

Stock Structure
GOA Shortraker Rockfish
November 2016

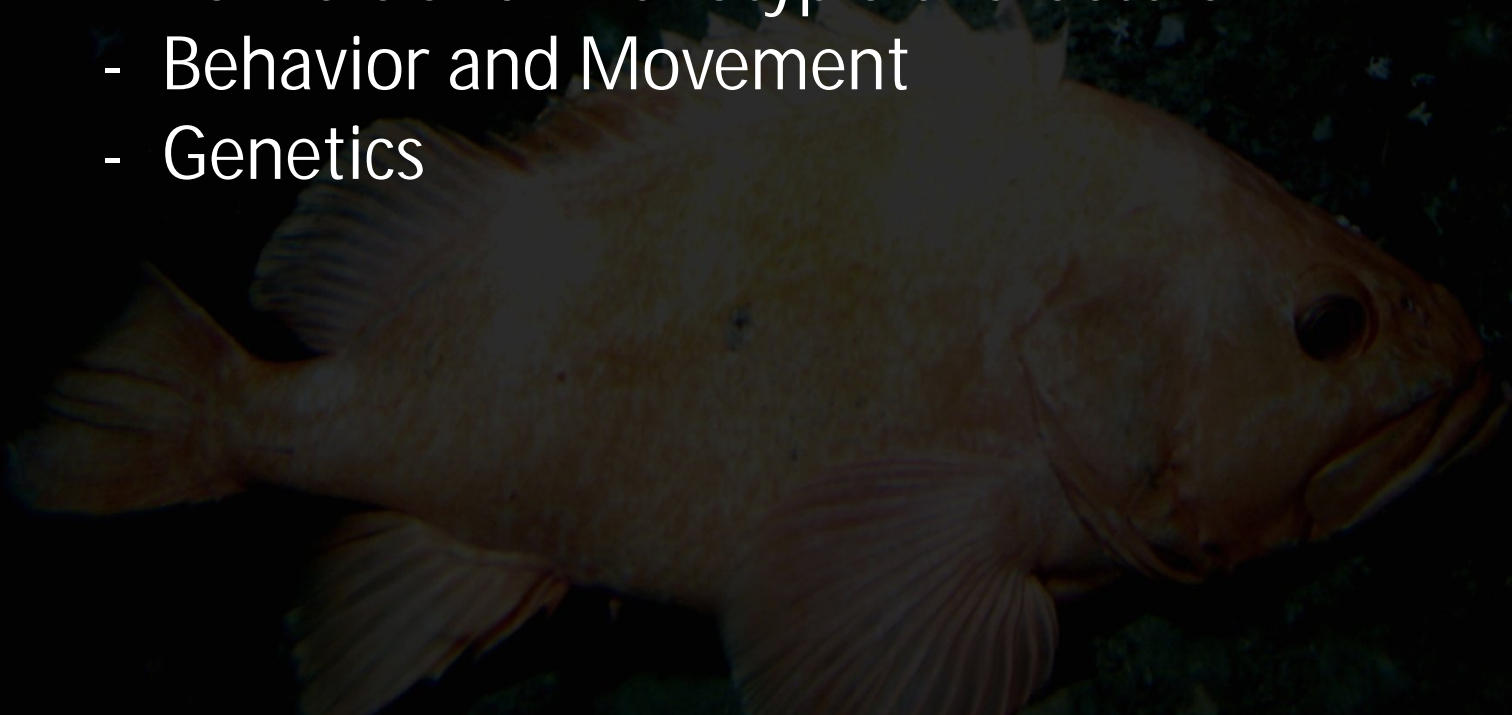


Shortraker Rockfish

Stock Structure Template



- Presentation will follow the table format from the template:
 - Harvest and Trends
 - Barriers and Phenotypic Characters
 - Behavior and Movement
 - Genetics

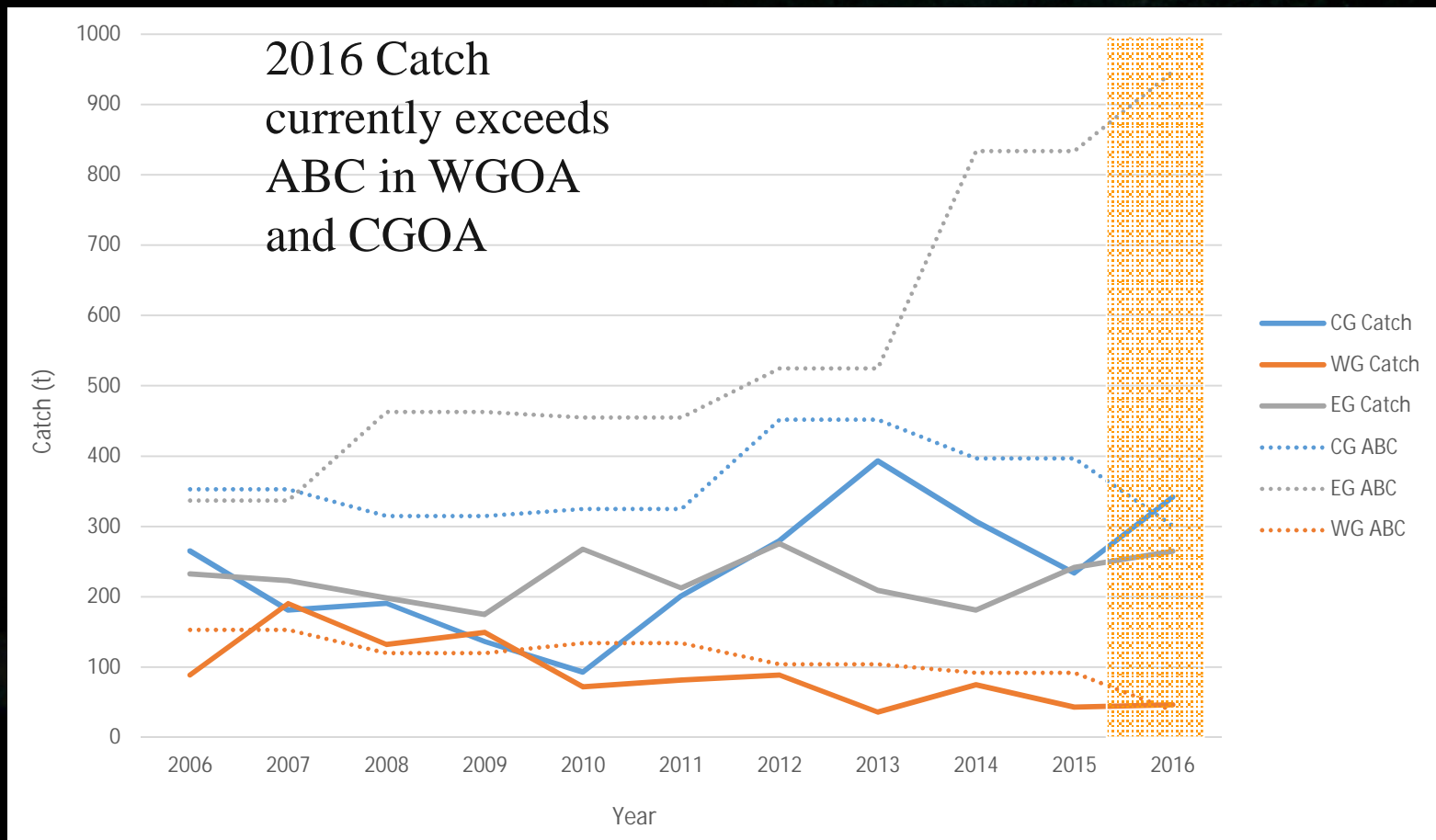


Shortraker Rockfish: Harvest and Trends – Fishing Mortality



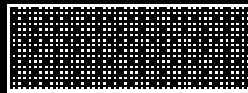
Fishing mortality

Tier 5- Hard to estimate, but catches are below gulfwide ABC.



Shortraker Rockfish: Harvest and Trends – Population Trends



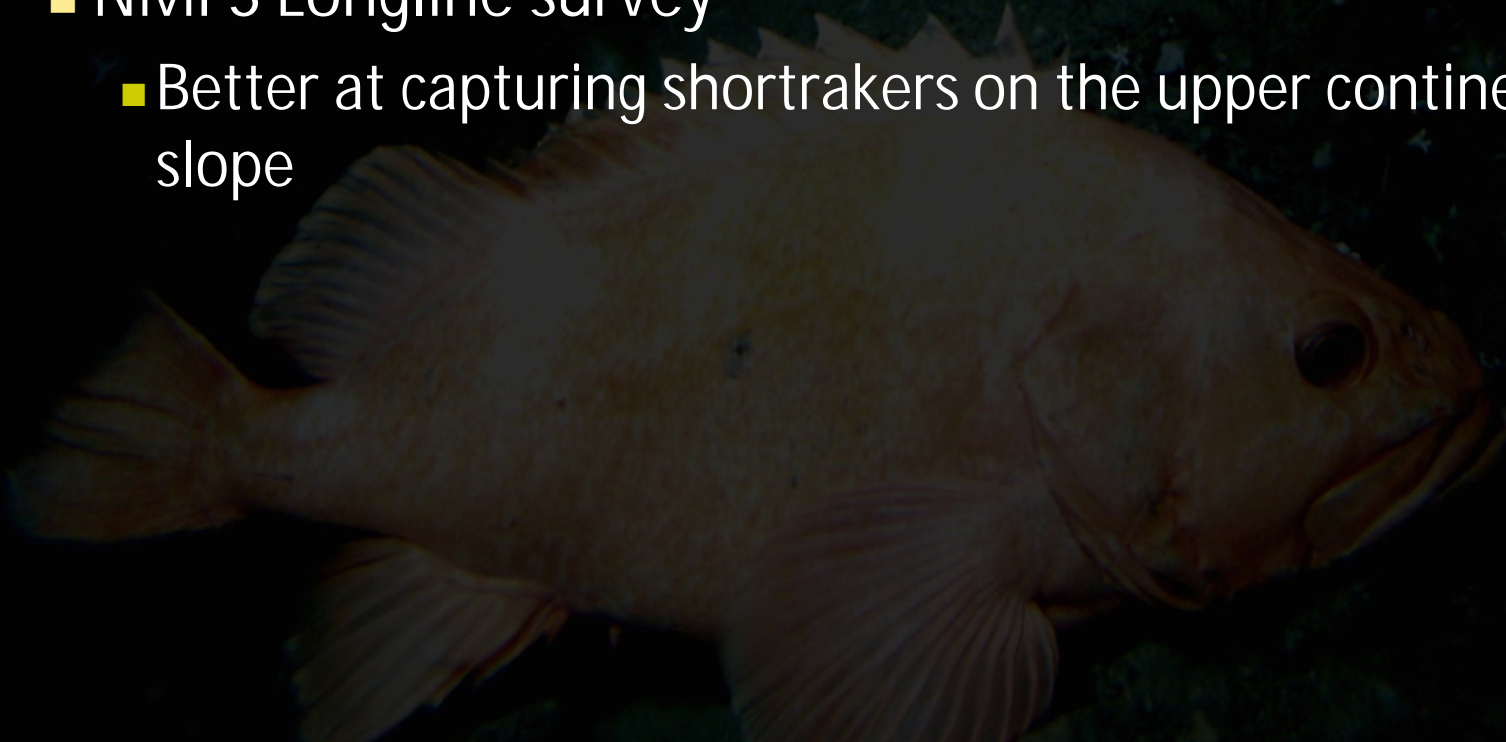
	Fishing mortality	Unknown, but catches are below gulfwide ABC.
Population trends	Overall population is trending up and is relatively stable. Biomass estimates for the Western and Central GOA have been trending downward. Changes in biomass by region may be due to high variability of survey.	



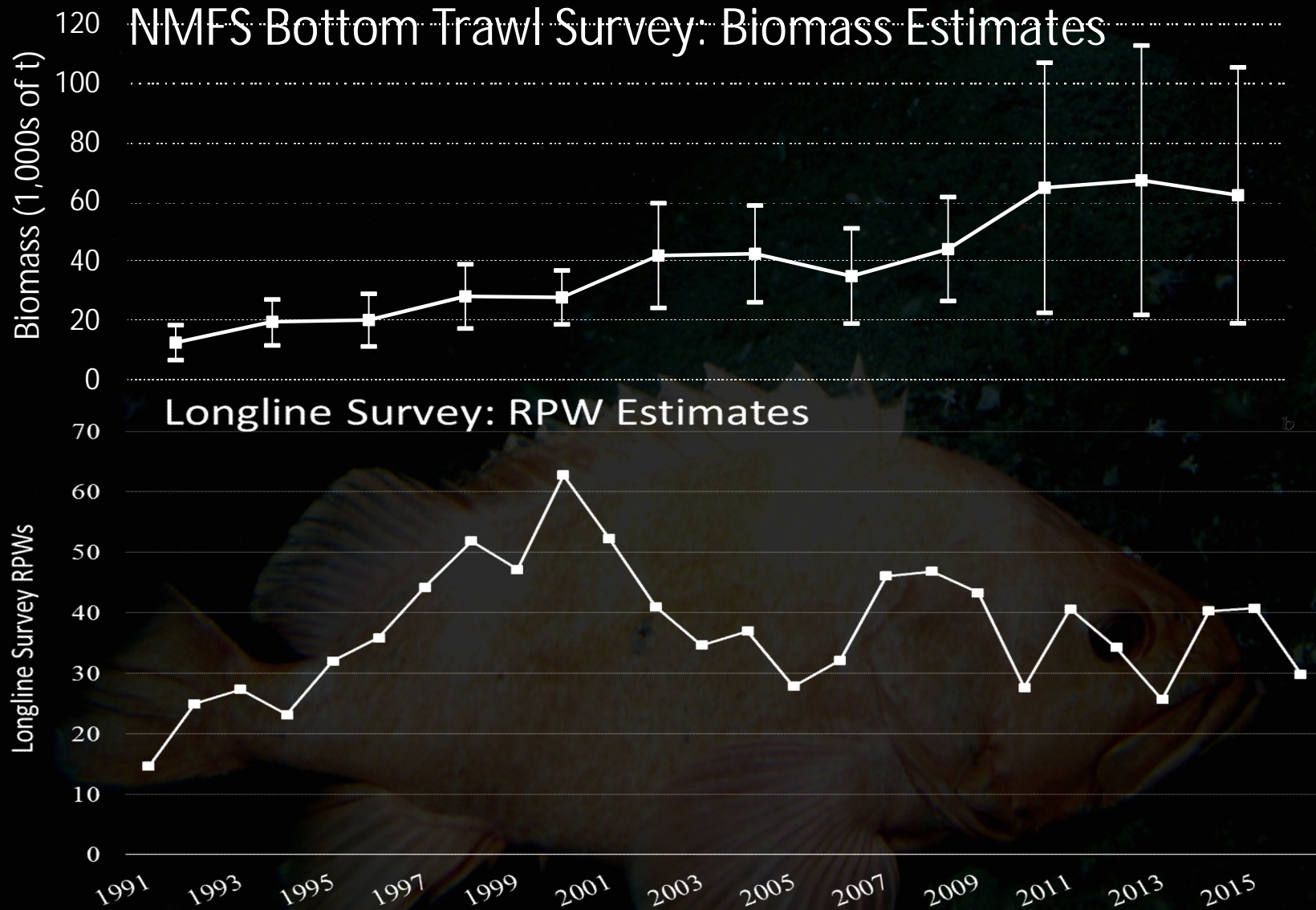
Shortraker Rockfish: Harvest and Trends - Population Trends



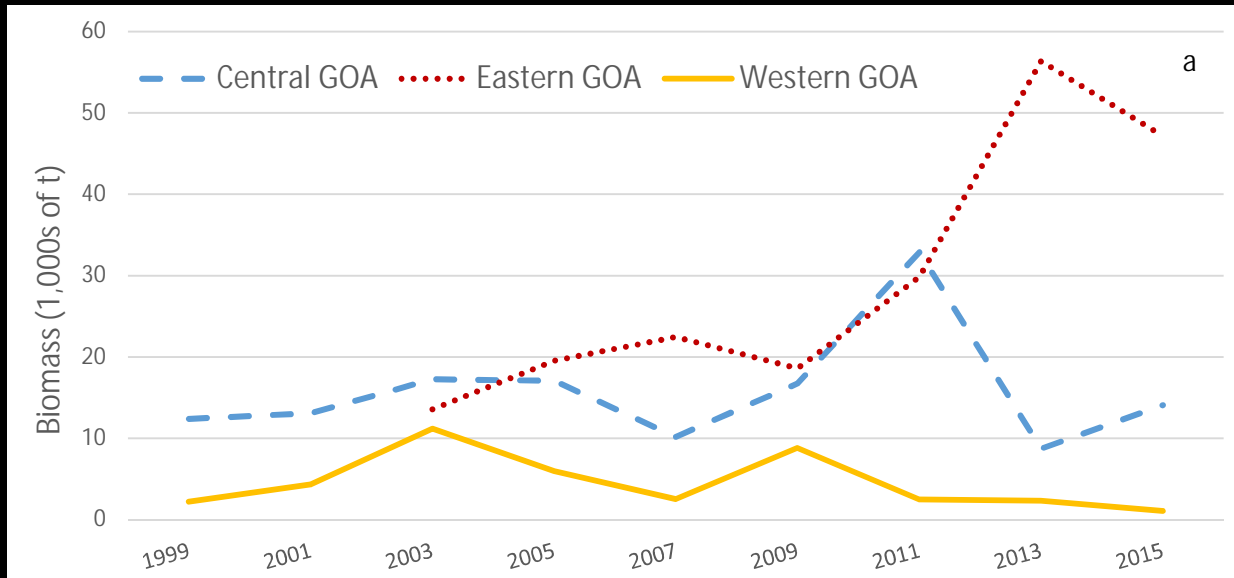
- Two main surveys available:
 - NMFS Bottom Trawl Survey
 - Generally captures shortrakers in gully entrances
 - NMFS Longline survey
 - Better at capturing shortrakers on the upper continental slope



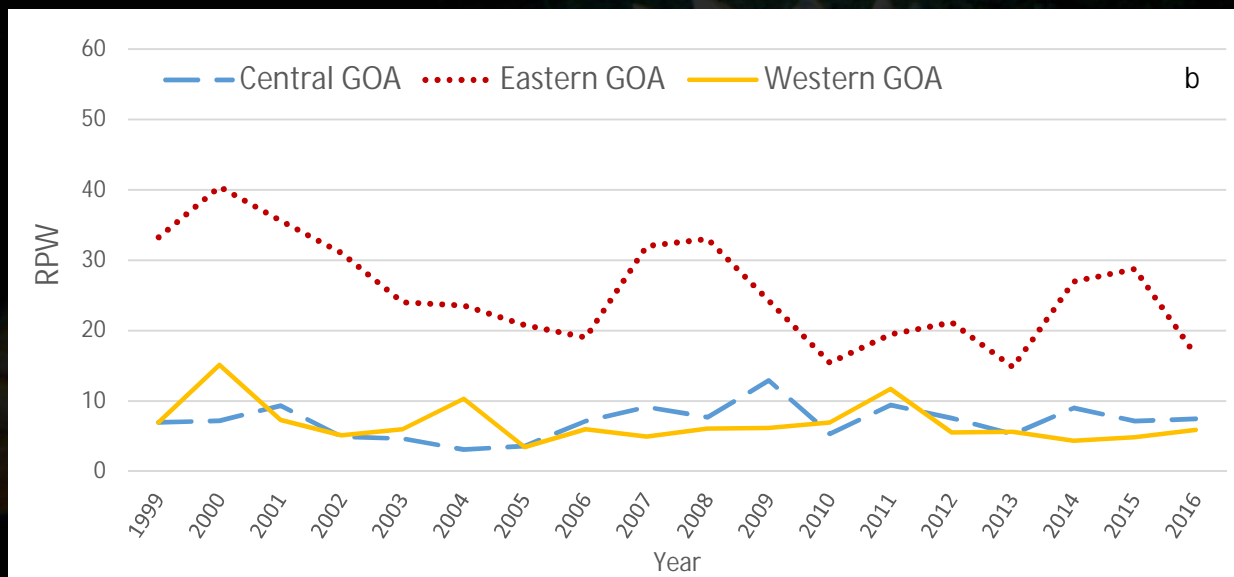
Shortraker Rockfish: Harvest and Trends- Population Trends



Shortraker Rockfish: Harvest and Trends



Trawl
survey



LL
survey

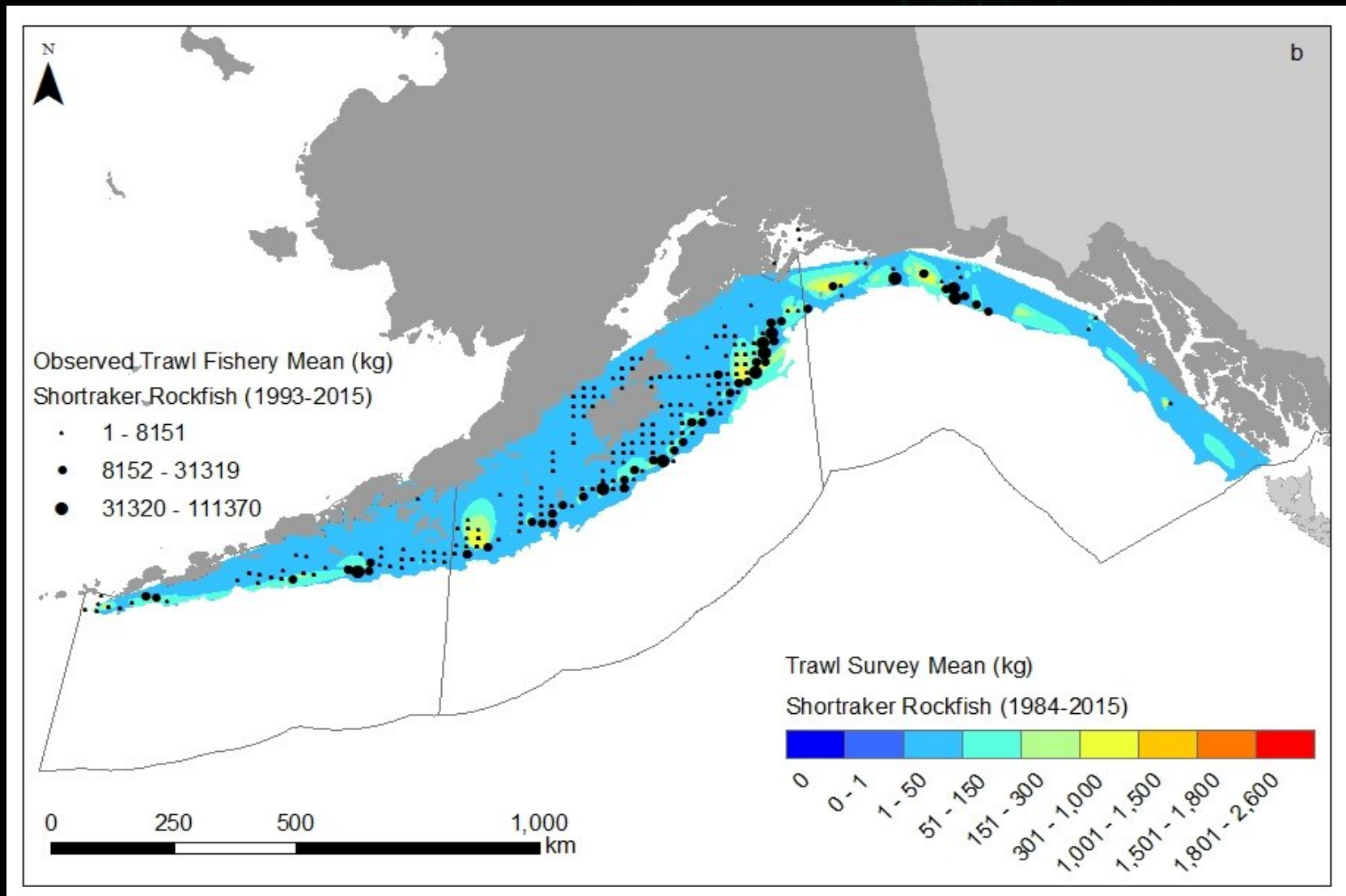
Shortraker Rockfish: Harvest and Trends- Spatial Overlap



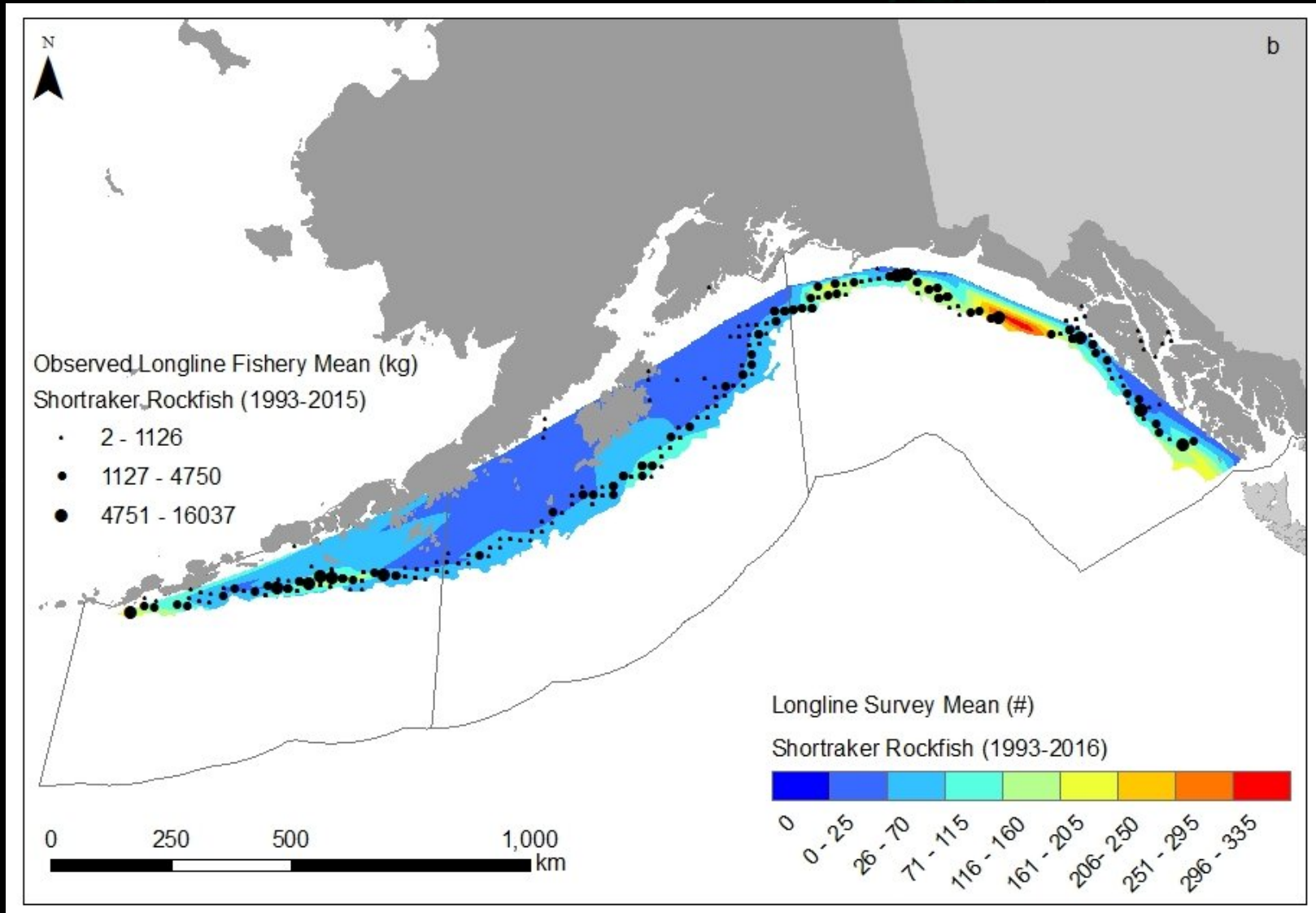
Fishing mortality	Unknown, but catches are below gulfwide ABC.
Population trends	Overall population trend is stable.
Spatial concentration of fishery relative to abundance	Fishery effort matches abundance distribution.



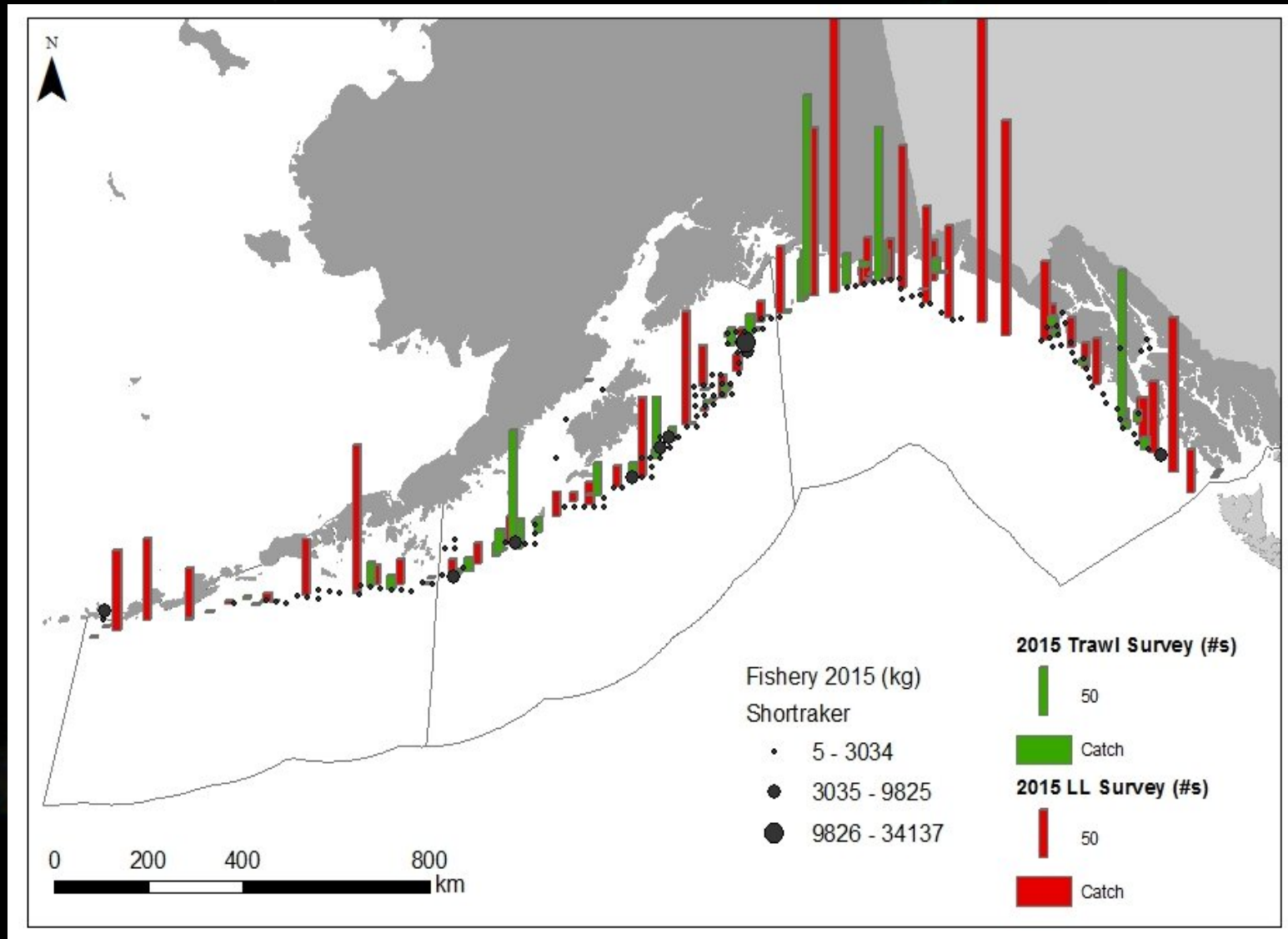
Shortraker Rockfish: Harvest and Trends- Spatial Overlap



Shortraker Rockfish: Harvest and Trends- Spatial Overlap



Shortraker Rockfish: Harvest and Trends- Spatial Overlap



Shortraker Rockfish: Barriers and Phenotypic Characters



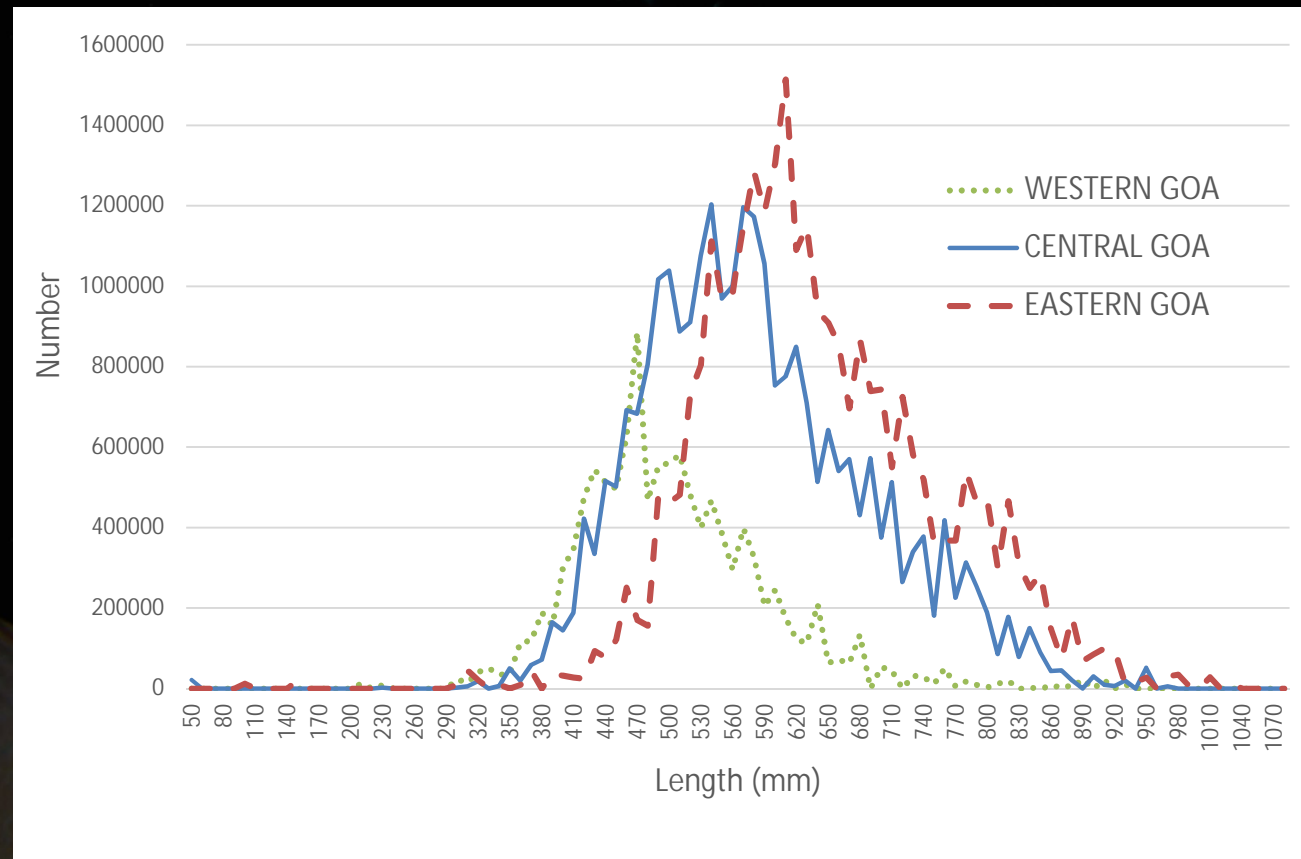
Gen time	Generation time is long. Closest known comparable is roughey – 52 yrs.
Phys limits	No physical limitations known, but larval dispersal poorly understood.

Within GOA differences in:	
Growth	No differences in growth (LW) parameters
Age/size-structure	Limited age data. There is evidence of larger sized fish in the Eastern GOA based on trawl survey data.
Spawning time	Unknown
Maturity	Unknown
Morphometrics	Unknown
Meristics	Unknown

Shortraker Rockfish: Barriers and Phenotypic Characters- Size Comps



- Size Composition
 - Mean pop. length:
53.9 – 62.5 cm
 - Slightly larger fish
in the EGOA



Shortraker Rockfish: Behavior and Movement



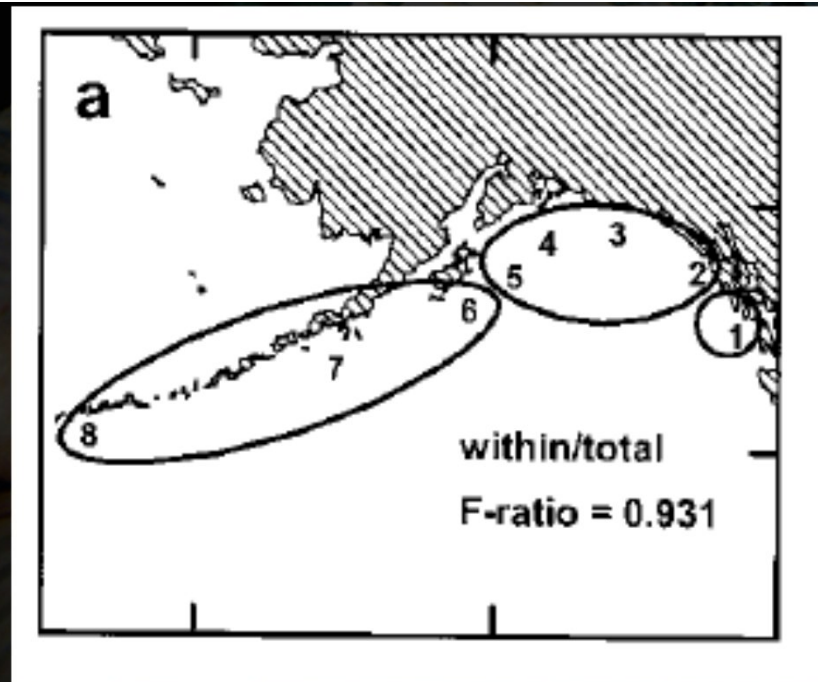
Spawning site fidelity	Unknown
Mark-recapture data	Mark-recapture data unavailable.
Natural tags	Unknown



Shortraker Rockfish: Genetics



Isolation by distance	No significant isolation by distance (Matala et al. 2004)
Dispersal distance	Not Available
Pairwise genetic differences	Not significant (Cockerham's theta, Matala et al. 2004).



Matala et al. 2004
Genetic studies indicated evidence of fine scale population structure. The most efficient partitioning scheme of the samples formed these 3 groups.

Shortraker Rockfish: Stock Structure Summary



- Data is limited
- Until there is more known about the life history, age, growth, and maturity, data do not suggest that changes to management regime are necessary

Shortraker Rockfish: Research Priorities



- Data gaps for shortrakers:
 - Life history
 - Validated ageing methods
 - Age/growth and reproduction studies are needed – Christina Conrath conducting fecundity study





Questions

