

GOA Thornyhead Rockfish

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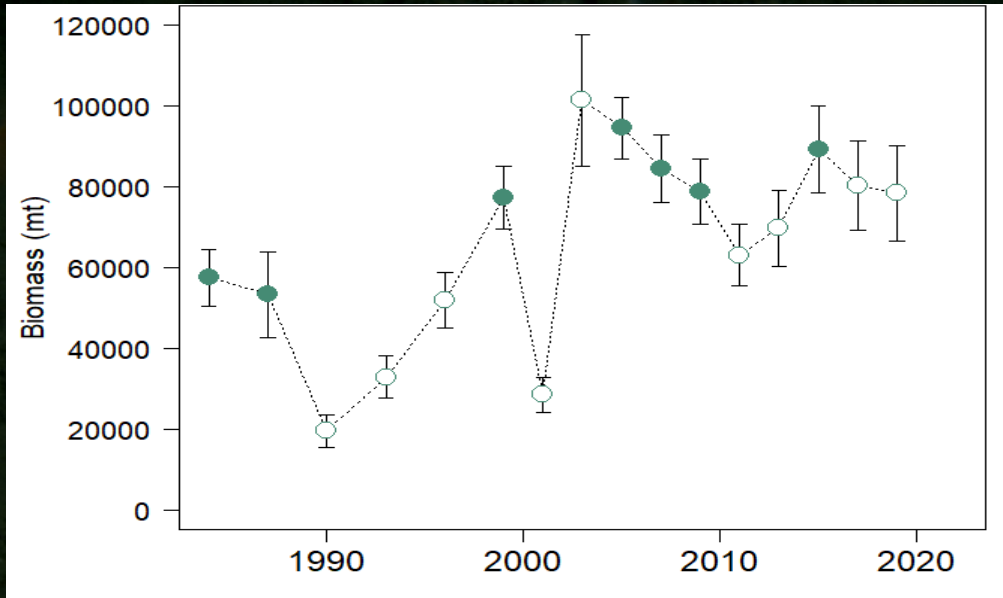
- Outline:
 - Input Data and Catch
 - Model/Methodology – no changes
 - Recommendations/Appportionment
 - Risk Matrix



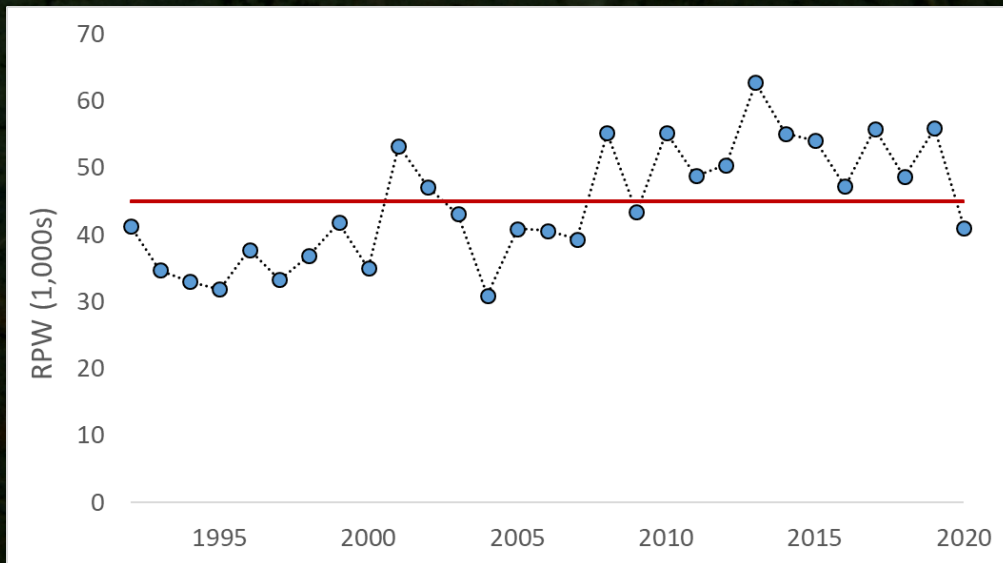
Thornyhead - Input Data and Catch



Thornyhead: Survey Data

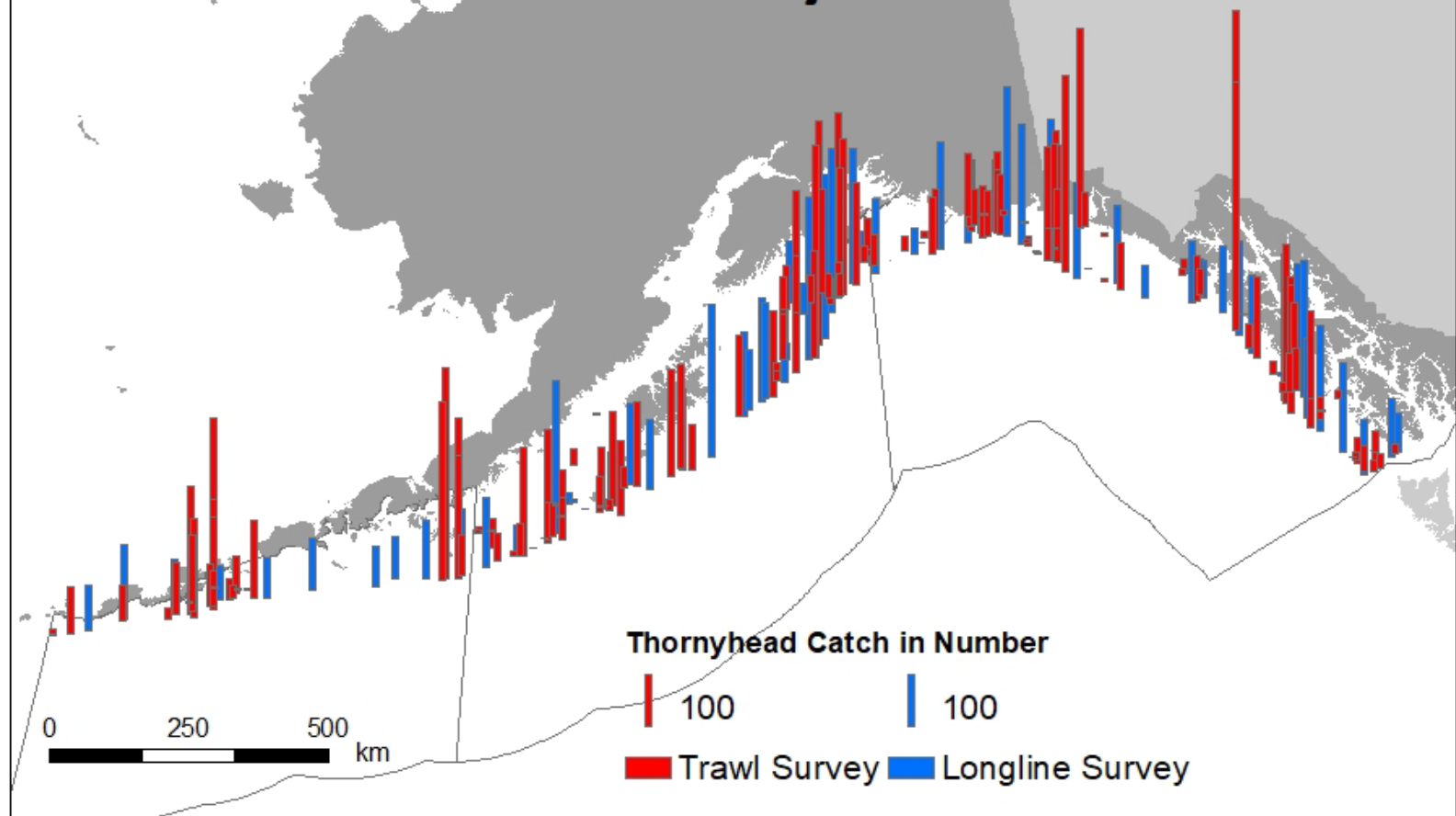


Trawl survey
biomass
↓ 3.5 %

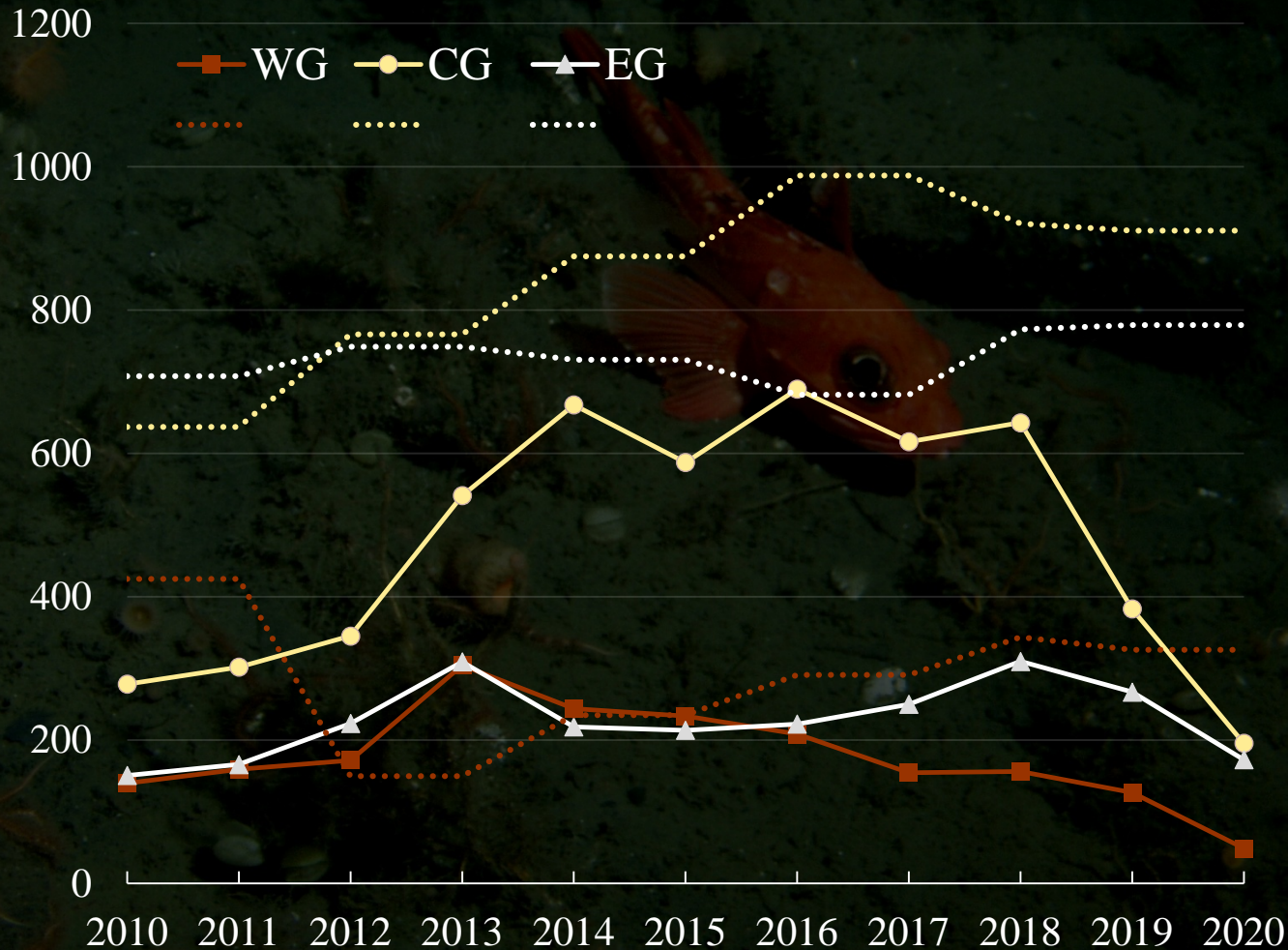


Longline survey
RPW
↓ 26.5 %

Thornyhead: Most Recent GOA Surveys

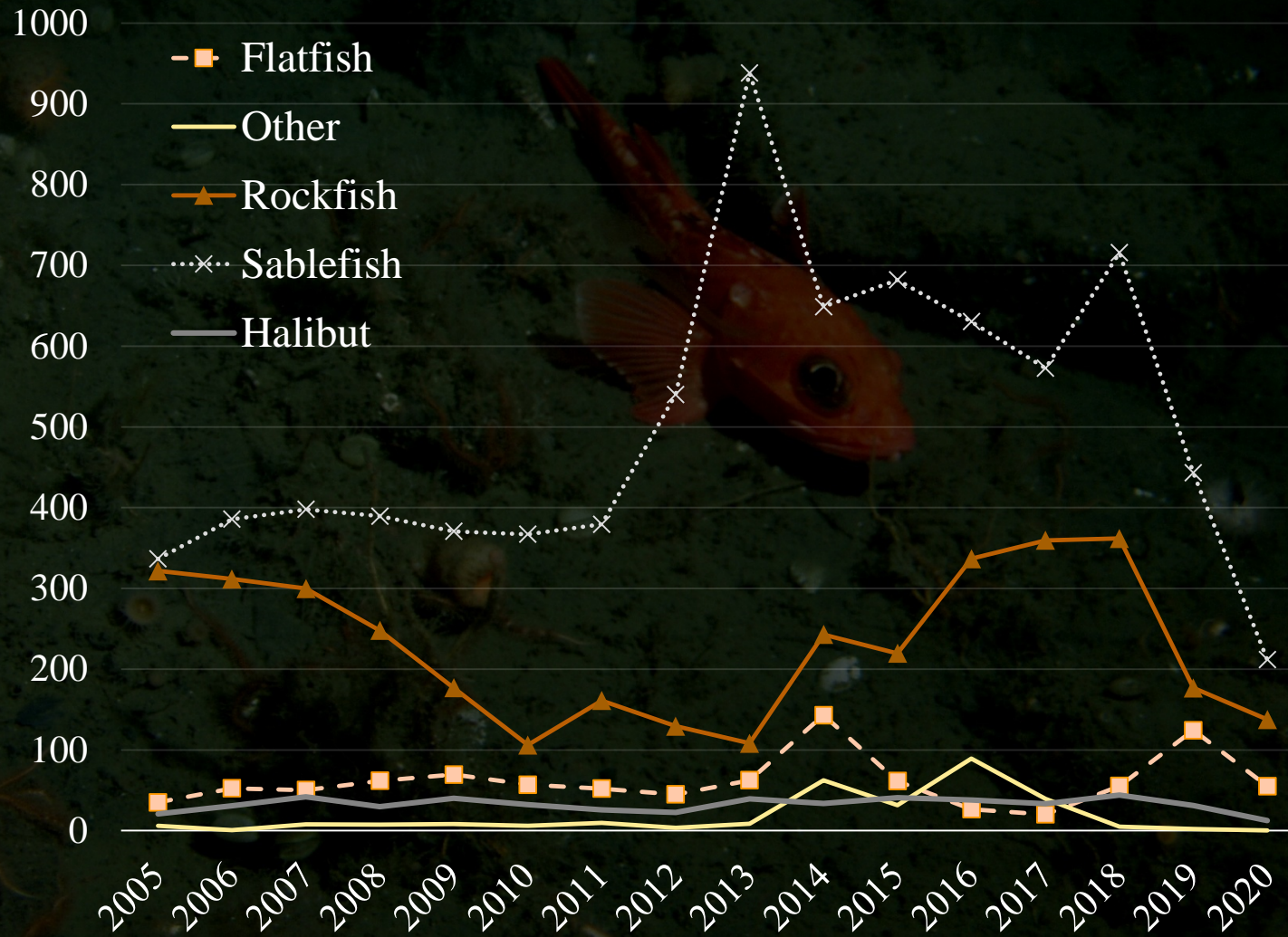


Thornyhead: Catch by Area



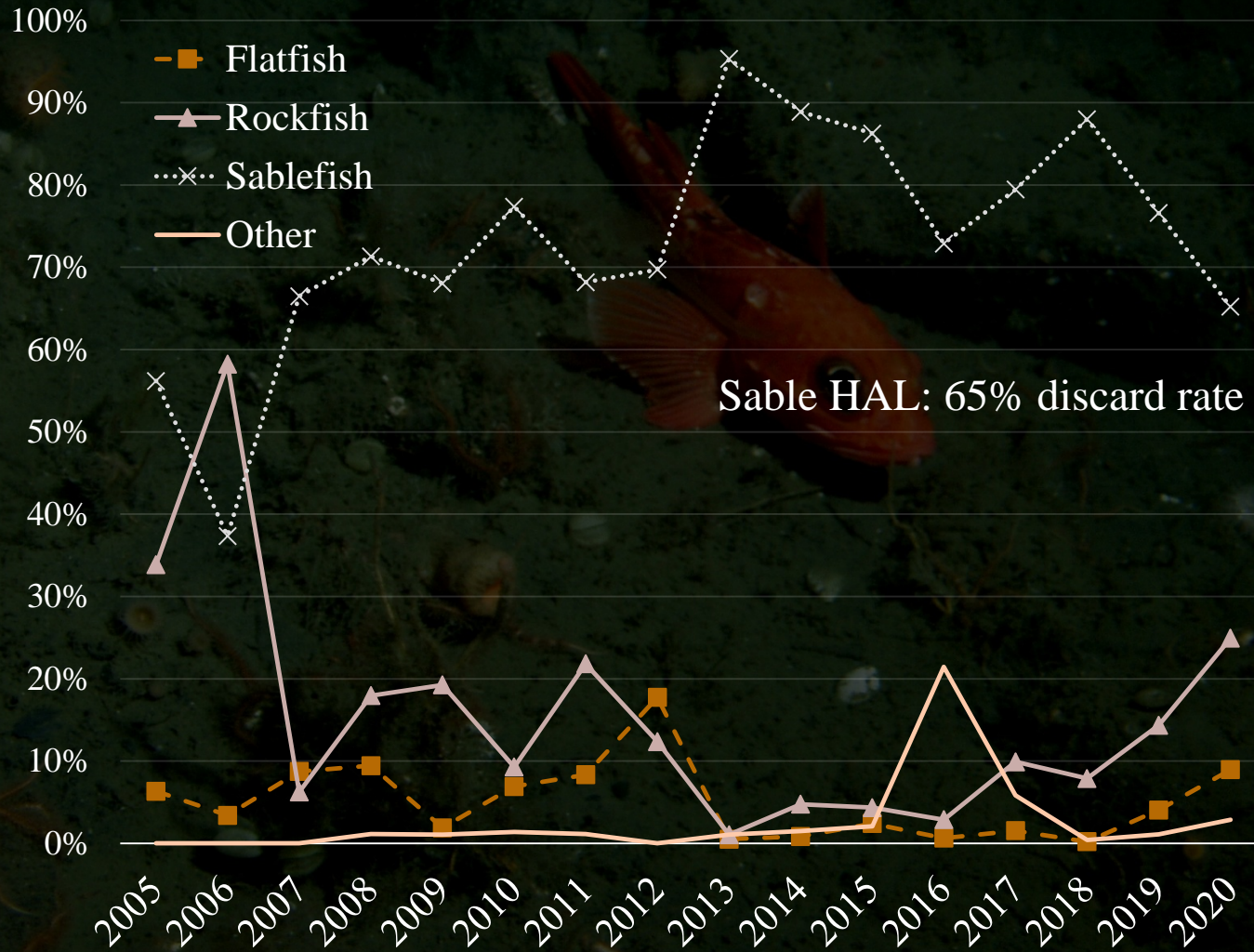
- Catch down in all areas
- Biggest decrease in CGOA

Thornyhead: Catch by Fishery



- Managed as 'bycatch only' fishery
- Largest decrease in sablefish fishery
- Hook competition?
- Increase use of pot gear?
- Untracked 'collapsible pots'?

Thornyhead: % of Total Discards by Fishery



- Decreased gulfwide discard rate ~8%
- Full retention of rockfish by catcher vessels using fixed gear
- Mandate changes take time...still some observed discards that are extrapolated to the entire catcher vessel fleet

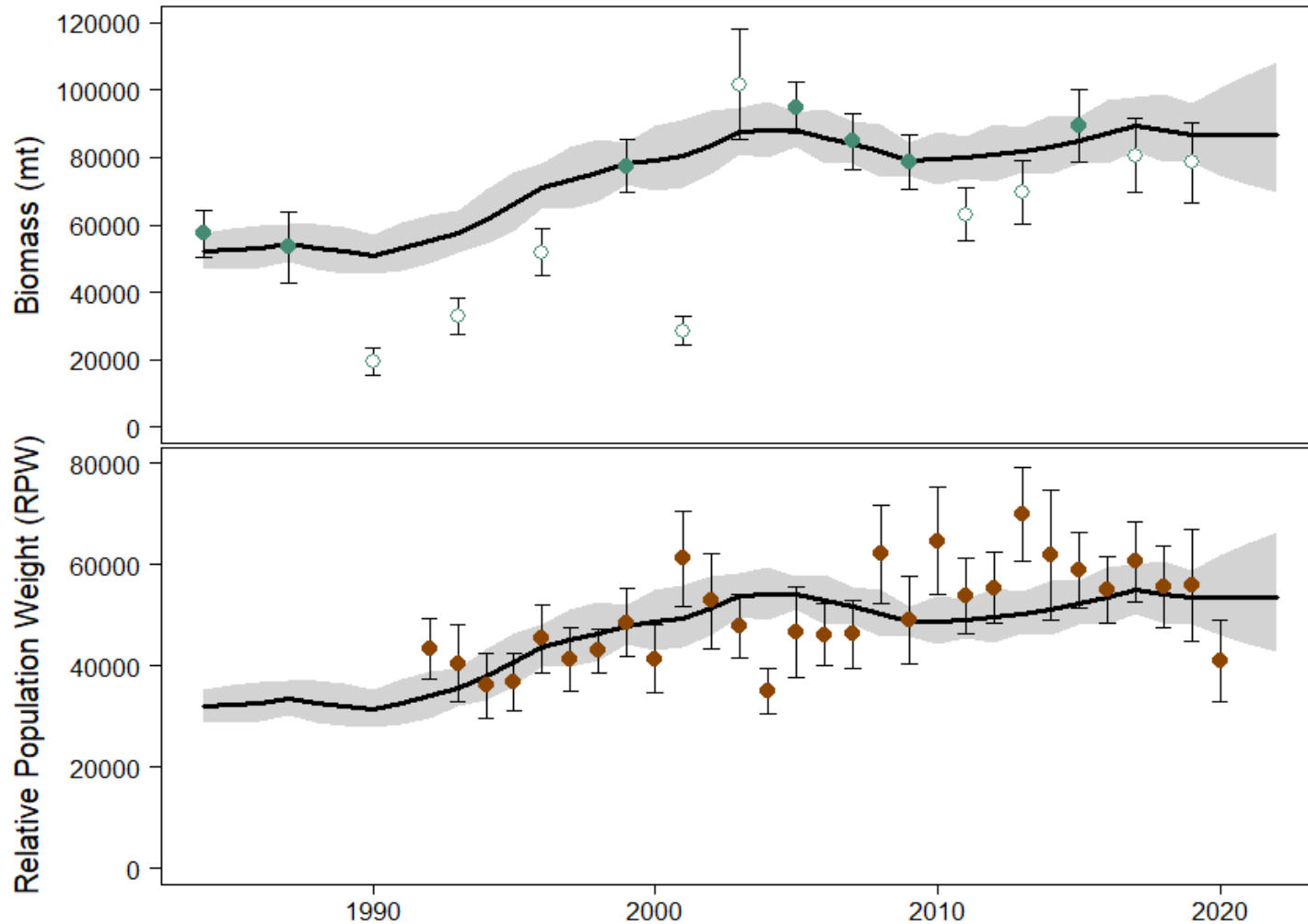
Thornyhead- Model/Methods



Thornyhead: Model/Methods

- Tier 5 complex – represented by shortspine thornyhead
- No model changes (Model 18.1)
 - Exploitable biomass estimation and harvest allocation were provided using the random effects model, fit to the AFSC LL survey RPW index (1992-2020) AND the AFSC bottom trawl survey biomass index (1984-2019) by region (W/C/EGOA) and depth strata (0 – 500 m, 501 - 700 m, and 701 – 1,000 m)

Estimated Exploitable Biomass via Random Effects Model (18.1)



Trawl
Survey

Longline
Survey

GOA Thornyhead Summary



- 2021 exploitable biomass: **86,802 t**
 - 3% decrease in exploitable biomass from previous assessment

GOA Thornyhead Recommendations



- Recommendations for 2021 (Tier 5):
 - $F_{OFL} = M = 0.03$
 - B (exploitable biom.) = 86,802 t
 - **OFL** = 86,802 x 0.03 = **2,604 t**
 - $F_{ABC} = 0.75 * M = 0.0225$
 - **ABC** = 86,802 x 0.0225 = **1,953 t**
(↓ 3.1% from 2,016 t in 2019)

Thornyhead: Apportionment of ABC for 2021

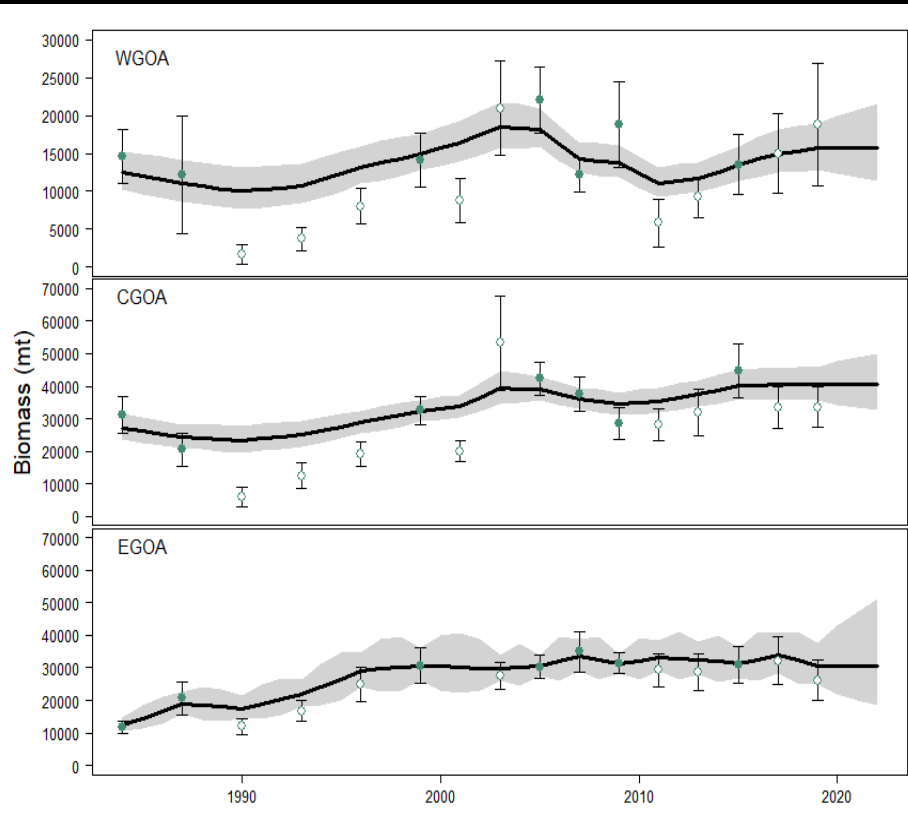


Apportionment is based on random effects estimation of biomass by region, fit to 1984-2019 trawl survey biomass estimates and the 1992-2020 LL survey RPW estimates

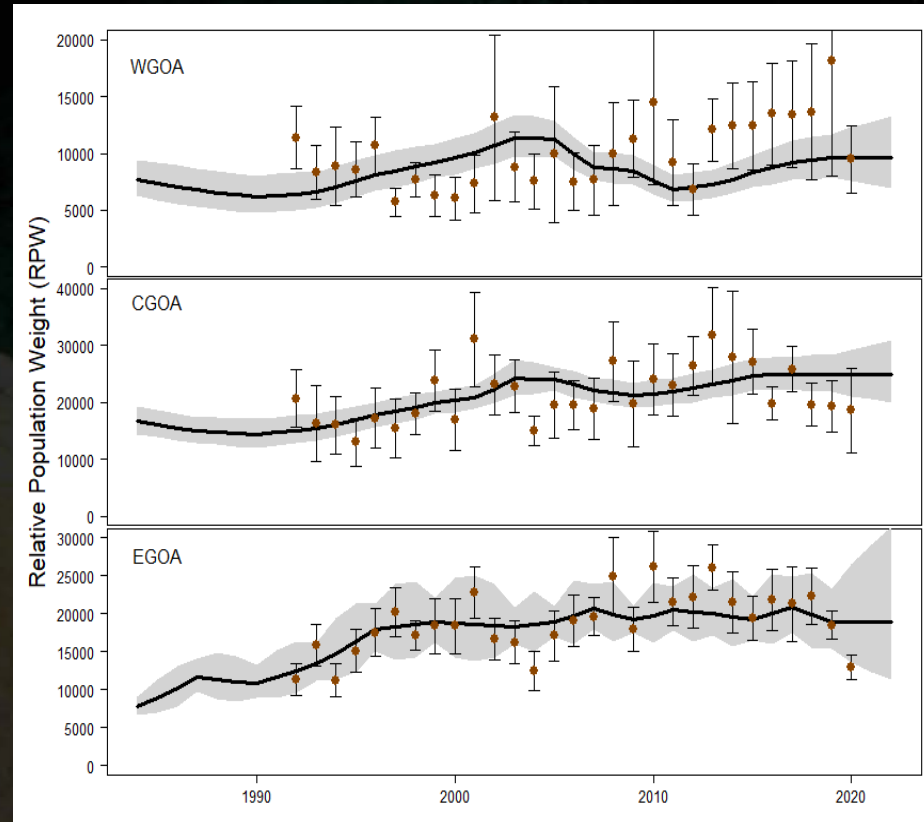
- **Western: 352 t (↑ 8%)**
- **Central: 910 t**
- **Eastern: 691 t (↓ 11%)**

Fit of Model 18.1 to survey data by AREA

Trawl Survey



Longline Survey



Thornyhead: Risk Matrix



Assessment-related considerations	Population dynamics considerations	Environmental/ecosystem considerations	Fishery Performance considerations
Level 1: Normal	Level 1: Normal	Level 1: Normal	Level 1: Normal

No need to reduce from maxABC.

Thank You!

Huge thanks to Ellen Yasumiishi for contributing to the Environmental/Ecosystem Considerations