# **NOAA Technical Memorandum NMFS-AFSC**

The 2025 Eastern Bering Sea Continental Shelf Trawl Survey: Results for Commercial Crab Species

By

L. S. Zacher, S.M. Hennessey, J. I. Richar, E. J. Fedewa, E. R. Ryznar, and M. A. Litzow

U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Alaska Fisheries Science Center
Kodiak Laboratory

Draft version: August 29, 2025

#### **ABSTRACT**

The eastern Bering Sea (EBS) bottom trawl survey has been conducted annually by the National Marine Fisheries Service since 1975, with the entire station grid standardized in 1988. The purpose of this survey is to collect data on the distribution and abundance of crabs, groundfish, and other benthic resources. These data are used to estimate population abundance and biomass for the management of commercially important species. In 2025, 349 total stations were sampled on the EBS shelf between 31 May and 26 July. The 2025 total combined biomass of male crabs of harvestable size (legal size for *Paralithodes* spp., industry-preferred size for *Chionoecetes* spp.) for all EBS stocks was 61,215 t, 67% higher than the record-low estimate from 2021. A very large cohort of Tanner crab (Chionoecetes bairdi) west of 166° W began to mature in 2025, producing abundance estimates that were the highest ever observed in the 1988 – 2025 time series for mature females, large males, and legal males. Although juvenile/small crab abundance declined slightly from the time series highs in 2024, large numbers of juveniles still remained in the population across a range of size classes. Tanner crab east of 166° W did not experience the same recruitment trends as in the west and estimated abundance declined across all size and sex categories, with very little new recruitment. Following the 2019 – 2021 population collapse of snow crab (C. opilio), the signs of recovery that began in 2023 continued in 2025. Large juvenile cohorts that had recruited post-collapse began to reach maturity in 2025, leading to abundance increases for large/legal males and mature females. Abundance remained high for immature snow crab (although declining slightly for immature females from the time series high in 2024); however, there was minimal new recruitment into the smallest juvenile size classes. Moderate increases in hybrid *Chionoecetes* spp. had been observed in 2024, but this trend dramatically increased in 2025, with time series highs across all size/sex/maturity categories (abundance estimates 78 - 430% higher than the next highest value in the time series). Abundance estimates for male Bristol Bay red king crab (Paralithodes camtschaticus) remained similar to 2024 estimates ( $\leq 10\%$  change) for all size categories, while estimates for immature and mature females increased. Saint Matthew Island blue king crab, abundance estimates for mature crab remained low and similar to 2024, while there were considerable increases for immature crab; however, these increases were primarily driven by a high catch at one survey station. Abundance estimates for the Pribilof Islands red and blue king crab stocks remained very low.

Biomass estimates from the 2025 survey, reported in metric tons (t) and pounds (lb) with 95% confidence intervals ( $\pm$  1.96 SE) for legal and preferred-size males of each commercial crab stock in the EBS. Size classes for carapace length (CL) and carapace width (CW) are given in inches and millimeters. The legal size classes defined by Alaska Department of Fish and Game (ADF&G) are in inches and include spines, while those listed in millimeters exclude spines.

	2025 legal or preferred-size male biomass (±95% CI)		
Stock	Size	t	lb
Bristol Bay District red king crab	≥ 135 mm CL	19,505	43,000,520
Legal Size	(≥ 6.5 in. CW)	(5,793)	(12,771,027)
<b>Pribilof District red king crab</b>	≥ 135 mm CL	1,247	2,748,921
Legal Size	(≥ 6.5 in. CW)	(105)	(2,316,089)
<b>Pribilof District blue king crab</b>	≥ 135 mm CL	203	446,925
Legal Size	(≥ 6.5 in. CW)	(280)	(616,456)
Saint Matthew Is. blue king crab	≥ 120 mm CL	1,266	2,792,059
Legal Size	(≥ 5.5 in. CW)	(1,070)	(2,358,144)
Tanner crab, east of 166° W	≥ 120 mm CW (≥ 4.8 in. CW)	5,685	12,534,310
Legal Size		(2,081)	(4,587,935)
Preferred Size	≥ 125 mm CW	4,508	9,939,389
	(≥ 5.0 in. CW)	(1,781)	(3,925,767)
Tanner crab, west of 166° W	≥ 110 mm CW (≥ 4.4 in. CW)	38,585	85,064,354
Legal Size		(16,369)	(36,088,327)
Preferred Size	≥ 125 mm CW	11,201	24,694,629
	(≥ 5.0 in. CW)	(4,452)	(9,815,398)
Snow crab	≥ 78 mm CW (≥ 3.1 in. CW)	84,039	185,273,639
Legal Size		(24,145)	(53,231,074)
Preferred Size	≥ 101 mm CW	23,285	51,333,865
	(≥ 4.0 in. CW)	(6,586)	(14,520,001)

# **CONTENTS**

ABSTRACT	iii
INTRODUCTION	1
Survey History and Purpose	1
Bering Sea Crab Stock Assessment Process.	3
METHODS	
Survey Area and Sampling Gear	3
Biological Data Collection	
Catch Sorting and Measurement	
Shell Condition and Clutch Assessment	7
Maturity Estimates and Legal Size.	8
Diseases	9
Crab Biomass and Abundance Estimates	9
Centers of Abundance and Mapping	
Special Projects	12
RESULTS	13
Eastern Bering Sea Survey Overview	13
Bristol Bay District Red King Crab	14
Pribilof District Red King Crab	16
Northern District Red King Crab	17
Pribilof District Blue King Crab	17
Saint Matthew Island Section, Northern District Blue King Crab	18
Eastern Bering Sea Tanner Crab	19
Eastern Bering Sea Snow Crab.	23
Eastern Bering Sea Chionoecetes spp. Hybrids	25
Eastern Bering Sea Hair Crab.	26
Other King and Tanner Crab	27
ACKNOWLEDGMENTS	28
CITATIONS	29
TABLES	1
Red king crab tables	6

Blue king crab tables	11
Tanner crab tables	
Snow crab tables	29
Hybrid Chionoecetes spp. tables	
Hair crab tables	41
FIGURES	44
Red king crab figures	51
Blue king crab figures	
Tanner crab figures	94
Snow crab figures	
Hybrid Chionoecetes spp. figures	142
Hair crab figures	158
APPENDICES	

#### INTRODUCTION

### **Survey History and Purpose**

Foreign vessels began fishing for red king crab (*Paralithodes camtschaticus*) in Bristol Bay as early as 1930 (AFB & ADF 1954), a move which prompted the development of U.S. surveys and commercial fisheries in the Bering Sea (summarized in Zimmermann et al. 2009). Early exploratory bottom trawl surveys by U.S. government agencies began in the Bering Sea in 1940, primarily concentrated in Bristol Bay, but with some samples stretching farther north to Norton Sound and Saint Lawrence Island (Zimmermann et al. 2009). At that time red king crab were the most lucrative resource, and were thus the primary focus of surveys and developing U.S. fisheries. Surveys continued over the next two decades, often as cooperative arrangements between the private fishing industry and government agencies, with the goal of identifying distributional patterns and the best harvesting practices (Zimmermann et al. 2009). The first gridded survey was conducted in 1955 (INPFC 1956) and by 1957 a square grid, with stations spaced 20 nautical miles (nmi) apart, was adopted (USFWS 1957).

The first large-scale survey of the eastern Bering Sea (EBS) shelf was conducted in 1975, using the same square grid that was developed in 1957; the original purpose was to assess potential resource impacts from offshore oil development (Pereyra et al. 1978). Sampling was conducted over the shelf between the 20 m and 200 m isobaths from the Alaska Peninsula north to approximately 62° N. Since then the survey has been conducted annually, with the exception of 2020 due to restrictions imposed by the COVID-19 pandemic. In the early years, spatial extent varied drastically (Appendix A), and in 1982 the survey methods and gear were standardized (Fig. 2; Stauffer 2004). Additional stations, called corner stations, were added around the Pribilof Islands and Saint Matthew Island in 1981 and 1983, respectively, to better sample blue king crab (*P. platypus*) populations; however, these stations were removed beginning in 2024. The last remaining stations were added to the northwest corner of the EBS survey grid in 1988, creating the final standardized grid (Fig. 1; Appendix A).

The annual collection of data on the distribution and abundance of crab and groundfish resources provides fishery-independent population estimates and biological data critical to the management of commercially important species in the EBS. Commercially important crab species that have been historically assessed during the survey include red king crab, blue king crab, southern Tanner crab (*Chionoecetes bairdi*), snow crab (*C. opilio*), and hair crab (*Erimacrus isenbeckii*). Although the common name for *C. bairdi* changed from Tanner crab to southern Tanner crab in 2005 (McLaughlin et al. 2005), "Tanner crab" will be used in this document, Given the change in survey grid area in the 1970s and 1980s, the spatial extent of the stock relative to the survey area sampled determines the number of years over which estimates of biomass and abundance can be directly compared. In this document, we use 1988 as the start of the time series for Tanner crab, snow crab, and hair crab. The king crab stocks are more restricted to specific regions, which received disparate degrees of coverage during the earlier years of the survey; thus, we use 1979 as the start date for Bristol Bay red king crab data, 1981 for the Pribilof king crabs, 1983 for Saint Matthew Island blue king crab, and 1988 for Northern District red king crab.

Since 1988, the EBS trawl survey has consisted of 350 standard stations, excluding corner stations. Station Z-04, however, is excluded from analysis for crab populations, as described later. These stations cover an area of approximately 140,751 nmi<sup>2</sup>, with station depths ranging from 20 to 200 m (Fig. 1). The survey begins in eastern Bristol Bay between late May and early June, and eight to ten stations are typically sampled every day across two vessels (Fig. 1). The standard survey is completed in late July to early August at the northwestern edge of the survey grid. Since 1999, in years when the Bristol Bay red king crab reproductive cycle is delayed due to colder water temperatures (1999, 2000, 2006-2012, 2017, and 2021), a subset of Bristol Bay stations are resampled (20 – 30 stations) after the conclusion of the standard survey to improve the accuracy of female size composition and abundance estimates (see Methods). In addition to the EBS survey grid, the northern Bering Sea (NBS, 144 stations) has been surveyed in 2010, 2017, 2018 (with reduced effort), 2019, 2021, 2022, 2023 (with reduced effort), and 2025 (137 stations). The 2025 NBS results are not included in this preliminary report, but will be included in the final version of this report.

# **Bering Sea Crab Stock Assessment Process**

Crab species included in the Federal Bering Sea and Aleutian Islands King and Tanner Crab Fishery Management Plan (FMP) are managed by the Alaska Department of Fish and Game (ADF&G), with federal oversight by NMFS (NPFMC 2021). The annual stock assessment and fishery evaluation (SAFE) report reviewed by the North Pacific Fishery Management Council (NPFMC) provides directed fishery catch, bycatch, and survey biomass and size composition data for commercial crab species (Bechtol et al. 2023). The procedure for setting overfishing levels and allowable biological catch is determined by NMFS, while ADF&G sets either the annual total allowable catch (TAC) or guideline harvest level (GHL) for each crab stock. The NPFMC Crab Plan Team and the Scientific and Statistical Committee review each assessment and recommend biological reference points associated with the status of each crab stock.

This report summarizes the 2025 survey results for commercially important crab resources in the EBS. Readers should note that area-swept estimates in this document are indices of abundance and biomass, and are not expected to match the final modeled population estimates reported in the SAFE documents for individual stocks, as the stock assessment models include additional population dynamics information and account for fishery selectivity and survey catchability. Further details of the survey design, history, and fishing gear specifications, in addition to the number and weights of the groundfish and other invertebrate species sampled at each standard station during the 2025 survey, will be reported in a separate NOAA Technical Memorandum.

# **METHODS**

# Survey Area and Sampling Gear

The 2025 EBS survey was conducted on board two chartered fishing vessels, the FV *Alaska Knight* and FV *Northwest Explorer*, from 31 May to 26 July. The vessels sampled in close proximity to each other for much of the survey, beginning in eastern Bristol Bay and moving westward and northward (Fig. 1).

The survey was conducted on a square grid, with stations centered in 20 × 20 nmi (37.04 × 37.04 km) cells. Historically, high-density strata, located around the Pribilof Islands and Saint Matthew Island, included additional stations at the corners of the 20 × 20 nmi cells; however, these corner stations were removed beginning in 2024. To calculate the total area covered for each stock, the area for each 20 × 20 nmi cell is assumed to be 401 nmi² due to the effects of a spherical projection of the flat grid surface in an area as large as the Bering Sea. Station Z-04 (AZ0504) is excluded from all crab population estimates because the station has a limited area of crab habitat within a range of depths accessible to survey trawl gear and sampling location has not been consistent across the time series. Saint Matthew Island primarily falls on one grid cell (Q-24) within the survey boundary; there is no sampling at this location and it is not considered a survey station; however, the area is used in crab biomass and abundance estimates.

The historical distribution of species, in combination with ADF&G management units (Fitch et al. 2012) define crab stock boundaries in this document (Fig. 3). The number of sampled stations listed below for each crab stock are for the 2025 survey and do not include corner stations surveyed in previous years (see Zacher et al. 2024). Snow crab and hair crab are considered single stocks across the entire EBS (349 stations, 140,350 nmi<sup>2</sup>). In the EBS, red king crab stocks are split into the Bristol Bay District (ADF&G King Crab Registration Area T, 136 stations, 54,536 nmi<sup>2</sup>), the Pribilof Islands District (ADF&G Pribilof District in King Crab Registration Area Q, 61 stations, 24,461 nmi<sup>2</sup>) and the Northern District. Northern District red king crab are not an FMP crab stock and there is no stock assessment or fishery for these crab, but they are included within this report. Northern District red king crab are here defined as occupying any EBS survey station north of the Pribilof and Bristol Bay Districts (which is a portion of ADF&G Northern District within King Crab Registration Area Q). Norton Sound red king crab are the only FMP crab stock that are currently assessed using NBS survey data. Here we define Norton Sound red king crab as those crab in the ADF&G Norton Sound Section of the Northern District of ADF&G King Crab Registration Area Q and east of 168° W (42 stations, 16,842 nmi<sup>2</sup>). In the EBS, blue king crab are split into the Pribilof Islands District and Saint Matthew Island Section. Pribilof Islands blue king crab occupy the EBS survey stations within the ADF&G Pribilof District in King Crab Registration Area Q, plus nine additional stations to the east (70 stations, 28,070 nmi<sup>2</sup>), as indicated in the 2013 Pribilof Islands Blue King Crab

Rebuilding Plan (NPFMC 2014). Saint Matthew Island blue king crab occupy a subset of the stations within the ADF&G Saint Matthew Island Section of the Northern District of King Crab Registration Area Q (46 stations, 18,847 nmi<sup>2</sup>). The EBS Tanner crab population is considered a single stock, but it is split into eastern (120 stations, 401 nmi<sup>2</sup>) and western (229 stations, 92,230 nmi<sup>2</sup>) fishery management units defined by the ADF&G Board of Fisheries, using 166° W longitude as the boundary between the two.

Stock-specific stations used in this report are the same stations used in crab stock assessments, with the exception of Tanner crab and Norton Sound red king crab. Only one stock assessment is conducted for Tanner crab, combining the eastern and western portions of the stock into a single assessment. In addition, a different selection of stations is used in the Norton Sound red king crab assessment to standarize the area covered by NMFS NBS surveys and ADF&G surveys in the same region.

The 2025 survey utilized an 83-112 Eastern otter trawl, which employs an 83 ft (25.3 m) headrope and a 112 ft (34.1 m) footrope (Lauth and Nichol 2013); this is the same gear used in EBS bottom trawl surveys since 1982 (Fig. 2). The codend mesh size is 8.9 cm stretched and the liner is 3.2 cm. The trawl nets on each vessel were rotated every 20-30 tows (every ~5–7 days) to mitigate potential impacts from changes in net configuration due to fishing. Tows were generally 0.5 h in duration and 1.5 nmi (2.8 km) in length and were conducted at a speed of 3 knots (1.54 m sec<sup>-1</sup>; see Results for details) in strict compliance with NMFS bottom trawl protocols established by the National Oceanic and Atmospheric Administration (Stauffer 2004).

Net mensuration equipment was used to monitor fishing performance during each tow. Specifically, a bottom contact sensor (Onset HOBO Pendant G accelerometer) was attached to the center of the footrope to measure bottom contact of the net at 1-second intervals. The net mensuration system also included an acoustic height sensor attached to the headrope, and two Marport spread sensors attached to the port and starboard dandylines to measure net height and width during trawling operations. Data on bottom contact of the footrope were combined with GPS data to calculate distance fished (while in contact with the seafloor), which was then combined with the net width data to calculate area swept. Fishing power was assumed to be

equal between the two vessels. Surface and bottom water temperatures along with temperature-depth profiles were collected at 6-second intervals throughout the duration of each tow using a Sea-Bird SBE-39 bathythermograph continuous data recorder (Sea-Bird Electronics Inc., Bellevue, WA) attached to the headrope of the net. The temperature measurement range of the SBE-39 is -5°C to 35°C ( $\pm$  0.002°C), with pressure sensors measuring to a maximum depth of 1,000 m ( $\pm$  1 m). These instruments are calibrated annually by Sea-Bird Electronics. Bottom depth was calculated by adding the net height from the net mensuration system to the headrope depth estimated by the SBE-39.

The survey time series is valuable for tracking decadal-scale changes in bottom temperature, but changes in the timing and spatial extent of the survey confound comparison of mean bottom temperatures across years, especially early in the time series. To construct a comparable time series of bottom temperatures, we selected a set of stations that had temperature data missing from no more than five years in the 50-year time series (Fig. 5a). We then used multiple imputation to estimate missing temperatures from this restricted set of stations, and used a generalized additive model to account for differences among years in the timing of sampling.

# **Biological Data Collection**

### Catch Sorting and Measurement

Following each tow, all crab were removed from the catch, sorted by species and sex, and a total catch weight was obtained for each species. Tanner and snow crab hybrids were identified by a combination of characteristics including the curve of the epistome margin, eye color, carapace shape, and the space between or shape of the rostrum horns (Karinen and Hoopes 1971, Urban et al. 2002). The total catch of crabs was randomly subsampled for biological data collection in cases when a large number (approximately > 300) of a given species was caught in a tow. When conducted, subsamples varied in size and composition depending on the particular tow. The subsample may have occurred at the level of the entire catch or at the level of a particular size and sex category once the catch was sorted. The total weights of both the sampled and non-sampled crab were recorded and an expansion factor was calculated to determine the final number of each species and sex in a particular tow.

Individual crab carapaces were measured (± 0.1 mm) to provide a size-frequency distribution for each station. Crab sizes were reported as carapace width (CW) for Tanner crab, snow crab, and hybrid *Chionoecetes* spp., and carapace length (CL) for hair crab and all king crab species (Donaldson and Byersdorfer 2005). All size measurements excluded spines. For Tanner and snow crab males, chela heights were taken to determine morphometric maturity (see Maturity Estimates below). In 2025, for each haul, when possible, chela heights were measured for five males from each of three size bins for both Tanner crab and snow crab; thus, when crabs from all size bins were present in a haul chela heights were measured for 15 snow crab and 15 Tanner crab. Individual weights were taken for intact crab (i.e., whole, live crab without regenerating or missing limbs) to add to the existing size-weight data for estimating biomass, and to monitor interannual variability in size-weight relationships. For every haul in 2025, individual weight data were collected on up to five snow crab, five Tanner crab, and five red king crab per each of the following categories: 1) males, 2) ovigerous females, and 3) non-ovigerous females, and from representative size ranges for the catch. Because of their scarcity, weight data were collected for all intact blue king crab encountered.

# **Shell Condition and Clutch Assessment**

In the absence of reliable age estimates, shell condition serves as a semi-quantitative index of molt status and time in shell post-molt. For all EBS crab stocks, and particularly those which exhibit a terminal molt at maturity (i.e., *Chionoecetes* spp.), shell condition is a requisite for ADF&G in setting harvest quotas. Shell condition was assessed for each crab sampled and assigned to one of six classes according to specific criteria: 0 = molting, 1 = soft and pliable, 2 = new hardshell, both firm and clean, 3 = oldshell, slightly worn, 4 = very oldshell, worn, 5 = very, very oldshell, graveyard condition (modified from Donaldson and Byersdorfer 2005).

Clutch assessment is used to estimate spawning stock biomass and overall reproductive health, and to monitor demographic changes in the mating population. All female crab abdomens were evaluated to determine reproductive condition based on the color of the eggs (0 = no eggs, 2 = purple, 3 = brown, 4 = orange, 5 = purple-brown, 6 = pink, 7 = cream/white), the condition of the eggs (0 = no eggs, 1 = uneyed, 2 = eyed, 3 = dead, 4 = empty egg cases, 5 = hatching

eggs), and the size of the egg clutch (0 = immature, 1 = mature female no eggs, 2 = trace to 1/8 full,  $3 = \frac{1}{4}$  full,  $4 = \frac{1}{2}$  full,  $5 = \frac{3}{4}$  full, 6 = full).

For mature females, egg condition codes were used to identify a given female's stage in the reproductive cycle. Completion of the reproductive cycle was indicated by uneyed embryos. Conversely, the presence of eyed embryos, hatching eggs, empty egg cases, or absence of eggs (hereafter, "barren") in morphologically mature females indicated an incomplete cycle.

# Maturity Estimates and Legal Size

Maturity for female crab was determined based on morphological characteristics, including the presence of a clutch or shape and size of the abdominal flap (Donaldson and Byersdorfer 2005).

Mature and legal male size classes are established size cutoffs, which are based on values from the literature and State of Alaska regulations (Table 1). The ADF&G definitions for legal size classes (CW in inches) include spines (ADF&G 2024), while CW measurements reported in this document exclude spines (Table 1).

For *Chionoecetes* spp., male maturity size cutoffs have traditionally been set at 95 mm and 68 mm for snow crab from the EBS and NBS, respectively, and 113 mm and 103 mm for Tanner crab east and west of 166° W, respectively. However, size at maturity can vary dramatically across individuals and among years (Figs. 65, 66, and 84), and these static size cutoffs may result in misleading abundance and biomass estimates for both the mature and immature populations. For the 2025 survey, male biomass and abundance estimates are still presented using these size cutoffs, but we refer to them as "small" and "large" crab rather than "immature" and "mature" crab to emphasize that maturity cannot be simplistically defined using a size cutoff for male *Chionoecetes* spp. (e.g., Tables 13 and 16).

Maturity in male *Chionoecetes* spp. can be more accurately determined by an allometric change in chela height, whereby morphometrically mature crab, which have completed the terminal molt, possess a larger chela height relative to their carapace width (Comeau and Conan 1992, Stevens et al. 1993, Tamone et al. 2007). We employ a distribution-based method to estimate *Chionoecetes* spp. maturity status using chela height and carapace width measurements for new

hardshell males (Richar and Foy 2022). Maturity estimates are conducted separately for Tanner crab east of 166° W, Tanner crab west of 166° W, EBS snow crab, and in years when the NBS is surveyed, NBS snow crab. Maturity estimates using this method are only applicable to new hardshell males since oldshell males molted to maturity across a range of previous years. All references to mature male *Chionoecetes* in this document will use these chela height-derived maturity curves and are applied to new hardshell males only. Chela data are available starting in 1989 for snow crab and 1990 for Tanner crab, with three to four years in each time series when chela data were not collected.

#### Diseases

EBS crab are vulnerable to infection by a variety of pathogens, and disease prevalence may serve as an indicator of stock or ecosystem health. Bitter crab disease is caused by a parasitic dinoflagellate, *Hematodinium* sp., and is found in Tanner and snow crab throughout Alaska waters (Meyers et al. 1996). The mortality rate of parasitized crab is believed to be high, and symptoms include lethargy, chalky-pink carapace pigmentation, and white opaque hemolymph (Meyers and Burton 2009). Meat from parasitized crab is harmless to humans, but it is bitter tasting, making it unmarketable. The prevalence of bitter crab disease fluctuates both temporally and spatially in *Chionoecetes* spp. in the EBS (Meyers et al. 1996) and is influenced by changes in environmental conditions and host size (Balstad et al. 2024, Fedewa et al. 2025). All measured crab were examined for visual evidence of bitter crab disease. In addition, crab were visually evaluated for the following pathologies: 1) black mat syndrome, 2) shell disease, 3) rhizocephalan barnacles, 4) cottage cheese disease, 5) pepper spot syndrome, 6) leatherback, 7) snailfish eggs, and 8) black eye syndrome.

#### **Crab Biomass and Abundance Estimates**

Crab densities (number nmi<sup>-2</sup>) were estimated at each station for legal males, as well as mature/large and immature/small males and females of each stock, with the exception of hair crab for which density was estimated only for sub-legal and legal males, and all females. The area swept by the trawl (nmi<sup>2</sup>) was calculated as the product of the distance traveled while the net had bottom contact and the mean net width over the duration of the tow (Fig. 2). The effective width of the trawl typically ranges from 14.6 to 18.3 m when towing at a speed of 3

knots (Weinberg 2003), and changes with the depth of the tow due to changes in scope of the trawl wire (Rose and Walters 1990). From 1988 to 2025 the net width was estimated using net mensuration sensors, which measure the height and width of the net throughout the duration of the tow. Area-swept calculations were conducted for each tow using the mean net width from these sensors or when net width values were not recorded during a tow, a mean net width was estimated using the inverse relationship between net scope and net width (Rose and Walters 1990). This latter method was used for all tows between 1982 and 1987. From 1975 to 1981, the net width estimates used for the area-swept calculations were derived from a single width estimate calculated each year for a particular type of trawl used during the annual survey. Distance traveled by the trawl was determined from ship GPS positions recorded at the beginning and end of each tow.

All reported historical and current-year biomass estimates are calculated for male and female crab in each 1 mm size bin for each species, using the weight-size relationships developed by the AFSC Kodiak Laboratory (Table 2). The size-weight relationships are described by the expression:

$$W = a L^b,$$

where W is the crab weight in grams, L is either CL or CW in millimeters, log(a) is the intercept in log scale and b is the slope. Parameters a and b are estimated from a linear regression fitted to log-transformed size-weight data collected between 2000 and 2009.

The estimated weights for each 1 mm size bin were summed for each station by the size/sex categories (e.g., legal male, mature female). The crab biomass for each stock was estimated by averaging crab densities (kg/nmi²) across all stations within the stock boundary, while accounting for subsampling, and multiplying by the total area within the stock boundary. Total area varies over the time series depending on which stations were sampled, thus all years in the times series are not directly comparable (Appendix A). Variance was calculated under the assumption that each station was an independent sample. In years prior to 2024 when there were both high and low density strata for some stocks due to the presence of corner stations, crab

biomass and variance were estimated separately for each stratum and then summed across strata within the same stock boundary. The 95% confidence intervals were calculated using the standard error of the total population multiplied by 1.96, assuming a normal error distribution. All biomass estimates and 95% confidence intervals reported in this document are reported in metric tons (t) except in the Abstract where both metric tons (t) and pounds (lb) are reported. Metric tons can be converted to pounds by multiplying by 2,204.6 for comparison with ADF&G reported values of TAC and GHL. Abundance estimates by 1 mm bin for the crab stocks were calculated using the same procedures as used for biomass calculations, except that numbers of crab were summed by size bin while accounting for subsampling.

The population biomass and abundance estimates reported in this document have substantial uncertainty due to the size of the area being sampled and the aggregative nature of the sampled stocks. These estimates are least precise for small crab due to poor catchability (Somerton et al. 2013) and for females of some stocks due to crab behavior. For example, female blue king crab prefer rocky habitat, which is difficult to sample with bottom trawls (Vining et al. 2001). The indices here are presented without correcting for catchability; catchability is much lower than 100%, especially for the smaller size classes. The stock assessment models that incorporate these survey data consider catchability when estimating abundance and biomass.

In years with colder than average bottom water temperatures (1999, 2000, 2006-2012, 2017, 2021), a small number of standard Bristol Bay stations sampled at the beginning of the survey are resampled in late July/August because the Bristol Bay red king crab molt-mate cycle is delayed in colder years and is not complete at the start of the survey. The primary goal of resampling is to improve the accuracy of size composition data for post-molt Bristol Bay red king crab females. Secondary goals are to: 1) improve abundance estimates of mature females by including post-molt females potentially unavailable to survey gear early in the summer; and 2) improve the accuracy of estimates for mature female reproductive status (i.e., fullness of newly extruded clutch). Resampling efforts are considered when 10% or more of mature females have not yet completed the molt-mate cycle, as determined by egg codes. Mature females with eyed embryos, empty egg cases, hatching eggs, or no eggs indicate an incomplete molt-mate cycle, while uneyed embryos indicate a complete cycle. Resample stations are selected based on the

density of female red king crab with incomplete molt-mate cycles sampled during the original survey, with consideration of the total mature female distribution. When resampling is conducted, total population estimates for male Bristol Bay red king crabs are calculated using only standard tows from the original sampling in June. Female Bristol Bay red king crab biomass and abundance estimates are calculated by replacing data collected at the resampled stations in June with data collected during the resample event in August, while retaining all data from non-resampled stations.

# **Centers of Abundance and Mapping**

The centers of abundance for male and female crab were determined by averaging the latitude and longitude of each positive tow for a particular species. Latitude and longitude were weighted by the CPUE for each size and sex class. In years when Bristol Bay stations were resampled, only the data from the original tows were included. Interpolations for maps of crab density were created using inverse distance weighting, expanding on R packages *akgfmaps* and *coldpool* (Rohan 2022, Rohan et al. 2022).

# **Special Projects**

In addition to the standard survey, there were eight special projects to collect stock-specific biological data (Table 3):

- 1) Tag mature female and male Bristol Bay red king crab with pop-up satellite tags to elucidate seasonal movement trajectories from summer into fall, winter and spring.
- 2) Collect hepatopancreas from immature snow crab that are nearing maturity across six regions in the EBS and three regions in the NBS to assess body condition and lipid allocation.
- 3) Collect carapaces of shell condition 5 male snow crab for radiometric ageing.
- 4) Collect hemolymph samples of red king crab throughout the EBS and NBS for genetic analysis.
- 5) Collect hemolymph samples from immature snow crab in the EBS and NBS for

- monitoring bitter crab disease.
- 6) Collect live, mature female, small male, and large male snow crab for measuring active metabolic rate.
- 7) Collect live, mature female snow crab for ocean acidification laboratory experiments.
- 8) Collect live, legal male snow crab for bycatch reduction laboratory experiments.

Pop-up satellite tags were placed on five mature male (three tags each) and 106 mature female red king crab. Tags were set to release in October 2025, January 2026, and April 2026. One hundred and fifty mature female snow crab and 60 legal male snow crab were collected live for ocean acidification and bycatch reduction experiments, and transported to AFSC's Kodiak Laboratory. Sixty mature female, 60 small mature male (55-70 mm), and 40 large mature male (>100 mm) snow crab were collected live and transported to AFSC's Newport Laboratory for active metabolic rate experiments. Preserved samples were collected for projects on lipid condition metrics (hepatopancreas samples from 208 snow crab) and radiometric aging (120 male snow crab carapaces). Hemolymph samples were collected for red king crab genetic analysis (686 samples) and to monitor bitter crab disease in snow crab (377 samples). For maturity estimates, chela heights were measured for 3,710 male Tanner crab and 4,459 male snow crab. All collections were completed within the guidelines stipulated by the survey's Scientific Research Permits (NOAA: 2025-B4) and Aquatic Resource Permit (ADF&G: CF-25-014), as well as project-specific permits (CF-25-119, CF-25-082, P-25-011, CF-25-067).

#### **RESULTS**

## **Eastern Bering Sea Survey Overview**

The 2025 EBS bottom trawl survey consisted of 349 stations sampled from 31 May to 26 July (Fig. 1). The survey was conducted over a total area of approximately 140,350 nmi<sup>2</sup>, beginning in the southeast corner of Bristol Bay, moving east to west, and finishing with the northernmost stations. The latitude and longitude of the midpoint of each successful tow along with the duration (h), distance fished (km), bottom depth (m), and bottom temperatures (°C) are listed in Appendix B. The mean distance fished across all tows was 1.56 nmi (SD = 0.13 nmi) with a

range of 0.49 to 1.82 nmi and the mean tow duration was 31.5 minutes (SD = 2.6 min, range = 10.0 to 35.9 min). The fishing depth ranged from 19 to 175 m with a mean gear depth of 78.7 m (SD = 34.6 m). Mean net width ranged from 12.7 to 18.1 m and the average mean net width was 15.6 m (SD = 0.9 m). The 2025 net fishing performance (distance fished, tow duration, gear depth, net width) was consistent with previous years with the exception of 1975, when tow duration was 60 minutes and mean distance fished was  $2.26 \pm 0.18$  nmi (Fig. 2).

The mean bottom water temperature across all 349 stations was  $3.0 \,^{\circ}\text{C}$  (SD = 1.6), ranging from  $-1.4 \,^{\circ}\text{C}$  to  $6.4 \,^{\circ}\text{C}$ . Similar to the last three years, a cold pool of water <  $2 \,^{\circ}\text{C}$  extended primarily down the middle shelf between the 50 and 100 m isobaths, as far south as the Pribilof Islands. Bottom water temperatures were at or below -1  $^{\circ}\text{C}$  at only five stations, east and north of Saint Matthew Island. Bristol Bay was considerably warmer than the last few years, with temperatures >  $4 \,^{\circ}\text{C}$  (Fig. 4). For the subset of stations selected for standardizing the bottom temperature time series (Fig. 5a), the resulting estimate for mean bottom temperature in 2025 was  $3.42 \,^{\circ}\text{C}$ , an increase from 2022 - 2024 temperature estimates (Fig. 5b).

Population biomass of male crabs of harvestable size (legal for *Paralithodes* spp., industry-preferred size for *Chionoecetes* spp.) in the EBS has fluctuated dramatically over the 1988 – 2025 time series for the seven commercial crab stocks (Fig. 6). Biomass of harvestable crabs was high in the late 1980s and early 1990s, reaching a peak in 1991 at over 400,000 t. Throughout the 2000s and early 2010s harvestable biomass fluctuated around 100,000 t, but began to decline steadily in 2016, reaching an all-time low in 2021 at 36,566 t. Since then total biomass of crabs of harvestable size has slowly increased, reaching 61,215 t in 2025 (Fig. 6).

### **Bristol Bay District Red King Crab**

Red king crab (*Paralithodes camtschaticus*) were caught at 69 of the 136 stations in the Bristol Bay management district, and 100% of these crab were measured (Table 4). Estimated biomass of legal-sized male crab ( $\pm$  95% CI) in 2025 was 19,505  $\pm$  5,793 t (6.5  $\pm$  1.9 million crab; Tables 5 and 6; Fig. 7). This estimate is 7% lower than the 2024 biomass estimate and below the previous 20-year average of 23,104  $\pm$  3,929 t. The 2025 center of abundance for legal males was

slightly to the northeast compared with historic years and very similar to the past three years (Fig. 30). The majority of legal males were concentrated around central Bristol Bay below the 50 m isobath and primarily occurring east of column 7 (Fig. 23). In addition, some of the population extended to the northwest, up to the northern Bristol Bay district boundary, but in relatively low abundance (Fig. 23). Forty-five percent of legal-sized males were new hardshell crab, while 45% were oldshell, and 10% were very oldshell (Fig. 12). No effects of shell condition on distribution were visually apparent (Fig. 29).

Mature and immature male Bristol Bay red king crab biomass estimates were  $24,660 \pm 7,222$  t  $(9.6 \pm 2.9 \text{ million crab})$  and  $5,899 \pm 2,435$  t  $(7.7 \pm 3.5 \text{ million crab})$ , respectively (Tables 5 and 6). Mature males were distributed throughout Bristol Bay, while immature males primarily occurred in shallower waters in eastern Bristol Bay and along the Alaska Peninsula (Figs. 24, 25, and 28). In 2025, mature and immature male biomass and abundance estimates were similar to 2024, with a slight decline in estimates for immature males and a slight increase for mature males (Tables 5 and 6; Fig. 7). Compared with historic values, the male population remains low across all size classes (Fig. 7), with no evidence of significant new recruitment (Fig. 10).

The 2025 mature female red king crab biomass estimate was  $17,328 \pm 7,063$  t  $(14.0 \pm 6.1$  million crab) and the immature female biomass estimate was  $1,289 \pm 1,073$  t  $(3.6 \pm 2.8$  million crab; Tables 5 and 6). The mature female biomass estimate in 2025 increased by 19% from the 2024 estimate, but remained well below the previous 20-year average of  $29,306 \pm 6,397$  t (Table 5). Immature female biomass and abundance estimates increased over 2024 estimates by 11% and 47%, respectively (Fig. 7; Table 5). Female abundance across all size classes remains low compared with historic values (Fig. 7), although an increase in females in the approximately 90 - 110 mm CL range, indicates that some new recruitment has occurred (Figs. 10 and 14). In 2025 mature female red king crab were concentrated in central Bristol Bay, east of column 8 and below the 50 m isobath (Figs. 26 and 28). In some years one station dominates the catch for mature female Bristol Bay red king crab; however, in 2025 mature female catch was more evenly distributed across stations, with the highest catch stations being D-9 (12% of catch) and G-12 (10% of catch) (Fig. 26). The 2025 center of abundance for mature females was in central Bristol Bay, with a near-average latitude and longitude for the time series (Fig. 30). Immature females

were found throughout eastern Bristol Bay, east of column 9. Half of the immature female catch occurred at two stations, I-13 (31% of catch) and D-9 (19% of catch) (Figs. 27 and 28).

Of the 464 mature females sampled in May/June, 96% had uneyed eggs and 4% were barren (Figs. 18 and 22). Barren mature females were primarily distributed in central Bristol Bay (Fig. 32). Ninety-three percent of mature females were carrying clutches that were either three-quarters or completely full (Figs. 20 and 22) and all mature females were new hardshell or had just molted and were softshell (Figs. 16 and 22). Overall, 4% of mature females did not have uneyed eggs; this was well below the 10% threshold to consider resampling and thus resampling of Bristol Bay stations did not occur in 2025. The 2025 average bottom water temperature in the Bristol Bay District was 4.1 °C, similar to other years when resampling was not needed (Fig. 31).

# **Pribilof District Red King Crab**

Red king crab were caught at eight of the 61 stations in the Pribilof District in 2025 (Fig. 28) and all crabs were measured (Table 4). Estimated legal male biomass was  $1,247 \pm 1,051$  t  $(0.2 \pm 0.2 \pm 0.$ 

The biomass estimate for mature females was  $171 \pm 238$  t  $(0.1 \pm 0.1$  million crab) and no immature females were caught (Tables 7 and 8; Fig. 15). The 2025 mature female biomass estimate declined from 2024 and was below the previous 20-year average biomass estimate of  $1,375 \pm 468$  t (Table 7). All mature females were new hardshell (Fig. 17), with three-quarters full (Fig. 21) clutches of uneyed eggs (Fig. 19). Mature females were caught to the east and southeast of Saint Paul Island (Figs. 26 and 28).

Historically, red king crab were not abundant in the Pribilof District. The population began to increase in the 1990s, with a few strong cohorts progressing through the population (Fig. 11). Very few juveniles have been observed in recent years and since 2018 the sizes observed have gotten progressively larger, indicating an aging population (Figs. 8, 11, 13, and 15). Pribilof red king crab biomass estimates are imprecise, especially for females, due to the limited number of tows with crab catches (Fig. 28; Appendix B). This was further exacerbated starting in 2024 with the reduced sampling effort around the Pribilof Islands; no corner stations were sampled, reducing sampling effort from 77 to 61 stations.

# **Northern District Red King Crab**

Red king crab were caught at 25 stations in the Northern District (Fig. 28), outside of the current management units where red king crab are commercially fished (Fig. 3). Since no stock assessment or fishery exists for the Northern District, we report survey results for the legal and mature male size classes that are used in the Pribilof and Bristol Bay Districts (Table 1). The 2025 biomass estimate of legal-sized males (≥ 135 mm) was 1,371 t (0.5 million crab), while the biomass estimates for mature and immature males were 1,926 t (0.9 million crab) and 664 t (0.8 million crab), respectively. The mature male biomass estimate declined slightly from 2024, although the abundance estimate increased and was the 2<sup>nd</sup> highest in the time series (Fig. 9). Northern District males occurred primarily above the 50 m isobath (Figs. 24, 25 and 28).

Estimated biomass of mature and immature female red king crab was 612 t (0.5 million crab) and 42 t (0.1 million crab), respectively (Fig. 9). The 2025 biomass estimate for mature females declined by 63% from the 2024 estimate, but remains in the same range that has been observed for the past two decades (Fig. 9). Northern District females were found above the 50 m isobath, south and west of Nunivak Island (Figs. 26 - 28).

## **Pribilof District Blue King Crab**

Blue king crab were caught at two of the 70 stations in the Pribilof District in 2025 (Fig. 47) and all crabs were measured (Table 4). Only two legal male blue king crab (one new hardshell, one

oldshell) were caught in the Pribilof District in 2025. Estimated legal male biomass was  $203 \pm 280 \text{ t}$  ( $0.1 \pm 0.1 \text{ million}$  crab; Tables 9 and 10; Fig. 33), which was practically identical to the previous 20-year average of  $204 \pm 63 \text{ t}$  (Table 9). Legal males were found east of Saint Paul Island (Figs. 42 and 47). All captured males in the Pribilof District were of legal size, although one sublegal mature male was caught just north of the district boundary (Fig. 47).

Only three mature female blue king crab were caught in the Pribilof District in 2025. The biomass estimate for mature females was  $102 \pm 200$  t  $(0.1 \pm 0.2 \text{ million crab})$  and no immature females were caught (Tables 9 and 10; Fig. 33). The 2025 mature female biomass was below the previous 20-year average biomass estimate  $(248 \pm 158 \text{ t}; \text{ Table 9})$ . Two of the three mature females captured were new hardshell with full or three quarters full clutches of uneyed eggs, while the other crab was oldshell with empty egg cases. Mature females were all caught at one station (H-19) east of Saint Paul Island (Figs. 45 and 47).

The last strong cohort of Pribilof Island blue king crab moved through the population in the 1990s and no substantial recruitment has occurred since then (Fig. 35). Male and female blue king crab abundance estimates have been extremely low in recent years, with no evidence of an increasing trend (Fig. 33; Tables 9 and 10).

# Saint Matthew Island Section, Northern District Blue King Crab

Blue king crab were caught at only 11 of the 46 total stations in the Saint Matthew Island Section (Fig. 47), and all crab were measured (Table 4). Legal male crab biomass was estimated at 1,266  $\pm$  1,070 t (0.6  $\pm$  0.6 million crab; Tables 11 and 12; Fig. 34). The legal male biomass estimate was similar to 2024 and below the previous 20-year average of 2,406  $\pm$  581 t. In 2025, 77% of the legal-sized males were new hardshell crab (Fig. 37). The mature male biomass estimate was 1,695  $\pm$  1,497 t (1.0  $\pm$  0.9 million crab) and the immature male biomass estimate was 615  $\pm$  571 t (2.2  $\pm$  2.5 million crab; Tables 11 and 12; Fig. 34). Mature and immature males were both caught just north of Saint Matthew Island at station R-24, while south of Saint Matthew Island immature males were generally caught closer to shore than mature males (Figs. 42 – 44 and 47). The majority of legal and mature males were caught at stations O-25 and R-24 (32% of mature male

catch at both stations) (Figs. 42, 43, and 47). Over three quarters of the catch of immature males occurred at two stations, Q-25 (54% of catch) and Q-23 (24% of catch) (Figs. 44 and 47).

The mature female blue king crab biomass estimate was  $29 \pm 40$  t ( $0.1 \pm 0.1$  million crab) and the immature female biomass estimate was  $432 \pm 565$  t ( $1.7 \pm 2.4$  million crab; Tables 11 and 12; Fig. 34). Only two mature female blue king crab were captured in the Saint Matthew Island Section (Figs. 38 and 47), leading to a biomass estimate that is lower than 2024 and the previous 20-year average ( $158 \pm 80$  t). In contrast immature female biomass and abundance were the highest observed since the early 1990s (Figs. 34 and 38); however, immature female catch was dominated by a single station (74% of catch at Q-25; Fig. 47). Female blue king crab were in shallow waters around Saint Matthew Island (Figs. 45 and 46). The two mature females had new, hard shells (Fig. 39) and were barren with empty egg cases (Figs. 40 and 41).

The Saint Matthew blue king crab population has gone through several stanzas of higher abundance, most recently in the early 2010's (Fig. 36). Abundance and biomass have been lower in recent years, although there have been moderate increases for immature crab (Figs. 34 and 36). Estimates of blue king crab biomass and abundance are imprecise, especially for females, because they prefer rocky, untrawlable habitat. One or two stations often greatly affect the population estimates for Saint Matthew Island blue king crab and this was further exacerbated starting in 2024 with the reduced sampling effort around Saint Matthew Island; no corner stations were sampled, reducing sampling effort from 56 to 46 stations. In 2025, for both males and females, there were fairly large peaks in ~60 mm juveniles (Fig. 36); however, this was largely due to a high catch at one station. It is yet unknown whether this is a sign of significant new recruitment or just a lucky haul that happened to catch a pod of juveniles.

## **Eastern Bering Sea Tanner Crab**

In 2025 estimated biomass and abundance declined across all size and sex categories for Tanner crab (*Chionoecetes bairdi*) east of 166° W compared with 2024 estimates (Figs. 48 and 51; Tables 13 – 18). In contrast, there were considerable increases in biomass and abundance across mature/large/legal size categories for Tanner crab west of 166° W, with time series highs for

biomass and abundance of mature females, large males, and legal males (Figs. 49 and 52; Tables 19, 21, 22, 24). Biomass and abundance estimates for small and immature western Tanner crab declined slightly in 2025 from time series highs in 2024, but they remained the second highest estimates on record (Fig. 49). Since 2017, Tanner crab west of 166° W have had strong recruitment into the smaller size classes ( $\sim 20-50$  mm CW), but at first these peaks failed to progress into the larger size classes (Fig. 52). However, beginning in 2023 and continuing in 2024 and 2025, there were unprecedented increases in larger juveniles (> 50 mm CW), as well as continued recruitment of smaller juveniles (< 50 mm CW; Figs. 52, 54, and 56). These large cohorts of juveniles began to reach maturity in 2024 and by 2025 there was a record peak in males > 100 mm CW (Figs. 52, 54, and 56). Abundance and biomass of industry-preferred size (≥ 125 mm CW) western Tanner crab have increased over the past three years, but not as dramatically as the other size classes (Fig. 49), indicating that the large immature cohorts have yet to reach this largest size class. However, size at maturity increased in 2025 (Fig. 66) and many of the 100 - 125 mm CW males are still immature; if they survive, these crab will likely terminally molt and become mature in 2026. Tanner crab east of 166° W did not experience the same recruitment trends as in the west and even moderate peaks seen in immature size classes in 2024 did not appear to progress into larger size classes in 2025 (Figs. 50, 51, 53 and 55).

Tanner crab were caught at 79 of the 120 stations east of 166° W (Fig. 73) and 100% of legal crab were measured (Table 4). The biomass estimate for legal male Tanner crab east of 166° W ( $\geq$  120 mm carapace width) was 5,685  $\pm$  2,081 t (8.0  $\pm$  2.9 million crab; Tables 13 and 16; Fig. 48). Seventy-four percent of legal males were of industry-preferred size ( $\geq$  125 mm CW), with a biomass estimate of 4,508  $\pm$  1,781 t (5.9  $\pm$  2.3 million crab; Tables 13 and 16). The 2025 estimated biomass of legal Tanner crab in the eastern area declined by 25% from 2024 and was below the previous 20-year average biomass of 12,534  $\pm$  3,440 t. In 2025, 44% of sampled legal males east of 166° W were new hardshell, while 30% were oldshell and 27% were very oldshell (Figs. 53 and 74). East of 166°W, the large ( $\geq$  113 mm CW) male Tanner crab biomass estimate was 7,378  $\pm$  2,474 t (11.6  $\pm$  3.8 million crab) and the small (< 113 mm CW) male biomass estimate was 7,067  $\pm$  2,327 t (44.2  $\pm$  15.0 million crab; Fig. 48). The 2025 biomass estimate of morphometrically mature newshell Tanner crab east of 166°W (using chela-based maturity) was 4,094  $\pm$  1,852 t (9.6  $\pm$  3.8 million crab; Tables 14 and 17), a 31% decline from 2024. Size at 50%

maturity was 104.9 mm, similar to the 2024 value and well below the traditional maturity cutoff (≥ 113 mm CW; Fig. 65).

Estimated biomass for mature female Tanner crab east of  $166^{\circ}$  W was  $3{,}101 \pm 1{,}297$  t ( $19.0 \pm 8.4$  million crab), while the immature female Tanner crab estimated biomass was  $767 \pm 395$  t ( $16.1 \pm 7.9$  million crab; Tables 15 and 18; Fig. 48). Estimated mature female biomass declined by 10% from 2024 and was below the previous 20-year average of  $3{,}812 \pm 1{,}327$  t. The proportion of the mature female population in new hardshell condition declined from 59% in 2024 to 37% in 2025 (Figs. 57 and 63). In 2025, 9% of mature females were softshell, 34% were oldshell, and 20% were very oldshell (Fig. 57). Since Tanner crab have a terminal molt to maturity, a lower percentage of the mature females in newer shell conditions indicates less new recruitment into the mature population. Newly extruded, uneyed embryos were carried by 96% of the mature females sampled, while 4% were barren (Fig. 59). Eighty-five percent of mature females had clutches that were full or three-quarters full (Fig. 61).

Tanner crab were caught at 163 of the 229 stations west of 166° W (Fig. 73) and 66% of legal-sized crab were measured (Table 4). The 2025 biomass estimate for legal male Tanner crab west of 166° W ( $\geq$  110 mm CW) was 38,585  $\pm$  16,369 t (73.6  $\pm$  32.2 million crab; Tables 19 and 22; Fig. 48). Twenty-two percent of legal males were of industry-preferred size, for a biomass estimate of 11,201  $\pm$  4,452 t (15.9  $\pm$  6.4 million crab; Tables 19 and 22; Fig. 49). The 2025 estimated biomass of legal Tanner crab in the western area was approximately three times the biomass estimate of 2024 and above the previous 20-year average biomass of 19,717  $\pm$  4,212 t. In 2025, 78% of sampled legal-sized males were new hardshell west of 166° W, an increase from 2024 (Fig. 54). West of 166° W, the large ( $\geq$  103 mm CW) male biomass estimate was 53,518  $\pm$  22,351 t (114.8  $\pm$  49.2 million crab) and the small (< 103 mm CW) male biomass estimate was 42,979  $\pm$  10,700 t (465.7  $\pm$  153.3 million crab; Tables 19 and 22). The 2025 biomass estimate of newshell morphometrically mature Tanner crab west of 166° W was 32,991  $\pm$  15,225 t (87.5  $\pm$  36.1 million crab; Tables 20 and 23), a 154% increase from 2024. Size at 50% maturity for western Tanner crab was 107.3 mm, an approximately 7 mm increase from 2024 and the highest observed in over a decade (Fig. 66). Size at 50% maturity for western Tanner crab was above the

traditional size cutoff for maturity ( $\geq 103 \text{ mm CW}$ ) and above the size at 50% maturity of eastern Tanner crab.

Estimated biomass for mature female Tanner crab west of  $166^{\circ}$  W was  $25,399 \pm 9,511$  t ( $170.9 \pm 59.6$  million crab), while the immature female Tanner crab estimated biomass was  $10,965 \pm 4,262$  t ( $308.5 \pm 154.3$  million crab; Table 21 and 24; Fig. 49). Estimated mature female biomass increased by 14% from the time series high in 2024 (previous 20-year average of  $6,662 \pm 1,886$  t). Similar to 2024, sixty percent of the mature females were new hardshell, while 24% were oldshell and 8% were very oldshell (Figs. 58 and 64). Ninety-six percent of the sampled mature females carried newly extruded uneyed embryos (Fig. 60). Eighty-two percent of mature females had clutches that were either full or three-quarters full (Fig. 62), similar to 2024 (Fig. 64).

Legal and large-sized male Tanner crab were concentrated on the middle shelf east of the Pribilof Islands, which contrasts starkly with recent years when the distribution was more diffuse (Fig. 68 - 69). The same distribution pattern occurred for the larger industry-preferred males, although there were some additional areas of high abundance on the middle shelf east of 166° W (Fig. 67). New hardshell legal males dominated in the area of highest legal male abundance east of the Pribilof Islands, while older shell crab dominated the population structure in the southeast and northwest, where legal male abundance was lower (Figs. 68 and 74). The 2025 center of abundance for industry-preferred males shifted westward from 2024 and occurred further to the northwest than most other observations in the time series (Fig. 75). The mature female distribution was similar to 2024, with mature females occurring in high abundance around the Pribilof Islands on the outer and middle shelves, with some areas of high abundance stretching further north on the outer shelf and few high abundance areas east of 166° W (Figs. 71 and 73). The 2025 mature female center of abundance was similar to 2024, remaining one of the northernmost years in the time series (Fig. 75). Small males and immature females were abundant across the outer shelf, especially around the canyons, and also on the middle shelf around the Pribilof Islands (Figs. 70, 72, and 73).

## **Eastern Bering Sea Snow Crab**

Following the highest estimated total abundance in the time series in 2018, snow crab (*Chionoecetes opilio*) experienced a population collapse, especially in immature crab, that resulted in rapid declines in abundance and biomass estimates in 2019 and 2021 (Szuwalski, 2022; Fig. 76). Signs of recovery began in 2022 and by 2024 there were several large cohorts of juveniles that had recruited post-collapse and were moving through the immature size classes (Fig. 77). In 2025 these juvenile cohorts continued to grow and move into larger size classes; however, there was minimal new recruitment into the smallest size classes, with no peak in male or female crab < 40 mm CW, as had been observed in all other post-collapse years (Figs. 77 – 79). In 2024 and 2025 there were large increases in mature male and female biomass and abundance, indicating that post-collapse recruits were beginning to reach maturity (Figs. 76 – 79; Tables 26, 27, 29, 30).

During the 2025 survey, snow crab were caught at 198 of the 349 stations in the EBS (Fig. 91) and 57% of legal male crab were measured (Table 4). Legal male snow crab estimated biomass was  $84,039 \pm 24,145$  t (270.9 ± 84.6 million crab; Tables 25 and 28; Fig. 76). This estimated biomass represents an 85% increase since 2024, but is below the previous 20-year average of  $103,607 \pm 22,590$  t. Fifteen percent of the legal male biomass was comprised of industrypreferred crab ( $\geq 101$  mm CW), for a biomass estimate of 23,285  $\pm$  6,586 t (40.9  $\pm$  11.6 million crab; Tables 25 and 28). The biomass estimate for preferred-size males increased by 28% from 2024. Legal and preferred-size males were found in greatest abundance in a band stretching from column 3, east of the Pribilof Islands, to the US-Russian border, on both the middle and outer shelf in the south and solely on the outer shelf north of Saint Matthew Island (Figs. 85 and 86). Around the Pribilof Islands the larger preferred-size males were generally more abundant at the deeper stations on the shelf break, while the legal-sized crab were more abundant in the shallower waters on the middle shelf. The center of abundance for industry-preferred males was very similar to 2024, with an average latitude and a longitude slightly west of average for the time series (Fig. 94). Eighty-five percent of legal-sized male crab were in new hardshell condition, 7% were oldshell and 7% were very oldshell (Fig. 78). Oldshell legal males were

primarily distributed on the outer shelf, while new hardshell males were more dominant on the middle shelf and on the outer shelf in the north around Saint Matthew Island (Fig. 92).

The 2025 biomass estimate of morphometrically mature, new hardshell snow crab (using chelabased maturity) was  $87,911 \pm 23,440$  t ( $574.4 \pm 154.5$  million crab), a 113% increase in biomass and 93% increase in abundance from 2024 (Tables 26 and 29). However, the size at which 50% of the male snow crab population is morphometrically mature, having undergone terminal molt, was 79.0 mm, a decrease of approximately 3 mm from 2024 (Fig. 84). Percent increases for mature males were approximately three times greater than the percent increases for industrypreferred size males, likely because 96.3% [updated 9/16/25] of males matured (and terminally molted) before reaching industry-preferred size in 2025 (Fig. 84). Estimated large (≥ 95 mm CW) male biomass was  $33,171 \pm 9,117$  t (66.1  $\pm$  18.5 million crab), which was a 41% increase in biomass from 2024 (Tables 25 and 28; Fig. 76). Estimated small (< 95 mm CW) male biomass was  $232,270 \pm 62,723$  t (2,597.6 ± 733.1 million crab), an increase from the 2024 estimates of 59% for biomass and 9% for abundance (Tables 25 and 28; Fig. 76). Large males were primarily distributed on the outer shelf and also on the middle shelf between the Pribilof Islands and Saint Matthew Island (Fig. 87). Small males were most abundant on the middle shelf north of Saint Paul Island, especially in the northern part of column 21, at shallower stations than occupied by the large males (Fig. 88). Large males dominated the population structure at the southernmost stations and on the outer shelf, while small males were more dominant on the middle shelf (Fig. 91).

The estimated biomass of mature female snow crab was  $147,338 \pm 49,543$  t  $(2,122.9 \pm 679.0$  million crab), while the estimated biomass of immature female snow crab was  $105,345 \pm 36,954$  t  $(2,448.4 \pm 860.3)$  million crab; Tables 27 and 30; Fig. 76). Estimated immature female abundance declined from the time series high in 2024 by 33%, likely due to the lack of new recruitment into the smallest size class ( $\sim$ 35 mm) coinciding with many previously immature females maturing (Figs. 77 and 79). The 2025 mature female biomass estimate increased by 253% from the 2024 estimate and was well above the previous 20-year average ( $80,834 \pm 22,048$  t). In 2024 there was a cohort of large immature females ( $\sim$ 60 mm CW) and by 2025 these females matured at  $\sim$ 70 mm CW; a carapace width this large for a cohort of females is

unprecedented in the time series (Fig. 77). Smaller females, presumably from a different cohort, also matured in 2025 at the more typical size of ~55 mm CW, resulting in a bimodal size distribution for mature female snow crab. Eighty-four percent of mature female snow crab were new hardshell; the older shell conditions were restricted almost entirely to the ~55 mm CW mature females, with the ~70 mm CW females being almost entirely new hardshell, since they had just reached maturity in 2025 (Fig. 80 and 83). In 2025, > 99% of the mature females were brooding new uneyed embryos (Fig. 81) and 95% had clutches that were full or three-quarters full (Fig. 82). Mature female snow crab were distributed further south and across a larger range than they have been in recent years (Figs. 89 and 91). They were in high abundance at the stations just above the 100 m isobath between Saint Paul and Saint Matthew Islands and around Saint Matthew Island on the middle and outer shelf (Fig. 89). The center of abundance for mature females was farther south and east than most years in the time series, in stark contrast to recent years following the 2019-2021 population collapse when the center of abundance had shifted northward (Fig. 93). Immature females were most abundant between Saint Paul Island and Saint Matthew Island around the 170° W line (Fig. 90).

# Eastern Bering Sea Chionoecetes spp. Hybrids

Chionoecetes spp. hybrid crab were caught at 129 of the 349 stations in the EBS (Fig. 108). Abundance and biomass estimates were unprecedented across all sex/size/maturity categories, increasing to values 78 - 430% higher than the next highest value in the time series (Fig. 94). In this document, Chionoecetes spp. hybrid size classes for industry preferred, legal and large males are based on the size categories for snow crab (Table 1). Legal male (≥ 78 mm CW) crab had a biomass estimate of  $37,068 \pm 22,131$  t ( $101.9 \pm 60.0$  million crab; Tables 31 and 33; Fig. 94). This estimated biomass represents an 471% increase since 2024 and is considerably higher than the previous 20-year average of  $4,459 \pm 1,697$  t. Twenty-nine percent of the legal males were of industry preferred size (≥ 101 mm CW), with a biomass estimate of 15,688 ± 9,847 t (29.3 ± 19.1 million crab). The biomass estimate of preferred males was 846% higher than in 2024 and by far the highest in the time series (Fig. 94). Twenty percent of all the *Chionoecetes* spp. males ≥ 101 mm CW in the eastern Bering Sea were hybrids (Fig. 96). The large male (≥ 95 mm CW) biomass estimate was 22,240 ± 14,484 t (45.9 ± 30.9 million crab) and the small male (< 95 mm

CW) biomass estimate was  $23,497 \pm 11,830$  t ( $132.8 \pm 63.2$  million crab; Fig. 94). A peak of immature hybrid males was observed in the 50 - 90 mm range in 2024 and many of these crab appeared to reach mature and legal size classes in 2025 (Fig. 95). In addition, there were further large increases in juvenile size classes (Figs. 95, 97, and 98). Hybrid males were found in highest abundance on the middle shelf to the east and northeast of the Pribilof Islands, with small male hybrids found further north than large male hybrids (Figs. 103 - 105).

The 2025 mature female *Chionoecetes* spp. hybrid crab biomass estimate was  $11,013 \pm 5,291$  t  $(112.9 \pm 58.3 \text{ million crab}; \text{ Tables } 32 \text{ and } 34; \text{ Fig. } 94), \text{ and the immature female crab biomass}$ estimate was  $6,146 \pm 4,267$  t (95.3  $\pm$  61.4 million crab). As with males, female hybrids increased dramatically from previous years, with the biomass estimate for mature females increasing by 369% from 2024. This large population increase is reflected in the shell condition, where 89% of mature females were new hardshell, having just molted to maturity (Fig. 99). Five percent of all mature female *Chionoecetes* spp. in the eastern Bering Sea were hybrids (Fig. 96). The large increase in mature female hybrids was preceded by only a small increase in immature female hybrids in earlier years (Figs. 95 and 98). This absence in earlier data may have been partially caused by the difficulty in identifying small size classes of hybrid crab. Similar to snow crabs, mature female hybrids had a bimodal distribution in carapace width, with peaks at ~55 mm CW and ~70 mm CW, but with a larger upper tail than snow crab (> 75 mm CW crab; Fig. 98). Unlike nonhybrid *Chionoecetes* spp., the clutches of female hybrids are often small or empty (Fig. 102); however, in 2025 74% of females had clutches that were full or three-quarters full, while 7% were half full, 8% were one quarter full, 6% were one eighth full, and 4% were barren (Figs. 100 and 101). The smaller ~55 mm CW mature females primarily had full or threequarters full clutches, while the larger females tended to be barren or have small clutches (Fig. 101). Both mature and immature hybrid females were in highest abundance on the middle shelf to the east and north of the Pribilof Islands (Figs. 106 - 107).

# **Eastern Bering Sea Hair Crab**

In this report, legal male hair crab (*Erimacrus isenbeckii*) are defined as > 3.25 inches CW

( $\geq$  83 mm CL), which was specified in the previous Pribilof District fishery; the female hair crab biomass estimate is presented for all sizes and maturity states combined. Hair crab were caught at 62 of the 349 stations in the EBS (Fig. 113). The 2025 biomass estimate of legal males was  $801 \pm 330$  t ( $1.4 \pm 0.5$  million crab) and  $341 \pm 273$  t ( $1.5 \pm 1.1$  million crab) for sub-legal males (Tables 35 and 36; Fig. 109). Male hair crab primarily occurred along the 50 m isobath and into Bristol Bay (Figs. 110, 111, and 113). The female hair crab biomass estimate was  $474 \pm 226$  t ( $1.8 \pm 0.7$  million crab; Tables 35 and 36; Fig. 109). Females were primarily distributed near the 50 m isobath, in Bristol Bay, and around the Pribilof Islands (Figs. 112 and 113).

# Other King and Tanner Crab

No other species of king or Tanner crab were caught during the 2025 EBS survey.

#### **ACKNOWLEDGMENTS**

We thank Captain Adam White of the FV *Northwest Explorer*, Captain James Mattice of the FV *Alaska Knight* and all their crew whose expertise makes the annual EBS bottom trawl survey possible. We also thank the dedicated Field Party Chiefs, Deck Leads, and scientific crew who all participated in the survey. We acknowledge the dedication of the scientific personnel who made up the 2025 "crab crew": C. Cleary (NOAA-AFSC-SAP), E. Fedewa (NOAA-AFSC-SAP), J. Gardner (NOAA-AFSC-SAP), C. Gredzens (NOAA-AFSC-FMA), S. Hennessey (NOAA-AFSC-SAP), M. Korte (ADF&G), A. Laferriere (NOAA-AFSC-RACE), M. Litzow (NOAA-AFSC-SAP), W.C. Long (NOAA-AFSC-SAP), E. Markowitz (NOAA-AFSC-GAP), J. Richar (NOAA-AFSC-SAP), E. Ryznar (NOAA-AFSC-SAP), W. Stockhausen (NOAA-AFSC-REFM), and S. Wassermann (NOAA-AFSC-GAP). We also thank A. Conrad (NOAA-AFSC-SAP) and C. Cleary for their efforts in survey preparation. We thank A. Foulk (NOAA-AFSC-FMA) for logistical assistance in Dutch Harbor, including receiving SAP gear. We thank R. Alinsunurin (ADF&G) and R. Lardner (ADF&G) for assistance with special projects in Dutch Harbor.

#### **CITATIONS**

- ADF&G. 2024. 2024-2024 Statewide King and Tanner Crab Commercial Fishing Regulations.

  Alaska Department of Fish and Game. Available online:

  <a href="https://www.adfg.alaska.gov/static/regulations/fishregulations/pdfs/commercial/cf\_king\_t\_anner\_crab">https://www.adfg.alaska.gov/static/regulations/fishregulations/pdfs/commercial/cf\_king\_t\_anner\_crab</a> 2024 2025.pdf
- Balstad, L.J., E.J. Fedewa, and C.S. Szuwalski. 2024. Drivers of bitter crab disease occurrence in eastern Bering Sea snow crab (*Chionoecetes opilio*). ICES Journal of Marine Science. 81: 1073-1083.
- Bechtol, J.B., B. Daly, G. Eckert, E. Fedewa, B. Garber-Yonts, T. Hamazaki, T. Jackson,
  M. Litzow, K. Milani, K. Palof, A.E. Punt, S. Rheinsmith, M.S.M. Siddeek, W.
  Stockhausen, C. Szuwalski, and M. Westphal. 2023. Stock Assessment and Fishery
  Evaluation Report for the King and Tanner Crab Fisheries of the Bering Sea and Aleutian
  Islands Regions: 2023 Final Crab SAFE. North Pacific Fishery Management Council,
  1007 West 3rd Ave., Suite 400, Anchorage, AK 99501.
- Comeau, M., and G.Y. Conan. 1992. Morphometry and gonad maturity of male snow crab, *Chionoecetes opilio*. Can. J. Fish. Aquat. Sci. 49: 2460-2468.
- Donaldson, W., and S. Byersdorfer. 2005. Biological field techniques for lithodid crabs. Alaska Sea Grant College Program AK-SG-05-03, 76 p.
- Fedewa, E.J., P.C. Jensen, H.J. Small, M.A. Litzow, M.J. Malick, L.S. Zacher, W.C. Long, and S. Kotwicki. 2025. Bitter crab disease dynamics in eastern Bering Sea Tanner and snow crab: An underestimated and emergent stressor. Fish. Res. 283. https://doi.org/10.1016/j.fishres.2025.107307
- Fitch, H., M. Schwenzfeier, B. Baechler, T. Hartill, M. Salmon, M. Deiman, E. Evans, E. Henry, L. Wald, J. Shaishnikoff, K. Herring, and J. Wilson. 2012. Annual management report for the commercial and subsistence shellfish fisheries of the Aleutian Islands, Bering Sea and the Westward Region's shellfish observer program, 2010/11. Alaska Department of Fish and Game Fishery Management Report No. 12-22, Anchorage, AK.
- INPFC. 1956. Annual report 1955. International Pacific Fisheries Commission. Vancouver, B.C., Canada.
- Karinen, J., and D. Hoopes. 1971. Occurrence of Tanner crabs (*Chionoecetes* sp.) in the eastern Bering Sea with characteristics intermediate between *C. bairdi* and *C. opilio*. Proc. Natl. Shellfish Assoc. 61:8-9.
- Lang, C. A., J. I. Richar, and R. J. Foy. 2019. The 2018 eastern Bering Sea continental shelf and northern Bering Sea bottom trawl surveys: Results for commercial crab species. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-AFSC-386, 220 p.

- Lauth, R. R., E. J. Dawson, and J. Conner. 2019. Results of the 2017 eastern and northern Bering Sea continental shelf bottom trawl survey of groundfish and invertebrate fauna. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-AFSC-396, 260 p.
- McLaughlin, P. A., D. K. Camp, M. V. Angel, E. L. Bousfield, P. Brunel, R. C. Brusca, D. Cadien, A. C. Cohen, K. Conlan, L. G. Eldredge, D. L. Felder, J. W. Goy, T. Haney, B. Hann, R. W. Heard, E. A. Hendrycks, H. H. Hobbs III, J. R. Holsinger, B. Kensley, D. R. Laubitz, S. E. LeCroy, R. Lemaitre, R. F. Maddocks, J. W. Martin, P. Mikkelsen, E. Nelson, W. A. Newman, R. M. Overstreet, W. J. Poly, W. W. Price, J. W. Reid, A. Robertson, D. C. Rogers, A. Ross, M. Schotte, F. R. Schram, C. T. Shih, L. Watling, G. D. F. Wilson, and D. D. Turgeon. 2005. Common and scientific names of aquatic invertebrates from the United States and Canada: Crustaceans. American Fisheries Society Special Publication 31. Bethesda, Maryland. 545 p.
- Meyers, T., and T. Burton. 2009. *Hematodinium* sp. Bitter crab disease of Tanner crabs, p. 84-89. *In* Diseases of wild and cultured shellfish in Alaska. Alaska Department of Fish and Game, Commercial Fisheries Division, Anchorage, AK.
- Meyers, T., J. Morado, A. Sparks, G. Bishop, T. Pearson, D. Urban, and D. Jackson. 1996. Distribution of bitter crab syndrome in Tanner crabs (*Chionoecetes bairdi*, *C. opilio*) from the Gulf of Alaska and the Bering Sea. Dis. Aquat. Org. 26:221-227.
- NPFMC. 2021. Fishery Management Plan for Bering Sea/Aleutian Islands King and Tanner Crabs. North Pacific Fishery Management Council, 1007 West Third, Suite 400, Anchorage, AK 95501.
- NPFMC. 2014. Final Environmental Assessment for proposed amendment 43 to the Fishery Management Plan for Bering Sea/Aleutian Island King and Tanner Crabs and proposed amendment 103 to the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Island. North Pacific Fishery Management Council, 605 West 4<sup>th</sup> Ave., Anchorage, AK.
- Otto, R. 1986. Management and assessment of eastern Bering Sea king crab stocks, p. 83-106. *In* Jamieson, G. S., and N. Bourne (Eds.), North Pacific workshop on stock assessment and management of invertebrates. Can. Spec. Publ. Fish. Aquat. Sci. 92.
- Pereyra, W. T., J. E. Reeves, and R. G. Bakkala. 1978. Demersal fish and shellfish resources of the eastern Bering Sea in the baseline year 1975: Distribution of crab resources from research surveys. NWAFC Processed Rep., 62 p. Northwest and Alaska Fish. Cent., Natl. Mar. Fish. Serv., NOAA, 7600 Sand Point Way NE, Seattle, WA 98115.
- Richar, J.I. and R.J. Foy. 2022. A novel morphometry-based method for assessing maturity in male Tanner crab, *Chionoecetes bairdi*. FACETS 7: 1-19. doi:10.1139/facets-2021-0061

- Rohan, S. 2022. akgfmaps: Alaska groundfish mapping. R package version 1.8.0.
- Rohan, S.K., Barnett L.A.K., and Charriere, N. 2022. Evaluating approaches to estimating mean temperatures and cold pool area from AFSC bottom trawl surveys of the eastern Bering Sea. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-AFSC-456, 42 p. https://doi.org/10.25923/1wwh-q418
- Rose, C. S., and G. E. Walters. 1990. Trawl width variation during bottom trawl surveys: Causes and consequences, p. 57-67. *In* Low, L. (ed.), Proceedings of the symposium on application of stock assessment techniques to gadids. Oct. 31 Nov. 1, 1989, Int. North Pac. Fish. Comm. Bull. Seattle, Washington.
- Somerton, D. A., and R. A. Macintosh. 1985. Reproductive biology of the female blue king crab *Paralithodes platypus* near the Pribilof Islands, Alaska J. Crust. Biol. 5(3):365-376.
- Somerton, D. A., K. L. Weinberg, and S. E. Goodman. 2013. Catchability of snow crab (*Chionoevetes opilio*) by the eastern Bering Sea bottom trawl survey estimated using a catch comparison experiment. Can. J. Fish. Aquat. Sci. 70(12):1699-1708.
- Stauffer, G. A. 2004. NOAA protocols for groundfish bottom trawl surveys of the Nation's fishery resources. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-F/SPO-65, 205 p.
- Stevens, B., W. Donaldson, J. Haaga, and J. Munk. 1993. Morphometry and maturity of paired Tanner crabs, *Chionoecetes bairdi*, from shallow-and deepwater environments. Can. J. Fish. Aquat. Sci. 50(7):1504-1516.
- Stone, R., C. O'Clair, and T. Shirley. 1992. Seasonal migration and distribution of female red king crabs in a southeast Alaskan estuary. J. Crust. Biol. 12(4):546-560.
- Szuwalski, C. 2022. Stock assessment of Eastern Bering Sea snow crab. Stock Assessment and Fishery Evaluation Report for the King and Tanner Crab Fisheries of the Bering Sea and Aleutian Islands Regions. 2022 Crab SAFE. North Pacific Fishery Management Council, Anchorage, AK.
- Tamone, S. L., S. J. Taggart, A. G. Andrews, J. Mondragon, and J. K. Nielsen. 2007. The relationship between circulating ecdysteroids and chela allometry in male Tanner crabs: Evidence for a terminal molt in the genus *Chionoecetes*. J. Crust. Biol. 27(4):635-642.
- Urban, D., D. Pengilly, L. Jadamec, and S. Byersdorfer. 2002. Testing carapace morphology characteristics for the field identification of *Chionoecetes* hybrids, p. 97-113. *In* Paul, A.J., E.G. Dawe, R. Elner, G.S. Jamieson, G.H. Kruse, R.S. Otto, B. Sainte-Marie, T.C. Shirley, and D. Woodby, (eds.), Crabs in cold water regions: Biology, management, and economics. Alaska Sea Grant College Program AK-SG-02-01, Anchorage, Alaska.
- USFWS. 1957. Progress report on king crab investigations. U.S. Fish Wildl. Serv., Pac. Salmon Invest., 9 p.

- Vining, I., S. F. Blau, and D. Pengilly. 2001. Evaluating changes in spatial distribution of blue king crab near St. Matthew Island, p. 327-348. *In* G. H. Kruse, N. Bez, A. Booth, N. W. Dorn, S. Hills, R. N. Lipcius, D. Pelletier, C. Roy, S. J. Smith, and D. Witherell (eds.), Spatial Processes and Management of Marine Populations. University of Alaska Fairbanks, Alaska Sea Grant College Program AK-SG-01-02.
- Weinberg, K. L. 2003. Change in the performance of a Bering Sea survey trawl due to varied trawl speed. Alaska Fish. Res. Bull. 10(10):42-49.
- Zacher, L.S., J. I. Richar, E. J. Fedewa, E. R. Ryznar, and M. A. Litzow. 2024. The 2023 eastern and northern Bering Sea continental shelf trawl surveys: Results for commercial crab species. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-AFSC-482, 275 p. <a href="https://doi.org/10.25923/c5j1-4r46">https://doi.org/10.25923/c5j1-4r46</a>

# **TABLES**



Table 1. -- Definition of carapace size classes for crab species caught in National Marine Fisheries Service eastern Bering Sea standard survey. Carapace length (CL) is measured for *Paralithodes* spp. and *Erimacrus isenbeckii*, while carapace width (CW excluding spines) is measured for *Chionoecetes* species. We define female maturity based on abdominal flap morphology throughout this document. A fixed cutline is used for *Paralithodes* spp. male maturity, but the traditional *Chionoecetes* spp. maturity classes are redefined as small and large, since the cutlines give misleading maturity information. The legal size classes defined by ADF&G (CW in inches) include spines.

Species	District	Sex	Immature/Small	Mature/Large	Legal Male
<b>Paralithodes</b>	Bristol Bay	male	< 120 mm	≥ 120 mm	$\geq$ 135 mm CL or $\geq$ 6.5 in. CW
Camtschaticus	Pribilof	male	< 120 mm	≥ 120 mm	$\geq$ 135 mm CL or $\geq$ 6.5 in. CW
	Norton Sound	male	< 94 mm	≥ 94 mm	$\geq$ 104 mm CL or $\geq$ 4.8 in. CW
Paralithodes	Pribilof	male	< 120 mm	≥ 120 mm	$\geq$ 135 mm CL or $\geq$ 6.5 in. CW
Platypus	Saint Matthew	male	< 105 mm	≥ 105 mm	$\geq$ 120 mm CL or $\geq$ 5.5 in. CW
-	Northern Bering Sea	male	< 94 mm	≥ 94 mm	$\geq$ 104 mm CL or $\geq$ 4.8 in. CW
Chionoecetes	East of 166° W	male	< 113 mm	≥ 113 mm	$\geq$ 120 mm or $\geq$ 4.8 in. CW <sup>1</sup>
Bairdi	West of 166° W	male	< 103 mm	≥ 103 mm	$\geq$ 110 mm or $\geq$ 4.4 in. CW <sup>1</sup>
	Preferred	male			$\geq$ 125 mm or $\geq$ 5.0 in. CW <sup>1</sup>
Chionoecetes	Eastern Bering Sea	male	< 95 mm	≥ 95 mm	$\geq$ 78 mm or $\geq$ 3.1 in. CW <sup>2</sup>
Opilio	EBS Preferred	male			$\geq$ 101 mm or $\geq$ 4.0 in. CW
-	Northern Bering Sea	male	< 68 mm	≥ 68 mm	$\geq$ 78 mm or $\geq$ 3.1 in. CW <sup>2</sup>
	NBS Preferred	male			$\geq 101 \text{ mm or } \geq 4.0 \text{ in. CW}^2$
Erimacrus isenbeckii		male			≥ 83 mm CL or > 3.25 in. CW

<sup>&</sup>lt;sup>1</sup> The legal minimum size limit for *C. bairdi* is ≥ 4.8 inches CW (120 mm excluding spines; 122 mm including spines) east of 166° W and ≥ 4.4 inches CW (110 mm excluding spines; 112 including spines) west of 166° W (ADF&G reg. **5 AAC 35.520(b)(1)**). The industry preferred minimum size limit for *C. bairdi* is ≥ 5.0 inches CW (125 mm excluding spines; 127 mm including spines).

<sup>&</sup>lt;sup>2</sup> The legal minimum size limit for *C. opilio* is ≥ 3.1 inches CW (78 mm excluding spines; 79 mm including spines) (ADF&G reg. **5 AAC 35.520(b)(2)**). The industry preferred minimum size limit for *C. opilio* is ≥ 4.0 inches CW (101 mm excluding spines; 102 mm including spines).

Table 2. -- Size-weight regression relationships used to calculate biomass of crab species caught in National Marine Fisheries Service eastern Bering Sea bottom trawl surveys. The size-weight relationships are described by the expression:  $W = a L^b$ , where W is the total weight in grams, L is either carapace length or carapace width in millimeters,  $\log(a)$  is the intercept in log scale and b is the slope.

Stock	Sex	а	b
Bristol Bay	Males	0.000403	3.141334
red king crab	Females	n/a	n/a
	non-ovigerous females	0.000408	3.127956
	ovigerous females	0.003593	2.666076
<b>Pribilof Islands</b>	Males	0.000403	3.141334
red king crab	Females	n/a	n/a
	non-ovigerous females	0.000408	3.127956
	ovigerous females	0.003593	2.666076
<b>Pribilof Islands</b>	Males	0.000508	3.106409
blue king crab	Females	0.02065	2.27
	non-ovigerous females	n/a	n/a
	ovigerous females	n/a	n/a
Saint Matthew	Males	0.000502	3.107158
blue king crab	Females	0.02065	2.27
	non-ovigerous females	n/a	n/a
	ovigerous females	n/a	n/a
Tanner crab	Males	0.00027	3.022134
	Females	n/a	n/a
	non-ovigerous females	0.000562	2.816928
	ovigerous females	0.000441	2.898686
Snow crab	Males	0.000267	3.097253
	Females	n/a	n/a
	non-ovigerous females	0.001047	2.708367
	ovigerous females	0.001158	2.708793
Hair crab	Males	0.00071731	3.02
	Females	0.00119453	2.86

Table 3. -- Special projects related to crab species conducted on National Marine Fisheries Service eastern and northern Bering Sea bottom trawl surveys in 2025.

<b>Project Title</b>	Principle Investigator	Agency
Red king crab tagging	Leah Zacher	AFSC-RACE-SAP <sup>1</sup>
Red king crab genetics	Kristen Gruenthal	ADF&G
Bitter crab syndrome in snow crab	Hamish Small	Virginia Institute of Marine Science
Radiometric aging of snow crab	Erin Fedewa	AFSC-RACE-SAP <sup>1</sup>
Snow crab body condition	Erin Fedewa	AFSC-RACE-SAP <sup>1</sup>
Snow crab ocean acidification	Christopher Long	AFSC-RACE-SAP <sup>1</sup>
Snow crab bycatch reduction	Noëlle Yochum	Trident Seafoods
Snow crab active metabolic rate	Hillary Thalmann	Oregon State University AFSC-RACE-FBEP <sup>2</sup>

<sup>&</sup>lt;sup>1</sup> Alaska Fisheries Science Center (AFSC), Resource Assessment and Conservation Engineering Division (RACE), Shellfish Assessment Program (SAP), Kodiak, Alaska.

<sup>&</sup>lt;sup>2</sup> AFSC, RACE, Fisheries Behavioral Ecology Program (FBEP), Newport, Oregon.

Table 4. -- Summary of 2025 National Marine Fisheries Service eastern Bering Sea bottom trawl survey details for seven commercial crab stocks. Male size categories are defined in Table 1.

		Tows in	Tows with	Crab	Crab	Biomass	CI
		District	crab	caught	measured	(t)	(± 95%)
Bristol Bay District	Immature male	136	41	250	250	5,899	2,435
Red King Crab	Mature male	136	57	308	308	24,660	7,222
-	Legal	136	54	208	208	19,505	5,793
	Immature female	136	24	119	119	1,289	1,073
	Mature female	136	45	464	464	17,328	7,063
Pribilof District	Immature male	61	1	1	1	0	0
Red King Crab	Mature male	61	6	8	8	1,247	1,051
	Legal	61	6	8	8	1,247	1,051
	Immature female	61	0	0	0	0	0
	Mature female	61	2	2	2	171	238
Pribilof District	Immature male	70	0	0	0	0	0
Blue King Crab	Mature male	70	2	2	2	203	280
	Legal	70	2	2	2	203	280
	Immature female	70	0	0	0	0	0
	Mature female	70	1	3	3	102	200
Saint Matthew Is.	Immature male	46	7	78	78	615	571
Blue King Crab	Mature male	46	7	34	34	1,695	1,497
	Legal	46	6	22	22	1,266	1,070
	Immature female	46	6	61	61	432	565
	Mature female	46	2	2	2	29	40
Tanner Crab	Small male	120	76	1,408	1,249	7,067	2,327
east of 166°W	Large male	120	60	371	370	7,378	2,474
	Legal	120	50	257	257	5,685	2,081
	Preferred	120	46	189	189	4,508	1,781
	Immature female	120	34	524	494	767	395
	Mature female	120	48	608	538	3,101	1,297
Tanner Crab	Small male	229	156	14,367	6,714	42,979	10,700
west of 166°W	Large male	229	124	3,706	2,369	53,518	22,351
	Legal	229	112	2,385	1,581	38,585	16,369
	Preferred	229	79	521	403	11,201	4,452
	Immature female	229	141	8,934	3,432	10,965	4,262
	Mature female	229	114	5,631	2,341	25,399	9,511
Snow Crab	Small male	349	172	86,362	10,623	232,270	62,723
	Large male	349	140	2,212	2,045	33,171	9,117
	Legal	349	162	9,029	5,139	84,039	24,145
	Preferred	349	135	1,368	1,278	23,285	6,586
	Immature female	349	109	81,559	3,777	105,345	36,954
	Mature female	349	152	72,058	4,447	147,338	49,543

## Red king crab tables

Table 5. -- Time series of biomass (t) estimates (± 95% CI) for Bristol Bay District red king crab (*Paralithodes camtschaticus*) from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys. Listed sizes are carapace length. Contact authors for 1975-1978 data.

<b>V</b>				In Contact authors	
Year	Immature male < 120 mm	Mature male ≥ 120 mm	<b>Legal male</b> ≥ 135 mm	Immature female	Mature female
1979	16,886 (8,194)	86,906 (43,304)	63,107 (31,039)	5,132 (3,511)	59,165 (21,521)
1979	37,369 (26,261)	129,829 (65,411)	106,655 (55,569)	7,594 (6,351)	73,712 (46,197)
1981	27,294 (8,493)	41,520 (12,659)	27,368 (9,399)	4,215 (1,920)	59,099 (30,597)
1982	51,268 (33,481)	23,038 (8,656)	10,184 (3,541)	21,932 (21,208)	48,913 (18,738)
1983	25,675 (12,857)	9,796 (2,494)	2,867 (955)	7,257 (4,483)	7,237 (2,683)
1984	79,710 (96,405)	16,849 (8,751)	7,623 (5,419)	38,806 (66,183)	17,529 (14,374)
1985	12,823 (5,128)	14,006 (4,130)	5,356 (2,080)	1,602 (1,122)	5,723 (2,805)
1986	12,382 (11,322)	28,189 (27,164)	13,033 (11,620)	1,847 (2,351)	5,062 (2,860)
1987	16,626 (8,826)	30,197 (14,575)	18,167 (9,002)	7,074 (6,512)	15,427 (9,677)
1988	9,513 (4,576)	25,861 (9,178)	19,117 (7,348)	1,205 (981)	18,019 (14,900)
1989	7,059 (4,162)	35,503 (15,936)	27,552 (13,242)	1,322 (1,646)	11,615 (7,455)
1990	6,344 (3,081)	32,481 (14,786)	24,527 (11,626)	2,871 (3,669)	17,995 (14,579)
1991	6,395 (2,862)	60,142 (69,981)	52,119 (62,300)	1,826 (1,247)	15,553 (13,342)
1992	6,787 (2,844)	18,327 (6,835)	13,747 (4,984)	1,088 (560)	11,163 (5,657)
1993	6,939 (2,829)	28,740 (12,766)	19,839 (9,505)	1,170 (760)	16,101 (7,849)
1994	3,601 (1,668)	19,775 (6,740)	13,371 (4,695)	1,104 (722)	8,283 (3,558)
1995	6,359 (3,526)	20,939 (14,711)	15,570 (9,931)	2,992 (1,734)	7,868 (3,839)
1996	9,067 (4,579)	18,111 (7,309)	15,073 (6,582)	5,380 (3,575)	12,042 (6,829)
1997	27,126 (20,396)	32,533 (13,321)	27,403 (12,196)	3,051 (3,106)	21,365 (14,033)
1998	13,035 (5,153)	33,297 (10,450)	19,409 (6,599)	2,161 (1,200)	35,849 (17,889)
1999	5,093 (3,223)	39,870 (16,942)	30,005 (12,802)	1,163 (1,083)	19,126 (13,276)
2000	6,961 (3,026)	31,450 (10,638)	22,090 (7,197)	2,615 (1,628)	26,387 (18,086)
2001	8,942 (3,384)	19,060 (5,746)	15,360 (4,839)	1,692 (1,501)	22,866 (13,703)
2002	12,113 (6,484)	33,359 (12,655)	25,241 (9,716)	5,150 (4,588)	19,144 (10,306)
2003	11,514 (4,439)	63,271 (57,913)	51,115 (52,591)	5,642 (2,676)	35,587 (16,085)
2004	27,917 (22,267)	63,159 (54,053)	53,895 (47,440)	6,162 (5,720)	34,826 (18,589)
2005	17,036 (9,917)	38,105 (14,021)	28,373 (11,904)	8,455 (7,392)	42,715 (17,805)
2006	11,756 (4,699)	39,808 (17,766)	32,148 (15,550)	6,521 (3,883)	37,005 (14,306)
2007	14,043 (5,717)	44,115 (17,880)	34,226 (15,086)	2,257 (1,167)	42,931 (19,123)
2008	15,840 (8,783)	51,375 (35,542)	38,155 (28,262)	1,675 (1,411)	44,194 (28,234)
2009	8,926 (5,903)	34,250 (25,727)	21,996 (17,839)	760 (487)	46,616 (30,241)
2010	5,441 (2,167)	33,586 (16,497)	24,891 (13,450)	535 (490)	40,951 (21,869)
2011	7,952 (5,736)	21,990 (9,231)	16,622 (7,181)	3,515 (4,962)	38,035 (19,244)
2012	5,841 (3,441)	24,837 (13,411)	19,858 (11,804)	2,881 (3,089)	27,282 (17,713)
2013	5,515 (2,393)	34,141 (14,164)	28,358 (12,070)	547 (294)	22,031 (15,783)
2014	12,621 (9,278)	48,038 (17,559)	36,130 (13,660)	1,560 (1,902)	50,926 (22,953)
2015	4,984 (2,639)	32,121 (11,019)	27,209 (9,612)	838 (1,067)	26,296 (15,078)
2016	2,104 (1,069)	25,721 (7,369)	22,630 (6,639)	787 (890)	33,677 (17,212)
2017	2,273 (793)	23,304 (8,399)	21,022 (7,768)	1,211 (691)	26,672 (13,258)
2018	2,859 (1,330)	13,350 (3,623)	12,119 (3,474)	529 (339)	12,401 (5,490)
2019	2,829 (1,210)	12,551 (3,994)	9,047 (3,135)	357 (189)	13,204 (4,798)
2021	2,438 (1,151)	16,019 (6,827)	12,684 (6,092)	369 (286)	10,039 (4,860)
2022	3,172 (1,312)	22,043 (8,694)	18,231 (7,690)	961 (651)	10,378 (5,040)
2023	3,865 (1,419)	16,954 (5,740)	14,256 (5,175)	702 (496)	16,883 (13,498)
2024	6,539 (2,407)	24,334 (7,373)	21,026 (6,669)	1,162 (700)	14,587 (7,559)
2025	5,899 (2,435)	24,660 (7,222)	19,505 (5,793)	1,289 (1,073)	17,328 (7,063)

<sup>\*</sup> Measurement accuracy changed to 0.1 mm in 2016; 2025 protocol uses unrounded measurements, causing slight changes in historic biomass estimates

Table 6. -- Time series of abundance (in millions) estimates (± 95% CI) for Bristol Bay District red king crab (*Paralithodes camtschaticus*) from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys. Listed sizes are carapace length. Contact authors for 1975-1978 data.

				ngth. Contact author	
Year	Immature male	Mature male	Legal male	Immature female	Mature female
	< 120 mm	≥ 120 mm	≥ 135 mm		
1979	33.4 (18.2)	38.0 (19.1)	23.6 (11.7)	22.1 (18.3)	57.9 (20.3)
1980	70.8 (50.7)	51.3 (25.3)	37.5 (18.9)	34.4 (30.9)	87.9 (66.4)
1981	41.1 (13.3)	18.4 (5.4)	9.7 (3.3)	13.1 (7.0)	58.4 (29.6)
1982	110.9 (84.5)	12.0 (4.9)	4.0 (1.5)	72.4 (67.7)	52.9 (21.8)
1983	46.2 (24.4)	5.7 (1.5)	1.3 (0.4)	23.8 (13.6)	8.7 (3.6)
1984	164.9 (232.3)	9.1 (4.7)	3.3 (2.6)	109.8 (183.7)	27.4 (23.9)
1985	16.8 (7.0)	7.6 (2.2)	2.3 (0.9)	4.3 (3.1)	8.4 (4.1)
1986	15.2 (11.7)	14.8 (14.6)	5.6 (5.1)	5.2 (6.8)	6.4 (3.6)
1987	24.4 (13.8)	14.6 (7.0)	7.3 (3.6)	17.4 (17.0)	18.5 (11.4)
1988	11.3 (5.7)	11.6 (4.0)	7.5 (2.8)	2.5 (1.8)	20.1 (17.0)
1989	10.0 (6.1)	15.1 (6.5)	10.4 (4.8)	3.9 (4.5)	13.2 (8.6)
1990	9.7 (5.0)	13.7 (6.1)	8.9 (4.1)	7.8 (8.8)	17.0 (13.8)
1991	9.7 (4.4)	23.2 (26.1)	18.5 (21.5)	4.8 (3.1)	14.9 (13.8)
1992	8.3 (3.5)	7.5 (3.0)	4.6 (1.7)	2.3 (1.2)	10.2 (4.9)
1993	8.2 (3.3)	12.5 (5.6)	7.0 (3.5)	2.8 (1.9)	14.0 (7.0)
1994	7.1 (6.6)	8.6 (2.9)	4.8 (1.7)	3.8 (5.4)	6.1 (2.5)
1995	11.0 (7.0)	9.1 (6.9)	5.9 (4.0)	6.1 (4.6)	6.3 (3.0)
1996	17.5 (11.6)	7.2 (2.8)	5.3 (2.3)	14.3 (11.1)	9.8 (5.6)
1997	32.6 (26.3)	12.3 (4.8)	9.2 (4.0)	5.1 (5.1)	21.8 (17.1)
1998	16.8 (6.7)	15.4 (5.0)	6.8 (2.2)	6.3 (3.9)	31.7 (17.5)
1999	11.3 (11.1)	17.4 (7.7)	11.7 (5.1)	4.1 (4.0)	15.4 (10.8)
2000	10.7 (5.4)	14.0 (4.9)	8.4 (2.8)	6.3 (3.8)	21.0 (13.6)
2001	12.0 (5.4)	7.4 (2.2)	5.1 (1.6)	4.3 (4.3)	20.9 (12.9)
2002	22.9 (16.1)	13.6 (5.2)	8.6 (3.3)	17.6 (16.7)	17.0 (9.7)
2003	18.8 (7.7)	24.4 (19.4)	17.1 (16.2)	13.2 (6.3)	28.3 (13.2)
2004	43.3 (34.9)	23.7 (19.8)	18.0 (15.5)	19.7 (23.5)	31.7 (18.9)
2005	31.5 (23.2)	15.6 (5.4)	9.6 (3.8)	23.6 (21.6)	35.6 (15.3)
2006	21.2 (10.3)	16.4 (7.2)	11.8 (5.8)	16.9 (10.3)	31.0 (12.2)
2007	17.5 (7.3)	18.2 (7.1)	12.3 (5.3)	4.5 (2.4)	35.8 (16.3)
2008	17.1 (9.4)	20.9 (13.8)	12.9 (9.3)	3.7 (3.0)	36.8 (24.3)
2009	9.6 (6.0)	15.6 (11.5)	8.3 (6.8)	1.7 (1.1)	35.8 (22.4)
2010	6.5 (2.7)	14.7 (7.0)	9.4 (5.2)	1.2 (1.0)	31.5 (17.4)
2011	37.5 (58.7)	9.3 (3.9)	6.1 (2.6)	33.0 (59.1)	29.3 (15.1)
2012	8.0 (5.0)	9.7 (4.9)	6.7 (3.8)	7.6 (7.7)	19.6 (13.2)
2013	6.7 (2.9)	12.9 (5.3)	9.4 (4.0)	1.3 (0.7)	15.6 (11.1)
2014	15.5 (12.9)	19.7 (7.3)	12.4 (4.8)	2.8 (3.4)	36.9 (17.0)
2015	6.7 (4.6)	11.6 (4.0)	8.7 (3.0)	2.4 (3.0)	18.4 (10.6)
2016	4.7 (4.9)	9.0 (2.6)	7.1 (2.1)	3.6 (5.4)	22.4 (11.6)
2017	3.3 (1.3)	7.7 (2.7)	6.4 (2.4)	2.5 (1.3)	17.5 (8.6)
2018	3.8 (1.8)	4.6 (1.2)	3.8 (1.1)	1.4 (0.9)	9.0 (4.0)
2019	3.7 (1.5)	5.0 (1.6)	2.9 (1.0)	1.2 (0.7)	8.4 (3.1)
2021	3.5 (1.6)	6.3 (2.3)	4.4 (1.8)	1.4 (0.9)	6.3 (2.9)
2022	4.3 (1.7)	8.2 (3.1)	5.9 (2.4)	2.5 (1.6)	7.5 (4.2)
2023	5.8 (2.2)	6.4 (2.1)	4.8 (1.7)	2.1 (1.3)	11.0 (8.4)
2024	8.2 (3.1)	9.0 (2.7)	7.0 (2.2)	2.5 (1.5)	11.0 (5.6)
2025	7.7 (3.5)	9.6 (2.9)	6.5 (1.9)	3.6 (2.8)	14.0 (6.1)

Table 7. -- Time series of biomass (t) estimates (± 95% CI) for Pribilof District red king crab (*Paralithodes camtschaticus*) from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys. Listed sizes are carapace length. Contact authors for 1975-1980 data.

				igth. Contact author	
Year	Immature male	Mature male	Legal male	Immature female	Mature female
	< 120 mm	≥ 120 mm	≥ 135 mm		
1981	0 (0)	312 (358)	312 (358)	0 (0)	35 (68)
1982	18 (36)	1,464 (2,002)	1,464 (2,002)	14 (27)	919 (1,402)
1983	26 (52)	527 (551)	493 (502)	0 (0)	309 (292)
1984	0 (0)	317 (341)	283 (337)	0 (0)	112 (125)
1985	0 (0)	61 (121)	61 (121)	0 (0)	0 (0)
1986	0 (0)	138 (188)	138 (188)	0 (0)	79 (154)
1987	0 (0)	54 (105)	54 (105)	31 (60)	0 (0)
1988	713 (818)	107 (209)	44 (86)	283 (518)	553 (940)
1989	675 (954)	1,529 (2,728)	871 (1,444)	924 (1,762)	1,327 (2,140)
1990	7,477 (12,930)	1,141 (2,077)	138 (271)	522 (835)	2,200 (3,048)
1991	640 (1,081)	4,430 (6,913)	1,321 (2,089)	66 (92)	4,967 (5,864)
1992	274 (484)	3,305 (3,864)	2,528 (2,683)	278 (523)	3,153 (5,620)
1993	282 (554)	9,873 (17,834)	9,189 (16,493)	7 (14)	6,471 (9,096)
1994	430 (843)	9,139 (13,748)	8,117 (11,836)	47 (92)	3,917 (6,772)
1995	431 (599)	18,056 (21,267)	16,793 (20,056)	315 (352)	4,834 (6,393)
1996	68 (93)	2,361 (1,720)	2,330 (1,697)	31 (45)	1,976 (2,867)
1997	1,510 (2,486)	6,159 (7,515)	5,940 (7,425)	218 (336)	1,744 (2,018)
1998	416 (420)	2,324 (1,639)	1,778 (1,318)	50 (99)	1,669 (2,487)
1999	3,358 (6,127)	5,523 (7,217)	4,472 (6,095)	4,117 (8,053)	1,302 (1,826)
2000	157 (218)	4,320 (3,164)	3,843 (2,773)	8 (15)	987 (1,214)
2001	2,339 (4,566)	8,603 (13,262)	5,770 (7,957)	406 (795)	5,369 (10,462)
2002	8 (15)	7,037 (9,461)	7,014 (9,462)	12 (24)	775 (803)
2003	0 (0)	5,373 (6,928)	5,275 (6,755)	1(2)	2,268 (4,032)
2004	152 (286)	3,622 (4,183)	3,622 (4,183)	105 (206)	1,187 (1,238)
2005	55 (107)	1,238 (1,420)	1,238 (1,420)	0 (0)	3,118 (4,791)
2006	109 (149)	7,003 (5,252)	6,696 (5,070)	10 (20)	2,173 (2,627)
2007	214 (419)	5,224 (5,042)	5,007 (4,750)	50 (84)	1,760 (2,647)
2008	332 (604)	5,462 (5,418)	5,102 (5,241)	192 (343)	2,825 (3,701)
2009	44 (87)	2,500 (3,125)	2,127 (2,567)	15 (30)	811 (841)
2010	53 (65)	4,405 (3,767)	3,973 (3,326)	0 (0)	840 (1,167)
2011	44 (86)	3,834 (4,872)	3,751 (4,787)	3 (6)	814 (1,165)
2012	336 (636)	4,477 (5,031)	4,360 (4,846)	0 (0)	663 (710)
2013	104 (171)	7,749 (9,409)	7,567 (9,297)	0 (0)	169 (194)
2014	82 (129)	12,047 (18,525)	11,433 (18,242)	0 (0)	1,093 (2,015)
2015	113 (200)	15,173 (21,971)	14,788 (21,553)	0 (0)	3,859 (7,270)
2016	534 (703)	4,190 (5,756)	3,688 (5,028)	26 (51)	1,888 (2,258)
2017	89 (100)	3,689 (4,672)	3,541 (4,538)	0 (0)	510 (556)
2018	1,342 (2,560)	937 (784)	835 (705)	0 (0)	888 (1,520)
2019	296 (368)	2,105 (1,416)	1,110 (901)	14 (27)	804 (630)
2021	86 (169)	3,782 (2,199)	3,651 (2,100)	0 (0)	1,417 (1,585)
2022	0 (0)	5,143 (2,994)	5,112 (2,994)	0 (0)	998 (774)
2023	4 (5)	2,761 (1,673)	2,761 (1,673)	1(2)	1,213 (1,139)
2024	0 (0)	1,194 (1,088)	1,194 (1,088)	0 (0)	284 (349)
2025	0 (0)	1,247 (1,051)	1,247 (1,051)	0 (0)	171 (238)
* 1.7		14- 0.1 : 2016	. 2025	1 1	1 1 1 1

<sup>\*</sup> Measurement accuracy changed to 0.1 mm in 2016; 2025 protocol uses unrounded measurements, causing slight changes in historic biomass estimates

Table 8. -- Time series of abundance (in millions) estimates (± 95% CI) for Pribilof District red king crab (*Paralithodes camtschaticus*) from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys. Listed sizes are carapace length. Contact authors for 1975-1980 data.

	bottom trawl surv			ngth. Contact author	s for 1975-1980 d
Year	Immature male	Mature male		Immature female	Mature female
	< 120 mm	≥ 120 mm	≥ 135 mm		
1981	0.0(0.0)	0.1 (0.1)	0.1 (0.1)	0.0(0.0)	0.0 (0.0)
1982	0.0(0.0)	0.3 (0.4)	0.3(0.4)	0.0(0.0)	0.5(0.7)
1983	0.0(0.0)	0.1 (0.1)	0.1(0.1)	0.0(0.0)	0.2(0.1)
1984	0.0(0.0)	0.1 (0.1)	0.1 (0.1)	0.0(0.0)	0.1 (0.1)
1985	0.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.0)
1986	0.0(0.0)	0.0(0.1)	0.0(0.1)	0.0(0.0)	0.0(0.1)
1987	0.0(0.0)	0.0(0.0)	0.0(0.0)	0.0(0.1)	0.0(0.0)
1988	1.9 (2.8)	0.1 (0.1)	0.0(0.0)	1.6 (3.1)	0.4(0.7)
1989	1.1 (1.7)	0.8 (1.4)	0.4 (0.6)	1.8 (3.4)	1.1 (1.7)
1990	7.1 (12.0)	0.8 (1.4)	0.1 (0.1)	0.7(1.2)	2.3 (3.0)
1991	0.7 (1.0)	2.4 (3.8)	0.6(0.9)	0.3 (0.4)	4.3 (5.1)
1992	0.4(0.7)	1.5 (1.8)	1.0 (1.1)	0.4(0.8)	2.4 (4.4)
1993	0.3 (0.5)	3.5 (6.4)	3.1 (5.6)	0.0(0.1)	4.5 (6.4)
1994	0.4 (0.8)	3.1 (4.7)	2.4 (3.6)	0.1 (0.2)	2.4 (4.2)
1995	0.5 (0.7)	5.2 (5.9)	4.4 (5.2)	0.3 (0.4)	3.0 (3.9)
1996	0.1 (0.2)	0.6(0.4)	0.5 (0.4)	0.0(0.1)	1.1 (1.6)
1997	1.6 (2.7)	1.6 (1.7)	1.4 (1.7)	0.3 (0.5)	1.0 (1.1)
1998	0.4(0.5)	0.8(0.6)	0.4(0.3)	0.1 (0.2)	1.0 (1.4)
1999	7.2 (13.6)	1.9 (2.2)	1.3 (1.5)	9.5 (18.5)	0.9 (1.1)
2000	0.1 (0.2)	1.5 (1.2)	1.3 (0.9)	0.0(0.0)	0.7(0.8)
2001	2.5 (4.9)	3.7 (6.1)	1.9 (2.8)	0.6 (1.1)	3.8 (7.5)
2002	0.0(0.0)	1.9 (2.5)	1.9 (2.5)	0.0(0.0)	0.4(0.4)
2003	0.0(0.0)	1.5 (2.0)	1.4 (1.9)	0.0(0.1)	1.2 (2.1)
2004	1.4(2.7)	0.8 (0.9)	0.8(0.9)	1.1 (2.2)	0.5 (0.6)
2005	0.1 (0.1)	0.2(0.3)	0.2(0.3)	0.0(0.0)	1.3 (2.0)
2006	0.1 (0.1)	1.4 (1.1)	1.2 (1.0)	0.0(0.0)	1.0 (1.1)
2007	0.2 (0.4)	1.2 (1.3)	1.1 (1.1)	0.1 (0.1)	0.8 (1.3)
2008	0.4(0.8)	1.3 (1.2)	1.1 (1.0)	0.2 (0.4)	1.5 (2.1)
2009	0.0(0.1)	0.9 (1.2)	0.7(0.9)	0.0(0.0)	0.3(0.3)
2010	0.1 (0.1)	1.4 (1.3)	1.2 (1.0)	0.0(0.0)	0.6(0.8)
2011	0.0(0.1)	1.0 (1.3)	1.0 (1.2)	0.0(0.0)	0.5 (0.6)
2012	0.4(0.6)	1.2 (1.5)	1.2 (1.3)	0.0(0.0)	0.4(0.5)
2013	0.1 (0.2)	1.7 (2.0)	1.6 (1.9)	0.0(0.0)	0.1 (0.1)
2014	0.1(0.1)	3.0 (4.2)	2.6 (3.9)	0.0(0.0)	0.5 (0.9)
2015	0.1 (0.2)	3.5 (4.9)	3.3 (4.7)	0.0(0.0)	1.8 (3.3)
2016	0.5(0.7)	1.3 (1.9)	1.0 (1.5)	0.0(0.1)	1.3 (1.4)
2017	0.1 (0.1)	1.0 (1.3)	1.0 (1.2)	0.0(0.0)	0.3(0.3)
2018	1.5 (2.9)	0.3 (0.2)	0.2(0.2)	0.0(0.0)	0.9 (1.7)
2019	0.2 (0.3)	0.9 (0.6)	0.3 (0.3)	0.0(0.0)	0.6 (0.5)
2021	0.1 (0.1)	1.2 (0.7)	1.1 (0.7)	0.0(0.0)	0.9 (1.0)
2022	0.0(0.0)	1.3 (0.7)	1.3 (0.7)	0.0(0.0)	0.5 (0.4)
2023	0.1 (0.1)	0.7 (0.4)	0.7 (0.4)	0.0(0.0)	0.6 (0.5)
2024	0.0(0.0)	0.2 (0.2)	0.2(0.2)	0.0(0.0)	0.1 (0.2)
2025	0.0 (0.1)	0.2 (0.2)	0.2 (0.2)	0.0(0.0)	0.1 (0.1)
	•	` ,	. ,	` ,	·

## Blue king crab tables

Table 9. -- Time series of biomass (t) estimates (± 95% CI) for blue king crab (*Paralithodes platypus*) in the Pribilof District from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys. Listed sizes are carapace length. Contact authors for 1975-1980 data.

				authors for 1975-19	
Year	Immature male	Mature male	Legal male	Immature female	Mature female
	< 120 mm	≥ 120 mm	≥ 135 mm		
1981	1,704 (997)	11,628 (3,963)	10,554 (3,613)	497 (402)	5,987 (5,507)
1982	1,152 (525)	7,389 (2,712)	6,893 (2,595)	553 (621)	8,824 (11,724)
1983	962 (674)	5,409 (1,882)	4,474 (1,533)	258 (307)	9,990 (15,495)
1984	130 (92)	2,216 (993)	1,824 (884)	15 (21)	3,070 (2,292)
1985	39 (56)	1,055 (551)	755 (418)	5 (4)	520 (457)
1986	4(7)	1,505 (893)	1,473 (887)	11 (16)	2,420 (4,272)
1987	191 (294)	2,923 (2,357)	2,781 (2,258)	119 (199)	795 (909)
1988	170 (236)	842 (873)	842 (873)	190 (294)	528 (508)
1989	1,275 (1,550)	827 (1,034)	827 (1,034)	801 (1,045)	945 (1,075)
1990	2,004 (2,598)	3,078 (3,617)	1,514 (1,529)	1,118 (2,034)	1,810 (1,803)
1991	1,377 (1,043)	4,690 (3,544)	3,326 (2,931)	343 (319)	2,433 (1,973)
1992	1,801 (1,808)	4,391 (3,637)	3,035 (2,654)	802 (1,510)	1,848 (1,737)
1993	1,088 (1,162)	4,556 (2,743)	3,203 (1,887)	444 (543)	1,647 (1,489)
1994	619 (471)	3,410 (2,305)	2,806 (1,929)	87 (97)	4,806 (4,207)
1995	968 (1,637)	8,360 (9,898)	6,787 (8,186)	331 (586)	3,948 (4,017)
1996	745 (884)	4,641 (2,444)	3,873 (2,012)	177 (144)	5,408 (5,318)
1997	381 (407)	3,233 (1,749)	2,765 (1,470)	194 (250)	2,835 (2,386)
1998	692 (561)	2,798 (1,367)	2,510 (1,253)	267 (223)	1,914 (1,654)
1999	161 (127)	1,729 (1,141)	1,426 (970)	0 (0)	2,868 (2,625)
2000	113 (151)	2,091 (1,212)	1,746 (1,044)	0(0)	1,462 (1,319)
2001	87 (130)	1,599 (2,302)	1,461 (2,172)	0(1)	1,816 (2,571)
2002	0 (0)	680 (674)	647 (665)	0 (0)	1,401 (2,129)
2003	19 (37)	702 (550)	671 (541)	21 (27)	1,286 (1,880)
2004	36 (46)	107 (122)	48 (95)	25 (41)	98 (114)
2005	326 (601)	344 (479)	344 (479)	477 (935)	370 (413)
2006	87 (100)	166 (196)	139 (191)	38 (45)	538 (801)
2007	197 (284)	306 (479)	206 (296)	59 (91)	223 (384)
2008	212 (395)	46 (90)	46 (90)	222 (392)	450 (560)
2009	254 (339)	497 (695)	187 (221)	80 (104)	545 (907)
2010	92 (153)	303 (274)	190 (180)	84 (95)	310 (401)
2011	0 (0)	461 (763)	399 (693)	3 (5)	34 (49)
2012	165 (323)	644 (928)	459 (579)	9 (17)	229 (296)
2013	15 (28)	250 (391)	190 (280)	12 (17)	154 (211)
2014	83 (102)	233 (320)	233 (320)	16 (32)	91 (108)
2015	82 (120)	622 (480)	428 (385)	0 (0)	160 (207)
2016	71 (68)	130 (156)	68 (134)	50 (48)	354 (343)
2017	46 (69)	255 (256)	224 (252)	55 (54)	206 (239)
2018	96 (101)	154 (172)	154 (172)	13 (25)	108 (154)
2019	115 (122)	206 (244)	206 (244)	0 (0)	412 (693)
2021	15 (29)	405 (399)	298 (336)	0 (0)	262 (325)
2022	0 (0)	112 (154)	112 (154)	0 (0)	146 (190)
2023	24 (47)	0(0)	0 (0)	0 (0)	119 (233)
2024	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
2025	0 (0)	203 (280)	203 (280)	0 (0)	102 (200)
* 1/	4 1	l to 0.1 mm in 2016.	` ′	1 1	1: 14 1

<sup>\*</sup> Measurement accuracy changed to 0.1 mm in 2016; 2025 protocol uses unrounded measurements, causing slight changes in historic biomass estimates

Table 10. -- Time series of abundance (in millions) estimates (± 95% CI) for blue king crab (*Paralithodes platypus*) in the Pribilof District from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys. Listed sizes are carapace length. Contact authors for 1975-1980 data.

				ength. Contact author	
Year	Immature male	Mature male		Immature female	Mature female
	< 120 mm	≥ 120 mm	≥ 135 mm		
1981	2.1 (1.3)	3.8 (1.3)	3.2 (1.1)	0.8(0.7)	5.4 (4.7)
1982	1.4 (0.8)	2.4 (0.8)	2.1 (0.8)	0.9(0.9)	7.8 (10.0)
1983	1.0(0.7)	1.9 (0.7)	1.3 (0.4)	0.5(0.5)	9.3 (14.2)
1984	0.5 (0.4)	0.8(0.3)	0.6(0.3)	0.5 (0.5)	2.8 (2.1)
1985	0.1(0.1)	0.4(0.2)	0.3(0.2)	0.3(0.3)	0.5(0.4)
1986	0.0(0.0)	0.5(0.3)	0.5(0.3)	0.0(0.1)	2.1 (3.7)
1987	0.6 (1.0)	0.9(0.7)	0.8(0.7)	0.4(0.6)	0.7(0.8)
1988	1.2 (2.0)	0.2(0.2)	0.2(0.2)	0.9 (1.5)	0.5 (0.4)
1989	3.5 (4.0)	0.2(0.3)	0.2(0.3)	2.6 (3.8)	1.1 (1.5)
1990	2.4 (2.9)	1.5 (1.8)	0.6(0.6)	2.2 (3.9)	2.0 (2.2)
1991	1.9 (1.4)	2.0 (1.4)	1.2 (1.1)	0.8(0.7)	2.8 (2.3)
1992	2.4 (2.8)	1.9 (1.6)	1.2 (1.0)	1.8 (3.3)	2.1 (2.1)
1993	1.5 (1.5)	1.9 (1.1)	1.1 (0.7)	0.9 (1.0)	1.8 (1.6)
1994	0.6(0.5)	1.3 (0.9)	0.9(0.6)	0.1 (0.2)	5.0 (4.4)
1995	1.1 (2.0)	3.1 (3.6)	2.2 (2.6)	0.7 (1.2)	4.0 (4.1)
1996	0.7(0.9)	1.7 (0.9)	1.3 (0.7)	0.3 (0.2)	5.0 (4.8)
1997	0.5(0.5)	1.2 (0.7)	0.9(0.5)	0.3 (0.4)	2.6 (2.2)
1998	0.9(0.9)	1.0 (0.5)	0.8(0.4)	0.5 (0.4)	1.8 (1.6)
1999	0.2(0.1)	0.6(0.4)	0.5(0.3)	0.0(0.0)	2.8 (2.6)
2000	0.2(0.2)	0.7(0.4)	0.5(0.3)	0.0(0.0)	1.4 (1.2)
2001	0.1 (0.1)	0.5(0.7)	0.4(0.7)	0.0(0.0)	1.7 (2.5)
2002	0.0(0.0)	0.2(0.2)	0.2(0.2)	0.0(0.0)	1.2 (1.9)
2003	0.0(0.1)	0.2(0.2)	0.2(0.2)	0.1 (0.1)	1.1 (1.7)
2004	0.1 (0.1)	0.0(0.1)	0.0(0.0)	0.1(0.1)	0.1 (0.1)
2005	2.0 (3.7)	0.1 (0.1)	0.1(0.1)	2.3 (4.4)	0.3(0.3)
2006	0.1 (0.1)	0.1 (0.1)	0.0(0.1)	0.1(0.1)	0.4(0.6)
2007	0.2 (0.3)	0.1 (0.2)	0.1(0.1)	0.1 (0.2)	0.2(0.3)
2008	0.2 (0.4)	0.0(0.0)	0.0(0.0)	0.3 (0.6)	0.4(0.6)
2009	0.3 (0.3)	0.2 (0.4)	0.1 (0.1)	0.2 (0.2)	0.5 (0.8)
2010	0.1 (0.2)	0.1 (0.1)	0.1 (0.1)	0.2 (0.2)	0.2 (0.3)
2011	0.0(0.0)	0.2 (0.3)	0.1 (0.2)	0.0(0.0)	0.0(0.0)
2012	0.2 (0.4)	0.3 (0.4)	0.2(0.2)	0.0(0.1)	0.3 (0.5)
2013	0.1 (0.1)	0.1 (0.2)	0.1 (0.1)	0.0 (0.1)	0.2 (0.2)
2014	0.1 (0.1)	0.1 (0.1)	0.1 (0.1)	0.0 (0.1)	0.1 (0.1)
2015	0.1 (0.1)	0.2 (0.2)	0.1 (0.1)	0.0 (0.0)	0.2 (0.3)
2016	0.1 (0.1)	0.1 (0.1)	0.0 (0.0)	0.1 (0.1)	0.4 (0.4)
2017	0.1 (0.1)	0.1 (0.1)	0.1 (0.1)	0.1 (0.1)	0.2 (0.3)
2018	0.1 (0.1)	0.1 (0.1)	0.1 (0.1)	0.0 (0.0)	0.1 (0.1)
2019	0.2 (0.1)	0.1 (0.1)	0.1 (0.1)	0.0 (0.0)	0.3 (0.5)
2021	0.0 (0.0)	0.2 (0.2)	0.1 (0.1)	0.0 (0.0)	0.2 (0.3)
2022	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.1 (0.1)
2023	0.0 (0.0)	0.0 (0.0)	0.0(0.0)	0.0 (0.0)	0.1 (0.2)
2024	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0(0.0)
2025	0.0(0.0)	0.1 (0.1)	0.1(0.1)	0.0(0.0)	0.1 (0.2)

Table 11. -- Time series of biomass (t) estimates (± 95% CI) for blue king crab (*Paralithodes platypus*) in the Saint Matthew Island Section from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys. Listed sizes are carapace length. Contact authors for 1978-1982 data.

<b>1</b> 7				ngth. Contact author	
Year	Immature male	Mature male	Legal male	Immature female	Mature female
1002	< 105 mm	≥ 105 mm	≥ 120 mm	70 (0.5)	1.505 (2.102)
1983	1,162 (1,108)	8,834 (4,907)	6,919 (3,631)	78 (95)	1,597 (2,183)
1984	539 (328)	3,737 (1,358)	3,145 (1,219)	42 (81)	216 (285)
1985	404 (273)	2,831 (1,208)	2,405 (987)	95 (93)	38 (60)
1986	252 (238)	1,267 (971)	725 (442)	99 (112)	13 (25)
1987	495 (379)	2,022 (1,130)	1,284 (687)	205 (212)	35 (49)
1988	702 (558)	2,830 (1,346)	1,880 (821)	612 (494)	123 (147)
1989	3,041 (2,696)	4,790 (2,344)	3,415 (1,727)	1,219 (1,027)	504 (448)
1990	1,122 (1,153)	5,931 (3,073)	4,707 (2,436)	336 (351)	13 (25)
1991	1,664 (1,662)	6,073 (2,918)	4,099 (1,901)	521 (749)	270 (506)
1992	1,250 (942)	6,279 (2,513)	4,608 (1,814)	280 (377)	216 (250)
1993	2,106 (1,673)	8,425 (2,685)	6,258 (2,002)	643 (843)	1,635 (3,026)
1994	916 (403)	5,812 (2,008)	4,246 (1,450)	99 (92)	128 (131)
1995	1,038 (589)	4,889 (1,653)	3,448 (1,288)	182 (151)	21 (28)
1996	1,291 (891)	8,494 (4,013)	6,218 (2,772)	364 (421)	432 (770)
1997	1,342 (1,093)	10,005 (6,471)	7,341 (4,082)	287 (419)	407 (707)
1998	902 (661)	7,478 (5,269)	5,487 (3,564)	210 (265)	243 (261)
1999	272 (239)	1,423 (507)	1,163 (462)	93 (121)	14 (28)
2000	315 (212)	1,880 (1,136)	1,534 (993)	52 (60)	37 (52)
2001	483 (415)	2,512 (1,254)	1,937 (1,058)	145 (251)	43 (48)
2002	119 (144)	1,640 (1,033)	1,371 (971)	1 (2)	89 (120)
2003	542 (677)	1,233 (765)	918 (495)	94 (151)	339 (430)
2004	443 (508)	1,341 (754)	1,139 (597)	194 (230)	66 (82)
2005	449 (394)	1,396 (987)	1,016 (699)	93 (105)	52 (76)
2006	1,050 (946)	3,223 (2,262)	2,460 (1,464)	145 (149)	14 (28)
2007	2,618 (2,331)	4,564 (3,113)	2,217 (1,334)	247 (281)	47 (47)
2008	1,972 (1,729)	3,655 (2,059)	2,701 (1,548)	214 (280)	40 (45)
2009	1,891 (942)	5,079 (2,630)	2,571 (1,201)	218 (181)	192 (191)
2010	3,974 (5,873)	8,141 (5,955)	4,317 (2,165)	112 (169)	456 (856)
2011	1,699 (2,064)	9,516 (10,167)	5,701 (5,504)	122 (143)	32 (46)
2012	907 (777)	5,652 (3,668)	3,313 (1,915)	52 (60)	74 (64)
2013	446 (320)	2,022 (860)	1,485 (702)	85 (130)	27 (38)
2014	796 (733)	5,472 (4,750)	3,568 (2,472)	40 (43)	62 (75)
2015	825 (1,310)	5,134 (7,656)	3,592 (5,468)	5 (9)	24 (35)
2016	518 (643)	3,108 (2,301)	2,330 (1,631)	0 (0)	131 (105)
2017	124 (157)	1,740 (1,991)	1,347 (1,498)	62 (95)	0 (0)
2018	442 (507)	1,631 (888)	1,374 (743)	317 (310)	321 (270)
2019	779 (846)	2,910 (1,913)	2,327 (1,498)	531 (679)	393 (487)
2021	816 (1,189)	1,636 (1,261)	1,440 (1,102)	410 (442)	351 (469)
2022	1,375 (1,378)	1,921 (2,058)	1,481 (1,752)	366 (519)	556 (620)
2023	563 (542)	1,741 (1,451)	1,177 (1,021)	157 (187)	184 (289)
2024	439 (454)	1,672 (1,572)	1,295 (1,448)	249 (310)	47 (91)
2025	615 (571)	1,695 (1,497)	1,266 (1,070)	432 (565)	29 (40)
				unrounded measuremen	

<sup>\*</sup> Measurement accuracy changed to 0.1 mm in 2016; 2025 protocol uses unrounded measurements, causing slight changes in historic biomass estimates

Table 12. -- Time series of abundance (in millions) estimates (± 95% CI) for blue king crab (*Paralithodes platypus*) in the Saint Matthew Island Section from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys. Listed sizes are carapace length. Contact authors for 1978-1982 data.

	1982 data.			_	
Year	Immature male	Mature male	Legal male	Immature female	Mature female
	< 105 mm	≥ 105 mm	≥ 120 mm		
1983	2.0 (2.0)	5.0 (2.9)	3.3 (1.7)	0.4 (0.5)	2.6 (3.5)
1984	1.3 (1.1)	1.9 (0.7)	1.5 (0.6)	0.2 (0.4)	0.3 (0.4)
1985	0.7(0.5)	1.5 (0.7)	1.1 (0.5)	0.3(0.3)	0.1 (0.1)
1986	0.6(0.5)	0.8(0.7)	0.4(0.2)	0.3 (0.3)	0.0(0.0)
1987	1.0 (0.8)	1.3 (0.8)	0.7(0.4)	0.6(0.6)	0.1 (0.1)
1988	1.5 (1.2)	1.8 (0.9)	1.0(0.4)	1.6 (1.3)	0.2(0.2)
1989	6.2 (5.6)	2.9 (1.5)	1.8(0.9)	3.2 (2.8)	1.0(0.8)
1990	1.9 (1.9)	3.4 (1.8)	2.3 (1.2)	0.8(0.9)	0.0(0.0)
1991	3.3 (3.7)	3.9 (1.9)	2.2(1.0)	1.4 (2.1)	0.4(0.8)
1992	2.2 (2.0)	3.7 (1.5)	2.3 (0.9)	0.8 (1.0)	0.5 (0.5)
1993	4.2 (3.8)	5.1 (1.7)	3.3 (1.1)	1.7 (2.2)	2.3 (4.3)
1994	1.4 (0.6)	3.6 (1.3)	2.3 (0.8)	0.2 (0.2)	0.2 (0.2)
1995	1.7 (1.1)	2.9 (1.0)	1.7(0.6)	0.6(0.5)	0.0(0.1)
1996	2.4 (1.8)	5.0 (2.5)	3.1 (1.4)	1.1 (1.4)	0.7 (1.2)
1997	2.3 (2.0)	6.0(4.2)	3.8 (2.2)	0.8 (1.2)	0.6 (1.1)
1998	2.1 (2.0)	4.5 (3.4)	2.8(2.0)	0.6(0.8)	0.4(0.4)
1999	0.5(0.5)	0.8(0.3)	0.6(0.2)	0.3 (0.4)	0.0(0.0)
2000	0.5(0.4)	1.0 (0.6)	0.7(0.5)	0.1 (0.2)	0.1 (0.1)
2001	0.8(0.7)	1.4 (0.7)	0.9(0.5)	0.4(0.6)	0.1 (0.1)
2002	0.2(0.2)	0.9(0.5)	0.6(0.4)	0.0(0.0)	0.1 (0.2)
2003	1.2 (1.6)	0.7(0.5)	0.5(0.3)	0.3 (0.5)	0.6(0.7)
2004	0.9 (1.1)	0.7(0.5)	0.6(0.3)	0.5(0.6)	0.1 (0.1)
2005	0.9(0.8)	0.8(0.6)	0.5(0.4)	0.3 (0.3)	0.1 (0.1)
2006	1.8 (1.8)	1.9 (1.4)	1.2 (0.8)	0.3 (0.3)	0.0(0.0)
2007	4.5 (3.9)	3.2 (2.3)	1.2(0.7)	0.8 (1.0)	0.1 (0.1)
2008	3.8 (3.5)	2.3 (1.3)	1.5 (0.8)	0.7(0.9)	0.1 (0.1)
2009	3.4 (2.0)	3.6 (2.0)	1.4 (0.7)	0.6 (0.5)	0.4 (0.4)
2010	6.2 (9.1)	5.7 (4.6)	2.5 (1.3)	0.4 (0.6)	1.0 (1.9)
2011	2.6 (2.9)	6.5 (7.2)	3.2 (3.2)	0.4 (0.4)	0.1 (0.1)
2012	1.6 (1.4)	3.8 (2.6)	1.8 (1.0)	0.2 (0.2)	0.1 (0.1)
2013	0.8 (0.7)	1.3 (0.5)	0.8 (0.4)	0.3 (0.4)	0.1 (0.1)
2014	1.3 (1.1)	3.4 (3.4)	1.8 (1.4)	0.1 (0.1)	0.1 (0.1)
2015	1.2 (1.8)	3.2 (4.8)	2.0 (3.1)	0.0 (0.0)	0.1 (0.1)
2016	0.8 (1.0)	1.8 (1.5)	1.2 (0.9)	0.0 (0.0)	0.3 (0.2)
2017	0.2 (0.2)	1.0 (1.2)	0.7 (0.8)	0.1 (0.2)	0.0 (0.0)
2018	1.1 (1.3)	0.9 (0.5)	0.7 (0.3)	1.0 (1.0)	0.6 (0.5)
2019	1.9 (2.2)	1.7 (1.1)	1.2 (0.8)	1.5 (1.9)	0.8 (1.0)
2021	1.7 (2.5)	0.8 (0.7)	0.7 (0.5)	1.1 (1.1)	0.8 (1.1)
2022	3.2 (3.7)	1.1 (1.2)	0.8 (0.9)	1.1 (1.6)	1.1 (1.3)
2023	0.9 (0.8)	1.1 (0.9)	0.6 (0.6)	0.4 (0.4)	0.3 (0.5)
2024	1.2 (1.4)	1.0 (0.8)	0.7 (0.7)	0.8 (1.0)	0.1 (0.1)
2025	2.2 (2.5)	1.0(0.9)	0.6(0.6)	1.7 (2.4)	0.1(0.1)

#### Tanner crab tables

Table 13. -- Time series of biomass (t) estimates (± 95% CI) for male Tanner crab (*Chionoecetes bairdi*) from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys, <u>east</u> of 166° W. Listed sizes are carapace width. Contact authors for 1975-1987 data.

Year	Small male	Large male	Legal male	Industry preferred male
	< 113 mm	≥ 113 mm	≥ 120 mm	≥ 125 mm
1988	26,460 (10,877)	31,670 (29,201)	22,482 (23,678)	18,413 (20,791)
1989	27,575 (10,304)	60,142 (20,624)	49,413 (17,768)	41,104 (15,600)
1990	23,938 (8,095)	52,942 (18,111)	47,567 (17,313)	42,987 (16,387)
1991	25,932 (9,567)	63,893 (40,349)	54,968 (34,298)	47,449 (28,066)
1992	15,381 (9,945)	74,538 (47,450)	66,517 (43,193)	57,665 (37,452)
1993	8,056 (3,514)	45,337 (17,552)	40,826 (16,127)	34,932 (13,503)
1994	3,217 (1,179)	29,086 (9,786)	26,534 (9,202)	23,912 (8,525)
1995	1,985 (712)	17,687 (8,332)	16,321 (7,999)	14,757 (7,503)
1996	3,435 (1,402)	16,545 (10,642)	15,562 (10,219)	14,242 (9,667)
1997	3,301 (1,402)	5,787 (2,014)	5,026 (1,876)	4,561 (1,816)
1998	3,175 (858)	5,229 (1,580)	4,259 (1,330)	3,605 (1,157)
1999	8,470 (7,770)	6,365 (3,007)	4,498 (2,142)	3,483 (1,723)
2000	5,297 (2,546)	11,131 (6,847)	8,913 (5,700)	7,529 (5,210)
2001	5,780 (2,937)	10,451 (4,498)	9,036 (4,185)	8,073 (3,986)
2002	4,359 (1,802)	10,043 (4,434)	9,030 (4,172)	8,046 (3,934)
2003	6,281 (2,582)	10,883 (4,939)	9,175 (4,643)	7,991 (4,366)
2004	3,444 (1,122)	9,011 (5,060)	7,773 (4,961)	6,513 (4,801)
2005	5,325 (1,725)	12,118 (5,182)	10,289 (4,831)	8,190 (4,386)
2006	15,136 (15,088)	13,500 (5,467)	10,921 (4,711)	8,927 (4,229)
2007	12,137 (7,936)	15,802 (8,749)	11,884 (6,510)	9,457 (5,598)
2008	10,424 (7,257)	26,753 (28,996)	22,447 (26,113)	18,764 (23,837)
2009	3,849 (1,499)	10,937 (5,728)	8,947 (5,020)	7,783 (4,470)
2010	3,674 (1,177)	10,752 (5,420)	9,137 (4,827)	7,582 (4,347)
2011	11,865 (6,540)	11,525 (6,302)	9,814 (5,862)	8,500 (5,372)
2012	30,882 (21,123)	14,485 (6,790)	10,602 (4,896)	8,378 (4,101)
2013	25,423 (16,036)	39,157 (25,944)	23,823 (13,353)	14,397 (6,421)
2014	18,262 (5,903)	39,934 (12,430)	30,404 (10,151)	24,210 (8,920)
2015	7,853 (2,614)	27,241 (6,936)	22,853 (6,247)	19,301 (5,771)
2016	7,092 (4,004)	18,720 (4,807)	14,290 (3,745)	10,803 (3,022)
2017	4,629 (1,887)	19,589 (6,357)	15,832 (5,274)	12,593 (4,443)
2018	2,762 (890)	11,176 (3,159)	8,950 (2,625)	7,427 (2,355)
2019	4,486 (3,746)	6,446 (2,371)	5,581 (2,159)	4,821 (1,958)
2021	7,825 (2,670)	5,078 (2,145)	3,551 (1,555)	2,427 (1,085)
2022	6,132 (2,199)	8,824 (3,495)	6,522 (2,836)	4,727 (2,166)
2023	4,023 (1,149)	6,450 (1,966)	4,751 (1,633)	3,617 (1,327)
2024	9,935 (7,235)	9,329 (2,765)	7,543 (2,454)	6,311 (2,155)
2025	7,067 (2,327)	7,378 (2,474)	5,685 (2,081)	4,508 (1,781)

<sup>\*</sup> Measurement accuracy changed to 0.1 mm in 2016; 2025 protocol uses unrounded measurements, causing slight changes in historic biomass estimates

Table 14. -- Time series of biomass (t) estimates (± 95% CI) for new hardshell male Tanner crab (*Chionoecetes bairdi*) <u>east</u> of 166° W using the traditional size cutoff for maturity (≥ 113 mm) and maturity based on chela measurements from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys. Listed sizes are carapace width.

Year	Mature Male	Mature Male	Total Males
10	New hardshell	New hardshell	New hardshell**
	≥ 113 mm**	Chela-based maturity*	
1990	37,831 (15,585)	34,070 (13,679)	56,997 (18,786)
1991	41,896 (38,949)	28,690 (24,027)	61,851 (44,482)
1992	49,258 (44,560)	35,255 (31,468)	60,184 (53,045)
1993	27,694 (16,229)	19,283 (10,633)	31,679 (18,091)
1994	9,442 (4,718)	9,448 (4,643)	10,574 (5,137)
1995	620 (473)	693 (521)	1,246 (728)
1996	354 (212)	549 (266)	2,787 (1,296)
1997	793 (396)	736 (366)	3,553 (1,614)
1998	1,756 (901)	2,112 (892)	3,892 (1,317)
1999	2,626 (2,013)	2,752 (2,123)	9,564 (9,498)
2000	5,156 (5,393)	4,655 (4,612)	8,279 (7,143)
2001	5,073 (3,248)	4,337 (2,764)	9,116 (4,201)
2002	1,086 (815)	1,138 (795)	3,394 (1,547)
2003	2,588 (1,492)	2,498 (1,392)	7,575 (3,599)
2004	2,515 (1,327)	3,062 (1,382)	4,417 (1,765)
2005	4,135 (1,640)	4,820 (1,650)	7,424 (2,424)
2006	3,319 (2,694)	6,089 (7,063)	14,954 (17,557)
2007	6,908 (7,536)	7,656 (7,643)	15,623 (13,692)
2008	18,726 (28,480)	20,092 (29,208)	25,860 (35,398)
2009	3,510 (1,679)	NA	5,467 (2,261)
2010	4,196 (3,771)	3,613 (2,995)	6,128 (4,147)
2011	2,040 (990)	NA	11,506 (6,487)
2012	4,778 (3,345)	9,405 (6,176)	31,508 (21,308)
2013	33,647 (25,902)	NA	56,094 (40,241)
2014	24,073 (10,302)	22,557 (9,193)	36,423 (13,594)
2015	11,732 (4,328)	NA	15,238 (5,124)
2016	4,199 (1,941)	4,727 (2,678)	6,911 (5,563)
2017	2,183 (3,268)	1,731 (2,537)	3,306 (4,724)
2018	227 (144)	310 (174)	1,582 (687)
2019	633 (483)	756 (688)	4,477 (3,999)
2021	2,746 (1,710)	3,246 (1,819)	8,681 (3,736)
2022	6,614 (3,363)	7,009 (3,383)	11,546 (4,937)
2023	4,062 (1,694)	4,478 (1,825)	6,519 (2,302)
2024	4,806 (2,095)	5,951 (2,789)	12,523 (7,631)
2025	3,181 (1,747)	4,094 (1,852)	8,160 (3,089)

<sup>\*</sup> estimates slightly differ from 2024 tech memo due to the addition of new data

<sup>\*\*</sup> Measurement accuracy changed to 0.1 mm in 2016; 2025 protocol uses unrounded measurements, causing slight changes in historic biomass estimates

Table 15. -- Time series of biomass (t) estimates (± 95% CI) for female Tanner crab (*Chionoecetes bairdi*) from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys, <u>east</u> of 166° W. Contact authors for 1975-1987 data.

	w. Contact authors for 1975-198	
Year	Immature female	Mature female
1988	3,703 (1,574)	19,182 (11,150)
1989	6,666 (3,722)	12,309 (4,797)
1990	5,990 (3,260)	19,032 (8,996)
1991	3,633 (1,680)	27,708 (17,830)
1992	346 (197)	11,013 (4,847)
1993	153 (106)	5,171 (2,167)
1994	65 (42)	5,268 (3,096)
1995	250 (123)	5,732 (3,442)
1996	1,015 (557)	5,533 (3,885)
1997	967 (708)	1,947 (857)
1998	550 (228)	1,202 (492)
1999	1,089 (840)	2,272 (1,486)
2000	729 (432)	2,885 (2,197)
2001	2,617 (2,200)	1,314 (618)
2002	1,768 (970)	1,701 (1,106)
2003	705 (328)	2,090 (940)
2004	267 (201)	863 (341)
2005	1,673 (1,290)	2,820 (2,022)
2006	2,451 (2,410)	4,025 (2,318)
2007	696 (447)	5,916 (4,373)
2008	622 (639)	4,457 (2,665)
2009	533 (355)	4,021 (3,045)
2010	795 (483)	2,115 (1,752)
2011	4,390 (3,137)	2,225 (1,174)
2012	5,694 (4,988)	8,550 (5,264)
2013	2,344 (1,718)	11,054 (7,122)
2014	489 (193)	8,159 (7,538)
2015	628 (372)	4,675 (3,126)
2016	51 (32)	1,450 (862)
2017	162 (124)	2,015 (780)
2018	1,015 (505)	607 (273)
2019	1,513 (977)	662 (444)
2021	1,086 (589)	2,858 (1,208)
2022	711 (525)	1,827 (824)
2023	1,044 (536)	1,629 (731)
2024	2,957 (2,888)	3,362 (1,767)
2025	767 (395)	3,101 (1,297)

<sup>\*</sup> Measurement accuracy changed to 0.1 mm in 2016; 2025 protocol uses unrounded measurements, causing slight changes in historic biomass estimates

Table 16. -- Time series of abundance (in millions) estimates (± 95% CI) for male Tanner crab (*Chionoecetes bairdi*) from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys, <u>east</u> of 166° W. Listed sizes are carapace width. Contact authors for 1975-1987 data.

<b>X</b> 7	Gata.	•	T 1 .	
Year	Small male	Large male	Legal male	Industry preferred male
	< 113 mm	≥ 113 mm	≥ 120 mm	≥ 125 mm
1988	138.2 (43.6)	49.3 (41.4)	29.6 (29.6)	22.1 (24.3)
1989	243.7 (118.7)	89.5 (30.2)	66.4 (23.3)	51.1 (18.9)
1990	167.4 (60.3)	68.1 (22.0)	56.7 (19.8)	48.3 (17.9)
1991	123.4 (43.9)	90.2 (61.3)	71.3 (48.3)	57.5 (36.7)
1992	54.7 (32.2)	105.7 (67.0)	88.5 (57.3)	72.3 (46.4)
1993	30.0 (12.5)	63.8 (25.1)	54.2 (22.0)	43.5 (17.0)
1994	12.8 (4.2)	39.4 (13.4)	34.0 (12.1)	29.2 (10.8)
1995	10.6 (3.8)	24.0 (11.0)	21.2 (10.3)	18.3 (9.4)
1996	29.3 (13.6)	21.8 (13.8)	19.8 (12.9)	17.3 (11.8)
1997	36.5 (23.8)	7.9 (2.6)	6.3 (2.2)	5.4 (2.1)
1998	24.9 (7.8)	7.8 (2.4)	5.8 (1.8)	4.6 (1.4)
1999	50.1 (39.8)	10.1 (4.8)	6.1 (2.8)	4.3 (2.0)
2000	32.7 (13.2)	16.8 (10.0)	12.1 (7.5)	9.6 (6.6)
2001	118.0 (76.5)	14.5 (5.6)	11.5 (4.9)	9.8 (4.5)
2002	45.8 (22.0)	13.2 (5.3)	11.0 (4.6)	9.2 (4.2)
2003	41.8 (17.7)	14.9 (5.8)	11.2 (5.1)	9.1 (4.5)
2004	18.2 (8.1)	12.4 (5.3)	9.7 (4.9)	7.4 (4.6)
2005	41.9 (19.5)	17.5 (6.4)	13.5 (5.6)	9.7 (4.6)
2006	84.0 (71.2)	20.1 (7.7)	14.6 (5.8)	10.9 (4.8)
2007	52.2 (29.7)	24.7 (13.0)	16.2 (8.1)	11.8 (6.4)
2008	42.1 (27.7)	37.8 (36.2)	28.7 (30.0)	21.9 (25.8)
2009	32.8 (15.3)	16.1 (8.1)	11.8 (6.5)	9.7 (5.4)
2010	39.1 (18.3)	15.3 (7.3)	11.9 (6.1)	9.1 (5.1)
2011	135.2 (77.2)	16.0 (7.5)	12.4 (6.4)	10.0 (5.5)
2012	167.6 (120.5)	22.7 (10.7)	14.4 (6.4)	10.3 (4.8)
2013	110.0 (60.5)	69.6 (49.7)	37.0 (22.5)	19.6 (9.2)
2014	75.5 (21.3)	62.3 (19.0)	41.9 (13.4)	30.5 (10.9)
2015	40.2 (13.7)	40.0 (9.4)	30.7 (7.8)	24.1 (6.8)
2016	24.6 (13.6)	29.6 (7.7)	20.2 (5.3)	13.9 (3.8)
2017	20.6 (8.7)	29.8 (9.5)	21.8 (7.1)	15.9 (5.5)
2018	40.8 (17.3)	16.7 (4.5)	12.0 (3.4)	9.2 (2.9)
2019	37.6 (22.8)	9.3 (3.3)	7.5 (2.8)	6.1 (2.4)
2021	50.6 (19.6)	8.6 (3.6)	5.4 (2.4)	3.4 (1.5)
2022	60.7 (36.9)	14.3 (5.4)	9.5 (4.0)	6.3 (2.8)
2023	42.1 (16.7)	10.4 (3.0)	6.8 (2.3)	4.7 (1.7)
2024	80.0 (50.6)	14.2 (4.1)	10.4 (3.4)	8.2 (2.8)
2025	44.2 (15.0)	11.6 (3.8)	8.0 (2.9)	5.9 (2.3)

Table 17. -- Time series of abundance (millions) estimates (± 95% CI) for new hardshell male Tanner crab (*Chionoecetes bairdi*) <u>east</u> of 166° W using the traditional size cutoff for maturity (≥ 113 mm) and maturity based on chela measurements from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys. Listed sizes are carapace width.

Year	Mature Male	Mature Male	<b>Total Males</b>
	New hardshell	New hardshell	New hardshell
	≥ 113 mm	Chela-based maturity*	
1990	47.0 (18.6)	47.3 (17.0)	194.3 (62.4)
1991	58.8 (59.4)	36.6 (33.2)	160.8 (83.7)
1992	69.0 (63.4)	47.5 (42.5)	108.6 (92.2)
1993	37.2 (23.2)	23.4 (13.6)	53.0 (30.1)
1994	11.6 (5.9)	12.6 (6.3)	17.6 (7.6)
1995	0.9(0.7)	1.1 (0.9)	7.3 (3.2)
1996	0.4 (0.3)	1.2 (0.6)	26.1 (13.0)
1997	1.5 (0.7)	1.5 (0.7)	35.0 (22.3)
1998	3.0 (1.5)	4.7 (1.8)	23.5 (7.4)
1999	4.7 (3.7)	5.9 (4.9)	49.3 (42.6)
2000	7.7 (8.1)	8.2 (7.7)	32.3 (17.4)
2001	6.4 (3.8)	5.9 (3.2)	115.8 (73.0)
2002	1.4 (1.0)	1.9 (1.1)	39.9 (20.4)
2003	4.0 (2.2)	4.8 (2.5)	41.3 (18.2)
2004	4.0 (2.1)	6.4 (2.6)	16.8 (7.5)
2005	6.5 (2.6)	10.2 (3.4)	40.7 (18.7)
2006	5.3 (4.6)	16.5 (21.2)	77.6 (74.6)
2007	10.7 (11.0)	15.2 (13.7)	51.1 (36.0)
2008	24.7 (35.1)	32.2 (41.7)	55.4 (61.4)
2009	5.1 (2.3)	NA	31.4 (14.8)
2010	6.1 (5.4)	5.9 (4.3)	39.0 (18.6)
2011	2.9 (1.4)	NA	129.2 (76.0)
2012	8.8 (6.2)	31.0 (20.8)	160.9 (116.8)
2013	61.2 (49.7)	NA	159.1 (101.7)
2014	37.5 (15.5)	39.2 (15.1)	92.0 (29.0)
2015	16.8 (5.6)	NA	41.4 (14.0)
2016	6.4 (3.6)	8.1 (5.9)	17.5 (16.4)
2017	3.2 (4.9)	2.7 (4.1)	13.0 (12.0)
2018	0.4 (0.3)	0.7 (0.4)	36.3 (16.3)
2019	1.1 (0.9)	1.9 (1.9)	36.5 (23.0)
2021	4.8 (2.9)	7.0 (3.6)	48.1 (19.8)
2022	10.5 (5.2)	13.4 (6.1)	66.2 (36.6)
2023	6.3 (2.5)	8.0 (3.2)	42.6 (16.4)
2024	7.2 (3.2)	12.5 (7.4)	79.3 (50.2)
2025	5.1 (2.7)	9.6 (3.8)	41.1 (14.3)

<sup>\*</sup> estimates slightly differ from 2024 tech memo due to the addition of new data

Table 18. -- Time series of abundance (in millions) estimates (± 95% CI) for female Tanner crab (*Chionoecetes bairdi*) from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys, east of 166° W. Contact authors for 1975-1987 data.

	•	w. Contact authors for 19/5-198/ data.
Year	Immature female	Mature female
1988	56.3 (21.9)	84.4 (47.9)
1989	183.1 (118.5)	57.8 (22.9)
1990	98.7 (53.0)	101.5 (47.2)
1991	41.8 (21.3)	145.9 (103.7)
1992	5.1 (3.0)	53.9 (23.2)
1993	2.9 (1.9)	24.9 (10.8)
1994	2.7 (1.7)	27.0 (17.2)
1995	5.6 (2.9)	30.2 (18.5)
1996	18.1 (9.4)	28.9 (20.4)
1997	34.7 (31.1)	11.1 (5.2)
1998	13.4 (5.9)	6.7 (2.9)
1999	21.3 (12.5)	12.6 (7.8)
2000	16.6 (11.1)	15.0 (11.2)
2001	112.2 (77.7)	7.1 (3.3)
2002	36.4 (19.3)	10.8 (7.9)
2003	13.6 (6.1)	12.0 (5.7)
2004	8.6 (8.3)	4.5 (2.1)
2005	39.3 (32.9)	16.1 (12.1)
2006	29.1 (22.0)	21.9 (12.0)
2007	11.5 (6.7)	30.5 (21.1)
2008	8.9 (5.9)	24.6 (15.2)
2009	23.9 (17.8)	22.1 (16.9)
2010	29.7 (19.7)	10.6 (8.4)
2011	88.8 (54.5)	12.2 (6.2)
2012	65.8 (53.9)	52.4 (35.7)
2013	33.2 (20.9)	60.8 (42.5)
2014	15.1 (7.5)	44.7 (42.0)
2015	14.5 (7.2)	27.6 (19.2)
2016	1.4 (0.9)	7.7 (4.7)
2017	5.3 (3.4)	10.2 (4.0)
2018	35.0 (16.9)	3.5 (1.6)
2019	30.3 (20.1)	3.7 (2.5)
2021	22.8 (16.1)	14.8 (6.4)
2022	38.9 (33.9)	9.6 (4.6)
2023	36.5 (19.8)	8.6 (3.8)
2024	49.4 (33.3)	21.1 (12.3)
2025	16.1 (7.9)	19.0 (8.4)

Table 19. -- Time series of biomass (t) estimates (± 95% CI) for male Tanner crab (*Chionoecetes bairdi*) from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys, <u>west</u> of 166° W. Listed sizes are carapace width. Contact authors for 1975-1987 data.

Year	Small male	es are carapace width  Large male	Legal male	Industry preferred male
1 Car	< 103 mm	≥ 103 mm	≥ 110 mm	≥ 125 mm
1988	19,282 (8,875)	21,812 (12,530)	17,868 (11,084)	10,618 (7,664)
1989	15,988 (7,018)	29,119 (12,768)	24,883 (11,849)	16,499 (9,483)
1990	16,029 (4,485)	39,509 (22,820)	35,175 (21,125)	24,356 (15,534)
1991	17,926 (4,953)	38,059 (13,836)	34,230 (13,156)	21,816 (8,843)
1992	11,419 (3,303)	26,255 (11,787)	23,410 (11,528)	16,311 (10,235)
1993	7,226 (1,721)	12,651 (4,912)	10,873 (4,634)	6,312 (3,196)
1994	5,070 (1,263)	10,962 (3,745)	9,526 (3,507)	5,391 (2,223)
1995	3,553 (903)	11,757 (6,911)	10,592 (6,584)	5,761 (3,688)
1996	2,927 (822)	7,863 (6,170)	6,682 (5,686)	3,680 (3,383)
1997	1,986 (499)	3,575 (1,185)	2,873 (1,048)	1,121 (505)
1998	3,041 (1,044)	3,563 (1,227)	2,602 (944)	1,085 (438)
1999	4,409 (2,218)	2,311 (961)	1,679 (624)	612 (285)
2000	4,116 (1,230)	2,787 (850)	2,003 (645)	627 (290)
2001	8,171 (2,675)	4,918 (2,069)	3,943 (1,847)	1,780 (1,111)
2002	8,691 (2,905)	4,318 (1,595)	3,029 (1,294)	1,222 (604)
2003	12,528 (4,085)	8,133 (3,789)	6,424 (3,270)	2,661 (1,609)
2004	13,064 (3,188)	13,404 (7,012)	9,732 (5,032)	2,805 (1,191)
2005	18,964 (4,626)	27,348 (10,511)	23,655 (9,595)	13,839 (6,964)
2006	33,861 (10,098)	39,045 (19,584)	32,859 (18,617)	19,083 (15,673)
2007	35,745 (14,696)	40,540 (25,656)	31,673 (23,484)	16,281 (15,172)
2008	15,705 (3,798)	32,031 (17,342)	26,351 (15,780)	13,145 (10,291)
2009	9,673 (3,109)	22,980 (9,143)	19,770 (8,080)	10,812 (4,492)
2010	8,305 (1,931)	26,296 (14,128)	23,372 (13,573)	14,460 (9,924)
2011	13,198 (4,047)	26,123 (17,353)	23,259 (16,712)	15,660 (13,658)
2012	19,737 (6,712)	15,027 (4,271)	11,928 (3,618)	6,365 (2,405)
2013	18,417 (5,941)	20,423 (9,311)	15,939 (7,394)	8,220 (4,684)
2014	17,345 (7,484)	33,394 (8,146)	24,859 (6,016)	11,766 (3,233)
2015	8,036 (2,261)	31,122 (9,281)	27,067 (8,461)	14,306 (5,040)
2016	8,333 (2,666)	35,491 (8,764)	31,577 (7,838)	18,504 (5,219)
2017	5,516 (1,420)	24,530 (7,893)	21,511 (7,415)	12,681 (5,687)
2018	8,966 (2,326)	24,211 (7,076)	21,804 (6,735)	13,000 (4,636)
2019	7,847 (1,812)	9,916 (2,642)	8,839 (2,476)	5,048 (1,577)
2021	11,118 (3,484)	7,579 (2,068)	5,360 (1,552)	2,028 (764)
2022	7,823 (2,565)	6,896 (1,735)	5,190 (1,345)	1,592 (521)
2023	15,009 (3,488)	9,102 (2,002)	6,543 (1,585)	2,401 (782)
2024	46,797 (15,708)	17,388 (4,335)	13,062 (3,340)	5,196 (1,575)
2025	42,979 (10,700)	53,518 (22,351)	38,585 (16,369)	11,201 (4,452)

<sup>\*</sup> Measurement accuracy changed to 0.1 mm in 2016; 2025 protocol uses unrounded measurements, causing slight changes in historic biomass estimates

Table 20. -- Time series of biomass (t) estimates (± 95% CI) for new hardshell male Tanner crab (*Chionoecetes bairdi*) west of 166° W using the traditional size cutoff for maturity (≥ 103 mm) and maturity based on chela measurements from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys. Listed sizes are carapace width.

Year	Mature Male	Mature Male	Total Males
	New hardshell	New hardshell	New hardshell**
	≥ 103 mm**	Chela-based maturity*	
1990	32,385 (21,927)	33,855 (20,415)	46,583 (23,180)
1991	18,279 (10,760)	18,305 (9,758)	31,036 (12,959)
1992	7,719 (3,273)	7,498 (3,052)	16,300 (4,982)
1993	6,869 (3,620)	8,165 (3,518)	12,279 (4,250)
1994	2,590 (1,572)	3,154 (1,642)	5,517 (2,114)
1995	960 (503)	1,409 (566)	2,698 (842)
1996	628 (306)	958 (403)	2,074 (769)
1997	987 (370)	765 (275)	2,218 (602)
1998	1,326 (683)	1,512 (693)	3,506 (1,324)
1999	1,093 (710)	1,595 (1,263)	4,658 (2,803)
2000	1,089 (491)	1,338 (547)	4,599 (1,471)
2001	1,928 (900)	2,329 (1,037)	9,077 (3,300)
2002	1,457 (801)	2,263 (1,137)	8,172 (3,168)
2003	2,070 (809)	3,665 (1,459)	12,413 (4,302)
2004	7,427 (6,479)	6,022 (4,226)	17,158 (7,904)
2005	15,874 (7,815)	17,512 (7,764)	31,090 (9,906)
2006	9,103 (6,706)	11,299 (6,139)	35,444 (13,216)
2007	7,999 (3,851)	10,867 (3,995)	28,335 (8,291)
2008	19,384 (15,329)	20,435 (14,871)	30,360 (18,004)
2009	11,163 (6,957)	NA	16,762 (8,396)
2010	15,274 (10,697)	15,701 (10,424)	21,185 (11,268)
2011	13,053 (16,472)	12,609 (15,233)	24,063 (17,428)
2012	6,024 (2,777)	5,361 (2,304)	23,705 (8,073)
2013	13,743 (8,537)	NA	30,430 (12,498)
2014	21,224 (6,417)	21,459 (6,683)	35,744 (12,359)
2015	16,860 (7,716)	NA	22,133 (8,338)
2016	10,678 (3,732)	12,300 (4,344)	15,770 (5,268)
2017	2,345 (826)	2,700 (911)	5,163 (1,612)
2018	3,037 (924)	4,288 (1,244)	9,445 (2,521)
2019	1,222 (398)	2,570 (646)	7,693 (1,831)
2021	3,200 (1,167)	4,191 (1,457)	12,132 (3,682)
2022	3,113 (1,164)	3,648 (1,172)	8,771 (2,636)
2023	3,985 (1,114)	6,007 (1,516)	16,579 (3,798)
2024	9,811 (3,452)	12,967 (4,429)	53,223 (17,249)
2025	42,040 (21,215)	32,991 (15,225)	80,830 (29,057)

<sup>\*</sup> estimates slightly differ from 2024 tech memo due to the addition of new data

<sup>\*\*</sup> Measurement accuracy changed to 0.1 mm in 2016; 2025 protocol uses unrounded measurements, causing slight changes in historic biomass estimates

Table 21. -- Time series of biomass (t) estimates (± 95% CI) for female Tanner crab (*Chionoecetes bairdi*) from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys, <u>west</u> of 166° W. Contact authors for 1975-1987 data.

<b>T</b> 7	100 W. Contact authors for 197	
Year	Immature female	Mature female
1988	6,484 (3,079)	6,184 (3,169)
1989	5,165 (2,347)	7,090 (3,186)
1990	3,869 (1,541)	18,663 (17,538)
1991	3,390 (1,647)	17,056 (7,234)
1992	1,644 (626)	15,213 (6,889)
1993	913 (373)	6,470 (2,484)
1994	1,137 (764)	4,579 (2,492)
1995	808 (297)	6,667 (4,052)
1996	424 (175)	4,047 (3,539)
1997	442 (196)	1,451 (884)
1998	1,413 (695)	1,076 (505)
1999	1,793 (696)	1,554 (635)
2000	1,753 (604)	1,246 (622)
2001	3,741 (1,279)	3,247 (1,915)
2002	3,733 (1,472)	2,766 (1,375)
2003	3,984 (2,172)	6,313 (3,007)
2004	3,866 (1,161)	3,865 (1,569)
2005	8,710 (3,773)	8,759 (3,745)
2006	10,808 (5,313)	10,914 (4,484)
2007	4,944 (2,461)	7,521 (2,312)
2008	2,238 (968)	7,206 (3,191)
2009	2,039 (1,314)	4,456 (1,569)
2010	3,008 (1,112)	3,358 (1,567)
2011	6,001 (2,254)	3,189 (983)
2012	5,982 (2,274)	3,805 (1,338)
2013	4,071 (1,473)	6,795 (2,393)
2014	2,023 (986)	6,705 (3,547)
2015	1,038 (415)	6,536 (4,526)
2016	1,084 (474)	6,176 (3,727)
2017	1,296 (509)	5,098 (3,116)
2018	4,027 (1,607)	4,360 (1,956)
2019	3,427 (1,245)	4,184 (2,019)
2021	2,295 (678)	5,697 (2,234)
2022	2,030 (935)	4,842 (2,529)
2023	8,305 (2,959)	5,697 (3,148)
2024	16,196 (5,594)	21,277 (9,079)
2025	10,965 (4,262)	25,399 (9,511)

<sup>\*</sup> Measurement accuracy changed to 0.1 mm in 2016; 2025 protocol uses unrounded measurements, causing slight changes in historic biomass estimates

Table 22. -- Time series of abundance (in millions) estimates (± 95% CI) for male Tanner crab (*Chionoecetes bairdi*) from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys, west of 166° W. Listed sizes are carapace width. Contact authors for 1975-1987 data.

	198 / data.			
Year	Small male	Large male	Legal male	Industry preferred male
	< 103 mm	≥ 103 mm	≥ 110 mm	≥ 125 mm
1988	198.0 (88.1)	39.9 (21.1)	28.8 (16.8)	13.5 (9.4)
1989	156.4 (72.0)	50.2 (19.6)	38.3 (16.7)	20.7 (11.4)
1990	130.0 (36.9)	65.5 (35.9)	53.4 (31.1)	30.9 (19.5)
1991	162.7 (61.4)	65.2 (22.5)	54.4 (20.5)	28.6 (11.5)
1992	101.9 (31.5)	43.2 (15.5)	35.1 (14.6)	20.5 (11.7)
1993	58.1 (16.1)	23.4 (8.4)	18.4 (7.6)	8.8 (4.5)
1994	46.8 (15.1)	20.0 (6.4)	15.9 (5.7)	7.3 (3.0)
1995	32.4 (11.4)	21.3 (12.3)	18.1 (11.4)	8.2 (5.4)
1996	24.3 (6.7)	15.0 (11.1)	11.7 (9.7)	5.4 (5.1)
1997	24.6 (7.1)	7.3 (2.3)	5.3 (1.9)	1.5 (0.7)
1998	49.1 (17.7)	7.4 (2.5)	4.7 (1.7)	1.5 (0.6)
1999	83.4 (31.1)	5.0 (2.2)	3.2 (1.2)	0.9 (0.4)
2000	71.5 (25.0)	6.0 (1.8)	3.8 (1.2)	0.9 (0.4)
2001	145.2 (45.2)	9.8 (3.7)	7.0 (3.1)	2.4 (1.4)
2002	128.8 (51.0)	9.1 (3.2)	5.5 (2.2)	1.7 (0.8)
2003	171.5 (64.8)	16.4 (7.2)	11.6 (5.7)	3.6 (2.2)
2004	207.5 (46.1)	29.2 (15.9)	18.9 (10.2)	4.1 (1.7)
2005	241.1 (73.8)	49.5 (17.8)	39.2 (15.1)	18.7 (9.3)
2006	287.0 (91.2)	72.3 (30.4)	54.8 (26.8)	25.9 (20.3)
2007	279.4 (102.0)	80.2 (45.3)	55.1 (38.1)	22.6 (21.0)
2008	110.8 (27.2)	62.2 (29.9)	46.2 (25.5)	18.5 (14.1)
2009	98.3 (34.0)	42.7 (16.6)	33.7 (13.7)	15.0 (6.1)
2010	114.2 (31.7)	45.7 (21.5)	37.5 (19.8)	19.1 (12.4)
2011	186.6 (59.3)	42.9 (22.9)	34.8 (21.1)	18.9 (14.5)
2012	223.8 (76.2)	28.7 (8.1)	20.0 (5.9)	8.3 (2.9)
2013	183.9 (52.2)	39.7 (17.1)	27.0 (11.7)	10.8 (5.8)
2014	140.4 (54.3)	68.0 (17.8)	43.8 (10.6)	16.1 (4.3)
2015	67.7 (17.0)	57.4 (16.5)	46.0 (14.1)	19.6 (7.0)
2016	75.2 (24.9)	62.2 (15.5)	51.3 (12.6)	24.7 (6.7)
2017	99.0 (35.2)	43.2 (12.4)	34.9 (10.9)	16.8 (7.1)
2018	173.0 (58.9)	41.8 (11.4)	35.1 (10.4)	17.2 (6.0)
2019	143.4 (45.3)	17.6 (4.5)	14.6 (4.0)	6.9 (2.1)
2021	139.2 (61.5)	16.0 (4.4)	9.9 (2.8)	2.9 (1.1)
2022	118.8 (53.6)	14.6 (3.6)	9.8 (2.5)	2.3 (0.8)
2023	312.1 (79.0)	19.3 (4.1)	12.1 (2.9)	3.4 (1.1)
2024	510.5 (135.3)	35.9 (8.9)	24.0 (6.0)	7.5 (2.3)
2025	465.7 (153.3)	114.8 (49.2)	73.6 (32.2)	15.9 (6.4)

Table 23. -- Time series of abundance (millions) estimates (± 95% CI) for new hardshell male Tanner crab (*Chionoecetes bairdi*) west of 166° W using the traditional size cutoff for maturity (≥ 103 mm) and maturity based on chela measurements from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys. Listed sizes are carapace width.

Year	Mature Male	Mature Male	Total Males
2001	New hardshell	New hardshell	New hardshell
	≥ 103 mm	Chela-based maturity*	
1990	53.5 (34.2)	70.3 (32.7)	174.3 (52.6)
1991	31.4 (17.6)	40.4 (17.5)	165.3 (63.2)
1992	14.8 (5.7)	16.5 (5.7)	103.2 (31.5)
1993	12.6 (6.0)	21.0 (6.8)	62.6 (17.5)
1994	4.8 (2.6)	8.2 (3.2)	41.7 (14.2)
1995	1.9 (0.9)	4.6 (1.4)	26.0 (10.4)
1996	1.5 (0.7)	3.1 (1.3)	18.1 (5.4)
1997	2.2 (0.8)	1.8 (0.6)	23.2 (6.7)
1998	2.9 (1.4)	4.1 (1.7)	46.5 (17.0)
1999	2.4 (1.7)	5.1 (4.2)	79.6 (30.1)
2000	2.4 (1.1)	3.9 (1.5)	69.3 (24.2)
2001	4.2 (2.0)	7.9 (3.3)	141.4 (45.1)
2002	3.1 (1.6)	8.1 (3.7)	117.9 (47.5)
2003	4.6 (1.8)	14.3 (5.5)	162.7 (62.7)
2004	17.0 (14.9)	16.8 (10.0)	188.1 (44.8)
2005	27.9 (12.9)	40.0 (14.2)	250.0 (77.2)
2006	19.4 (14.4)	39.2 (16.3)	271.0 (91.9)
2007	18.4 (8.4)	38.7 (11.8)	217.2 (70.2)
2008	37.5 (26.1)	48.1 (27.4)	125.9 (43.5)
2009	21.1 (13.2)	NA	100.2 (36.6)
2010	26.2 (16.6)	30.9 (16.5)	128.6 (36.4)
2011	19.6 (21.3)	22.0 (19.1)	195.1 (61.3)
2012	12.9 (6.1)	12.8 (5.3)	224.4 (75.4)
2013	27.4 (15.5)	NA 52 6 (10.2)	200.8 (57.4)
2014	44.7 (14.7)	53.6 (19.2)	170.4 (63.1)
2015	30.3 (13.4)	NA 26.7 (10.1)	86.6 (22.0)
2016	18.3 (6.8)	26.7 (10.1)	79.8 (26.1)
2017 2018	4.7 (1.7)	6.9 (2.4)	90.4 (34.2)
2019	6.1 (1.8)	13.0 (3.9)	165.7 (57.9)
2019	2.6 (0.8)	9.0 (2.2)	138.3 (45.0)
2021	7.5 (2.7)	13.3 (4.6)	136.3 (60.8)
2022	6.6 (2.4) 8.3 (2.2)	10.9 (3.2) 20.2 (5.0)	113.0 (49.3) 305.0 (76.8)
2023	20.0 (7.1)	35.4 (12.6)	513.0 (135.6)
2024	91.7 (46.9)	87.5 (36.1)	537.0 (166.9)
2023	71./ (40.7)	07.3 (30.1)	337.0 (100.9)

<sup>\*</sup> estimates slightly differ from 2024 tech memo due to the addition of new data

Table 24. -- Time series of abundance (in millions) estimates (± 95% CI) for female Tanner crab (*Chionoecetes bairdi*) from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys, west of 166° W. Contact authors for 1975-1987 data.

		V. Contact authors for 1975-1987 data.
Year	Immature female	Mature female
1988	129.9 (59.1)	38.1 (18.6)
1989	101.9 (41.8)	43.3 (19.2)
1990	75.1 (27.1)	107.5 (91.6)
1991	84.1 (50.0)	109.2 (48.3)
1992	48.6 (19.0)	97.0 (43.1)
1993	26.4 (10.4)	42.6 (16.4)
1994	34.3 (24.4)	29.2 (15.6)
1995	20.6 (9.6)	43.1 (25.9)
1996	15.0 (6.6)	26.2 (22.3)
1997	22.6 (9.1)	9.0 (5.4)
1998	44.7 (18.7)	6.6 (3.1)
1999	79.7 (31.2)	10.1 (4.0)
2000	57.0 (20.2)	7.3 (3.6)
2001	127.2 (42.9)	21.0 (11.5)
2002	111.6 (52.0)	19.1 (10.9)
2003	123.8 (57.6)	48.5 (26.2)
2004	169.9 (44.1)	27.7 (13.5)
2005	215.7 (91.1)	60.7 (27.9)
2006	178.1 (66.1)	76.4 (31.2)
2007	114.3 (43.7)	51.5 (16.3)
2008	53.4 (22.2)	48.6 (21.8)
2009	71.4 (33.9)	29.2 (10.0)
2010	91.6 (30.0)	21.9 (10.1)
2011	157.6 (58.4)	20.3 (6.0)
2012	122.0 (40.4)	25.6 (8.9)
2013	97.2 (32.7)	48.0 (17.0)
2014	90.4 (51.6)	43.6 (23.7)
2015	36.3 (12.0)	45.4 (33.7)
2016	42.1 (19.4)	42.6 (27.3)
2017	101.2 (46.0)	35.6 (21.4)
2018	166.2 (62.2)	30.3 (13.2)
2019	146.0 (60.2)	32.9 (17.2)
2021	93.4 (57.5)	39.5 (16.8)
2022	91.2 (42.6)	33.2 (18.7)
2023	306.0 (88.1)	39.9 (21.5)
2024	354.8 (100.1)	149.8 (64.4)
2025	308.5 (154.3)	170.9 (59.6)

#### **Snow crab tables**

Table 25. -- Time series of biomass (t) estimates (± 95% CI) for male snow crab (*Chionoecetes opilio*) from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys. Listed sizes are carapace width. Contact authors for 1975-1987 data.

Year	Small male	Large male	Legal male	Industry preferred male
1 (11	< 95 mm	$\geq$ 95 mm	≥ 78 mm	≥ 101 mm
1988	331,332 (77,462)	144,135 (53,992)	246,515 (72,221)	110,500 (45,895)
1989	372,788 (80,047)	143,216 (29,275)	291,753 (61,461)	98,359 (19,892)
1990	306,733 (66,006)	347,750 (102,169)	521,713 (141,936)	238,594 (69,085)
1991	293,255 (99,055)	347,976 (105,727)	477,618 (137,409)	286,271 (95,737)
1992	179,621 (52,285)	166,483 (35,962)	223,585 (40,979)	143,442 (32,610)
1993	273,570 (90,020)	98,857 (22,246)	143,013 (29,441)	80,032 (17,758)
1994	289,633 (64,249)	57,386 (12,134)	109,683 (17,990)	46,297 (10,438)
1995	368,026 (70,390)	61,758 (20,003)	158,155 (39,496)	41,008 (12,409)
1996	341,043 (59,711)	143,856 (52,118)	312,771 (76,612)	95,085 (39,261)
1997	209,131 (35,350)	232,388 (57,042)	362,928 (67,573)	178,269 (50,543)
1998	100,536 (21,626)	164,119 (32,216)	219,422 (38,546)	132,510 (27,676)
1999	44,127 (6,928)	67,352 (13,850)	87,096 (15,304)	53,959 (12,565)
2000	77,782 (19,349)	53,942 (16,022)	76,830 (20,501)	43,038 (12,226)
2001	167,671 (57,241)	56,449 (11,370)	106,070 (24,180)	42,783 (8,207)
2002	83,002 (32,008)	55,907 (26,886)	100,734 (44,771)	39,422 (19,045)
2003	81,606 (25,752)	44,423 (10,558)	72,396 (16,838)	32,831 (7,761)
2004	89,330 (25,616)	44,162 (14,554)	61,726 (16,673)	36,654 (13,410)
2005	184,025 (57,268)	50,072 (10,120)	105,971 (23,400)	41,240 (8,728)
2006	124,579 (36,645)	90,152 (61,487)	141,960 (72,442)	74,864 (53,535)
2007	140,003 (35,592)	99,875 (36,249)	162,108 (46,841)	77,643 (31,733)
2008	114,297 (33,499)	79,600 (16,993)	123,530 (24,642)	63,455 (14,573)
2009	98,468 (20,841)	103,188 (30,883)	149,588 (37,618)	81,359 (26,772)
2010	146,025 (40,919)	105,278 (27,471)	134,170 (31,968)	90,235 (25,177)
2011	149,214 (43,758)	111,662 (25,824)	145,916 (32,651)	96,800 (22,410)
2012	123,683 (29,548)	67,476 (18,910)	104,438 (24,275)	55,221 (16,040)
2013	100,506 (21,386)	58,389 (14,779)	99,733 (23,090)	45,425 (12,254)
2014	140,092 (67,735)	105,441 (41,571)	151,453 (48,668)	84,292 (36,125)
2015	85,434 (26,159)	46,410 (14,071)	71,550 (16,480)	37,258 (12,878)
2016	106,381 (38,920)	30,343 (6,958)	52,400 (11,085)	23,144 (5,702)
2017	193,648 (60,513)	29,736 (7,396)	53,044 (13,616)	22,304 (6,140)
2018	469,350 (140,575)	47,686 (18,836)	132,493 (44,237)	30,248 (11,423)
2019	289,569 (96,897)	55,277 (19,401)	178,569 (60,137)	32,078 (10,894)
2021	50,015 (14,112)	24,705 (7,737)	60,992 (15,990)	14,037 (5,085)
2022	38,586 (14,746)	20,674 (7,471)	33,934 (9,922)	14,654 (6,007)
2023	36,330 (11,996)	15,691 (4,239)	21,280 (5,294)	12,152 (3,512)
2024	146,004 (38,962)	23,493 (5,769)	45,405 (10,857)	18,129 (4,777)
2025	232,270 (62,723)	33,171 (9,117)	84,039 (24,145)	23,285 (6,586)

<sup>\*</sup> Measurement accuracy changed to 0.1 mm in 2016; 2025 protocol uses unrounded measurements, causing slight changes in historic biomass estimates

Table 26. -- Time series of biomass (t) estimates (± 95% CI) for new hardshell male snow crab (*Chionoecetes opilio*) using the traditional size cutoff for maturity (≥ 95 mm) and maturity based on chela measurements from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys. Listed sizes are carapace width.

Year	Large Male Mature Male Total Males		
20	New hardshell	New hardshell	New hardshell**
	≥ 95 mm**	Chela-based maturity*	
1989	107,524 (26,824)	148,371 (34,584)	425,030 (88,954)
1990	283,087 (96,495)	259,315 (80,358)	544,000 (145,485)
1991	167,244 (56,883)	161,013 (54,314)	413,060 (126,648)
1992	103,936 (30,172)	124,935 (28,464)	255,265 (58,569)
1993	51,193 (12,014)	109,088 (23,223)	301,016 (90,589)
1994	24,656 (8,444)	72,288 (14,617)	270,450 (61,761)
1995	39,208 (16,534)	112,637 (26,709)	350,804 (70,096)
1996	93,487 (29,346)	162,394 (36,807)	380,900 (71,897)
1997	121,715 (42,622)	120,326 (37,383)	243,691 (54,510)
1998	83,162 (18,850)	85,521 (17,780)	150,566 (30,131)
1999	22,138 (8,997)	25,630 (8,253)	45,959 (11,133)
2000	10,962 (4,654)	19,413 (5,761)	66,412 (18,592)
2001	17,969 (6,397)	44,169 (14,872)	159,229 (55,877)
2002	26,355 (20,141)	35,673 (22,613)	82,754 (42,013)
2003	31,248 (9,343)	34,831 (9,423)	101,338 (29,050)
2004	27,981 (13,299)	39,520 (13,665)	102,454 (29,051)
2005	27,531 (7,801)	73,266 (18,835)	196,144 (57,385)
2006	13,364 (8,330)	38,930 (14,707)	101,072 (34,560)
2007	56,218 (20,016)	80,723 (22,304)	168,424 (41,553)
2008	46,544 (13,800)	NA	137,297 (33,871)
2009	50,209 (16,686)	48,216 (12,591)	123,776 (25,145)
2010	76,187 (24,400)	101,500 (26,242)	191,342 (40,726)
2011	61,162 (19,162)	76,156 (21,051)	188,190 (51,291)
2012	19,174 (7,627)	NA	114,359 (28,737)
2013	38,648 (12,169)	64,700 (16,432)	124,918 (27,066)
2014	81,617 (39,963)	NA	196,208 (81,852)
2015	26,623 (11,624)	41,960 (12,693)	95,093 (28,200)
2016	14,287 (4,477)	NA	106,822 (38,994)
2017	18,831 (6,448)	56,576 (17,950)	197,507 (60,730)
2018	35,647 (16,448)	177,432 (53,284)	479,600 (141,568)
2019	47,827 (18,919)	131,947 (44,629)	317,558 (106,217)
2021	16,740 (6,746)	34,073 (11,745)	45,509 (15,738)
2022	10,874 (6,864)	16,711 (7,279)	38,738 (15,144)
2023	9,739 (3,407)	12,620 (3,689)	42,742 (12,583)
2024	12,541 (4,217)	41,243 (10,805)	152,073 (40,363)
2025	21,048 (7,097)	87,911 (23,440)	241,953 (63,606)

<sup>\*</sup> estimates slightly differ from 2024 tech memo due to the addition of new data

<sup>\*\*</sup> Measurement accuracy changed to 0.1 mm in 2016; 2025 protocol uses unrounded measurements, causing slight changes in historic biomass estimates

Table 27. -- Time series of biomass (t) estimates (± 95% CI) for female snow crab (*Chionoecetes opilio*) from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys. Contact authors for 1975-1987 data.

	authors for 1975-1987 data.	
Year	Immature female	Mature female
1988	36,803 (14,464)	165,619 (57,314)
1989	23,265 (11,455)	256,728 (163,114)
1990	38,213 (32,263)	174,942 (72,149)
1991	68,925 (25,227)	199,020 (94,676)
1992	49,374 (16,347)	123,479 (48,802)
1993	74,921 (33,072)	127,081 (41,412)
1994	68,240 (27,549)	122,604 (33,649)
1995	31,019 (11,981)	164,959 (44,039)
1996	9,274 (6,444)	104,429 (31,008)
1997	5,452 (5,167)	101,393 (39,142)
1998	13,324 (12,479)	70,183 (38,534)
1999	6,160 (2,262)	29,849 (13,945)
2000	12,480 (5,179)	93,882 (99,120)
2001	17,033 (10,960)	74,840 (43,557)
2002	4,388 (2,387)	29,508 (18,448)
2003	14,838 (6,973)	38,761 (30,847)
2004	30,472 (16,182)	47,743 (26,154)
2005	55,125 (25,384)	62,603 (27,395)
2006	28,090 (12,645)	50,592 (20,186)
2007	27,875 (14,435)	54,449 (34,546)
2008	8,994 (3,449)	49,352 (22,756)
2009	29,660 (19,350)	50,002 (22,623)
2010	90,479 (35,476)	94,956 (34,177)
2011	41,232 (13,238)	169,117 (63,699)
2012	41,425 (13,450)	143,253 (65,921)
2013	31,364 (10,921)	125,672 (50,923)
2014	54,523 (47,116)	111,362 (46,704)
2015	35,701 (17,247)	81,628 (29,256)
2016	55,306 (29,806)	53,124 (21,453)
2017	68,128 (25,636)	105,883 (45,517)
2018	85,416 (43,624)	165,448 (64,807)
2019	5,251 (4,458)	109,226 (42,171)
2021	307 (143)	30,538 (26,507)
2022	26,955 (18,031)	21,432 (14,490)
2023	23,020 (9,198)	15,300 (8,214)
2024	129,002 (48,855)	41,901 (18,775)
2025	105,345 (36,954)	147,338 (49,543)

<sup>\*</sup> Measurement accuracy changed to 0.1 mm in 2016; 2025 protocol uses unrounded measurements, causing slight changes in historic biomass estimates

Table 28. -- Time series of abundance (in millions) estimates (± 95% CI) for male snow crab (*Chionoecetes opilio*) from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys. Listed sizes are carapace width. Contact authors for 1975-1987 data.

<b>X</b> 7	*			ors for 1975-1987 data.
Year	Small male	Large male	Legal male	Industry preferred male
1051	< 95 mm	≥ 95 mm	≥ 78 mm	≥ 101 mm
1988	3,677.9 (991.7)	276.9 (94.8)	683.8 (182.3)	189.6 (72.9)
1989	3,111.0 (691.5)	292.3 (60.6)	882.5 (197.3)	175.7 (35.3)
1990	2,263.9 (582.7)	710.4 (214.0)	1,348.1 (361.5)	426.3 (125.4)
1991	3,331.8 (1,197.1)	618.3 (179.4)	1,093.8 (325.8)	457.3 (148.2)
1992	2,776.2 (1,253.0)	293.2 (62.7)	512.9 (89.4)	233.6 (53.5)
1993	4,805.5 (1,712.8)	182.8 (41.9)	355.8 (72.2)	134.1 (30.1)
1994	4,116.9 (1,240.9)	106.4 (22.2)	320.6 (52.7)	77.6 (17.4)
1995	3,635.3 (766.0)	128.0 (43.9)	515.7 (128.1)	73.9 (23.1)
1996	2,309.8 (431.9)	302.4 (105.2)	958.6 (211.7)	175.5 (70.2)
1997	1,204.4 (256.9)	447.1 (100.4)	945.8 (157.0)	306.4 (80.5)
1998	778.2 (251.7)	308.4 (59.3)	514.6 (87.4)	226.6 (46.5)
1999	422.4 (102.9)	124.9 (23.9)	198.8 (30.6)	90.2 (20.1)
2000	971.1 (309.0)	102.4 (31.8)	191.1 (49.5)	74.2 (21.7)
2001	1,529.4 (585.8)	111.3 (24.1)	312.7 (80.8)	75.7 (15.4)
2002	596.3 (253.5)	114.7 (54.8)	284.5 (121.8)	71.8 (34.4)
2003	1,073.7 (459.3)	88.1 (21.3)	196.0 (47.2)	58.0 (13.8)
2004	1,491.2 (505.6)	79.9 (24.2)	147.8 (34.3)	60.5 (21.0)
2005	1,890.3 (612.7)	89.2 (17.6)	312.5 (80.8)	66.2 (13.5)
2006	1,178.4 (365.7)	171.9 (119.4)	377.6 (167.9)	132.3 (98.9)
2007	1,260.8 (409.9)	196.7 (67.0)	435.0 (117.6)	139.3 (54.8)
2008	1,008.8 (326.7)	154.3 (31.6)	325.2 (66.8)	112.4 (24.7)
2009	1,055.4 (310.5)	195.7 (57.9)	371.5 (89.3)	138.8 (45.8)
2010	2,460.5 (807.9)	184.4 (45.1)	293.7 (68.2)	145.5 (38.1)
2011	1,829.8 (530.7)	194.1 (45.7)	330.8 (77.8)	155.7 (35.9)
2012	1,384.9 (376.8)	123.5 (34.3)	274.1 (60.9)	91.8 (26.7)
2013	1,055.9 (249.4)	112.6 (27.6)	280.0 (67.2)	79.0 (20.6)
2014	1,527.8 (899.9)	204.2 (76.8)	385.3 (109.6)	149.6 (61.6)
2015	1,504.2 (708.7)	84.2 (22.3)	183.8 (36.2)	60.5 (18.5)
2016	2,360.9 (1,254.9)	57.8 (13.2)	143.2 (32.2)	39.5 (9.7)
2017	3,541.7 (1,158.0)	58.0 (14.0)	151.9 (43.6)	39.0 (10.5)
2018	5,773.1 (1,972.5)	100.6 (41.2)	437.8 (147.9)	56.0 (21.6)
2019	2,018.0 (712.7)	119.7 (42.8)	611.1 (213.6)	60.1 (20.6)
2021	253.6 (67.8)	54.2 (16.6)	192.1 (51.9)	26.8 (9.7)
2022	602.5 (260.1)	42.2 (14.6)	92.6 (26.0)	26.9 (10.8)
2023	862.6 (340.2)	30.3 (7.8)	50.6 (12.0)	21.3 (5.9)
2024	2,385.1 (720.0)	45.1 (10.7)	133.6 (35.6)	31.4 (8.0)
2025	2,597.6 (733.1)	66.1 (18.5)	270.9 (84.6)	40.9 (11.6)

Table 29. -- Time series of abundance (millions) estimates (± 95% CI) for new hardshell male snow crab (*Chionoecetes opilio*) using the traditional size cutoff for maturity (≥ 95 mm) and maturity based on chela measurements from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys. Listed sizes are carapace width.

Year	Large Male	Mature Male	Total Males
	New hardshell	New hardshell	New hardshell
	≥ 95 mm	Chela-based maturity*	
1989	218.6 (55.7)	458.3 (104.0)	2,944.4 (666.3)
1990	583.9 (203.5)	678.2 (192.0)	2,593.6 (656.5)
1991	308.6 (104.3)	380.5 (124.7)	3,396.6 (1,213.8)
1992	183.6 (52.0)	418.8 (96.3)	2,803.4 (1,244.3)
1993	95.2 (22.4)	666.6 (211.1)	4,740.8 (1,691.4)
1994	45.5 (15.4)	487.8 (112.4)	3,820.8 (1,210.3)
1995	83.0 (36.8)	597.8 (122.9)	3,274.9 (732.4)
1996	206.9 (65.6)	592.6 (116.2)	2,135.9 (409.2)
1997	230.3 (69.8)	286.1 (66.6)	989.1 (251.4)
1998	163.2 (36.5)	225.8 (45.3)	766.9 (247.5)
1999	39.7 (14.6)	82.1 (18.6)	358.7 (103.1)
2000	19.8 (8.0)	98.1 (26.9)	853.1 (298.0)
2001	38.2 (14.8)	209.9 (74.3)	1,397.8 (560.8)
2002	55.5 (40.6)	116.1 (61.1)	512.9 (253.1)
2003	61.5 (18.7)	119.0 (33.0)	1,076.7 (459.1)
2004	48.5 (21.7)	189.2 (57.4)	1,436.1 (492.6)
2005	48.3 (13.0)	386.0 (117.0)	1,849.0 (603.1)
2006	27.2 (17.5)	215.9 (73.4)	999.2 (345.2)
2007	114.4 (38.9)	339.8 (84.2)	1,222.7 (393.4)
2008	89.8 (24.9)	NA	959.0 (306.8)
2009	94.8 (28.8)	150.9 (30.8)	1,016.7 (304.9)
2010	133.0 (40.4)	400.9 (85.1)	2,362.7 (741.0)
2011	106.0 (33.7)	267.8 (76.1)	1,787.6 (528.3)
2012	37.3 (14.5)	NA	1,207.3 (353.5)
2013	75.8 (23.0)	255.7 (56.5)	1,038.5 (246.7)
2014	158.0 (73.1)	NA	1,530.9 (899.9)
2015	45.7 (17.0)	178.2 (54.0)	1,451.1 (706.9)
2016	26.7 (8.3)	NA	2,314.1 (1,254.0)
2017	36.8 (12.0)	454.3 (146.1)	3,483.0 (1,148.0)
2018	77.0 (36.6)	1,232.4 (367.8)	5,631.0 (1,942.5)
2019	104.4 (41.8)	559.2 (188.8)	1,944.8 (708.5)
2021	37.0 (14.5)	115.3 (41.0)	177.3 (59.9)
2022	21.2 (13.2)	82.6 (34.7)	567.4 (253.6)
2023	17.9 (6.1)	49.9 (14.0)	864.8 (339.8)
2024	23.4 (7.6)	297.8 (80.8)	2,356.1 (718.2)
2025	42.6 (14.9)	574.4 (154.5)	2,552.2 (724.7)

<sup>\*</sup> estimates slightly differ from 2024 tech memo due to the addition of new data

Table 30. -- Time series of abundance (in millions) estimates (± 95% CI) for female snow crab (*Chionoecetes opilio*) from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys. Contact authors for 1975-1987 data.

Vacu	In materials	
Year	Immature female	Mature female
1988	1,045.8 (461.3)	2,795.6 (975.4)
1989	564.7 (262.1)	4,625.9 (3,417.8)
1990	1,043.9 (776.1)	3,008.7 (1,392.7)
1991	2,270.7 (780.9)	3,545.4 (1,930.8)
1992	1,862.2 (616.9)	2,068.9 (849.0)
1993	2,909.2 (1,128.3)	2,396.3 (818.2)
1994	2,684.2 (1,287.0)	2,204.8 (552.4)
1995	1,021.7 (436.3)	3,109.1 (825.9)
1996	258.4 (186.9)	2,107.2 (680.4)
1997	142.9 (133.9)	2,001.0 (813.2)
1998	336.0 (276.7)	1,386.7 (791.2)
1999	187.6 (73.8)	551.0 (270.0)
2000	391.9 (170.5)	1,649.1 (1,711.0)
2001	470.9 (376.3)	1,243.8 (727.5)
2002	121.1 (66.4)	502.8 (342.5)
2003	542.4 (264.6)	680.2 (601.4)
2004	1,375.9 (810.4)	931.9 (525.2)
2005	1,512.2 (732.0)	1,110.9 (498.3)
2006	765.7 (352.3)	744.3 (304.8)
2007	620.4 (328.5)	839.6 (623.2)
2008	395.9 (203.3)	747.7 (445.2)
2009	1,059.9 (573.4)	747.2 (356.6)
2010	3,027.6 (1,163.2)	1,777.8 (654.1)
2011	1,175.4 (395.7)	3,137.0 (1,190.0)
2012	1,165.5 (418.5)	2,656.1 (1,309.6)
2013	1,029.4 (388.2)	2,222.2 (994.7)
2014	1,590.8 (1,175.2)	1,815.6 (894.7)
2015	1,461.0 (794.1)	1,238.6 (497.4)
2016	2,130.5 (1,146.7)	818.4 (347.2)
2017	2,494.8 (978.4)	2,086.9 (923.7)
2018	2,588.7 (1,369.7)	3,282.0 (1,341.3)
2019	117.3 (100.6)	2,040.9 (785.5)
2021	22.6 (18.0)	609.8 (543.4)
2022	903.8 (519.6)	408.7 (280.4)
2023	891.5 (335.2)	289.8 (154.7)
2024	3,647.4 (1,440.6)	772.0 (373.0)
2025	2,448.4 (860.3)	2,122.9 (679.0)

### Hybrid Chionoecetes spp. tables

Table 31. -- Time series of biomass (t) estimates (± 95% CI) for male hybrid *Chionoecetes* spp. from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys. Listed sizes are carapace width. Contact authors for 1975-1987 data.

$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Year	Small male Large male Legal male Industry preferred mal			Industry preferred male
1988         6,749 (4,235)         4,783 (2,539)         8,075 (4,343)         3,264 (1,841)           1989         1,287 (900)         1,297 (900)         2,148 (1,363)         968 (637)           1990         1,004 (672)         2,951 (1,088)         3,499 (1,272)         2,587 (974)           1991         3,879 (1,993)         7,157 (3,203)         9,729 (4,045)         5,745 (2,667)           1992         1,113 (479)         3,805 (1,696)         4,476 (1,813)         3,506 (1,631)           1993         193 (113)         560 (372)         687 (411)         494 (340)           1994         148 (86)         1,547 (879)         1,655 (929)         1,437 (820)           1995         93 (68)         229 (249)         288 (259)         200 (240)           1996         56 (48)         228 (176)         272 (200)         196 (151)           1997         82 (57)         158 (98)         226 (116)         125 (91)           1998         93 (56)         151 (124)         193 (129)         139 (122)           1999         91 (54)         115 (93)         153 (101)         104 (90)           2000         84 (46)         130 (111)         130 (111)         119 (109)           2001         608 (275)	1 cai				
1989         1,287 (900)         1,297 (900)         2,148 (1,363)         968 (637)           1990         1,004 (672)         2,951 (1,088)         3,499 (1,272)         2,587 (974)           1991         3,879 (1,993)         7,157 (3,203)         9,729 (4,045)         5,745 (2,667)           1992         1,113 (479)         3,805 (1,696)         4,476 (1,813)         3,506 (1,631)           1993         193 (113)         560 (372)         687 (411)         494 (340)           1994         148 (86)         1,547 (879)         1,655 (929)         1,437 (820)           1995         93 (68)         229 (249)         288 (259)         200 (240)           1996         56 (48)         228 (176)         272 (200)         196 (151)           1997         82 (57)         158 (98)         226 (116)         125 (91)           1998         93 (56)         151 (124)         193 (129)         139 (122)           1998         93 (56)         151 (124)         193 (129)         139 (122)           1998         93 (56)         151 (124)         193 (129)         139 (122)           1998         93 (56)         151 (124)         193 (129)         129 (122)           2000         84 (46)	1000				
1990         1,004 (672)         2,951 (1,088)         3,499 (1,272)         2,587 (974)           1991         3,879 (1,993)         7,157 (3,203)         9,729 (4,045)         5,745 (2,667)           1992         1,113 (479)         3,805 (1,696)         4,476 (1,813)         3,506 (1,631)           1993         193 (113)         560 (372)         687 (411)         494 (340)           1994         148 (86)         1,547 (879)         1,655 (929)         1,437 (820)           1995         93 (68)         229 (249)         288 (259)         200 (240)           1996         56 (48)         228 (176)         272 (200)         196 (151)           1997         82 (57)         158 (98)         226 (116)         125 (91)           1998         93 (56)         151 (124)         193 (129)         139 (122)           1999         91 (54)         115 (93)         153 (101)         104 (90)           2000         84 (46)         130 (111)         130 (111)         119 (109)           2001         608 (275)         322 (195)         548 (262)         273 (191)           2002         243 (139)         297 (173)         368 (179)         263 (166)           2003         241 (109)         212 (1					
1991         3,879 (1,993)         7,157 (3,203)         9,729 (4,045)         5,745 (2,667)           1992         1,113 (479)         3,805 (1,696)         4,476 (1,813)         3,506 (1,631)           1993         193 (113)         560 (372)         687 (411)         494 (340)           1994         148 (86)         1,547 (879)         1,655 (929)         1,437 (820)           1995         93 (68)         229 (249)         288 (259)         200 (240)           1996         56 (48)         2228 (176)         272 (200)         196 (151)           1997         82 (57)         158 (98)         226 (116)         125 (91)           1998         93 (56)         151 (124)         193 (129)         139 (122)           1999         91 (54)         115 (93)         153 (101)         104 (90)           2000         84 (46)         130 (111)         130 (111)         119 (109)           2001         608 (275)         322 (195)         548 (262)         273 (191)           2002         243 (139)         297 (173)         368 (179)         263 (166)           2003         241 (109)         212 (127)         319 (152)         201 (125)           2004         134 (72)         264 (224)		, , ,	, ,	,	
1992         1,113 (479)         3,805 (1,696)         4,476 (1,813)         3,506 (1,631)           1993         193 (113)         560 (372)         687 (411)         494 (340)           1994         148 (86)         1,547 (879)         1,655 (929)         1,437 (820)           1995         93 (68)         229 (249)         288 (259)         200 (240)           1996         56 (48)         228 (176)         272 (200)         196 (151)           1997         82 (57)         158 (98)         226 (116)         125 (91)           1998         93 (56)         151 (124)         193 (129)         139 (122)           1999         91 (54)         115 (93)         153 (101)         104 (90)           2000         84 (46)         130 (111)         130 (111)         119 (109)           2001         608 (275)         322 (195)         548 (262)         273 (191)           2002         243 (139)         297 (173)         368 (179)         263 (166)           2003         241 (109)         212 (127)         319 (152)         201 (125)           2004         134 (72)         264 (224)         334 (236)         246 (215)           2005         124 (92)         54 (64)         84 (72) <th></th> <th></th> <th></th> <th></th> <th></th>					
1993         193 (113)         560 (372)         687 (411)         494 (340)           1994         148 (86)         1,547 (879)         1,655 (929)         1,437 (820)           1995         93 (68)         229 (249)         288 (259)         200 (240)           1996         56 (48)         228 (176)         272 (200)         196 (151)           1997         82 (57)         158 (98)         226 (116)         125 (91)           1998         93 (56)         151 (124)         193 (129)         139 (122)           1999         91 (54)         115 (93)         153 (101)         104 (90)           2000         84 (46)         130 (111)         130 (111)         119 (109)           2001         608 (275)         322 (195)         548 (262)         273 (191)           2002         243 (139)         297 (173)         368 (179)         263 (166)           2003         241 (109)         212 (127)         319 (152)         201 (125)           2004         134 (72)         264 (224)         334 (236)         246 (215)           2005         124 (92)         54 (64)         84 (72)         54 (64)           2006         733 (821)         209 (140)         549 (459)         16					
1994         148 (86)         1,547 (879)         1,655 (929)         1,437 (820)           1995         93 (68)         229 (249)         288 (259)         200 (240)           1996         56 (48)         228 (176)         272 (200)         196 (151)           1997         82 (57)         158 (98)         226 (116)         125 (91)           1998         93 (56)         151 (124)         193 (129)         139 (122)           1999         91 (54)         115 (93)         153 (101)         104 (90)           2000         84 (46)         130 (111)         130 (111)         119 (109)           2001         608 (275)         322 (195)         548 (262)         273 (191)           2002         243 (139)         297 (173)         368 (179)         263 (166)           2003         241 (109)         212 (127)         319 (152)         201 (125)           2004         134 (72)         264 (224)         334 (236)         246 (215)           2005         124 (92)         54 (64)         84 (72)         54 (64)           2006         733 (821)         209 (140)         549 (459)         163 (125)           2007         2,106 (1,938)         2,711 (2,855)         4,453 (4,511)					
1995         93 (68)         229 (249)         288 (259)         200 (240)           1996         56 (48)         228 (176)         272 (200)         196 (151)           1997         82 (57)         158 (98)         226 (116)         125 (91)           1998         93 (56)         151 (124)         193 (129)         139 (122)           1999         91 (54)         115 (93)         153 (101)         104 (90)           2000         84 (46)         130 (111)         130 (111)         119 (109)           2001         608 (275)         322 (195)         548 (262)         273 (191)           2002         243 (139)         297 (173)         368 (179)         263 (166)           2003         241 (109)         212 (127)         319 (152)         201 (125)           2004         134 (72)         264 (224)         334 (236)         246 (215)           2005         124 (92)         54 (64)         84 (72)         54 (64)           2006         733 (821)         209 (140)         549 (459)         163 (125)           2007         2,106 (1,938)         2,711 (2,855)         4,453 (4,511)         1,520 (1,428)           2008         1,499 (630)         2,644 (1,518)         3,414 (1,580		` ,	` ,	` ,	` ,
1996         56 (48)         228 (176)         272 (200)         196 (151)           1997         82 (57)         158 (98)         226 (116)         125 (91)           1998         93 (56)         151 (124)         193 (129)         139 (122)           1999         91 (54)         115 (93)         153 (101)         104 (90)           2000         84 (46)         130 (111)         130 (111)         119 (109)           2001         608 (275)         322 (195)         548 (262)         273 (191)           2002         243 (139)         297 (173)         368 (179)         263 (166)           2003         241 (109)         212 (127)         319 (152)         201 (125)           2004         134 (72)         264 (224)         334 (236)         246 (215)           2005         124 (92)         54 (64)         84 (72)         54 (64)           2006         733 (821)         209 (140)         549 (459)         163 (125)           2007         2,106 (1,938)         2,711 (2,855)         4,453 (4,511)         1,520 (1,428)           2008         1,499 (630)         2,644 (1,518)         3,414 (1,580)         2,124 (1,430)           2009         1,301 (1,018)         3,985 (1,250)					
1997         82 (57)         158 (98)         226 (116)         125 (91)           1998         93 (56)         151 (124)         193 (129)         139 (122)           1999         91 (54)         115 (93)         153 (101)         104 (90)           2000         84 (46)         130 (111)         130 (111)         119 (109)           2001         608 (275)         322 (195)         548 (262)         273 (191)           2002         243 (139)         297 (173)         368 (179)         263 (166)           2003         241 (109)         212 (127)         319 (152)         201 (125)           2004         134 (72)         264 (224)         334 (236)         246 (215)           2005         124 (92)         54 (64)         84 (72)         54 (64)           2006         733 (821)         209 (140)         549 (459)         163 (125)           2007         2,106 (1,938)         2,711 (2,855)         4,453 (4,511)         1,520 (1,428)           2008         1,499 (630)         2,644 (1,518)         3,414 (1,580)         2,124 (1,430)           2009         1,301 (1,018)         3,985 (1,250)         4,932 (1,559)         3,539 (1,191)           2010         1,399 (650)         4,079 (1,			` /	` ,	` /
1998         93 (56)         151 (124)         193 (129)         139 (122)           1999         91 (54)         115 (93)         153 (101)         104 (90)           2000         84 (46)         130 (111)         130 (111)         119 (109)           2001         608 (275)         322 (195)         548 (262)         273 (191)           2002         243 (139)         297 (173)         368 (179)         263 (166)           2003         241 (109)         212 (127)         319 (152)         201 (125)           2004         134 (72)         264 (224)         334 (236)         246 (215)           2005         124 (92)         54 (64)         84 (72)         54 (64)           2006         733 (821)         209 (140)         549 (459)         163 (125)           2007         2,106 (1,938)         2,711 (2,855)         4,453 (4,511)         1,520 (1,428)           2008         1,499 (630)         2,644 (1,518)         3,414 (1,580)         2,124 (1,430)           2009         1,301 (1,018)         3,985 (1,250)         4,932 (1,559)         3,539 (1,191)           2010         1,399 (650)         4,079 (1,118)         4,615 (1,262)         3,528 (992)           2011         3,545 (1,630)					
1999         91 (54)         115 (93)         153 (101)         104 (90)           2000         84 (46)         130 (111)         130 (111)         119 (109)           2001         608 (275)         322 (195)         548 (262)         273 (191)           2002         243 (139)         297 (173)         368 (179)         263 (166)           2003         241 (109)         212 (127)         319 (152)         201 (125)           2004         134 (72)         264 (224)         334 (236)         246 (215)           2005         124 (92)         54 (64)         84 (72)         54 (64)           2006         733 (821)         209 (140)         549 (459)         163 (125)           2007         2,106 (1,938)         2,711 (2,855)         4,453 (4,511)         1,520 (1,428)           2008         1,499 (630)         2,644 (1,518)         3,414 (1,580)         2,124 (1,430)           2009         1,301 (1,018)         3,985 (1,250)         4,932 (1,559)         3,539 (1,191)           2010         1,399 (650)         4,079 (1,118)         4,615 (1,262)         3,528 (992)           2011         3,545 (1,630)         4,240 (1,383)         4,974 (1,443)         3,992 (1,351)           2012         10,6			` ,	` ,	` ,
2000         84 (46)         130 (111)         130 (111)         119 (109)           2001         608 (275)         322 (195)         548 (262)         273 (191)           2002         243 (139)         297 (173)         368 (179)         263 (166)           2003         241 (109)         212 (127)         319 (152)         201 (125)           2004         134 (72)         264 (224)         334 (236)         246 (215)           2005         124 (92)         54 (64)         84 (72)         54 (64)           2006         733 (821)         209 (140)         549 (459)         163 (125)           2007         2,106 (1,938)         2,711 (2,855)         4,453 (4,511)         1,520 (1,428)           2008         1,499 (630)         2,644 (1,518)         3,414 (1,580)         2,124 (1,430)           2009         1,301 (1,018)         3,985 (1,250)         4,932 (1,559)         3,539 (1,191)           2010         1,399 (650)         4,079 (1,118)         4,615 (1,262)         3,528 (992)           2011         3,545 (1,630)         4,240 (1,383)         4,974 (1,443)         3,992 (1,351)           2012         10,633 (5,622)         6,934 (2,690)         12,028 (5,093)         4,796 (1,631)           2013		` ′	` /	` ,	` /
2001         608 (275)         322 (195)         548 (262)         273 (191)           2002         243 (139)         297 (173)         368 (179)         263 (166)           2003         241 (109)         212 (127)         319 (152)         201 (125)           2004         134 (72)         264 (224)         334 (236)         246 (215)           2005         124 (92)         54 (64)         84 (72)         54 (64)           2006         733 (821)         209 (140)         549 (459)         163 (125)           2007         2,106 (1,938)         2,711 (2,855)         4,453 (4,511)         1,520 (1,428)           2008         1,499 (630)         2,644 (1,518)         3,414 (1,580)         2,124 (1,430)           2009         1,301 (1,018)         3,985 (1,250)         4,932 (1,559)         3,539 (1,191)           2010         1,399 (650)         4,079 (1,118)         4,615 (1,262)         3,528 (992)           2011         3,545 (1,630)         4,240 (1,383)         4,974 (1,443)         3,992 (1,351)           2012         10,633 (5,622)         6,934 (2,690)         12,028 (5,093)         4,796 (1,631)           2013         4,981 (2,015)         7,429 (2,447)         9,898 (3,257)         5,857 (2,010) <tr< th=""><th></th><th>\ /</th><th>` ,</th><th>` ,</th><th>` /</th></tr<>		\ /	` ,	` ,	` /
2002         243 (139)         297 (173)         368 (179)         263 (166)           2003         241 (109)         212 (127)         319 (152)         201 (125)           2004         134 (72)         264 (224)         334 (236)         246 (215)           2005         124 (92)         54 (64)         84 (72)         54 (64)           2006         733 (821)         209 (140)         549 (459)         163 (125)           2007         2,106 (1,938)         2,711 (2,855)         4,453 (4,511)         1,520 (1,428)           2008         1,499 (630)         2,644 (1,518)         3,414 (1,580)         2,124 (1,430)           2009         1,301 (1,018)         3,985 (1,250)         4,932 (1,559)         3,539 (1,191)           2010         1,399 (650)         4,079 (1,118)         4,615 (1,262)         3,528 (992)           2011         3,545 (1,630)         4,240 (1,383)         4,974 (1,443)         3,992 (1,351)           2012         10,633 (5,622)         6,934 (2,690)         12,028 (5,093)         4,796 (1,631)           2013         4,981 (2,015)         7,429 (2,447)         9,898 (3,257)         5,857 (2,010)           2014         2,911 (1,745)         10,454 (4,239)         12,408 (5,208)         8,799 (3,430)		` ,	` /	` ,	` ,
2003         241 (109)         212 (127)         319 (152)         201 (125)           2004         134 (72)         264 (224)         334 (236)         246 (215)           2005         124 (92)         54 (64)         84 (72)         54 (64)           2006         733 (821)         209 (140)         549 (459)         163 (125)           2007         2,106 (1,938)         2,711 (2,855)         4,453 (4,511)         1,520 (1,428)           2008         1,499 (630)         2,644 (1,518)         3,414 (1,580)         2,124 (1,430)           2009         1,301 (1,018)         3,985 (1,250)         4,932 (1,559)         3,539 (1,191)           2010         1,399 (650)         4,079 (1,118)         4,615 (1,262)         3,528 (992)           2011         3,545 (1,630)         4,240 (1,383)         4,974 (1,443)         3,992 (1,351)           2012         10,633 (5,622)         6,934 (2,690)         12,028 (5,093)         4,796 (1,631)           2013         4,981 (2,015)         7,429 (2,447)         9,898 (3,257)         5,857 (2,010)           2014         2,911 (1,745)         10,454 (4,239)         12,408 (5,208)         8,799 (3,430)           2015         1,084 (484)         5,142 (1,729)         5,817 (1,851)         4,56		` /	` ,	` ,	` /
2004         134 (72)         264 (224)         334 (236)         246 (215)           2005         124 (92)         54 (64)         84 (72)         54 (64)           2006         733 (821)         209 (140)         549 (459)         163 (125)           2007         2,106 (1,938)         2,711 (2,855)         4,453 (4,511)         1,520 (1,428)           2008         1,499 (630)         2,644 (1,518)         3,414 (1,580)         2,124 (1,430)           2009         1,301 (1,018)         3,985 (1,250)         4,932 (1,559)         3,539 (1,191)           2010         1,399 (650)         4,079 (1,118)         4,615 (1,262)         3,528 (992)           2011         3,545 (1,630)         4,240 (1,383)         4,974 (1,443)         3,992 (1,351)           2012         10,633 (5,622)         6,934 (2,690)         12,028 (5,093)         4,796 (1,631)           2013         4,981 (2,015)         7,429 (2,447)         9,898 (3,257)         5,857 (2,010)           2014         2,911 (1,745)         10,454 (4,239)         12,408 (5,208)         8,799 (3,430)           2015         1,084 (484)         5,142 (1,729)         5,817 (1,851)         4,567 (1,601)           2016         702 (329)         3,411 (1,409)         3,939 (1,536)		` ,	` /	. ,	. ,
2005         124 (92)         54 (64)         84 (72)         54 (64)           2006         733 (821)         209 (140)         549 (459)         163 (125)           2007         2,106 (1,938)         2,711 (2,855)         4,453 (4,511)         1,520 (1,428)           2008         1,499 (630)         2,644 (1,518)         3,414 (1,580)         2,124 (1,430)           2009         1,301 (1,018)         3,985 (1,250)         4,932 (1,559)         3,539 (1,191)           2010         1,399 (650)         4,079 (1,118)         4,615 (1,262)         3,528 (992)           2011         3,545 (1,630)         4,240 (1,383)         4,974 (1,443)         3,992 (1,351)           2012         10,633 (5,622)         6,934 (2,690)         12,028 (5,093)         4,796 (1,631)           2013         4,981 (2,015)         7,429 (2,447)         9,898 (3,257)         5,857 (2,010)           2014         2,911 (1,745)         10,454 (4,239)         12,408 (5,208)         8,799 (3,430)           2015         1,084 (484)         5,142 (1,729)         5,817 (1,851)         4,567 (1,601)           2016         702 (329)         3,411 (1,409)         3,939 (1,536)         3,087 (1,367)           2017         1,064 (456)         3,541 (1,168)         4,245 (1		` /	` /	` ,	` /
2006         733 (821)         209 (140)         549 (459)         163 (125)           2007         2,106 (1,938)         2,711 (2,855)         4,453 (4,511)         1,520 (1,428)           2008         1,499 (630)         2,644 (1,518)         3,414 (1,580)         2,124 (1,430)           2009         1,301 (1,018)         3,985 (1,250)         4,932 (1,559)         3,539 (1,191)           2010         1,399 (650)         4,079 (1,118)         4,615 (1,262)         3,528 (992)           2011         3,545 (1,630)         4,240 (1,383)         4,974 (1,443)         3,992 (1,351)           2012         10,633 (5,622)         6,934 (2,690)         12,028 (5,093)         4,796 (1,631)           2013         4,981 (2,015)         7,429 (2,447)         9,898 (3,257)         5,857 (2,010)           2014         2,911 (1,745)         10,454 (4,239)         12,408 (5,208)         8,799 (3,430)           2015         1,084 (484)         5,142 (1,729)         5,817 (1,851)         4,567 (1,601)           2016         702 (329)         3,411 (1,409)         3,939 (1,536)         3,087 (1,367)           2017         1,064 (456)         3,541 (1,168)         4,245 (1,302)         3,131 (1,061)           2018         1,411 (848)         1,227 (499)			` /	. ,	. ,
2007         2,106 (1,938)         2,711 (2,855)         4,453 (4,511)         1,520 (1,428)           2008         1,499 (630)         2,644 (1,518)         3,414 (1,580)         2,124 (1,430)           2009         1,301 (1,018)         3,985 (1,250)         4,932 (1,559)         3,539 (1,191)           2010         1,399 (650)         4,079 (1,118)         4,615 (1,262)         3,528 (992)           2011         3,545 (1,630)         4,240 (1,383)         4,974 (1,443)         3,992 (1,351)           2012         10,633 (5,622)         6,934 (2,690)         12,028 (5,093)         4,796 (1,631)           2013         4,981 (2,015)         7,429 (2,447)         9,898 (3,257)         5,857 (2,010)           2014         2,911 (1,745)         10,454 (4,239)         12,408 (5,208)         8,799 (3,430)           2015         1,084 (484)         5,142 (1,729)         5,817 (1,851)         4,567 (1,601)           2016         702 (329)         3,411 (1,409)         3,939 (1,536)         3,087 (1,367)           2017         1,064 (456)         3,541 (1,168)         4,245 (1,302)         3,131 (1,061)           2018         1,411 (848)         1,227 (499)         1,655 (734)         982 (417)           2019         752 (318)         2,480 (954) <th></th> <th></th> <th>` /</th> <th>` /</th> <th>` /</th>			` /	` /	` /
2008         1,499 (630)         2,644 (1,518)         3,414 (1,580)         2,124 (1,430)           2009         1,301 (1,018)         3,985 (1,250)         4,932 (1,559)         3,539 (1,191)           2010         1,399 (650)         4,079 (1,118)         4,615 (1,262)         3,528 (992)           2011         3,545 (1,630)         4,240 (1,383)         4,974 (1,443)         3,992 (1,351)           2012         10,633 (5,622)         6,934 (2,690)         12,028 (5,093)         4,796 (1,631)           2013         4,981 (2,015)         7,429 (2,447)         9,898 (3,257)         5,857 (2,010)           2014         2,911 (1,745)         10,454 (4,239)         12,408 (5,208)         8,799 (3,430)           2015         1,084 (484)         5,142 (1,729)         5,817 (1,851)         4,567 (1,601)           2016         702 (329)         3,411 (1,409)         3,939 (1,536)         3,087 (1,367)           2017         1,064 (456)         3,541 (1,168)         4,245 (1,302)         3,131 (1,061)           2018         1,411 (848)         1,227 (499)         1,655 (734)         982 (417)           2019         752 (318)         2,480 (954)         3,030 (1,100)         2,214 (869)           2021         600 (239)         555 (374)		733 (821)	209 (140)	549 (459)	163 (125)
2009         1,301 (1,018)         3,985 (1,250)         4,932 (1,559)         3,539 (1,191)           2010         1,399 (650)         4,079 (1,118)         4,615 (1,262)         3,528 (992)           2011         3,545 (1,630)         4,240 (1,383)         4,974 (1,443)         3,992 (1,351)           2012         10,633 (5,622)         6,934 (2,690)         12,028 (5,093)         4,796 (1,631)           2013         4,981 (2,015)         7,429 (2,447)         9,898 (3,257)         5,857 (2,010)           2014         2,911 (1,745)         10,454 (4,239)         12,408 (5,208)         8,799 (3,430)           2015         1,084 (484)         5,142 (1,729)         5,817 (1,851)         4,567 (1,601)           2016         702 (329)         3,411 (1,409)         3,939 (1,536)         3,087 (1,367)           2017         1,064 (456)         3,541 (1,168)         4,245 (1,302)         3,131 (1,061)           2018         1,411 (848)         1,227 (499)         1,655 (734)         982 (417)           2019         752 (318)         2,480 (954)         3,030 (1,100)         2,214 (869)           2021         600 (239)         555 (374)         774 (466)         440 (309)           2022         390 (144)         672 (290)         824 (318)	2007	2,106 (1,938)	2,711 (2,855)	4,453 (4,511)	1,520 (1,428)
2010       1,399 (650)       4,079 (1,118)       4,615 (1,262)       3,528 (992)         2011       3,545 (1,630)       4,240 (1,383)       4,974 (1,443)       3,992 (1,351)         2012       10,633 (5,622)       6,934 (2,690)       12,028 (5,093)       4,796 (1,631)         2013       4,981 (2,015)       7,429 (2,447)       9,898 (3,257)       5,857 (2,010)         2014       2,911 (1,745)       10,454 (4,239)       12,408 (5,208)       8,799 (3,430)         2015       1,084 (484)       5,142 (1,729)       5,817 (1,851)       4,567 (1,601)         2016       702 (329)       3,411 (1,409)       3,939 (1,536)       3,087 (1,367)         2017       1,064 (456)       3,541 (1,168)       4,245 (1,302)       3,131 (1,061)         2018       1,411 (848)       1,227 (499)       1,655 (734)       982 (417)         2019       752 (318)       2,480 (954)       3,030 (1,100)       2,214 (869)         2021       600 (239)       555 (374)       774 (466)       440 (309)         2022       390 (144)       672 (290)       824 (318)       599 (273)         2023       1,115 (499)       956 (435)       1,311 (519)       855 (411)		1,499 (630)	2,644 (1,518)	3,414 (1,580)	2,124 (1,430)
2011       3,545 (1,630)       4,240 (1,383)       4,974 (1,443)       3,992 (1,351)         2012       10,633 (5,622)       6,934 (2,690)       12,028 (5,093)       4,796 (1,631)         2013       4,981 (2,015)       7,429 (2,447)       9,898 (3,257)       5,857 (2,010)         2014       2,911 (1,745)       10,454 (4,239)       12,408 (5,208)       8,799 (3,430)         2015       1,084 (484)       5,142 (1,729)       5,817 (1,851)       4,567 (1,601)         2016       702 (329)       3,411 (1,409)       3,939 (1,536)       3,087 (1,367)         2017       1,064 (456)       3,541 (1,168)       4,245 (1,302)       3,131 (1,061)         2018       1,411 (848)       1,227 (499)       1,655 (734)       982 (417)         2019       752 (318)       2,480 (954)       3,030 (1,100)       2,214 (869)         2021       600 (239)       555 (374)       774 (466)       440 (309)         2022       390 (144)       672 (290)       824 (318)       599 (273)         2023       1,115 (499)       956 (435)       1,311 (519)       855 (411)	2009	1,301 (1,018)	3,985 (1,250)	4,932 (1,559)	3,539 (1,191)
2012       10,633 (5,622)       6,934 (2,690)       12,028 (5,093)       4,796 (1,631)         2013       4,981 (2,015)       7,429 (2,447)       9,898 (3,257)       5,857 (2,010)         2014       2,911 (1,745)       10,454 (4,239)       12,408 (5,208)       8,799 (3,430)         2015       1,084 (484)       5,142 (1,729)       5,817 (1,851)       4,567 (1,601)         2016       702 (329)       3,411 (1,409)       3,939 (1,536)       3,087 (1,367)         2017       1,064 (456)       3,541 (1,168)       4,245 (1,302)       3,131 (1,061)         2018       1,411 (848)       1,227 (499)       1,655 (734)       982 (417)         2019       752 (318)       2,480 (954)       3,030 (1,100)       2,214 (869)         2021       600 (239)       555 (374)       774 (466)       440 (309)         2022       390 (144)       672 (290)       824 (318)       599 (273)         2023       1,115 (499)       956 (435)       1,311 (519)       855 (411)	2010	1,399 (650)	4,079 (1,118)	4,615 (1,262)	3,528 (992)
2013       4,981 (2,015)       7,429 (2,447)       9,898 (3,257)       5,857 (2,010)         2014       2,911 (1,745)       10,454 (4,239)       12,408 (5,208)       8,799 (3,430)         2015       1,084 (484)       5,142 (1,729)       5,817 (1,851)       4,567 (1,601)         2016       702 (329)       3,411 (1,409)       3,939 (1,536)       3,087 (1,367)         2017       1,064 (456)       3,541 (1,168)       4,245 (1,302)       3,131 (1,061)         2018       1,411 (848)       1,227 (499)       1,655 (734)       982 (417)         2019       752 (318)       2,480 (954)       3,030 (1,100)       2,214 (869)         2021       600 (239)       555 (374)       774 (466)       440 (309)         2022       390 (144)       672 (290)       824 (318)       599 (273)         2023       1,115 (499)       956 (435)       1,311 (519)       855 (411)	2011	3,545 (1,630)	4,240 (1,383)	4,974 (1,443)	3,992 (1,351)
2014       2,911 (1,745)       10,454 (4,239)       12,408 (5,208)       8,799 (3,430)         2015       1,084 (484)       5,142 (1,729)       5,817 (1,851)       4,567 (1,601)         2016       702 (329)       3,411 (1,409)       3,939 (1,536)       3,087 (1,367)         2017       1,064 (456)       3,541 (1,168)       4,245 (1,302)       3,131 (1,061)         2018       1,411 (848)       1,227 (499)       1,655 (734)       982 (417)         2019       752 (318)       2,480 (954)       3,030 (1,100)       2,214 (869)         2021       600 (239)       555 (374)       774 (466)       440 (309)         2022       390 (144)       672 (290)       824 (318)       599 (273)         2023       1,115 (499)       956 (435)       1,311 (519)       855 (411)	2012	10,633 (5,622)	6,934 (2,690)	12,028 (5,093)	4,796 (1,631)
2015       1,084 (484)       5,142 (1,729)       5,817 (1,851)       4,567 (1,601)         2016       702 (329)       3,411 (1,409)       3,939 (1,536)       3,087 (1,367)         2017       1,064 (456)       3,541 (1,168)       4,245 (1,302)       3,131 (1,061)         2018       1,411 (848)       1,227 (499)       1,655 (734)       982 (417)         2019       752 (318)       2,480 (954)       3,030 (1,100)       2,214 (869)         2021       600 (239)       555 (374)       774 (466)       440 (309)         2022       390 (144)       672 (290)       824 (318)       599 (273)         2023       1,115 (499)       956 (435)       1,311 (519)       855 (411)	2013	4,981 (2,015)	7,429 (2,447)	9,898 (3,257)	5,857 (2,010)
2016       702 (329)       3,411 (1,409)       3,939 (1,536)       3,087 (1,367)         2017       1,064 (456)       3,541 (1,168)       4,245 (1,302)       3,131 (1,061)         2018       1,411 (848)       1,227 (499)       1,655 (734)       982 (417)         2019       752 (318)       2,480 (954)       3,030 (1,100)       2,214 (869)         2021       600 (239)       555 (374)       774 (466)       440 (309)         2022       390 (144)       672 (290)       824 (318)       599 (273)         2023       1,115 (499)       956 (435)       1,311 (519)       855 (411)	2014	2,911 (1,745)	10,454 (4,239)	12,408 (5,208)	8,799 (3,430)
2017       1,064 (456)       3,541 (1,168)       4,245 (1,302)       3,131 (1,061)         2018       1,411 (848)       1,227 (499)       1,655 (734)       982 (417)         2019       752 (318)       2,480 (954)       3,030 (1,100)       2,214 (869)         2021       600 (239)       555 (374)       774 (466)       440 (309)         2022       390 (144)       672 (290)       824 (318)       599 (273)         2023       1,115 (499)       956 (435)       1,311 (519)       855 (411)	2015	1,084 (484)	5,142 (1,729)	5,817 (1,851)	4,567 (1,601)
2018       1,411 (848)       1,227 (499)       1,655 (734)       982 (417)         2019       752 (318)       2,480 (954)       3,030 (1,100)       2,214 (869)         2021       600 (239)       555 (374)       774 (466)       440 (309)         2022       390 (144)       672 (290)       824 (318)       599 (273)         2023       1,115 (499)       956 (435)       1,311 (519)       855 (411)	2016	702 (329)	3,411 (1,409)	3,939 (1,536)	3,087 (1,367)
2018       1,411 (848)       1,227 (499)       1,655 (734)       982 (417)         2019       752 (318)       2,480 (954)       3,030 (1,100)       2,214 (869)         2021       600 (239)       555 (374)       774 (466)       440 (309)         2022       390 (144)       672 (290)       824 (318)       599 (273)         2023       1,115 (499)       956 (435)       1,311 (519)       855 (411)	2017	1,064 (456)	3,541 (1,168)	4,245 (1,302)	3,131 (1,061)
2019       752 (318)       2,480 (954)       3,030 (1,100)       2,214 (869)         2021       600 (239)       555 (374)       774 (466)       440 (309)         2022       390 (144)       672 (290)       824 (318)       599 (273)         2023       1,115 (499)       956 (435)       1,311 (519)       855 (411)	2018	1,411 (848)	1,227 (499)	1,655 (734)	
2021       600 (239)       555 (374)       774 (466)       440 (309)         2022       390 (144)       672 (290)       824 (318)       599 (273)         2023       1,115 (499)       956 (435)       1,311 (519)       855 (411)					
2022       390 (144)       672 (290)       824 (318)       599 (273)         2023       1,115 (499)       956 (435)       1,311 (519)       855 (411)		` /	, ,		
<b>2023</b> 1,115 (499) 956 (435) 1,311 (519) 855 (411)			` /		
			` ,		, ,
	2024	7,911 (4,939)	2,239 (1,058)	5,772 (3,395)	1,658 (782)
<b>2025</b> 23,497 (11,830) 22,240 (14,484) 37,068 (22,131) 15,688 (9,847)		, , ,			

<sup>\*</sup> Measurement accuracy changed to 0.1 mm in 2016; 2025 protocol uses unrounded measurements, causing slight changes in historic biomass estimates

Table 32. -- Time series of biomass (t) estimates (± 95% CI) for female hybrid *Chionoecetes* spp. from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys. Contact authors for 1975-1987 data.

	r 1975-1987 data.	
Year	Immature female	Mature female
1988	869 (467)	3,075 (2,845)
1989	54 (41)	383 (326)
1990	301 (349)	658 (299)
1991	256 (172)	1,165 (500)
1992	169 (115)	1,090 (589)
1993	29 (24)	109 (95)
1994	6 (7)	178 (149)
1995	9 (11)	320 (503)
1996	21 (28)	124 (105)
1997	6 (12)	49 (35)
1998	66 (96)	72 (57)
1999	24 (16)	38 (29)
2000	19 (13)	30 (23)
2001	88 (43)	306 (218)
2002	74 (48)	85 (84)
2003	70 (38)	78 (59)
2004	52 (48)	21 (19)
2005	163 (278)	54 (64)
2006	78 (91)	43 (35)
2007	94 (94)	159 (94)
2008	500 (272)	687 (274)
2009	93 (46)	550 (294)
2010	642 (379)	566 (233)
2011	1,188 (686)	1,539 (764)
2012	1,918 (1,161)	1,600 (633)
2013	296 (117)	1,563 (602)
2014	360 (430)	1,598 (745)
2015	104 (85)	1,297 (794)
2016	27 (17)	1,379 (943)
2017	58 (57)	597 (316)
2018	647 (446)	390 (370)
2019	20 (14)	294 (210)
2021	103 (36)	131 (97)
2022	103 (60)	67 (56)
2023	683 (436)	119 (115)
2024	1,897 (1,165)	2,348 (1,844)
2025	6,146 (4,267)	11,013 (5,291)

<sup>\*</sup> Measurement accuracy changed to 0.1 mm in 2016; 2025 protocol uses unrounded measurements, causing slight changes in historic biomass estimates

Table 33. -- Time series of abundance (in millions) estimates (± 95% CI) for male hybrid *Chionoecetes* spp. from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys. Listed sizes are carapace width. Contact authors for 1975-1987 data.

Year	Small male	Large male	Legal male	Industry preferred male
1 cai	< 95 mm	≥ 95 mm	≥ 78 mm	≥ 101 mm
1988	45.0 (30.6)	9.7 (5.2)	22.2 (12.6)	5.7 (3.3)
1989	7.7 (5.5)	2.6 (1.9)	5.9 (3.8)	1.8 (1.2)
1990	6.1 (3.8)	4.7 (1.8)	6.9 (2.8)	3.8 (1.4)
1991	20.7 (9.8)	11.7 (5.3)	21.2 (9.2)	` '
1991	6.8 (3.0)			8.0 (3.7)
1992	. ,	6.0 (2.8)	8.7 (3.4)	5.3 (2.6)
	1.7 (1.0)	0.9 (0.6)	1.3 (0.8)	0.7 (0.5)
1994	0.8 (0.4)	2.3 (1.3)	2.7 (1.5)	2.0 (1.1)
1995	0.6 (0.4)	0.3 (0.4)	0.6 (0.4)	0.3 (0.3)
1996	0.3 (0.2)	0.4 (0.3)	0.6 (0.4)	0.3 (0.3)
1997	0.4 (0.3)	0.3 (0.2)	0.5 (0.3)	0.2 (0.2)
1998	1.6 (1.1)	0.2 (0.2)	0.4 (0.2)	0.2 (0.1)
1999	1.4 (0.7)	0.2 (0.1)	0.3 (0.2)	0.1 (0.1)
2000	1.6 (1.0)	0.2 (0.2)	0.2 (0.2)	0.2 (0.2)
2001	7.0 (2.8)	0.5 (0.3)	1.5 (0.7)	0.4 (0.3)
2002	3.7 (2.5)	0.5 (0.3)	0.8 (0.3)	0.4 (0.3)
2003	3.0 (1.7)	0.3 (0.2)	0.7(0.3)	0.3 (0.2)
2004	2.5 (2.1)	0.5 (0.4)	0.7 (0.5)	0.4 (0.4)
2005	1.4 (1.3)	0.1 (0.1)	0.2(0.1)	0.1 (0.1)
2006	4.5 (4.8)	0.3 (0.2)	1.8 (1.9)	0.2 (0.2)
2007	9.3 (7.4)	6.1 (6.7)	12.1 (12.2)	2.9 (3.0)
2008	11.2 (5.0)	4.6 (2.2)	7.5 (2.6)	3.2 (1.9)
2009	7.9 (5.1)	6.3 (1.8)	10.0 (3.9)	5.2 (1.6)
2010	17.3 (7.4)	6.6 (1.9)	8.7 (2.6)	5.1 (1.5)
2011	37.3 (17.3)	6.2 (1.9)	9.3 (2.4)	5.6 (1.8)
2012	74.7 (38.2)	13.0 (5.9)	33.4 (16.4)	7.4 (2.6)
2013	39.0 (14.6)	13.7 (4.5)	23.2 (8.2)	9.6 (3.3)
2014	18.7 (13.4)	17.4 (7.1)	24.6 (10.7)	13.2 (5.0)
2015	8.2 (4.3)	8.3 (2.6)	10.7 (3.2)	6.8 (2.2)
2016	4.1 (1.7)	5.1 (2.0)	6.9 (2.5)	4.3 (1.8)
2017	6.4 (2.7)	5.5 (1.8)	8.1 (2.4)	4.5 (1.5)
2018	19.8 (11.1)	2.1 (0.9)	3.6 (1.9)	1.4 (0.6)
2019	4.3 (1.5)	4.2 (1.6)	6.2 (2.3)	3.5 (1.4)
2021	7.3 (2.6)	1.0 (0.7)	1.9 (1.1)	0.7 (0.5)
2022	6.0 (2.5)	1.1 (0.5)	1.7 (0.6)	0.9 (0.4)
2023	16.4 (6.6)	1.5 (0.6)	3.0 (1.2)	1.3 (0.5)
2024	58.1 (33.3)	4.2 (2.1)	17.8 (11.3)	2.7 (1.3)
2025	132.8 (63.2)	45.9 (30.9)	101.9 (60.0)	29.3 (19.1)

Table 34. -- Time series of abundance (in millions) estimates (± 95% CI) for female hybrid *Chionoecetes* spp. from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys. Contact authors for 1975-1987 data.

Voor	Immeture female	
Year	Immature female	Mature female
1988	14.8 (8.4)	19.4 (17.1)
1989	1.0 (0.8)	2.3 (1.8)
1990	3.3 (3.2)	4.1 (1.9)
1991	3.5 (2.4)	8.3 (3.5)
1992	3.1 (2.2)	7.5 (4.0)
1993	1.0 (0.9)	0.7 (0.7)
1994	0.3 (0.3)	1.2 (1.0)
1995	0.2 (0.2)	2.1 (3.3)
1996	0.3 (0.4)	0.8 (0.7)
1997	0.1 (0.1)	0.4 (0.2)
1998	1.6 (2.5)	0.6 (0.4)
1999	1.3 (1.1)	0.2 (0.2)
2000	0.5 (0.4)	0.2 (0.2)
2001	2.3 (1.1)	2.1 (1.5)
2002	1.8 (1.1)	0.7 (0.8)
2003	1.9 (1.1)	0.5 (0.4)
2004	1.8 (1.8)	0.1 (0.1)
2005	2.7 (4.2)	0.5 (0.7)
2006	0.9 (1.0)	0.3 (0.2)
2007	1.6 (1.3)	1.2 (0.7)
2008	13.6 (8.9)	5.3 (2.2)
2009	3.3 (2.2)	4.1 (2.4)
2010	14.2 (7.8)	5.7 (2.9)
2011	24.1 (14.1)	21.3 (11.1)
2012	28.9 (17.8)	15.7 (7.9)
2013	5.9 (2.5)	12.3 (4.7)
2014	19.1 (31.0)	14.7 (9.2)
2015	5.1 (4.8)	12.8 (8.5)
2016	0.9 (0.5)	12.4 (8.1)
2017	1.3 (1.2)	6.1 (4.2)
2018	22.5 (15.3)	5.8 (5.7)
2019	0.6 (0.4)	2.9 (2.0)
2021	3.1 (0.9)	1.1 (0.8)
2022	4.1 (2.6)	0.5 (0.4)
2023	19.0 (10.7)	0.8 (0.7)
2024	27.5 (15.7)	17.7 (13.2)
2025	95.3 (61.4)	112.9 (58.3)

#### Hair crab tables

Table 35. -- Time series of biomass (t) estimates (± 95% CI) for hair crab (*Erimacrus isenbeckii*) from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys. Listed sizes are carapace length. Contact authors for 1975-1987 data.

Year	Sublegal male	Legal male	Female
	< 83 mm	≥ 83 mm	remate
1988	631 (837)	618 (354)	168 (89)
1989	2,955 (5,105)	404 (240)	43 (40)
1990	2,540 (3,299)	783 (453)	255 (155)
1991	1,393 (1,086)	795 (434)	230 (130)
1992	778 (408)	591 (300)	80 (53)
1993	1,111 (503)	2,296 (1,588)	217 (148)
1994	1,324 (551)	2,413 (1,253)	194 (133)
1995	1,396 (770)	4,326 (2,791)	158 (84)
1996	1,152 (596)	3,163 (1,738)	277 (132)
1997	584 (252)	3,103 (1,289)	92 (56)
1998	213 (96)	1,984 (798)	361 (241)
1999	196 (109)	1,735 (510)	308 (125)
2000	180 (123)	2,873 (1,259)	331 (180)
2001	132 (96)	1,287 (521)	565 (243)
2002	65 (45)	1,375 (529)	101 (64)
2003	357 (319)	659 (275)	83 (49)
2004	204 (229)	491 (191)	83 (71)
2005	328 (252)	212 (132)	273 (134)
2006	357 (236)	661 (415)	877 (954)
2007	575 (298)	1,278 (519)	357 (168)
2008	623 (280)	1,346 (631)	387 (174)
2009	1,104 (426)	1,916 (731)	464 (250)
2010	903 (401)	1,610 (677)	469 (186)
2011	1,752 (868)	2,129 (935)	377 (162)
2012	3,626 (1,536)	2,878 (1,128)	534 (234)
2013	3,357 (1,287)	6,469 (2,626)	1,055 (433)
2014	1,144 (715)	3,391 (1,298)	304 (139)
2015	616 (424)	1,338 (511)	127 (74)
2016	217 (104)	728 (312)	73 (51)
2017	212 (142)	1,097 (368)	72 (46)
2018	338 (232)	900 (343)	199 (106)
2019	467 (389)	559 (240)	149 (91)
2021	608 (298)	551 (247)	597 (315)
2022	398 (151)	532 (230)	271 (135)
2023	751 (275)	584 (248)	394 (160)
2024	589 (254)	939 (363)	461 (278)
2025	341 (273)	801 (330)	474 (226)

<sup>\*</sup> Measurement accuracy changed to 0.1 mm in 2016; 2025 protocol uses unrounded measurements, causing slight changes in historic biomass estimates

Table 36. -- Time series of abundance (in millions) estimates (± 95% CI) for hair crab (*Erimacrus isenbeckii*) from National Marine Fisheries Service eastern Bering Sea bottom trawl surveys.

Listed sizes are carapace length. Contact authors for 1975-1987 data.

Year	Sublegal male	Legal male	Female
1 Cai	< 83 mm	≥ 83 mm	Teniuic
1988	3.9 (6.1)	0.8 (0.4)	0.9 (0.7)
1989	12.6 (21.8)	0.5 (0.3)	0.1 (0.1)
1990	10.1 (13.4)	1.2 (0.8)	1.0 (0.6)
1991	4.8 (3.5)	1.3 (0.7)	1.2 (0.7)
1992	2.5 (1.2)	1.1 (0.6)	0.5 (0.4)
1993	3.8 (1.9)	3.9 (2.6)	1.3 (1.0)
1994	5.0 (2.7)	4.0 (2.1)	1.3 (1.1)
1995	5.0 (2.9)	6.6 (4.3)	0.7 (0.3)
1996	3.6 (1.8)	5.1 (2.7)	1.0 (0.5)
1997	1.7 (0.7)	4.6 (1.8)	0.4 (0.2)
1998	0.6 (0.3)	2.9 (1.1)	1.3 (0.8)
1999	0.6 (0.3)	2.4 (0.7)	1.2 (0.4)
2000	0.5 (0.3)	4.1 (1.7)	1.2 (0.7)
2001	0.5 (0.3)	1.8 (0.7)	2.2 (1.0)
2002	0.3 (0.2)	2.0 (0.8)	0.5 (0.3)
2003	1.3 (1.0)	0.9 (0.4)	0.5 (0.3)
2004	0.6(0.6)	0.8 (0.3)	0.3 (0.2)
2005	1.0 (0.7)	0.3 (0.2)	0.8 (0.5)
2006	1.2 (0.8)	1.0 (0.7)	3.6 (4.6)
2007	2.3 (1.3)	1.9 (0.7)	1.3 (0.9)
2008	2.3 (1.1)	2.2 (1.0)	1.4 (0.6)
2009	3.6 (1.4)	3.1 (1.1)	1.7 (0.9)
2010	3.3 (1.3)	2.5 (1.0)	2.2 (1.1)
2011	6.9 (3.8)	3.5 (1.4)	1.6 (0.6)
2012	11.8 (5.3)	4.6 (1.8)	2.2 (0.8)
2013	10.3 (3.9)	10.7 (4.6)	4.0 (1.7)
2014 2015	3.3 (2.2)	5.4 (2.0)	1.0 (0.4)
2015	1.8 (1.3)	2.1 (0.8)	0.6 (0.3) 0.3 (0.3)
2017	0.6 (0.3) 0.6 (0.4)	1.2 (0.5) 1.6 (0.6)	0.3 (0.2)
2017	1.1 (0.8)	1.4 (0.5)	0.8 (0.5)
2019	1.8 (1.6)	0.8 (0.3)	0.5 (0.3)
2019	2.2 (1.3)	0.8 (0.3)	1.8 (1.0)
2022	1.1 (0.4)	0.8 (0.4)	0.6 (0.3)
2023	2.2 (0.9)	1.0 (0.4)	1.2 (0.5)
2024	1.8 (0.9)	1.7 (0.7)	1.3 (0.7)
2025	1.5 (1.1)	1.4 (0.5)	1.8 (0.7)
	1.0 (1.1)	2(0.0)	2.0 (0.7)

### **FIGURES**



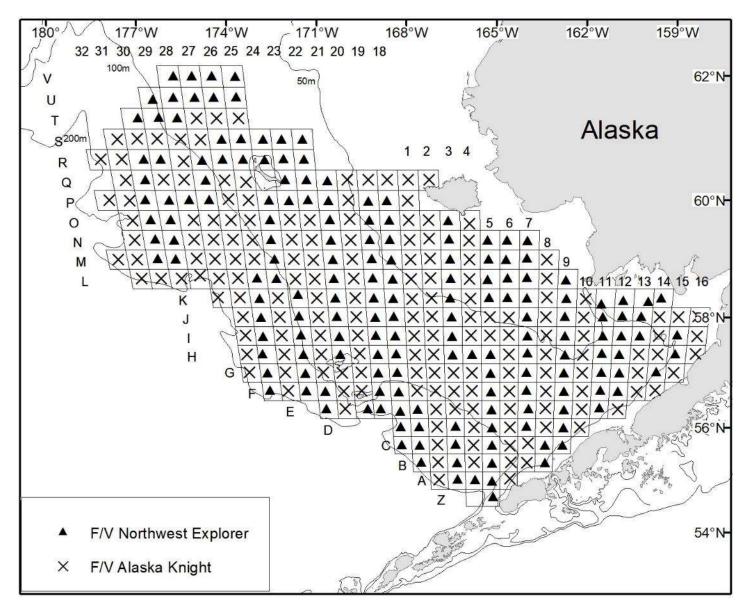


Figure 1. -- National Marine Fisheries Service eastern Bering Sea standard bottom trawl area surveyed by the FV *Alaska Knight* and the FV *Northwest Explorer* from 31 May to 26 July 2025.

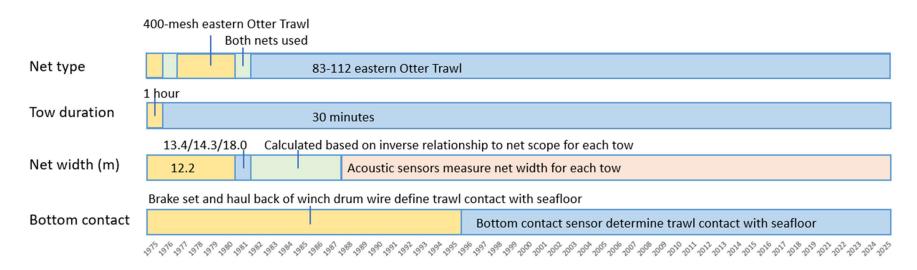
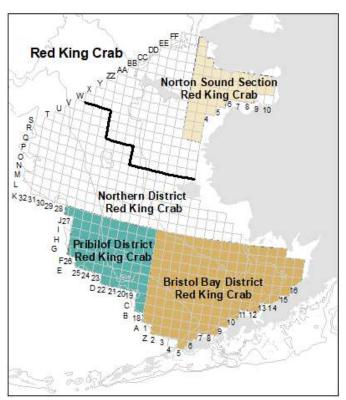
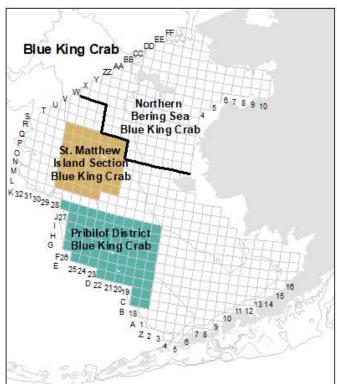


Figure 2. -- History of gear and trawling methodology changes on the National Marine Fisheries Service eastern Bering Sea bottom trawl survey.







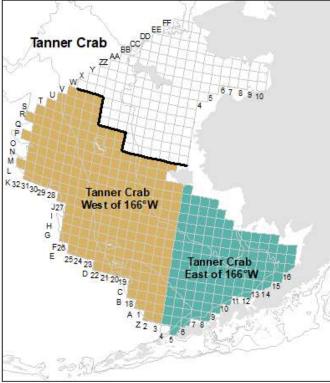


Figure 3. -- Stock boundaries used in this report for red king crab, blue king crab, Tanner crab, and snow crab. Stocks in color are Fisheries Management Plan stocks, with stock assessments evaluated by the North Pacific Fishery Management Council. Stations used in this report are the same stations used in stock assessments, except for Norton Sound red king crab and Tanner crab.

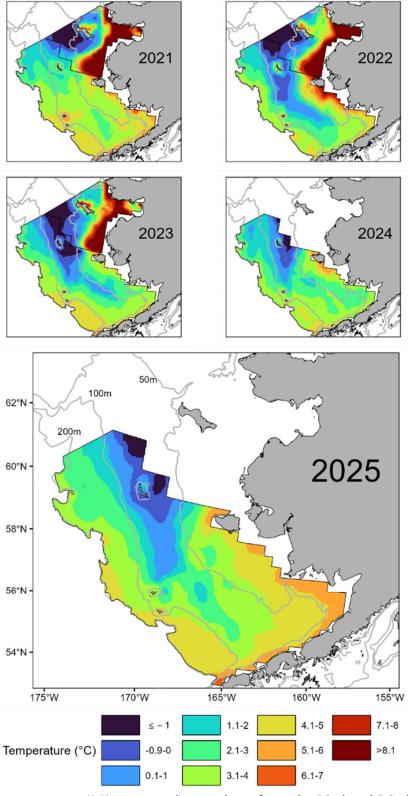


Figure 4. -- Bottom temperatures (°C) measured at stations from the National Marine Fisheries Service eastern and northern Bering Sea bottom trawl surveys for the past five surveys. Surveys begin in Bristol Bay in late May to early June in each year and proceed north and west, concluding in August. Note that the northern Bering Sea was not surveyed in 2024.

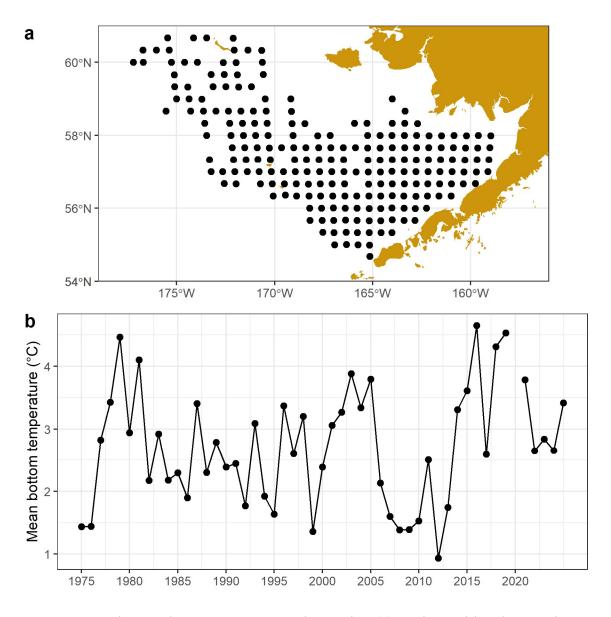


Figure 5. -- Eastern Bering Sea bottom temperature time series. (a) Stations with at least 45 bottom temperature measurements during the 50-year time series (n = 212). (b) Mean bottom temperature from these 212 stations, corrected for missing values and sampling date.

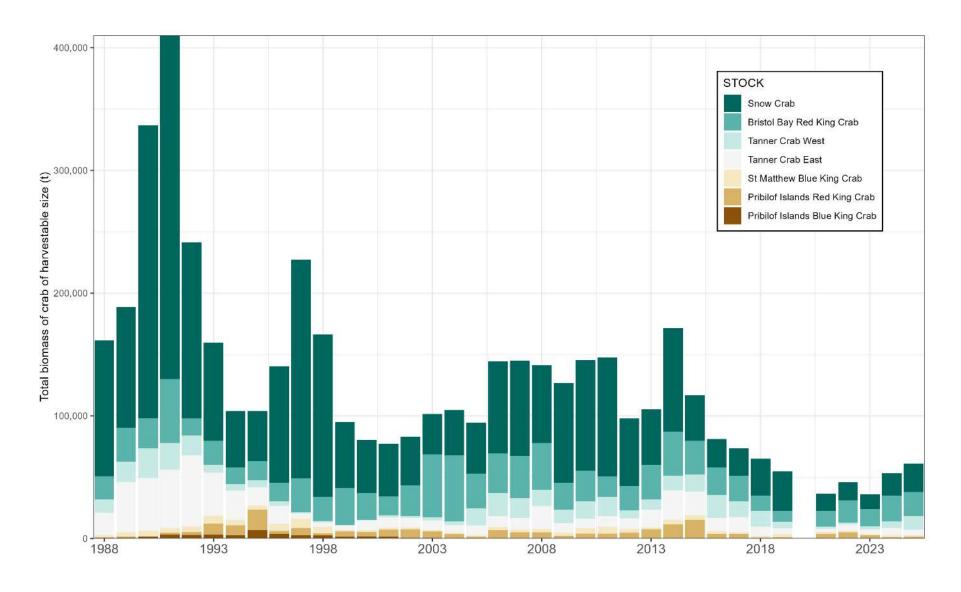


Figure 6. -- Biomass (t) of crab of harvestable size for four commercial species caught on National Marine Fisheries Service eastern Bering Sea bottom trawl surveys from 1988 through 2025, by stock. Harvestable size is defined by the legal size for *Paralithodes* species and the industry-preferred size for *Chionoecetes* species.

## Red king crab figures

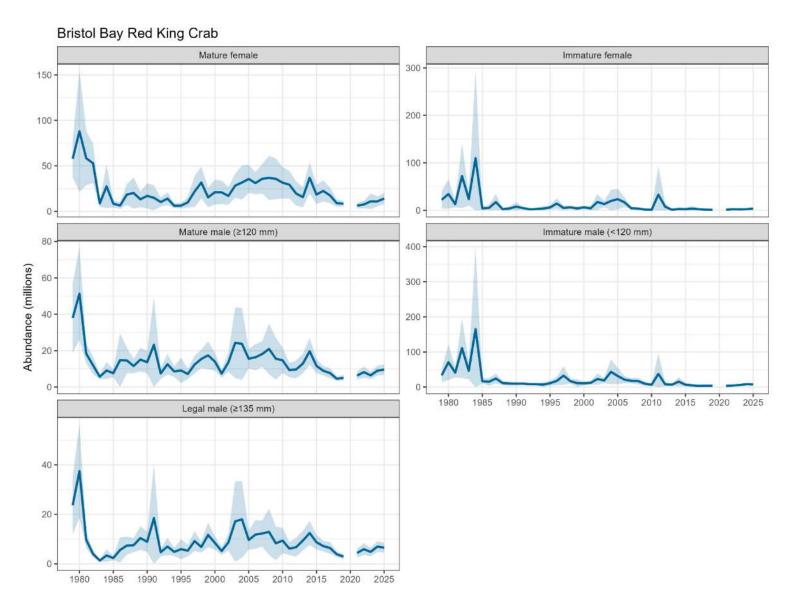


Figure 7. -- Historical abundance of red king crab (*Paralithodes camtschaticus*) in the Bristol Bay District. In years when a subset of stations in Bristol Bay were resampled, the resample stations replace data from the original stations for females only. Light blue area indicates 95% CI.

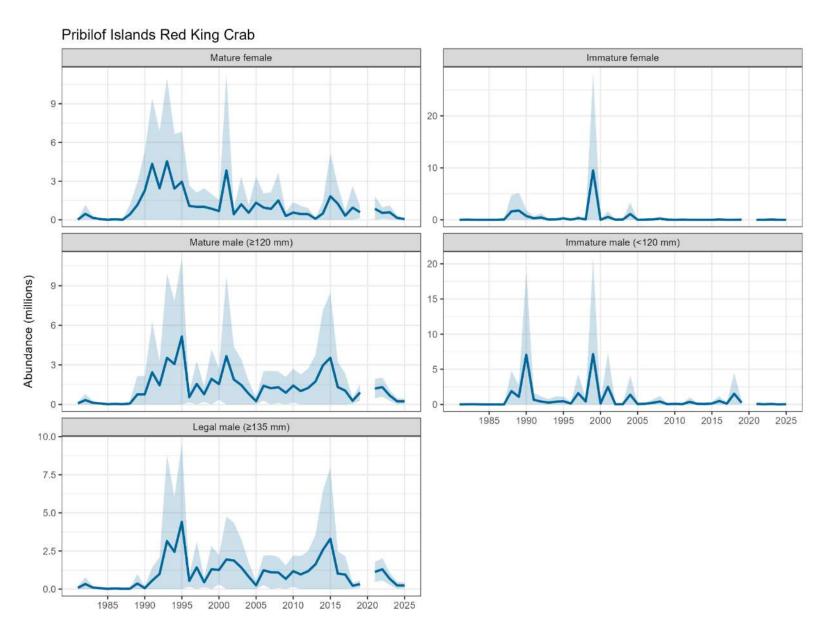


Figure 8. -- Historical abundance of red king crab (*Paralithodes camtschaticus*) in the Pribilof District. Light blue area indicates 95% CI.



Figure 9. -- Historical abundance of red king crab (*Paralithodes camtschaticus*) in the Northern District. Light blue area indicates 95% CI.

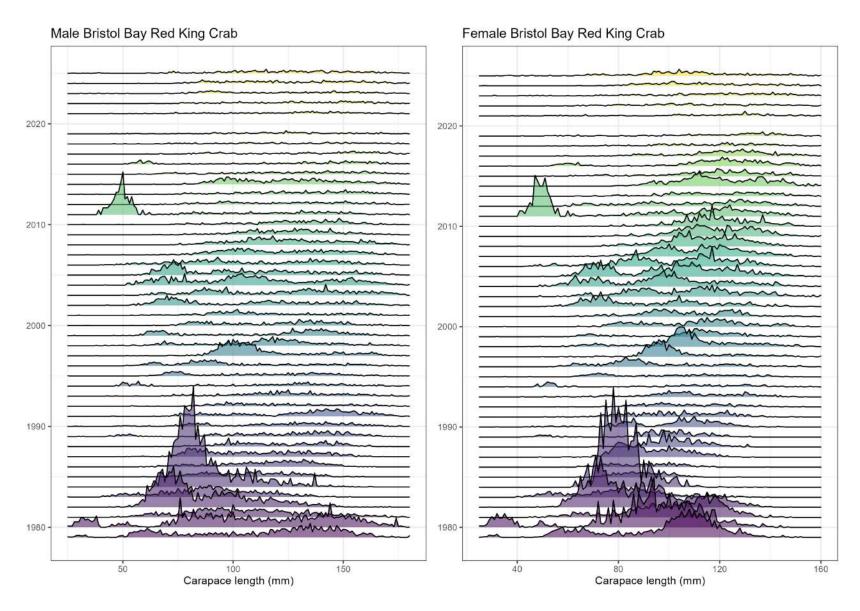


Figure 10. -- Historical size frequency for Bristol Bay District red king crab (*Paralithodes camtschaticus*). For females only, in years when a subset of stations in Bristol Bay were resampled later in the summer the resample stations replace data from the original stations.

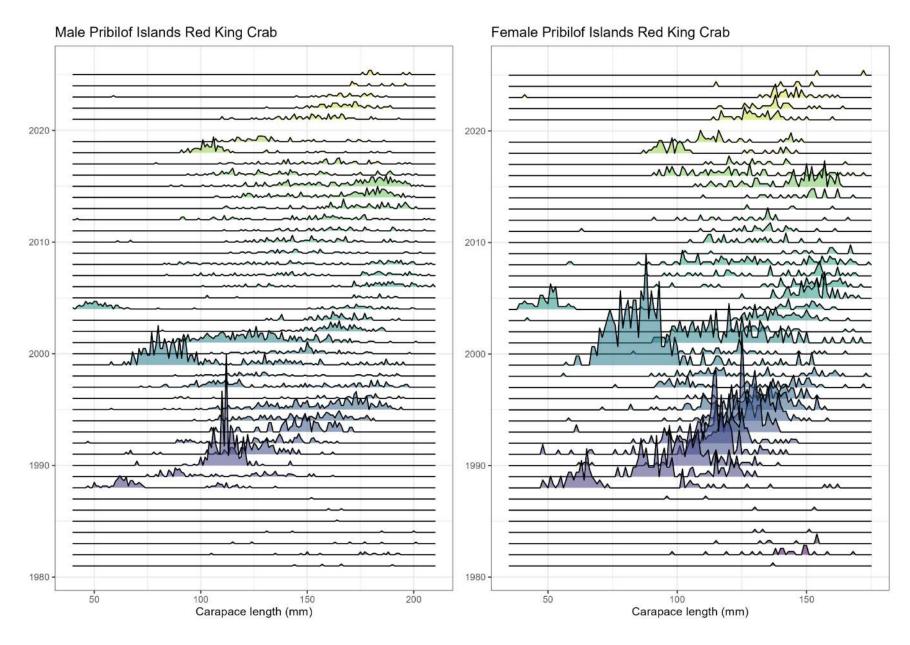


Figure 11. -- Historical size frequency for Pribilof District red king crab (Paralithodes camtschaticus).

#### Male Bristol Bay Red King Crab 2021 2022 0.3 0.3 -0.2 0.2 -0.1 0.1 -0.0 0.0 100 150 100 150 2023 2024 0.4 0.3 0.3 0.2 0.2 -Abundance (millions) 0.1 50 100 50 100 150 150 2025 0.4 0.3 0.2 0.1 0.0 100 50 150 Carapace length (mm) Shell Condition Soft Molting Very Old New Hard Old

Figure 12. -- Abundance (millions) by size and shell condition of Bristol Bay District male red king crab (*Paralithodes camtschaticus*) using 1 mm length classes. **Note that Y-axis scale varies among years.** 

#### Male Pribilof Islands Red King Crab 2021 2022 0.08 0.075 0.06 0.050 0.04 -0.025 0.02 -0.00 -0.000 50 100 200 50 100 200 150 150 2023 2024 0.06 -0.05 -0.04 0.04 0.03 -Abundance (millions) 0.02 0.00 50 100 150 50 100 150 200 200 2025 0.04 0.02 0.00 100 50 150 200 Carapace length (mm) Shell Condition Very Old Old New Hard Soft Molting

Figure 13. -- Abundance (millions) by size and shell condition of Pribilof District male red king crab (*Paralithodes camtschaticus*) using 1 mm length classes. Sampling effort was reduced around islands beginning in 2024. **Note that Y-axis scale varies among years.** 

#### Female Bristol Bay Red King Crab 2021 2022 0.5 0.4 0.2 0.3 0.2 0.1 0.1 0.0 0.0 50 50 100 100 150 2023 2024 0.4 0.3 0.3 0.2 0.2 Abundance (millions) 0.1 0.0 50 50 150 100 150 100 2025 0.4 0.2 0.0 100 50 150 Carapace length (mm) Maturity Immature Mature

Figure 14. -- Abundance (millions) by maturity class of Bristol Bay District female red king crab (*Paralithodes camtschaticus*) using 1 mm length classes. In years when a subset of stations in Bristol Bay were resampled later in the summer, the resample stations replace data from the original stations. **Note that Y-axis scale varies among years.** 

#### Female Pribilof Islands Red King Crab 2021 2022 0.08 0.075 0.06 0.050 0.04 -0.025 0.02 -0.00 -0.000 50 100 150 50 100 150 2023 2024 0.03 0.08 -0.06 0.02 Abundance (millions) 0.01 0.00 50 100 150 50 100 150 2025 0.02 0.01 0.00 50 100 150 Carapace length (mm) Maturity Immature Mature

Figure 15. -- Abundance (millions) by maturity class of Pribilof District female red king crab (*Paralithodes camtschaticus*) using 1 mm length classes. Sampling effort was reduced around islands beginning in 2024. **Note that Y-axis scale varies among years.** 

#### Mature Female Bristol Bay Red King Crab 2021 2022 0.5 0.4 0.2 0.3 0.2 0.1 0.1 0.0 0.0 100 150 175 100 125 150 175 2023 2024 0.4 0.3 0.3 0.2 0.2 Abundance (millions) 0.1 175 100 100 125 150 125 150 175 2025 0.4 0.2 0.0 100 125 150 175 Carapace length (mm) Shell Condition Very Old Old New Hard Soft Molting

Figure 16. -- Abundance (millions) by size and shell condition of Bristol Bay District mature female red king crab (*Paralithodes camtschaticus*) using 1 mm length classes. In years when a subset of stations in Bristol Bay were resampled later in the summer, the resample stations replace data from the original stations. **Note that Y-axis scale varies among years.** 

#### Mature Female Pribilof Islands Red King Crab 2021 2022 0.08 0.075 0.06 0.050 0.04 0.025 0.02 -0.00 -0.000 120 140 160 120 140 160 2023 2024 0.03 0.08 -0.06 0.02 Abundance (millions) 0.01 0.00 160 120 120 140 140 160 2025 0.02 0.01 0.00 120 160 Carapace length (mm) Shell Condition Very Old New Hard Soft Molting Old

Figure 17. -- Abundance (millions) by size and shell condition of Pribilof District mature female red king crab (*Paralithodes camtschaticus*) using 1 mm length classes. Sampling effort was reduced around islands beginning in 2024. **Note that Y-axis scale varies among years.** 

#### Mature Female Bristol Bay Red King Crab 2021 2022 0.5 0.4 0.2 0.3 0.2 0.1 0.1 0.0 0.0 100 175 100 175 150 125 125 150 2023 2024 0.4 0.3 0.3 0.2 Abundance (millions) 0.2 0.1 125 175 100 100 150 125 175 150 2025 0.6 0.4 0.2 0.0 100 125 150 175 Carapace length (mm) Uneyed Eggs Dead Eggs Empty Egg Cases **Egg Condition** No Eggs Hatching Eyed Eggs

Figure 18. -- Abundance (millions) by size and egg condition of Bristol Bay District mature female red king crab (*Paralithodes camtschaticus*) using 1 mm length classes. In years when a subset of stations in Bristol Bay were resampled later in the summer, the resample stations replace data from the original stations. **Note that Y-axis scale varies among years.** 

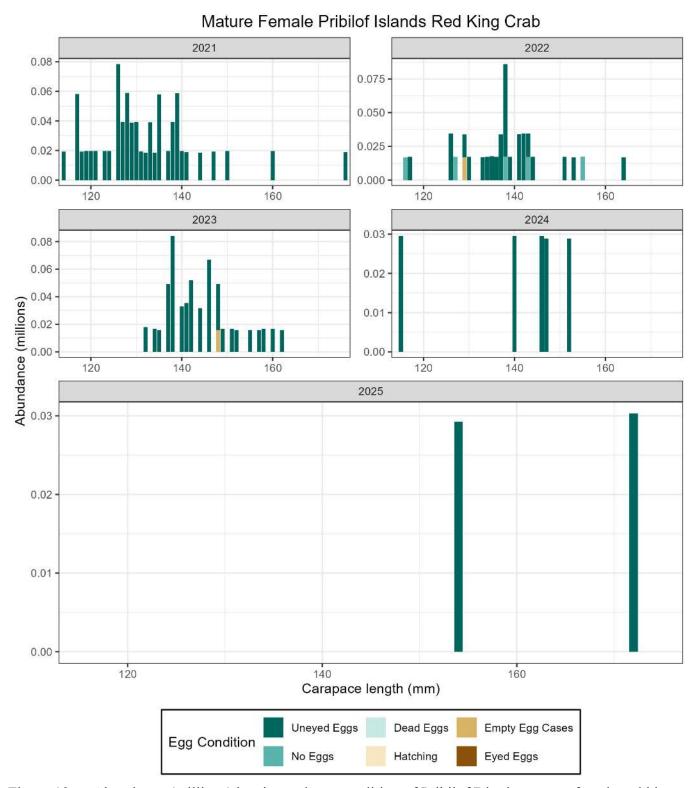


Figure 19. -- Abundance (millions) by size and egg condition of Pribilof District mature female red king crab (*Paralithodes camtschaticus*) using 1 mm length classes. Sampling effort was reduced around islands beginning in 2024. **Note that Y-axis scale varies among years.** 

#### Mature Female Bristol Bay Red King Crab 2021 2022 0.5 0.4 0.2 0.3 0.2 0.1 0.1 0.0 0.0 175 175 100 150 100 125 150 2023 2024 0.4 0.3 0.3 0.2 Abundance (millions) 0.2 0.1 100 125 175 100 150 125 150 175 2025 0.6 0.4 0.2 0.0 100 125 150 175 Carapace length (mm) Full Half Full Trace Clutch Size Three Quarter Full Quarter Full Mature Barren

Figure 20. -- Abundance (millions) by size and clutch fullness of Bristol Bay District mature female red king crab (*Paralithodes camtschaticus*) using 1 mm length classes. In years when a subset of stations in Bristol Bay were resampled later in the summer, the resample stations replace data from the original stations. **Note that Y-axis scale varies among years.** 

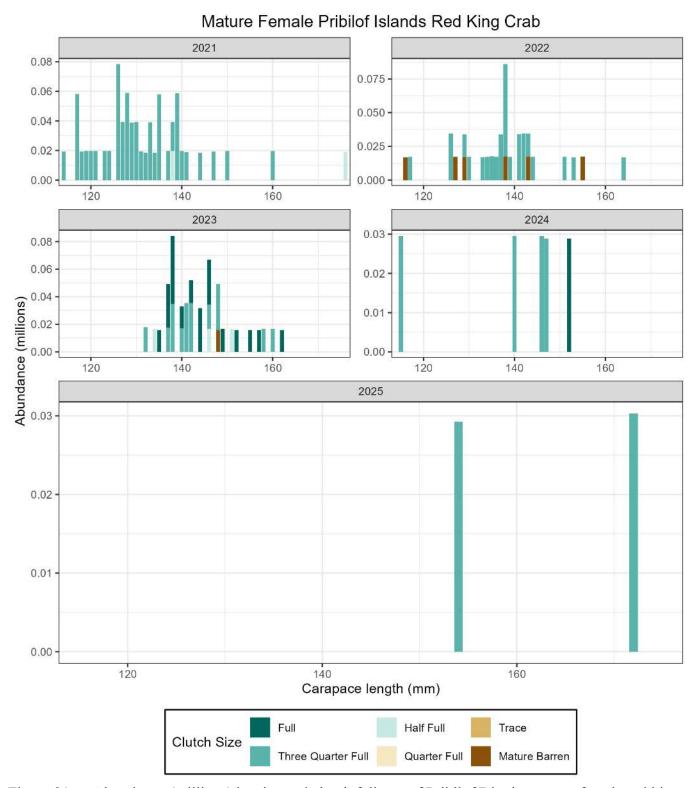


Figure 21. -- Abundance (millions) by size and clutch fullness of Pribilof District mature female red king crab (*Paralithodes camtschaticus*) using 1 mm length classes. Sampling effort was reduced around islands beginning in 2024. **Note that Y-axis scale varies among years.** 

#### Mature Female Bristol Bay Red King Crab

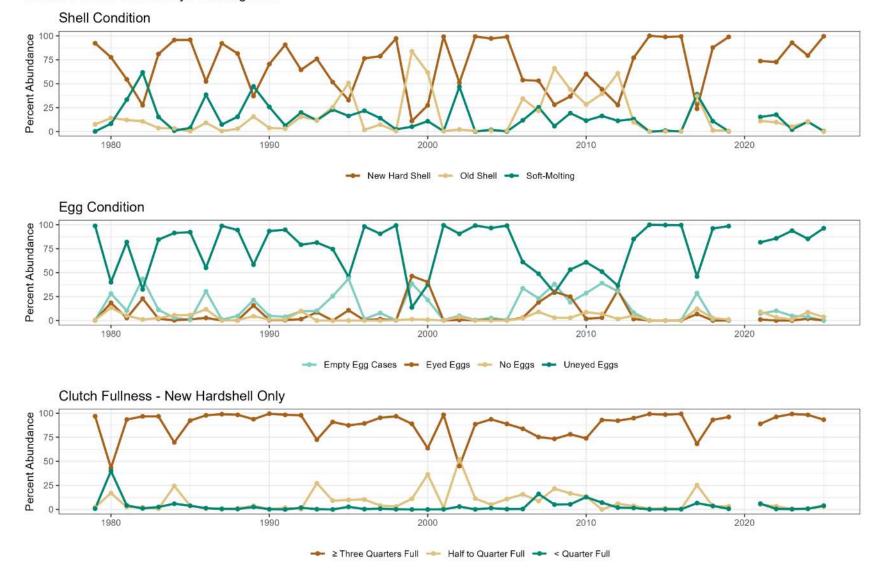


Figure 22. -- Time series of shell condition, egg condition, and clutch fullness for mature female Bristol Bay red king crab (*Paralithodes camtschaticus*). Data from stations that are resampled later in the survey are **not** included.

# **Red King Crab Legal Male** 2021 2022 2023 2024 62°N 60°N 2025 58°N Northern District Pribilof District Num/nmi<sup>2</sup> 56°N No catch >0-32 >32-256 Bristol Bay District 54°N >256-606 >606-1,492 >1,492-2,286 175°W 170°W 165°W

Figure 23. -- Estimated total density of legal-sized (carapace length ≥ 135 mm carapace length in EBS; carapace length ≥ 104 mm in NBS) male red king crab (*Paralithodes camtschaticus*) for the past five survey years. Outlined areas depict management districts. Note that the NBS was not surveyed in 2024; NBS data for 2025 will be provided in the final version of this report.

# Red King Crab Mature Male

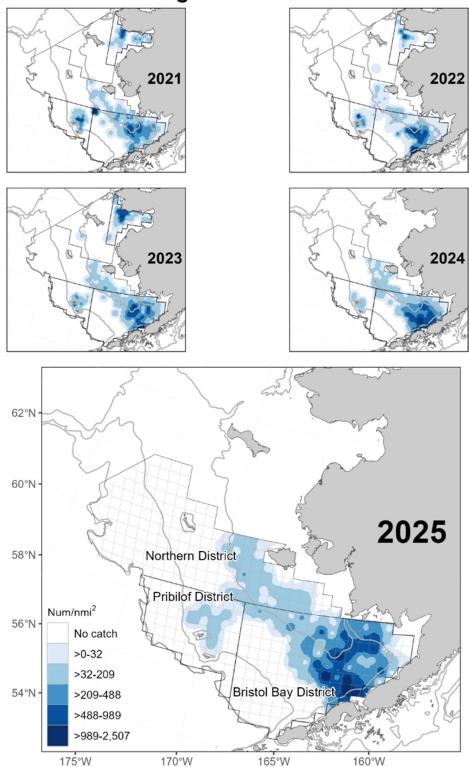


Figure 24. -- Estimated total density of mature-sized (carapace length ≥ 120 mm carapace length in EBS; carapace length ≥ 94 mm in NBS) male red king crab (*Paralithodes camtschaticus*) for the past five survey years. Outlined areas depict management districts. Note that the NBS was not surveyed in 2024; NBS data for 2025 will be provided in the final version of this report.

## **Red King Crab Immature Male**

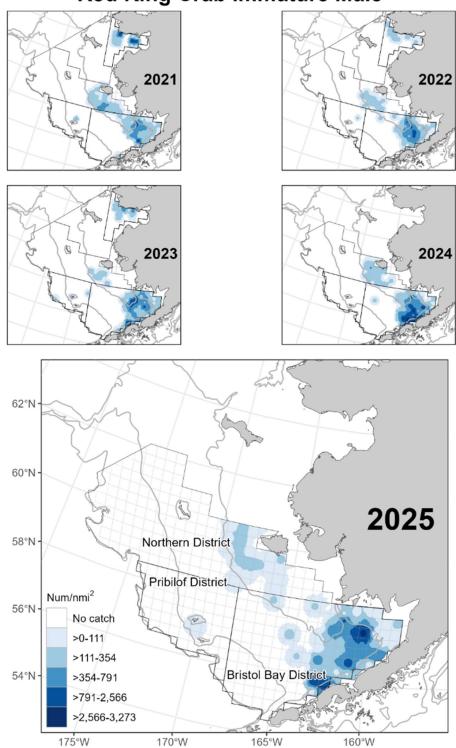


Figure 25. -- Estimated total density of immature-sized (carapace length < 120 mm carapace length in EBS; carapace length < 94 mm in NBS) male red king crab (*Paralithodes camtschaticus*) for the past five survey years. Outlined areas depict management districts. Note that the NBS was not surveyed in 2024; NBS data for 2025 will be provided in the final version of this report.

## **Red King Crab Mature Female**

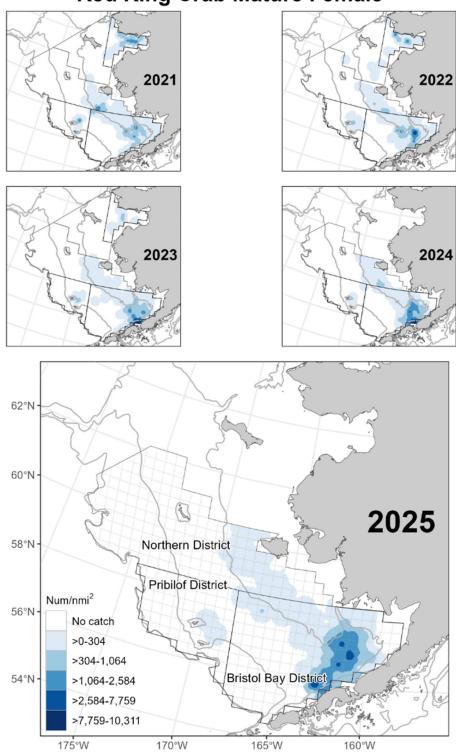


Figure 26. -- Estimated total density of mature female red king crab (*Paralithodes camtschaticus*) for the past five survey years. Outlined areas depict management districts. In years when a subset of stations were resampled, the resample stations replace data from the original stations. Note that the NBS was not surveyed in 2024; NBS data for 2025 will be provided in the final version of this report.

## **Red King Crab Immature Female**

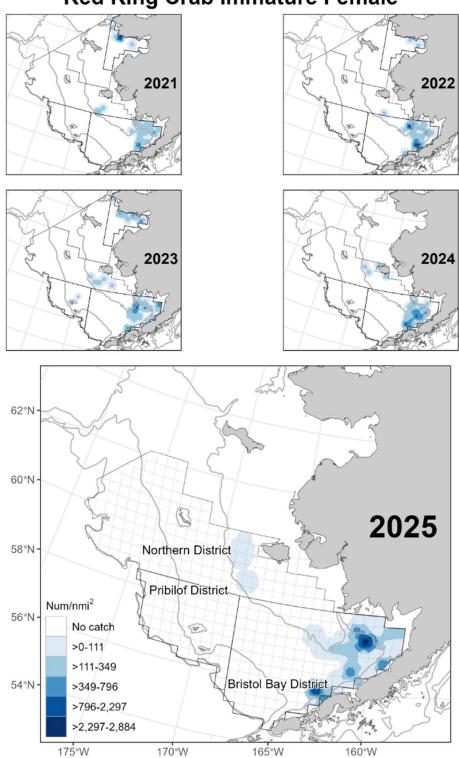


Figure 27. -- Estimated total density of immature female red king crab (*Paralithodes camtschaticus*) for the past five survey years. Outlined areas depict management districts. In years when a subset of stations were resampled, the resample stations replace data from original stations. Note that the NBS was not surveyed in 2024; NBS data for 2025 will be provided in the final version of this report.

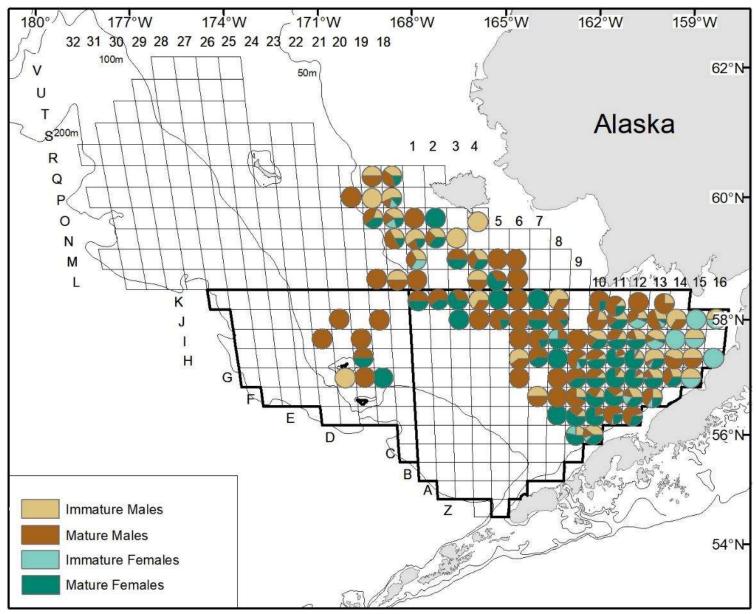


Figure 28. -- Proportion of male and female red king crab (*Paralithodes camtschaticus*) maturity classes caught at each station sampled in 2025. Males are categorized as mature at ≥ 120 mm carapace length. Outlined areas depict management districts.

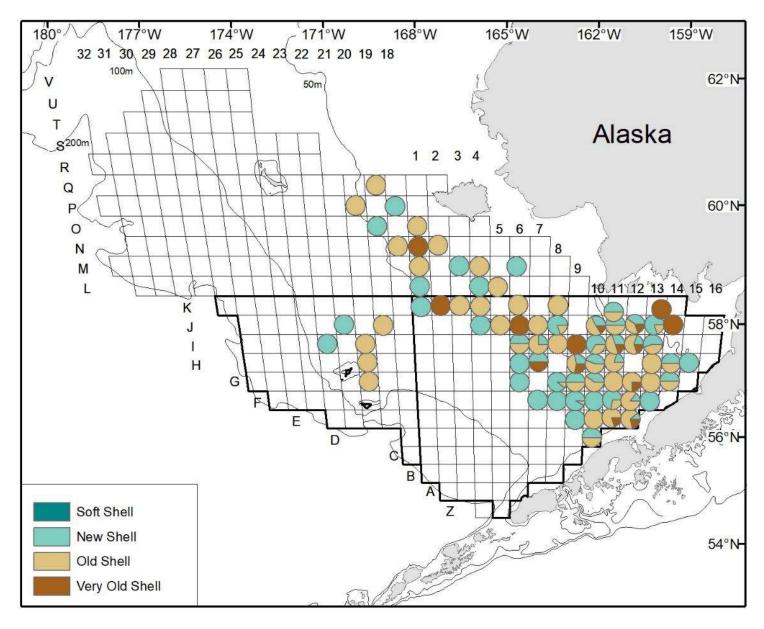


Figure 29. -- Proportion of legal-sized (≥ 135 mm carapace length), male red king crab (*Paralithodes camtschaticus*) shell condition classes caught at each station sampled in 2025. Outlined areas depict management districts.

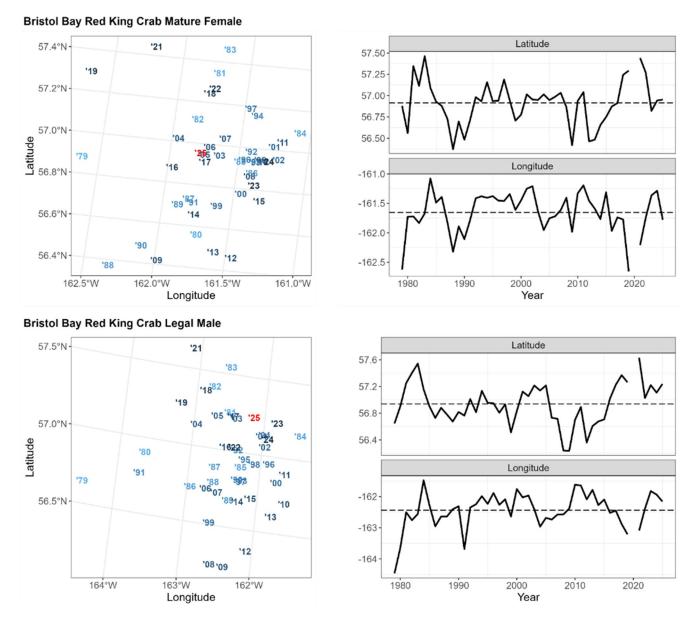


Figure 30 – CPUE-weighted centers of stock abundance of Bristol Bay District mature female and legal male red king crab (*Paralithodes camtschaticus*) from 1979 to 2025. Data are from standard survey stations only (resampled stations **do not** replace data from original stations). Years get darker blue with time in left panel maps, with the most recent year denoted in red.

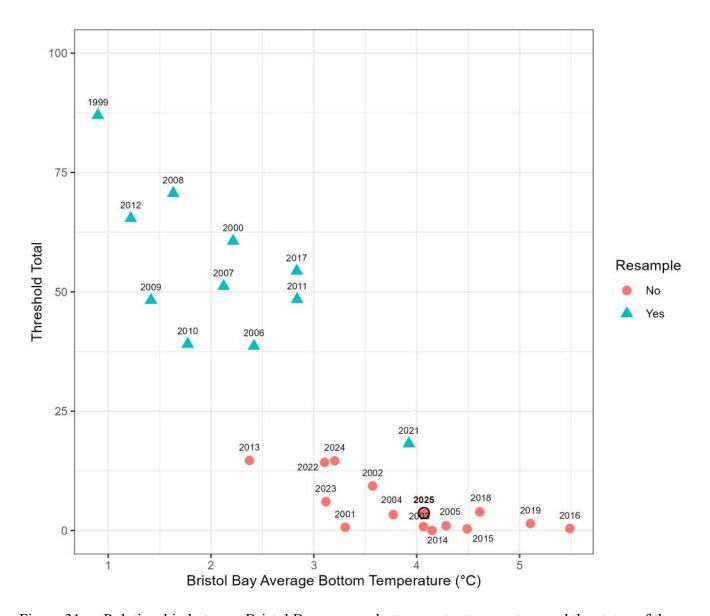


Figure 31. -- Relationship between Bristol Bay average bottom water temperature and the status of the female red king crab reproductive cycle relative to whether resampling was conducted in Bristol Bay. Average bottom water temperature is spatially subset for the Bristol Bay District during the standard National Marine Fisheries Service eastern Bering Sea trawl survey. Females are considered to have an incomplete reproductive cycle if they have eggs with eyed embryos, hatching eggs, empty egg cases, or no clutch (barren).

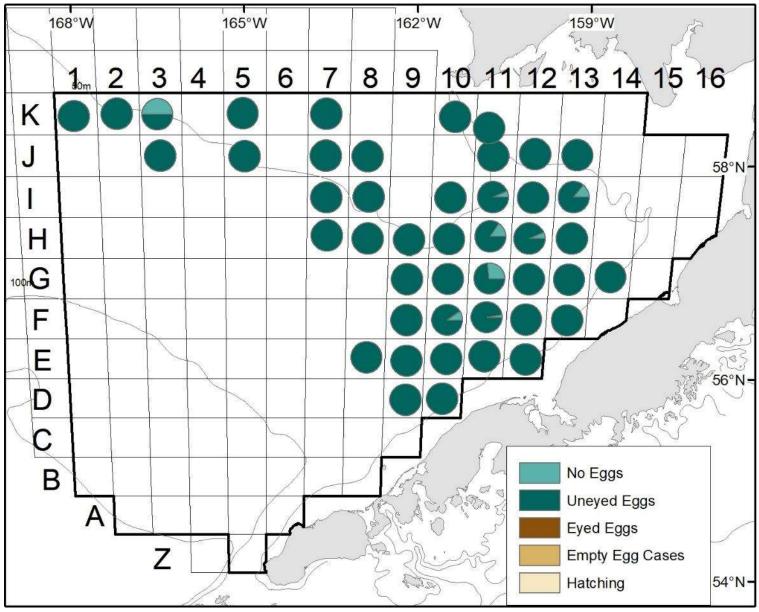


Figure 32. -- Proportion of mature female red king crab (*Paralithodes camtschaticus*) egg condition classes caught at each station sampled in 2025 in the Bristol Bay District. The black outlined area depicts the management district.

Blue king crab figures

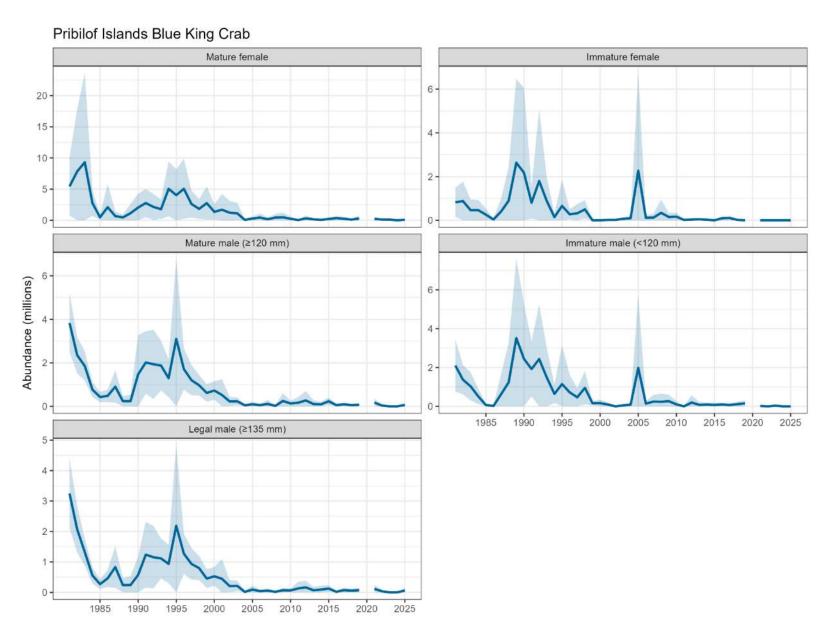


Figure 33. -- Historical abundance of blue king crab (Paralithodes platypus) in the Pribilof District. Light blue area indicates 95% CI.

## St. Matthew Island Blue King Crab Mature female Immature female 6. Mature male (≥105 mm) Immature male (<105 mm) Abundance (millions) Legal male (≥120 mm)

Figure 34. -- Historical abundance of blue king crab (*Paralithodes platypus*) in the Saint Matthew Island Section. Light blue area indicates 95% CI.

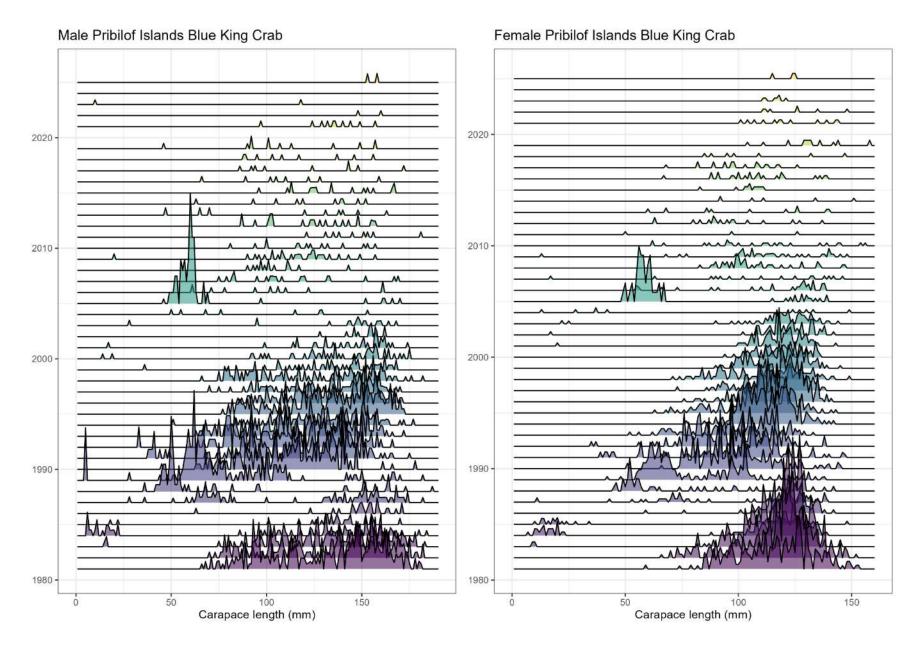


Figure 35. -- Historical size frequency for Pribilof District blue king crab (Paralithodes platypus).

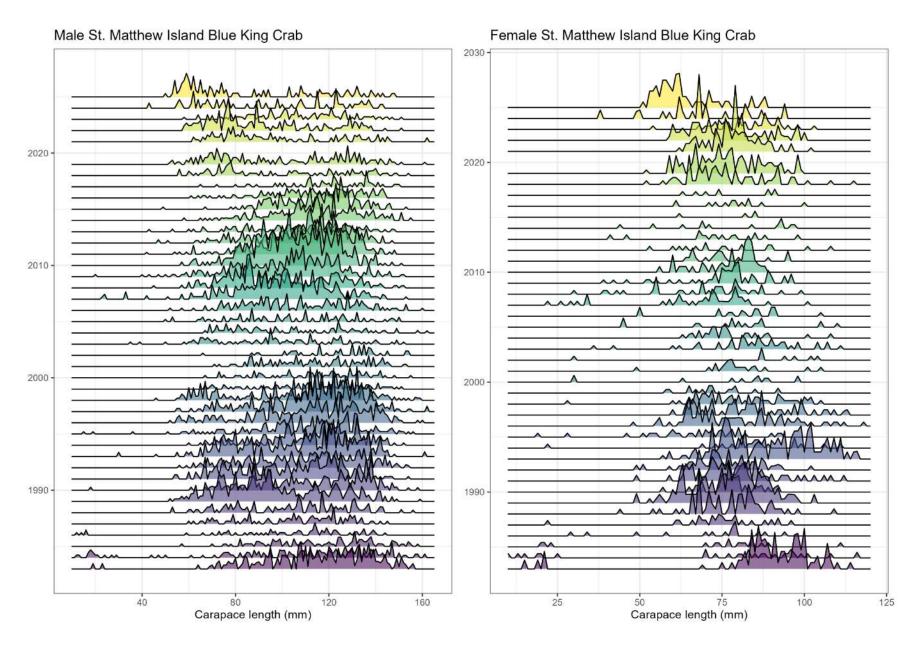


Figure 36. -- Historical size frequency for Saint Matthew Island Section blue king crab (Paralithodes platypus).

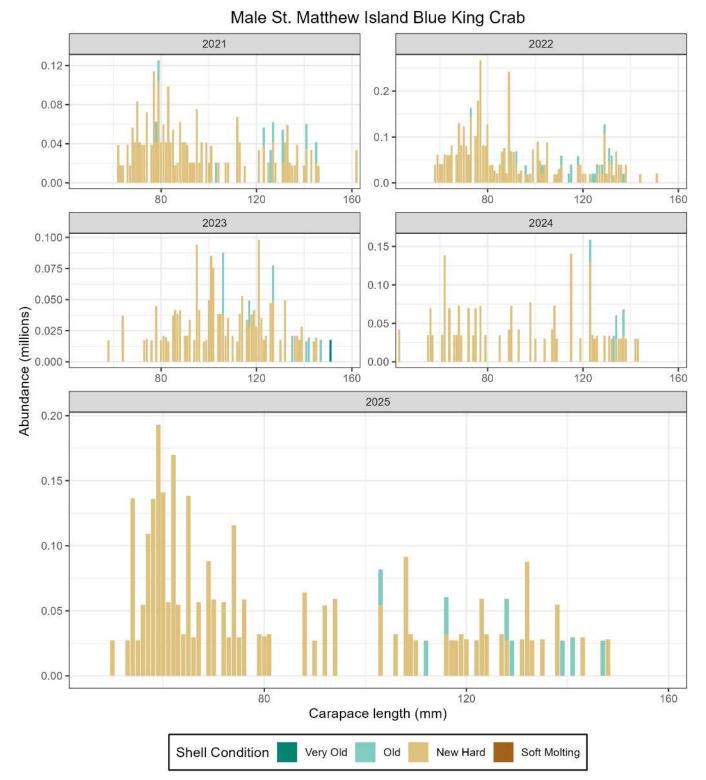


Figure 37. -- Abundance (millions) by size and shell condition of Saint Matthew Island Section male blue king crab (*Paralithodes platypus*) using 1 mm length classes. Sampling effort was reduced around islands beginning in 2024. **Note that Y-axis scale varies among years.** 

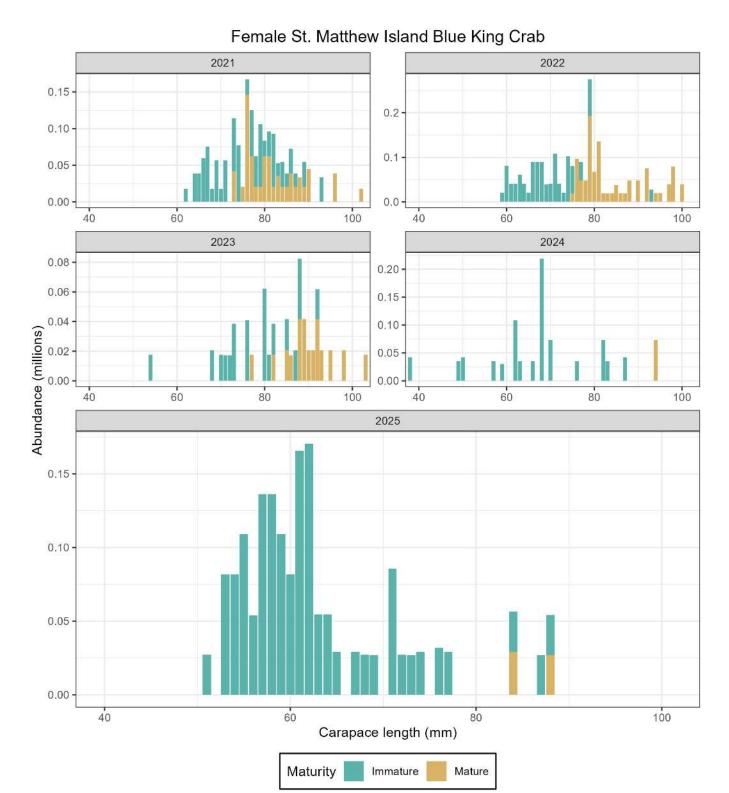


Figure 38. -- Abundance (millions) by size and maturity status of Saint Matthew Island Section female blue king crab (*Paralithodes platypus*) using 1 mm length classes. Sampling effort was reduced around islands beginning in 2024. **Note that Y-axis scale varies among years.** 

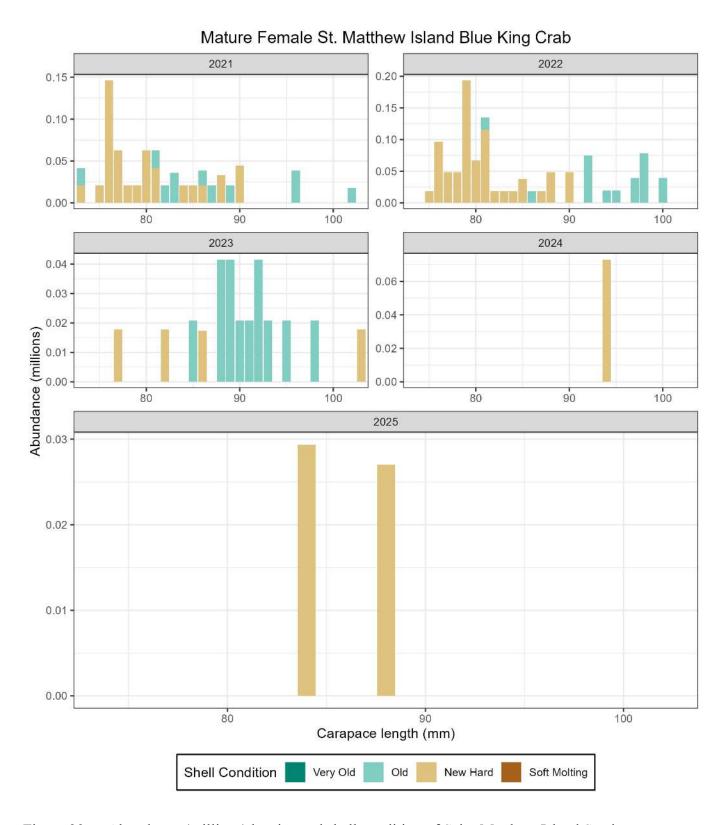


Figure 39. -- Abundance (millions) by size and shell condition of Saint Matthew Island Section mature female blue king crab (*Paralithodes platypus*) using 1 mm length classes. Sampling effort was reduced around islands beginning in 2024. **Note that Y-axis scale varies among years.** 

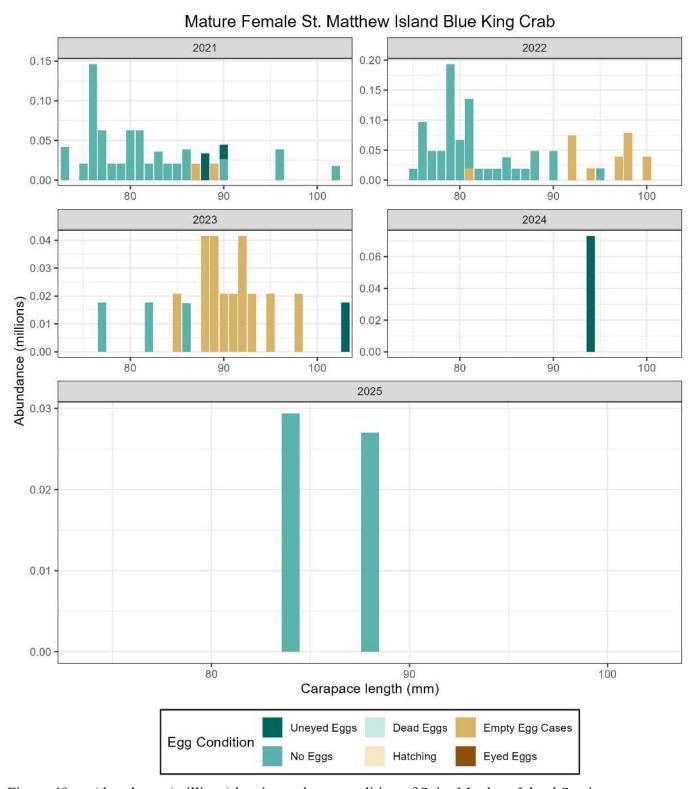


Figure 40. -- Abundance (millions) by size and egg condition of Saint Matthew Island Section mature female blue king crab (*Paralithodes platypus*) using 1 mm length classes. Sampling effort was reduced around islands beginning in 2024. **Note that Y-axis scale varies among years.** 

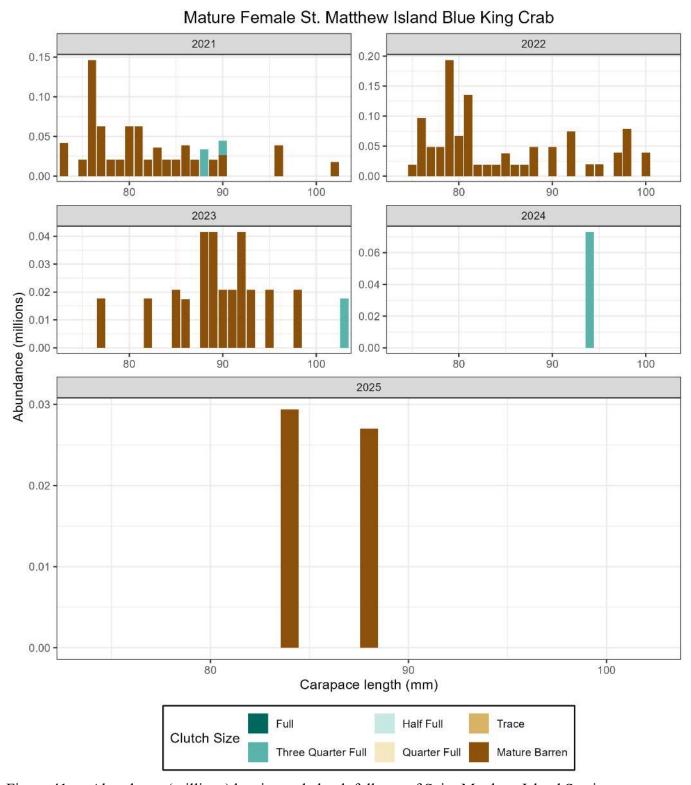


Figure 41. -- Abundance (millions) by size and clutch fullness of Saint Matthew Island Section mature female blue king crab (*Paralithodes platypus*) using 1 mm length classes. Sampling effort was reduced around islands beginning in 2024. **Note that Y-axis scale varies among years.** 

# **Blue King Crab Legal Male** 2022 2024 60°N 2025 58°N St. Matthew Island Section Pribilof District Num/nmi<sup>2</sup> 56°N No catch >0-32 >32-175 54°N >175-429

Figure 42. -- Estimated total density of legal-sized (carapace length ≥ 135 mm for Pribilof District; carapace length ≥ 120 mm for Saint Matthew Island Section; carapace length ≥ 104 mm for NBS) male blue king crab (*Paralithodes platypus*) for the past five survey years. Outlined areas depict management districts. Note that the NBS was not surveyed in 2024; NBS data for 2025 will be provided in the final version of this report.

165°W

170°W

>429-1,212 >1,212-1,698

# **Blue King Crab Mature Male** 2023 2024 60°N 2025 58°N St. Matthew Island Section Pribilof District Num/nmi<sup>2</sup> 56°N No catch >0-32 >32-181 54°N ->181-545 >545-1,770

Figure 43. -- Estimated total density of mature-sized (carapace length ≥ 120 mm for Pribilof District; carapace length ≥ 105 mm for Saint Matthew Island Section; carapace length ≥ 94 for NBS) male blue king crab (*Paralithodes platypus*) for the past five survey years. Outlined areas depict management districts. Note that the NBS was not surveyed in 2024; NBS data for 2025 will be provided in the final version of this report.

165°W

170°W

>1,770-2,152

## **Blue King Crab Immature Male** 2023 2024 62°N 60°N 2025 58°N St. Matthew Island Section Pribilof District Num/nmi<sup>2</sup> 56°N No catch >0-104 >104-377 54°N->377-888 >888-2,208

Figure 44. -- Estimated total density of immature-sized (carapace length <120 mm for Pribilof District; carapace length <105 mm for Saint Matthew Island Section; carapace length < 94 mm for NBS) male blue king crab (*Paralithodes platypus*) for the past five survey years. Outlined areas depict management districts. Note that the NBS was not surveyed in 2024; NBS data for 2025 will be provided in the final version of this report.

165°W

170°W

>2,208-6,455

## **Blue King Crab Mature Female** 2021 2022 2023 2024 62°N 60°N · 2025 58°N St. Matthew Island Section Pribilof District Num/nmi<sup>2</sup> 56°N No catch >0-32 >32-210 54°N ->210-517 >517-1,481 >1,481-2,663

Figure 45. -- Estimated total density of mature female blue king crab (*Paralithodes platypus*) for the past five survey years. Outlined areas depict management districts. Note that the NBS was not surveyed in 2024; NBS data for 2025 will be provided in the final version of this report.

170°W

175°W

## **Blue King Crab Immature Female** 2021 2022 2023 2024 62°N 60°N 2025 58°N St. Matthew Island Section Pribilof District Num/nmi<sup>2</sup> 56°N No catch >0-98 >98-384 54°N >384-841 >841-1,916 >1,916-3,074

Figure 46. -- Estimated total density of immature female blue king crab (*Paralithodes platypus*) for the past five survey years. Outlined areas depict management districts. Note that the NBS was not surveyed in 2024; NBS data for 2025 will be provided in the final version of this report.

165°W

170°W

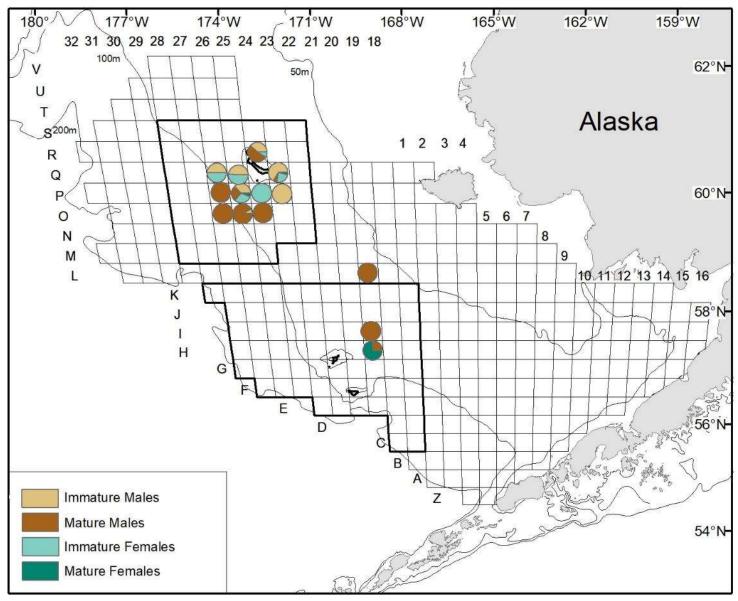


Figure 47. -- Proportion of male and female blue king crab (*Paralithodes platypus*) maturity classes caught at each station sampled in 2025. Males are categorized as mature at carapace lengths ≥ 120 mm for the Pribilof District and ≥ 105 mm for the Saint Matthew Island Section. Outlined areas depict management district.

## Tanner crab figures

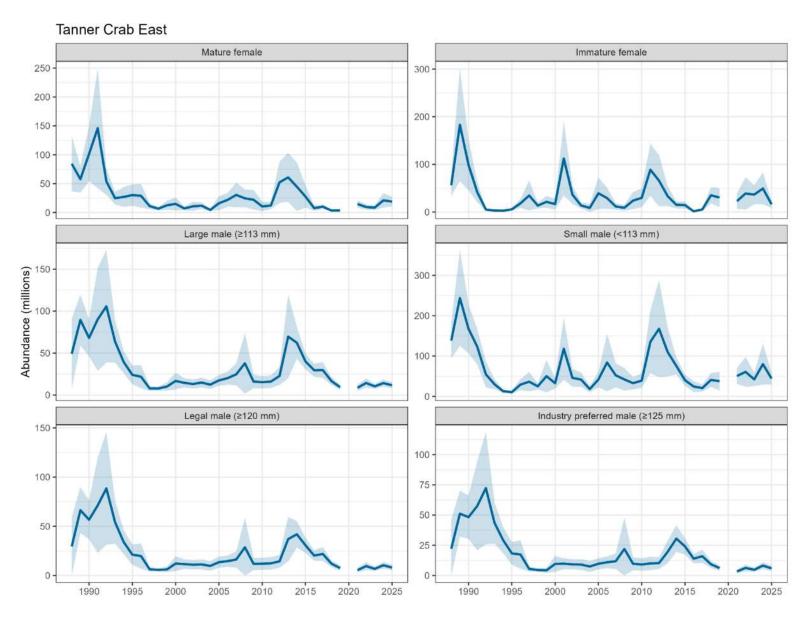


Figure 48. -- Historical abundance of Tanner crab (*Chionoecetes bairdi*) <u>east</u> of 166°W in the eastern Bering Sea. Light blue area indicates 95% CI.

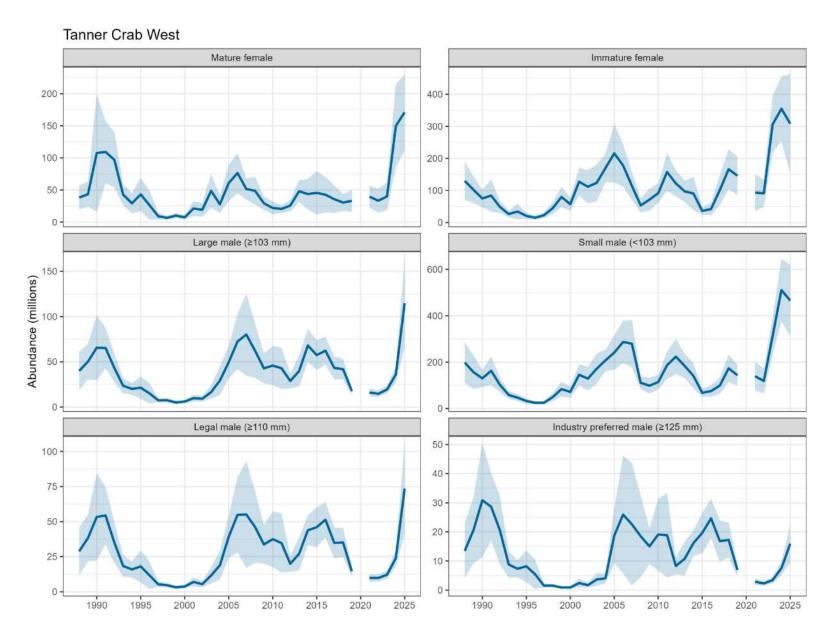
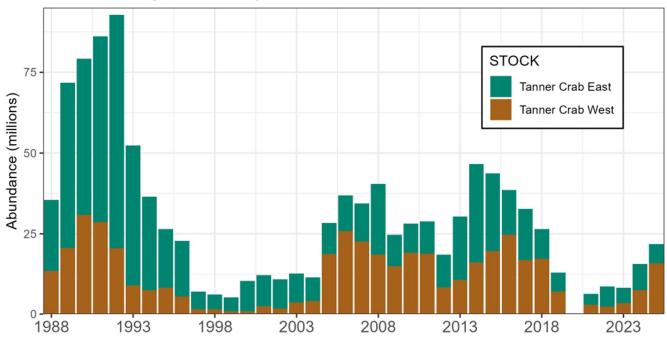
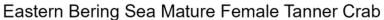


Figure 49. -- Historical abundance of Tanner crab (*Chionoecetes bairdi*) west of 166°W in the eastern Bering Sea. Light blue area indicates 95% CI.







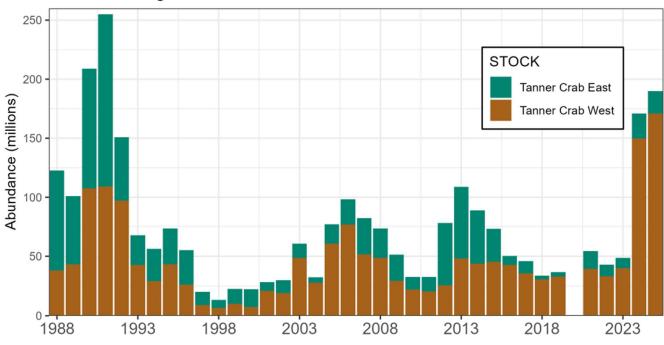


Figure 50. -- Combined historical abundance of mature female and industry preferred size male (carapace width ≥ 125 mm) Tanner crab (*Chionoecetes bairdi*) in the eastern Bering Sea.

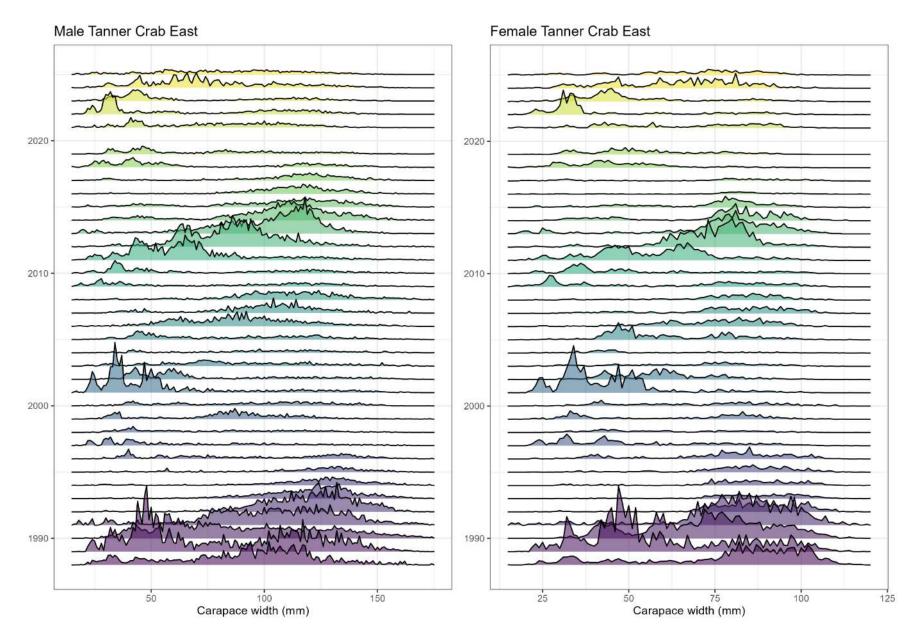


Figure 51. -- Historical size frequency for Tanner crab (Chionoecetes bairdi) east of 166°W in the eastern Bering Sea.

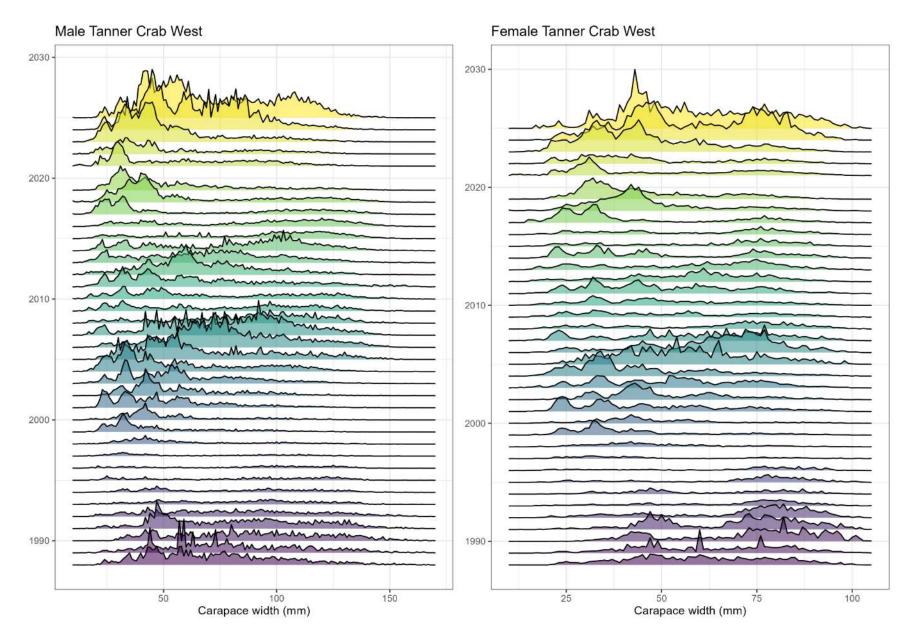


Figure 52. -- Historical size frequency for Tanner crab (*Chionoecetes bairdi*) west of 166°W in the eastern Bering Sea.

### Male Tanner Crab East 2021 2022 4 1.5 3 1.0 2 0.5 120 160 **4**0 40 120 160 80 2023 2024 2.0 -2 . 1.5 -1.0 Abundance (millions) 1 . 0.5 40 80 120 40 80 120 160 160 2025 0.75 0.50 0.25 0.00 40 80 120 160 Carapace width (mm) Shell Condition Very Old Old New Hard Soft Molting

Figure 53. -- Abundance (millions) by size and shell condition of male Tanner crab (*Chionoecetes bairdi*) east of 166°W in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies among years.** 

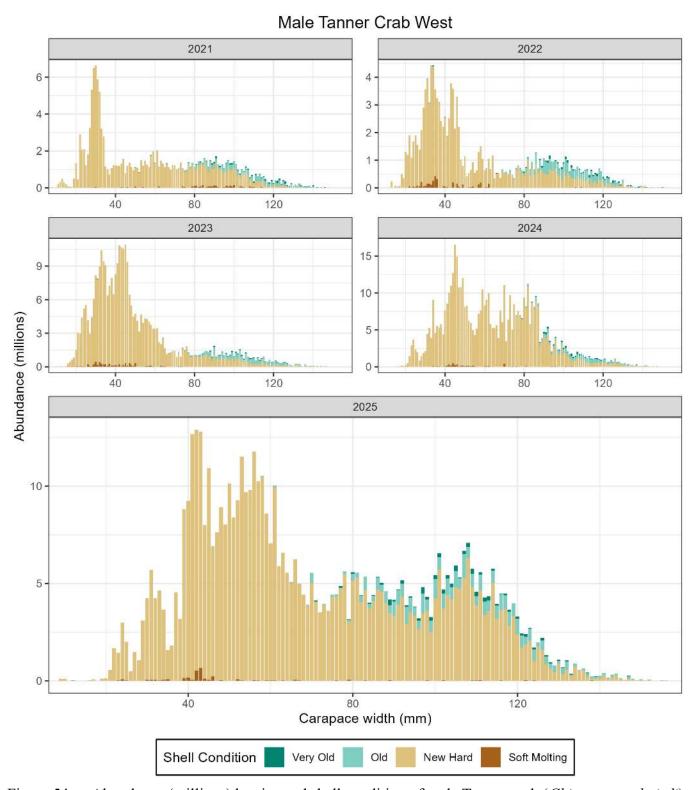


Figure 54. -- Abundance (millions) by size and shell condition of male Tanner crab (*Chionoecetes bairdi*) west of 166°W in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies among years.** 

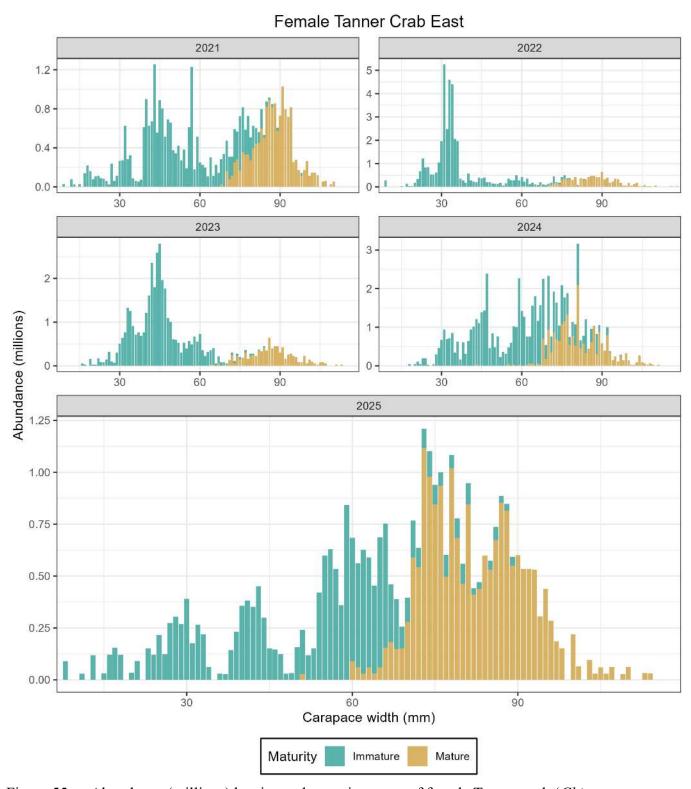


Figure 55. -- Abundance (millions) by size and maturity status of female Tanner crab (*Chionoecetes bairdi*) east of 166°W in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies among years.** 

### Female Tanner Crab West 6-4 -2. 10-Abundance (millions) 20 -10. 5. Carapace width (mm) Maturity Immature Mature

Figure 56. -- Abundance (millions) by size and maturity status of female Tanner crab (*Chionoecetes bairdi*) west of 166°W in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies among years.** 

### Mature Female Tanner Crab East 2021 2022 1.00 -0.6 0.75 0.4 0.50 0.2 -0.25 0.00 -0.0 100 60 100 2023 2024 2.0 -0.6 -1.5 0.4 1.0 -Abundance (millions) 0.2 0.5 0.0 100 60 100 60 80 80 2025 0.9 0.6 0.3 0.0 60 80 100 Carapace width (mm) Shell Condition Very Old Old New Hard Soft Molting

Figure 57. -- Abundance (millions) by size and shell condition of mature female Tanner crab (*Chionoecetes bairdi*) east of 166°W in the eastern Bering Sea using 1 mm width classes.

Note that Y-axis scale varies among years.

#### Mature Female Tanner Crab West 2021 2022 2.0 1.5 1.5 1.0 1.0 0.5 0.5 0.0 70 50 110 50 70 2024 2023 10.0 2.0 -7.5 1.5 5.0 Abundance (millions) 2.5 -70 50 70 90 50 90 30 30 110 110 2025 7.5 5.0 2.5 0.0 70 50 30 90 110 Carapace width (mm) Shell Condition Very Old Old New Hard Soft Molting

Figure 58. -- Abundance (millions) by size and shell condition of mature female Tanner crab (*Chionoecetes bairdi*) west of 166°W in the eastern Bering Sea using 1 mm width classes.

Note that Y-axis scale varies among years.

#### Mature Female Tanner Crab East 2021 2022 1.00 -0.6 0.75 0.4 0.50 -0.2 0.25 -0.00 -0.0 100 60 60 100 80 80 2024 2023 2.0 0.6 -1.5 0.4 1.0 Abundance (millions) 0.2 0.5 100 60 100 80 60 80 2025 0.9 0.6 0.3 0.0 60 100 80 Carapace width (mm) Uneyed Eggs Dead Eggs **Empty Egg Cases Egg Condition** Eyed Eggs No Eggs Hatching

Figure 59. -- Abundance (millions) by size and egg condition of mature female Tanner crab (*Chionoecetes bairdi*) east of 166°W in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies among years.** 

#### Mature Female Tanner Crab West 2021 2022 2.0 1.5 1.5 1.0 1.0 0.5 0.5 0.0 0.0 30 90 90 50 70 110 30 50 70 110 2023 2024 10.0 2.0 7.5 1.5 5.0 Abundance (millions) 2.5 -70 50 70 90 30 50 90 110 30 110 2025 7.5 5.0 2.5 0.0 30 50 70 90 110 Carapace width (mm) Uneyed Eggs Dead Eggs Empty Egg Cases **Egg Condition** Eyed Eggs No Eggs Hatching

Figure 60. -- Abundance (millions) by size and egg condition of mature female Tanner crab (*Chionoecetes bairdi*) west of 166°W in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies among years.** 

#### Mature Female Tanner Crab East 2021 2022 1.00 -0.6 0.75 0.4 0.50 -0.2 0.25 -0.00 -0.0 60 100 100 80 80 2023 2024 2.0 0.6 -1.5 0.4 1.0 Abundance (millions) 0.2 0.5 60 100 80 100 60 80 2025 0.9 0.6 0.3 0.0 60 100 80 Carapace width (mm) Full Half Full Trace Clutch Size Three Quarter Full Quarter Full Mature Barren

Figure 61. -- Abundance (millions) by size and clutch fullness of mature female Tanner crab (*Chionoecetes bairdi*) east of 166°W in the eastern Bering Sea using 1 mm width classes.

Note that Y-axis scale varies among years.

#### Mature Female Tanner Crab West 2021 2022 2.0 1.5 1.5 1.0 1.0 0.5 -0.5 0.0 0.0 30 50 70 110 50 70 90 30 110 2023 2024 10.0 2.0 7.5 1.5 5.0 Abundance (millions) 2.5 -50 70 70 30 50 90 110 30 90 110 2025 7.5 5.0 2.5 0.0 30 50 70 90 110 Carapace width (mm) Full Half Full Trace Clutch Size Three Quarter Full Quarter Full Mature Barren

Figure 62. -- Abundance (millions) by size and clutch fullness of mature female Tanner crab (*Chionoecetes bairdi*) west of 166°W in the eastern Bering Sea using 1 mm width classes.

Note that Y-axis scale varies among years.

#### Mature Female Tanner Crab East

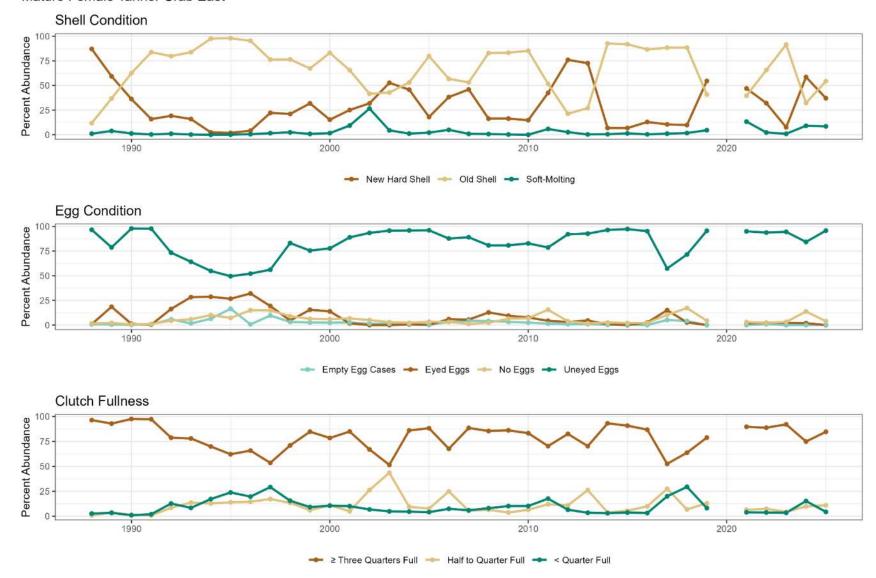


Figure 63. -- Time series of shell condition, egg condition, and clutch fullness for mature female Tanner crab (*Chionoecetes bairdi*) <u>east</u> of 166°W in the eastern Bering Sea.

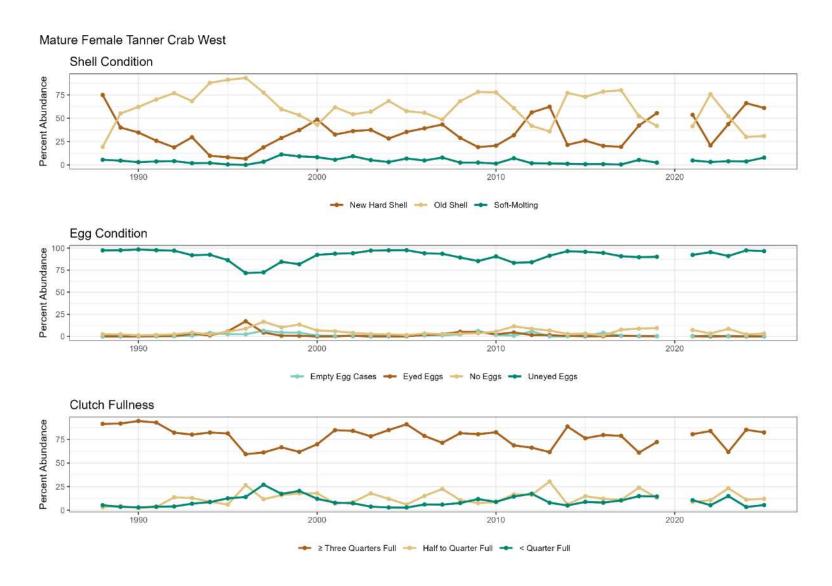


Figure 64. – Time series of shell condition, egg condition, and clutch fullness for mature female Tanner crab (*Chionoecetes bairdi*) west of 166°W in the eastern Bering Sea.

#### Male Tanner Crab East

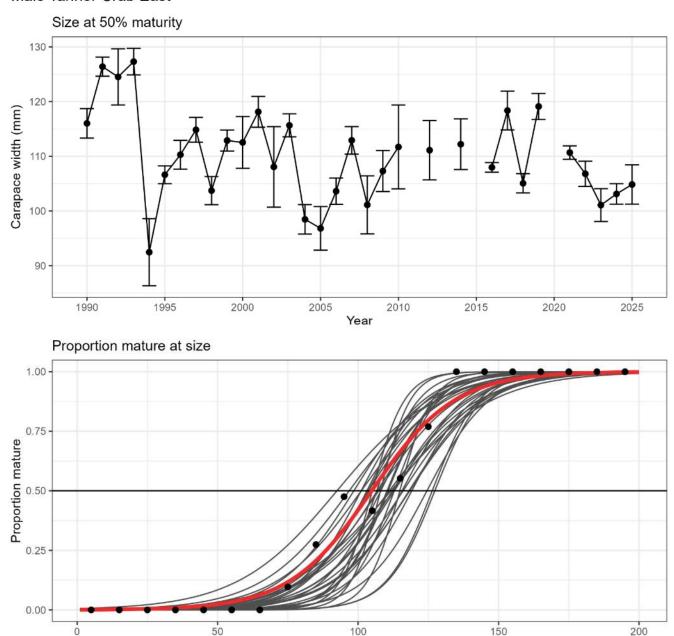
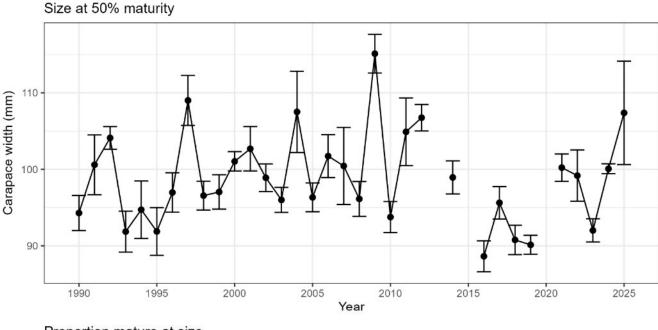


Figure 65. – Maturity estimates for new hardshell male Tanner crab (*Chionoecetes bairdi*) east of 166°W in the eastern Bering Sea. Upper panel: Estimated size at which 50% of males are mature using chela morphometrics (± 95% CI). Lower panel: Estimated proportion of the population that is mature by carapace width. Each fitted curve represents a year when chela measurements were taken (see upper panel), with 2025 shown in red. Black dots are raw data of proportion mature for 2025 within 10 mm size bins. The point at which the curve intersects the horizontal line is the estimated size at which 50% of the population has undergone terminal molt.

Carapace width (mm)

#### Male Tanner Crab West



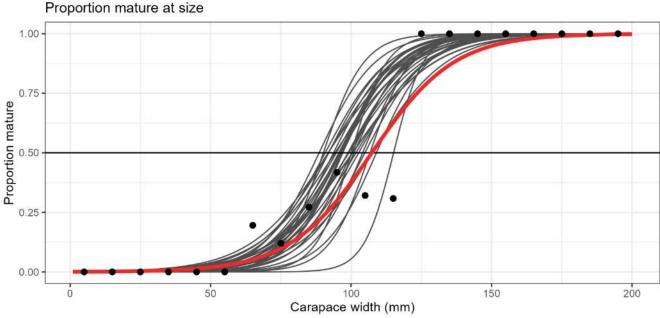


Figure 66. – Maturity estimates for new hardshell male Tanner crab (*Chionoecetes bairdi*) west of 166°W in the eastern Bering Sea. Upper panel: Estimated size at which 50% of males are mature using chela morphometrics (± 95% CI). Lower panel: Estimated proportion of the population that is mature by carapace width. Each fitted curve represents a year when chela measurements were taken (see upper panel), with 2025 shown in red. Black dots are raw data of proportion mature for 2025 within 10 mm size bins. The point at which the curve intersects the horizontal line is the estimated size at which 50% of the population has undergone terminal molt.

## Tanner Crab Industry Preferred Male

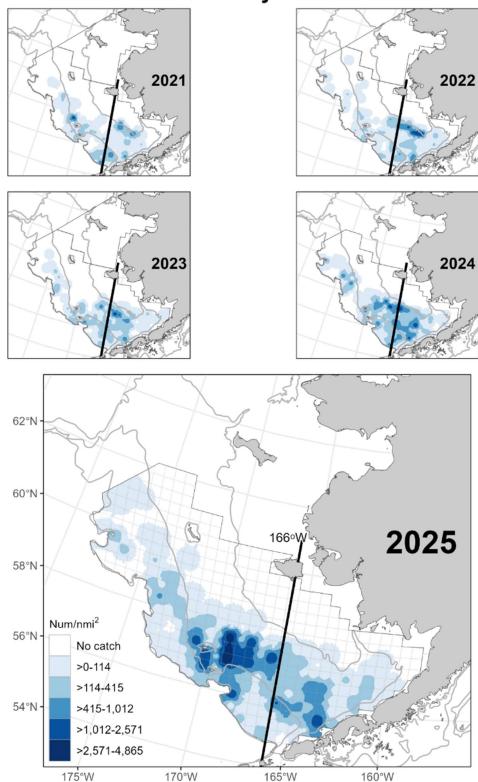


Figure 67. -- Estimated total density of industry preferred-sized (carapace width ≥ 125 mm) male Tanner crab (*Chionoecetes bairdi*) for the past five survey years. Note that the NBS was not surveyed in 2024; NBS data for 2025 will be provided in the final version of this report.

### **Tanner Crab Legal Male**

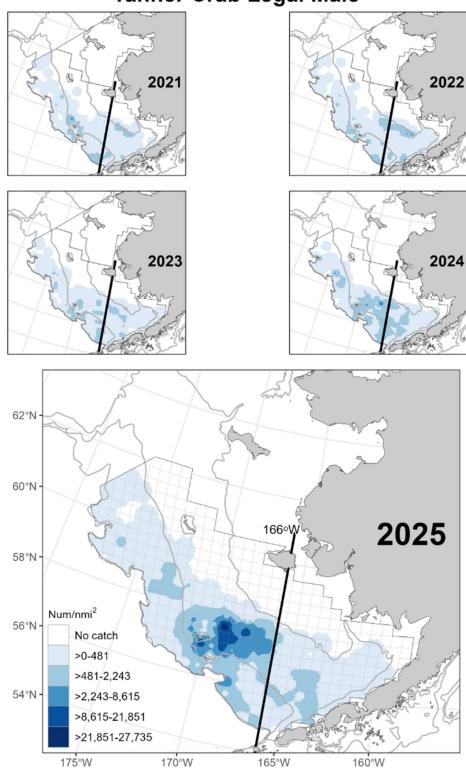


Figure 68. -- Estimated total density of legal-sized (carapace width ≥ 120 mm east of 166°W in EBS; carapace width ≥ 110 mm west of 166°W in EBS and in NBS) male Tanner crab (*Chionoecetes bairdi*) for the past five survey years. Note that the NBS was not surveyed in 2024; NBS data for 2025 will be provided in the final version of this report.

# Tanner Crab Large Male

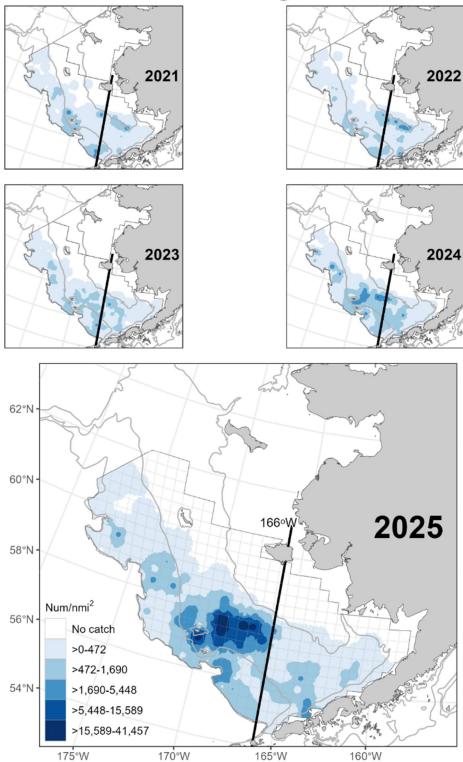


Figure 69. -- Estimated total density of large-sized (carapace width ≥ 113 mm east of 166°W in EBS; carapace width ≥ 103 mm west of 166°W in EBS and in NBS) male Tanner crab (*Chionoecetes bairdi*) for the past five survey years. Note that the NBS was not surveyed in 2024; NBS data for 2025 will be provided in the final version of this report.

### **Tanner Crab Small Male**

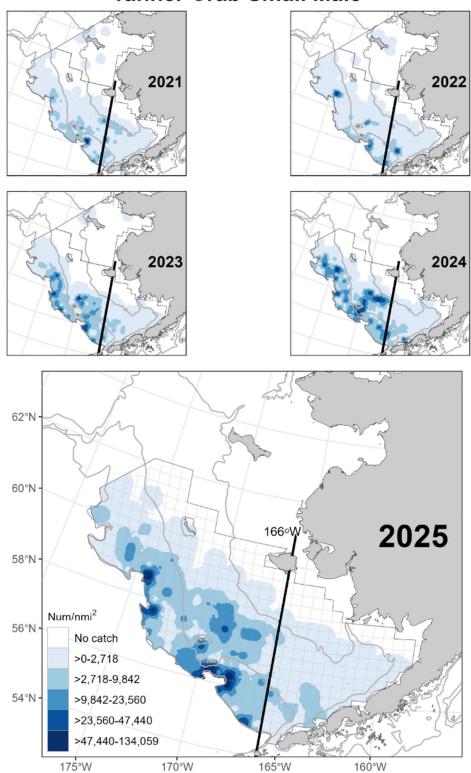


Figure 70. -- Estimated total density of small-sized (carapace width < 113 mm <u>east</u> of 166°W in EBS; carapace width < 103 mm <u>west</u> of 166°W in EBS and in NBS) male Tanner crab (*Chionoecetes bairdi*) for the past five survey years. Note that the NBS was not surveyed in 2024; NBS data for 2025 will be provided in the final version of this report.

### **Tanner Crab Mature Female**

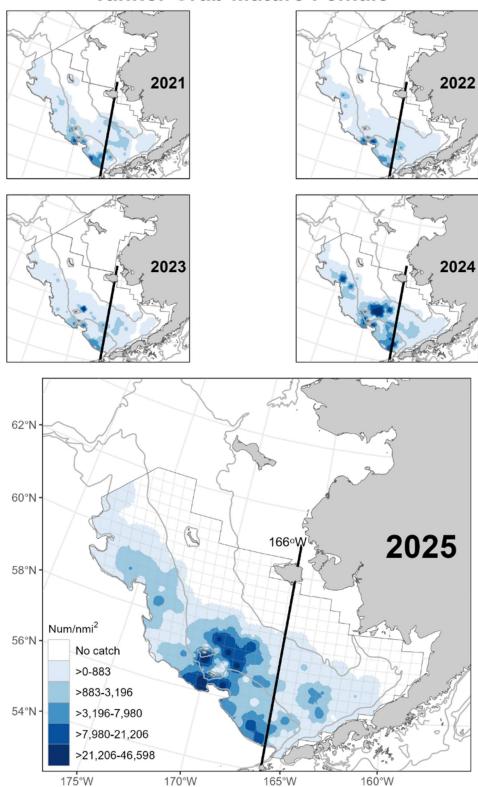


Figure 71. -- Estimated total density of mature female Tanner crab (*Chionoecetes bairdi*) for the past five survey years. Note that the NBS was not surveyed in 2024; NBS data for 2025 will be provided in the final version of this report.

### **Tanner Crab Immature Female**

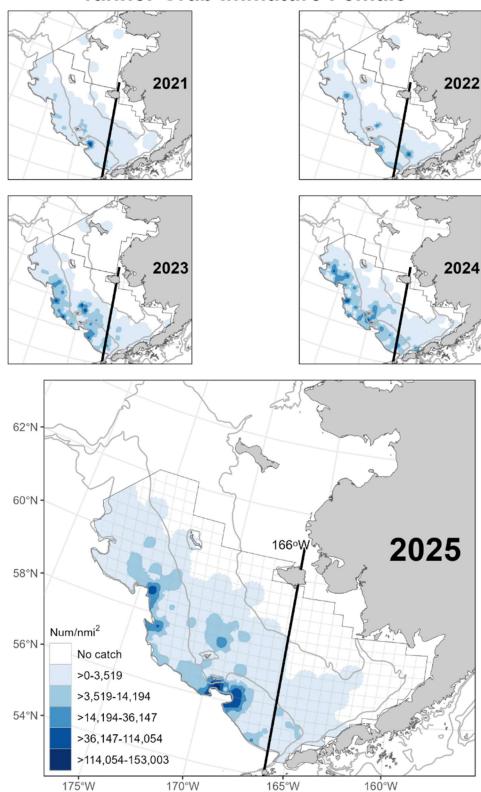


Figure 72. -- Estimated total density of immature female Tanner crab (*Chionoecetes bairdi*) for the past five survey years. Note that the NBS was not surveyed in 2024; NBS data for 2025 will be provided in the final version of this report.

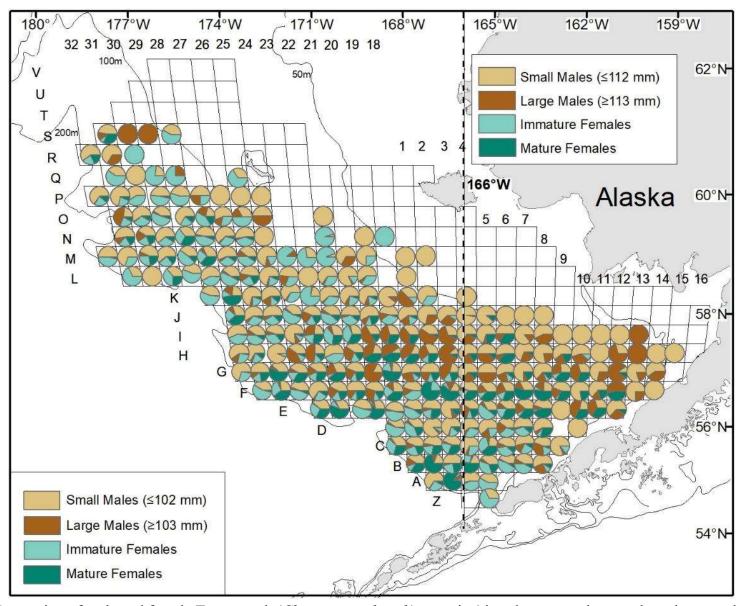


Figure 73. -- Proportion of male and female Tanner crab (*Chionoecetes bairdi*) maturity/size classes caught at each station sampled in 2025. Males are considered large with carapace widths ≥ 113 mm <u>east</u> of 166°W in the EBS and carapace widths ≥ 103 mm <u>west</u> of 166°W.

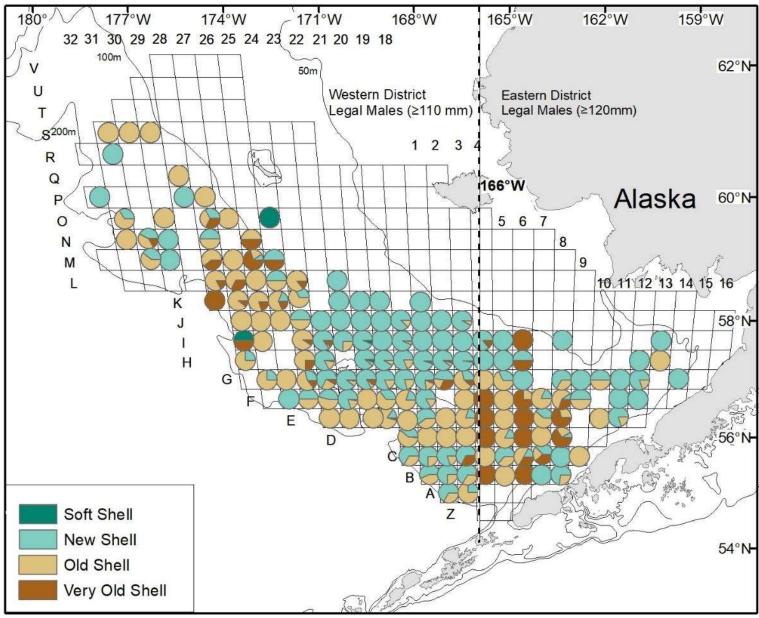


Figure 74. -- Proportion of legal-sized (carapace width ≥ 120 mm <u>east</u> of 166°W in EBS; carapace width ≥ 110 mm <u>west</u> of 166°W) male Tanner crab (*Chionoecetes bairdi*) shell condition classes caught at each station sampled in 2025.

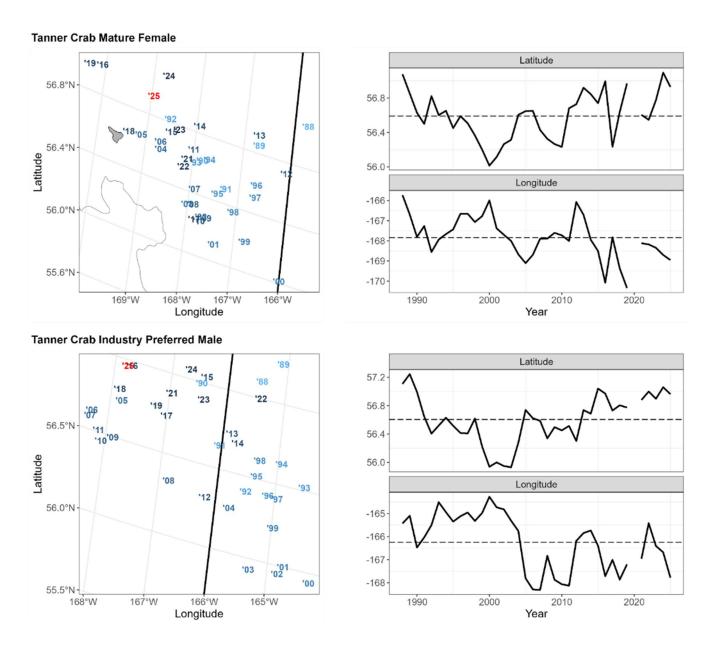


Figure 75. -- CPUE-weighted centers of stock abundance of mature female and industry preferred size male Tanner crab (*Chionoecetes bairdi*) from 1988 to 2025 in the eastern Bering Sea. Bold black line in left panels indicates 166°W. Years get darker blue with time in left panel maps, with the most recent year denoted in red.

Snow crab figures

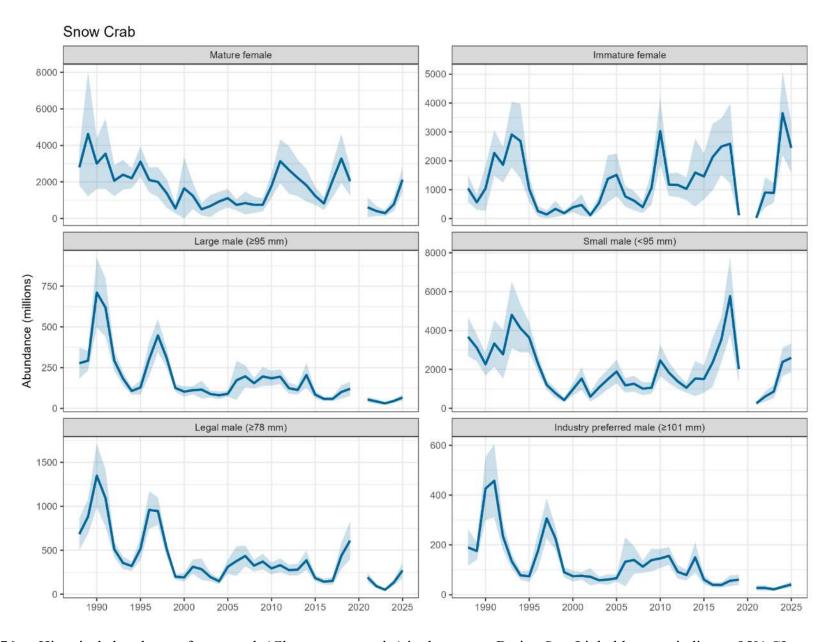


Figure 76. -- Historical abundance of snow crab (Chionoecetes opilio) in the eastern Bering Sea. Light blue area indicates 95% CI.

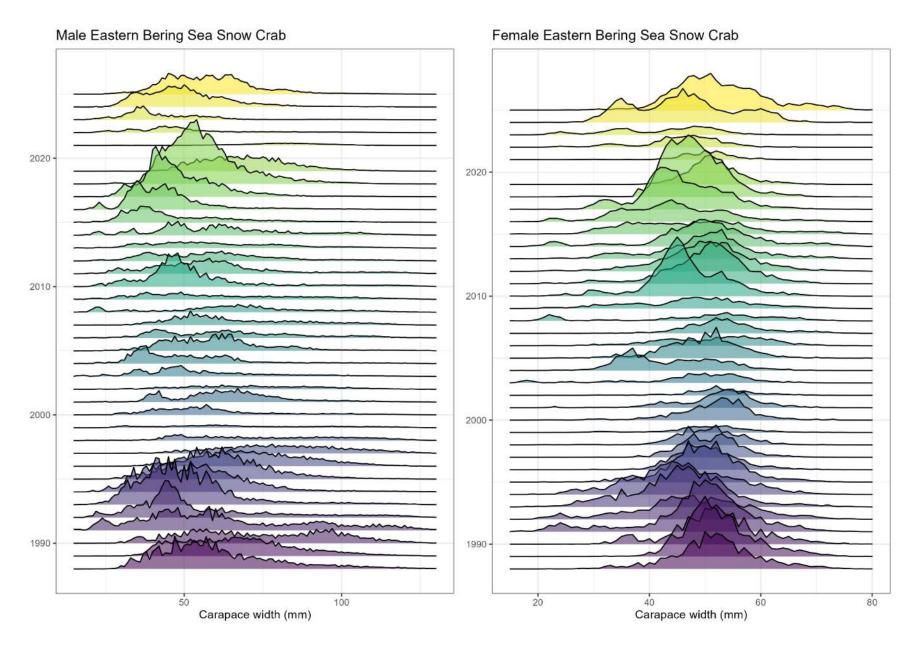


Figure 77. -- Historical size frequency for snow crab (Chionoecetes opilio) in the eastern Bering Sea.

#### Male Eastern Bering Sea Snow Crab 10.0 7.5 -5.0 -10 -2.5 0.0 75 -50 -Abundance (millions) 25 -Carapace width (mm) Shell Condition Very Old Old New Hard Soft Molting

Figure 78. -- Abundance (millions) by size and shell condition of male snow crab (*Chionoecetes opilio*) in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies among years.** 

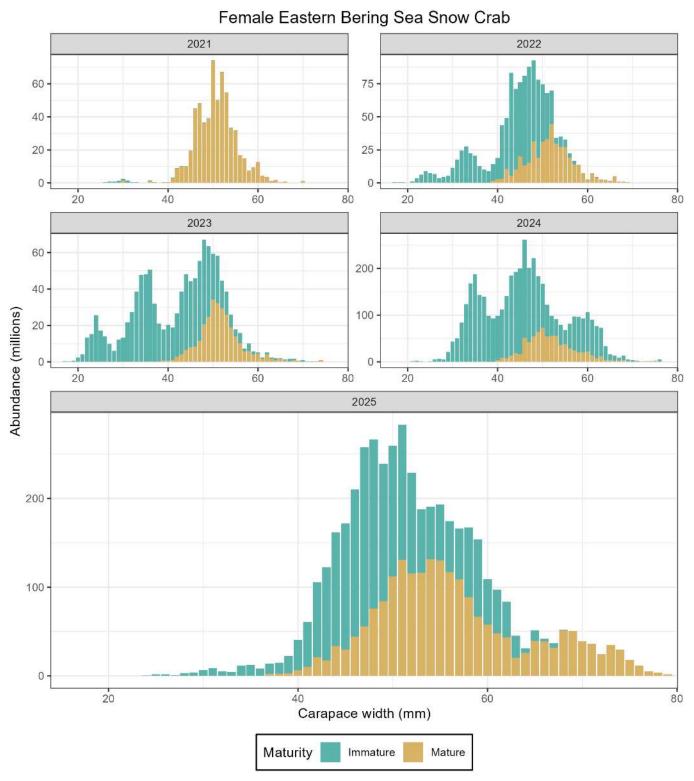


Figure 79. -- Abundance (millions) by size and maturity status of female snow crab (*Chionoecetes opilio*) in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies among years.** 

#### Mature Female Eastern Bering Sea Snow Crab 40 -20 -10 -Abundance (millions) 20 -Carapace width (mm) Shell Condition Very Old Old New Hard Soft Molting

Figure 80. -- Abundance (millions) by size and shell condition of mature female snow crab (*Chionoecetes opilio*) in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies among years.** 

#### Mature Female Eastern Bering Sea Snow Crab 40 -Abundance (millions) 20 -Carapace width (mm) Uneyed Eggs Dead Eggs Empty Egg Cases **Egg Condition** Eyed Eggs No Eggs Hatching

Figure 81. -- Abundance (millions) by size and egg condition of mature female snow crab (*Chionoecetes opilio*) in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies among years.** 

#### Mature Female Eastern Bering Sea Snow Crab 10 -0. 40 -Abundance (millions) 20 -Carapace width (mm) Full Half Full Trace Clutch Size Three Quarter Full Quarter Full Mature Barren

Figure 82. -- Abundance (millions) by size and clutch fullness of mature female snow crab (*Chionoecetes opilio*) in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies among years.** 

## Mature Female Eastern Bering Sea Snow Crab **Shell Condition** Percent Abundance 2000 1990 2010 2020 - New Hard Shell - Old Shell - Soft-Molting **Egg Condition** Percent Abundance 2020 -- Empty Egg Cases -- Eyed Eggs -- No Eggs -- Uneyed Eggs Clutch Fullness Percent Abundance 2000 - ≥ Three Quarters Full - Half to Quarter Full - < Quarter Full

Figure 83. -- Time series of shell condition, egg condition, and clutch fullness for mature female snow crab (*Chionoecetes opilio*) in the eastern Bering Sea.

#### Male Eastern Bering Sea Snow Crab

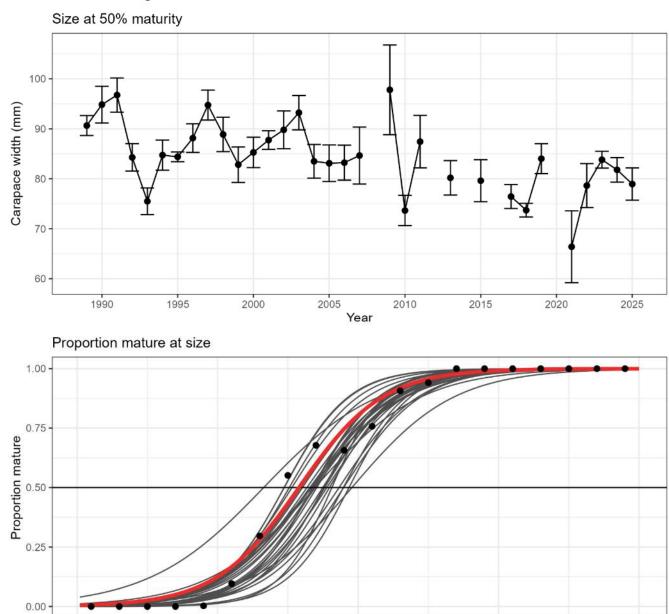


Figure 84. -- Maturity estimates for new hardshell male snow crab (*Chionoecetes opilio*) in the eastern Bering Sea. Upper panel: Estimated size at which 50% of males are mature using chela morphometrics (± 95% CI). Lower panel: Estimated proportion of the population that is mature by carapace width. Each fitted curve represents a year when chela measurements were taken (see upper panel), with 2025 shown in red. Black dots are raw data of proportion mature for 2025 within 10 mm size bins. The point at which the curve intersects the horizontal line is the estimated size at which 50% of the population has undergone terminal molt.

Carapace width (mm)

# **Snow Crab Industry Preferred Male** 2022 2021 2023 2024 62°N 60°N 2025 58°N Num/nmi<sup>2</sup> 56°N No catch >0-310 >310-1,158 54°N

Figure 85. -- Estimated total density of industry preferred-sized (carapace width ≥ 101 mm) snow crab (*Chionoecetes opilio*) for the past five survey years. Note that the NBS was not surveyed in 2024; NBS data for 2025 will be provided in the final version of this report.

165°W

170°W

>1,158-2,995 >2,995-7,978 >7,978-12,006

175°W

## **Snow Crab Legal Male** 2021 2022 2023 2024 62°N 60°N 2025 58°N Num/nmi<sup>2</sup> 56°N No catch >0-1,496 >1,496-5,473 54°N · >5,473-12,950 >12,950-28,158 >28,158-72,224 175°W 170°W 165°W

Figure 86. -- Estimated total density of legal-sized (carapace width ≥ 78 mm) snow crab (*Chionoecetes opilio*) for the past five survey years. Note that the NBS was not surveyed in 2024; NBS data for 2025 will be provided in the final version of this report.

# **Snow Crab Large Male** 2022 2023 2024 62°N 60°N 2025 58°N Num/nmi<sup>2</sup> 56°N No catch >0-501 >501-1,845 54°N ->1,845-4,405

Figure 87. -- Estimated total density of large-sized (carapace width ≥ 95 mm in EBS; carapace width ≥ 68 mm in NBS) male snow crab (*Chionoecetes opilio*) for the past five survey years. Note that the NBS was not surveyed in 2024; NBS data for 2025 will be provided in the final version of this report.

165°W

160°W

170°W

>4,405-10,356 >10,356-15,733

175°W

### **Snow Crab Small Male**

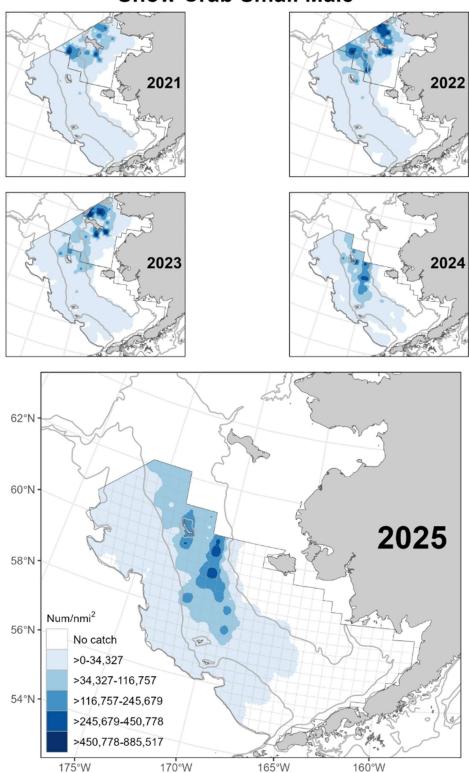


Figure 88. -- Estimated total density of small-sized (carapace width < 95 mm in EBS; carapace width < 68 mm in NBS) male snow crab (*Chionoecetes opilio*) for the past five survey years. Note that the NBS was not surveyed in 2024; NBS data for 2025 will be provided in the final version of this report.

# Snow Crab Mature Female

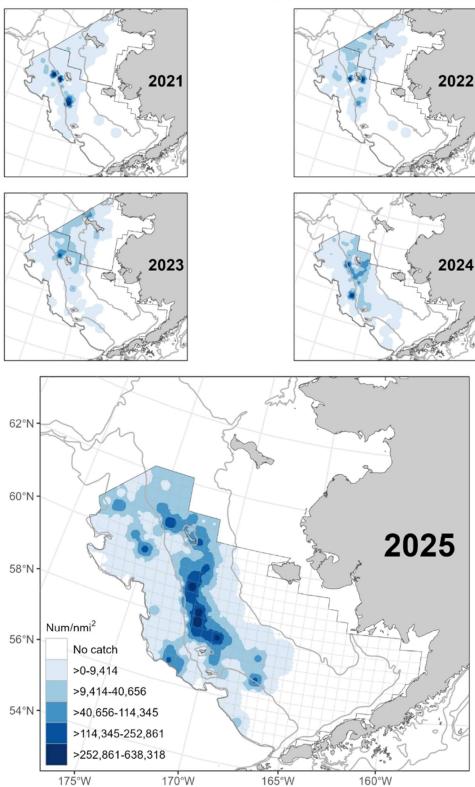


Figure 89. -- Estimated total density of mature female snow crab (*Chionoecetes opilio*) for the past five survey years. Note that the NBS was not surveyed in 2024; NBS data for 2025 will be provided in the final version of this report.

# **Snow Crab Immature Female** 2024 2023 62°N 60°N 2025 58°N Num/nmi<sup>2</sup> 56°N No catch >0-35,678 >35,678-122,909 54°N >122,909-272,421 >272,421-536,522

Figure 90. -- Estimated total density of immature female snow crab (*Chionoecetes opilio*) for the past five survey years. Note that the NBS was not surveyed in 2024; NBS data for 2025 will be provided in the final version of this report.

165°W

>536,522-990,162

170°W

175°W

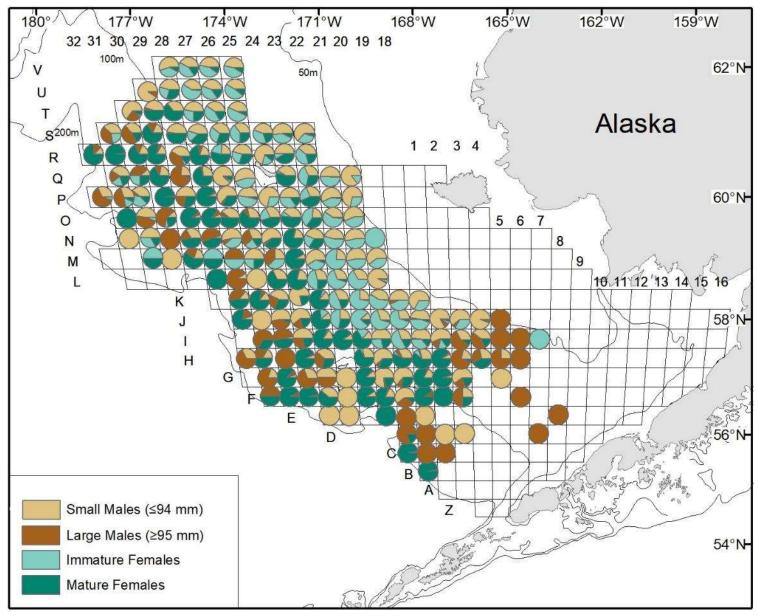


Figure 91. -- Proportion of male and female snow crab (*Chionoecetes opilio*) maturity/size classes caught at each station sampled in 2025. Males are considered large with carapace widths ≥ 95 mm.

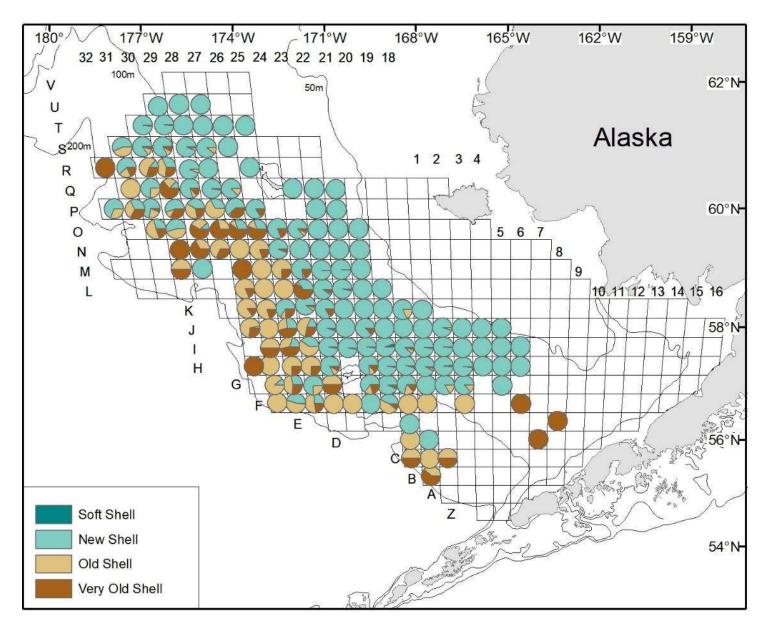


Figure 92. -- Proportion of legal-sized (carapace width ≥ 78) male snow crab (*Chionoecetes opilio*) shell condition classes caught at each station sampled in 2025.

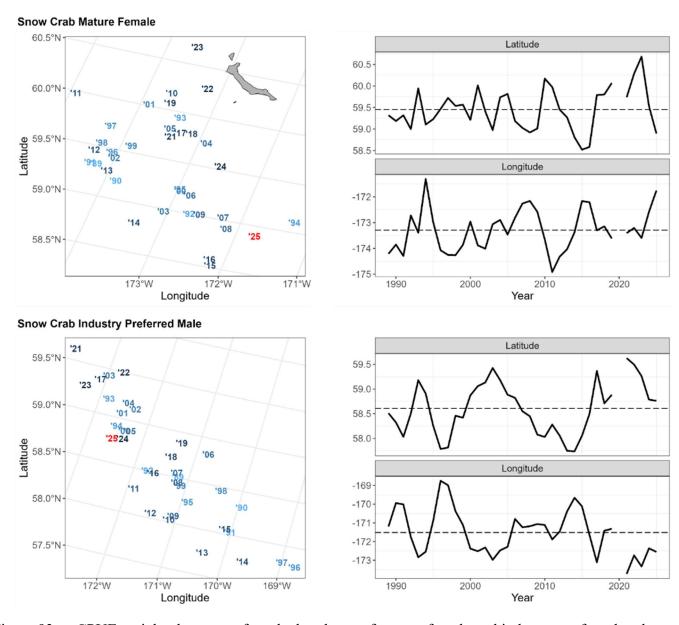


Figure 93. – CPUE-weighted centers of stock abundance of mature female and industry-preferred male snow crab (*Chionoecetes opilio*) from 1988 to 2025 in the eastern Bering Sea. Years get darker blue with time in left panel maps, with the most recent year denoted in red.

Hybrid *Chionoecetes* spp. figures

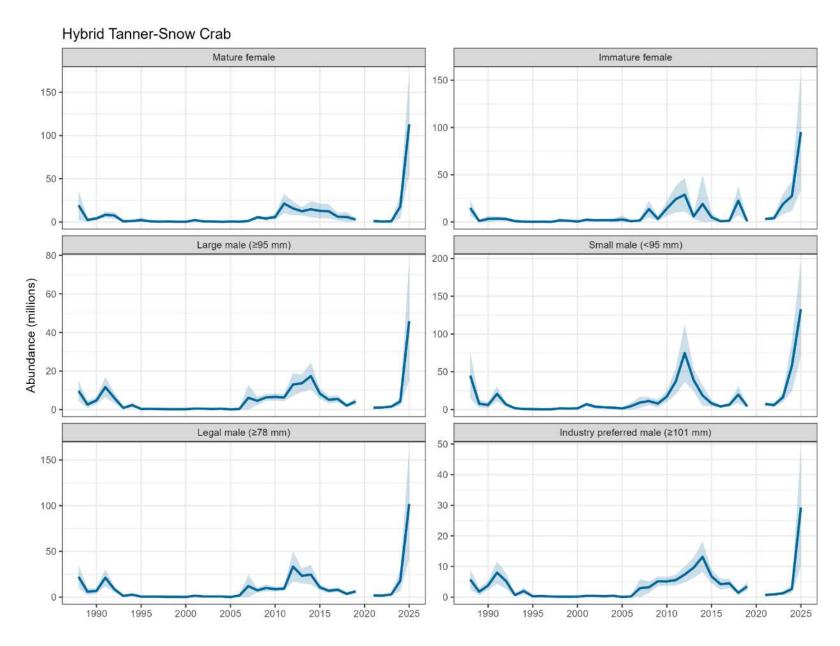


Figure 94. -- Historical abundance of hybrid Chionoecetes spp. in the eastern Bering Sea. Light blue area indicates 95% CI.

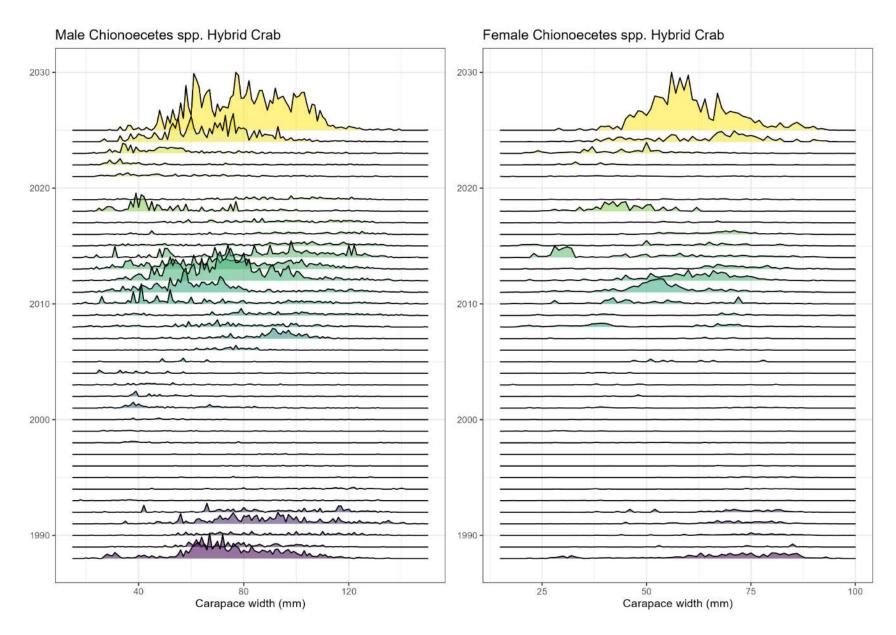


Figure 95. -- Historical size frequency for snow crab hybrid *Chionoecetes* spp. in the eastern Bering Sea.

## Tanner, Snow, and Hybrid Crabs

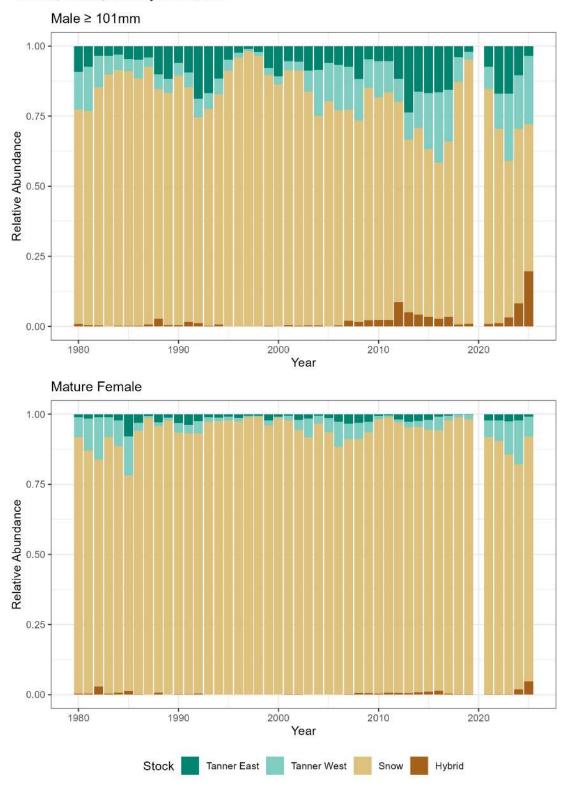


Figure 96. – Relative abundance of *Chionoecetes opilio* (snow crab), *Chionoecetes bairdi* (Tanner crab) and hybrids of the two species that are males ≥ 101 mm CW (industry preferred size for snow crab) and mature females in the eastern Bering Sea.

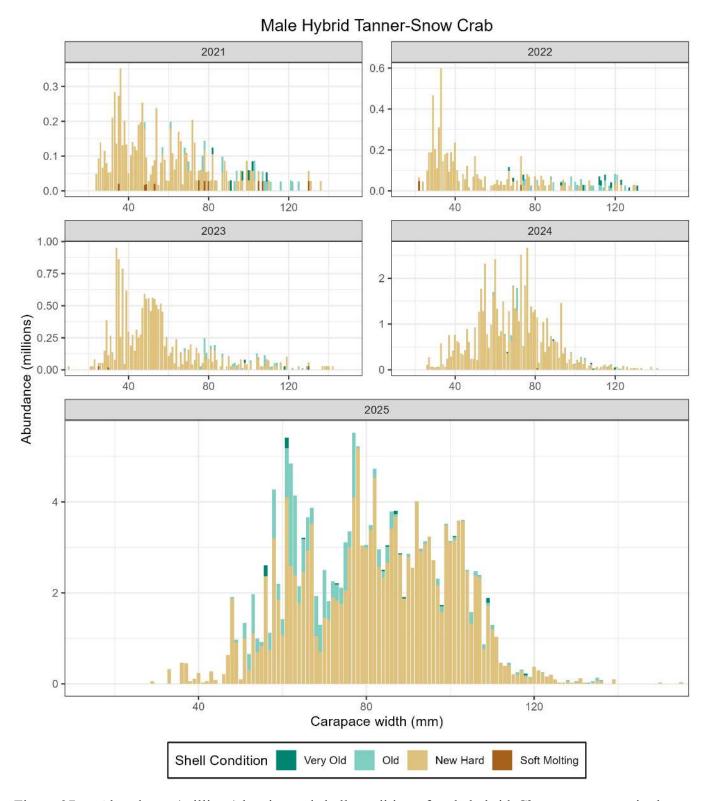


Figure 97. -- Abundance (millions) by size and shell condition of male hybrid *Chionoecetes* spp. in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies among years.** 

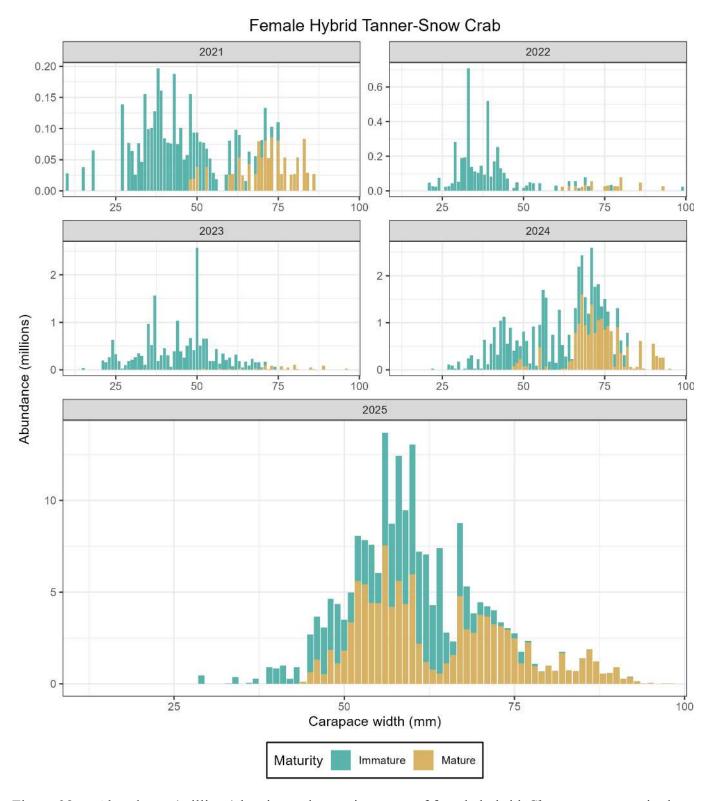


Figure 98. -- Abundance (millions) by size and maturity status of female hybrid *Chionoecetes* spp. in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies among years.** 

#### Mature Female Hybrid Tanner-Snow Crab 2021 2022 0.08 0.075 0.06 0.050 0.04 0.025 0.02 0.000 0.00 60 70 50 80 90 50 60 70 80 90 2023 2024 0.100 1.5 0.075 1.0 Abundance (millions) 0.5 50 60 70 80 90 70 80 90 50 60 2025 6 4 2 50 70 60 80 90 Carapace width (mm) Shell Condition Very Old Old New Hard Soft Molting

Figure 99. -- Abundance (millions) by size and shell condition of mature female hybrid *Chionoecetes* spp. in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies among years.** 

#### Mature Female Hybrid Tanner-Snow Crab 2021 2022 0.08 0.075 0.06 0.050 0.04 0.025 0.02 0.000 0.00 60 60 50 70 80 90 80 90 50 70 2023 2024 0.100 -1.5 0.075 1.0 Abundance (millions) 0.000 0.000 0.5 50 60 70 90 50 60 70 80 2025 6 4 2 50 80 60 90 Carapace width (mm) Uneyed Eggs Dead Eggs **Empty Egg Cases Egg Condition** No Eggs Eyed Eggs Hatching

Figure 100. -- Abundance (millions) by size and egg condition of mature female hybrid *Chionoecetes* spp. in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies among years.** 

#### Mature Female Hybrid Tanner-Snow Crab 2021 2022 0.08 0.075 0.06 0.050 0.04 0.025 0.02 0.000 0.00 60 60 50 70 80 90 70 80 50 90 2023 2024 0.100 -1.5 0.075 1.0 Abundance (millions) 0.000 0.000 0.5 50 60 70 80 90 50 60 70 80 90 2025 6 4 2 50 70 80 60 90 Carapace width (mm) Full Half Full Trace Clutch Size Three Quarter Full Quarter Full Mature Barren

Figure 101. -- Abundance (millions) by size and clutch fullness of mature female hybrid *Chionoecetes* spp. in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies** among years.

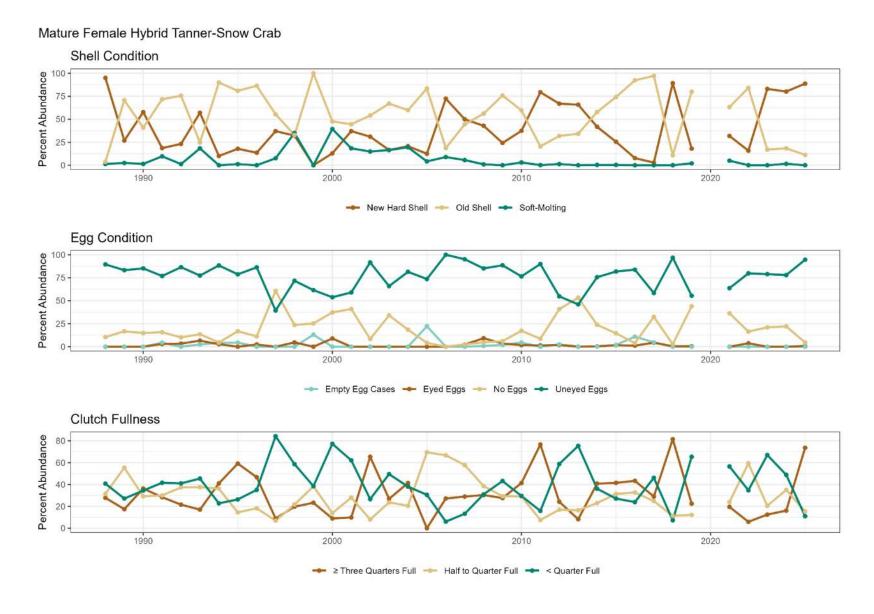


Figure 102. -- Time series of shell condition, egg condition, and clutch fullness for mature female hybrid *Chionoecetes* spp. in the eastern Bering Sea.

# Chionoecetes spp. Hybrid Legal Male 2022 2021 2023 2024 62°N 60°N 2025 58°N Num/nmi<sup>2</sup> 56°N No catch >0-1,483 >1,483-5,054 54°N >5,054-9,073 >9,073-21,573 >21,573-53,067 175°W 170°W 165°W

Figure 103. -- Estimated total density of legal-sized (≥ 78 mm carapace width) male hybrid *Chionoecetes* spp. for the past five survey years. Note that the NBS was not surveyed in 2024; NBS data for 2025 will be provided in the final version of this report.

# Chionoecetes spp. Hybrid Large Male

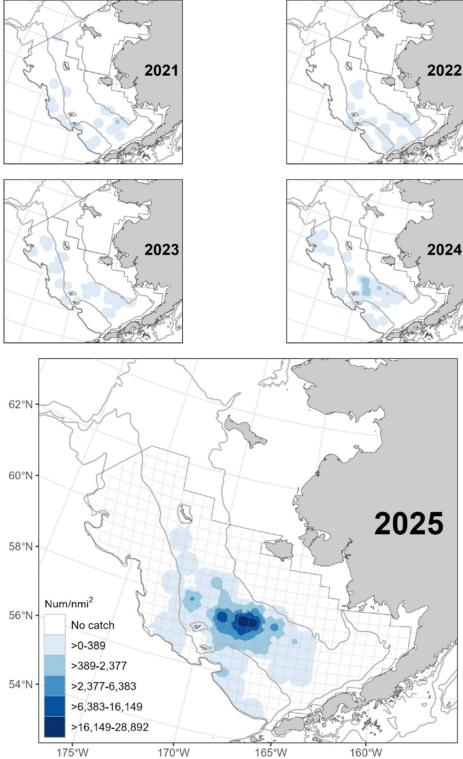


Figure 104. -- Estimated total density of large-sized (carapace width ≥ 95 mm in EBS; carapace width ≥ 68 mm in NBS) male hybrid *Chionoecetes* spp. for the past five survey years. Note that the NBS was not surveyed in 2024; NBS data for 2025 will be provided in the final version of this report.

## Chionoecetes spp. Hybrid Small Male

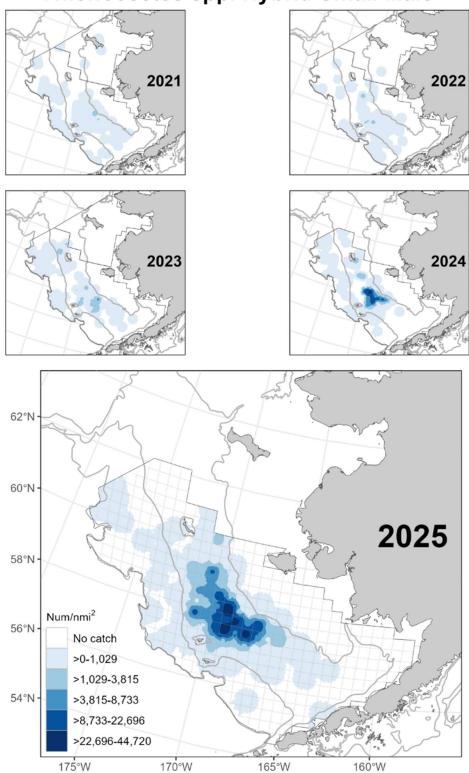


Figure 105. -- Estimated total density of small-sized (carapace width < 95 mm in EBS; carapace width < 68 mm in NBS) male hybrid *Chionoecetes* for the past five survey years. Note that the NBS was not surveyed in 2024; NBS data for 2025 will be provided in the final version of this report.

## Chionoecetes spp. Hybrid Mature Female 2021 2022 2023 2024 62°N 60°N 2025 58°N Num/nmi<sup>2</sup> 56°N No catch >0-1,526 >1,526-6,279 54°N ->6,279-13,819 >13,819-31,481 >31,481-45,739 175°W 170°W 165°W 160°W

Figure 106. -- Estimated total density of mature female hybrid *Chionoecetes* spp. for the past five survey years. Note that the NBS was not surveyed in 2024; NBS data for 2025 will be provided in the final version of this report.

# Chionoecetes spp. Hybrid Immature Female 2022 2021 2023 2024 62°N 60°N · 2025 58°N Num/nmi<sup>2</sup> 56°N No catch >0-973 >973-4,094 54°N · >4,094-10,417 >10,417-31,439 >31,439-55,683 175°W 170°W 165°W

Figure 107. -- Estimated total density of immature female hybrid *Chionoecetes* spp. for the past five survey years. Note that the NBS was not surveyed in 2024; NBS data for 2025 will be provided in the final version of this report.

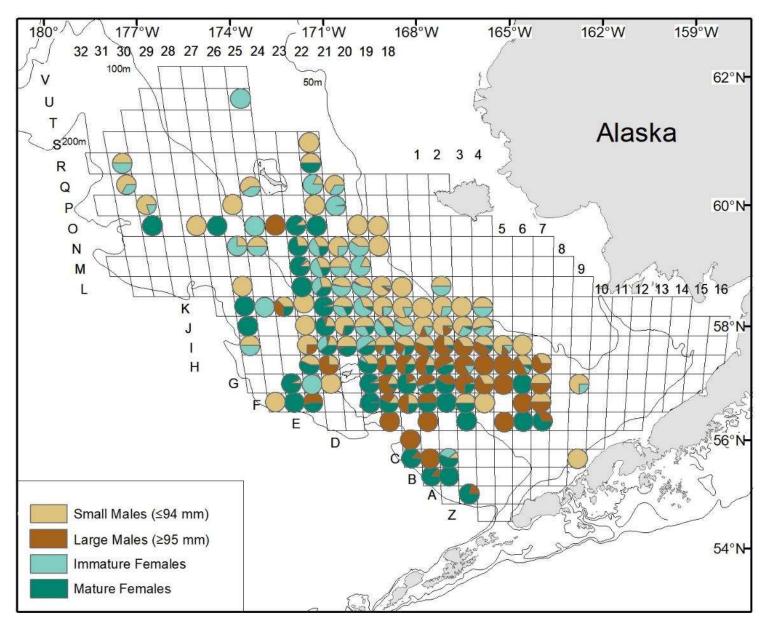


Figure 108. -- Proportion of male and female hybrid *Chionoecetes* spp. maturity/size classes caught at each station sampled in 2025. Males are considered large with carapace widths ≥ 95 mm.

## Hair crab figures

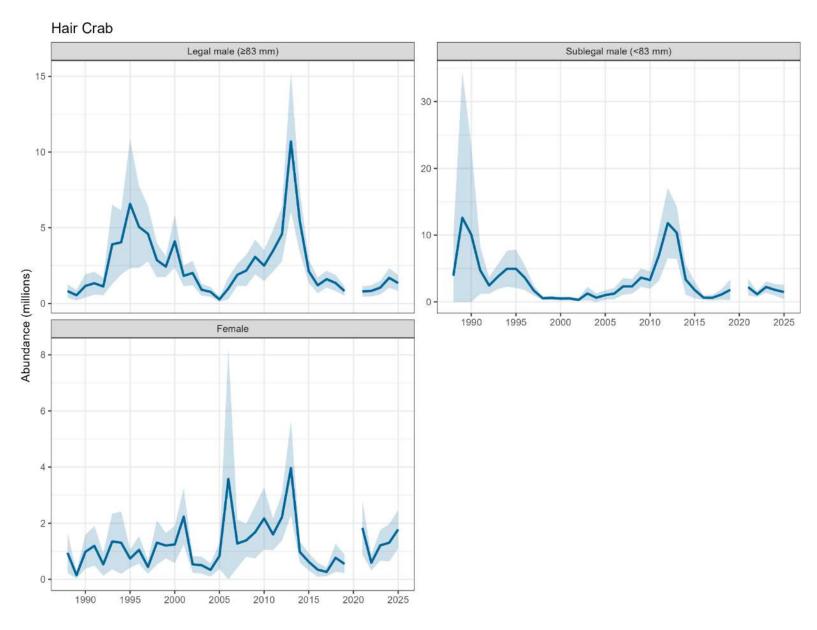


Figure 109. -- Historical abundance of hair crab (*Erimacrus isenbeckii*) in the eastern Bering Sea. Light blue area indicates 95% CI. 159

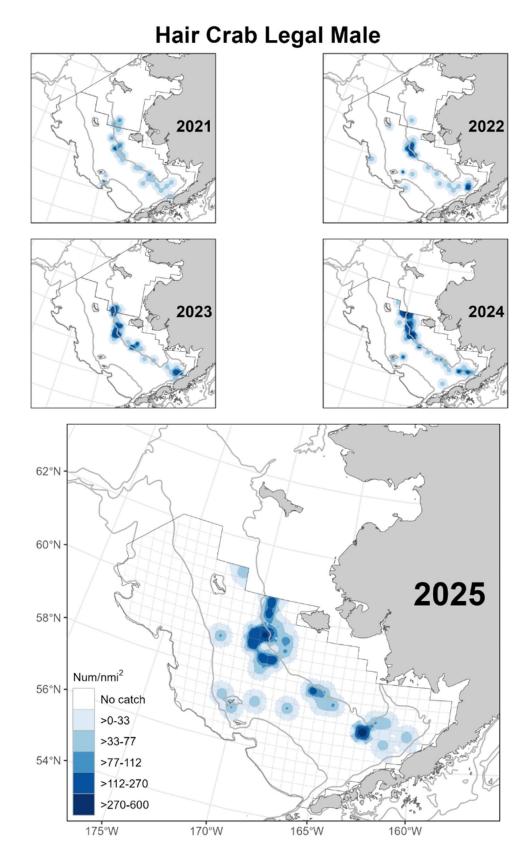


Figure 110. -- Estimated total density of legal-sized (≥ 83 mm carapace length) male hair crab (*Erimacrus isenbeckii*) for the past five survey years. Note that the NBS was not surveyed in 2024; NBS data for 2025 will be provided in the final version of this report.

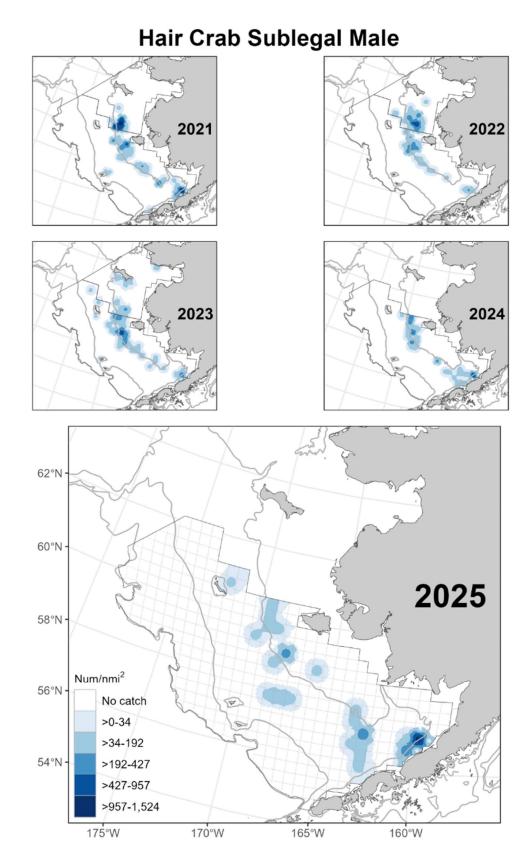


Figure 111. -- Estimated total density of sublegal-sized (< 83 mm carapace length) male hair crab (*Erimacrus isenbeckii*) for the past five survey years. Note that the NBS was not surveyed in 2024; NBS data for 2025 will be provided in the final version of this report.

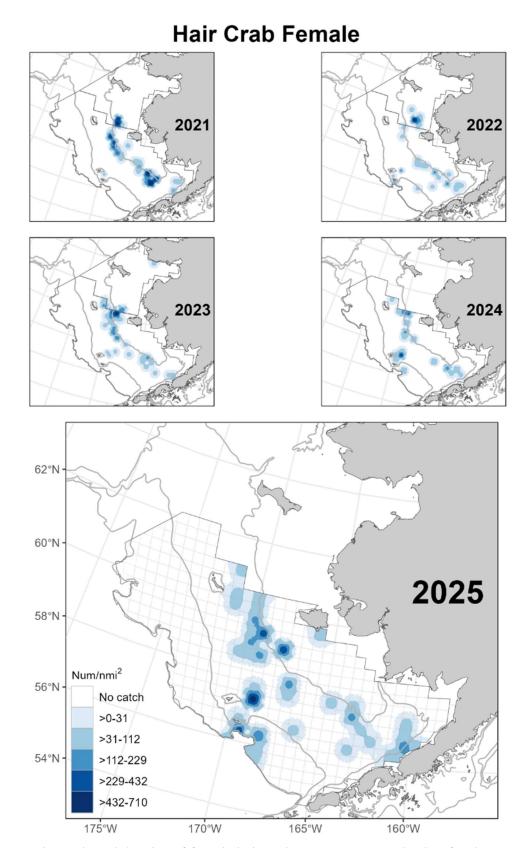


Figure 112. -- Estimated total density of female hair crab (*Erimacrus isenbeckii*) for the past five survey years. Note that the NBS was not surveyed in 2024; NBS data for 2025 will be provided in the final version of this report.

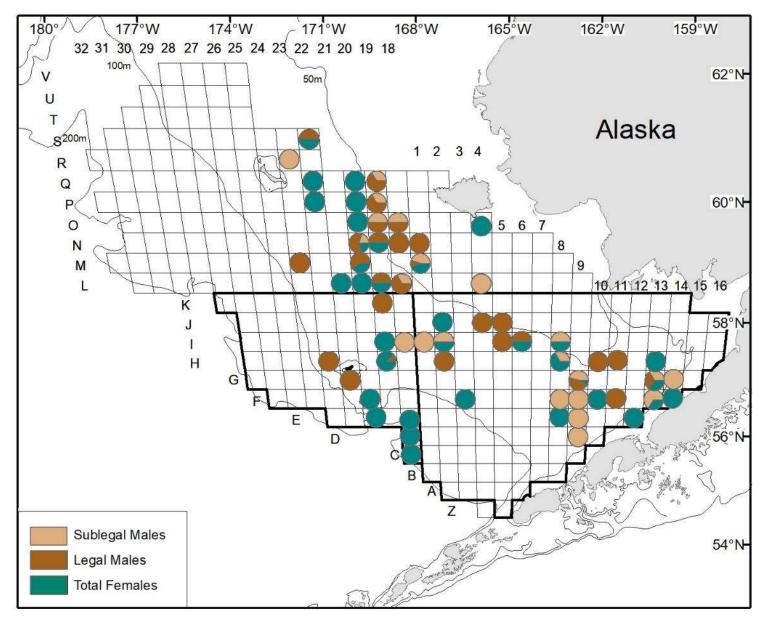


Figure 113. -- Proportion of male and female hair crab (Erimacrus isenbeckii) size/sex classes caught at each station sampled in 2025.



Table A.1: Number of stations surveyed in the eastern Bering Sea from 1975 - 2025.

	Nui	mber of Survey Sta	tions
Year	Entire Survey Grid	Survey Grid Excluding Corner Stations	Corner Stations
1975	136	136	0
1976	214	214	0
1977	155	155	0
1978	230	230	0
1979	307	302	5
1980	320	320	0
1981	305	291	14
1982	342	327	15
1983	353	327	26
1984	355	329	26
1985	353	327	26
1986	353	327	26
1987	355	331	24
1988	370	345	25
1989	373	347	26
1990	370	345	25
1991	371	345	26
1992	355	329	26
1993	374	349	25
1994	374	349	25
1995	375	349	26
1996	374	348	26
1997	375	349	26
1998	374	349	25
1999	372	346	26
2000	371	346	25
2001	374	348	26
2002	374	348	26
2003	375	349	26
2004	374	348	26
2005	372	346	26
2006	375	349	26
2007	375	349	26
2008	374	348	26
2009	375	349	26
2010	375	349	26
2010	375 375	349	26 26
2011	375 375	349	26 26
2012	375 375	349	26 26
		349 349	
2014	375 375		26 26
2015	375 275	349	26 26
2016	375 275	349	26 26
2017	375 375	349	26
2018 2019	375 375	349 349	26 26

Table A.1: Continued

	Number of Survey Stations										
Year	Entire Survey Grid	Survey Grid Excluding Corner Stations	Corner Stations								
2021	375	349	26								
2022	375	349	26								
2023	375	349	26								
2024	349	349	0								
2025	349	349	0								

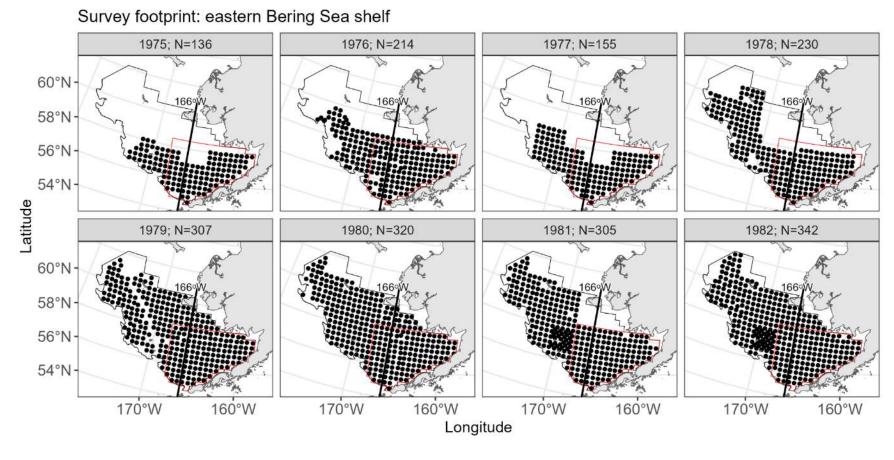


Figure A1: Eastern Bering Sea trawl survey stations sampled from 1975 – 2025. Black outline is the 1988 – present day survey footprint. Red outline encompasses the stations used for the Bristol Bay red king crab stock assessment.

### Survey footprint: eastern Bering Sea shelf 1983; N=353 1984; N=355 1985; N=353 1986; N=353 60°N-58°N-56°N-54°N-Latitude 1987; N=355 1988; N=370 1989; N=373 1990; N=370 60°N 58°N 56°N-54°N-170°W 170°W 160°W 160°W 170°W 160°W 160°W 170°W Longitude

Figure A1: Continued

## Survey footprint: eastern Bering Sea shelf 1991; N=371 1992; N=355 1993; N=374 1994; N=374 60°N 58°N 56°N-54°N-Latitude 1995, 1997, 2003, 2006, 2007, 2009-2019, 2021-2023; N=375 1996; N=374 1998; N=374 1999; N=372 60°N -58°N 56°N-54°N-170°W 170°W 160°W 170°W 160°W 170°W 160°W 160°W Longitude

Figure A1: Continued

## Survey footprint: eastern Bering Sea shelf 2000; N=371 2002; N=374 2004; N=374 2001; N=374 60°N-58°N-56°N-54°N-Latitude 170°W 160°W 2005; N=372 2008; N=374 2024-2025; N=349 60°N 58°N 56°N-54°N-170°W 170°W 170°W 160°W 160°W 160°W Longitude

Figure A1: Continued

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station Start Date Duration (hour) Distance Fished (km) Mid-Latitude (°N) Mid-Longitude (°W) Bottom Depth (m) Bottom Temperature (°C)	A-02 6/23/2025 0.6 3.06 55.01 -166.95 156 4.4	A-03 6/23/2025 0.49 2.71 55.02 -166.33 141 4.4	A-04 6/22/2025 0.52 2.85 55.01 -165.75 129 4.6	A-05 6/22/2025 0.52 2.89 54.99 -165.18 110 4.8	A-06 6/9/2025 0.55 2.83 55.03 -164.58 65 5.3	B-01 6/24/2025 0.52 2.85 55.34 -167.54 146 4.4	B-02 6/23/2025 0.56 2.92 55.34 -166.97 138 4.5	B-03 6/23/2025 0.5 2.78 55.34 -166.35 131 4.5	B-04 6/18/2025 0.56 2.95 55.34 -165.78 120 4.5	B-05 6/18/2025 0.51 2.88 55.32 -165.17 111 4.8	B-06 6/9/2025 0.55 2.85 55.35 -164.55 101 4.2
Red King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Blue King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Tanner Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	38257 851 196 15153 4582 60.61	461 1153 922 615 12189 33.85	1636 74 0 1338 0 1.72	2288 0 0 3075 72 1.66	0 0 0 0 0	1707 594 520 445 1410 10.45	3723 1619 647 0 13628 49.4	8599 614 230 4146 3839 27.01	1658 377 301 2336 4855 18.99	1041 149 74 967 521 2.92	4047 153 153 4353 916 6.42
Snow Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	148 445 594 0 15010 22.16	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Chionoecetes spp. Hybrid Males ≤ 77 mm Males ≥ 78 mm Immature females Mature females Total weight (kg)	0 0 0 0	0 77 0 307 1.18	0 0 0 0	0 0 0 0	0 0 0 0	0 74 0 445 1.14	0 0 0 1214 2.24	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station Start Date Duration (hour) Distance Fished (km) Mid-Latitude (°N) Mid-Longitude (°W) Bottom Depth (m) Bottom Temperature (°C)	B-07	B-08	C-01	C-02	C-03	C-04	C-05	C-06	C-07	C-08	C-09
	6/8/2025	6/8/2025	6/24/2025	6/23/2025	6/23/2025	6/18/2025	6/18/2025	6/9/2025	6/8/2025	6/8/2025	6/8/2025
	0.51	0.51	0.52	0.59	0.48	0.56	0.52	0.57	0.58	0.52	0.42
	2.65	2.86	2.81	3.1	2.63	2.87	2.86	2.95	3.06	2.88	2.36
	55.34	55.33	55.66	55.67	55.68	55.67	55.66	55.65	55.71	55.66	55.67
	-164.03	-163.42	-167.59	-166.99	-166.39	-165.8	-165.18	-164.58	-163.99	-163.41	-162.84
	78	52	133	134	125	118	109	96	94	80	53
	4.3	5.4	4.7	4.6	4.5	4.6	5	4	3.8	4.2	5.5
Red King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
Blue King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Tanner Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	424	5587	5709	6873	4677	1010	2894	4338	2462	2999	3562
	85	2510	1705	809	377	78	838	882	652	2249	216
	85	1457	890	337	226	78	609	441	579	2025	108
	424	972	3337	2965	2565	388	4265	3602	1014	1200	648
	85	810	2521	3908	3319	0	4798	1176	434	375	0
	1.62	39.84	26.55	27.98	16.59	1.63	24.68	14.98	11.82	26.75	7.46
Snow Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 148 148 0 0 1.39	0 135 135 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Chionoecetes spp. Hybrid Males ≤ 77 mm Males ≥ 78 mm Immature females Mature females Total weight (kg)	0 0 0 0	0 0 0 0	0 74 0 0 0.33	67 0 202 337 0.82	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 108 0 0

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station	C-18	D-01	D-02	D-03	D-04	D-05	D-06	D-07	D-08	D-09	D-10
Start Date	6/25/2025	6/24/2025	6/23/2025	6/23/2025	6/18/2025	6/18/2025	6/9/2025	6/9/2025	6/8/2025	6/8/2025	6/4/2025
Duration (hour)	0.51	0.38	0.6	0.5	0.55	0.51	0.57	0.52	0.56	0.52	0.57
Distance Fished (km)	2.78	2.13	3.2	2.73	2.87	2.75	2.99	2.91	2.88	2.92	2.91
` ,	55.67	56.01	56.01	56.02	56	55.99	56	56.02	2.00 56	55.99	56
Mid-Latitude (°N)											
Mid-Longitude (°W)	-168.19	-167.61	-167	-166.4	-165.79	-165.18	-164.58	-164.04	-163.39	-162.81	-162.26
Bottom Depth (m)	135	132	134	123	108	96	92	91	89	79	72
Bottom Temperature (°C)	4.5	4.7	4.6	4.6	4.4	3.2	3.1	3.5	4	4.4	5
Red King Crab											
Immature males	0	0	0	0	0	0	0	0	0	1860	995
Mature males	0	0	0	0	0	0	0	0	0	0	383
Legal	0	0	0	0	0	0	0	0	0	0	153
Immature females	0	0	0	0	0	0	0	0	0	1711	230
Mature females	ő	ő	0	0	0	0	0	0	0	4092	919
Total weight (kg)	0	0	0	0	0	0	0	0	0	79	41.17
Total weight (kg)	U	U	U	U	U	U	U	U	U	1)	71.1/
Blue King Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	0	0	0	0	0	0	0	0	0	0	0
Legal	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	U	U	U	U	U		U	U	U	U	U
Tanner Crab						•					
Immature males	5667	4034	8818	8145	11754	2209	1411	2913	9642	0	77
Mature males	388	384	320	147	1295	552	743	224	999	0	0
Legal	233	192	128	73	1133	473	594	224	922	0	0
Immature females	5123	4418	832	2128	5709	789	1114	1792	1230	0	0
Mature females	4700	2017	128	1247	809	0	223	672	4921	0	0
Total weight (kg)	16.48	9.22	17.43	21.99	32.47	6.63	9.59	7.71	37.43	0	0.27
Total weight (kg)	10.40	7.22	17.43	21.77	32.47	0.03	7.37	7.71	37.43	U	0.27
Snow Crab											
Immature males	78	0	64	73	0	0	0	0	0	0	0
Mature males	78	192	0	0	0	0	0	75	0	0	0
Legal	155	192	0	0	0	0	0	75	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
					0		-				
Mature females	4524	0	0	0		0	0	0	0	0	0
Total weight (kg)	5.99	1.29	0.1	0.11	0	0	0	0.45	0	0	0
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	0	0	0	0	0	0	0	0	0	0
Males $\geq 78 \text{ mm}$	78	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	543	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	1.43	0	0	0	0	0	0	0	0	0	0
2 ( 2)											

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station Start Date Duration (hour) Distance Fished (km) Mid-Latitude (°N) Mid-Longitude (°W) Bottom Depth (m) Bottom Temperature (°C)	D-18 6/25/2025 0.51 2.82 56.01 -168.22 149 4.3	E-01 6/24/2025 0.52 2.88 56.34 -167.65 128 4.5	E-02 6/24/2025 0.58 3.03 56.34 -167.04 114 4.3	E-03 6/24/2025 0.53 2.97 56.34 -166.41 103 3.6	E-04 6/18/2025 0.56 2.96 56.34 -165.81 92 3.9	E-05 6/18/2025 0.5 2.71 56.32 -165.2 87 2.9	E-06 6/11/2025 0.55 2.88 56.34 -164.59 87 2.8	E-07 6/9/2025 0.51 2.82 56.34 -163.97 86 3.7	E-08 6/8/2025 0.55 2.82 56.35 -163.4 85 4.1	E-09 6/7/2025 0.52 2.91 56.32 -162.8 79 4.6	E-10 6/4/2025 0.55 2.84 56.33 -162.19 78 4.3
•	4.5	4.5	4.5	5.0	3.9	2.9	2.6	3.7	4.1	4.0	4.5
Red King Crab	0	0	0	0	0				0	1.45	1.40
Immature males	0	0	0	0	0	0	0	0	0	147 294	149 596
Mature males Legal	0	0	0	0	0	0	0	0	0	294	298
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	0	0	0	0	0	76	735	2237
Total weight (kg)	0	0	0	0	0	0	0	0	1.77	24	65.4
Blue King Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	0	0	0	0	0	0	0	0	0	0	0
Legal	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0	0	0	0	0	0	0	0	0	0	0
Tanner Crab											
Immature males	55341	9303	2550	12473	321	484	1410	3926	3030	221	149
Mature males	5214	555	375	1009	240	81	392	1921	530	0	298
Legal	3987	347	225	776	240	81	235	1504	530	0	224
Immature females	75105	9395	975	388	80	726	705	585	227	0	0
Mature females	2914	2083	1425	2096	160	161	1175	3425	2954	0	224
Total weight (kg)	93.17	21.63	12	41.19	3.41	1.46	7.32	28.59	18.38	0.63	3.73
Snow Crab											
Immature males	0	69	0	0	0	0	0	0	0	0	0
Mature males	307	0	0	0	0	0	0	0	76 76	0	0
Legal	307	0	0	0	0	0	0	0	76	0	0
Immature females	0	0	$\begin{pmatrix} 0 \\ 0 \end{pmatrix}$	0	0	0	0	0	0	0	0
Mature females Total weight (kg)	77 2.6	0.12	0	0	0	0	0	0	0.67	0	0
Total weight (kg)	2.0	0.12	U	U	U	U	U	U	0.67	U	U
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	0	0	0	0	0	0	0	0	0	0
Males $\geq 78 \text{ mm}$	767	69	0	0	0	161	0	84	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	155	0	0	78	167	0	0	0
Total weight (kg)	6.4	0.49	0	0.23	0	1.62	0.11	0.76	0	0	0

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station Start Date Duration (hour) Distance Fished (km) Mid-Latitude (°N) Mid-Longitude (°W) Bottom Depth (m) Bottom Temperature (°C)	E-11 6/4/2025 0.53 2.95 56.36 -161.62 66 4.7	E-12 6/3/2025 0.53 2.8 56.33 -160.99 53 4.8	E-18 6/25/2025 0.17 0.91 56.3 -168.24 149 4.3	E-19 7/1/2025 0.53 2.94 56.34 -168.88 128 4.5	E-20 7/1/2025 0.24 1.38 56.34 -169.31 136 4.3	E-21 7/2/2025 0.56 3.08 56.34 -170.06 109 4.2	E-22 7/2/2025 0.52 2.83 56.35 -170.69 120 4.2	F-01 6/25/2025 0.53 2.96 56.67 -167.67 102 3.9	F-02 6/24/2025 0.55 3.06 56.67 -167.06 95 3.1	F-03 6/24/2025 0.52 2.94 56.66 -166.44 83 2.8	F-04 6/17/2025 0.56 2.87 56.67 -165.84 78 2.8
Red King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	74 1259 740 74 444 58.57	86 1026 770 0 513 41	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Blue King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Tanner Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	444 518 370 0 518 8.11	599 257 0 0 86 3.54	62082 3523 1761 62932 5063 31.05	11428 1886 1816 1551 26369 72.2	134059 438 292 153003 10552 57.93	19644 696 417 6123 33420 121.85	10649 365 292 7433 8659 29.47	1515 454 454 1363 0 4.88	0 0 0 1804 5926 14.45	924 853 711 355 3412 18.73	2785 318 318 1034 2228 11.21
Snow Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 220 220 0 0 0.7	0 0 0 0 140 0.29	0 0 0 0 0	557 0 0 0 0 0 1.05	146 0 0 0 0 0 0.16	0 76 76 0 757 1.64	0 0 0 0 134683 247.89	71 142 142 0 71 1.27	0 0 0 0 0
Chionoecetes spp. Hybrid Males ≤ 77 mm Males ≥ 78 mm Immature females Mature females Total weight (kg)	0 0 0 0	0 0 0 0	0 0 0 0	0 70 0 0 0.73	0 0 0 0	0 0 0 0	0 0 0 0	0 76 0 76 0.67	0 0 0 2834 6.8	71 0 0 71 0.28	80 0 0 0 0 0.13

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station Start Date Duration (hour) Distance Fished (km) Mid-Latitude (°N) Mid-Longitude (°W) Bottom Depth (m) Bottom Temperature (°C)	F-05 6/17/2025 0.5 2.74 56.66 -165.22 76 2.7	F-06 6/11/2025 0.57 2.94 56.66 -164.6 75	F-07 6/9/2025 0.53 2.89 56.68 -164.03 74 3.7	F-08 6/7/2025 0.56 2.96 56.66 -163.38 74 3.6	F-09 6/7/2025 0.51 2.85 56.66 -162.8 71 3.9	F-10 6/4/2025 0.57 2.95 56.66 -162.18 72 4	F-11 6/4/2025 0.52 2.88 56.68 -161.58	F-12 6/4/2025 0.52 2.87 56.66 -160.99 69 4.5	F-13 6/3/2025 0.56 2.93 56.66 -160.37 58 4.7	F-14 5/31/2025 0.52 2.73 56.68 -159.75 38 5.2	F-18 6/25/2025 0.51 2.9 56.66 -168.28 106 3.9
Red King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	160 160 160 0 0 6.54	0 320 80 0 0 7.26	633 1662 1029 0 158 64.1	218 364 364 0 800 28.39	426 1278 781 0 2840 105.97	1147 535 535 612 1300 52.77	239 399 159 80 239 17.59	0 0 0 0 0	0 0 0 0 0
Blue King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Tanner Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	549 235 235 157 549 4.75	1054 730 649 405 973 11.07	2159 880 880 80 3758 23.29	1602 1121 801 400 3284 21.46	870 396 158 79 633 7.36	509 0 0 0 146 1.75	2769 639 213 0 923 17.08	0 612 459 0 535 6.68	478 159 0 0 0 2.24	198 0 0 0 0 0 0.46	2580 1255 1046 2232 3696 23.02
Snow Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 162 162 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	418 209 279 0 70 2.62
Chionoecetes spp. Hybrid Males ≤ 77 mm Males ≥ 78 mm Immature females Mature females Total weight (kg)	0 0 0 0	0 81 0 0 0.95	80 240 0 0 1.24	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 418 0 139 3.11

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station	F-19	F-20	F-21	F-22	F-23	F-24	F-25	G-01	G-02	G-03	G-04
Start Date	7/1/2025	7/1/2025	7/2/2025	7/2/2025	7/8/2025	7/8/2025	7/13/2025	6/25/2025	6/17/2025	6/17/2025	6/17/2025
Duration (hour)	0.51	0.54	0.56	0.52	0.51	0.51	0.51	0.53	0.55	0.56	0.52
Distance Fished (km)	2.78	3.1	3.18	2.83	2.84	2.84	2.83	2.93	2.89	2.92	2.76
Mid-Latitude (°N)	56.66	56.67	56.66	56.66	56.67	56.67	56.68	57	57	57	57
Mid-Longitude (°W)	-168.91	-169.51	-170.11	-170.73	-171.36	-171.96	-172.58	-167.69	-167.09	-166.46	-165.85
Bottom Depth (m)	100	79	97	114	118	125	135	78	74	74	72
Bottom Temperature (°C)	3.4	4.6	3.8	3.7	3.7	4	4.3	3.1	2.9	2.5	2.8
Red King Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	0	0	0	0	0	0	0	0	0	0	0
Legal	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	0	Ö	0	0	0	0	0	0
Total weight (kg)	0	0	0	0	0	0	0	0	0	0	0
roun weight (kg)	· ·	Ü	Ü	Ü	• 0			· ·	Ů	· ·	Ü
Blue King Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	0	0	0	0	0	0	0	0	0	0	0
Legal	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	o 0	0	0	0	0
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0	0	0	0	0	0	0	0	0	0	0
roun weight (kg)	· ·	Ü	Ü	Ü				Ü	Ü	· ·	Ü
Tanner Crab											
Immature males	1676	941	5554	21011	9937	880	7278	12868	5909	796	862
Mature males	1066	290	2909	935	840	158	0	6268	2257	1672	314
Legal	1066	145	2578	791	306	158	0	5351	1881	1354	314
Immature females	381	217	2248	7192	10035	964	9627	2599	1279	557	0
Mature females	609	435	2578	3236	1584	1285	774	2293	2182	796	157
Total weight (kg)	14.96	5.43	48.71	36.51	19.01	5.93	8.24	63.54	26.13	17.33	6.19
2 (2)											
Snow Crab											
Immature males	5331	290	132	216	611	2244	0	3516	527	955	0
Mature males	838	0	0	0	2598	6713	155	306	75	318	0
Legal	2818	217	66	72	3056	7672	155	3058	451	1194	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	24567	2824	0	360	81269	125750	155	16612	12177	318	0
Total weight (kg)	57.66	5.79	0.38	0.86	91.64	160.04	1.68	38.17	22.28	4.75	0
Chionoecetes spp. Hybrid											
Males $\leq 77 \text{ mm}$	152	72	0	0	0	0	77	76	0	0	78
Males $\geq 78 \text{ mm}$	533	0	0	0	306	0	0	1529	677	2150	157
Immature females	0	0	0	0	0	0	0	229	0	0	0
Mature females	914	4825	0	0	264	17674	0	1147	978	717	0
Total weight (kg)	4.89	8.68	0	0	2.21	14.65	0.1	11.03	5.51	12.61	1.16

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station Start Date Duration (hour) Distance Fished (km) Mid-Latitude (°N) Mid-Longitude (°W) Bottom Depth (m) Bottom Temperature (°C)	G-05 6/17/2025 0.5 2.72 56.99 -165.22 70 3.2	G-06 6/11/2025 0.54 2.86 57 -164.61 69 3.4	G-07 6/9/2025 0.51 2.89 57 -164.04 67 3.4	G-08 6/7/2025 0.55 2.9 57 -163.39 65 3.9	G-09 6/7/2025 0.53 3.09 57 -162.79 61 3.9	G-10 6/4/2025 0.55 2.89 57 -162.17 61 4.2	G-11 6/4/2025 0.52 2.9 57 -161.55 69 4.3	G-12 6/3/2025 0.52 2.89 57 -160.94 65 4.4	G-13 6/3/2025 0.56 2.9 56.99 -160.34 62 4.4	G-14 5/31/2025 0.54 2.94 57.02 -159.71 58 4.5	G-15 5/31/2025 0.53 2.84 57 -159.14 34 5.5
Red King Crab Immature males Mature males	0	0 161	0	0 704	0 207	155 543	234 156	447 298	525 225	546 624	713 0
Legal Immature females Mature females	0 0 0	161 0 0	0 0 0	704 0 0	138 0 138	388 0 699	156 0 1172	298 149 3429	75 75 750	312 0 624	0 713 0
Total weight (kg)	0	5.9	0	26.96	10.2	33.32	23.99	74.31	30.61	41.21	0.65
Blue King Crab Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	0	0	0	0	0	0	0	0	0	0	0
Legal	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0	0	0	0	0	0	0	0	0	0	0
Tanner Crab											
Immature males	253	402	1812	1486	207	233	391	75	300	234	0
Mature males	253	161	165	391	207	310	156	596	75	156	0
Legal	253	80	0	235	138	155	78	373	0	156	0
Immature females	0	80	0	156	69	0	0	0	0	0	0
Mature females	0	80	412	313	276	233	0	75	0	0	0
Total weight (kg)	2.89	2.87	6.45	8.48	3.34	4.3	2.5	5.52	1.48	1.81	0
Snow Crab											
Immature males	84	0	0	0	0	0	0	0	0	0	0
Mature males	0	0	0	0	0	0	0	0	0	0	0
Legal	84	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0.2	0	0	0	0	0	0	0	0	0	0
Chionoecetes spp. Hybrid											
Males $\leq 77 \text{ mm}$	0	0	0	0	276	0	0	0	0	0	0
Males $\geq 78 \text{ mm}$	84	0	165	0	138	0	0	0	0	0	0
Immature females	0	0	0	0	138	0	0	0	0	0	0
Mature females	0	80	0	0	0	0	0	0	0	0	0
Total weight (kg)	0.86	0.19	0.48	0	0.8	0	0	0	0	0	0

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station Start Date Duration (hour) Distance Fished (km) Mid-Latitude (°N) Mid-Longitude (°W) Bottom Depth (m) Bottom Temperature (°C)	G-18 6/26/2025 0.52 2.9 57 -168.34 82 3.1	G-19 7/1/2025 0.51 2.81 57 -168.96 79 3.4	G-20 7/1/2025 0.54 3.02 57.01 -169.54 62 2.2	G-21 7/2/2025 0.53 2.91 57 -170.16 69 3.5	G-22 7/2/2025 0.54 3.06 57 -170.79 95 3.1	G-23 7/8/2025 0.53 2.94 56.99 -171.4 109 3.4	G-24 7/8/2025 0.52 2.96 57 -172.05 117 3.9	G-25 7/13/2025 0.5 2.78 57 -172.66 122 4.1	G-26 7/13/2025 0.55 3.16 57 -173.25 142 4.1	H-01 6/25/2025 0.54 3.03 57.33 -167.74 73 2.4	H-02 6/16/2025 0.54 2.87 57.33 -167.13 70 1.4
Red King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 75 2.82	0 74 74 0 0 5.12	79 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Blue King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Tanner Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	11186 2627 2116 8531 24878 61.51	2543 12050 10834 0 75 103.88	4099 1999 1332 1186 1976 25.03	29594 21481 12451 5424 36314 261.89	3257 1289 814 1357 2172 23.8	4630 723 506 1809 3690 21.35	1497 231 231 0 2241 8.85	2215 410 328 738 985 8.12	12262 0 0 4934 435 14.82	2623 6568 6099 737 5278 61.54	4763 4389 2634 1909 3739 33.96
Snow Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	2919 438 1751 0 1240 11.08	6383 203 4154 0 1736 22.09	11681 296 3283 1186 89503 154.87	79 0 0 0 0 0 0.22	68 68 136 0 0	1158 2532 3473 0 72 24.13	3393 5009 6333 0 62368 99.62	328 1313 1477 0 0	0 0 0 0 0	7280 520 3250 1916 14734 41.45	4614 1114 4534 716 53630 102.18
Chionoecetes spp. Hybrid Males ≤ 77 mm Males ≥ 78 mm Immature females Mature females Total weight (kg)	73 584 0 1897 8.63	0 1132 0 151 6.56	1186 395 1186 27648 38.99	0 0 0 0	204 0 0 0 0 0.31	0 0 72 0 0.03	690 231 0 9482 12.74	0 0 0 0	0 0 0 0	0 10500 221 3169 55.27	0 4033 0 2705 24.34

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station Start Date Duration (hour) Distance Fished (km) Mid-Latitude (°N) Mid-Longitude (°W) Bottom Depth (m) Bottom Temperature (°C)	H-03 6/16/2025 0.49 2.68 57.32 -166.49 70 2.7	H-04 6/17/2025 0.5 2.77 57.33 -165.84 68 3.3	H-05 6/17/2025 0.5 2.69 57.33 -165.23 67 3.6	H-06 6/11/2025 0.55 2.89 57.33 -164.62 65 3.3	H-07 6/10/2025 0.52 2.93 57.36 -164 61 3.6	H-08 6/7/2025 0.54 2.87 57.33 -163.38 54 3.6	H-09 6/7/2025 0.52 2.92 57.32 -162.76 50 4	H-10 6/5/2025 0.54 2.8 57.32 -162.15 51 4.1	H-11 6/5/2025 0.54 3.01 57.35 -161.53 56 4.4	H-12 6/3/2025 0.53 2.95 57.33 -160.94 61 4.2	H-13 6/3/2025 0.54 2.87 57.33 -160.3 62 4.4
Red King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	247 164 164 0 0 7.78	0 313 157 0 235 15.02	0 0 0 0 76 1.28	82 575 575 82 164 28.08	321 1283 722 160 1444 66.84	288 504 360 216 2806 57.24	516 74 0 148 2287 40.74	679 75 75 75 377 17.65
Blue King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Tanner Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	1117 8163 7132 86 773 47.18	658 247 247 0 164 3.98	427 342 171 0 85 3.81	1644 329 164 0 1151 11.1	861 313 0 0 78 4.7	835 228 0 0 0 4	247 82 0 0 82 1.13	401 241 0 80 0 2.51	360 0 0 0 0 0 1.35	148 369 74 0 0 2.85	0 75 75 0 0 0.66
Snow Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	1461 4898 6015 0 344 24.49	493 493 987 0 740 5.05	85 256 256 0 0 1.25	0 164 164 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Chionoecetes spp. Hybrid Males ≤ 77 mm Males ≥ 78 mm Immature females Mature females Total weight (kg)	0 430 86 0 1.01	0 247 0 0 1.19	0 85 0 0 0.57	82 740 82 82 3.05	0 235 0 0 0.76	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station Start Date Duration (hour) Distance Fished (km) Mid-Latitude (°N) Mid-Longitude (°W) Bottom Depth (m) Bottom Temperature (°C)	H-14 6/2/2025 0.56 2.95 57.33 -159.66 56 4.7	H-15 5/31/2025 0.53 3.01 57.34 -159.09 49 4.9	H-16 6/1/2025 0.54 2.93 57.34 -158.41 32 5.7	H-18 6/26/2025 0.53 2.94 57.34 -168.37 74 3.5	H-19 6/30/2025 0.52 2.81 57.33 -168.98 69 3.4	H-20 7/1/2025 0.53 2.96 57.35 -169.58 64 1.3	H-21 7/3/2025 0.5 2.76 57.33 -170.23 55 4.2	H-22 7/4/2025 0.53 2.96 57.33 -170.85 83 3.2	H-23 7/7/2025 0.51 2.84 57.33 -171.46 101 3.2	H-24 7/7/2025 0.54 2.97 57.33 -172.09 108 3.6	H-25 7/13/2025 0.51 2.83 57.34 -172.82 116 4.1
Red King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	309 386 309 0 0 17.2	76 76 76 0 0 2.68	0 0 0 79 0 0.03	0 0 0 0 0	0 0 0 0 0	0 73 73 0 73 6.56	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Blue King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 75 75 0 226 6.72	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Tanner Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	77 0 0 0 0 0 0.32	76 0 0 0 0 0 0.32	0 0 0 0 0	2754 13254 10098 382 12659 114.41	12224 22203 15967 0 24554 221.3	2899 2115 1313 1085 1085 19.48	351 0 0 263 0 0.77	1712 3138 2425 927 927 31.42	2640 2805 2062 742 412 23.19	1115 0 0 80 0 2.41	3279 156 0 937 547 9.14
Snow Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	8566 1530 5889 1326 15474 53.18	47940 3093 32089 1424 24924 171.4	24064 657 6820 3526 56828 127.1	0 0 0 0 0	499 428 785 0 357 5.29	1072 495 660 0 17064 19.18	0 318 318 0 0 2.22	78 156 234 0 234 1.22
Chionoecetes spp. Hybrid Males ≤ 77 mm Males ≥ 78 mm Immature females Mature females Total weight (kg)	0 0 0 0	0 0 0 0	0 0 0 0	229 5965 0 2232 28.25	0 6237 0 3243 31.75	2712 980 814 5967 16.39	0 0 0 0	0 285 0 0	165 82 0 330 1.07	0 0 0 0	0 0 0 0

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station Start Date Duration (hour) Distance Fished (km) Mid-Latitude (°N) Mid-Longitude (°W) Bottom Depth (m) Bottom Temperature (°C)	H-26 7/13/2025 0.53 2.98 57.33 -173.34 121 4.1	I-01 6/25/2025 0.54 3.04 57.67 -167.77 69 1.9	I-02 6/16/2025 0.54 2.86 57.67 -167.13 68 1.7	I-03 6/16/2025 0.5 2.77 57.65 -166.51 67 3.1	I-04 6/13/2025 0.55 2.9 57.67 -165.88 64 3.2	I-05 6/12/2025 0.55 2.89 57.67 -165.25 60 3.1	I-06 6/12/2025 0.55 2.89 57.68 -164.62 53 3.4	I-07 6/10/2025 0.51 2.82 57.66 -164.01 52 3.6	I-08 6/7/2025 0.54 2.89 57.67 -163.37 47 3.8	I-09 6/6/2025 0.54 2.99 57.67 -162.75 43 4.2	I-10 6/5/2025 0.54 2.82 57.66 -162.13 46 4.5
Red King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 164 164 0 0 5.94	0 334 334 0 83 14.87	0 78 78 78 155 7.9	0 310 78 0 0 10.34	663 332 249 0 580 24.92
Blue King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Tanner Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	2934 587 293 1247 147 9.53	20308 21770 11274 1055 13543 193.72	13442 17923 6721 80 1844 118.92	1666 3491 1746 79 317 21.91	4489 1873 1086 0 466 26.54	2070 148 74 0 739 9.27	573 164 82 0 409 3.73	501 83 0 0 0 2.18	311 233 78 0 0 2.81	78 0 0 0 0 0 0.24	166 0 0 0 0 0 0.74
Snow Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	73 147 220 0 0 1.47	13894 704 6507 10025 4045 47.8	20209 5338 19828 5089 5513 78.74	1349 2380 3333 0 397 13.16	543 621 1086 0 233 4.46	0 296 296 0 0	0 82 82 0 0	0 0 0 83 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Chionoecetes spp. Hybrid Males ≤ 77 mm Males ≥ 78 mm Immature females Mature females Total weight (kg)	0 0 0 0	6486 53067 1407 8618 221.94	0 28471 321 2805 106.9	0 2063 0 0 7	550 6239 155 776 29.7	370 592 148 0 2.92	164 0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station Start Date Duration (hour) Distance Fished (km) Mid-Latitude (°N) Mid-Longitude (°W) Bottom Depth (m) Bottom Temperature (°C)	I-11 6/5/2025 0.52 2.83 57.67 -161.49 53 4.3	I-12 6/3/2025 0.51 2.9 57.66 -160.88 57 4.4	I-13 6/3/2025 0.5 2.81 57.67 -160.27 56 4.7	I-14 6/2/2025 0.54 2.85 57.66 -159.64 50 4.9	I-15 5/31/2025 0.53 2.96 57.68 -159.02 46 5	I-16 6/1/2025 0.53 2.82 57.66 -158.36 35 5.6	I-18 6/26/2025 0.51 2.84 57.66 -168.4 70 2.6	I-19 6/30/2025 0.52 2.82 57.67 -169.04 69 3.3	I-20 7/1/2025 0.53 2.99 57.67 -169.64 70 2.8	I-21 7/3/2025 0.51 2.76 57.66 -170.26 72 0.6	I-22 7/4/2025 0.53 2.94 57.67 -170.89 85 2.3
Red King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	395 949 791 79 1186 57.2	931 543 388 155 1473 56.83	3273 1013 701 2883 545 78.25	0 0 0 387 0 1.28	75 0 0 75 0 0.37	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	0 142 142 0 0 9.44	0 0 0 0 0	0 146 146 0 0 9.9
Blue King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	0 78 78 0 0 3.4	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Tanner Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	395 0 0 0 0 1.51	78 0 0 0 0 0 0.36	0 78 78 0 0 0.88	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	5813 7867 4609 360 5755 58.61	28176 41456 27735 1648 12929 336.09	21097 2634 1068 27841 23864 89.22	4815 1246 332 6209 4483 24.72	2330 2985 2403 2147 2684 33
Snow Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	21208 318 7419 36441 12147 87.52	157329 3475 72224 83291 67418 513.04	60589 641 17480 93467 293367 620.2	14181 1163 6860 1826 144644 192.26	30965 655 11229 4294 161417 309.24
Chionoecetes spp. Hybrid Males ≤ 77 mm Males ≥ 78 mm Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	719 10472 1079 3956 41.59	13183 37035 6592 17960 172.91	3977 7674 55682 45739 135.15	730 166 0 730 2.65	291 1893 2684 3220 14.59

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station Start Date Duration (hour) Distance Fished (km) Mid-Latitude (°N) Mid-Longitude (°W) Bottom Depth (m) Bottom Temperature (°C)	I-23 7/7/2025 0.51 2.87 57.68 -171.53 98 3.3	I-24 7/7/2025 0.54 3.05 57.67 -172.16 107 3.4	I-25 7/14/2025 0.5 2.8 57.65 -172.8 120 3.7	I-26 7/13/2025 0.53 2.99 57.67 -173.39 144 4.1	J-01 6/26/2025 0.52 2.89 57.99 -167.8 67 2.1	J-02 6/16/2025 0.55 2.91 58.01 -167.17 64 2.4	J-03 6/16/2025 0.5 2.69 58 -166.52 61 3.2	J-04 6/13/2025 0.56 2.98 58 -165.9 57 2.9	J-05 6/12/2025 0.54 2.92 58 -165.25 51	J-06 6/12/2025 0.55 2.92 57.99 -164.61 46 3.8	J-07 6/11/2025 0.52 2.9 58 -164.02 46 3.9
Red King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 336 3.76	0 74 74 0 0 2.96	0 322 322 0 80 16.93	0 78 78 0 0 5.42	0 81 81 0 81 3.35
Blue King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Tanner Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	12718 1413 864 1570 942 32.82	987 152 0 759 304 3.64	1344 373 149 1344 299 5.47	53128 306 153 38073 2372 51.18	4177 1125 321 1125 482 16.39	5822 2117 706 158 79 22.63	3109 1429 1092 420 0 14.28	2730 0 0 0 74 8.37	644 0 0 0 80 2.19	234 0 0 0 0 0 0	81 0 0 0 0 0 0.25
Snow Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	2277 1256 2355 0 1021 13.95	76 1062 1138 0 987 7.82	0 149 149 0 75 1.24	0 0 0 0 0	5382 241 1767 5141 562 15.95	5194 487 3571 317 238 12.53	4370 420 1429 2437 0 8.64	1107 74 74 0 0	0 80 80 0 0	0 0 0 0 0	0 0 0 0 0
Chionoecetes spp. Hybrid Males ≤ 77 mm Males ≥ 78 mm Immature females Mature females Total weight (kg)	0 314 0 0	0 0 0 0	0 0 0 0	237 0 237 0 0.32	2490 3775 1365 80 15.32	5742 14675 1109 238 49	1261 252 588 168 2.36	1107 443 1033 74 3.28	0 0 0 0	0 0 0 0	0 0 0 0

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station Start Date Duration (hour) Distance Fished (km) Mid-Latitude (°N) Mid-Longitude (°W) Bottom Depth (m) Bottom Temperature (°C)	J-08 6/6/2025 0.55 2.87 58 -163.38 44 4.2	J-09 6/6/2025 0.51 2.88 58 -162.76 40 4.4	J-10 6/5/2025 0.53 2.77 57.99 -162.12 38 4.7	J-11 6/5/2025 0.52 2.84 58 -161.49 55 4.7	J-12 6/2/2025 0.54 2.96 58.01 -160.85 45 4.8	J-13 6/2/2025 0.53 2.95 58 -160.21 50 4.9	J-14 6/2/2025 0.54 2.98 58 -159.6 43 5.2	J-15 6/2/2025 0.53 2.84 58 -158.97 43 5.4	J-16 6/1/2025 0.54 2.87 58 -158.32 35 5.6	J-18 6/26/2025 0.51 2.93 58.01 -168.45 69 2.3	J-19 6/30/2025 0.52 2.71 57.99 -169.07 69 2
Red King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 568 405 0 81 17.07	0 0 0 0 0	166 581 498 0 0 22.98	859 390 156 0 781 35.73	283 495 353 495 71 24.55	511 876 365 146 146 36.05	149 75 75 0 0 2.93	0 0 0 229 0 0.5	155 0 0 155 0 0.34	0 0 0 0 0	0 79 79 0 0 4.77
Blue King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Tanner Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	81 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	9248 2714 603 7337 734 38.27	13817 2131 868 2662 4940 44.51
Snow Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	48567 1282 10736 112099 7821 189.18	105383 2210 21779 228602 16051 377.52
Chionoecetes spp. Hybrid Males ≤ 77 mm Males ≥ 78 mm Immature females Mature females Total weight (kg)	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	20805 7156 40251 0 82.57	13389 5820 22627 9396 74.24

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station Start Date Duration (hour) Distance Fished (km) Mid-Latitude (°N) Mid-Longitude (°W) Bottom Depth (m) Bottom Temperature (°C)	J-20 6/30/2025 0.53 2.95 58 -169.69 70 0.4	J-21 7/4/2025 0.53 2.94 58 -170.35 74 0.9	J-22 7/4/2025 0.57 3.25 58 -170.96 86 1.6	J-23 7/7/2025 0.51 2.9 58.01 -171.6 97 3	J-24 7/7/2025 0.52 2.94 58 -172.24 104 3.1	J-25 7/14/2025 0.52 2.97 57.99 -172.86 109 3.2	J-26 7/13/2025 0.54 3.04 58 -173.46 116 3.4	K-01 6/26/2025 0.54 2.99 58.32 -167.83 61 3.1	K-02 6/16/2025 0.55 2.94 58.33 -167.18 52 3	K-03 6/16/2025 0.51 2.78 58.33 -166.57 47 3.2	K-04 6/13/2025 0.54 2.91 58.32 -165.9 45
Red King Crab Immature males Mature males	0 0	0 74	0	0	0 0	0	0 0	0 82	0 224	0 80	162 81
Legal	0	74	0	0	0	0	0	82	224	80	81
Immature females Mature females	0	$0 \\ 0$	0	0	0	0 0	0	0 82	0 149	0 160	$0 \\ 0$
Total weight (kg)	0	3.75	0	0	0	0	0	5.44	14.13	4.68	6.62
Blue King Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	0	0	0	0	0	0	0	0	0	0	0
Legal	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0	0	0	0	0	0	0	0	0	0	0
Tanner Crab											
Immature males	9490	7810	3294	3600	3299	1851	1276	246	149	0	162
Mature males	1014	1184	1561	235	402	137	375	329	0	0	0
Legal	652	740	746	157	241	137	150 976	246	0	0	0
Immature females Mature females	6822 2047	8052 2233	1308 1308	5087 548	1770 805	960 206	1651	82 0	75 0	0	0
Total weight (kg)	25.36	31.52	20.27	7.69	11.3	3.37	9.18	2.26	0.34	0	0.43
reum wergin (ng)	20.00	01.02		,		5.67	,,,,	2.20	0.0.	· ·	0.10
Snow Crab											
Immature males	45351	78465	59109	1331	563	69	1201	164	0	0	0
Mature males	579	888 11732	882	391	402 885	0	3527	0 82	0	0	0
Legal Immature females	5419 296786	141885	14214 70628	861	883	69 0	4128	82 82	0	0	0
Mature females	46393	84364	360731	470	80	0	16328	0	0	0	0
Total weight (kg)	312.01	343.04	621.5	5.17	4.25	0.28	44.85	0.36	0	0	0
<i>Chionoecetes</i> spp. Hybrid Males ≤ 77 mm	8942	1789	1308	157	0	0	0	82	821	0	81
Males $\leq 77 \text{ mm}$ Males $\geq 78 \text{ mm}$	1437	3572	1308	0	0	0	0	0	149	80	0
Immature females	6140	0	1308	0	0	0	0	0	373	0	81
Mature females	3411	1789	35314	0	0	0	450	0	0	0	0
Total weight (kg)	20.33	13.13	82.1	0.19	0	0	0.7	0.1	1.66	0.13	0.19

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station Start Date Duration (hour) Distance Fished (km) Mid-Latitude (°N) Mid-Longitude (°W) Bottom Depth (m) Bottom Temperature (°C)	K-05 6/13/2025 0.52 2.99 58.34 -165.28 45	K-06 6/13/2025 0.52 2.96 58.34 -164.66 45 4.1	K-07 6/11/2025 0.53 2.98 58.33 -164.01 41 4.2	K-08 6/6/2025 0.54 2.82 58.34 -163.36 36 4.6	K-09 6/6/2025 0.52 2.92 58.33 -162.71 31 5	K-10 6/5/2025 0.56 2.97 58.31 -162.06 47 5.1	K-11 6/5/2025 0.51 2.79 58.22 -161.55 41 4.9	K-12 6/2/2025 0.27 1.69 58.29 -160.82 32 5.8	K-13 6/2/2025 0.54 3.01 58.27 -159.99 40 5.3	K-14 6/1/2025 0.54 3.1 58.33 -159.55 24 5.9	K-18 6/27/2025 0.51 2.79 58.32 -168.47 66 2.1
Red King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 77 0.54	0 236 157 0 0 8.5	0 0 0 0 80 1.48	168 84 84 0 0 4.48	0 0 0 0 0	0 450 0 0 150 13.32	83 413 165 0 165 14.69	0 154 0 0 0 1.39	73 220 147 0 0 9.95	0 0 0 0 0	0 0 0 0 0
Blue King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Tanner Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	1437 160 0 0 0 3.87
Snow Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	2396 319 878 2076 0 5.84
Chionoecetes spp. Hybrid Males ≤ 77 mm Males ≥ 78 mm Immature females Mature females Total weight (kg)	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	1198 80 319 0 1.48

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station Start Date Duration (hour) Distance Fished (km) Mid-Latitude (°N) Mid-Longitude (°W) Bottom Depth (m) Bottom Temperature (°C)	K-19 6/29/2025 0.52 2.88 58.33 -169.12 67 1.1	K-20 6/30/2025 0.53 2.93 58.33 -169.73 70 0.7	K-21 7/4/2025 0.53 2.93 58.33 -170.39 74 0.4	K-22 7/4/2025 0.54 3.04 58.33 -171.01 84 1.4	K-23 7/7/2025 0.53 2.97 58.39 -171.65 95 2.2	K-24 7/7/2025 0.52 2.91 58.33 -172.3 103 2.8	K-25 7/14/2025 0.5 2.81 58.32 -172.92 108 3.2	K-26 7/14/2025 0.55 3.13 58.34 -173.57 116 3.8	K-27 7/19/2025 0.56 3.19 58.34 -174.29 159 4.1	L-01 6/26/2025 0.52 2.87 58.66 -167.86 47 3.9	L-02 6/15/2025 0.55 2.9 58.68 -167.22 44 2.6
Red King Crab	0	0	0	0	0	0		0	0	0	0
Immature males Mature males	$0 \\ 0$	0	0	$0 \\ 0$	0	$0 \\ 0$	0	0 0	$0 \\ 0$	0 177	$0 \\ 0$
Legal	0	0	0	0	0	0	0	0	0	88	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0	0	0	0	0	0	0	0	0	4.07	0
Blue King Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	0	0	0	0	0	0	0	0	0	0	0
Legal	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0	0	0	0	0	0	0	0	0	0	0
Tanner Crab											
Immature males	18512	10271	10150	759	6008	6763	16023	2671	22610	177	0
Mature males	2240	1078	360	72	299	1966	1180	1986	64	0	0
Legal	456	359	144	0	224	1258	737	1370	64	0	0
Immature females Mature females	4362	3280 820	5706 300	2749	2921 75	1494 1337	4130	1301 5343	27768 709	0	0
Total weight (kg)	1745 52.85	25.25	15.74	1.23	9.5	27.22	1327 31.7	30.89	33.01	0.17	0
Total weight (kg)	32.63	25.25	13.74	1.23	9.3	21.22	31.7	30.69	33.01	0.17	U
Snow Crab											
Immature males	150640	81224	47228	53023	215810	4011	295	411	0	0	0
Mature males	2645	575	1080	1119	896	2281	147	1164	0	0	0
Legal	21124	10458	6158	2527	10610	4168	369	1370	0	0	0
Immature females	207956	245137	69882	21992	50200	2000	0	0	0	0	0
Mature females	4726	9020	29737	305339	58380	2989	1622 2.75	1438	0	0	0
Total weight (kg)	350.16	259.17	155.21	361.78	401.21	25.63	2.73	11.24	U	U	U
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	41874	4100	2102	687	730	79	0	0	0	0	81
Males $\geq 78 \text{ mm}$	3453	2359	432	0	224	393	0	0	0	0	0
Immature females	13086	12300	1802	0	0	0	74	0	0	0	81
Mature females	872	1640	901	15807	0	157	0	68	0	0	0
Total weight (kg)	72.38	20.94	6.34	14.87	1.7	2.12	0.08	0.12	0	0	0.1

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station Start Date Duration (hour) Distance Fished (km) Mid-Latitude (°N) Mid-Longitude (°W) Bottom Depth (m) Bottom Temperature (°C)	L-03 6/15/2025 0.49 2.72 58.67 -166.56 41 3.3	L-04 6/14/2025 0.52 2.8 58.66 -165.92 37 3.8	L-05 6/14/2025 0.52 3 58.65 -165.33 41 4.2	L-06 6/13/2025 0.52 2.94 58.68 -164.67 38 4.5	L-07 6/12/2025 0.51 2.91 58.68 -164.01 35 4.8	L-08 6/6/2025 0.55 2.96 58.67 -163.35 32 4.8	L-09 6/6/2025 0.54 3.1 58.64 -162.72 27	L-18 6/27/2025 0.51 2.8 58.66 -168.49 54 3.6	L-19 6/29/2025 0.52 2.9 58.68 -169.15 63 1.1	L-20 6/30/2025 0.54 2.94 58.67 -169.78 67 0.6	L-21 7/4/2025 0.53 2.94 58.67 -170.44 73 0.5
Red King Crab Immature males Mature males	0	77 77	0 78	0 82	0	$\begin{array}{c} 0 \\ 0 \end{array}$	0	85 85	0 74	0	0
Legal	0	77	78	0	0	0	0	0	0	0	0
Immature females Mature females	$0 \\ 0$	0	0 155	0	0	0 0	0 0	0	0 0	0	0 0
Total weight (kg)	0	3.39	8.26	1.62	0	0	0	2.29	1.58	0	0
Blue King Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	0	0	0	0	0	0	0	0	74	0	0
Legal	0	0	0	0	0	0	0	0	0	0	0
Immature females Mature females	0	0	0	0	0	0	0	0 0	0	0	0
Total weight (kg)	0	0	0	0	0	0	0	0	0.94	0	0
Tanner Crab											
Immature males	0	0	0	0	0	0	0	0	863	4591	3875
Mature males	0	0	0	ů 0	0	0	0	0	74	148	217
Legal	0	0	0	0	0	0	0	0	0	0	72
Immature females	0	0	0	0	0	0	0	0	502	844	1892
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0	0	0	0	0	0	0	0	2.55	8.47	6.3
Snow Crab											
Immature males	0	0	0	0	0	0	0	0	33755	164180	77515
Mature males	0	0	0	0	0	0	0	0	570	738	2311
Legal	0	0	0	0	0	0	0	0	5764	11572	12700
Immature females Mature females	0	0 0	0	0	0	$0 \\ 0$	0	0	1491 852	323939 2533	165317 12611
Total weight (kg)	0	0	0	0	0	0	0	0	52.85	343.53	247.2
Total weight (kg)	U	· ·		O	O	O	V	O	32.03	343.33	277.2
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	0	0	0	0	0	0	85	2130	7600	5044
Males $\geq 78 \text{ mm}$	0	0	0	0	0	0	0	0	1214	5911	506
Immature females Mature females	0	0	0	0	0	0	0	0	213 0	16889 844	6305 0
Total weight (kg)	0	0	0	0	0	0	0	0.23	5.75	34.88	11.69

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station Start Date Duration (hour) Distance Fished (km) Mid-Latitude (°N) Mid-Longitude (°W) Bottom Depth (m) Bottom Temperature (°C)	L-22 7/5/2025 0.54 2.98 58.66 -171.08 83 1.1	L-23 7/6/2025 0.53 2.99 58.66 -171.72 93 1.7	L-24 7/15/2025 0.51 2.88 58.67 -172.35 102 2.7	L-25 7/14/2025 0.52 2.96 58.68 -173 112	L-26 7/14/2025 0.57 3.24 58.67 -173.63 126 3.7	L-27 7/19/2025 0.54 3.02 58.67 -174.27 156 4.1	L-28 7/20/2025 0.57 3.25 58.72 -174.89 164 3.6	L-29 7/20/2025 0.3 1.75 58.67 -175.51 134 3.5	L-30 7/20/2025 0.55 3.03 58.67 -176.19 140 3.8	L-31 7/20/2025 0.54 3.01 58.67 -176.83 137 3.5	M-01 6/26/2025 0.54 2.98 59 -167.89 42 2.9
Red King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	82 82 82 82 0 4.12
Blue King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Tanner Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	2964 0 0 0 0 0 2.21	2100 842 536 1335 0 9.77	5491 282 141 1478 563 11.78	3177 898 622 1657 1174 16.41	2680 255 191 3191 574 6.02	74704 760 414 53123 1796 76.2	6243 0 0 7894 0 2.9	2082 0 0 2205 1470 2.38	68 0 0 0 0 0	849 0 0 1840 0 0.27	82 0 0 0 0 0 0.02
Snow Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	96681 508 2105 153431 78296 293.8	62886 3215 10051 0 227749 326.56	70 0 70 0 141 0.42	138 0 69 0 0 0.36	64 638 702 0 0 5.92	0 0 0 0 69 0.05	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Chionoecetes spp. Hybrid Males ≤ 77 mm Males ≥ 78 mm Immature females Mature females Total weight (kg)	4228 290 5638 5638 12.75	0 77 0 8007 6.25	0 0 0 0	0 0 0 0	128 0 0 0 0 0.29	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station Start Date Duration (hour) Distance Fished (km) Mid-Latitude (°N) Mid-Longitude (°W) Bottom Depth (m) Bottom Temperature (°C)	M-02 6/15/2025 0.52 2.79 59.01 -167.24 40 2.5	M-03 6/15/2025 0.5 2.76 59 -166.58 34 3.4	M-04 6/14/2025 0.54 2.9 59 -165.93 31 3.8	M-05 6/14/2025 0.53 3 59 -165.3 29 4.1	M-06 6/13/2025 0.52 3.12 59 -164.71 29 4.4	M-07 6/12/2025 0.53 3.07 59.03 -164.02 29 4	M-08 6/6/2025 0.55 2.99 59 -163.35 23 4.2	M-18 6/27/2025 0.52 2.88 58.99 -168.54 47 3.2	M-19 6/29/2025 0.51 2.82 59.01 -169.18 54 2.7	M-20 6/29/2025 0.56 3.13 59.01 -169.84 63 0.5	M-21 7/4/2025 0.53 2.97 59 -170.48 71 0.4
Red King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 83 83 0 83 4.23	78 78 78 0 78 4.86	0 86 0 0 0 1.78	0 86 86 0 0	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Blue King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Tanner Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	85 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	238 0 0 79 0 0.09	137 68 0 0 0 0 0.51	73 0 0 1249 0 0.52
Snow Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	238 0 0 159 0 0.18	177668 1161 15742 153680 1980 276.73	146689 655 5967 491855 2497 387.29
Chionoecetes spp. Hybrid Males ≤ 77 mm Males ≥ 78 mm Immature females Mature females Total weight (kg)	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	2331 0 11654 68 8.18	3819 146 3746 0 7.28

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station Start Date Duration (hour) Distance Fished (km) Mid-Latitude (°N) Mid-Longitude (°W) Bottom Depth (m) Bottom Temperature (°C)	M-22 7/5/2025 0.54 3.13 58.99 -171.12 77 0.6	M-23 7/6/2025 0.52 2.94 59 -171.78 86 1.4	M-24 7/15/2025 0.52 2.89 59 -172.43 98 2.4	M-25 7/16/2025 0.57 3.23 59 -173.08 107 2.7	M-26 7/14/2025 0.55 3.11 59.01 -173.72 117 2.7	M-27 7/19/2025 0.55 3.12 59 -174.39 127 3.1	M-28 7/19/2025 0.56 3.15 59.01 -175.02 129 3.2	M-29 7/21/2025 0.54 3.07 59 -175.72 133 2.7	M-30 7/21/2025 0.51 2.87 59.02 -176.31 135 2.7	M-31 7/21/2025 0.54 3.05 59 -176.99 136 3.3	M-32 7/21/2025 0.54 3.03 59 -177.63 135 3.6
Red King Crab Immature males Mature males Legal Immature females Mature females	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0
Total weight (kg)	0	0	0	0	0	0	0	0	0	0	0
Blue King Crab Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	0	0	0	0	0	0	0	0	0	0	0
Legal	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0	0	0	0	0	U	U	0	0	0	0
Tanner Crab											
Immature males	733	0	3688	5782	10229	2102	3187	14229	3925	842	2477
Mature males	0	81	418	1708	720	446	0	262	631	0	0
Legal	0	0	278	1314	393	318	0	66	350	0	0
Immature females	1988	657	974	5913	5434	1656	3772	5846	2383	351	2194
Mature females	0	0	0	1445	1768	2484	976	3298	2033	0	212
Total weight (kg)	3.21	0.54	6.77	29.09	25.28	10.83	6.54	28.48	14.38	0.86	2.83
Snow Crab											
Immature males	169537	29487	139	131	0	0	65	132	0	0	0
Mature males	916	485	209	0	65	0	65	0	0	0	0
Legal	5734	2204	278	66	65	0	130	132	0	0	0
Immature females	102552	0	209	66	65	64	0	0	70	0	0
Mature females	18552	332220	0	66	0	64	195	0	70	0	0
Total weight (kg)	319.84	288.93	1.67	0.53	0.48	0.04	1.04	0.35	0.11	0	0
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	1988	1315	0	0	0	0	0	0	0	0	0
Males $\geq 78 \text{ mm}$	70	81	ů 0	0	ő	0	0	0	0	ő	0
Immature females	3313	657	0	0	0	0	0	0	0	0	0
Mature females	1325	11831	0	0	0	0	0	0	0	0	0
Total weight (kg)	6.46	11.58	0	0	0	0	0	0	0	0	0

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station Start Date Duration (hour) Distance Fished (km) Mid-Latitude (°N) Mid-Longitude (°W) Bottom Depth (m) Bottom Temperature (°C)	N-01 6/27/2025 0.51 2.82 59.33 -167.92 39 3.8	N-02 6/15/2025 0.54 2.91 59.35 -167.27 32 3.2	N-03 6/15/2025 0.51 2.76 59.34 -166.61 28 3.9	N-04 6/14/2025 0.55 2.92 59.32 -165.94 25 4.1	N-05 6/14/2025 0.54 3.08 59.33 -165.33 22 4.2	N-06 6/12/2025 0.54 3.1 59.33 -164.68 23 5.3	N-07 6/12/2025 0.54 3.04 59.32 -164.01 24 5.9	N-18 6/27/2025 0.53 2.93 59.33 -168.58 43 3.1	N-19 6/29/2025 0.52 2.89 59.34 -169.24 49 2.4	N-20 6/29/2025 0.55 3.1 59.33 -169.87 61 0.6	N-21 7/5/2025 0.52 2.83 59.33 -170.54 68 0.3
Red King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	287 96 96 0 96 6.98	238 159 79 0 238 10.33	84 0 0 0 0 0 0.32	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	148 222 148 0 74 8.66	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Blue King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Tanner Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 74 0 0.01	230 0 0 0 0 0 0	0 0 0 0 0	162 0 0 3187 0 1.19
Snow Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 153 0	66035 208 694 57832 416 74.34	411727 1131 8486 482065 9562 592.71
Chionoecetes spp. Hybrid Males ≤ 77 mm Males ≥ 78 mm Immature females Mature females Total weight (kg)	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	153 0 0 0 0 0.04	1850 0 2775 0 2.32	9562 81 3187 0 9.68

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station Start Date Duration (hour) Distance Fished (km) Mid-Latitude (°N) Mid-Longitude (°W) Bottom Depth (m) Bottom Temperature (°C)	N-22 7/5/2025 0.55 3.1 59.33 -171.17 75 0.3	N-23 7/6/2025 0.53 3.03 59.33 -171.83 80 0.8	N-24 7/16/2025 0.53 3.01 59.33 -172.53 89 1.8	N-25 7/16/2025 0.55 3.08 59.33 -173.15 101 2.2	N-26 7/14/2025 0.56 3.2 59.34 -173.8 110 2.3	N-27 7/18/2025 0.54 3.12 59.34 -174.45 121 2.7	N-28 7/18/2025 0.55 3.02 59.34 -175.1 133 3	N-29 7/20/2025 0.53 2.86 59.33 -175.75 137 2.2	N-30 7/21/2025 0.52 2.92 59.34 -176.39 135 2	N-31 7/21/2025 0.56 3.16 59.33 -177.07 150 3	O-01 6/27/2025 0.51 2.83 59.67 -167.95 35 4.5
Red King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 177 88 0 0 3.6
Blue King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Tanner Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	569 0 0 0 0 0 0 0,84	10464 418 139 7661 1254 22.72	3762 128 0 1913 255 6.3	6883 393 262 6555 918 12.31	2623 69 0 2209 2416 9.81	15162 140 140 7482 2277 31.45	4404 1957 839 2377 2027 24.86	688 138 69 275 206 3.16	0 0 0 0 0
Snow Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	125658 1041 10226 69375 101102 296.19	42885 1486 3211 2718 157483 194.83	97628 3094 18171 3346 62453 268.5	279 279 348 209 139 2.56	446 64 128 319 0	131 1180 1246 0 1049 11.19	828 483 828 0 1173 7.13	0 72 72 0 0 0.36	210 0 0 140 70 0.4	69 0 0 0 0 0	0 0 0 0 0
Chionoecetes spp. Hybrid Males ≤ 77 mm Males ≥ 78 mm Immature females Mature females Total weight (kg)	1927 0 2569 1285 4.92	1942 0 0 5048 6.65	0 0 0 0	0 70 70 0 0.27	128 0 383 0 0.18	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station Start Date Duration (hour) Distance Fished (km) Mid-Latitude (°N) Mid-Longitude (°W) Bottom Depth (m) Bottom Temperature (°C)	O-02 6/15/2025 0.54 2.84 59.66 -167.28 31 3.9	O-03 6/15/2025 0.51 2.77 59.65 -166.63 27 4	O-04 6/14/2025 0.55 2.93 59.61 -165.93 27 4.4	O-18 6/28/2025 0.51 2.85 59.67 -168.61 40 3	O-19 6/28/2025 0.52 2.95 59.67 -169.27 47 2.5	O-20 6/29/2025 0.56 3.13 59.68 -169.92 56 1.6	O-21 7/5/2025 0.52 2.87 59.67 -170.58 66 0.1	O-22 7/5/2025 0.55 3.14 59.67 -171.24 73 -0.1	O-23 7/6/2025 0.54 3.11 59.67 -171.9 77 0.3	O-24 7/16/2025 0.51 2.92 59.68 -172.57 85	O-25 7/16/2025 0.56 3.14 59.66 -173.23 95 1.7
Red King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 82 0.76	0 0 0 0 0	160 0 0 0 0 0	154 77 0 77 77 4.45	75 150 150 0 150 6.35	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Blue King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 70 0 0 0 1.41	67 735 468 0 0 17.82
Tanner Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	883 0 0 0 0 0 0.64	0 0 0 0 0	0 0 0 0 0	70 70 70 0 0 0.66	134 67 0 201 0 0.77
Snow Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	8714 72 72 6730 72 11.2	140023 78 1241 205494 3534 203.16	97008 367 1982 173679 142978 286.79	35761 142 1026 6357 46874 88.2	47285 906 5251 33386 64619 146.61	6751 1939 3610 201 15401 44.43
Chionoecetes spp. Hybrid Males ≤ 77 mm Males ≥ 78 mm Immature females Mature females Total weight (kg)	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	75 0 0 0	724 0 0 0 0 0.3	0 0 0 0	0 0 0 1102 0.75	177 0 0 1236 1.01	0 209 0 0 1.33	0 0 67 0

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station Start Date Duration (hour) Distance Fished (km) Mid-Latitude (°N) Mid-Longitude (°W) Bottom Depth (m) Bottom Temperature (°C)	O-26 7/17/2025 0.54 3 59.67 -173.87 105 2.1	O-27 7/18/2025 0.55 3.12 59.66 -174.45 114 2.2	O-28 7/18/2025 0.56 3.09 59.67 -175.11 125 2.8	O-29 7/20/2025 0.52 2.86 59.67 -175.88 137 2.4	O-30 7/21/2025 0.52 2.91 59.67 -176.53 136 2.1	O-31 7/21/2025 0.38 2.14 59.66 -177.14 177 3.5	P-01 6/27/2025 0.54 2.96 59.99 -167.99 26 5.2	P-18 6/28/2025 0.51 2.81 59.99 -168.68 39 2.7	P-19 6/28/2025 0.52 2.92 59.98 -169.3 46 2	P-20 6/29/2025 0.53 2.93 60 -169.97 54 1.2	P-21 7/5/2025 0.39 2.16 59.99 -170.63 64 0
Red King Crab											
Immature males	0	0	0	0	0	0	0	326	74	0	0
Mature males	0	0	0	0	0	0	0	81	0	73	0
Legal	0	0	0	0	0	0	0	81	0	73	0
Immature females	0	0	0	0	0	0	0	81	0	0	0
Mature females	0	0	0	0	0	0	0	81	0	0	0
Total weight (kg)	0	0	0	0	0	0	0	7.45	0.8	2.11	0
Blue King Crab								•			
Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	69	0	0	0	0	0	0	0	0	0	0
Legal	69	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	1.59	0	0	0	0	0	0	0	0	0	0
Tanner Crab											
Immature males	277	273	414	2460	5779	290	0	0	0	0	0
Mature males	69	273	0	145	144	581	0	0	0	0	0
Legal	69	205	0	72	0	290	0	0	0	0	0
Immature females	139	546	138	3039	3034	290	0	0	0	0	0
Mature females	0	205	69	289	795	97	0	0	0	0	0
Total weight (kg)	0.9	2.65	0.42	5.27	12.39	3.91	0	0	0	0	0
Snow Crab											
Immature males	1803	1160	8827	145	578	0	0	0	0	366	408091
Mature males	277	1296	8207	796	578	0	0	0	0	0	206
Legal	693	1910	11793	796	722	0	0	0	0	0	1440
Immature females	139	0	0	72	72	0	0	0	0	146	297699
Mature females	2357	13708	150274	289	0	194	0	0	0	0	13801
Total weight (kg)	7.48	23.29	213.44	7.82	5.9	0.12	0	0	0	0.45	354.69
Chionoecetes spp. Hybrid											
Males $\leq 77 \text{ mm}$	0	0	0	0	0	0	0	0	0	0	0
Males $\geq 77 \text{ mm}$ Males $\geq 78 \text{ mm}$	0	0	69	0	0	0	0	0	0	0	103
Immature females	0	0	0	0	0	0	0	0	0	0	3450
Mature females	0	68	0	0	72	0	0	0	0	0	0
Total weight (kg)	0	0.08	0.22	0	0.14	0	0	0	0	0	1.21

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station	P-22	P-23	P-24	P-25	P-26	P-27	P-28	P-29	P-30	P-31	P-32
Start Date	7/6/2025	7/16/2025	7/16/2025	7/16/2025	7/17/2025	7/19/2025	7/20/2025	7/20/2025	7/23/2025	7/23/2025	7/23/2025
Duration (hour)	0.51	0.51	0.52	0.55	0.55	0.51	0.52	0.52	0.5	0.54	0.54
Distance Fished (km)	2.84	2.82	2.9	3.1	3.03	2.84	2.91	2.85	2.84	3.07	3
Mid-Latitude (°N)	60	59.99	60	60	60.01	60.01	60	60	60	59.99	60
Mid-Longitude (°W)	-171.3	-171.95	-172.61	-173.28	-173.95	-174.6	-175.27	-175.92	-176.72	-177.23	-177.91
Bottom Depth (m)	69	67	66	75	97	108	116	128	141	136	142
Bottom Temperature (°C)	-0.4	-0.3	-0.2	0.1	1.6	2	2.4	2.8	1.9	2.2	2.9
Red King Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	0	0	0	0	0	0	0	0	0	0	0
Legal	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0	0	0	0	0	0	0	0	0	0	0
Blue King Crab											
Immature males	0	74	0	396	0	0	0	0	0	0	0
Mature males	0	0	0	264	275	0	0	0	0	0	0
Legal	0	0	0	198	275	0	0	0	0	0	0
Immature females	0	0	72	330	0	0	0	0	0	0	0
Mature females	0	0	0	66	0	0	0	0	0	0	0
	0	0.33	0.25	12.4	7.98	0	0	0	0	0	0
Total weight (kg)	U	0.33	0.23	12.4	7.98	U	U	U	U	U	U
Tanner Crab											
Immature males	0	0	793	743	69	146	6966	1119	784	754	4946
Mature males	0	0	0	0	0	73	68	0	0	0	79
Legal	0	0	0	0	0	73	68	0	0	0	79
Immature females	0	0	0	0	0	73	8316	1119	549	226	1727
Mature females	0	0	0	0	0	0	107	72	0	75	864
Total weight (kg)	0	0	0.18	1.21	0.04	0.9	9.39	1.37	1.11	1.6	10.47
Snow Crab	12550	11107	252005	10000	4.4000	210	2011	4.400	2010	202	
Immature males	43758	41105	253807	42033	14228	219	3044	1439	3919	302	471
Mature males	0	0	0	264	824	73	1217	1007	862	452	864
Legal	249	0	0	857	2195	219	2502	1943	1411	452	1021
Immature females	34566	30803	97133	43973	0	0	135	0	4076	151	79
Mature females	59434	12881	0	3495	7234	3363	1691	70105	1254	75	0
Total weight (kg)	88.31	53.63	163.97	84.48	38.87	3.68	18.67	68.28	15.51	4.06	8.49
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	356	0	0	0	69	0	0	0	314	0	0
Males $\geq 77$ mm	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	78	0	0
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0.34	0	0	0	0.02	0	0	0	0.46	ő	0
(6)	٠.٠. ١	o o	o	o o	0.02	· ·	· ·	· ·	00	o	o

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station Start Date Duration (hour) Distance Fished (km) Mid-Latitude (°N) Mid-Longitude (°W) Bottom Depth (m) Bottom Temperature (°C)	Q-01 6/28/2025 0.53 2.99 60.33 -167.98 31 4.8	Q-02 6/27/2025 0.52 2.93 60.34 -167.27 31 5.9	Q-18 6/28/2025 0.53 2.92 60.33 -168.66 36 2.3	Q-19 6/28/2025 0.53 2.95 60.33 -169.3 44 1.7	Q-20 6/28/2025 0.52 2.89 60.33 -170 52 0.6	Q-21 7/5/2025 0.52 2.87 60.32 -170.66 62 -0.1	Q-22 7/6/2025 0.52 2.88 60.33 -171.36 66 -0.6	Q-23 7/17/2025 0.54 3.01 60.33 -172.07 59 -1	Q-25 7/17/2025 0.54 3.07 60.3 -173.37 63 -0.4	Q-26 7/17/2025 0.56 3.16 60.33 -174.08 91 0.9	Q-27 7/19/2025 0.52 2.92 60.33 -174.71 102 1.7
Red King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	164 164 0 0 82 5.96	79 79 79 0 0 3.52	0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Blue King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	1361 143 143 501 72 11.32	2796 0 0 2996 0 13.87	65 0 0 65 0 0.22	0 0 0 0 0
Tanner Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	67 0 0 133 0 0.03	0 0 0 0 0	0 0 0 0 0
Snow Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	477 0 0 79 0 0.48	258773 0 1573 250381 5542 258.68	32870 0 132 40995 29949 77.92	108533 0 1840 10831 146217 189.19	16615 0 0 13419 133 14.47	44133 130 522 2016 3900 56.72	7614 813 3400 148 20093 37.01
Chionoecetes spp. Hybrid Males ≤ 77 mm Males ≥ 78 mm Immature females Mature females Total weight (kg)	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	2217 0 1108 0 1.77	66 0 297 0 0.3	0 0 0 0	200 0 133 0 0.14	0 0 0 0	0 0 0 0

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station Start Date Duration (hour) Distance Fished (km) Mid-Latitude (°N) Mid-Longitude (°W) Bottom Depth (m) Bottom Temperature (°C)	Q-28 7/25/2025 0.55 3.15 60.33 -175.42 112 2	Q-29 7/25/2025 0.54 3.02 60.33 -176.1 124 2.3	Q-30 7/23/2025 0.51 2.85 60.34 -176.72 136 2.8	Q-31 7/23/2025 0.54 3.06 60.33 -177.37 146 2.3	R-22 7/6/2025 0.52 2.93 60.67 -171.43 63 -1	R-23 7/17/2025 0.52 2.96 60.68 -172.12 61 -1.1	R-24 7/18/2025 0.52 2.91 60.67 -172.75 44 1.7	R-25 7/18/2025 0.52 2.88 60.67 -173.47 65 -0.3	R-26 7/19/2025 0.51 2.84 60.67 -174.15 86 0.6	R-27 7/19/2025 0.54 2.98 60.66 -174.83 97 1.1	R-28 7/25/2025 0.55 3.1 60.64 -175.45 108 1.4
Red King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Blue King Crab Immature males	0	0	0	0	0	0	625	0	0	0	0
Mature males	0	0	0	0	0	0	859	0	0	0	0
Legal	0	0	0	0	ů 0	0	390	0	0	0	Ö
Immature females	0	0	0	0	0	0	156	0	0	0	0
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0	0	0	0	0	0	18.8	0	0	0	0
Tanner Crab											
Immature males	0	358	77	144	0	0	0	0	0	0	0
Mature males	67	0	0	0	0	0	0	0	0	0	0
Legal	67	0	0	0	0	0	0	0	0	0	0
Immature females	201	1217	0	216	0	0	0	0	0	0	0
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0.55	0.49	0.03	0.28	0	0	0	0	0	0	0
Snow Crab											
Immature males	1405	4439	77	144	31702	84102	199071	112600	98307	1316	3328
Mature males	4281	2076	232	72	0	0	0	0	0	346	3180
Legal	5150	3938	310	72	0	0	0	979	0	693	5694
Immature females	0	0	155	72	31838	16419	51086	64489	93763	139	296
Mature females	201	13218	155	72	17237	71150	31929	73702	231651	4780	1109
Total weight (kg)	36.56	36.05	2.2	1.06	60.65	145.46	227.04	123.13	267.85	8.12	29.55
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	0	0	144	229	0	0	0	0	0	0
Males $\geq 78 \text{ mm}$	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	72	0	0	0	0	0	0	0
Mature females	0	0	0	0	229	0	0	0	0	0	0
Total weight (kg)	0	0	0	0.22	0.29	0	0	0	0	0	0

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station Start Date Duration (hour) Distance Fished (km) Mid-Latitude (°N) Mid-Longitude (°W) Bottom Depth (m) Bottom Temperature (°C)	R-29	R-30	R-31	R-32	S-22	S-23	S-24	S-25	S-26	S-27	S-28
	7/23/2025	7/23/2025	7/23/2025	7/24/2025	7/6/2025	7/17/2025	7/17/2025	7/18/2025	7/18/2025	7/26/2025	7/25/2025
	0.51	0.53	0.58	0.53	0.52	0.26	0.51	0.52	0.51	0.56	0.54
	2.88	3.02	3.36	2.97	2.95	1.45	2.83	2.9	2.85	3.17	3.08
	60.68	60.67	60.67	60.67	61	61	61	61	61	60.98	60.99
	-176.2	-176.77	-177.5	-178.2	-171.48	-172.18	-172.81	-173.53	-174.18	-174.89	-175.55
	118	127	147	162	60	64	66	76	83	93	104
	1.7	2.3	2.1	2.8	-1.1	-1.2	0.2	-0.4	0.6	0.9	1.1
Red King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
Blue King Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
Tanner Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	0 0 0 0 0	0 0 0 147 0 0.05	129 64 64 0 0 0.72	1444 0 0 505 433 2.82	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	225 0 0 300 0 0.09
Snow Crab Immature males Mature males Legal Immature females Mature females Total weight (kg)	1915	6386	2892	72	117882	47471	119352	34797	28049	93416	20424
	589	3817	1093	72	0	0	0	0	0	0	1050
	1620	7781	2507	72	0	0	0	0	75	1338	8872
	0	514	964	0	60100	37619	95762	40064	22014	39441	300
	8821	22912	109462	433	8713	6752	53201	25138	21449	78040	21536
	14.94	61.54	110.88	1.09	114.7	25.92	162.39	55.47	45.62	182.26	67.63
Chionoecetes spp. Hybrid Males ≤ 77 mm Males ≥ 78 mm Immature females Mature females Total weight (kg)	0 0 0 0	0 0 0 0	64 0 64 0 0.17	0 0 0 0	484 0 0 0 0 0.12	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

Station Start Date Duration (hour) Distance Fished (km) Mid-Latitude (°N) Mid-Longitude (°W) Bottom Depth (m) Bottom Temperature (°C)	S-29 7/24/2025 0.56 3.18 61 -176.32 113 1.6	S-30 7/24/2025 0.54 3.02 61 -176.98 122 2	S-31 7/24/2025 0.55 3.13 61 -177.64 136 2	T-25 7/26/2025 0.55 3.13 61.33 -173.62 74 -0.2	T-26 7/26/2025 0.55 3.09 61.33 -174.34 78 -0.3	T-27 7/26/2025 0.53 3.02 61.33 -175.01 88 0.6	T-28 7/24/2025 0.52 2.94 61.34 -175.65 96 0.8	T-29 7/24/2025 0.51 2.78 61.34 -176.28 105 1.4	T-30 7/24/2025 0.52 2.97 61.34 -176.97 116 1.8	U-25 7/26/2025 0.51 2.81 61.67 -173.69 70 -1.4	U-26 7/26/2025 0.53 2.92 61.66 -174.44 76 -1.4
Red King Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	ő	0	0	0	ő	0	0	0	0	0	0
Legal	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0	0	0	0	0	0	0	0	0	0	0
Blue King Crab								4			
Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	0	0	0	0	0	0	0	0	0	0	0
Legal	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0	0	0	0	0	0	0	0	0	0	0
Tanner Crab											
Immature males	0	0	470	0	0	0	0	0	0	0	0
Mature males	68	72	134	0	0	0	0	0	0	0	0
Legal	68	72	134	0	0	0	0	0	0	0	0
Immature females	0	0	67	0	0	0	0	0	0	0	0
Mature females	0	0	336	0	0	0	0	0	0	0	0
Total weight (kg)	0.71	1.03	2.92	0	0	0	0	0	0	0	0
Snow Crab											
Immature males	5679	6965	336	93658	64957	40291	16094	19491	32525	59284	79509
Mature males	4529	8761	336	0	0	0	156	1916	11951	0	0
Legal	8856	14362	470	64	137	764	2266	11245	36695	0	0
Immature females	0	215	201	108429	67922	23447	469	0	1480	66040	72705
Mature females	19609	3088	0	14457	26714	22666	28383	22527	3767	15491	27963
Total weight (kg)	63.56	79.17	3.83	84.31	86.21	93.85	41.72	69.24	159.92	64.3	80.4
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	0	0	0	0	0	0	0	0	0	0
Males $\geq 78 \text{ mm}$	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	404	0
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0	0	0	0	0	0	0	0	0	0.35	0

Appendix B. – Tow details, crab density (number nmi-2), and catch weight at 2025 eastern Bering Sea bottom trawl survey stations.

a	11.05	11.00	11.00	17.05	11.06	11.05	17.00	7.05
Station	U-27	U-28	U-29	V-25	V-26	V-27	V-28	Z-05
Start Date	7/26/2025	7/25/2025	7/24/2025	7/26/2025	7/25/2025	7/25/2025	7/25/2025	6/22/2025
Duration (hour)	0.52	0.27	0.51	0.52	0.53	0.52	0.52	0.5
Distance Fished (km)	2.91	1.59	2.89	2.87	2.99	2.94	2.96	2.79
Mid-Latitude (°N)	61.67	61.67	61.63	62	62	62	62	54.69
Mid-Longitude (°W)	-175.07	-175.78	-176.47	-173.74	-174.52	-175.18	-175.79	-165.15
Bottom Depth (m)	84	96	105	62	73	80	91	83
Bottom Temperature (°C)	0.2	0.8	1.1	-1.3	-1.4	-1.2	-0.2	6.4
Red King Crab								
Immature males	0	0	0	0	0	0	0	0
Mature males	0	0	0	0	0	0	0	0
Legal	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0
Mature females	ő	ő	ő	ő	Ö	o o	0	0
Total weight (kg)	0	0	0	0	0	0	0	0
Total weight (kg)	U	U	U	U	V 0	U	U	U
Blue King Crab								~
Immature males	0	0	0	0	0	0	0	0
Mature males	0	0	0	0	0	0	0	0
Legal	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0
Mature females	0	0	0	0	0	0	0	0
Total weight (kg)	0	0	0	0	0	0	0	0
Tanner Crab								
Immature males	0	0	0	0	0		0	92
	0	0	0	0	0	0	0	82
Mature males	0	0	0	0	0	0	0	0
Legal	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	164
Mature females	0	0	0	0	0	0	0	0
Total weight (kg)	0	0	0	0	0	0	0	0.03
Snow Crab								
Immature males	36943	18490	7089	87367	45425	35228	93922	0
Mature males	0	0	665	0	0	0	0	0
Legal	451	880	4061	0	0	0	0	0
Immature females	49609	9548	0	81074	43225	34591	62757	0
Mature females	1731	11863	74	16692	9760	12812	12784	0
Total weight (kg)	45.62	21.26	23.08	75.65	48.55	44.74	112.16	0
				, , , , ,				•
Chionoecetes spp. Hybrid								
Males $\leq 77 \text{ mm}$	0	0	0	0	0	0	0	0
Males $\geq 78 \text{ mm}$	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0
Mature females	0	0	0	0	0	0	0	0
Total weight (kg)	0	0	0	0	0	0	0	0