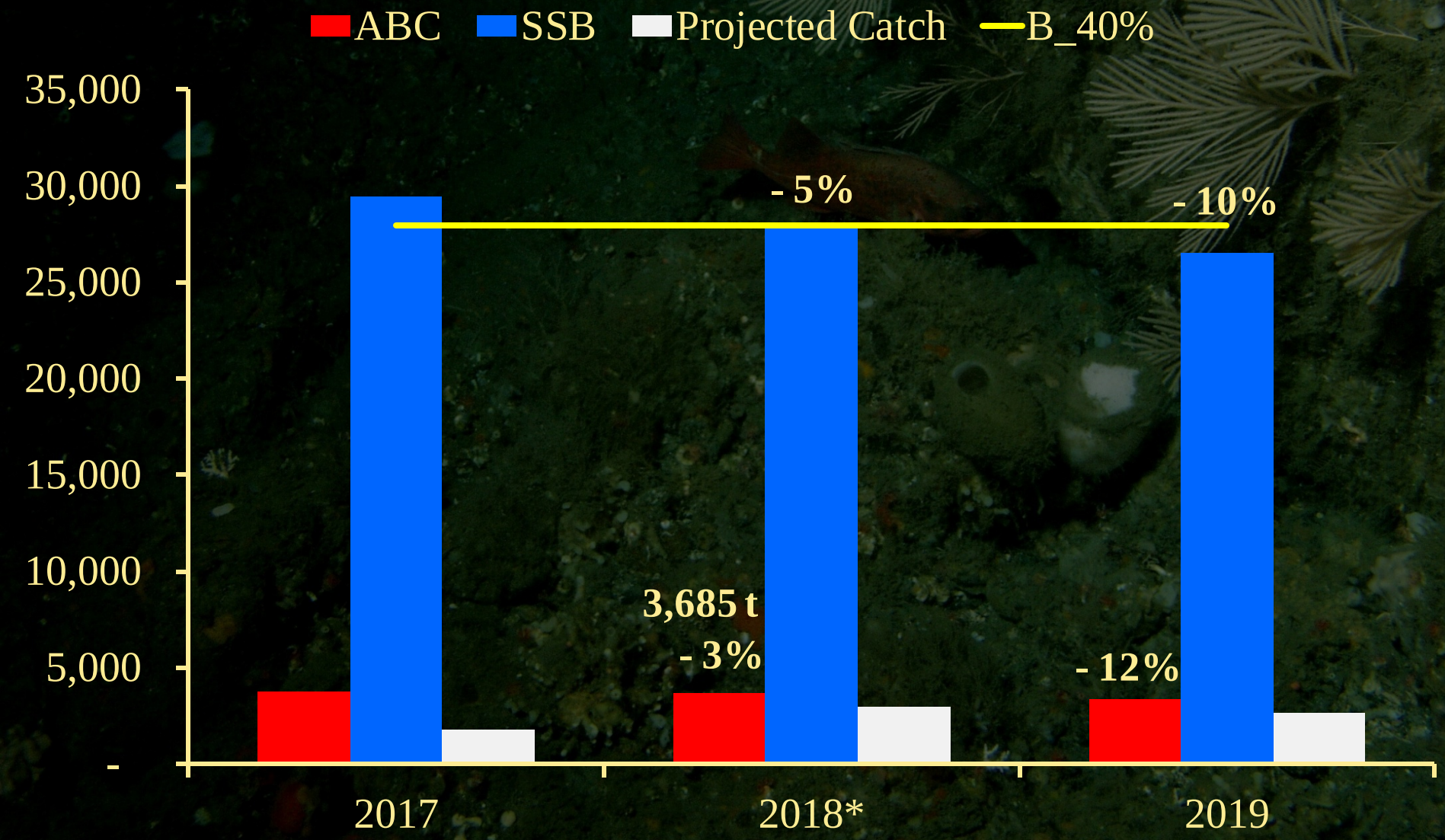
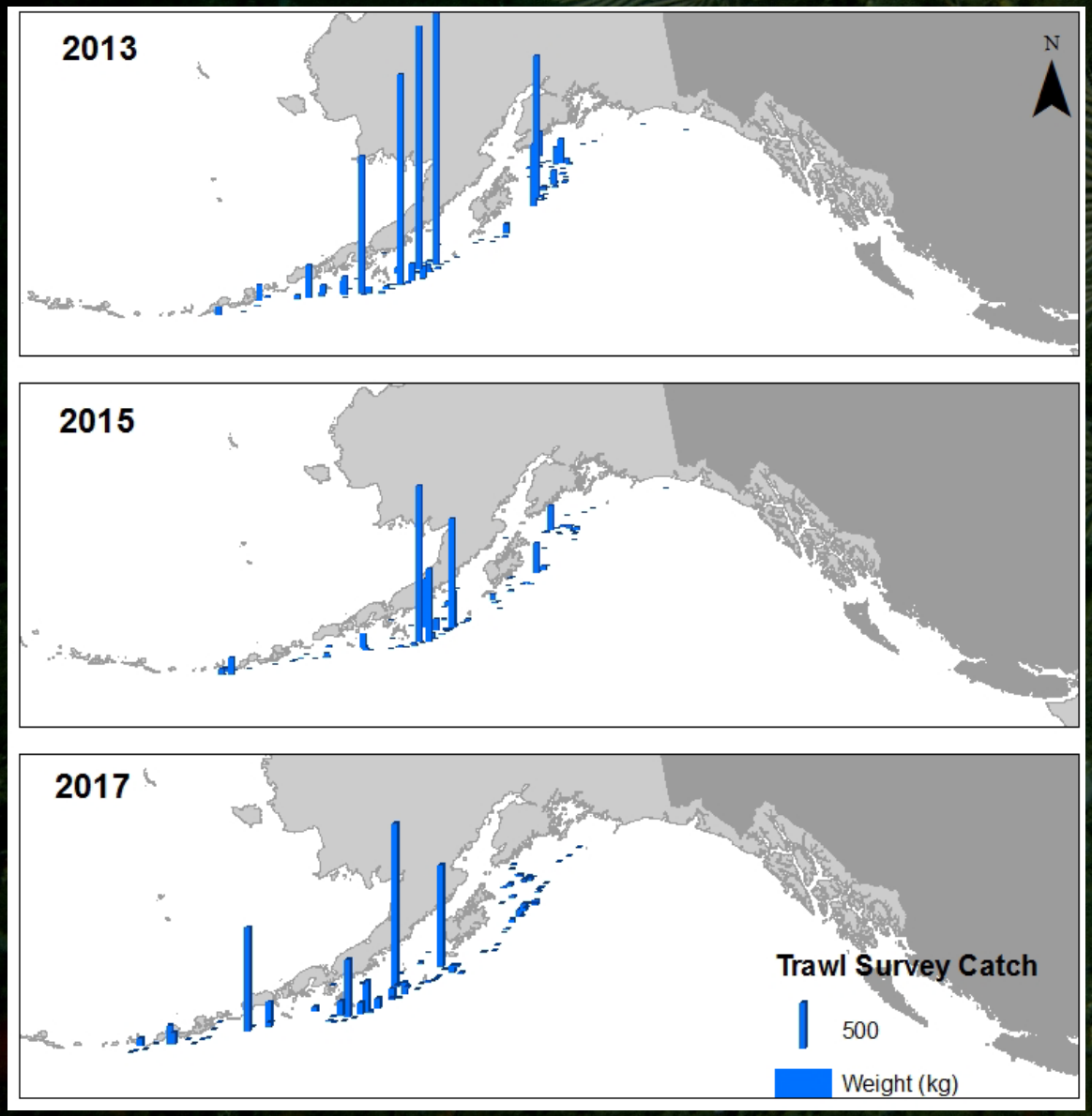
Northern rockfish

- 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) < $\mathbf{B_{40\%}}$ (27,983 t)

Northern rockfish



Northern rockfish: 2017 Survey



Northern rockfish: Apportionment

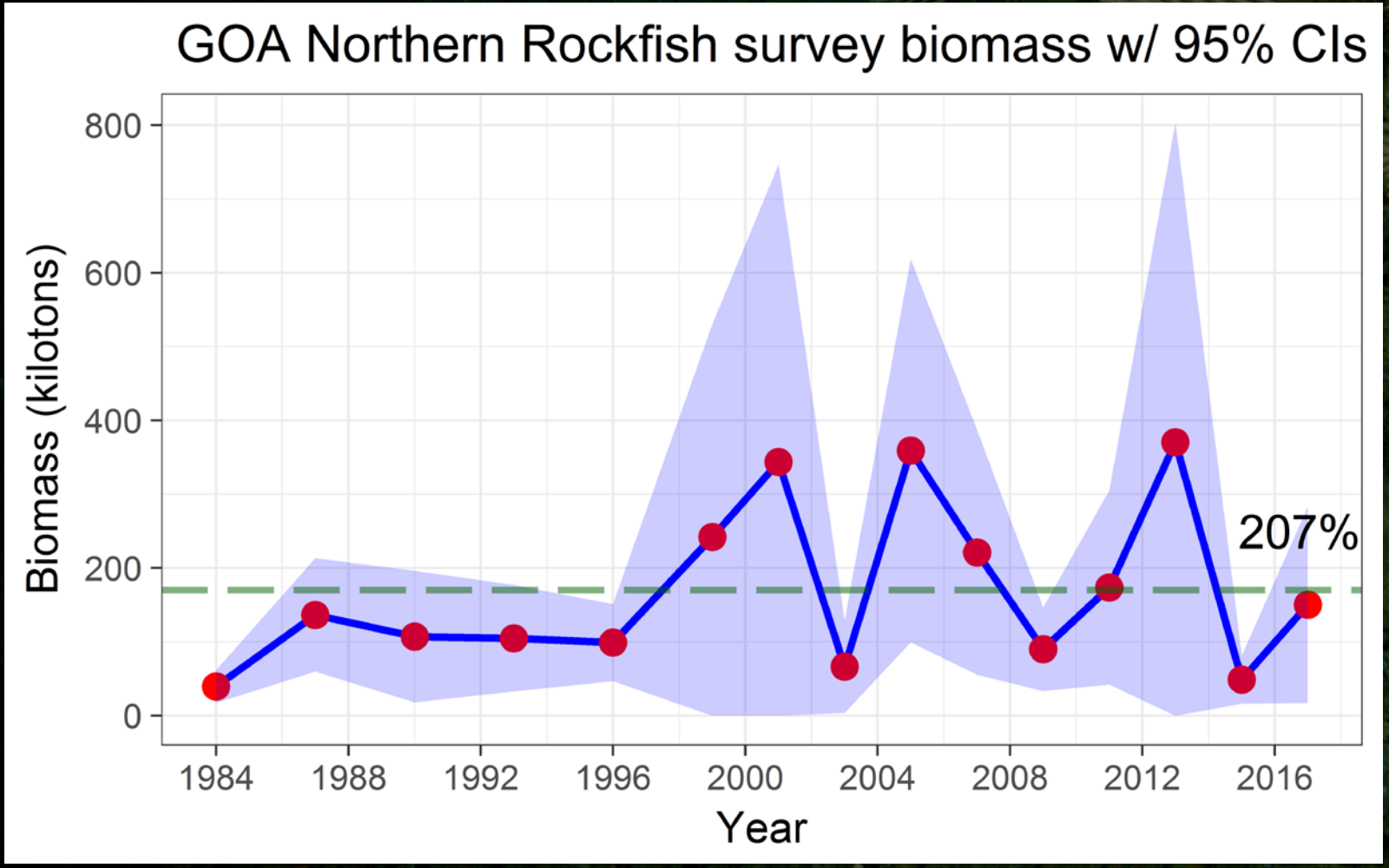
	Western	Central	Eastern	Total
2017 ABC	432	3,354	4*	3,790
2018 ABC	**420**	**3,261**	**4***	**3,685**
2017 OFL				**4,522**
2018 OFL				4,380

Northern rockfish: Summary

- ABC projected to decrease through 2019
- Projecting female spawning biomass (26,512 t) to drop below $\mathbf{B_{40\%}}$ (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

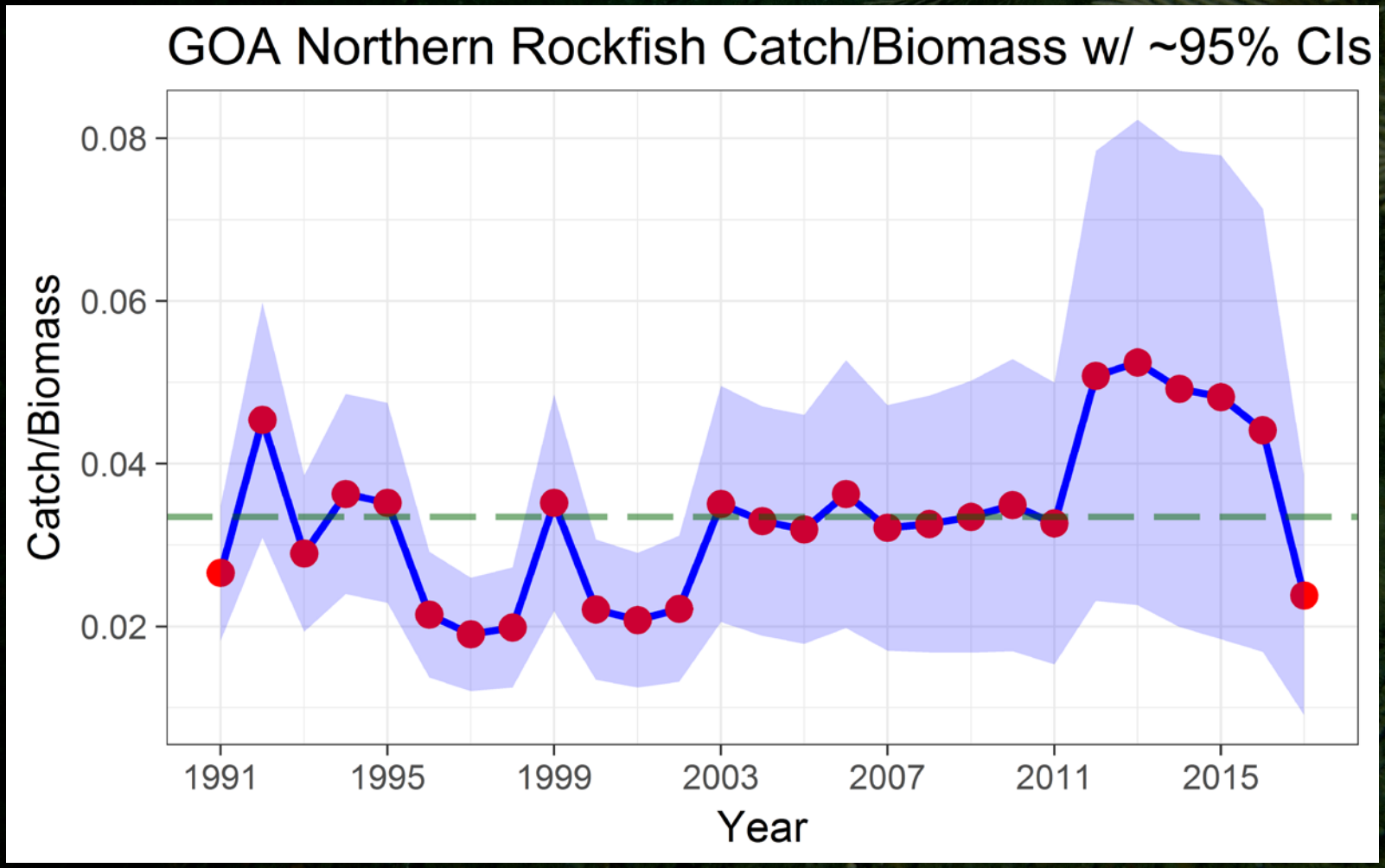
Northern rockfish: Survey

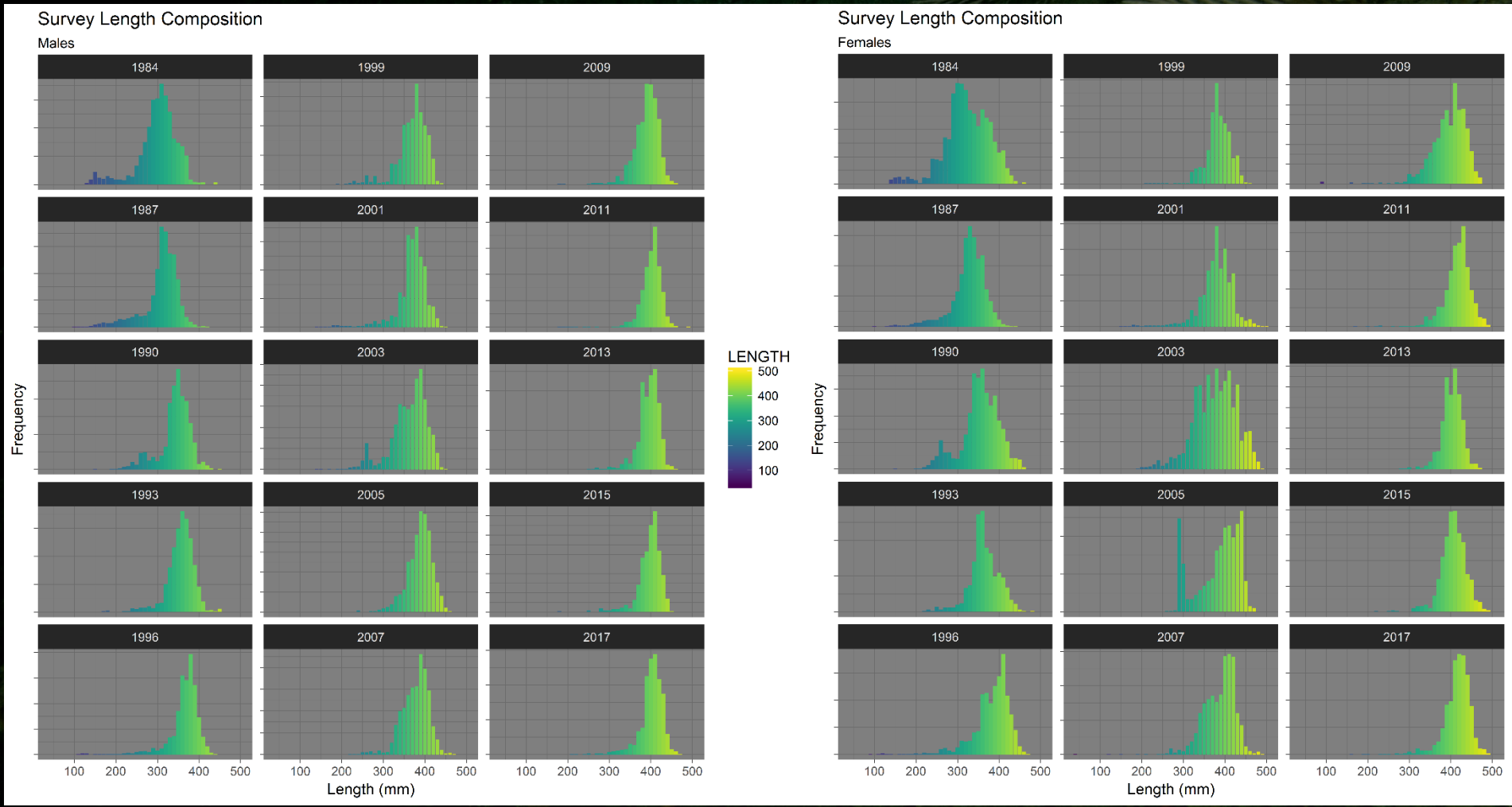
- Design-based GOA Bottom Trawl Survey Biomass Estimate



Northern rockfish: Catch/Biom.

- Design-based GOA Bottom Trawl Survey Biomass Estimate



Northern rockfish: Lengths

- GOA Bottom Trawl Survey Length Composition