



**NOAA**  
**FISHERIES**

# BSAI Other Flatfish Complex

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November 2020 Plan Team



# Brief intro & background

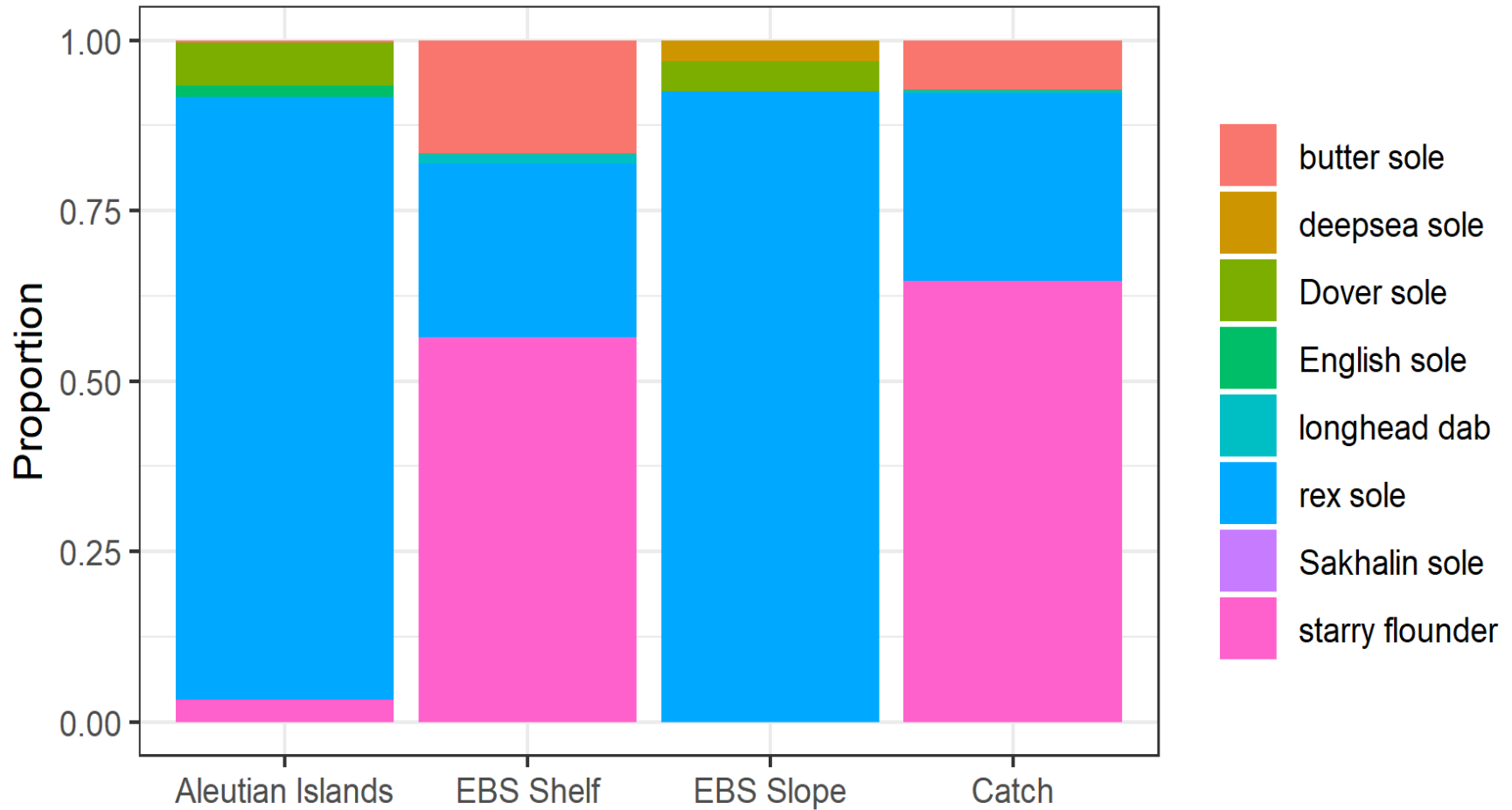
- Tier 5 complex of 15 flatfish species, assessed every 4 years
- No-target species
- Catches dominated by starry flounder and rex sole (96% in 2019)
- Catches less than ABC (23% in 2019)
- RE model for 9 time series: areas by “group”:  
(AI, shelf, slope) x (rex, Dover, ‘other’ other)
- Rex & Dover have different  $M$

# Executive Summary

Recommended  
total ABC of 17,189 t  
is 30.2% increase  
from 2020

	As estimated or <i>specified last year</i> for:		As estimated or <i>recommended this</i> year for:	
	2020	2021	2021	2022
$M$ for rex sole	0.17	0.17	0.17	0.17
$M$ for Dover sole	0.085	0.085	0.085	0.085
$M$ for all others	0.15	0.15	0.15	0.15
Tier	5	5	5	5
Combined Biomass (t)	<b>113,450</b>	113,450	<b>146,679</b>	146,679
$F_{OFL}$ ( $F=M$ ) for rex sole	0.17	0.17	0.17	0.17
$F_{OFL}$ ( $F=M$ ) for Dover sole	0.085	0.085	0.085	0.085
$F_{OFL}$ ( $F=M$ ) for all other species	0.15	0.15	0.15	0.15
$maxF_{ABC}$ for rex sole	0.128	0.128	0.128	0.128
$maxF_{ABC}$ for Dover sole	0.064	0.064	0.064	0.064
$maxF_{ABC}$ for all others	0.113	0.113	0.113	0.113
$F_{ABC}$ for rex sole	0.128	0.13	0.128	0.13
$F_{ABC}$ for Dover sole	0.064	0.064	0.064	0.064
$F_{ABC}$ for all others	0.113	0.113	0.113	0.113
OFL (t)	<b>17,591</b>	<b>17,591</b>	<b>22,919</b>	<b>22,919</b>
maxABC (t)	<b>13,193</b>	<b>13,193</b>	<b>17,189</b>	<b>17,189</b>
ABC (t)	<b>13,193</b>	<b>13,193</b>	<b>17,189</b>	<b>17,189</b>

# Species composition: survey & catch

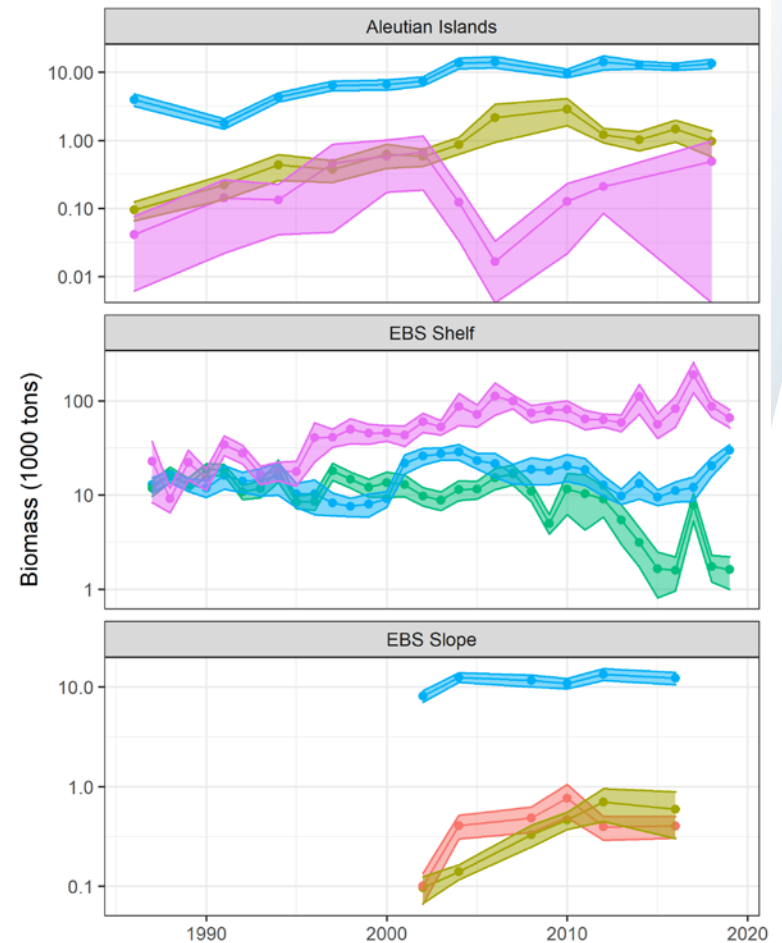
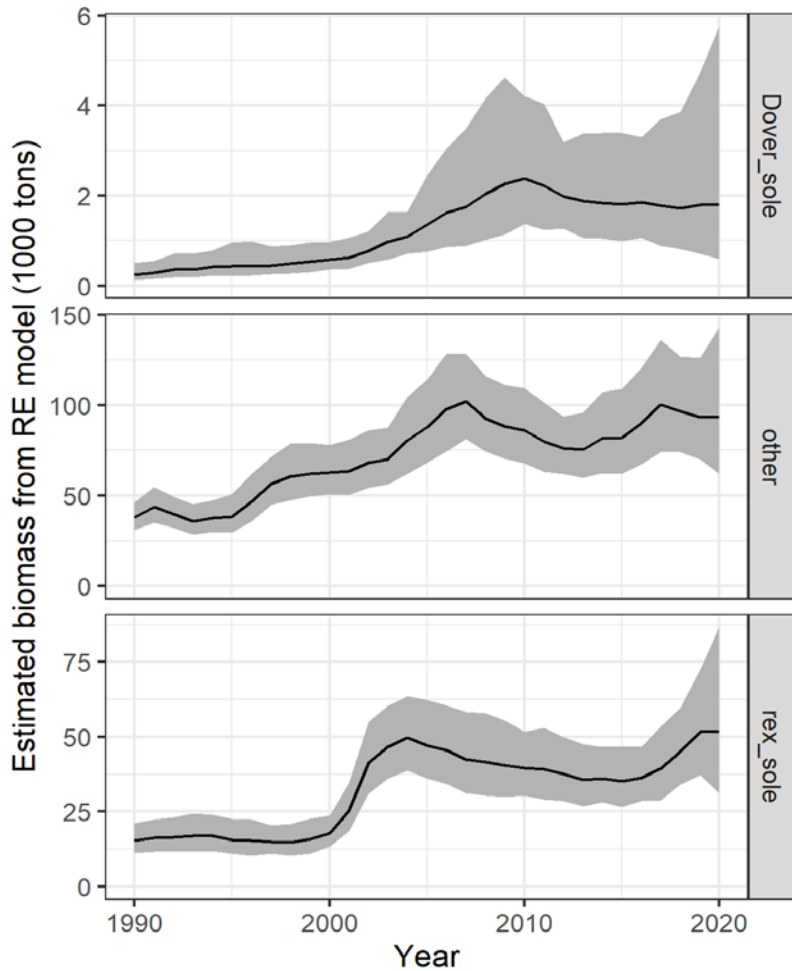


# Model fits



# Survey biomass for select species

## RE model by species group



# Risk table

Model fits well and general increase in biomass

No apparent ecosystem concerns  
(thanks to E. Siddon)

No ESP available, exploitation rates  $<5\%$  and  
catch  $\ll$  ABC

[How to assess across BS and AI and 15 species?]

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Assessment-related considerations	Population dynamics considerations	Environmental/ecosystem considerations	Fishery Performance considerations
<b>Level 1:</b> no increased concerns	<b>Level 1:</b> no increased concerns	<b>Level 1:</b> no increased concerns	<b>Level 1:</b> no increased concerns

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# Summary and questions?

## Recommended 2021 ABC and OFL

Species	$F_{ABC}$	$F_{OFL}$	Biomass (t)	ABC	OFL
Rex sole	0.13	0.17	51,660	6,587	8,782
Dover sole	0.06	0.09	1,790	114	152
All others	0.11	0.15	93,230	10,488	13,984
Total other flatfish			146,679	17,189	22,919