

Draft SSC Report October 2023



C1 BSAI Crab

C1 BSAI Crab Harvest Specifications

General Crab Comments (1 of 2)

- The SSC thanks Miranda Westphal (ADF&G) for her service on the CPT
- The SSC **supports** filling key CPT vacancies with individuals that have management, stock assessment and social science expertise
 - an individual with groundfish stock assessment/GPT expertise would be valuable for sharing knowledge across plan teams
- The SSC **suggests** developing the risk table approach for crab stocks to provide a more comprehensive, transparent, and defensible justification for CPT and SSC recommendations on ABC buffers

C1 BSAI Crab Harvest Specifications

General Crab Comments (2 of 2)

- The SSC **requests** that BBRKC, snow crab, tanner crab assessments routinely include a simple and consistent Tier 4 analysis as a fallback option and for context
- Additional technical and procedural recommendations to CPT and authors

C1 Ecosystem Status Report Preview

- The SSC appreciates the concise and informative preview of the Ecosystem Status Reports (ESR)
- The SSC had some discussion about socio-economic information in the ESR and ESP process
 - Summarized in General Comments

C1 Crab Harvest Specifications

Stock	Tier	F_{OFL}	B_{MSY} or B_{MSY} proxy	2023/24 MMB	2023/24 MMB/ B_{MSY}	2023/24 OFL	2023/24 ABC	ABC Buffer
E. Bering Sea snow crab	3b	14.96	155.91	65.77	0.42	15.44	7.72	50%
Bristol Bay red king crab	3b	0.30	19.36	14.98	0.77	4.42	3.54	20%
E. Bering Sea Tanner crab	3a	1.16	36.39	48.77	1.34	36.20	28.96	20%
Pribilof Is. blue king crab	4c	0	4.20	0.18	0.04	0.00116	0.00087	25%

C1 BSAI Crab Harvest Specifications

EBS snow crab (1 of 3)

- 2023 survey results indicated continuing low abundance of snow crab, with little evidence of stock rebuilding.
- There are some indications of recruitment to the population, but it will be several years before these crab are available to the fishery.
- Full assessment, greatly improved model performance.
- Tier 3b, no overfishing, under a rebuilding plan
- The SSC **recommends** model 23.3a for OFL and ABC specification
- The SSC **recommends** use of an unmodified Tier 3 calculation, using F35% and B35% for the OFL (**different from CPT**)

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EBS snow crab (2 of 3)

- The SSC **recommends** a 50% ABC buffer due to concerns about the very high fishing mortality rate under the harvest control rule (F35%)
 - F35% would effectively remove all the exploitable crab from the population
 - Issue that was not anticipated when harvest control rules were developed
 - Related to the large number of small males that are mature, but are protected from fishing mortality.
 - The reproductive contribution of these small crabs relative to large mature males is unknown
 - A 50% buffer results in an ABC that is lower than last year's ABC.

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EBS snow crab (3 of 3)

- The SSC **strongly supports** the plans of the CPT to evaluate other metrics for reproductive output
- Addressing the concern about the high F35% fishing mortality rate on large mature males resulting from the Tier 3 approach is the highest priority for the assessment.

C1 Crab Harvest Specifications

Bristol Bay Red King Crab (BBRKC) (1 of 2)

- Surveys in 2023 showed continued low biomass and abundance, increase in mature females was largely due to a single station
- Full stock assessment with some improvement in the treatment of natural mortality
- The SSC *supports* the CPT and author's recommended model 23.0a
- The model estimates continued low recruitment over the last decade and a decrease in mature male biomass from 2022
- Stock is in Tier 3b, estimated to be at 77% of B_{MSY} , the stock is not estimated to be overfished or experiencing overfishing

C1 Crab Harvest Specifications

Bristol Bay Red King Crab (BBRKC) (2 of 2)

- The SSC *recommends* the 20% ABC buffer used last year and endorsed by the CPT
 - Strong concerns over the retrospective pattern
 - tight constraints on natural mortality and survey catchability
 - poor fit to BSFRF data
- The SSC *recommends* a list of technical and other considerations

C1 Crab Harvest Specifications

Tanner Crab (1 of 3)

- Full assessment – Tier 3
- The NMFS EBS BTS showed signs of new recruitment of small crab west of 166 longitude
- The SSC *recommends* model 22.03b, **in agreement with the CPT**
- Tier 3a, not overfished or subject to overfishing

C1 Crab Harvest Specifications

Tanner Crab (2 of 3)

- The SSC ***recommends*** a 20% ABC buffer
 - Differs from CPT recommended 5% increase to 25%
 - The SSC finds that additional precaution is not warranted at this time, as there are no new or heightened concerns
 - The 20% buffer is consistent with 2022/23
- Continued concerns include:
 - Previous large cohorts observed as small crab in 2017-19 did not propagate through the population
 - Retrospective pattern in recruitment
 - Challenges in fitting size composition data from the NMFS survey in recent years

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Tanner Crab (3 of 3)

- The SSC *recommends* development of a parallel or simplified version of this assessment in the GMACS platform
- The SSC *recommends*
 - Evaluating whether some recent changes in the snow crab assessment may be of value in this model
 - direct incorporation of annual molt to maturity data
 - use of BSFRF data to inform NMFS survey selectivity & catchability
 - Briefly summarizing history of GOA Tanner crab fishery and stock dynamics, given possible value of this information for interpreting BSAI Tanner crab dynamics

C1 Crab Harvest Specifications

PIBKC (1 of 1)

- Full (biennial) assessment
- Stock remains overfished, with no sign of recovery
- No directed fishing
- 25% ABC buffer, as in previous years
- The SSC **suggests** reducing the frequency of assessment of this stock, while continuing to monitor survey catches.
 - could be considered at January crab stock prioritization meeting

C1 Crab Harvest Specifications

Overfishing Updates (1 of 1)

- The CPT provided updates to the SSC on the status determination criteria for: WAIRKC, AIGKC, PIGKC, PIRKC, and SMBKC.
- The SSC reviewed and supports these determinations

C1 Crab Harvest Specifications

NSRKC Models (1 of 1)

- The SSC **supports** CPT recommendation to bring forward two models in January 2024 and to remove the shell condition split in these models.
- The SSC provided additional technical comments and continued to encourage implementation of GMACS for this stock.

C1 Crab Harvest Specifications

Bering Sea Fisheries Research Foundation Update (1 of 1)

- The SSC appreciates the updates provided by the BSFRF
- This research provides important information that is currently incorporated in several crab assessments in a variety of ways
- Current focus of work on BBRKC cooperative pot survey; a second is planned for 2024.
 - The SSC looks forward to detailed results from these surveys.
- The SSC appreciates the direct connections between the NPFMC research priorities and this group's research focus.