

GOA Rex Sole Partial Assessment

(Full assessment planned for 2021)

Carey McGilliard

Western-Central and Eastern combined

- Projections are done separately for the Western-Central region and the Eastern region
- This table sums the results of the separate projections for the entire GOA

Quantity	As estimated or <i>specified this year for:</i>		As estimated or <i>recommended this year for:</i>	
	2019	2020	2020*	2021*
<i>M</i> (natural mortality rate)	0.17	0.17	0.17	0.17
Tier	3a	3a	3a	3a
Projected total (3+) biomass (t)	98,818	99,383	100,198	101,244
Female spawning biomass (t)	44,072	43,392	43,855	44,500
<i>B</i> _{100%}	See area-specific tables below		See area-specific tables below	
<i>B</i> _{40%}				
<i>B</i> _{35%}				
<i>F</i> _{OFL}				
<i>maxF</i> _{ABC}				
<i>F</i> _{ABC}				
OFL (t)	17,889	17,942	18,127	18,779
maxABC (t)	14,692	14,725	14,878	15,416
ABC (t)	14,692	14,725	14,878	15,416
Status	As determined <i>last year</i> for:		As determined <i>this year</i> for:	
	2017	2018	2018	2019
Overfishing	no	n/a	no	n/a
Overfished	n/a	no	n/a	no
Approaching overfished	n/a	no	n/a	no

Western-Central

- Projection model uses output from age-structured model
- Used age 3 recruits
- Updated 2018 catch
 - 79 t more than 2018 projection
- 2019 catch estimated as 2019 current catch up to Oct 19 + 5-yr average Oct 19-Dec 31 catch
 - 920 t less than 2018 projection
- 2020-2021 catch estimated as 2014-2018 average catch
 - 391 t less than 2018 projection

Quantity: (Western-Central GOA)	As estimated or specified <i>this year</i> for:		As estimated or recommended <i>this year</i> for:	
	2019	2020	2020*	2021*
M (natural mortality rate)	0.17	0.17	0.17	0.17
Tier	3a	3a	3a	3a
Projected total (3+) biomass (t)	77,483	77,939	78,755	79,666
Female spawning biomass (t)	35,066	34,484	34,948	35,506
$B_{100\%}$	48,138	48,138	48,138	48,138
$B_{40\%}$	19,255	19,255	19,255	19,255
$B_{35\%}$	16,848	16,848	16,848	16,848
F_{OFL}	0.29	0.29	0.29	0.29
$maxF_{ABC}$	0.23	0.23	0.23	0.23
F_{ABC}	0.23	0.23	0.23	0.23
OFL (t)	13,755	13,788	13,974	14,512
maxABC (t)	11,308	11,327	11,480	11,925
ABC (t)	11,308	11,327	11,480	11,925
Status	As determined <i>last year</i> for:		As determined <i>this year</i> for:	
	2017	2018	2018	2019
Overfishing	no	n/a	no	n/a
Overfished	n/a	no	n/a	no
Approaching overfished	n/a	no	n/a	no

Eastern Only

- Same methods, but for Eastern area
- Catch projections are < 3 t

Quantity: (Eastern GOA)	As estimated or <i>specified this year for:</i>		As estimated or <i>recommended this year for:</i>	
	2019	2020	2020*	2021*
<i>M</i> (natural mortality rate)	0.17	0.17	0.17	0.17
Tier	3a	3a	3a	3a
Projected total (3+) biomass (t)	21,335	21444	21,443	21,578
Female spawning biomass (t)	9,006	8,908	8,907	8,994
<i>B</i> _{100%}	9,597	9,597	9,597	9,597
<i>B</i> _{40%}	3,839	3,839	3,839	3,839
<i>B</i> _{35%}	3,359	3,359	3,359	3,359
<i>F</i> _{OFL}	0.31	0.31	0.31	0.31
<i>maxF</i> _{ABC}	0.25	0.25	0.25	0.25
<i>F</i> _{ABC}	0.25	0.25	0.25	0.25
OFL (t)	4,134	4,154	4,153	4,267
maxABC (t)	3,384	3,398	3,398	3,491
ABC (t)	3,384	3,398	3,398	3,491
Status	As determined <i>last year for:</i>		As determined <i>this year for:</i>	
	2017	2018	2018	2019
Overfishing	no	n/a	no	n/a
Overfished	n/a	no	n/a	no
Approaching overfished	n/a	no	n/a	no

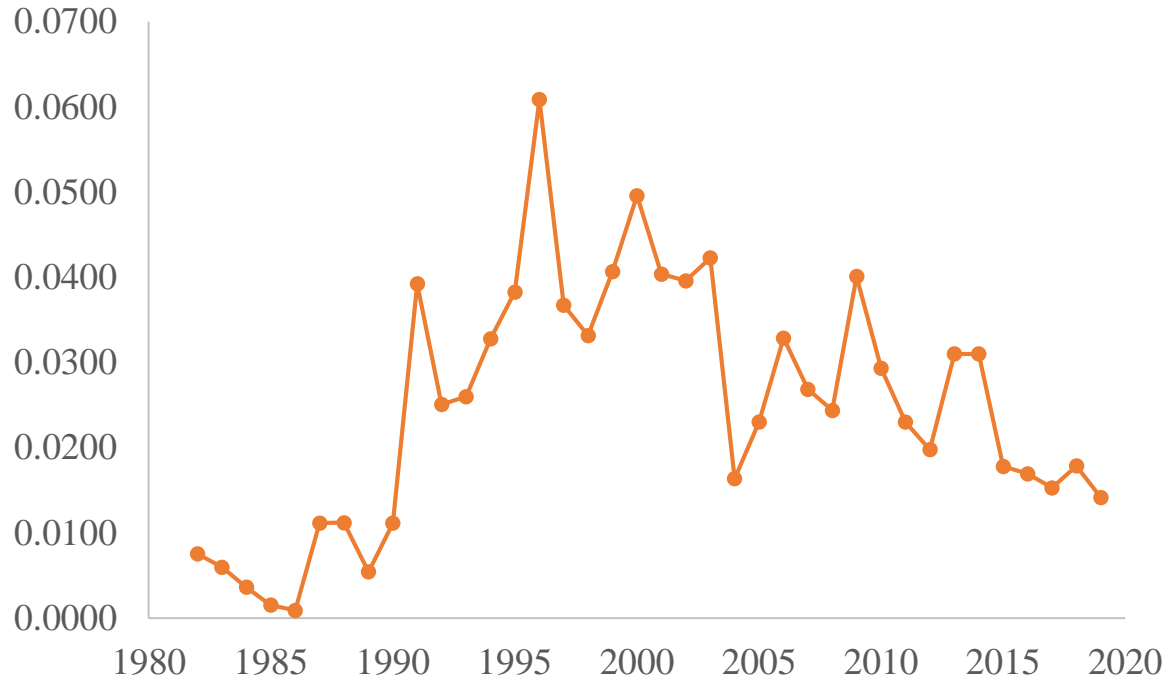
Area Apportionment

- Random effects model used to smooth survey biomass by area
- ABC is distributed to the Western and Central areas using the relative proportion of Western-Central biomass in those two areas
- ABC is distributed to West Yak and SE using the relative proportion of Eastern biomass in those two areas

Quantity	Western	Central	Total Western-Central	West Yakutat	Southeast	Total Eastern
Area Apportionment	25.27%	74.73%	100.00%	34.55%	65.45%	100.00%
2020 ABC (t)	2,901	8,579	11,480	1,174	2,224	3,398
2021 ABC (t)	3,013	8,912	11,925	1,206	2,285	3,491

- Survey biomass in 2019 was 90,414 t, down ~8% from 2017 (97,720 t)

All GOA Catch/Total Biomass



Total Catch

