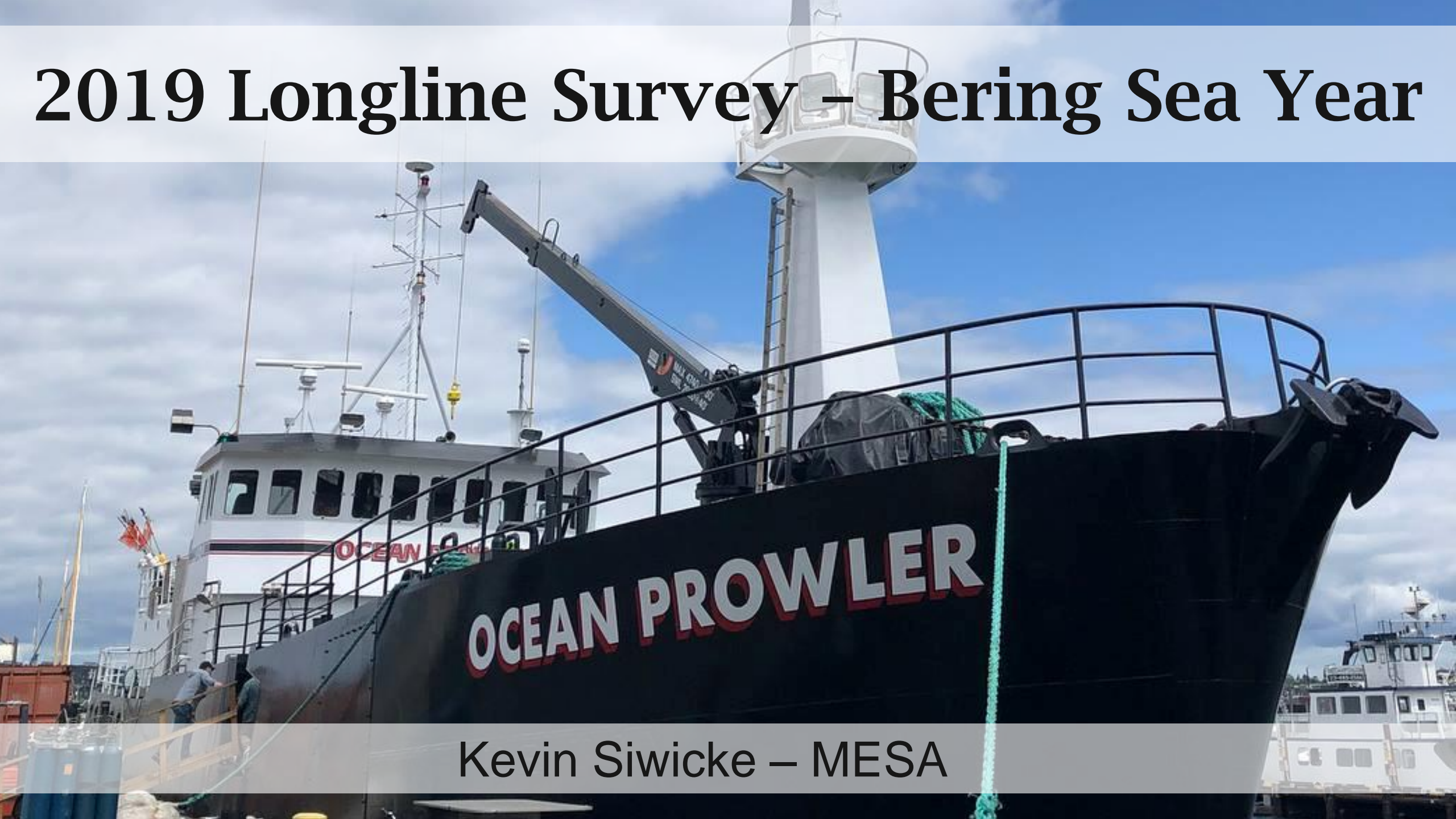


# 2019 Longline Survey – Bering Sea Year



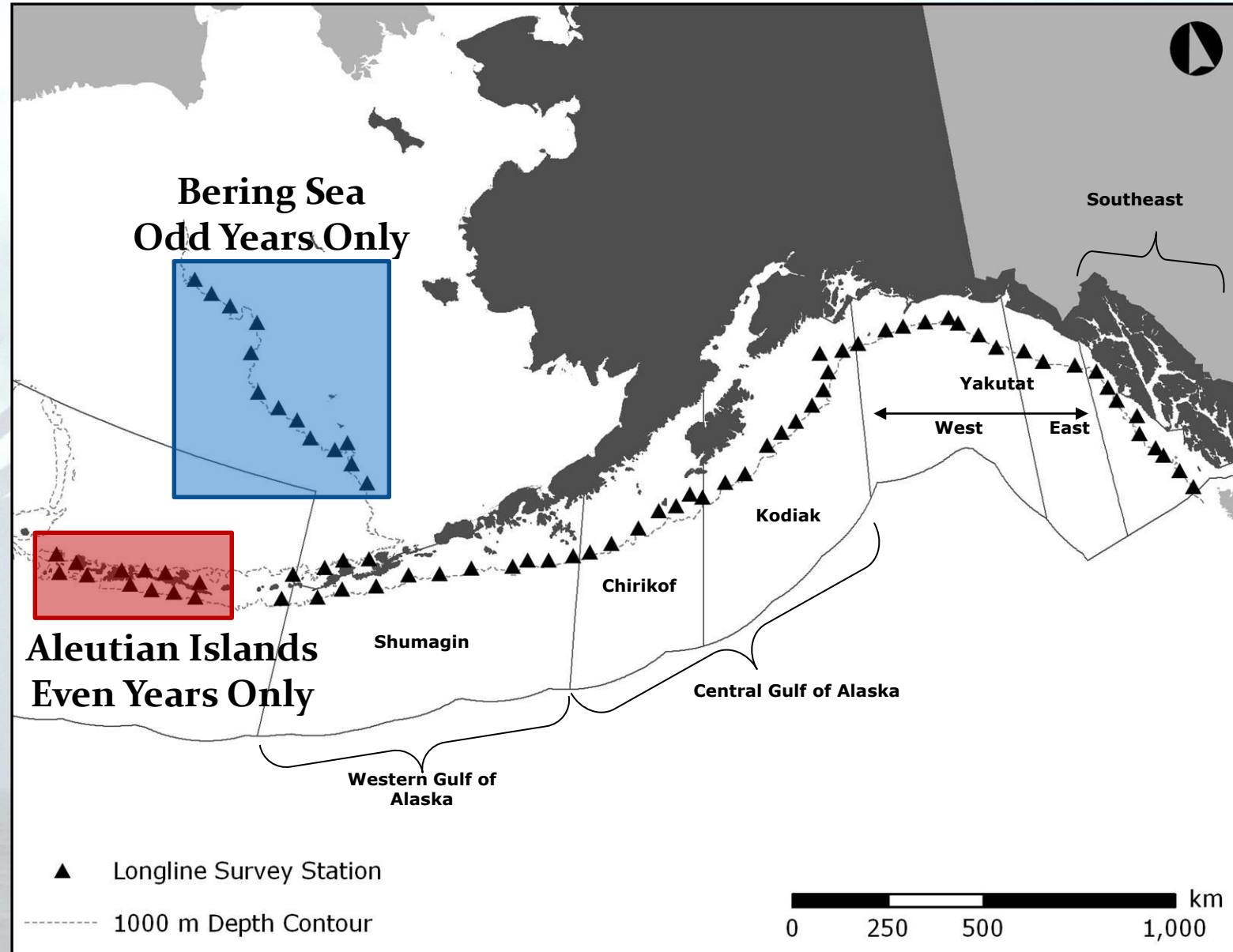
Kevin Siwicke – MESA

# What's this about?

- Rough look at RPNs and length frequencies
- Whale depredation
- Temperature at depth



# Survey Geographic Coverage

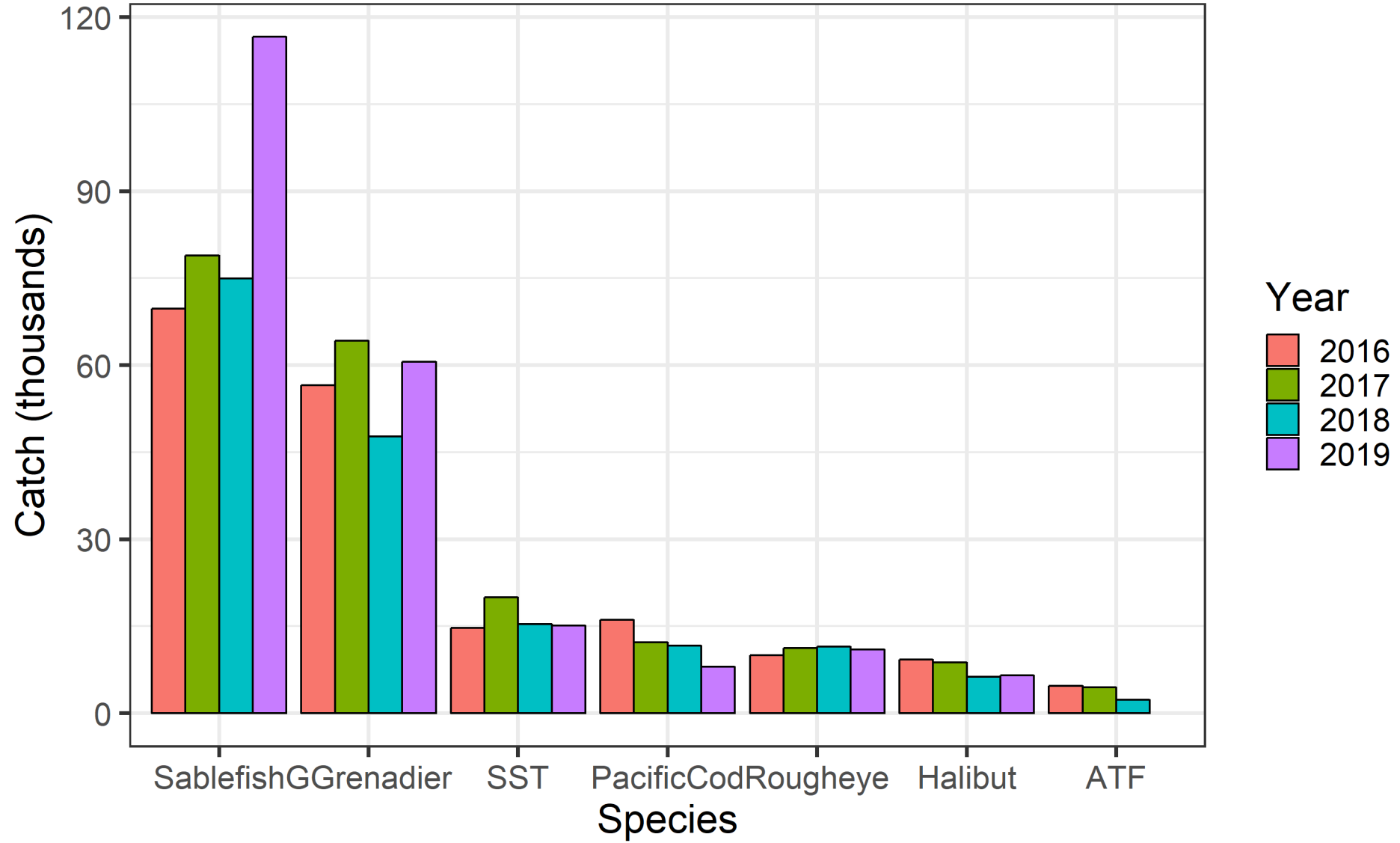


# What we did in 2019

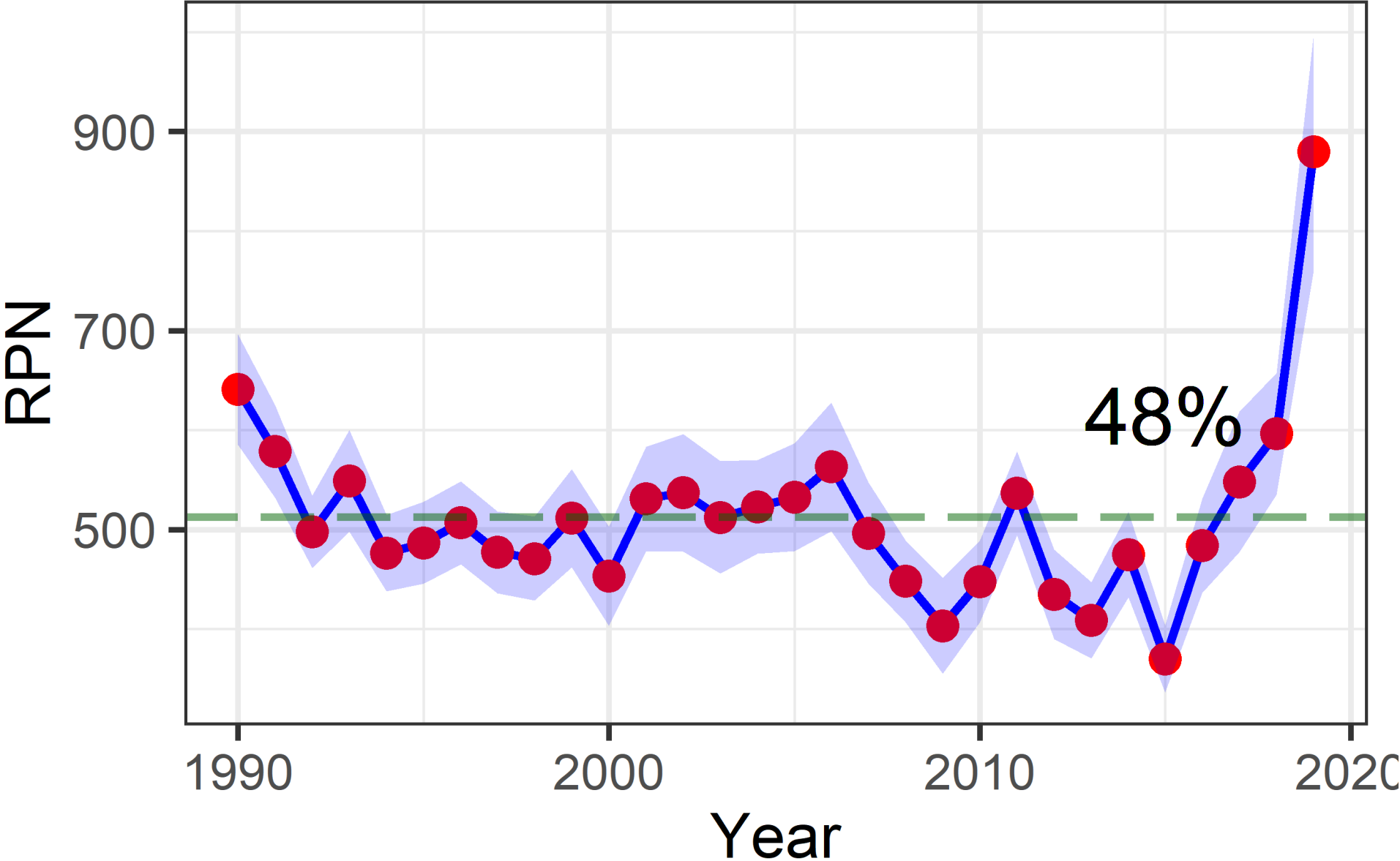
- May 28 - August 28
- 576,270 hooks (156 hauls)
- **Sablefish:** 3,502 otoliths & 5,399 tagged
- **SST:** 735 tagged
- **Turbot:** 10 tagged
- **Special projects:** rockfish genomics, SST genetics, hydrophone (sperm whales), temperature, EM



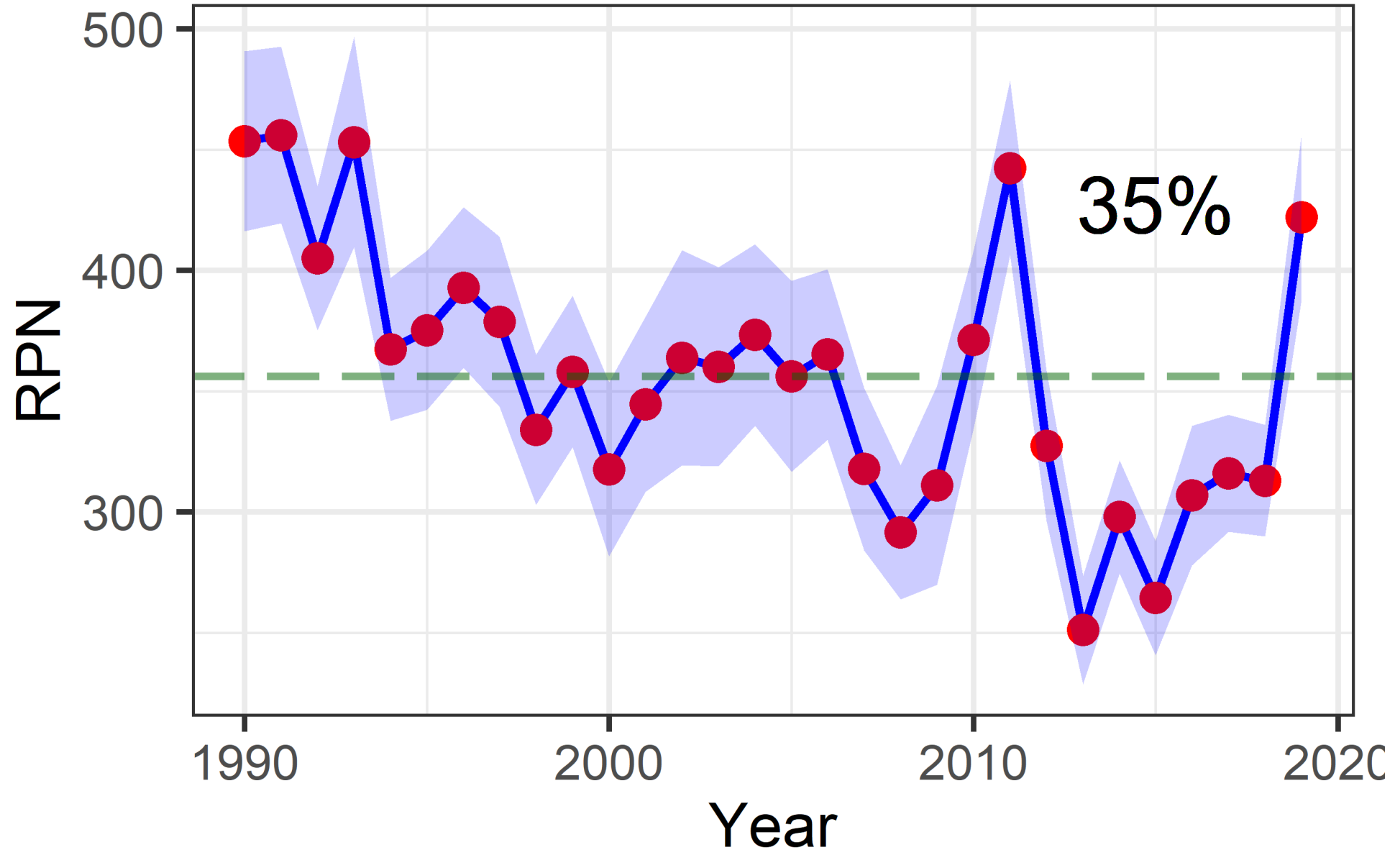
# Recent raw catches by species



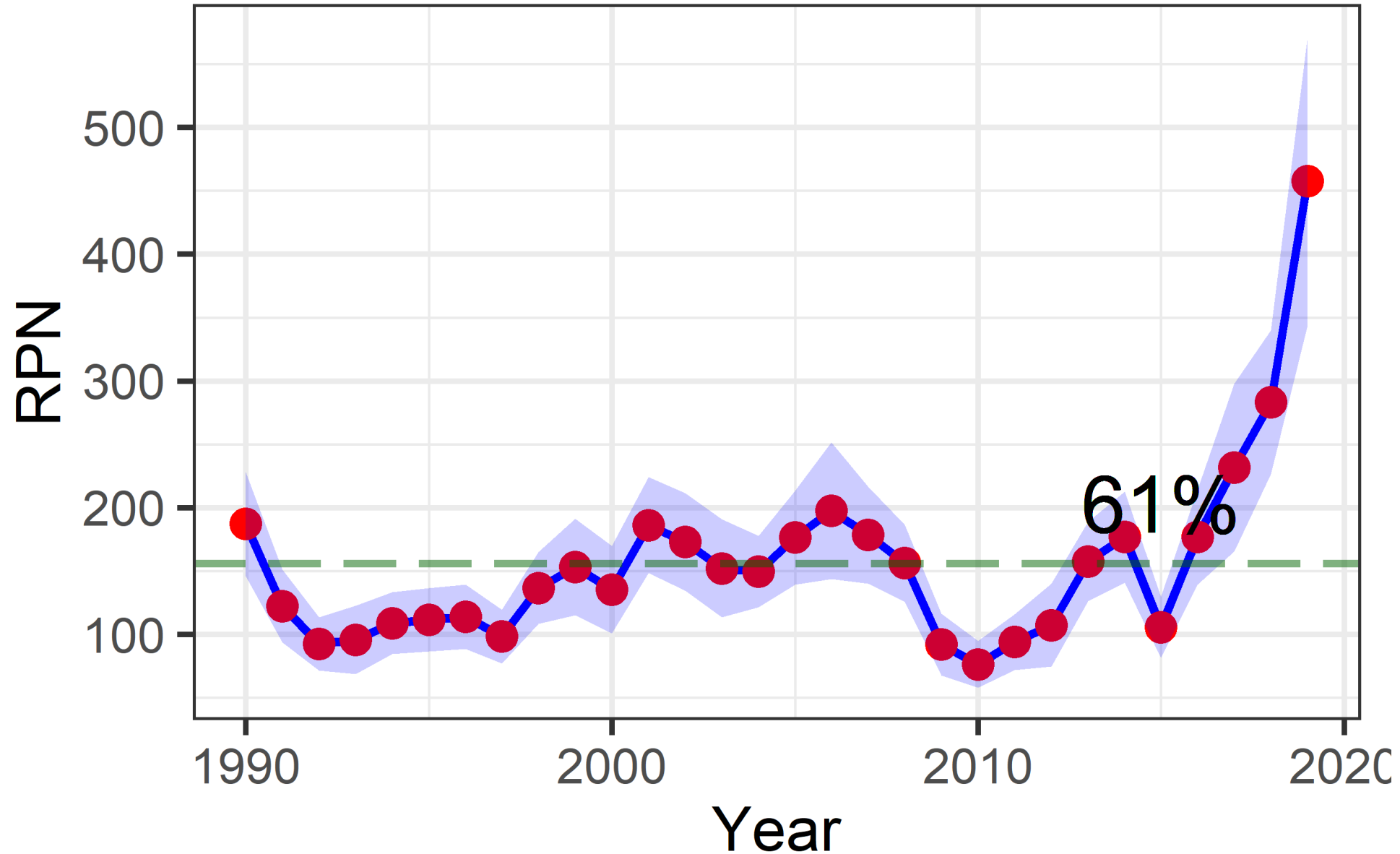
# Alaska Sablefish longline survey RPNs



# GOA Sablefish longline survey RPNs

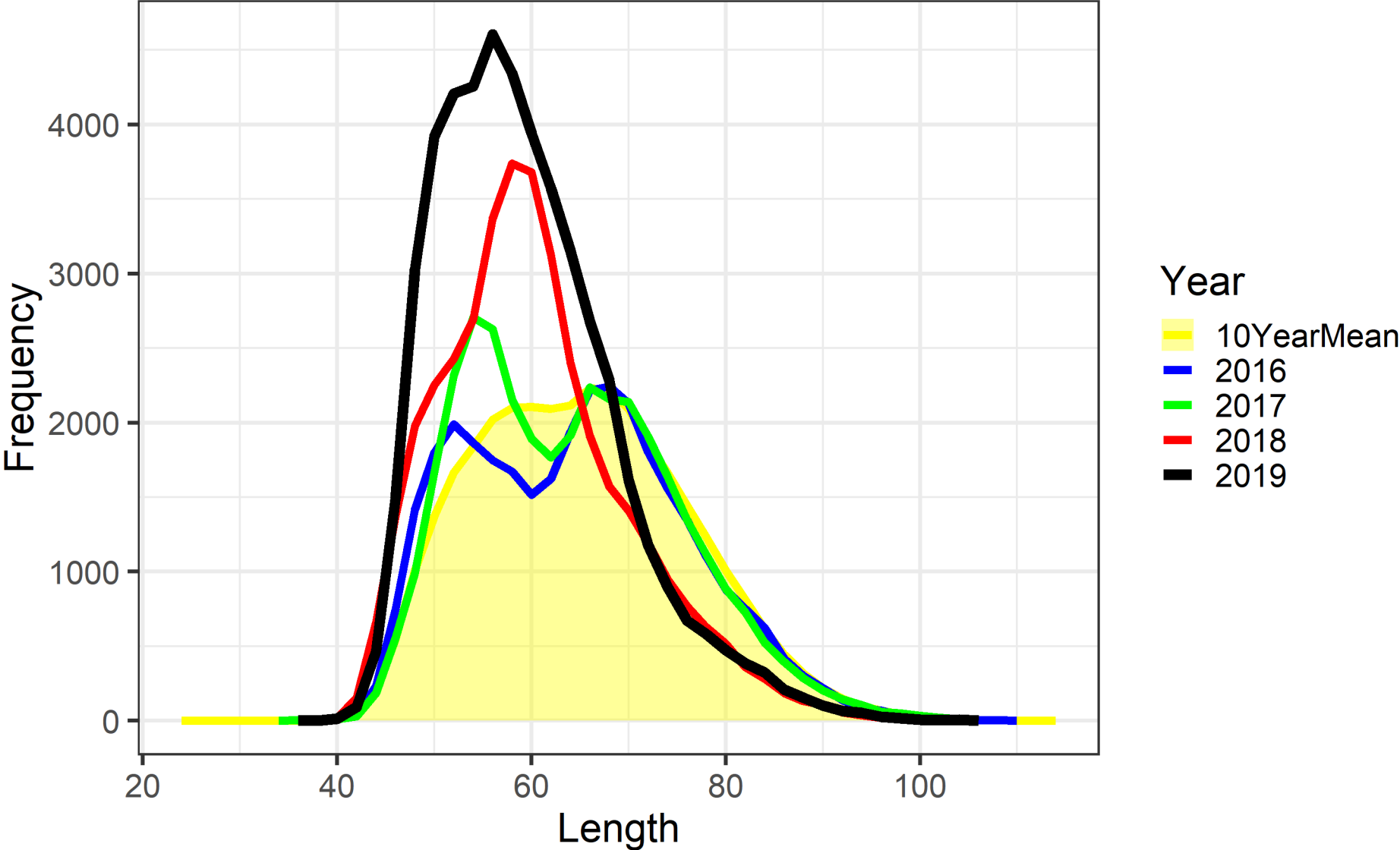


# BSAI Sablefish longline survey RPNs

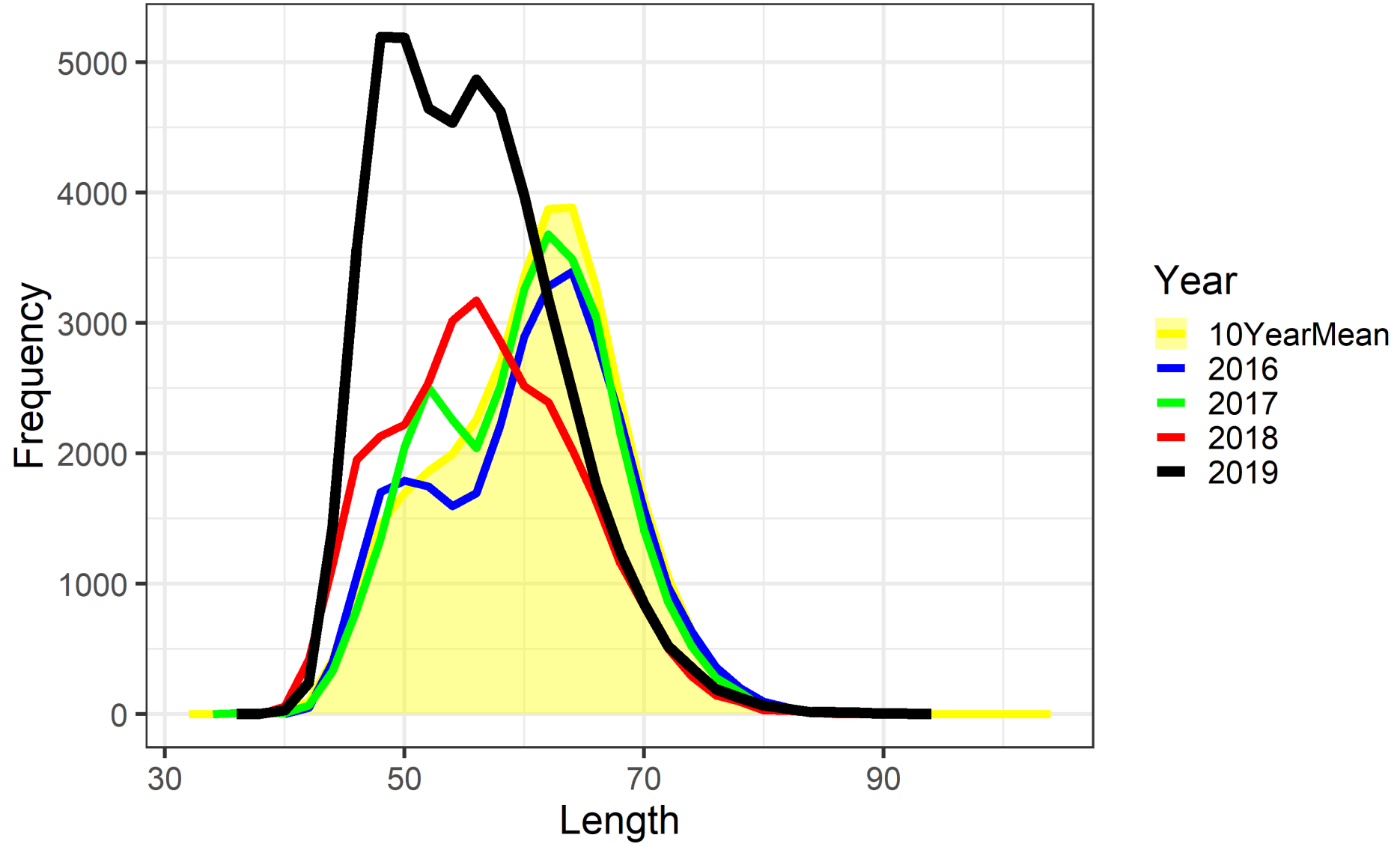




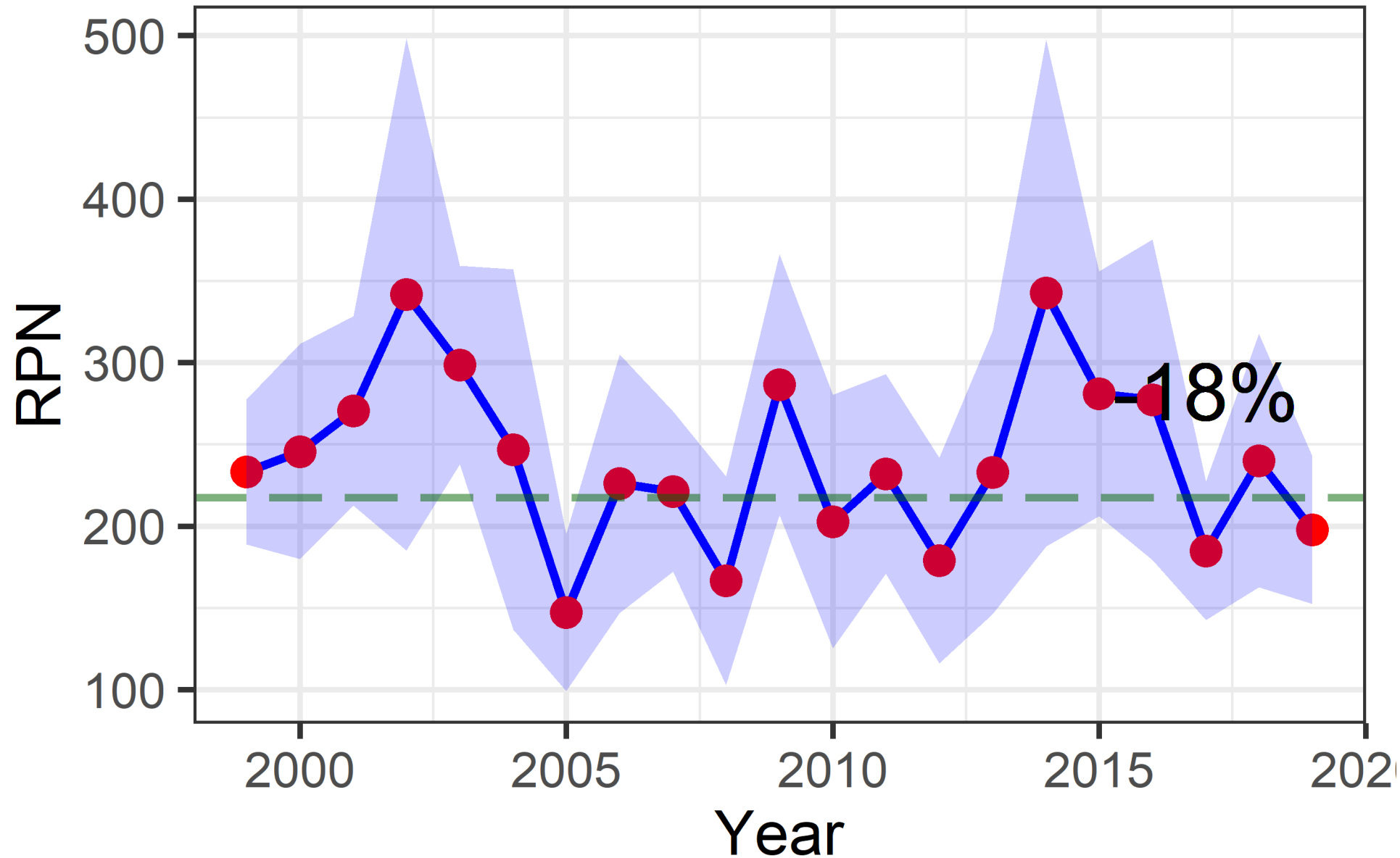
# Recent female sablefish length frequencies



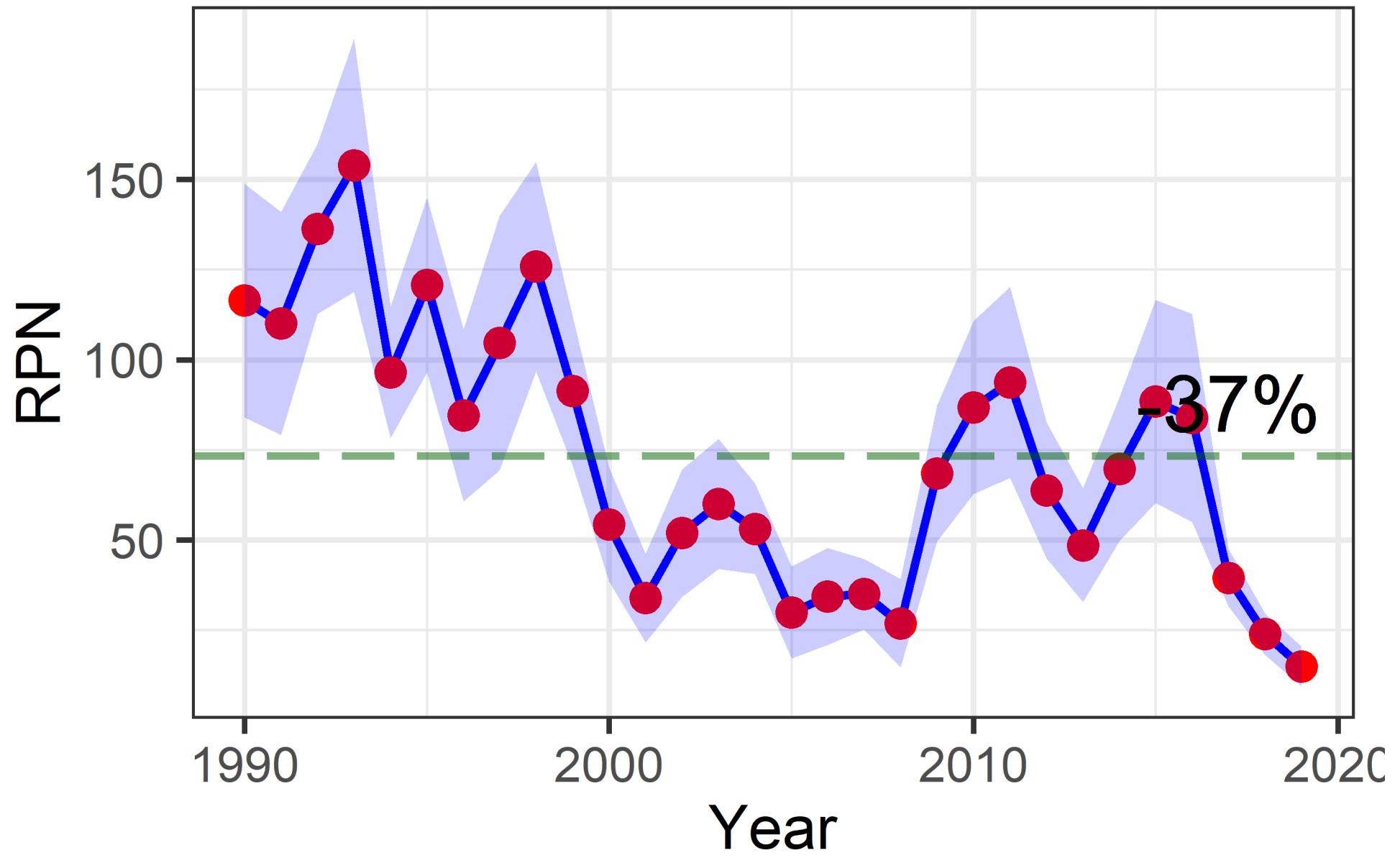
# Recent male sablefish length frequencies



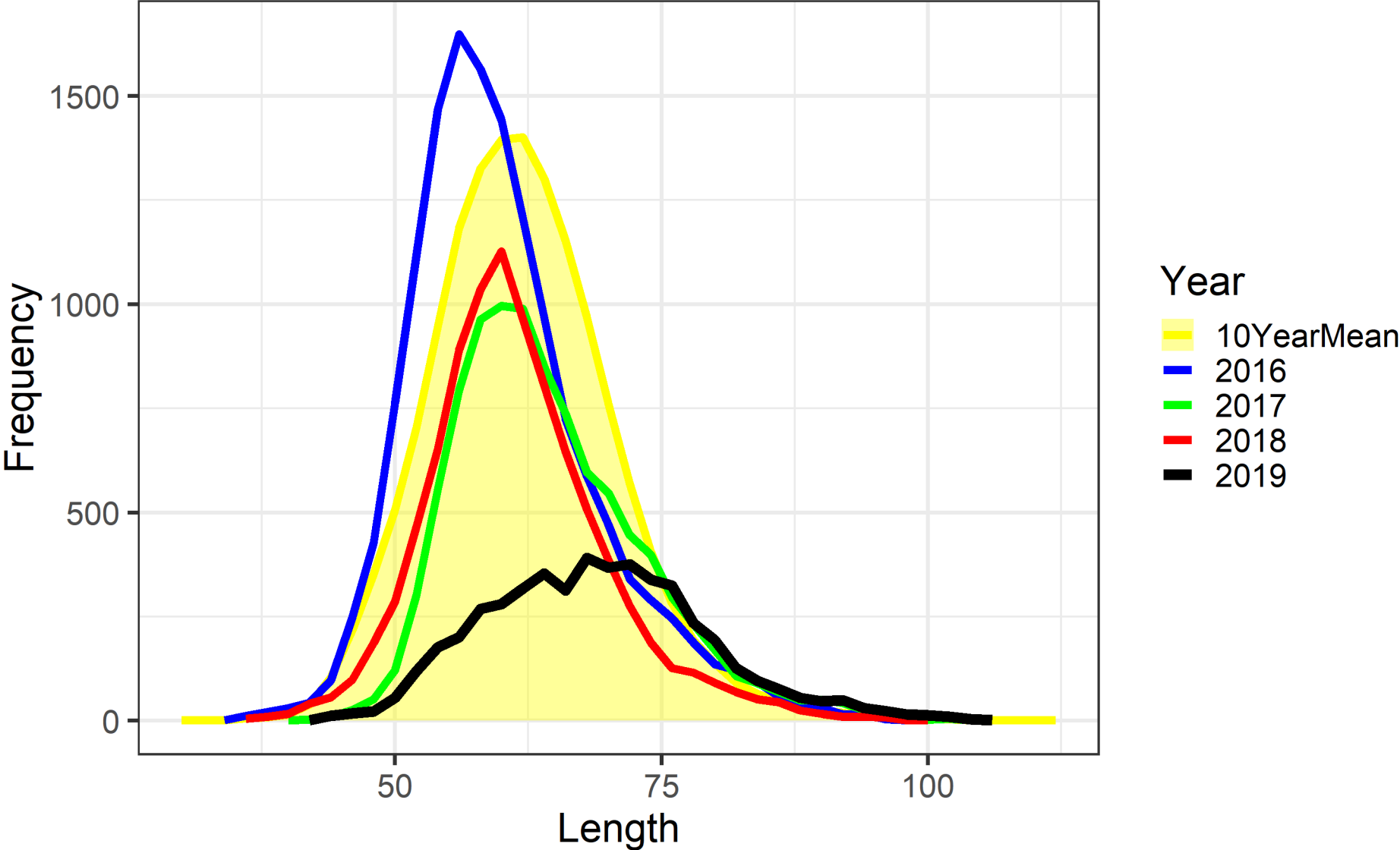
# BSAI Pacific cod longline survey RPNs



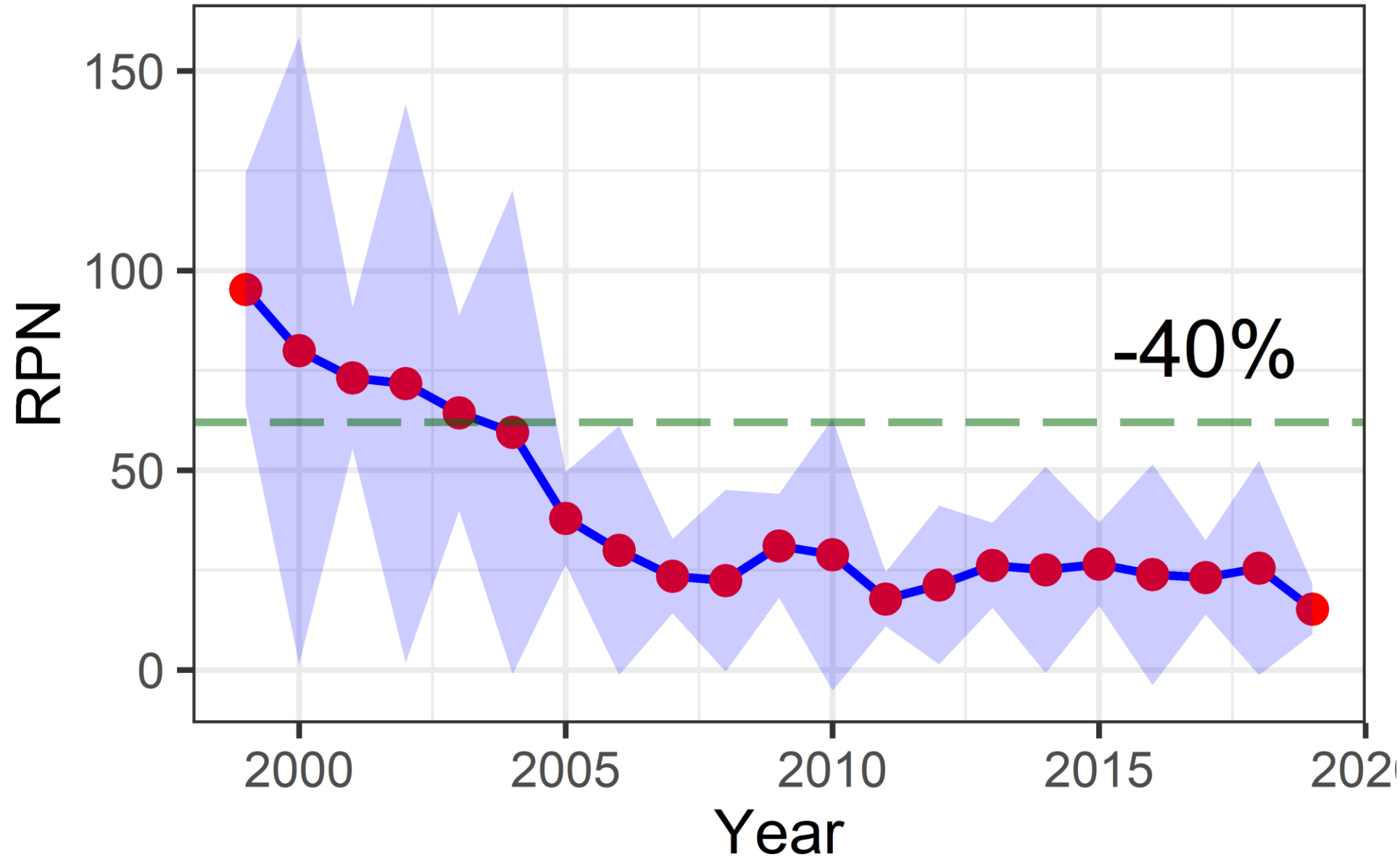
# GOA Pacific cod longline survey RPNs



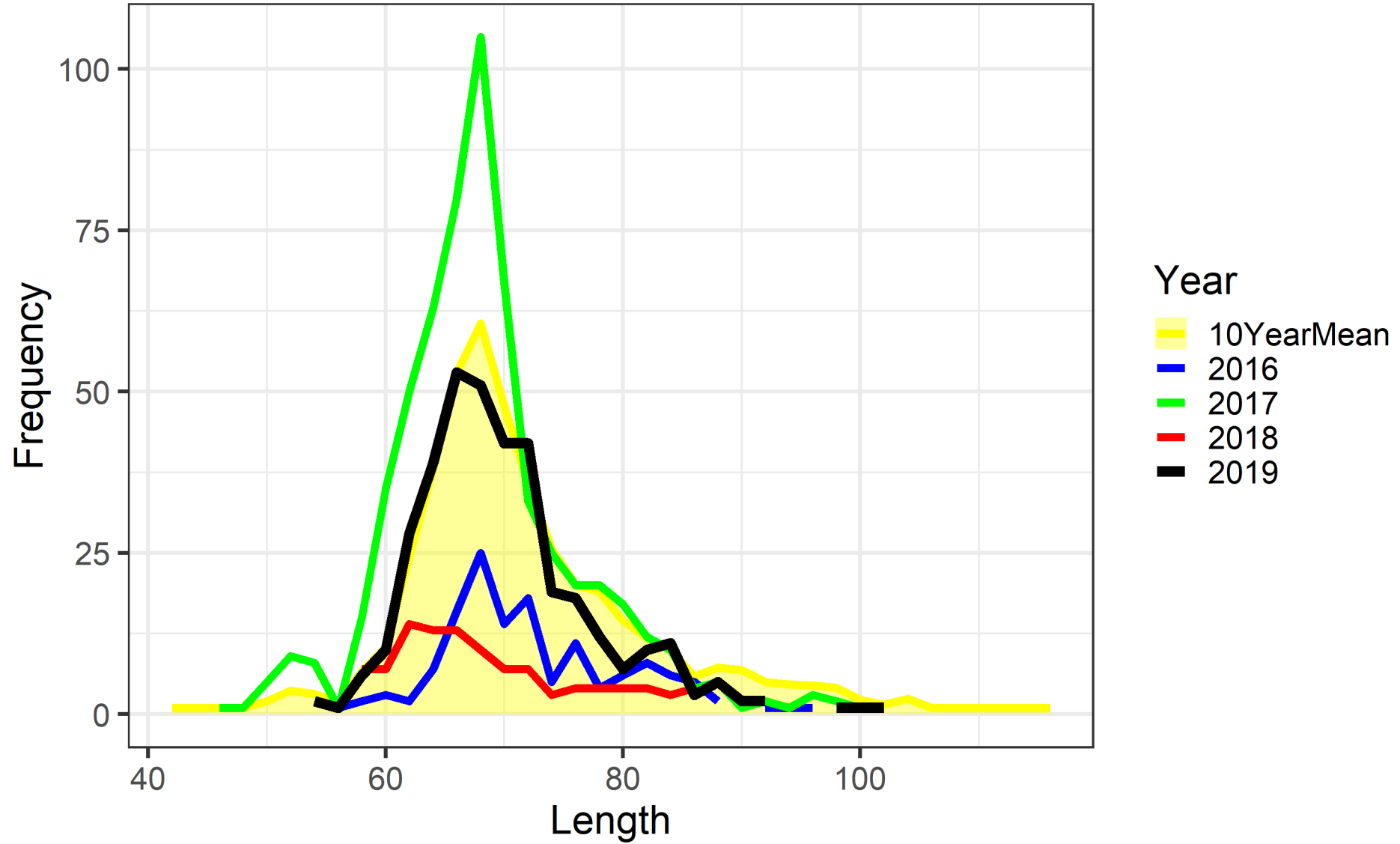
# Recent P. cod length frequencies



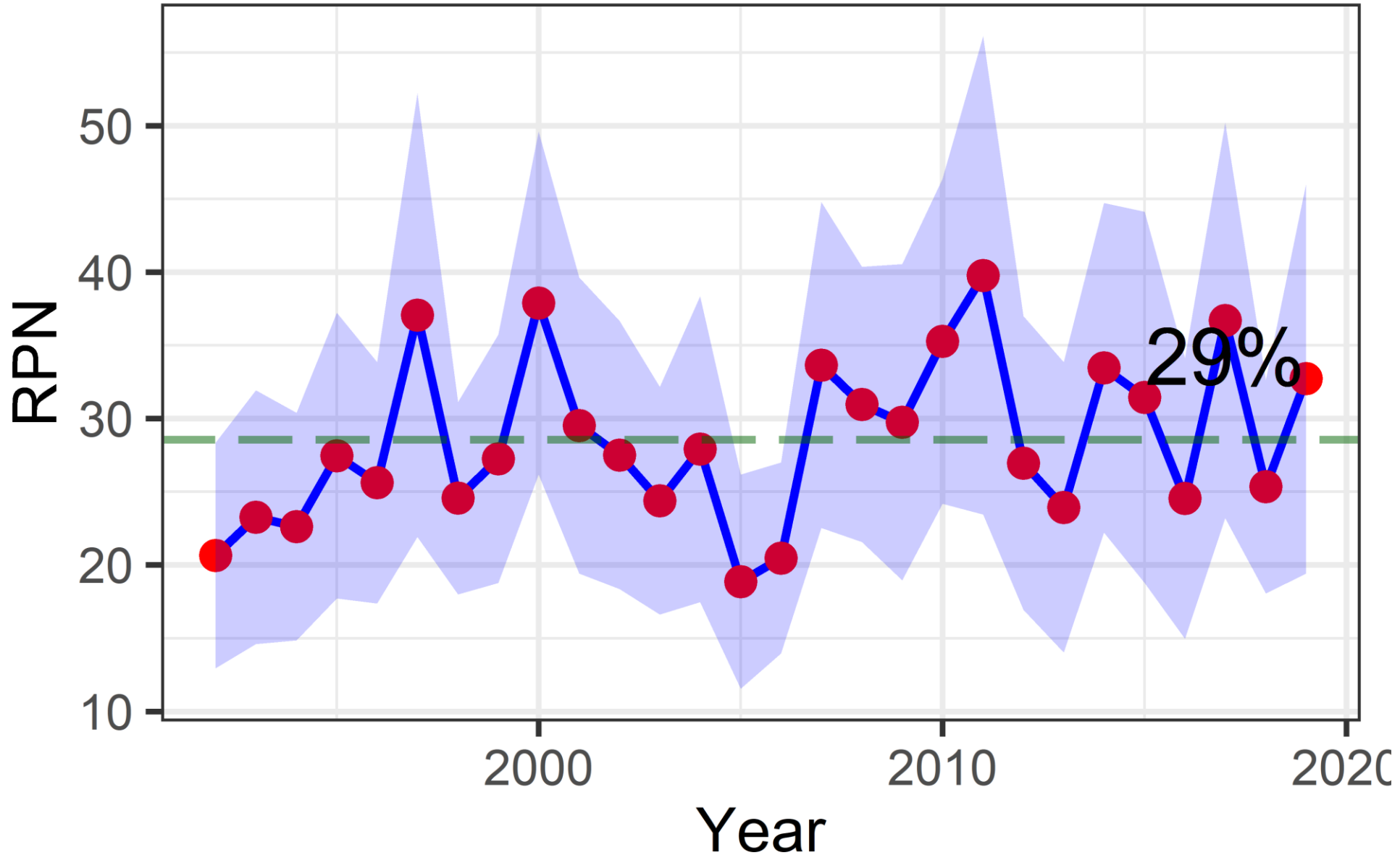
# BSAI G. turbot longline survey RPNs



# Recent turbot length frequencies

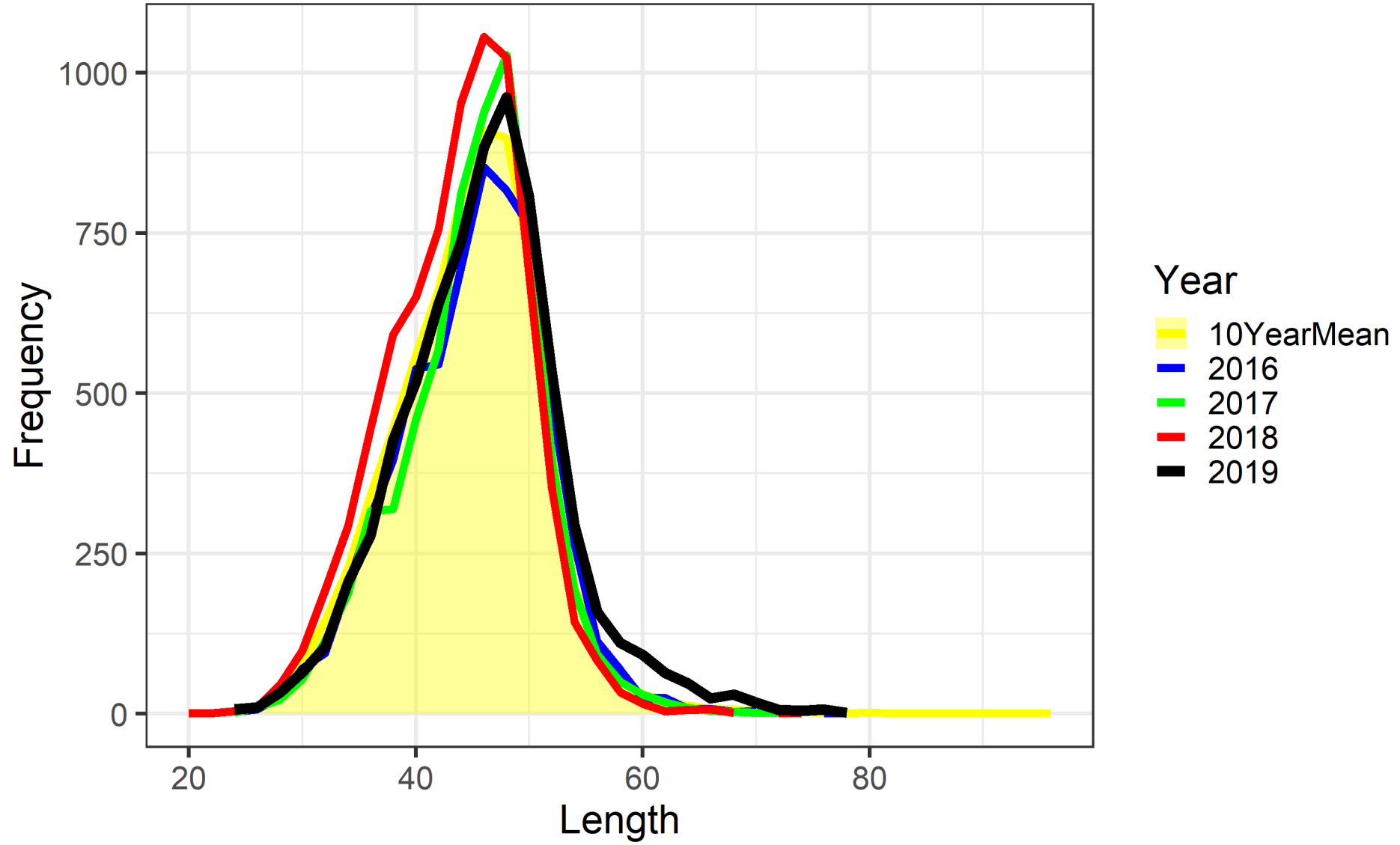


# GOA Rougheye longline survey RPNs

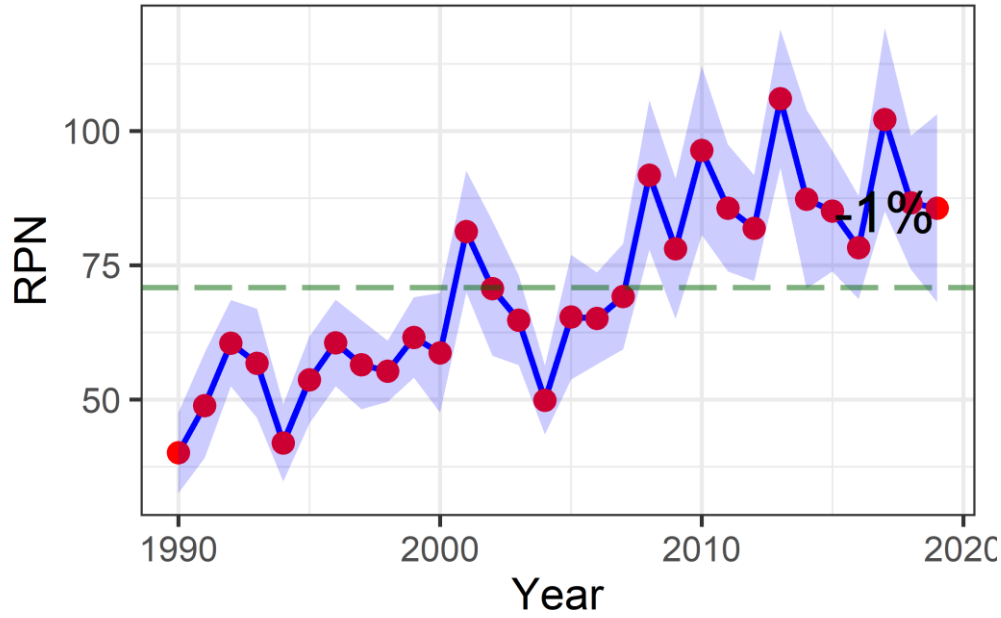




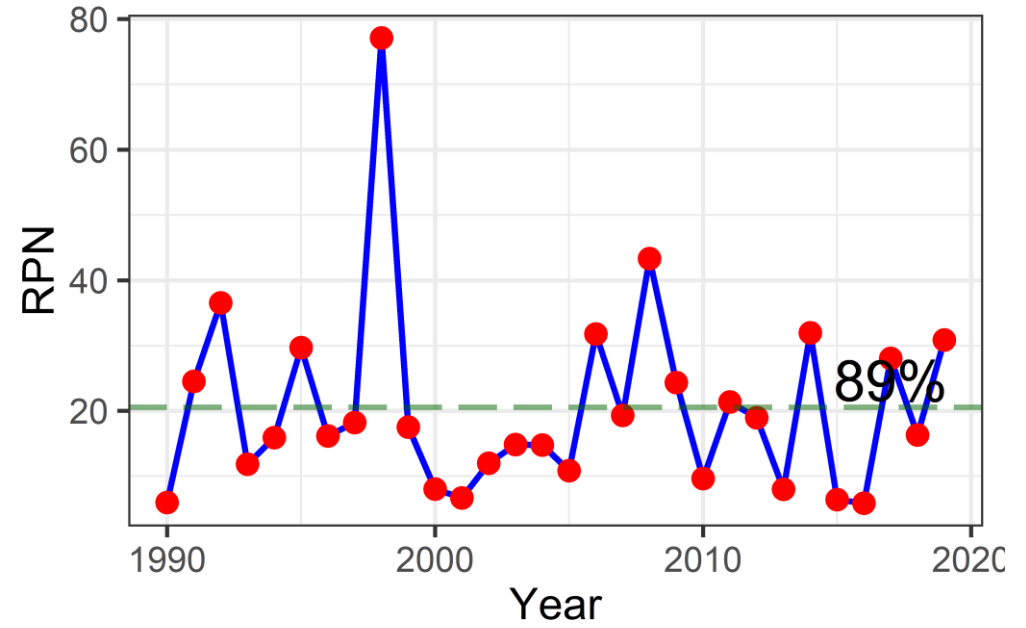
# Recent RE/BS length frequencies



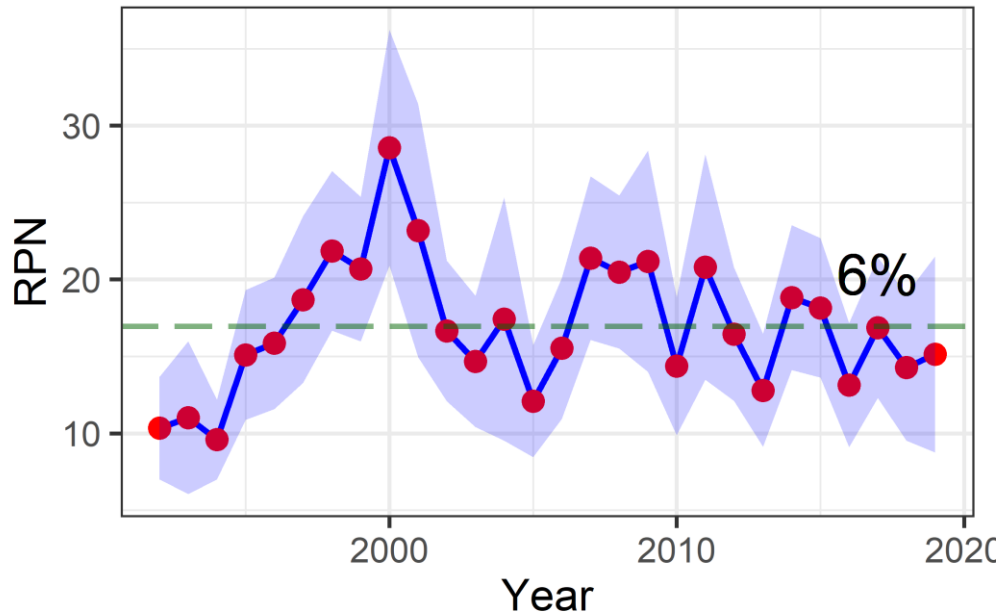
### GOA Thornyhead longline survey RPNs



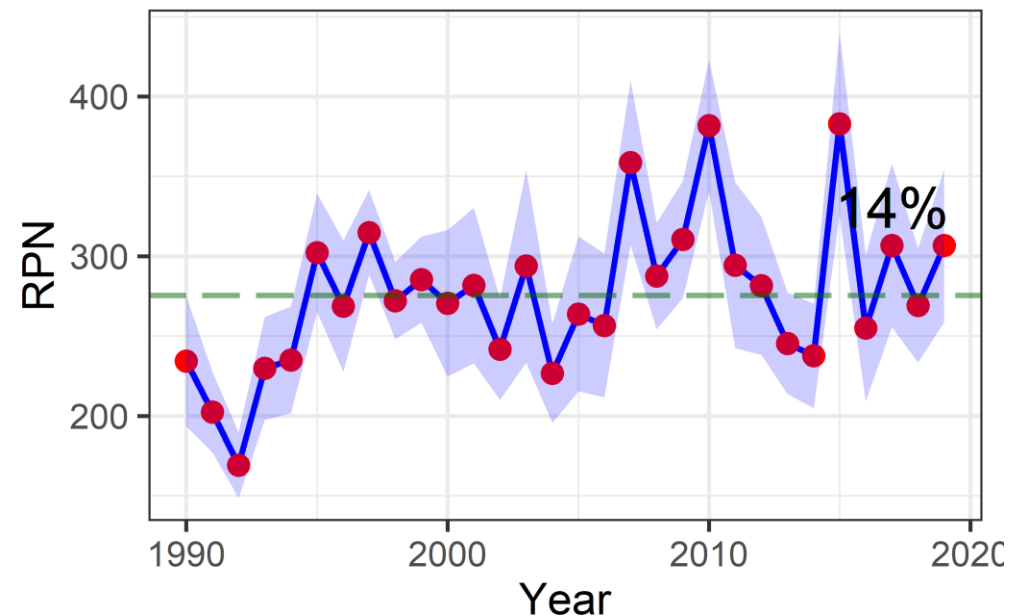
### GOA Dogfish longline survey RPNs



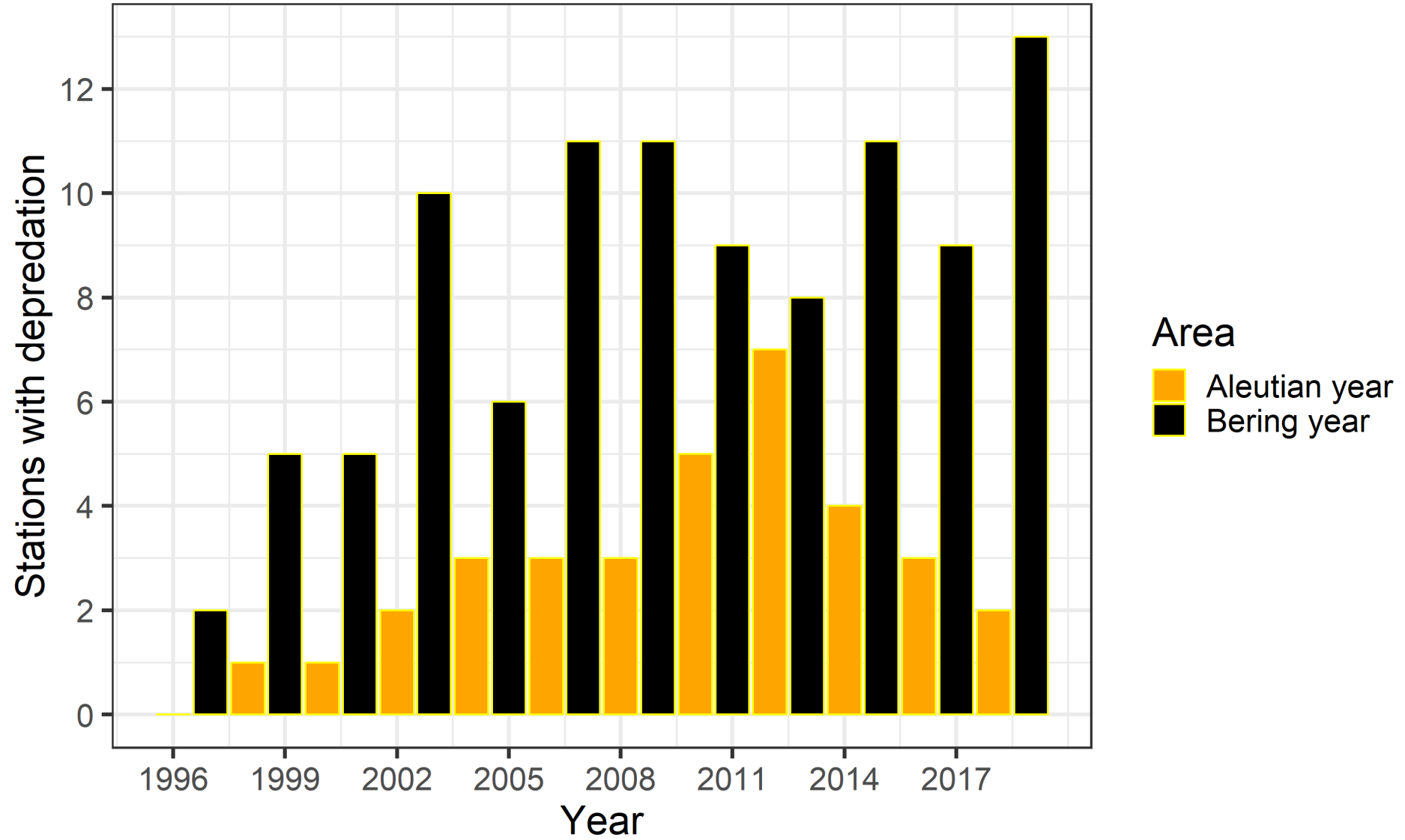
### GOA Shortraker longline survey RPNs



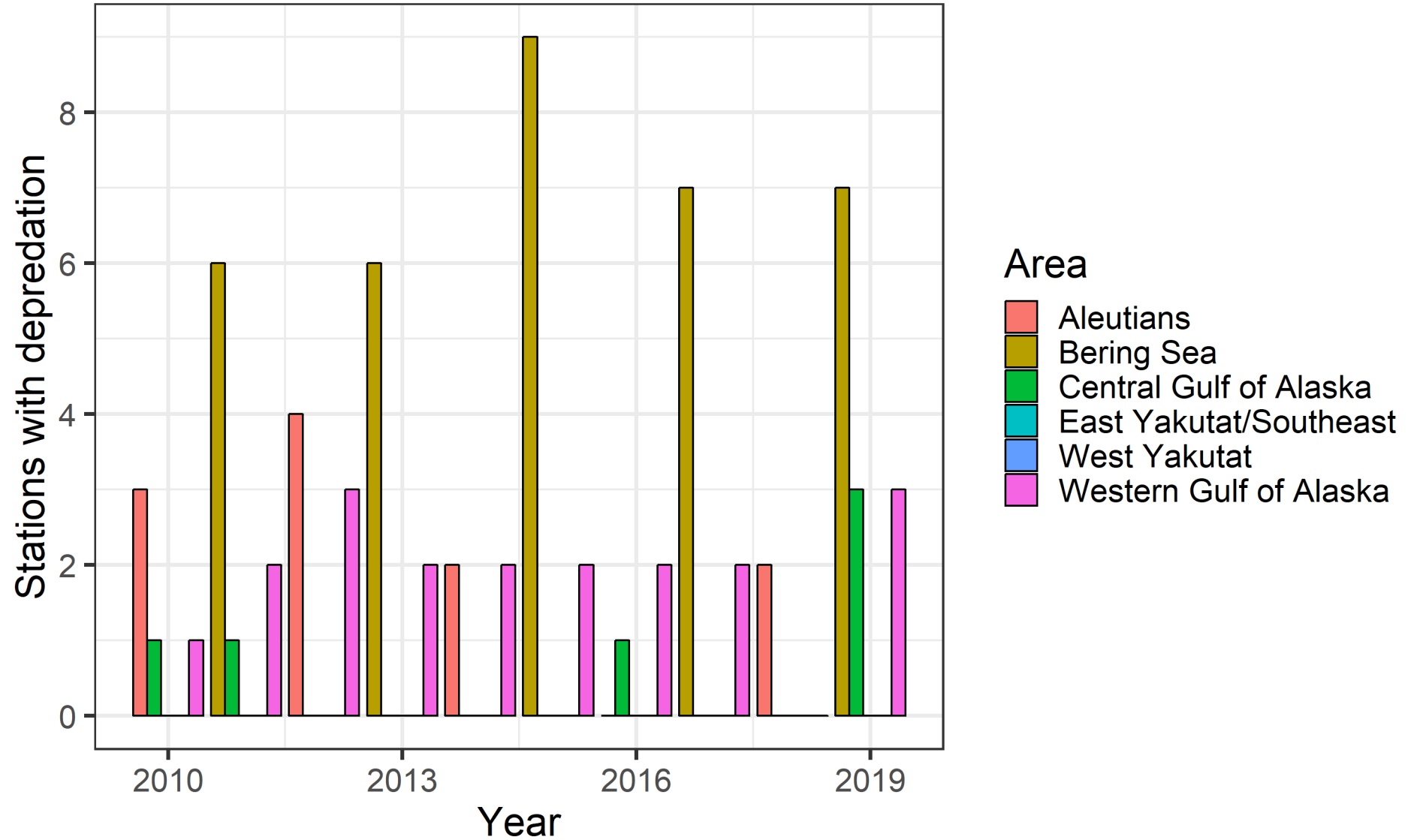
### GOA G. Grenadier longline survey RPNs



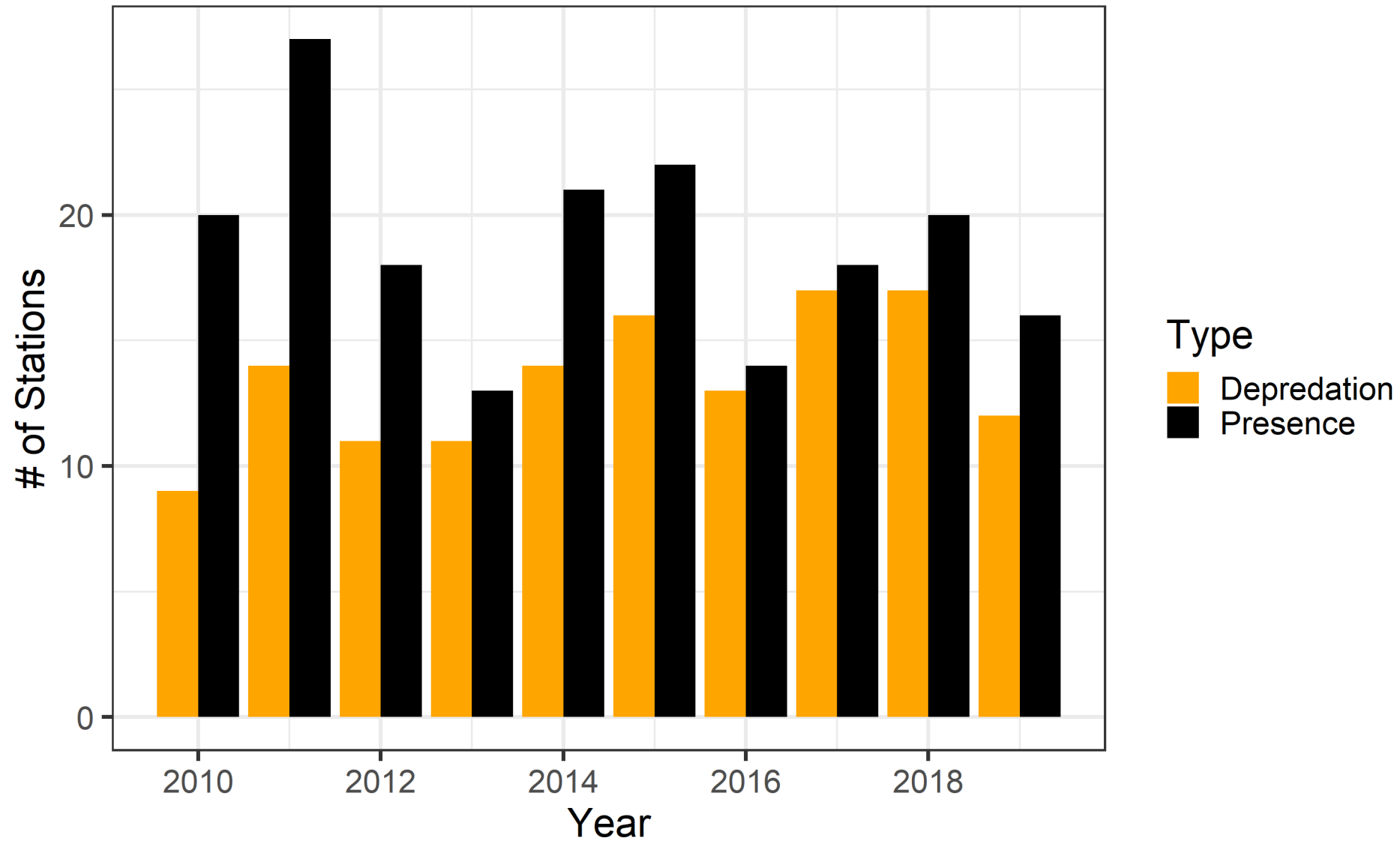
# Killer whale depredation



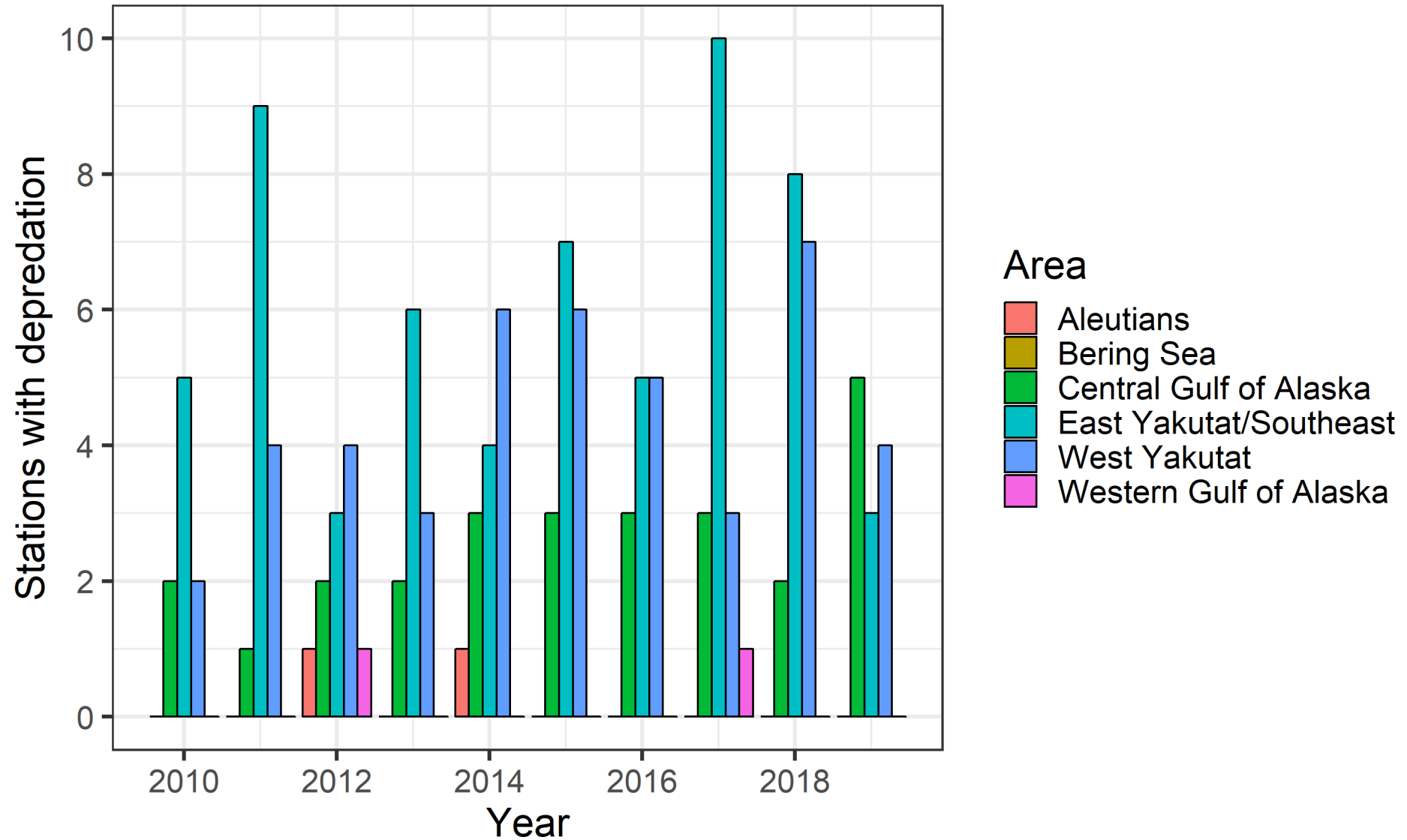
# Killer whale depredation



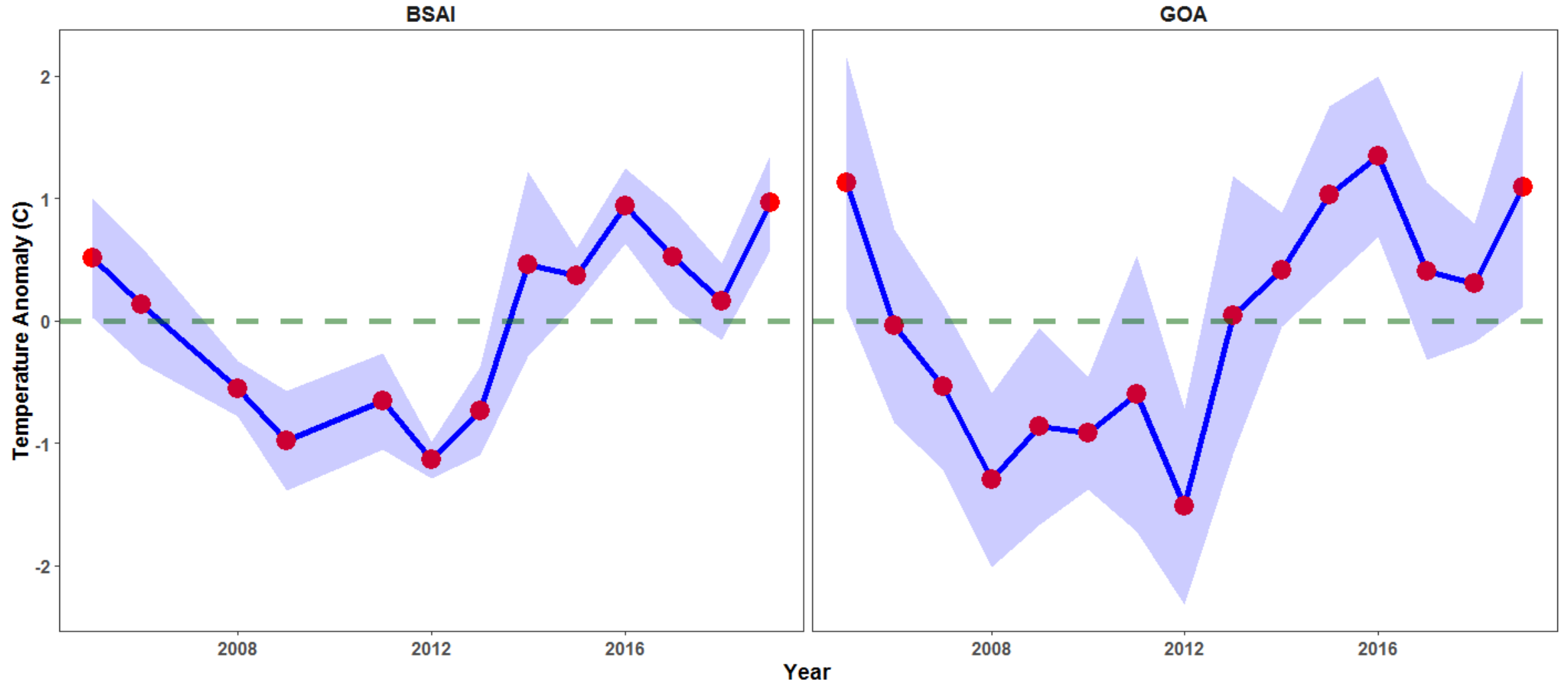
# Sperm whale interactions



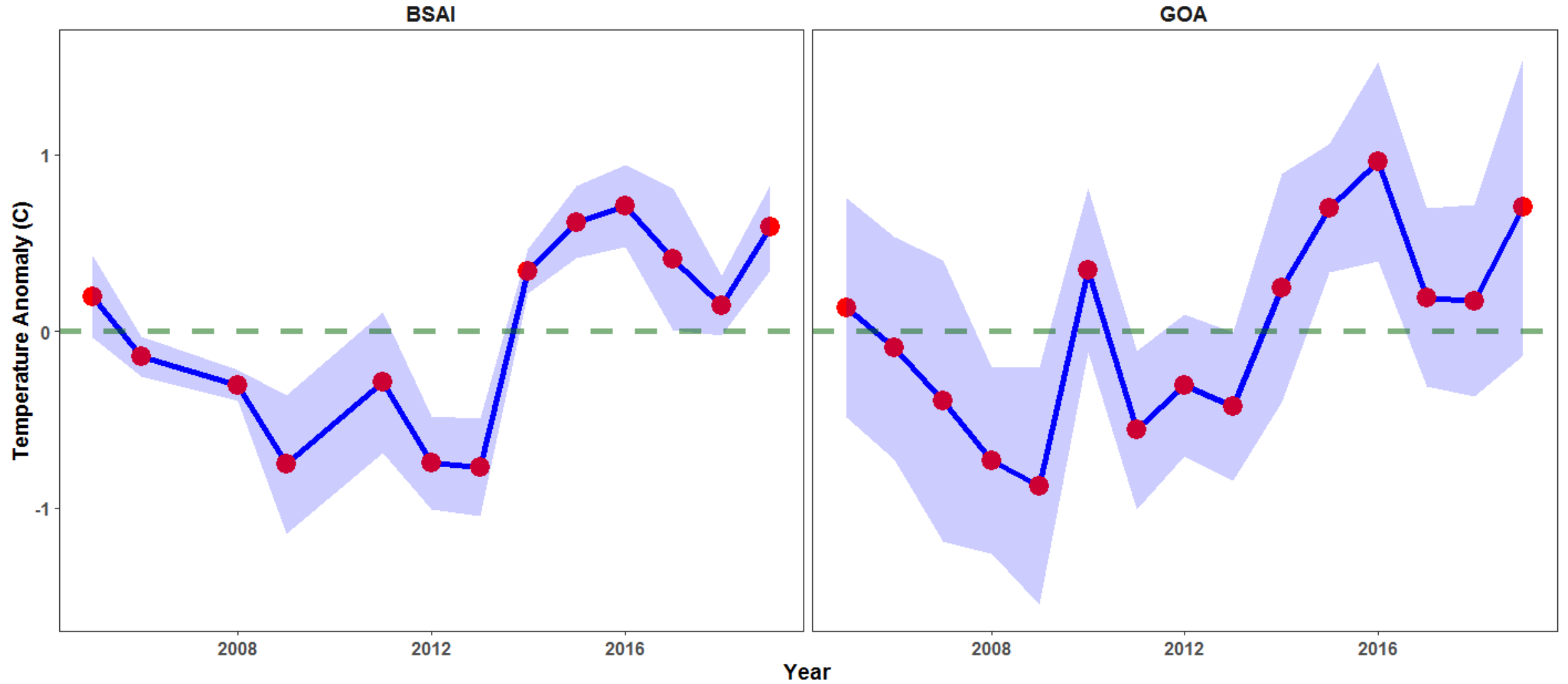
# Sperm whale depredation



# Temperature at depth = 10 m

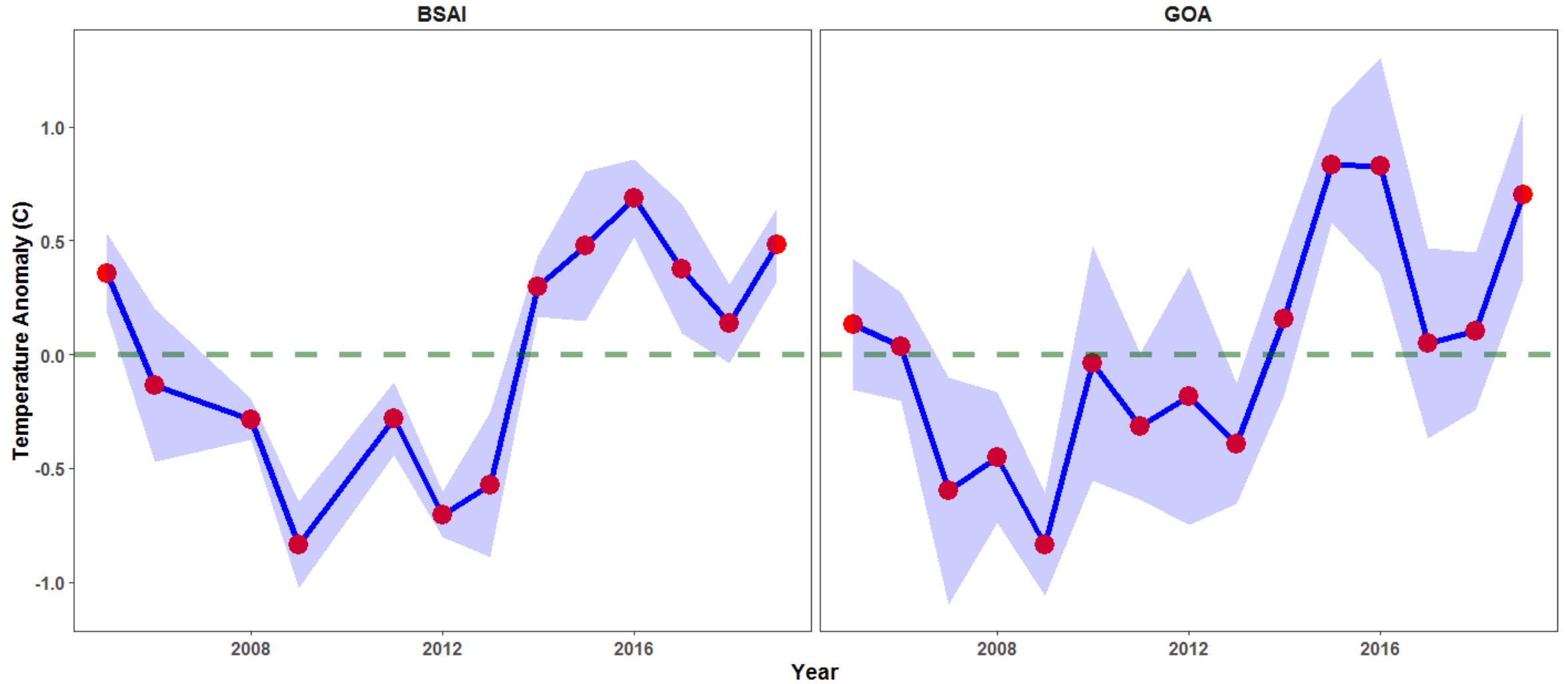


# Temperature at depth = 50 m

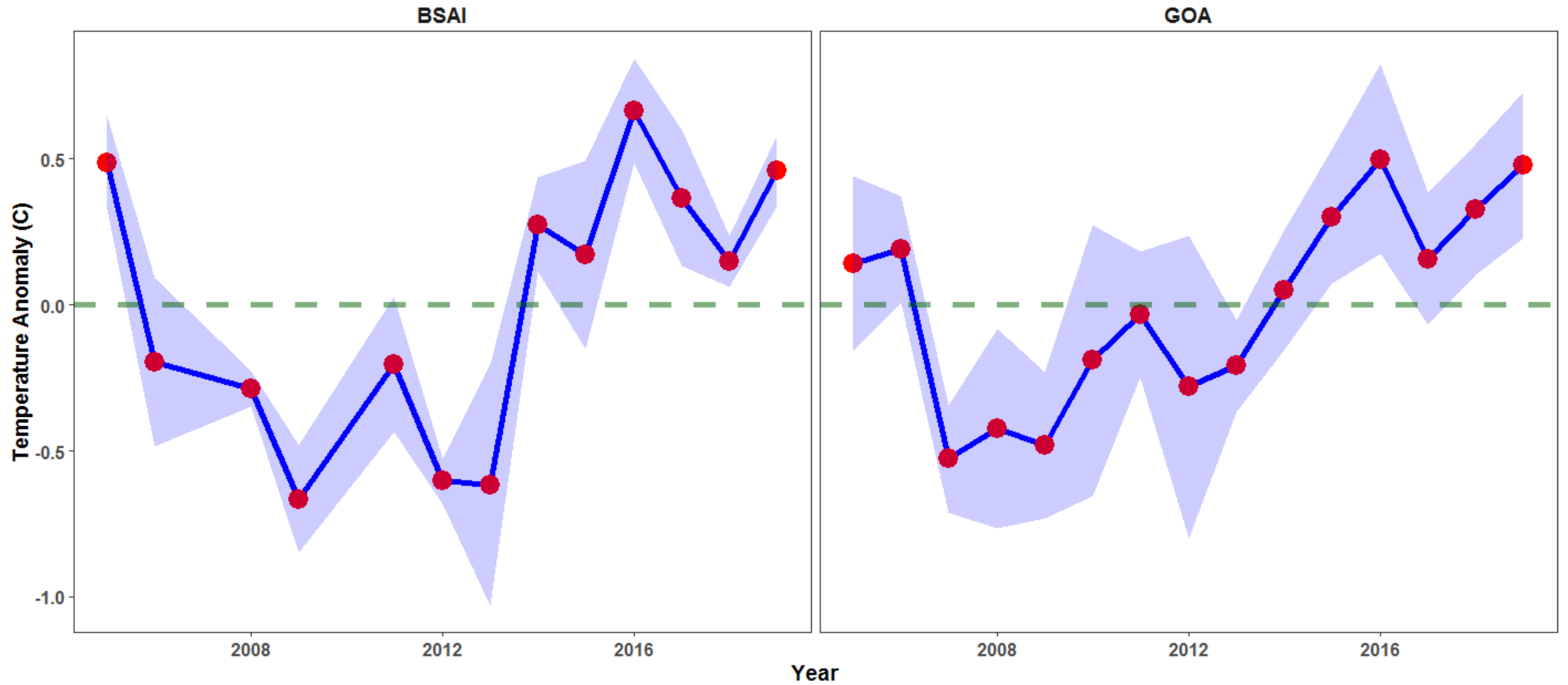




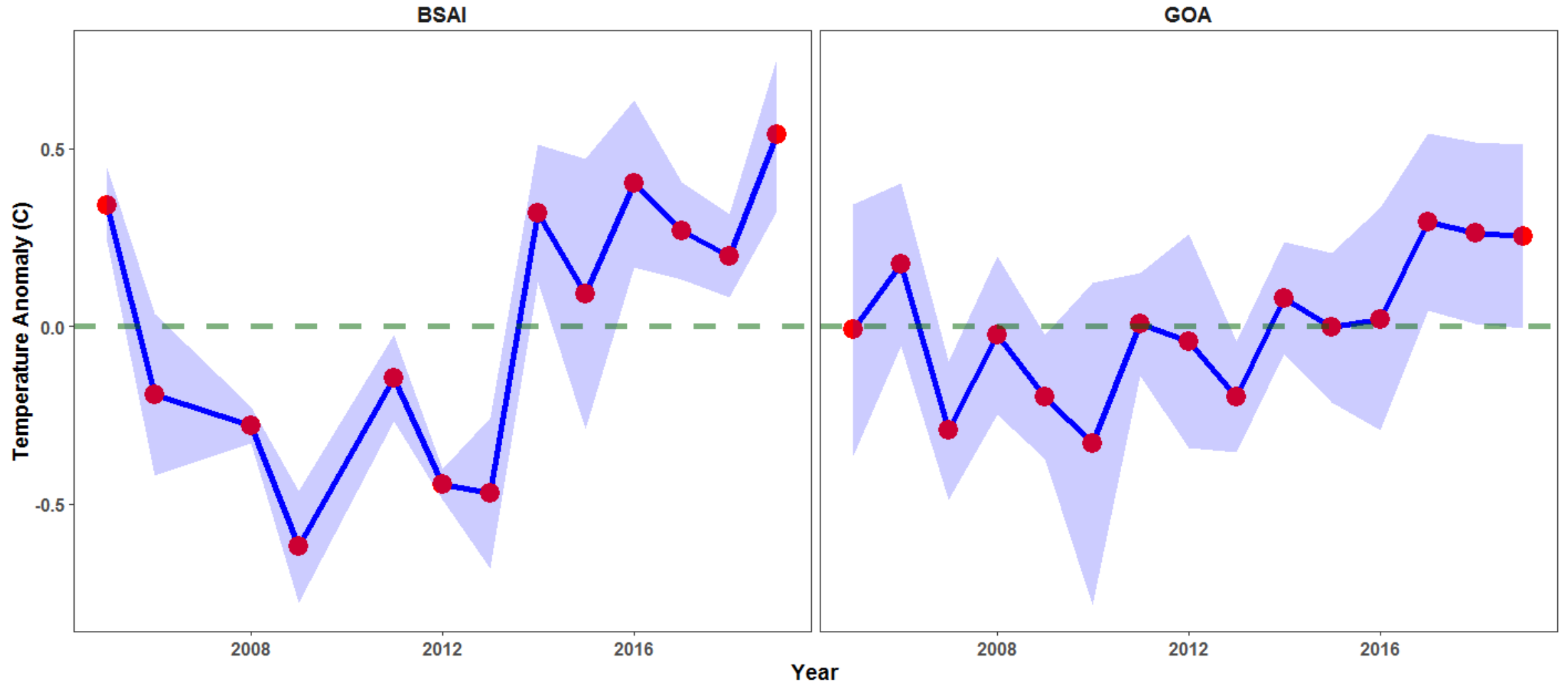
# Temperature at depth = 100 m

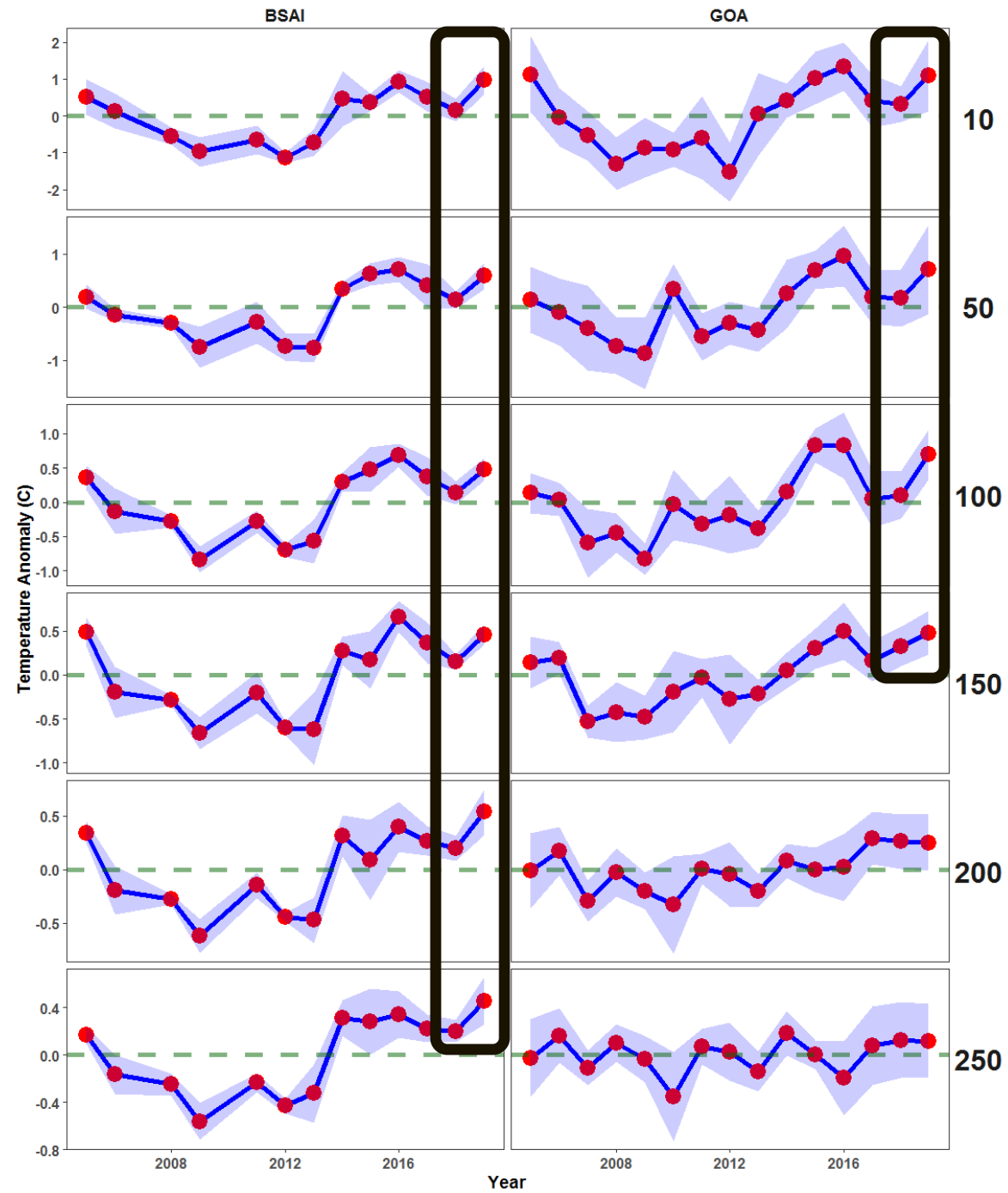


# Temperature at depth = 150 m



# Temperature at depth = 200 m





# Summary!

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- Vital fishery-independent data to monitor sablefish and other groundfish along the shelf/slope break
- Valuable platform for additional projects/observations
- Monitors temperature at depth on shelf/slope break

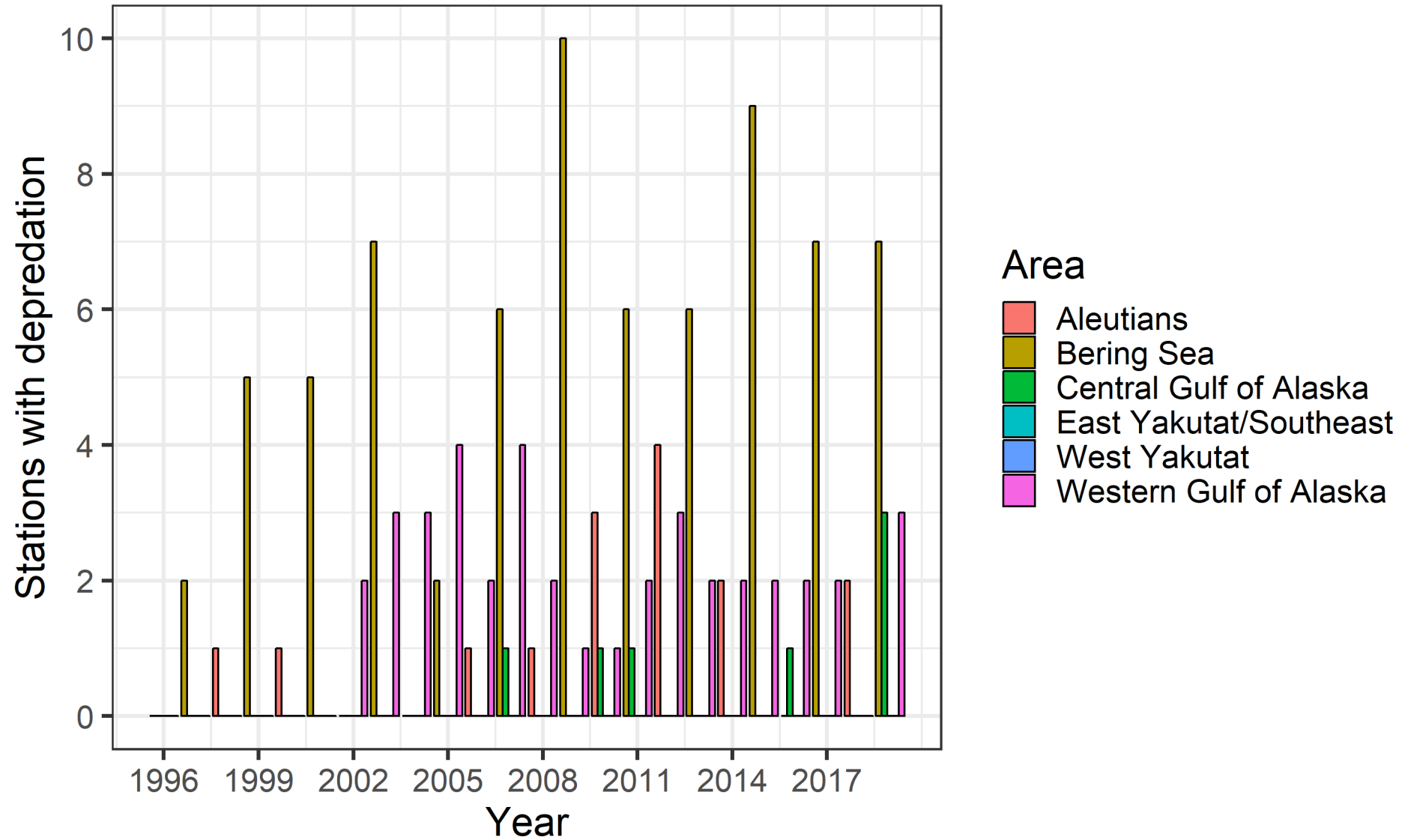


# Thanks! Questions?

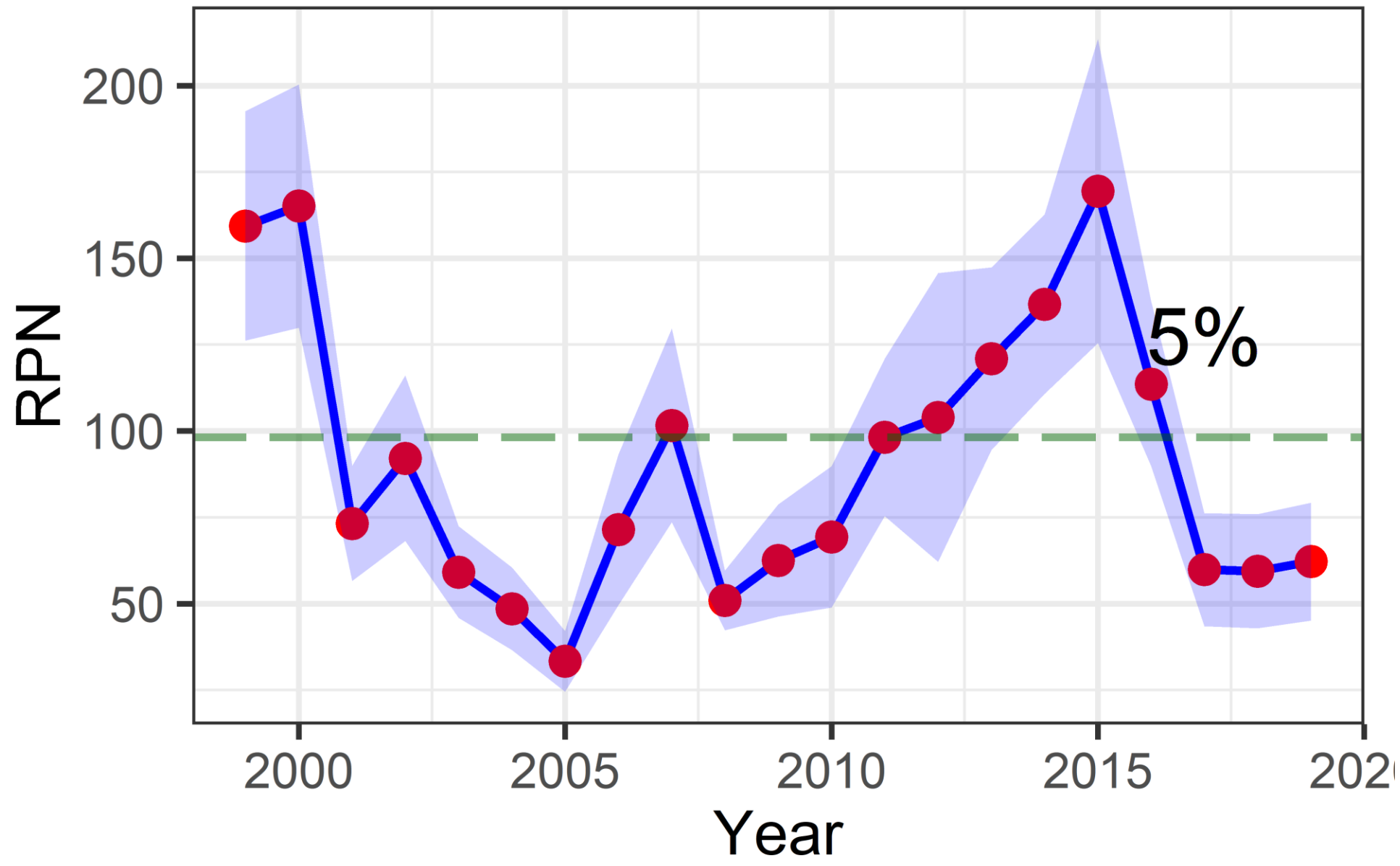
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# Killer whale depredation

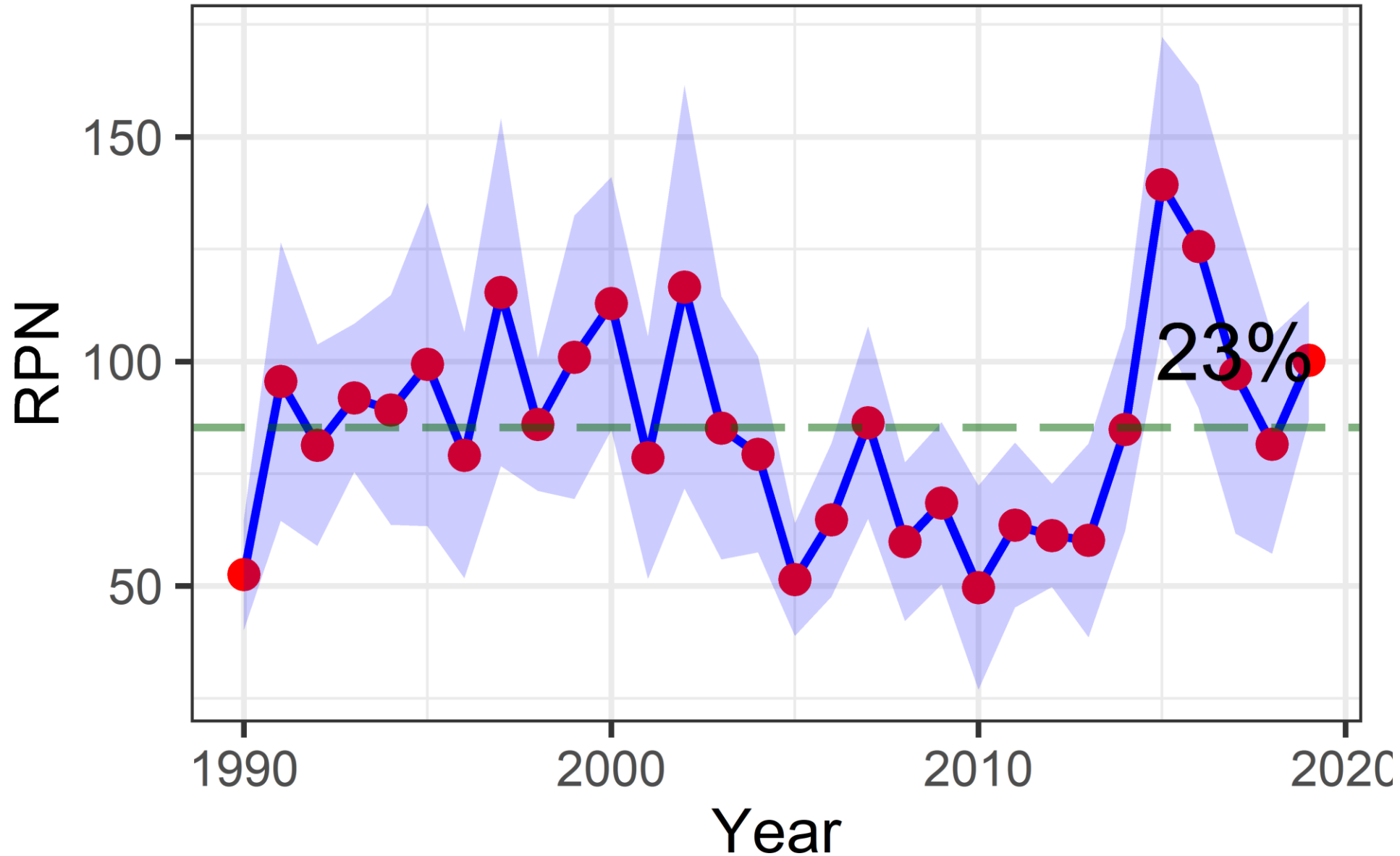


# BSAI Halibut longline survey RPNs





# GOA Halibut longline survey RPNs



# Recent ATF length frequencies

