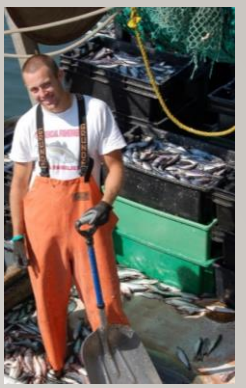


ALASKA SABLEFISH

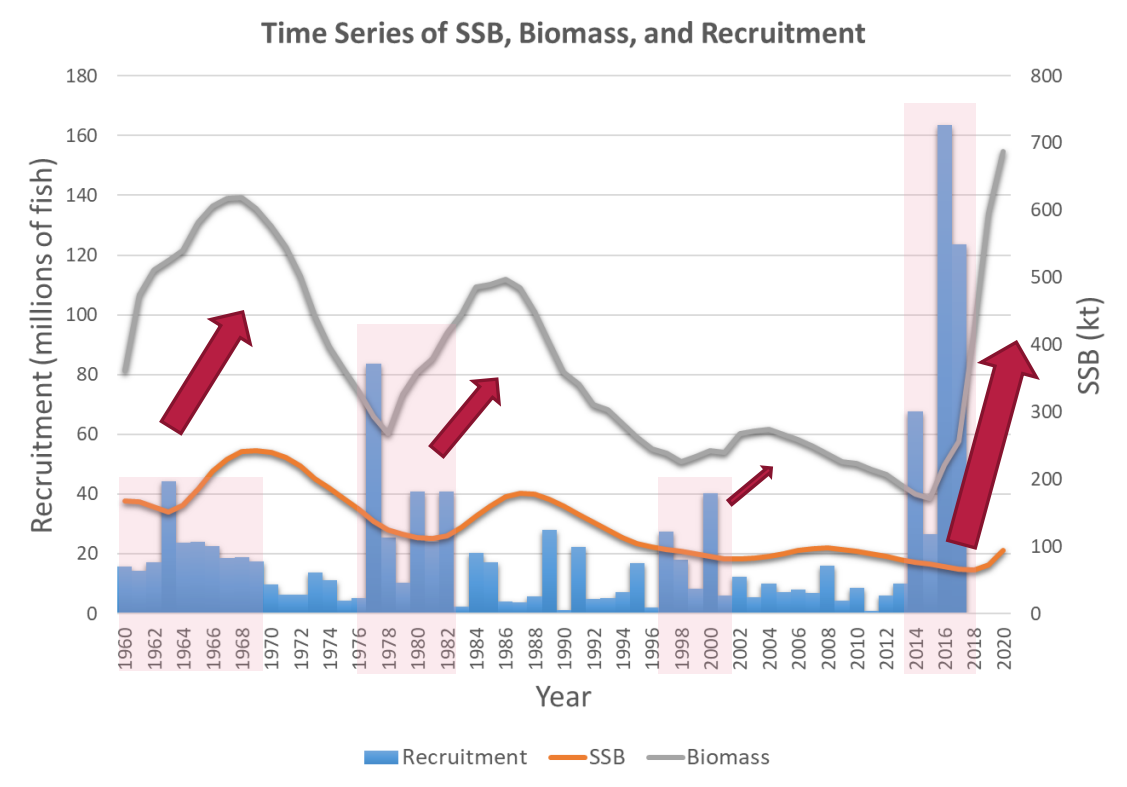
DAN GOETHEL, DANA HANSELMAN, CARA RODGVELLER, KARI FENSKE, KALEI SHOTWELL, KATY ECHAVE, PAT MALECHA, KEVIN SIWICKE, CHRIS LUNSFORD

MARINE ECOLOGY AND STOCK ASSESSMENT

ALASKA FISHERIES SCIENCE CENTER

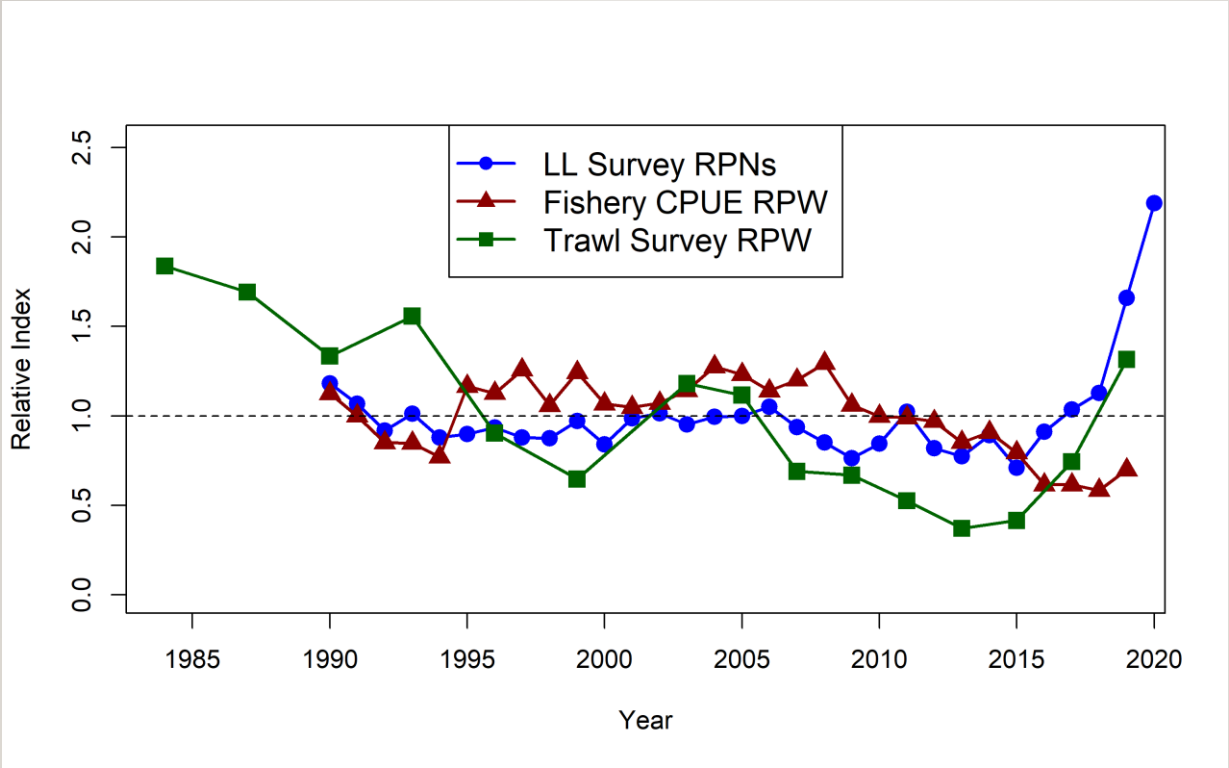
JUNEAU, AK

2 CYCLICAL SABLEFISH



Large year classes have spurred periodic population growth in the early 1960s, early 1980s, and early 2000s.

3 INDICES IN THE MODEL

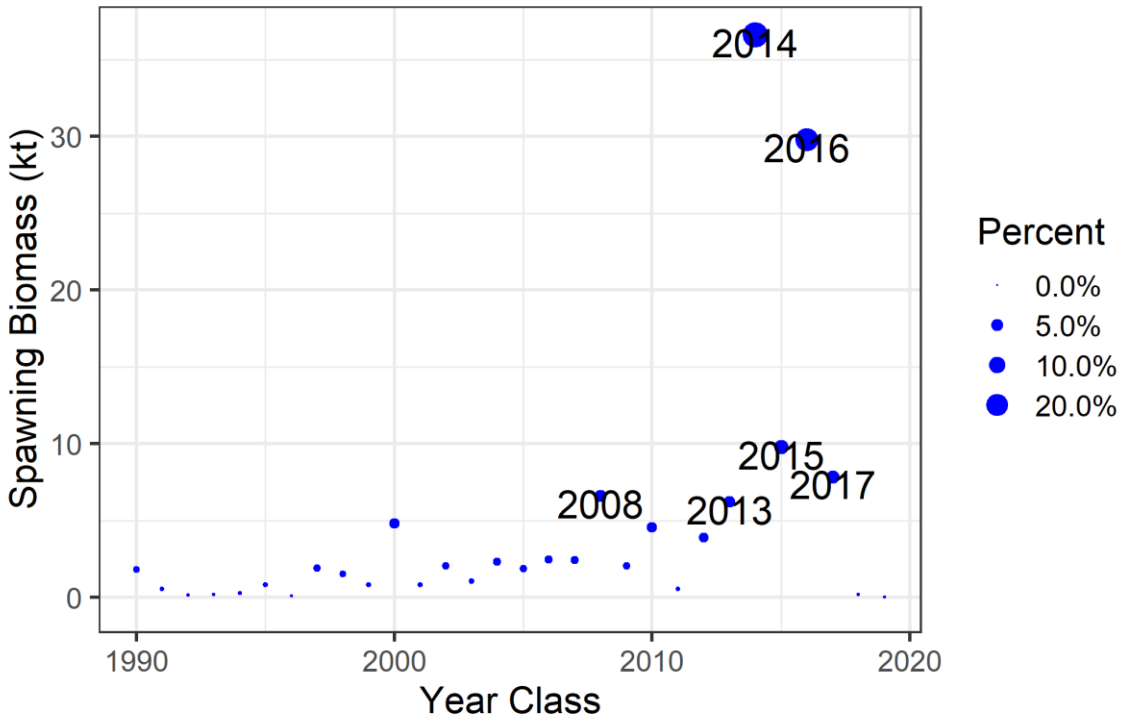


32% Increase

77% Increase

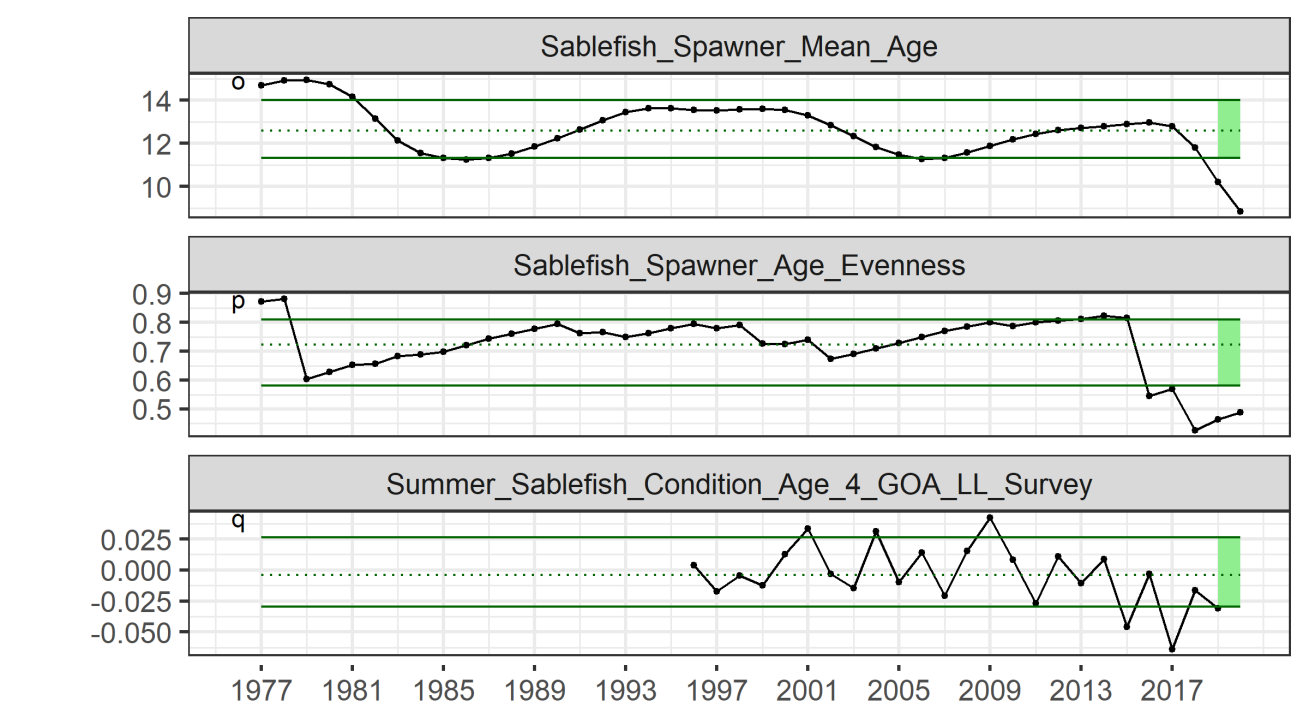
20% Increase

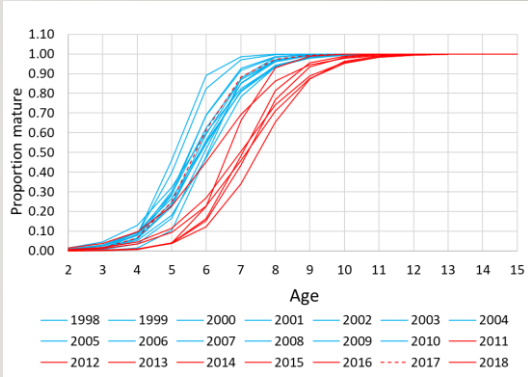
4 NEW KIDS ON THE BLOCK

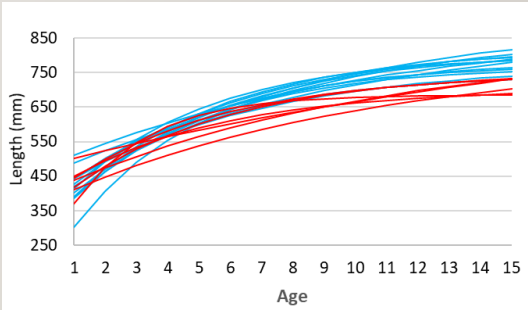


2014 and 2016 Year Classes ~50% of SSB, 60% and 20% Mature, Respectively

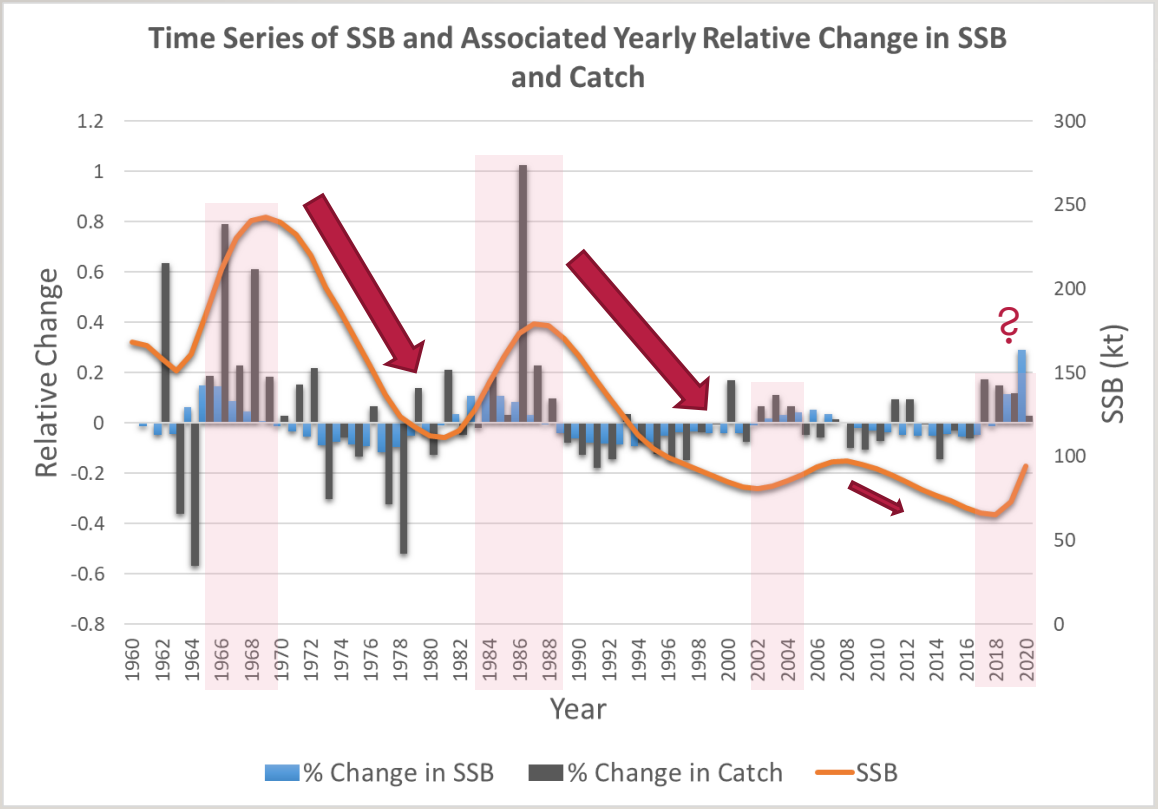
5 POOR CONDITION, CHANGES IN VITAL RATES (ESP)







6 CYCLICAL SABLEFISH



Subsequent population declines have been associated with quotas that increased at rates that outpaced population growth.

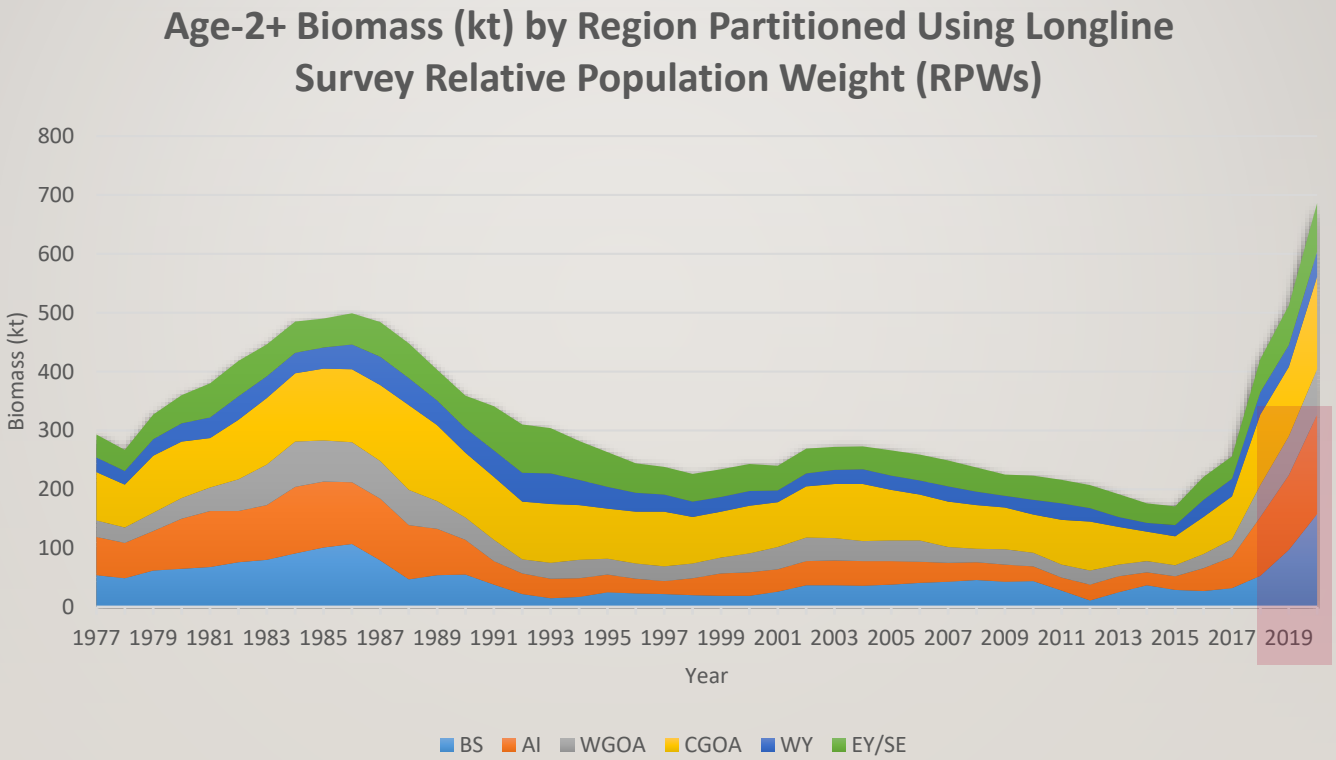
7 FISHERY GEAR CHANGES

% of Catch, Length, and Age Samples from Pot Gear

Year	Catch	Length Samples	Age Samples
2016	2%	5%	9%
2017	17%	29%	39%
2018	19%	31%	35%
2019	30%	16%	17%
2020	53%	56%	

- Age and length composition from fishery typically sampled in proportion to catch by gear
- Working to model pot gear as a unique fleet in stock assessment (independent selectivity and F)
- UAF student to begin work on improving CPUE index to account for shift towards pot gear
  - Decreasing observer coverage problematic for CPUE indices (BSAI and EM in GOA)
- Depredation estimates account for gear implicitly based on observer data
  - No depredation in observed pot trips

8 APPROXIMATE DISTRIBUTION



9 APPORTIONMENT SUGGESTION

- **Suggestion**: 5-year average of regional survey biomass proportions
- Goal is to balance **tracking regional biomass and harvest ages** (conservation metric) vs. **stability in area proportions** (economic metric valued by stakeholders)
- This is *one potential* **biological recommendation**, but **socioeconomics cannot be adequately addressed** with our tools
- This is **NOT** a static apportionment, the proportions will change yearly based on changing distributions and updated survey biomass

10 ONGOING AND FUTURE RESEARCH

- Future assessment updates to address changing availability to gears and surveys, improved formulation of natural mortality, updated demographics, incorporation of tagging data, and modeling of pot gear (1-3 years)
- Improving CPUE index to address shift to pot gear (1-2 years)
- Development of a simulation tool to explore robustness of current management strategies to spasmodic recruitment (2-3 years)
- Ongoing genetics to explore stock structure (1-2 years)
- Pacific Sablefish Transboundary Assessment Team (PSTAT) continuing work on a coastwide operating/simulation model (1-3 years)

EM SHARK BYCATCH

The Alaska Pacific University (APU) and NOAA Fisheries are teaming up to study unintentional catch of large sharks occurring on **longline vessels using Electronic Monitoring (EM).** Large sharks are any species of shark that is not a spiny dogfish. Examples of images:

IF YOU CATCH A LARGE SHARK:

1) Take a picture if possible (not required, but helpful)
2) Use the form or email picture with date, time, Vessel Name, ADFG Vessel ID and species

Email: emsharkproject@gmail.com
Google users: tinyurl.com/emshark

At the end of the season, all entries will be compiled and rewards sent for all vessel crew based on the number of valid entries submitted. Prizes are TBD, but for example:
1-5 = shark research hats
6-15 = sharky coffee mugs
15+ = HOODIES!!!!

For further questions contact emsharkproject@gmail.com or Cindy Tribuzio at cindy.tribuzio@noaa.gov.

March 19 2021 v1

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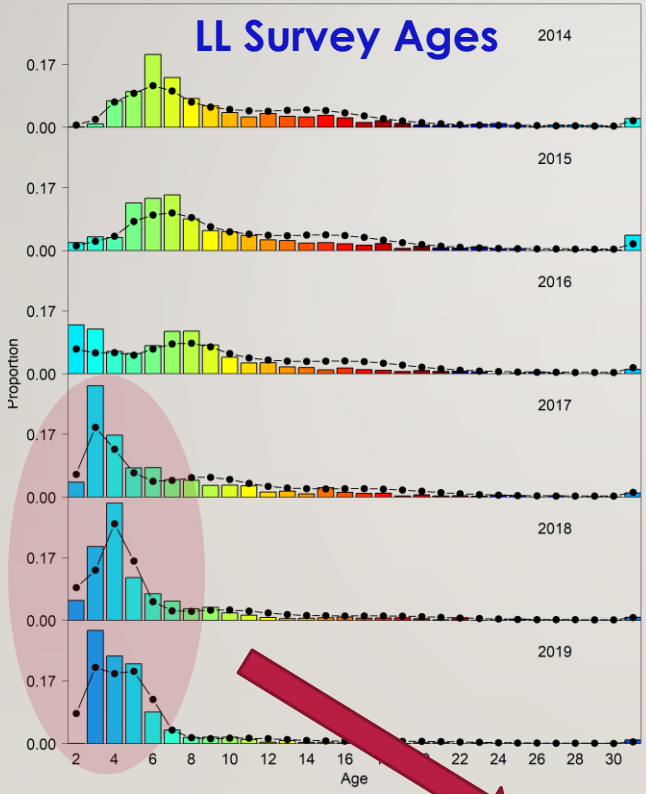
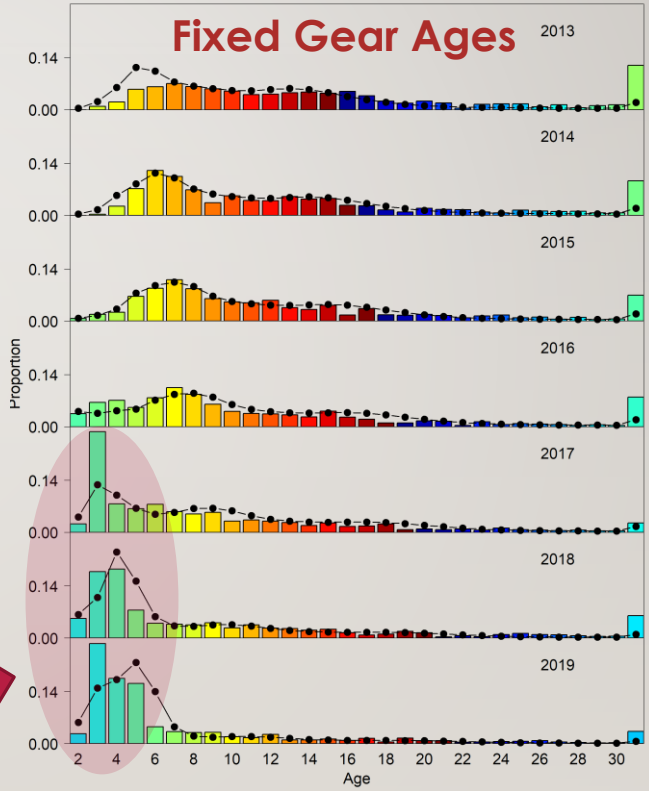
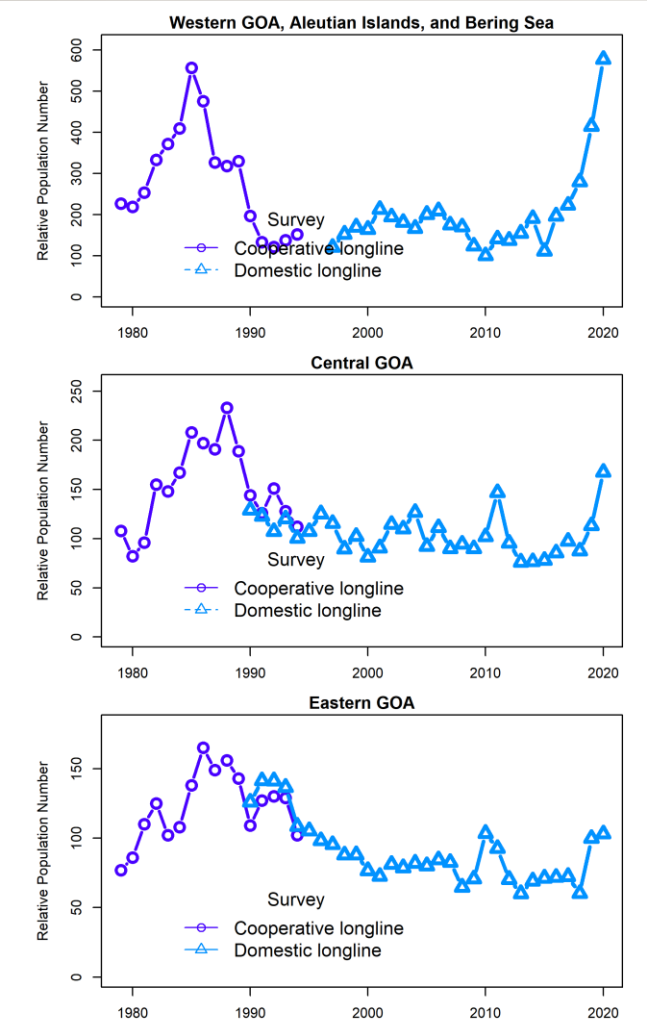
13 GROW UP!

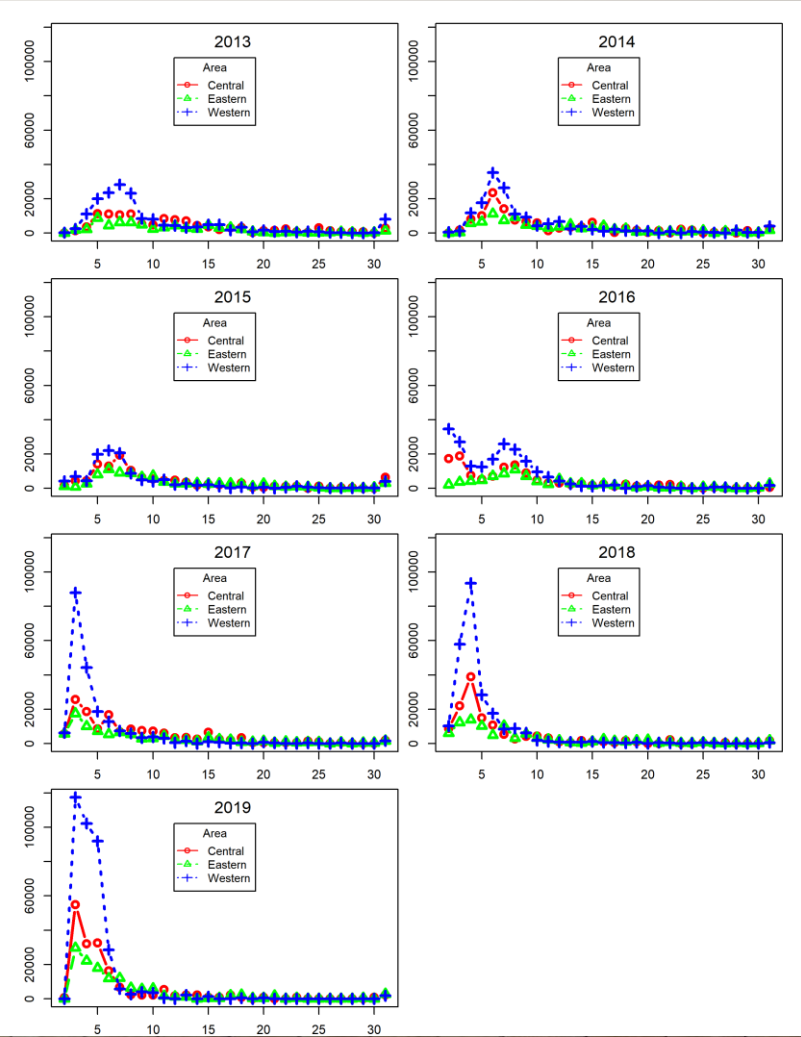




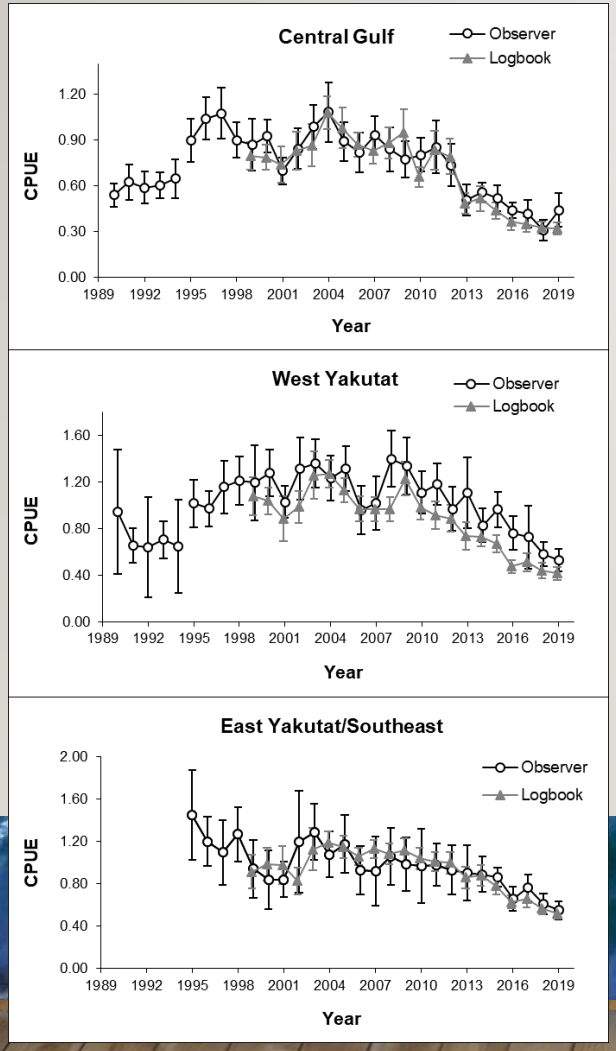
> 50% Age-6 or under

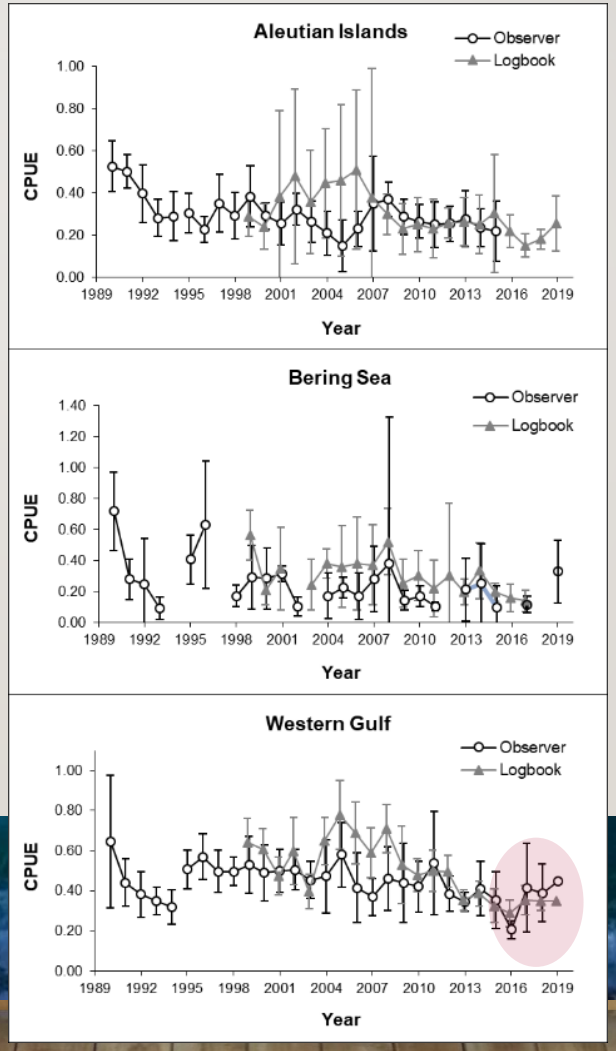
14 LL SURVEY BY AREA





15 FISHERY CPUE BY AREA

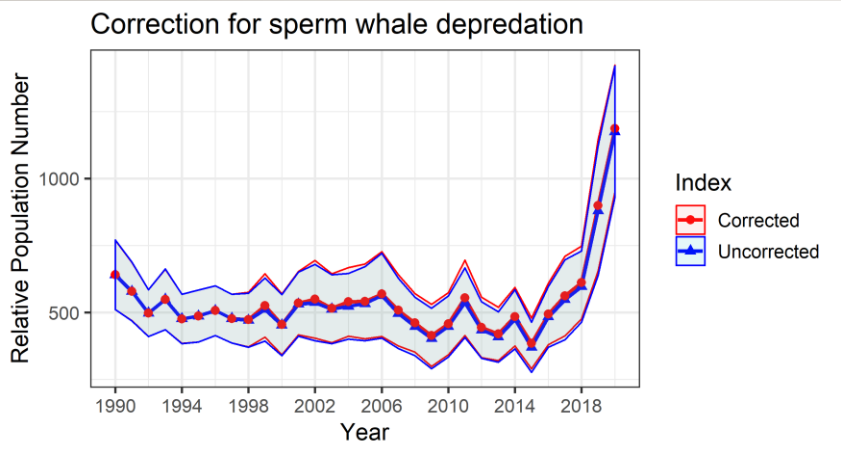


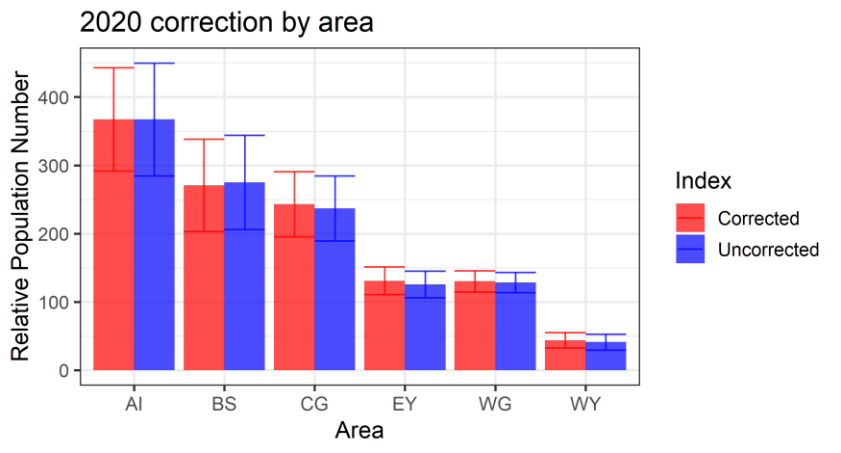
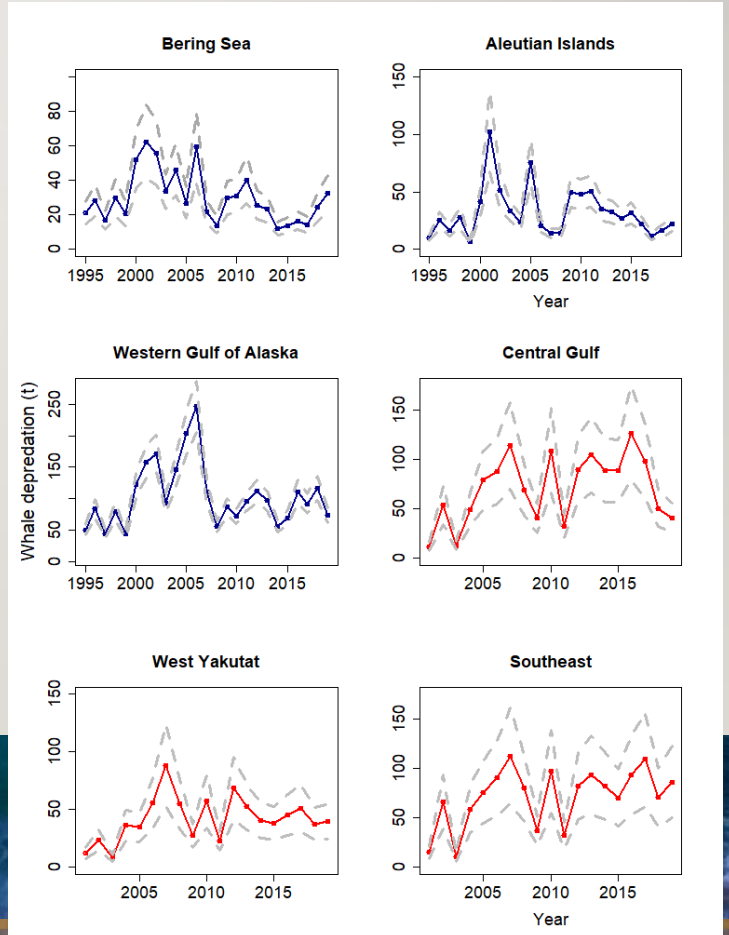


20% increase primarily due to catch rates in western areas

16 WHALE DEPREDATION

Survey Corrections





Area Depredation