SEO Demersal Shelf Rockfish Stock Assessment for 2018

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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

Stock Assessment

EYKT
1995, 1997, 1999,
2003, 2009, 2015,
2017

NSEO
1994, **2016**

Juneau

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

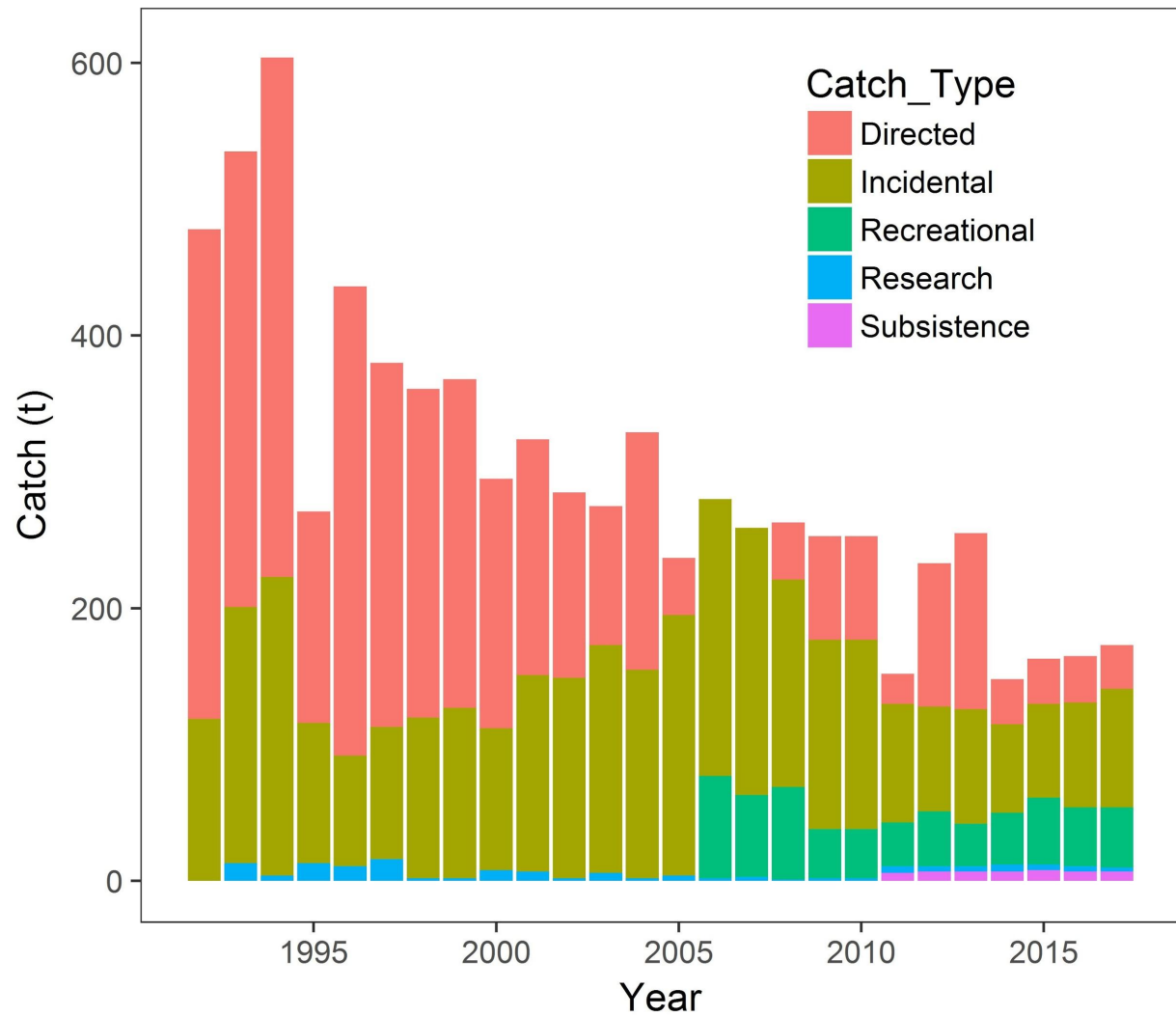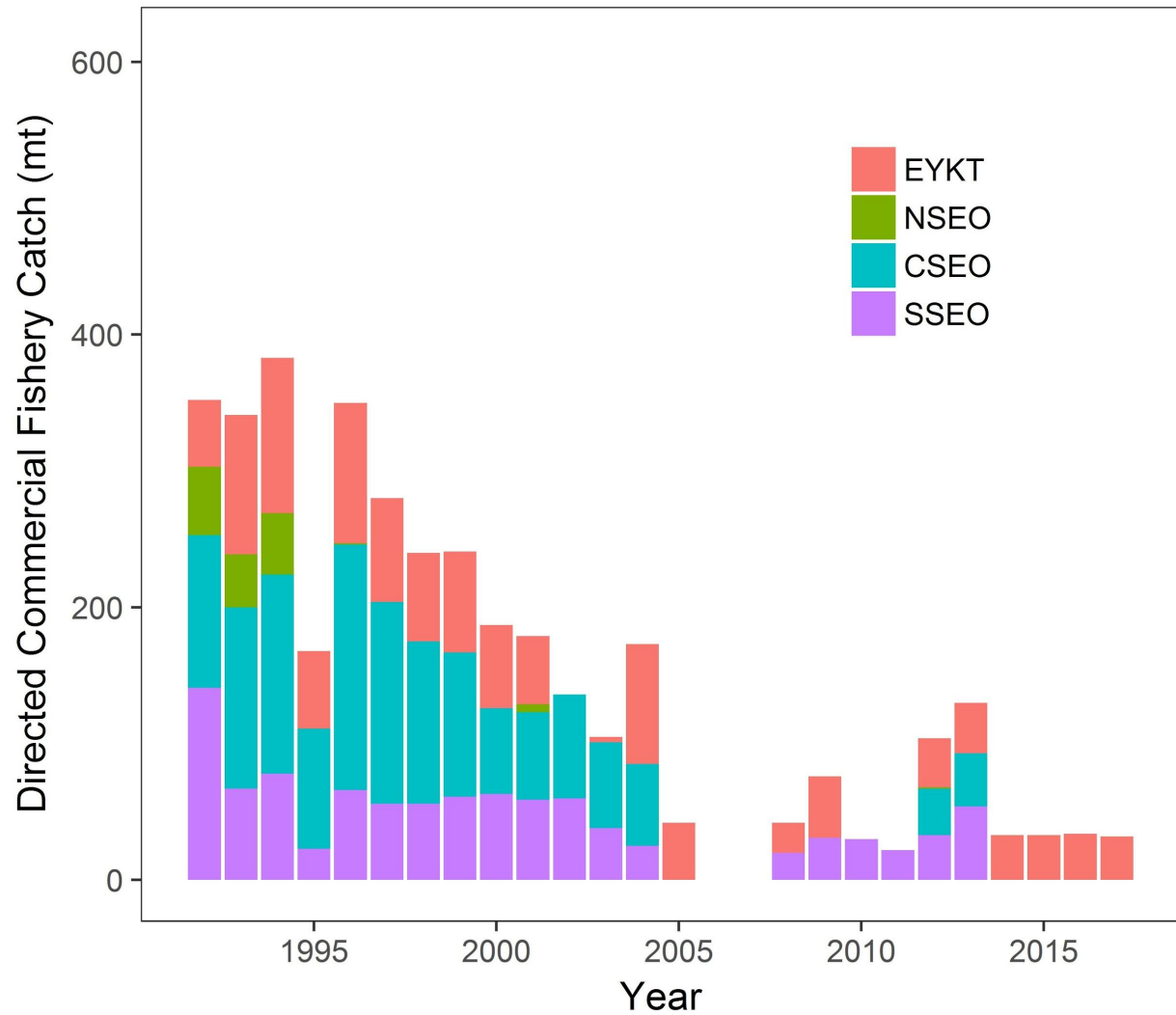**SSEO**
1994, 1999, 2005,
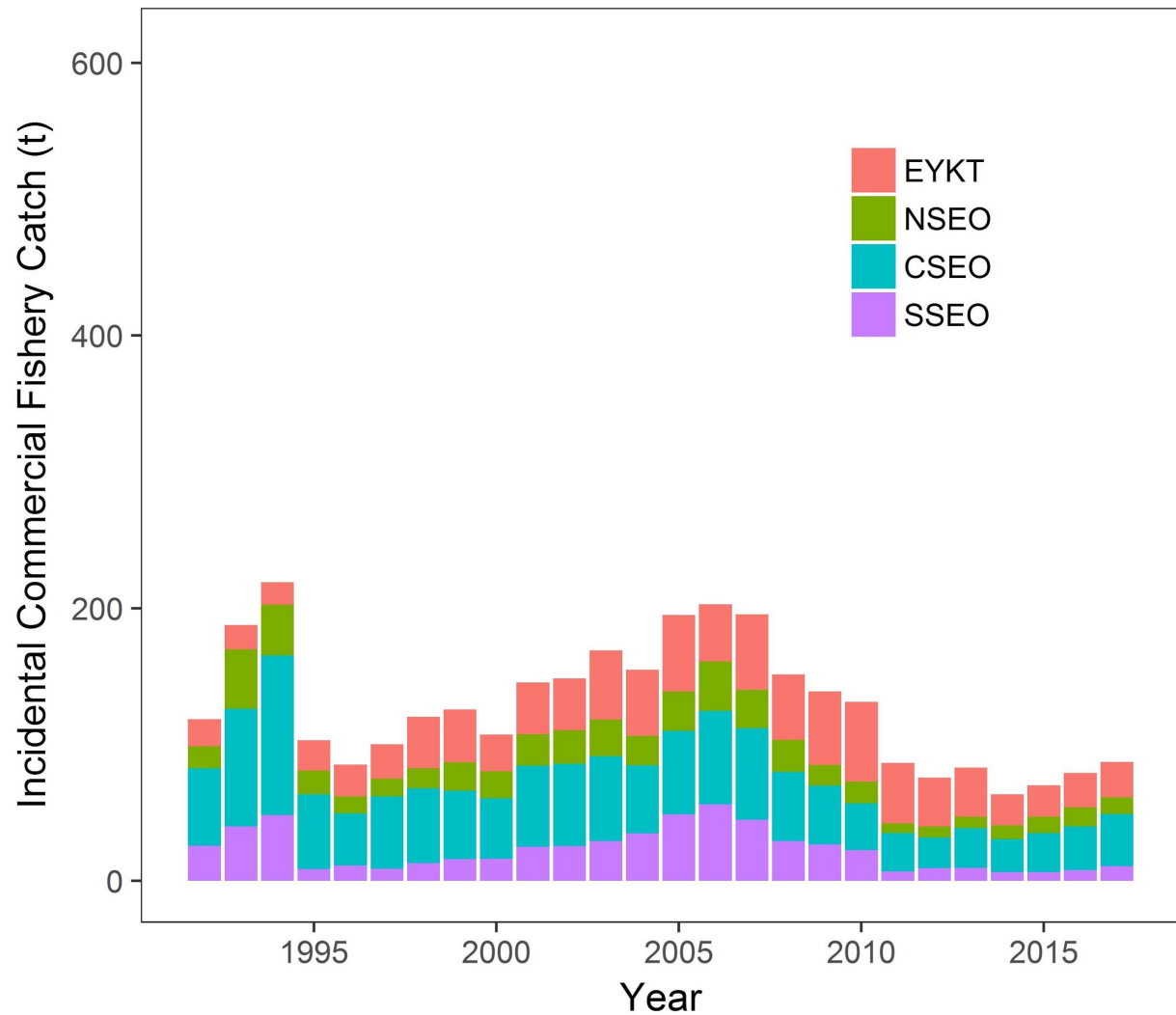2013, **2018**

SEO DSR Catch by Sector

Directed Commercial YE Catch

Incidental Commercial YE Catch
(halibut, lingcod, sablefish, P. cod, &
salmon troll (2015-present))

Stock Assessment

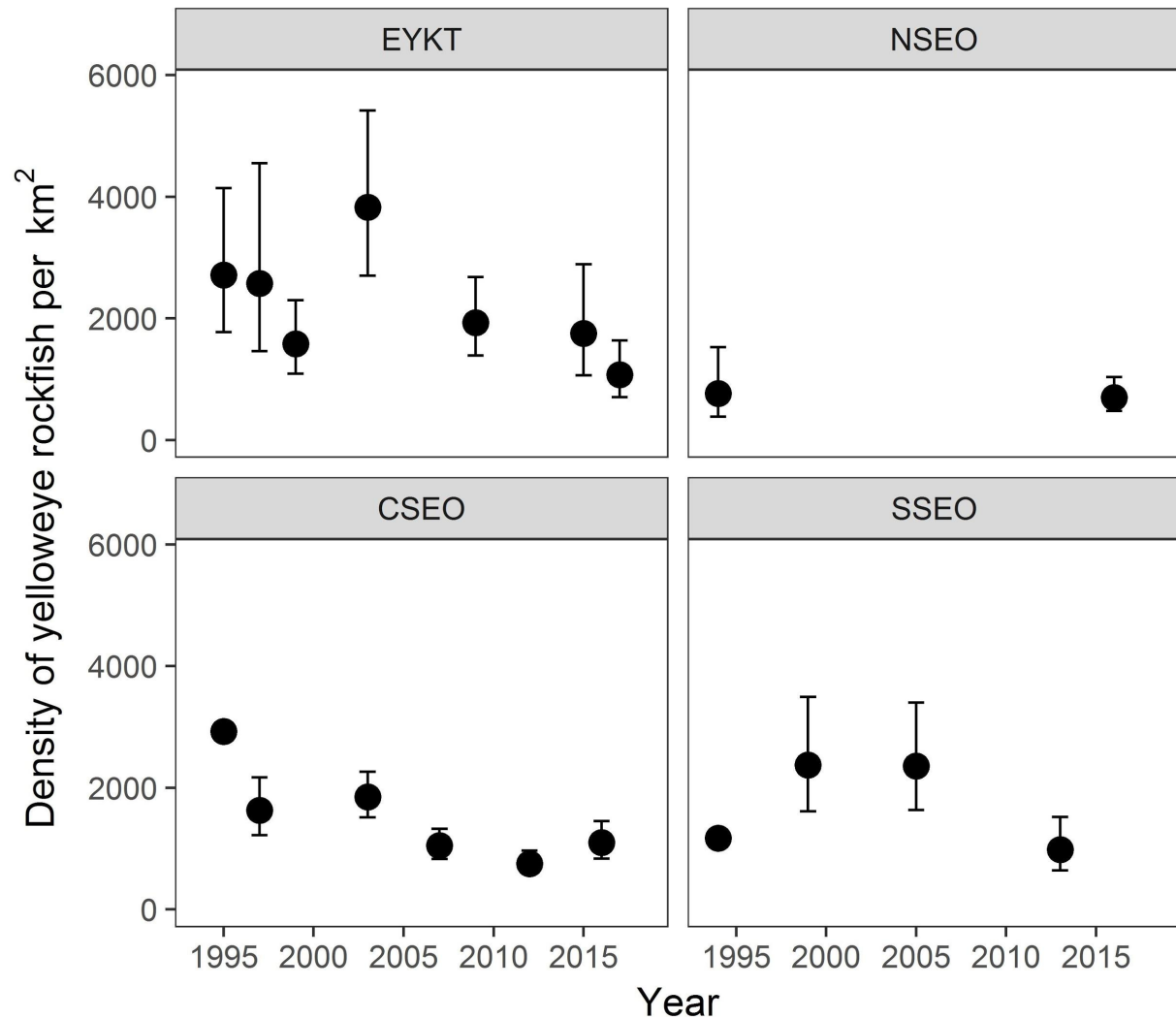Tier 4 Stock Assessment–based on the total biomass of yelloweye rockfish:

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

$$YE\ Biomass_{a,y_1} = Avg\ Wt_{y_1} * Habitat(km^2)_a * Density\ YE(n/km^2)_{a,y_2}$$
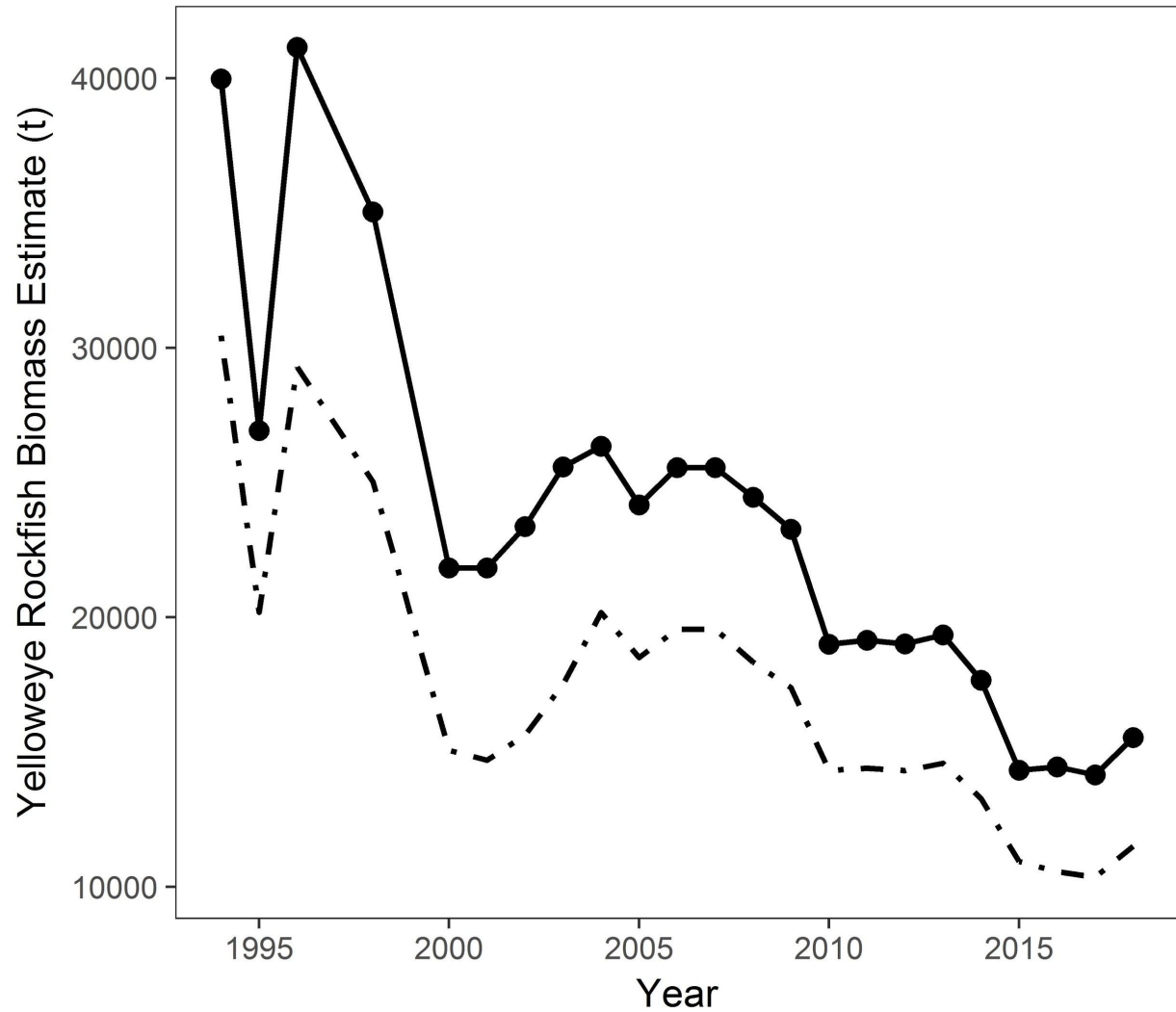
$$where\ a = area(EYKT, NSEO, CSEO, SSEO), y_1 = current\ year, and\ y_2 = year\ of\ last\ ROV\ survey$$

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

Sub & ROV Density Estimates (95% CI)

YE Biomass w/ Lower 90% CI

Updates to Model Input Data and Methods

Input Data: new avg wts & NSEO and CSEO density estimates

Methodology: Tier 4 Yelloweye + Tier 6 calculations for other DSR

Quantity	As estimated or *specified last* year for: 2017	2018	As estimated or *recommended this* year for: 2018	2019
M (natural mortality rate)	0.02	0.02	0.02	0.02
Tier	4	4	4	4
Yelloweye Biomass (t)	10,347		11,508	
$F_{OFL} = F_{35\%}$	0.032	0.032	0.032	0.032
$maxF_{ABC}$	0.026	0.026	0.026	0.026
F_{ABC}	0.020	0.020	0.020	0.020
DSR OFL (t)	357	357	394	394
DSR max ABC (t)	289	289	319	319
ABC (t)	227	227	250	250
Status	As determined last year for:		As determined this year for:	
	2015	2016	2016	2017
Overfishing	No	n/a	No	n/a

Stock Assessment

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

- Derive OFL & ABC from estimates of commercial, recreational, and subsistence (2010–2014) harvest.

Quantity (Other DSR only)	As estimated or *specified last year* for: 2017	As estimated or *recommended this* year for: 2018
ABC (t) Tier 6	20	20
OFL (t) Tier 6	26	26

Recommended Allocation

250 t ABC

250 t – 7 t (subsistence catch) = 243 t

Allocation:

  204 t to Commercial (84%)

  39 t to Sport (16%)

Image: tanakulodge.com