19. Assessment of the sculpin complex in the Bering Sea and Aleutian Islands

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Executive Summary

In 2011, Bering Sea and BSAI sculpins were moved to a biennial assessment schedule to coincide with the frequency of trawl surveys in the Aleutian Islands (AI) and the eastern Bering Sea (EBS). These surveys occur in even years, and for these years, full assessment of sculpins in the BSAI will be conducted. The 2014 full assessment can be found at http://www.afsc.noaa.gov/REFM/Stocks/assessments.htm. The sculpin assessment is conducted with Tier 5 methods, in which a non-age-structured model is applied to a time series of survey biomass estimates to obtain the current estimated biomass. An exploitation rate is then applied to the estimated current biomass to obtain the ABC and OFL.

Summary of Changes in Assessment Inputs

Changes in the input data: There were no changes made to the assessment inputs because this was an off-cycle year.

Changes in assessment methodology: There were no changes in assessment methodology, although it should be noted that the random effects survey averaging model was used in last year's assessment. This information can be found in Appendix 1 of the 2014 BSAI sculpin complex assessment (http://www.afsc.noaa.gov/REFM/Stocks/assessments.htm).

Summary of Results

The BSAI catch of sculpins in 2014 was 4860 t, with 373 t in the AI and 4486 t in the EBS. The 2015 catch of sculpins, through October 23, 2015, was 4361 t, with 865 t in the AI and 3496 t in the EBS.

Because neither the time series of survey biomass estimates nor the proxy values for F_{abc} and F_{ofl} have changed since 2014, the estimated ABC and OFL values for 2016 and 2017 in this update are identical to the values for 2015 and 2016 produced in the 2014 assessment. Stock size, harvest, and fishing rate reference values are shown in the following table:

Quantity	As estimated or *specified last* year for: 2015	2016	As estimated or *recommended this* year for: 2016	2017
M (natural mortality rate)*	0.29	0.29	0.29	0.29
Tier	5	5	5	5
Biomass (t)	180,570	180,570	180,570	180,570
F_{OFL}	0.29	0.29	0.29	0.29
$maxF_{ABC}$	0.22	0.22	0.22	0.22
F_{ABC}	0.22	0.22	0.22	0.22
OFL (t)	52,365	52,365	52,365	52,365
maxABC (t)	39,725	39,725	39,725	39,725
ABC (t)	39,725	39,725	39,725	39,725
Status	As determined *last* year for: 2013	2014	As determined *this* year for: 2014	2015
Overfishing		n/a		n/a

* *The sculpin complex mortality rate is a biomass-weighted average of the instantaneous natural mortality rates for the six most abundant sculpins in the BSAI: bigmouth (Hemitripterus bolini), great (Myoxocephalus polyacanthocephalus), plain (Myoxocephalus jaok), threaded (Gymnocanthus pistilliger), warty (Myoxocephalus verrucosus), and yellow Irish lord (Hemilepidotus jordani). The complex mortality rate may change as new survey data become available.*

Summaries for the Plan Team

Year	Biomass	OFL	ABC	TAC	Catch
2014	215,713	56,424	42,318	5,750	4860
2015	180,570	52,365	39,725	4,700	4361[1]
2016	180,570	56,487	42,852		
2017	180,570	56,487	42,852		

[1]Current as of October 23, 2015. Source: NMFS Alaska Regional Office Catch Accounting System via the Alaska Fisheries Information Network (AKFIN) database (http://www.akfin.org).

SSC and Plan Team comments on assessments in general

None pertaining to this assessment.

SSC and Plan Team comments specific to this assessment

None.