

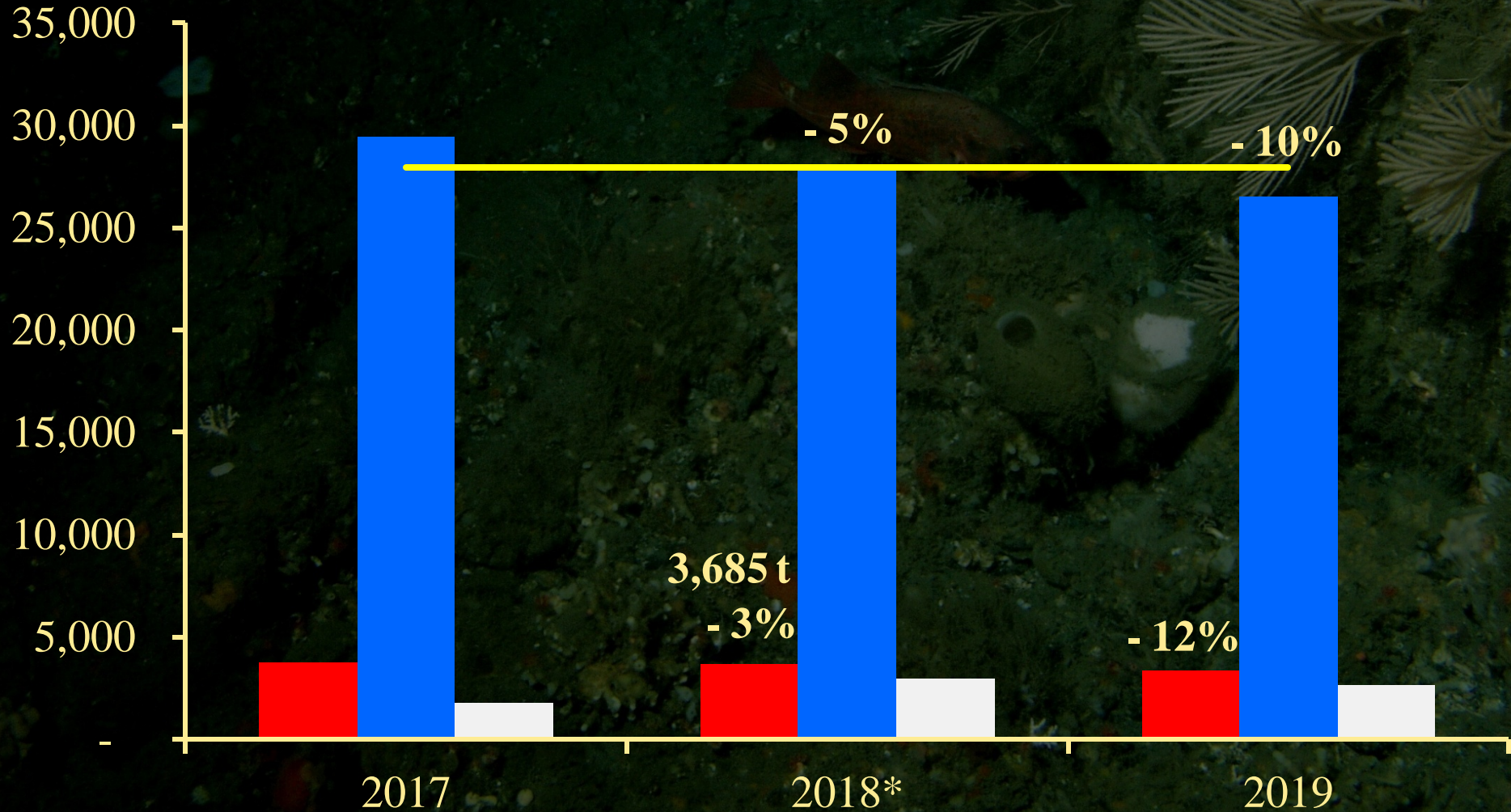
# Northern rockfish



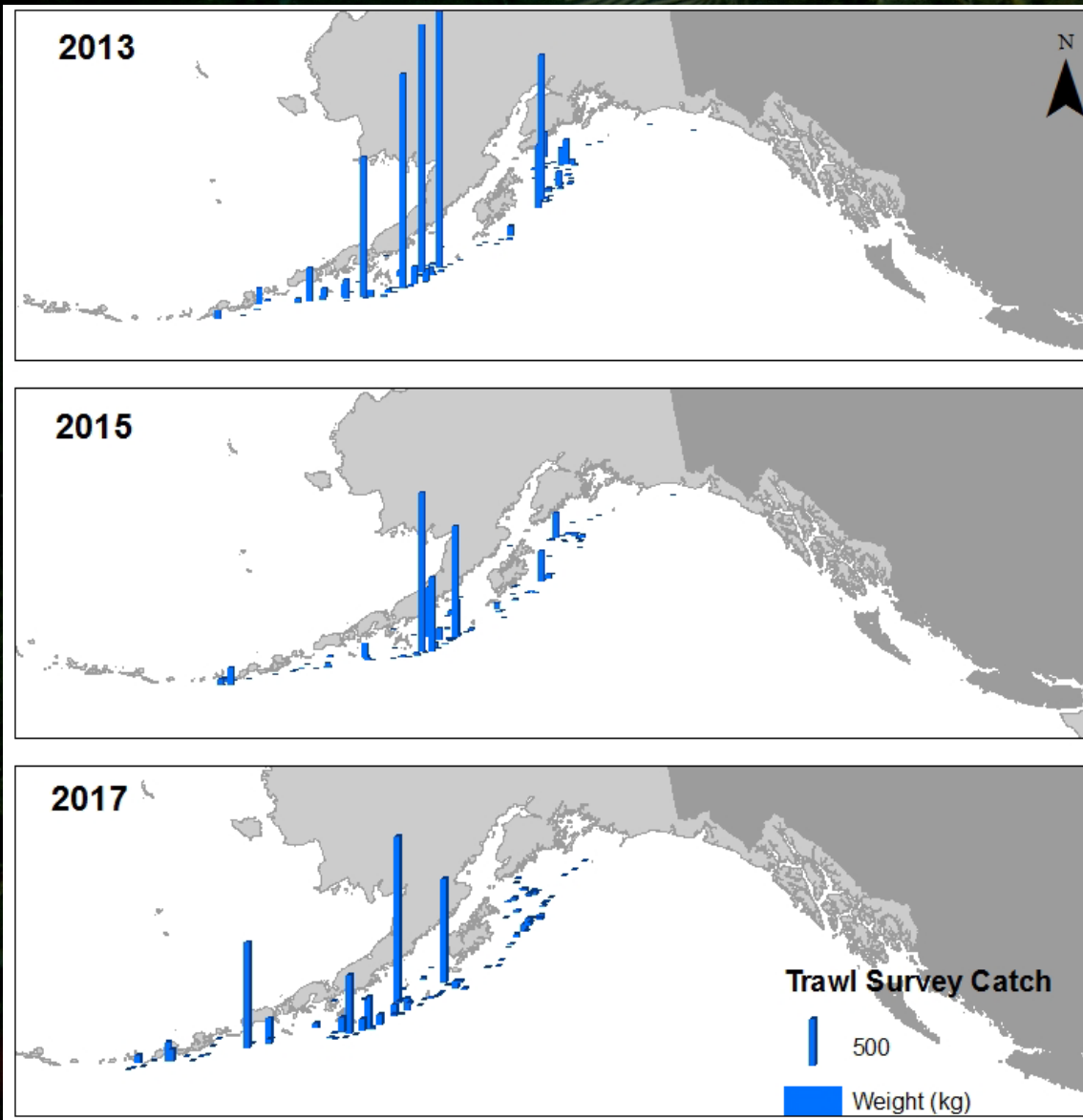
- Tier 3a species
  - Only update catches in the projection model (partial assessment year)
  - Updated 2016 and estimated 2017-2019 catches
- Catch Update:
  - Updated 2016 catch (4,225 t predicted last year, 3,437 t realized),
  - Estimated 2017 catch (1,789 t) substantially **below** 2017 ABC (3,790 t)
- Recommended 2018 ABC: **3,685 t**
  - ~3% smaller than last year's ABC of **3,790 t**
- 2019 projection: Tier 3a to 3b
  - Female spawning biomass (26,512 t) < **B<sub>40%</sub>** (27,983 t)

# Northern rockfish

ABC SSB Projected Catch B\_40%



# Northern rockfish: 2017 Survey



# Northern rockfish: Apportionment

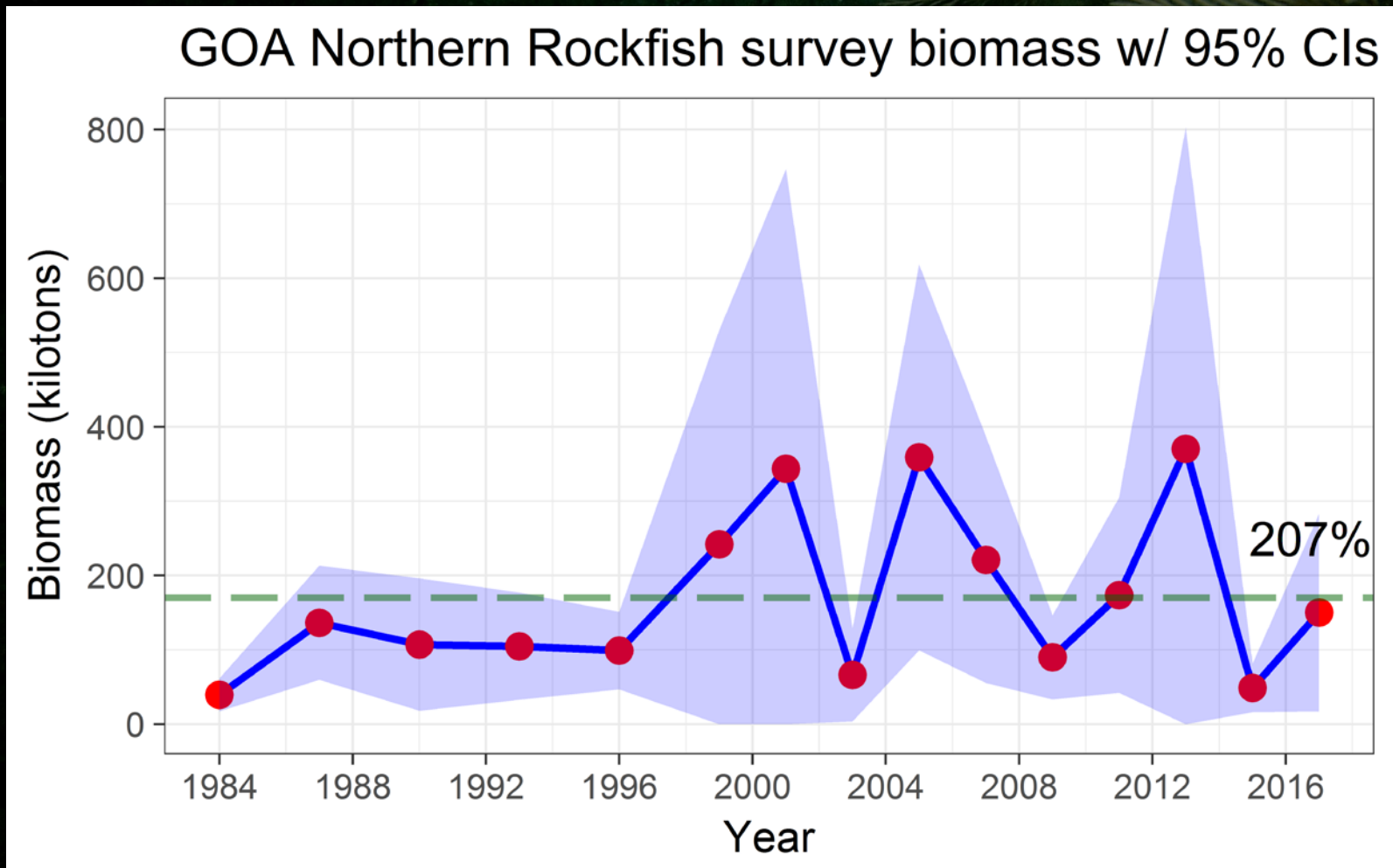
	Western	Central	Eastern	Total
2017 ABC	432	3,354	4*	3,790
2018 ABC	<b>420</b>	<b>3,261</b>	<b>4*</b>	<b>3,685</b>
2017 OFL				<b>4,522</b>
<b>2018 OFL</b>				<b>4,380</b>

# Northern rockfish: Summary

- ABC projected to decrease through 2019
- Projecting female spawning biomass (26,512 t) to drop below **B<sub>40%</sub>** (27,983 t) in 2019
  - Shift from 3a to 3b
- Full assessment will be conducted in 2018
  - Using 2017 trawl survey index and age composition
- Geostatistical (delta-GLMM) index is under evaluation for 2018

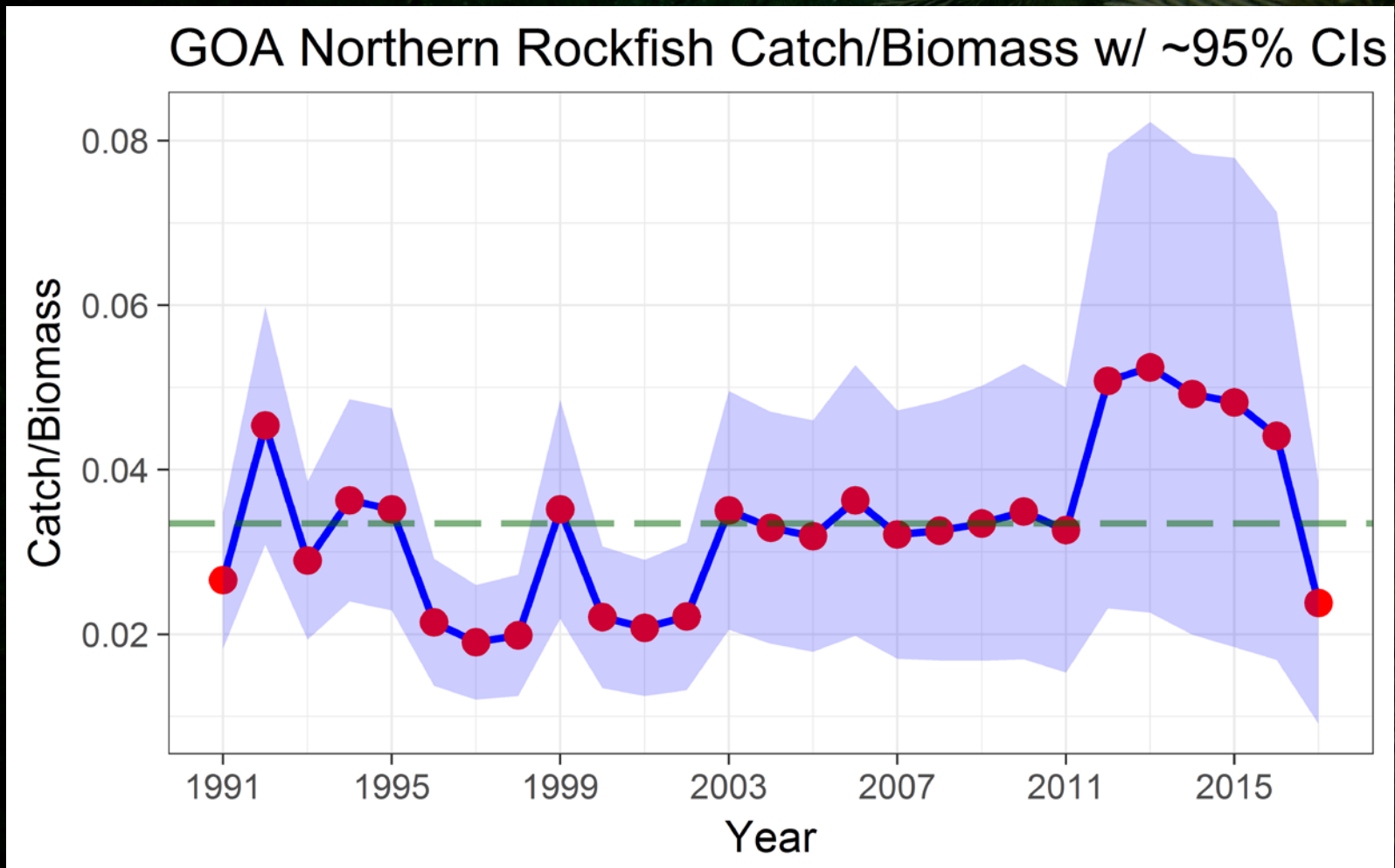
# Northern rockfish: Survey

- Design-based GOA Bottom Trawl Survey Biomass Estimate



# Northern rockfish: Catch/Biom.

- Design-based GOA Bottom Trawl Survey Biomass Estimate

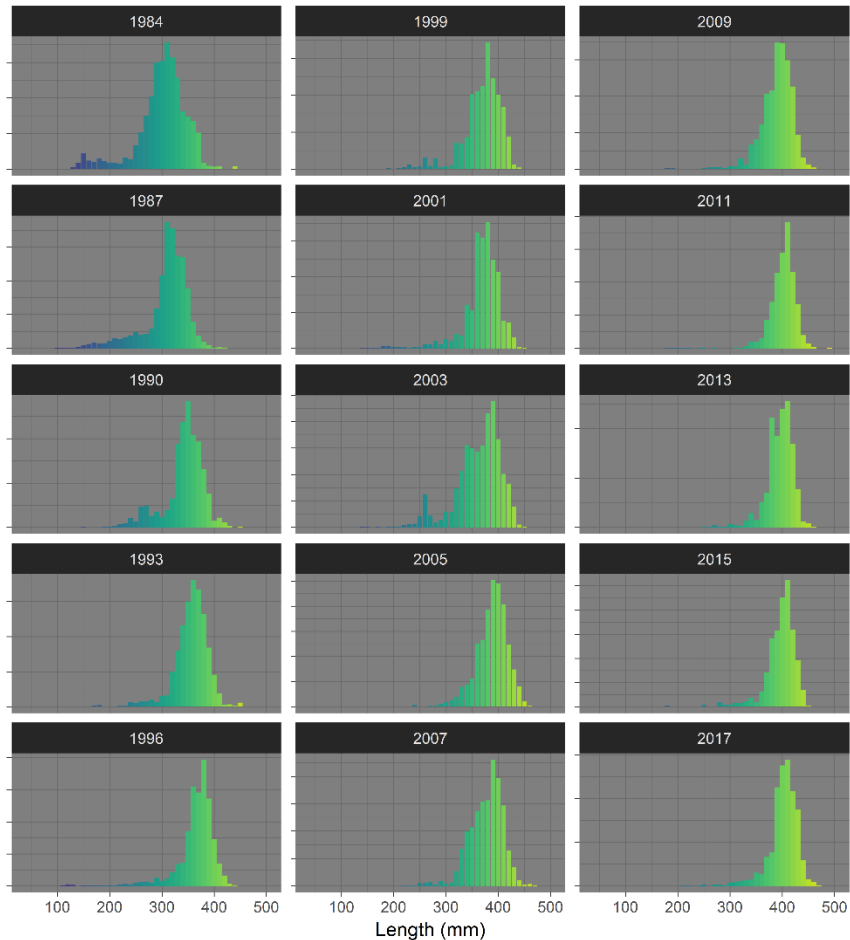


# Northern rockfish: Lengths

## ■ GOA Bottom Trawl Survey Length Composition

Survey Length Composition

Males



Survey Length Composition

Females

