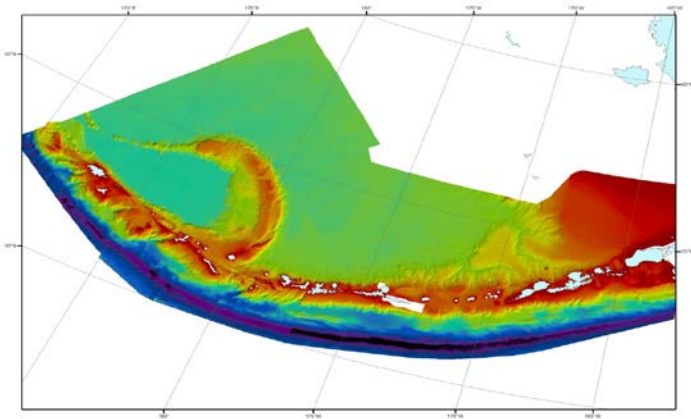


2022 Aleutian Islands Biennial Bottom Trawl Survey



**NOAA
FISHERIES**



Joint Groundfish Plan Team Meeting

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



NOAA FISHERIES

2022 AI bottom trawl survey

The 2022 AI bottom trawl survey took place between June 6th and August 17th, 2022. The previous AI survey was in 2018 because the 2020 survey was cancelled due to COVID-19.

We set out to sample **420** stations with two chartered vessels and successfully trawled **399** of them.



Photo credit: Kayla Gunther



Photo credit: Megsie Siple

Survey Charter Vessels



F/V Alaska Provider
2013-2016, 2021-Present
6 yrs of charter experience
Cpt Loren Reynolds, ~27 yrs
experience



F/V Ocean Explorer
2010-2012, 2017-present
8 yrs of charter experience
Cpt Dan Carney, ~8 yrs
experience



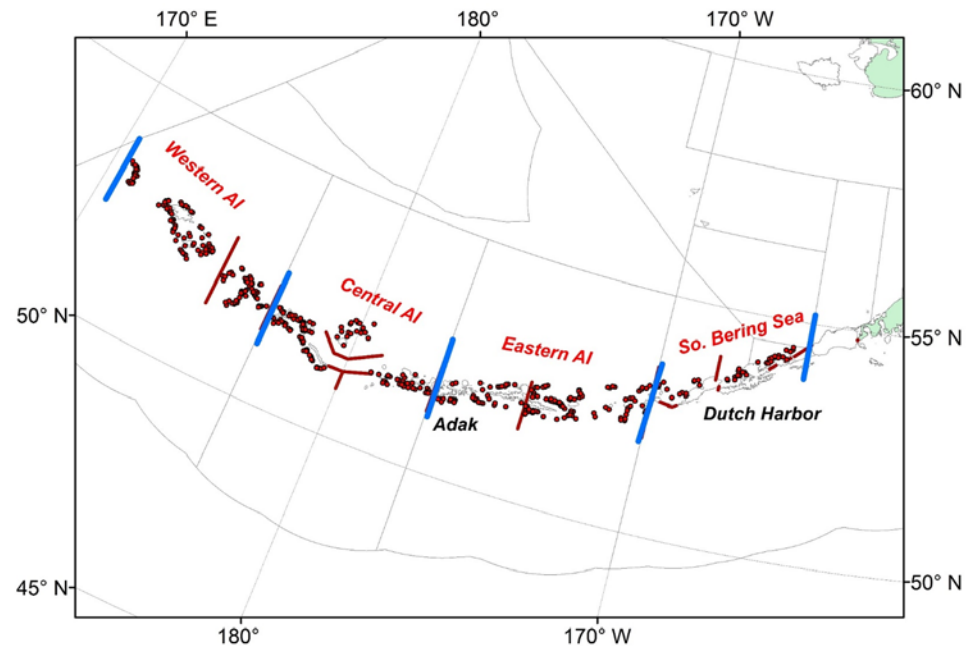
Survey Purpose

To collect standardized and fishery-independent time series of:

- Relative abundance
- Distribution
- Length and age composition

Survey design

- Stratified random survey
- 45 strata defined by geography and depth zone (depth ranges are 1-100, 101-200, 201-300, and 301-500 m)
- Station allocation based upon abundance, variance, stratum area, and economic value
- 15 minute trawls (usually about 1.5 km distance)
- *Poly Nor 'Eastern* net with rollers & bobbins



Data status

- All data were finalized as of **September 19th**
- Age composition will be updated as Age & Growth finish otolith samples
- Data tables will be available on FOSS and AKFIN in the future
- ESR Chapters in process

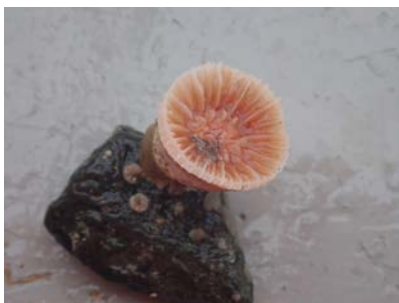


Photo: Megsie Siple



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Collections



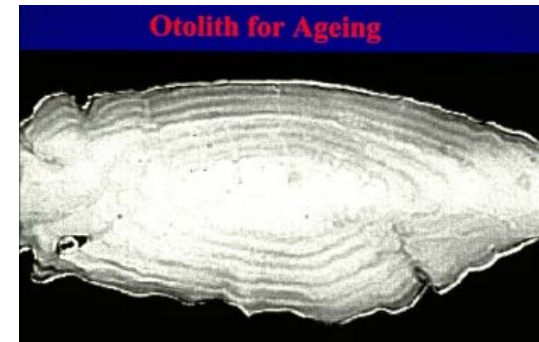
Species Lengths Collected



<u>Common Name</u>	<u>Lengths collected</u>
arrowtooth flounder	10011
northern rock sole	7884
walleye pollock	7643
Pacific cod	4403
Atka mackerel	7201
sablefish	2119
yellow Irish lord	2169
Pacific ocean perch	23912
blackspotted rockfish	2076
roughey rockfish	83
shortraker rockfish	531
Aleutian skate	38
whiteblotched skate	565
Total	68635

Species Otoliths Collected

Common name	Otoliths collected
arrowtooth flounder	515
northern rock sole	488
southern rock sole	328
Greenland turbot	8
Kamchatka flounder	537
walleye pollock	743
Pacific cod	765
Atka mackerel	1090
Pacific ocean perch	1209
northern rockfish	665
blackspotted rockfish	605
rougeye rockfish	47
dusky rockfish	108
harlequin rockfish	11
shortraker rockfish	149
shortspine thornyhead	373
Total	7641



Other Projects and Special Collections

Acoustics

ES 60 acoustic data collection

Environmental Monitoring

Evaluation of eDNA and bottom trawl data similarities
Harmful algal bloom (HAB) toxins in Alaskan food web
Measuring light intensity on bottom trawl surveys

Population Genetics

Flatfish genomics
Ecology of Arctic and Pacific lampreys
Population genetics of herring in the Bering Sea
Shark population genetics (sleeper/salmon)
Sponge Identification and genetics in the Gulf of Alaska

Feeding Habits

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

Miscellaneous

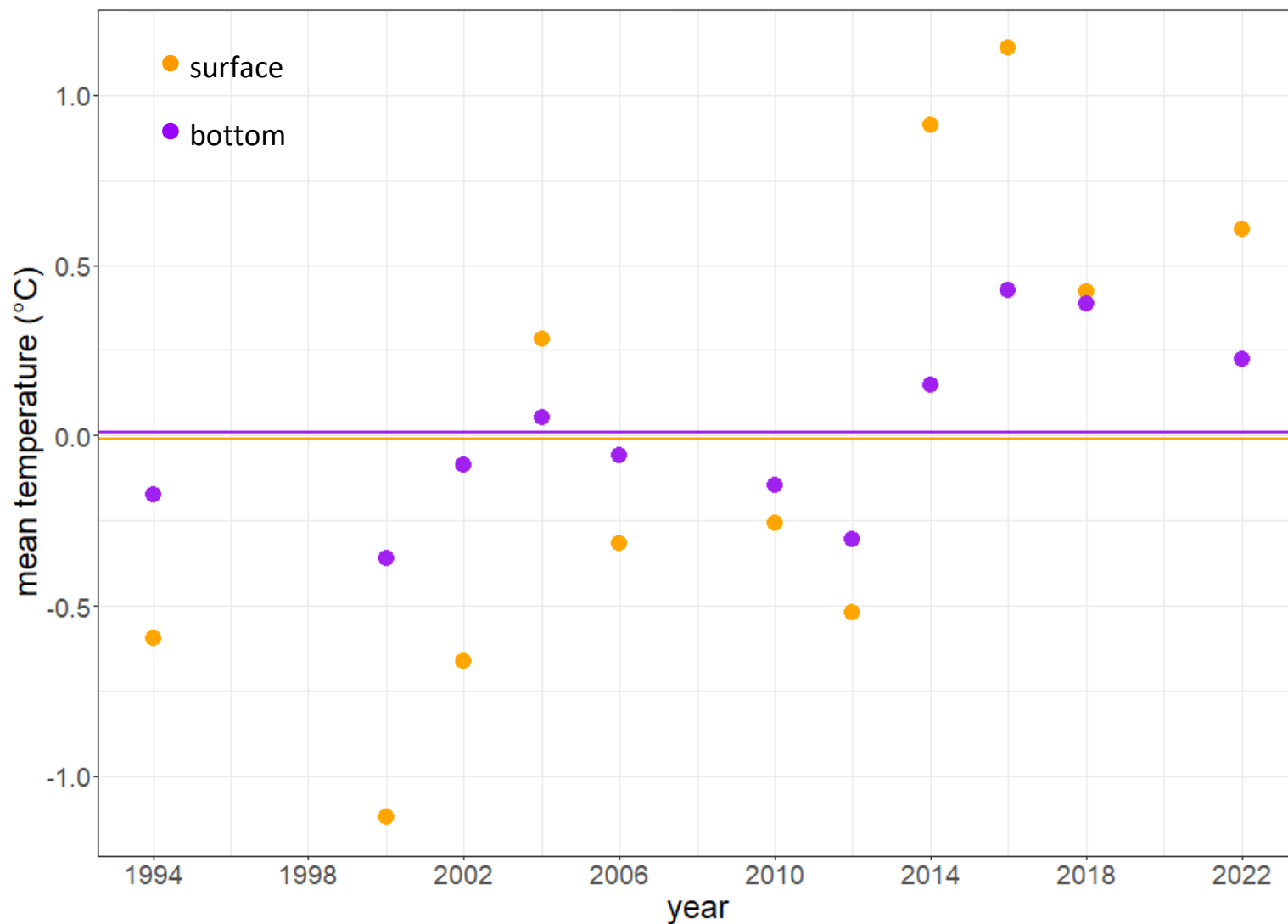
Assessing the ecological impact of salmon sharks
IPHC Pacific halibut data collection and tagging
Mammal moorings
MML Food Habits Reference Collection (GOA)
Spatial variability in the condition and reproductive success of rockfishes

Specimen Collection

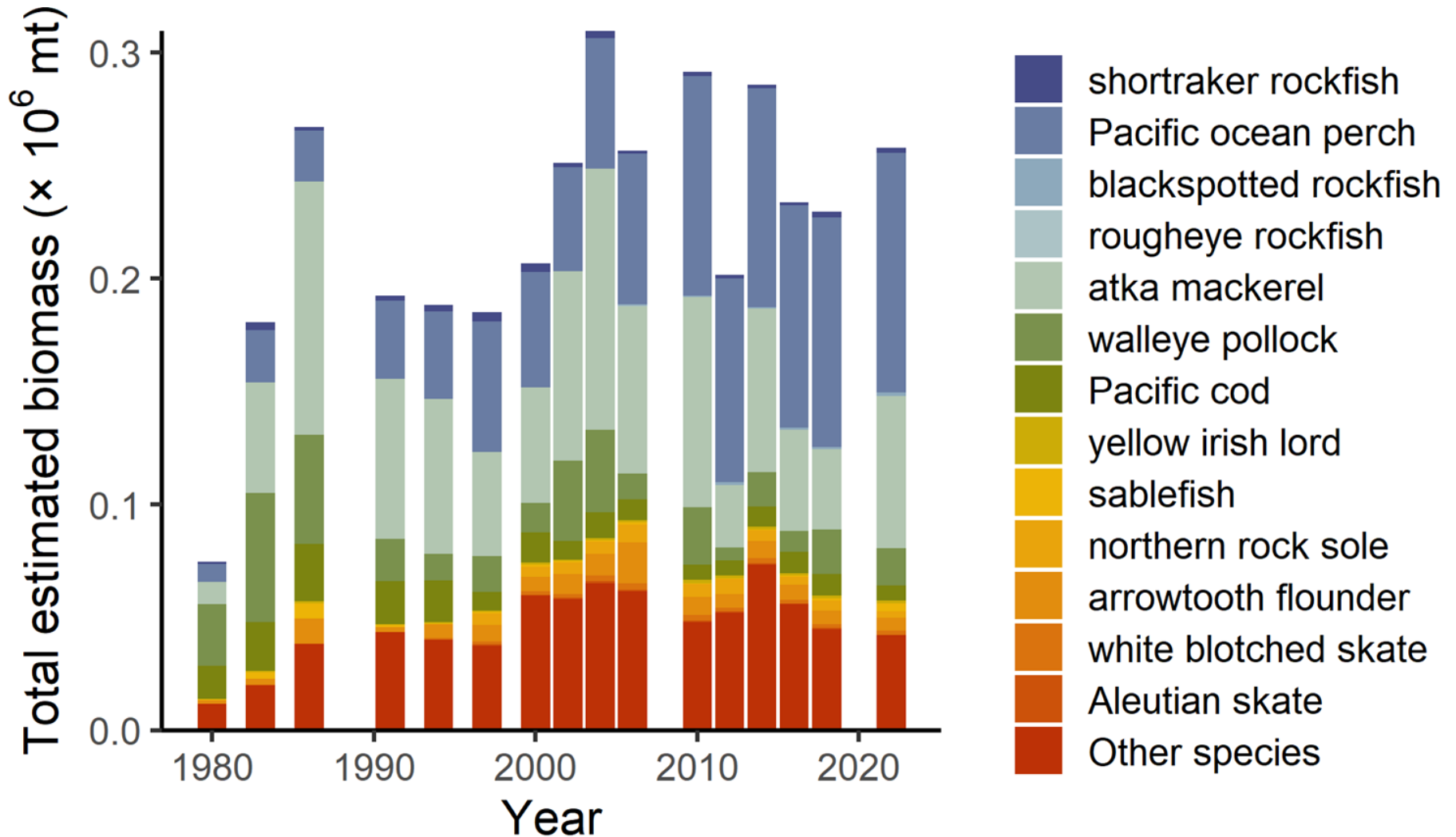
AI golden king crab specimen data
Arbusculaeidae – a new family of Dendroceratida
Coral collections
Deep-sea cup corals
Mollusk collection
NWFSC Voucher collection (snailfish)
Observer training specimens



Surface-Bottom Temp ($^{\circ}\text{C}$) Anomalies



Catch composition





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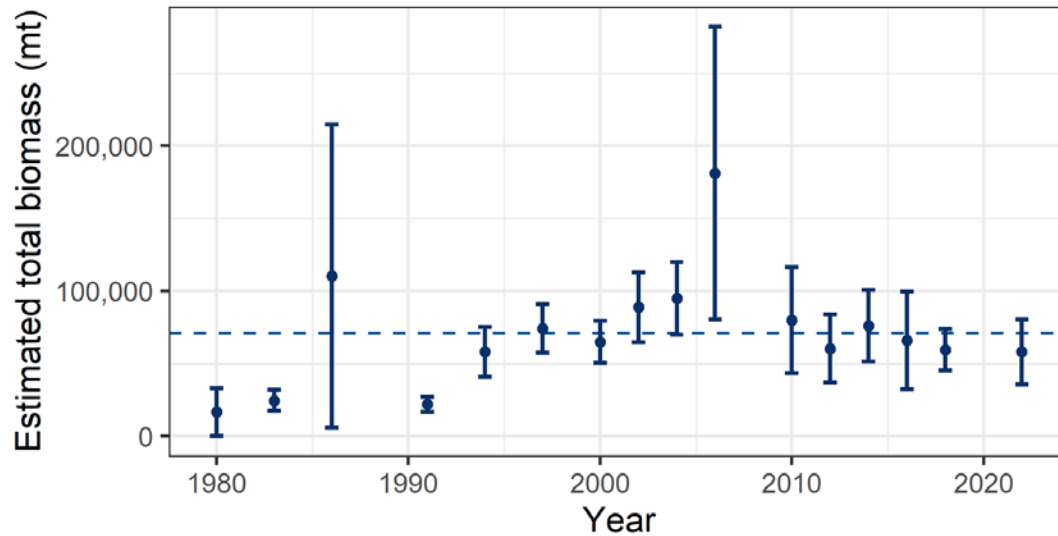
Biomass Trends Length Frequencies Distribution and Abundance



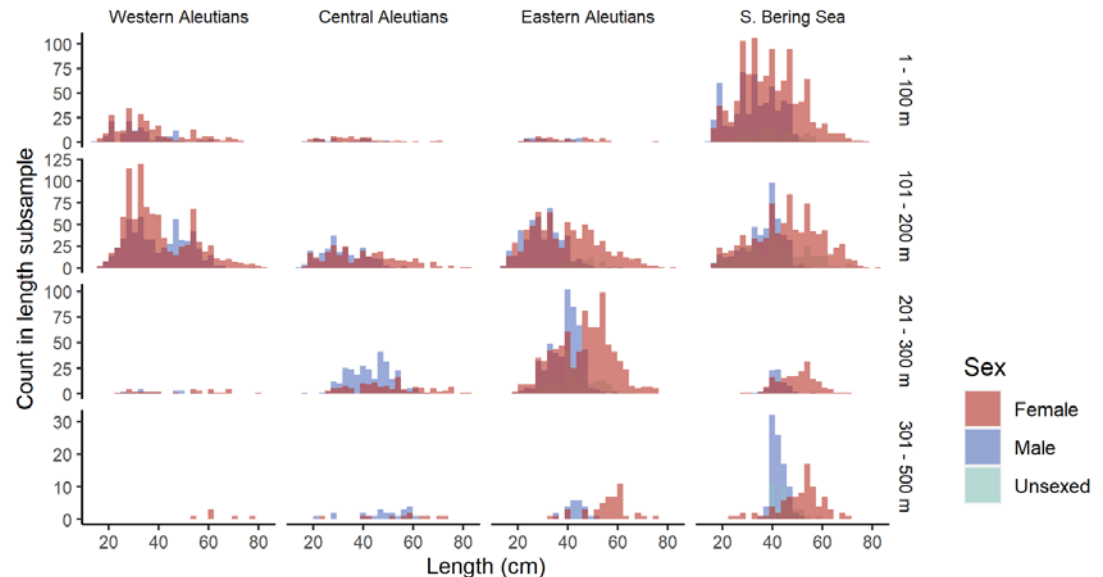
Photo: Megsie Siple



Arrowtooth flounder

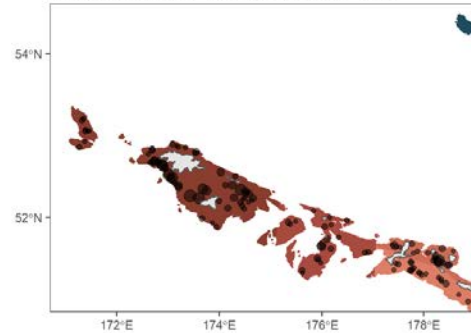


- Total caught in 2022: ~58000 mt
- -2.5% from 2018 (~1500 mt)



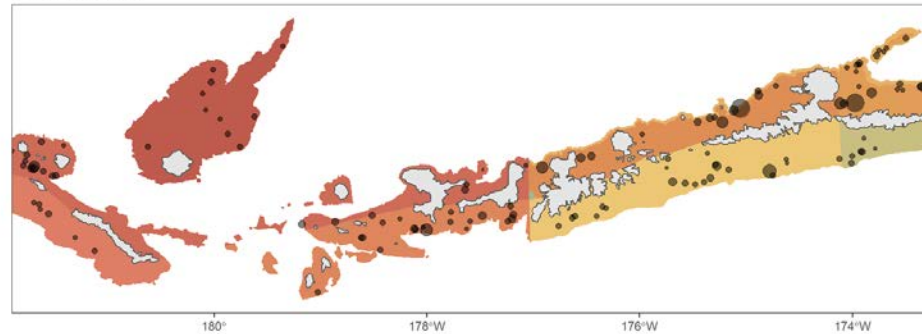
Arrowtooth flounder

arrowtooth flounder - Western Aleutians - 2022

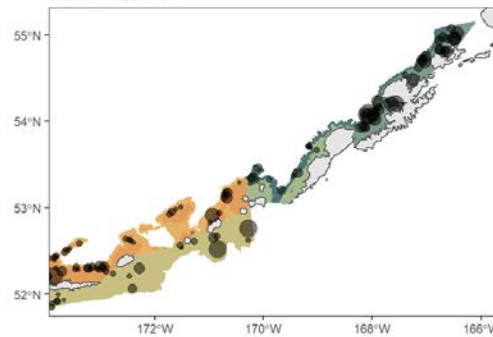


- Present in ~75% of catches

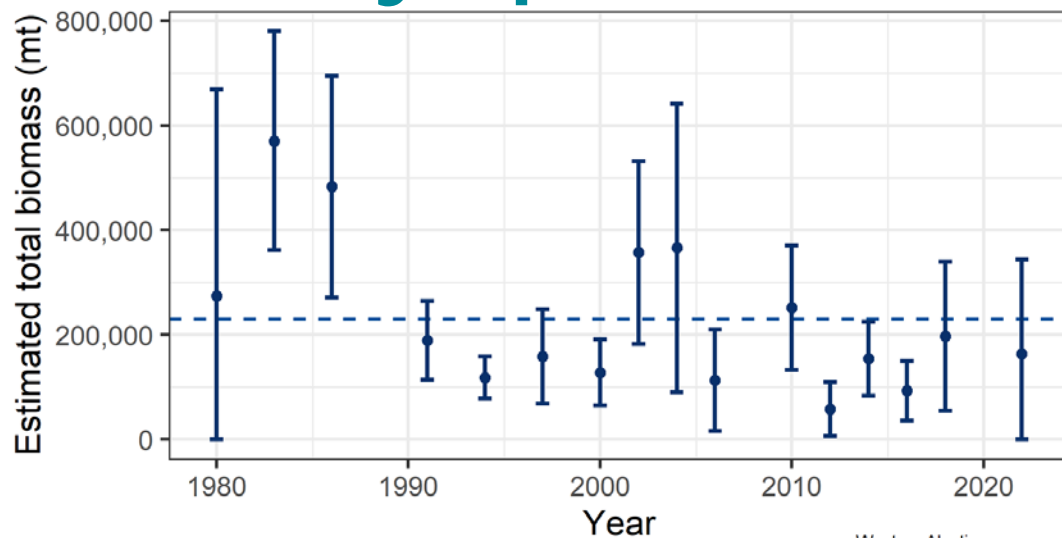
Central Aleutians



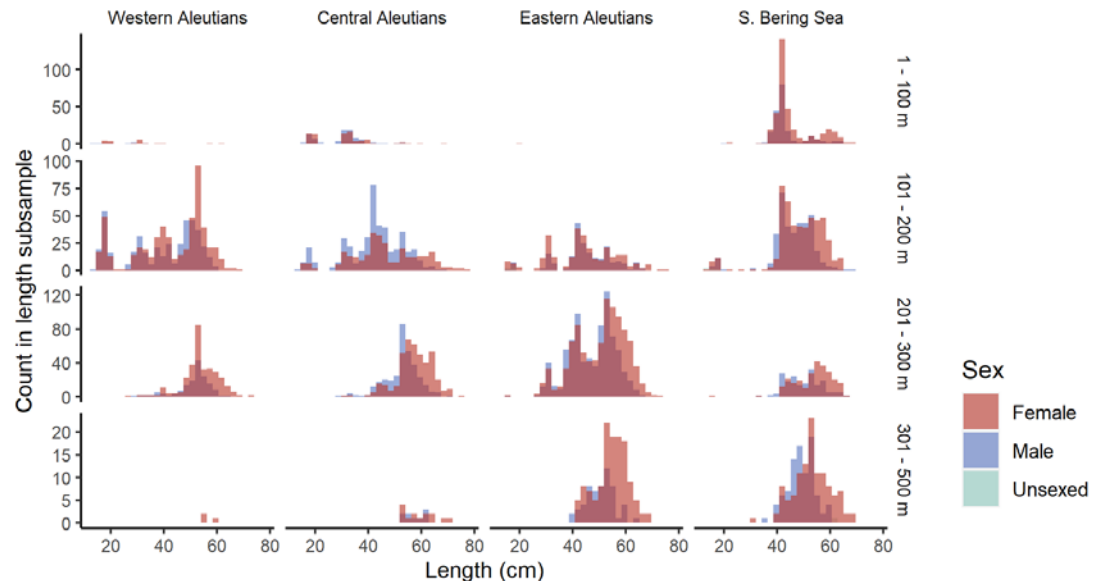
Eastern Aleutians



Walleye pollock

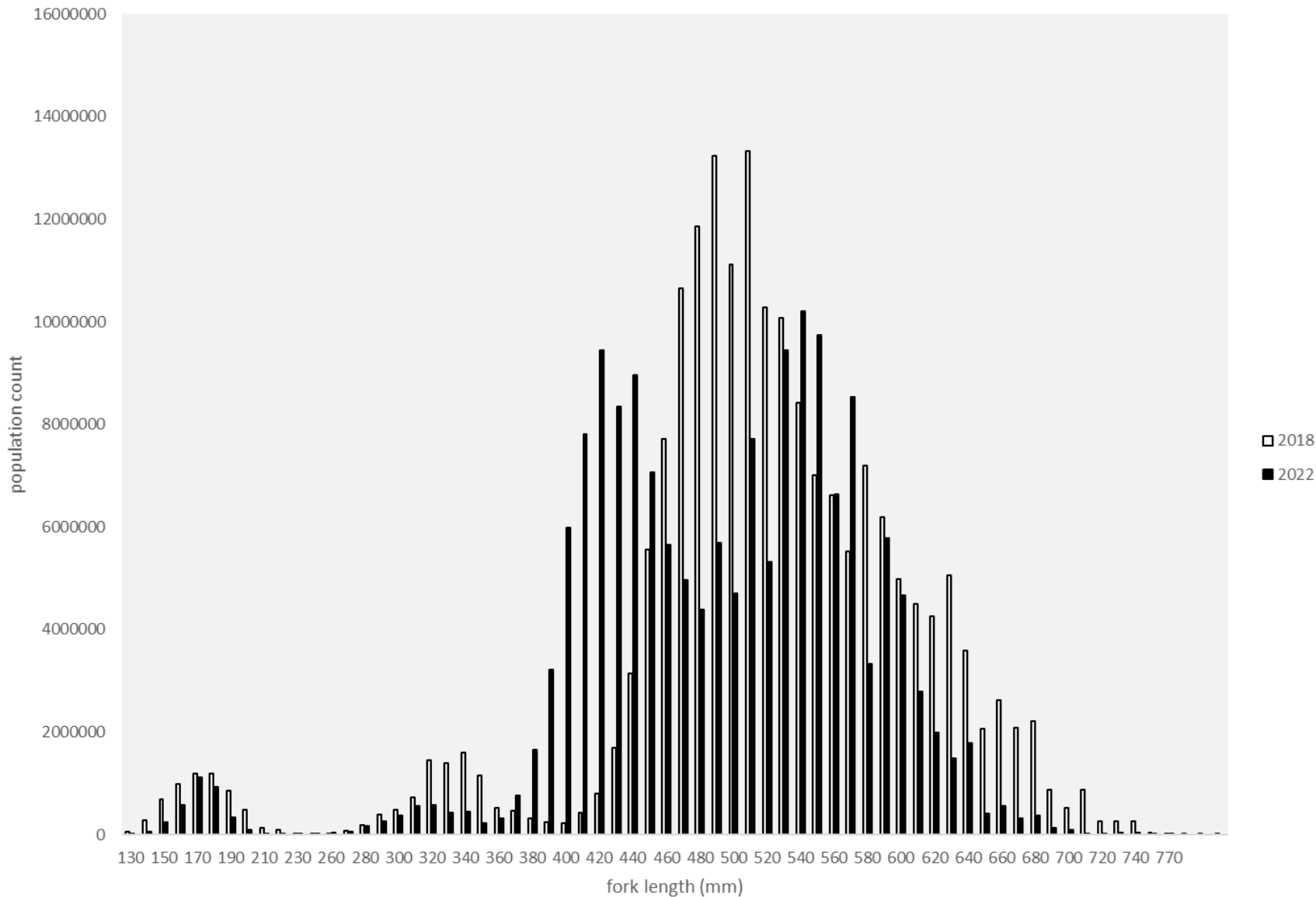


- Total caught in 2022: ~164000 mt
- **-17%** from 2018 (**~33000 mt**)



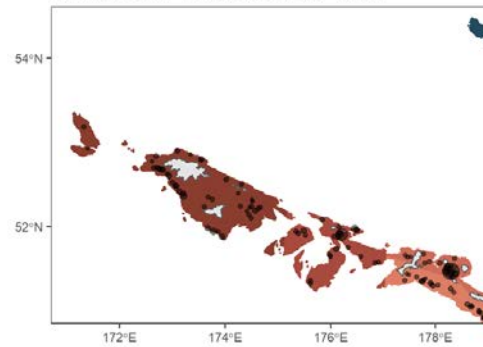


Aleutian Islands - walleye pollock



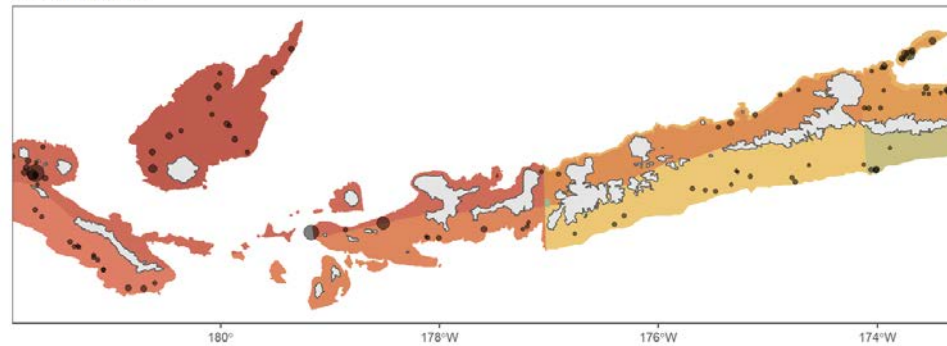
Walleye pollock

walleye pollock - Western Aleutians - 2022

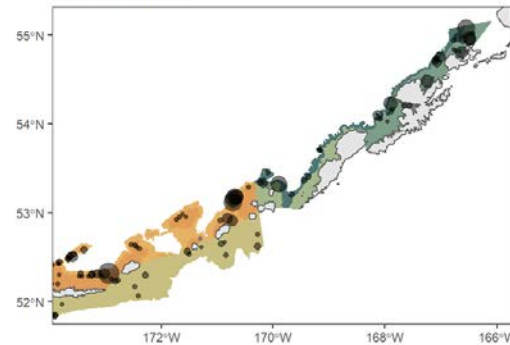


- Present in ~60% of catches

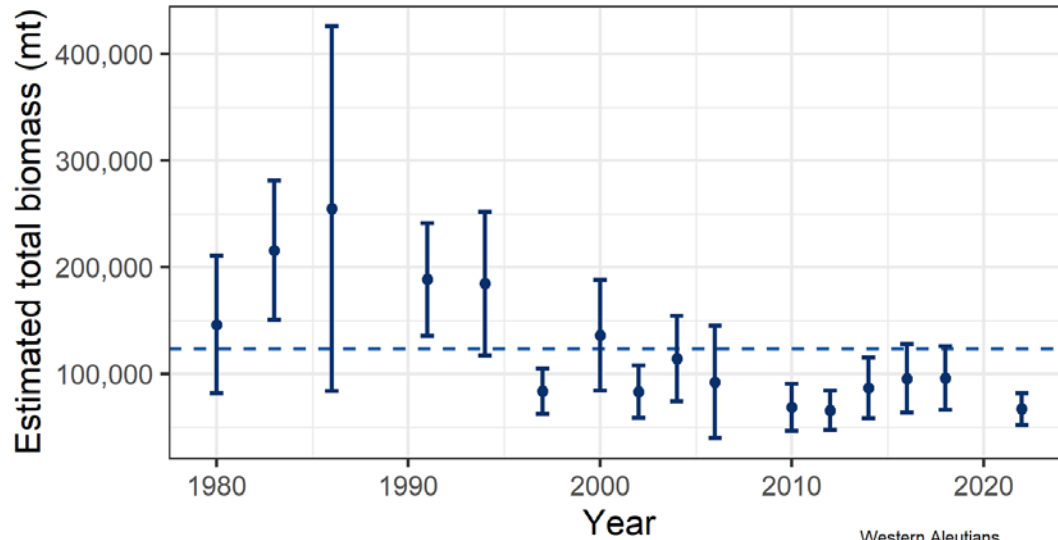
Central Aleutians



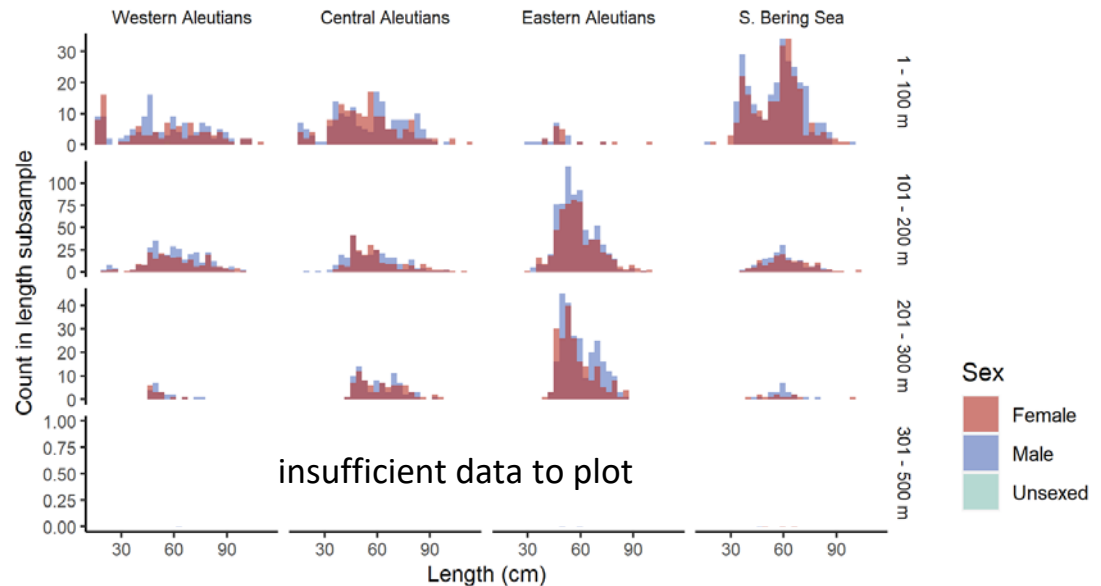
Eastern Aleutians



Pacific cod

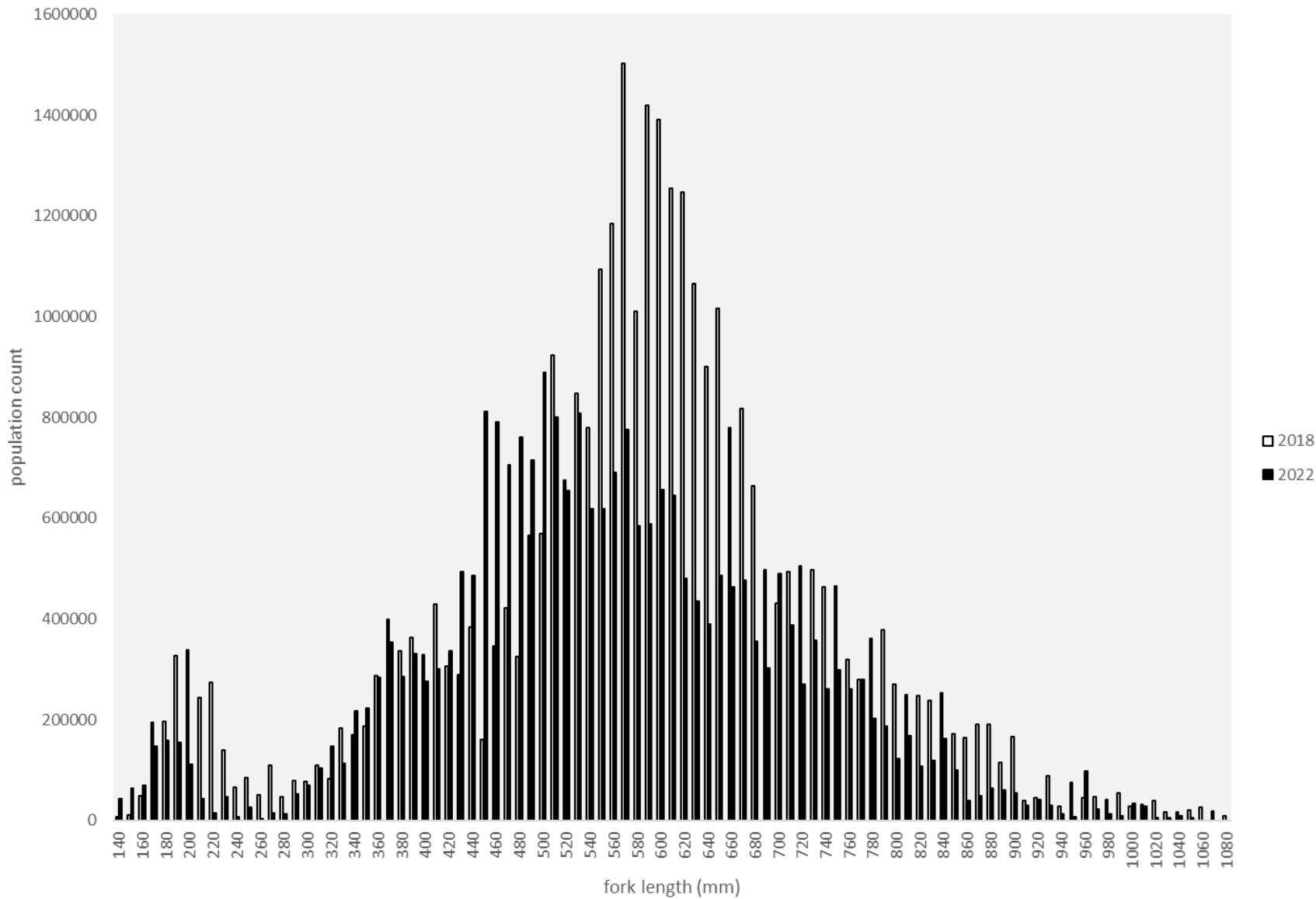


- Total caught in 2022: ~67000 mt
- -30% from 2018 (~29000 mt)



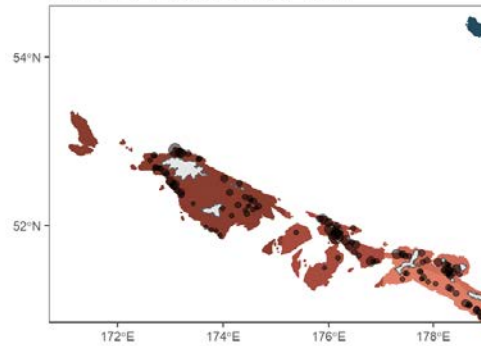


Aleutian Islands - Pacific cod



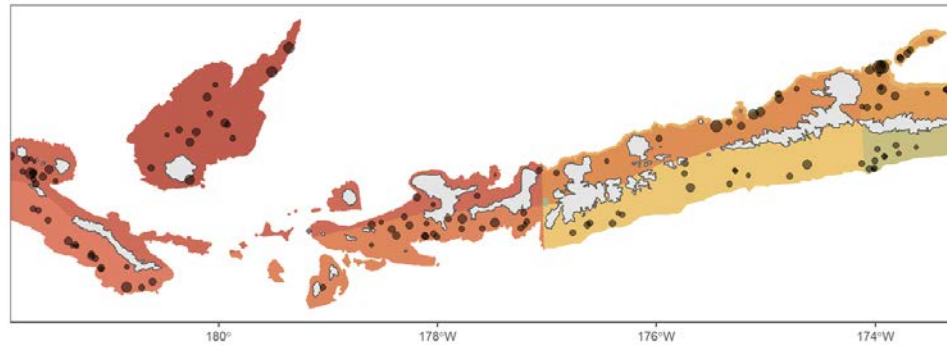
Pacific cod

Pacific cod - Western Aleutians - 2022

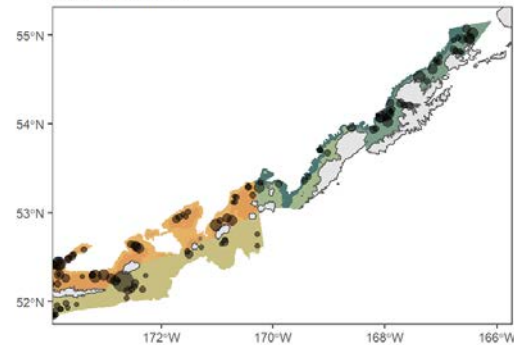


- Present in ~70% of catches

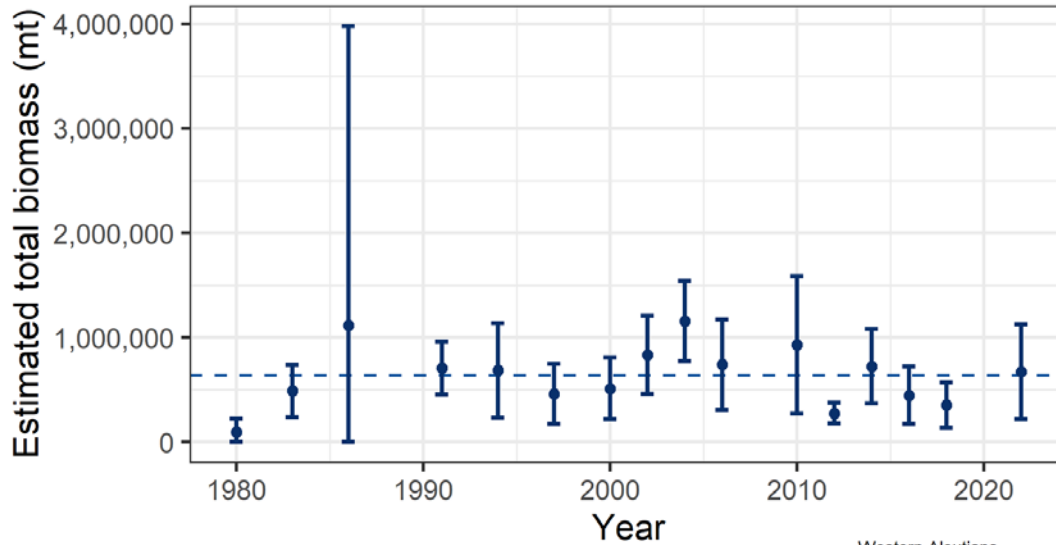
Central Aleutians



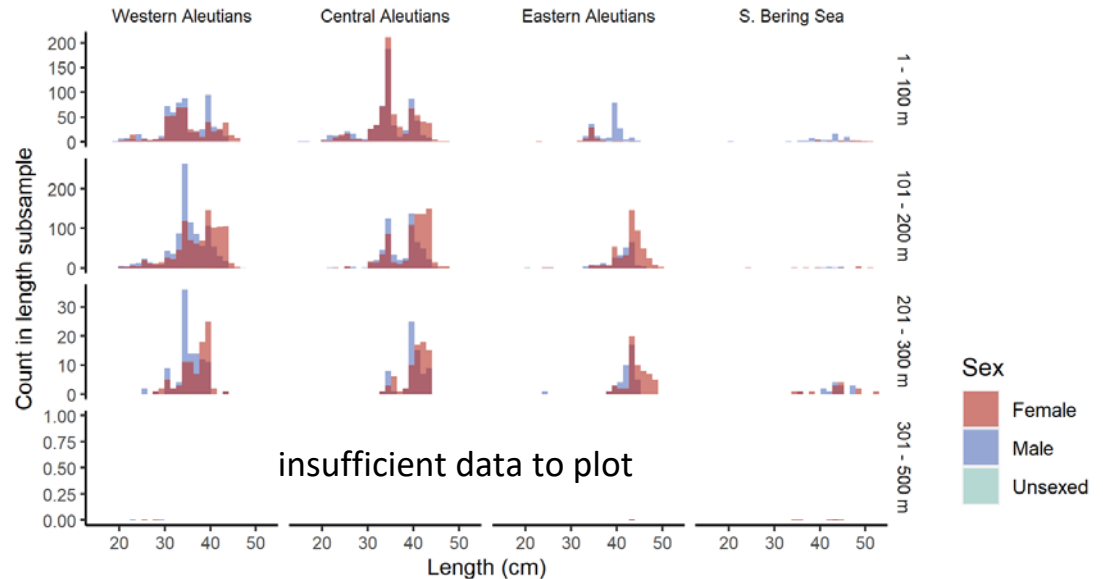
Eastern Aleutians



Atka mackerel

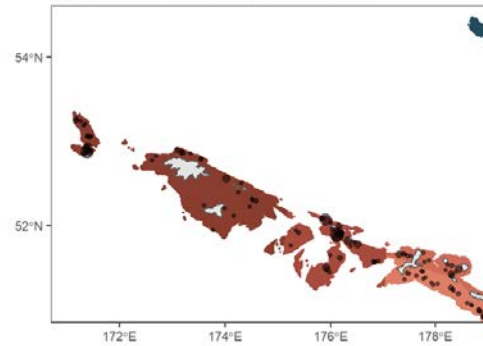


- Total caught in 2022: ~672000 mt
- 89% from 2018 (~317000 mt)



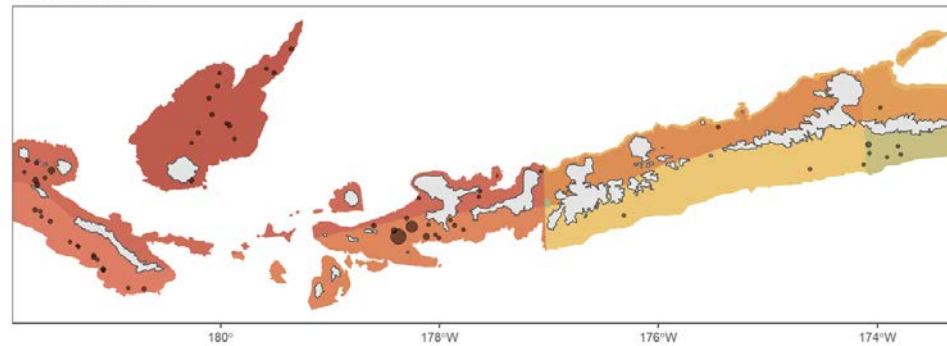
Atka mackerel

atka mackerel - Western Aleutians - 2022

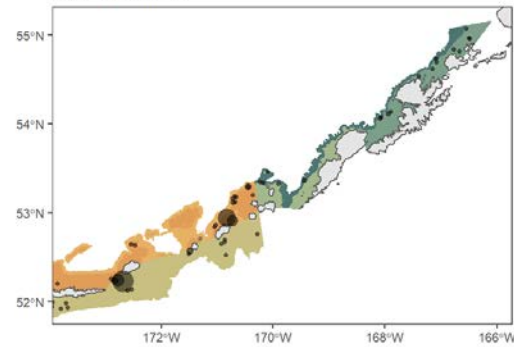


- Present in ~50% of catches

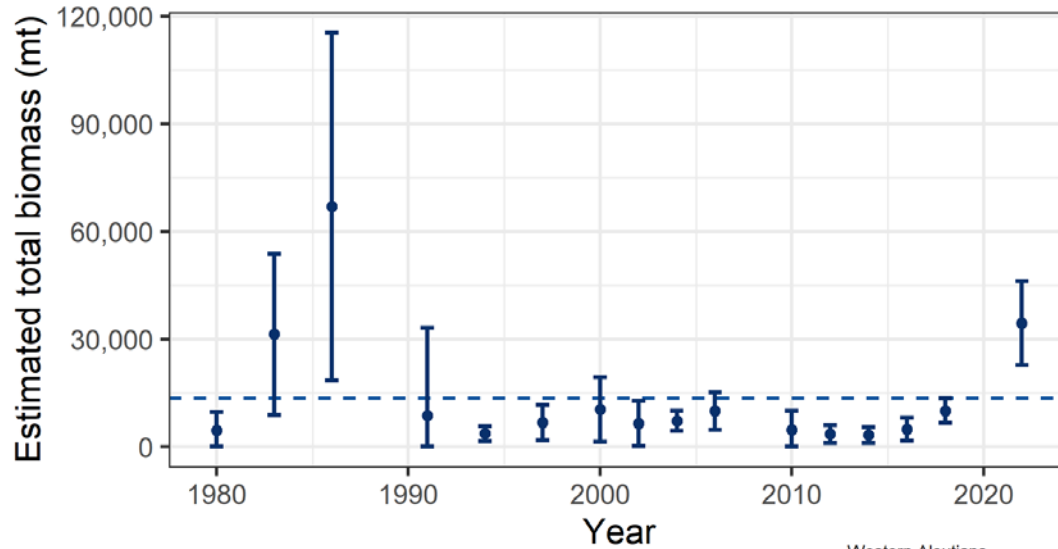
Central Aleutians



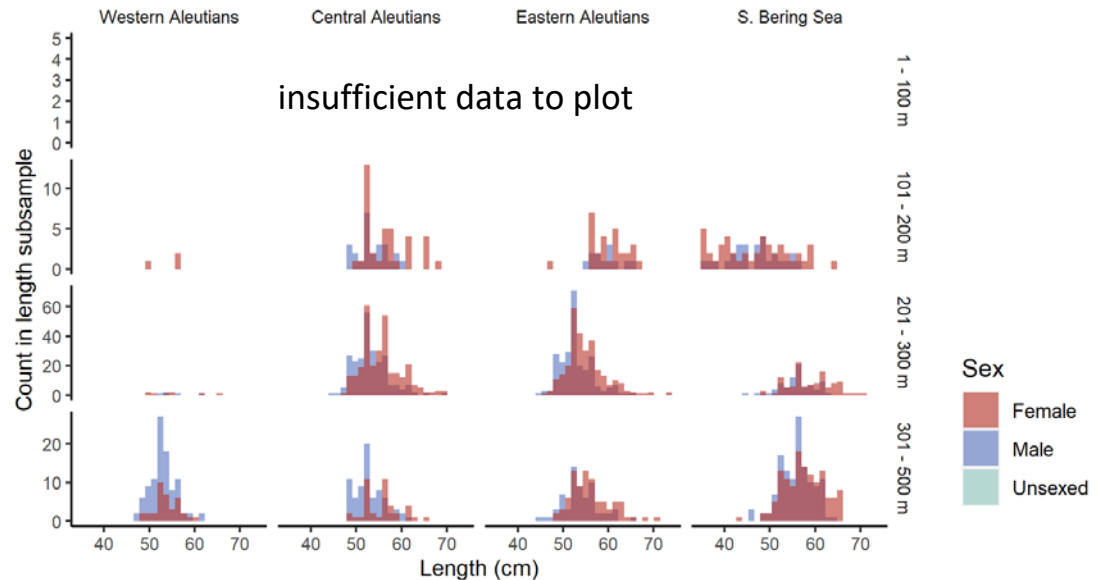
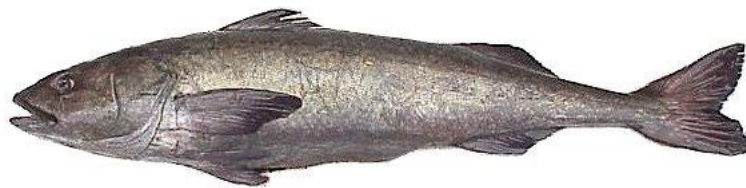
Eastern Aleutians



Sablefish

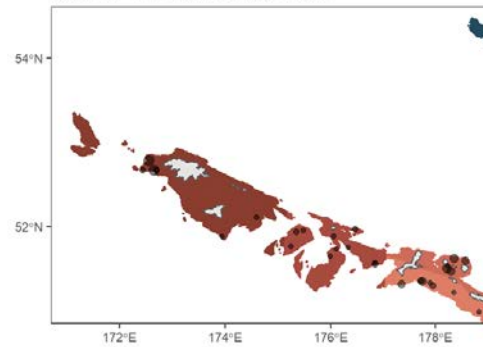


- Total caught in 2022: ~34000 mt
- 242% from 2018 (~24000 mt)



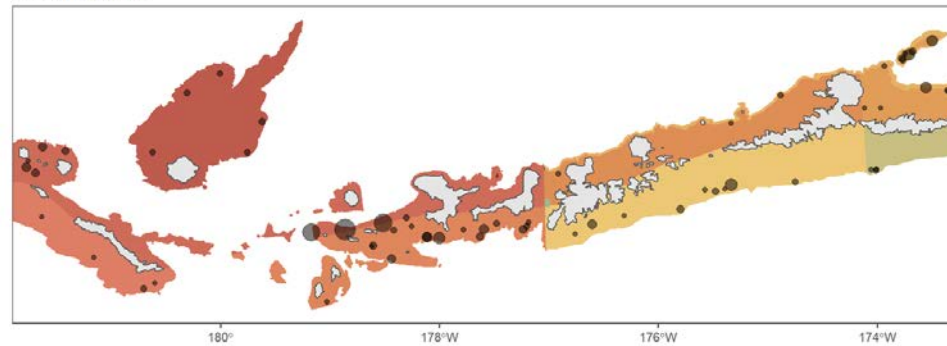
Sablefish

sablefish - Western Aleutians - 2022

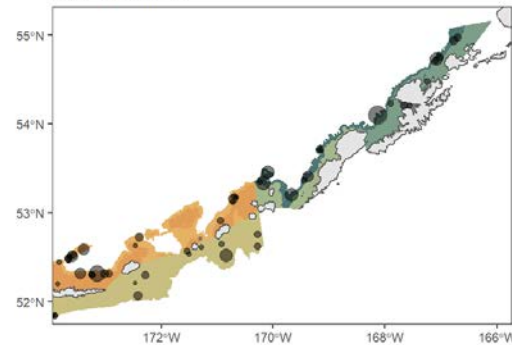


- Present in ~30% of catches

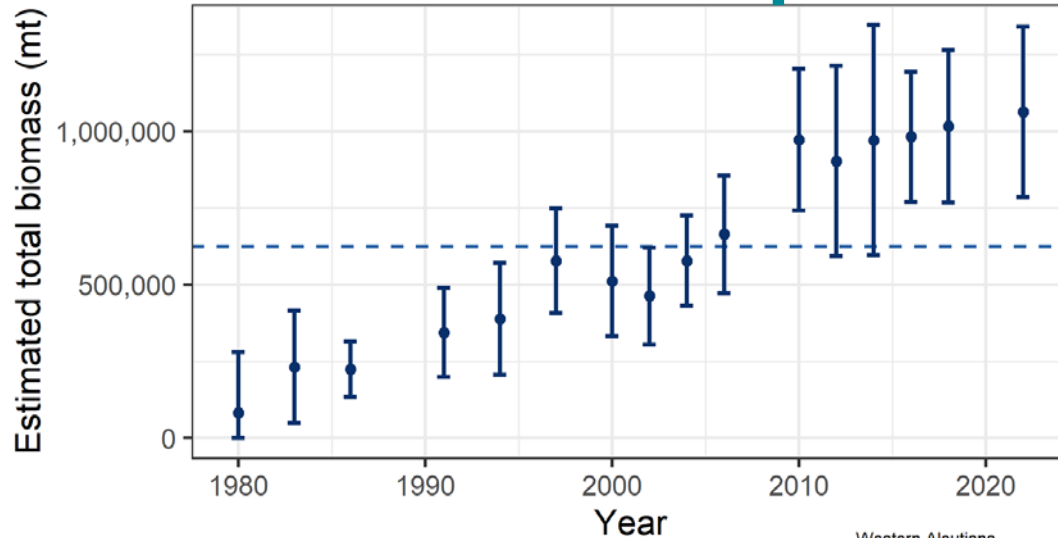
Central Aleutians



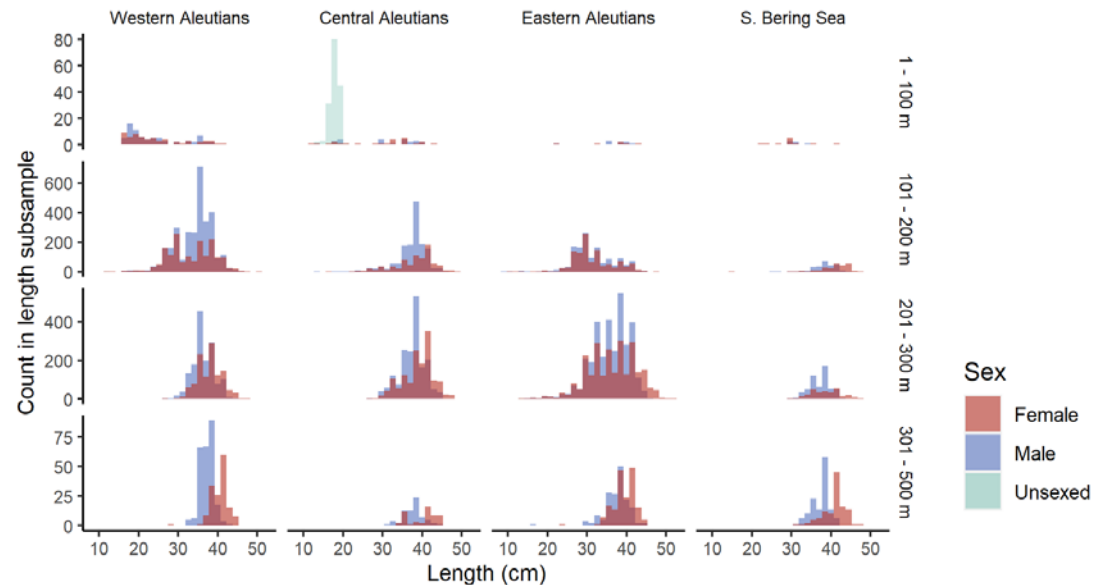
Eastern Aleutians



Pacific ocean perch

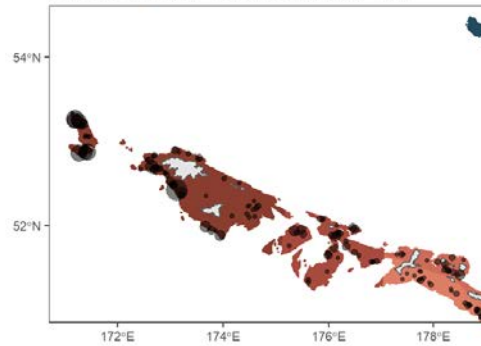


- Total caught in 2022: ~1070000 mt
- 5% from 2018 (~470000 mt)



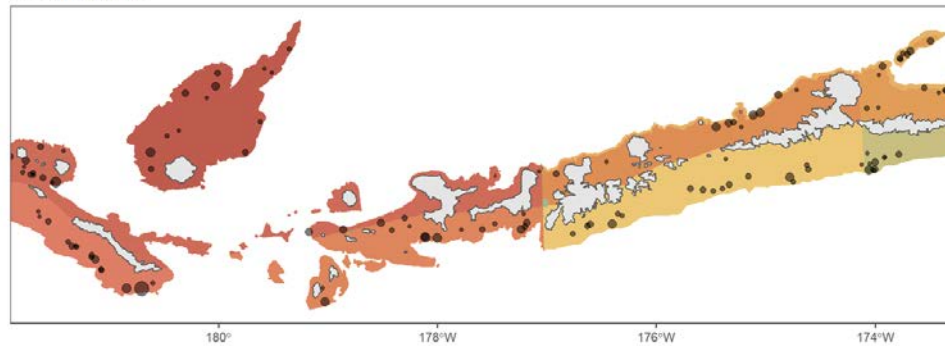
Pacific ocean perch

Pacific ocean perch - Western Aleutians - 2022

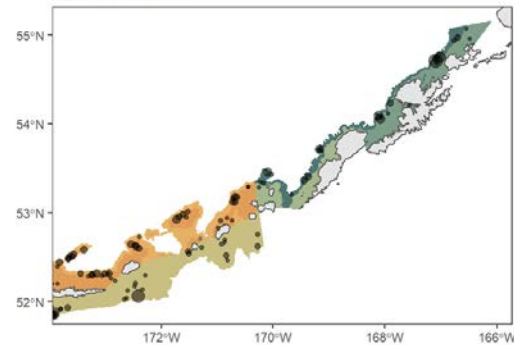


- Present in ~70% of catches

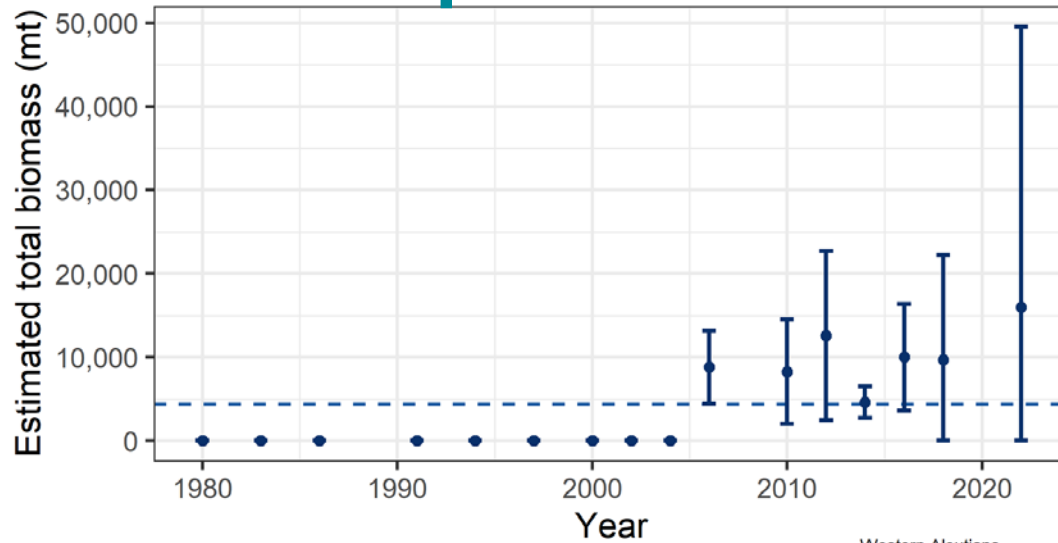
Central Aleutians



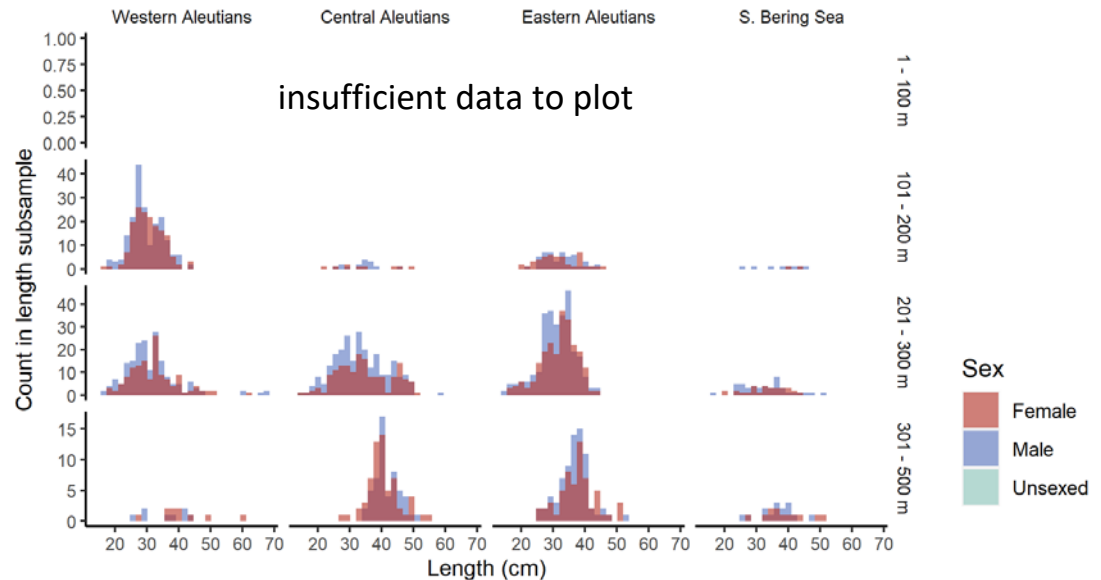
Eastern Aleutians



Blackspotted rockfish

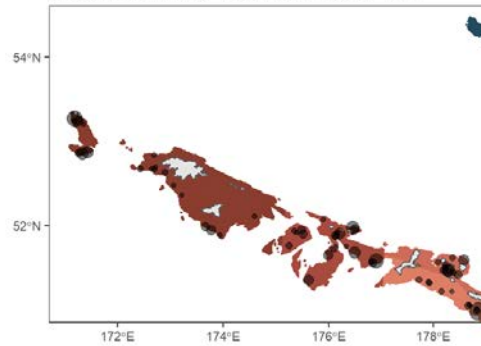


- Total caught in 2022: ~16000 mt
- 65% from 2018 (~6300 mt)



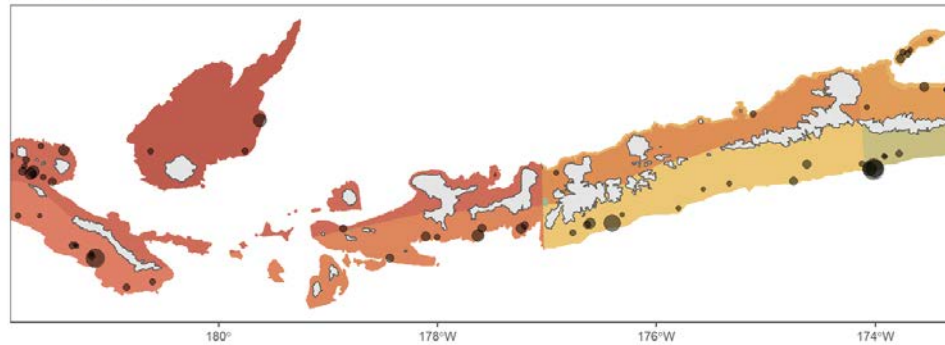
Blackspotted rockfish

blackspotted rockfish - Western Aleutians - 2022

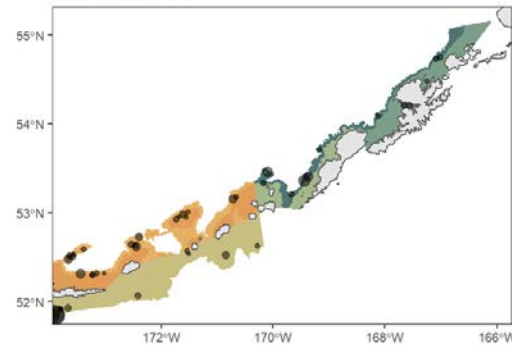


- Present in ~30% of catches

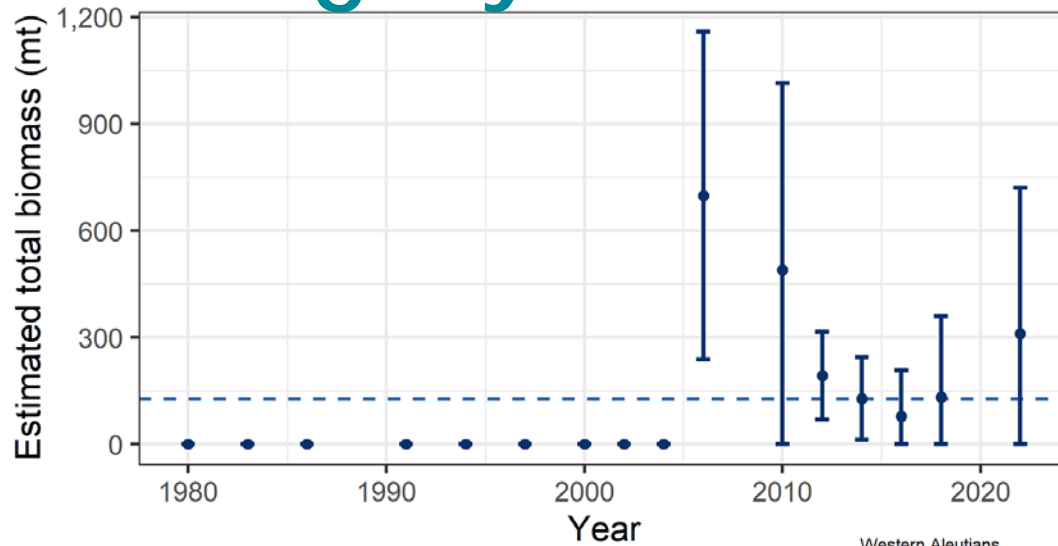
Central Aleutians



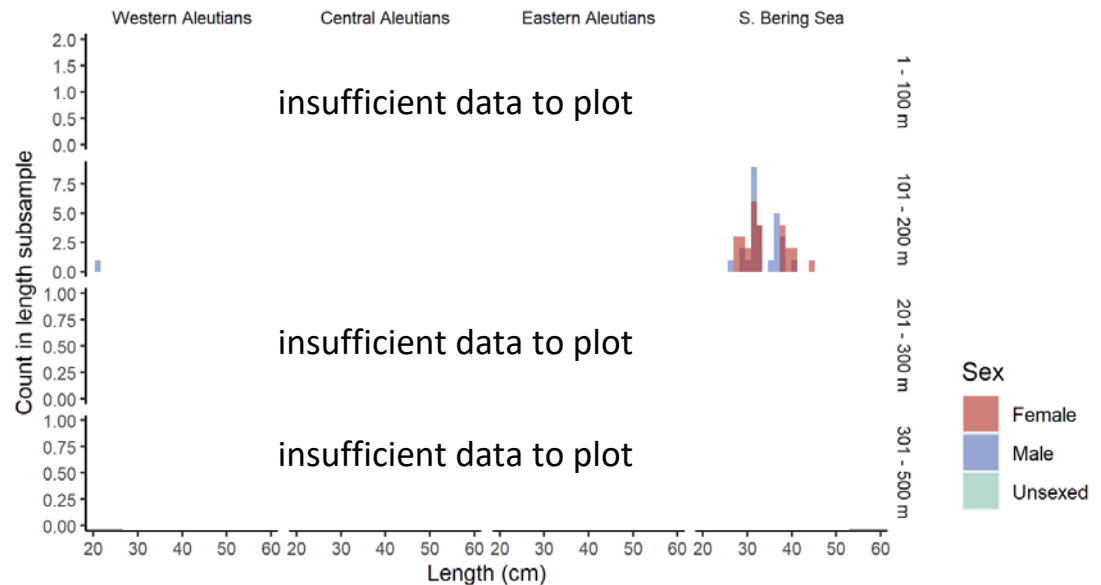
Eastern Aleutians



Rougheye rockfish

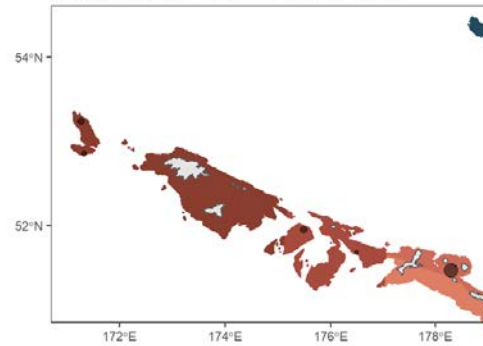


- Total caught in 2022: ~310 mt
- 133% from 2018 (~177 mt)



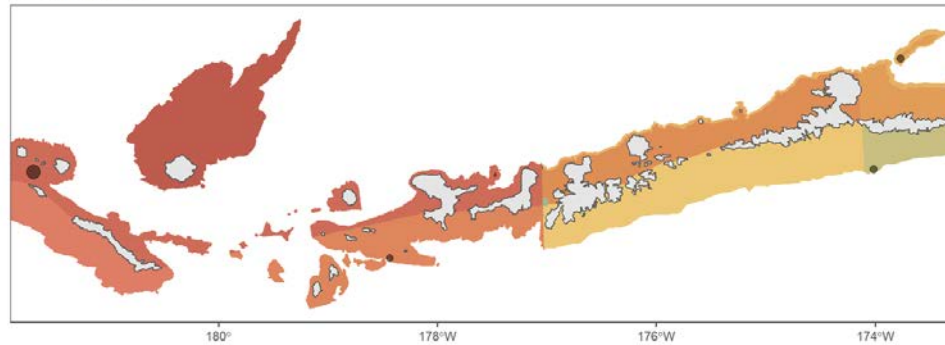
Rougheye rockfish

rougheye rockfish - Western Aleutians - 2022

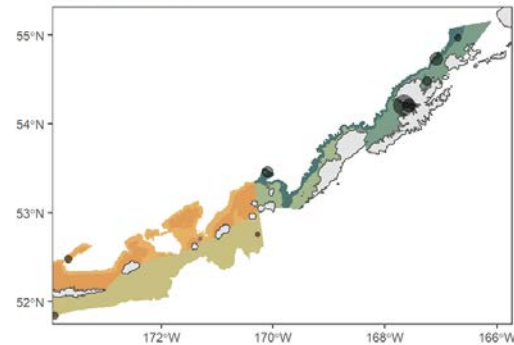


- Present in <5% of catches

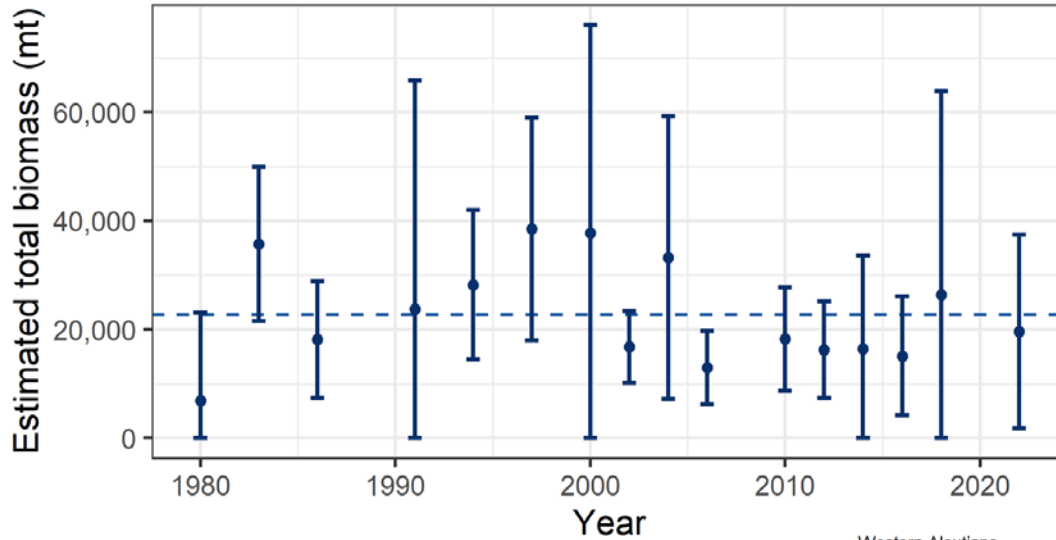
Central Aleutians



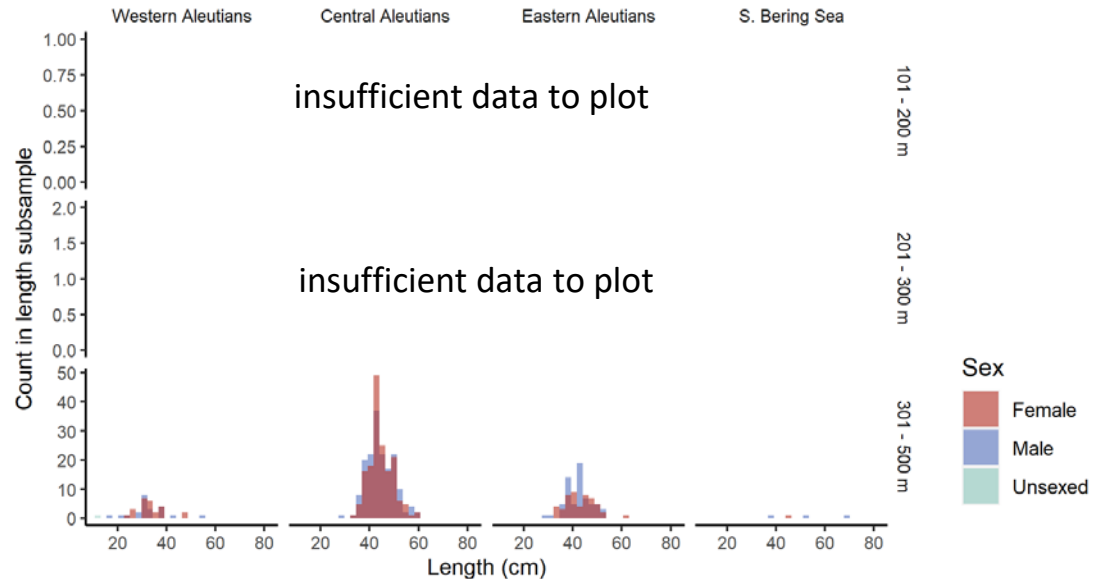
Eastern Aleutians



Shortraker rockfish

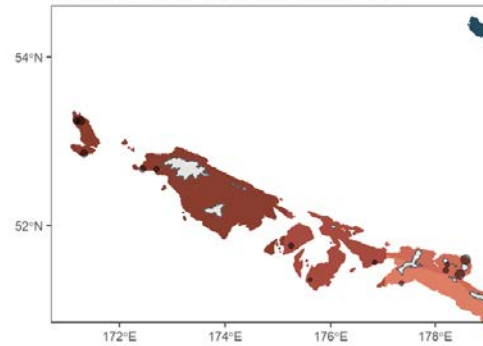


- Total caught in 2022: ~19600 mt
- **-25%** from 2018 (**~6700 mt**)



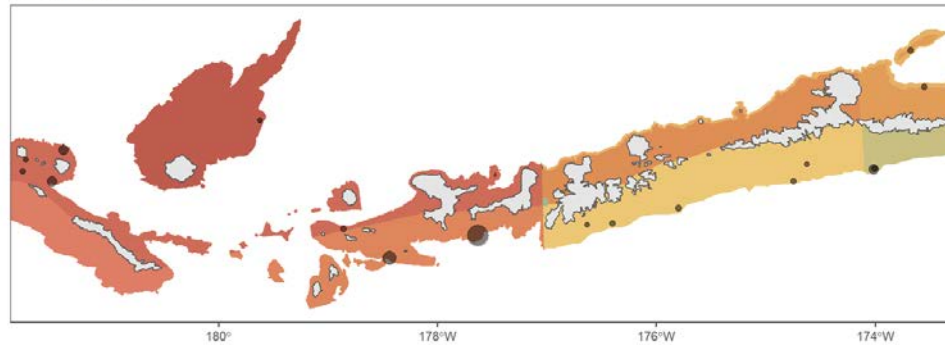
Shortraker rockfish

shortraker rockfish - Western Aleutians - 2022

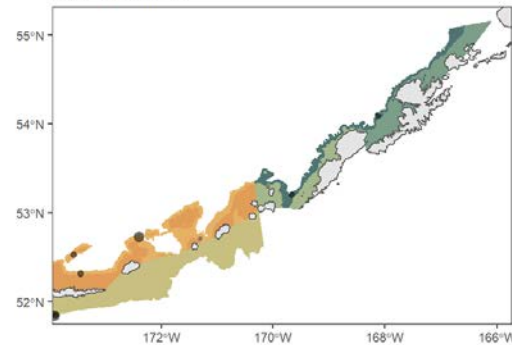


- Present in ~7% of catches

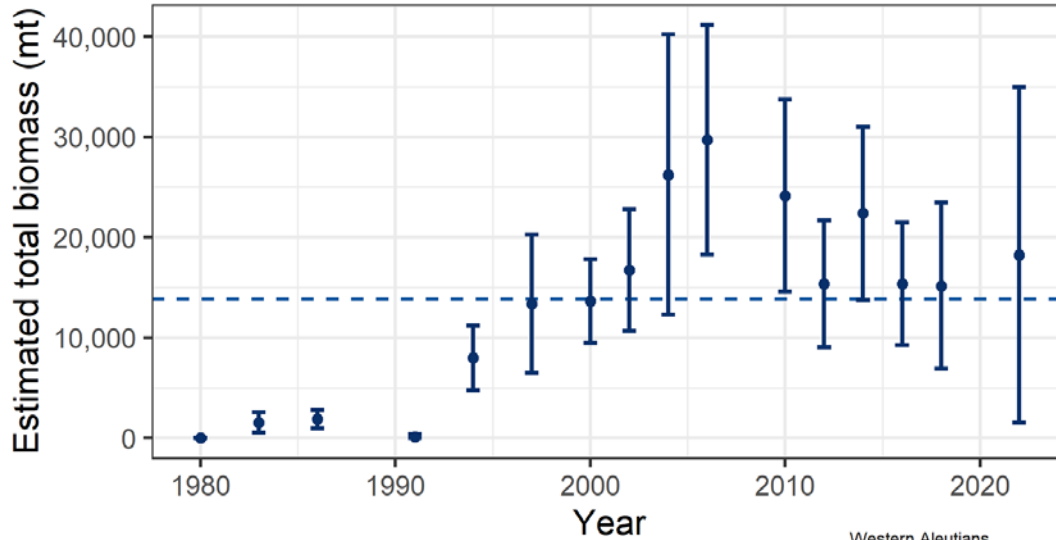
Central Aleutians



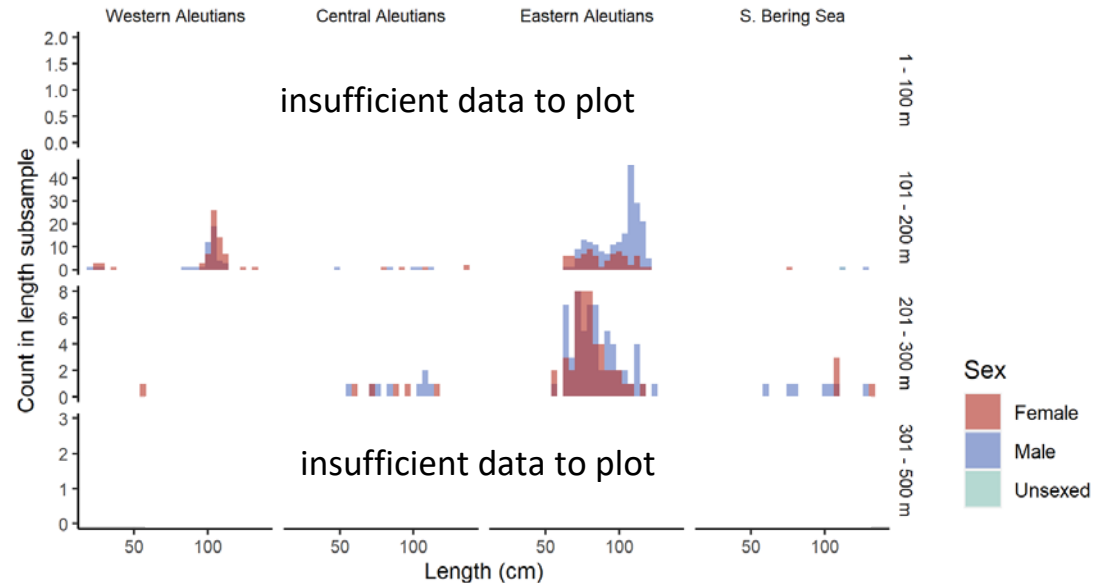
Eastern Aleutians



Whiteblotched skate

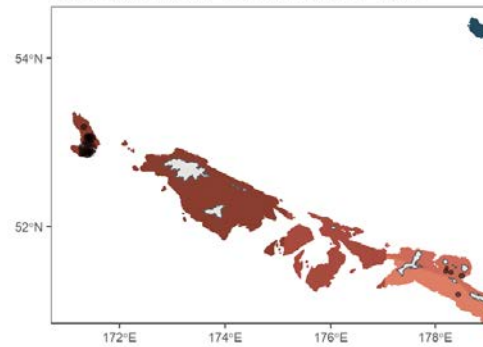


- Total caught in 2022: ~18000 mt
- 20% from 2018 (~3000 mt)



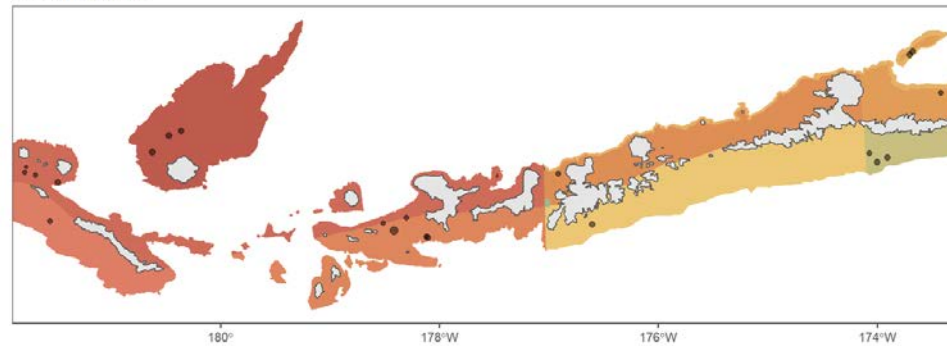
Whiteblotched skate

white blotched skate - Western Aleutians - 2022

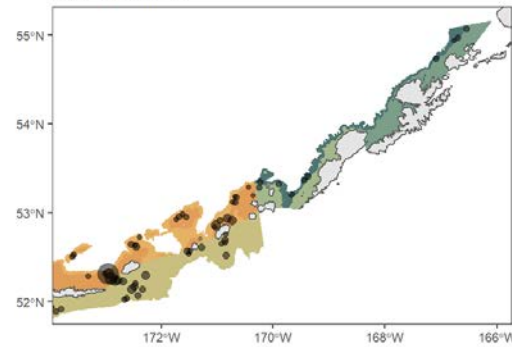


- Present in ~20% of catches

Central Aleutians



Eastern Aleutians



Summary



Photos credit: Sean Rooney



- Survey Team status - personnel changes
- Survey data final before Sept Plan Team
- Growing collaboration Stock Assessment Team
- All water temps remain above long term average
- Biomass for 6 of 10 species highlighted increased

THANK YOU



Aleutian Islands Trawl Survey Team

Christina Conrath,
Alex Dowlin,
Sarah Friedman,
Susanne McDermott,
Cecilia O'Leary,
Zack Oyafuso,
Nate Raring,
Pearl Rojas,
Bethany Riggle,
Sean Rooney,
Megsie Siple,
Paul von Szalay,
Mark Zimmermann

Program Lead,
Ned Laman

NED.LAMAN@NOAA.GOV



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