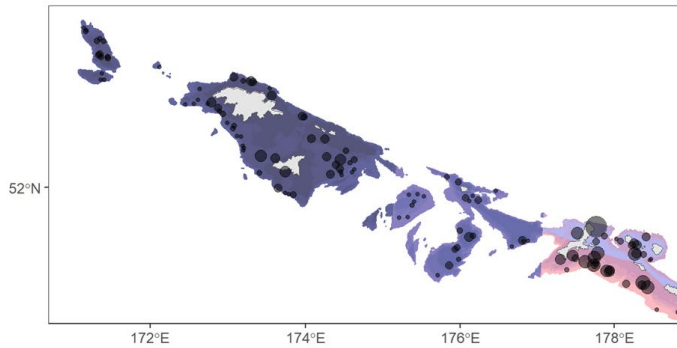
# Northern rock sole (*Lepidopsetta polyxystra*)

- Biomass estimate in 2024: ~27,400 mt
- -4.9% from 2022 ↔

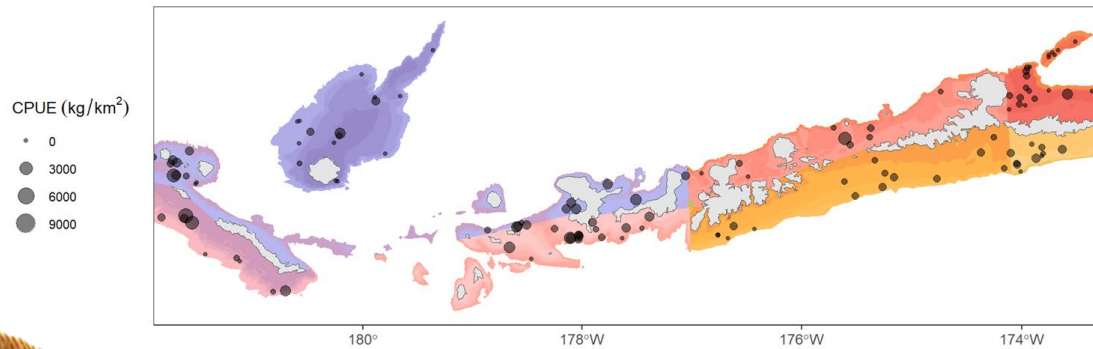


# Northern rock sole (*Lepidopsetta polyxystra*)

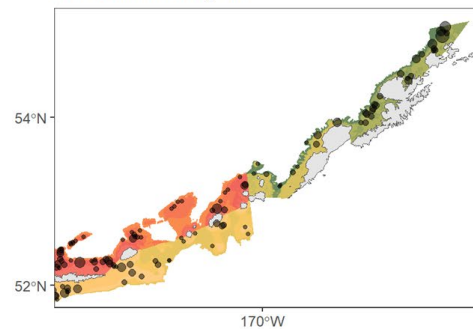
Northern rock sole - Western Aleutians - 2024



Central Aleutians

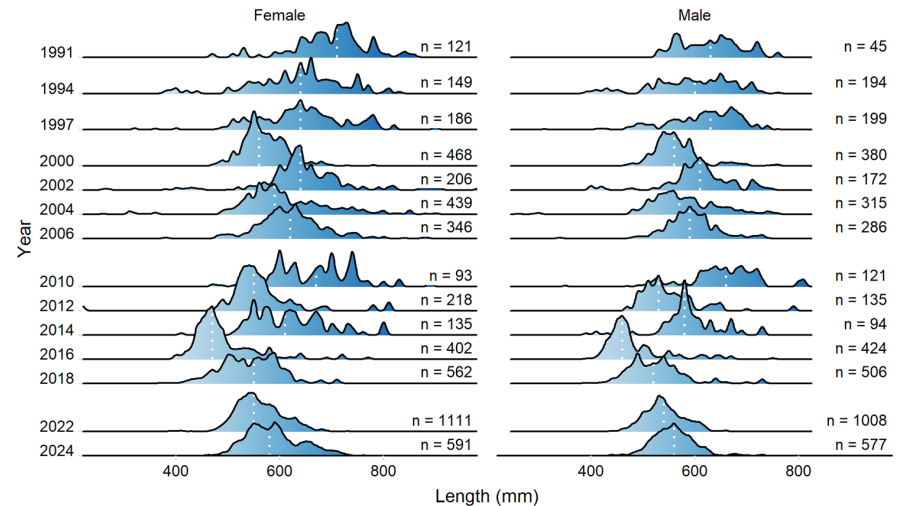
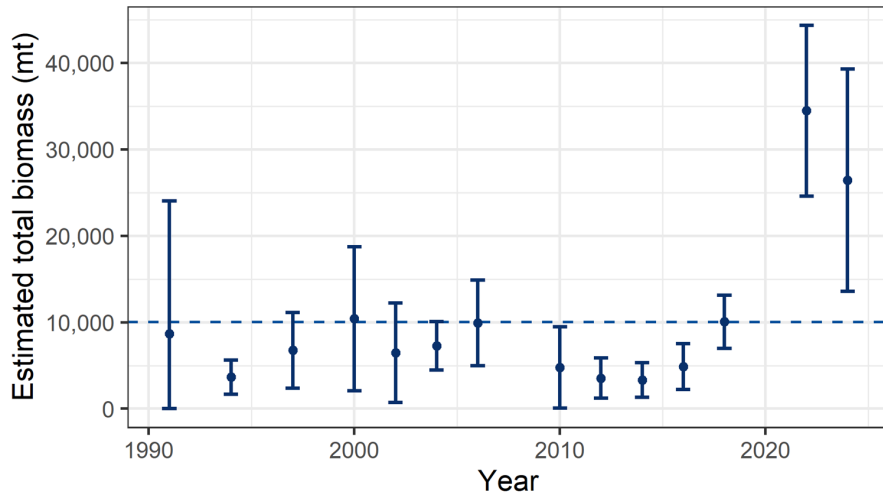


Eastern Aleutians and Southern Bering Sea



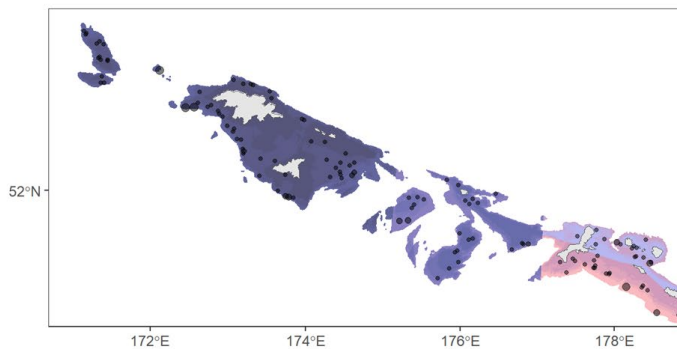
# Sablefish (*Anoplopoma fimbria*)

- Biomass estimate in 2024: ~26,400 mt
- -23.3% from 2022 ↓

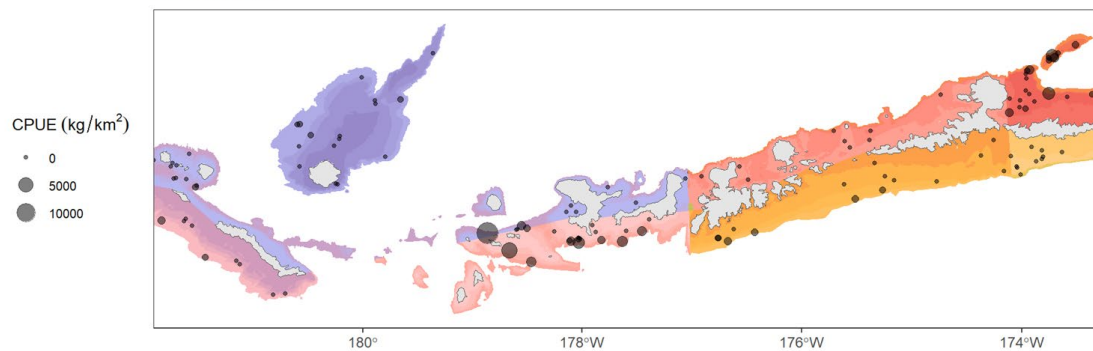


# Sablefish (*Anoplopoma fimbria*)

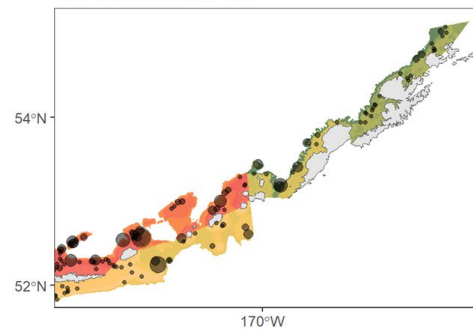
sablefish - Western Aleutians - 2024



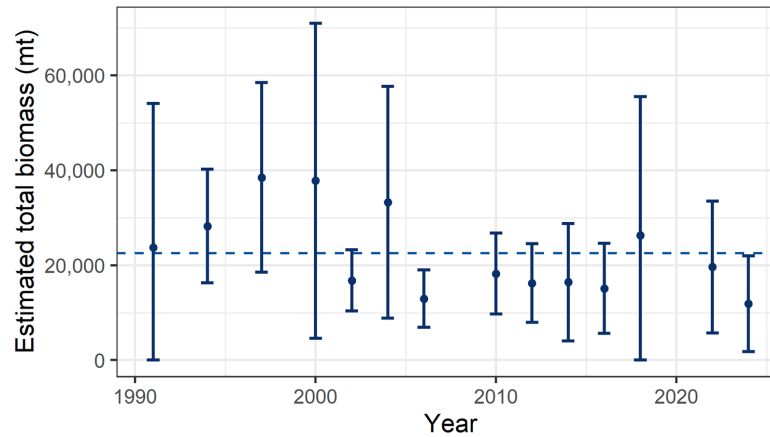
Central Aleutians



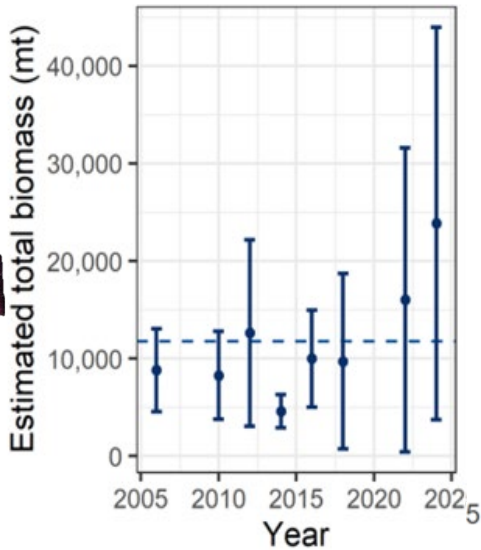
Eastern Aleutians  
and Southern Bering Sea



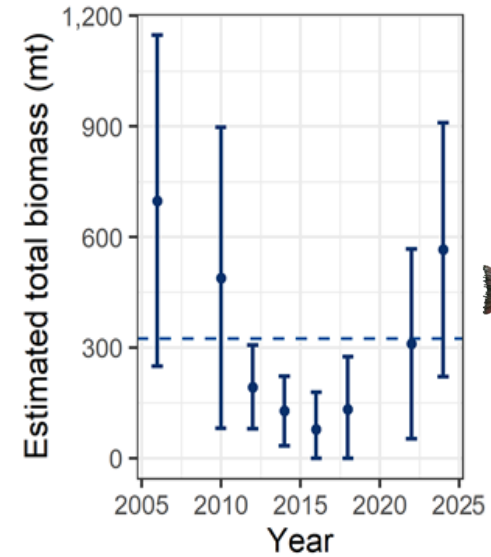
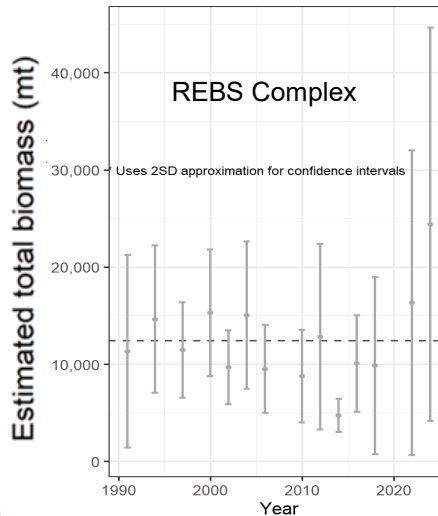
# Deep water rockfish complex



Shorttraker Rockfish  
11,900 mt  
-39.5% from 2022



Blackspotted Rockfish, 23,800 mt  
+48.9% from 2022

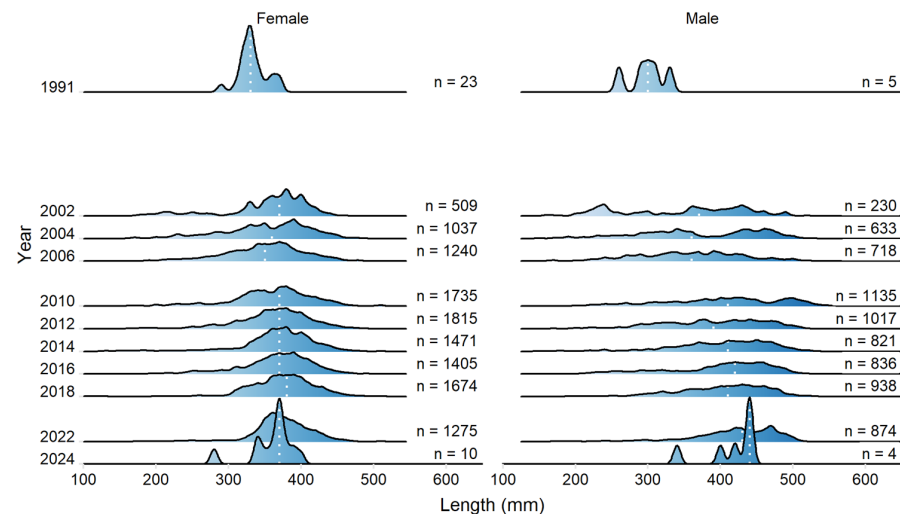
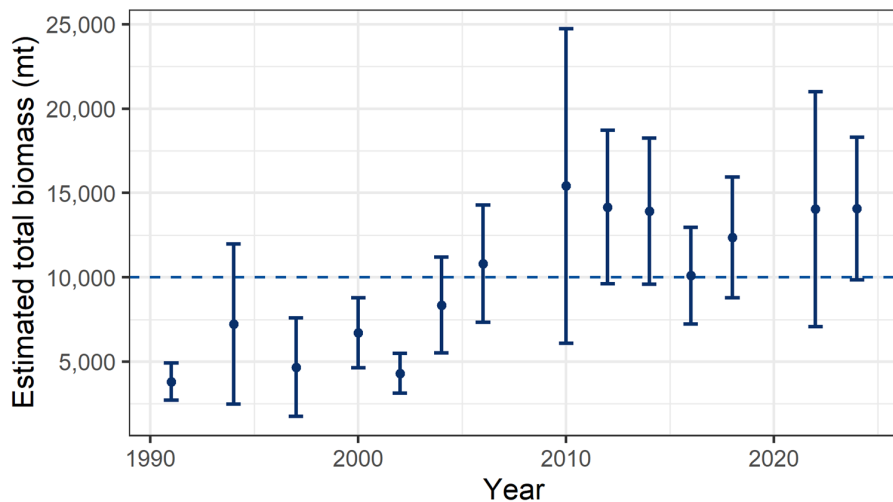


Rougheye Rockfish, 567 mt  
+82.4% from 2022



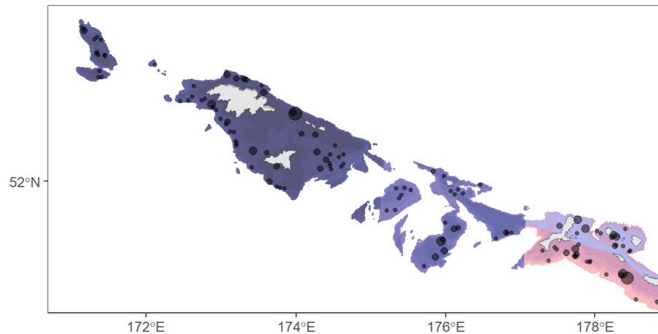
# Yellow Irish lord (*Hemilepidotus jordani*)

- Biomass estimate in 2024: ~14,000 mt
- +0.2% from 2022 ↔

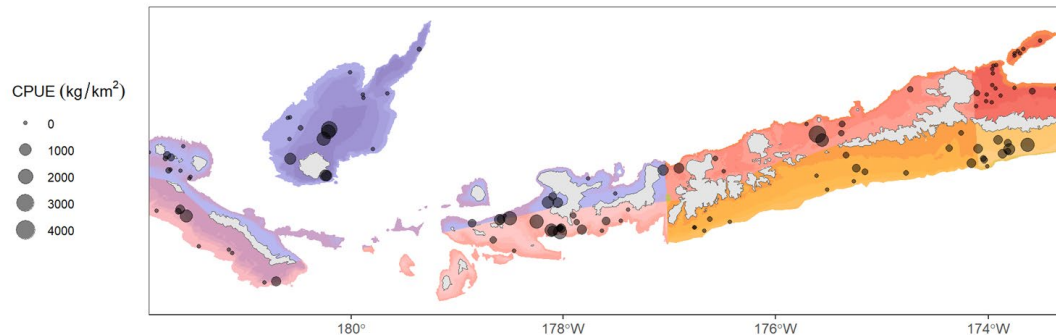


# Yellow irish lord (*Hemilepidotus jordani*)

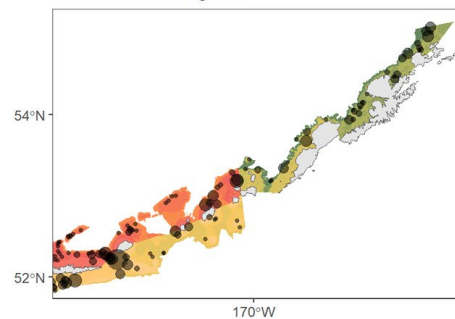
yellow Irish lord - Western Aleutians - 2024



Central Aleutians



Eastern Aleutians and Southern Bering Sea





# THANK YOU



## Charter Vessels:

FV Ocean Explorer: Captain Dan Carney and Crew

FV Alaskan Provider: Captain Brian Beaver and Crew

Aleutian Islands  
Trawl Survey Team

Christina Conrath,  
**Alexandra Dowlin**,

Sarah Friedman,  
Rebecca Howard  
Cecilia O'Leary,

**Ned Laman**,

Zack Oyafuso,

Nate Raring,

Pearl Rojas,

**Bethany Riggle**,

Sean Rooney,

**Megsie Siple**,

Paul von Szalay,

Mark Zimmermann

Program Lead,

Susanne McDermott

Susanne.McDermott@noaa.gov



NOAA FISHERIES

<https://github.com/afsc-gap-products/data-requests>