



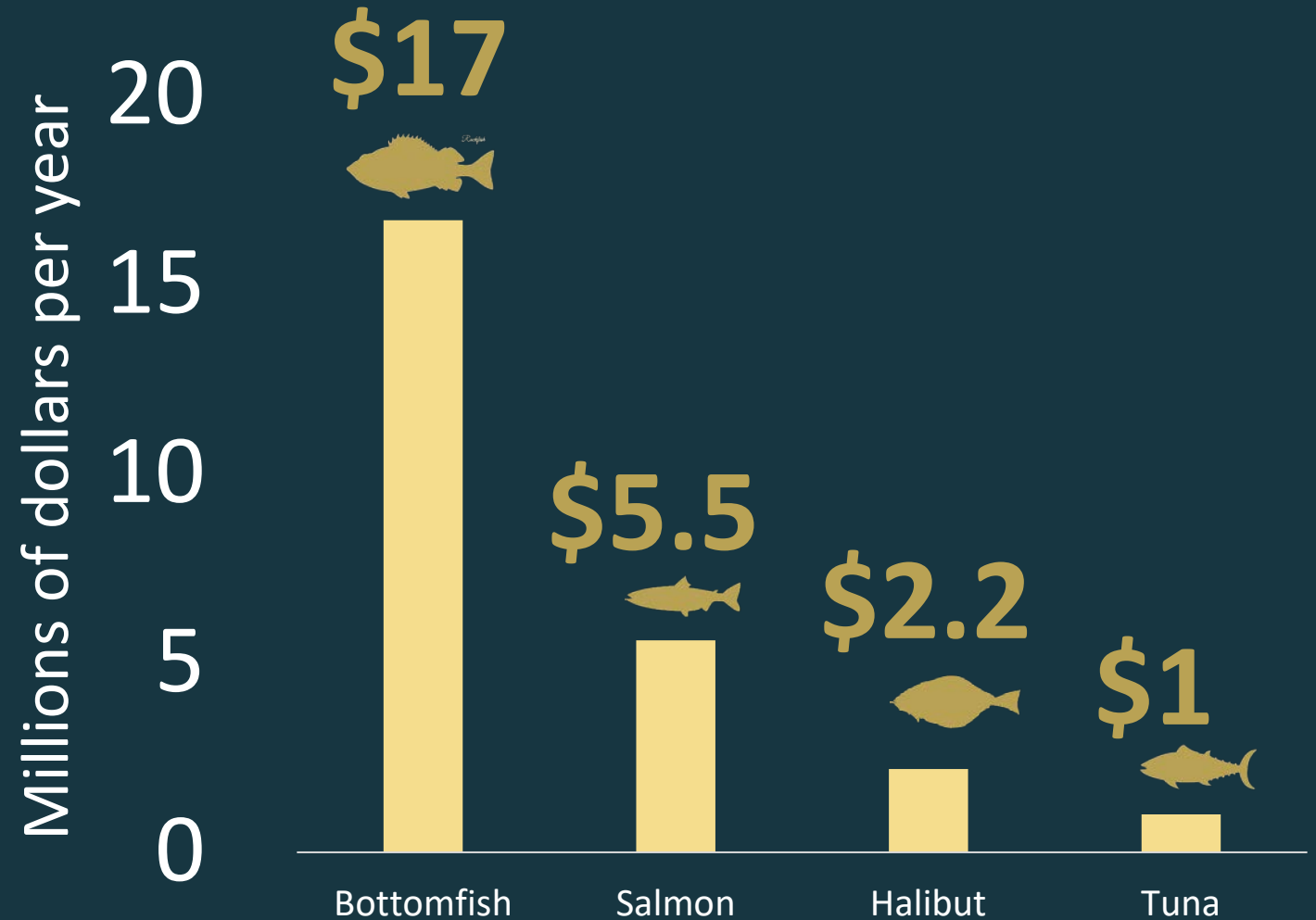
Population and Community Structure of Black, Canary, and Yellowtail Rockfishes at Cobb Seamount

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Marine Resources Program
Marine Fisheries Research Project Leader



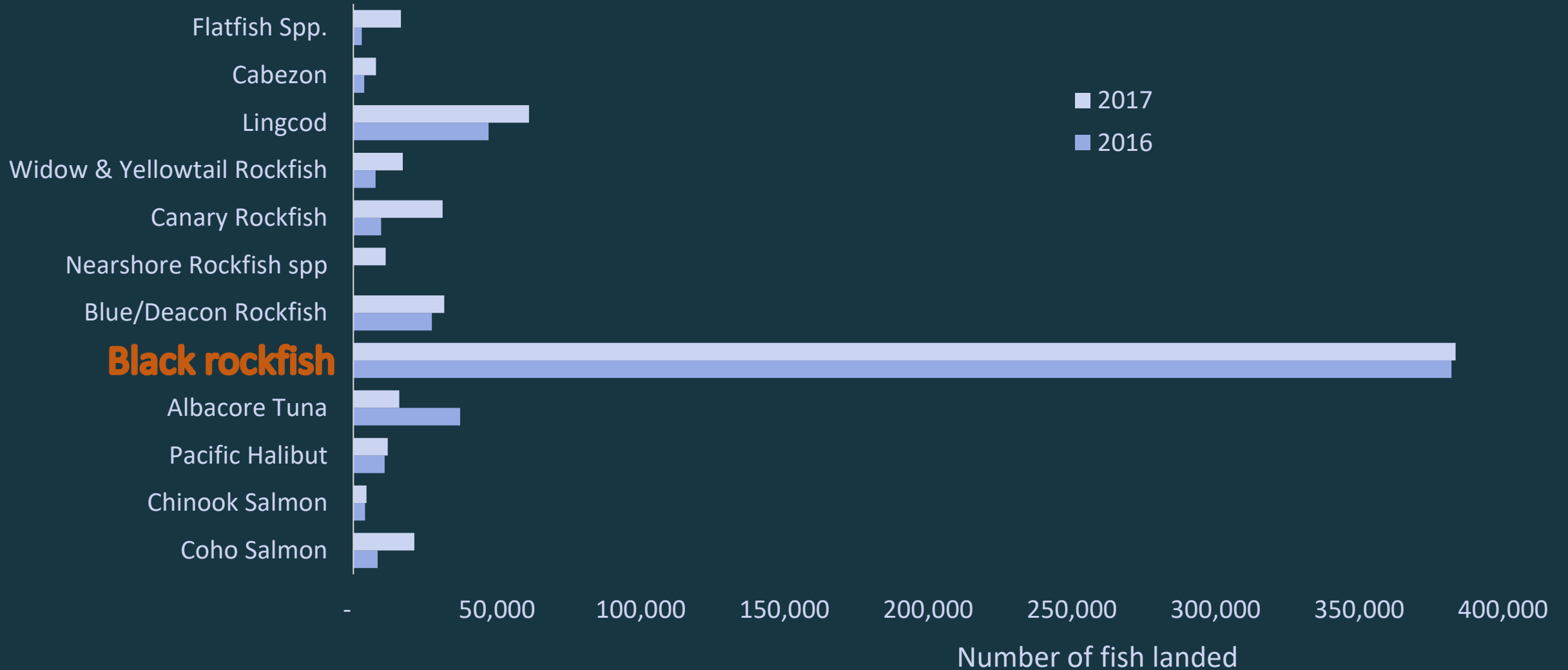
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For recreational fisheries, bottomfish are an economic driver





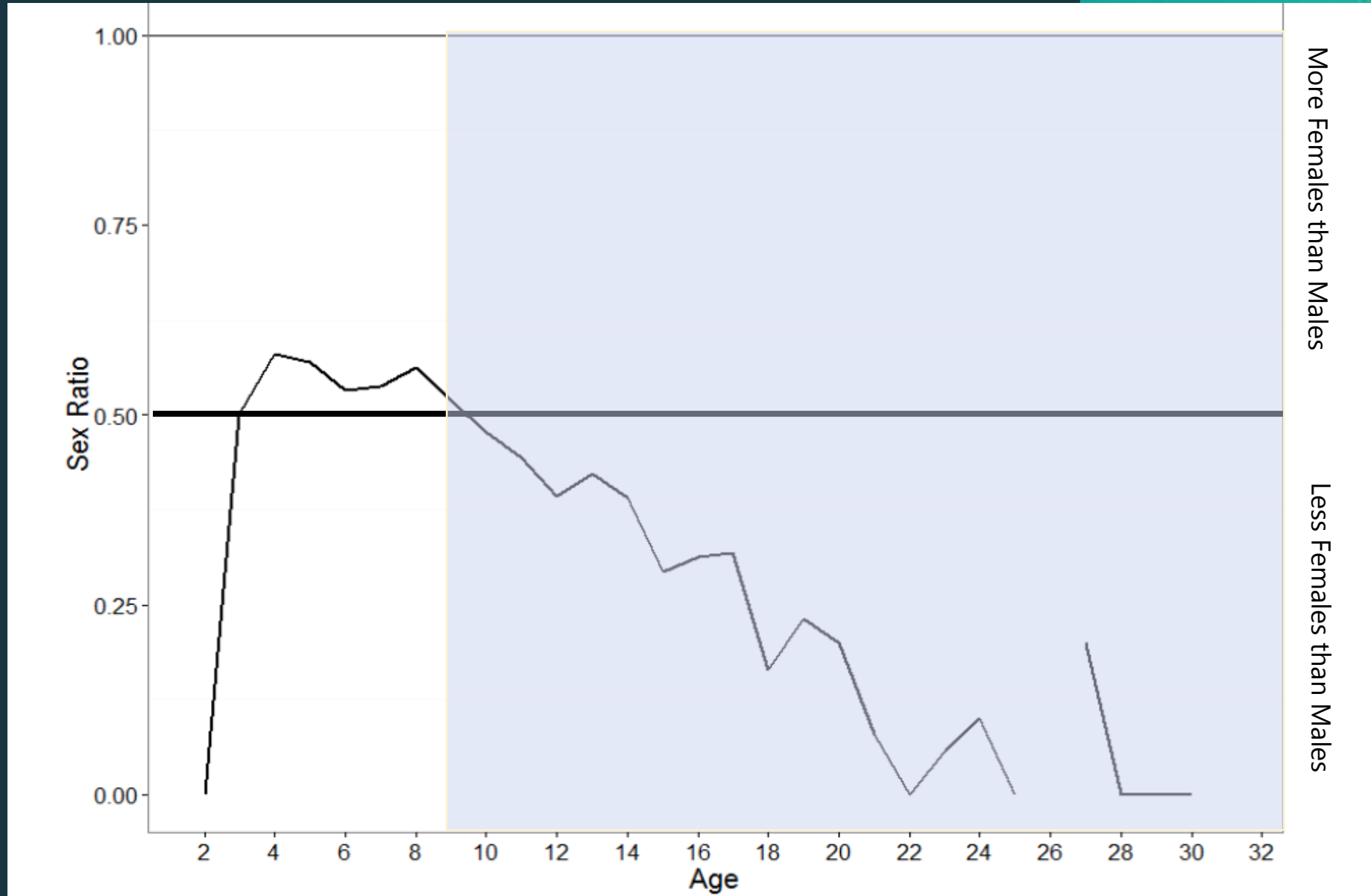
Black rockfish dominate harvest





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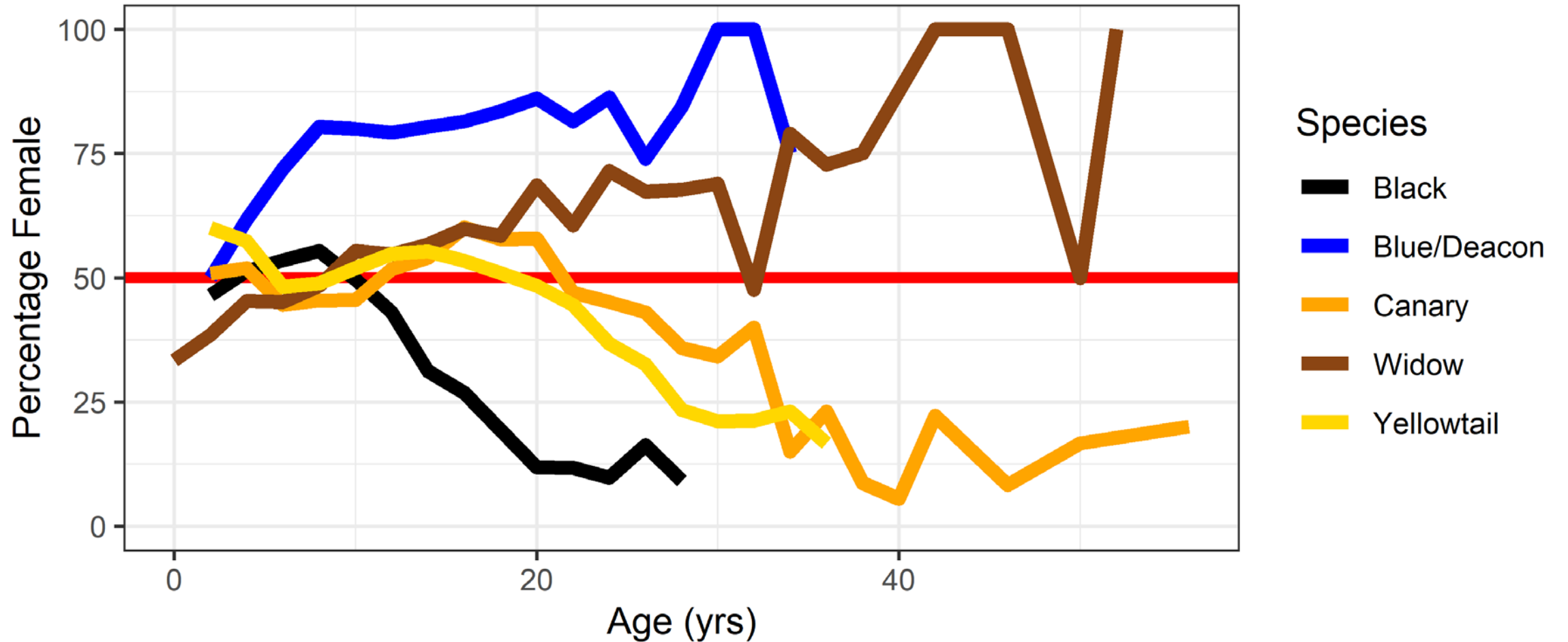
Black Rockfish





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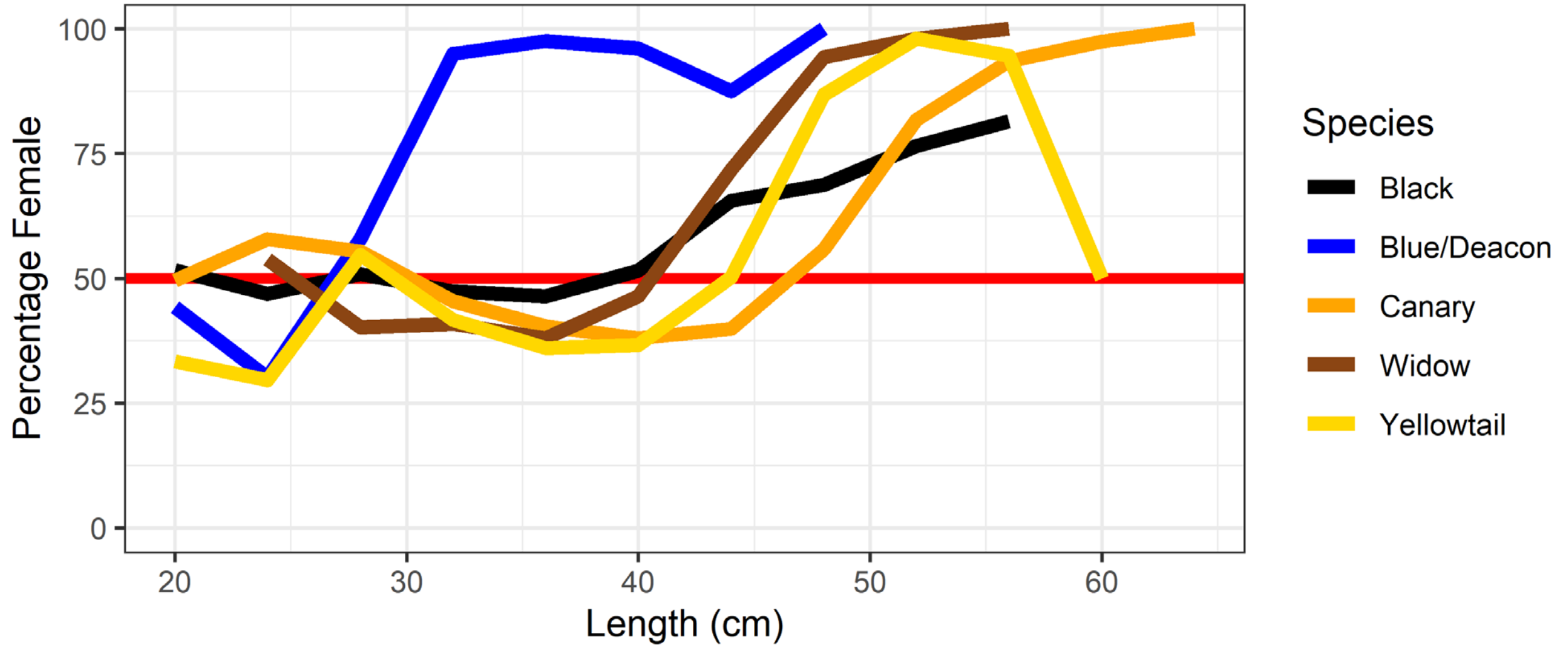
Where are the old females?





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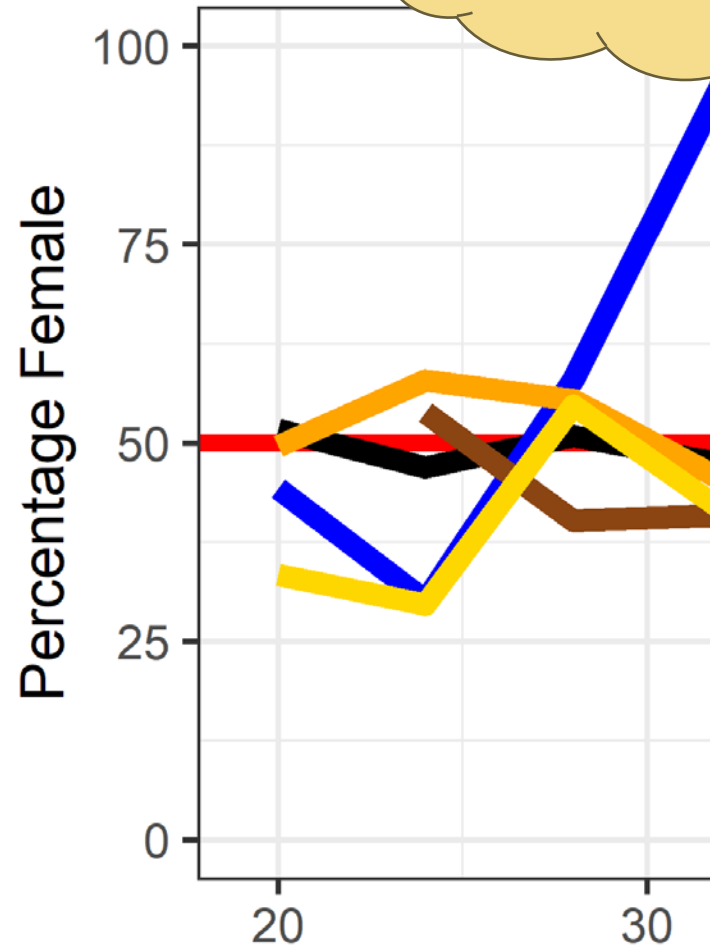
But being big doesn't mean you are old.



E

I'm only 12
years old!

are old.



Species

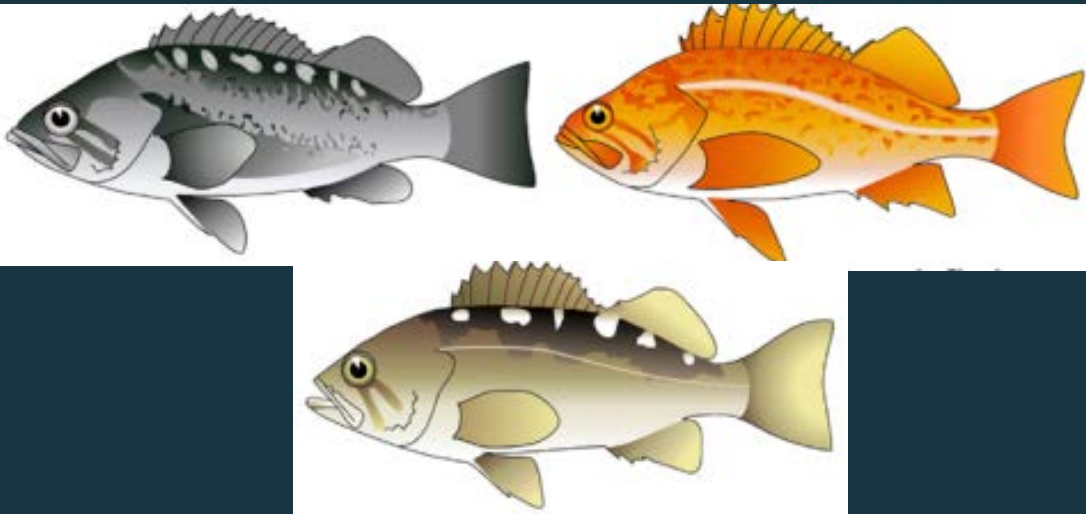
- Black
- Blue/Deacon
- Canary
- Widow
- Yellowtail



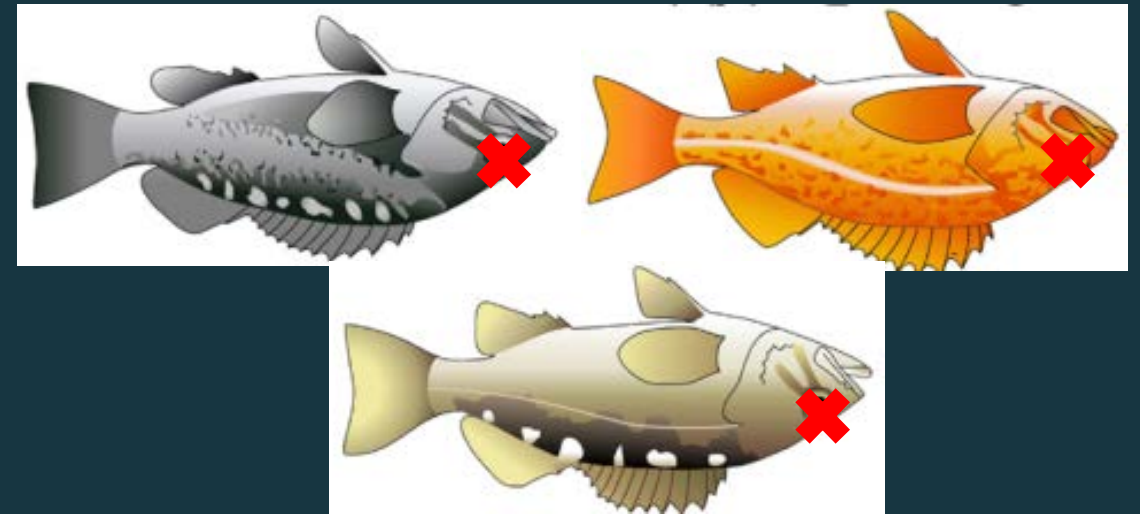
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Why do we need to know?

**Contribute to
population**



**No contribution
to population**





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Hypotheses:

Don't Catch Them

- **Old Females Move/Live Somewhere Else**
 - Old female rockfish move or live away from where the fishery is operated.
- **Lacking Data**
 - Sampling of fisheries does not represent the population.



Dead

- **Selectivity Of Fishery Removes Females**
 - Fisheries remove females at a higher/faster rate than males.
- **Natural Mortality Higher For Females**
 - Females experience a higher rate of natural mortality than males.

An underwater scene featuring several large fish, likely snappers, swimming among green seaweed. The fish have dark, mottled patterns on their bodies. The background is a deep blue-green, suggesting an underwater environment.

Approach

1. Combined Visual Acoustic Survey
2. Hook and Line Sampling For Age and Genetics
3. Satellite Tagging Movement

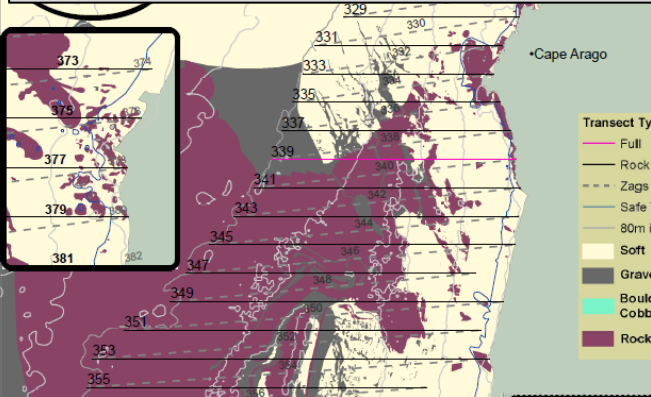
*All based on methods we have used and published on citations at end



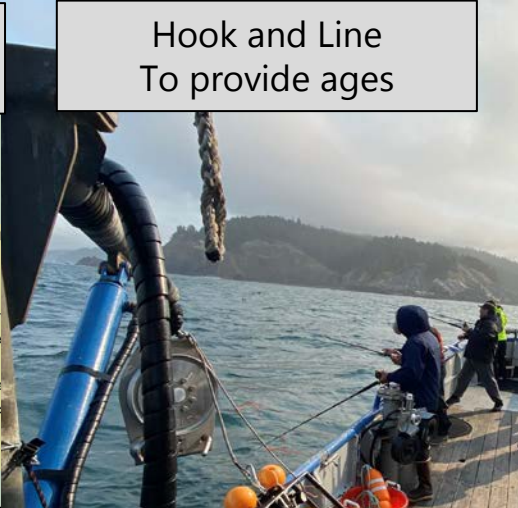
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1: Combined Acoustic Visual Survey

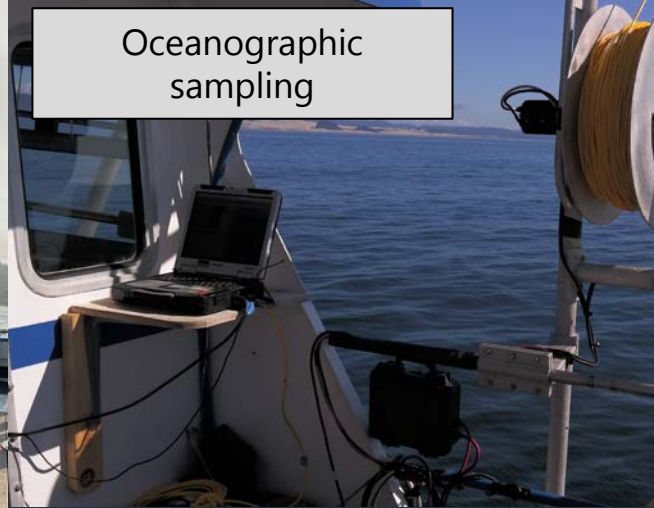
Transects:
WA to CA mostly on rock



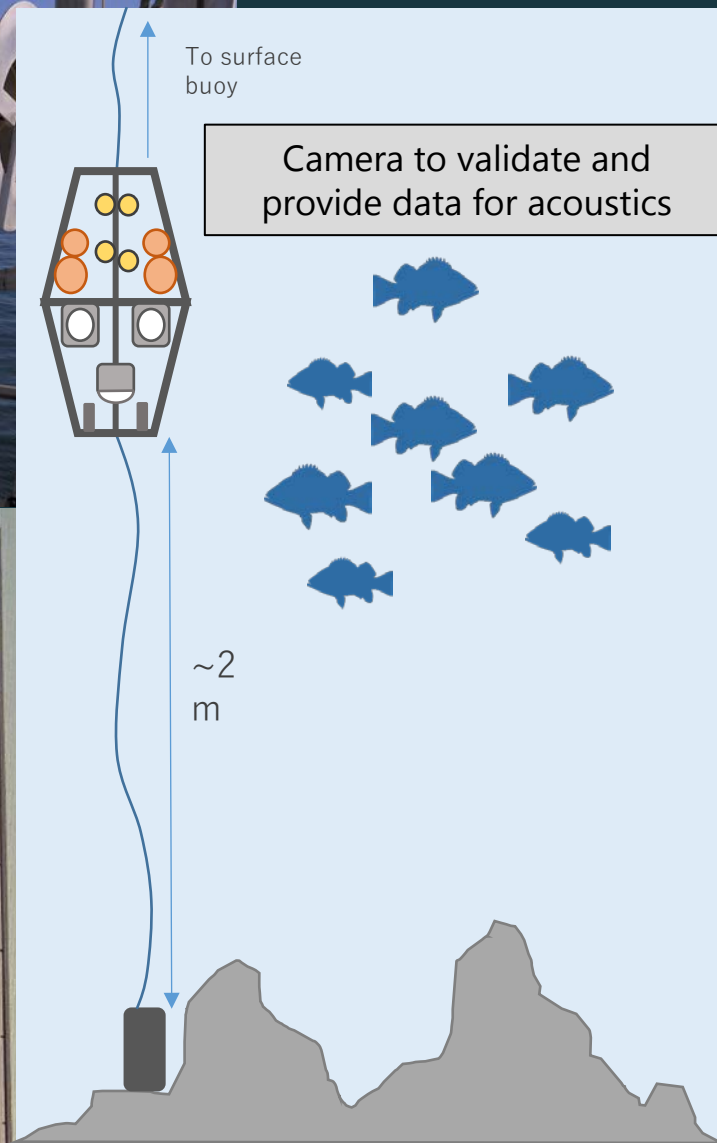
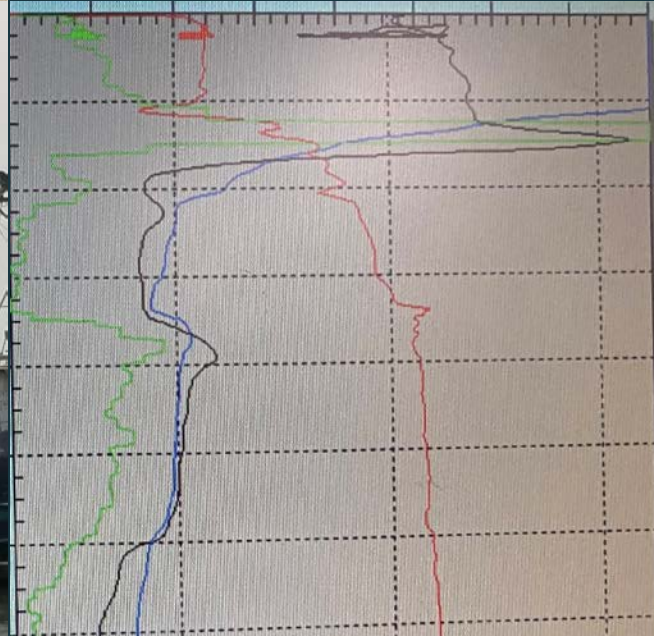
Hook and Line
To provide ages



Oceanographic
sampling



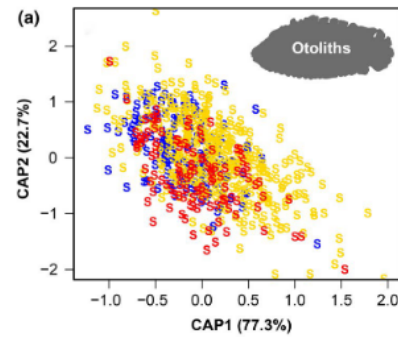
Survey Vessels





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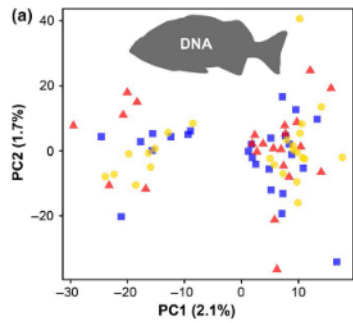
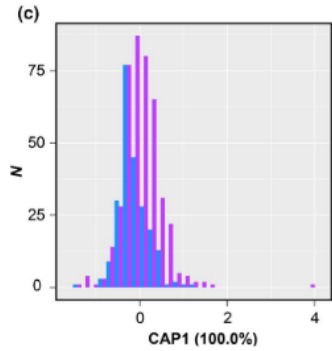
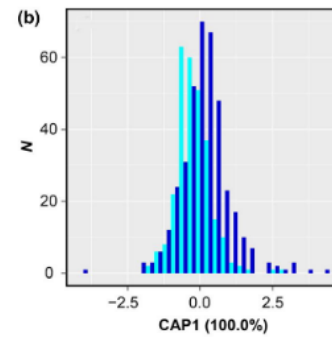
2: Hook and Line Sampling



S Siletz Reef (110)
S Seal Rock (172)
S Stonewall Bank (394)

n = 676
n = 676
n = 668

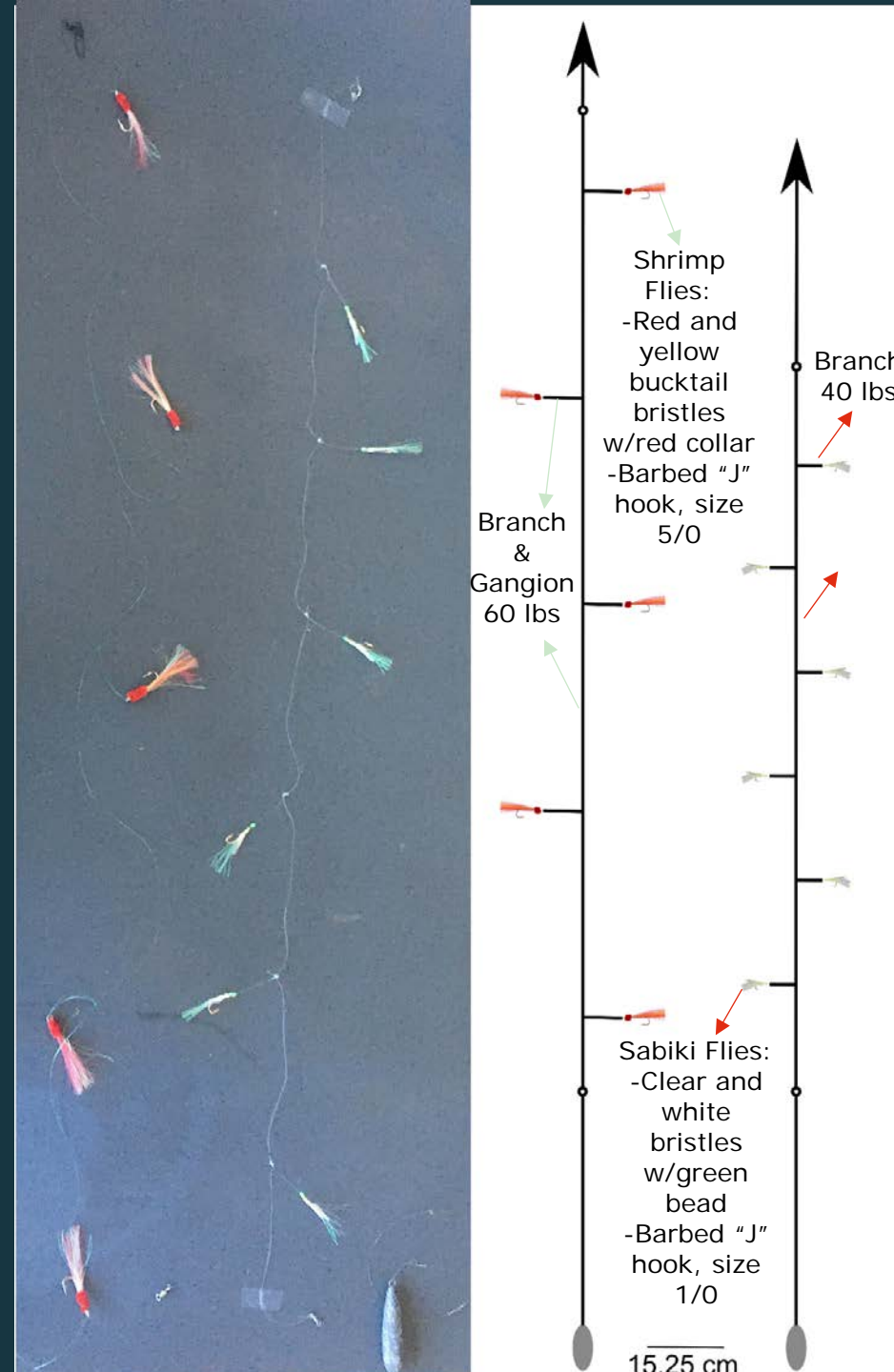
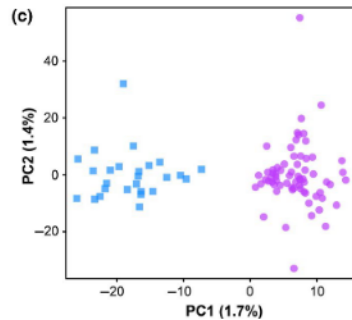
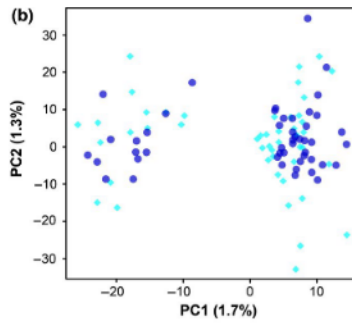
■ Nearshore (282)
■ Offshore (394)
■ Male (231)
■ Female (437)



▲ Siletz Reef (25)
n = 73
■ Seal Rock (23)
● Stonewall Bank (25)

◆ Nearshore (48)
n = 96
● Offshore (48)

■ Male (26)
n = 94
● Female (68)



Shrimp
Flies:
-Red and
yellow
bucktail
bristles
w/red collar
-Barbed "J"
hook, size
5/0

Branch
&
Gangion
60 lbs

Branch
40 lbs

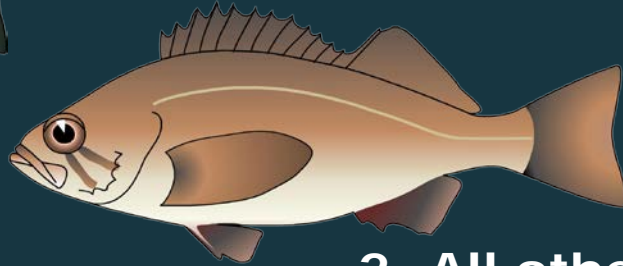
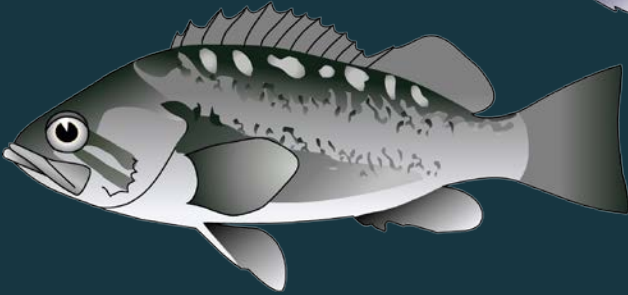
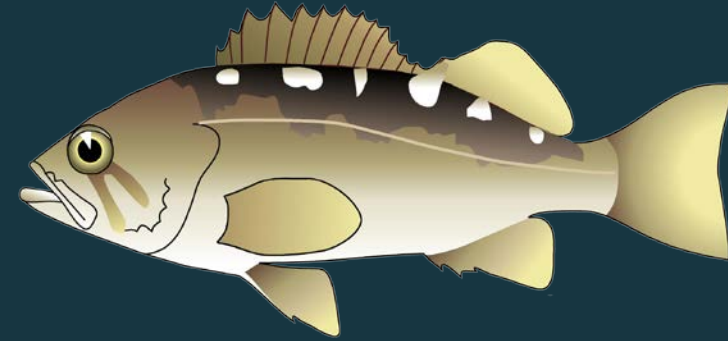
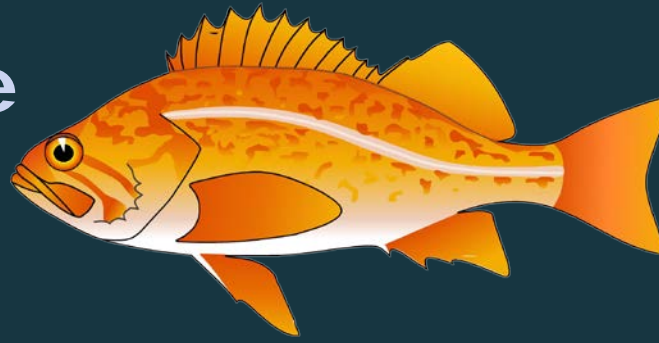
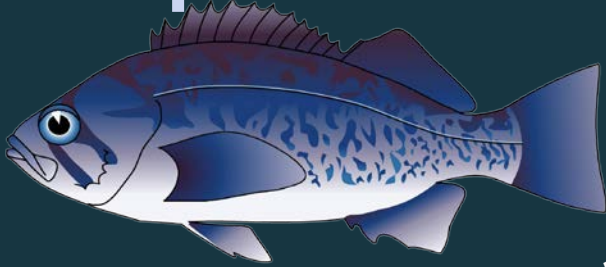
Sabiki Flies:
-Clear and
white
bristles
w/green
bead
-Barbed "J"
hook, size
1/0

15.25 cm



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2: Anticipated Take

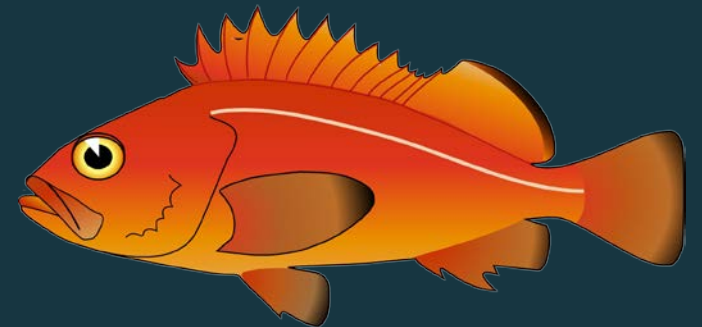


1. Sacrificed For Age Structures

1. Black, Blue/Deacon, Canary, Widow, Yellowtail
2. N=100

2. All other species encountered

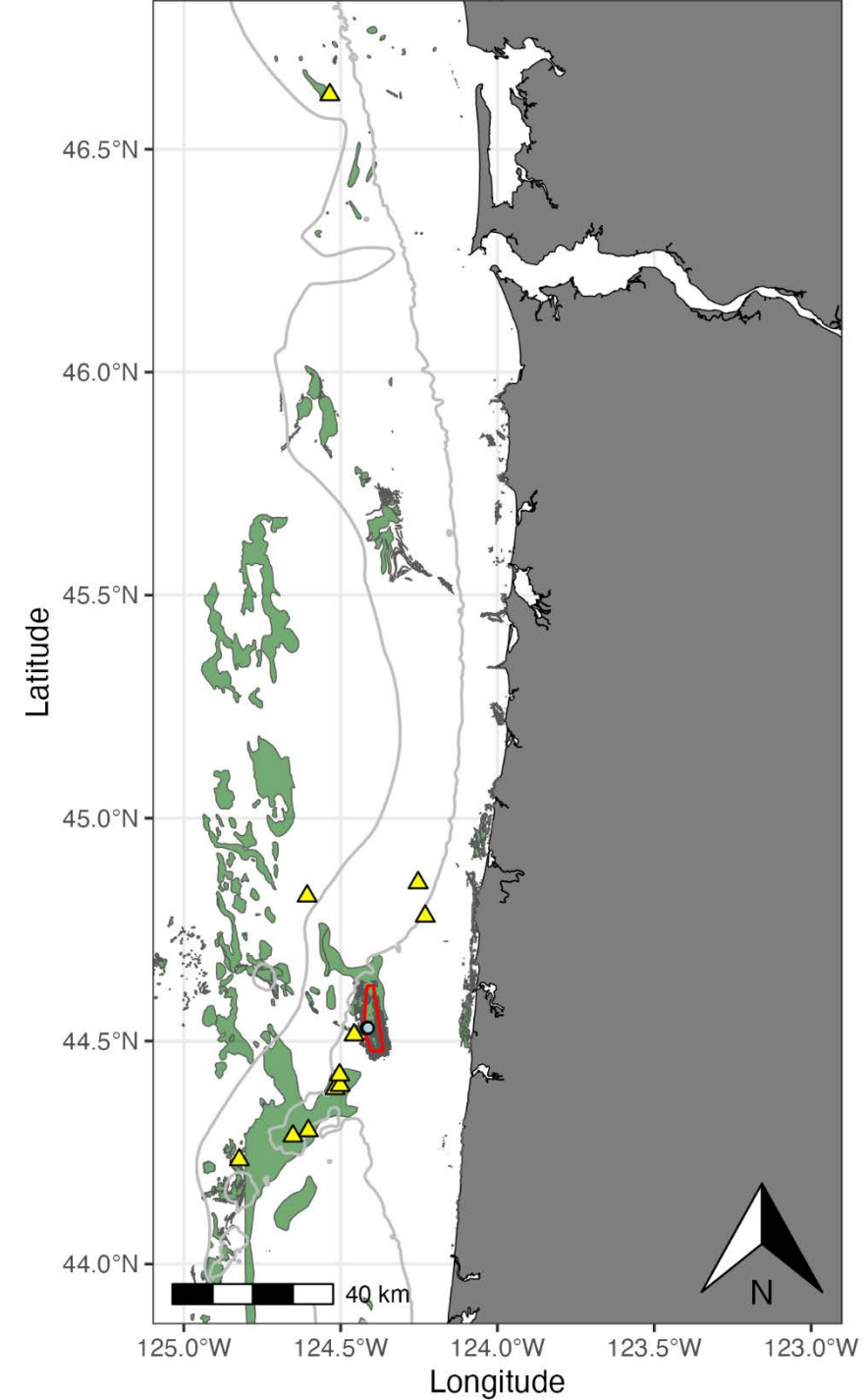
1. Small (1cm³) fin sample for genetics
2. Rockfishes descended using descending devices
3. If dead they will be sampled





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3: Satellite tagging



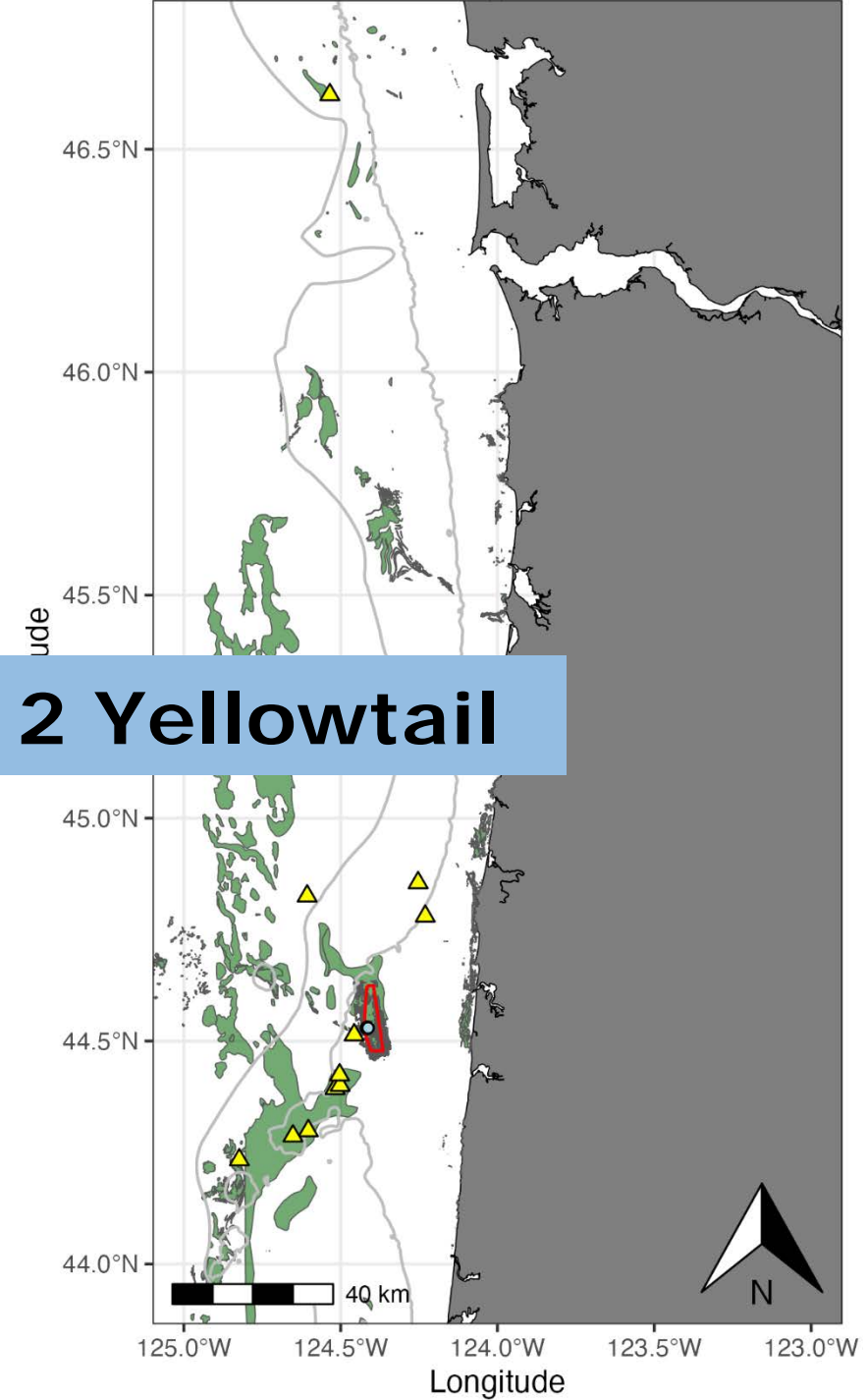


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3: Satellite tagging



Target is 12 Black otherwise 12 Yellowtail





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Thank you!

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541-270-5561





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Citations:

Background Report:

- Rasmuson LK, Terwilliger M, Bailey E, Blume MTO, Lawrence KA (2023) The search for Oregon's older female rockfishes. ODFW Sci Bull 2023-04.

Acoustic Visual:

- Rasmuson LK, Blume MTO, Lawrence KA, Bailey EJ, Terwilliger MR, Fields SA, Rankin PS, Phillips AJ (2022) Oregon nearshore semi-pelagic rockfish survey.
- Rasmuson LK, Fields SA, Blume MTO, Lawrence KA, Rankin PS (2022) Combined video-hydroacoustic survey of nearshore semi-pelagic rockfish in untrawlable habitats. ICES Journal of Marine Science 79:100-116.

Genetics and Ageing:

- Vaux F, Rasmuson LK, Kautzi LA, Rankin PS, Blume MTO, Lawrence KA, Bohn S, O'Malley KG (2019) Sex matters: Otolith shape and genomic variation in deacon rockfish (*Sebastes diaconus*). Ecol Evol 9:13153-13173.
- Terwilliger MR, Rasmuson LK, Stern RA (2023) Age validation of Black Rockfish, Copper Rockfish, and Cabezon using secondary ion mass spectrometry (SIMS) to elucidate seasonal patterns in otolith stable oxygen isotopes. Environ Biol Fish 106:553-573.

Satellite Tagging:

- Rasmuson LK, Blume MTO, Lawrence KA, Laughlin BM, Edwards CA, Terwilliger MR, Ayrea AC, McInturf AG, Legare BJ, Chapple TK (2025) Routine large-scale movements of the yelloweye rockfish (*Sebastes ruberrimus*). Front Mar Sci 12:1539206.

