

# Ecosystem Socioeconomic Profile (ESP) GOA Pollock

Review of partial ESP, changes from previous ESP, new indicators, new simple indicator analysis, ecosystem and socioeconomic considerations



**NOAA**  
**FISHERIES**

K. Shotwell, M. Dorn, A. Deary,  
B. Fissel, L. Rogers, S. Zador

# GOA Pollock ESP

## Appendix in SAFE report

- Full ESP in 2019
- Partial Update 2020
- 6 editors, 15 contributors
- Recommendations:  
evaluate highly engaged communities, provide executive summary for next version

### Appendix 1A. Ecosystem and Socioeconomic Profile of the Walleye Pollock stock in the Gulf of Alaska

S. Kalei Shotwell, Martin Dorn, Alison L. Deary, Ben Fissel, Lauren Rogers, and Stephani Zador  
November 2019



### Gulf of Alaska Pollock

*With Contributions from:*

Grant Adams, Mayumi Arimitsu, Kerim Aydin, Steve Barbeaux, Lewis Barnett, Curry Cunningham, Dana Hanselman, Kirstin Holsman, David Kimmel, Ben Laurel, Jodi Pirtle, Patrick Ressler, Dale Robinson, Rob Suryan, James Thorson, Johanna Vollenweider, Cara Wilson, Sarah Wise

# Changes in Data

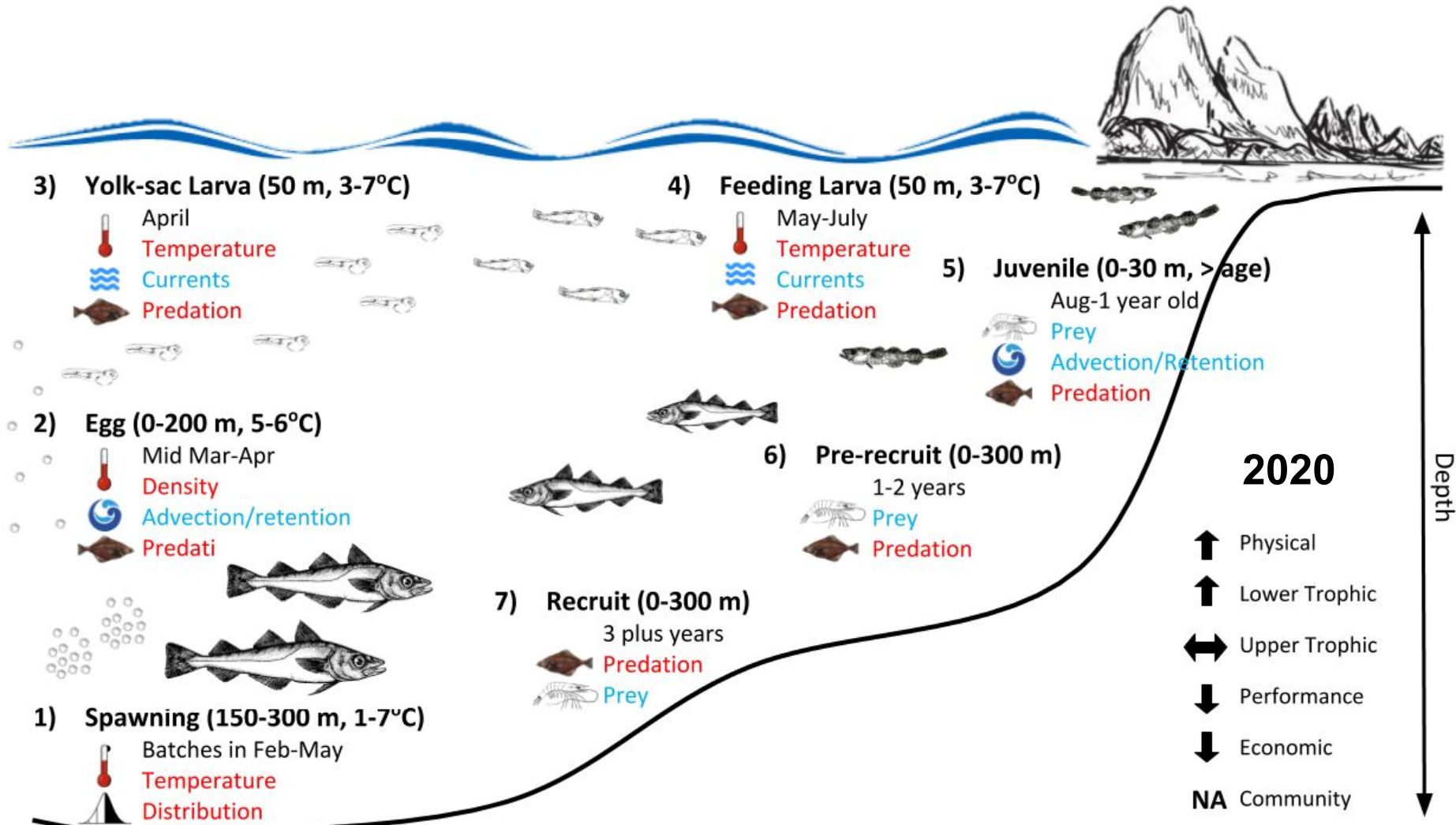
- Ecosystem

- New chlorophyll *a* biomass, bloom timing from satellite
- New wind direction from National Data Buoy Center
- New competitor, predator biomass (POP, sablefish)
- Updated sea surface temperature to supported product

- Socioeconomic

- Updated socioeconomic processes section with new economic data and community engagement discussion
- New community engagement suite of regional quotient

# Ecosystem Processes



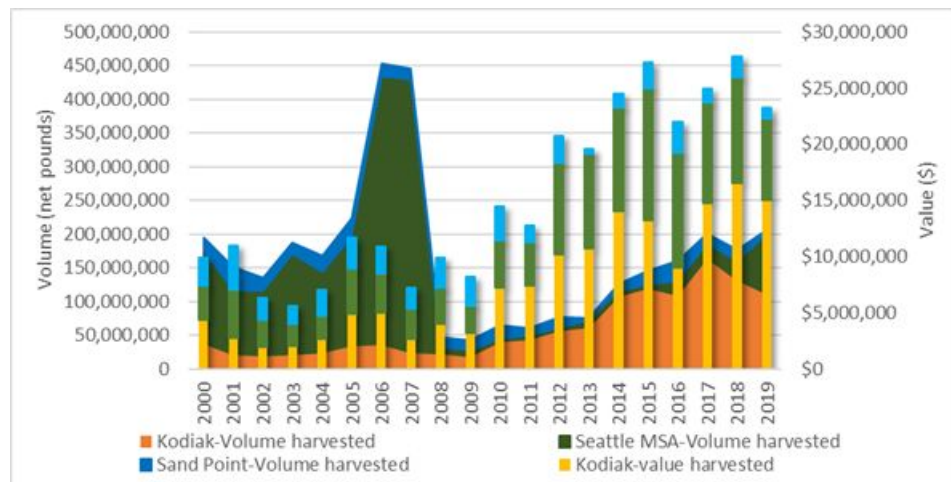
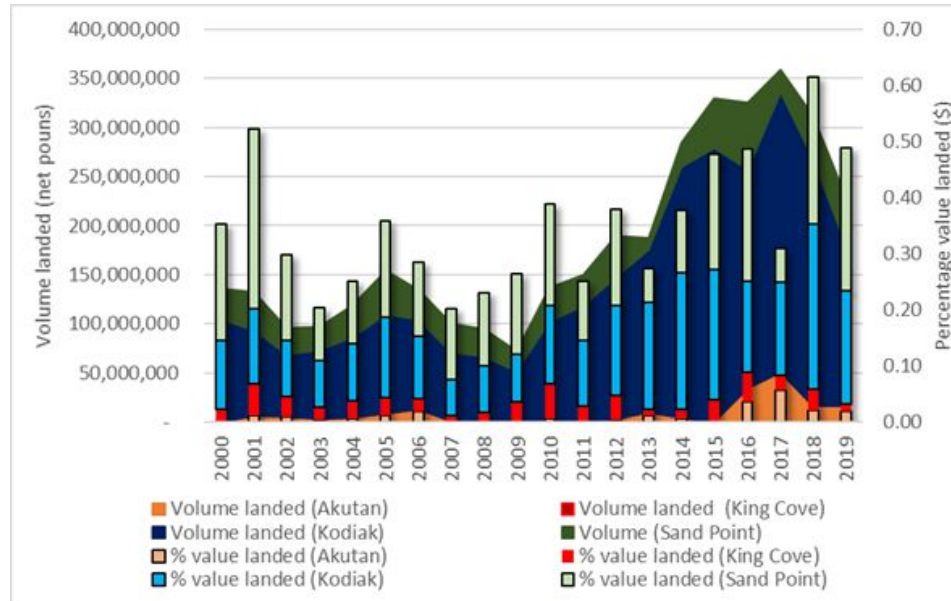
# Socioeconomic Processes

- Communities

- Top communities: Kodiak 69%, Sand Point, King Cove, Akutan combined 20% of value attributed to GOA pollock

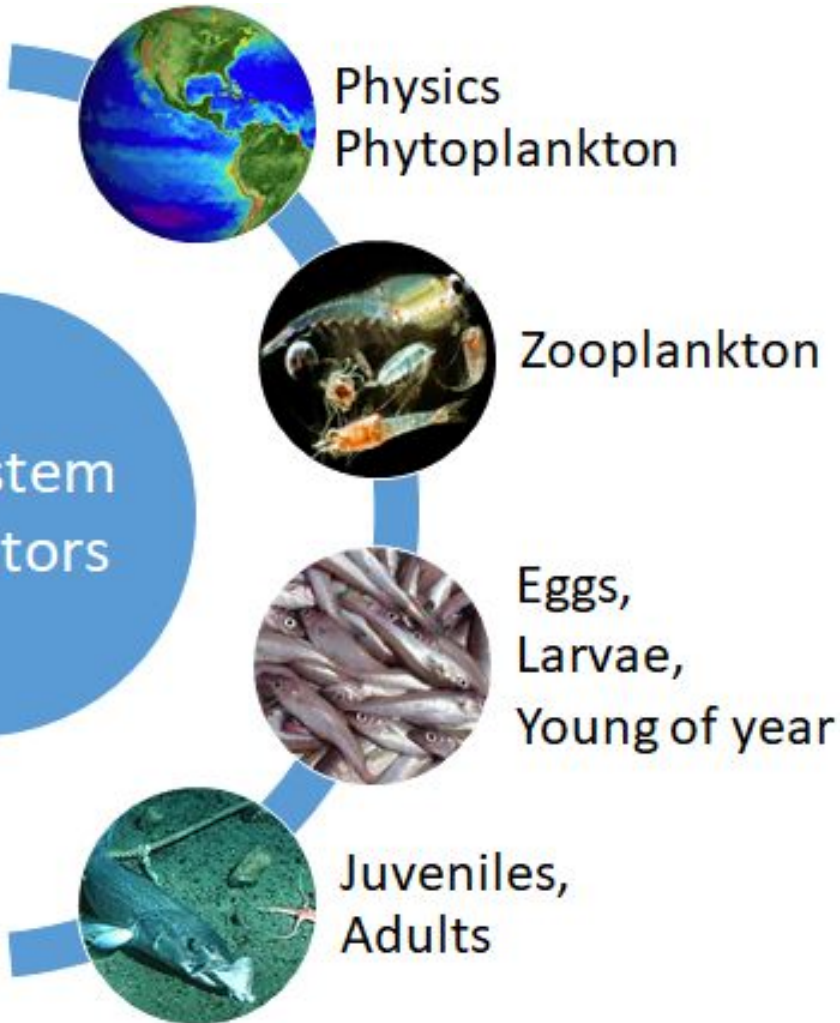
- Engagement indicators

- Regional quotient for processing and harvesting, combo small communities



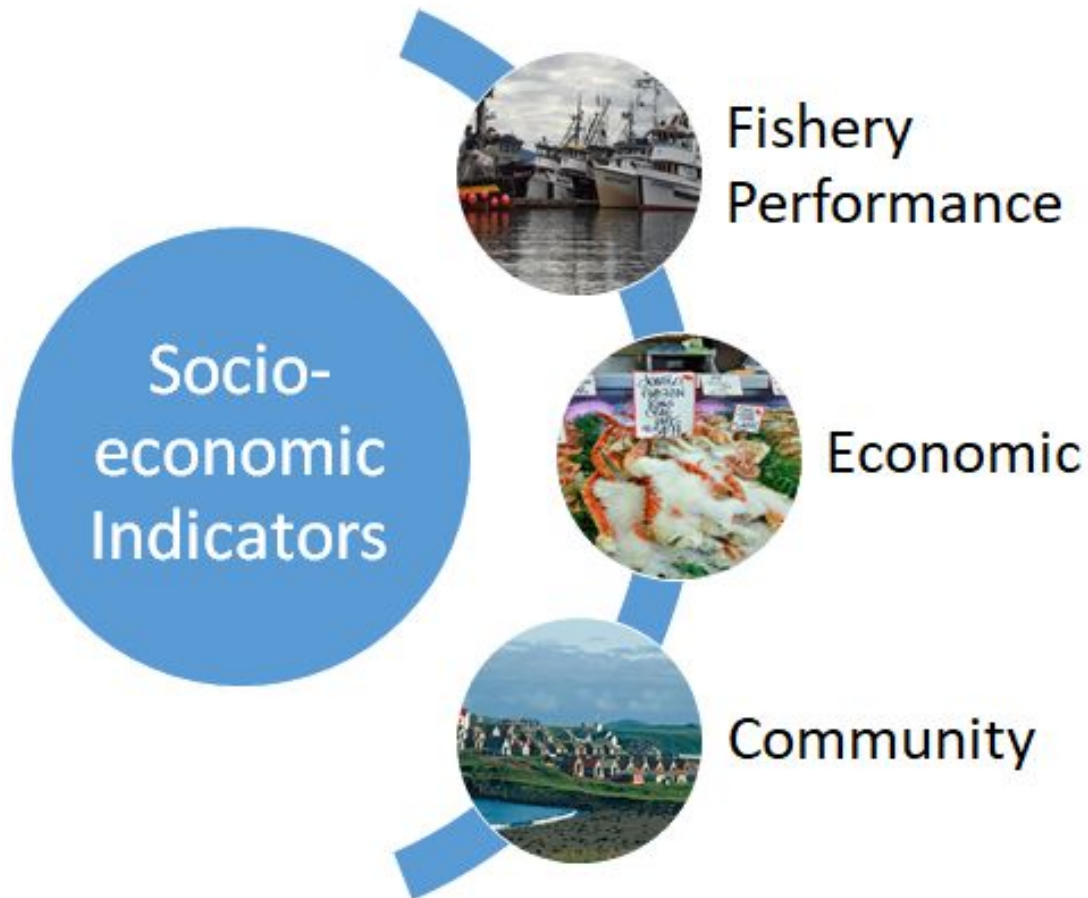
# Current Ecosystem Indicators

## Ecosystem Indicators



1. Annual Marine heatwave index
2. Bottom temperature Trawl survey
3. Sea surface temperature (satellite)
4. Spring wind direction (buoy data)
5. Chlorophyll *a* biomass, (satellite)
6. Spring bloom peak timing (satellite)
7. Spring, summer copepods (EcoFOCI)
8. Euphausiids (acoustic backscatter)
9. Auklet reproductive success Chowiet
10. Pollock larvae, YOY, condition
11. Nearshore pollock CPUE (Kodiak)
12. Pollock relative biomass Aiktak puffin
13. Pollock predation estimate age-1
14. Pollock euphausiid in diet
15. Fall fishery, winter survey condition
16. COG northeast, area occupied (VAST)
17. ATF, POP, Sablefish total biomass
18. Adult Steller sea lions counts

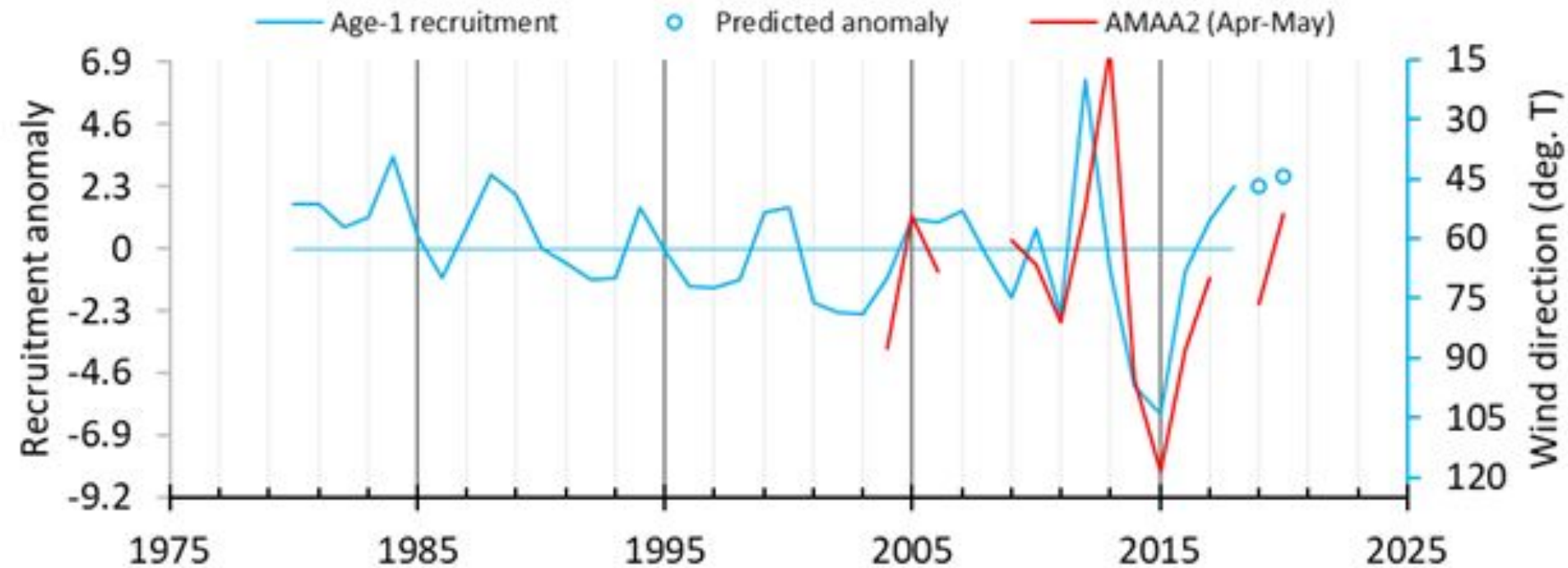
# Current Socioeconomic Indicators



1. Winter, spring CPUE fishery
2. Summer, fall CPUE fishery
3. Ex-vessel price per pound
4. Roe per unit catch
5. Processing RQ Kodiak
6. Harvesting RQ Kodiak
7. Processing RQ small comm.
8. Harvesting RQ Sand Point

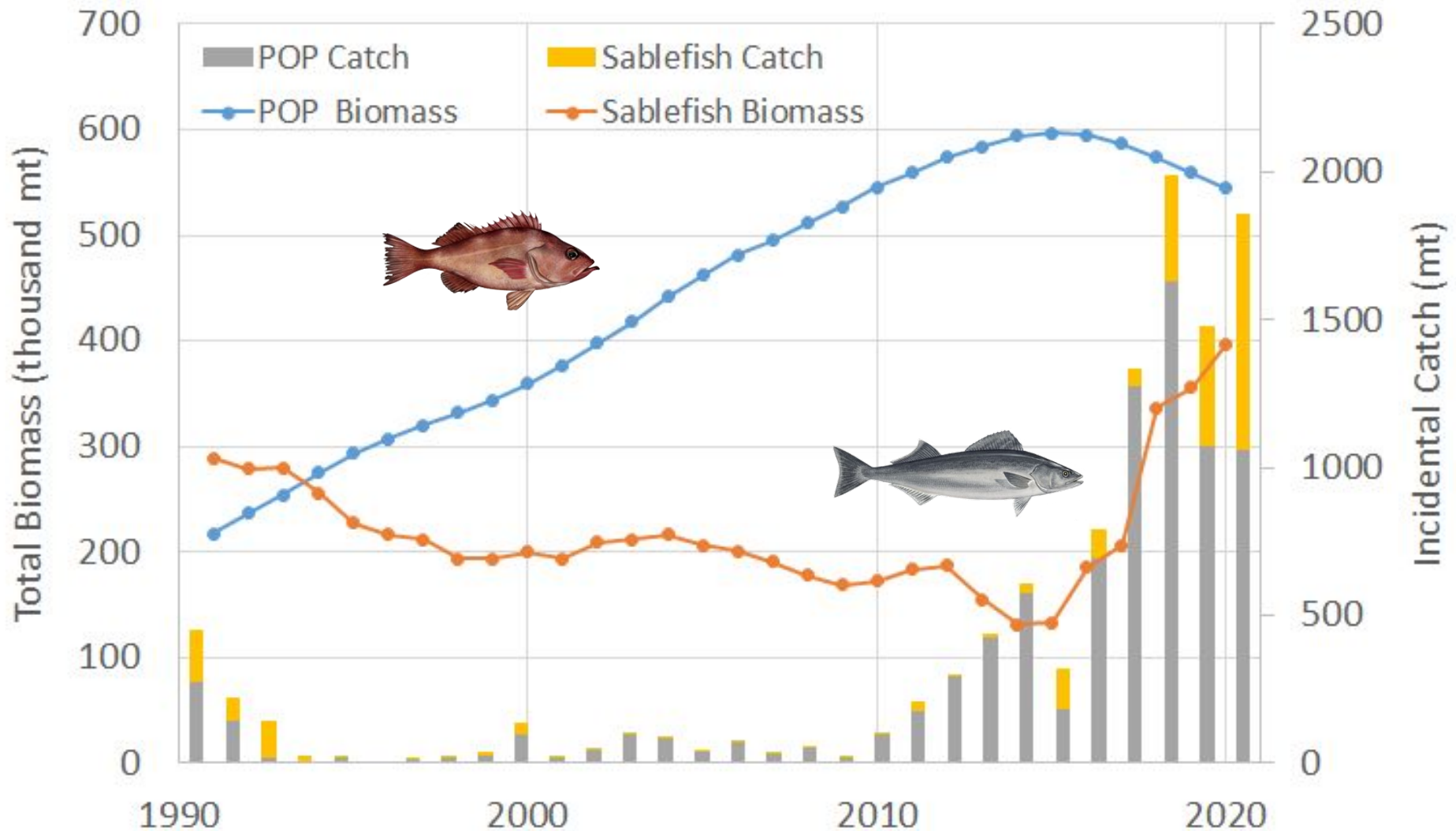
# Physics - Wind

Courtesy Wilson, Rogers



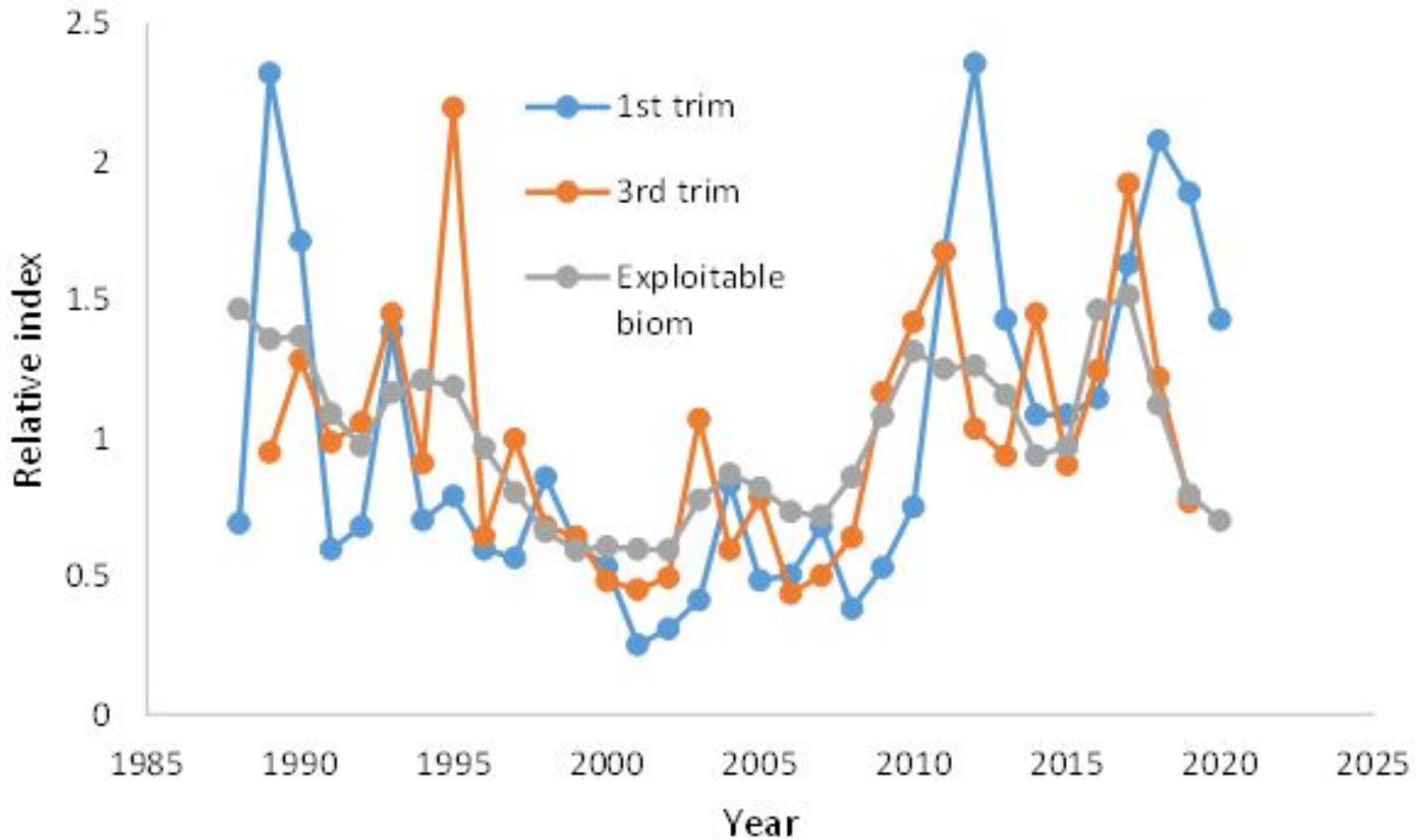


# Competitors, Predators



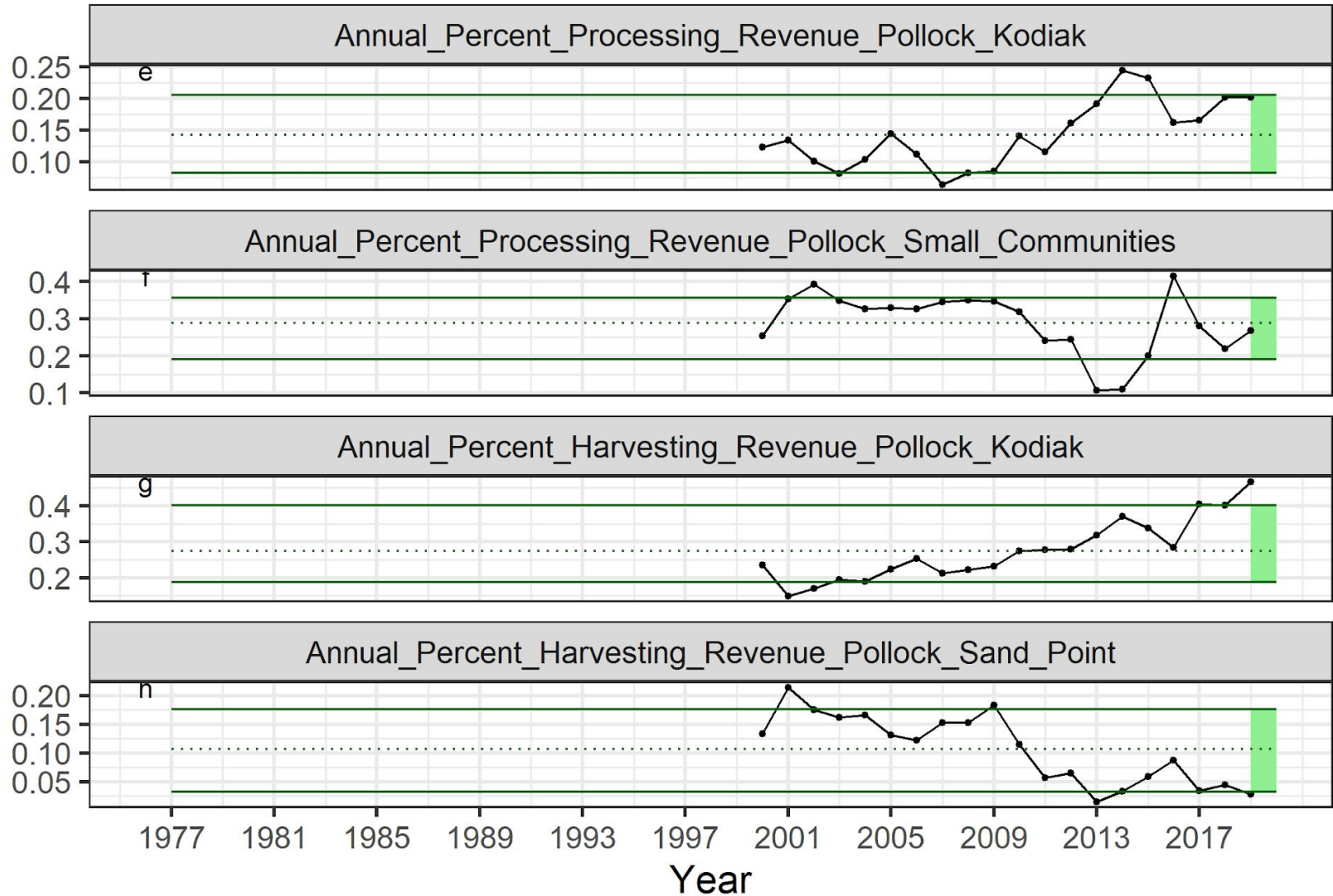
# CPUE Fishery

Courtesy Dorn



# Community

Courtesy Wise



# Changes in Model

- 1st Stage Simple Score

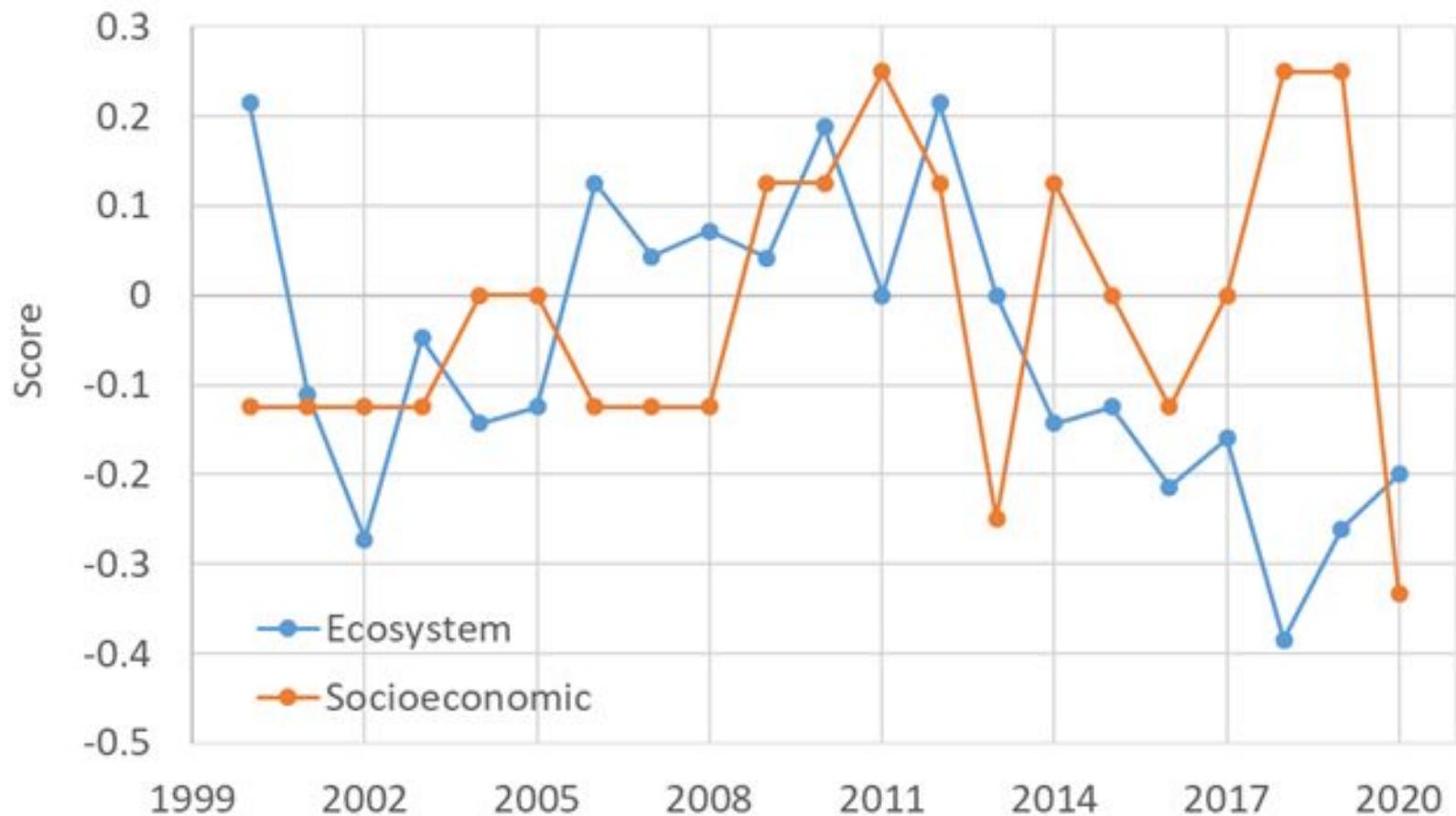
- Requested by SSC for ESPs in February 2020
- Based on value compared to 1 sd from mean of series
- Use +1, -1, 0 to count G/P/S then / by total indicators
- Evaluate by category and overall total

- Historical Score

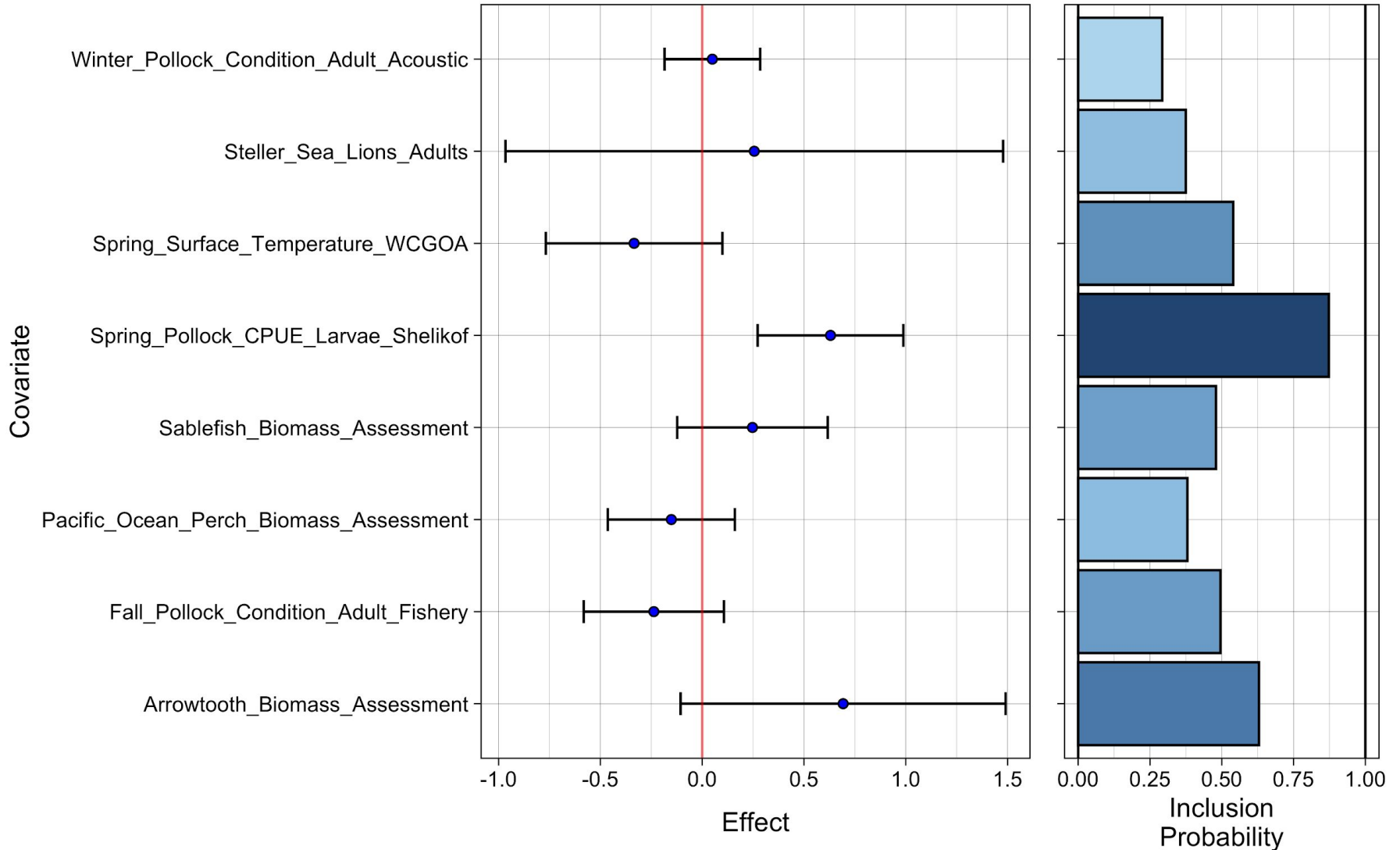
- Provide a table of scores for last 20 years by category
- Provide graphic of ecosystem and socioeconomic total

# Indicator Analysis - Stage 1 Score

## Overall Stage 1 Score for GOA Pollock



# Indicator Analysis - Stage 2 BAS








# ESP Considerations

- Ecosystem Summary

- Survival pollock eggs/larvae associated with northeasterly wind and downwelling related retention in good habitat
- Incidental catch increase with increasing biomass of competitors, predators (POP, SB), impact 2017, 18 yc

- Socioeconomic Summary

- Fishery CPUE in  2019-20 consistent with biomass
- Ex-vessel price , roe stable, Kodiak RQ  and stable, small communities RQ  and , harvesting and processing

Questions?

