Appendix C: Tanner Crab ABC Buffers History

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Introduction

As requested by the SSC, this appendix provides a table of the values and rationales for recommended (author, CPT) and adopted (SSC) ABC buffers on the Tanner crab OFL for the previous five years.

Table 1. Rationales for recent recommended (author, CPT) and adopted (SSC) ABC buffers for Tanner crab.

Assessment	SSC ABC buffer	SSC Rationale	CPT buffer	CPT Rationale	Author buffer	Author Rationale
2020	20%	The SSC endorsed all OFL and ABC recommendations of the CPT, with the exception of the EBS snow crab OFL and ABC	20%	The CPT recommends a 20% buffer to account for model uncertainty and stock productivity uncertainty ...the 20% buffer is the same that the SSC recommended for determination of the 2019/20 ABC. The CPT concluded that no additional buffer was needed to account for the cancelled NMFS EBS bottom trawl survey in 2020.	20%	the author remains concerned that the OFL calculation, based on F35% as a proxy for FMSY, is overly optimistic regarding the actual productivity of the stock. Fishery-related mortality similar to the P* ABC level has occurred only in the latter half of the 1970s and in 1992/93, coincident with collapses in stock biomass to low levels. This suggests that F35% may not be a realistic proxy for FMSY and/or that MMB may not be a good proxy for reproductive success, as are currently assumed for this stock. In addition, the estimates of survey catchability for this stock remain problematic and contribute to this year's inflated OFL recommendation (relative to last year's) despite a continued decline in survey biomass across the last few years.
2021	20%	The SSC endorsed all of the OFL and ABC recommendations of the CPT	20%	The CPT recommends a 20% buffer to account for model uncertainty and stock productivity uncertainty ...the 20% buffer is the same that the SSC recommended for determination of the 2020/21 ABC.	20%	F35% may not be a realistic proxy for FMSY and/or that MMB may not be a good proxy for reproductive success, as are currently assumed for this stock. In addition, the estimates of survey catchability for this stock remain problematic and contribute to this year's inflated OFL recommendation (relative to last year's) despite a continued decline in survey biomass across the last few years
2022	20%	The SSC endorsed all of the OFL and ABC recommendations of the CPT	20%	The CPT recommended a 20% buffer to account for model uncertainty and stock productivity uncertainty	20%	The author remains concerned that the OFL calculation, based on F35% as a proxy for FMSY , is overly optimistic regarding the actual productivity of the stock. Fishery-related mortality similar to the P-star ABC level has occurred only in the latter half of the 1970s and in 1992/93, coincident with collapses in stock biomass to low levels. This suggests that F35% may not be a realistic proxy for FMSY and/or that MMB may not be a good proxy for reproductive success, as are currently assumed for this stock. In addition, the estimates of survey catchability for this stock remain problematic and contribute to this year's inflated OFL despite a continued decline in survey biomass across the last few years.
2023	20%	The SSC endorsed all of the OFL and ABC recommendations of the CPT, with the exception of EBS snow crab and Tanner crab. the SSC recommends a buffer of 20% given that, despite uncertainty in recent recruitment events, the current influx of small crab is both high in magnitude and extensive across space beyond the southern extent of the cold pool.	25%	The CPT recommended a 25% buffer to account for model uncertainty and stock productivity uncertainty ...the 25% buffer is an increase from previous years due to increased concerns regarding the appropriateness of B35% and F35% as proxies due to uncertainty related to MMB as the currency of management, similar to those expressed for snow crab.	20%	F35% may not be a realistic proxy for $FMSY$ and/or that MMB may not be a good proxy for reproductive success, as are currently assumed for this stock. In addition, the estimates of survey catchability for this stock remain problematic and contribute to this year's inflated OFL despite a continued decline in survey biomass across the last few years. Furthermore, the model appears overly-optimistic in terms of recent scale and trends.
2024	20%	The SSC endorsed the OFL and ABC recommendations of the CPT, with the exception of EBS snow crab	20%	The CPT recommended a 20% buffer to account for model uncertainty and stock productivity uncertainty...the 20% buffer is consistent with previous years' concerns, but the CPT wishes to highlight its increasing concerns regarding the appropriateness of B35% and F35% as proxies for MSY-related management quantities due to uncertainty related to MMB as the appropriate currency of management, similar to concerns expressed for snow crab.	20%	The author remains concerned that the OFL calculation, based on F35% as a proxy for $FMSY$, is overly optimistic regarding the actual productivity of the stock. Fishery-related mortality similar to the $P*$ ABC level has occurred only in the latter half of the 1970s and in 1992/93, coincident with collapses in stock biomass to low levels. This suggests that F35% may not be a realistic proxy for $FMSY$ and/or that MMB may not be a good proxy for reproductive success, as are currently assumed for this stock. In addition, the estimates of survey catchability for this stock remain problematic and contribute to this year's inflated OFL despite a continued decline in survey biomass across the last few years. Furthermore, the model appears overly-optimistic in terms of recent scale and trends. However, these concerns are not new and are reflected in the previous ABC buffer.