Norton Sound red king crab stock assessment

Appendix A: History of Acceptable Biological Catch buffers and buffer justifications for the Norton Sound red king crab stock

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Table 1: History of Acceptable Biological Catch (ABC) buffers and buffer justifications for the Norton Sound red king crab stock. Source: Crab Stock Assessment and Fishery Evaluation (SAFE) Report Introductions, https://www.npfmc.org/library/safe-reports/.

Year	ABC buffer	Justifications
2020	30%	- very low fishery catch per unit effort (CPUE) - unusually large numbers of old-shell males in the fishery
2021	40%	- status of the stock (few legal males in the system) - Overfishing limit based on legal crab rather than retained size of crab
2022	40%	- natural mortality and size-at-maturity are borrowed from other stocks - impact of seasonal movement on survey estimates - uncertainty in stock vs. survey areas - shortage of discard data on which to base estimates of total catch mortality - absence of standardized CPUE for 2020 and 2021 - discrepancies in Alaska Department of Fish & Game and National Oceanic and Atmospheric Administration Northern Bering Sea survey estimates - some parameters at bounds - overestimation of proportion of large crab - very high natural mortality in largest size class - retrospective patterns - new information on barren females in surveys not presented
2023	30%	- same justifications as for 2022 with the exception of the concern about information on barren females, which was not mentioned in 2023
2024	30%	- natural mortality and size-at-maturity are borrowed from other stocks - impact of seasonal movement on survey estimates - uncertainty in stock vs. survey areas - lack of information about discards - overestimation of the abundance of the largest male crab - use of a higher natural mortality value for larger males in order to correct for this overestimation rather than using a size-independent natural mortality - retrospective pattern in model-estimated mature male biomass