

# Risk Table Update: 2018-2023

## Summary

We collected risk table scores for groundfish stocks in the Bering Sea and Aleutian Islands and the Gulf of Alaska FMPs from 2018-2023. During the first year of risk table implementation, 2018, only a handful of stocks completed their risk tables on a trial basis. Additionally, only three categories existed for the risk tables at that time, assessment, population dynamics, and ecosystem. The fourth category, fishery performance, was added in 2019. In 2021, the SSC requested that the four scoring levels be reduced to three (normal, increased, extreme). This reduction in levels did not occur until 2023, and using this reduced scoring, the levels 2 and 3 are approximately equivalent to the previous levels 3 and 4, respectively. Caution should be taken when comparing the 2018 trial year and the 2023 reduced level year with the remaining years of risk tables scores.

The table below summarizes the risk table scores for the stocks with any elevated levels over the six years of risk tables scoring. NA in this table means there was no score or risk table for the stock that year because it was an off year, but there was a reduction due to a previous risk table decision. Blanks mean there was no risk table assessment for that stock that year because a full or update stock assessment was not produced for that stock in that year. Author proposed reductions from maximum ABC (in percent) are also provided along with any decisions from the subsequent Plan Team or SSC deliberations. Please note, this may not be an exhaustive list of Plan Team or SSC adjustments.

The figure that follows the table is a summary figure of the total count of risk table evaluations conducted over the years 2018-2023. A total of 114 risk tables have been conducted over the whole period, with 48 of those having no elevation in risk tables score (all 1s or normal) and 66 with at least one level that was elevated ( $\geq 2$ ). Of the risk tables with at least one elevated score, 25 of those had proposed reductions from maximum ABC. These reductions occurred for 14 stocks (see table).

Please contact Kalei Shotwell ([kalei.shotwell@noaa.gov](mailto:kalei.shotwell@noaa.gov)) for any questions on the data in the table or the following summary figure.

## Table

Table 1a. Summary of risk table scores for stocks with at least one elevated score for assessment years 2018-2023. NA means no score. \*Author Deferred to SSC, \*\*Highest score from stock complex score

Stock	Assessment						Population Dynamics					
	2018	2019	2020	2021	2022	2023	2018	2019	2020	2021	2022	2023
EBS pollock	1	1	1	2	2	1	2	2	1	2	2	1
Sablefish	2	2	3	1			4	3	3	2		
BSAI Blackspotted/RE			3		3	NA			2		2	NA
BSAI Northern rock sole			2		3	NA			1		1	NA
BSAI Sharks			2		3	NA			2		2	NA
GOA Pacific cod	2	2	2		2	1	4	2	2		2	2
GOA pollock	2	2				2	2	1				1
AI Pacific cod		1	1	1	1	1		1	1	1	2	2
BSAI Greenland turbot			1		2				1		2	
BSAI Yellowfin sole				1		1				2		2
EBS Pacific Cod		1	1	1				1	1	1		
GOA Dusky Rockfish			2	NA	2				1	NA	2	
GOA Rougheye/BS				2		2				1		2
BSAI Atka Mackerel					2						1	
BSAI Kamchatka					2						1	
BSAI Northern Rockfish		2		2		2		1		1		2
BSAI Other Rockfish			2						1			
BSAI POP			2		2				1		1	
BSAI Skates						2**						1
GOA Arrowtooth		1						1				
GOA Deepwater Flatfish		2				2		1				1
GOA DemShelf Rockfish				2						2		
GOA Northern Rockfish					1						2	
GOA POP		2	2	2		2		2	2	2		2
GOA Rex sole				2						2		
GOA Shallowwater Flatfish				2						1		
GOA Sharks			2		3				2		2	

Table 1a (cont.). Summary of risk table scores for stocks with at least one elevated score for assessment years 2018-2023. NA means no score. \*Author Deferred to SSC, \*\*Highest score from stock complex score

Stock	Environment/Ecosystem						Fishery Performance					
	2018	2019	2020	2021	2022	2023	2018	2019	2020	2021	2022	2023
EBS pollock	2	2	2	2	1	2		2	2	2	1	1
Sablefish	2	2	2	1				3	3	2		
BSAI Blackspotted/RE			1		1	NA			2		2	NA
BSAI Northern rock sole			1		1	NA			1		1	NA
BSAI Sharks			1		1	NA			1		1	NA
GOA Pacific cod	2	2	1		1	1		1	1		1	1
GOA pollock	2	1				1		1				1
AI Pacific cod		2	2	2	2	2		1	1	1	1	1
BSAI Greenland turbot			2		1				1		1	
BSAI Yellowfin sole				2		2				1		1
EBS Pacific Cod		2	2	2				1	1	1		
GOA Dusky Rockfish			1	NA	1				1	NA	1	
GOA Rougeye/BS				1		1				1		1
BSAI Atka Mackerel					2						1	
BSAI Kamchatka					1						1	
BSAI Northern Rockfish		2		1		1		1		1		1
BSAI Other Rockfish			1						1			
BSAI POP			1		1				1		1	
BSAI Skates						1						1
GOA Arrowtooth		2						1				
GOA Deepwater Flatfish		1				1		1				1
GOA DemShelf Rockfish				1						2		
GOA Northern Rockfish					1						1	
GOA POP		1	1	1		1		1	1	1		1
GOA Rex sole				1						1		
GOA Shallowwater Flatfish				1						1		
GOA Sharks			1		1				1		1	

Table 1b. Author proposed reductions and subsequent Plan Team (PT) or SSC changes from the author's recommendations. If there was an author proposed reduction, but the PT or SSC adjustment is blank, then the author's recommendations were accepted. Otherwise, there was an adjustment (see notes below the table for acronym definitions). \*Author Deferred to SSC

Stock	Author Proposed Reduction						PT or SSC Adjustment (see notes)					
	2018	2019	2020	2021	2022	2023	2018	2019	2020	2021	2022	2023
EBS pollock	0.3	0.43	0.3	0.11	0.43	0.18						
Sablefish	0.45	0.57	0.57					0.5	0.44	0.01		
BSAI Blackspotted/RE					0.12	0.12						
BSAI Northern rock sole					0.23	0.36						
BSAI Sharks					0.13	0.13						
GOA Pacific cod	0.14	*					L2	ABC				
GOA pollock	0.15	0.1										
AI Pacific cod		*						NR				0.08
BSAI Greenland turbot					0.06						NR	
BSAI Yellowfin sole				0.24								
EBS Pacific Cod		*						ENS				
GOA Dusky Rockfish				NA					0.24	0.22		
GOA Rougheye/BS						0.2						
BSAI Atka Mackerel												
BSAI Kamchatka												
BSAI Northern Rockfish												
BSAI Other Rockfish												
BSAI POP												
BSAI Skates												
GOA Arrowtooth												
GOA Deepwater Flatfish												
GOA DemShelf Rockfish										0.22		
GOA Northern Rockfish												
GOA POP												
GOA Rex sole												
GOA Shallowwater Flatfish												
GOA Sharks												

### Notes on PT or SSC Adjustment

- Sablefish 2019: (from December 2019 SSC minutes) SSC recommends calculating the ABC based on a 25% stairstep whereby the 2019 ABC is increased by 25% of the projected step between the 2019 ABC and the 2020 maxABC, and then that estimate is corrected for whale depredation to provide the final 2020 ABC. This process was repeated to estimate the 2021 ABC. The 2020 ABC represented a 50% reduction from the 2020 maxABC.
- Sablefish 2020: (from December 2020 SSC minutes) SSC recommends repeating the same stair-step approach made last year for 2021... This ABC provides a 44% buffer from the maximum permissible ABC.
- Sablefish 2021: SSC Recommended 1% reduction due to whale depredation.
- GOA Pacific cod 2018: L2 = Level 2. SSC downgraded population dynamics level to 2.
- GOA Pacific cod 2019: ABC = ABC was used for a reduction. SSC set 2021 ABC the same as the 2020 ABC.
- AI Pacific cod 2019: NR = No Reduction. SSC did not reduce maximum ABC since stock was at Tier 5.
- AI Pacific cod 2023: PT reduced maximum ABC by 8%.
- BSAI Greenland turbot 2022: NR = No Reduction. SSC disagreed with the authors and BSAI GPT for the need to reduce the ABC from the maximum permissible level.
- EBS Pacific cod 2019: ENS = Ensemble. The SSC used the single model for OFL, and the ensemble for a reduced ABC from the single model.
- GOA Dusky rockfish 2020: SSC recommended a stairstep reduction of 24%.
- GOA Dusky rockfish 2021: SSC recommended a 22% reduction.
- Demersal shelf rockfish 2021: SSC recommended a 22% reduction.
- BSAI Northern Rock Sole: 2023 ABC reduced by 23% based on the author providing improved models in November, that had not been available for review in September, reduction carried over to 36% for 2024 ABC
- BSAI sharks: 13% reduction based on an alternative data-limited model still in development for one species of the complex.

## Figure

Summary counts of risk tables in the Alaska groundfish FMPs over the years 2018-2023. Blue line is the count of stocks with risk tables that did not have any elevation in score (all 1's or normal). Red line is the count of stocks with risk tables that had at least one elevated score ( $\geq 2$ ). Green line is the count of stocks from those that had at least one elevated score that also had a proposed reduction. Black line is the total number of risk tables for that year and is the sum of the red and blue lines.

