

18. Assessment of the skate stock complex in the Gulf of Alaska

[2019]

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[NOTE: In accordance with the approved schedule, no assessment was conducted for this stock this year, however, a full stock assessment will be conducted in 2021. Until then, the values generated from the previous stock assessment (below) will be rolled over for 2021 specifications]

Summary of Results

big skate (<i>Beringraja binocularata</i>)					
Quantity		As estimated or <i>specified</i> <i>last full assessment</i> for		As estimated or <i>recommended this year</i> for:	
		2018	2019	2020	2021
<i>M</i> (natural mortality)		0.1	0.1	0.1	0.1
Specified/recommended Tier		5	5	5	5
Biomass (t)	W	6,716	6,716	10,109	10,109
	C	23,658	23,658	20,798	20,798
	E	7,601	7,601	11,861	11,861
	GOA-wide	37,975	37,975	42,779	42,779
<i>F_{OFL}</i> (<i>F=M</i>)		0.1	0.1	0.1	0.1
<i>maxF_{ABC}</i> (<i>F=0.75*M</i>)		0.075	0.075	0.075	0.075
<i>F_{ABC}</i>		0.075	0.075	0.075	0.075
OFL (t)	GOA-wide	3,797	3,797	4,278	4,278
ABC (t; equal to maximum ABC)	W	504	504	758	758
	C	1,774	1,774	1,560	1,560
	E	570	570	890	890
Status		As determined <i>last year</i> for:		As determined <i>this year</i> for:	
		2016	2017	2018	2019
Overfishing?		<i>no</i>	<i>na</i>	no	na

longnose skate (<i>Raja rhina</i>)					
Quantity		As estimated or <i>specified</i> <i>last full assessment</i> for		As estimated or <i>recommended this year</i> for:	
		2018	2019	2020	2021
<i>M</i> (natural mortality)		0.1	0.1	0.1	0.1

Specified/recommended Tier		5	5	5	5
Biomass (t)	W	1,982	1,982	2,156	2,156
	C	37,390	37,390	25,583	25,583
	E	8,260	8,260	7,558	7,558
	GOA-wide	47,632	47,632	34,487	34,487
$F_{OFL} (F=M)$		0.1	0.1	0.1	0.1
$maxF_{ABC} (F=0.75*M)$		0.075	0.075	0.075	0.075
F_{ABC}		0.075	0.075	0.075	0.075
OFL (t)	GOA-wide	4,763	4,763	3,449	3,449
ABC (t; equal to maximum ABC)	W	149	149	158	158
	C	2,804	2,804	1,875	1,875
	E	619	619	554	554
Status		As determined <i>last</i> year for:		As determined <i>this</i> year for:	
		2016	2017	2018	2019
Overfishing?		<i>no</i>	<i>na</i>	no	<i>na</i>

other skates (<i>Bathyraja</i> species)					
Quantity		As estimated or <i>specified last full assessment</i> for		As estimated or <i>recommended this year</i> for:	
		2018	2019	2020	2021
M (natural mortality)		0.1	0.1	0.1	0.1
Specified/recommended Tier		5	5	5	5
Biomass (t)	GOA-wide	18,454	18,454	11,662	11,662
$F_{OFL} (F=M)$		0.1	0.1	0.1	0.1
$maxF_{ABC} (F=0.75*M)$		0.075	0.075	0.075	0.075
F_{ABC}		0.075	0.075	0.075	0.075
OFL (t)	GOA-wide	1,845	1,845	1,166	1,166
ABC (t; equal to maximum ABC)	GOA-wide	1,384	1,384	875	875
Status		As determined <i>last</i> year for:		As determined <i>this</i> year for:	
		2016	2017	2018	2019
Overfishing?		<i>no</i>	<i>na</i>	no	<i>na</i>