

7. Assessment of the Kamchatka flounder stock in the Bering Sea/Aleutian Islands

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Executive Summary

Starting in 2014, it was proposed that the Kamchatka flounder stock assessment was a candidate for full stock assessments in even years on a biennial basis in the Bering Sea/Aleutian Islands region. For 2015 an executive summary is prepared to provide management quantities and recommendations for the 2016 fishing season, even though a full Bering Sea shelf survey was conducted. Kamchatka flounder are managed as a Tier 3 stock using a statistical age-structured model as the primary assessment tool. Details of the model can be found at <http://www.afsc.noaa.gov/REFM/docs/2014/BSAIkamchatka.pdf>. The assessment model is not re-run for this update but instead, a projection model is run with updated catch information. This projection model run incorporates the most recent catch and provides estimates of 2016 and 2017 ABC and OFL without re-estimating the stock assessment model parameters or biological reference points. A full stock assessment document with updated assessment results is planned for the 2016 SAFE report.

Summary of changes in assessment input

Changes in the input data: The stock assessment model was not run for this update. New input data for the projection model included updating the 2015 catch and estimating the 2016 catch. The 2015 catch was 4,858 t as of mid- October. For the estimation of 2016 catch, the average of the 2014 and 2015 catches (5,658 t) was used.

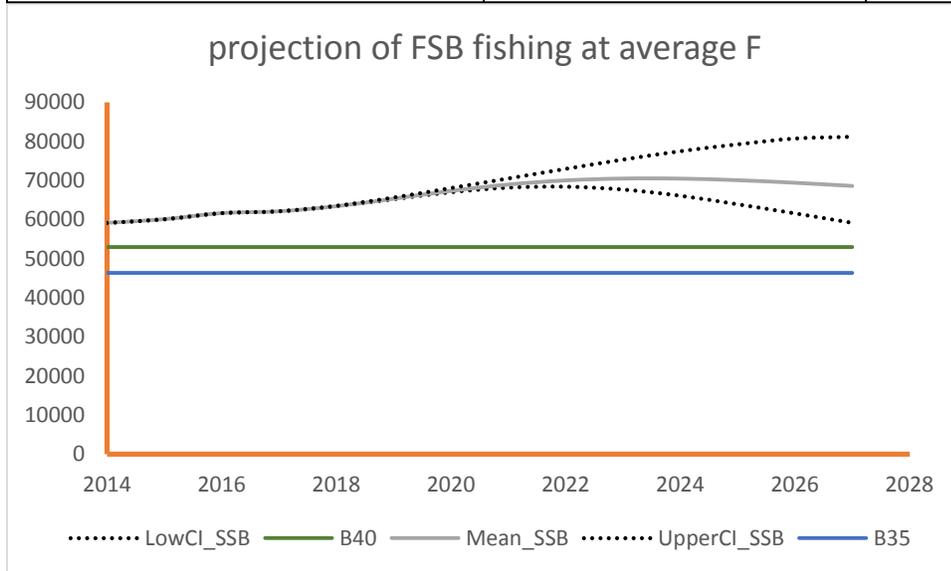
For the 2016 fishery, the authors recommend the maximum allowable ABC of 9,500 t from the updated projection model. This value is an increase of 500 t (6%) over the 2015 ABC (9,000 t) that was also derived from Tier 3 methodology.

Changes in assessment methodology:

There were no changes in assessment methodology since this was an off-cycle year.

Reference values for Kamchatka flounder are summarized in the following table, with the recommended 2016 values in bold. Projected 2016 female spawning biomass is estimated at 61,700 t, 16% above the $B_{40\%}$ level of 53,000 t, and is projected to remain above $B_{40\%}$ if fishing continues at that level (see figure below). The stock was not being subjected to overfishing last year, is currently not overfished, nor is it approaching a condition of being overfished.

	Tier 3 assessment model			
	As estimated last year for		As recommended this year for	
Quantity	2015	2016	2016	2017
<i>M</i> (natural mortality rate)	0.11	0.11	0.11	0.11
Tier	3	3	3	3
Projected total (age 1+) biomass (t)	174,500	181,000	182,300	189,100
Projected female spawning biomass				
Projected	60,100	61,200	61,700	63,800
<i>B</i> _{100%}	132,500	132,500	132,500	132,500
<i>B</i> _{40%}	53,000	53,000	53,000	53,000
<i>B</i> _{35%}	46,400	46,400	46,400	46,400
<i>F</i> _{OFL}	0.076	0.076	0.076	0.076
<i>maxF</i> _{ABC}	0.065	0.065	0.065	0.065
<i>F</i> _{ABC}	0.065	0.065	0.065	0.065
OFL (t)	10,500	11,000	11,100	11,700
maxABC (t)	9,000	9,500	9,500	10,000
ABC (t)	9,000	9,500	9,500	10,000
Status	As determined <i>last</i> year for:		As determined <i>this</i> year for:	
	2013	2014	2014	2015
Overfishing	no	n/a	no	n/a
Overfished	n/a	no	n/a	no
Approaching overfished	n/a	no	n/a	no



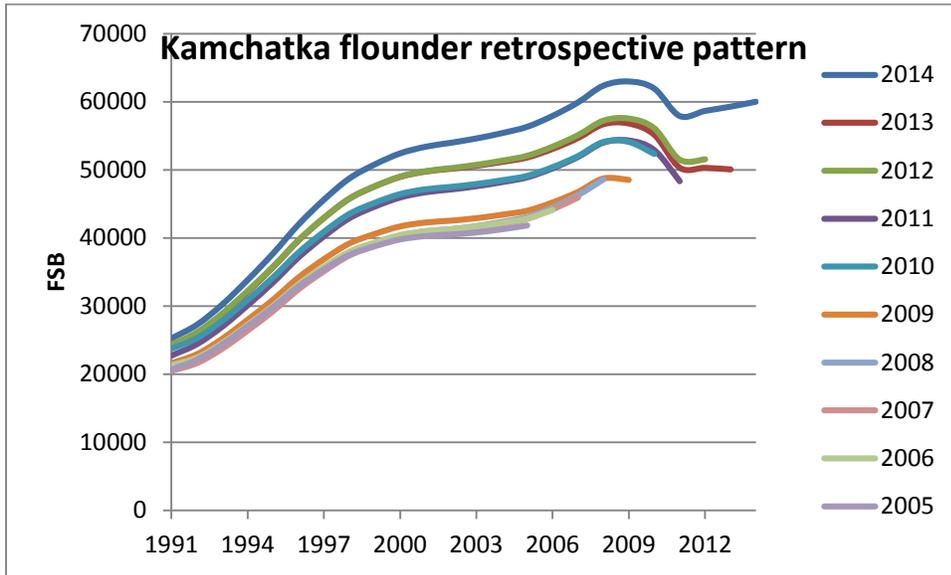
SSC and Plan Team Comments on Assessments in General.

No comments relevant to Kamchatka flounder.

SSC and Plan Team comments Specific to this Assessment.

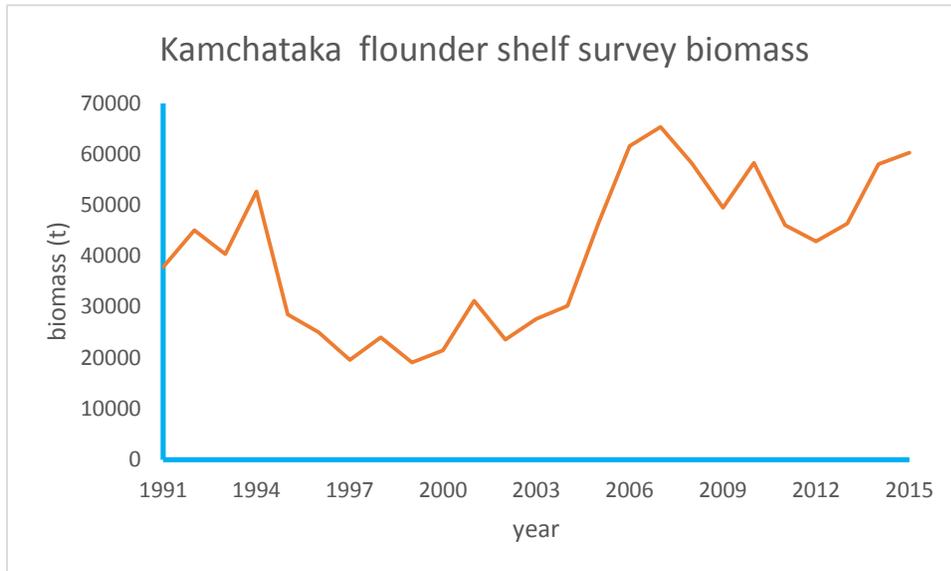
Despite the short time series for this stock, the SSC agrees with the Plan Team that a retrospective analysis be conducted and presented in the next assessment.

A retrospective plot of female spawning biomass was constructed this past year and is shown below.



2015 Survey results

The 2015 Bering Sea shelf survey biomass estimate for Kamchatka flounder was 60,331 t, a 4% increase from the 2014 biomass point estimate of 58,036 t. Kamchatka flounder are also found on the Bering Sea slope and in the Aleutian Islands, areas not surveyed in 2015.



2015 Commercial catch

The 2015 catch of 4,858 t was 54% of the ABC of 9,000 t and 46% of the OFL of 10,500 t.

