

## 16. Assessment of Other Rockfish complex in the Bering Sea and Aleutian Islands

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### Executive Summary

The Bering Sea/Aleutian Islands (BSAI) Other rockfish complex includes all species of *Sebastes* and *Sebastolobus*, except for Pacific ocean perch (POP, *Sebastes alutus*), northern rockfish (*Sebastes polyspinis*), dark rockfish (*Sebastes ciliatus*), roughey rockfish (*Sebastes aleutianus*), blackspotted rockfish (*Sebastes melanostictus*) and shortraker rockfish (*Sebastes borealis*). The seven most abundant species in this complex are shortspine thornyhead; *Sebastolobus alascanus*, dusky rockfish; *Sebastes variabilis*, redbanded rockfish; *Sebastes babcocki*, redstripe rockfish; *Sebastes proriger*, yelloweye rockfish; *Sebastes ruberrimus*, harlequin rockfish; *Sebastes variegatus*, and sharpchin rockfish; *Sebastes zacentrus*. Many of the species in the genus *Sebastes* are relatively uncommon; and different species may be represented in different years. The two most abundant species in the Other Rockfish complex are dusky rockfish and shortspine thornyheads (SST).

In 2005, the Bering Sea/Aleutian Islands (BSAI) other rockfish complex was 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) slope. These surveys occur in even years, and for these years a full assessment of other rockfish in the BSAI area are conducted. The 2014 full assessment can be found at <http://www.afsc.noaa.gov/REFM/Stocks/assessments.htm>. The Other Rockfish assessment is conducted with Tier 5 methods; in this methodology, an exploitation rate based on the natural mortality rate ( $M$ ) is 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 since this was an off-cycle year.

Changes in assessment methodology: There were no changes in assessment methodology since this was an off-cycle year. The random effects model was used to calculate current year biomass in last year's full assessment and the reference points generated in that assessment are used in the current assessment (Appendix 1 of the 2014 Other Rockfish complex assessment).

## Summary of Results

Summary for SST portion of the Other Rockfish complex.

<b>Quantity</b>	As estimated or <i>specified last year for:</i>		As estimated or <i>recommended this year for:</i>	
	2015	2016	2016	2017
<i>M</i> (natural mortality rate)	0.03	0.03	0.03	0.03
Tier	5	5	5	5
Biomass (t)	46,647	46,647	46,647	46,647
$F_{OFL}$	0.03	0.03	0.03	0.03
$maxF_{ABC}$	0.03	0.03	0.03	0.03
$F_{ABC}$	0.0225	0.0225	0.0225	0.0225
OFL (t)	1,399	1,399	1,399	1,399
maxABC (t)	1,050	1,050	1,050	1,050
ABC (t)	1,050	1,050	1,050	1,050
AI ABC (t)	373	373	374	374
EBS ABC (t)	676	676	676	676
<b>Status</b>	As determined <i>last year for</i> for:		As determined <i>this year for</i>	
	2013	2014	2014	2015
Overfishing	No	n/a	No	n/a

Summary for non-SST portion of the Other Rockfish complex.

<b>Quantity</b>	As estimated or <i>specified last year for:</i>		As estimated or <i>recommended this year for:</i>	
	2015	2016	2016	2017
<i>M</i> *(natural mortality rate)	0.09	0.09	0.09	0.09
Tier	5	5	5	5
Biomass (t)	2,983	2,983	2,983	2,983
$F_{OFL}$	0.09	0.09	0.09	0.09
$maxF_{ABC}$	0.0675	0.0675	0.0675	0.0675
$F_{ABC}$	0.0675	0.0675	0.0675	0.0675
OFL (t)	268	268	268	268
maxABC (t)	201	201	201	201
ABC (t)	201	201	201	201
AI ABC (t)	182	182	182	182
EBS ABC (t)	19	19	19	19
<b>Status</b>	As determined <i>last year for</i>		As determined <i>this year for</i>	
	2013	2014	2014	2015
Overfishing	No	n/a	No	n/a

\*This natural mortality rate is estimated for dusky rockfish and assumed as a proxy for the non-SST portion of the Other Rockfish complex.

Summary for the entire Other Rockfish complex (SST and non-SST combined).

Quantity	As estimated or <i>specified last year for:</i>		As estimated or <i>recommended this year for:</i>	
	2015	2016	2016	2017
<i>M</i> (natural mortality rate)	0.03	0.03	0.03	0.03
Tier	5	5	5	5
Biomass (t)	49,630	49,630	49,630	49,630
<i>F</i> <sub>OFL</sub>	-	-	-	-
<i>maxF</i> <sub>ABC</sub>	-	-	-	-
<i>F</i> <sub>ABC</sub>	-	-	-	-
OFL (t)	1,667	1,667	1,667	1,667
maxABC (t)	1,250	1,250	1,250	1,250
ABC (t)	1,250	1,250	1,250	1,250
AI ABC (t)	555	555	555	555
EBS ABC (t)	695	695	695	695
Status	As determined <i>last year for for:</i>		As determined <i>this year for</i>	
	2013	2014	2014	2015
Overfishing	No	n/a	No	n/a

The estimated biomass was based upon the random effects survey averaging model. The estimate of biomass includes data from the NMFS eastern Bering Sea shelf survey, the NMFS Bering Sea slope survey, and the NMFS Aleutian Islands (AI) survey, split into the AI and southern Bering Sea (RACE summary area 799).

### Summaries for the Plan Team

Species	Year	Biomass	OFL	ABC	TAC	Catch
Other Rockfish Complex	2014	47,705	1,540	1,159	1,159	905
	2015	49,630	1,667	1,250	880	614 <sup>1</sup>
	2016	49,630	1,667	1,250		
	2017	49,630	1,667	1,250		

<sup>1</sup>Updated October 19, 2015. Source: NMFS Alaska Regional Office Catch Accounting System via the Alaska Fisheries Information Network (AKFIN) database (<http://www.akfin.org>).

### Summary Table for Other Rockfish

	BSAI	AI	EBS	Total
OFL (2014)	1,550			1,550
ABC (2014)		473	690	1,163
TAC (2014)		473	300	773
Catch (2014)		621	323	944
OFL (2015)	1,667			1,667
ABC (2015)		555	695	1,250

TAC (2015)		555	325	880
Catch (2015) <sup>1</sup>		453	161	614
OFL (2016)	1,667			1,667
ABC (2016)		555	695	1,250
OFL (2017)	1,667			1,667
ABC (2017)		555	695	1,250

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<sup>1</sup>Updated October 19, 2015.

**SSC and Plan Team comments on assessments in general**

None pertaining to this assessment.

**SSC and Plan Team comments specific to this assessment**

None.