EGOA Demersal Shelf Rockfish Stock Assessment for 2017

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Stock Assessment

DSR Complex:

Yelloweye
(*S. ruberrimus*)

Quillback
(*S. maliger*)

Tiger
(*S. nigrocinctus*)

China
(*S. nebulosus*)

Canary
(*S. pinniger*)

Copper
(*S. caurinus*)

Rosethorn
(*S. helvomaculatus*)

anal spine 2 longer than 3

Images: Google Images

Stock Assessment

EYKT
1995, 1997, 1999,
2003, 2009, **2015**

NSEO
1994, **2016**

Juneau

CSEO
1994, 1995, 1997, 2003,
2007, 2012, **2016**

SSEO
1994, 1999, 2005, **2013**

Stock Assessment

Tier 4 Stock Assessment—based on the total of biomass of yelloweye rockfish:

- Density of yelloweye by mgmt area
- Avg. weight of yelloweye by mgmt area
- Area of rocky habitat by mgmt area

$$YE\ Biomass_{a,y_1} = Avg\ Wt_{y_1} * Habitat(km^2)_a * Density\ YE(n/km^2)_{a,y_2}$$

$$where\ a = area(EYKT, NSEO, CSEO, SSEO), y_1 = current\ year, and\ y_2 = year\ of\ last\ ROV\ survey$$

$$Total\ YE\ Biomass = \sum_{a_i}^{4} YE\ Biomass_i$$

Stock Assessment

Tier 6 Stock Assessment–Other DSR (Quillback, Tiger, China, Canary, Copper, & Rosethorn):

- Previously, increase YE OFL & ABC by 3%
- Currently,
  - Derive OFL & ABC from estimates from commercial, recreational, and subsistence (2010–2014)

| Quantity (Other DSR only)	As estimated or *specified last year* for: 2016	As estimated or *recommended this* year for: 2017
ABC (t) Tier 6	20	20
OFL (t) Tier 6	26	26

Updates to Model Input Data and Methods

Input Data: new avg wts

Methodology: Tier 6 calculations for other DSR is the new status quo

|	As estimated or *specified last year* for:	As estimated or *recommended this* year for:
Quantity	2016	**2017**
M (natural mortality rate)	0.02	0.02
Tier	4	4
Yelloweye Biomass (t)	10,559	**10,347**
Specified/recommended F_{ABC}	0.020	0.020
$F_{OFL} = F_{35\%}$	0.032	0.032
$maxF_{ABC}$	0.026	0.026
Recommended DSR ABC (t)	231	**227**
DSR OFL (t)	364	357
DSR max ABC (t)	295	289

Sub & ROV Density Estimates (95% CI)
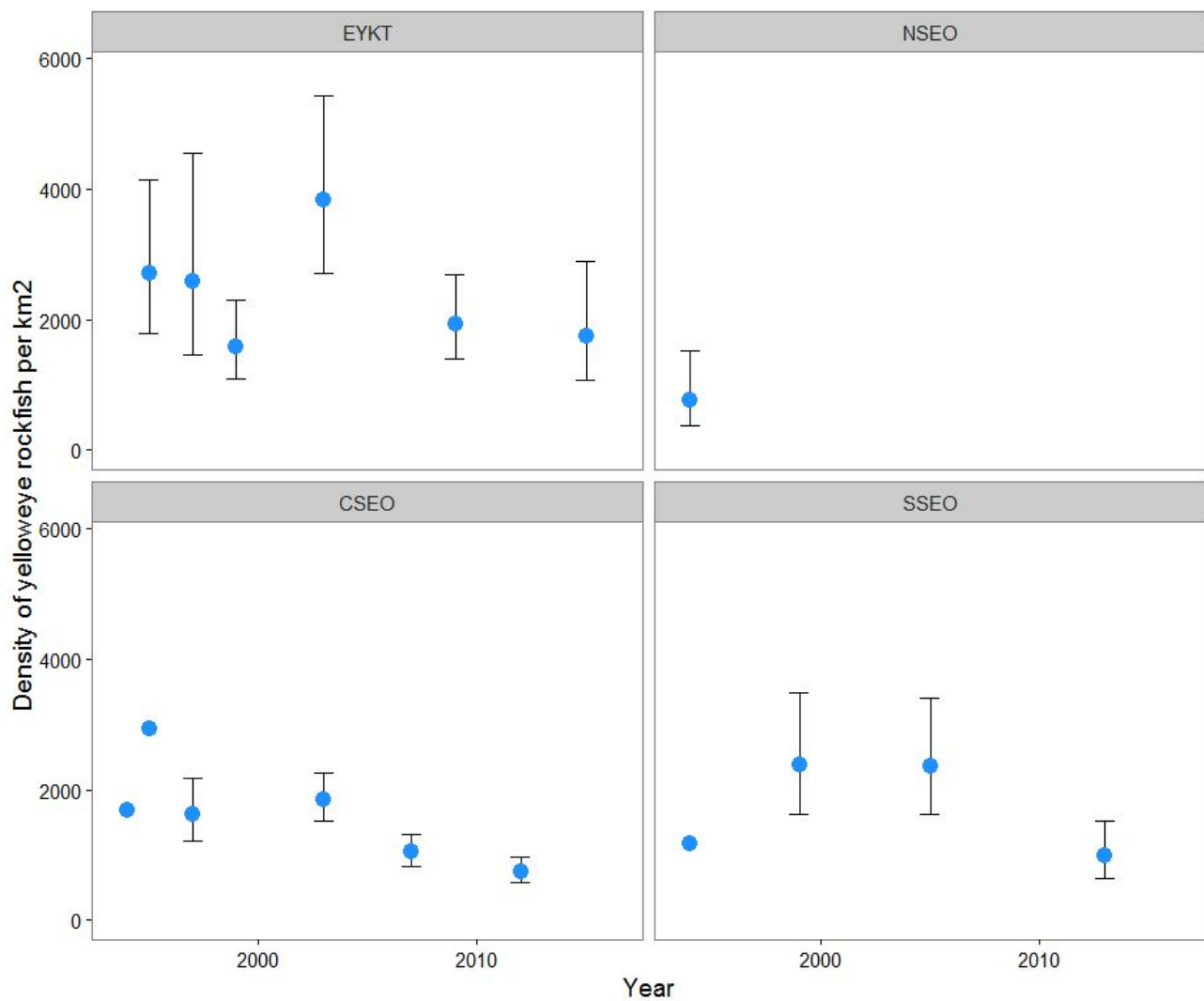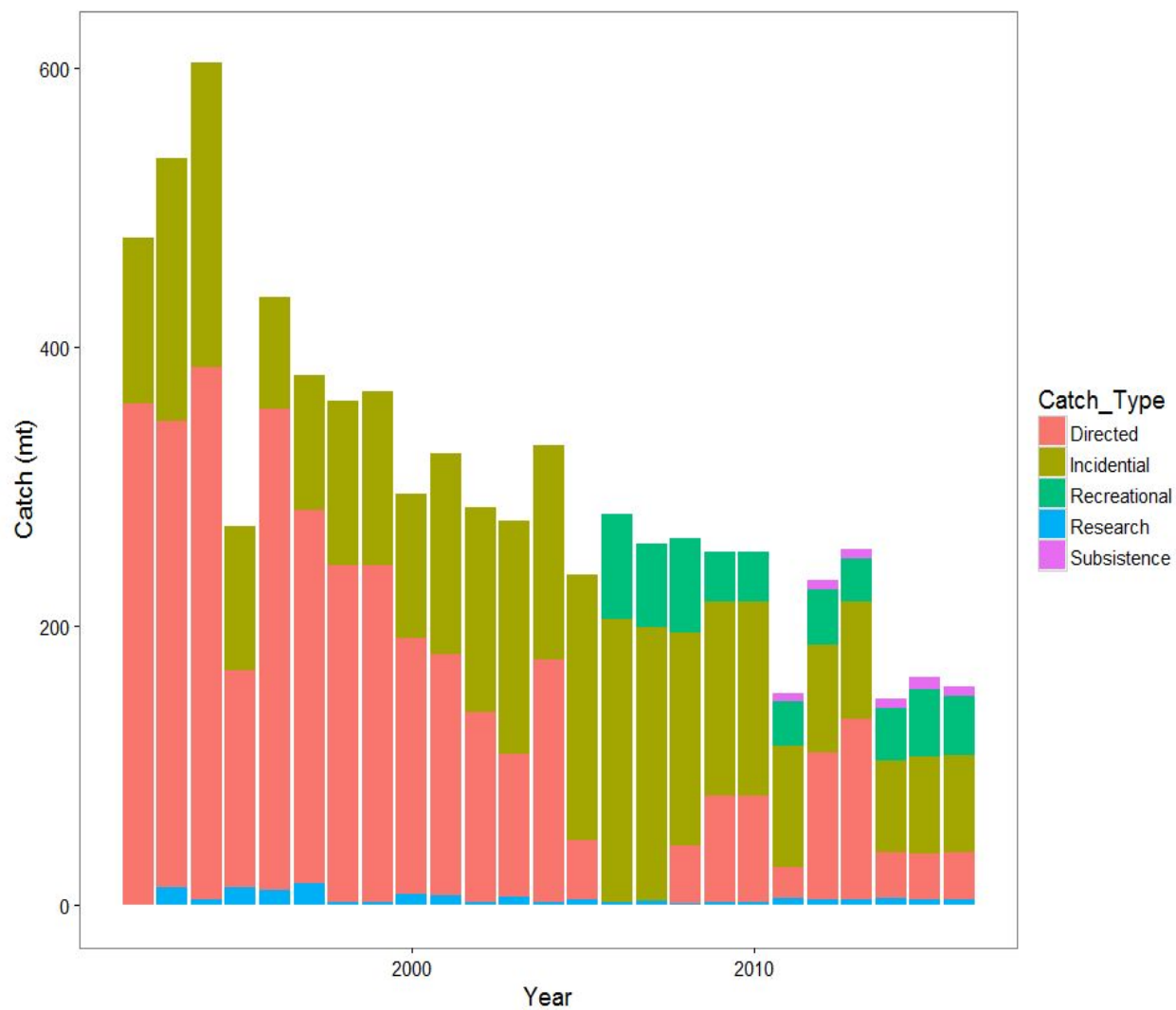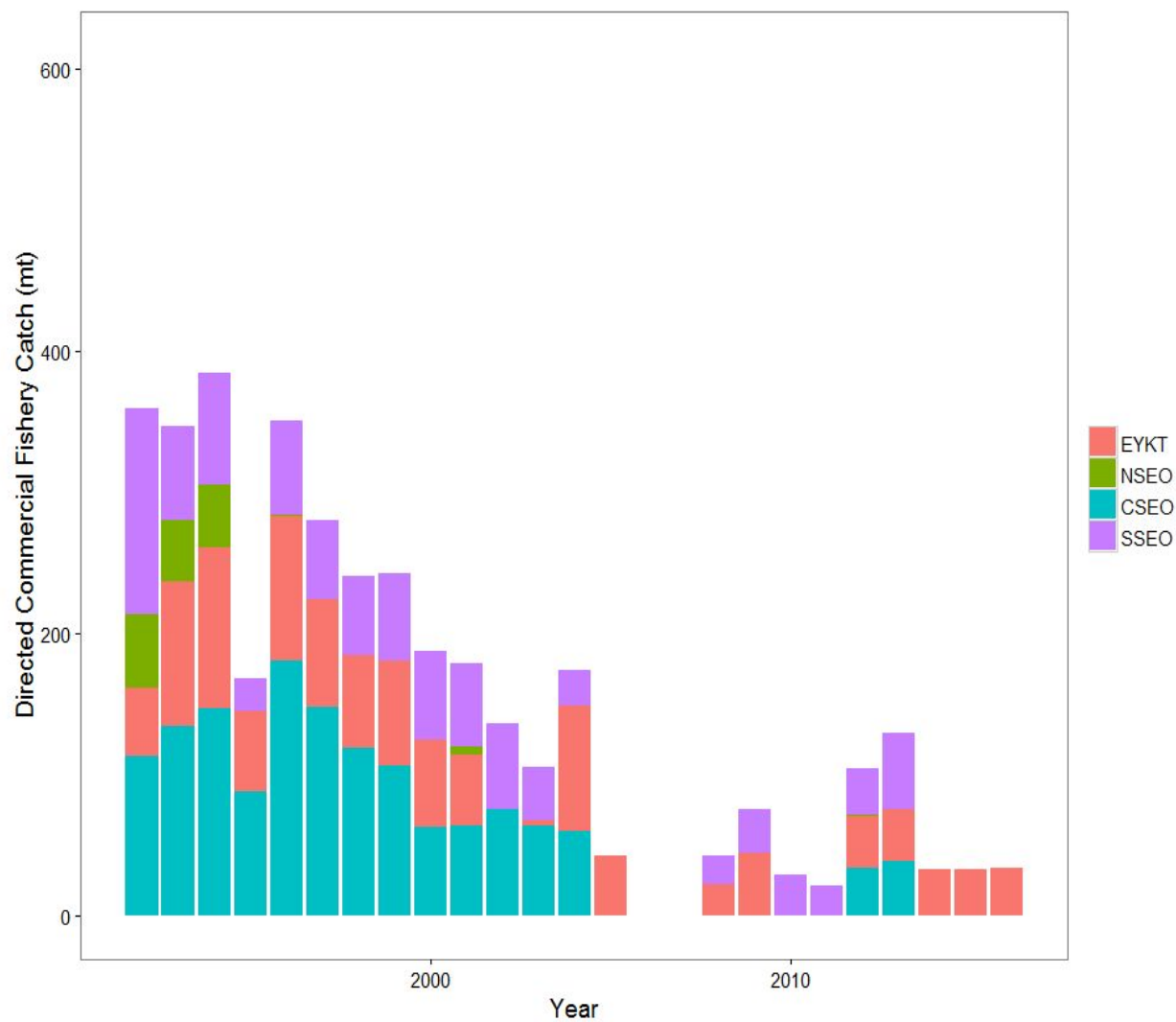
YE Biomass w/ Lower 90% CI
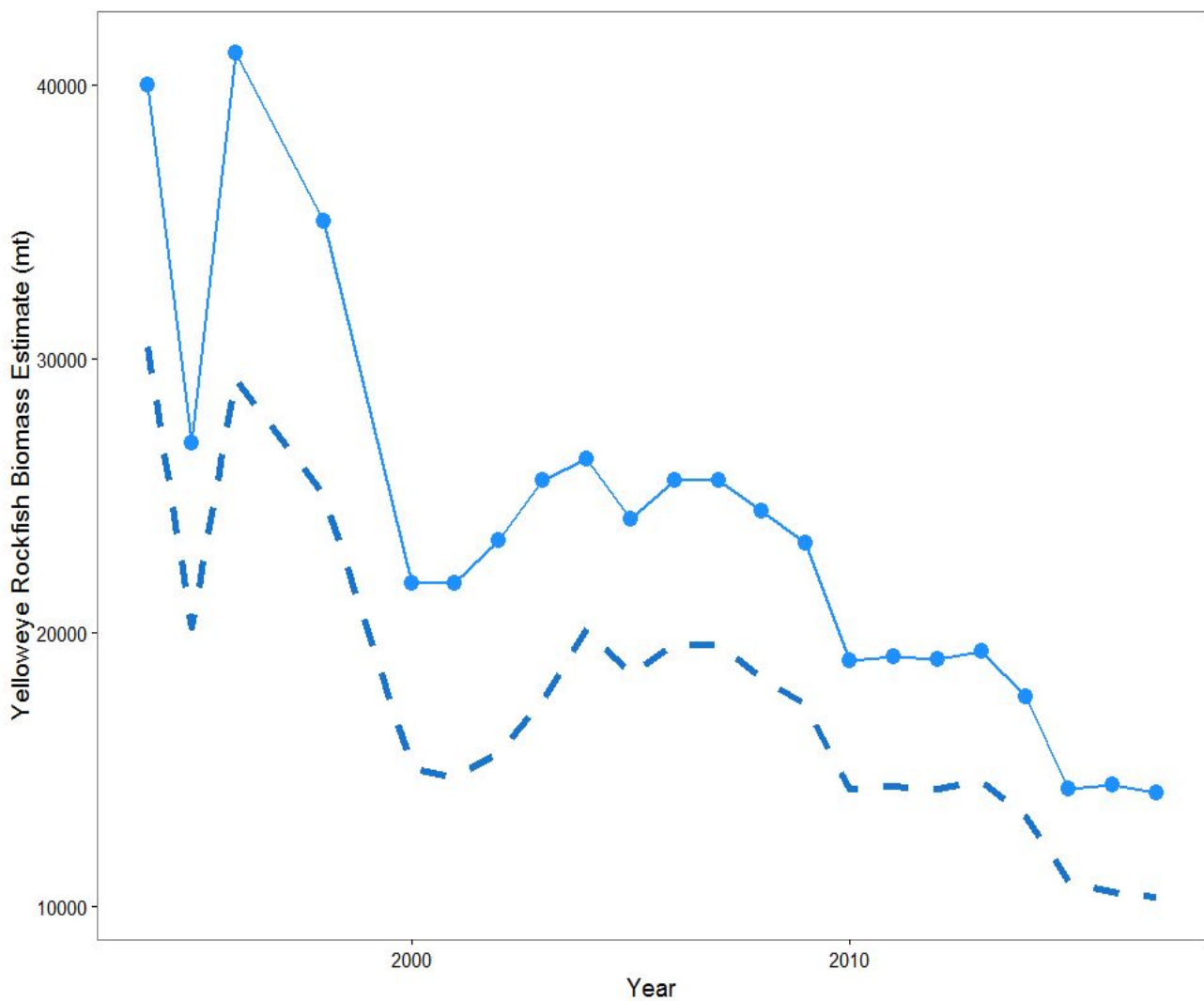
Catch Guidelines vs Total Catch
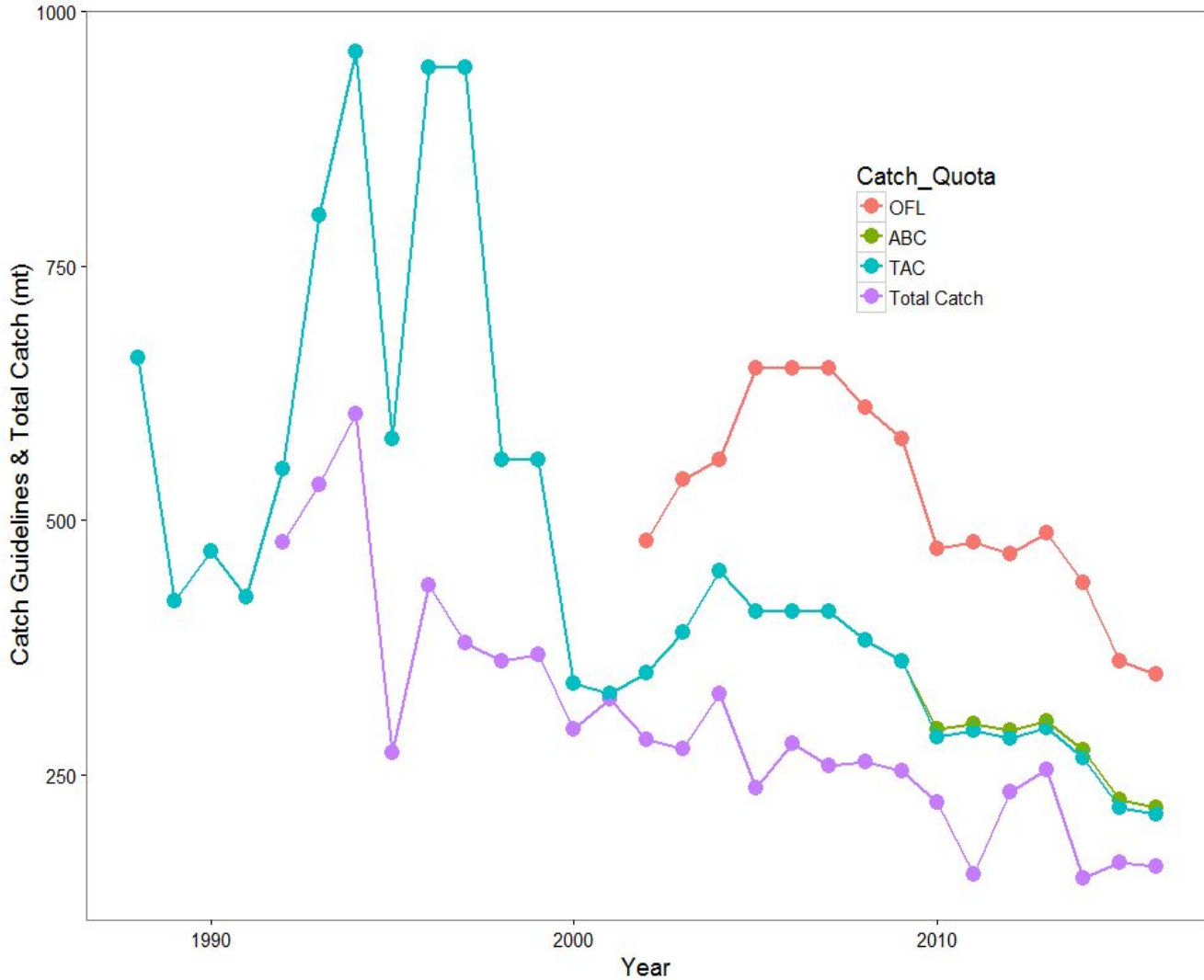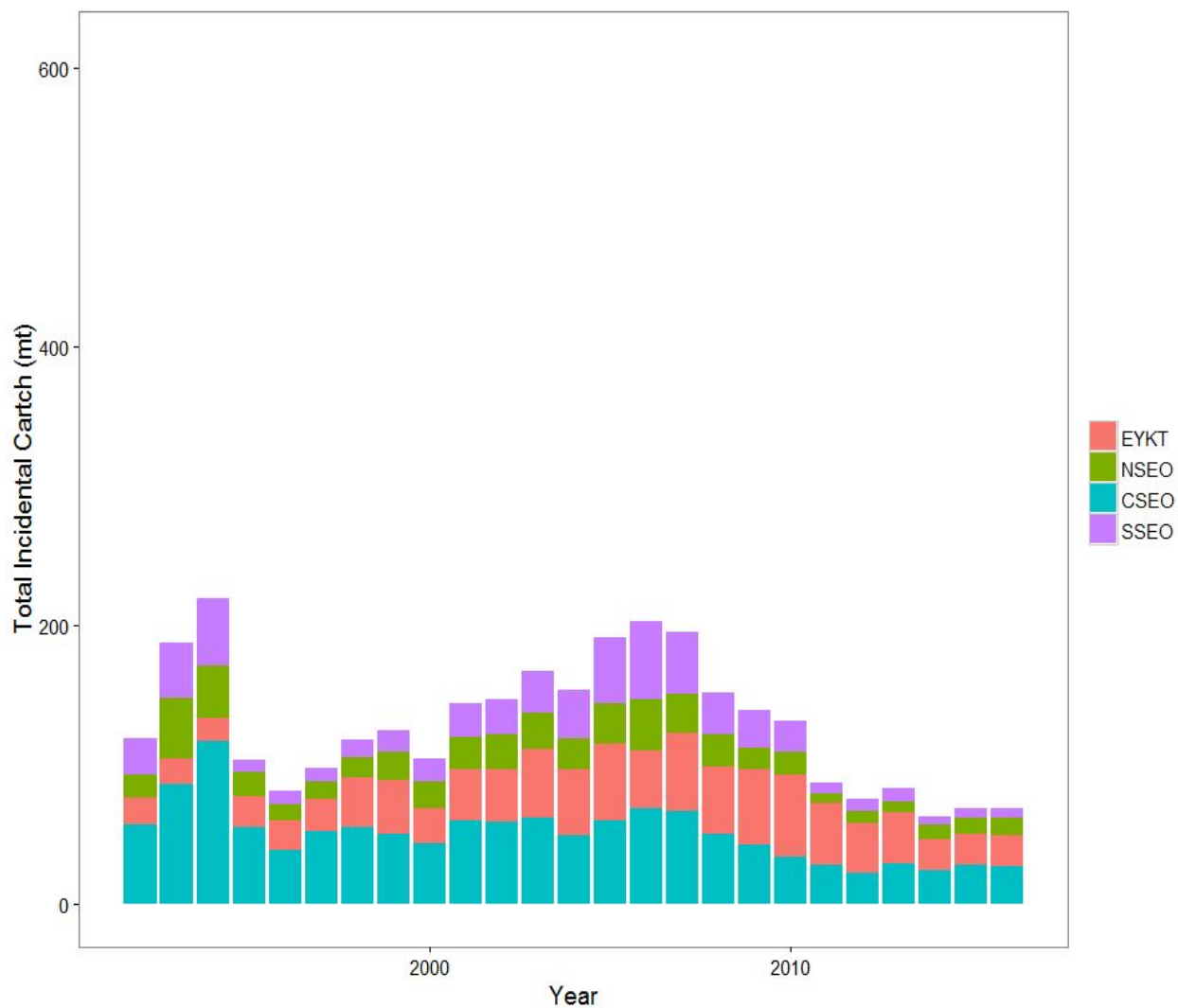
EGOA DSR Catch by Sector

Directed Commercial YE Catch

Incidental Commercial YE Catch
(halibut, lingcod, sablefish, P. cod, & salmon troll)

Recommended Allocation

2017 recommended ABC = 227 mt

227 mt– 7 mt (subsistence catch) = 220 mt

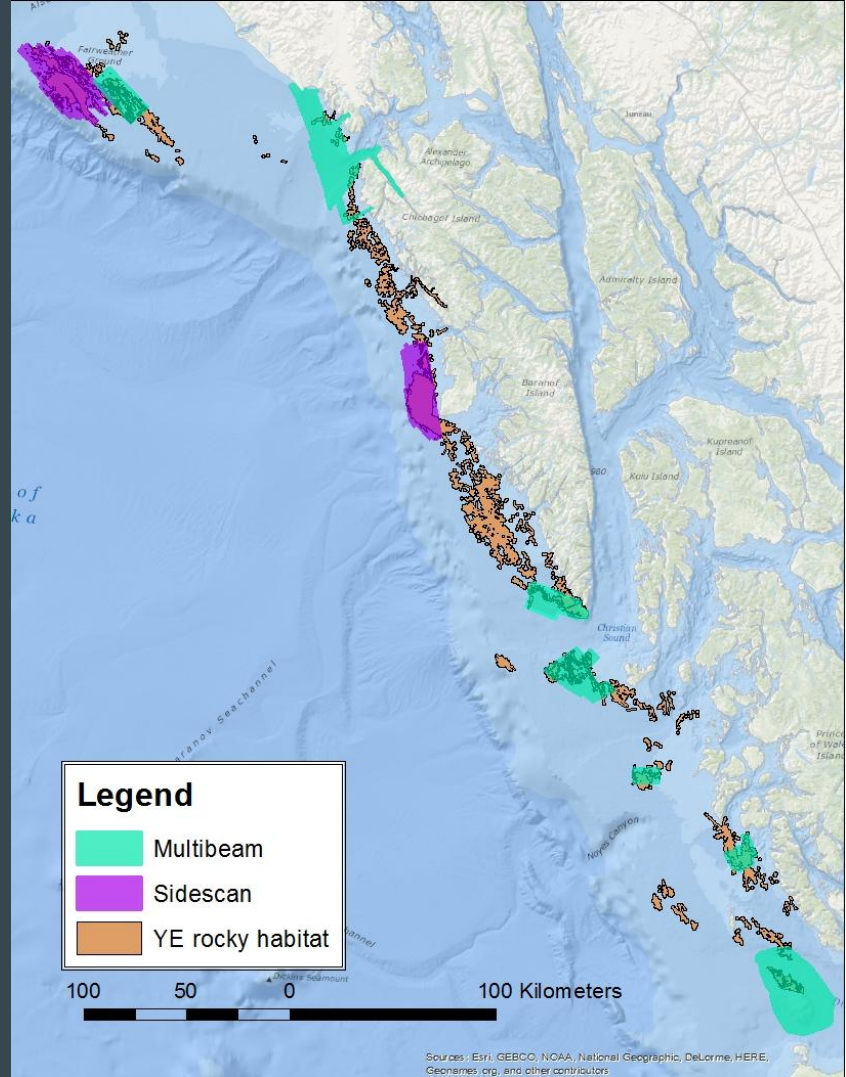Allocation: 84% Commercial / 16% Sport

185 mt to Commercial / 35 mt to Sport

Image: tanakulodge.com

Future Research

- Region-wide assessment
- Investigate incorporating density into current depth stratification
  - Would allow proper weighting of density estimates by area due to random placements of transects
  - Increase confidence in density estimates
- Issues:
  - Small portions of SEO have been mapped and much more needs to be done
  - Lack of funds to incorporate an additional mapping survey in conjunction with ROV density surveys
- Continue development of ASA model
- 2017 ROV survey in SSEO

Legend

- Multibeam
- Sidescan
- YE rocky habitat

100   50   0   100 Kilometers

Sources: Esri, GEBCO, NOAA, National Geographic, DeLorme, HERE, Geonames.org, and other contributors

Questions?

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