

Assessment of the skate stock complex in the Gulf of Alaska

[2021]

Olav A. Ormseth
Alaska Fisheries Science Center
National Marine Fisheries Service

[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 2023. Until then, the values generated from the previous stock assessment (below) will be rolled over for 2023 specifications]

Summary of Results

big skate (<i>Beringraja binoculata</i>)					
Quantity		As estimated or <i>specified</i> <i>last full assessment</i> for		As estimated or <i>recommended this year</i> for:	
		2020	2021	2022	2023
<i>M</i> (natural mortality)		0.1	0.1	0.1	0.1
Specified/recommended Tier		5	5	5	5
Biomass (t)	W	10,109	10,109	7,882	7,882
	C	20,798	20,798	19,756	19,756
	E	11,861	11,861	10,581	10,581
	GOA-wide	42,779	42,779	38,220	38,220
<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	4,278	4,278	3,822	3,822
Maximum permissible ABC (t)	W	758	758	591	591
	C	1,560	1,560	1,482	1,482
	E	890	890	794	794
Recommended ABC (t)	W	758	758	591	591
	C	1,560	1,560	1,482	1,482
	E	890	890	794	794
Status		As determined <i>last year</i> for:		As determined <i>this year</i> for:	
		2018	2019	2020	2021
Overfishing?		<i>no</i>	<i>na</i>	no	<i>na</i>
(for Tier 5 stocks, data are not available to determine whether the stock is in an overfished condition)					

longnose skate (<i>Raja rhina</i>)					
Quantity		As estimated or <i>specified last full assessment</i> for		As estimated or <i>recommended this year</i> for:	
		2020	2021	2022	2023
<i>M</i> (natural mortality)		0.1	0.1	0.1	0.1
Specified/recommended Tier		5	5	5	5
Biomass (t)	W	2,156	2,156	2,013	2,013
	C	25,583	25,583	27,258	27,258
	E	7,558	7,558	6,890	6,890
	GOA-wide	34,487	34,487	36,162	36,162
<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	3,449	3,449	3,616	3,616
Maximum permissible ABC (t)	W	158	158	151	151
	C	1,875	1,875	2,044	2,044
	E	554	554	517	517
Recommended ABC (t)	W	158	158	151	151
	C	1,875	1,875	2,044	2,044
	E	554	554	517	517
Status		As determined <i>last year</i> for:		As determined <i>this year</i> for:	
		2018	2019	2020	2021
Overfishing?		<i>no</i>	<i>na</i>	no	na
(for Tier 5 stocks, data are not available to determine whether the stock is in an overfished condition)					

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:	
		2020	2021	2022	2023
<i>M</i> (natural mortality)		0.1	0.1	0.1	0.1
Specified/recommended Tier		5	5	5	5
Biomass (t)	GOA-wide	11,662	11,662	13,114	13,114
<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	1,166	1,166	1,311	1,311
Maximum permissible ABC (t)	GOA-wide	875	875	984	984
	GOA-wide	875	875	984	984
Status		As determined <i>last year</i> for:		As determined <i>this year</i> for:	
		2018	2019	2020	2021
Overfishing?		<i>no</i>	<i>na</i>	no	na