

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

Thomas Wilderbuer, Daniel Nichol and James Ianelli

Executive Summary

Kamchatka flounder are assessed on an annual basis in the Bering Sea/Aleutian Islands region to coincide with the annual eastern Bering Sea (EBS) multispecies groundfish trawl survey conducted each summer and also the biennial Bering Sea slope and Aleutian Islands surveys. Due to a temporary lapse in appropriations, the Federal Government implemented a shutdown from October 1 – October 16, 2013. Although the EBS shelf survey was completed in 2013, the shutdown did not allow time to produce a full stock assessment for Kamchatka flounder and many other species. Therefore, an executive summary is presented to provide management recommendations for the 2014 fishing season.

Kamchatka flounder are managed as a Tier 3 stock using a statistical age-structured model as the primary assessment tool. Details of the model and last year's full assessment can be found at <http://www.afsc.noaa.gov/REFM/docs/2012/BSAIkamchatka.pdf>. For the 2013 update, the assessment model is not re-run but instead, the projection model is run with updated catch information only. This projection model run incorporates the most recent catch information and provides estimates of 2014 and 2015 ABC and OFL without re-estimating the stock assessment model parameters and biological reference points. This update does not incorporate the 2013 EBS shelf survey information.

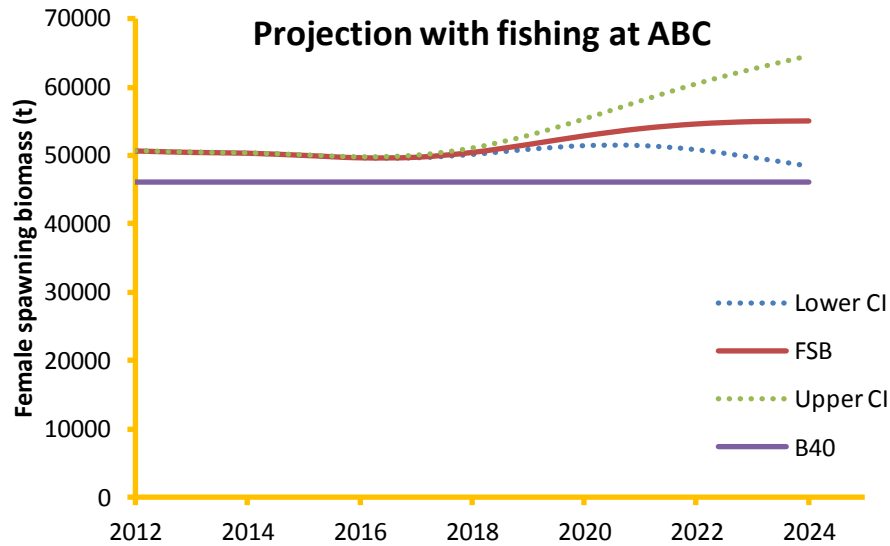
Summary of changes in assessment input

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 2012 catch and estimating the 2013 and 2014 catch. The 2013 catch was 7,671 t as of the week of October 24. This value was rounded-up to 7,800 t to estimate the 2013 total catch since the flatfish fishery was still ongoing at the time. For the estimation of 2015 population levels, the value of the 2014 ABC (7,126 t) obtained from the projection model using the updated 2012 and 2013 catch, was used to estimate the 2014 catch assuming the full 2014 ABC would be harvested.

For the 2014 fishery, the authors recommend the maximum allowable ABC of 7,100 t from the updated projection model. This value is a decrease of 40% of the 2013 ABC (12,200 t) that was derived from Tier 5 methodology.

Reference values for Kamchatka flounder are summarized in the following table, with the recommended 2014 values in bold. Projected 2014 female spawning biomass is estimated at 50,400 t, above the $B_{40\%}$ level of 46,100 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 or <i>specified last year for:</i>		As would have been estimated or <i>recommended last year for:</i>	
Quantity	2013	2014	2014	2015
<i>M</i> (natural mortality rate)	0.13	0.13	0.11	0.11
Tier	5	5	3	3
Biomass (t)	108,800	108,800		
Projected total (age 1+) biomass (t)			136,600	138,700
Female spawning biomass (t)				
Projected			50,400	50,100
<i>B</i> _{100%}	na	na	115,200	115,200
<i>B</i> _{40%}	na	na	46,100	46,100
<i>B</i> _{35%}	na	na	40,300	40,300
<i>F</i> _{OFL}	0.13	0.13	0.073	0.073
<i>maxF</i> _{ABC}	0.098	0.098	0.063	0.063
<i>F</i> _{ABC}	0.098	0.098	0.063	0.063
OFL (t)	16,300	16,300	8,270	8,500
maxABC (t)	12,200	12,200	7,100	7,300
ABC (t)	12,200	12,200	7,100	7,300
Status	As determined <i>last year for:</i>		As determined <i>this year for:</i>	
	2011	2012	2012	2013
Overfishing	no	n/a	no	n/a
Overfished	n/a	no	n/a	no
Approaching overfished	n/a	n/a	no	no
	Alternative Tier 5 model			
	As estimated or <i>specified last year for:</i>		As estimated or <i>recommended this year for:</i>	
Quantity	2013	2014	2014	2015
<i>M</i> (natural mortality rate)	0.13	0.13	0.13	0.13
Tier	5	5	5	5
Biomass (t)	108,800	108,800	128,300	128,300
<i>F</i> _{OFL}	0.13	0.13	0.13	0.13
<i>maxF</i> _{ABC}	0.098	0.098	0.098	0.098
<i>F</i> _{ABC}	0.098	0.098	0.098	0.098
OFL (t)	16,300	16,300	16,600	16,600
maxABC (t)	12,200	12,200	12,400	12,400
ABC (t)	12,200	12,200	12,400	12,400
Status	As determined <i>last year for:</i>		As determined <i>this year for:</i>	
	2013	2014	2014	2015
Overfishing	no	no	n/a	n/a



SSC and Plan Team Comments on Assessments in General.

No comments relevant to Kamchatka flounder.

SSC and Plan Team comments Specific to this Assessment.

Plan Team comment: The Team commended the author on successfully implementing this method for addressing disparate survey data sets and recommended use of this model in the November assessment.

The full assessment model was not fit with 2013 data for this assessment due to the government shutdown. However, the projection model estimates are based on the assessment model.

2013 Survey results

The 2013 Bering Sea shelf survey biomass estimate for Kamchatka flounder was 43,029 t, a 5% increase from the 2012 biomass point estimate of 40,951 t. Kamchatka flounder are also found on the Bering Sea slope and in the Aleutian Islands, areas not surveyed in 2013.

Kamchatka flounder EBS shelf survey biomass

