

2021/22 Overfishing and Overfished Statuses Report for the Aleutian Islands Golden King Crab

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Summary

The full assessment of Aleutian Islands golden king crab (AIGKC) was conducted in May 2022 (Siddeek et al., 2022). This report updates that assessment after completed fishery with final retained catch, total catch (including bycatch mortality estimates in the directed fishery, other crab fisheries, and the groundfish fisheries), minimum stock size threshold (MSST), and current mature male biomass (MMB) to determine the final statuses of whether overfishing/overfished occurred during the 2021/22 crab fishery year (July 1, 2021-June 30, 2022). The May 2022 assessment with incomplete fishery data determined the overfishing limit (OFL) for AIGKC to be 4,817 t (10.620 million lb) with an acceptable biological catch (ABC) of 3,372 t (7.434 million lb). Following completion of the 2021/22 crab fishery, data on retained catch and bycatch in the crab fisheries were obtained from the Alaska Department of Fish and Game (ADFG), and data on bycatch in the groundfish fisheries were obtained from the NMFS Alaska Regional Office (via the Alaska Fisheries Information Network [AKFIN]). Retained catch in the directed fisheries totaled 2,699 t (5,951 million lb) and total fishery removals totaled 3,056 t (6.737 million lb). Because total fishery-related mortality (3,056 t) was less than the OFL for 2021/22 (4,817 t), **overfishing did not occur** on this stock in 2021/22.

Following completion of the 2021/22 crab fishery, the model determined the MSST to be 5,821 t and MMB to be 13,065 t (note: slightly different values from the incomplete fishery estimates). Because MMB was greater than MSST, this stock was **not overfished** in 2021/22.

The following two tables update the management performance tables presented in the May 2022 assessment report with the completed fishery estimates of retained and total catch for 2021/22:

Status and catch specifications (1000 t) of Aleutian Islands golden king crab

Year	MSST	Biomass (MMB)	TAC	Retained Catch	Total Catch ^a	OFL	ABC ^b
2018/19	5.880	17.848	2.883	2.965	3.372	5.514	4.136
2019/20	5.915	16.386	3.257	3.319	3.729	5.249	3.937
2020/21	6.014	15.442	2.999	3.000	3.520	4.798	3.599
2021/22	5.859 ^d	12.592 ^d	2.690	2.699 ^e	3.056 ^e	4.817 ^c	3.372 ^c
2022/23		11.941 ^d				3.761 ^d	2.821 ^d

Status and catch specifications (million lb) of Aleutian Islands golden king crab

Year	MSST	Biomass (MMB)	TAC	Retained Catch	Total Catch^a	OFL	ABC^b
2018/19	12.964	39.348	6.356	6.536	7.433	12.157	9.118
2019/20	13.041	36.124	7.180	7.317	8.222	11.572	8.679
2020/21	13.259	34.043	6.610	6.614	7.759	10.579	7.934
2021/22	12.917 ^d	27.760 ^d	5.930	5.951 ^e	6.737 ^e	10.620 ^c	7.434 ^c
2022/23		26.326 ^d				8.291 ^d	6.219 ^d

- a. Total catch was sum of retained catch and estimated bycatch mortality of discarded bycatch during crab fisheries and groundfish fisheries.
- b. 25% buffer was applied to total catch OFL to determine ABC except 2021/22, during which 30% buffer was applied.
- c. OFL and ABC were estimated by the accepted model 21.1a in May 2021 assessment when the **WAG** fishery was not completed.
- d. MSST, MMB, OFL, and ABC were estimated by the accepted model 21.1e2 in May 2022 assessment when the **WAG** fishery was not completed.
- e. The retained and total catch were estimated using the completed fisheries data for 2021/22.

Reference:

M.S.M. Siddeek, B. Daly, C. Siddon, M.J. Westphal, L. Hulbert, and T. Jackson. Aleutian Islands Golden King Crab Stock Assessment. May 2022 Crab SAFE DRAFT REPORT (updated with completed fishery data), BSAI Crab SAFE 2022, NPFMC, Anchorage, Alaska.