

# The Grenadier Stock in Alaska

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The graceful  
grenadier



# Ecosystem Component

- In the BSAI and GOA FMPs
- No management – no ABC or OFL
- No targeted fishing
- SAFE not required
- Unofficial SAFE every 4 years



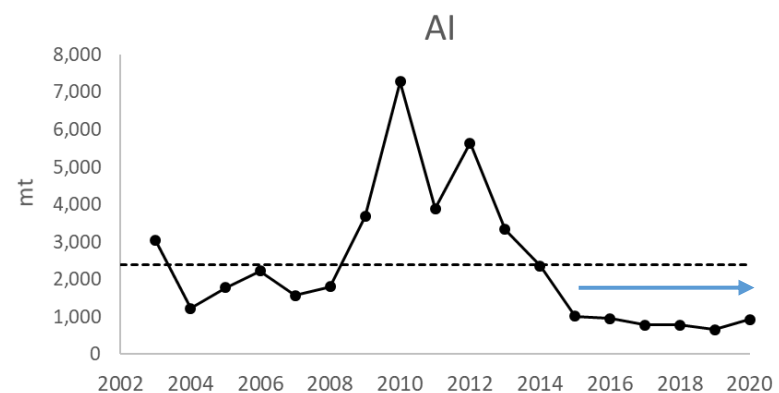
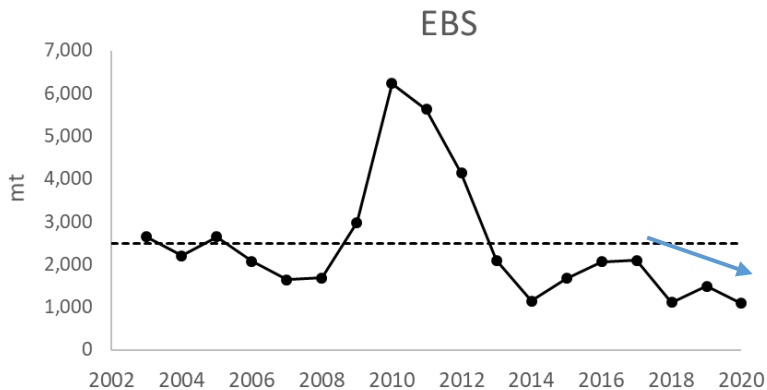
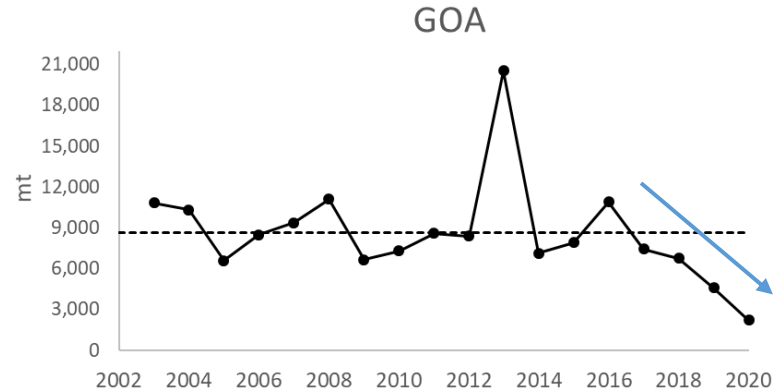
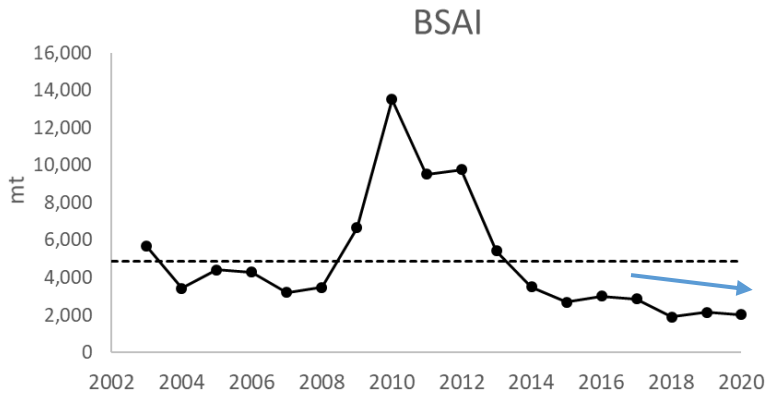
Retained on longline survey (once)

# Updated

- Catch estimates
- Biomass estimates
- Longline survey index
- Unofficial Tier 5 ABC and OFL

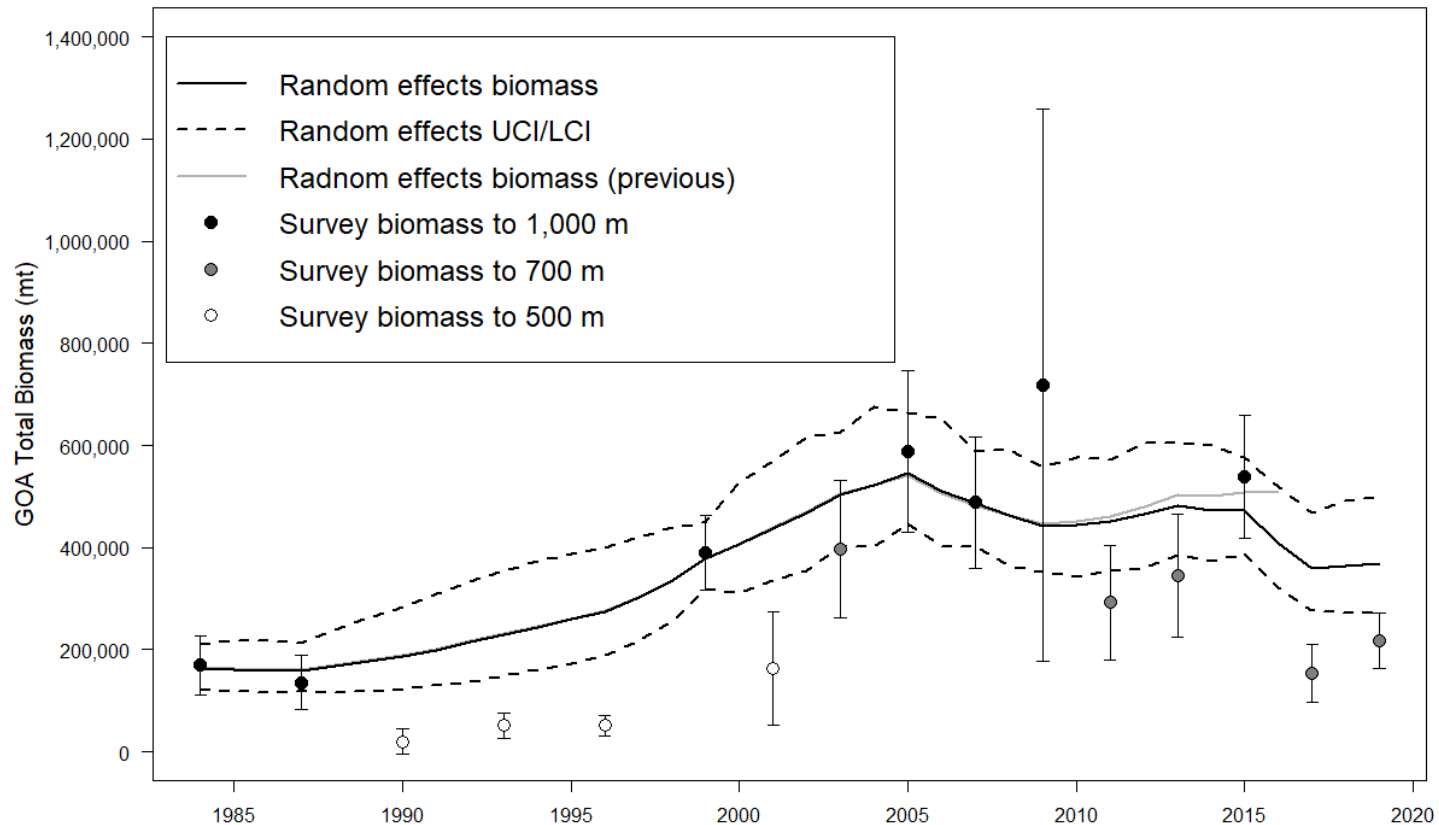
# Catch is Down

- Down in BS, overall in the BSAI, and in the GOA
- Target fisheries
  - BS: Greenland turbot and P. halibut
  - GOA: sablefish



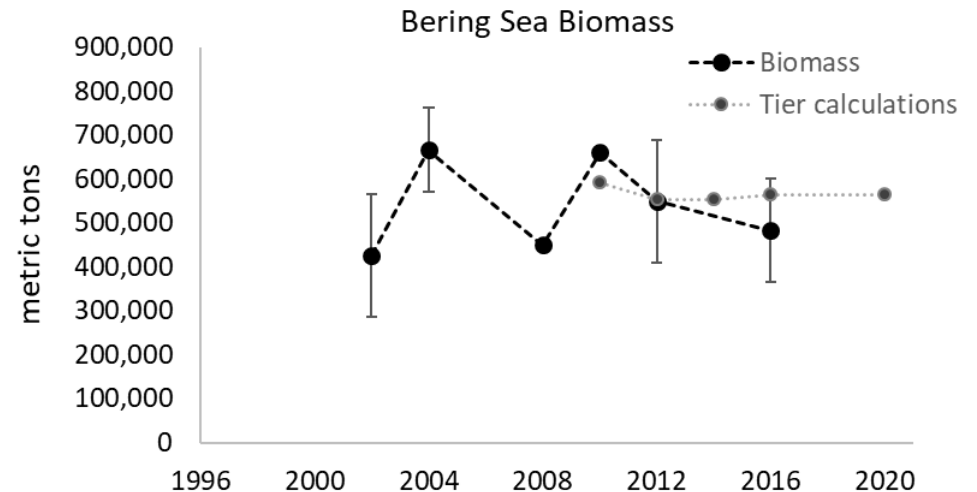
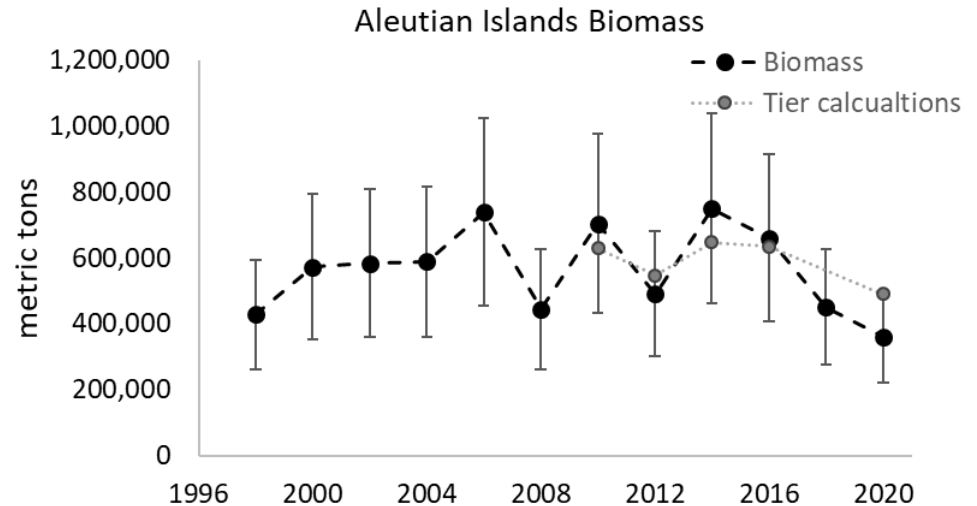
# GOA Biomass Down

- Random effects model to estimate biomass to 1,000 m
  - Estimates for each depth strata summed
- 2017-2019 random effects biomass lowest since 1998



# BS and AI Biomass Down

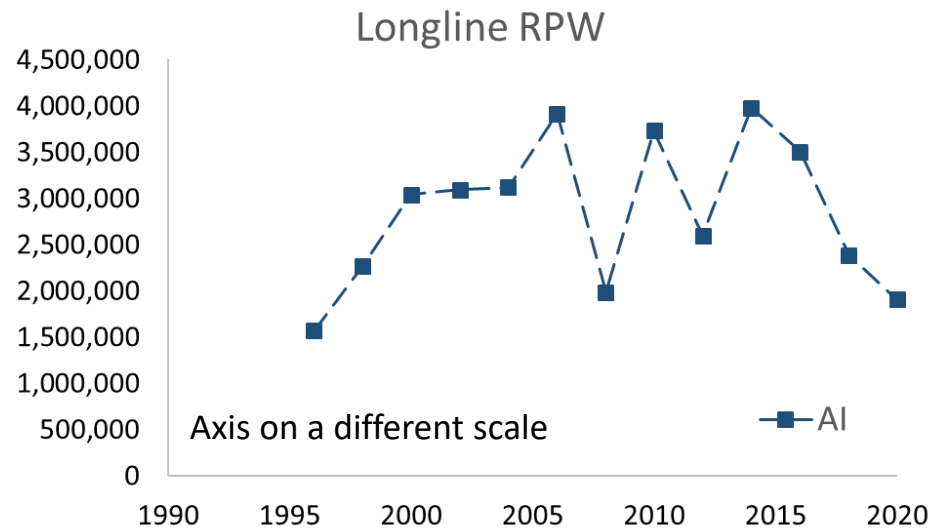
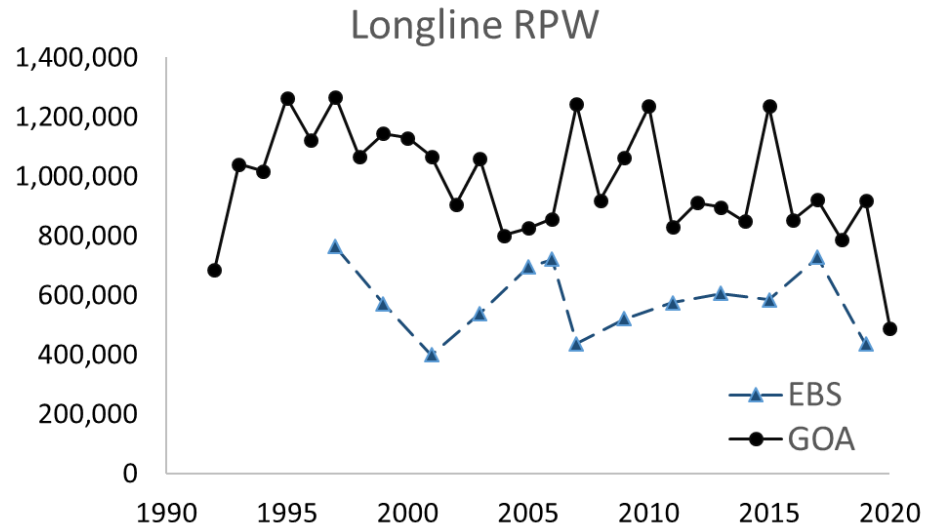
- Tier 5 calculations – avg. last 3 biomass estimates (gray, dashed)
- AI (top)
  - Method uses longline and trawl survey data
  - Avg. of 2016, 2018, 2020
- BS (bottom)
  - Avg. of 2010, 2012, 2016



# AFSC Longline Index

- Relative population weights (RPW)
- Down in all areas
- Hook competition?
  - Catch and biomass down as well

Dashed line = every other year



# Unofficial ABC and OFL

- Compared to the last SAFE, completed in 2016,
  - 12% decrease in the BSAI
  - 27% decrease in the GOA
- Catches well below unofficial ABL and OFL (again, not used for management)

<b>Complex</b>	<b>Year</b>	<b>BSAI Biomass</b>	<b>BSAI ABC</b>	<b>BSAI Catch<sup>1</sup></b>	<b>GOA Biomass</b>	<b>GOA ABC</b>	<b>GOA Catch<sup>1</sup></b>	<b>Total Catch<sup>1</sup></b>
	2019	1,197,110	70,031	2,142	507,888	29,711	4,601	6,743
	2020	1,197,110	70,031	2,016	507,888	29,711	2,213	4,229
grenadiers	2021	1,055,348	61,738		369,618	21,623		
	2022	1,055,348	61,738		369,618	21,623		



