North Pacific Fishery Management Council Review

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Alaska Bycatch Review Task Force (ABRT) Bering Sea and Gulf of Alaska crab committee

July 26, 2022

Triggered Area Closures

Zone 1 area closure – BBRKC and Tanner crab PSC
Zone 2 area closure – Tanner crab PSC

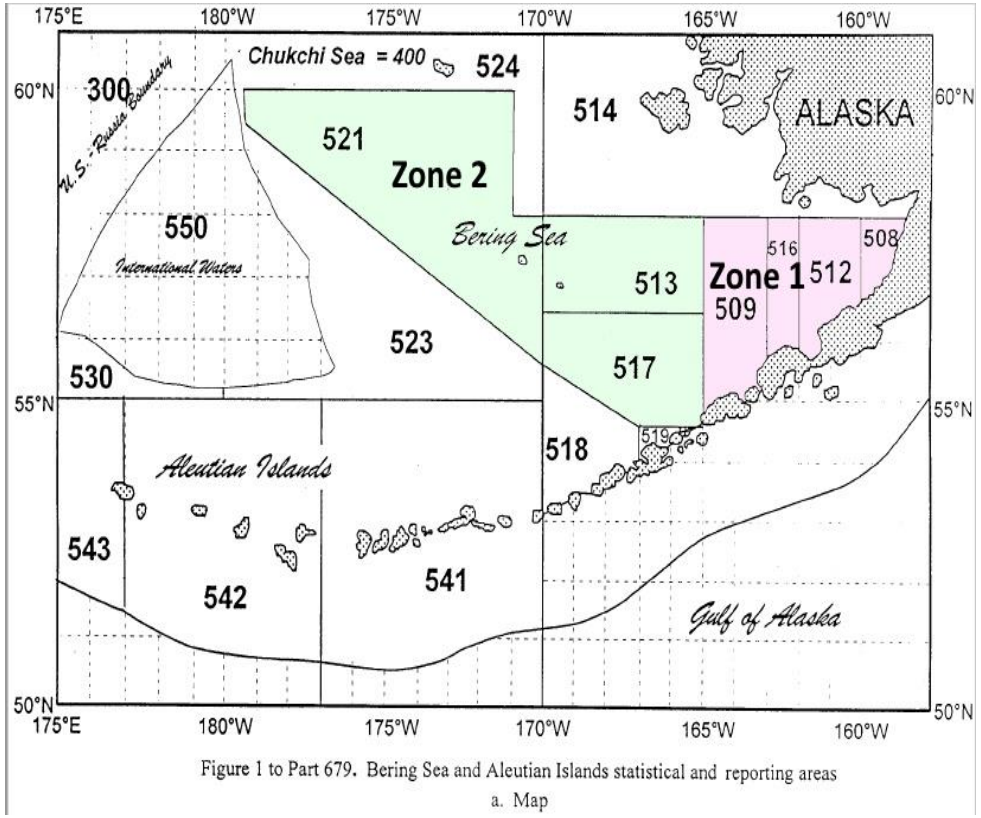
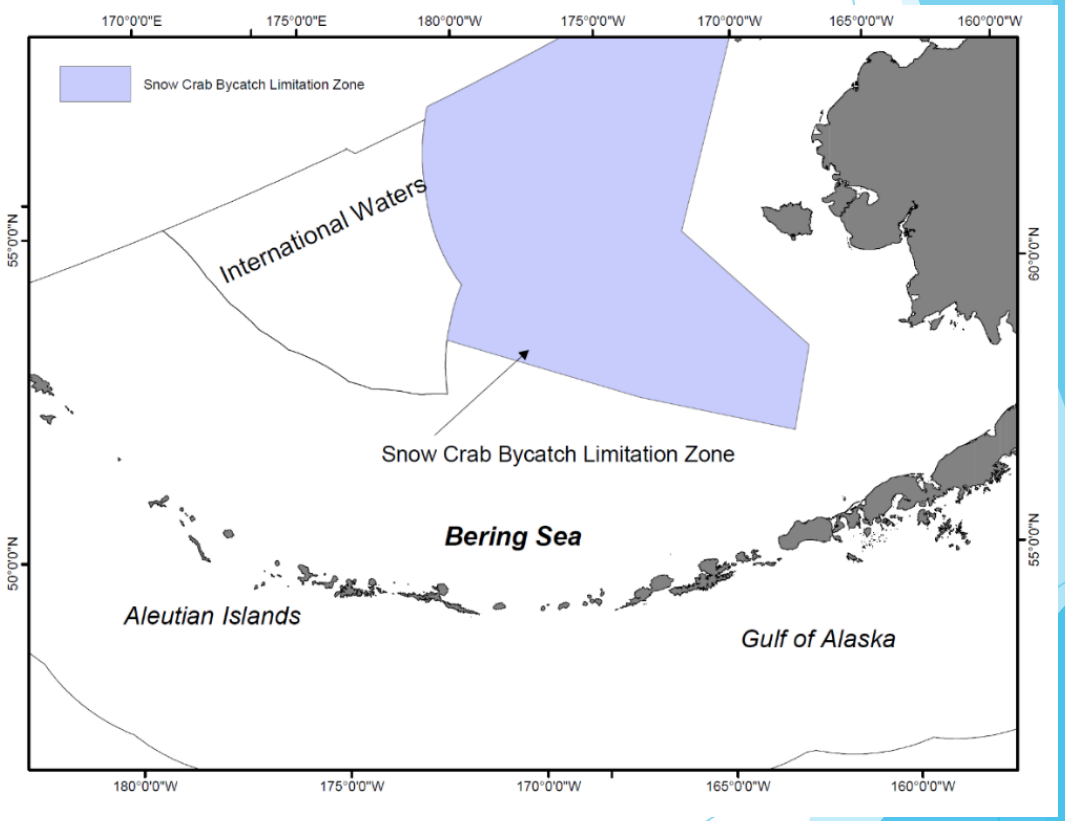


Figure 1 to Part 679. Bering Sea and Aleutian Islands statistical and reporting areas
a. Map

C. Opilio Bycatch Limitation Zone(COBLZ) – snow crab PSC

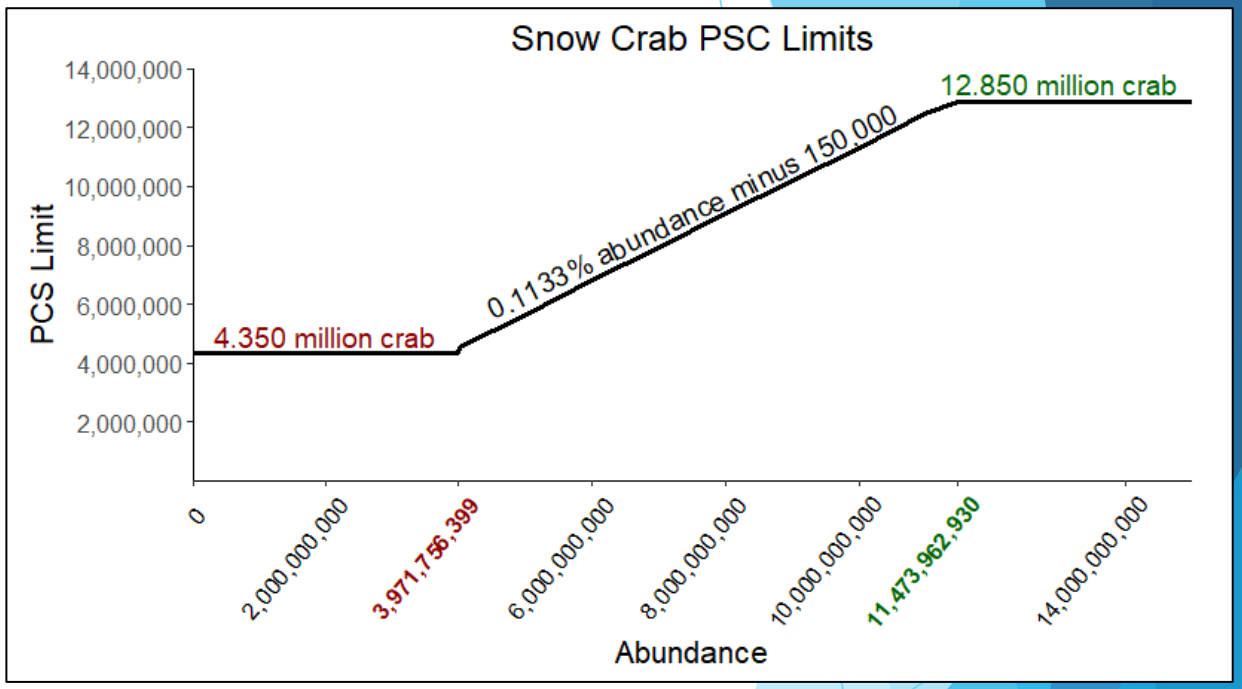


Zone 1 Red King Crab PSC Limits

When the number of mature female red king crab is …	The zone 1 PSC limit will be …
★ (A) At or below the threshold of 8.4 million mature crab or the effective spawning biomass is less than or equal to 14.5 million lbs. (6,577 mt)	32,000 red king crab
(B) Above the threshold of 8.4 million mature crab and the effective spawning biomass is greater than 14.5 but less than 55 million lbs. (24,948 mt)	97,000 red king crab
(C) Above the threshold of 8.4 million mature crab and the effective spawning biomass is equal to or greater than 55 million lbs.	197,000 red king crab

COBLZ Snow Crab PSC Limits

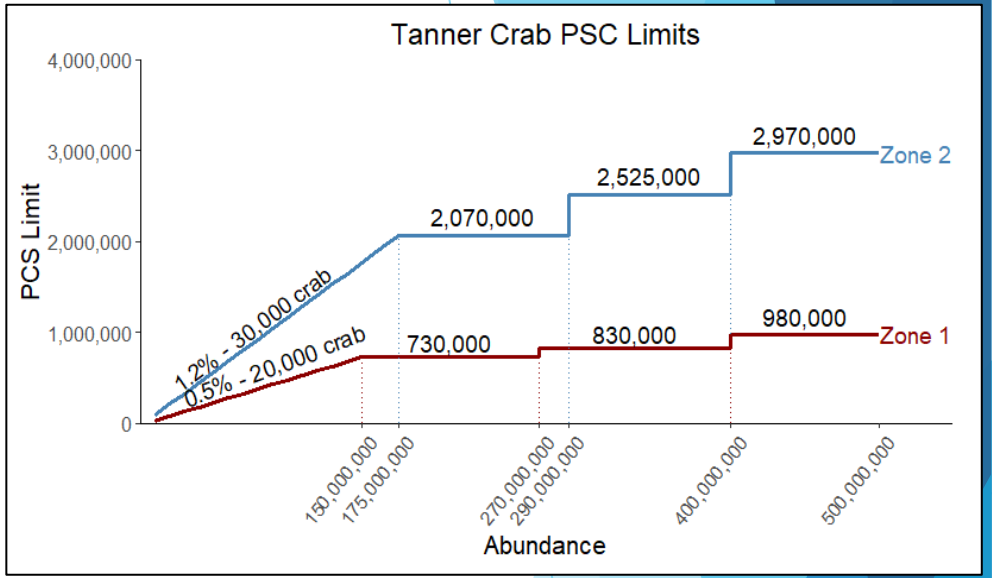
- Set annually at 0.1133% of the snow crab abundance estimates minus 150,000 crab unless minimum or maximum abundance threshold is reached.
  - If 0.1133% multiplied by the total abundance is less than 4.5 million, then the minimum PSC limit will be 4.350 million animals.
  - If 0.1133% multiplied by the total abundance is greater than 13 million, then the maximum PSC limit will be 12.850 million animals.



EBS Tanner Crab PSC Limits

Zone 1:

When the total abundance of C. bairdi crab is …	The PSC limit will be …
(1) 150 million animals or less	0.5 percent of the total abundance minus 20,000 animals
(2) Over 150 million to 270 million animals	730,000 animals
(3) Over 270 million to 400 million animals	830,000 animals
(4) Over 400 million animals	980,000 animals



Zone 2:

When the total abundance of C. bairdi crab is …	The PSC limit will be …
(1) 175 million animals or less	1.2 percent of the total abundance minus 30,000 animals
(2) Over 175 million to 290 million animals	2,070,000 animals
(3) Over 290 million to 400 million animals	2,520,000 animals
(4) Over 400 million animals	2,970,000 animals

Sources of Abundance

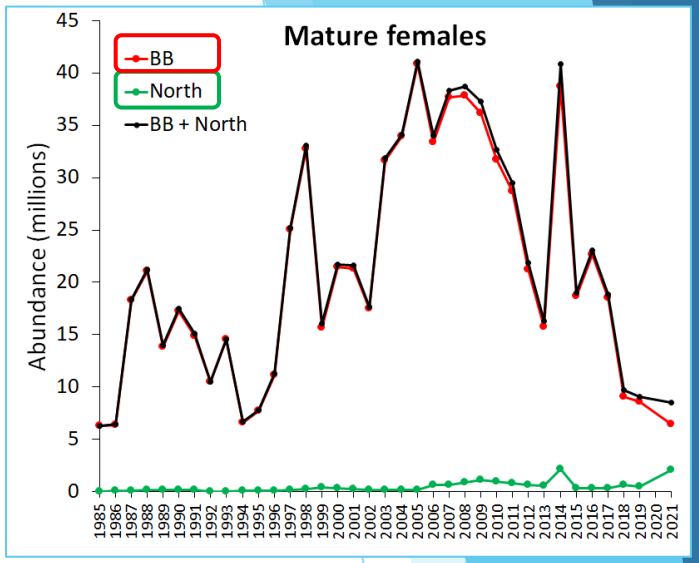
	Abundance estimate	Effective spawning biomass
BBRKC	Modeled survey estimates of mature female abundance using data from NMFS bottom trawl survey	From stock assessment (mature males and females)
EBS Snow	Modeled estimates of total abundance (accounting for survey selectivity) using data from NMFS bottom trawl survey	N/A
EBS Tanner	Modeled estimates of total abundance (accounting for survey selectivity) using data from NMFS bottom trawl survey	N/A

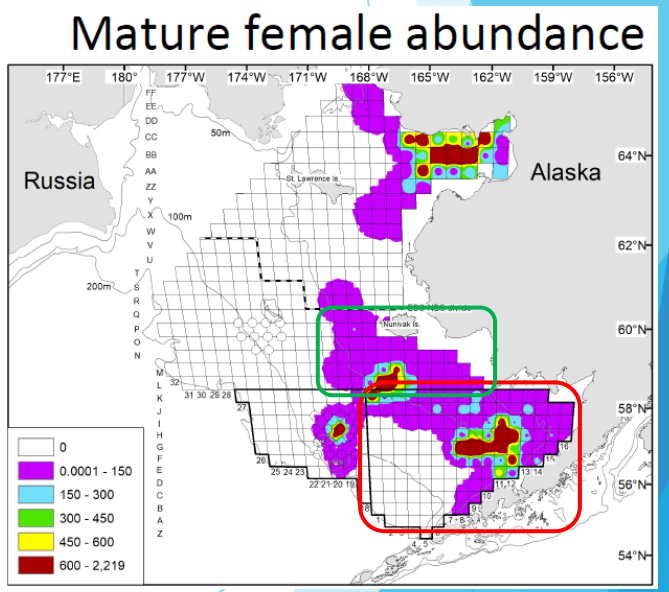
PSC limit change from 2021 to 2022

PSC species	2021	2022
Snow crab	7,191,840	4,350,000 (floor)
Bristol Bay Red King Crab	97,000	32,000 (lowest tier)
Tanner crab (Zone 1)	980,000	830,000 (Tier 3)
Tanner crab (Zone 2)	2,970,000	2,520,000 (Tier 3)

Bristol Bay Red King Crab (BBRKC) April 2022 Discussion Paper: Context

- BBRKC survey abundance at low levels
- 2021/22 fishery not opened
- 2021 summer survey found red king crab in larger numbers north of the stock area
- Incomplete information on stock distribution and shell condition outside of the survey period





2021 Trawl Survey, Litzow et al.

Bristol Bay Red King Crab (BBRKC) April 2022 Discussion Paper: Topics

1. BBRKC molt-mate cycle and life-history
2. Boundaries for trawl survey, BBRKC stock assessment, BBRKC fishery, trawl PSC limits (and others)
3. Bottom contact by pelagic trawl gear in the Bristol Bay region
4. Examples of flexible spatial management measures

** Link to April 2022 presentation to NPFMC **

October 2022 BBRKC Council's Information Request to the Public

Issues of interest to the Council

1. Voluntary measures for implementation in 2023 and beyond to avoid BBRKC and reduce crab mortality in the non-directed fisheries
2. Measures in the directed crab fishery to reduce discard mortality of BBRKC
3. Description of research that would inform development of more flexible and effective spatial management measures; gear modifications to reduce impacts on the BBRKC stock, or to evaluate unobserved mortality in the trawl sector

** Link to NPFMC comment portal for crab mortality **

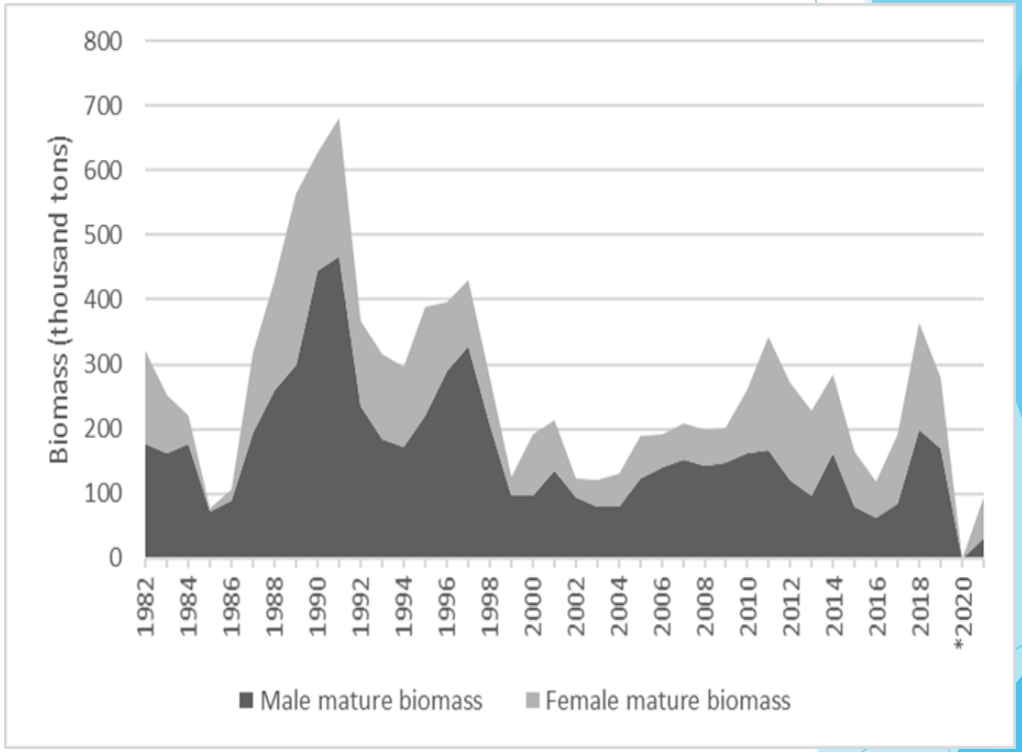
Submit comments here by Sept. 23, 2022

October 2022 BBRKC Discussion Paper Topics

1. Impacts of annual or seasonal closures to trawl, groundfish pot, and longline gear in the Red King Crab Savings Area (RKCSA)
2. Data tables on
   a) Groundfish fishery: crab bycatch, mortality, and sex ratio in Crab Registration Area T (Bristol Bay), Federal "PSC Limit Zone 1", and RKCSA
   b) Crab fishery (BBRKC & Tanner): retained vs. discarded catch; discard mortality, sex ratio
3. Scientific information needed to create "dynamic" closed areas to protect mature female BBRKC
4. Information needed for Non-Pelagic Trawl sector (Am. 80) to use a hot-spot system to reduce BBRKC bycatch; Any trade-offs in halibut bycatch
5. Information on impact of groundfish predation on BBRKC
6. Impacts of prohibiting P-Cod pots in Area 512 and/or establishing a bycatch hard-cap for the groundfish pot gear sectors

EBS Snow Crab Rebuilding

- Snow crab MMB varied considerably since 1990
  - High of 626.7 kt in 1990
  - Low of 50.6 kt in 2021
- Stock declared overfished in 1999
  - Observed MMB slowly increased after 1999
  - Declared rebuilt in 2011
- Since rebuilt status in 2011 MMB trended downward, but in 2018 there was a large recruitment event moved through the size classes
  - However, recruitment event has since disappeared
  - Observed MMB from the 2021 survey (50.6 kt) new all-time low
  - First time a mass mortality event appears to have occurred for snow crab since the survey began



EBS Snow Crab Rebuilding

- **October 19, 2019:** Snow Crab was declared overfished
  - Rebuilding of overfished stocks is required by the MSA section 304 within 2 years (October 2023)
    - MSA section 304 and the NS 1 guidelines for rebuilding overfished stocks

Council Snow Crab Rebuilding Timeline

- **June 2022:** Select snow crab rebuilding alternatives for analysis
  - Summer 2022 – Staff will analyze the impacts of each of the alternatives
- **October 2022**: SSC reviews model projections to select T_{min}
- **December 2022:** initial review of the snow crab rebuilding plan and potentially selected a preliminary preferred alternative
- **February 2023:** Council will take final action and select a preferred alternative to recommend to the Secretary of Commerce
  - Following selection of preferred alternative, NMFS prepares proposed FMP amendment text, draft notice of availability, draft Environmental Assessment, and, if required, a draft regulatory package

October 2022 EBS Snow Crab Council's Information Request to the Public

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2. Measures in the directed crab fishery to reduce discard mortality of EBS snow crab
3. Description of research that would inform development of more flexible and effective spatial management measures; gear modifications to reduce impacts on the EBS snow crab stock, or to evaluate unobserved mortality in the trawl sector

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