



NOAA
FISHERIES

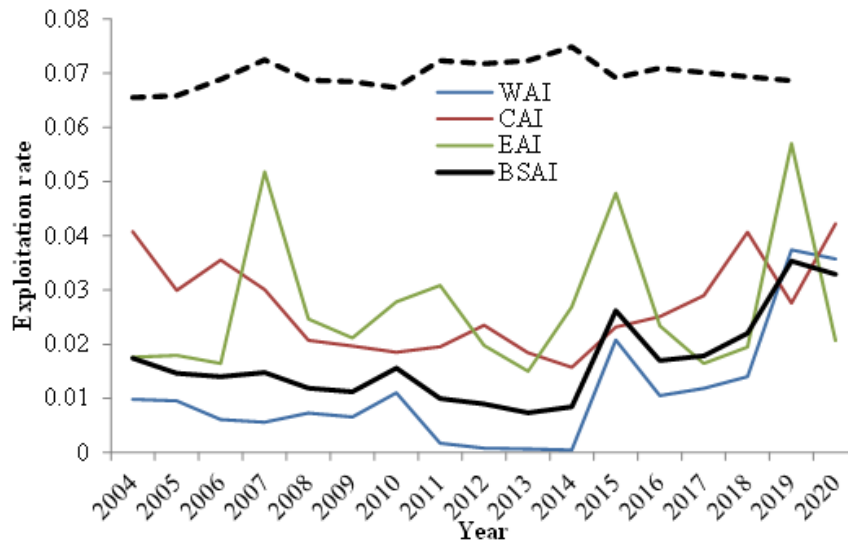
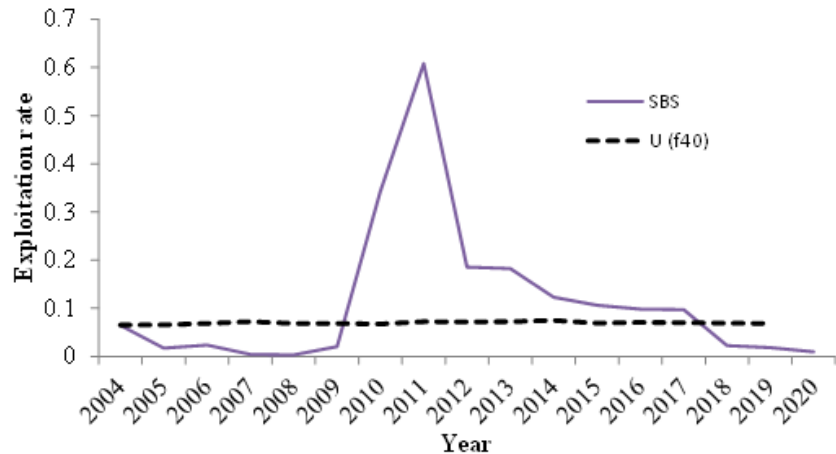
2020 BSAI Northern rockfish assessment (partial)

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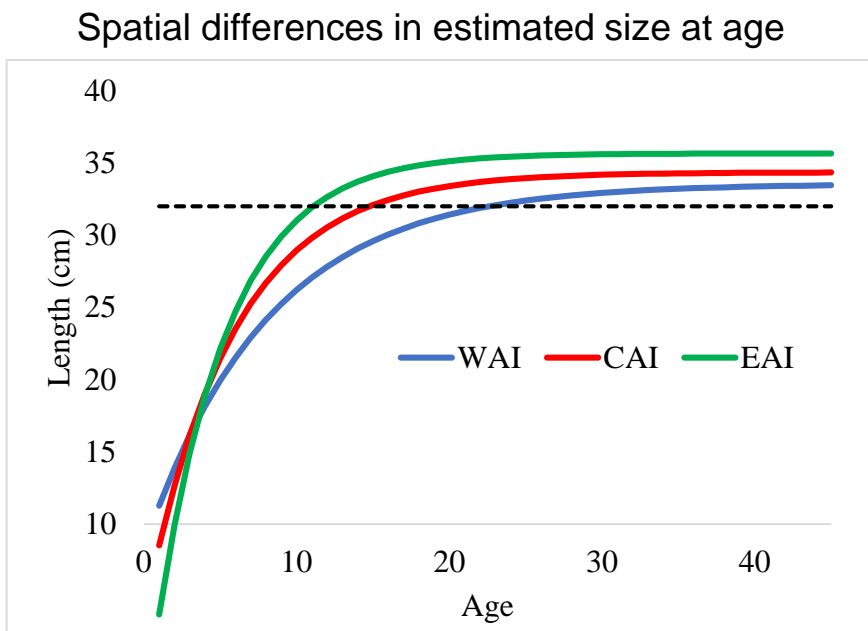
Exploitation rates



Responses to SSC comments

SSC (December, 2019). *The SSC was surprised to see a dramatic change in the survey age compositions from what appeared to be relatively small differences in length-at-age by sub-area.*

BSAI PT (September 2019) “. . . there are strong spatial patterns in length at age and abundance: western AI fish are smallest and get larger for a given age eastward, meanwhile most of the population abundance is in the western AI”.



Differences in survey age compositions with subarea age-length keys result from:

- 1) Strong spatial pattern in size at age
- 2) Concentration of most of the stock in the WAI
- 3) Disproportionate sampling of otoliths with length stratified sampling (i.e., undersampled in the WAI, over sampled in other areas, relative to biomass).

Management recommendations

Quantity	As estimated or specified last year for:		As estimated or recommended this year for:	
	2020	2021	2021*	2022*
<i>M</i> (natural mortality rate)	0.048	0.048	0.048	0.048
Tier	3a	3a	3a	3a
Projected total (age 3+) biomass (t)	250,235	246,384	244,600	240,022
Female spawning biomass (t)				
Projected	111,476	108,063	107,003	103,467
<i>B</i> _{100%}	159,850	159,850	159,850	159,850
<i>B</i> _{40%}	63,940	63,940	63,940	63,940
<i>B</i> _{35%}	55,947	55,947	55,947	55,947
<i>F</i> _{OFL}	0.075	0.075	0.075	0.075
<i>maxF</i> _{ABC}	0.061	0.061	0.061	0.061
<i>F</i> _{ABC}	0.061	0.061	0.061	0.061
OFL (t)	19,751	19,070	18,917	18,221
maxABC (t)	16,243	15,683	15,557	14,984
ABC (t)	16,243	15,683	15,557	14,984
Status	As determined last year for:		As determined this year	
	2018	2019	2019	2020
Overfishing	No	n/a	No	n/a
Overfished	n/a	No	n/a	No
Approaching overfished	n/a	No	n/a	No

Recommended 2021 BSAI ABC and OFLs

ABC: 15,557 t (4% decrease from 2020 value of 16,243 t)

OFL: 18,917 t (4% decrease from 2020 value of 19,751 t)