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The 2024 Eastern Bering Sea Continental Shelf Trawl Survey: Results for Commercial Crab Species

By

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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 2024, 349 total stations were sampled on the EBS shelf between 2 June and 5 August.

The 2024 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 51,756 t, 49% higher than the record-low estimate from 2021. Abundance and biomass estimates in 2024 increased from 2023 estimates across all size, sex, and maturity categories for snow crab (*Chionoecetes opilio*) and both the eastern and western Tanner crab (*C. bairdi*) stocks. Biomass and abundance estimates were the highest ever observed in the 1988 – 2024 time series for immature female, mature female, and small male (< 95 mm carapace width) *C. bairdi* west of 166° W; a very large cohort of crab is moving through the population, and this cohort has yet to reach legal size for males. Immature female snow crab also had the highest abundance and biomass on record in 2024, a striking recovery from their all-time low in 2021. Abundance estimates for Bristol Bay red king crab (*Paralithodes camtschaticus*) increased from 2023 estimates across all size/sex categories, except mature females, which remained nearly the same. In 2024, for the first time in over four decades, high density corner stations were not sampled around Saint Matthew Island and the Pribilof Islands. This reduction in sampling effort was of particular importance for the island king crab stocks by further reducing sampling effort for stocks that already had few positive catch stations. In 2024 no Pribilof Island blue king crab (*P. platypus*) were caught and Pribilof Island red king crab abundance estimates declined from 2023 estimates across all size/sex categories. For Saint Matthew Island blue king crab, 2024 abundance estimates of mature crab declined from 2023 estimates, while estimated abundance increased for immature crab.

Biomass estimates from the 2024 survey, reported in metric tons (t) and pounds (lb) with 95% confidence intervals (± 1.96 SE) for legal and preferred-size males of each commercial crab stock in the EBS and NBS. 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.

	2024 legal or preferred-size male biomass (±95% CI)		
Stock	Size	t	lb
Bristol Bay District red king crab	≥ 135 mm CL	20,837	45,937,888
Legal Size	(≥ 6.5 in. CW)	(6,606)	(14,564,098)
Pribilof District red king crab	≥ 135 mm CL	1,184	2,610,463
Legal Size	(≥ 6.5 in. CW)	(1,078)	(2,376,159)
Pribilof District blue king crab	≥ 135 mm CL	0	0
Legal Size	(≥ 6.5 in. CW)	(0)	(0)
Saint Matthew Is. blue king crab	≥ 120 mm CL	1,278	2,818,568
Legal Size	(≥ 5.5 in. CW)	(1,429)	(3,151,163)
Tanner crab, east of 166° W	≥ 120 mm CW	7,465	16,457,477
Legal Size	(≥ 4.8 in. CW)	(2,429)	(5,354,092)
Preferred Size	≥ 125 mm CW	6,248	13,774,659
	(≥ 5.0 in. CW)	(2,133)	(4,703,399)
Tanner crab, west of 166° W	≥ 110 mm CW	12,915	28,472,615
Legal Size	(≥ 4.4 in. CW)	(3,303)	(7,281,532)
Preferred Size	≥ 125 mm CW	5,140	11,332,009
	(≥ 5.0 in. CW)	(1,558)	(3,435,092)
Snow crab	≥ 78 mm CW	44,759	98,677,802
Legal Size	(≥ 3.1 in. CW)	(10,700)	(23,588,902)
Preferred Size	≥ 102 mm CW	17,068	37,628,076
	(≥ 4.0 in. CW)	(4,571)	(10,077,806)

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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, and in 1982 the survey methods and gear were standardized (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 populations; however, these stations were removed 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).

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 (*P. platypus*), 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 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) and including station Z-04, which is excluded from analysis for crab populations, as described later. These cover an area of approximately 140,751 nmi^2, 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) has been surveyed in 2010, 2017, 2018 (with reduced effort), 2019, 2021, 2022, and 2023 (with reduced effort). The NBS (144 stations) was not surveyed in 2024.

Bering Sea Crab Stock Assessment Process

Crab species included in the Federal Bering Sea and Aleutian Islands King and Tanner Crab Fisheries 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 2024 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 2024 survey, will be reported in a separate NOAA Technical Memorandum.

METHODS

Survey Area and Sampling Gear

The 2024 EBS survey was conducted on board two chartered fishing vessels, the FV *Alaska Knight* and FV *Northwest Explorer* from 2 June to 5 August. 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 in 2024. To calculate the total area covered for each stock, the area for each 20 × 20 nmi cell is assumed to be 401 nmi^2 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 estimations 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. 2). The number of sampled stations listed here for each crab stock are for the 2024 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^2). 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^2) and the Pribilof Islands District (ADF&G Pribilof District in King Crab Registration Area Q, 61 stations, 24,461 nmi^2). Northern District red king crab are not an FMP crab species 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^2). 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^2), 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^2). The EBS Tanner crab population is considered a single stock, but it is split into eastern (120 stations, 401 nmi^2) and western (229 stations, 92,230 nmi^2) 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 2024 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. 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^{-1}; 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 (± 0.002°C), with pressure sensors measuring to a maximum depth of 1,000 m (± 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 49-year time series (Fig. 4a). 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 *Chionoecetes* spp. males, chela heights were taken to determine morphometric maturity (see Maturity Estimates below). In 2024, chela heights were measured for ≤ 15 snow and Tanner crab per haul. 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 2024, individual weight data were collected on up to five snow 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 throughout the spatial distribution of each species. 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 = ¼ full, 4 = ½ full, 5 = ¾ full, 6 = full, 999 = unknown).

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. 64, 65, and 83), and these static size cutoffs may result in misleading abundance and biomass estimates for both the mature and immature populations. For the 2024 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 14 and 17).

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 et al. 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. The minimum size cutoff for mature crab is specified as 60 mm, 50

mm, and 30 mm for all Tanner, EBS snow crab and NBS snow crab, respectively. These size cutoffs are set based on the average size of mature female crab, with the expectation that to mate successfully, males should generally be larger than females (Stevens et al. 1993). 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 may be influenced by changes in environmental conditions and host size (Balstad et al. 2024). 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^{-2}) 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 (density estimates only for sub-legal and legal males, and all females). The area swept by the trawl (nmi^2) 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. Prior to 2009, data reported in this annual document were calculated using a fixed width of 15.2 m (0.008 nmi) in the area-swept

calculation to maintain consistency with historical crab population estimates. Since 2009, all population abundance and biomass estimates for the entire time series have been calculated using the variable net width based on net mensuration data obtained during the tow (Table 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). For 2024 and all historical data reported in this current document, crab densities were calculated using the mean net width recorded for the duration of each tow, and a mean net width-inverse scope regression relationship was calculated when net width values were not recorded during a tow (Rose and Walters 1990). 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. From 1982 to 1987, the net width used in the area-swept calculations was estimated using the inverse relationship between net scope and net width developed by Rose and Walters (1990). From 1988 to 2024, the net width was estimated using the net mensuration system described above, which measures the height and width of the net throughout the duration of the tow. 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 3). 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/nmi^2) across all stations within the stock boundary, while accounting for subsampling, and multiplying by the total area within the stock boundary. 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 they were 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 (i.e., 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 (e.g., 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 seven special projects to collect stock-specific biological data (Table 4):

1) Tag mature female Bristol Bay and Northern District red king crab with pop-up satellite tags to elucidate seasonal movement trajectories from summer into fall, winter, and spring.
2) Tag mature male Bristol Bay and Northern District red king crab with pop-up satellite

tags to elucidate movement trajectories from summer to fall.

3) Collect hepatopancreas from immature snow crab that are nearing maturity across six regions in the EBS to assess body condition and lipid allocation.
4) Collect live, immature snow crab for laboratory experiments on temperature dependent starvation and feeding.
5) Collect live, immature snow crab and mature female snow crab for ocean acidification laboratory experiments.
6) Collect live, legal male snow crab for bycatch reduction laboratory experiments.
7) Collect frozen specimens for the NMFS observer program.

Pop-up satellite tags were placed on 49 mature male and 135 mature female red king crab. Tags were set to release from male crabs and transmit location information in October 2024, while tags on females were set to release in October 2024, January 2025, and April 2025. Approximately 400 immature snow crab, 135 mature female snow crab and 50 legal male snow crab were collected live for ocean acidification, bycatch reduction, and temperature/starvation experiments, and transported to AFSC's Kodiak Laboratory. Preserved samples were collected for projects on lipid condition metrics (hepatopancreas/whole crab samples from 181 snow crab). Five frozen specimens were collected for the NMFS observer program. For maturity estimates, chela heights were measured for 4,080 male Tanner crab and 3,409 male snow crab. All collections were completed within the guidelines stipulated by the survey's Scientific Research Permits (NOAA: 2024-3) and Aquatic Resource Permit (ADF&G: CF-22-022), as well as project -specific permits (CF-24-070, CF-24-080, CF-24-085, CF-24-090).

RESULTS

Eastern Bering Sea Survey Overview

The 2024 EBS bottom trawl survey consisted of 349 stations sampled from 2 June to 5 August (Fig. 1). The survey was conducted over a total area of approximately 140,350 nmi^2, 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 A. The mean distance fished across all tows was 1.54 nmi (SD = 0.14 nmi) with a range of 0.64 nmi to 1.73 nmi and the mean tow duration was 30.8 minutes (SD = 2.6 min, range = 13.1 min to 34.1 min) for standard stations. The fishing depth ranged from 18 m to 190 m with a mean gear depth of 79.2 m (SD = 35.1 m) for standard stations. Mean net width for standard tows ranged from 12.6 m to 19.3 m and the average mean net width for all 349 standard tows was 15.7 m (SD = 0.9 m). The 2024 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 ± 0.18 nmi.

The mean bottom water temperature across all 349 stations was 2.5 °C (SD = 1.4), ranging from -1.6 °C to 5.7 °C. Similar to 2022 and 2023, a cold pool of water < 2 °C extended primarily down the middle shelf between the 50 and 100 m isobaths, as far south as the Pribilof Islands, but not reaching into central Bristol Bay. Bottom water temperatures were at or below -1 °C at only five stations, east and north of Saint Matthew Island (Fig. 3). For the subset of stations selected for standardizing the bottom temperature time series (Fig. 4a), the resulting estimate for mean bottom temperature in 2024 was 2.68 °C, similar to 2022 and 2023 (Fig. 4b).

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 – 2024 time series for the seven commercial crab stocks (Fig. 5). Biomass of harvestable crabs was high in the late 1980's and early 1990's, 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 and was below 50,000 t for the previous three years. The 2024 total biomass of crabs of harvestable size in the EBS for all stocks was 51,756 t, a 49% increase over the record-low estimate from 2021 (Fig. 5).

Bristol Bay District Red King Crab

Red king crab (*Paralithodes camtschaticus*) were caught at 67 of the 136 stations in the Bristol Bay management district, and 100% of these crab were measured (Table 5). Estimated biomass

of legal-sized male crab (± 95% CI) in 2024 was 20,837 ± 6,606 t (7.0 ± 2.2 million crab; Tables 6 and 7; Fig. 6). This estimate is 47% higher than the 2023 biomass estimate, but below the previous 20-year average of 24,782 ± 5,140 t. The 2024 center of abundance for legal males was in central Bristol Bay, further east than most previous years and very similar to 2023 (Fig. 29). The majority of legal males were concentrated around central Bristol Bay, primarily occurring east of column 7 (Fig. 22). Legal males were found along the northern Bristol Bay district boundary, but in relatively low abundance (Fig. 22). Sixty percent of legal-sized males were new hardshell crab, while 24% were oldshell, and 16% were very oldshell (Fig. 11). Both new and oldshell legal male crab were distributed in shallow waters around Bristol Bay, while only new hardshell legal males were found in deeper waters (Fig. 28).

Mature and immature male Bristol Bay red king crab biomass estimates were 24,112 ± 7,305 t (9.0 ± 2.7 million crab) and 6,447 ± 2,371 t (8.2 ± 3.1 million crab), respectively (Tables 6 and 7). Both size categories were distributed throughout Bristol Bay, east of column 9, with higher abundances occurring to the south around Port Moller (Figs. 23. 24, and 27). In 2024, mature and immature male biomass and abundance estimates increased (Tables 6 and 7; Fig. 6). However, compared with historic values, the male population remains low across all size classes (Fig. 6), with no evidence of significant new recruitment (Fig. 9).

The 2024 mature female red king crab biomass estimate was 14,444 ± 7,485 t (11.0 ± 5.6 million crab) and the immature female biomass estimate was 1,143 ± 689 t (2.5 ± 1.5 million crab; Tables 6 and 7). The mature female biomass estimate in 2024 decreased by 14% from the 2023 estimate and was well below the previous 20-year average of 30,311 ± 6,216 t (Table 6). In contrast, the estimate for immature female biomass increased from the 2023 value (Table 6). Female abundance across all size classes remains low compared with historic values (Fig. 6), with no strong signal of new recruitment (Figs. 9 and 13). Similar to 2023, in 2024 mature female red king crab were found throughout eastern Bristol Bay, but with particularly high catches just north of Port Moller (19% and 37% of the total survey mature female catch occurred at station E-12 in 2024 and 2023, respectively) (Fig. 25). The 2024 center of abundance for mature females was in central Bristol Bay; the latitude was near average for the time series,

while the longitude was shifted eastward compared with most previous years (Fig. 29). Immature females were found throughout eastern Bristol Bay, east of column 9 (Figs. 26 and 27).

Of the 356 mature females sampled in June, 85% had uneyed eggs, 2% had eyed eggs, 4% had empty egg cases, and 9% were barren (Figs. 17 and 21). Eighty-five percent of mature females were carrying clutches that were either three-quarters or completely full (Figs. 19 and 21). Eighty percent of mature females were new hardshell, 10% had a soft shell or were in the process of molting, and 10% were oldshell (Figs. 15 and 21). Overall, 15% of mature females had not completed the annual molt-mate cycle at the time of sampling, which was slightly above the 10% threshold to consider resampling. Discussions occurred among NMFS/ADF&G crab biologists, the stock assessment author, and the crab industry; it was agreed that resampling Bristol Bay later in the summer would not appreciably change the survey results and stock assessment, thus the decision was made to not resample Bristol Bay stations. The 2024 average bottom water temperature in the Bristol Bay District was 2.5 °C, a temperature that has delayed the molt/ mate cycle in some years (Fig. 30). Mature females with an incomplete reproductive cycle tended to occur in the more northern Bristol Bay stations (Fig. 31).

Pribilof District Red King Crab

Red king crab were caught at 6 of the 61 stations in the Pribilof District in 2024 (Fig. 27) and all crabs were measured (Table 5). Estimated legal male biomass was 1,184 ± 1,078 t (0.2 ± 0.2 million crab; Tables 8 and 9; Fig. 7), which was lower than both 2023 and the 20-year average of 4,747 ± 1,623 t (Table 8). Twenty-five percent of legal-sized males were new hardshell (Fig. 12). Both new hardshell and oldshell legal males were distributed around Saint Paul Island (Fig. 28). All captured males were of legal size; no immature or sublegal males were caught.

The biomass estimate for mature females was 282 ± 347 t (0.1 ± 0.2 million crab) and no immature females were caught (Tables 8 and 9; Fig. 14). The 2024 mature female biomass was below the previous 20-year average biomass estimate (1,419 ± 452 t; Table 8). All mature females had full or three-quarters full clutches (Fig. 20) with uneyed eggs (Fig. 18), while 80%

were new hardshell and 20% were softshell (Fig. 16). Mature females were all caught on the eastern side of Saint Paul Island (Fig. 25).

Historically, red king crab were not abundant in the Pribilof District and landings were taken incidentally during the blue king crab fishery. The population began to increase in the 1990s and the red king crab fishery first opened in 1993, while the blue king crab fishery was closed. A combined fishery for both red and blue king crab occurred in the Pribilof District from 1995 through 1998, but due to low abundance of blue king crab, both the combined fishery and the red king crab fishery have remained closed since the 1998-1999 season (Gish 2006). The red king crab population has remained relatively stable since the 1990s (Fig. 7), although few juveniles are observed (Figs. 10, 12, and 14). Pribilof red king crab biomass estimates are imprecise, especially for females, due to the limited number of tows with crab catches (Fig. 27, Appendix A), which was further exacerbated in 2024 with the reduced sampling effort around the Pribilof Islands (i.e., no corner stations sampled, reducing sampling effort from 77 to 61 stations).

Northern District Red King Crab

Red king crab were caught at 29 stations in the Northern District (Fig. 27), outside of the current management units where red king crab are commercially fished (Fig. 2). 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 2024 biomass estimate of legal-sized males (≥ 135 mm) was 1,740 t (0.5 million crab), while the biomass estimates for mature and immature males were 2,096 t (0.7 million crab) and 661 t (0.9 million crab), respectively. The mature male abundance estimate increased from 2023 and remains within the range observed since 2006 (Fig. 8). Northern District males occurred primarily above the 50 m isobath (Figs. 23 and 24).

Estimated biomass of mature and immature female red king crab was 1,649 t (1.4 million crab) and 29 t (0.2 million crab), respectively (Fig. 8). The 2024 abundance of mature females increased from 2023 and was the second highest value in the timeseries (Fig. 8). Northern

District females were primarily found above the 50 m isobath, south and west of Nunivak Island (Figs. 25 and 26).

Pribilof District Blue King Crab

No blue king crab (*Paralithodes platypus*) were caught in the 70 stations in the Pribilof stock boundary area in 2024 (Fig. 46). 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. 34). Male and female blue king crab abundance estimates have been extremely low in recent years, with no evidence of an increasing trend (Fig. 32), but this is the first year in which no Pribilof Island blue king crab were captured in the survey (Tables 10 and 11). These results may have been caused in part by the reduction in survey effort around the Pribilof Islands; previous years surveyed 86 stations for Pribilof Island blue king crab, while 70 were surveyed in 2024.

Saint Matthew Island Section, Northern District Blue King Crab

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. For example, in 2023 station QP2423 contained 75%, 53%, 35%, and 39% of the mature female, immature female, mature male and immature male catch, respectively; however, this station was not sampled in 2024. Corner stations, which had been sampled since 1983, were not sampled around Saint Matthew Island in 2024, reducing sampling effort from 56 to 46 stations. This reduction in sampling effort likely further reduced the precision of biomass and abundance estimates. Blue king crab were caught at only 7 of the 46 total stations in the Saint Matthew Island Section (Fig. 46), and all crab were measured (Table 5).

Legal male crab biomass was estimated at 1,278 ± 1,429 t (1.2 ± 0.9 million crab; Tables 12 and 13; Fig. 33). The legal male biomass estimate was similar to 2023 and below the previous 20-year average of 2,391 ± 587 t. In 2024, 81% of the legal-sized males were new hardshell crab

(Fig. 36). The legal males were distributed around Saint Matthew Island, with 52% caught at station O-25 (Fig. 41).

The mature male biomass estimate was 1,651 ± 1,551 t (1.8 ± 1.5 million crab) and the immature male biomass estimate was 431 ± 447 t (0.8 ± 1.0 million crab; Tables 12 and 13; Fig. 33). In 2024, 46% of mature males were caught at O-25 and 63% of immatures males were caught at Q-23 (Figs. 42 and 43).

Only one mature female blue king crab was captured in the Saint Matthew Island Section, with one additional mature female captured just north of the section boundary (Figs. 37 and 46). The mature female blue king crab biomass estimate was 46 ± 89 t (0.1 ± 0.1 million crab) and the immature female biomass estimate was 247 ± 307 t (0.8 ± 1.0 million crab; Tables 12 and 13; Fig. 33). The 2024 mature female biomass estimate is lower than 2023 and the previous 20-year average (158 ± 79 t). Female blue king crab were in shallow waters east and west of Saint Matthew Island (Figs. 44 and 45). The one mature female had a new, hard shell (Fig. 38) and a clutch of uneyed eggs that was three-quarters full (Fig. 39 and 40).

The Saint Matthew blue king crab population has gone through several peaks in abundance (Figs. 33 and 35). Abundance declined in the late 1990s, and the fishery was closed in 1999. The fishery opened again in 2009 after a 10-year rebuilding plan, but was then closed on and off over the next several years, and has remained closed since 2016.

Eastern Bering Sea Tanner Crab

Estimated biomass and abundance for both the eastern and western Tanner crab (*Chionoecetes bairdi*) stocks increased across all sex and size categories in 2024 from 2023 estimates (Figs. 47 and 48; Tables 14 – 25). Since 2017, Tanner crab west of 166° W have had strong recruitment into the smaller size classes (~20 – 50 mm CW), but at first these peaks failed to progress into the larger size classes (Fig. 51). However, in 2023, along with a large cohort of small juveniles (~25 – 50 mm CW), there was an increase in 50 – 60 mm CW crab, indicating higher survival of the small juveniles from 2022. This trend dramatically continued in 2024, with the largest peak

of ~40 – 90 mm CW Tanner crab ever observed (Figs. 51, 53, and 55). Abundance estimates for immature females, mature females, and small males west of 166° W were all the highest in the time series (Fig. 48). Tanner crab east of 166° W did not experience the same recruitment trends as in the west, but a more moderate peak of ~40 – 90 mm CW crab was also evident in the east, the largest in over a decade (Fig. 50, 52, and 54).

Tanner crab (*Chionoecetes bairdi*) were caught at 81 of the 120 stations east of 166° W (Fig. 72) and 100% of legal crab were measured (Table 5). The biomass estimate for legal male Tanner crab east of 166° W (≥ 120 mm carapace width) was 7,465 ± 2,429 t (10.4 ± 3.4 million crab; Tables 14 and 17; Fig. 47). Seventy-eight percent of legal males were of industry-preferred size (≥ 5.0 in CW), with a biomass estimate of 6,248 ± 2.133 t (8.2 ± 2.8 million crab; Tables 14 and 17). The 2024 estimated biomass of legal Tanner crab in the eastern area was 59% higher than in 2023, but below the previous 20-year average biomass of 12,514 ± 3,440 t. In 2024, 50% of sampled legal males east of 166° W were new hardshell, down from 64% in 2023 (Fig. 52). East of 166°W, the large (≥ 113 mm CW) male Tanner crab biomass estimate was 9,229 ± 2,736 t (14.2 ± 4.1 million crab) and the small (< 113 mm CW) male biomass estimate was 9,765 ± 7,114 t (80.0 ± 50.6 million crab; Fig. 47). The 2024 biomass estimate of morphometrically mature newshell Tanner crab east of 166°W (using chela-based maturity) was 6,118 ± 2,881 t (12.5 ± 7.4 million crab; Tables 15 and 18). Size at 50% maturity was similar to the 2023 value and well below the traditional maturity cutoff (≥ 113 mm CW; Fig. 64).

Estimated biomass for mature female Tanner crab east of 166° W was 3,314 ± 1,746 t (21.1 ± 12.3 million crab), while the immature female Tanner crab estimated biomass was 2,898 ± 2,840 t (49.4 ± 33.3 million crab; Tables 16 and 19; Fig. 47). Estimated mature female biomass doubled from 2023, but was slightly below the previous 20-year average of 3,672 ± 1,366 t. The proportion of the mature female population in new hardshell condition increased from 7% in 2023 to 59% in 2024 (Figs. 56 and 62). In 2024, 9% of mature females were softshell, 26% were oldshell, and 6% were very oldshell (Fig. 56). Since Tanner crab have a terminal molt to maturity, a high percentage of the mature females in newer shell conditions indicates new recruitment into the mature population. Newly extruded, uneyed embryos were carried by 84%

of the mature females sampled, while 14% were barren, and 2% had eyed eggs (Fig. 58). Seventy -five percent of mature females had clutches that were full or three-quarters full (Fig. 60).

Tanner crab were caught at 154 of the 229 stations west of 166° W (Fig. 72) and 98% of legal-sized crab were measured (Table 5). The 2024 biomass estimate for legal male Tanner crab west of 166° W (≥ 110 mm carapace width) was 12,915 ± 3,303 t (24.0 ± 6.0 million crab; Tables 20 and 23; Fig. 48). Thirty-one percent of legal males were of industry-preferred size, for a biomass estimate of 5,140 ± 1,558 t (7.5 ± 2.3 million crab; Tables 20 and 23; Fig. 48). The 2024 estimated biomass of legal Tanner crab in the western area was double the 2023 biomass estimate, but below the previous 20-year average biomass of 19,486 ± 4,287 t. In 2024, 55% of sampled legal-sized males were new hardshell west of 166° W, an increase from 2023 (Fig. 53). West of 166° W, the large (≥ 103 mm CW) male biomass estimate was 17,187 ± 4,285 t (35.9 ± 8.9 million crab) and the small (< 103 mm CW) male biomass estimate was 45,936 ± 15,443 t (510.5 ± 135.3 million crab; Tables 20 and 23). The 2024 biomass estimate of newshell morphometrically mature Tanner crab west of 166° W was 12,397 ± 4,231 t (33.0 ± 11.6 million crab; Tables 21 and 24). Size at 50% maturity for western Tanner crabs increased from 2023 and was slightly below the traditional size cutoff for maturity (≥ 103 mm CW; Fig. 65).

Estimated biomass for mature female Tanner crab west of 166° W was 20,926 ± 8,926 t (149.8 ± 64.4 million crab), while the immature female Tanner crab estimated biomass was 15,873 ± 5,502 t (354.8 ± 100.1 million crab; Table 22 and 25; Fig. 48). Estimated mature female biomass increased by 273% from 2023 and was the highest in the time series (previous 20-year average of 5,715 ± 932 t). Sixty-seven percent of the mature females were new hardshell, an increase from 2023, while 26% were oldshell and 3% were very oldshell (Figs. 57 and 63). Ninety-seven percent of the sampled mature females carried newly extruded embryos, 2% were barren and < 1% carried empty egg cases (Fig. 59). Eighty-five percent of mature females had clutches that were either full or three-quarters full (Fig. 61), an increase from 2023 (Fig. 63).

Legal and large-sized male Tanner crab east of the Pribilof Islands were distributed across the outer and middle shelf, while those west of the Pribilofs were almost exclusively on the outer shelf (Figs. 66 – 68). New hardshell legal males were more dominant in shallower waters closer

to the 50 m isobath, while older shell crab dominated in deeper waters (Fig. 73). The 2024 center of abundance for industry-preferred males shifted northward from 2023 and was the furthest north it has been observed since the 1980's (Fig. 74). Mature females were primarily found on the outer shelf west of the Pribilof Islands and on both the outer and middle shelf east of the Pribilof Islands, with higher abundances found just east of Saint Paul Island, near the canyons, and near Unimak Pass (Fig. 70). The 2024 mature female center of abundance was shifted northward from 2023 and was the furthest north ever observed (Fig. 74). Small males and immature females were abundant across the outer shelf and also on the middle shelf around the Pribilof Islands (Figs. 69 and 71).

Eastern Bering Sea Snow Crab

Following the highest estimated abundance in the time series in 2018, snow crab (*Chionoecetes opilio*) experienced a population collapse that resulted in rapid declines in abundance estimates in 2019 and 2021 (Szuwalski, 2022). There were signs of population recovery in 2022 and 2023, with moderate recruitment of small juvenile crab (Fig. 76). In 2024 it was evident that the cohorts of small juveniles observed in previous years were surviving and growing into larger size classes. The biomass and abundance estimates of snow crab increased in 2024 compared with 2023 estimates across all size, sex and maturity categories, with considerable increases in large juveniles and mature females (Fig. 75; Tables 26 – 31). Although there was a slight increase in industry-preferred size male crab, it was evident that males that have recruited post-collapse have yet to reach this size (Fig. 76).

During the 2024 survey, snow crab were caught at 201 of the 349 stations in the EBS (Fig. 90) and 69% of legal male crab were measured (Table 5). Legal male snow crab estimated biomass was 44,759 ± 10,700 t (133.6 ± 35.6 million crab; Tables 26 and 29; Fig. 75). This estimated biomass represents a 113% increase since 2023, but is less than half of the previous 20-year average of 104,053 ± 22,101 t. Twenty-two percent of the legal male biomass was comprised of industry-preferred crab (≥ 4.0 in CW), for a biomass estimate of 17,068 ± 4,571 t (29.4 ± 7.7 million crab; Tables 26 and 29). The biomass estimate for preferred-size males increased by 49% from 2023. Legal and preferred-size males were found in greatest abundance in a band stretching

from Saint Paul Island to the US-Russian border, starting on the middle shelf in the southeast and moving into deeper outer shelf waters further to the northwest (Figs. 84 and 85). The center of abundance for industry-preferred males was further south than in the past three years, post population collapse (Fig. 92). Seventy-six percent of legal-sized male crab were in new hardshell condition, 13% were oldshell and 11% were very oldshell (Fig. 77). Oldshell legal males were primarily distributed on the outer shelf, south of Saint Matthew Island, while new hardshell males were more dominant on the middle shelf and to the north (Fig. 91).

The size at which 50% of the male snow crab population is morphometrically mature, having undergone terminal molt, increased by 1 mm (79.4 to 80.4 mm CW) from 2023 to 2024 (Fig. 83). The 2024 biomass estimate of morphometrically mature, new hardshell snow crab (using chela-based maturity) was 39,518 ± 10,637 t (243.2 ± 68.6 million crab), a 290% increase from 2023 (Tables 27 and 30). Estimated large (≥ 95 mm CW) male biomass was 23,193 ± 5,694 t (45.1 ± 10.7 million crab), which was a 50% increase in biomass from 2023 (Tables 26 and 29; Fig. 75). Estimated small (< 95 mm CW) male biomass was 142,498 ± 38,027 t (2,385.1 ± 720.0 million crab). In 2024 small male biomass estimates increased by 303% and abundance increased by 176% from 2023 (Tables 26 and 29; Fig. 75). After the 2019-2021 population collapse, new recruitment was observed in 2022 and 2023 (Figs. 76 and 77); abundance estimates for small males increased, but biomass estimates continued to decline as the larger small males that had survived the collapse grew and moved out of the small male size category. Increased biomass, as well as abundance, in 2024 indicates growth of the 2022 and 2023 new recruits. In 2024 there were peaks in male abundance at ~35 mm CW and ~50 mm CW, indicating both continued new recruitment and growth of the previous year's cohort (Figs. 76 and 77). Large males were primarily distributed on the outer shelf and also on the middle shelf between Saint Paul Island and Saint Matthew Island (Fig. 86). Small males were most abundant on the middle shelf north of Saint Paul Island (Fig. 87). 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. 90).

The estimated biomass of mature female snow crab was 40,957 ± 18,320 t (772.0 ± 373.0 million crab), while the estimated biomass of immature female snow crab was 125,938 ± 47,742 t

(3,647.4 ± 1,440.6 million crab; Tables 28 and 31; Fig. 75). The 2024 mature female biomass estimate increased by 174% from the 2023 estimate, but was approximately half of the previous 20-year average (80,543 ± 21,749 t). Estimated immature female biomass and abundance increased by over two orders of magnitude from 2021, the lowest on record, to 2024, the highest on record (Fig. 75). In 2024 there were peaks in immature female abundance at ~35 mm CW and ~45 mm CW, which was similar to 2022 and 2023, but with an increased magnitude (Fig. 76). There was also a peak in immature female abundance at ~60 mm CW. The mean size of mature females in 2024 was 52.4 mm, thus 60 mm is very large for mature snow crab (Figs. 76 and 78). If these large immature females terminally molt in 2025, the mean size at maturity for female snow crab will dramatically increase, which is unprecedented in the observed time series (Fig. 76).

As with Tanner crab, snow crab shell condition can be used as a relative index of shell age post-molt. In 2021 over 99% of mature females were either oldshell or very oldshell, indicating an aging stock of mature female crab (Fig. 79). In 2022, although the abundance declined, some new recruitment into the mature female population was observed, as 44% of mature females were new hardshell. By 2023 the oldshell females present in 2021 appear to have almost entirely senesced, as 89% of the 2023 mature population was new hardshell. In 2024 the proportion of new hardshell mature females declined from 2023 (49% new hardshell, 43% oldshell, and 8% very oldshell in 2024), indicating both new recruitment into the mature female population and aging of the 2023 mature females (Figs. 79 and 82). Given that the mature female abundance estimate more than doubled from 2023 to 2024 (Fig. 75), the survival of the new hardshell crab from 2023 must have been very high as they aged and became the oldshell crab of 2024 (Fig. 79). In 2024, 97% of the mature females were brooding new uneyed embryos (Fig. 80) and 90% had clutches that were full or three-quarters full (Fig. 81). Clutch fullness had declined in the years immediately following the population collapse (2021 and 2022), but increased once again in 2023 and 2024 (Fig. 82). Mature female snow crab were primarily distributed around Saint Matthew Island, with one high abundance station further south (Fig. 88). The center of abundance for mature females was farther south than in recent years (Fig. 92). Immature females were most abundant between Saint Paul Island and Saint Matthew Island along the 170° W line (Fig. 89).

Eastern Bering Sea *Chionoecetes* Hybrids

Chionoecetes spp. hybrid crab were caught at 97 of the 349 stations in the EBS (Fig. 100). 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 5,702 ± 3,352 t (17.8 ± 11.3 million crab; Tables 32 and 34; Fig. 93). Fourteen percent of the legal males were ≥ 4 inches in CW, with a biomass estimate of 2,312 ± 1,817 t (2.5 ± 1.2 million crab). The large male (≥ 95 mm CW) biomass estimate was 2,216 ± 1,047 t (4.2 ± 2.1 million crab; Fig. 93) and the small male (< 95 mm CW) biomass estimate was 7,769 ± 4,852 t (58.1 ± 33.3 million crab). Hybrid males were distributed throughout most of the survey grid below the 50 m isobath and west of 164° W, with particularly high abundance to the northeast of Saint Paul Island (Figs. 95 – 97).

The 2024 mature female *Chionoecetes* spp. hybrid crab biomass estimate was 2,312 ± 1,817 t (17.7 ± 13.2 million crab; Tables 33 and 35; Fig. 93), and the immature female crab biomass estimate was 1,861 ± 1,143 t (27.5 ± 15.7 million crab). Unlike nonhybrid *Chionoecetes* spp., the clutches of most female hybrids were empty or very small (Fig. 94); 16% of females had clutches that were full or three-quarters full, 24% were half full, 10% were one quarter full, 27% were one eighth full, and 23% were barren. As with males, hybrid females were distributed throughout most of the survey grid below the 50 m isobath and west of 164° W, with high abundance stations to the northeast of Saint Paul Island (Figs. 98 – 99).

Eastern Bering Sea Hair Crab

In this report, legal male hair crab (*Erimacrus isenbeckii*) are defined as > 3.25 inches CW (≥ 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 46 of the 349 stations throughout all districts combined on the survey (Fig. 105). The 2024 biomass estimate of legal males was 923 ± 358 t (1.7 ± 0.7 million crab) and 579 ± 250 t (1.8 ± 0.9 million crab) for sub-legal males (Tables 36 and 37; Fig. 101). Male hair crab primarily occurred along the 50 m isobath and into Bristol Bay (Figs. 102, 103, and 105). The female hair

crab biomass estimate was 454 ± 274 t (1.3 ± 0.7 million crab; Tables 36 and 37; Fig. 101). Females were primarily distributed near the 50 m isobath, in Bristol Bay, and around Saint Paul Island (Figs. 104 and 105).

The Pribilof District hair crab fishery has been closed since 2000 due to a shift in the distribution of legal males to the Northern District and, after one year of experimental fishing with minimal vessel participation, the Northern District fishery was closed in 2001 (Fitch et al. 2012).

Other King and Tanner Crab

Two male golden king crab (*Lithodes aequispinus*) were caught during the EBS survey at station K-27. No other species of king or Tanner crabs were caught while sampling the standard EBS stations. However, 24 golden king crab, 6 grooved Tanner crab (*Chionoecetes tanneri*), and 1 triangle Tanner crab (*Chionoecetes angulatus*) were caught at slope stations that were sampled as part of a special project.

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CITATIONS

ADF&G. 2024. 2024-2024 Statewide King and Tanner Crab Commercial Fishing Regulations. Alaska Department of Fish and Game. Available online:

https://www.adfg.alaska.gov/static/regulations/fishregulations/pdfs/commercial/cf_king_tanner_crab_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.

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.

Gish, R. K., 2006. The 2005 Pribilof district king crab survey. Alaska Department of Fish and Game Fisheries Management Report No. 06-60, 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 4th 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. https://doi.org/10.25923/c5j1-4r46

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
Paralithodes Camtschaticus	Bristol Bay	male	< 120 mm	≥ 120 mm	≥ 135 mm CL or ≥ 6.5 in. CW
	Pribilof	male	< 120 mm	≥ 120 mm	≥ 135 mm CL or ≥ 6.5 in. CW
	Norton Sound	male	< 94 mm	≥ 94 mm	≥ 104 mm CL or ≥ 4.8 in. CW
Paralithodes Platypus	Pribilof	male	< 120 mm	≥ 120 mm	≥ 135 mm CL or ≥ 6.5 in. CW
	Saint Matthew	male	< 105 mm	≥ 105 mm	≥ 120 mm CL or ≥ 5.5 in. CW
	Northern Bering Sea	male	< 94 mm	≥ 94 mm	≥ 104 mm CL or ≥ 4.8 in. CW
Chionoecetes Bairdi	East of 166° W	male	< 113 mm	≥ 113 mm	≥ 120 mm or ≥ 4.8 in. CW[1]
	West of 166° W	male	< 103 mm	≥ 103 mm	≥ 110 mm or ≥ 4.4 in. CW[1]
	Preferred	male			≥ 125 mm or ≥ 5.0 in. CW[1]
Chionoecetes Opilio	Eastern Bering Sea	male	< 95 mm	≥ 95 mm	≥ 78 mm or ≥ 3.1 in. CW[2]
	EBS Preferred	male			≥ 102 mm or ≥ 4.0 in. CW
	Northern Bering Sea	male	< 68 mm	≥ 68 mm	≥ 78 mm or ≥ 3.1 in. CW[2]
	NBS Preferred	male			≥ 102 mm or ≥ 4.0 in. CW
Erimacrus isenbeckii		male			≥ 83 mm CL or > 3.25 in. CW[3]

[1] 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).

[2] 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)**).

[3] Legal-sized male crab for *E. isenbeckii* are larger than a minimum size of 3.25 inches CW (≥ 83 mm CL) defined by ADF&G permit guidelines.

Table 2. -- History of methods for determining trawl on bottom and estimating net width on National Marine Fisheries Service eastern Bering Sea bottom trawls.

Year	Net width (m)	Trawling methodology
1975		Tow duration = 1 hour
1976 - 2012		Tow duration = 30 minutes
1975 - 1995		Brake set and haul back of winch drum wire defined trawl contact with seafloor (net on bottom)
1996 - 2012		Began using bottom contact sensors to determine trawl contact with seafloor
1975 - 1980	12.2	Mean width of 400-mesh Eastern trawl*
1981	18.0	Mean width* of 83-112 Eastern trawl for Vessel 1
1981	13.4 or 14.3	Mean width* of 400-mesh Eastern trawl measurements different on haul 1-112 and 114-156 for Vessel 37*
1982 - 1987	Variable with each tow	Rose and Walters (1990) calculated the 83-112 net width based on an inverse relationship to net scope
1988 - 2001	Variable with each tow	All survey vessels used ScanMar acoustic sensors on the 83-112 trawl net
2001 - 2012	Variable with each tow	All survey vessels used NetMind acoustic sensors on the 83-112 trawl net
2013 – 2024	Variable with each tow	All survey vessels used Marport acoustic sensors on the 83-112 trawl net

*Single value used for net width when calculating area-swept.

Table 3. -- 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	*a*	*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
Pribilof Islands	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
Pribilof Islands	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 4. -- Special projects related to crab species conducted on National Marine Fisheries Service eastern and northern Bering Sea bottom trawl surveys in 2023.

Project Title	Principle Investigator	Agency
Female red king crab tagging	Leah Zacher	AFSC-RACE-SAP[1]
Male red king crab tagging	Leah Zacher	AFSC-RACE-SAP[1]
Snow crab body condition	Erin Fedewa	AFSC-RACE-SAP[1]
Snow crab ocean acidification	Christopher Long	AFSC-RACE-SAP[1]
Snow crab temperature-diet lab studies	Louise Copeman Erin Fedewa	AFSC-RACE-FBEP[2] AFSC-RACE-SAP[1]
Snow crab bycatch reduction	Noëlle Yochum	Trident Seafoods
NMFS observer collections	Gregory Stephens	AFSC-FMA[3]

[1] Alaska Fisheries Science Center (AFSC), Resource Assessment and Conservation Engineering Division (RACE), Shellfish Assessment Program (SAP), Kodiak, Alaska.

[2] AFSC, RACE, Fisheries Behavioral Ecology Program (FBEP), Newport, Oregon.

[3] AFSC, Fisheries Monitoring and Analysis Division (FMA), Seattle, Washington.

Table 5. -- Summary of 2024 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 District	Tows with crab	Crab caught	Crab measured	Biomass (t)	CI (± 95%)
Bristol Bay District Red King Crab	Immature male	136	41	269	269	6,447	2,371
	Mature male	136	62	293	293	24,112	7,305
	Legal	136	59	227	227	20,837	6,606
	Immature female	136	17	83	83	1,143	689
	Mature female	136	43	356	356	14,444	7,485
Pribilof District Red King Crab	Immature male	61	0	0	0	0	0
	Mature male	61	5	8	8	1,184	1,078
	Legal	61	5	8	8	1,184	1,078
	Immature female	61	0	0	0	0	0
	Mature female	61	3	5	5	282	347
Pribilof District Blue King Crab	Immature male	70	0	0	0	0	0
	Mature male	70	0	0	0	0	0
	Legal	70	0	0	0	0	0
	Immature female	70	0	0	0	0	0
	Mature female	70	0	0	0	0	0
Saint Matthew Is. Blue King Crab	Immature male	46	5	30	30	431	447
	Mature male	46	7	28	28	1,651	1,551
	Legal	46	5	21	21	1,278	1,429
	Immature female	46	4	17	17	247	307
	Mature female	46	1	1	1	46	89
Tanner Crab east of 166°W	Small male	120	78	2,622	1,437	9,765	7,114
	Large male	120	64	465	452	9,229	2,736
	Legal	120	57	342	342	7,465	2,429
	Preferred	120	53	268	268	6,248	2,133
	Immature female	120	43	1,630	760	2,898	2,840
	Mature female	120	51	705	482	3,314	1,746
Tanner Crab west of 166°W	Small male	229	146	16,339	5,999	45,936	15,443
	Large male	229	120	1,146	1,101	17,187	4,285
	Legal	229	104	766	749	12,915	3,303
	Preferred	229	71	241	226	5,140	1,558
	Immature female	229	139	11,079	4,122	15,873	5,502
	Mature female	229	106	4,712	1,847	20,926	8,926
Snow Crab	Small male	349	167	76,913	7,879	142,498	38,027
	Large male	349	136	1,451	1,433	23,193	5,694
	Legal	349	158	4,372	3,025	44,759	10,700
	Preferred	349	123	942	926	17,068	4,571
	Immature female	349	125	117,935	4,939	125,938	47,742
	Mature female	349	128	25,188	2,250	40,957	18,320

Table 6. -- 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.

Year	Immature male < 120 mm	Mature male ≥ 120 mm	Legal male ≥ 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)
1980	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	2,077 (1,052)	25,481 (7,302)	22,424 (6,580)	772 (871)	33,370 (17,051)
2017	2,239 (780)	23,102 (8,328)	20,842 (7,703)	1,193 (680)	26,424 (13,139)
2018	2,818 (1,309)	13,226 (3,589)	12,010 (3,442)	520 (333)	12,282 (5,437)
2019	2,793 (1,194)	12,431 (3,959)	8,965 (3,109)	351 (186)	13,088 (4,757)
2021	2,406 (1,138)	15,856 (6,757)	12,559 (6,031)	361 (281)	9,944 (4,815)
2022	3,129 (1,295)	21,832 (8,610)	18,060 (7,616)	946 (642)	10,280 (4,991)
2023	3,804 (1,397)	16,796 (5,683)	14,127 (5,125)	690 (488)	16,723 (13,381)
2024	6,447 (2,371)	24,112 (7,305)	20,837 (6,606)	1,143 (689)	14,444 (7,485)

Table 7. -- 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.

Year	Immature male < 120 mm	Mature male ≥ 120 mm	Legal male ≥ 135 mm	Immature female	Mature female
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)

Table 8. -- 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.

Year	Immature male < 120 mm	Mature male ≥ 120 mm	Legal male ≥ 135 mm	Immature female	Mature female
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	526 (693)	4,150 (5,700)	3,653 (4,980)	26 (50)	1,873 (2,241)
2017	88 (98)	3,658 (4,632)	3,513 (4,500)	0 (0)	505 (550)
2018	1,325 (2,526)	929 (775)	827 (697)	0 (0)	877 (1,500)
2019	293 (363)	2,086 (1,406)	1,101 (895)	13 (26)	797 (624)
2021	85 (167)	3,744 (2,176)	3,615 (2,078)	0 (0)	1,406 (1,572)
2022	0 (0)	5,105 (2,973)	5,075 (2,973)	0 (0)	989 (768)
2023	3 (5)	2,742 (1,661)	2,742 (1,661)	1 (2)	1,203 (1,130)
2024	0 (0)	1,184 (1,078)	1,184 (1,078)	0 (0)	282 (347)

Table 9. -- 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.

Year	Immature male < 120 mm	Mature male ≥ 120 mm	Legal male ≥ 135 mm	Immature female	Mature female
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)

Table 10. -- 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.

Year	Immature male < 120 mm	Mature male ≥ 120 mm	Legal male ≥ 135 mm	Immature female	Mature female
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	70 (67)	129 (154)	68 (133)	49 (48)	352 (340)
2017	45 (68)	253 (254)	223 (250)	55 (54)	204 (237)
2018	94 (99)	152 (170)	152 (170)	13 (25)	108 (154)
2019	114 (121)	204 (241)	204 (241)	0 (0)	407 (685)
2021	15 (29)	401 (395)	295 (333)	0 (0)	260 (322)
2022	0 (0)	111 (152)	111 (152)	0 (0)	145 (189)
2023	24 (47)	0 (0)	0 (0)	0 (0)	118 (231)
2024	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

Table 11. -- 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.

Year	Immature male < 120 mm	Mature male ≥ 120 mm	Legal male ≥ 135 mm	Immature female	Mature female
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)

Table 12. -- 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.

Year	Immature male < 105 mm	Mature male ≥ 105 mm	Legal male ≥ 120 mm	Immature female	Mature female
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	509 (632)	3,072 (2,273)	2,305 (1,612)	0 (0)	129 (104)
2017	122 (155)	1,721 (1,968)	1,333 (1,482)	61 (94)	0 (0)
2018	434 (497)	1,612 (879)	1,358 (735)	312 (305)	316 (267)
2019	765 (831)	2,879 (1,892)	2,304 (1,483)	525 (670)	389 (481)
2021	804 (1,170)	1,620 (1,249)	1,426 (1,091)	404 (435)	346 (461)
2022	1,352 (1,354)	1,902 (2,036)	1,467 (1,734)	360 (511)	549 (612)
2023	557 (536)	1,719 (1,433)	1,162 (1,009)	155 (185)	181 (285)
2024	431 (447)	1,651 (1,551)	1,278 (1,429)	247 (307)	46 (89)

Table 13. -- 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.

Year	Immature male < 105 mm	Mature male ≥ 105 mm	Legal male ≥ 120 mm	Immature female	Mature female
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)

Table 14. -- 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, east of 166° W. Listed sizes are carapace width. Contact authors for 1975-1987 data.

Year	Small male < 113 mm	Large male ≥ 113 mm	Legal male ≥ 120 mm	Industry preferred male ≥ 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	6,997 (3,949)	18,523 (4,755)	14,143 (3,707)	10,695 (2,992)
2017	4,565 (1,860)	19,387 (6,292)	15,675 (5,221)	12,470 (4,399)
2018	2,711 (873)	11,058 (3,127)	8,861 (2,600)	7,355 (2,333)
2019	4,414 (3,692)	6,377 (2,347)	5,521 (2,138)	4,769 (1,939)
2021	7,704 (2,630)	5,023 (2,120)	3,514 (1,538)	2,403 (1,073)
2022	6,036 (2,165)	8,725 (3,457)	6,450 (2,805)	4,676 (2,142)
2023	3,956 (1,131)	6,382 (1,946)	4,702 (1,617)	3,581 (1,315)
2024	9,765 (7,114)	9,229 (2,736)	7,465 (2,429)	6,248 (2,133)

Table 15. -- Time series of biomass (t) estimates (± 95% CI) for new hardshell male Tanner crab (*Chionoecetes bairdi*) east 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 New hardshell ≥ 113 mm	Mature Male New hardshell Chela-based maturity	Total Males New hardshell
1990	37,831 (15,585)	34,402 (13,925)	56,997 (18,786)
1991	41,896 (38,949)	29,501 (24,780)	61,851 (44,482)
1992	49,258 (44,560)	38,966 (34,849)	60,184 (53,045)
1993	27,694 (16,229)	19,972 (11,060)	31,679 (18,091)
1994	9,442 (4,718)	9,639 (4,743)	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)	2,131 (905)	3,892 (1,317)
1999	2,626 (2,013)	2,741 (2,113)	9,564 (9,498)
2000	5,156 (5,393)	4,628 (4,603)	8,279 (7,143)
2001	5,073 (3,248)	4,403 (2,804)	9,116 (4,201)
2002	1,086 (815)	1,136 (795)	3,394 (1,547)
2003	2,588 (1,492)	2,543 (1,418)	7,575 (3,599)
2004	2,515 (1,327)	3,084 (1,403)	4,417 (1,765)
2005	4,135 (1,640)	4,847 (1,662)	7,424 (2,424)
2006	3,319 (2,694)	5,979 (6,878)	14,954 (17,557)
2007	6,908 (7,536)	7,950 (7,918)	15,623 (13,692)
2008	18,726 (28,480)	20,018 (29,170)	25,860 (35,398)
2009	3,510 (1,679)	NA	5,467 (2,261)
2010	4,196 (3,771)	3,610 (2,998)	6,128 (4,147)
2011	2,040 (990)	NA	11,506 (6,487)
2012	4,778 (3,345)	7,333 (4,838)	31,508 (21,308)
2013	33,647 (25,902)	NA	56,094 (40,241)
2014	24,073 (10,302)	22,753 (9,246)	36,423 (13,594)
2015	11,732 (4,328)	NA	15,238 (5,124)
2016	4,155 (1,920)	4,685 (2,650)	6,828 (5,492)
2017	2,160 (3,233)	1,802 (2,648)	3,264 (4,667)
2018	225 (142)	305 (172)	1,547 (673)
2019	625 (477)	706 (613)	4,407 (3,943)
2021	2,715 (1,689)	3,220 (1,807)	8,558 (3,686)
2022	6,540 (3,326)	6,951 (3,359)	11,391 (4,878)
2023	4,018 (1,677)	4,435 (1,810)	6,430 (2,275)
2024	4,755 (2,074)	6,118 (2,881)	12,332 (7,511)

Table 16. -- 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, east of 166° W. Contact authors for 1975-1987 data.

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	50 (32)	1,429 (850)
2017	158 (122)	1,986 (769)
2018	990 (492)	598 (269)
2019	1,481 (956)	652 (437)
2021	1,063 (575)	2,816 (1,190)
2022	690 (509)	1,800 (811)
2023	1,017 (522)	1,605 (720)
2024	2,898 (2,840)	3,314 (1,746)

Table 17. -- 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, east of 166° W. Listed sizes are carapace width. Contact authors for 1975-1987 data.

Year	Small male < 113 mm	Large male ≥ 113 mm	Legal male ≥ 120 mm	Industry preferred male ≥ 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)

Table 18. -- Time series of abundance (millions) estimates (± 95% CI) for new hardshell male Tanner crab (*Chionoecetes bairdi*) east 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 New hardshell ≥ 113 mm	Mature Male New hardshell Chela-based maturity	Total Males New hardshell
1990	47.0 (18.6)	46.6 (17.1)	194.3 (62.4)
1991	58.8 (59.4)	38.3 (34.7)	160.8 (83.7)
1992	69.0 (63.4)	52.7 (47.4)	108.6 (92.2)
1993	37.2 (23.2)	24.4 (14.2)	53.0 (30.1)
1994	11.6 (5.9)	12.8 (6.4)	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 (4.8)	49.3 (42.6)
2000	7.7 (8.1)	8.0 (7.6)	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 (2.4)	41.3 (18.2)
2004	4.0 (2.1)	6.3 (2.6)	16.8 (7.5)
2005	6.5 (2.6)	10.2 (3.3)	40.7 (18.7)
2006	5.3 (4.6)	15.4 (19.9)	77.6 (74.6)
2007	10.7 (11.0)	15.8 (14.3)	51.1 (36.0)
2008	24.7 (35.1)	31.7 (41.3)	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)	21.9 (14.6)	160.9 (116.8)
2013	61.2 (49.7)	NA	159.1 (101.7)
2014	37.5 (15.5)	39.7 (15.3)	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)	2.9 (4.3)	13.0 (12.0)
2018	0.4 (0.3)	0.7 (0.4)	36.3 (16.3)
2019	1.1 (0.9)	1.6 (1.6)	36.5 (23.0)
2021	4.8 (2.9)	6.9 (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)

Table 19. -- 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.

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)

Table 20. -- 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, west of 166° W. Listed sizes are carapace width. Contact authors for 1975-1987 data.

Year	Small male < 113 mm	Large male ≥ 113 mm	Legal male ≥ 120 mm	Industry preferred male ≥ 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	8,196 (2,624)	35,119 (8,671)	31,252 (7,757)	18,326 (5,168)
2017	5,417 (1,395)	24,268 (7,812)	21,288 (7,339)	12,553 (5,631)
2018	8,786 (2,277)	23,948 (6,999)	21,572 (6,662)	12,871 (4,589)
2019	7,691 (1,776)	9,813 (2,616)	8,749 (2,452)	5,001 (1,563)
2021	10,920 (3,425)	7,491 (2,043)	5,301 (1,534)	2,006 (755)
2022	7,676 (2,510)	6,816 (1,715)	5,131 (1,330)	1,576 (517)
2023	14,685 (3,412)	9,001 (1,980)	6,473 (1,569)	2,381 (775)
2024	45,936 (15,443)	17,187 (4,285)	12,915 (3,303)	5,140 (1,558)

Table 21. -- 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 New hardshell ≥ 103 mm	Mature Male New hardshell Chela-based maturity	Total Males New hardshell
1990	32,385 (21,927)	33,305 (20,520)	46,583 (23,180)
1991	18,279 (10,760)	18,119 (9,829)	31,036 (12,959)
1992	7,719 (3,273)	7,504 (3,059)	16,300 (4,982)
1993	6,869 (3,620)	8,066 (3,529)	12,279 (4,250)
1994	2,590 (1,572)	3,109 (1,639)	5,517 (2,114)
1995	960 (503)	1,377 (579)	2,698 (842)
1996	628 (306)	982 (416)	2,074 (769)
1997	987 (370)	784 (283)	2,218 (602)
1998	1,326 (683)	1,491 (691)	3,506 (1,324)
1999	1,093 (710)	1,540 (1,219)	4,658 (2,803)
2000	1,089 (491)	1,293 (533)	4,599 (1,471)
2001	1,928 (900)	2,203 (994)	9,077 (3,300)
2002	1,457 (801)	2,177 (1,106)	8,172 (3,168)
2003	2,070 (809)	3,500 (1,409)	12,413 (4,302)
2004	7,427 (6,479)	5,830 (4,172)	17,158 (7,904)
2005	15,874 (7,815)	17,423 (7,787)	31,090 (9,906)
2006	9,103 (6,706)	10,804 (6,054)	35,444 (13,216)
2007	7,999 (3,851)	10,655 (3,963)	28,335 (8,291)
2008	19,384 (15,329)	20,457 (14,975)	30,360 (18,004)
2009	11,163 (6,957)	NA	16,762 (8,396)
2010	15,274 (10,697)	15,590 (10,426)	21,185 (11,268)
2011	13,053 (16,472)	12,594 (15,233)	24,063 (17,428)
2012	6,024 (2,777)	5,320 (2,293)	23,705 (8,073)
2013	13,743 (8,537)	NA	30,430 (12,498)
2014	21,224 (6,417)	21,060 (6,493)	35,744 (12,359)
2015	16,860 (7,716)	NA	22,133 (8,338)
2016	10,569 (3,693)	12,089 (4,295)	15,570 (5,204)
2017	2,318 (816)	2,625 (889)	5,074 (1,586)
2018	3,003 (915)	4,164 (1,216)	9,269 (2,473)
2019	1,207 (393)	2,422 (622)	7,545 (1,795)
2021	3,163 (1,153)	4,060 (1,415)	11,931 (3,625)
2022	3,077 (1,151)	3,485 (1,138)	8,621 (2,587)
2023	3,940 (1,102)	5,670 (1,444)	16,246 (3,723)
2024	9,703 (3,413)	12,397 (4,231)	52,304 (16,969)

Table 22. -- 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, west of 166° W. Contact authors for 1975-1987 data.

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	1,057 (462)	6,076 (3,664)
2017	1,255 (493)	5,019 (3,069)
2018	3,921 (1,565)	4,293 (1,926)
2019	3,339 (1,212)	4,113 (1,984)
2021	2,238 (657)	5,604 (2,197)
2022	1,975 (910)	4,767 (2,490)
2023	8,096 (2,894)	*5,605 (3,094)
2024	15,873 (5,502)	20,926 (8,926)

*Slight change from previous Tech Memo due to maturity classification error

Table 23. -- 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.

Year	Small male < 103 mm	Large male ≥ 103 mm	Legal male ≥ 110 mm	Industry preferred male ≥ 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)

Table 24. -- 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 New hardshell ≥ 103 mm	Mature Male New hardshell Chela-based maturity	Total Males New hardshell
1990	53.5 (34.2)	65.5 (32.3)	174.3 (52.6)
1991	31.4 (17.6)	37.9 (17.2)	165.3 (63.2)
1992	14.8 (5.7)	16.4 (5.7)	103.2 (31.5)
1993	12.6 (6.0)	19.8 (6.6)	62.6 (17.5)
1994	4.8 (2.6)	7.7 (3.1)	41.7 (14.2)
1995	1.9 (0.9)	4.0 (1.3)	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)	3.8 (1.6)	46.5 (17.0)
1999	2.4 (1.7)	4.6 (3.9)	79.6 (30.1)
2000	2.4 (1.1)	3.6 (1.5)	69.3 (24.2)
2001	4.2 (2.0)	6.7 (3.0)	141.4 (45.1)
2002	3.1 (1.6)	7.2 (3.4)	117.9 (47.5)
2003	4.6 (1.8)	12.5 (5.1)	162.7 (62.7)
2004	17.0 (14.9)	15.5 (9.7)	188.1 (44.8)
2005	27.9 (12.9)	38.2 (14.1)	250.0 (77.2)
2006	19.4 (14.4)	35.1 (15.4)	271.0 (91.9)
2007	18.4 (8.4)	36.4 (11.4)	217.2 (70.2)
2008	37.5 (26.1)	47.3 (27.5)	125.9 (43.5)
2009	21.1 (13.2)	NA	100.2 (36.6)
2010	26.2 (16.6)	29.9 (16.4)	128.6 (36.4)
2011	19.6 (21.3)	21.7 (19.1)	195.1 (61.3)
2012	12.9 (6.1)	NA	224.4 (75.4)
2013	27.4 (15.5)	12.5 (5.2)	200.8 (57.4)
2014	44.7 (14.7)	NA	170.4 (63.1)
2015	30.3 (13.4)	50.7 (17.9)	86.6 (22.0)
2016	18.3 (6.8)	25.4 (9.8)	79.8 (26.1)
2017	4.7 (1.7)	6.5 (2.3)	90.4 (34.2)
2018	6.1 (1.8)	12.0 (3.7)	165.7 (57.9)
2019	2.6 (0.8)	8.0 (2.0)	138.3 (45.0)
2021	7.5 (2.7)	12.8 (4.4)	136.3 (60.8)
2022	6.6 (2.4)	10.0 (2.9)	113.0 (49.3)
2023	8.3 (2.2)	17.5 (4.3)	305.0 (76.8)
2024	20.0 (7.1)	33.0 (11.6)	513.0 (135.6)

Table 25. -- 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.

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)

*Slight change from previous Tech Memo due to maturity classification error

Table 26. -- 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 < 95 mm	Large male ≥ 95 mm	Legal male ≥ 78 mm	Industry preferred male ≥ 102 mm
1988	331,332 (77,462)	144,135 (53,992)	246,515 (72,221)	105,695 (44,749)
1989	372,788 (80,047)	143,216 (29,275)	291,753 (61,461)	92,421 (18,741)
1990	306,733 (66,006)	347,750 (102,169)	521,713 (141,936)	225,142 (64,920)
1991	293,255 (99,055)	347,976 (105,727)	477,618 (137,409)	278,678 (94,038)
1992	179,621 (52,285)	166,483 (35,962)	223,585 (40,979)	139,020 (31,867)
1993	273,570 (90,020)	98,857 (22,246)	143,013 (29,441)	77,228 (17,233)
1994	289,633 (64,249)	57,386 (12,134)	109,683 (17,990)	44,637 (10,149)
1995	368,026 (70,390)	61,758 (20,003)	158,155 (39,496)	38,179 (11,419)
1996	341,043 (59,711)	143,856 (52,118)	312,771 (76,612)	89,015 (37,186)
1997	209,131 (35,350)	232,388 (57,042)	362,928 (67,573)	171,516 (49,713)
1998	100,536 (21,626)	164,119 (32,216)	219,422 (38,546)	127,490 (26,940)
1999	44,127 (6,928)	67,352 (13,850)	87,096 (15,304)	52,043 (12,390)
2000	77,782 (19,349)	53,942 (16,022)	76,830 (20,501)	41,129 (11,813)
2001	167,671 (57,241)	56,449 (11,370)	106,070 (24,180)	39,995 (7,463)
2002	83,002 (32,008)	55,907 (26,886)	100,734 (44,771)	37,172 (18,146)
2003	81,606 (25,752)	44,423 (10,558)	72,396 (16,838)	31,535 (7,495)
2004	89,330 (25,616)	44,162 (14,554)	61,726 (16,673)	35,580 (13,206)
2005	184,025 (57,268)	50,072 (10,120)	105,971 (23,400)	39,847 (8,491)
2006	124,579 (36,645)	90,152 (61,487)	141,960 (72,442)	72,344 (51,891)
2007	140,003 (35,592)	99,875 (36,249)	162,108 (46,841)	74,720 (31,130)
2008	114,297 (33,499)	79,600 (16,993)	123,530 (24,642)	60,329 (14,198)
2009	98,468 (20,841)	103,188 (30,883)	149,588 (37,618)	77,510 (25,596)
2010	146,025 (40,919)	105,278 (27,471)	134,170 (31,968)	87,099 (24,776)
2011	149,214 (43,758)	111,662 (25,824)	145,916 (32,651)	94,381 (22,016)
2012	123,683 (29,548)	67,476 (18,910)	104,438 (24,275)	53,152 (15,620)
2013	100,506 (21,386)	58,389 (14,779)	99,733 (23,090)	43,126 (11,824)
2014	140,092 (67,735)	105,441 (41,571)	151,453 (48,668)	79,510 (34,884)
2015	85,434 (26,159)	46,410 (14,071)	71,550 (16,480)	35,838 (12,682)
2016	103,747 (37,836)	29,961 (6,869)	51,670 (10,928)	21,997 (5,482)
2017	188,851 (59,034)	29,363 (7,302)	52,272 (13,399)	20,740 (5,817)
2018	458,901 (137,343)	47,054 (18,589)	130,474 (43,554)	27,018 (10,163)
2019	284,181 (95,099)	54,550 (19,151)	175,907 (59,240)	28,955 (10,145)
2021	49,158 (13,873)	24,387 (7,637)	60,095 (15,753)	12,437 (4,500)
2022	37,727 (14,414)	20,403 (7,374)	33,447 (9,780)	13,494 (5,731)
2023	35,388 (11,672)	15,493 (4,188)	20,999 (5,227)	11,441 (3,365)
2024	142,498 (38,027)	23,193 (5,694)	44,759 (10,700)	17,068 (4,571)

Table 27. -- 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 New hardshell ≥ 95 mm	Mature Male New hardshell Chela-based maturity	Total Males New hardshell
1989	107,524 (26,824)	154,518 (35,947)	425,030 (88,954)
1990	283,087 (96,495)	270,015 (83,380)	544,000 (145,485)
1991	167,244 (56,883)	169,705 (57,039)	413,060 (126,648)
1992	103,936 (30,172)	126,692 (29,106)	255,265 (58,569)
1993	51,193 (12,014)	107,097 (22,440)	301,016 (90,589)
1994	24,656 (8,444)	72,904 (15,040)	270,450 (61,761)
1995	39,208 (16,534)	117,491 (28,119)	350,804 (70,096)
1996	93,487 (29,346)	169,874 (38,146)	380,900 (71,897)
1997	121,715 (42,622)	124,198 (37,798)	243,691 (54,510)
1998	83,162 (18,850)	88,583 (18,392)	150,566 (30,131)
1999	22,138 (8,997)	26,049 (8,362)	45,959 (11,133)
2000	10,962 (4,654)	19,703 (5,872)	66,412 (18,592)
2001	17,969 (6,397)	47,427 (16,108)	159,229 (55,877)
2002	26,355 (20,141)	37,353 (23,471)	82,754 (42,013)
2003	31,248 (9,343)	35,613 (9,718)	101,338 (29,050)
2004	27,981 (13,299)	41,706 (14,568)	102,454 (29,051)
2005	27,531 (7,801)	73,607 (19,168)	196,144 (57,385)
2006	13,364 (8,330)	39,795 (15,135)	101,072 (34,560)
2007	56,218 (20,016)	82,419 (22,923)	168,424 (41,553)
2008	46,544 (13,800)	NA	137,297 (33,871)
2009	50,209 (16,686)	52,551 (13,622)	123,776 (25,145)
2010	76,187 (24,400)	99,268 (26,363)	191,342 (40,726)
2011	61,162 (19,162)	83,700 (23,189)	188,190 (51,291)
2012	19,174 (7,627)	NA	114,359 (28,737)
2013	38,648 (12,169)	66,492 (17,157)	124,918 (27,066)
2014	81,617 (39,963)	NA	196,208 (81,852)
2015	26,623 (11,624)	42,155 (12,819)	95,093 (28,200)
2016	14,108 (4,420)	NA	104,245 (37,914)
2017	18,595 (6,366)	51,834 (17,407)	192,756 (59,281)
2018	35,173 (16,233)	175,181 (53,721)	469,193 (138,370)
2019	47,195 (18,675)	133,988 (45,374)	311,936 (104,322)
2021	16,526 (6,659)	34,494 (11,908)	44,813 (15,495)
2022	10,733 (6,775)	15,973 (7,205)	37,923 (14,826)
2023	9,622 (3,368)	13,638 (3,888)	41,735 (12,263)
2024	12,381 (4,163)	39,518 (10,637)	148,526 (39,418)

Table 28. -- 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.

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)	143,268 (65,922)
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	53,788 (28,983)	52,022 (21,010)
2017	66,242 (24,910)	103,422 (44,445)
2018	83,164 (42,474)	161,573 (63,268)
2019	5,125 (4,349)	106,799 (41,236)
2021	298 (139)	29,844 (25,907)
2022	26,219 (17,548)	20,941 (14,162)
2023	22,378 (8,952)	*14,964 (8,034)
2024	125,938 (47,742)	40,957 (18,320)

*Slight change from previous Tech Memo due to maturity classification error

Table 29. -- 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.

Year	Small male < 95 mm	Large male ≥ 95 mm	Legal male ≥ 78 mm	Industry preferred male ≥ 102 mm
1988	3,677.9 (991.7)	276.9 (94.8)	683.8 (182.3)	178.5 (70.2)
1989	3,111.0 (691.5)	292.3 (60.6)	882.5 (197.3)	162.0 (32.6)
1990	2,263.9 (582.7)	710.4 (214.0)	1,348.1 (361.5)	395.1 (115.5)
1991	3,331.8 (1,197.1)	618.3 (179.4)	1,093.8 (325.8)	439.7 (144.1)
1992	2,776.2 (1,253.0)	293.2 (62.7)	512.9 (89.4)	223.3 (51.7)
1993	4,805.5 (1,712.8)	182.8 (41.9)	355.8 (72.2)	127.6 (28.9)
1994	4,116.9 (1,240.9)	106.4 (22.2)	320.6 (52.7)	73.8 (16.7)
1995	3,635.3 (766.0)	128.0 (43.9)	515.7 (128.1)	67.3 (20.6)
1996	2,309.8 (431.9)	302.4 (105.2)	958.6 (211.7)	161.4 (65.2)
1997	1,204.4 (256.9)	447.1 (100.4)	945.8 (157.0)	290.8 (78.3)
1998	778.2 (251.7)	308.4 (59.3)	514.6 (87.4)	214.9 (44.7)
1999	422.4 (102.9)	124.9 (23.9)	198.8 (30.6)	85.7 (19.7)
2000	971.1 (309.0)	102.4 (31.8)	191.1 (49.5)	69.8 (20.7)
2001	1,529.4 (585.8)	111.3 (24.1)	312.7 (80.8)	69.3 (13.5)
2002	596.3 (253.5)	114.7 (54.8)	284.5 (121.8)	66.6 (32.3)
2003	1,073.7 (459.3)	88.1 (21.3)	196.0 (47.2)	55.0 (13.1)
2004	1,491.2 (505.6)	79.9 (24.2)	147.8 (34.3)	58.0 (20.5)
2005	1,890.3 (612.7)	89.2 (17.6)	312.5 (80.8)	63.0 (12.9)
2006	1,178.4 (365.7)	171.9 (119.4)	377.6 (167.9)	126.4 (95.1)
2007	1,260.8 (409.9)	196.7 (67.0)	435.0 (117.6)	132.5 (53.4)
2008	1,008.8 (326.7)	154.3 (31.6)	325.2 (66.8)	105.1 (23.8)
2009	1,055.4 (310.5)	195.7 (57.9)	371.5 (89.3)	129.9 (42.7)
2010	2,460.5 (807.9)	184.4 (45.1)	293.7 (68.2)	138.3 (37.0)
2011	1,829.8 (530.7)	194.1 (45.7)	330.8 (77.8)	150.1 (34.9)
2012	1,384.9 (376.8)	123.5 (34.3)	274.1 (60.9)	87.0 (25.7)
2013	1,055.9 (249.4)	112.6 (27.6)	280.0 (67.2)	73.6 (19.6)
2014	1,527.8 (899.9)	204.2 (76.8)	385.3 (109.6)	138.5 (58.5)
2015	1,504.2 (708.7)	84.2 (22.3)	183.8 (36.2)	57.2 (18.0)
2016	2,361.9 (1,255.0)	57.8 (13.2)	143.2 (32.2)	37.4 (9.3)
2017	3,541.7 (1,158.0)	58.0 (14.0)	151.9 (43.6)	36.0 (9.9)
2018	5,773.1 (1,972.5)	100.6 (41.2)	437.8 (147.9)	49.4 (19.0)
2019	2,018.0 (712.7)	119.7 (42.8)	611.1 (213.6)	53.7 (19.1)
2021	253.6 (67.8)	54.2 (16.6)	192.1 (51.9)	23.5 (8.5)
2022	602.5 (260.1)	42.2 (14.6)	92.6 (26.0)	24.6 (10.3)
2023	862.6 (340.2)	30.3 (7.8)	50.6 (12.0)	20.0 (5.7)
2024	2,385.1 (720.0)	45.1 (10.7)	133.6 (35.6)	29.4 (7.7)

Table 30. -- 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 New hardshell ≥ 95 mm	Mature Male New hardshell Chela-based maturity	Total Males New hardshell
1989	218.6 (55.7)	485.5 (110.7)	2,944.4 (666.3)
1990	583.9 (203.5)	712.3 (201.3)	2,593.6 (656.5)
1991	308.6 (104.3)	412.2 (136.6)	3,396.6 (1,213.8)
1992	183.6 (52.0)	366.2 (75.1)	2,803.4 (1,244.3)
1993	95.2 (22.4)	544.3 (157.7)	4,740.8 (1,691.4)
1994	45.5 (15.4)	436.2 (104.7)	3,820.8 (1,210.3)
1995	83.0 (36.8)	599.4 (126.5)	3,274.9 (732.4)
1996	206.9 (65.6)	627.0 (122.7)	2,135.9 (409.2)
1997	230.3 (69.8)	301.1 (68.8)	989.1 (251.4)
1998	163.2 (36.5)	231.0 (46.7)	766.9 (247.5)
1999	39.7 (14.6)	80.2 (18.3)	358.7 (103.1)
2000	19.8 (8.0)	92.7 (25.8)	853.1 (298.0)
2001	38.2 (14.8)	226.1 (82.0)	1,397.8 (560.8)
2002	55.5 (40.6)	121.9 (64.3)	512.9 (253.1)
2003	61.5 (18.7)	113.5 (32.3)	1,076.7 (459.1)
2004	48.5 (21.7)	175.3 (55.7)	1,436.1 (492.6)
2005	48.3 (13.0)	360.9 (115.6)	1,849.0 (603.1)
2006	27.2 (17.5)	202.8 (70.5)	999.2 (345.2)
2007	114.4 (38.9)	326.1 (79.8)	1,222.7 (393.4)
2008	89.8 (24.9)	NA	959.0 (306.8)
2009	94.8 (28.8)	154.7 (31.0)	1,016.7 (304.9)
2010	133.0 (40.4)	318.6 (67.3)	2,362.7 (741.0)
2011	106.0 (33.7)	304.3 (92.1)	1,787.6 (528.3)
2012	37.3 (14.5)	NA	1,207.3 (353.5)
2013	75.8 (23.0)	242.5 (56.7)	1,038.5 (246.7)
2014	158.0 (73.1)	NA	1,530.9 (899.9)
2015	45.7 (17.0)	157.2 (47.8)	1,451.1 (706.9)
2016	26.7 (8.3)	NA	2,315.1 (1,254.1)
2017	36.8 (12.0)	326.8 (122.1)	3,483.0 (1,148.0)
2018	77.0 (36.6)	1,135.2 (344.4)	5,631.0 (1,942.5)
2019	104.4 (41.8)	577.1 (195.4)	1,944.8 (708.5)
2021	37.0 (14.5)	117.9 (42.4)	177.3 (59.9)
2022	21.2 (13.2)	61.6 (26.6)	567.4 (253.6)
2023	17.9 (6.1)	57.2 (17.5)	864.8 (339.8)
2024	23.4 (7.6)	243.2 (68.6)	2,356.1 (718.2)

Table 31. -- 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.

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	2,131.6 (1,146.9)	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)

*Slight change from previous Tech Memo due to maturity classification error

Table 32. -- 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.

Year	Small male < 95 mm	Large male ≥ 95 mm	Legal male ≥ 78 mm	Industry preferred male ≥ 102 mm
1988	6,749 (4,235)	4,783 (2,539)	8,075 (4,343)	3,095 (1,784)
1989	1,287 (900)	1,297 (900)	2,148 (1,363)	876 (559)
1990	1,004 (672)	2,951 (1,088)	3,499 (1,272)	2,567 (972)
1991	3,874 (1,993)	7,174 (3,203)	9,742 (4,045)	5,658 (2,608)
1992	1,113 (479)	3,805 (1,696)	4,476 (1,813)	3,409 (1,614)
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)	184 (140)
1997	82 (57)	158 (98)	226 (116)	113 (88)
1998	93 (56)	151 (124)	193 (129)	139 (122)
1999	91 (54)	115 (93)	153 (101)	92 (87)
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)	249 (164)
2003	241 (109)	212 (127)	319 (152)	190 (123)
2004	134 (72)	264 (224)	334 (236)	238 (209)
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)	1,312 (1,146)
2008	1,499 (630)	2,644 (1,518)	3,414 (1,580)	2,089 (1,427)
2009	1,301 (1,018)	3,985 (1,250)	4,932 (1,559)	3,471 (1,180)
2010	1,399 (650)	4,079 (1,118)	4,615 (1,262)	3,454 (968)
2011	3,545 (1,630)	4,240 (1,383)	4,974 (1,443)	3,908 (1,338)
2012	10,633 (5,622)	6,934 (2,690)	12,028 (5,093)	4,435 (1,487)
2013	4,981 (2,015)	7,429 (2,447)	9,898 (3,257)	5,592 (1,930)
2014	2,911 (1,745)	10,454 (4,239)	12,408 (5,208)	8,556 (3,365)
2015	1,084 (484)	5,142 (1,729)	5,817 (1,851)	4,430 (1,579)
2016	690 (324)	3,374 (1,395)	3,894 (1,519)	2,977 (1,341)
2017	1,045 (449)	3,500 (1,155)	4,192 (1,286)	2,998 (1,035)
2018	1,378 (829)	1,210 (492)	1,630 (724)	954 (410)
2019	739 (313)	2,452 (943)	2,993 (1,086)	2,128 (823)
2021	587 (234)	548 (369)	763 (459)	409 (289)
2022	381 (141)	664 (287)	814 (314)	579 (265)
2023	1,089 (489)	945 (430)	1,294 (512)	813 (403)
2024	7,769 (4,852)	2,216 (1,047)	5,702 (3,352)	1,548 (715)

Table 33. -- 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.

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	26 (17)	1,356 (929)
2017	57 (56)	587 (310)
2018	628 (432)	382 (364)
2019	20 (14)	289 (207)
2021	100 (35)	128 (96)
2022	101 (59)	66 (55)
2023	666 (426)	117 (113)
2024	1,861 (1,143)	2,312 (1,817)

Table 34. -- 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 < 95 mm	Large male ≥ 95 mm	Legal male ≥ 78 mm	Industry preferred male ≥ 102 mm
1988	45.0 (30.6)	9.7 (5.2)	22.2 (12.6)	5.3 (3.1)
1989	7.7 (5.5)	2.6 (1.9)	5.9 (3.8)	1.6 (1.0)
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)	7.8 (3.5)
1992	6.8 (3.0)	6.0 (2.8)	8.7 (3.4)	5.0 (2.6)
1993	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 (0.2)
1997	0.4 (0.3)	0.3 (0.2)	0.5 (0.3)	0.2 (0.1)
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 (0.2)
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)	2.5 (2.3)
2008	11.2 (5.0)	4.6 (2.2)	7.5 (2.6)	3.1 (1.9)
2009	7.9 (5.1)	6.3 (1.8)	10.0 (3.9)	5.0 (1.5)
2010	17.3 (7.4)	6.6 (1.9)	8.7 (2.6)	5.0 (1.4)
2011	37.3 (17.3)	6.2 (1.9)	9.3 (2.4)	5.4 (1.8)
2012	74.7 (38.2)	13.0 (5.9)	33.4 (16.4)	6.6 (2.1)
2013	39.0 (14.6)	13.7 (4.5)	23.2 (8.2)	9.0 (3.1)
2014	18.7 (13.4)	17.4 (7.1)	24.6 (10.7)	12.6 (4.8)
2015	8.2 (4.3)	8.3 (2.6)	10.7 (3.2)	6.5 (2.2)
2016	4.1 (1.7)	5.1 (2.0)	6.9 (2.5)	4.1 (1.8)
2017	6.4 (2.7)	5.5 (1.8)	8.1 (2.4)	4.3 (1.4)
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)	3.4 (1.3)
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)	1.2 (0.5)
2024	58.1 (33.3)	4.2 (2.1)	17.8 (11.3)	2.5 (1.2)

Table 35. -- 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.

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)

Table 36. -- 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 < 83 mm	Legal male ≥ 83 mm	Female
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	213 (102)	716 (307)	71 (50)
2017	208 (140)	1,084 (364)	71 (45)
2018	332 (228)	886 (338)	195 (105)
2019	459 (382)	552 (238)	147 (89)
2021	597 (292)	544 (244)	589 (311)
2022	392 (149)	523 (227)	268 (134)
2023	738 (270)	575 (245)	389 (158)
2024	579 (250)	923 (358)	454 (274)

Table 37. -- 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 < 83 mm	Legal male ≥ 83 mm	Female
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	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)
2016	0.6 (0.3)	1.2 (0.5)	0.3 (0.3)
2017	0.6 (0.4)	1.6 (0.6)	0.3 (0.2)
2018	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)
2021	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)

FIGURES

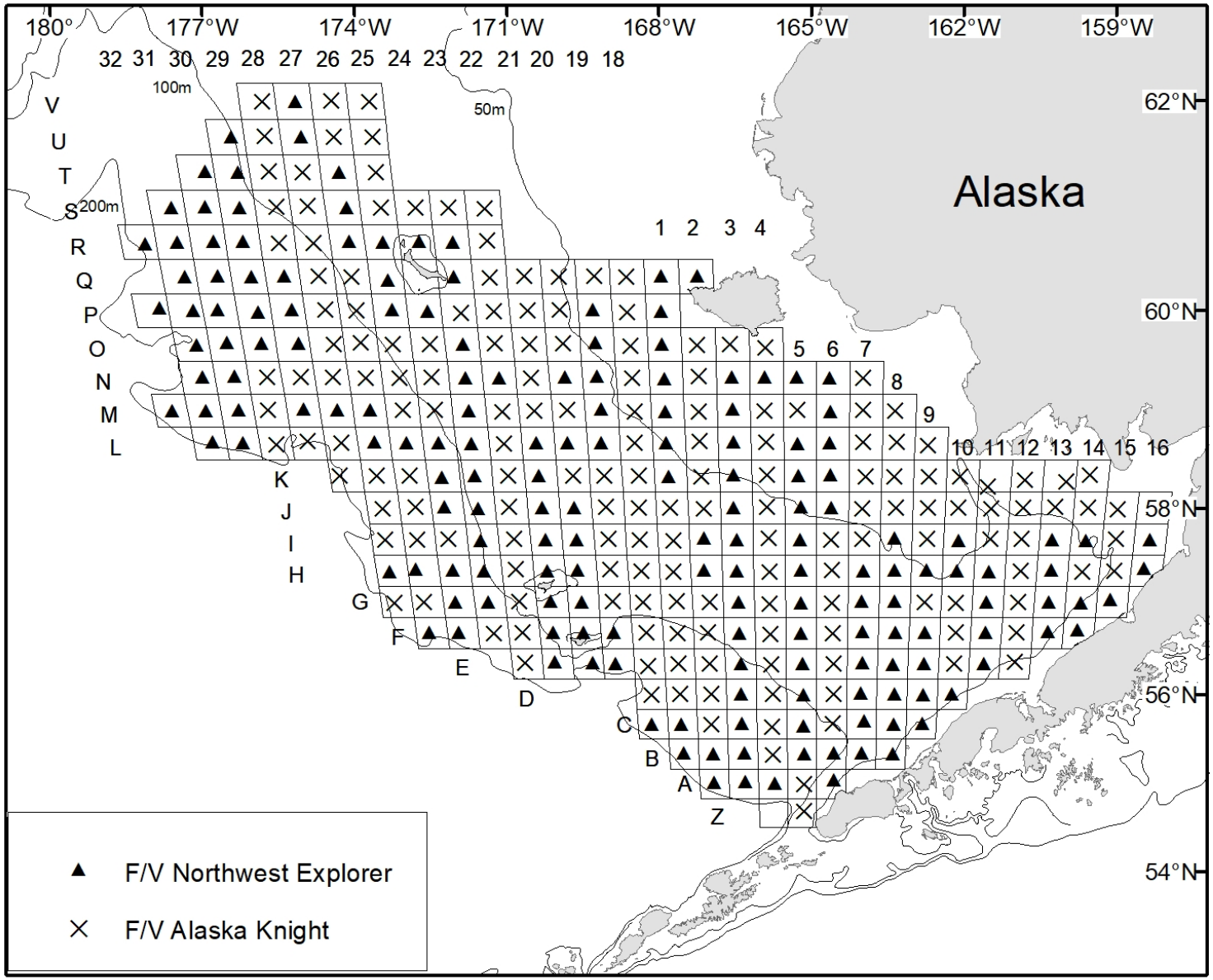

Figure 1. -- National Marine Fisheries Service eastern Bering Sea standard bottom trawl area surveyed by the FV *Alaska Knight* and the FV *Northwest Explorer* from 2 June to 5 August 2024.

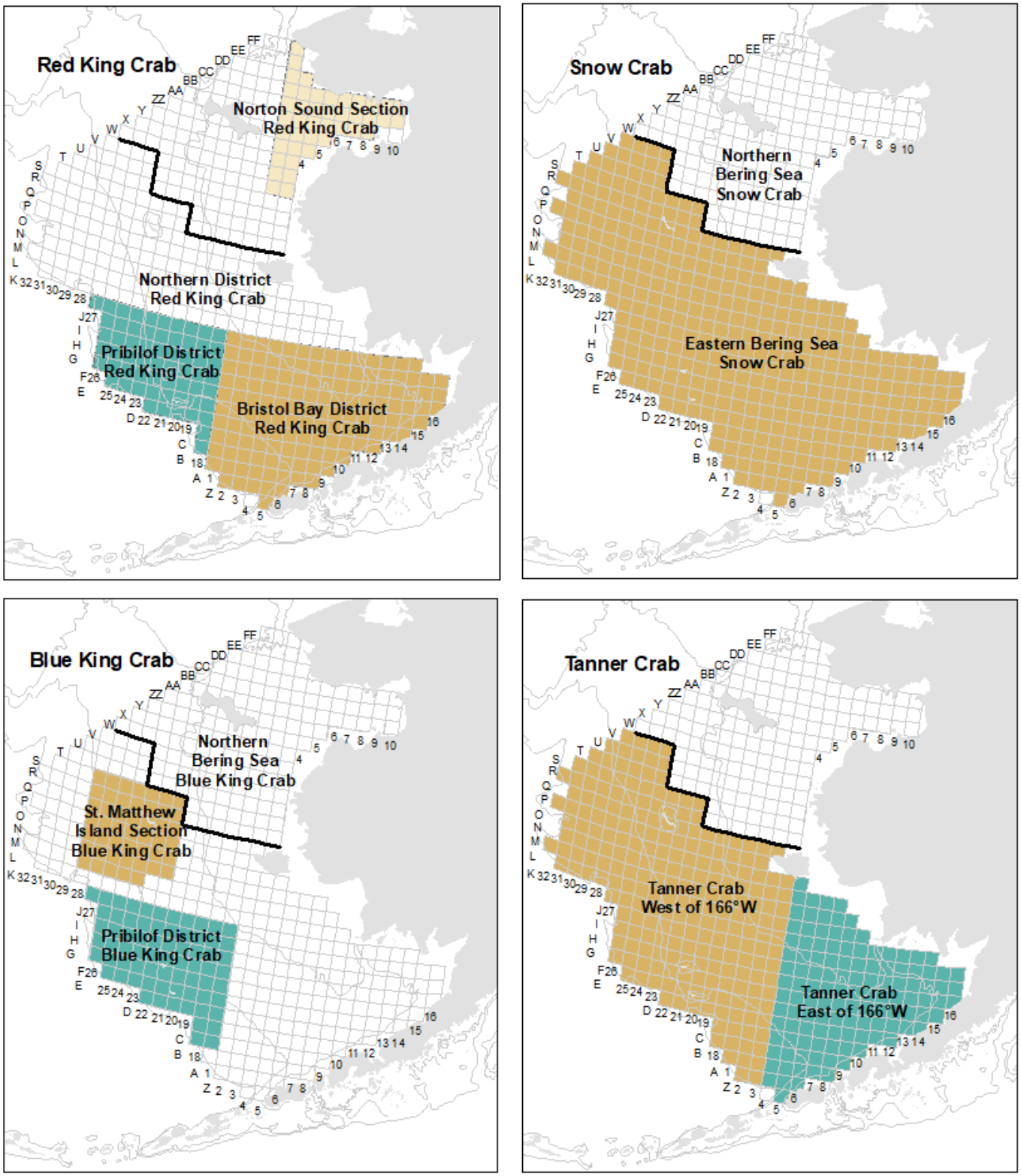

Figure 2. -- Stock boundaries used in this report for red king crab, blue king crab, Tanner crab, and snow crab. Stocks in color are Fisheries Management Plan stocks, with stock assessments evaluated by the North Pacific Fisheries Management Council. Stations used in this report are the same stations used in stock assessments, except for Norton Sound red king crab and Tanner crab.

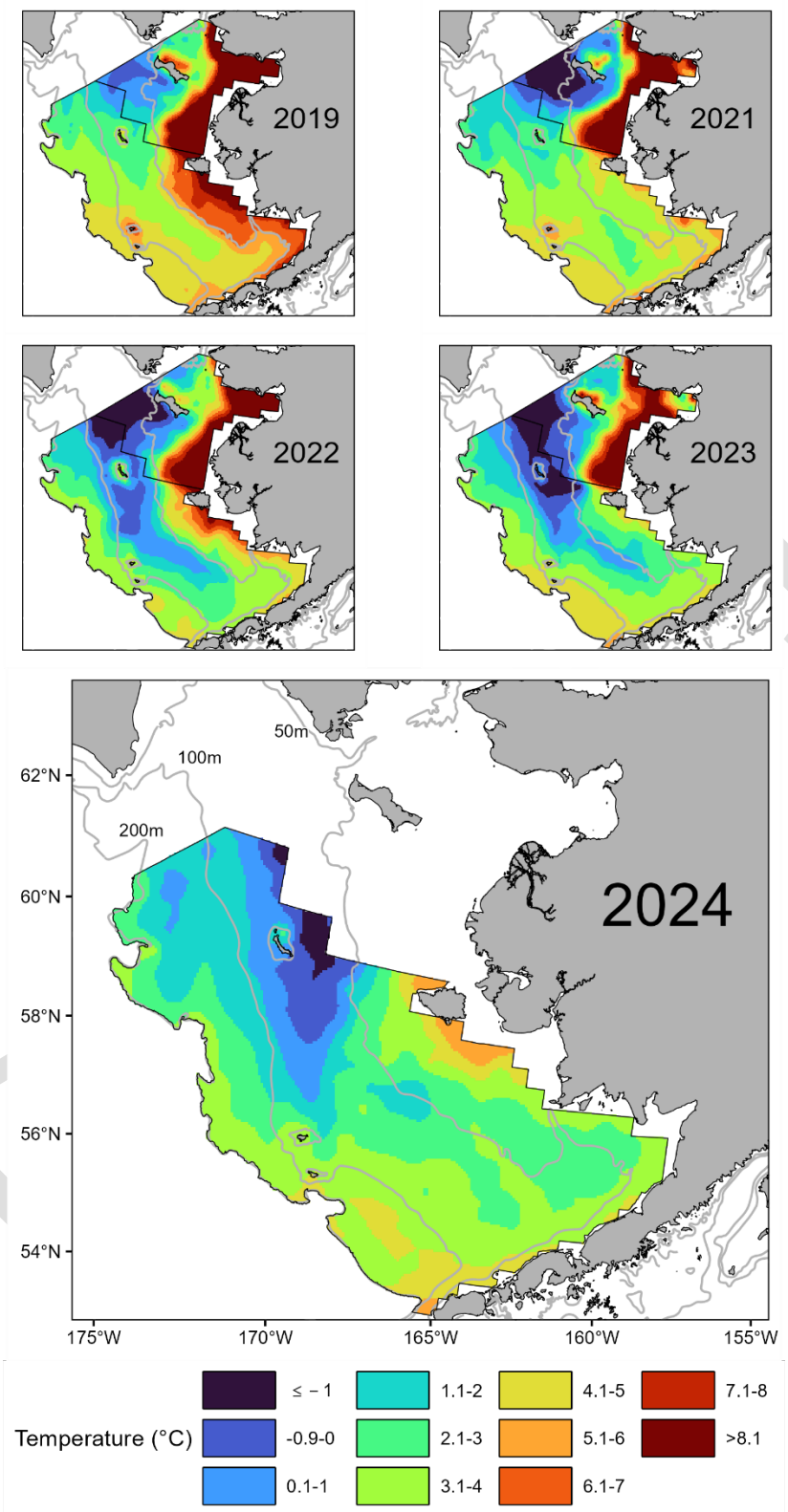

Figure 3. -- Bottom temperatures (°C) measured at stations from the National Marine Fisheries Service eastern and northern Bering Sea bottom trawl surveys for the past five surveys. Surveys begin in Bristol Bay in late May to early June in each year and proceed north and west, concluding in August. Note that the northern Bering Sea was not surveyed in 2024.

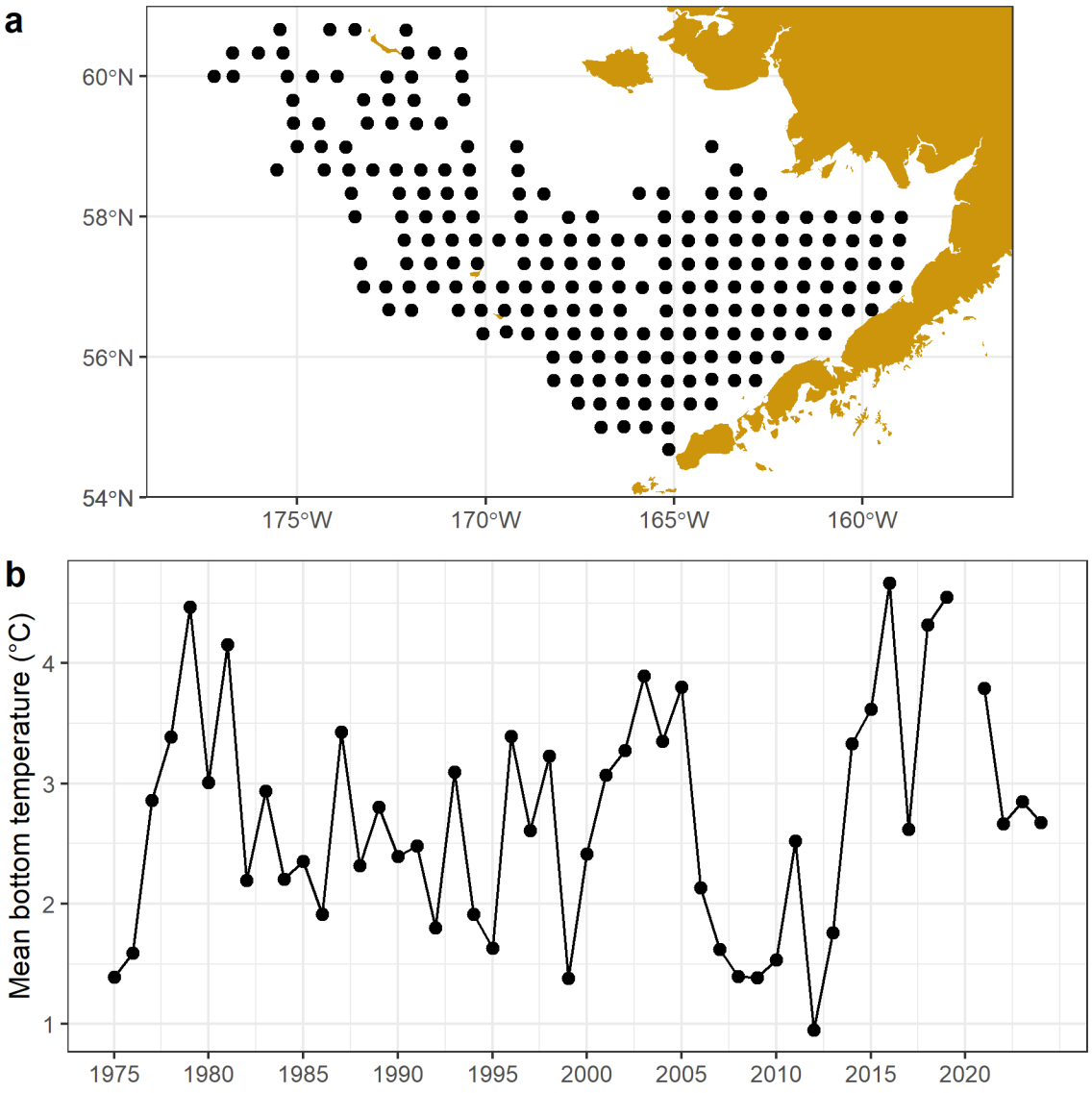

Figure 4. -- Eastern Bering Sea bottom temperature time series. (a) Stations with at least 44 bottom temperature measurements during the 49-year time series (n = 212). (b) Mean bottom temperature from these 212 stations, corrected for missing values and sampling date.

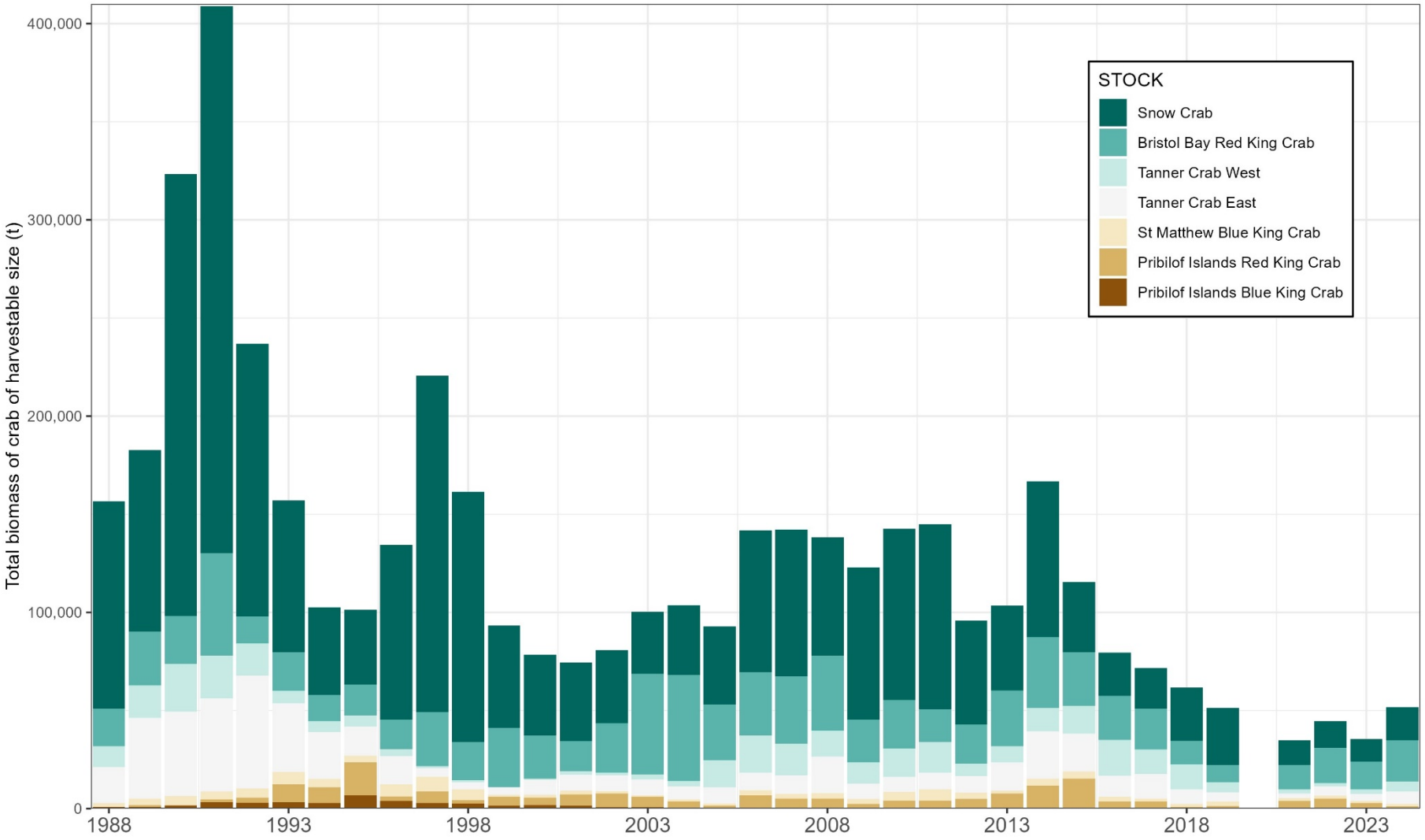

Figure 5. -- Biomass (t) of crab of harvestable size for four commercial species caught on National Marine Fisheries Service eastern Bering Sea bottom trawl surveys from 1988 through 2024, by stock. Harvestable size is defined by the legal size for *Paralithodes* species and the industry-preferred size for *Chionoecetes* species.

Red king crab figures

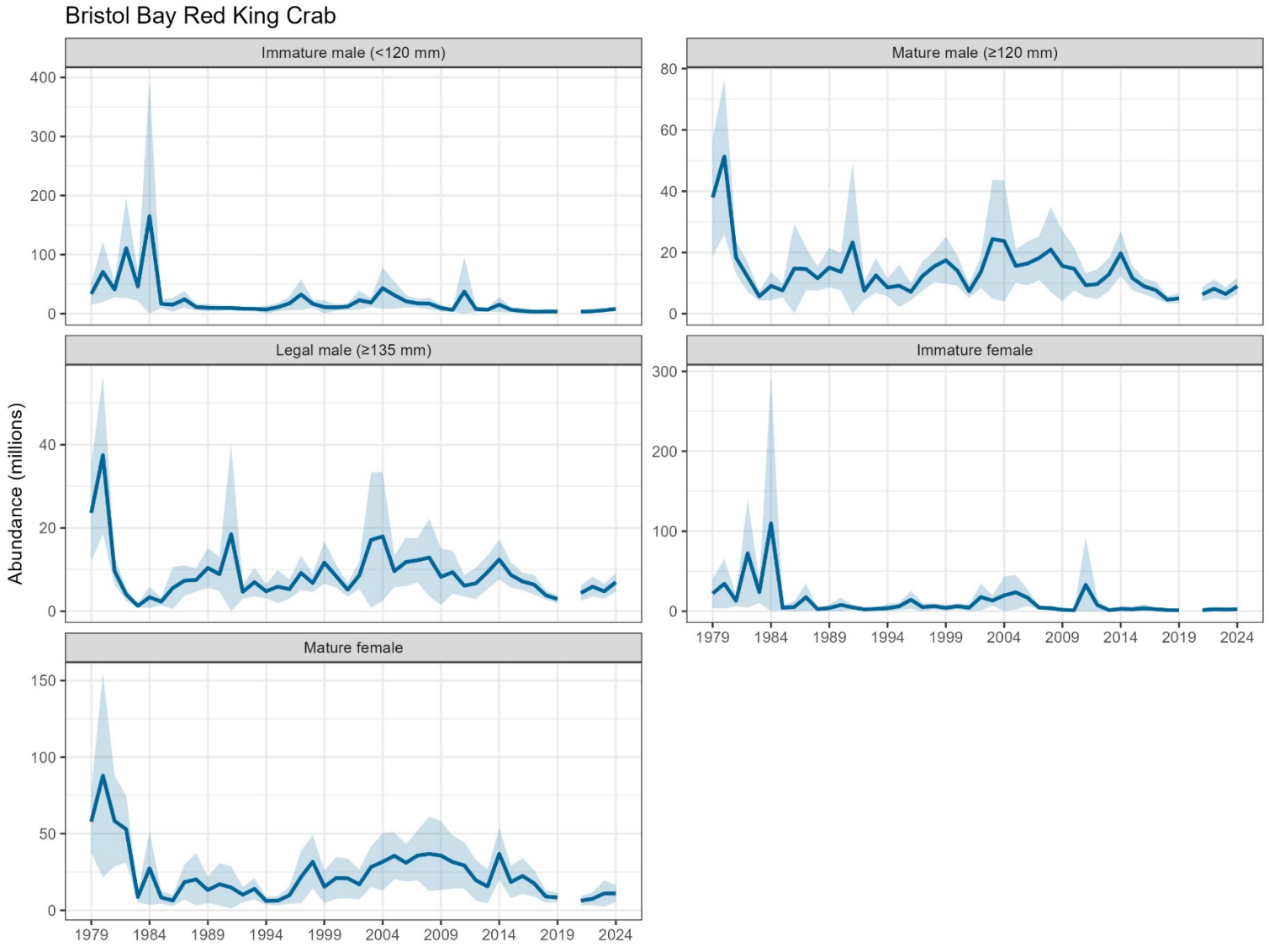

Figure 6. -- Historical abundance of red king crab (*Paralithodes camtschaticus*) in the Bristol Bay District. In years when a subset of stations in Bristol Bay were resampled, the resample stations replace data from the original stations for females only. Light blue area indicates 95% CI.

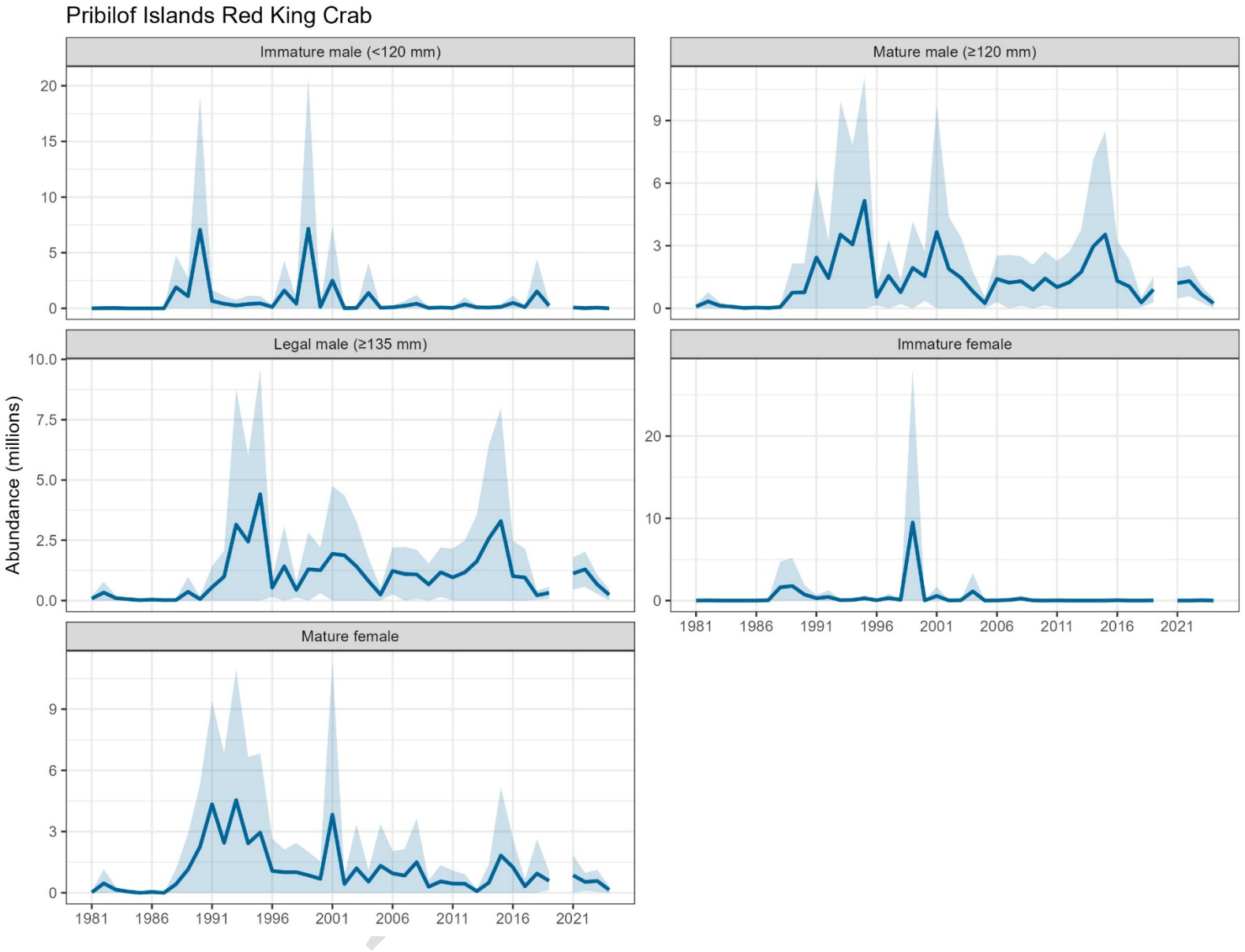

Figure 7. -- Historical abundance of red king crab (*Paralithodes camtschaticus*) in the Pribilof District. Light blue area indicates 95% CI.

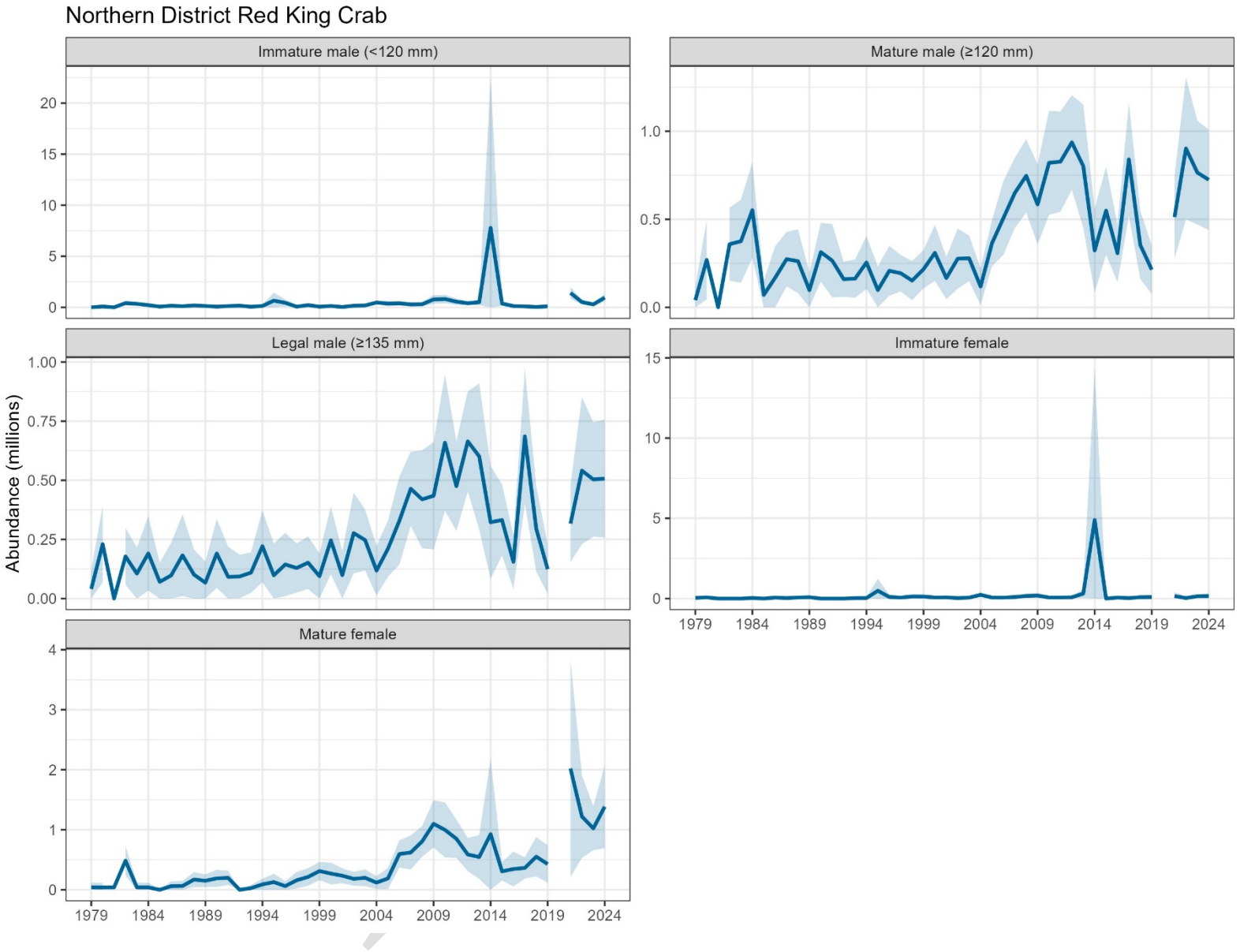

Figure 8. -- Historical abundance of red king crab (*Paralithodes camtschaticus*) in the Northern District. Light blue area indicates 95% CI.

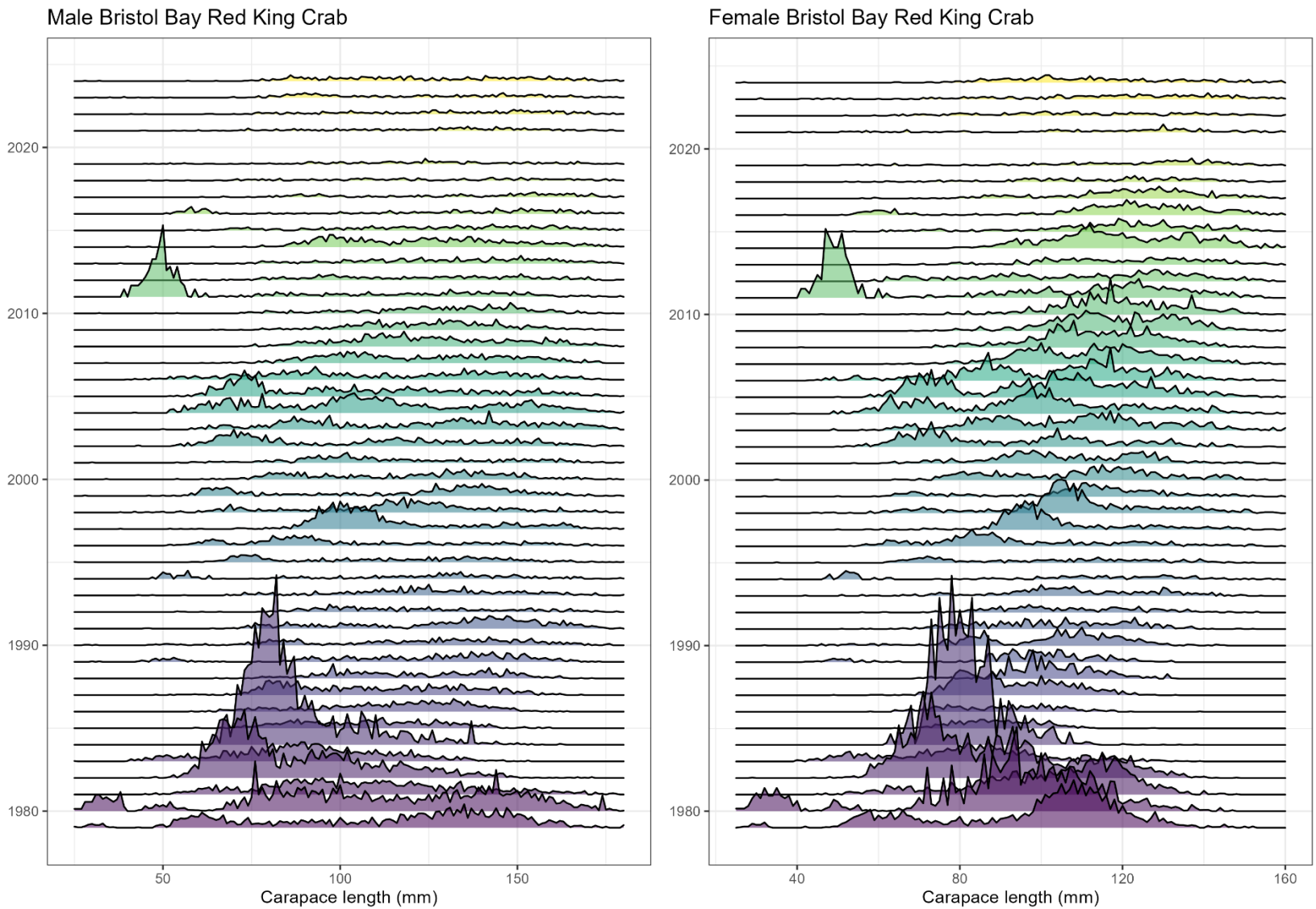

Figure 9. -- Historical size frequency for Bristol Bay District red king crab (*Paralithodes camtschaticus*). For females only, in years when a subset of stations in Bristol Bay were resampled later in the summer the resample stations replace data from the original stations.

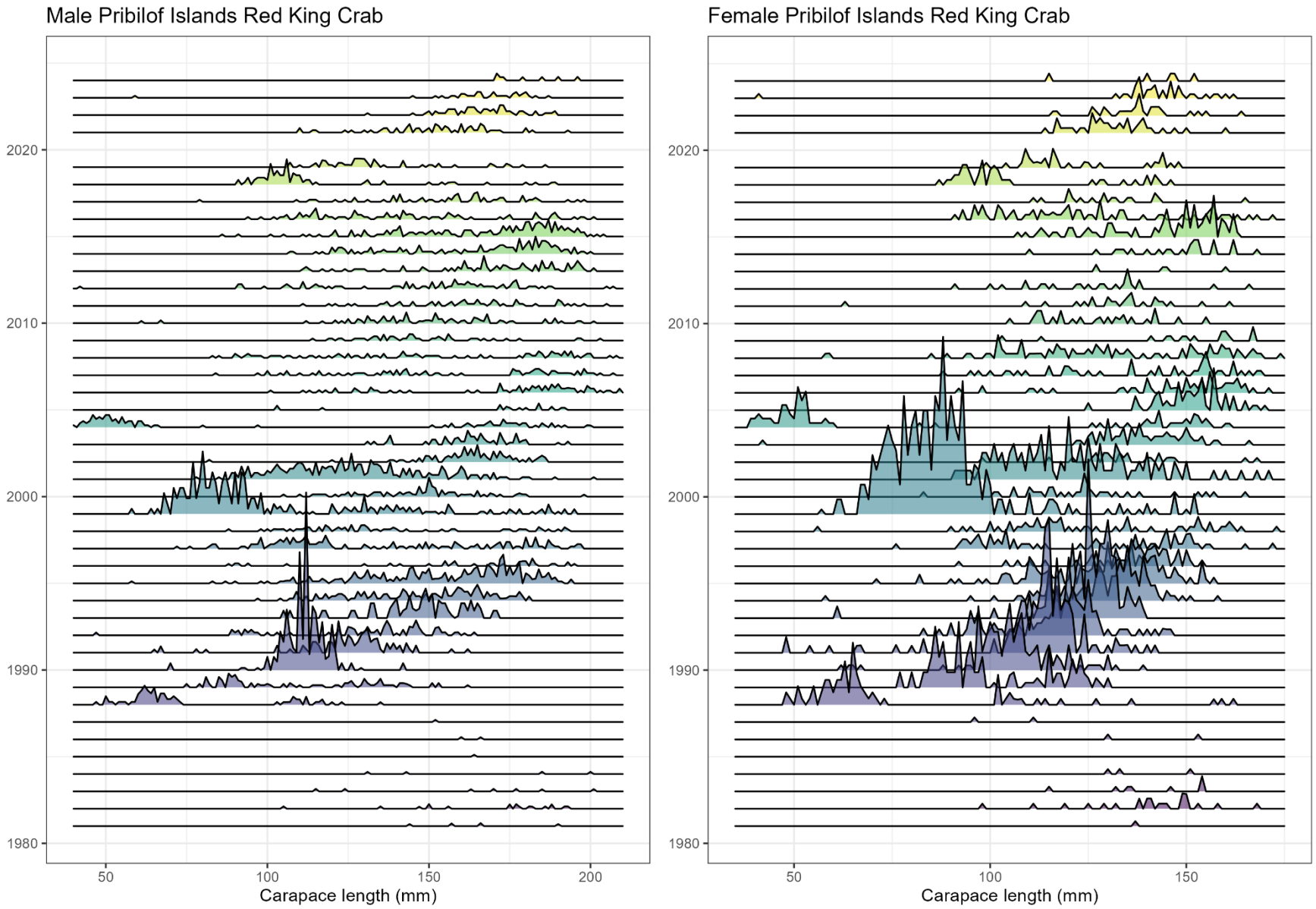

Figure 10. -- Historical size frequency for Pribilof District red king crab (*Paralithodes camtschaticus*).

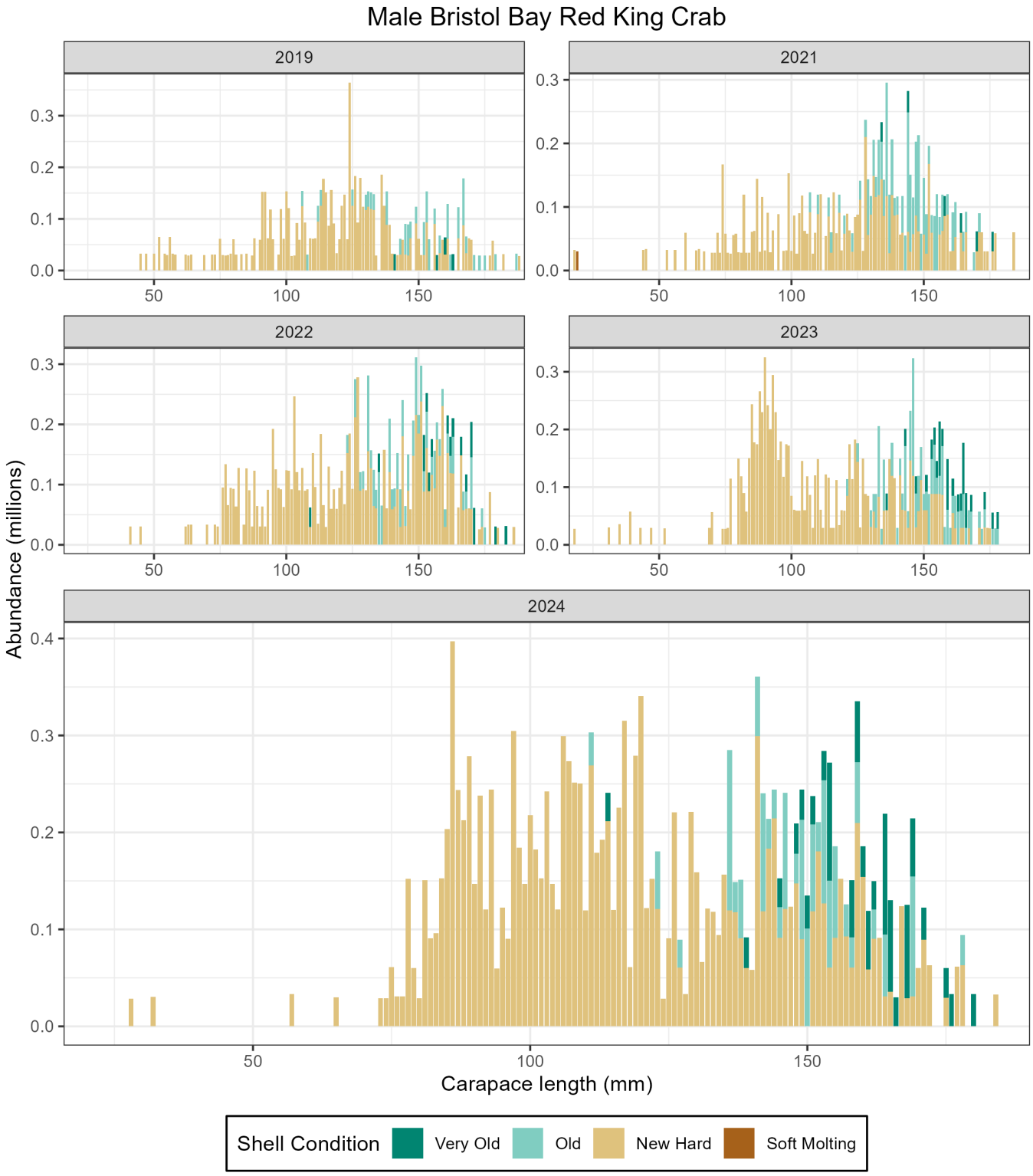

Figure 11. -- Abundance (millions) by size and shell condition of Bristol Bay District male red king crab (*Paralithodes camtschaticus*) using 1 mm length classes. **Note that Y-axis scale varies among years.**

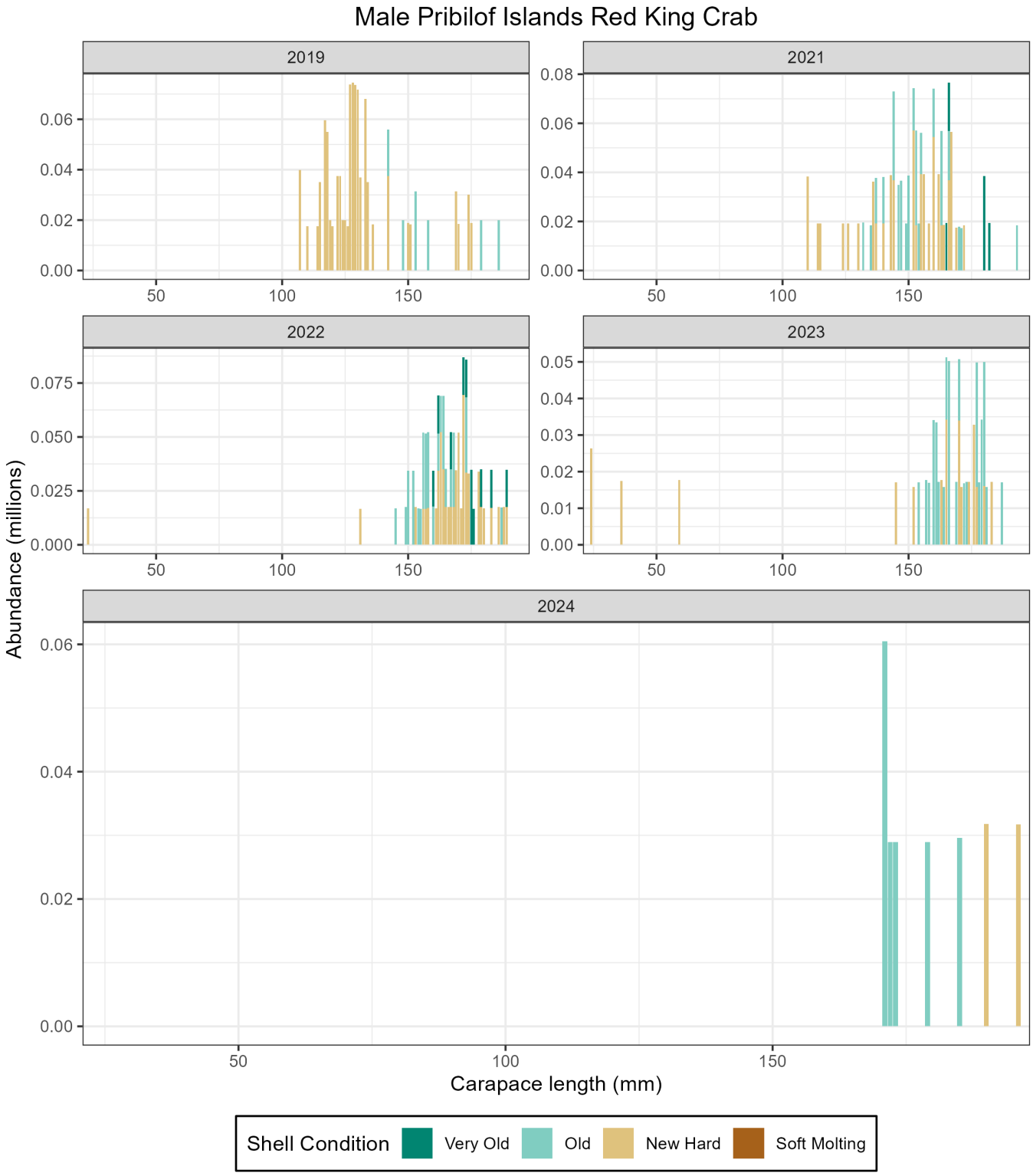

Figure 12. -- Abundance (millions) by size and shell condition of Pribilof District male red king crab (*Paralithodes camtschaticus*) using 1 mm length classes. Sampling effort was reduced around islands in 2024. **Note that Y-axis scale varies among years.**

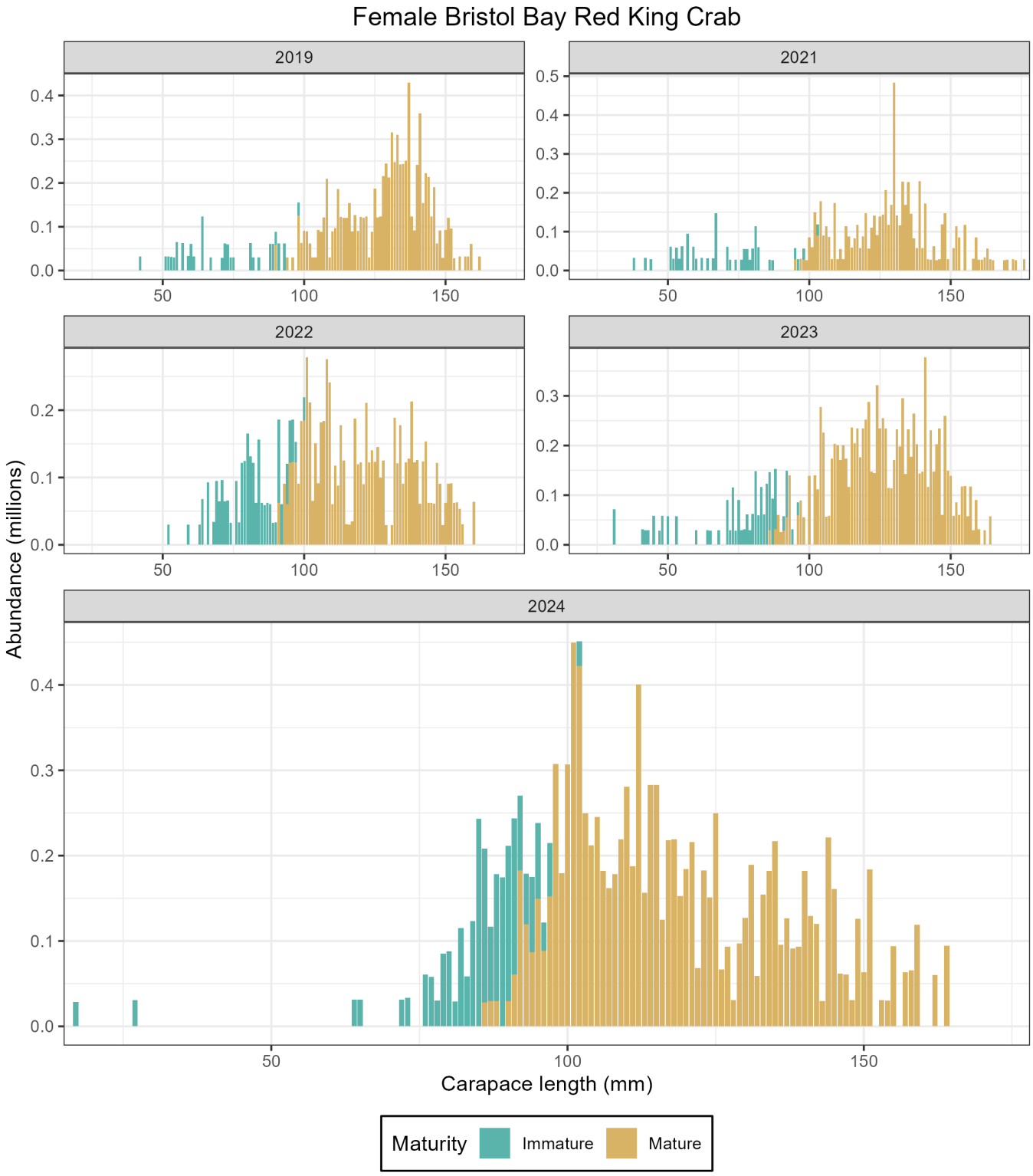

Figure 13. -- Abundance (millions) by maturity class of Bristol Bay District female red king crab (*Paralithodes camtschaticus*) using 1 mm length classes. In years when a subset of stations in Bristol Bay were resampled later in the summer, the resample stations replace data from the original stations. **Note that Y-axis scale varies among years.**

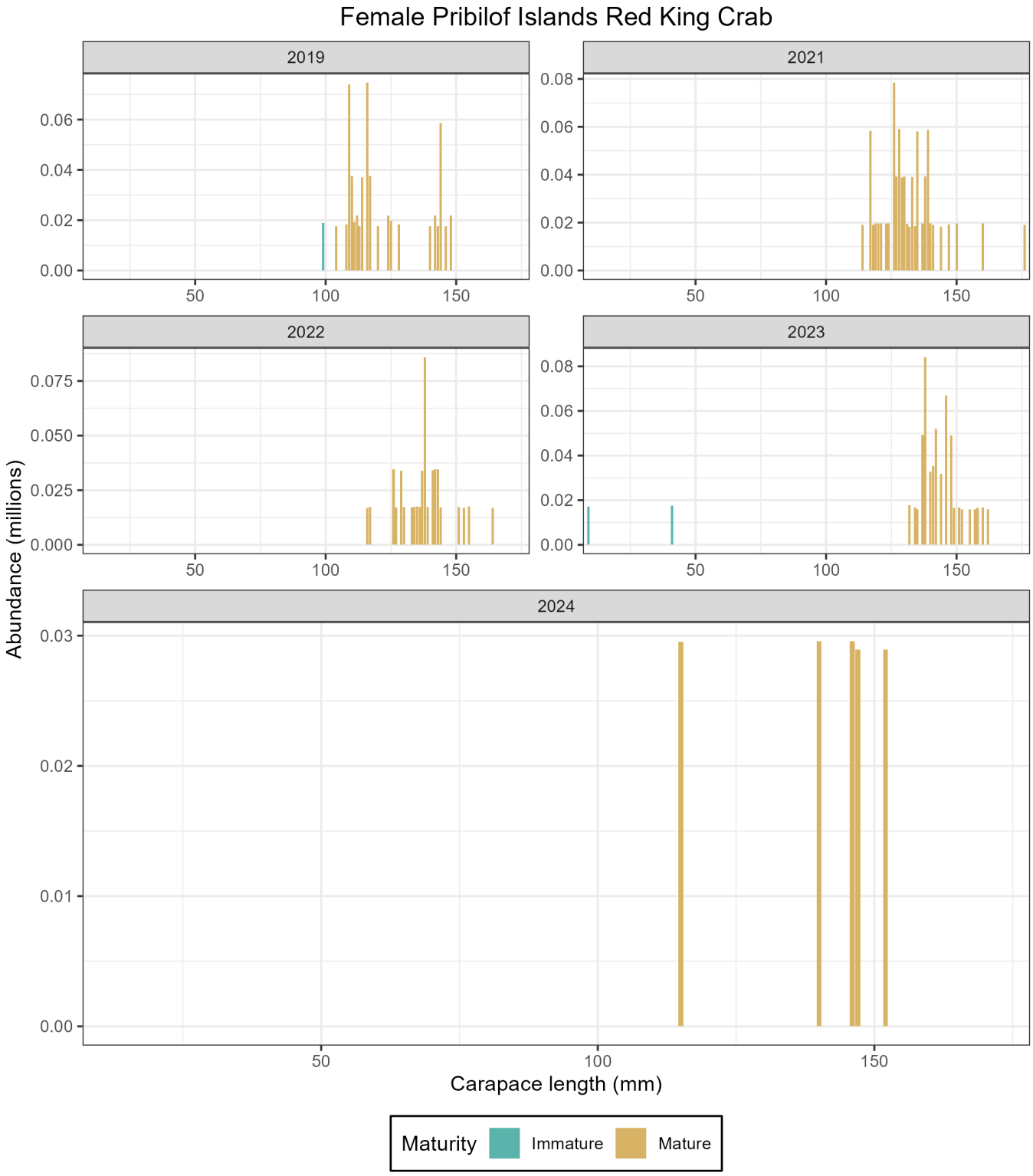

Figure 14. -- Abundance (millions) by maturity class of Pribilof District female red king crab (*Paralithodes camtschaticus*) using 1 mm length classes. Sampling effort was reduced around islands in 2024. **Note that Y-axis scale varies among years.**

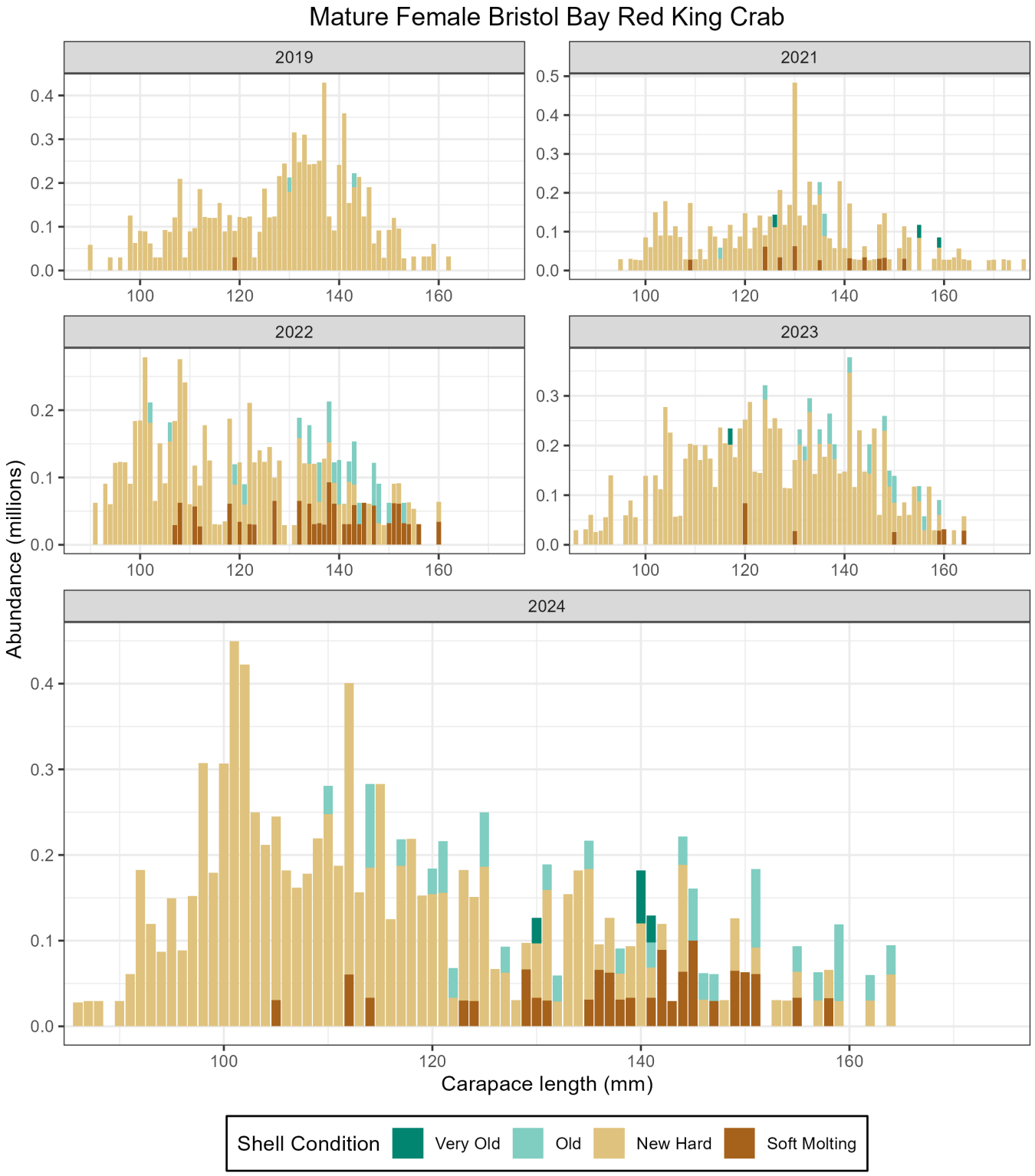

Figure 15. -- Abundance (millions) by size and shell condition of Bristol Bay District mature female red king crab (*Paralithodes camtschaticus*) using 1 mm length classes. In years when a subset of stations in Bristol Bay were resampled later in the summer, the resample stations replace data from the original stations. **Note that Y-axis scale varies among years.**

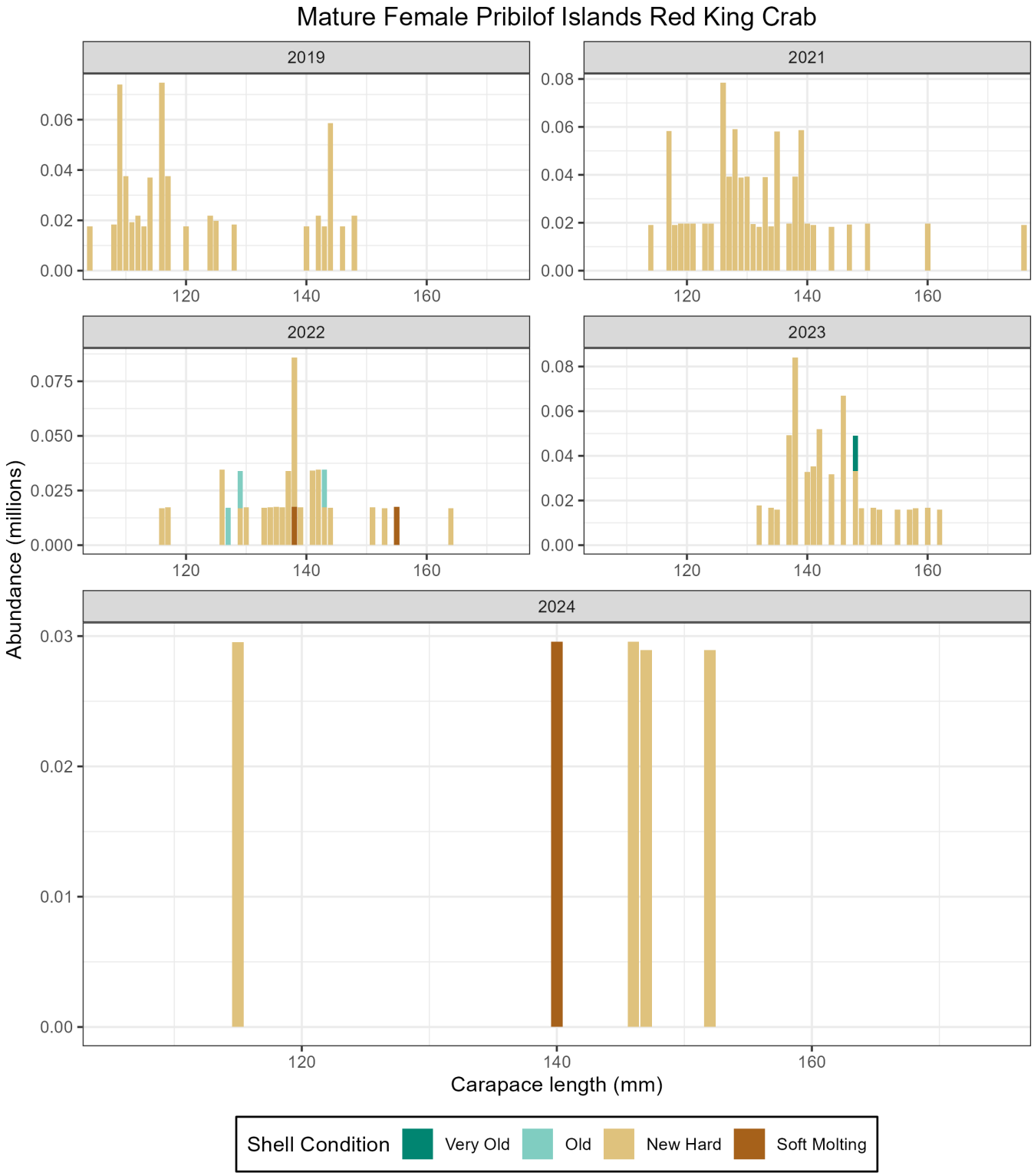

Figure 16. -- Abundance (millions) by size and shell condition of Pribilof District mature female red king crab (*Paralithodes camtschaticus*) using 1 mm length classes. Sampling effort was reduced around islands in 2024. **Note that Y-axis scale varies among years.**

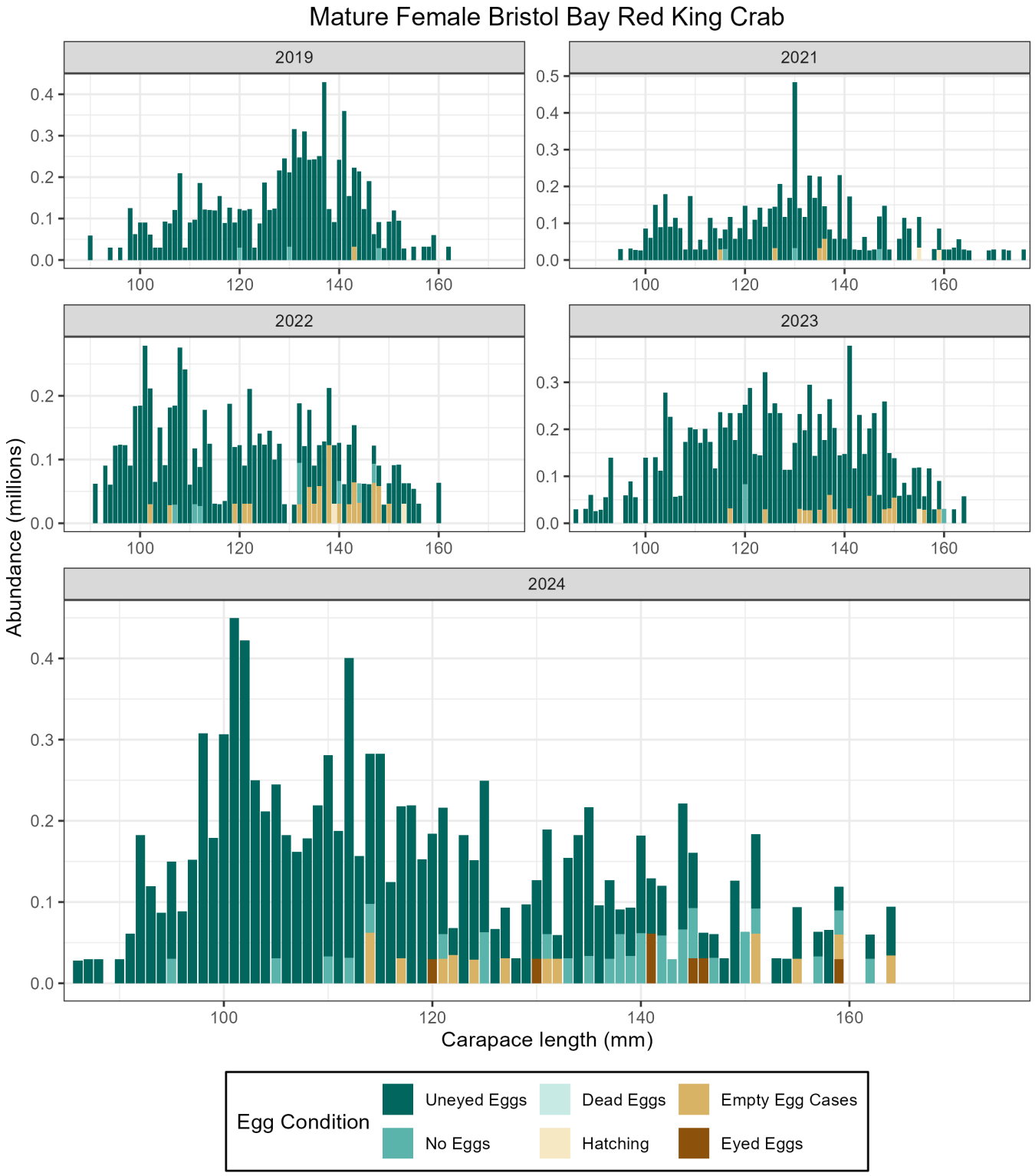

Figure 17. -- Abundance (millions) by size and egg condition of Bristol Bay District mature female red king crab (*Paralithodes camtschaticus*) using 1 mm length classes. In years when a subset of stations in Bristol Bay were resampled later in the summer, the resample stations replace data from the original stations. **Note that Y-axis scale varies among years.**

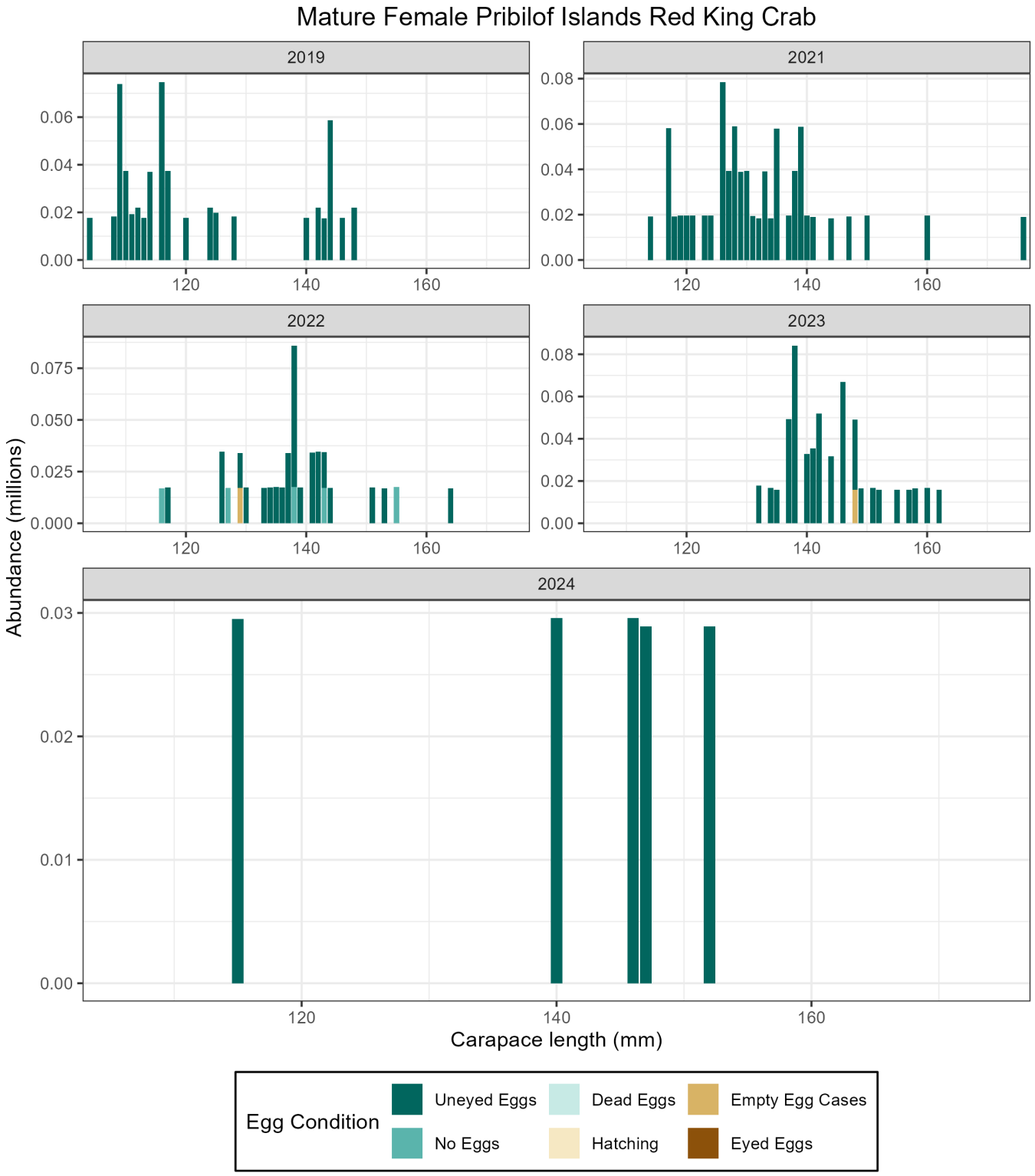

Figure 18. -- Abundance (millions) by size and egg condition of Pribilof District mature female red king crab (*Paralithodes camtschaticus*) using 1 mm length classes. Sampling effort was reduced around islands in 2024. **Note that Y-axis scale varies among years.**

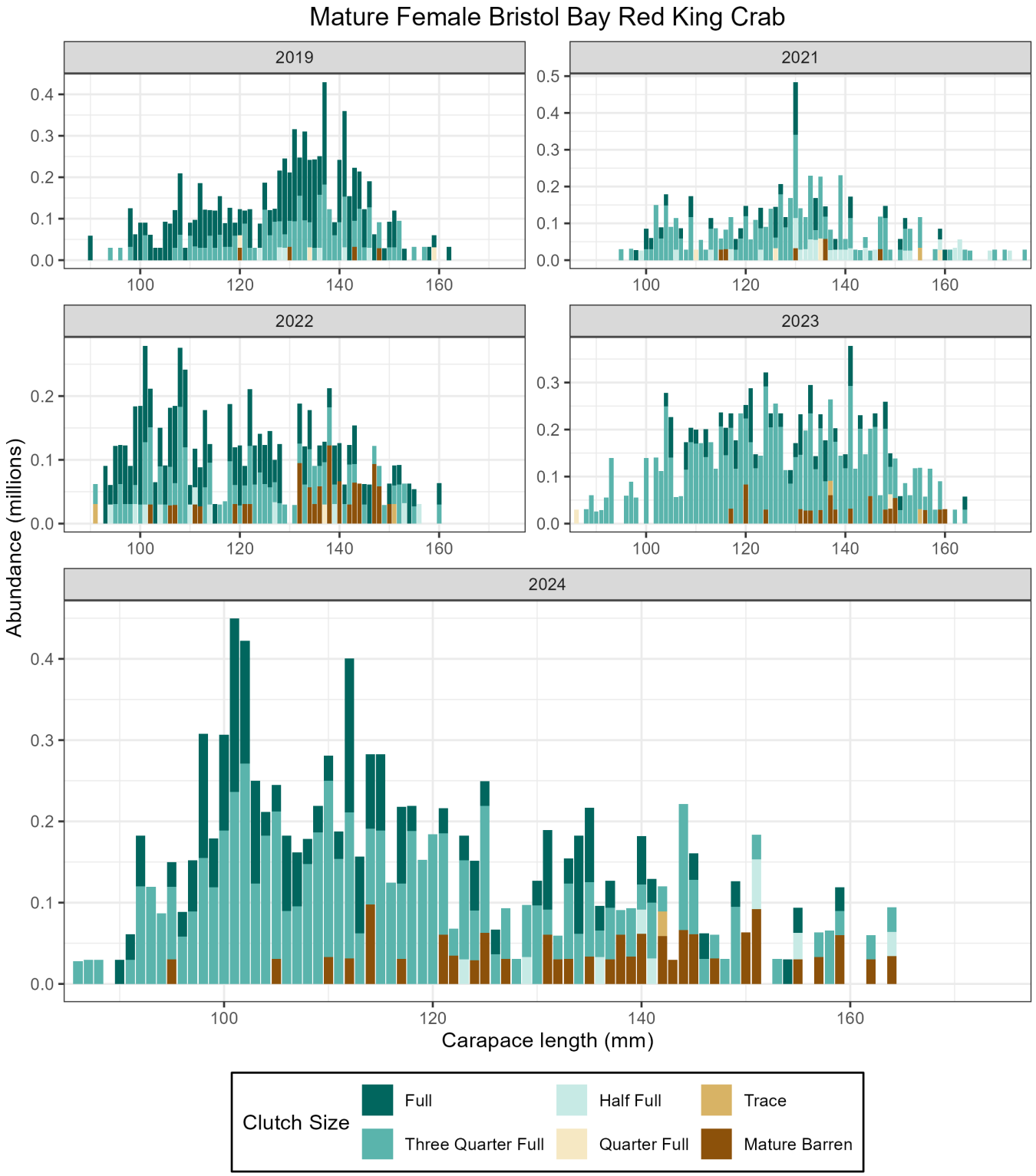

Figure 19. -- Abundance (millions) by size and clutch fullness of Bristol Bay District mature female red king crab (*Paralithodes camtschaticus*) using 1 mm length classes. In years when a subset of stations in Bristol Bay were resampled later in the summer, the resample stations replace data from the original stations. **Note that Y-axis scale varies among years.**

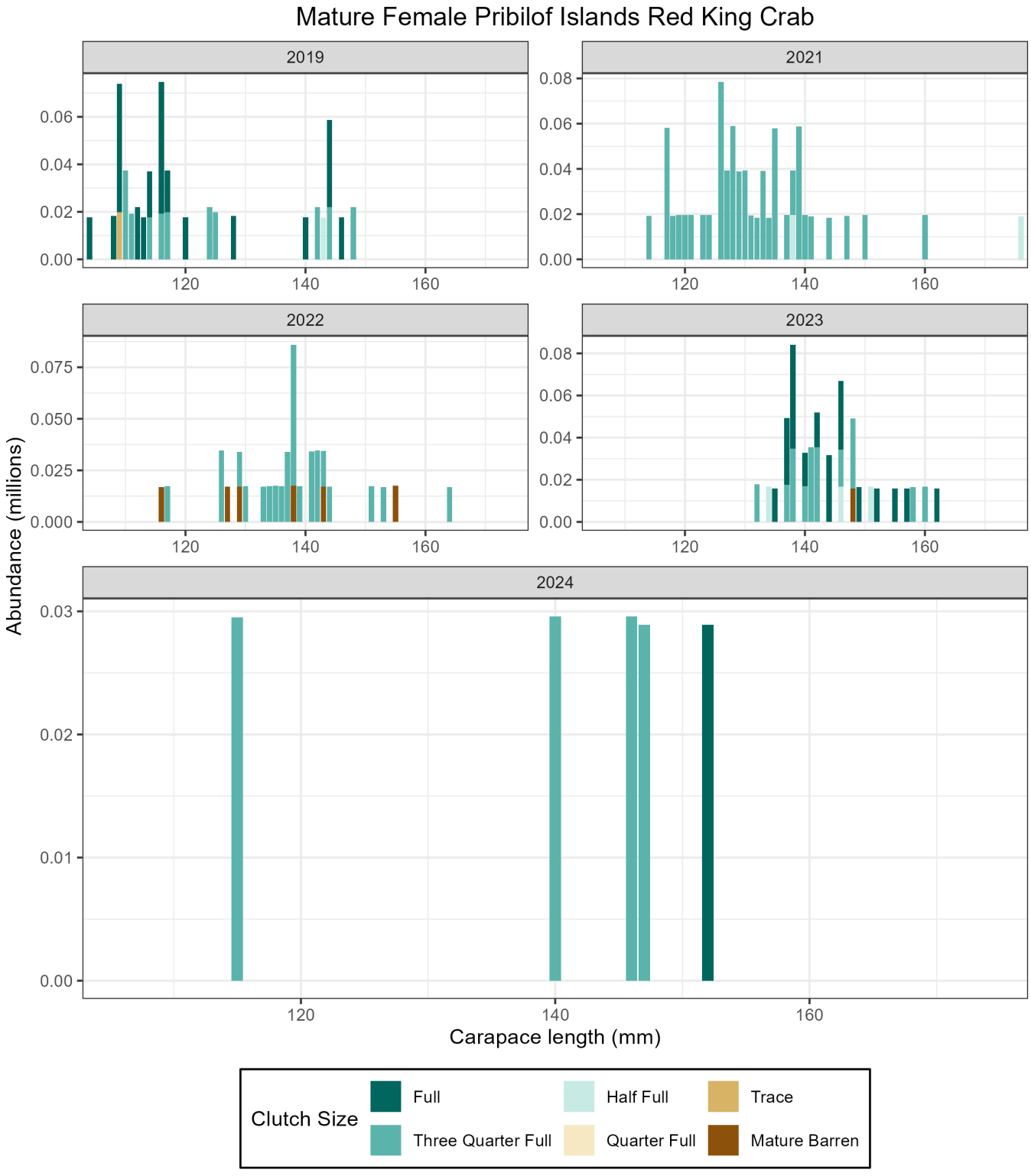

Figure 20. -- Abundance (millions) by size and clutch fullness of Pribilof District mature female red king crab (*Paralithodes camtschaticus*) using 1 mm length classes. Sampling effort was reduced around islands in 2024. **Note that Y-axis scale varies among years.**

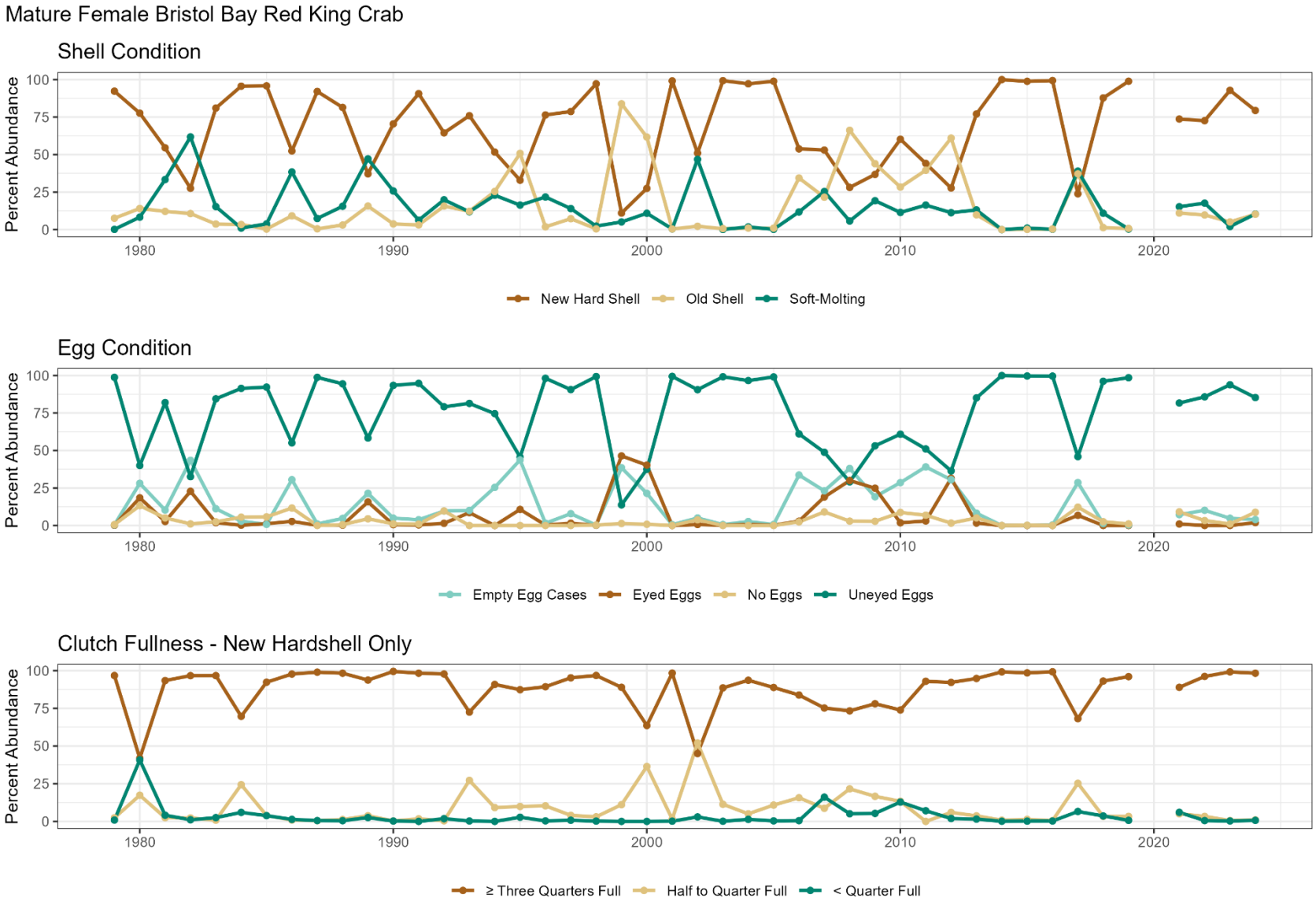

Figure 21. -- Time series of shell condition, egg condition, and clutch fullness for mature female Bristol Bay red king crab (*Paralithodes camtschaticus*). Data from stations that are resampled later in the survey are **not** included.

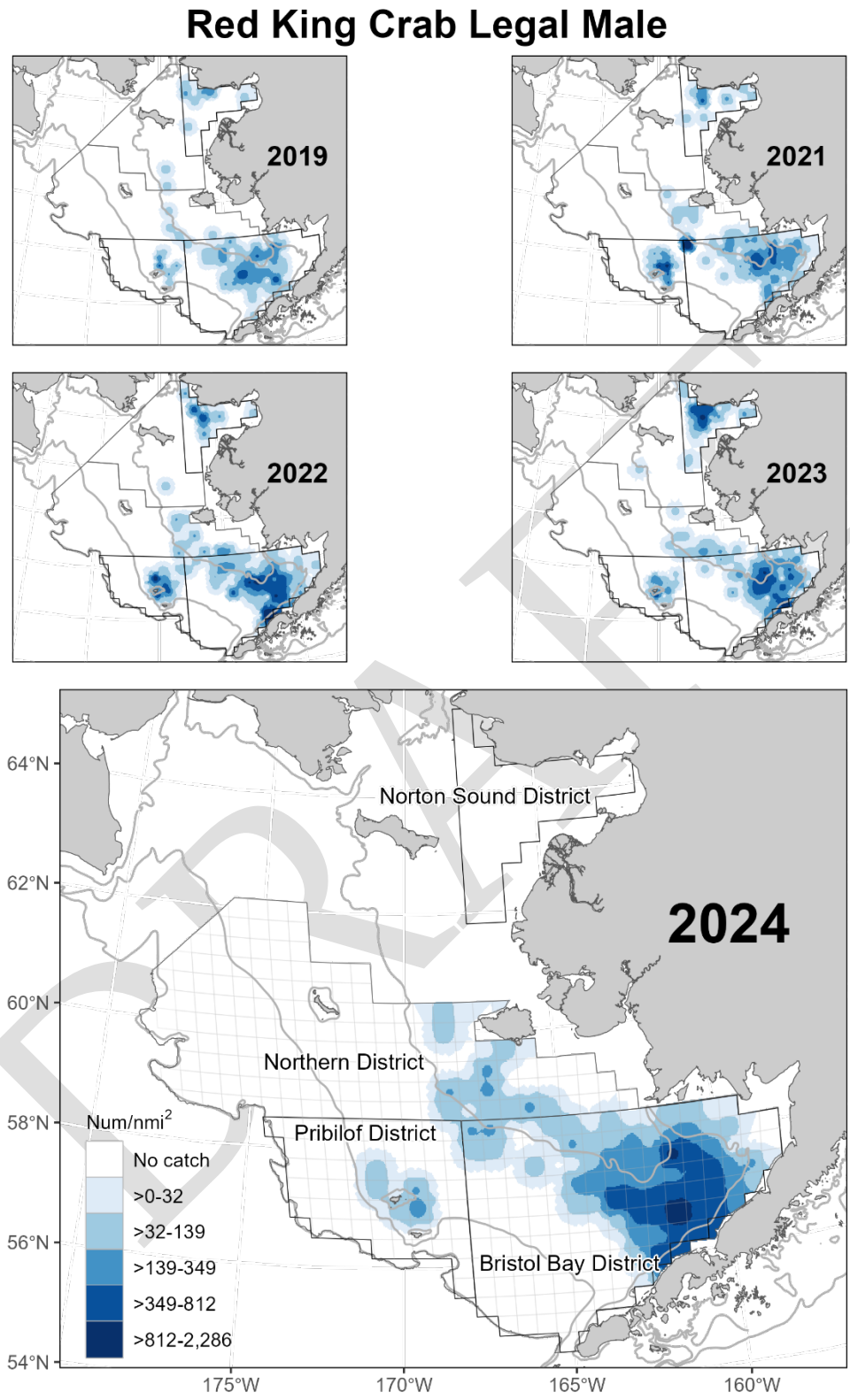

Figure 22. -- Estimated total density of legal-sized (carapace length ≥ 135 mm carapace length in EBS; carapace length ≥ 104 mm in NBS) male red king crab (*Paralithodes camtschaticus*) for the

past five survey years. Outlined areas depict management districts. Note that the NBS was not surveyed in 2024.

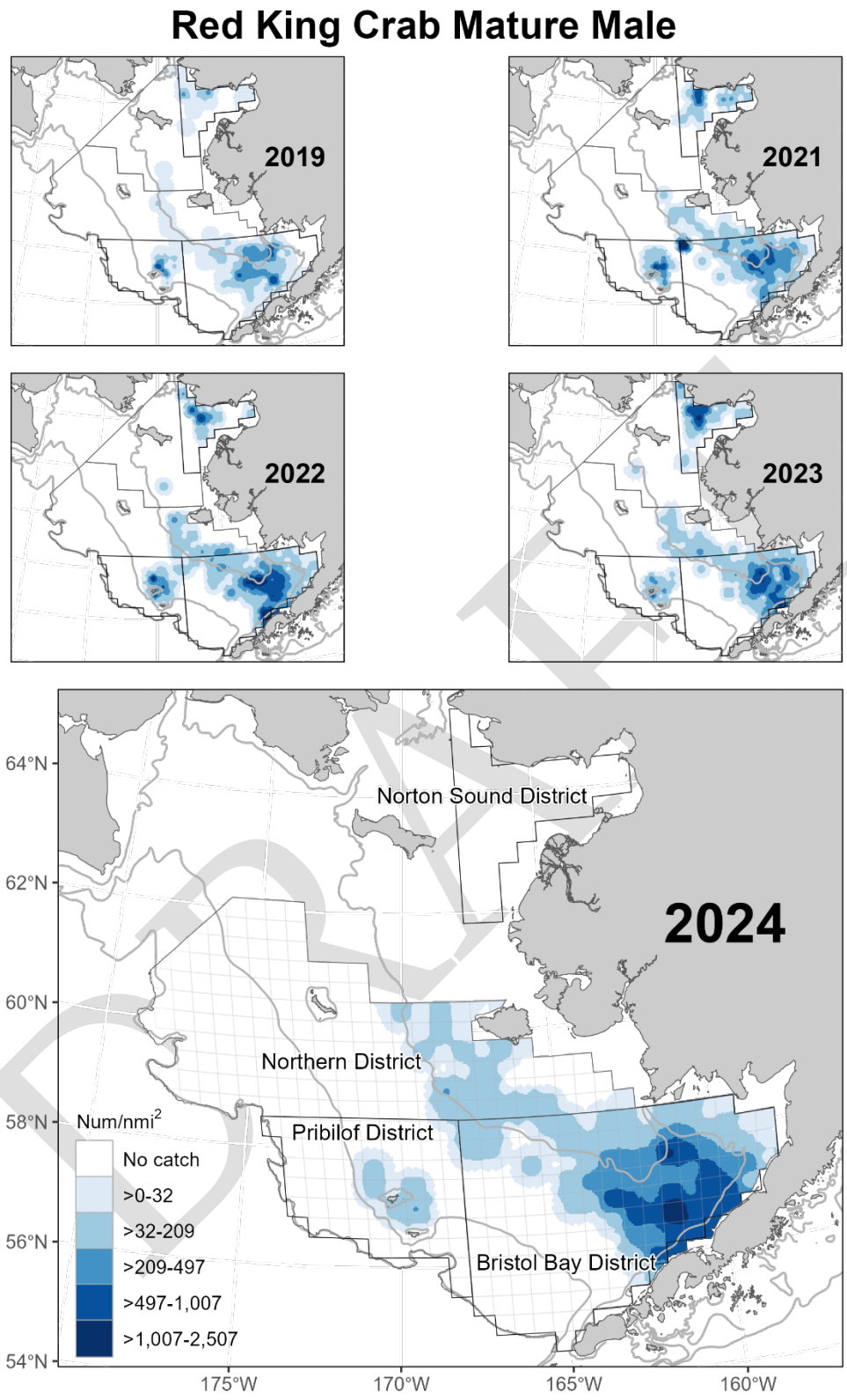

Figure 23. -- Estimated total density of mature-sized (carapace length ≥ 120 mm carapace length in EBS; carapace length ≥ 94 mm in NBS) male red king crab (*Paralithodes camtschaticus*) for the past five survey years. Outlined areas depict management districts. Note that the NBS was not surveyed in 2024.

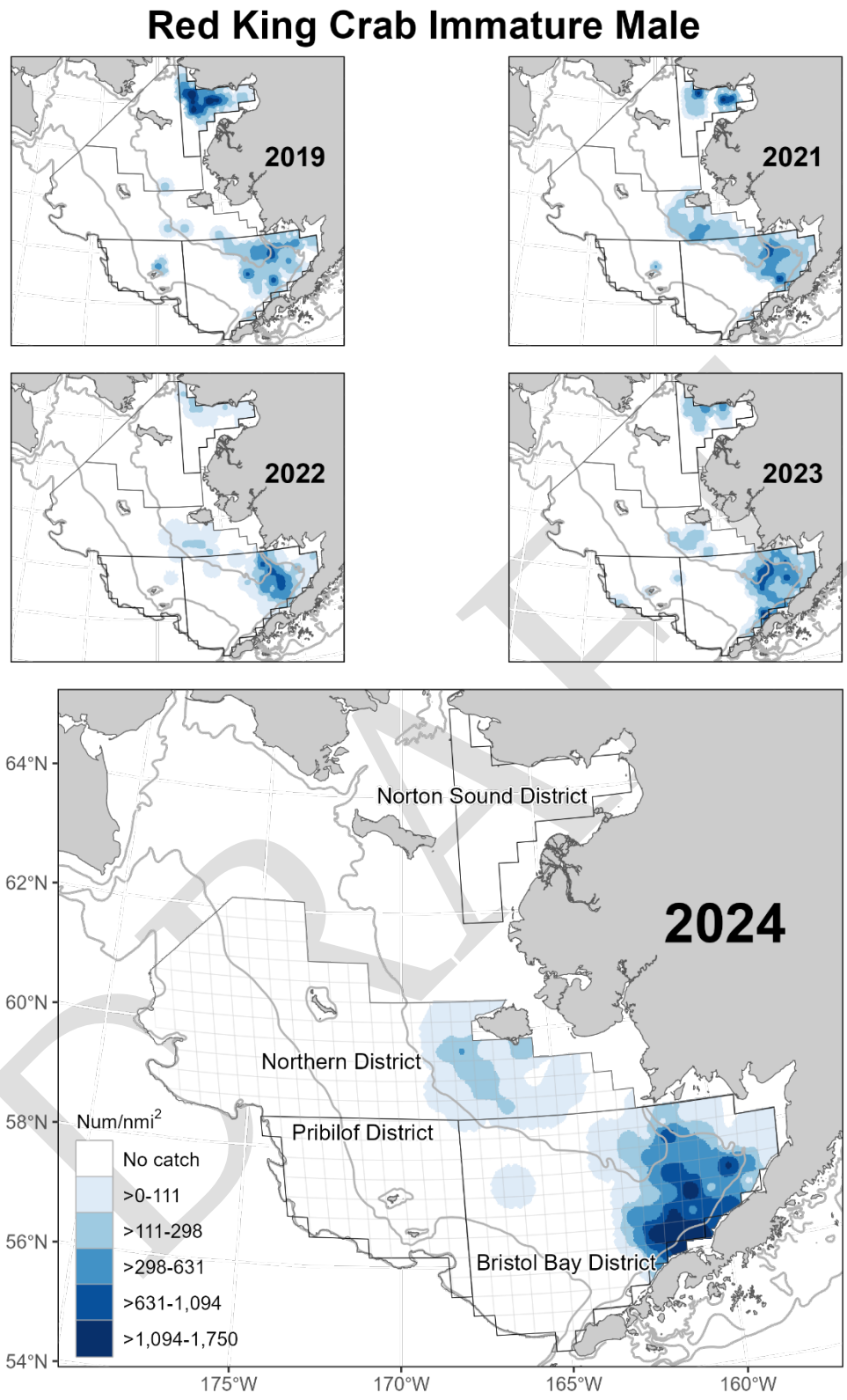

Figure 24. -- Estimated total density of immature-sized (carapace length < 120 mm carapace length in EBS; carapace length < 94 mm in NBS) male red king crab (*Paralithodes camtschaticus*) for the past five survey years. Outlined areas depict management districts. Note that the NBS was not surveyed in 2024.

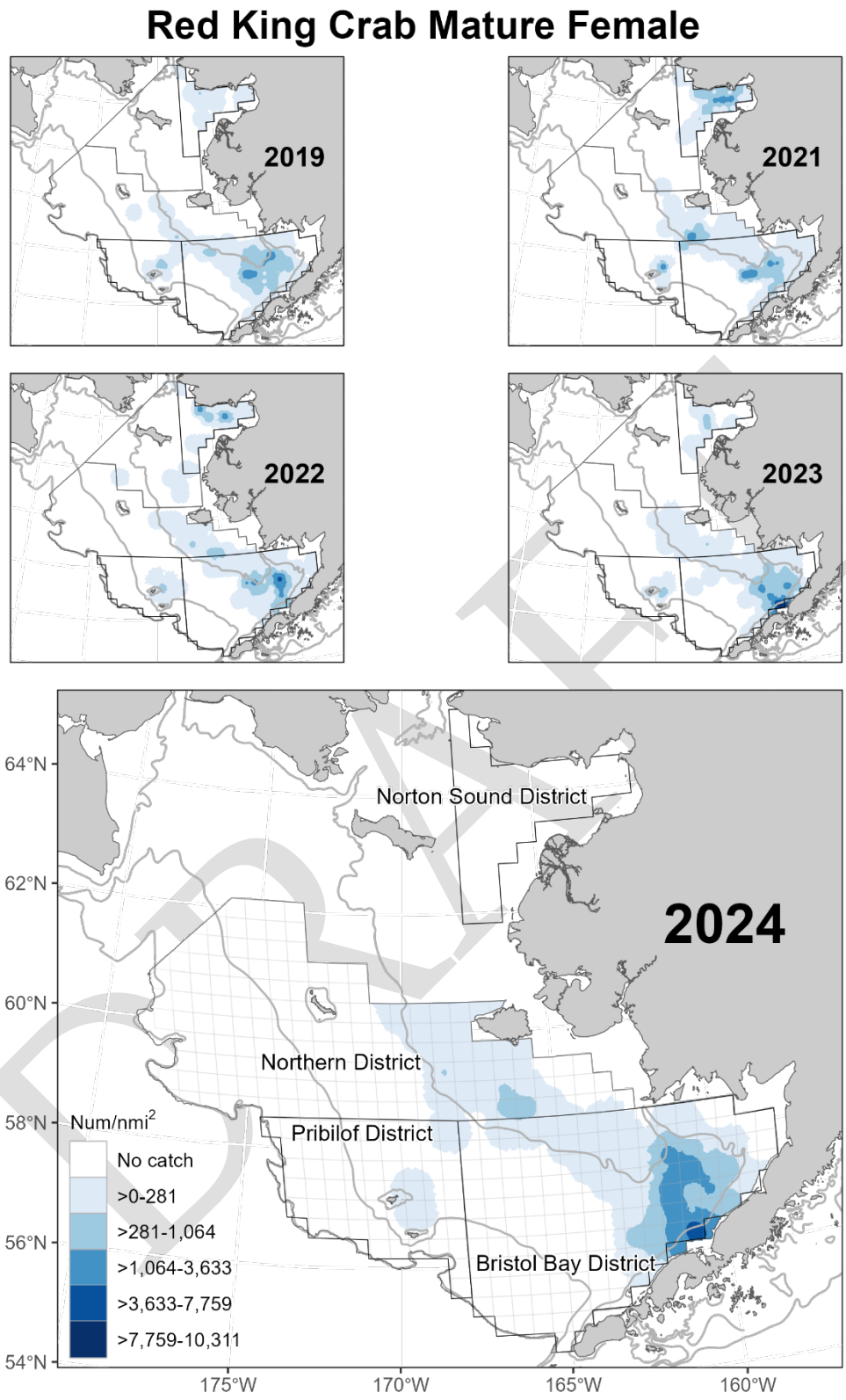

Figure 25. -- Estimated total density of mature female red king crab (*Paralithodes camtschaticus*) for the past five survey years. Outlined areas depict management districts. In years when a subset of stations were resampled, the resample stations replace data from the original stations. Note that the NBS was not surveyed in 2024.

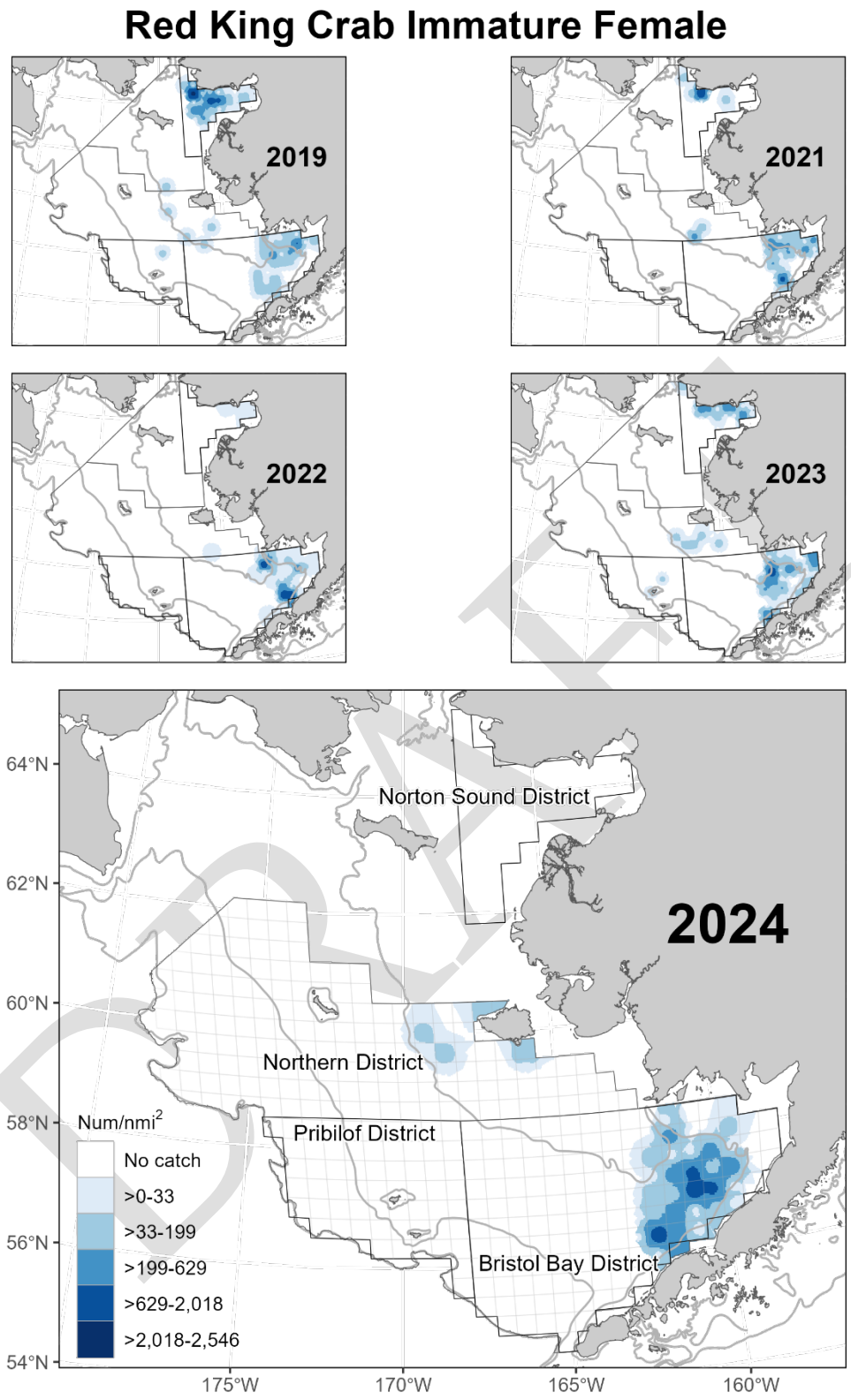

Figure 26. -- Estimated total density of immature female red king crab (*Paralithodes camtschaticus*) for the past five survey years. Outlined areas depict management districts. In years when a subset of stations were resampled, the resample stations replace data from original stations. Note that the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

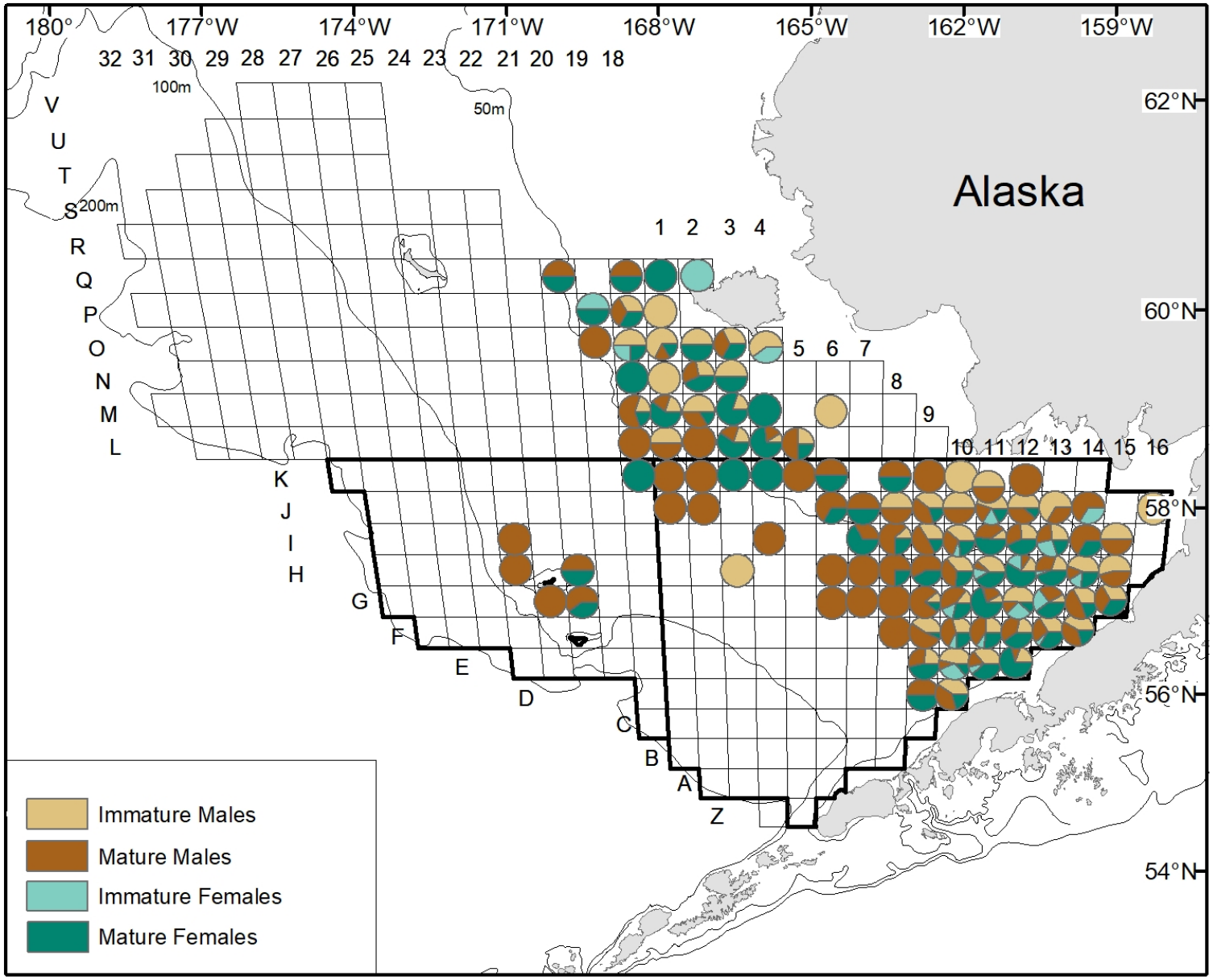

Figure 27. -- Proportion of male and female red king crab (*Paralithodes camtschaticus*) maturity classes caught at each station sampled in 2024. Males are categorized as mature at ≥ 120 mm carapace length. Outlined areas depict management districts.

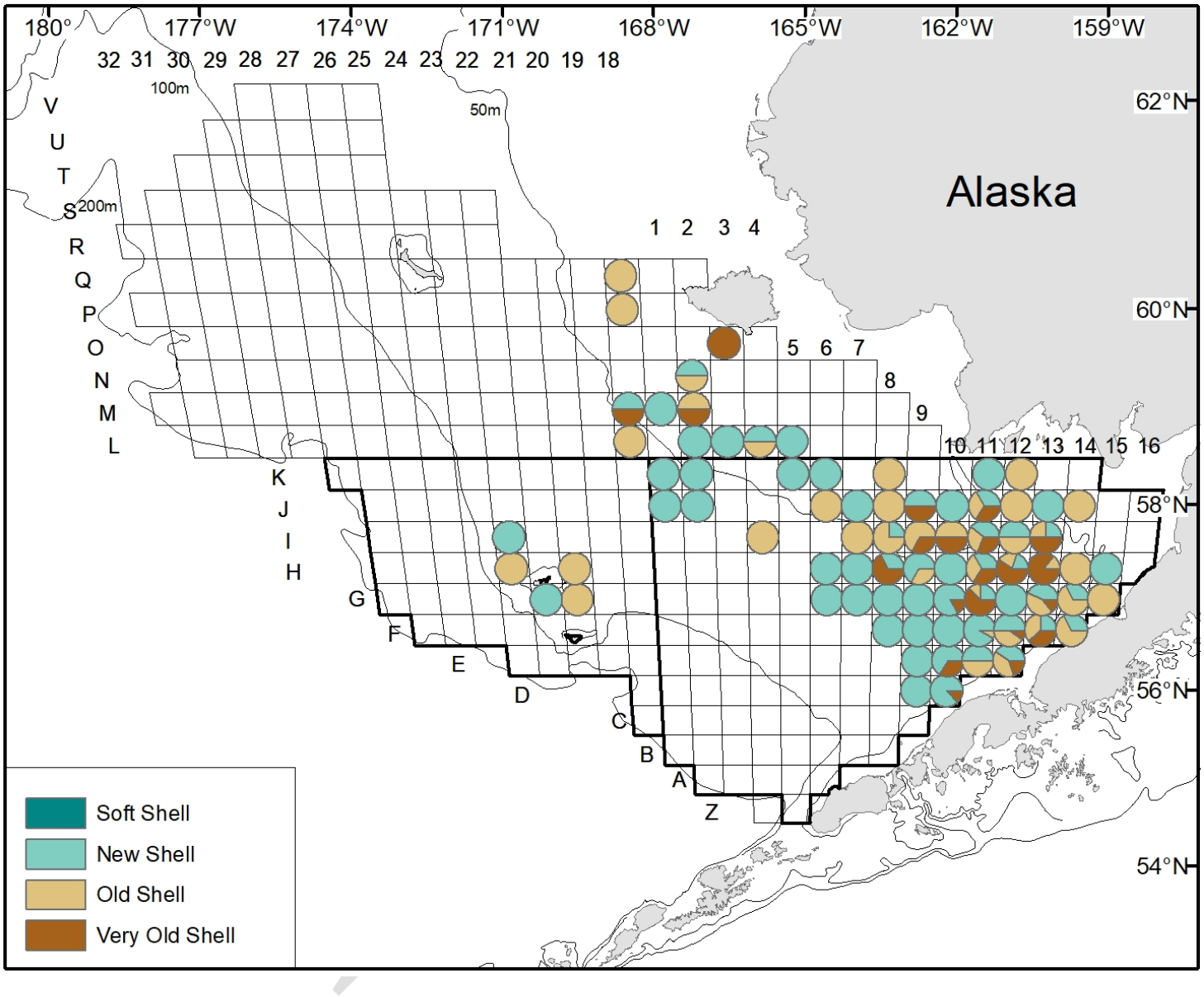

Figure 28. -- Proportion of legal-sized (≥ 135 mm carapace length), male red king crab (*Paralithodes camtschaticus*) shell condition classes caught at each station sampled in 2024. Outlined areas depict management districts.

Figure 29 – CPUE-weighted centers of stock abundance of Bristol Bay District mature female and legal male red king crab (*Paralithodes camtschaticus*) from 1979 to 2024. 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 most the recent year denoted in red.

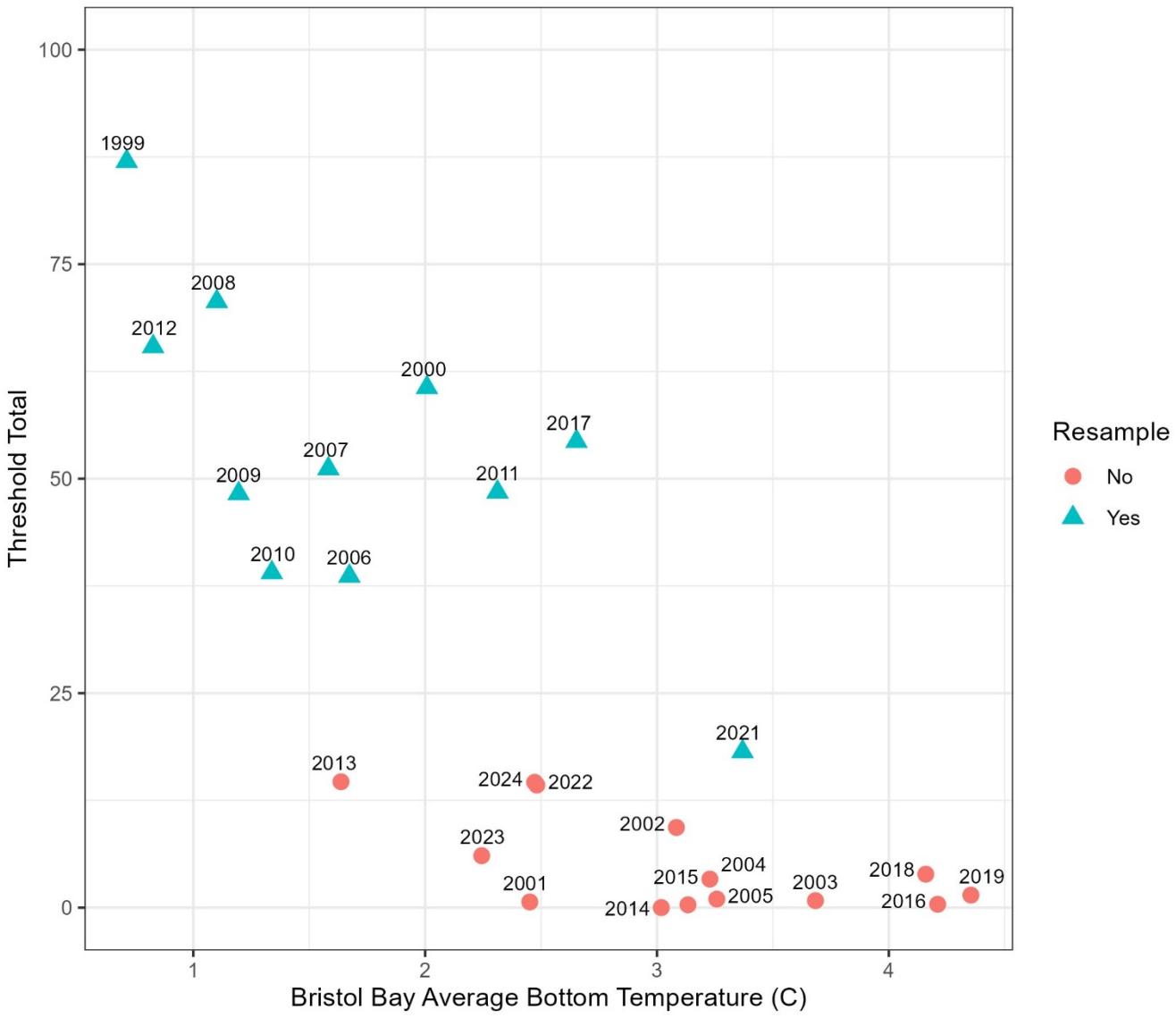

Figure 30. -- Relationship between Bristol Bay average bottom water temperature and the status of the female red king crab reproductive cycle relative to whether resampling was conducted in Bristol Bay. Average bottom water temperature is spatially subset for the Bristol Bay District during the standard 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).

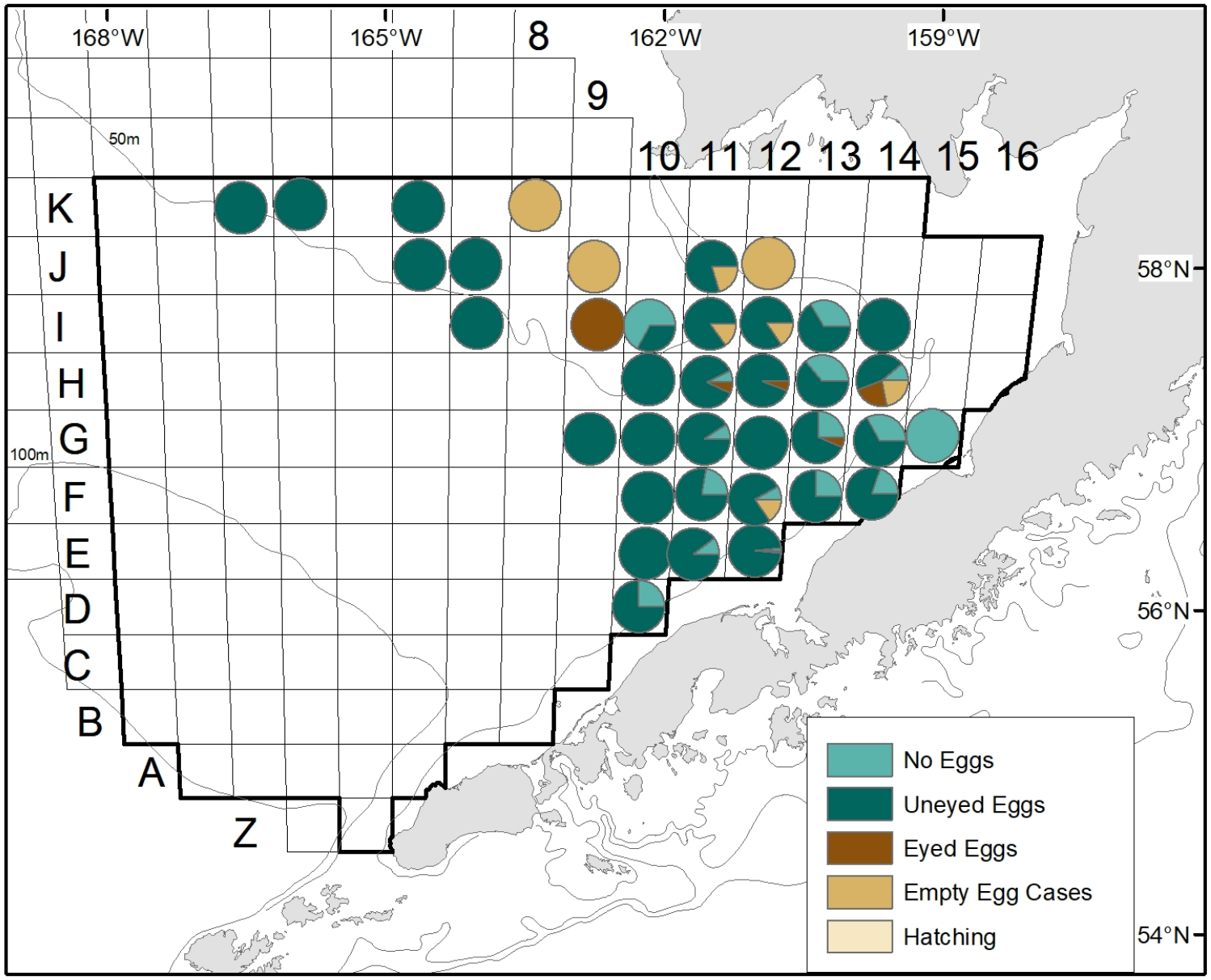

Figure 31. -- Proportion of female red king crab (*Paralithodes camtschaticus)* egg condition classes caught at each station sampled in 2024 in the Bristol Bay District. The black outlined area depicts the management district.

Blue king crab figures

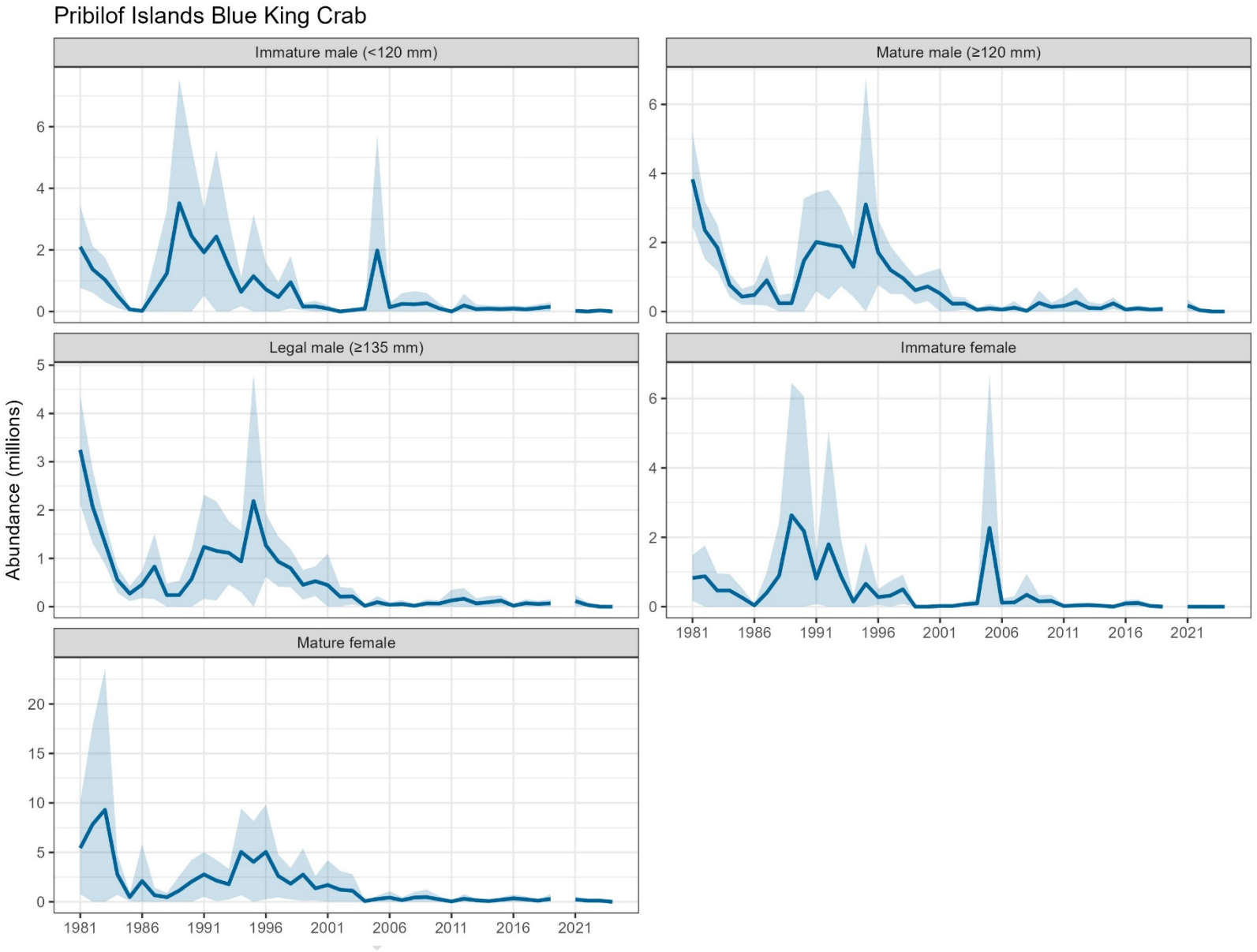

Figure 32. -- Historical abundance of blue king crab (*Paralithodes platypus*) in the Pribilof District. Light blue area indicates 95% CI.

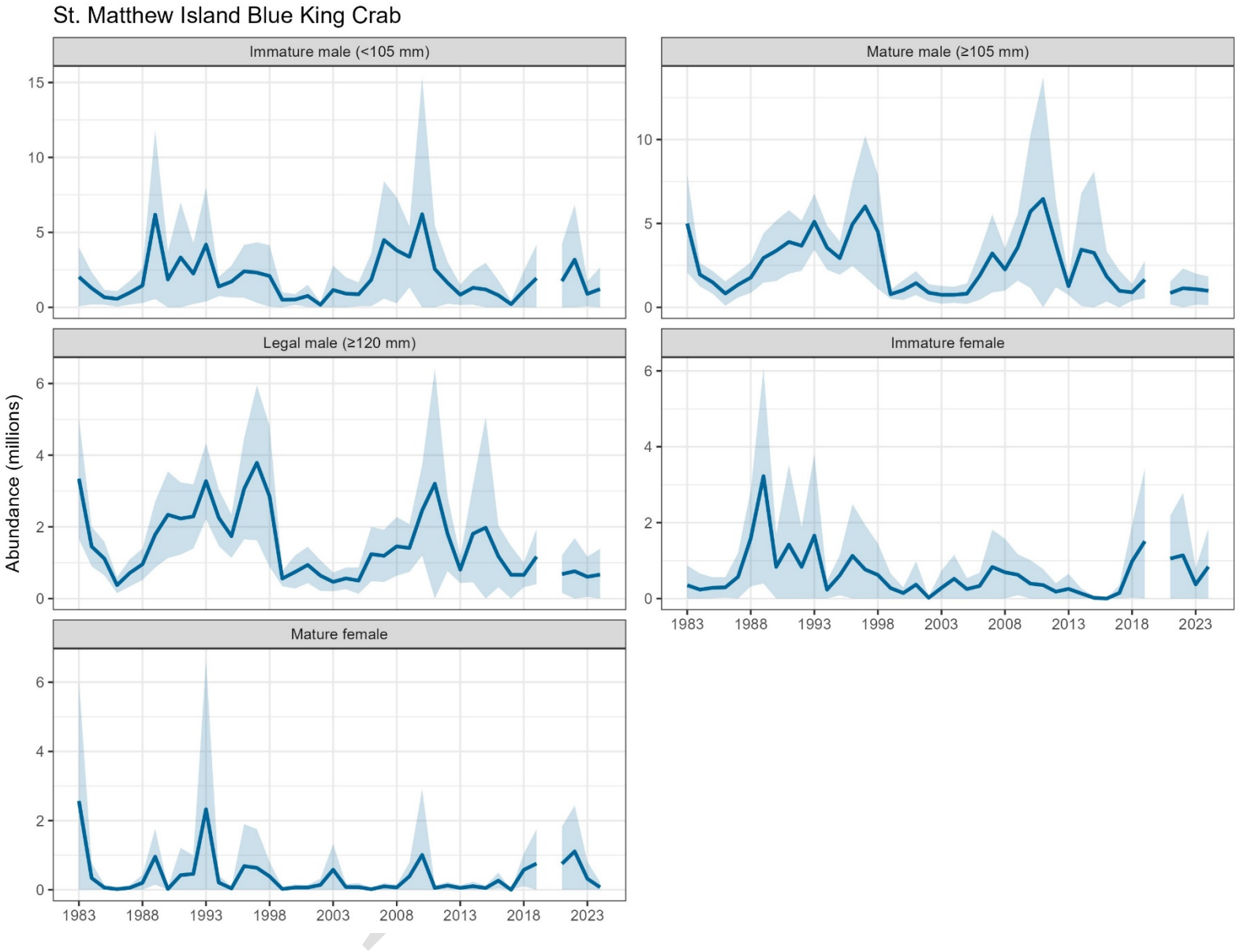

Figure 33. -- Historical abundance of blue king crab (*Paralithodes platypus*) in the Saint Matthew Island Section. Light blue area indicates 95% CI.

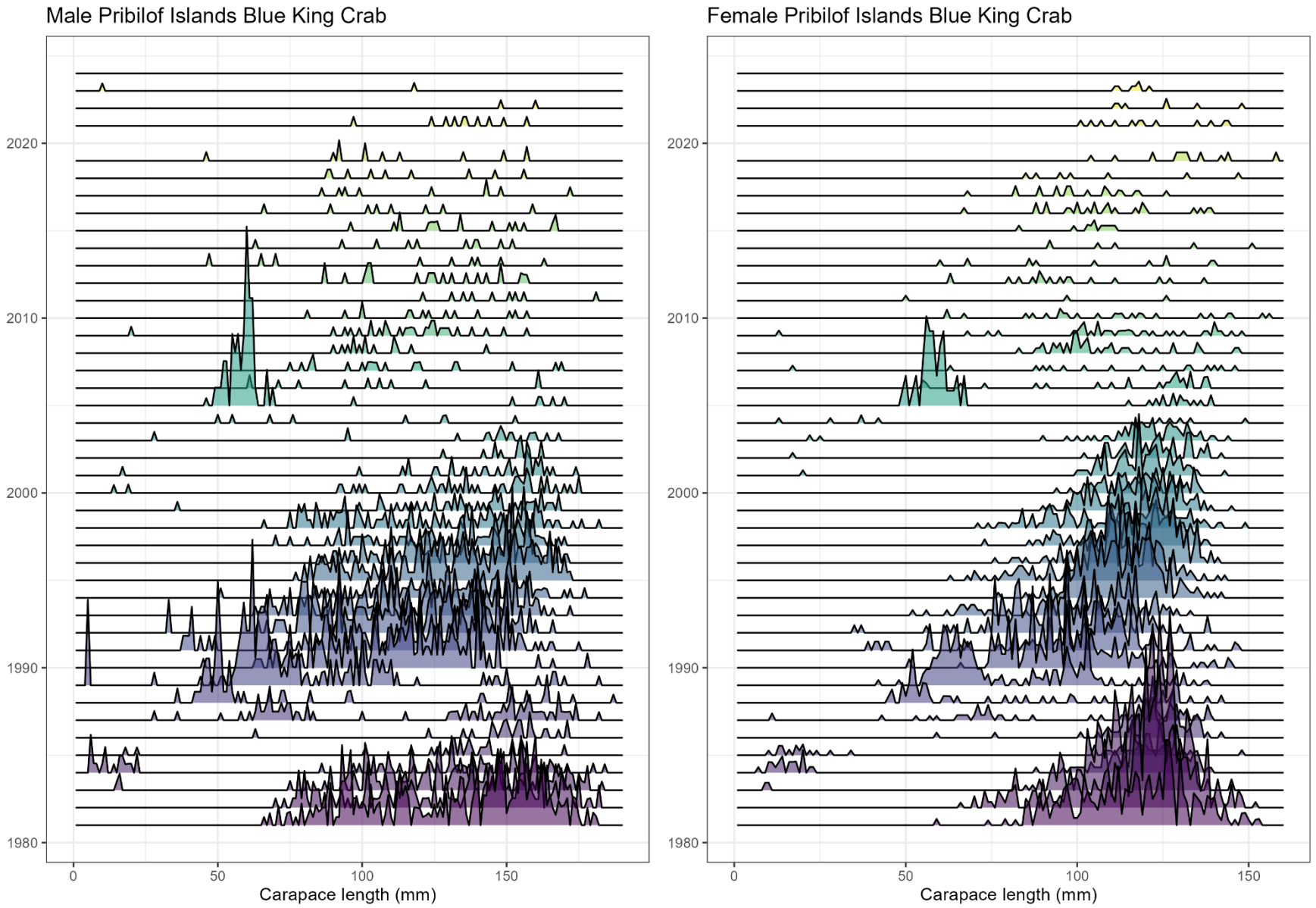

Figure 34. -- Historical size frequency for Pribilof District blue king crab (*Paralithodes platypus*).

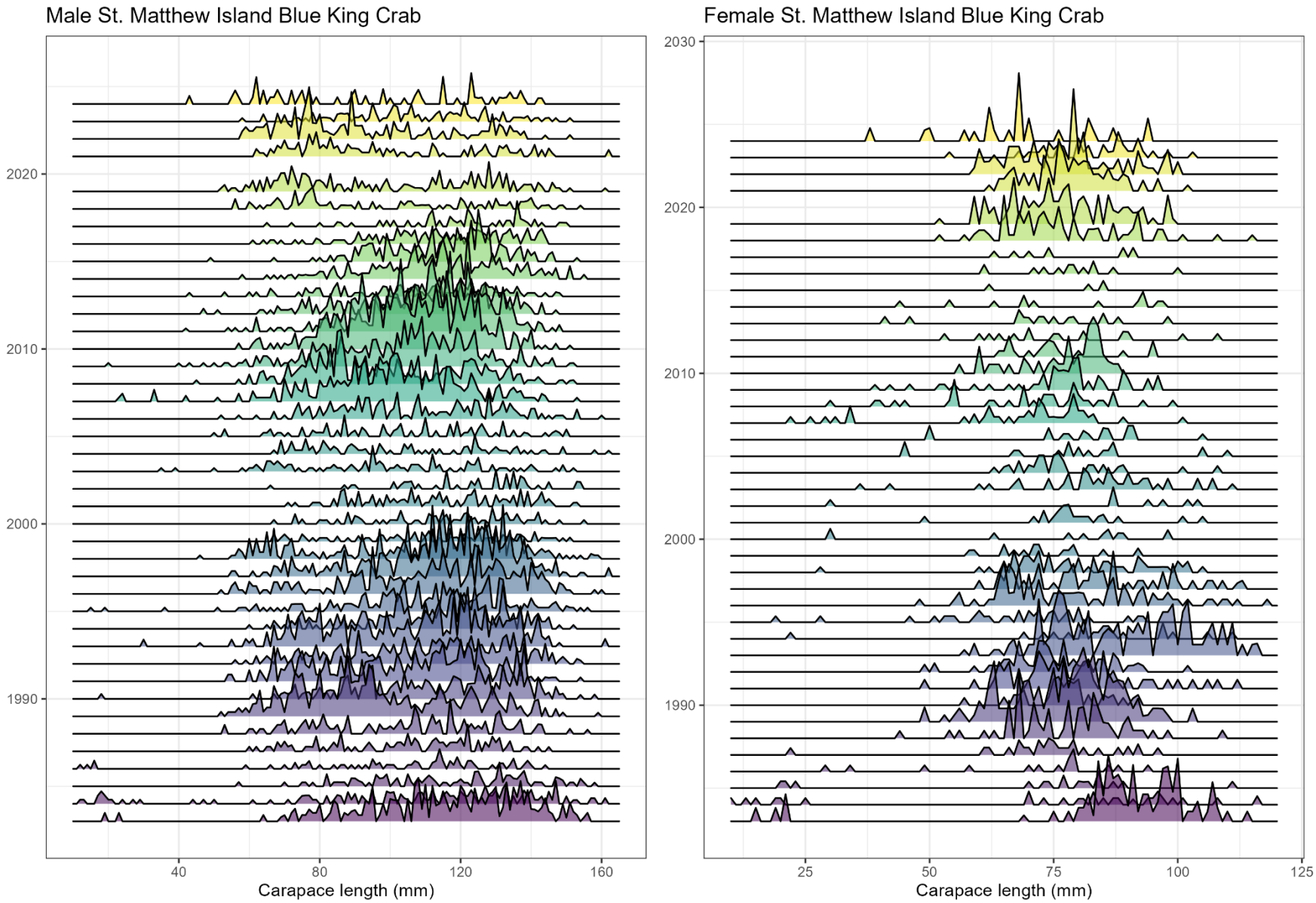

Figure 35. -- Historical size frequency for Saint Matthew Island Section blue king crab (*Paralithodes platypus*).

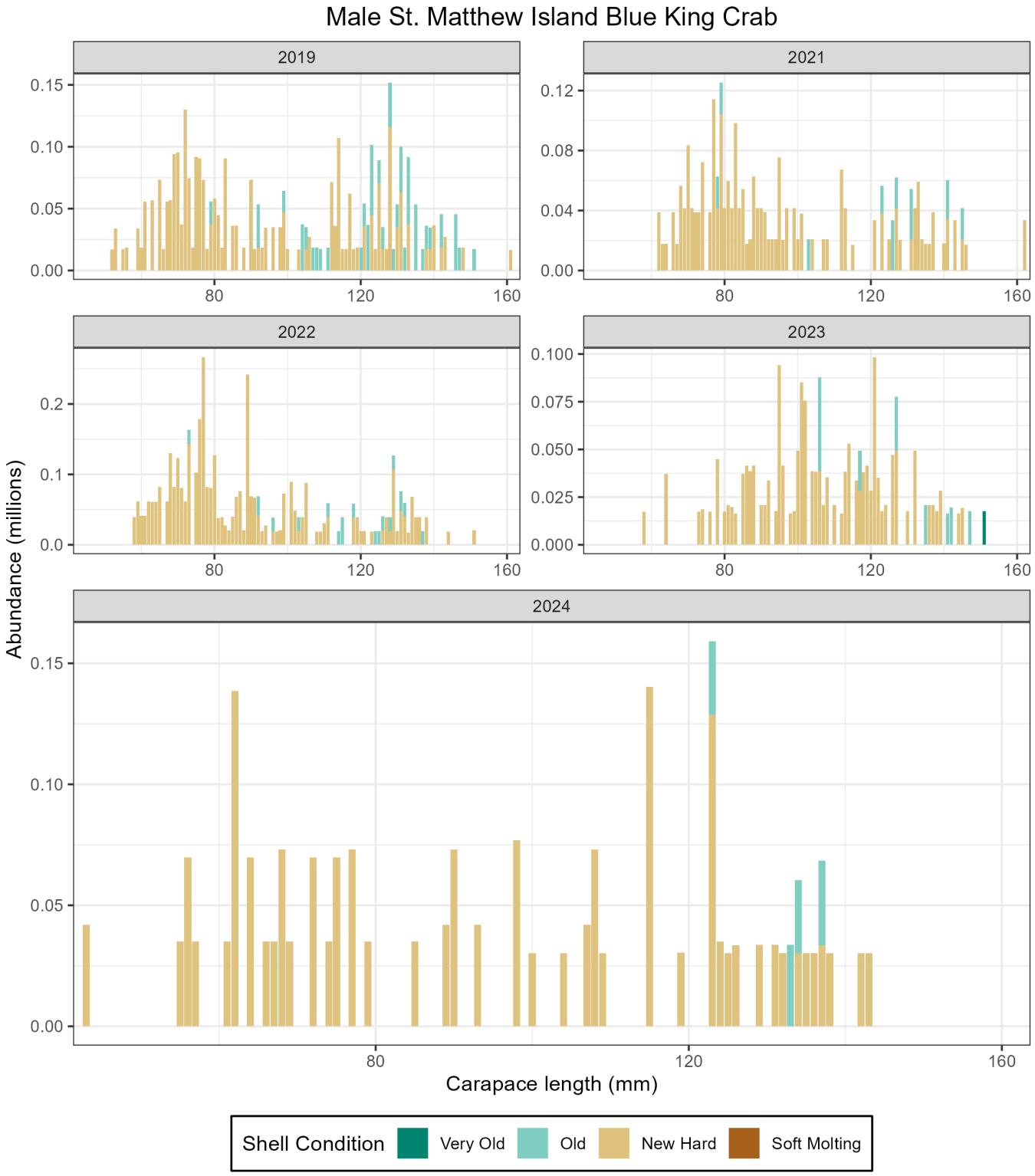

Figure 36. -- Abundance (millions) by size and shell condition of Saint Matthew Island Section male blue king crab (*Paralithodes platypus*) using 1 mm length classes. Sampling effort was reduced around islands in 2024. **Note that Y-axis scale varies among years.**

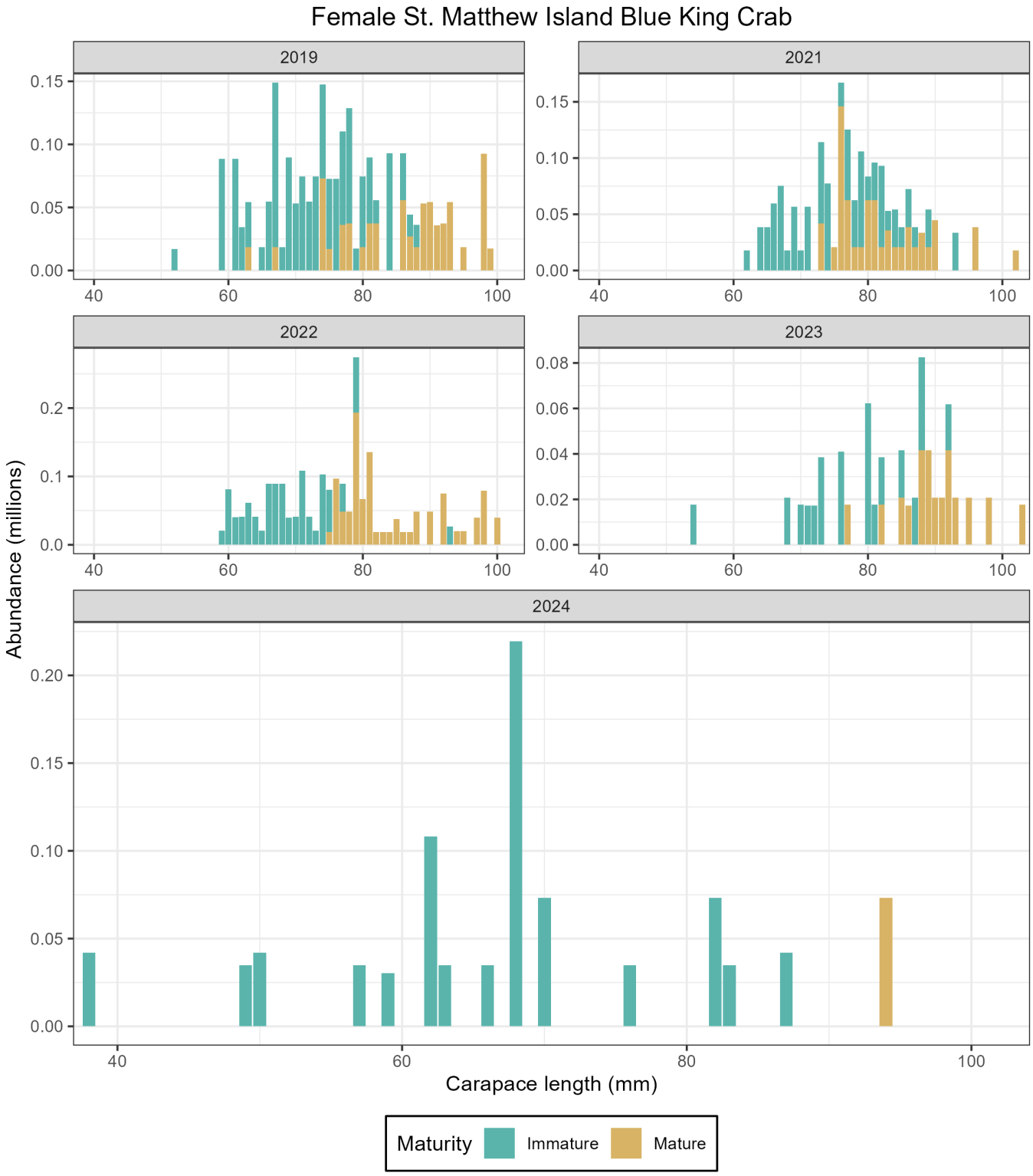

Figure 37. -- Abundance (millions) by size and maturity status of Saint Matthew Island Section female blue king crab (*Paralithodes platypus*) using 1 mm length classes. Sampling effort was reduced around islands in 2024. **Note that Y-axis scale varies among years.**

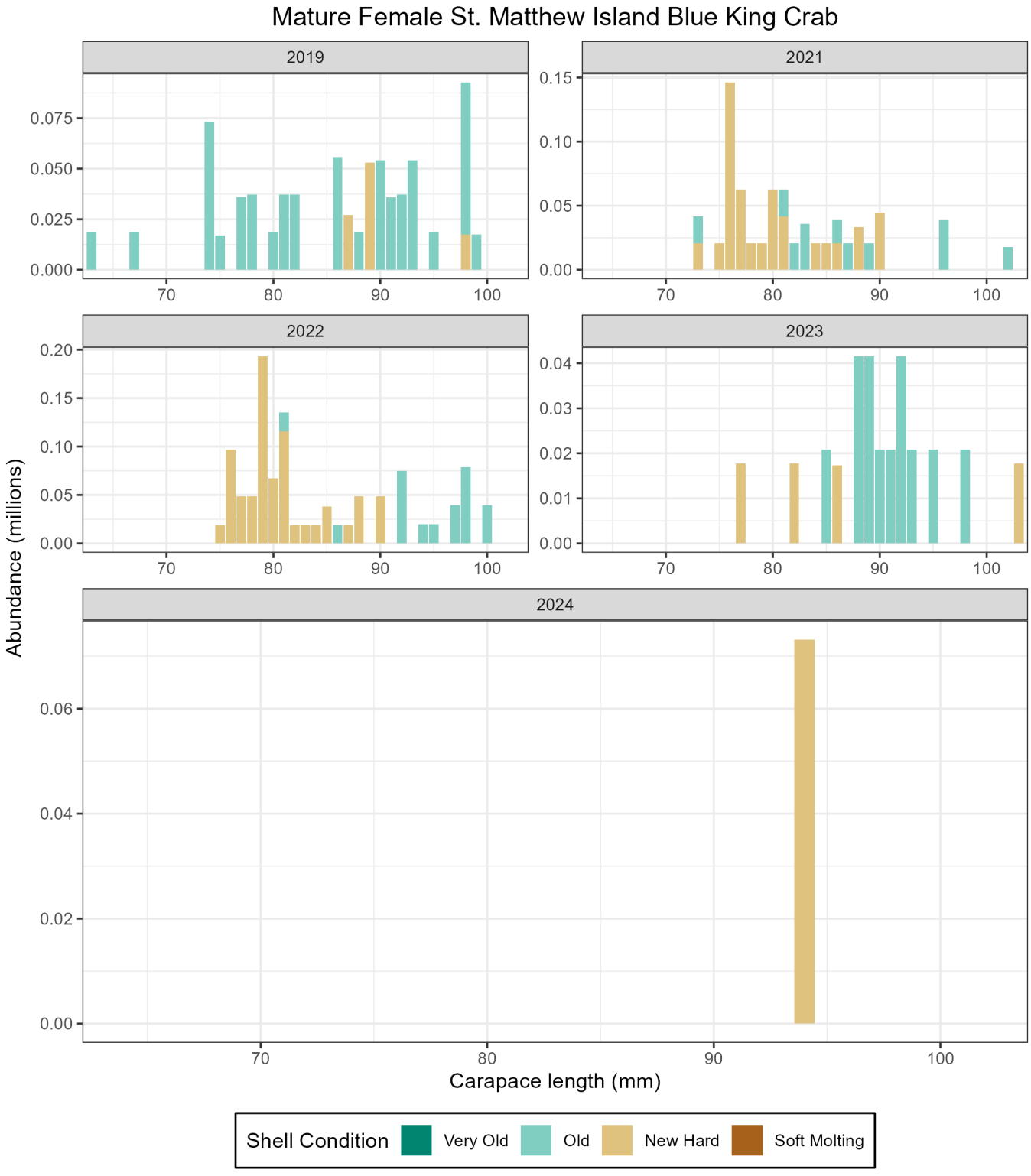

Figure 38. -- Abundance (millions) by size and shell condition of Saint Matthew Island Section mature female blue king crab (*Paralithodes platypus*) using 1 mm length classes. Sampling effort was reduced around islands in 2024. **Note that Y-axis scale varies among years.**

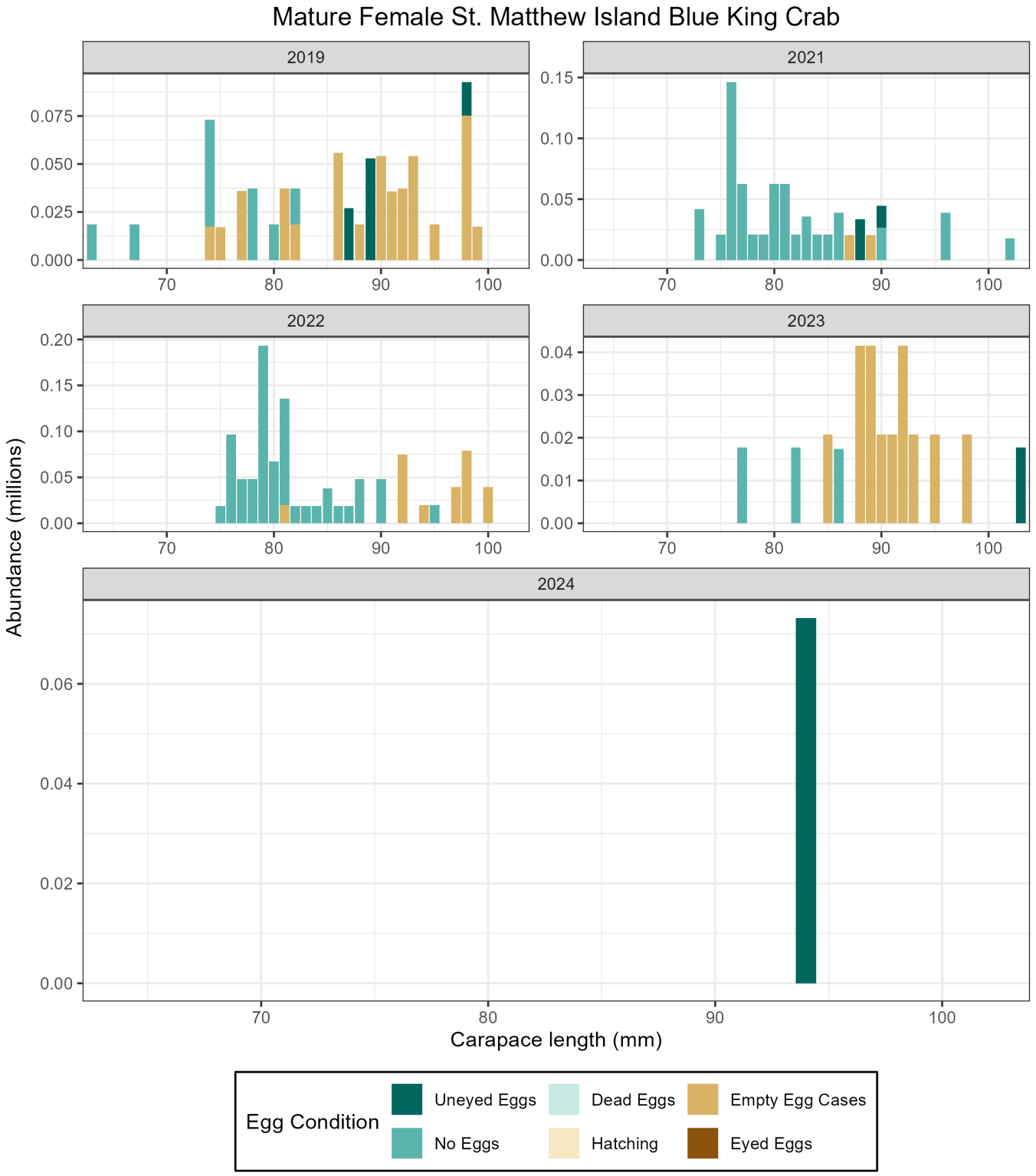

Figure 39. -- Abundance (millions) by size and egg condition of Saint Matthew Island Section mature female blue king crab (*Paralithodes platypus*) using 1 mm length classes. Sampling effort was reduced around islands in 2024. **Note that Y-axis scale varies among years.**

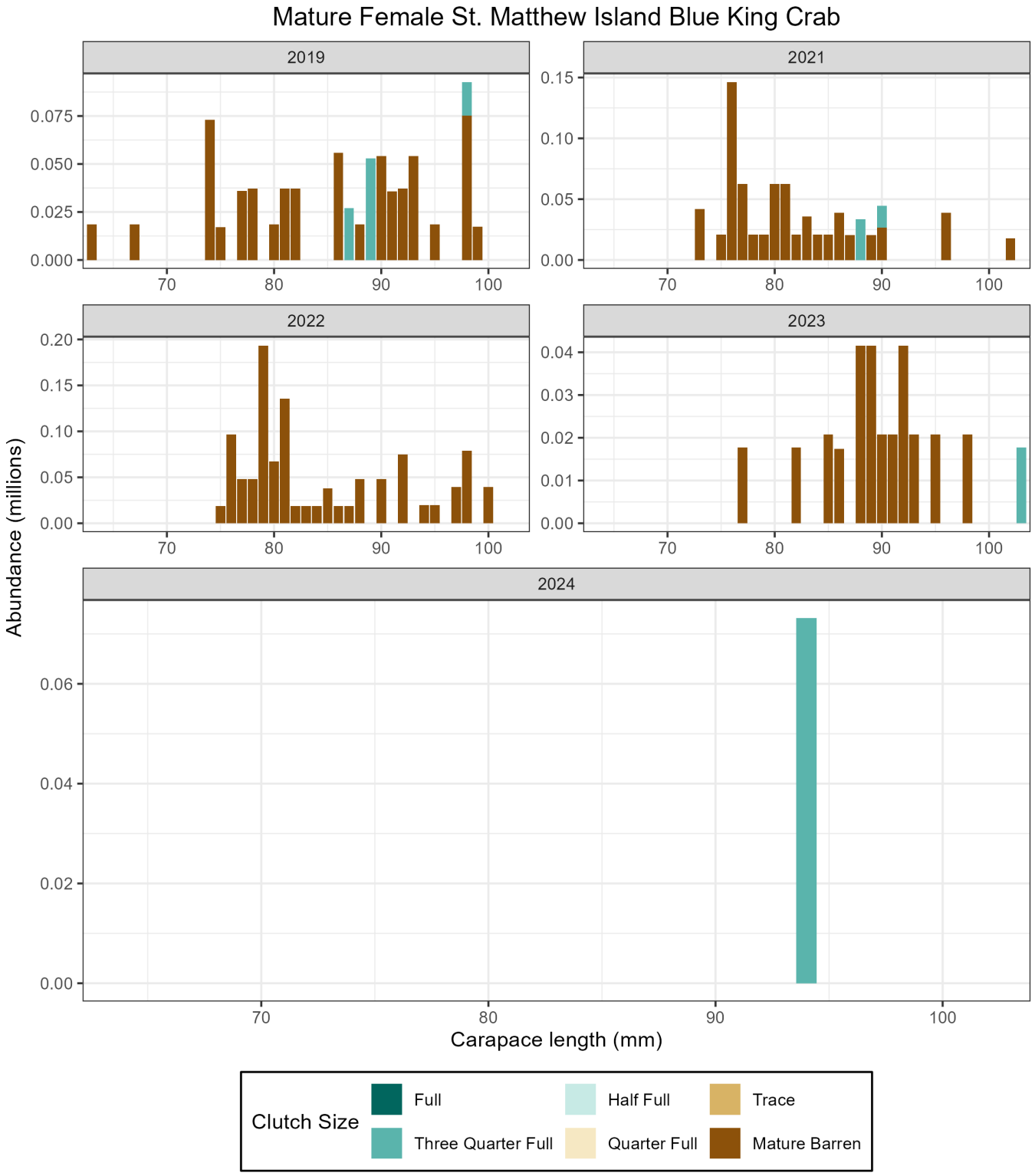

Figure 40 -- Abundance (millions) by size and clutch fullness of Saint Matthew Island Section mature female blue king crab (*Paralithodes platypus*) using 1 mm length classes. Sampling effort was reduced around islands in 2024. **Note that Y-axis scale varies among years.**

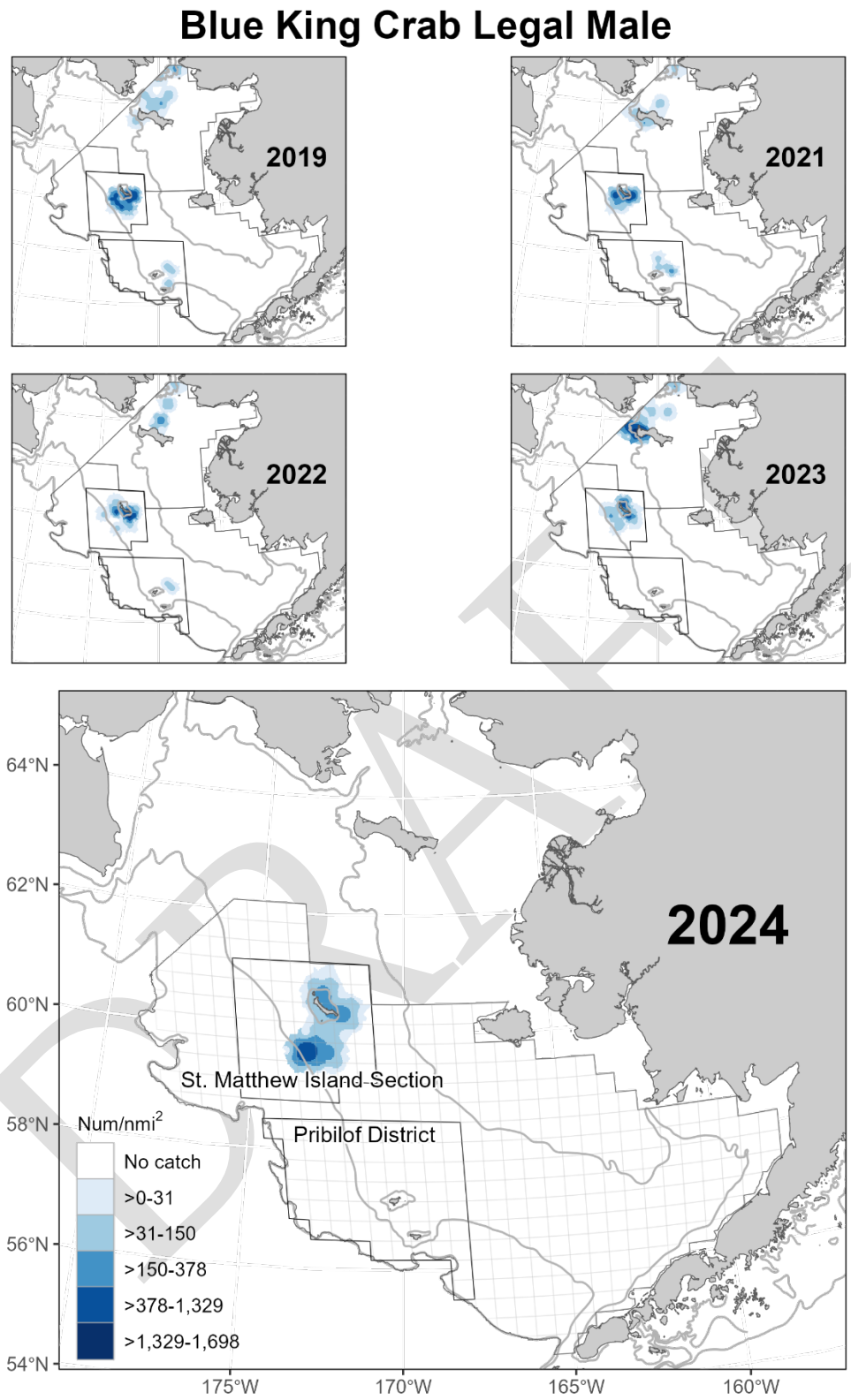

Figure 41. -- Estimated total density of legal-sized (carapace length ≥ 135 mm for Pribilof District; carapace length ≥ 120 mm for Saint Matthew Island Section; carapace length ≥ 104 mm for NBS) male blue king crab (*Paralithodes platypus*) for the past five survey years. Outlined areas depict management districts. Note that the NBS was not surveyed in 2024.

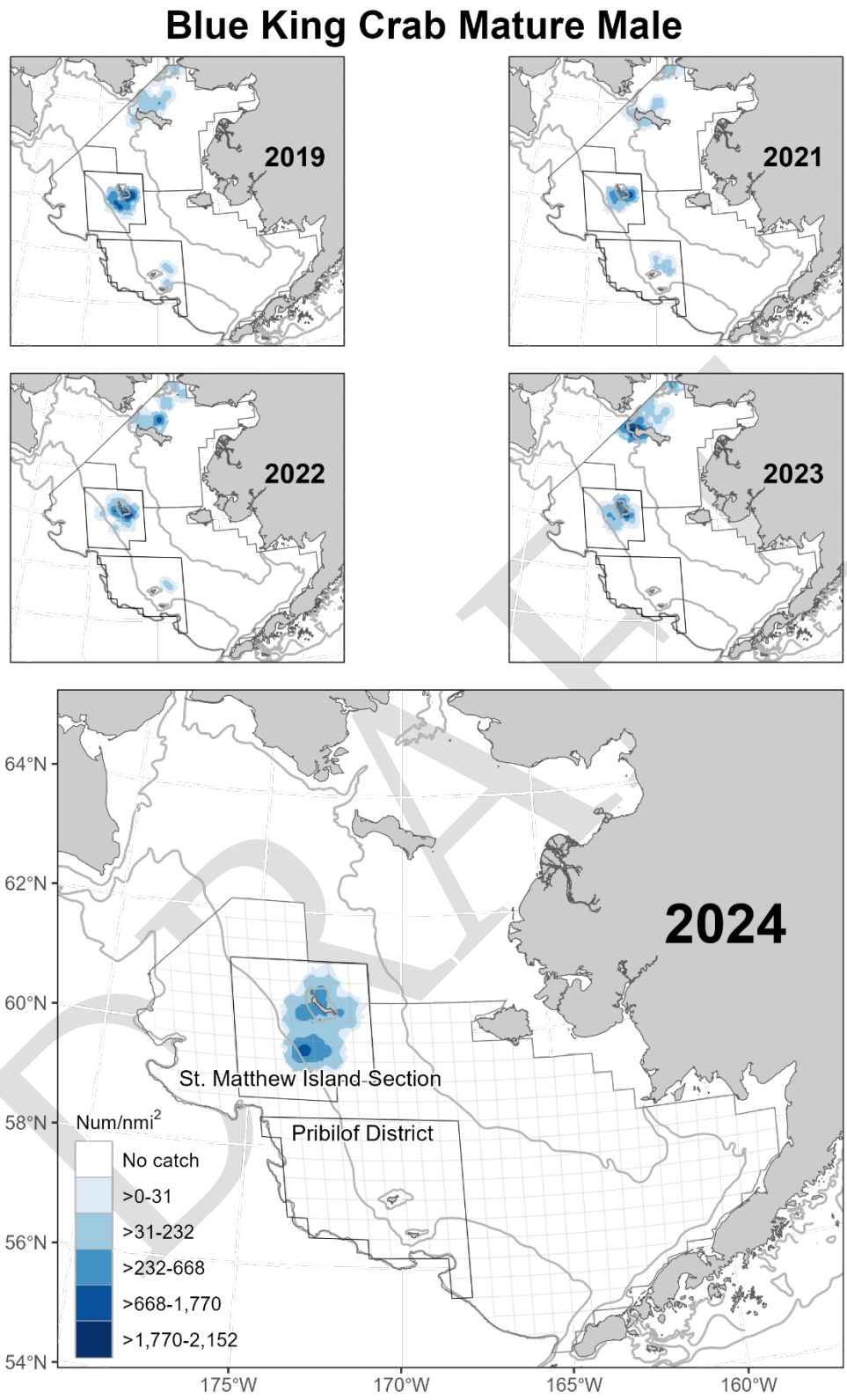

Figure 42. -- Estimated total density of mature-sized (carapace length ≥ 120 mm for Pribilof District; carapace length ≥ 105 mm for Saint Matthew Island Section; carapace length ≥ 94 for NBS) male blue king crab (*Paralithodes platypus*) for the past five survey years. Outlined areas depict management districts. Note that the NBS was not surveyed in 2024.

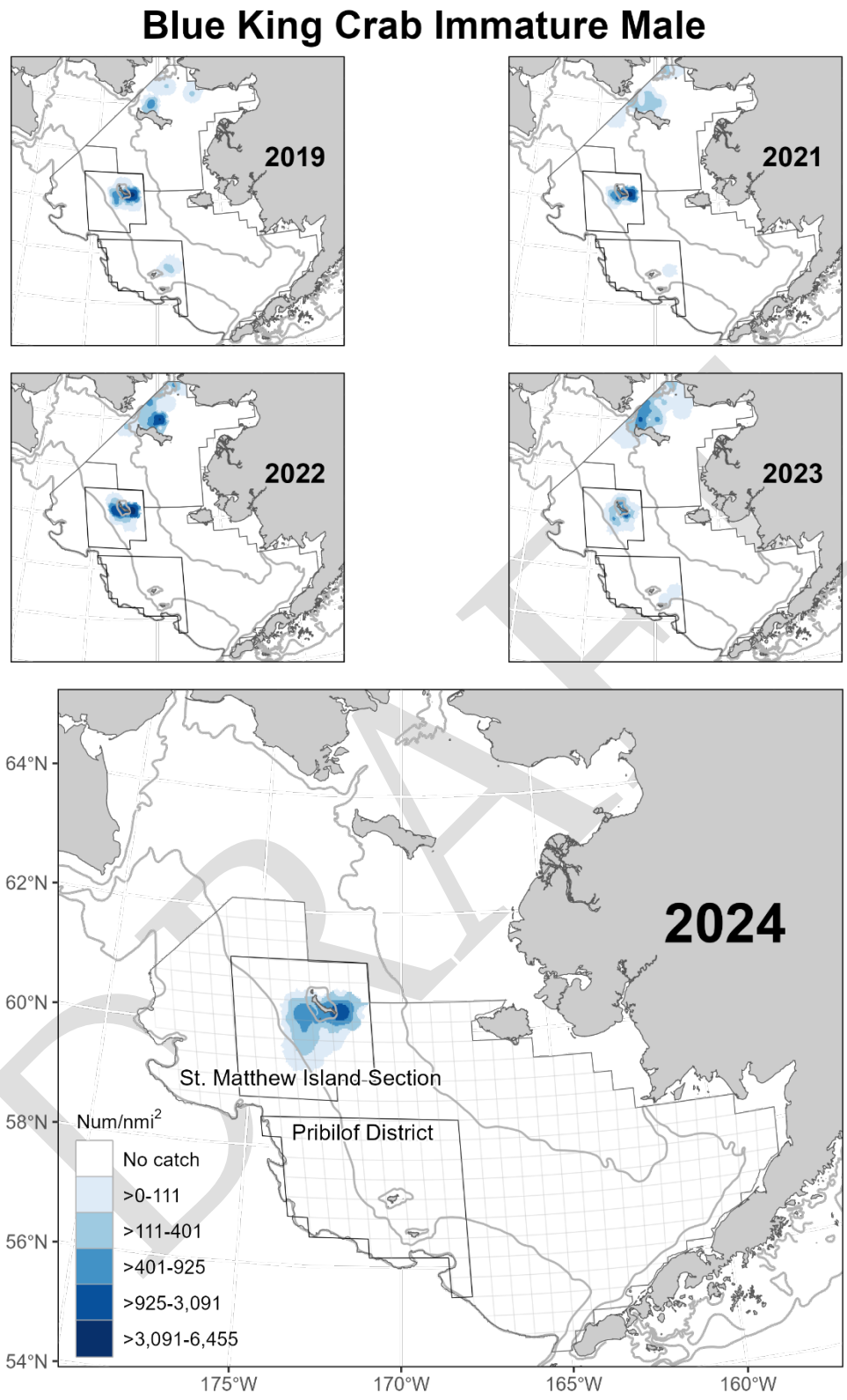

Figure 43. -- Estimated total density of immature-sized (carapace length <120 mm for Pribilof District; carapace length <105 mm for Saint Matthew Island Section; carapace length < 94 mm for NBS) male blue king crab (*Paralithodes platypus*) for the past five survey years. Outlined areas depict management districts. Note that the NBS was not surveyed in 2024.

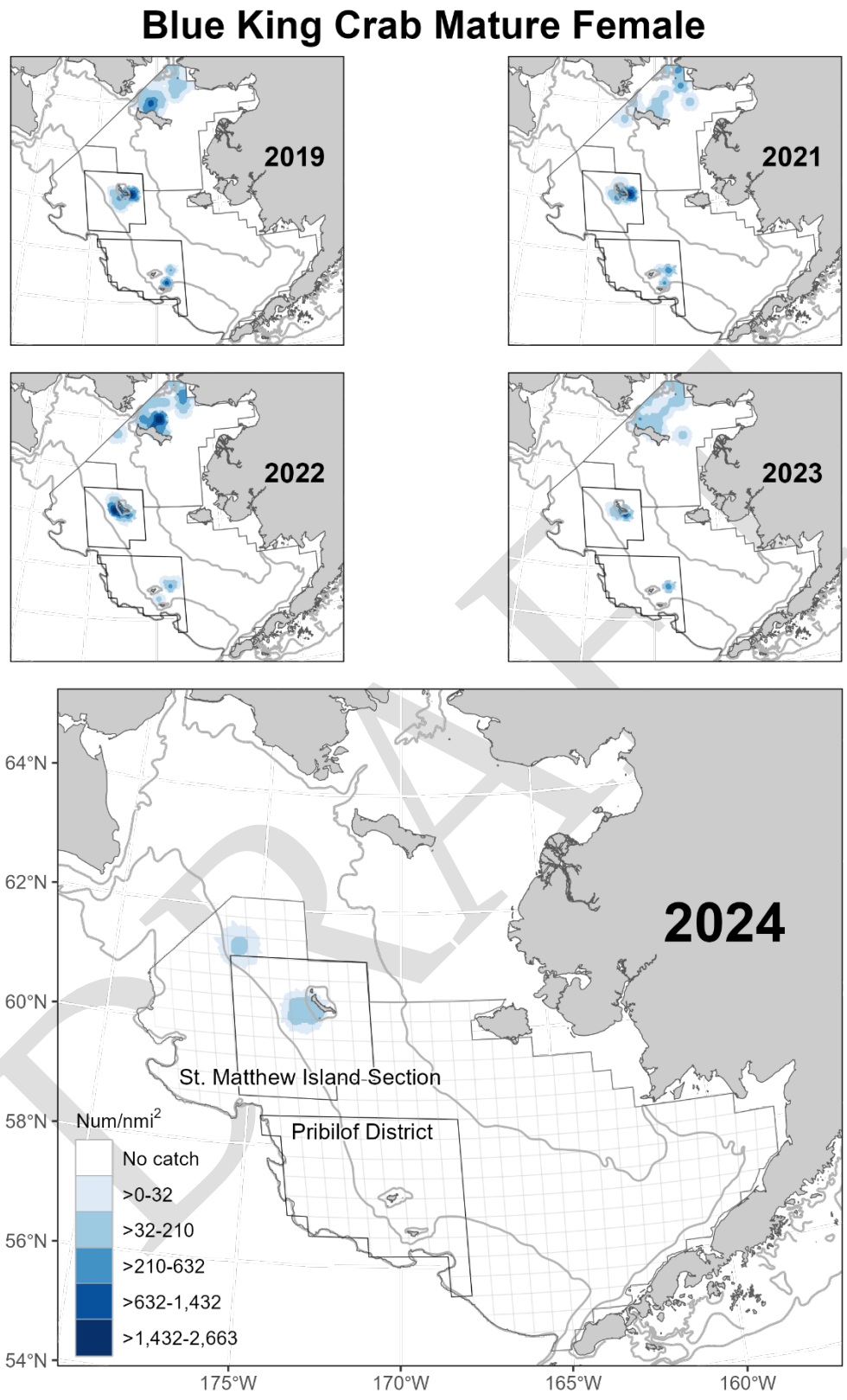

Figure 44. -- Estimated total density of mature female blue king crab (*Paralithodes platypus*) for the past five survey years. Outlined areas depict management districts. Note that the NBS was not surveyed in 2024.

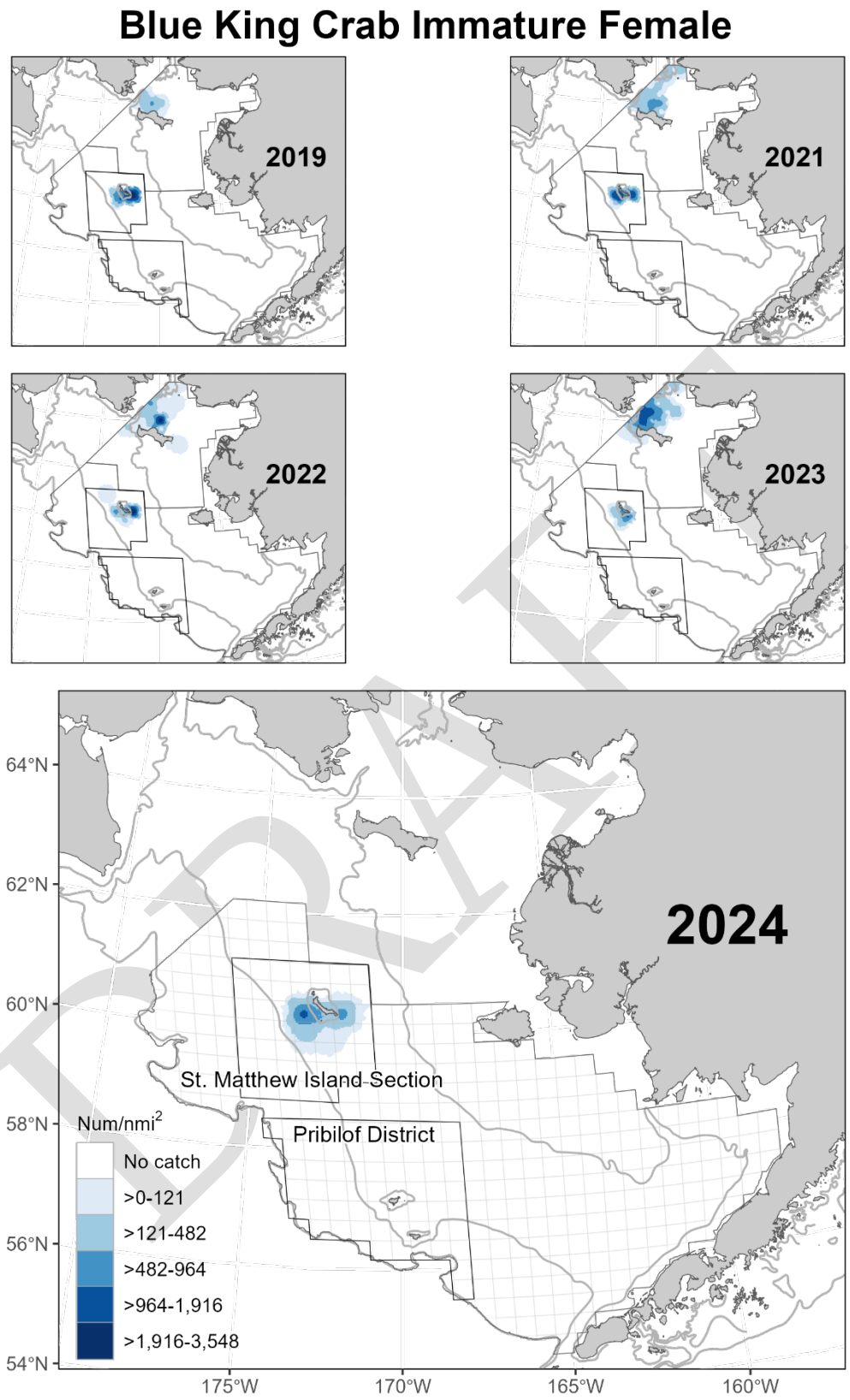

Figure 45. -- Estimated total density of immature female blue king crab (*Paralithodes platypus*) for the past five survey years. Outlined areas depict management districts. Note that the NBS was not surveyed in 2024.

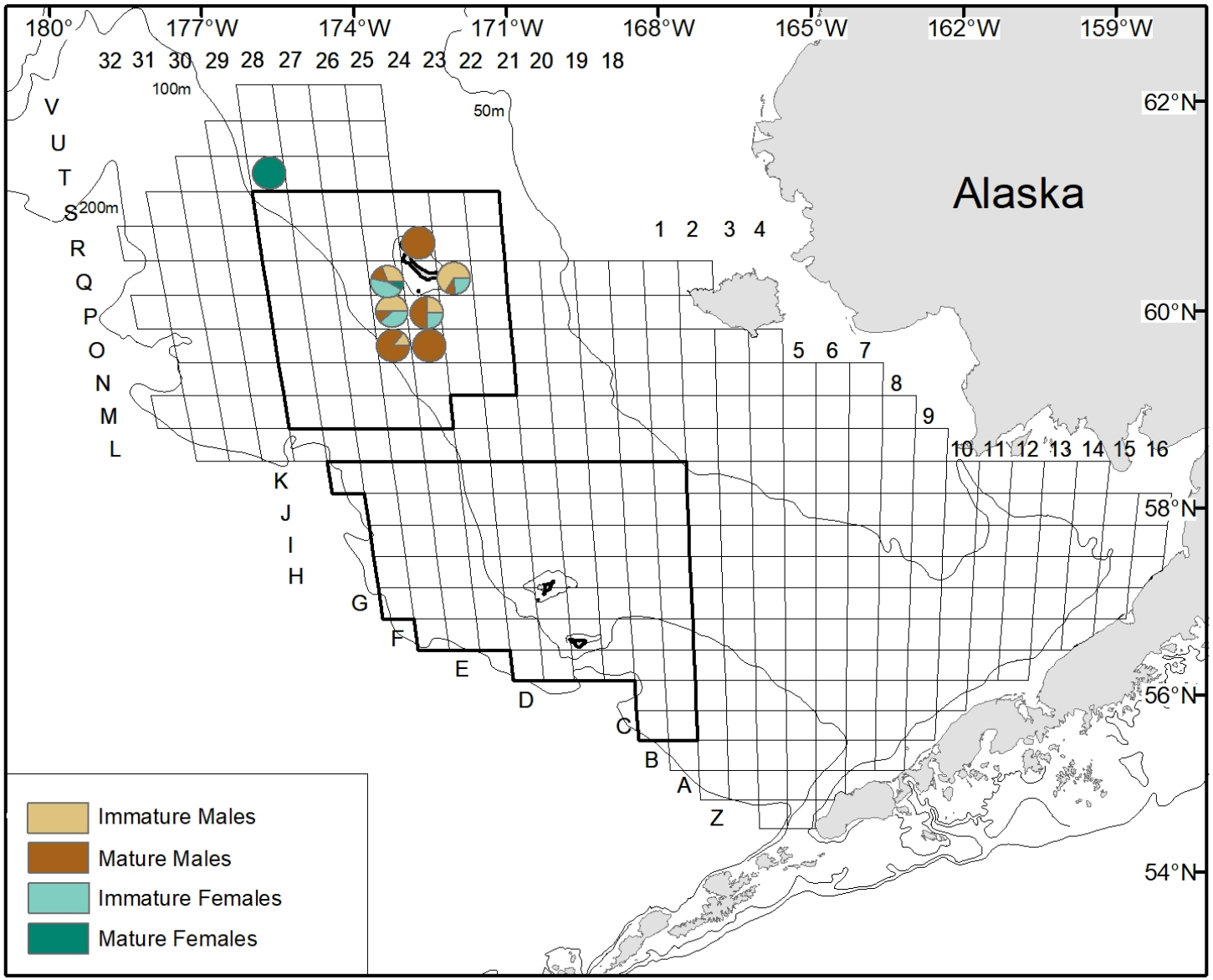

Figure 46. -- Proportion of male and female blue king crab (*Paralithodes platypus*) maturity classes caught at each station sampled in 2024. Males are categorized as mature at carapace lengths ≥ 120 mm for the Pribilof District and ≥ 105 mm for the Saint Matthew Island Section. Outlined areas depict management district.

Tanner crab figures

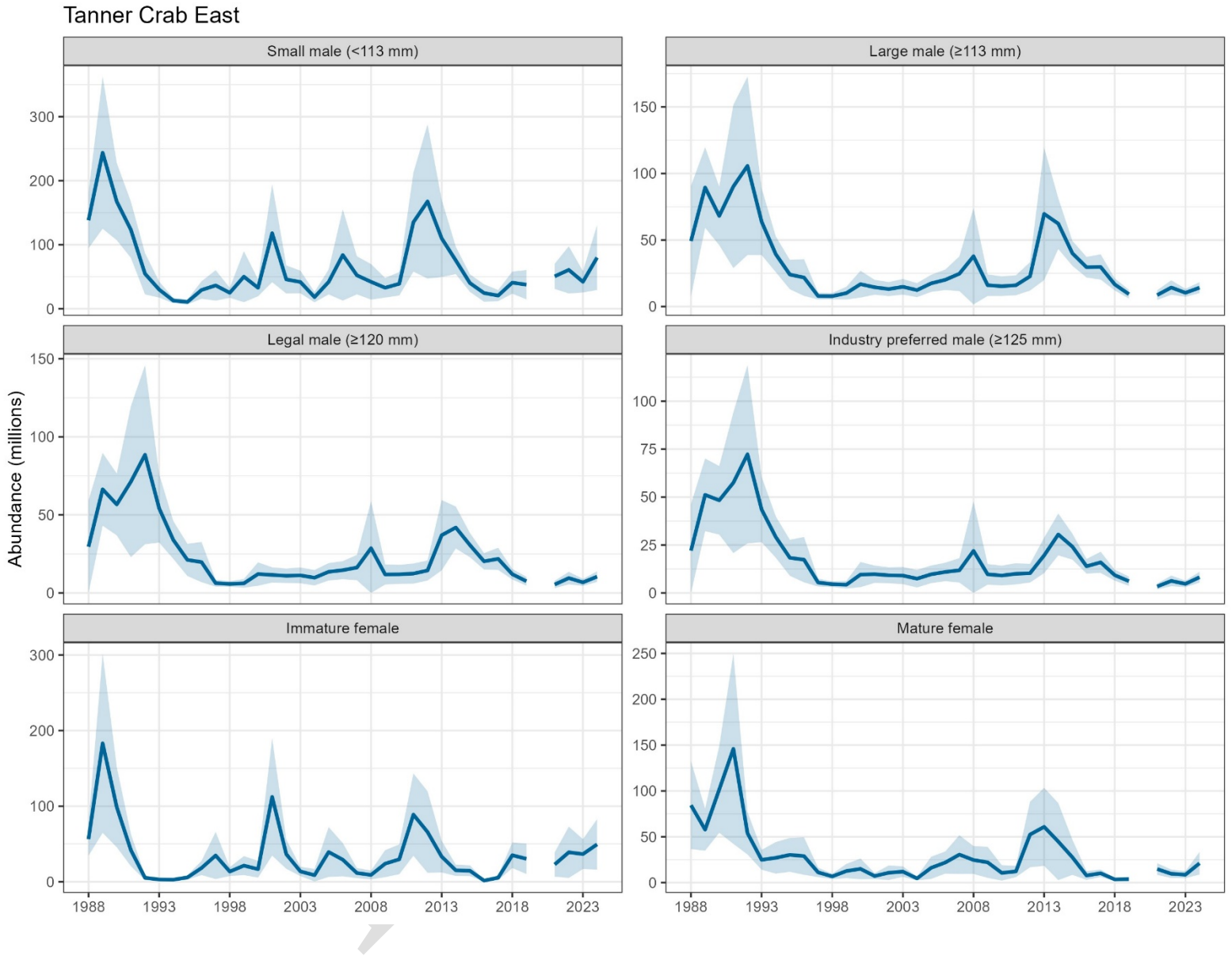

Figure 47. -- Historical abundance of Tanner crab (*Chionoecetes bairdi*) east of 166ºW in the eastern Bering Sea. Light blue area indicates 95% CI.

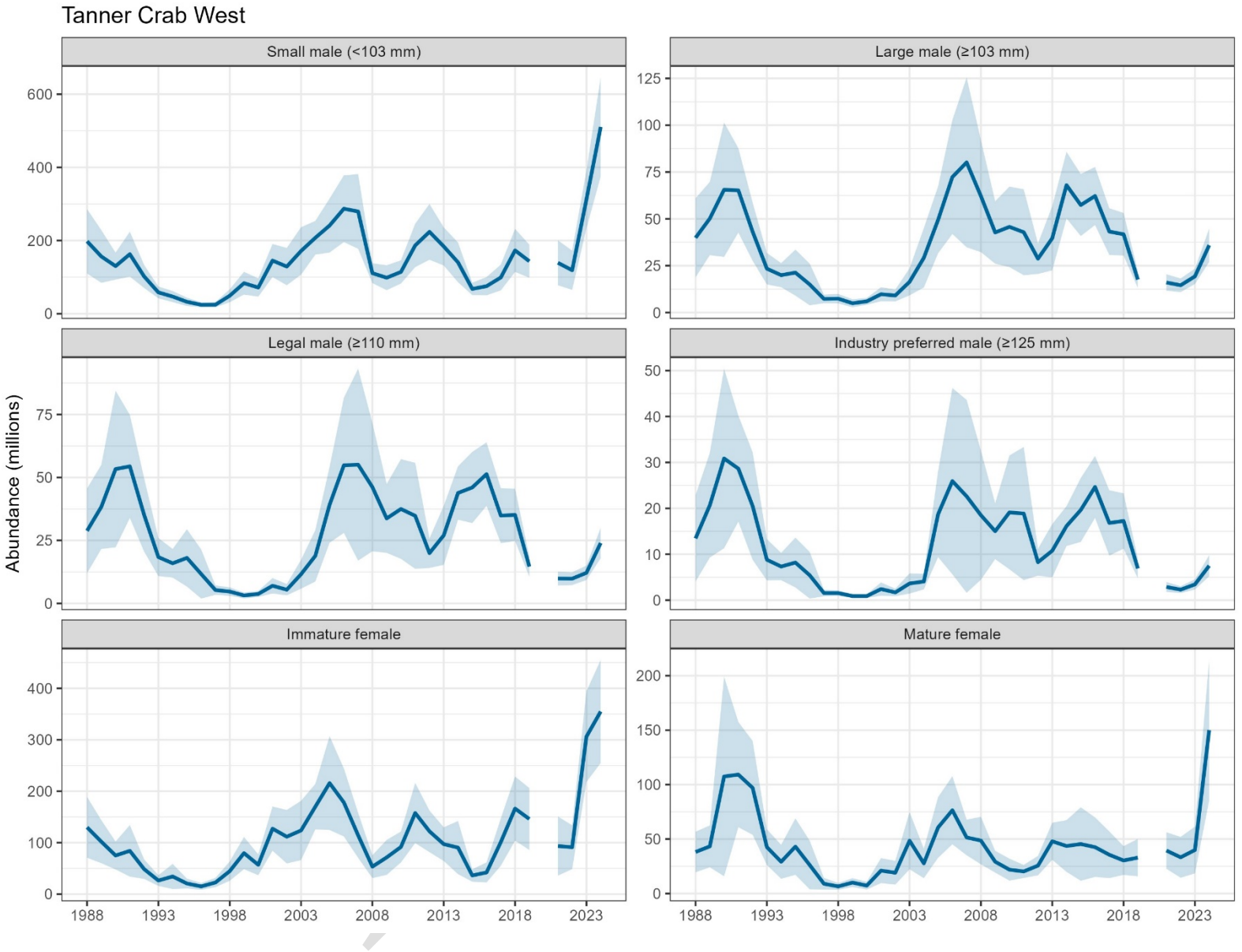

Figure 48. -- Historical abundance of Tanner crab (*Chionoecetes bairdi*) west of 166°W in the eastern Bering Sea. Light blue area indicates 95% CI.

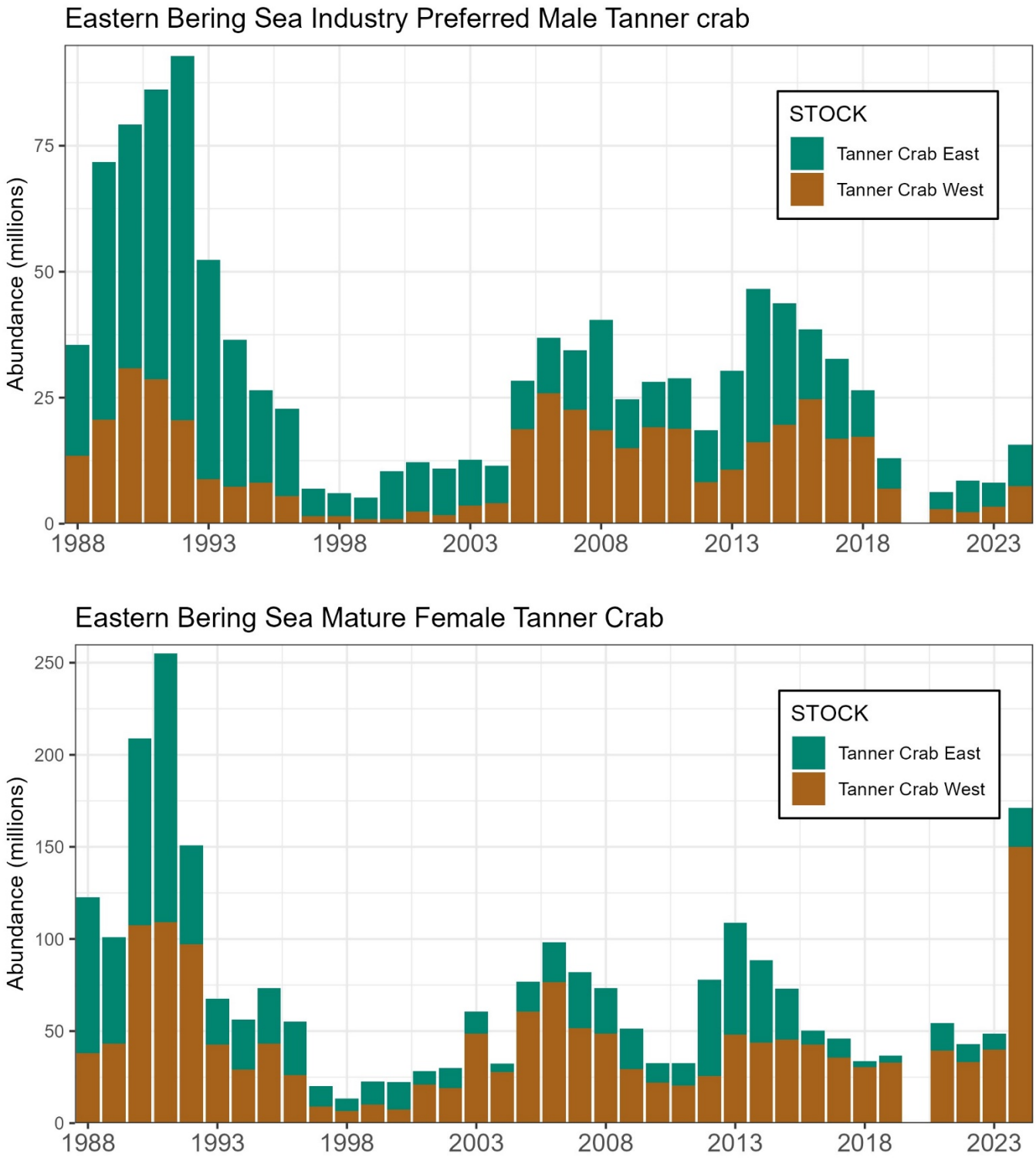

Figure 49. -- Combined historical abundance of mature female and industry preferred size male (carapace width ≥ 125 mm) Tanner crab (*Chionoecetes bairdi*) in the eastern Bering Sea.

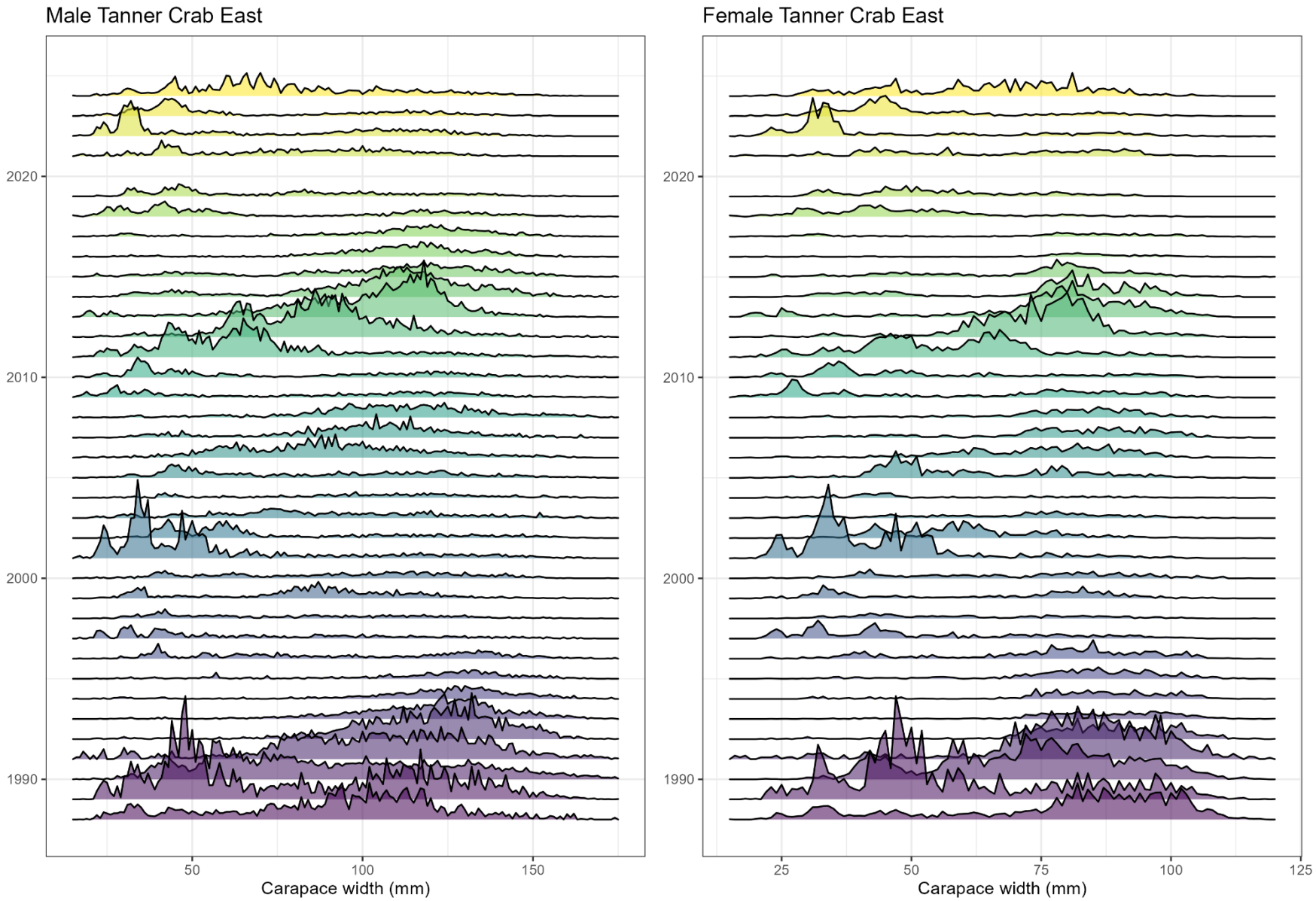

Figure 50. -- Historical size frequency for Tanner crab (*Chionoecetes bairdi*) east of 166°W in the eastern Bering Sea.

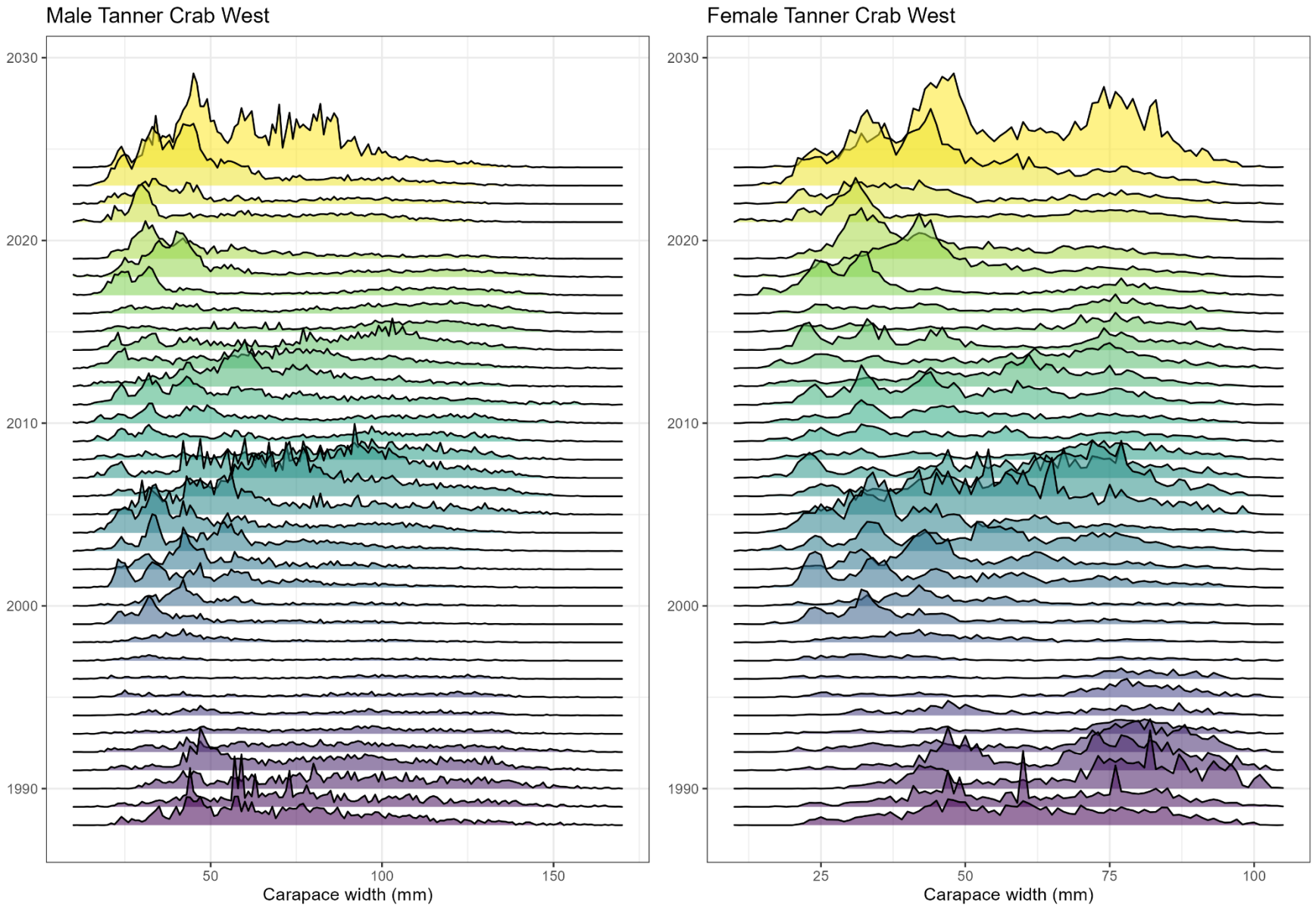

Figure 51. -- Historical size frequency for Tanner crab (*Chionoecetes bairdi*) west of 166°W in the eastern Bering Sea.

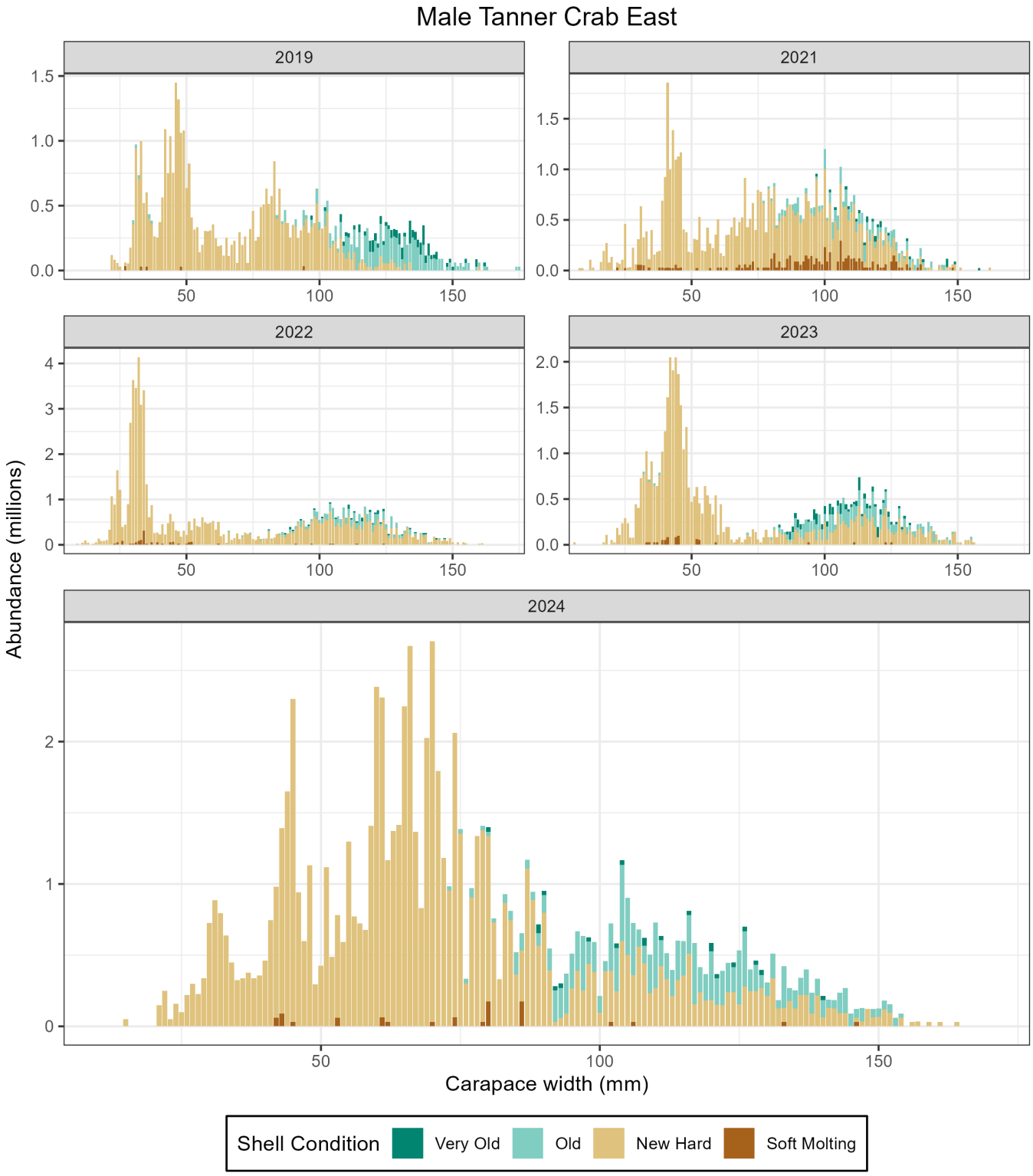

Figure 52. -- Abundance (millions) by size and shell condition of male Tanner crab (*Chionoecetes bairdi*) east of 166°W in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies among years.**

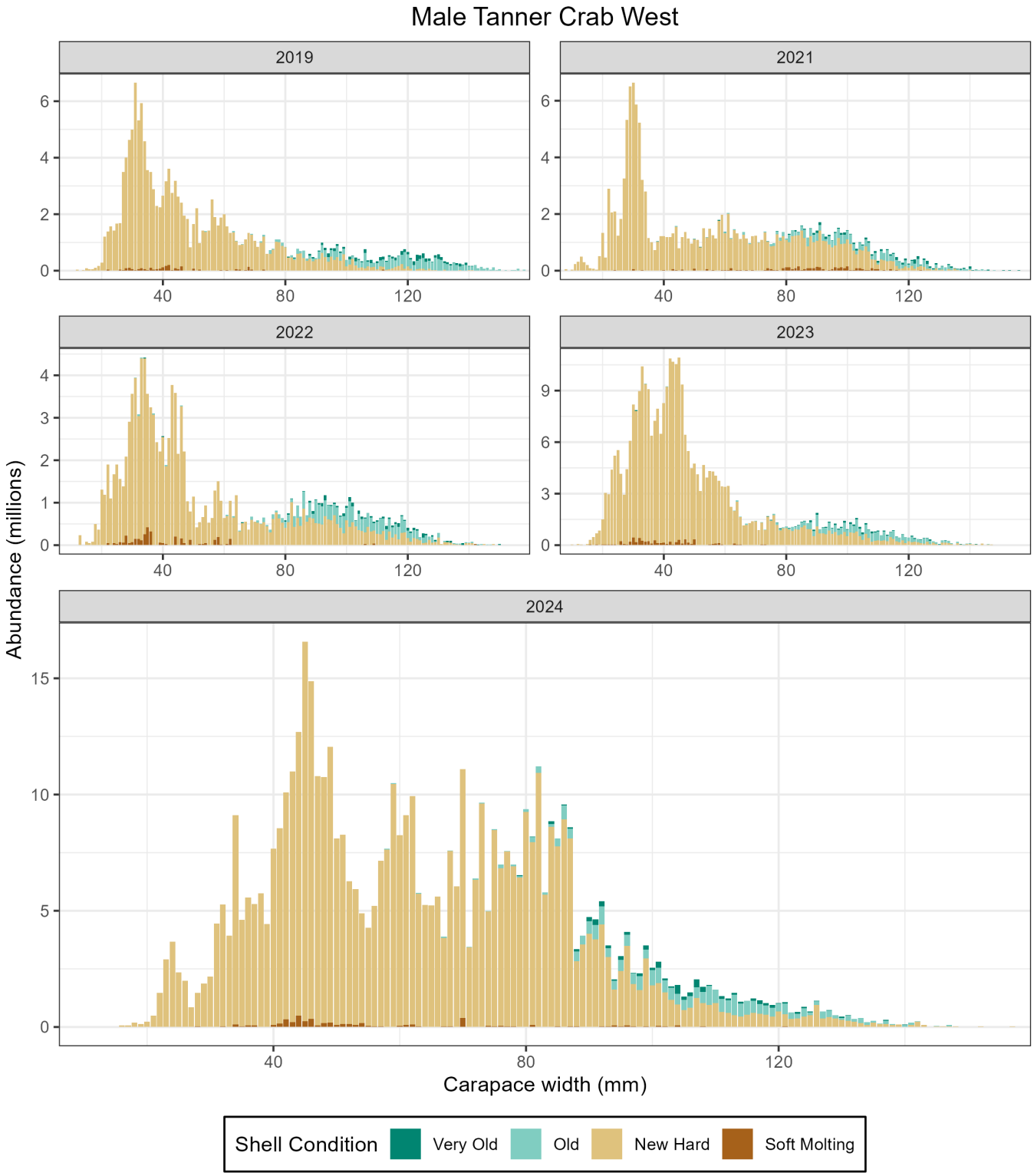

Figure 53. -- Abundance (millions) by size and shell condition of male Tanner crab (*Chionoecetes bairdi*) west of 166°W in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies among years.**

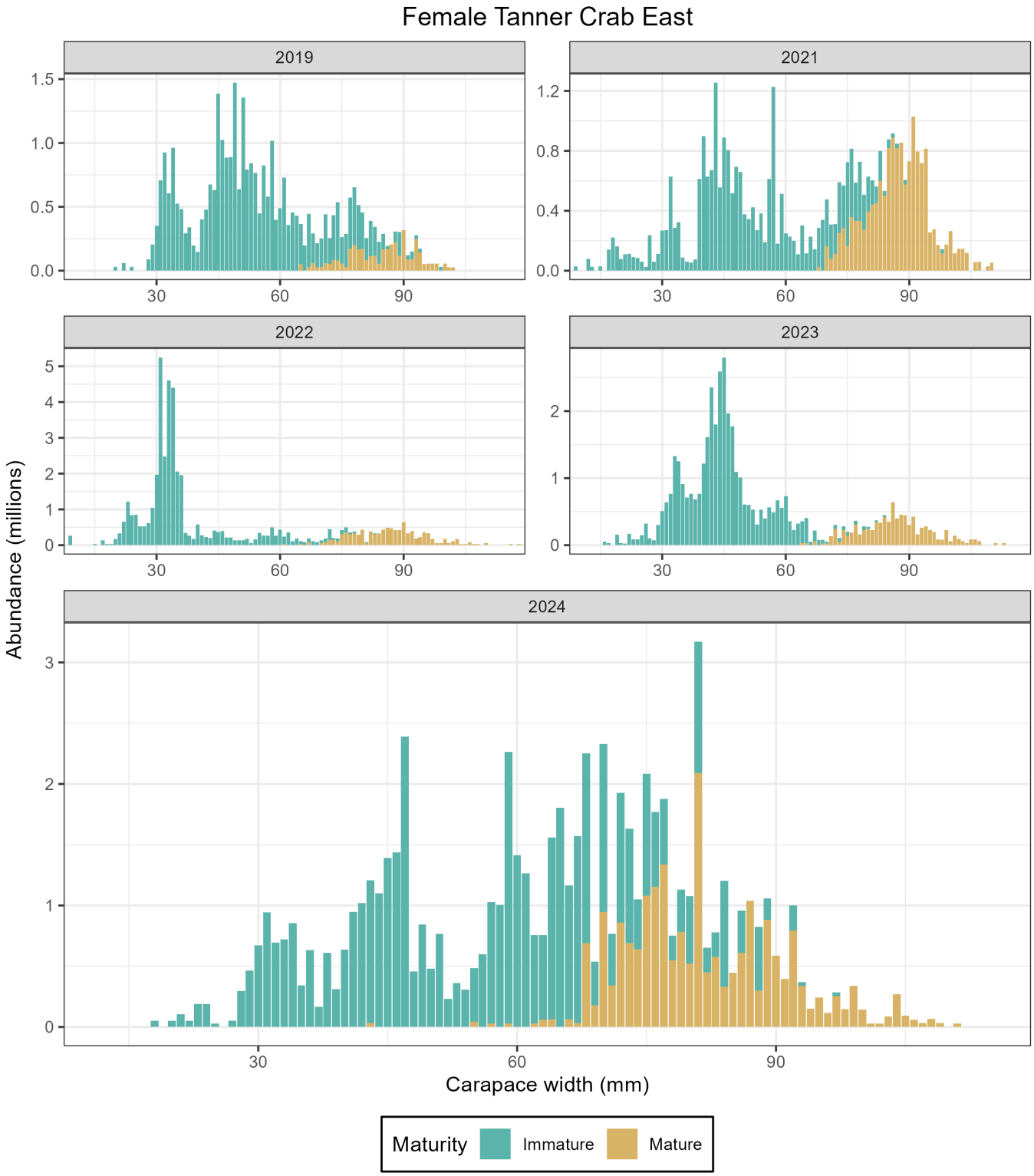

Figure 54. -- Abundance (millions) by size and maturity status of Tanner crab (*Chionoecetes bairdi*) east of 166°W in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies among years.**

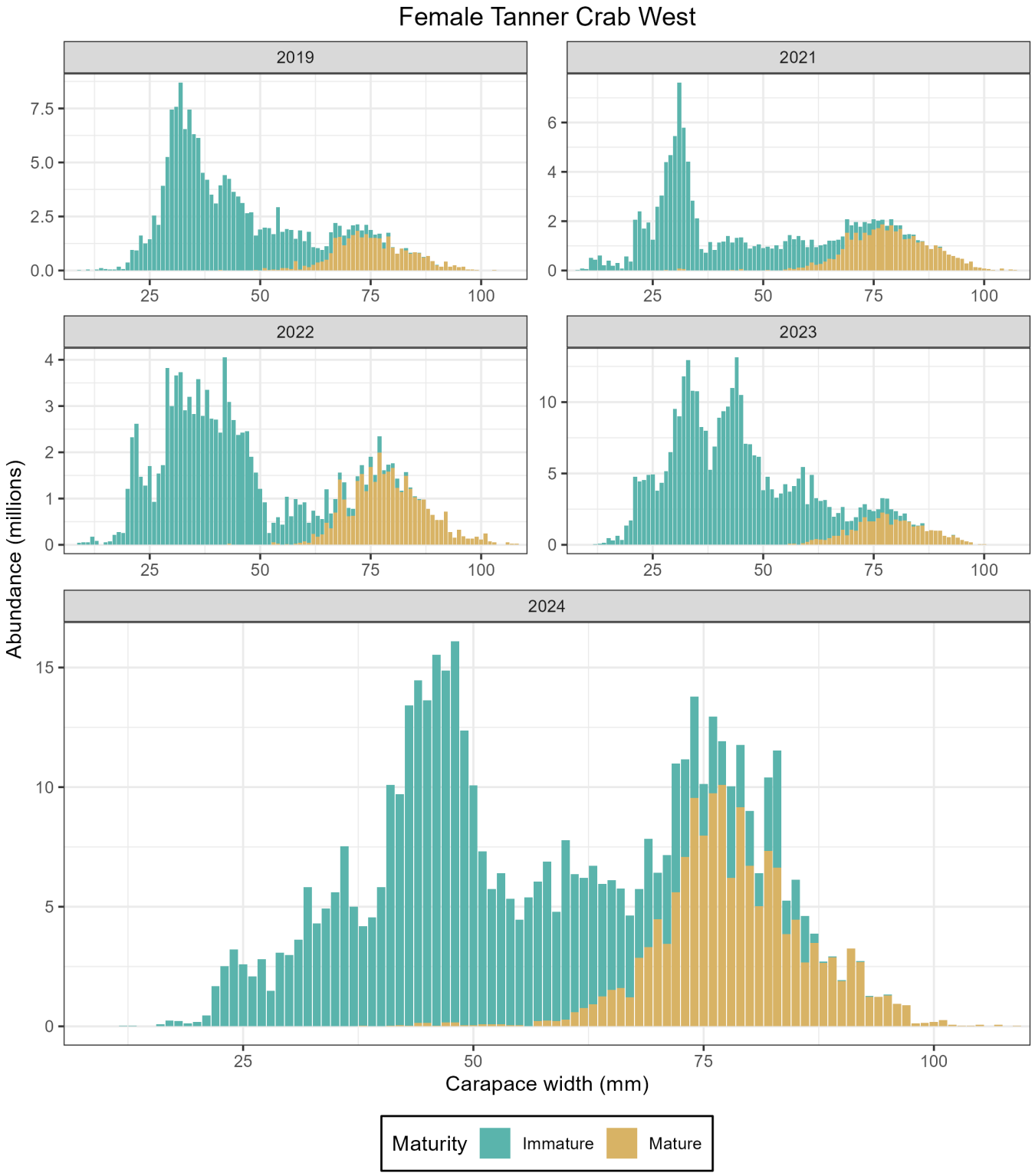

Figure 55. -- Abundance (millions) by size and maturity status of Tanner crab (*Chionoecetes bairdi*) west of 166°W in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies among years.**

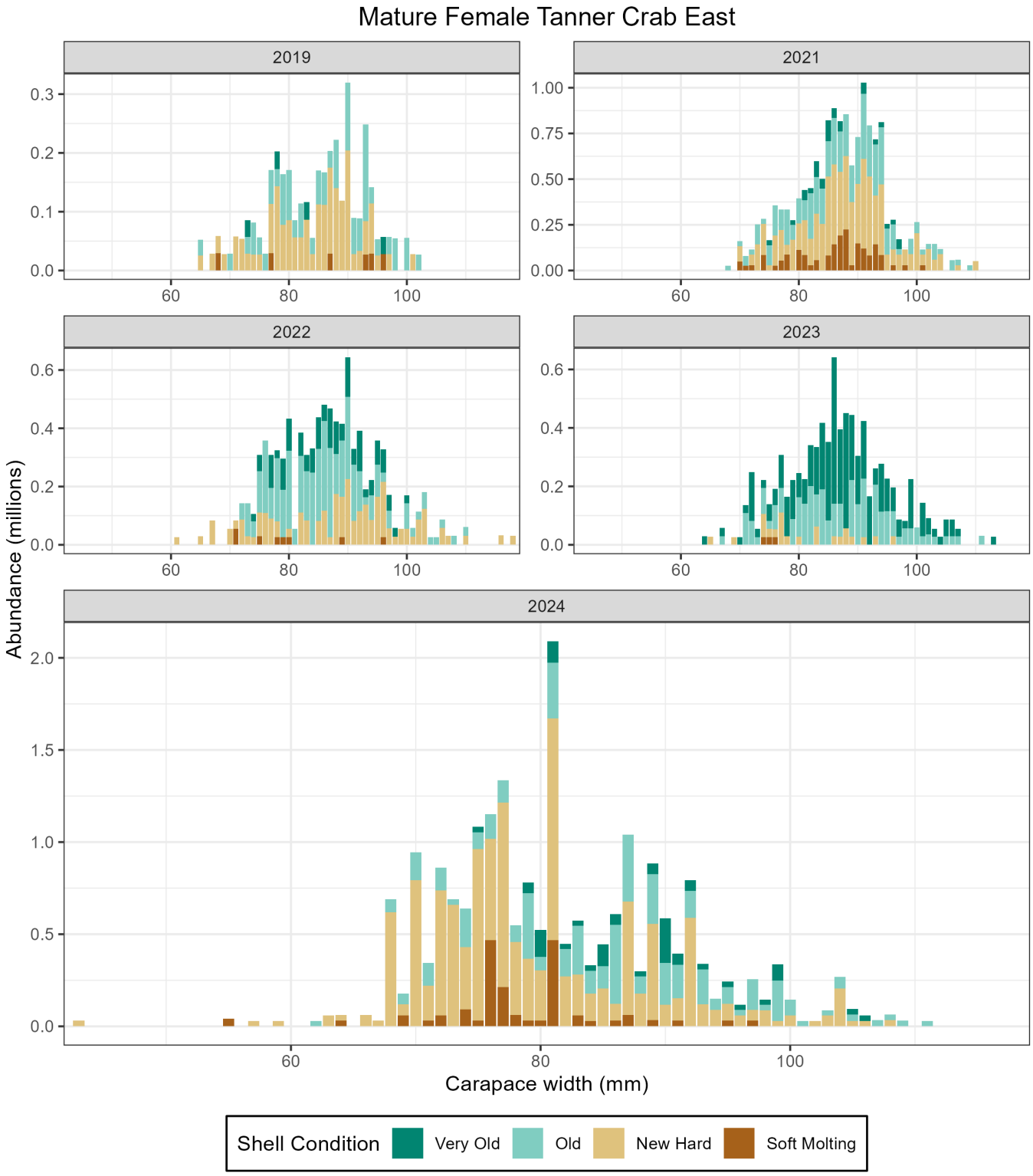

Figure 56. -- Abundance (millions) by size and shell condition of mature female Tanner crab (*Chionoecetes bairdi*) east of 166°W in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies among years.**

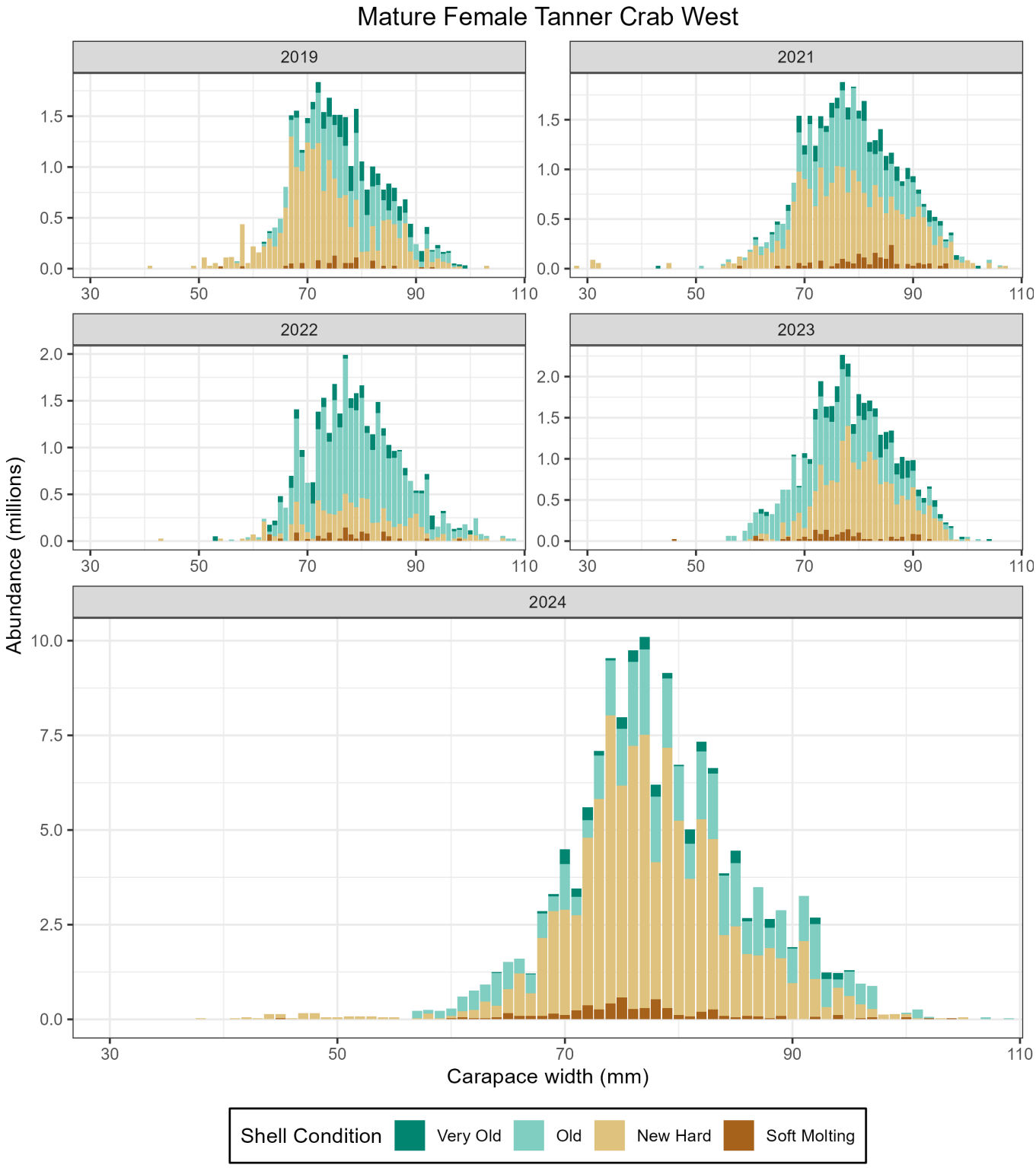

Figure 57. -- Abundance (millions) by size and shell condition of mature female Tanner crab (*Chionoecetes bairdi*) west of 166°W in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies among years.**

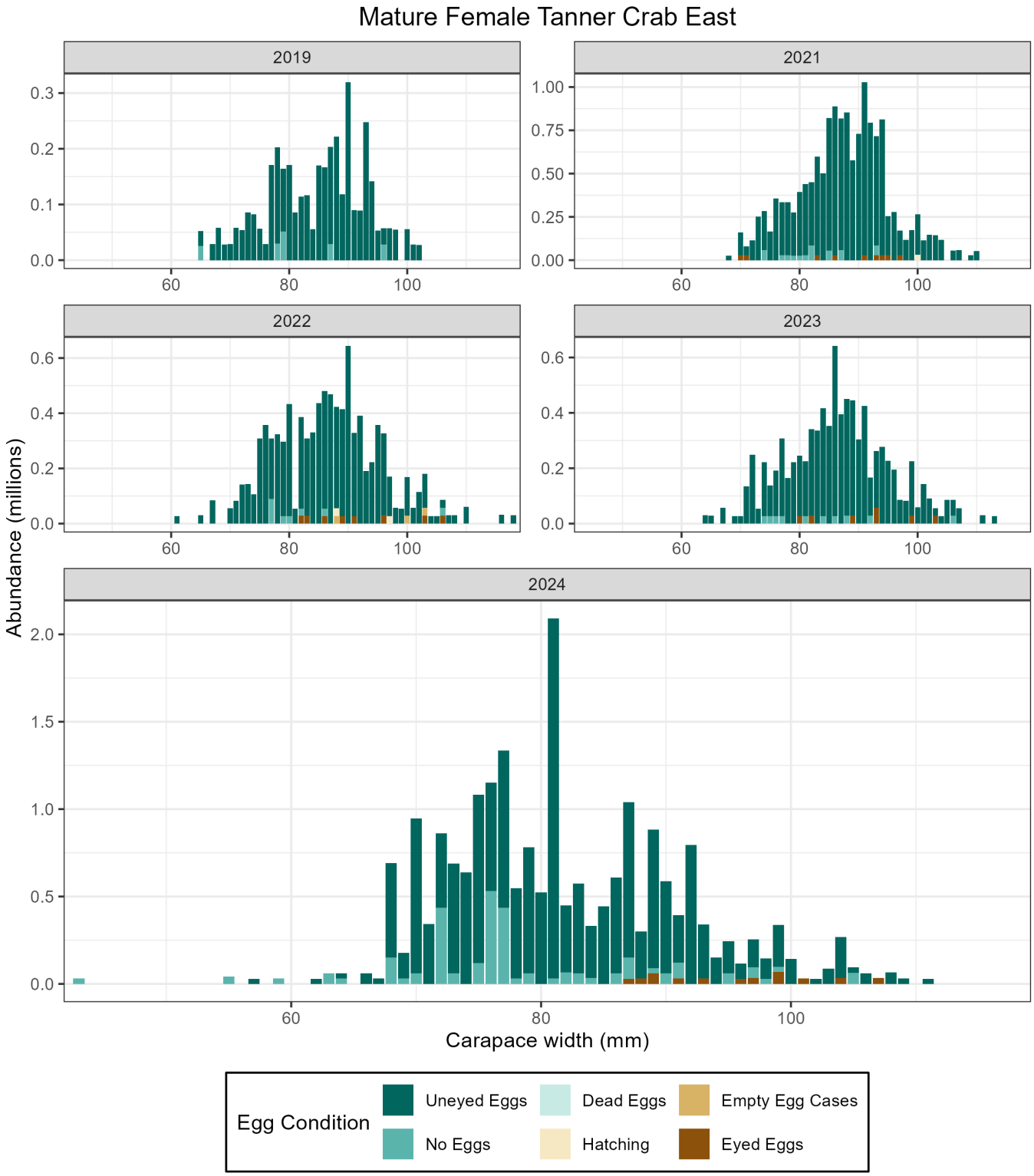

Figure 58. -- Abundance (millions) by size and egg condition of mature female Tanner crab (*Chionoecetes bairdi*) east of 166°W in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies among years.**

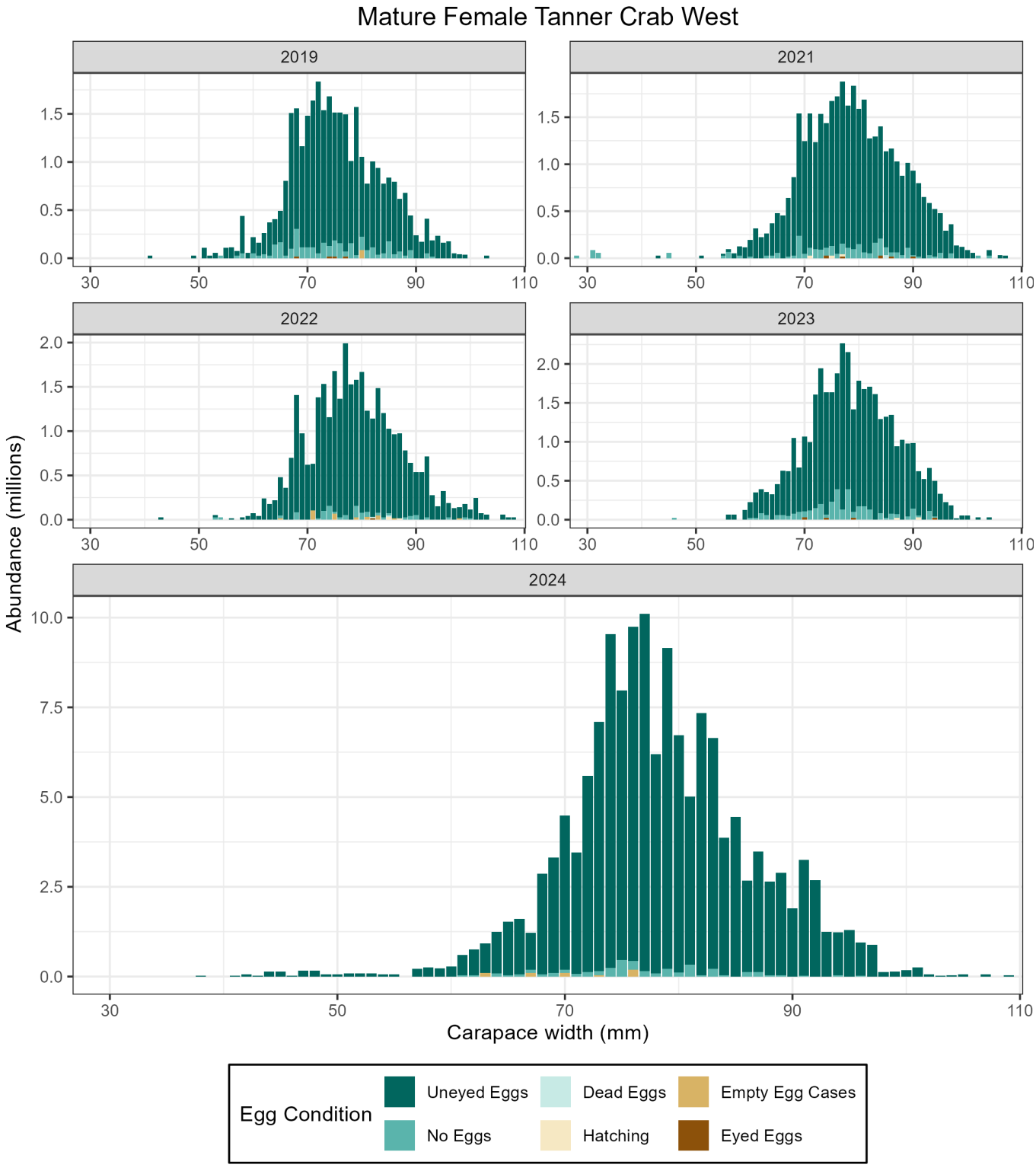

Figure 59. -- Abundance (millions) by size and egg condition of mature female Tanner crab (*Chionoecetes bairdi*) west of 166°W in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies among years.**

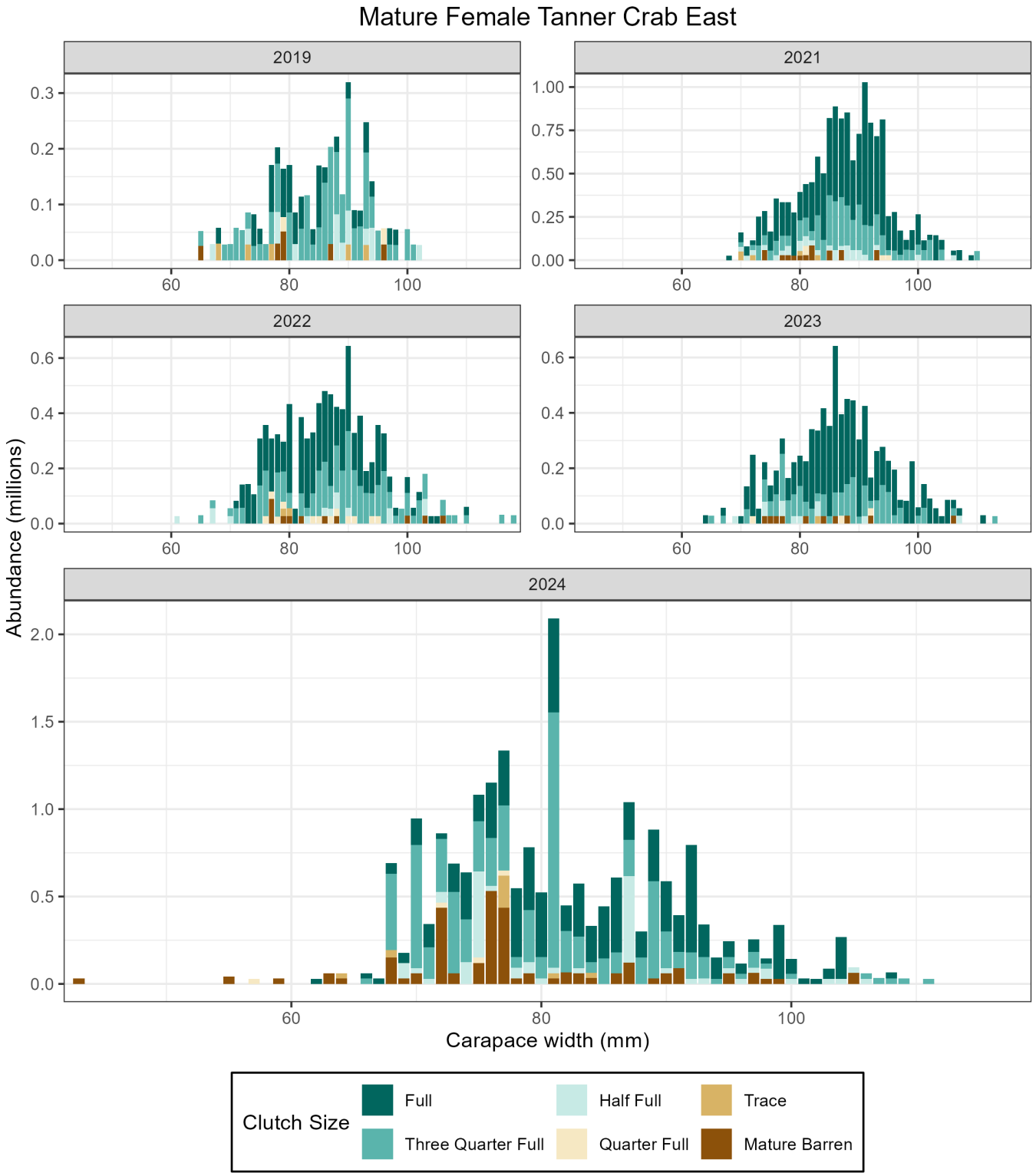

Figure 60. -- Abundance (millions) by size and clutch fullness of mature female Tanner crab (*Chionoecetes bairdi*) east of 166°W in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies among years.**

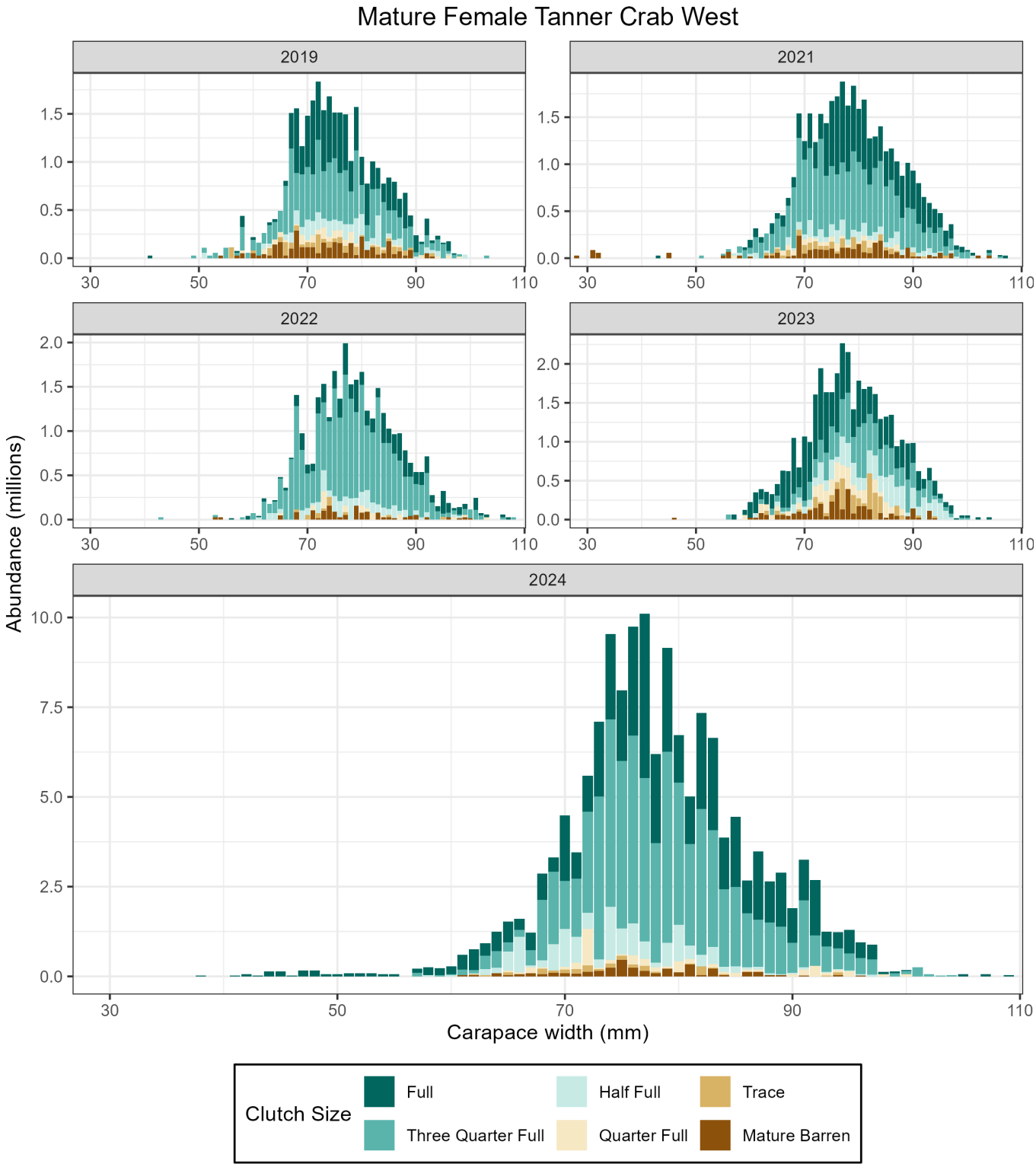

Figure 61. -- Abundance (millions) by size and clutch fullness of mature female Tanner crab (*Chionoecetes bairdi*) west of 166°W in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies among years.**

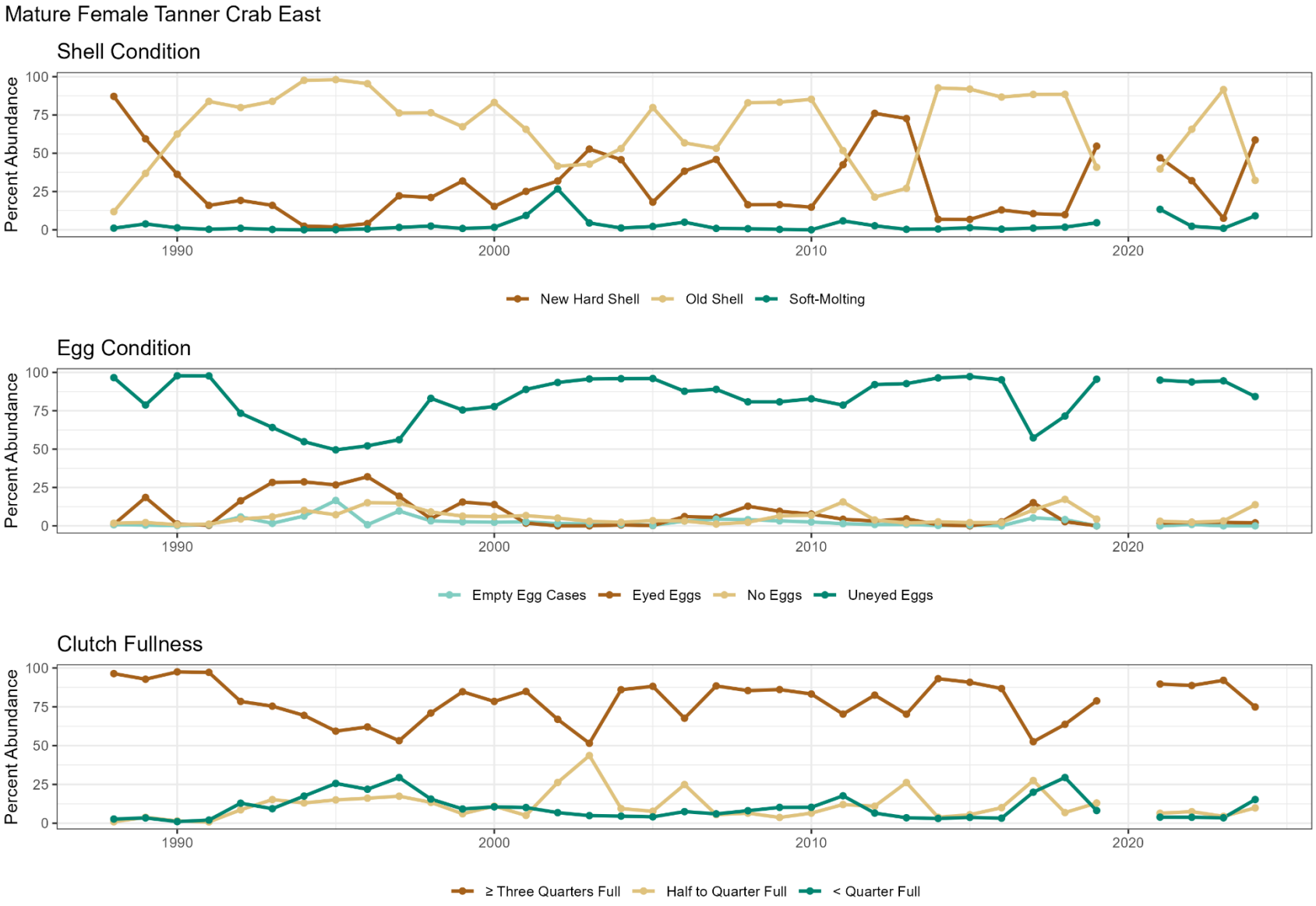

Figure 62. -- Time series of shell condition, egg condition, and clutch fullness for mature female Tanner crab (*Chionoecetes bairdi*) east of 166°W in the eastern Bering Sea.

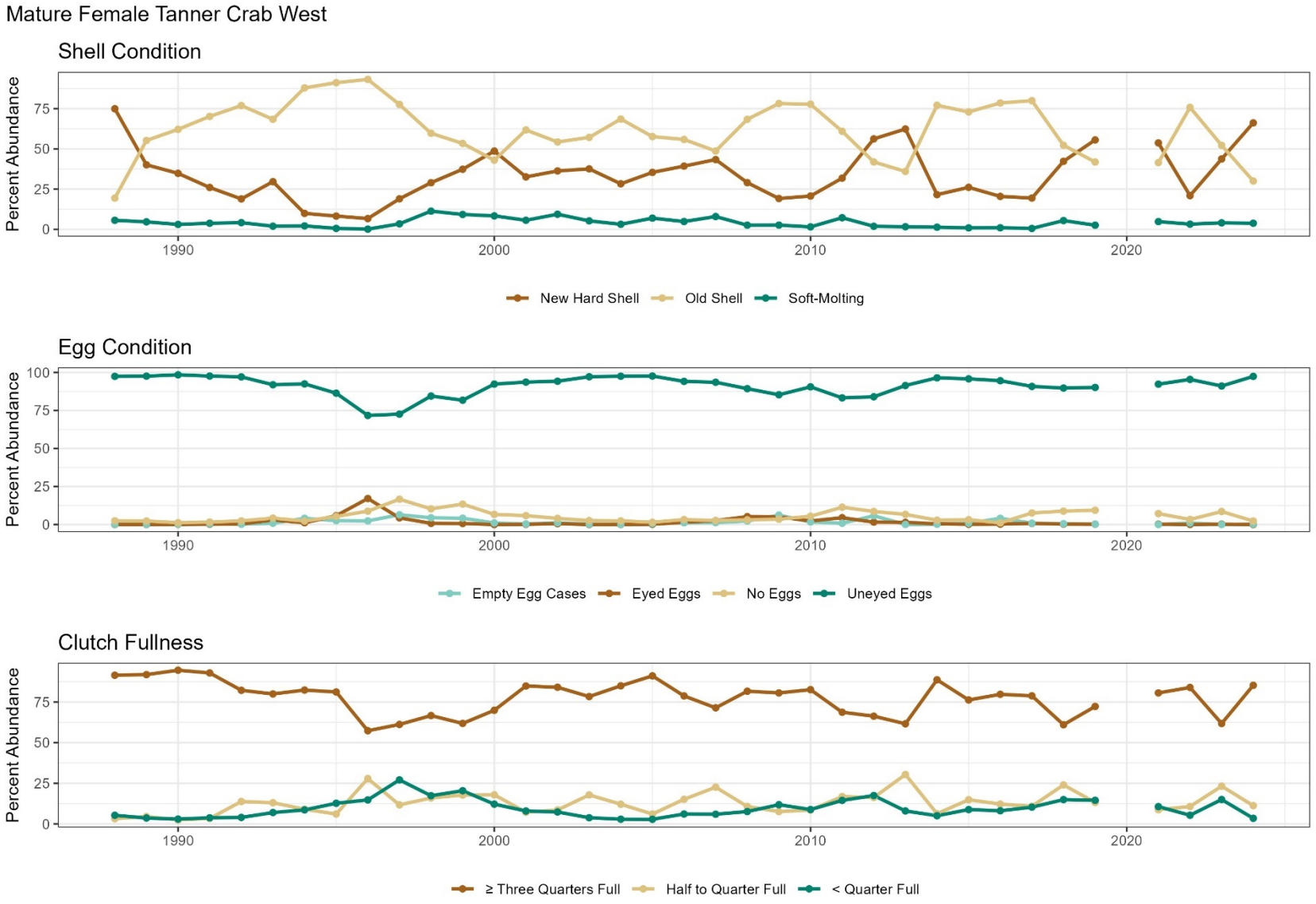

Figure 63. – Time series of shell condition, egg condition, and clutch fullness for mature female Tanner crab (*Chionoecetes bairdi*) west of 166°W in the eastern Bering Sea.

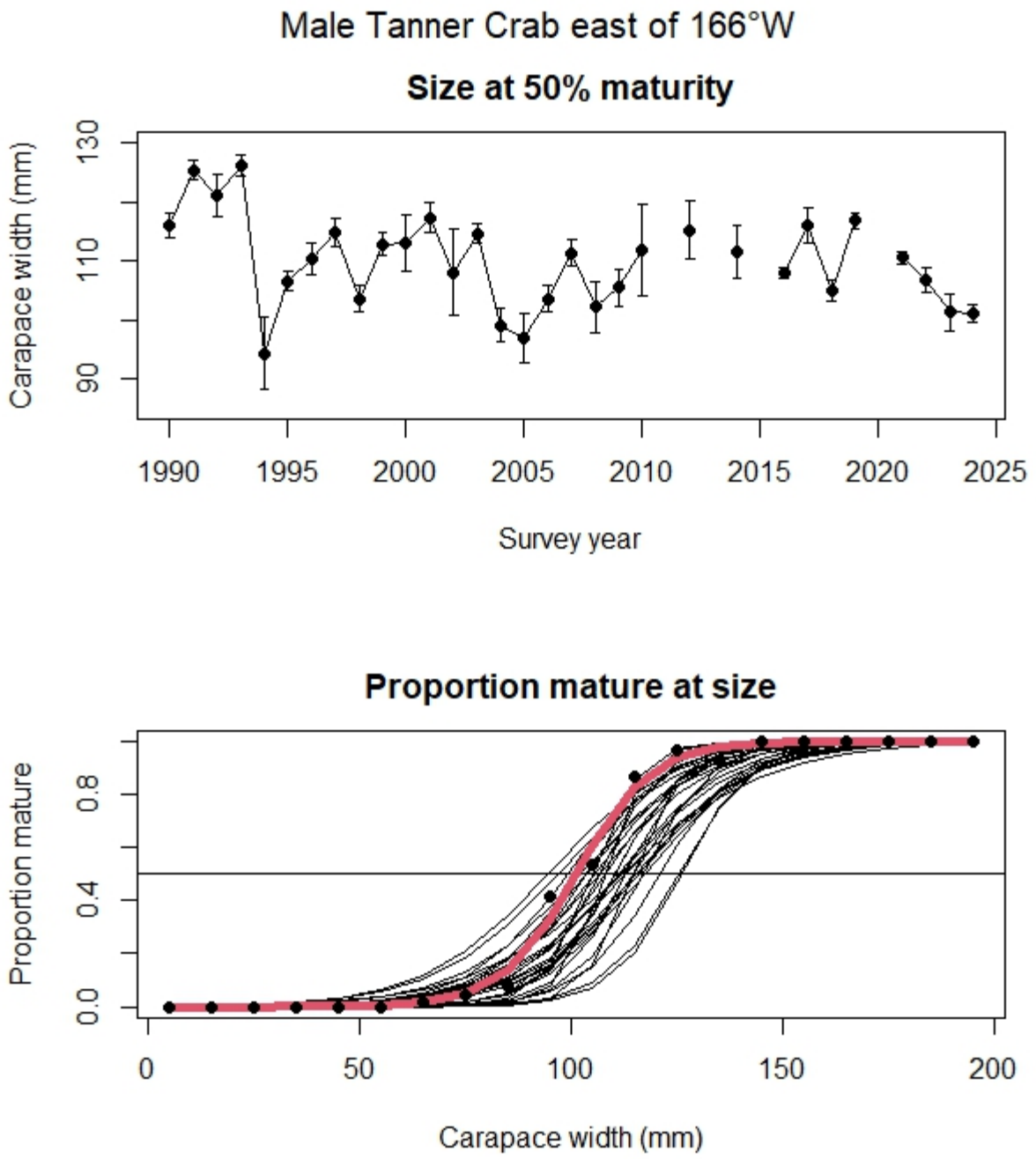

Figure 64. – Maturity estimates for new hardshell male Tanner crab (*Chionoecetes bairdi*) east of 166°W in the eastern Bering Sea. Upper panel: Estimated size at which 50% of males are mature using chela morphometrics (± 95% CI). Lower panel: Estimated proportion of the population that is mature by carapace width. Each fitted curve represents a year when chela measurements were taken (see upper panel), with 2024 shown in red. Black dots are raw data of proportion mature for 2024 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.

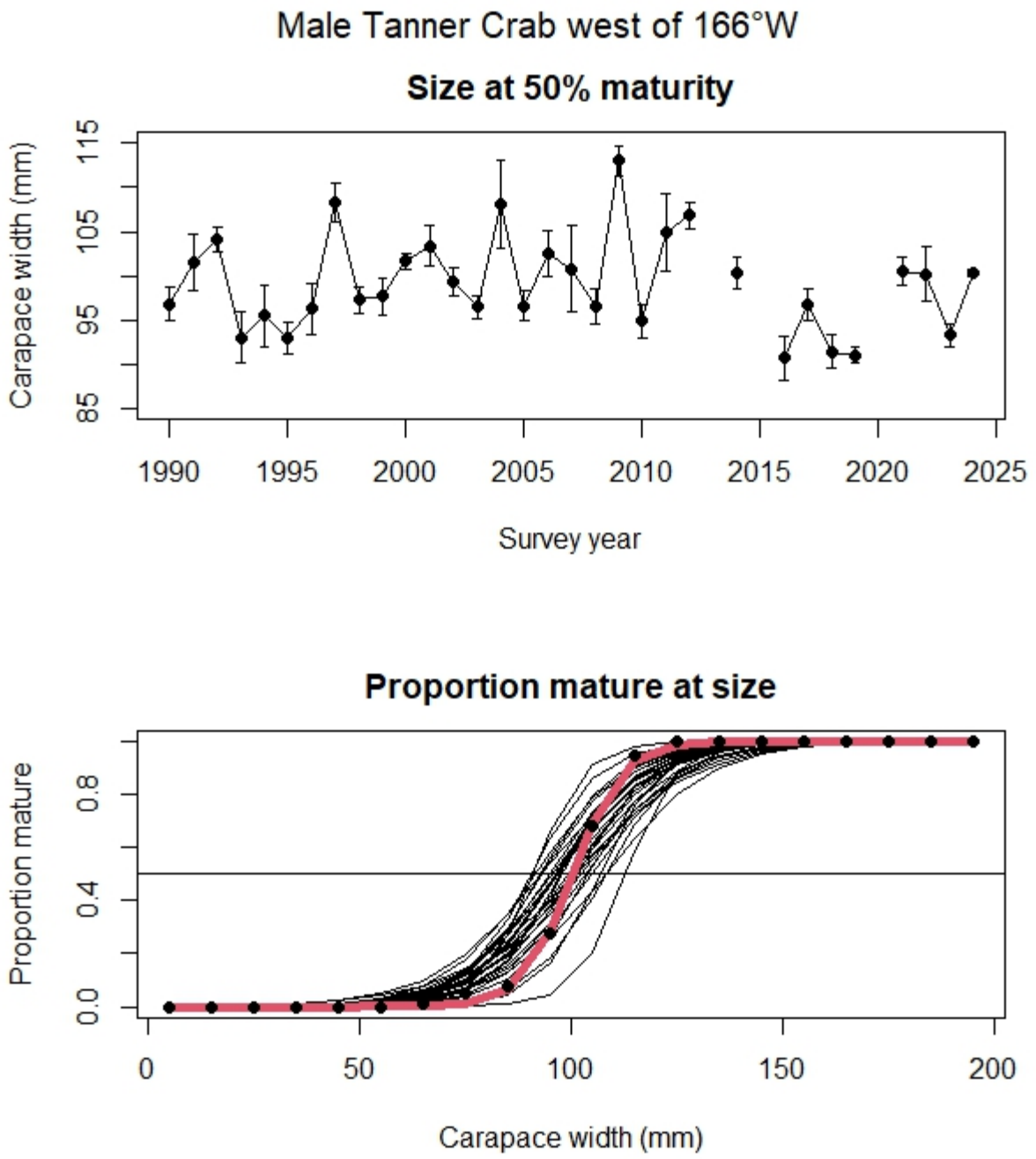

Figure 65. – Maturity estimates for new hardshell male Tanner crab (*Chionoecetes bairdi*) west of 166°W in the eastern Bering Sea. Upper panel: Estimated size at which 50% of males are mature using chela morphometrics (± 95% CI). Lower panel: Estimated proportion of the population that is mature by carapace width. Each fitted curve represents a year when chela measurements were taken (see upper panel), with 2024 shown in red. Black dots are raw data of proportion mature for 2024 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.

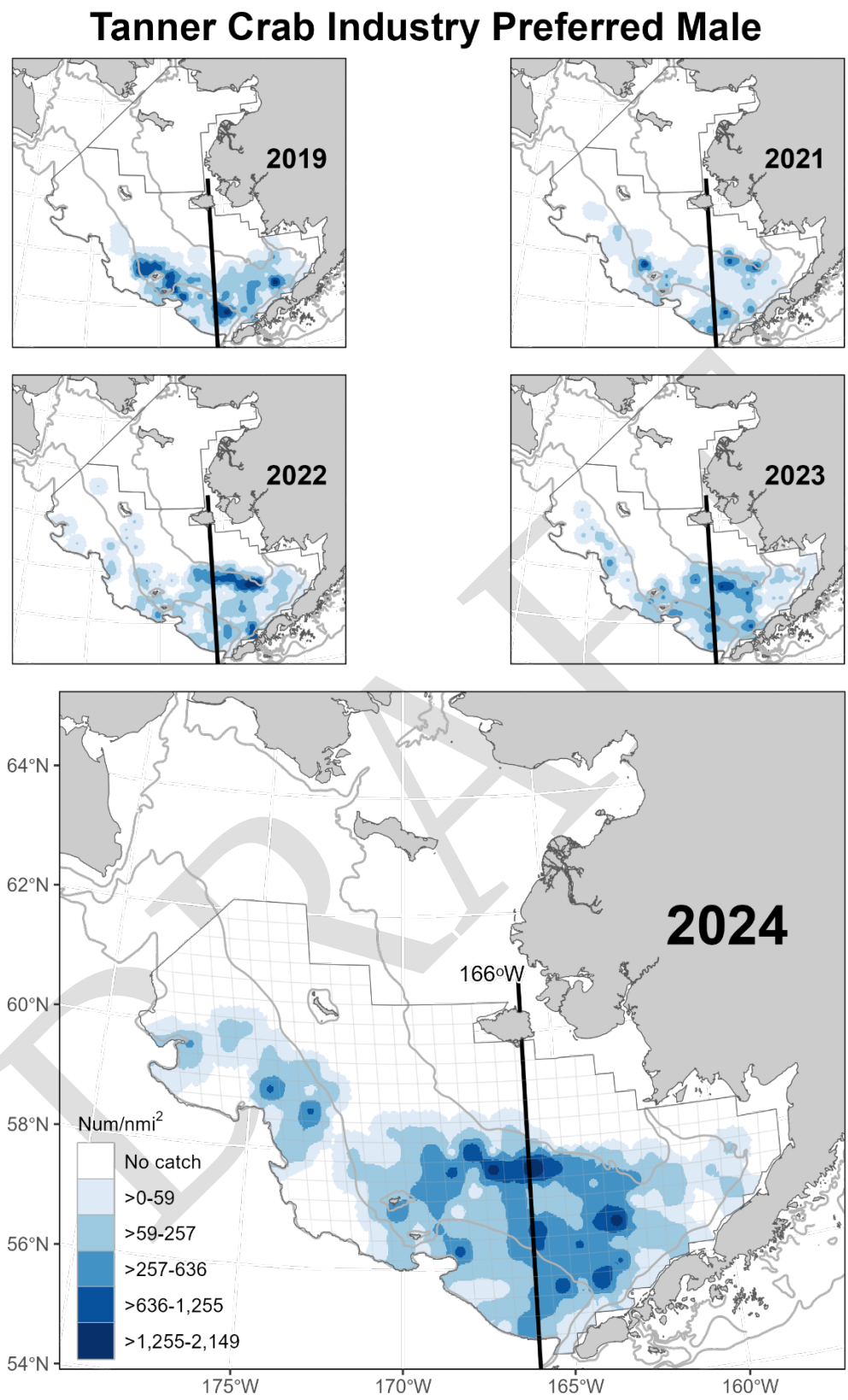

Figure 66. -- Estimated total density of industry preferred-sized (carapace width ≥ 125 mm) male Tanner crab (*Chionoecetes bairdi*) for the past five survey years. Note that the NBS was not surveyed in 2024.

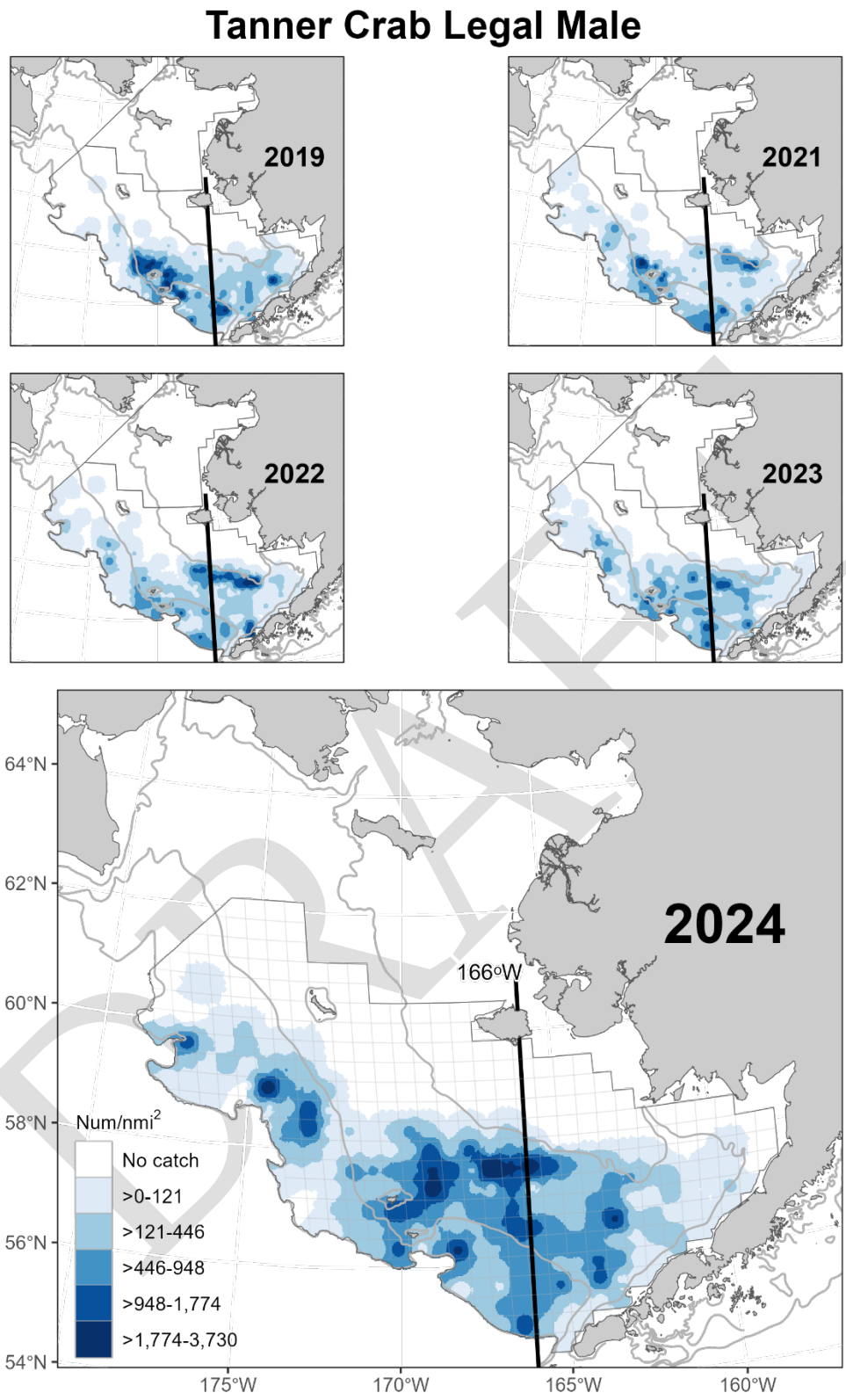

Figure 67. -- Estimated total density of legal-sized (carapace width ≥ 120 mm east of 166°W in EBS; carapace width ≥ 110 mm west of 166°W in EBS and in NBS) male Tanner crab (*Chionoecetes bairdi*) for the past five survey years. Note that the NBS was not surveyed in 2024.

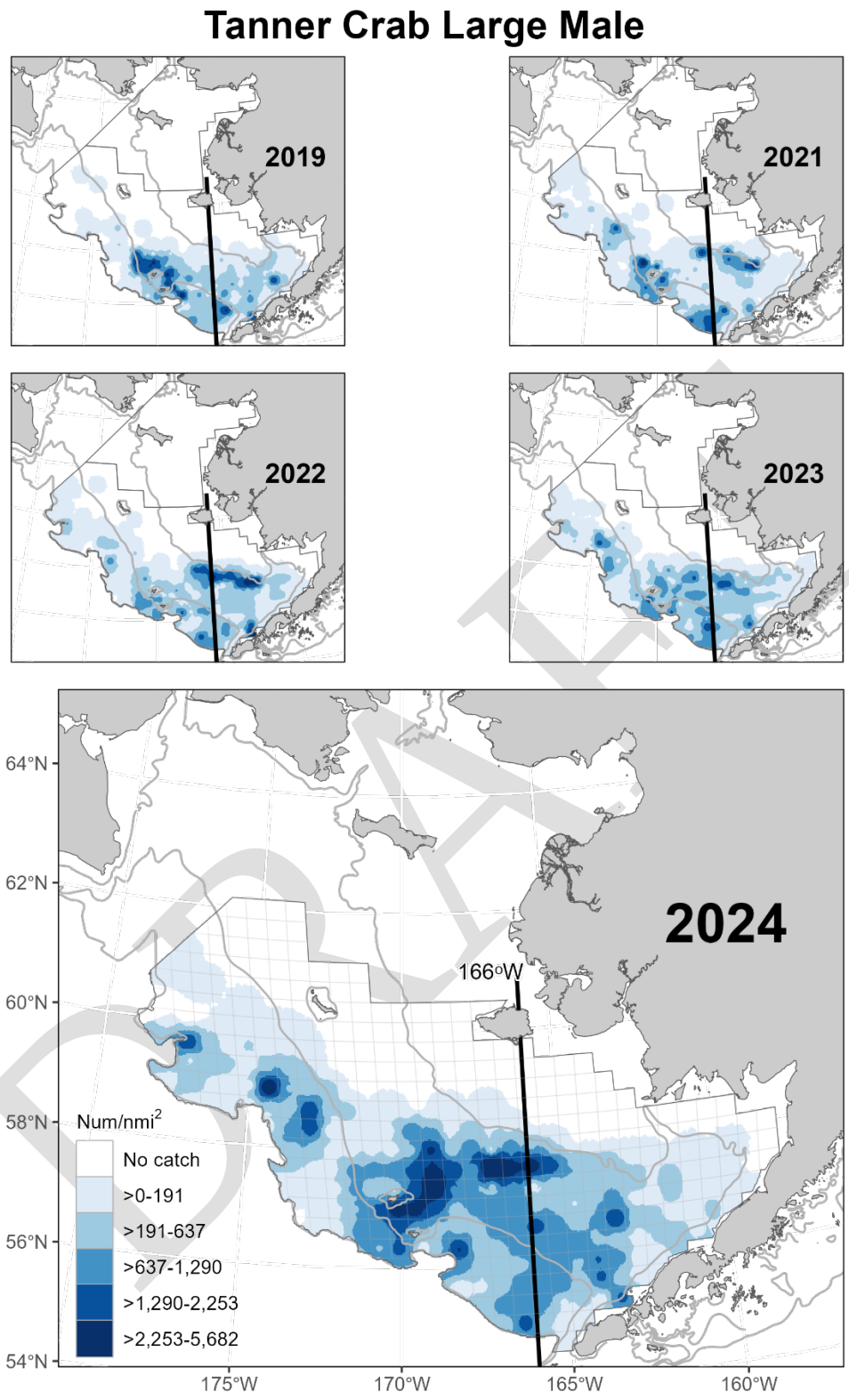

Figure 68. -- Estimated total density of large-sized (carapace width ≥ 113 mm east of 166°W in EBS; carapace width ≥ 103 mm west of 166°W in EBS and in NBS) male Tanner crab (*Chionoecetes bairdi*) for the past five survey years. Note that the NBS was not surveyed in 2024.

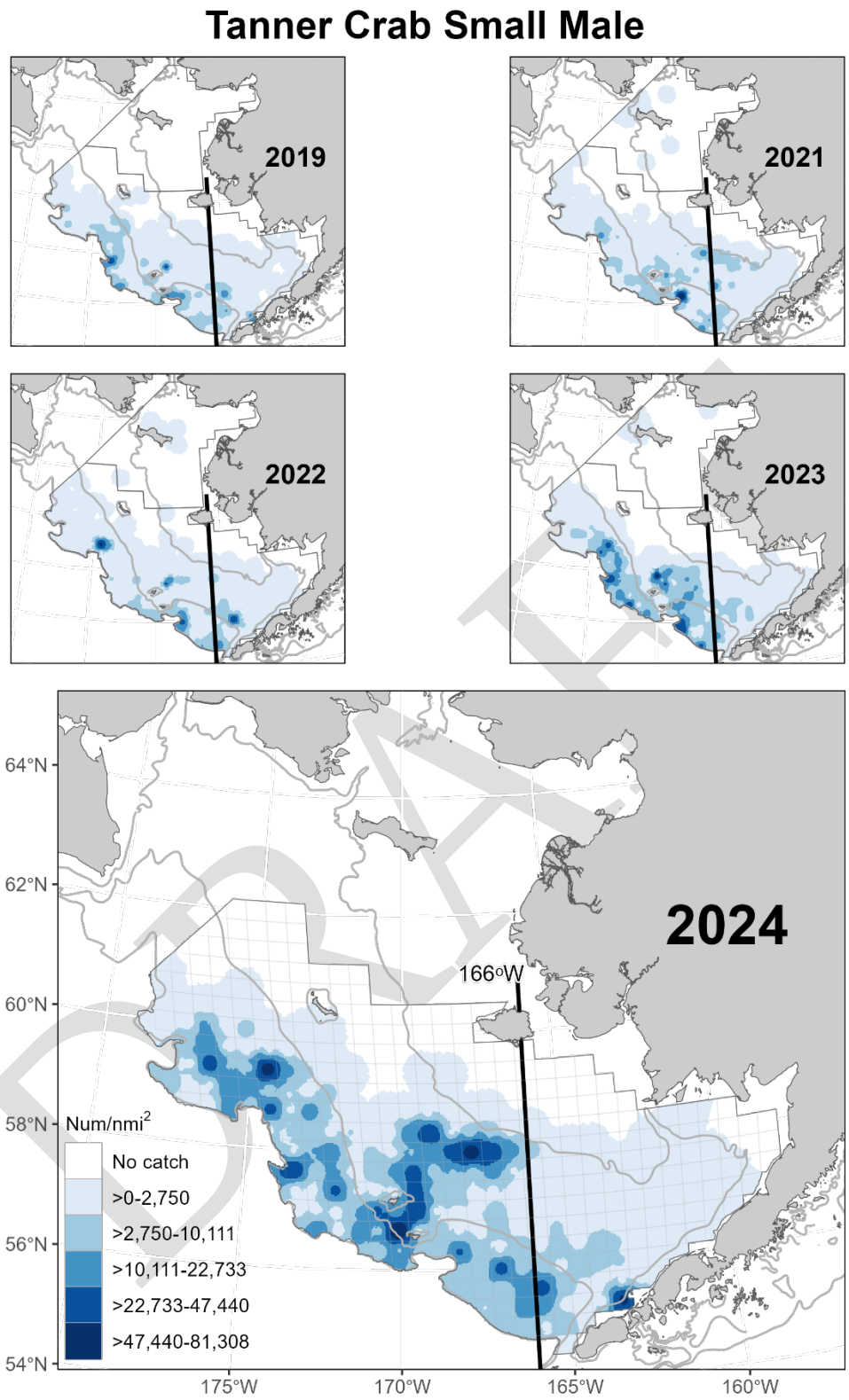

Figure 69. -- Estimated total density of small-sized (carapace width < 113 mm east of 166°W in EBS; carapace width < 103 mm west of 166°W in EBS and in NBS) male Tanner crab (*Chionoecetes bairdi*) for the past five survey years. Note that the NBS was not surveyed in 2024.

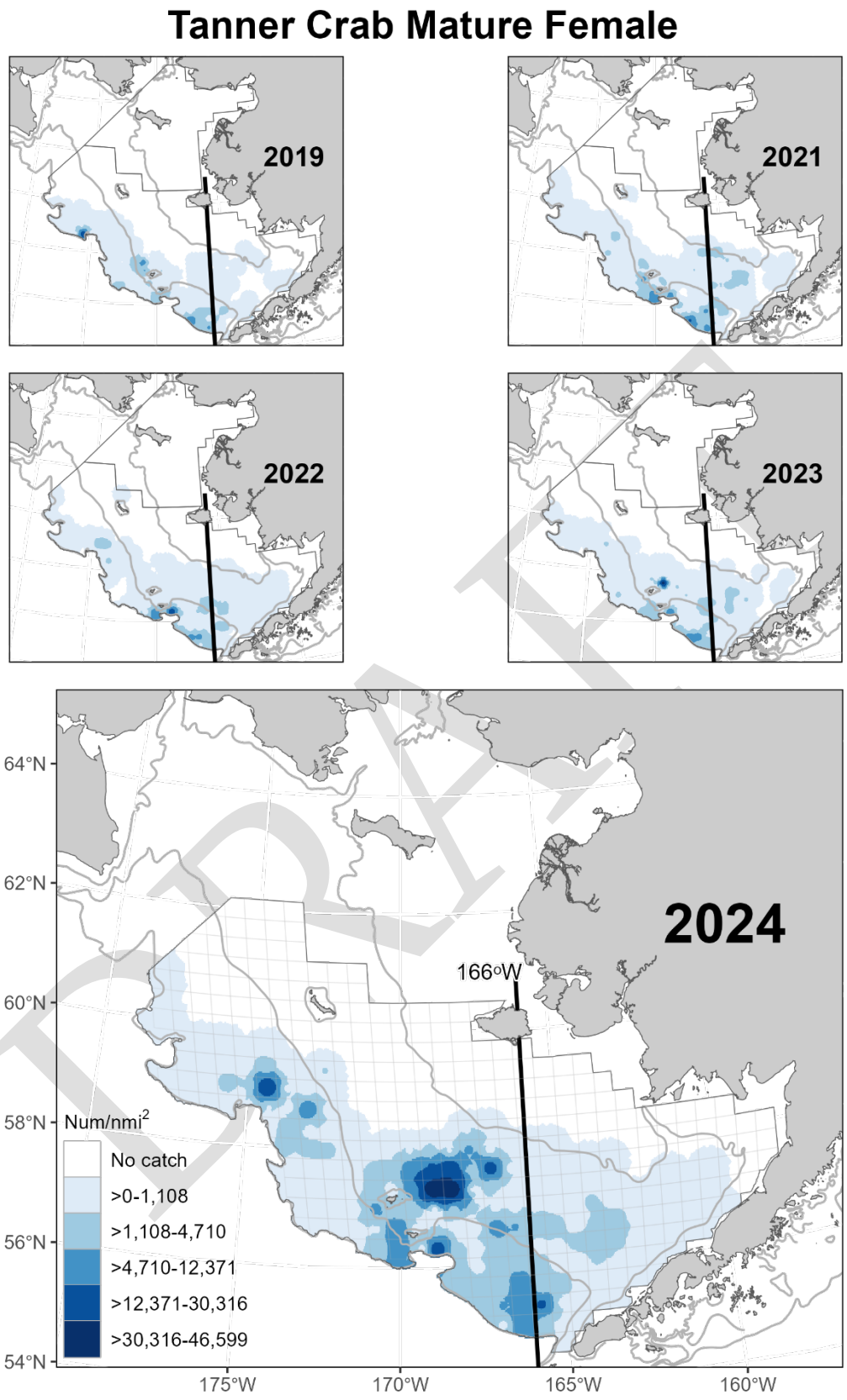

Figure 70. -- Estimated total density of mature female Tanner crab (*Chionoecetes bairdi*) for the past five survey years. Note that the NBS was not surveyed in 2024.

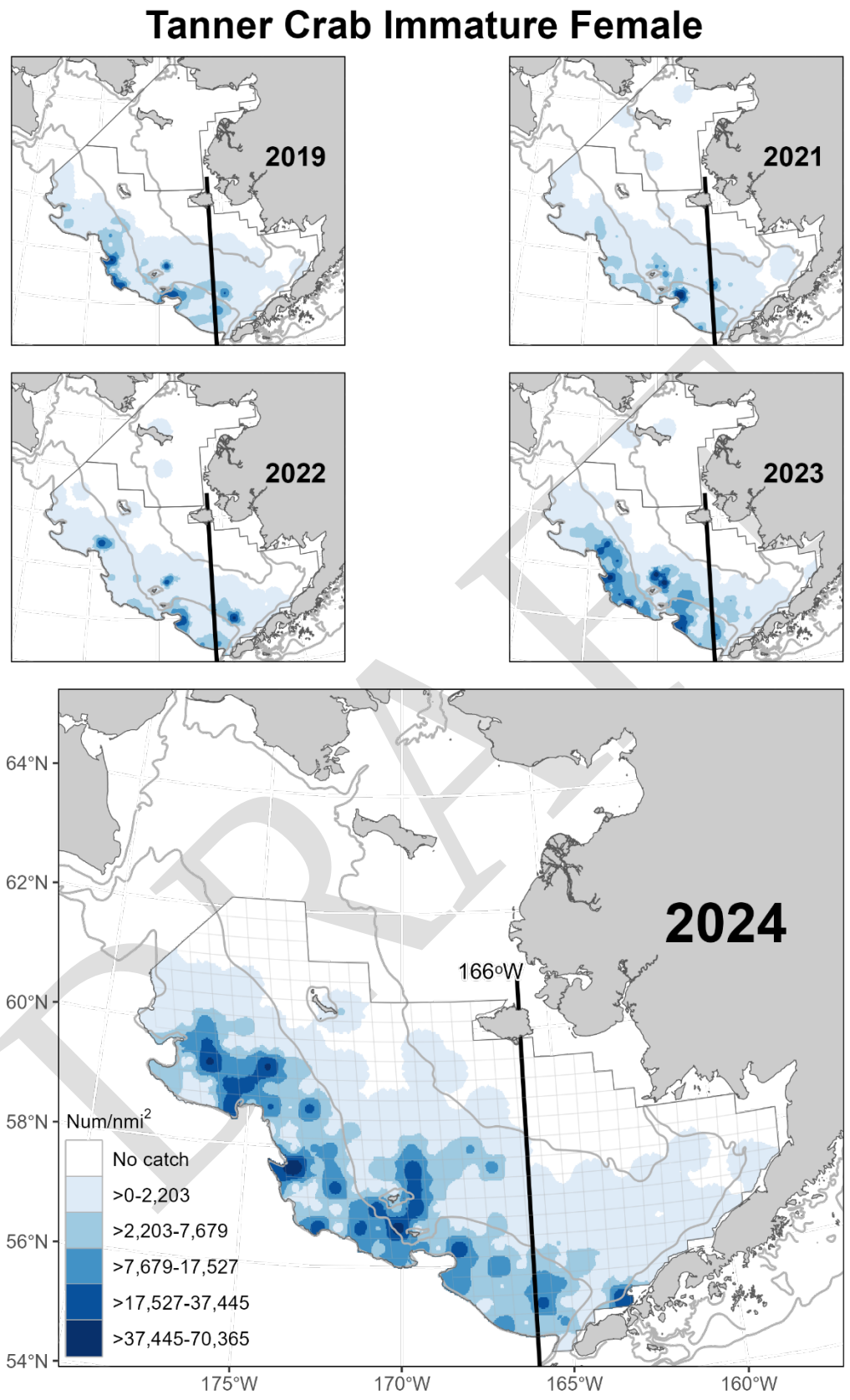

Figure 71. -- Estimated total density of immature female Tanner crab (*Chionoecetes bairdi*) for the past five survey years. Note that the NBS was not surveyed in 2024.

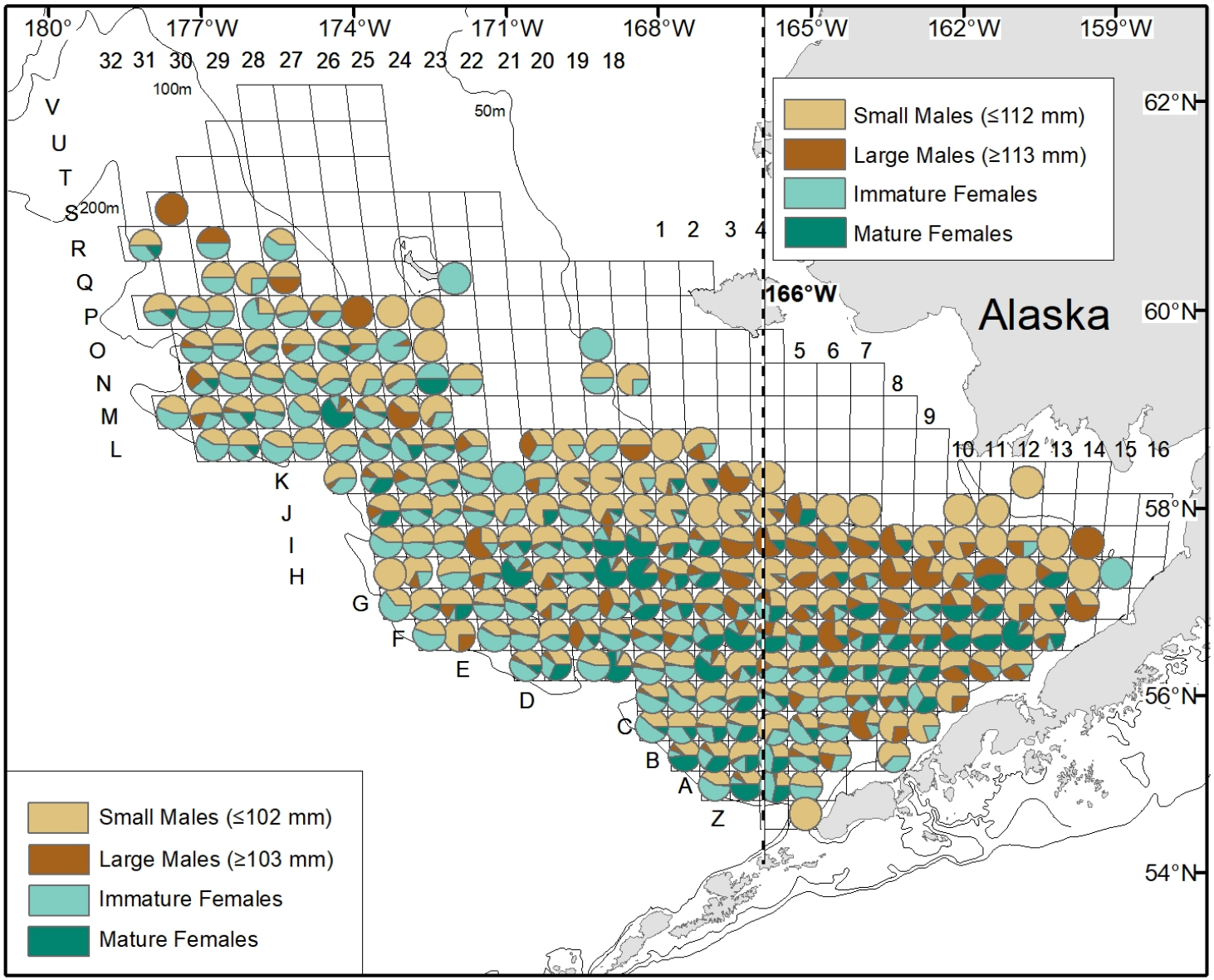

Figure 72. -- Proportion of male and female Tanner crab (*Chionoecetes bairdi*) maturity/size classes caught at each station sampled in 2024. Males are considered large with carapace widths ≥ 113 mm east of 166°W in the EBS and carapace widths ≥ 103 mm west of 166°W.

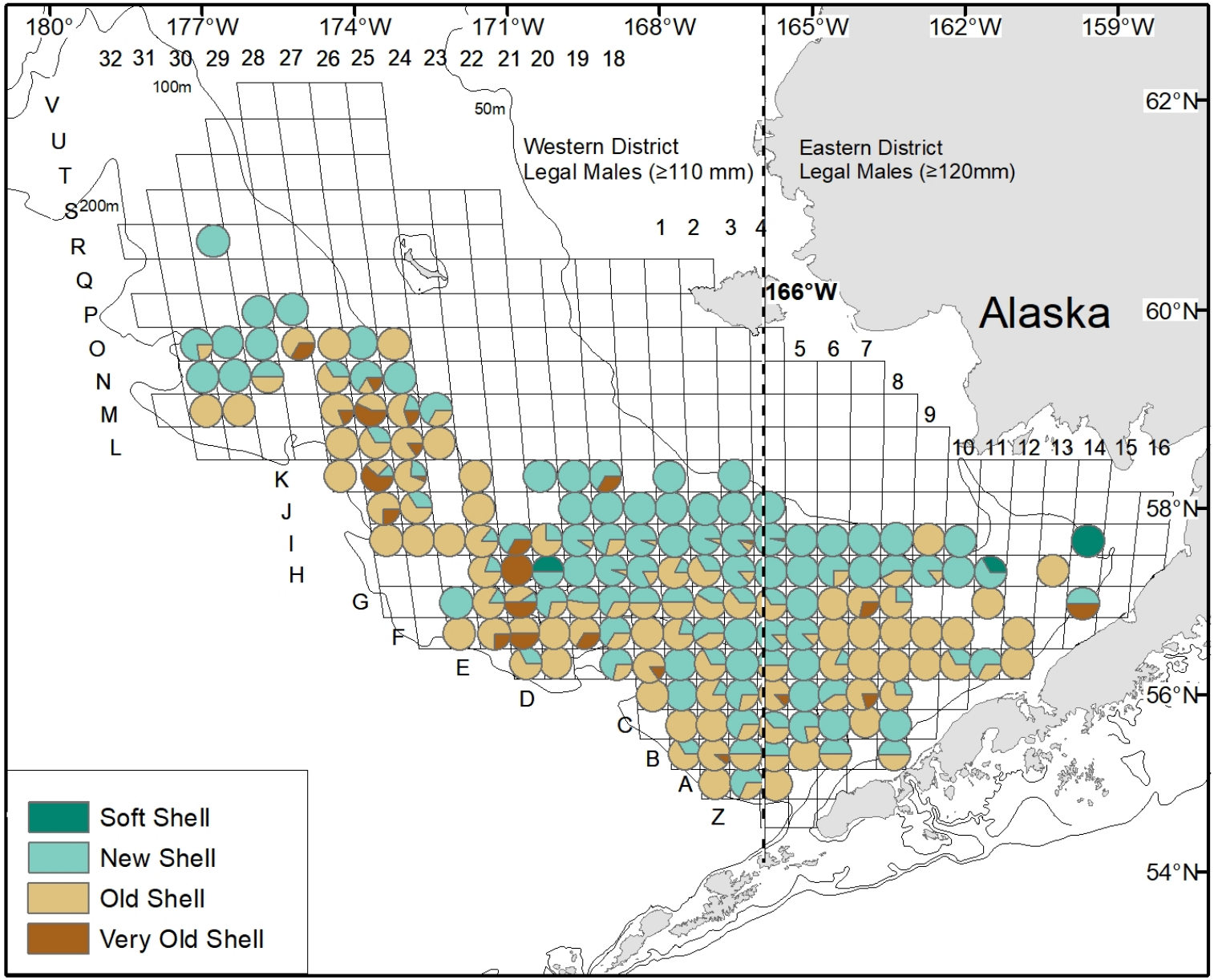

Figure 73. -- Proportion of legal-sized (carapace width ≥ 120 mm east of 166°W in EBS; carapace width ≥ 110 mm west of 166°W) male Tanner crab (*Chionoecetes bairdi*) shell condition classes caught at each station sampled in 2024.

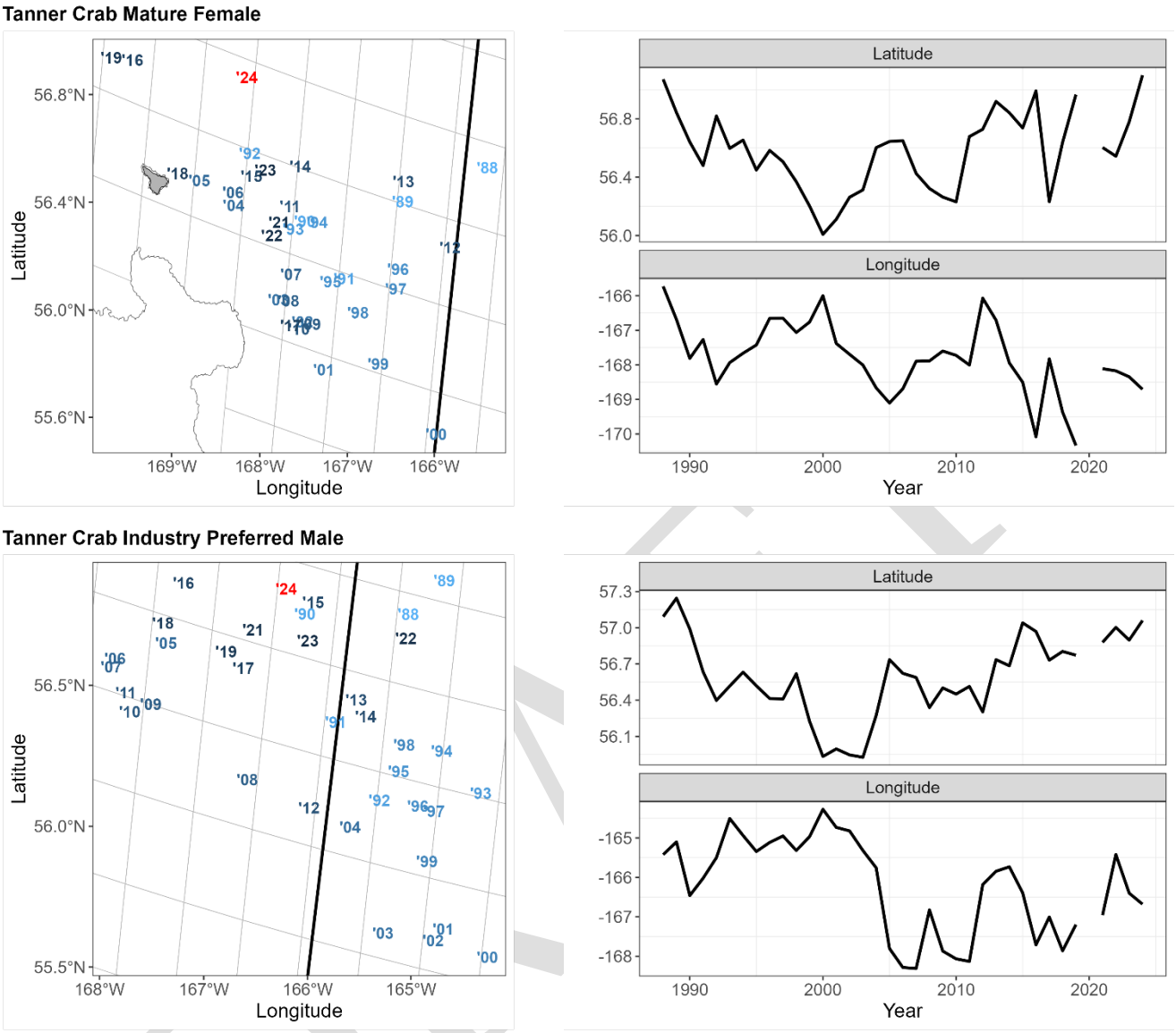

Figure 74. -- CPUE-weighted centers of stock abundance of mature female and industry preferred size male Tanner crab (*Chionoecetes bairdi*) from 1988 to 2024 in the eastern Bering Sea. Bold black line in left panels indicates 166°W. Years get darker blue with time in left panel maps, with most the recent year denoted in red.

Snow crab figures

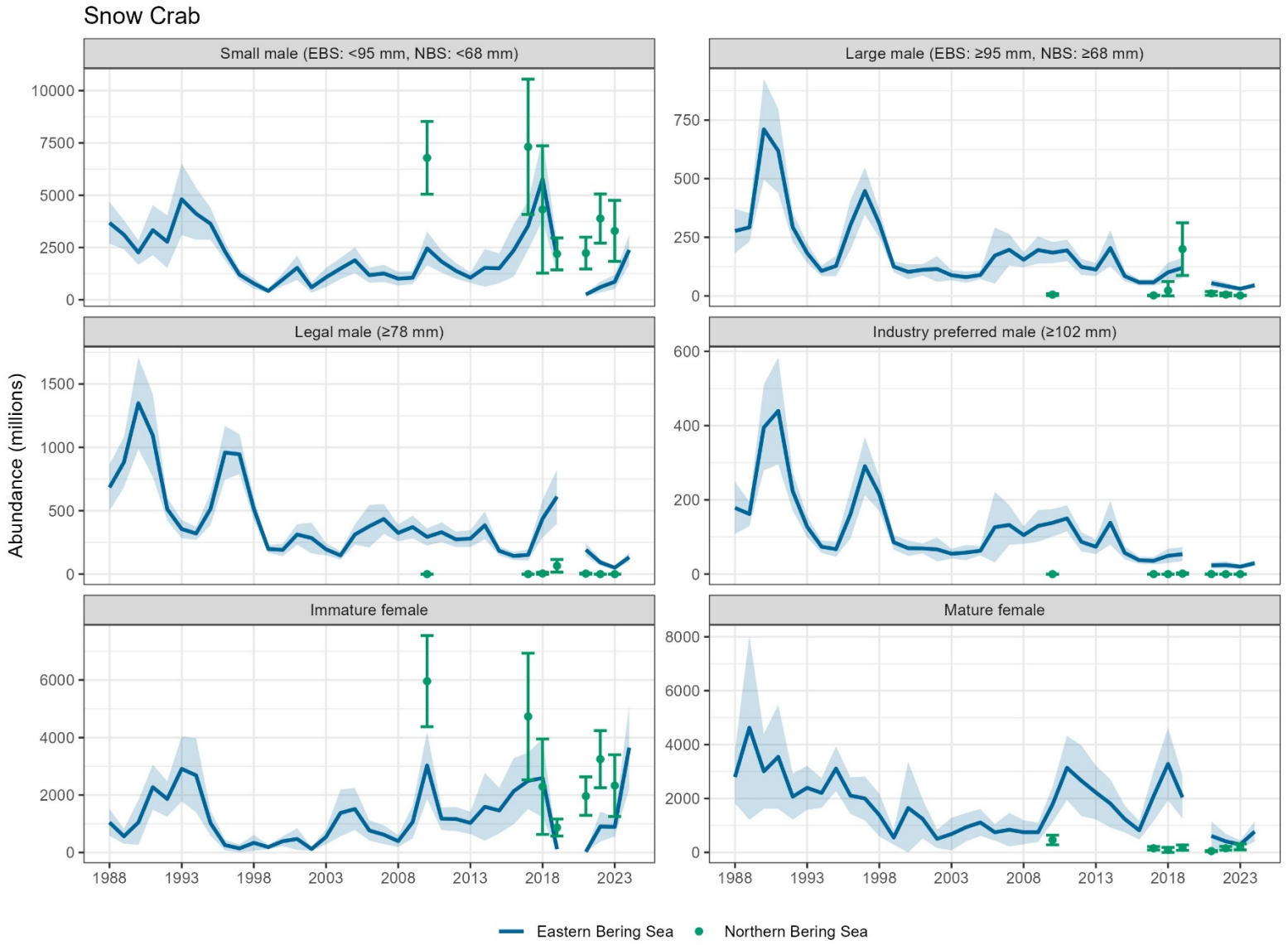

Figure 75. -- Historical abundance of snow crab (*Chionoecetes opilio*) in the eastern and northern Bering Sea. Light blue area and green error bars indicates 95% CI. Note that the NBS was only sampled in 2010, 2017–2019, and 2021–2023.

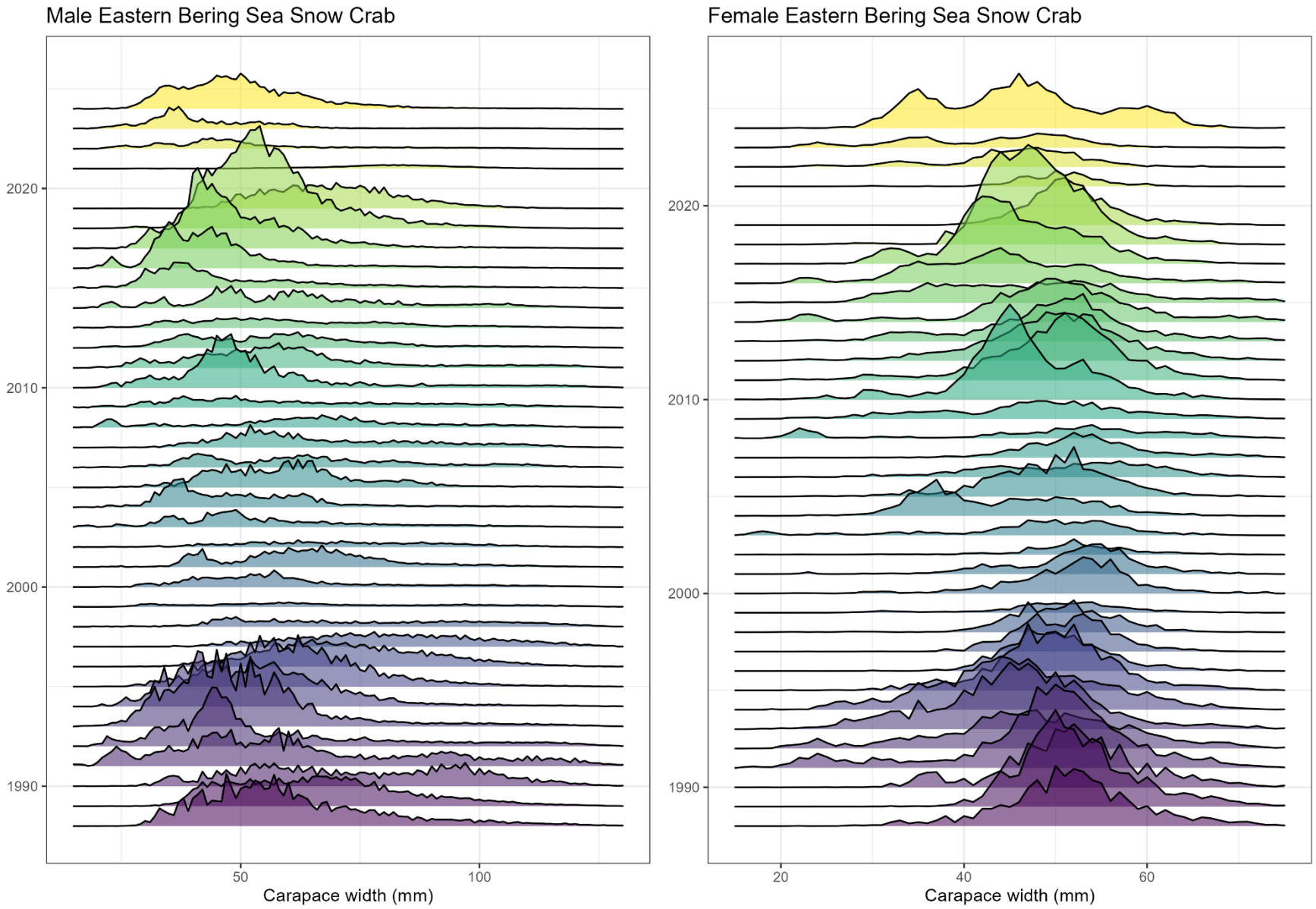

Figure 76. -- Historical size frequency for snow crab (*Chionoecetes opilio*) in the eastern Bering Sea.

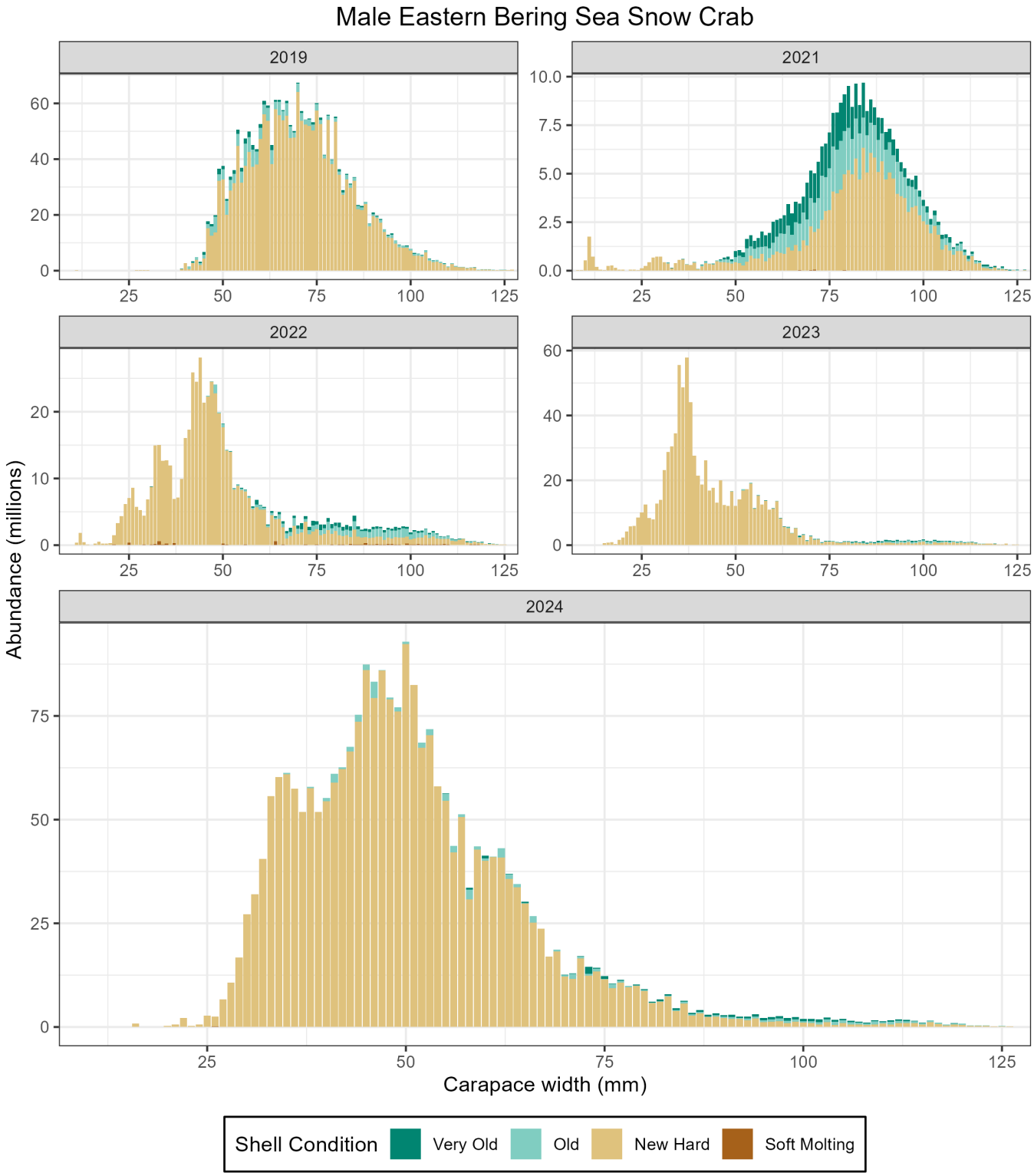

Figure 77. -- Abundance (millions) by size and shell condition of male snow crab (*Chionoecetes opilio*) in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies among years.**

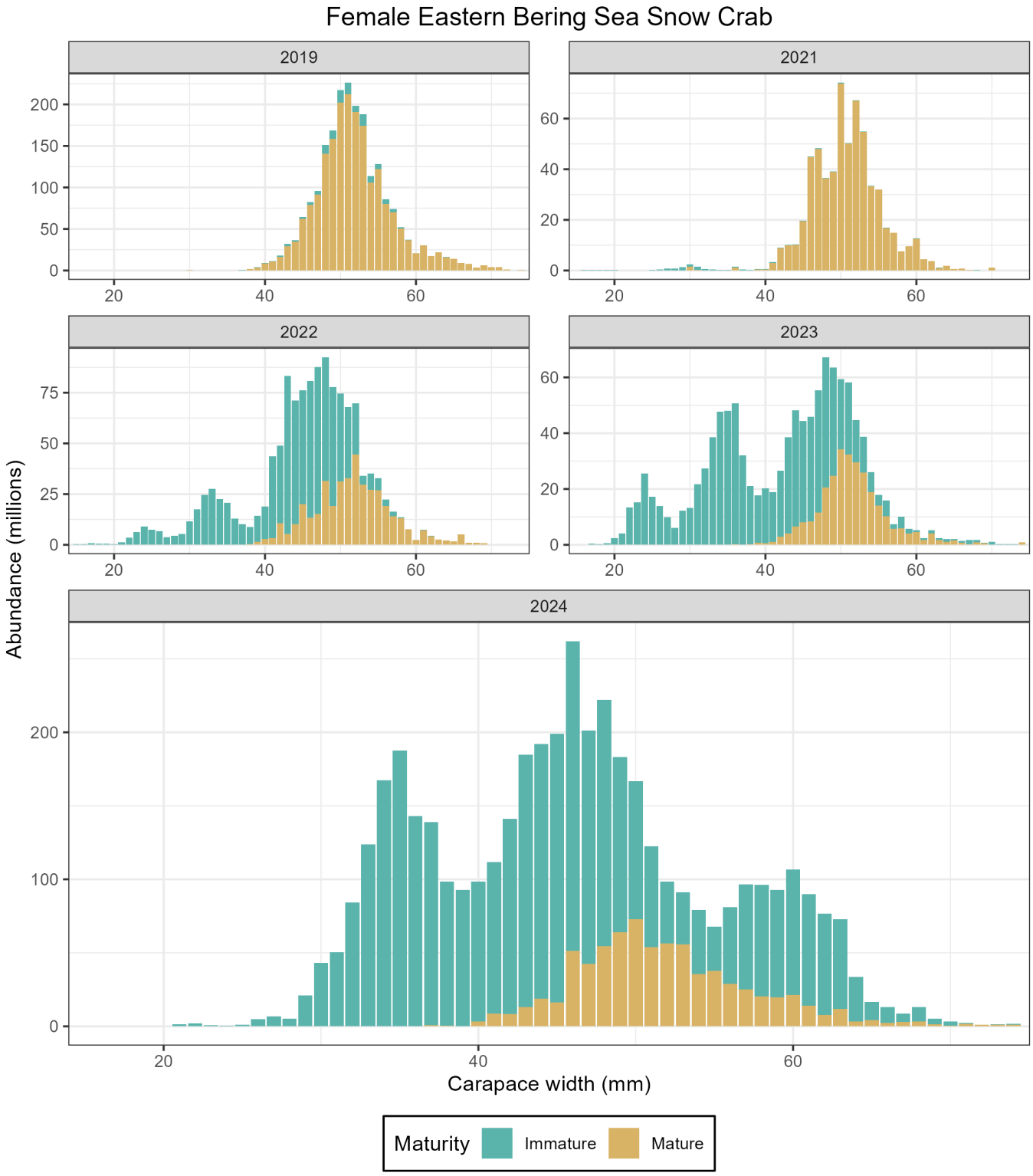

Figure 78. -- Abundance (millions) by size and maturity status of female snow crab (*Chionoecetes opilio*) in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies among years.**

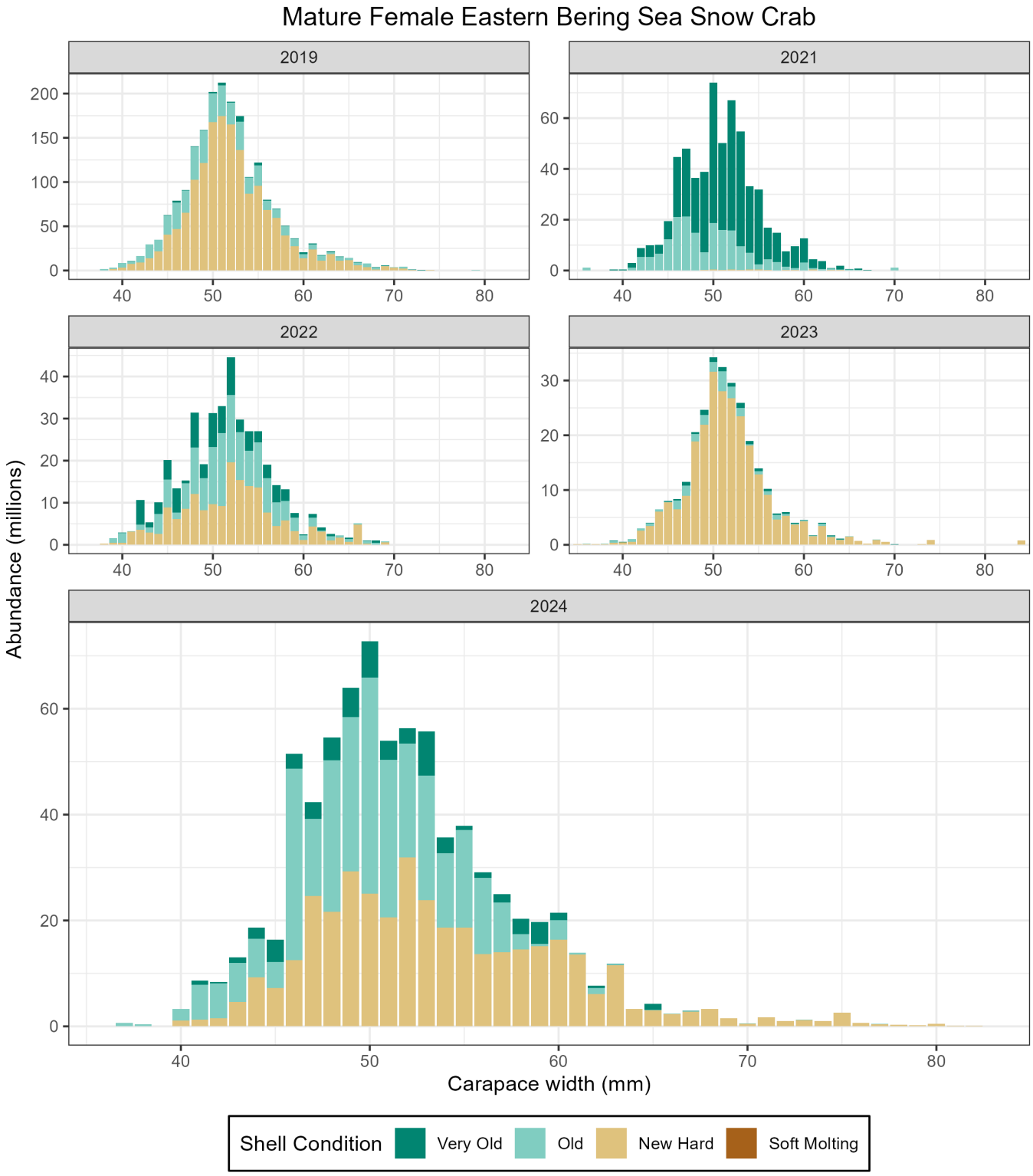

Figure 79. -- Abundance (millions) by size and shell condition of mature female snow crab (*Chionoecetes opilio*) in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies among years.**

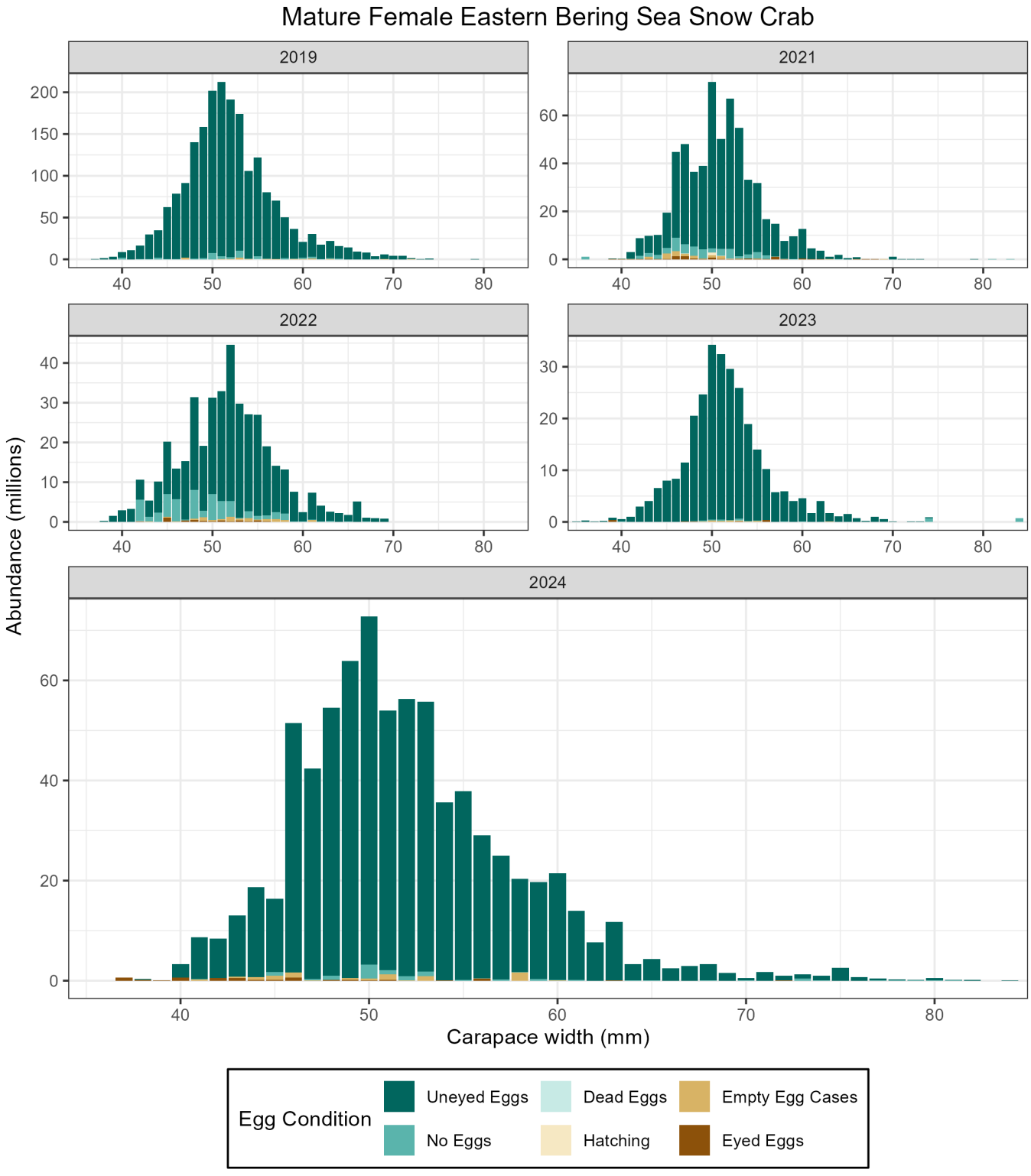

Figure 80. -- Abundance (millions) by size and egg condition of mature female snow crab (*Chionoecetes opilio*) in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies among years.**

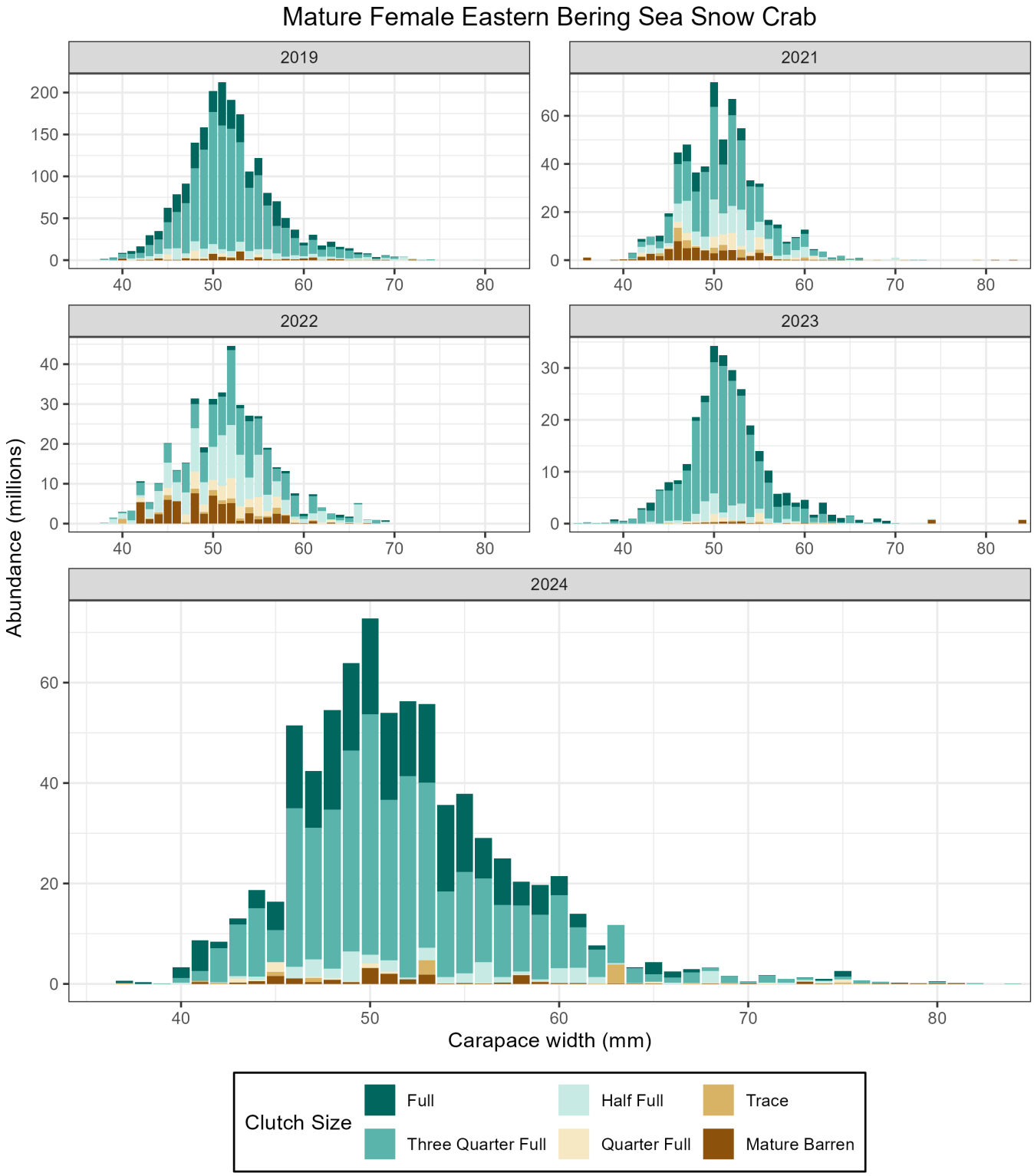

Figure 81. -- Abundance (millions) by size and clutch fullness of mature female snow crab (*Chionoecetes opilio*) in the eastern Bering Sea using 1 mm width classes. **Note that Y-axis scale varies among years.**

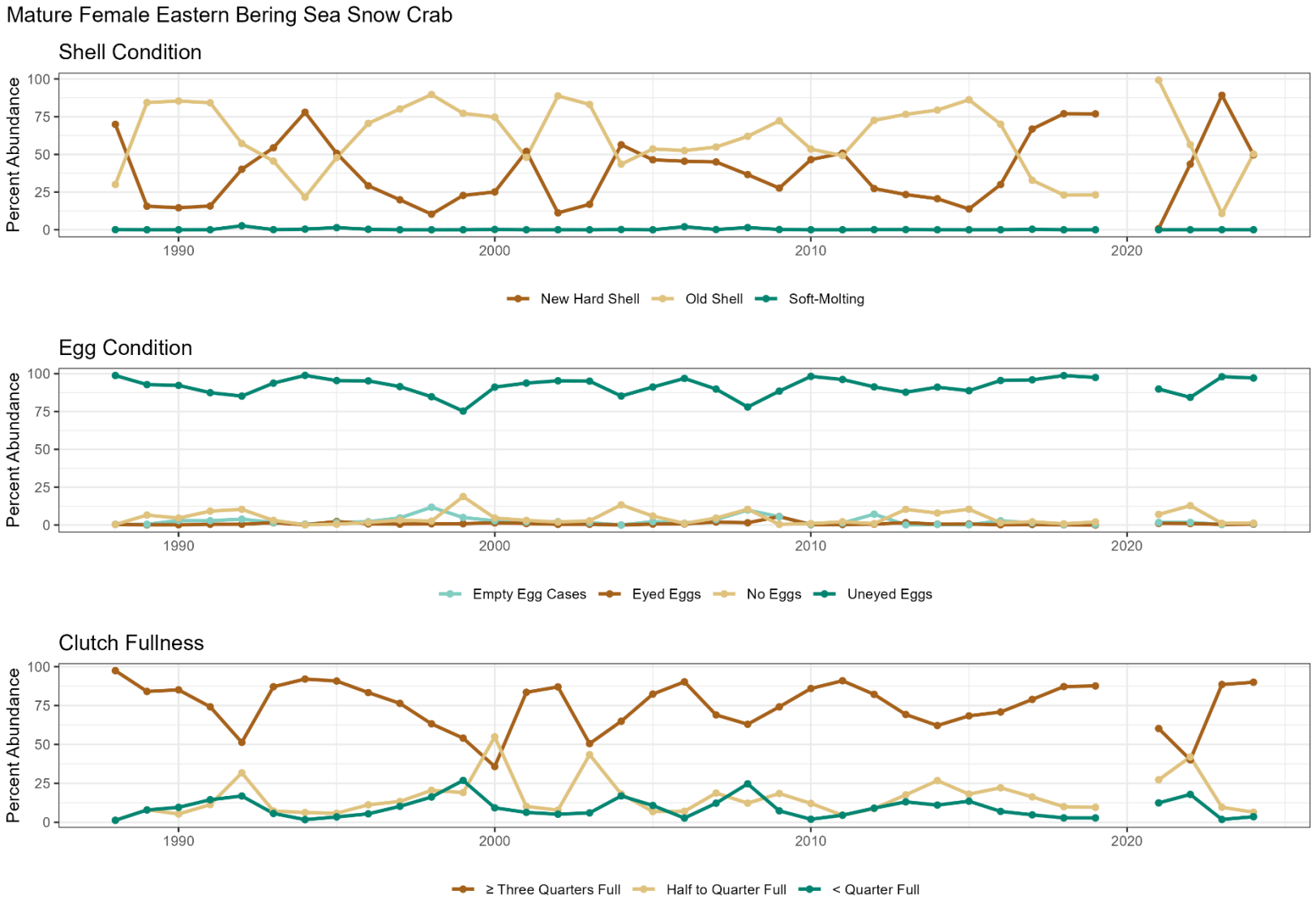

Figure 82. -- Time series of shell condition, egg condition, and clutch fullness for mature female snow crab (*Chionoecetes opilio*) in the eastern Bering Sea.

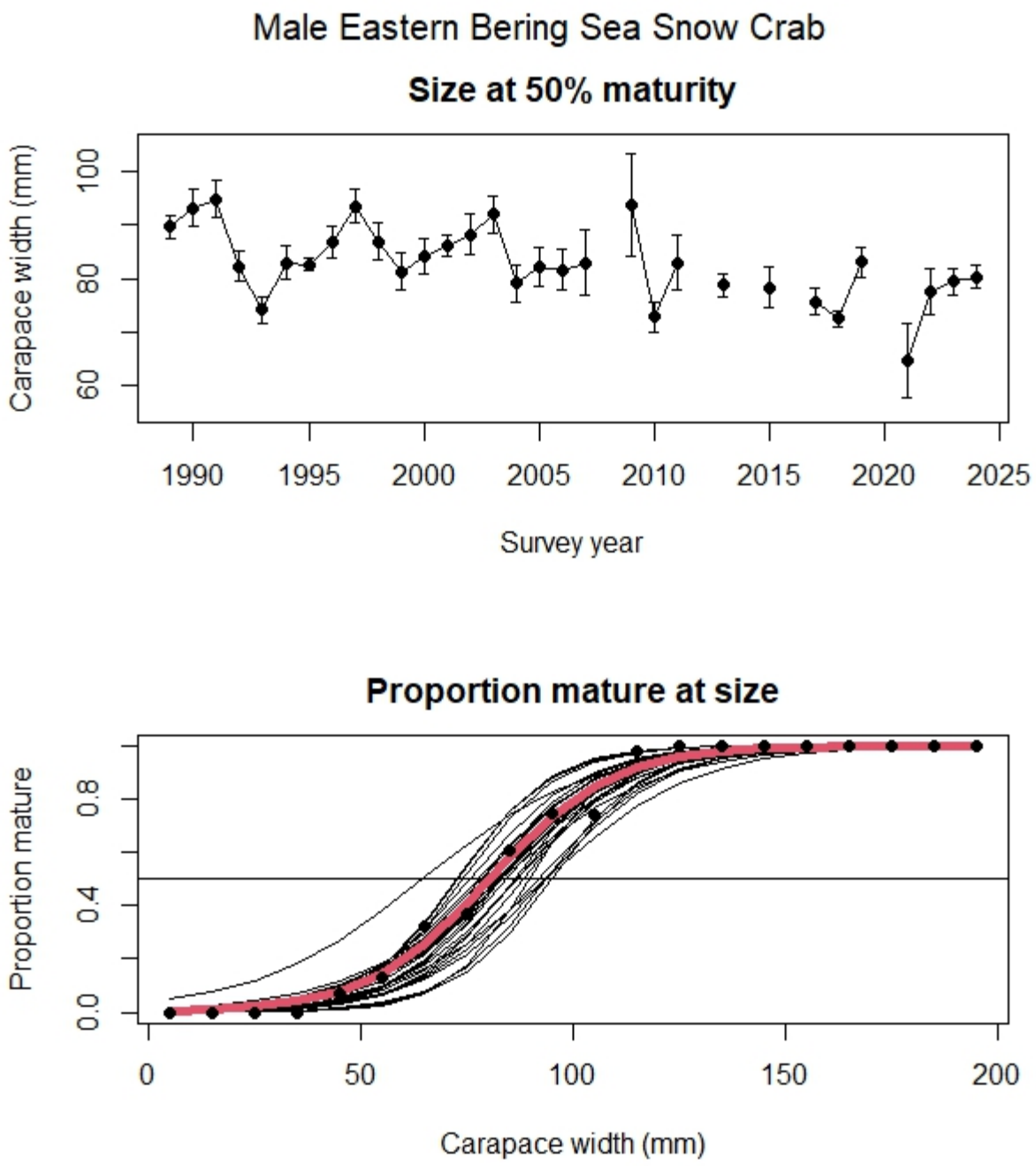

Figure 83. -- Maturity estimates for new hardshell male snow crab (*Chionoecetes opilio*) in the eastern Bering Sea. Upper panel: Estimated size at which 50% of males are mature using chela morphometrics (± 95% CI). Lower panel: Estimated proportion of the population that is mature by carapace width. Each fitted curve represents a year when chela measurements were taken (see upper panel), with 2024 shown in red. Black dots are raw data of proportion mature for 2024 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.

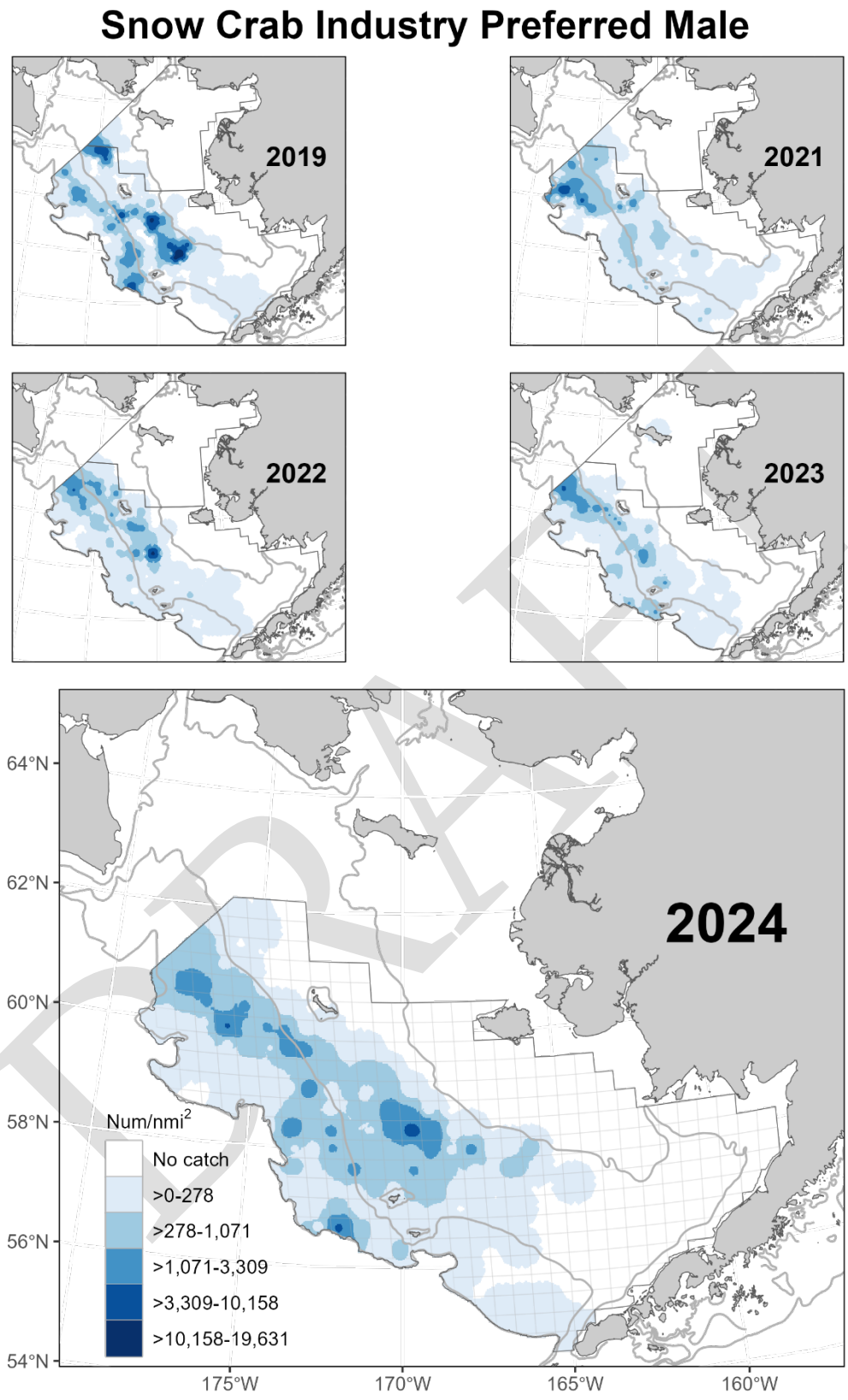

Figure 84. -- Estimated total density of industry preferred-sized (carapace width ≥ 102 mm) snow crab (*Chionoecetes opilio*) for the past five survey years. Note that the NBS was not surveyed in 2024.

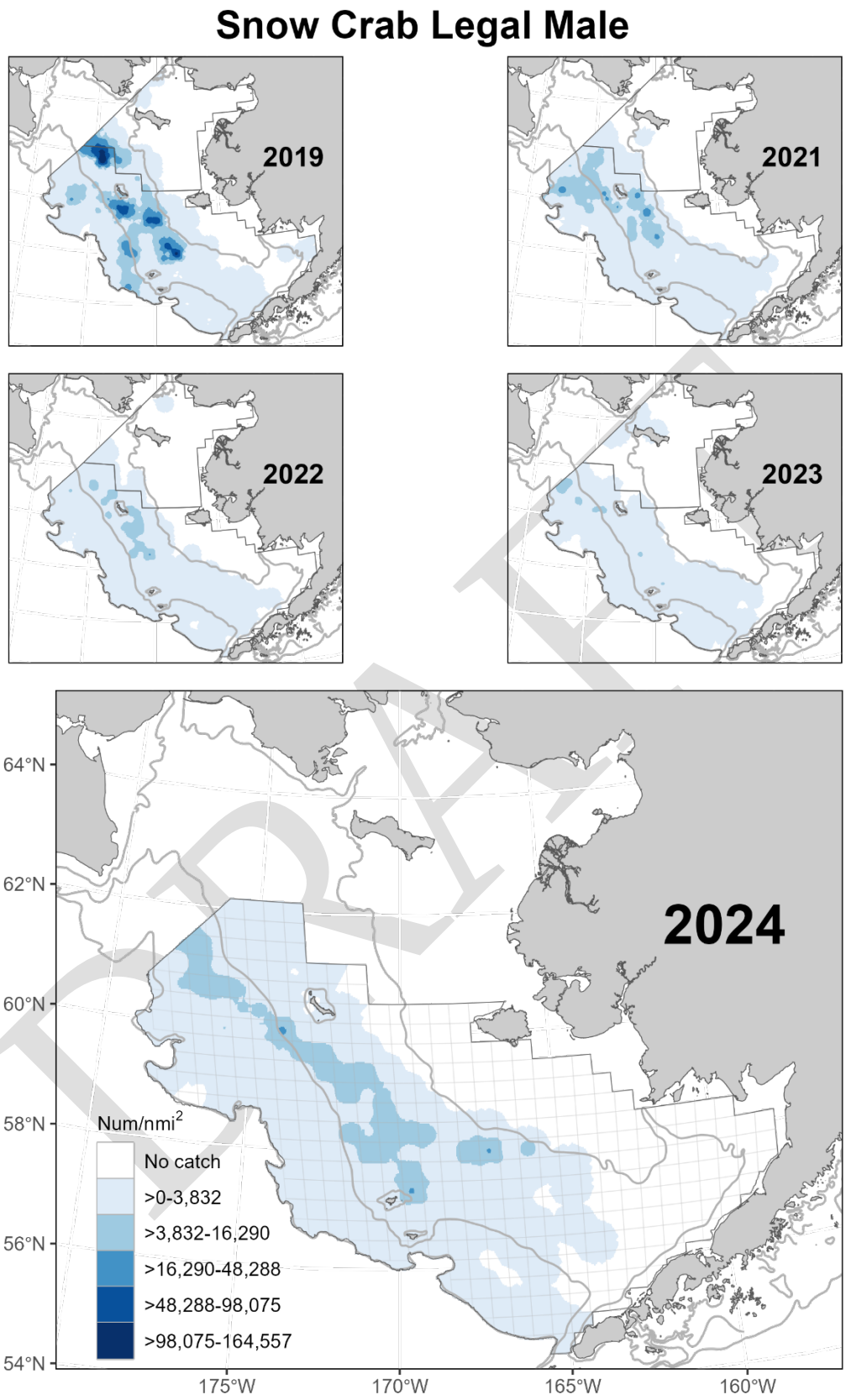

Figure 85. -- Estimated total density of legal-sized (carapace width ≥ 78 mm) snow crab (*Chionoecetes opilio*) for the past five survey years. Note that the NBS was not surveyed in 2024.

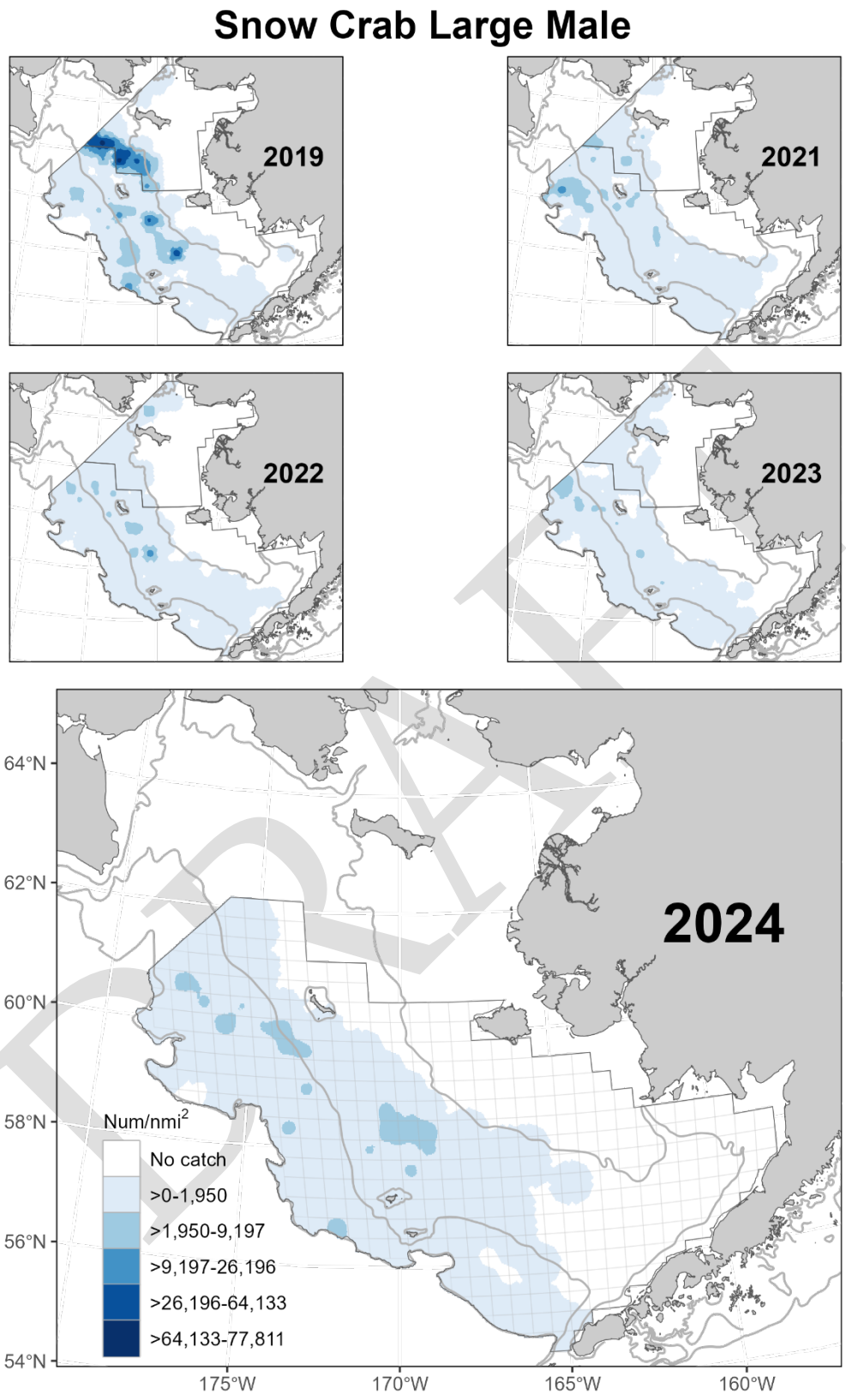

Figure 86. -- Estimated total density of large-sized (carapace width ≥ 95 mm in EBS; carapace width ≥ 68 mm in NBS) male snow crab (*Chionoecetes opilio*) for the past five survey years. Note that the NBS was not surveyed in 2024.

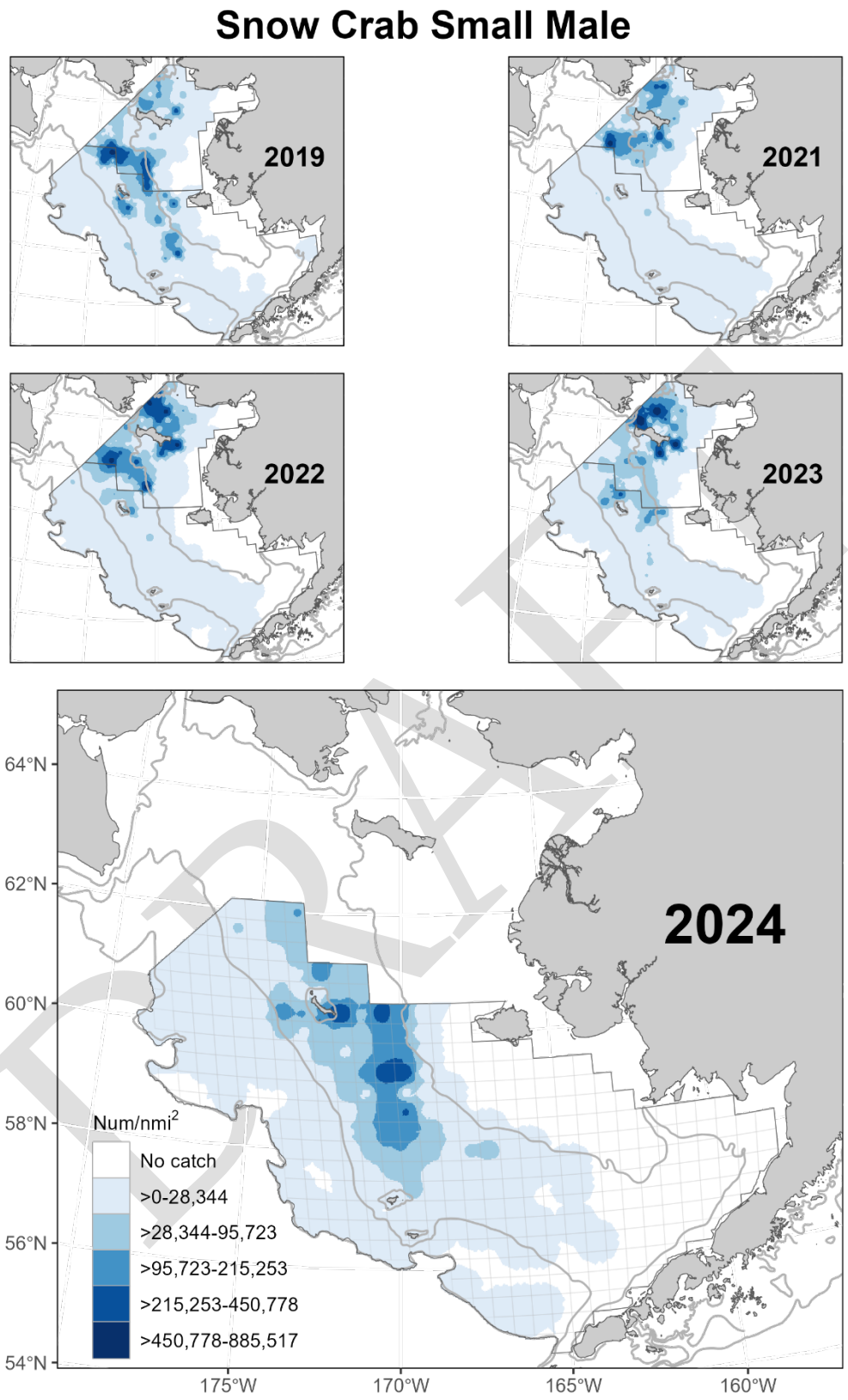

Figure 87. -- Estimated total density of small-sized (carapace width < 95 mm in EBS; carapace width < 68 mm in NBS) male snow crab (*Chionoecetes opilio*) for the past five survey years. Note that the NBS was not surveyed in 2024.

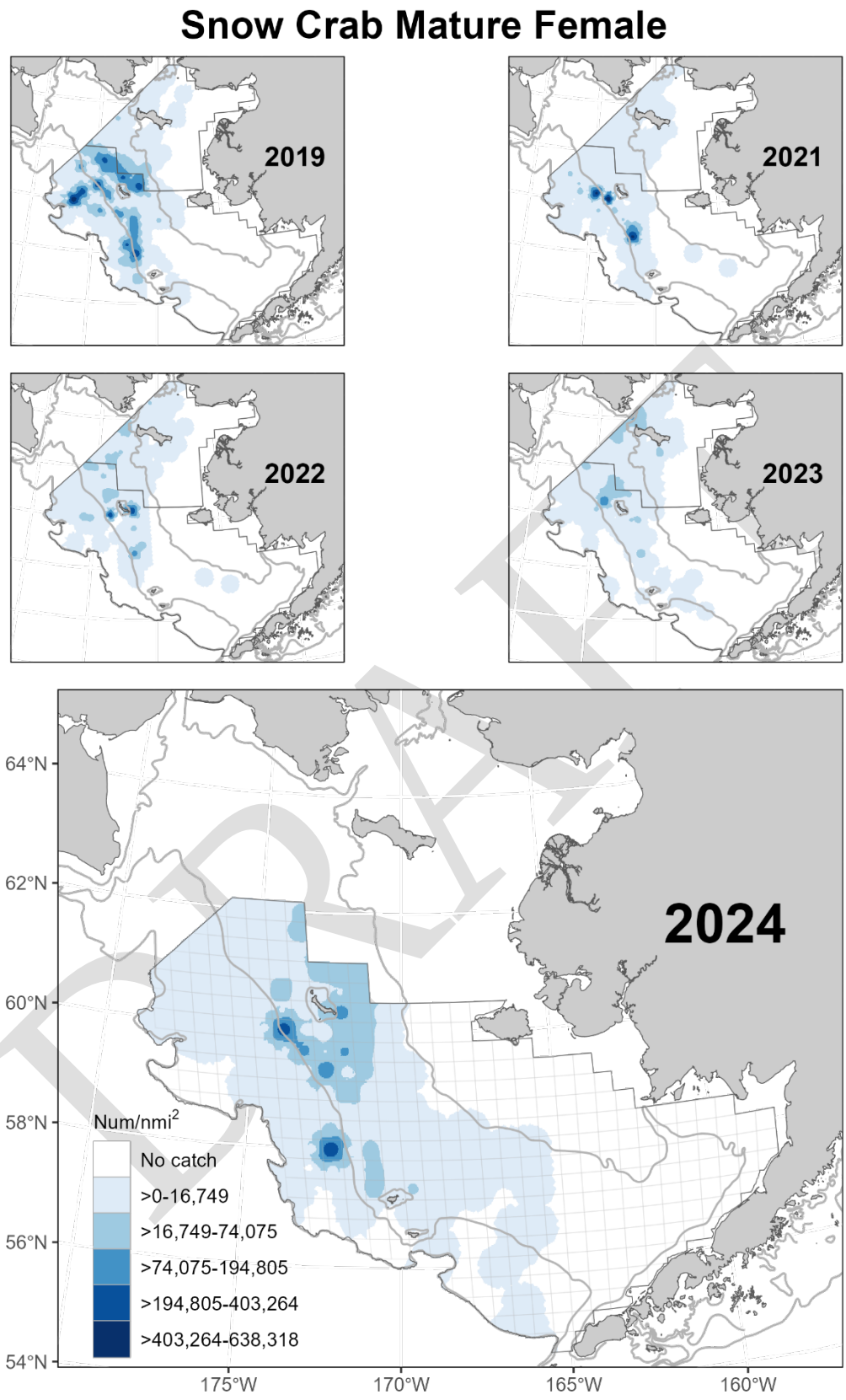

Figure 88. -- Estimated total density of mature female snow crab (*Chionoecetes opilio*) for the past five survey years. Note that the NBS was not surveyed in 2024.

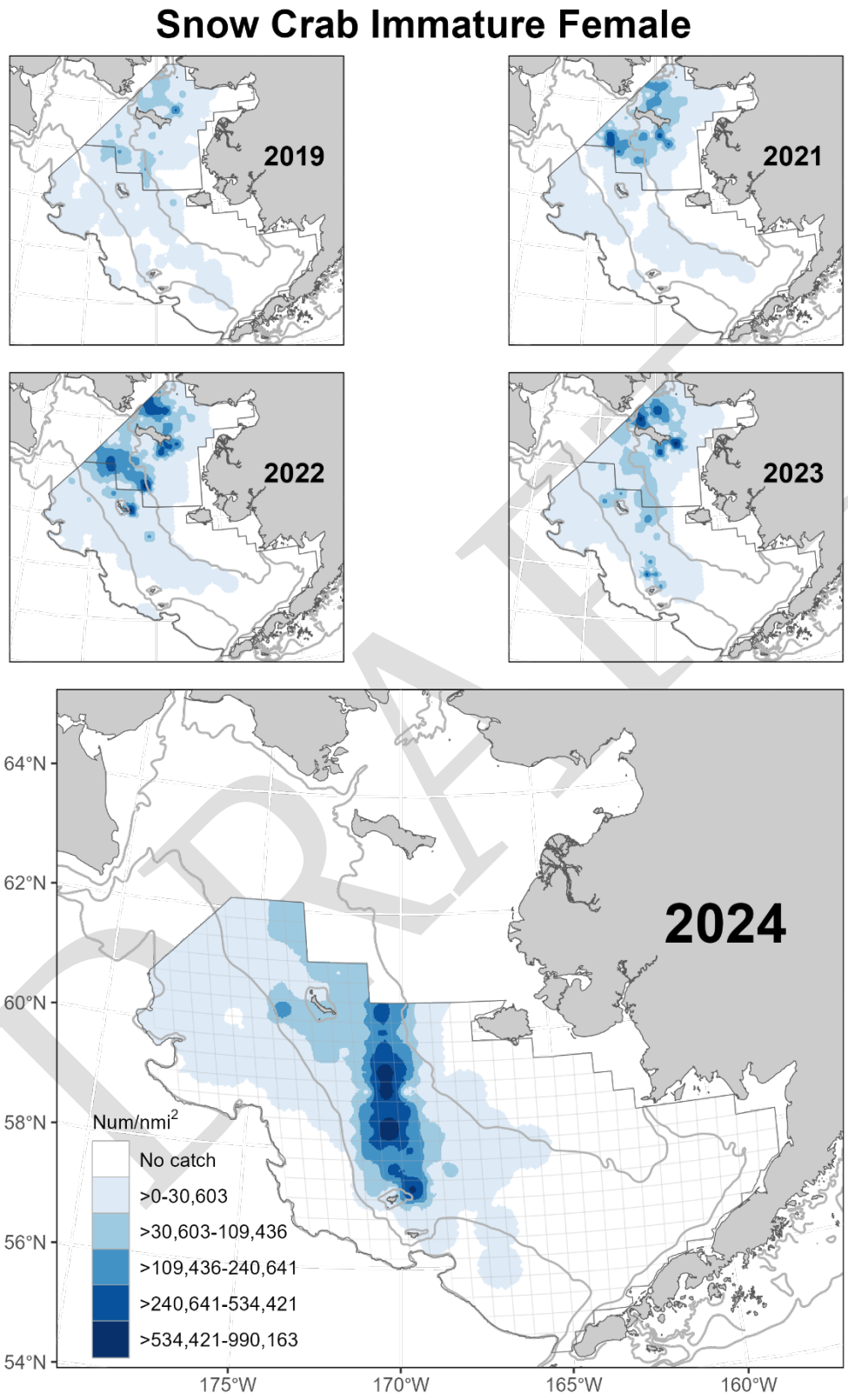

Figure 89. -- Estimated total density of immature female snow crab (*Chionoecetes opilio*) for the past five survey years. Note that the NBS was not surveyed in 2024.

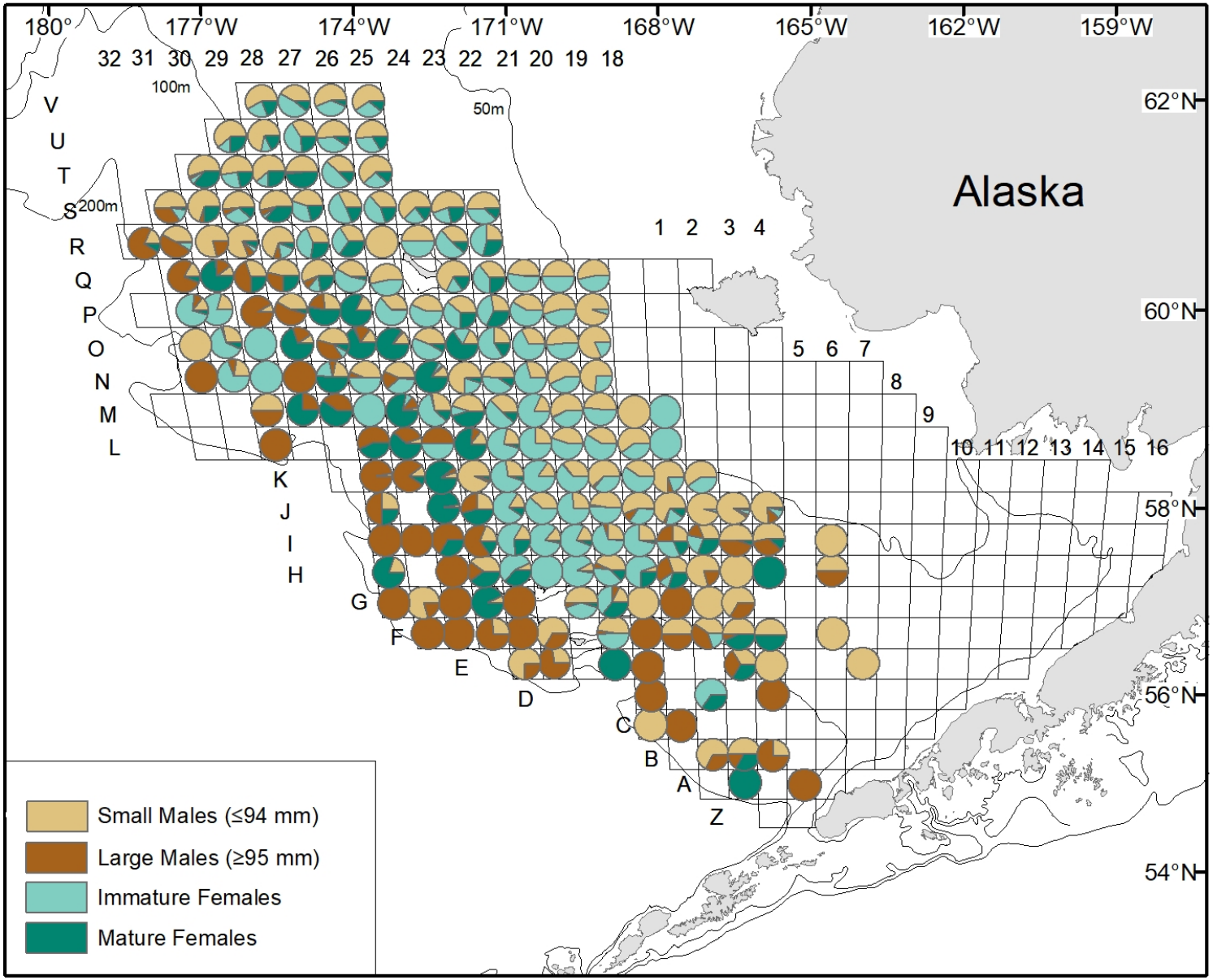

Figure 90. -- Proportion of male and female snow crab (*Chionoecetes opilio*) maturity/size classes caught at each station sampled in 2024. Males are considered large with carapace widths ≥ 95 mm.

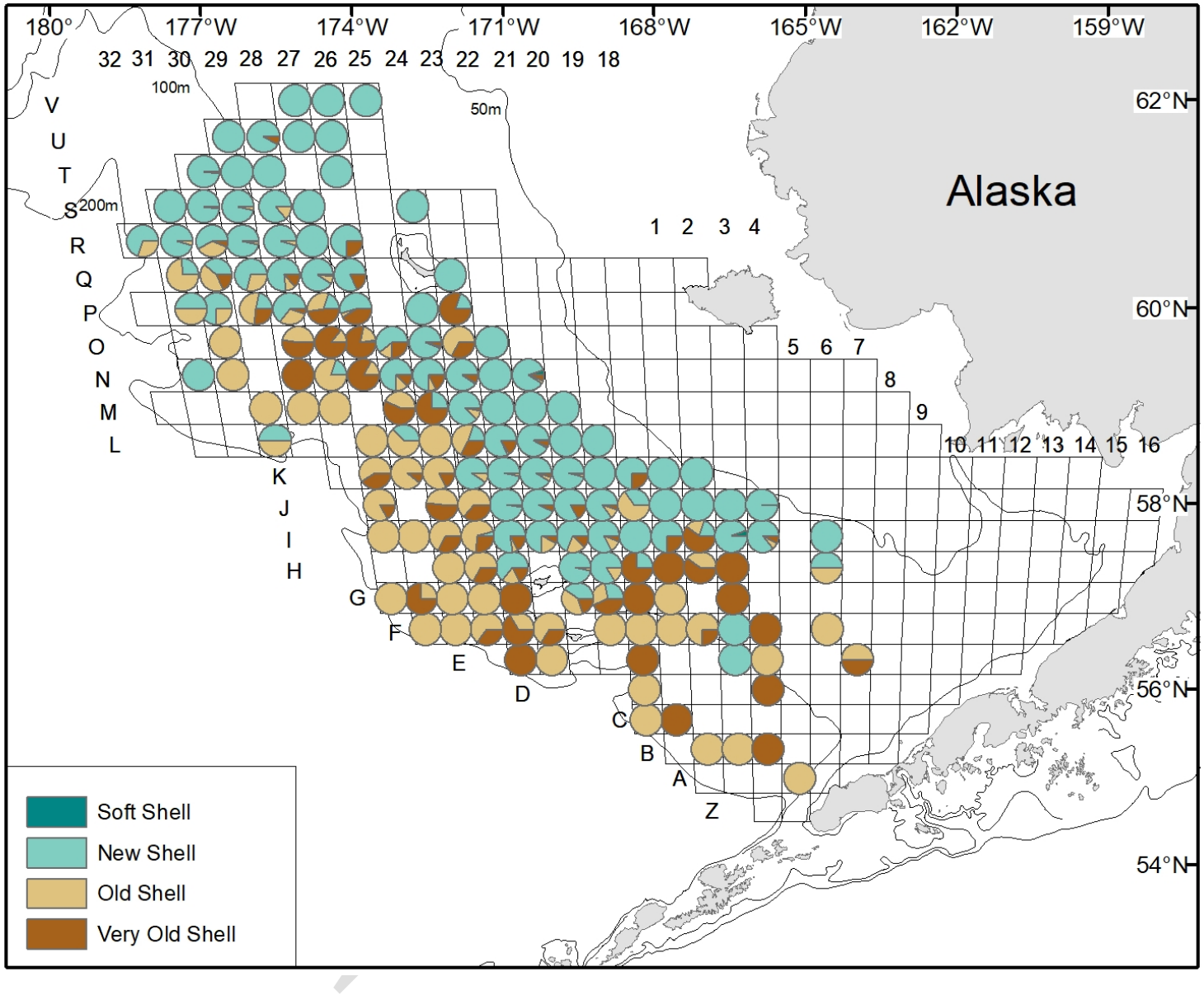

Figure 91. -- Proportion of legal-sized (carapace width ≥ 78) male snow crab (*Chionoecetes opilio*) shell condition classes caught at each station sampled in 2024.

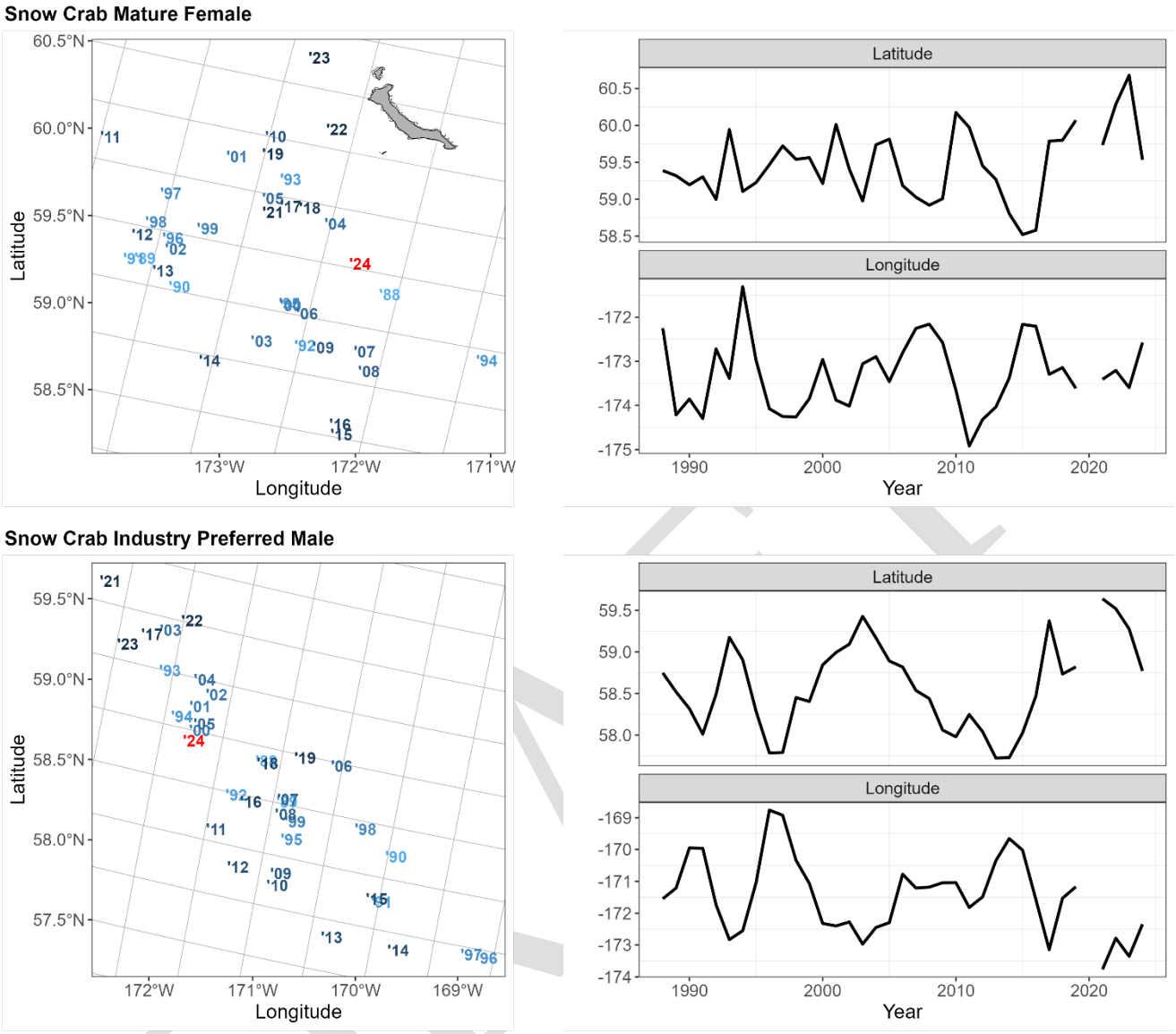

Figure 92. – CPUE-weighted centers of stock abundance of mature female and industry-preferred male snow crab (*Chionoecetes opilio*) from 1988 to 2024 in the eastern Bering Sea. Years get darker blue with time in left panel maps, with most the recent year denoted in red.

Chionoecetes spp. hybrid figures

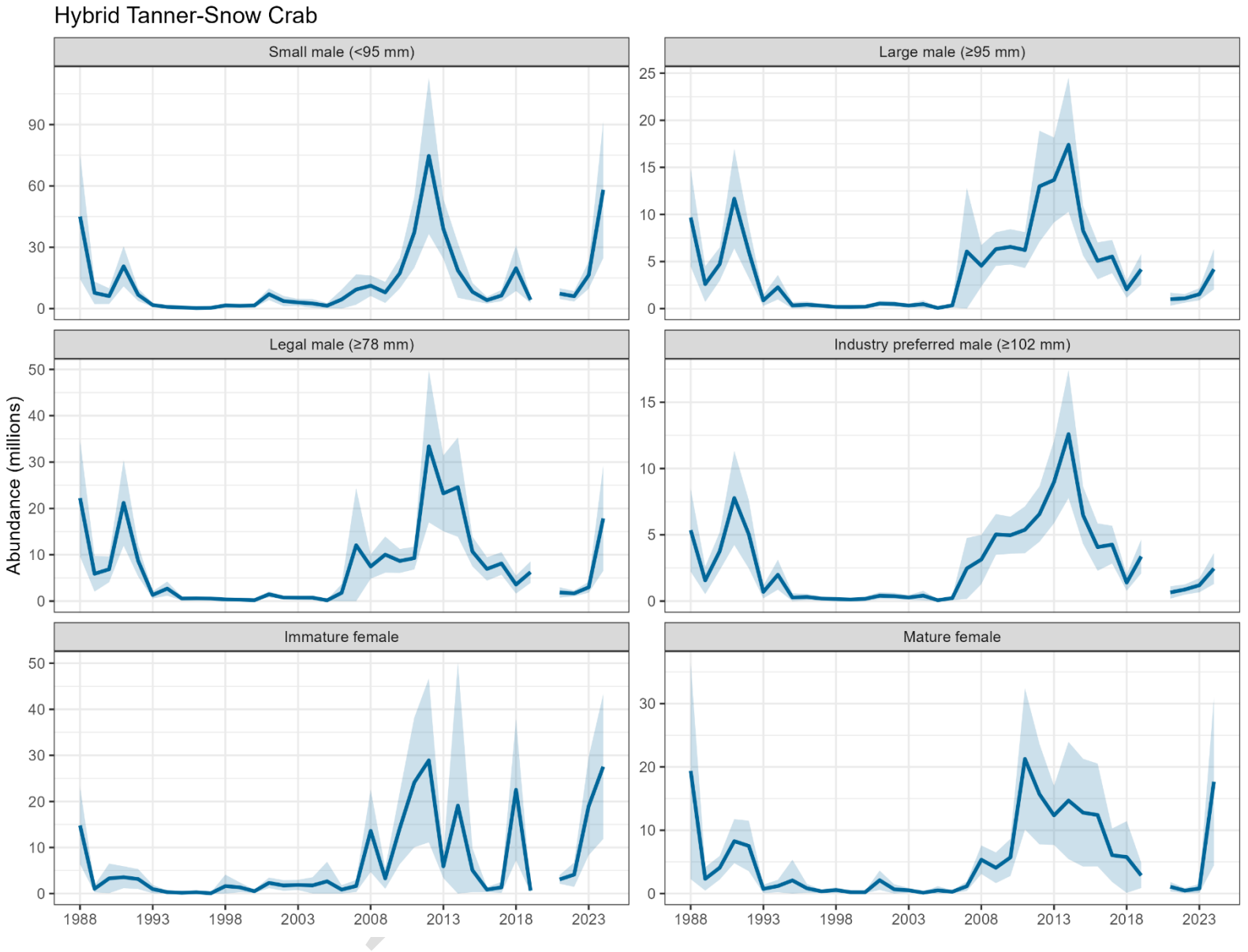

Figure 93. -- Historical abundance of hybrid *Chionoecetes* spp. in the eastern Bering Sea. Light blue area indicates 95% CI.

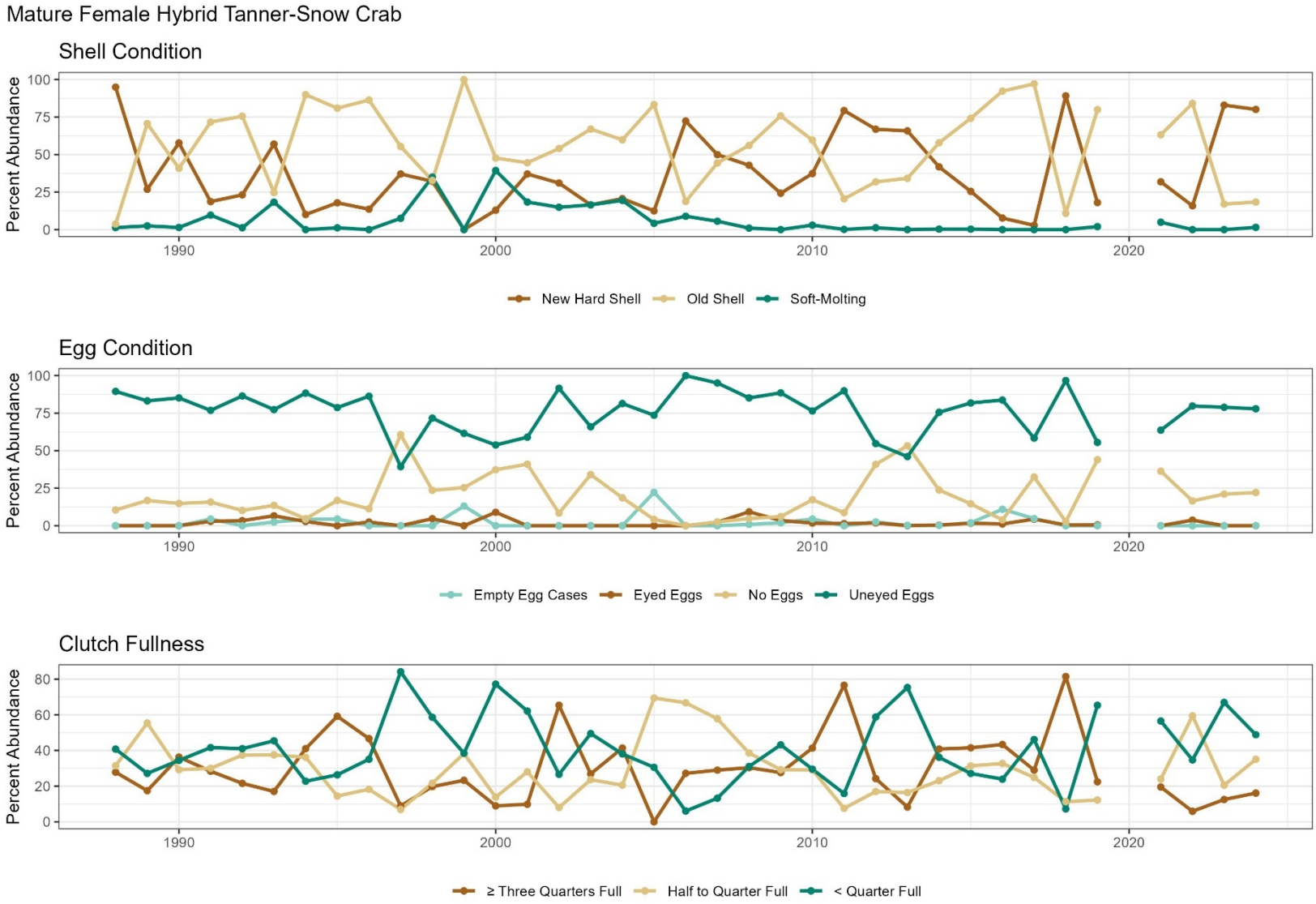

Figure 94. -- Time series of shell condition, egg condition, and clutch fullness for mature female hybrid *Chionoecetes* spp. in the eastern Bering Sea.

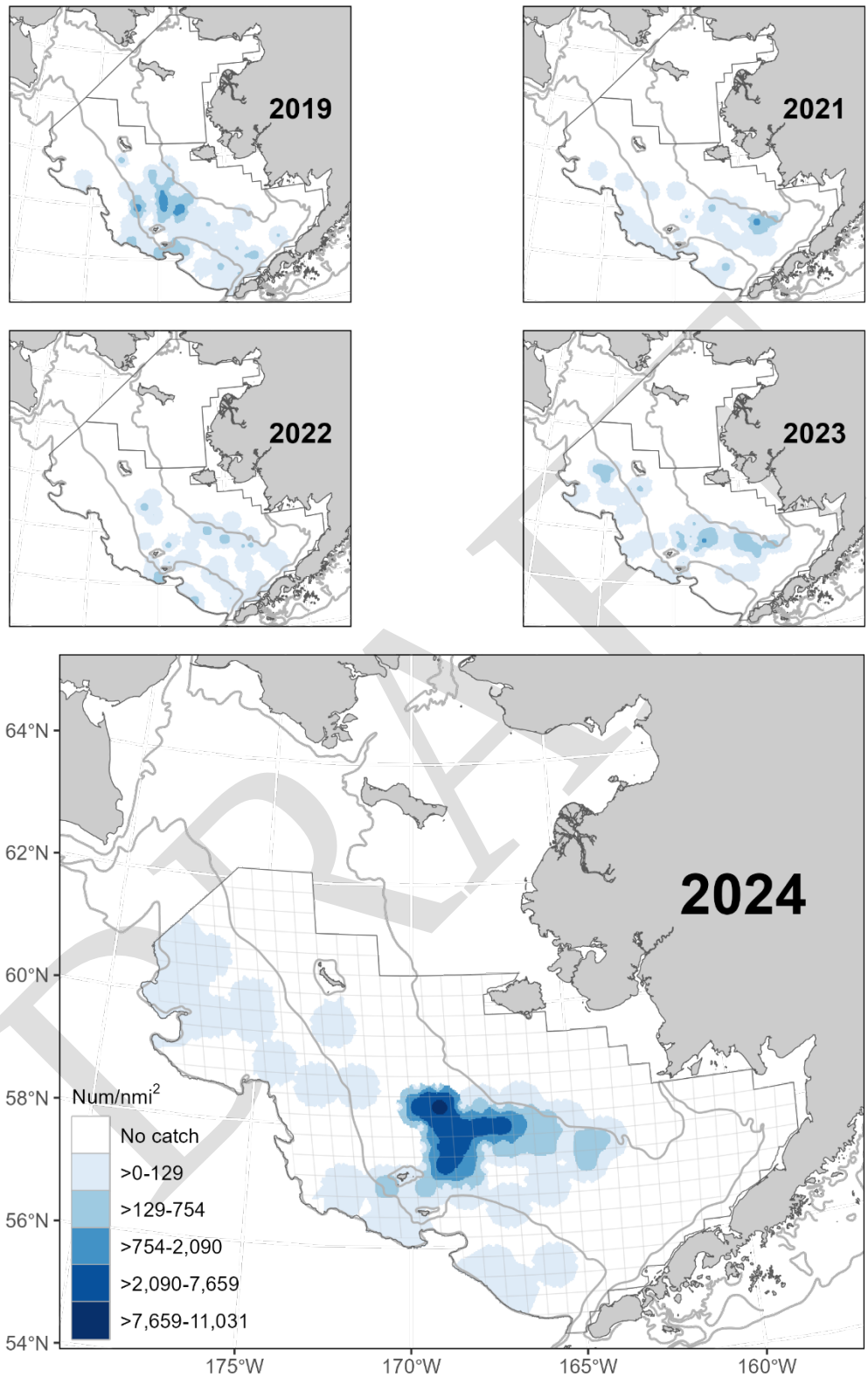

Figure 95. -- Estimated total density of legal-sized (≥ 102 mm carapace width) male hybrid *Chionoecetes* spp. for the past five survey years. Note that the NBS was not surveyed in 2024.

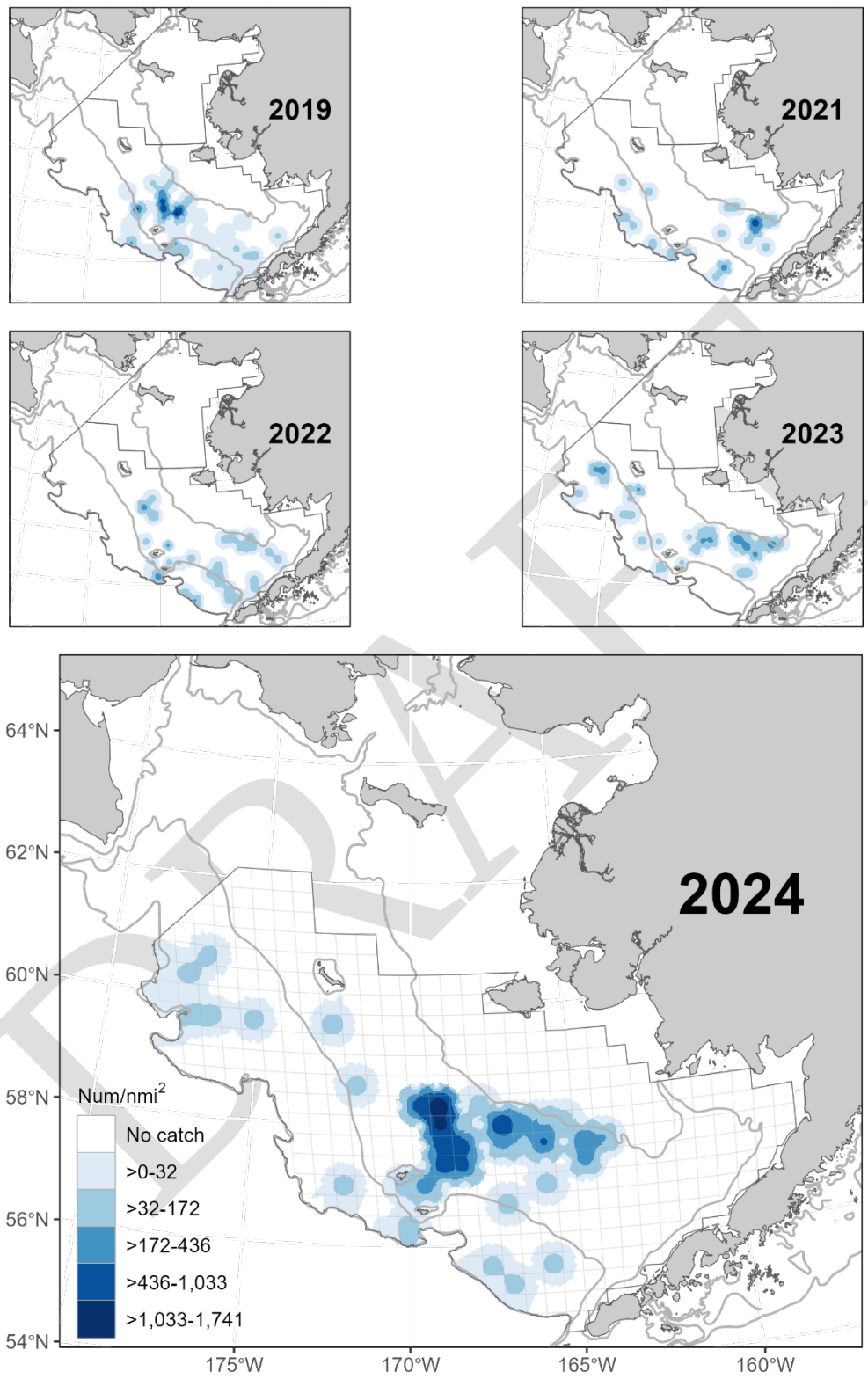

Figure 96. -- Estimated total density of large-sized (carapace width ≥ 95 mm in EBS; carapace width ≥ 68 mm in NBS) male hybrid *Chionoecetes* spp. for the past five survey years. Note that the NBS was not surveyed in 2024.

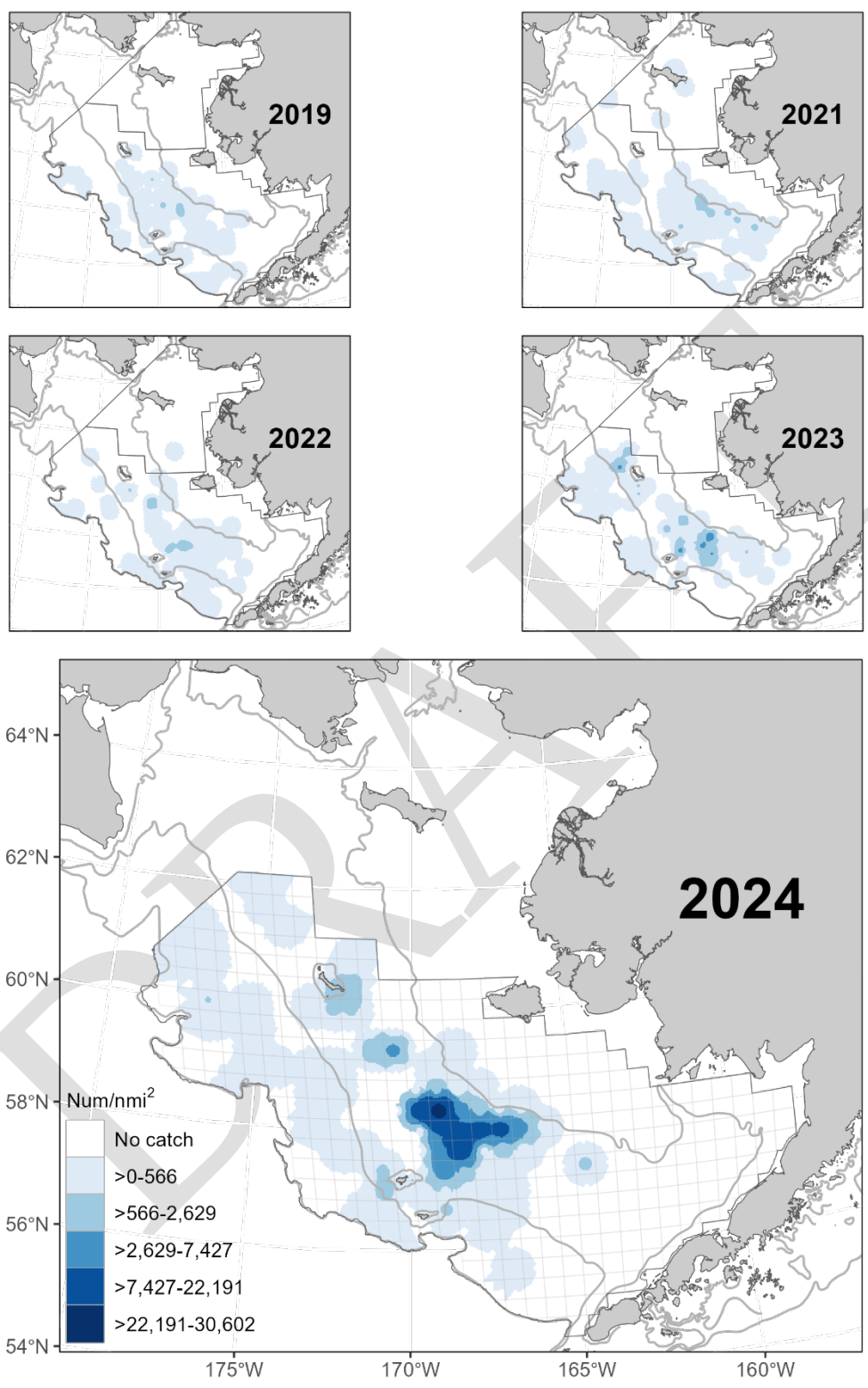

Figure 97. -- Estimated total density of small-sized (carapace width < 95 mm in EBS; carapace width < 68 mm in NBS) male hybrid *Chionoecetes* for the past five survey years. Note that the NBS was not surveyed in 2024.

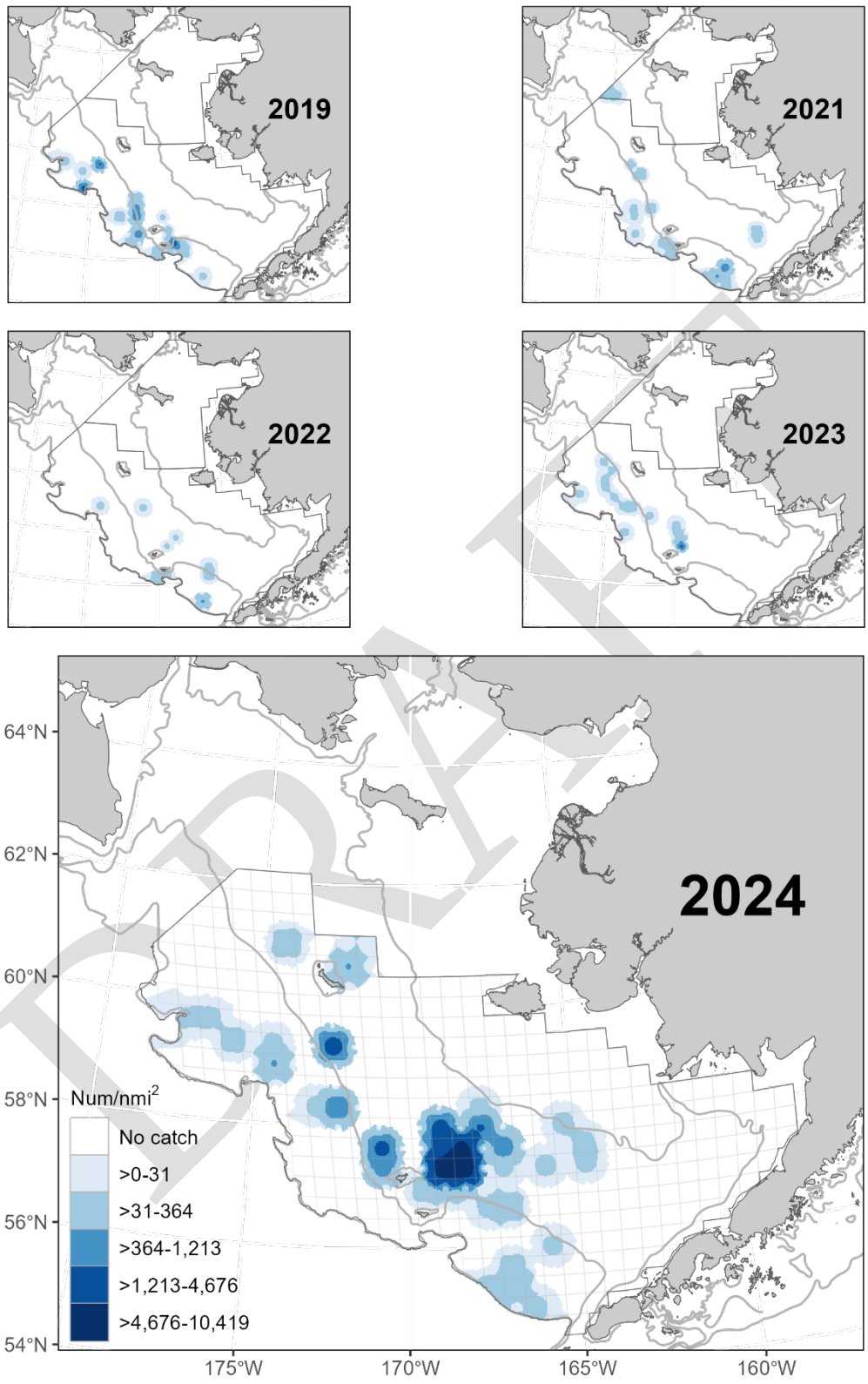

Figure 98. -- Estimated total density of mature female hybrid *Chionoecetes* spp. for the past five survey years. Note that the NBS was not surveyed in 2024.

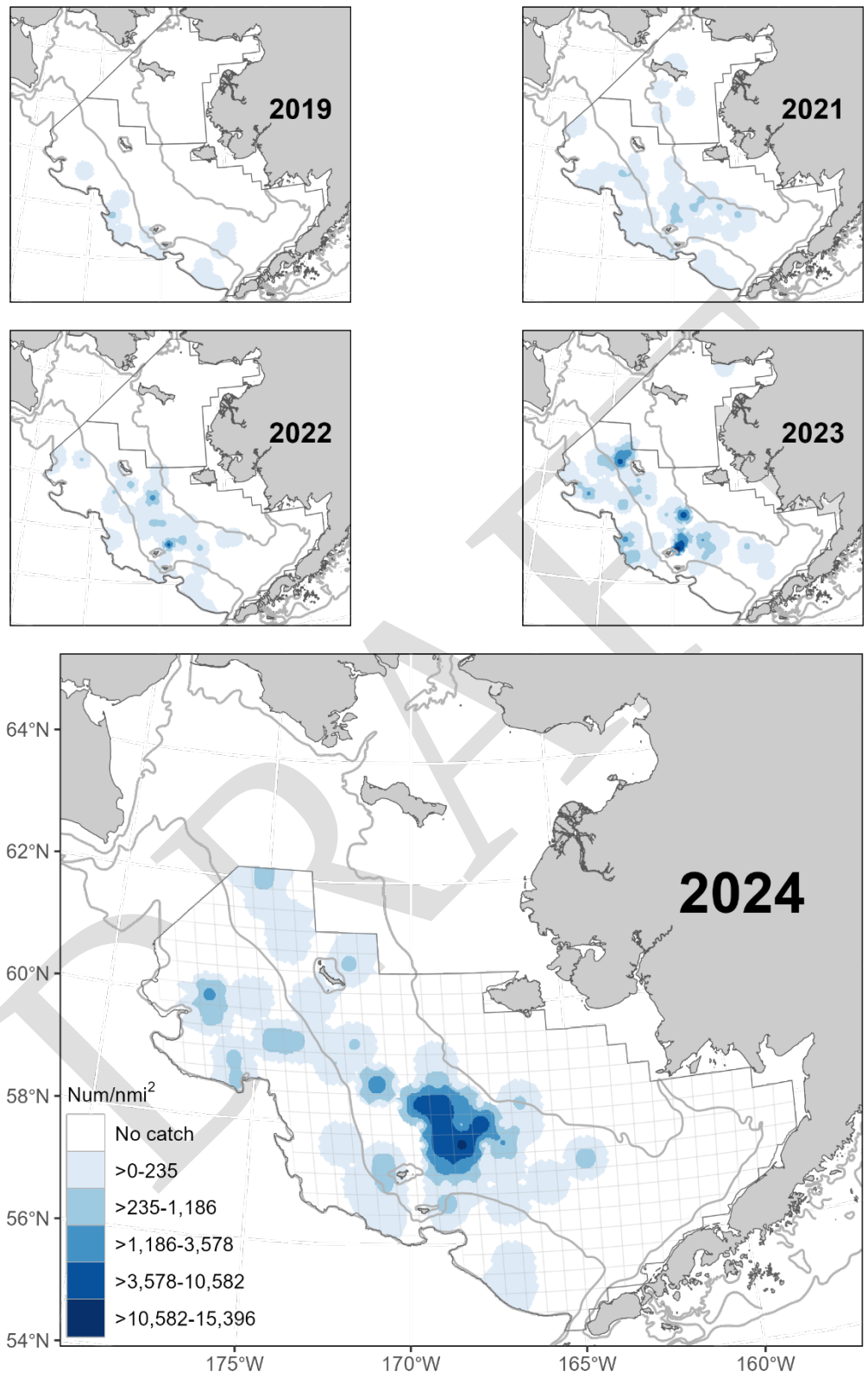

Figure 99. -- Estimated total density of immature female hybrid *Chionoecetes* spp. for the past five survey years. Note that the NBS was not surveyed in 2024.

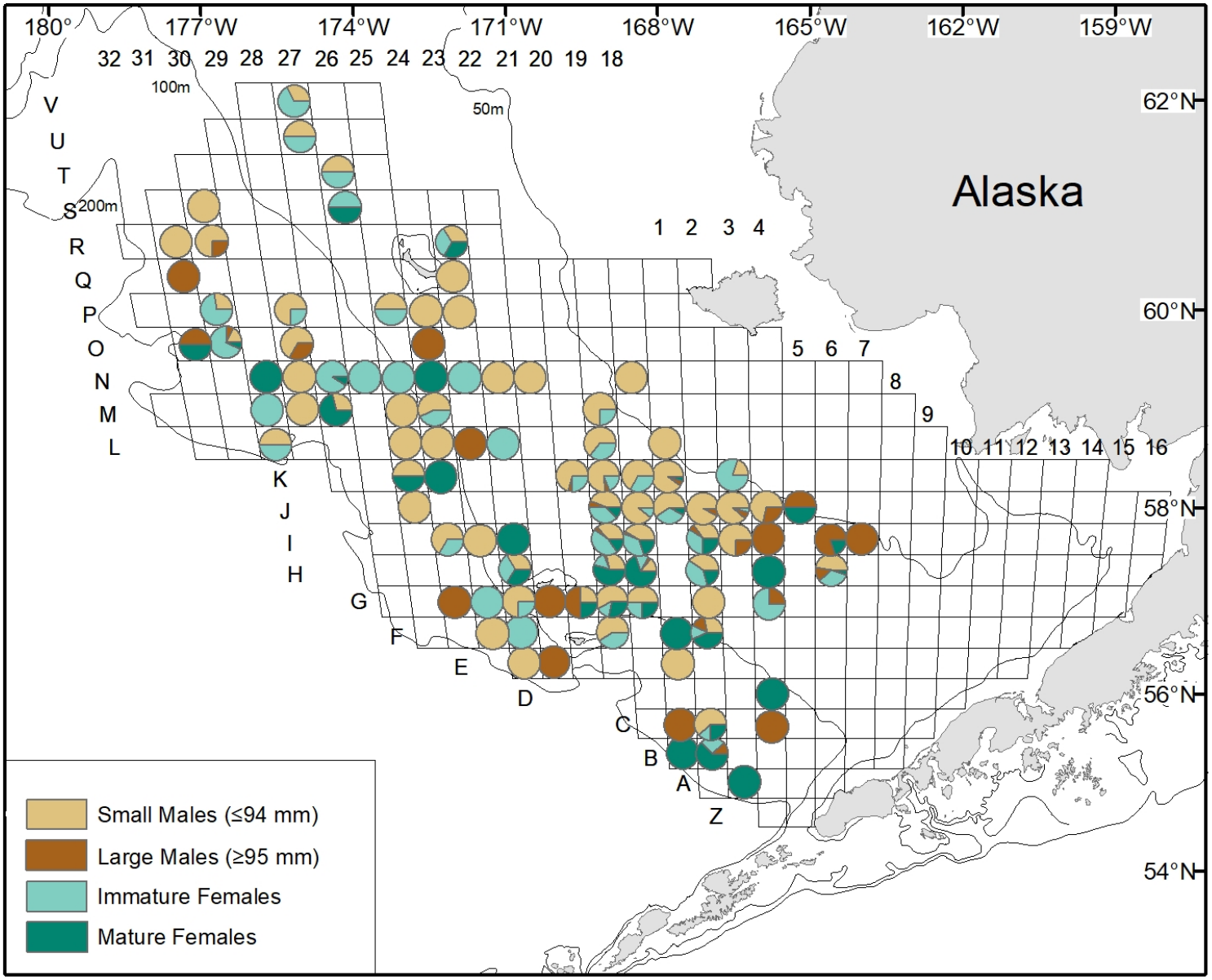

Figure 100. -- Proportion of male and female hybrid *Chionoecetes* spp. maturity/size classes caught at each station sampled in 2024. Males are considered large with carapace widths ≥ 95 mm.

Hair crab figures

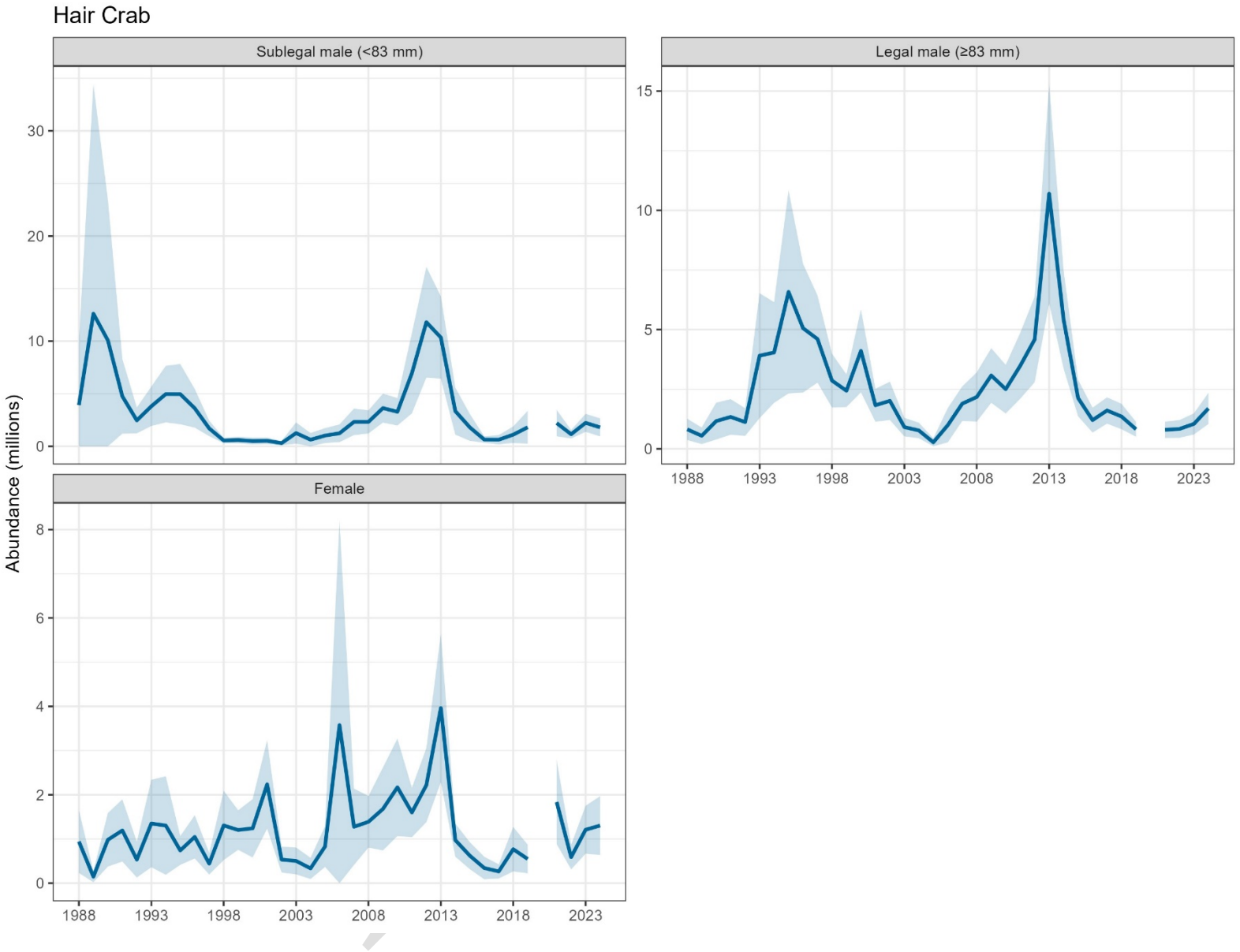

Figure 101. -- Historical abundance of hair crab (*Erimacrus isenbeckii*) in the eastern Bering Sea. Light blue area indicates 95% CI.

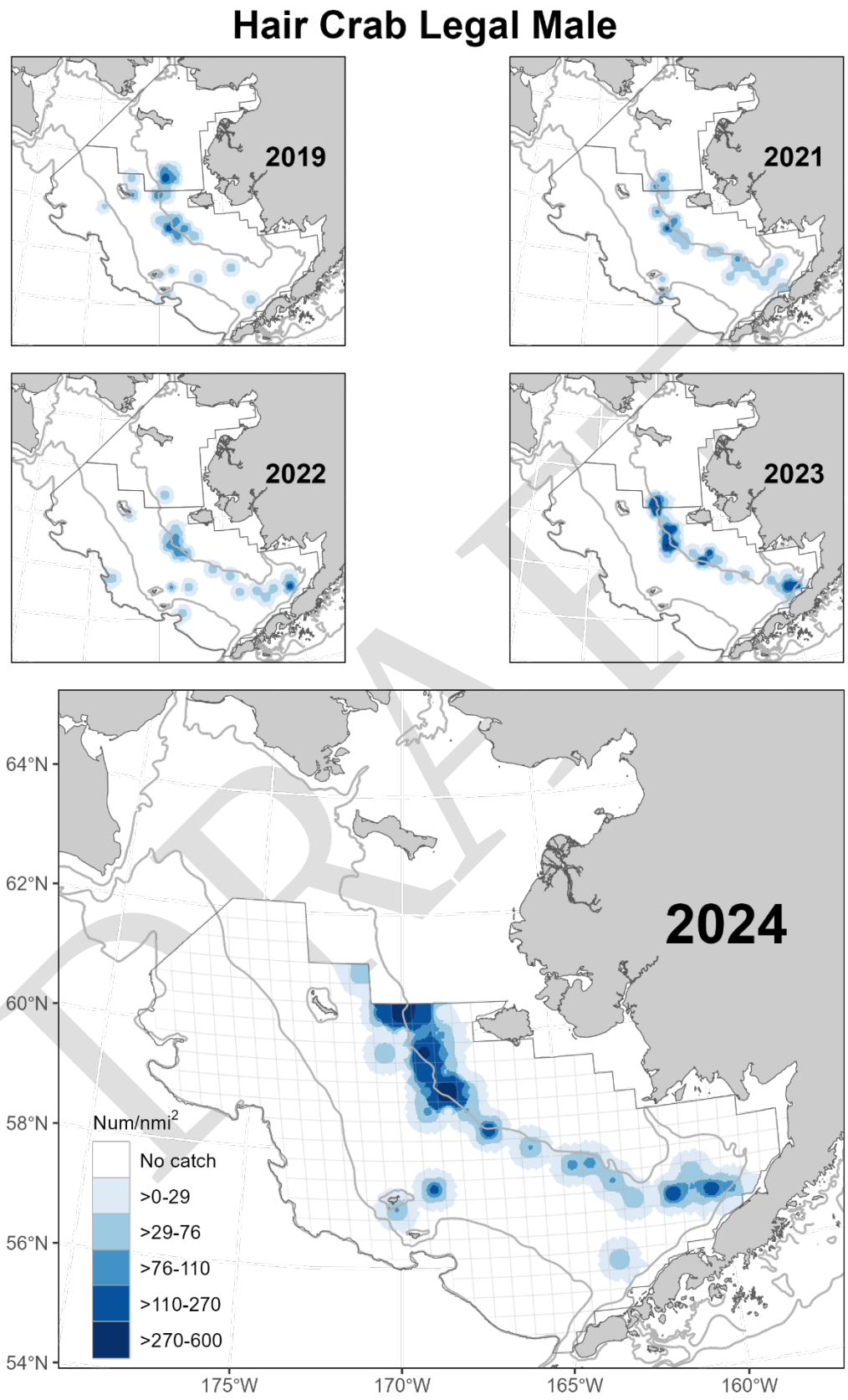

Figure 102. -- Estimated total density of legal-sized (≥ 83 mm carapace length) male hair crab (*Erimacrus isenbeckii*) for the past five survey years. Note that the NBS was not surveyed in 2024.

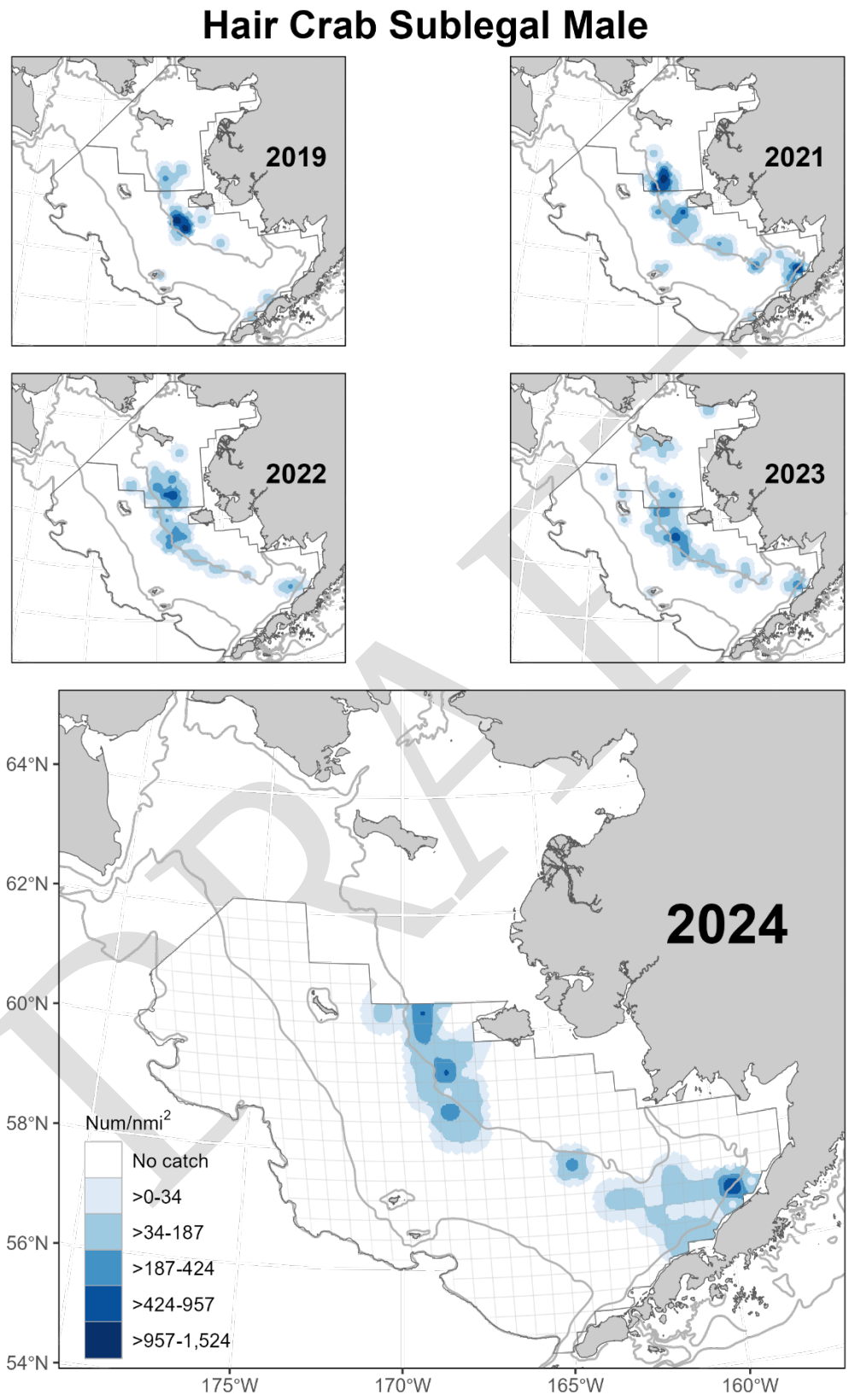

Figure 103. -- Estimated total density of sublegal-sized (< 83 mm carapace length) male hair crab (*Erimacrus isenbeckii*) for the past five survey years. Note that the NBS was not surveyed in 2024.

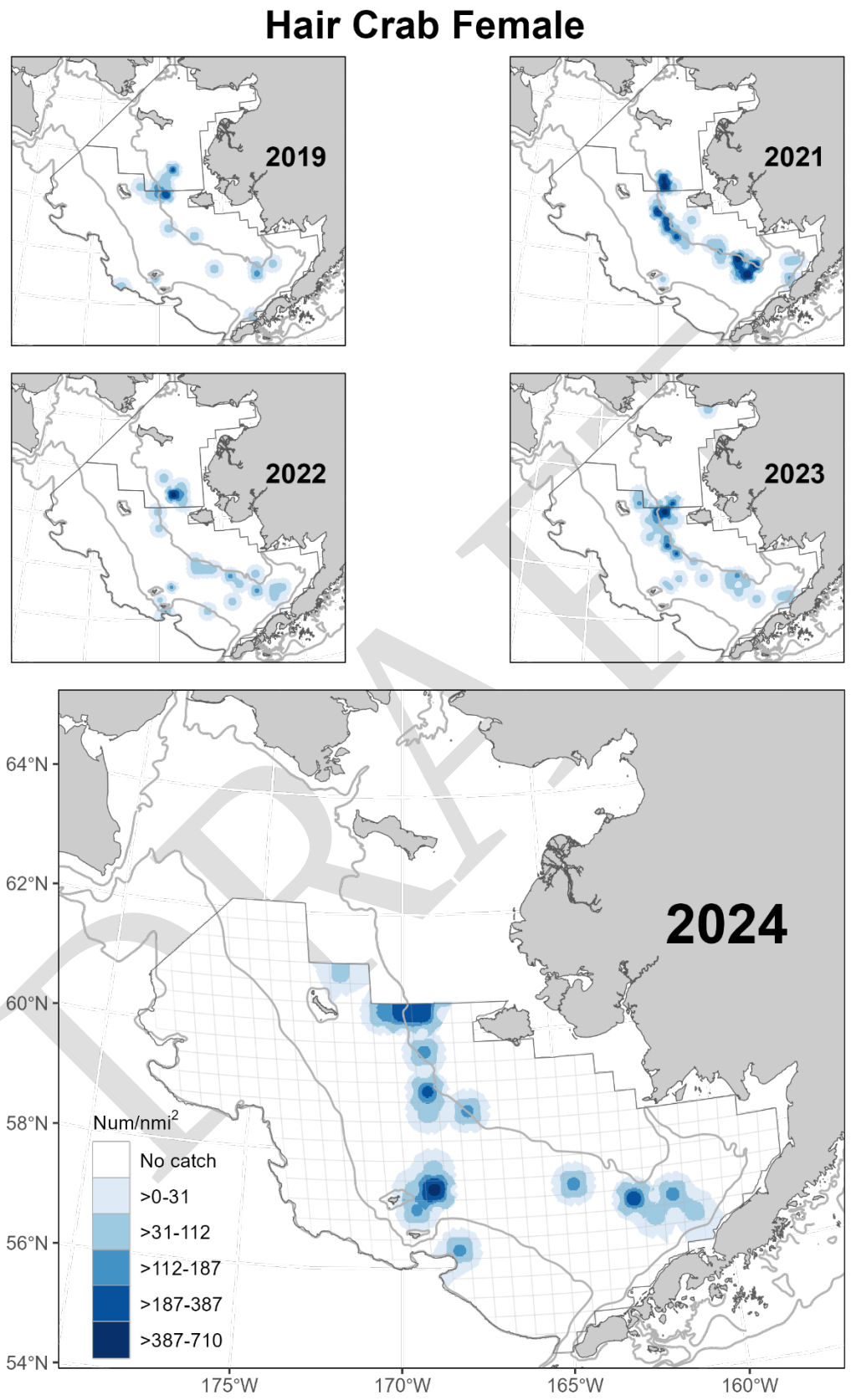

Figure 104. -- Estimated total density of female hair crab (*Erimacrus isenbeckii*) for the past five survey years. Note that the NBS was not surveyed in 2024.

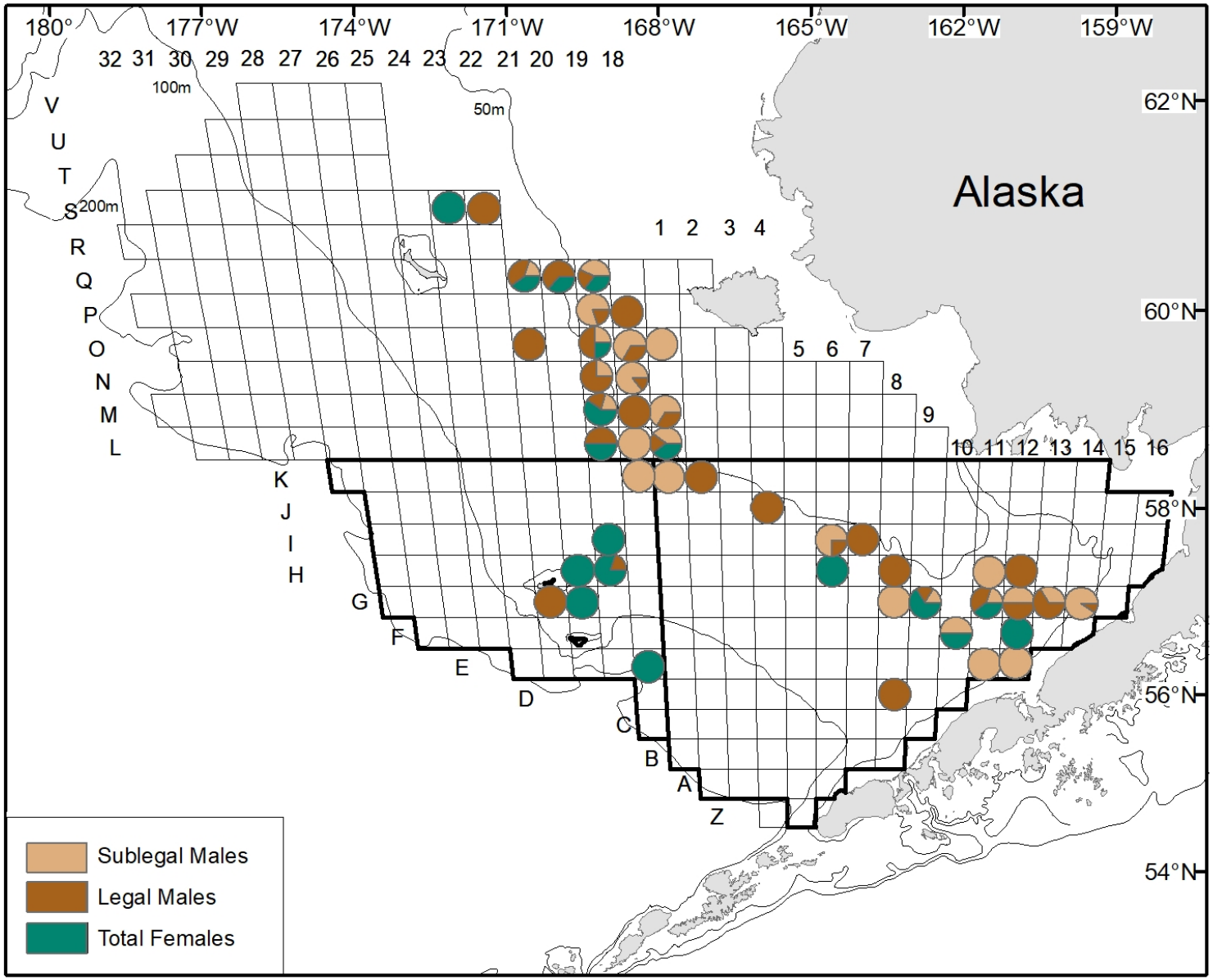

Figure 105. -- Proportion of male and female hair crab (*Erimacrus isenbeckii*) size/sex classes caught at each station sampled in 2024.

APPENDICES

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 eastern Bering Sea bottom trawl survey stations.

Station	A-02	A-03	A-04	A-05	A-06	B-01	B-02	B-03	B-04	B-05	B-06
Start Date	7/6/2024	7/7/2024	7/7/2024	6/18/2024	6/18/2024	7/6/2024	7/7/2024	7/7/2024	6/18/2024	6/18/2024	6/18/2024
Duration (hour)	0.53	0.54	0.35	0.54	0.53	0.51	0.51	0.53	0.52	0.53	0.53
Distance Fished (km)	3.03	2.99	1.99	3	2.93	2.83	2.86	2.98	2.89	3.05	2.97
Mid-Latitude (°N)	55.01	55.02	55	55	55.04	55.35	55.33	55.34	55.33	55.33	55.34
Mid-Longitude (°W)	-166.95	-166.33	-165.75	-165.16	-164.58	-167.54	-166.95	-166.35	-165.78	-165.17	-164.58
Bottom Depth (m)	155	142	130	111	65	146	140	132	122	111	101
Bottom Temperature (°C)	3.8	3.9	4.3	4.3	4.8	3.9	3.9	4	3.9	4.4	4
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	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	9026	8073	1158	8621	0	2658	4844	15956	15230	720	585
Mature males	195	1638	211	0	0	456	955	999	796	144	292
Legal	195	1386	211	0	0	228	614	666	724	144	146
Immature females	12649	2078	2211	9268	0	608	3207	4919	21768	720	365
Mature females	325	11712	1368	231	0	3342	4961	6906	14149	144	0
Total weight (kg)	16.33	58.09	4.86	3.37	0	14.06	25.59	57.62	68.36	3.24	5.03
Snow Crab											
Immature males	0	0	0	0	0	0	136	200	72	0	0
Mature males	0	0	0	77	0	0	68	67	217	0	0
Legal	0	0	0	77	0	0	205	67	217	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	693	0	0	0	0	0	133	0	0	0
Total weight (kg)	0	1.31	0	0.52	0	0	1.11	1.1	1.55	0	0
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	0	0	0	0	0	0	0	0	0	0
Males ≥ 78 mm	0	0	0	0	0	0	68	0	0	0	0
Immature females	0	0	0	0	0	0	136	0	0	0	0
Mature females	0	63	0	0	0	152	341	0	0	0	0
Total weight (kg)	0	0.04	0	0	0	0.21	0.72	0	0	0	0

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 eastern Bering Sea bottom trawl survey stations.

Station	B-07	B-08	C-01	C-02	C-03	C-04	C-05	C-06	C-07	C-08	C-09
Start Date	6/15/2024	6/15/2024	7/6/2024	6/24/2024	6/24/2024	6/19/2024	6/18/2024	6/15/2024	6/14/2024	6/13/2024	6/13/2024
Duration (hour)	0.53	0.52	0.53	0.53	0.53	0.53	0.53	0.51	0.52	0.52	0.51
Distance Fished (km)	2.98	2.87	2.93	2.95	3.02	2.87	2.97	2.91	2.88	2.89	2.82
Mid-Latitude (°N)	55.34	55.34	55.66	55.67	55.68	55.64	55.64	55.67	55.7	55.66	55.67
Mid-Longitude (°W)	-164.03	-163.42	-167.59	-166.99	-166.39	-165.79	-165.18	-164.6	-163.99	-163.4	-162.84
Bottom Depth (m)	79	53	135	135	126	118	109	96	94	81	51
Bottom Temperature (°C)	4.3	4.3	3.9	4	4.1	4	4	4	3.7	3.8	4.3
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	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	53591	8509	3672	12688	30661	6686	2089	455	587	331
Mature males	0	1466	143	353	965	881	1052	298	1440	220	0
Legal	0	159	143	71	896	588	1052	149	1213	73	0
Immature females	0	30935	6149	2048	5999	13588	9165	1865	303	0	83
Mature females	0	436	2574	1765	9240	1510	3155	149	76	0	0
Total weight (kg)	0	155.41	22.66	11.42	39.94	53.87	28.61	5.4	17.49	3.65	0.91
Snow Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	0	0	72	0	0	0	0	0	0	0	0
Legal	0	0	72	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	0.42	0	0	0	0	0	0	0	0
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	0	0	353	0	0	0	0	0	0	0
Males ≥ 78 mm	0	0	72	0	0	73	0	0	0	0	0
Immature females	0	0	0	71	0	0	0	0	0	0	0
Mature females	0	0	0	141	0	0	0	0	0	0	0
Total weight (kg)	0	0	0.64	0.76	0	0.33	0	0	0	0	0

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 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	7/6/2024	7/5/2024	6/24/2024	6/24/2024	6/19/2024	6/19/2024	6/15/2024	6/14/2024	6/13/2024	6/12/2024	6/12/2024
Duration (hour)	0.53	0.52	0.54	0.52	0.54	0.53	0.53	0.53	0.53	0.53	0.54
Distance Fished (km)	2.96	2.74	3.02	2.93	3.01	2.9	2.93	2.98	2.98	2.95	2.99
Mid-Latitude (°N)	55.67	56	56	56	56	55.99	56	56.01	56	55.99	56
Mid-Longitude (°W)	-168.18	-167.6	-167	-166.41	-165.78	-165.18	-164.59	-164.05	-163.39	-162.83	-162.27
Bottom Depth (m)	137	132	134	124	107	97	93	91	88	79	73
Bottom Temperature (°C)	4	4	4.2	3.9	3.9	3.9	3.8	3.6	3.4	3.6	3.8
Red King Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	614
Mature males	0	0	0	0	0	0	0	0	0	76	614
Legal	0	0	0	0	0	0	0	0	0	76	614
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	0	0	0	0	0	0	76	307
Total weight (kg)	0	0	0	0	0	0	0	0	0	7.09	39.33
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	6605	3936	29674	6901	7733	1499	6920	4768	3102	151	230
Mature males	0	246	438	503	708	750	595	1320	886	0	77
Legal	0	246	376	503	567	300	372	1027	813	0	0
Immature females	8806	5986	17098	934	7310	1199	5506	2127	1182	151	0
Mature females	1541	656	3068	4169	2576	0	149	1320	886	151	0
Total weight (kg)	9.48	7.4	59.47	25.82	29.68	10.01	11.46	16.72	14.92	1.01	0.84
Snow Crab											
Immature males	73	0	0	0	0	0	0	0	0	0	0
Mature males	0	0	0	0	71	0	0	0	0	0	0
Legal	73	0	0	0	71	0	0	0	0	0	0
Immature females	0	0	241	0	0	0	0	0	0	0	0
Mature females	0	0	125	0	0	0	0	0	0	0	0
Total weight (kg)	0.31	0	0.6	0	0.42	0	0	0	0	0	0
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	0	0	0	0	0	0	0	0	0	0
Males ≥ 78 mm	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	71	0	0	0	0	0	0
Total weight (kg)	0	0	0	0	0.14	0	0	0	0	0	0

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 eastern Bering Sea bottom trawl survey stations.

Station	D-18	E-01	E-02	E-03	E-04	E-05	E-06	E-07	E-08	E-09	E-10
Start Date	7/5/2024	7/5/2024	6/24/2024	6/24/2024	6/19/2024	6/19/2024	6/14/2024	6/14/2024	6/13/2024	6/12/2024	6/8/2024
Duration (hour)	0.5	0.52	0.52	0.53	0.55	0.53	0.5	0.52	0.51	0.53	0.51
Distance Fished (km)	2.67	2.84	2.93	2.99	3.1	2.94	2.8	2.88	2.82	2.92	2.9
Mid-Latitude (°N)	55.99	56.34	56.34	56.33	56.33	56.33	56.33	56.34	56.32	56.33	56.33
Mid-Longitude (°W)	-168.17	-167.63	-167.02	-166.41	-165.81	-165.2	-164.59	-164.01	-163.42	-162.8	-162.2
Bottom Depth (m)	146	127	113	104	92	87	87	86	86	78	78
Bottom Temperature (°C)	3.9	4.1	4	3.9	3.8	3.6	3.5	3	3	2.9	3.5
Red King Crab											
Immature males	0	0	0	0	0	0	0	0	0	306	1503
Mature males	0	0	0	0	0	0	0	0	0	382	286
Legal	0	0	0	0	0	0	0	0	0	229	215
Immature females	0	0	0	0	0	0	0	0	0	0	1002
Mature females	0	0	0	0	0	0	0	0	0	611	429
Total weight (kg)	0	0	0	0	0	0	0	0	0	22.46	41.15
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	7157	4585	1012	6145	1826	4244	1822	5052	2867	993	358
Mature males	795	229	506	935	803	745	987	528	387	76	215
Legal	636	229	434	935	730	670	835	452	155	76	215
Immature females	8747	4661	940	1470	1753	2234	759	1734	852	306	0
Mature females	1352	306	3905	1403	146	819	1746	2413	1859	688	72
Total weight (kg)	12.14	6.53	16.14	26.95	9.52	10.99	17.99	20.05	10.51	4.16	2.98
Snow Crab											
Immature males	0	0	0	67	146	0	0	151	0	0	0
Mature males	80	0	0	67	0	0	0	0	0	0	0
Legal	80	0	0	67	146	0	0	151	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	67	0	0	0	0	0	0	0
Total weight (kg)	0.54	0	0	0.92	0.52	0	0	0.64	0	0	0
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	76	0	0	0	0	0	0	0	0	0
Males ≥ 78 mm	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	0.1	0	0	0	0	0	0	0	0	0

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 eastern Bering Sea bottom trawl survey stations.

Station	E-11	E-12	E-18	E-19	E-20	E-21	E-22	F-01	F-02	F-03	F-04
Start Date	6/7/2024	6/4/2024	7/30/2024	7/5/2024	7/30/2024	7/11/2024	7/11/2024	7/5/2024	6/24/2024	6/24/2024	6/19/2024
Duration (hour)	0.52	0.52	0.26	0.5	0.25	0.52	0.52	0.52	0.53	0.52	0.54
Distance Fished (km)	2.93	2.89	1.38	2.76	1.38	2.93	2.84	2.89	2.95	2.89	3.12
Mid-Latitude (°N)	56.33	56.35	56.31	56.33	56.34	56.35	56.34	56.66	56.67	56.66	56.66
Mid-Longitude (°W)	-161.62	-161.01	-168.24	-168.88	-169.32	-170.08	-170.66	-167.66	-167.06	-166.44	-165.83
Bottom Depth (m)	64	55	155	129	138	110	120	102	96	85	79
Bottom Temperature (°C)	3.8	3.7	4	3.9	4.1	3.9	3.8	3.6	3.4	3.2	2.9
Red King Crab											
Immature males	1499	1455	0	0	0	0	0	0	0	0	0
Mature males	666	766	0	0	0	0	0	0	0	0	0
Legal	500	383	0	0	0	0	0	0	0	0	0
Immature females	333	0	0	0	0	0	0	0	0	0	0
Mature females	1582	5207	0	0	0	0	0	0	0	0	0
Total weight (kg)	54.43	112.97	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	0	0	0	0	0	0
Tanner Crab											
Immature males	500	306	24511	4299	8684	9310	5031	883	5235	1359	1461
Mature males	500	153	2294	557	0	1487	601	368	1232	1208	1607
Legal	250	77	1988	557	0	1162	225	368	924	1132	1169
Immature females	167	77	27192	1592	10780	7785	5782	515	4234	830	731
Mature females	0	0	1682	18457	150	8741	1352	147	6870	4907	2996
Total weight (kg)	5.01	2.65	18.82	35.7	2.24	45.17	12.46	4.39	28.92	26.74	26.56
Snow Crab											
Immature males	0	0	0	0	0	218	225	74	154	528	73
Mature males	0	0	153	0	0	581	75	74	154	75	0
Legal	0	0	153	0	0	726	75	147	308	75	73
Immature females	0	0	0	0	0	0	0	0	77	0	0
Mature females	0	0	0	159	0	0	0	0	0	453	73
Total weight (kg)	0	0	0.55	0.27	0	4.73	1.05	0.95	1.88	1.89	0.37
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	0	0	0	0	0	0	0	154	0	0
Males ≥ 78 mm	0	0	0	0	0	73	75	0	77	0	0
Immature females	0	0	0	0	0	0	0	0	77	0	0
Mature females	0	0	0	0	0	0	0	74	231	0	0
Total weight (kg)	0	0	0	0	0	0.48	0.23	0.1	1.18	0	0

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 eastern Bering Sea bottom trawl survey stations.

Station	F-05	F-06	F-07	F-08	F-09	F-10	F-11	F-12	F-13	F-14	F-18
Start Date	6/19/2024	6/14/2024	6/14/2024	6/11/2024	6/12/2024	6/8/2024	6/7/2024	6/4/2024	6/4/2024	6/4/2024	7/4/2024
Duration (hour)	0.54	0.51	0.53	0.53	0.51	0.52	0.54	0.54	0.54	0.54	0.5
Distance Fished (km)	3.02	2.85	2.94	2.92	2.84	2.94	3.04	2.9	2.97	2.96	2.75
Mid-Latitude (°N)	56.66	56.67	56.68	56.68	56.67	56.67	56.67	56.67	56.68	56.7	56.67
Mid-Longitude (°W)	-165.22	-164.6	-164.02	-163.38	-162.79	-162.17	-161.59	-160.98	-160.37	-159.79	-168.27
Bottom Depth (m)	75	75	75	74	71	71	90	68	61	39	106
Bottom Temperature (°C)	3.3	3.3	3	2.4	2.9	3.3	3	3.1	3.3	4.1	3.7
Red King Crab											
Immature males	0	0	0	0	473	485	1178	523	896	733	0
Mature males	0	0	0	70	630	624	1988	897	747	660	0
Legal	0	0	0	70	394	485	1767	747	597	220	0
Immature females	0	0	0	0	0	139	368	0	149	0	0
Mature females	0	0	0	0	79	416	1325	972	896	367	0
Total weight (kg)	0	0	0	2.28	24.26	35.62	108.64	50.81	51.03	32.94	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	3152	159	1953	1407	1496	485	442	149	1120	0	1629
Mature males	860	396	703	2040	394	277	0	75	299	0	466
Legal	573	159	703	1899	158	208	0	75	0	0	310
Immature females	2006	0	625	1125	236	0	0	75	149	0	1397
Mature females	2364	79	1250	2391	788	555	368	972	373	0	310
Total weight (kg)	21.58	3.04	13.33	31.4	6.24	5.56	2.6	4.58	7.13	0	5.08
Snow Crab											
Immature males	0	79	0	0	0	0	0	0	0	0	0
Mature males	0	0	0	0	0	0	0	0	0	0	78
Legal	0	79	0	0	0	0	0	0	0	0	78
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	0.38	0	0	0	0	0	0	0	0	0.44
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	0	0	0	0	0	0	0	0	0	0
Males ≥ 78 mm	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

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 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	7/4/2024	7/4/2024	7/11/2024	7/11/2024	7/11/2024	7/29/2024	7/29/2024	6/25/2024	6/25/2024	6/25/2024	6/20/2024
Duration (hour)	0.52	0.52	0.52	0.51	0.51	0.5	0.51	0.55	0.55	0.54	0.54
Distance Fished (km)	2.96	2.88	2.93	2.8	2.76	2.77	2.77	3.01	3.09	3.01	3.04
Mid-Latitude (°N)	56.68	56.67	56.67	56.68	56.66	56.67	56.67	57	57	57	56.98
Mid-Longitude (°W)	-168.92	-169.51	-170.12	-170.72	-171.28	-171.97	-172.56	-167.68	-167.03	-166.46	-165.84
Bottom Depth (m)	99	79	97	113	119	126	135	78	76	74	73
Bottom Temperature (°C)	3.3	4	3.8	3.5	3.6	3.6	3.7	3.2	3.2	3.1	3.2
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	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	4914	536	81308	6472	15569	227	19132	2645	3739	1368	765
Mature males	440	613	1393	837	781	76	0	808	1108	1080	459
Legal	440	230	807	305	312	76	0	735	831	1008	230
Immature females	5134	307	48727	6928	21474	0	23882	1249	2077	576	842
Mature females	1173	230	11432	609	703	0	293	1176	623	432	765
Total weight (kg)	9.25	5.34	168.34	15.56	17.51	1.19	15.81	12.1	14.22	12.17	6.53
Snow Crab											
Immature males	807	0	147	0	312	0	0	0	692	432	0
Mature males	73	0	73	228	859	3789	76	147	0	216	0
Legal	220	0	220	228	1093	3789	76	147	0	432	0
Immature females	807	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)	1.64	0	1.29	1.63	6.32	31.69	0.9	1	0.57	2.88	0
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	733	0	0	0	472	0	0	0	69	0	0
Males ≥ 78 mm	0	0	0	0	0	0	0	0	0	0	77
Immature females	513	0	0	76	0	0	0	0	0	0	230
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0.19	0	0	0.05	0.14	0	0	0	0.01	0	0.55

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 eastern Bering Sea bottom trawl survey stations.

Station	G-05	G-06	G-07	G-08	G-09	G-10	G-11	G-12	G-13	G-14	G-15
Start Date	6/19/2024	6/14/2024	6/11/2024	6/11/2024	6/9/2024	6/8/2024	6/6/2024	6/5/2024	6/4/2024	6/3/2024	6/2/2024
Duration (hour)	0.54	0.49	0.51	0.52	0.51	0.51	0.52	0.54	0.52	0.51	0.52
Distance Fished (km)	3.01	2.69	2.8	2.86	2.84	2.82	2.9	2.97	2.81	2.8	2.98
Mid-Latitude (°N)	56.99	56.99	57.01	57.01	57	56.99	57	56.99	57	56.99	57.03
Mid-Longitude (°W)	-165.23	-164.62	-164.04	-163.39	-162.79	-162.17	-161.58	-160.95	-160.35	-159.71	-159.14
Bottom Depth (m)	71	69	68	66	61	61	68	67	62	54	35
Bottom Temperature (°C)	3.4	3.2	2.5	3.1	3.3	3.2	2.7	3	3	3.2	4.2
Red King Crab											
Immature males	0	0	0	0	73	144	330	1588	225	442	79
Mature males	0	89	79	847	512	431	825	433	824	619	79
Legal	0	89	79	770	439	431	660	433	524	265	79
Immature females	0	0	0	0	0	144	82	866	749	0	0
Mature females	0	0	0	0	73	287	2804	361	1198	265	79
Total weight (kg)	0	3.78	3.99	29.3	21.32	23.74	81.35	36.35	52.33	30.13	6.45
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	1440	709	1649	847	1391	144	577	217	375	88	0
Mature males	504	177	550	847	73	72	330	72	0	177	0
Legal	144	177	550	616	0	0	247	0	0	177	0
Immature females	144	177	0	77	732	0	82	0	0	0	0
Mature females	216	89	1649	154	293	216	495	0	75	0	0
Total weight (kg)	8.44	3.38	10.69	9.04	4.14	1.46	5.73	1.35	2.08	1.58	0
Snow 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
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	0	0	0	0	0	0	0	0	0	0
Males ≥ 78 mm	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

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 eastern Bering Sea bottom trawl survey stations.

Station	G-18	G-19	G-20	G-21	G-22	G-23	G-24	G-25	G-26	H-01	H-02
Start Date	7/4/2024	7/4/2024	7/4/2024	7/11/2024	7/12/2024	7/12/2024	7/29/2024	7/29/2024	7/29/2024	6/25/2024	6/26/2024
Duration (hour)	0.53	0.52	0.54	0.51	0.53	0.53	0.5	0.51	0.49	0.55	0.52
Distance Fished (km)	2.9	2.81	3.08	2.81	2.9	3	2.79	2.71	2.73	3	2.92
Mid-Latitude (°N)	57	57.01	57	57	57.01	57	57	57	56.99	57.32	57.34
Mid-Longitude (°W)	-168.33	-168.93	-169.54	-170.16	-170.77	-171.39	-172.03	-172.66	-173.24	-167.75	-167.15
Bottom Depth (m)	80	80	62	68	94	110	118	122	141	74	71
Bottom Temperature (°C)	3.3	3.2	2.2	3.8	3.3	2.8	3.3	3.1	3.6	2.9	2.9
Red King Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	0	0	216	79	0	0	0	0	0	0	0
Legal	0	0	216	79	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	144	0	0	0	0	0	0	0	0
Total weight (kg)	0	0	17.19	5.55	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	0	0	0	0	0	0
Tanner Crab											
Immature males	2033	1169	41877	12701	25755	10188	454	1422	1515	1428	1675
Mature males	452	1402	2812	2814	1336	624	151	0	0	643	437
Legal	151	701	1226	1659	742	416	151	0	0	428	219
Immature females	1581	935	26435	3809	23916	10391	76	790	2791	428	437
Mature females	2635	312	1731	1349	5786	554	227	158	0	714	1384
Total weight (kg)	12.13	12.33	176.68	53.33	74.28	18.96	2.2	2.88	1.48	7.64	7.79
Snow Crab											
Immature males	151	779	1483	0	0	208	0	316	0	214	291
Mature males	0	312	144	0	74	0	756	79	239	214	73
Legal	75	545	361	0	74	69	756	316	239	214	364
Immature females	0	1636	1195	0	0	0	0	0	0	71	0
Mature females	0	1558	144	0	0	2564	0	0	0	214	0
Total weight (kg)	0.38	7.88	5.29	0	0.48	3.35	5.08	1.76	1.52	2.72	1.58
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	75	312	144	0	771	0	0	0	0	0	146
Males ≥ 78 mm	75	0	288	79	386	0	76	0	0	0	0
Immature females	75	78	0	0	386	69	0	0	0	0	146
Mature females	75	156	144	0	0	0	0	0	0	0	73
Total weight (kg)	0.47	0.36	2.01	0.43	2.69	0.03	0.57	0	0	0	0.38

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 eastern Bering Sea bottom trawl survey stations.

Station	H-03	H-04	H-05	H-06	H-07	H-08	H-09	H-10	H-11	H-12	H-13
Start Date	6/25/2024	6/20/2024	6/20/2024	6/14/2024	6/11/2024	6/10/2024	6/9/2024	6/8/2024	6/6/2024	6/5/2024	6/5/2024
Duration (hour)	0.52	0.53	0.52	0.53	0.52	0.51	0.52	0.51	0.53	0.54	0.52
Distance Fished (km)	2.89	2.96	2.87	2.97	2.86	2.83	2.88	2.84	3.01	3	2.86
Mid-Latitude (°N)	57.34	57.32	57.34	57.34	57.33	57.34	57.34	57.33	57.32	57.34	57.34
Mid-Longitude (°W)	-166.49	-165.85	-165.23	-164.62	-164.01	-163.38	-162.75	-162.16	-161.53	-160.9	-160.3
Bottom Depth (m)	70	69	67	65	62	53	50	51	56	66	61
Bottom Temperature (°C)	2.8	3	3	2.8	2.7	3.1	3	2.5	2.8	2.7	2.8
Red King Crab											
Immature males	74	0	0	0	0	0	0	305	1016	591	390
Mature males	0	0	0	163	322	245	288	305	234	369	624
Legal	0	0	0	163	322	245	216	228	234	369	546
Immature females	0	0	0	0	0	0	0	0	313	739	78
Mature females	0	0	0	0	0	82	216	228	1094	2365	858
Total weight (kg)	0.21	0	0	8.01	13.36	11.95	12.12	15.51	38.87	56.65	39.88
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	1334	1265	463	1220	886	245	144	457	0	296	156
Mature males	1260	79	308	488	322	571	576	152	391	0	78
Legal	1111	79	231	325	242	571	504	152	234	0	78
Immature females	74	79	0	0	242	0	0	76	0	0	0
Mature females	148	0	0	325	81	0	0	0	313	0	156
Total weight (kg)	13.53	5.28	3.6	6.36	5.43	5.33	6.88	2.57	4.04	1.12	1.6
Snow Crab											
Immature males	148	0	0	81	0	0	0	0	0	0	0
Mature males	0	0	0	81	0	0	0	0	0	0	0
Legal	74	0	0	163	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	79	0	0	0	0	0	0	0	0	0
Total weight (kg)	0.45	0.14	0	0.73	0	0	0	0	0	0	0
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	0	0	732	0	0	0	0	0	0	0
Males ≥ 78 mm	0	0	0	325	0	0	0	0	0	0	0
Immature females	0	0	0	569	0	0	0	0	0	0	0
Mature females	0	79	0	81	0	0	0	0	0	0	0
Total weight (kg)	0	0.22	0	4	0	0	0	0	0	0	0

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 eastern Bering Sea bottom trawl survey stations.

Station	H-14	H-15	H-16	H-18	H-19	H-20	H-21	H-22	H-23	H-24	H-25
Start Date	6/3/2024	6/2/2024	6/2/2024	7/3/2024	7/4/2024	7/3/2024	7/3/2024	7/12/2024	7/12/2024	7/28/2024	7/28/2024
Duration (hour)	0.53	0.57	0.52	0.56	0.32	0.52	0.51	0.52	0.51	0.52	0.51
Distance Fished (km)	2.92	3.13	2.82	3.11	1.73	3.04	2.85	2.82	2.8	2.99	2.87
Mid-Latitude (°N)	57.33	57.34	57.36	57.33	57.35	57.34	57.33	57.35	57.33	57.34	57.35
Mid-Longitude (°W)	-159.69	-159.05	-158.47	-168.37	-168.98	-169.62	-170.23	-170.84	-171.47	-172.08	-172.81
Bottom Depth (m)	55	49	33	73	72	63	55	83	102	109	117
Bottom Temperature (°C)	2.8	3.6	3.6	2.9	3.3	1.6	3.7	3.1	2.7	2.8	3
Red King Crab											
Immature males	1160	453	0	0	0	0	0	0	0	0	0
Mature males	387	378	0	0	0	147	0	77	0	0	0
Legal	155	151	0	0	0	147	0	77	0	0	0
Immature females	387	0	0	0	0	0	0	0	0	0	0
Mature females	696	0	0	0	0	147	0	0	0	0	0
Total weight (kg)	44.57	12.2	0	0	0	13.86	0	4.46	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	0	0	0	0	0	0
Tanner Crab											
Immature males	77	0	0	6746	8723	31419	627	231	2324	26838	442
Mature males	0	0	0	1179	4247	1475	157	231	750	74	74
Legal	0	0	0	885	2445	737	157	154	375	0	0
Immature females	0	76	0	956	6657	21931	78	706	975	22652	147
Mature females	0	0	0	45898	46598	7272	78	2117	225	74	0
Total weight (kg)	0.06	0.04	0	108.45	90.27	105.26	2.79	7.17	10.3	26.17	1.76
Snow Crab											
Immature males	0	0	0	866	11328	49202	0	6263	150	0	0
Mature males	0	0	0	74	1416	1549	0	694	75	148	0
Legal	0	0	0	295	2324	17124	0	1310	225	148	0
Immature females	0	0	0	12256	10419	581189	78	51633	0	0	0
Mature females	0	0	0	4515	3256	19737	0	33410	150	0	0
Total weight (kg)	0	0	0	21.87	25.42	607.56	0.03	98.29	1.38	0.91	0
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	0	0	645	2605	0	0	706	0	0	0
Males ≥ 78 mm	0	0	0	1880	3377	0	0	0	0	0	0
Immature females	0	0	0	1935	2605	0	0	706	0	0	0
Mature females	0	0	0	10321	10419	0	0	706	0	0	0
Total weight (kg)	0	0	0	25.69	24.42	0	0	3.8	0	0	0

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 eastern Bering Sea bottom trawl survey stations.

Station	H-26	I-01	I-02	I-03	I-04	I-05	I-06	I-07	I-08	I-09	I-10
Start Date	7/28/2024	6/26/2024	6/26/2024	6/25/2024	6/20/2024	6/20/2024	6/13/2024	6/13/2024	6/10/2024	6/10/2024	6/8/2024
Duration (hour)	0.5	0.54	0.52	0.52	0.53	0.53	0.5	0.49	0.52	0.51	0.52
Distance Fished (km)	2.73	2.98	2.94	2.85	2.97	2.98	2.78	2.73	2.94	2.82	2.9
Mid-Latitude (°N)	57.32	57.65	57.68	57.66	57.68	57.66	57.66	57.67	57.68	57.67	57.65
Mid-Longitude (°W)	-173.34	-167.73	-167.14	-166.5	-165.86	-165.25	-164.63	-164.01	-163.38	-162.74	-162.13
Bottom Depth (m)	122	70	68	67	64	62	54	51	47	44	46
Bottom Temperature (°C)	3.2	2.5	2.5	2.7	2.7	2.6	2.9	3.4	2.9	2.7	2.4
Red King Crab											
Immature males	0	0	0	0	0	0	0	0	82	147	417
Mature males	0	0	0	0	80	0	0	90	408	221	334
Legal	0	0	0	0	80	0	0	90	326	221	167
Immature females	0	0	0	0	0	0	0	0	0	0	83
Mature females	0	0	0	0	0	0	0	181	163	74	250
Total weight (kg)	0	0	0	0	3.28	0	0	5.84	18.74	14.53	20.56
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	464	3528	19491	2228	1432	1654	435	362	163	369	334
Mature males	0	792	5681	2612	2864	1729	609	362	326	74	83
Legal	0	360	3730	1843	2387	1428	522	362	245	74	83
Immature females	0	576	10630	0	0	0	0	0	0	0	0
Mature females	0	1728	16963	77	636	225	174	90	82	0	0
Total weight (kg)	0.64	13.53	123.09	21.59	27.21	19.47	7	4.4	3.15	2.22	1.84
Snow Crab											
Immature males	77	288	585	768	716	0	174	0	0	0	0
Mature males	0	288	293	691	477	0	0	0	0	0	0
Legal	0	288	366	1306	1114	0	87	0	0	0	0
Immature females	0	360	439	0	0	0	0	0	0	0	0
Mature females	310	216	585	77	159	0	0	0	0	0	0
Total weight (kg)	0.28	2.54	4.39	5.19	4.43	0	0.36	0	0	0	0
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	0	951	154	0	0	0	0	0	0	0
Males ≥ 78 mm	0	0	512	154	477	0	348	181	0	0	0
Immature females	0	0	1243	0	0	0	0	0	0	0	0
Mature females	0	0	878	0	0	0	87	0	0	0	0
Total weight (kg)	0	0	6.99	0.87	2.6	0	2.23	0.96	0	0	0

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 eastern Bering Sea bottom trawl survey stations.

Station	I-11	I-12	I-13	I-14	I-15	I-16	I-18	I-19	I-20	I-21	I-22
Start Date	6/7/2024	6/5/2024	6/5/2024	6/3/2024	6/2/2024	6/2/2024	7/3/2024	7/3/2024	7/2/2024	7/3/2024	7/12/2024
Duration (hour)	0.5	0.51	0.51	0.52	0.57	0.51	0.53	0.52	0.51	0.54	0.52
Distance Fished (km)	2.81	2.84	2.8	2.86	3.1	2.78	2.87	2.93	2.82	2.99	2.78
Mid-Latitude (°N)	57.67	57.67	57.66	57.66	57.67	57.66	57.66	57.67	57.66	57.67	57.67
Mid-Longitude (°W)	-161.5	-160.88	-160.28	-159.61	-159.02	-158.36	-168.4	-169.02	-169.65	-170.26	-170.87
Bottom Depth (m)	52	56	53	51	48	35	70	69	71	73	85
Bottom Temperature (°C)	2.1	2.6	3	2.9	2.9	4	3	2.1	1.7	1.2	2.2
Red King Crab											
Immature males	302	618	314	0	71	0	0	0	0	0	0
Mature males	1133	696	314	161	71	0	0	0	0	0	79
Legal	982	464	314	0	0	0	0	0	0	0	79
Immature females	0	0	314	0	0	0	0	0	0	0	0
Mature females	1510	1005	236	80	0	0	0	0	0	0	0
Total weight (kg)	71.02	53.02	19.82	4.47	1.69	0	0	0	0	0	5.65
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	227	155	79	0	0	0	9747	6366	31692	12507	6158
Mature males	0	77	0	80	0	0	1913	2443	1545	888	869
Legal	0	0	0	80	0	0	1355	1832	850	592	474
Immature females	0	77	0	0	0	0	4794	4488	27288	7277	2763
Mature females	0	0	0	0	0	0	23369	14499	9983	2147	1842
Total weight (kg)	1.25	1.09	0.38	0.72	0	0	71.31	62.18	144.41	33.98	17.65
Snow Crab											
Immature males	0	0	0	0	0	0	14620	4986	40843	46463	16209
Mature males	0	0	0	0	0	0	319	840	2241	1407	869
Legal	0	0	0	0	0	0	1157	1338	7581	2888	1422
Immature females	0	0	0	0	0	0	42543	13118	183888	282306	58899
Mature females	0	0	0	0	0	0	1798	345	15293	12135	22756
Total weight (kg)	0	0	0	0	0	0	50.11	25.83	293.02	440.03	98.42
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	0	0	0	0	0	11984	5178	0	0	0
Males ≥ 78 mm	0	0	0	0	0	0	2435	2300	0	0	0
Immature females	0	0	0	0	0	0	11984	8285	0	0	0
Mature females	0	0	0	0	0	0	6591	2762	0	0	1842
Total weight (kg)	0	0	0	0	0	0	34.02	19.93	0	0	2.91

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 eastern Bering Sea bottom trawl survey stations.

Station	I-23	I-24	I-25	I-26	J-01	J-02	J-03	J-04	J-05	J-06	J-07
Start Date	7/12/2024	7/28/2024	7/28/2024	7/28/2024	6/26/2024	6/23/2024	6/26/2024	6/20/2024	6/20/2024	6/20/2024	6/13/2024
Duration (hour)	0.41	0.53	0.5	0.37	0.53	0.54	0.53	0.52	0.52	0.54	0.5
Distance Fished (km)	2.33	3.04	2.75	2.06	2.94	3.02	2.96	2.92	2.86	3.02	2.76
Mid-Latitude (°N)	57.65	57.67	57.66	57.66	58	57.99	58	58.01	58	58	57.99
Mid-Longitude (°W)	-171.53	-172.17	-172.79	-173.41	-167.81	-167.14	-166.55	-165.89	-165.23	-164.63	-164.01
Bottom Depth (m)	100	108	119	148	68	63	61	55	50	45	47
Bottom Temperature (°C)	2	2.5	2.7	3.8	2.1	2	1.8	2.2	2.7	3.1	2.7
Red King Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	0	0	0	0	74	80	0	0	0	153	82
Legal	0	0	0	0	74	80	0	0	0	153	82
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	0	0	0	0	0	0	76	82
Total weight (kg)	0	0	0	0	2.79	3.15	0	0	0	7.01	4.73
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	357	10646	5727	41167	65053	38118	16464	4958	165	153	164
Mature males	804	139	77	208	1162	160	960	560	247	0	0
Legal	626	69	77	104	1162	160	517	320	0	0	0
Immature females	179	8774	5108	59780	8768	0	1403	0	0	0	0
Mature females	0	694	310	720	5396	0	443	240	165	0	0
Total weight (kg)	5.3	15.77	5.64	25.39	177.98	72.73	38.73	15.61	2.4	0.46	0.52
Snow Crab											
Immature males	447	0	0	0	33722	58506	4651	7997	0	0	0
Mature males	1519	416	155	417	1349	0	148	1200	0	0	0
Legal	1966	416	155	417	12140	16843	1255	5918	0	0	0
Immature females	0	0	0	0	9442	2659	221	880	0	0	0
Mature females	357	208	0	0	4721	0	148	400	0	0	0
Total weight (kg)	10.52	3.67	1.2	2.34	85.1	97.24	9.45	17.41	0	0	0
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	179	319	0	0	7419	7978	3322	80	0	0	0
Males ≥ 78 mm	0	0	0	0	3372	3546	886	480	82	0	0
Immature females	0	160	0	0	6070	0	221	0	0	0	0
Mature females	0	0	0	0	1349	0	0	0	82	0	0
Total weight (kg)	0.21	0.52	0	0	31.82	19.17	8.66	1.34	0.8	0	0

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 eastern Bering Sea bottom trawl survey stations.

Station	J-08	J-09	J-10	J-11	J-12	J-13	J-14	J-15	J-16	J-18	J-19
Start Date	6/13/2024	6/10/2024	6/7/2024	6/7/2024	6/5/2024	6/6/2024	6/3/2024	6/2/2024	6/2/2024	7/2/2024	7/2/2024
Duration (hour)	0.51	0.51	0.5	0.52	0.52	0.53	0.55	0.56	0.52	0.52	0.52
Distance Fished (km)	2.89	2.78	2.78	2.92	2.88	2.99	3.02	3.17	2.85	2.96	2.8
Mid-Latitude (°N)	58	58	58	57.99	58	58	58	57.98	57.99	57.99	58
Mid-Longitude (°W)	-163.35	-162.72	-162.12	-161.47	-160.84	-160.22	-159.57	-158.99	-158.29	-168.42	-169.06
Bottom Depth (m)	42	42	39	55	44	52	43	40	35	70	70
Bottom Temperature (°C)	2.6	2.4	2.3	2.1	2.1	2.1	2	2.8	3.4	3.2	2.7
Red King Crab											
Immature males	77	170	79	950	303	146	0	0	82	0	0
Mature males	77	170	79	438	227	73	153	0	0	0	0
Legal	77	170	79	219	227	73	77	0	0	0	0
Immature females	0	0	0	365	0	0	77	0	0	0	0
Mature females	0	85	0	365	76	0	0	0	0	0	0
Total weight (kg)	4.92	11.25	2.88	30.97	13.38	2.79	4.28	0	0.11	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	0	0	0	0	0	0
Tanner Crab											
Immature males	0	0	79	73	0	0	0	0	0	30818	11104
Mature males	0	0	0	0	0	0	0	0	0	233	2419
Legal	0	0	0	0	0	0	0	0	0	155	1296
Immature females	0	0	0	0	0	0	0	0	0	2483	1469
Mature females	0	0	0	0	0	0	0	0	0	698	1469
Total weight (kg)	0	0	0.27	0.2	0	0	0	0	0	65.63	34.7
Snow Crab											
Immature males	0	0	0	0	0	0	0	0	0	3019	65890
Mature males	0	0	0	0	0	0	0	0	0	543	2246
Legal	0	0	0	0	0	0	0	0	0	1304	3455
Immature females	0	0	0	0	0	0	0	0	0	1806	71724
Mature females	0	0	0	0	0	0	0	0	0	78	0
Total weight (kg)	0	0	0	0	0	0	0	0	0	7.31	141.69
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	0	0	0	0	0	0	0	0	6545	5877
Males ≥ 78 mm	0	0	0	0	0	0	0	0	0	2863	3283
Immature females	0	0	0	0	0	0	0	0	0	1128	6611
Mature females	0	0	0	0	0	0	0	0	0	0	2204
Total weight (kg)	0	0	0	0	0	0	0	0	0	13.7	21.56

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 eastern Bering Sea bottom trawl survey stations.

Station	J-20	J-21	J-22	J-23	J-24	J-25	J-26	K-01	K-02	K-03	K-04
Start Date	7/2/2024	7/2/2024	7/13/2024	7/12/2024	7/27/2024	7/27/2024	7/27/2024	6/27/2024	6/23/2024	6/23/2024	6/21/2024
Duration (hour)	0.51	0.53	0.52	0.52	0.51	0.34	0.5	0.53	0.53	0.53	0.54
Distance Fished (km)	2.8	2.89	2.81	2.91	2.85	1.86	2.82	2.95	2.99	2.97	3.05
Mid-Latitude (°N)	58	58	58	57.99	58	58	57.99	58.32	58.32	58.34	58.34
Mid-Longitude (°W)	-169.69	-170.33	-170.97	-171.59	-172.26	-172.83	-173.46	-167.84	-167.19	-166.56	-165.89
Bottom Depth (m)	70	74	87	98	105	109	118	60	52	47	44
Bottom Temperature (°C)	1.7	0.6	1.3	1.6	2.1	2.4	2.8	1.8	1.6	1.8	2.3
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	154	155	0	0
Legal	0	0	0	0	0	0	0	154	155	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	76	78
Total weight (kg)	0	0	0	0	0	0	0	7.02	5.72	1.46	1.82
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	9731	1193	3675	569	17722	10205	1566	4760	6346	76	78
Mature males	475	0	77	71	76	475	522	384	181	153	0
Legal	237	0	0	71	0	356	298	154	0	153	0
Immature females	10482	0	1760	569	10070	8069	298	461	78	0	0
Mature females	870	373	0	71	1439	1780	1119	998	1011	0	0
Total weight (kg)	21.9	3.65	0.94	2.02	17.06	10.28	10.4	17.66	16.16	0.88	0.23
Snow Crab											
Immature males	93985	89412	46336	711	8568	0	149	5527	3032	0	0
Mature males	633	1566	2082	853	1757	0	298	384	0	0	0
Legal	1899	4399	9690	1564	2980	0	448	768	544	0	0
Immature females	250916	140820	208004	0	0	0	0	1382	2021	0	0
Mature females	1978	2237	26839	1351	309993	0	149	77	0	0	0
Total weight (kg)	209.71	245.48	261.05	9.87	224.99	0	2.87	11.81	3.72	0	0
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	0	0	0	0	119	0	1228	0	0	0
Males ≥ 78 mm	0	0	0	0	0	0	0	230	0	76	0
Immature females	0	0	0	0	0	0	0	0	0	305	0
Mature females	0	0	0	0	0	0	0	77	0	0	0
Total weight (kg)	0	0	0	0	0	0.03	0	2.58	0	0.3	0

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 eastern Bering Sea bottom trawl survey stations.

Station	K-05	K-06	K-07	K-08	K-09	K-10	K-11	K-12	K-13	K-14	K-18
Start Date	6/21/2024	6/21/2024	6/12/2024	6/12/2024	6/11/2024	6/7/2024	6/6/2024	6/6/2024	6/6/2024	6/2/2024	6/26/2024
Duration (hour)	0.53	0.53	0.51	0.49	0.5	0.5	0.5	0.5	0.49	0.55	0.53
Distance Fished (km)	2.96	2.99	2.85	2.73	2.79	2.72	2.81	2.85	2.72	3.04	2.96
Mid-Latitude (°N)	58.33	58.34	58.32	58.32	58.33	58.33	58.22	58.29	58.27	58.34	58.33
Mid-Longitude (°W)	-165.27	-164.64	-163.95	-163.38	-162.7	-162.09	-161.55	-160.81	-160	-159.54	-168.42
Bottom Depth (m)	46	45	43	37	32	49	40	31	37	23	65
Bottom Temperature (°C)	2.5	2.9	2.6	2.6	3	3.6	2.8	3.6	2.4	3.7	1.7
Red King Crab											
Immature males	0	0	0	0	0	79	77	0	0	0	0
Mature males	76	78	0	87	84	0	77	156	0	0	0
Legal	76	78	0	87	0	0	77	78	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	78	0	87	0	0	0	0	0	0	74
Total weight (kg)	3.13	3.29	0	3.64	1.75	1.44	3.52	4.04	0	0	0.96
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	0	0	0	0	0	0	0	78	0	0	1895
Mature males	0	0	0	0	0	0	0	0	0	0	74
Legal	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	435
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0	0	0	0	0	0	0	0.35	0	0	2.5
Snow Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	19310
Mature males	0	0	0	0	0	0	0	0	0	0	0
Legal	0	0	0	0	0	0	0	0	0	0	291
Immature females	0	0	0	0	0	0	0	0	0	0	28304
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	20.93
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	0	0	0	0	0	0	0	0	0	4354
Males ≥ 78 mm	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	2177
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	3.64

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 eastern Bering Sea bottom trawl survey stations.

Station	K-19	K-20	K-21	K-22	K-23	K-24	K-25	K-26	K-27	L-01	L-02
Start Date	7/2/2024	7/2/2024	7/2/2024	7/13/2024	7/13/2024	7/27/2024	7/27/2024	7/27/2024	7/26/2024	6/27/2024	6/23/2024
Duration (hour)	0.52	0.53	0.54	0.36	0.53	0.51	0.51	0.51	0.48	0.53	0.54
Distance Fished (km)	2.82	2.92	3.02	1.95	2.94	2.8	2.81	2.79	2.68	3	3.06
Mid-Latitude (°N)	58.33	58.33	58.33	58.33	58.33	58.32	58.33	58.33	58.33	58.67	58.68
Mid-Longitude (°W)	-169.1	-169.71	-170.39	-171	-171.65	-172.31	-172.93	-173.59	-174.32	-167.88	-167.23
Bottom Depth (m)	67	70	74	83	96	103	110	116	176	47	44
Bottom Temperature (°C)	2.6	2	0.6	0.6	1.3	1.9	2.3	2.7	3.6	2.7	2.1
Red King Crab											
Immature males	0	0	0	0	0	0	0	0	0	78	0
Mature males	0	0	0	0	0	0	0	0	0	78	78
Legal	0	0	0	0	0	0	0	0	0	0	78
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	2.38	4.16
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	40998	20715	429	0	2889	978	4784	2991	868	78	235
Mature males	662	1040	143	0	141	0	1674	787	79	0	78
Legal	248	560	143	0	141	0	1355	630	79	0	0
Immature females	965	1264	214	1762	3382	561	4704	1417	552	0	78
Mature females	0	0	0	0	141	187	478	2676	0	0	0
Total weight (kg)	70.98	41.07	1.95	0.06	2.88	2.11	17.89	14.88	0.99	0.16	0.54
Snow Crab											
Immature males	94093	103953	183367	74801	26933	1803	80	79	0	0	0
Mature males	3560	5601	2715	783	705	1460	638	2597	0	0	0
Legal	6172	7521	6287	3355	6576	1690	718	2676	0	0	0
Immature females	54031	183970	990162	182764	211	0	0	0	0	78	0
Mature females	965	2591	2215	14429	1268	28705	80	0	0	0	0
Total weight (kg)	146.5	247.36	603.91	128.55	52.62	31.7	4.88	18.78	0	0.04	0
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	21227	10109	0	0	0	0	80	0	0	156	0
Males ≥ 78 mm	11031	4288	0	0	0	0	0	0	0	0	0
Immature females	7719	5055	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	0	0	1122	80	0	0	0	0
Total weight (kg)	49.69	25.23	0	0	0	0.7	0.2	0	0	0.07	0

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 eastern Bering Sea bottom trawl survey stations.

Station	L-03	L-04	L-05	L-06	L-07	L-08	L-09	L-18	L-19	L-20	L-21
Start Date	6/23/2024	6/21/2024	6/21/2024	6/21/2024	6/12/2024	6/11/2024	6/11/2024	6/27/2024	7/1/2024	7/1/2024	7/1/2024
Duration (hour)	0.53	0.52	0.54	0.52	0.5	0.5	0.51	0.52	0.53	0.53	0.52
Distance Fished (km)	2.99	2.89	2.99	2.87	2.72	2.78	2.86	2.9	2.96	2.96	2.9
Mid-Latitude (°N)	58.68	58.67	58.66	58.66	58.68	58.68	58.64	58.67	58.67	58.67	58.67
Mid-Longitude (°W)	-166.56	-165.91	-165.29	-164.67	-164	-163.35	-162.72	-168.5	-169.17	-169.83	-170.45
Bottom Depth (m)	41	38	40	37	35	33	27	54	62	67	74
Bottom Temperature (°C)	2.1	2.7	2.5	3.5	3.1	3.2	3.3	3	1.9	1.6	0.4
Red King Crab											
Immature males	152	82	76	0	0	0	0	0	0	0	0
Mature males	152	163	152	0	0	0	0	76	0	0	0
Legal	76	163	76	0	0	0	0	76	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	457	736	76	0	0	0	0	0	0	0	0
Total weight (kg)	10.06	18.15	7.54	0	0	0	0	5.06	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	0	0	0	0	0	0
Tanner Crab											
Immature males	0	0	0	0	0	0	0	76	918	375	77
Mature males	0	0	0	0	0	0	0	76	0	0	77
Legal	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	584	75	77
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0	0	0	0	0	0	0	0.34	0.81	0.52	0.47
Snow Crab											
Immature males	0	0	0	0	0	0	0	458	7759	227781	170275
Mature males	0	0	0	0	0	0	0	0	167	1501	2618
Legal	0	0	0	0	0	0	0	0	250	2402	6777
Immature females	0	0	0	0	0	0	0	305	11263	279884	487652
Mature females	0	0	0	0	0	0	0	0	0	450	616
Total weight (kg)	0	0	0	0	0	0	0	0.09	8.34	253.79	312.93
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	0	0	0	0	0	0	0	1502	0	0
Males ≥ 78 mm	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	834	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	1.39	0	0

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 eastern Bering Sea bottom trawl survey stations.

Station	L-22	L-23	L-24	L-25	L-26	L-27	L-28	L-29	L-30	L-31	M-01
Start Date	7/13/2024	7/13/2024	7/27/2024	7/27/2024	7/26/2024	7/26/2024	7/26/2024	7/26/2024	7/25/2024	7/25/2024	6/28/2024
Duration (hour)	0.51	0.52	0.51	0.52	0.51	0.5	0.48	0.49	0.5	0.51	0.53
Distance Fished (km)	2.8	2.93	2.84	2.83	2.8	2.77	2.7	2.69	2.71	2.78	2.98
Mid-Latitude (°N)	58.66	58.66	58.67	58.67	58.68	58.67	58.69	58.65	58.67	58.67	58.99
Mid-Longitude (°W)	-171.08	-171.72	-172.37	-173.01	-173.64	-174.27	-174.94	-175.56	-176.22	-176.83	-167.91
Bottom Depth (m)	83	93	102	113	126	157	192	136	140	135	42
Bottom Temperature (°C)	0.4	0.9	1.7	2	2.4	3.1	3.5	2.7	2.4	2.8	3.4
Red King Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	78
Mature males	0	0	0	0	0	0	0	0	0	0	78
Legal	0	0	0	0	0	0	0	0	0	0	78
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	234
Total weight (kg)	0	0	0	0	0	0	0	0	0	0	6.44
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	0	499	2776	16849	1351	29050	4601	19480	322	536	0
Mature males	0	285	225	1992	225	225	0	0	0	0	0
Legal	0	0	75	1532	225	75	0	0	0	0	0
Immature females	0	571	2250	20651	2026	18492	4762	26187	241	766	0
Mature females	0	0	375	8943	375	825	0	83	80	0	0
Total weight (kg)	0	1.73	3.4	54.32	4.33	18.48	1.42	17.13	0.26	0.21	0
Snow Crab											
Immature males	59969	785	0	77	0	0	0	0	0	0	0
Mature males	677	499	75	536	600	0	0	165	0	0	0
Legal	2935	1070	75	613	600	0	0	165	0	0	0
Immature females	204204	0	75	0	0	0	0	0	0	0	156
Mature females	13174	4208	0	982	450	0	0	0	0	0	0
Total weight (kg)	189.25	9.57	0.58	4.37	4.78	0	0	1.13	0	0	0.03
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	0	75	0	0	0	0	323	0	0	0
Males ≥ 78 mm	0	71	0	77	0	0	0	0	0	0	0
Immature females	2290	0	0	0	0	0	0	323	0	0	0
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	2.62	0.45	0.01	0.2	0	0	0	0.6	0	0	0

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 eastern Bering Sea bottom trawl survey stations.

Station	M-02	M-03	M-04	M-05	M-06	M-07	M-08	M-18	M-19	M-20	M-21
Start Date	6/23/2024	6/23/2024	6/21/2024	6/21/2024	6/22/2024	6/12/2024	6/11/2024	6/27/2024	7/1/2024	7/1/2024	7/1/2024
Duration (hour)	0.52	0.52	0.55	0.54	0.54	0.51	0.52	0.54	0.52	0.54	0.53
Distance Fished (km)	2.88	2.9	3.15	3	3.11	2.8	2.92	3.04	2.88	3.03	2.88
Mid-Latitude (°N)	58.99	59.01	59	59	58.99	59	58.99	58.99	59.01	59	59
Mid-Longitude (°W)	-167.24	-166.58	-165.95	-165.3	-164.65	-164	-163.37	-168.51	-169.17	-169.82	-170.48
Bottom Depth (m)	40	34	31	28	28	28	24	46	54	64	71
Bottom Temperature (°C)	2.4	4.1	3.8	4.3	4.7	3.3	4.6	2.7	2.6	1.8	0
Red King Crab											
Immature males	251	80	0	0	75	0	0	75	0	0	0
Mature males	167	0	0	0	0	0	0	225	0	0	0
Legal	167	0	0	0	0	0	0	150	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	84	321	150	0	0	0	0	75	0	0	0
Total weight (kg)	9.27	5.61	2.64	0	1.38	0	0	9.22	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	0	0	0	0	0	0
Tanner 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
Snow Crab											
Immature males	0	0	0	0	0	0	0	75	2681	3863	149463
Mature males	0	0	0	0	0	0	0	0	0	74	1176
Legal	0	0	0	0	0	0	0	0	0	74	4232
Immature females	0	0	0	0	0	0	0	0	2917	2897	683152
Mature females	0	0	0	0	0	0	0	0	0	0	5422
Total weight (kg)	0	0	0	0	0	0	0	0.01	1.06	3.19	250.06
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	0	0	0	0	0	0	0	237	0	0
Males ≥ 78 mm	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	79	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	0.13	0	0

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 eastern Bering Sea bottom trawl survey stations.

Station	M-22	M-23	M-24	M-25	M-26	M-27	M-28	M-29	M-30	M-31	M-32
Start Date	7/13/2024	7/13/2024	7/24/2024	7/24/2024	7/26/2024	7/26/2024	7/26/2024	7/25/2024	7/24/2024	7/25/2024	7/25/2024
Duration (hour)	0.52	0.51	0.5	0.5	0.52	0.51	0.51	0.5	0.51	0.5	0.49
Distance Fished (km)	2.76	2.82	2.73	2.69	2.88	2.81	2.8	2.71	2.79	2.77	2.75
Mid-Latitude (°N)	58.99	59	59.01	59	59	59	59.01	59	59.01	58.99	59
Mid-Longitude (°W)	-171.11	-171.78	-172.43	-173.07	-173.72	-174.37	-175.02	-175.73	-176.31	-176.95	-177.62
Bottom Depth (m)	77	88	99	107	118	127	130	134	135	136	135
Bottom Temperature (°C)	-0.2	0.5	1.1	1.5	1.8	2.2	2.7	1.6	1.9	2.6	3.1
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	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	4701	244	2772	4666	13827	19588	1371	2128	4711
Mature males	0	0	398	406	584	3422	0	80	152	631	77
Legal	0	0	239	406	511	2488	0	0	76	79	0
Immature females	0	0	2151	0	3866	3655	21732	20579	1066	1103	5947
Mature females	0	0	80	0	438	23557	1314	1676	457	158	77
Total weight (kg)	0	0	5.12	3.35	8.43	81.87	21.88	23.16	3.48	6.96	4.37
Snow Crab											
Immature males	18855	56038	2550	593	0	0	0	80	0	0	0
Mature males	385	811	159	2438	0	156	77	80	0	0	0
Legal	3235	8779	319	2682	0	156	77	80	0	0	0
Immature females	24820	12174	5339	1339	146	0	0	0	0	0	0
Mature females	5957	55837	1195	16067	0	233	232	0	0	0	0
Total weight (kg)	43.35	149.44	4.13	27.13	0.02	1.09	0.71	0.57	0	0	0
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	0	319	268	0	78	163	0	0	0	0
Males ≥ 78 mm	0	0	0	0	0	78	0	0	0	0	0
Immature females	0	0	239	0	0	0	0	367	0	0	0
Mature females	0	0	0	0	0	389	0	0	0	0	0
Total weight (kg)	0	0	0.2	0.01	0	0.83	0.29	0.05	0	0	0

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 eastern Bering Sea bottom trawl survey stations.

Station	N-01	N-02	N-03	N-04	N-05	N-06	N-07	N-18	N-19	N-20	N-21
Start Date	6/28/2024	6/22/2024	6/23/2024	6/22/2024	6/22/2024	6/22/2024	6/12/2024	6/28/2024	6/30/2024	6/30/2024	7/1/2024
Duration (hour)	0.52	0.53	0.53	0.54	0.54	0.54	0.52	0.55	0.52	0.53	0.54
Distance Fished (km)	2.89	2.96	3	3.12	3.19	3.07	2.89	3.04	2.95	2.88	2.94
Mid-Latitude (°N)	59.32	59.34	59.34	59.33	59.33	59.33	59.33	59.33	59.35	59.34	59.33
Mid-Longitude (°W)	-167.92	-167.24	-166.6	-165.94	-165.31	-164.66	-164	-168.55	-169.24	-169.88	-170.54
Bottom Depth (m)	39	31	28	25	22	23	21	42	50	61	68
Bottom Temperature (°C)	3.1	3.6	3.7	4.9	5.4	5.7	4.9	3	2.6	0.6	-0.3
Red King Crab											
Immature males	156	165	76	0	0	0	0	0	0	0	0
Mature males	0	165	0	0	0	0	0	0	0	0	0
Legal	0	165	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	248	76	0	0	0	0	296	0	0	0
Total weight (kg)	1.84	14.93	1.65	0	0	0	0	3.66	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	0	0	0	0	0	0
Tanner Crab											
Immature males	0	0	0	0	0	0	0	222	76	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	74	76	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	0.1	0.09	0	0
Snow Crab											
Immature males	0	0	0	0	0	0	0	0	609	322313	324700
Mature males	0	0	0	0	0	0	0	0	0	0	646
Legal	0	0	0	0	0	0	0	0	0	0	2825
Immature females	0	0	0	0	0	0	0	0	228	244745	766331
Mature females	0	0	0	0	0	0	0	0	0	152	5322
Total weight (kg)	0	0	0	0	0	0	0	0	0.31	202.44	333.54
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	0	0	0	0	0	0	74	0	0	3520
Males ≥ 78 mm	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	0.04	0	0	2.51

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 eastern Bering Sea bottom trawl survey stations.

Station	N-22	N-23	N-24	N-25	N-26	N-27	N-28	N-29	N-30	N-31	O-01
Start Date	7/14/2024	7/13/2024	7/23/2024	7/24/2024	7/24/2024	7/25/2024	7/25/2024	7/25/2024	7/24/2024	8/4/2024	6/29/2024
Duration (hour)	0.53	0.52	0.49	0.5	0.5	0.5	0.33	0.33	0.51	0.5	0.52
Distance Fished (km)	2.9	2.92	2.72	2.73	2.83	2.75	1.83	1.8	2.84	2.81	2.91
Mid-Latitude (°N)	59.33	59.33	59.33	59.33	59.33	59.34	59.34	59.34	59.35	59.34	59.67
Mid-Longitude (°W)	-171.17	-171.83	-172.5	-173.14	-173.8	-174.45	-175.08	-175.75	-176.39	-177.03	-167.97
Bottom Depth (m)	75	81	88	100	110	121	133	137	136	149	36
Bottom Temperature (°C)	-0.5	-0.1	0.8	1.3	1.6	1.9	2.4	1.4	1.2	2.4	3.6
Red King Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	312
Mature males	0	0	0	0	0	0	0	0	0	0	78
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	78
Total weight (kg)	0	0	0	0	0	0	0	0	0	0	5.93
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	0	297	0	3760	13822	64774	7015	9522	33124	227	0
Mature males	0	0	0	240	449	467	0	243	370	151	0
Legal	0	0	0	240	449	234	0	243	74	151	0
Immature females	0	297	1194	2560	5818	40468	10455	10861	41030	151	0
Mature females	0	0	1194	0	75	3036	715	852	963	76	0
Total weight (kg)	0	0.31	2.37	5.22	10.78	52.99	6.19	10.77	39.66	1.8	0
Snow Crab											
Immature males	122686	53564	17677	2080	3676	921	0	0	392	0	0
Mature males	887	422	1712	880	374	311	119	0	148	76	0
Legal	8444	5059	6873	1280	449	389	119	0	148	76	0
Immature females	108197	15530	5678	1760	4156	843	0	1124	1176	0	0
Mature females	23681	3570	119229	80	0	2257	0	0	0	0	0
Total weight (kg)	239.16	93.17	137.35	7.57	3.89	6.24	0.34	0.37	1.81	0.51	0
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	2090	0	0	0	0	0	183	0	0	0	0
Males ≥ 78 mm	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	297	0	80	554	843	0	0	0	0	0
Mature females	0	0	2389	0	0	78	0	122	0	0	0
Total weight (kg)	1.22	0.22	2.87	0.01	0.1	0.42	0.05	0.15	0	0	0

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 eastern Bering Sea bottom trawl survey stations.

Station	O-02	O-03	O-04	O-18	O-19	O-20	O-21	O-22	O-23	O-24	O-25
Start Date	6/22/2024	6/22/2024	6/22/2024	6/28/2024	6/30/2024	6/30/2024	7/1/2024	7/14/2024	7/14/2024	7/23/2024	7/22/2024
Duration (hour)	0.53	0.54	0.55	0.52	0.5	0.55	0.54	0.53	0.52	0.5	0.53
Distance Fished (km)	2.99	3.07	3.09	2.82	2.74	3.08	2.98	3.02	2.92	2.69	2.93
Mid-Latitude (°N)	59.65	59.67	59.63	59.65	59.68	59.68	59.66	59.67	59.67	59.66	59.67
Mid-Longitude (°W)	-167.27	-166.62	-165.92	-168.59	-169.28	-169.92	-170.58	-171.26	-171.89	-172.54	-173.26
Bottom Depth (m)	32	28	27	40	47	57	67	72	78	84	96
Bottom Temperature (°C)	3.4	4.9	5.6	2.8	2.5	0.3	-0.6	-0.8	-0.2	0.6	1.2
Red King Crab											
Immature males	80	77	230	163	0	0	0	0	0	0	0
Mature males	0	77	0	0	83	0	0	0	0	0	0
Legal	0	77	0	0	0	0	0	0	0	0	0
Immature females	0	0	154	81	0	0	0	0	0	0	0
Mature females	80	77	0	81	0	0	0	0	0	0	0
Total weight (kg)	1.63	5.76	0.9	2.88	1.56	0	0	0	0	0	0
Blue King Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	147
Mature males	0	0	0	0	0	0	0	0	0	328	883
Legal	0	0	0	0	0	0	0	0	0	246	809
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	6.92	25.22
Tanner Crab											
Immature males	0	0	0	0	0	0	0	0	0	82	0
Mature males	0	0	0	0	0	0	0	0	0	0	74
Legal	0	0	0	0	0	0	0	0	0	0	74
Immature females	0	0	0	0	83	0	0	0	0	0	939
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0	0	0	0	0.04	0	0	0	0	0.14	0.61
Snow Crab											
Immature males	0	0	0	0	1076	183587	157850	44528	21144	88555	14704
Mature males	0	0	0	0	0	0	0	138	304	1313	2723
Legal	0	0	0	0	0	0	0	1173	1823	7624	7102
Immature females	0	0	0	0	248	167439	322951	103238	22898	98188	0
Mature females	0	0	0	0	0	0	2858	28340	83719	15837	91669
Total weight (kg)	0	0	0	0	0.38	102.02	177.88	112.82	87.4	153.75	106.68
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	0	0	0	0	0	0	0	0	0	0
Males ≥ 78 mm	0	0	0	0	0	0	0	0	0	82	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	0.29	0

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 eastern Bering Sea bottom trawl survey stations.

Station	O-26	O-27	O-28	O-29	O-30	O-31	P-01	P-18	P-19	P-20	P-21
Start Date	7/22/2024	7/21/2024	7/23/2024	7/23/2024	7/24/2024	8/4/2024	6/29/2024	6/29/2024	6/30/2024	6/30/2024	6/30/2024
Duration (hour)	0.51	0.52	0.54	0.5	0.5	0.51	0.54	0.52	0.53	0.52	0.54
Distance Fished (km)	2.87	2.86	3.02	2.77	2.79	2.83	3.06	2.87	2.99	2.92	3.02
Mid-Latitude (°N)	59.68	59.67	59.67	59.67	59.68	59.66	59.99	59.98	60	60	60
Mid-Longitude (°W)	-173.9	-174.43	-175.13	-175.86	-176.54	-177.14	-168	-168.65	-169.32	-169.97	-170.62
Bottom Depth (m)	106	115	126	136	137	176	25	39	46	55	64
Bottom Temperature (°C)	1.5	1.6	2.1	1.6	1.3	3.6	3.7	2.5	1.8	1.4	-0.6
Red King Crab											
Immature males	0	0	0	0	0	0	76	80	0	0	0
Mature males	0	0	0	0	0	0	0	80	0	0	0
Legal	0	0	0	0	0	0	0	80	0	0	0
Immature females	0	0	0	0	0	0	0	0	76	0	0
Mature females	0	0	0	0	0	0	0	80	76	0	0
Total weight (kg)	0	0	0	0	0	0	0.86	4.96	0.99	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	0	0	0	0	0	0
Tanner Crab											
Immature males	724	1257	845	1176	19279	8396	0	0	0	0	0
Mature males	145	74	211	78	451	1971	0	0	0	0	0
Legal	72	74	211	78	150	1314	0	0	0	0	0
Immature females	579	1257	704	706	18669	9345	0	0	0	0	0
Mature females	0	296	0	78	526	584	0	0	0	0	0
Total weight (kg)	1.18	3	2.07	1.55	24.45	24.75	0	0	0	0	0
Snow Crab											
Immature males	2318	444	563	0	815	73	0	0	1527	98238	172957
Mature males	2462	370	1197	0	75	0	0	0	0	0	0
Legal	3694	517	1338	0	75	0	0	0	0	0	0
Immature females	234	74	0	157	1848	0	0	0	76	85071	247883
Mature females	10748	74	4085	0	185	0	0	0	0	0	756
Total weight (kg)	29.91	3.32	13.46	0.08	3.01	0.05	0	0	0.61	49.35	137.99
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	0	141	0	185	0	0	0	0	0	0
Males ≥ 78 mm	0	0	70	0	75	73	0	0	0	0	0
Immature females	0	0	0	0	739	0	0	0	0	0	0
Mature females	0	0	0	0	75	73	0	0	0	0	0
Total weight (kg)	0	0	0.93	0	1.2	0.56	0	0	0	0	0

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 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	7/15/2024	7/14/2024	7/15/2024	7/15/2024	7/21/2024	7/21/2024	7/23/2024	7/23/2024	7/24/2024	8/5/2024	8/4/2024
Duration (hour)	0.51	0.51	0.5	0.36	0.52	0.52	0.51	0.39	0.5	0.51	0.5
Distance Fished (km)	2.81	2.83	2.79	2.01	2.88	2.91	2.8	2.12	2.76	2.78	2.7
Mid-Latitude (°N)	59.99	59.98	59.99	60.01	60	60.01	60.01	59.98	60.01	60	60.02
Mid-Longitude (°W)	-171.28	-171.93	-172.59	-173.29	-173.98	-174.59	-175.27	-175.92	-176.72	-177.2	-177.87
Bottom Depth (m)	69	67	67	75	97	107	117	129	142	137	141
Bottom Temperature (°C)	-1	-0.7	-0.1	0.4	1.3	1.5	1.7	1.9	1	1.1	1.8
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	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	74	409	0	0	0	0	0	0	0
Mature males	0	0	148	102	0	0	0	0	0	0	0
Legal	0	0	74	0	0	0	0	0	0	0	0
Immature females	0	0	74	307	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	3.54	3.34	0	0	0	0	0	0	0
Tanner Crab											
Immature males	0	0	376	204	0	287	4844	837	11657	381	772
Mature males	0	0	0	0	74	72	154	105	0	0	0
Legal	0	0	0	0	0	0	154	105	0	0	0
Immature females	0	0	0	0	0	215	4076	2405	12413	457	540
Mature females	0	0	0	0	0	0	0	0	0	0	154
Total weight (kg)	0	0	0.18	0.05	0.34	0.57	4.05	1.13	6.56	0.26	1.78
Snow Crab											
Immature males	36968	36274	47449	20207	61237	2722	846	314	4666	229	0
Mature males	0	0	148	0	3779	2006	1077	3556	156	152	0
Legal	0	363	222	0	18499	2865	1538	3870	312	152	0
Immature females	54593	33634	63031	34098	0	110	0	0	17206	1143	0
Mature females	44667	24024	752	613	274070	5303	77	0	0	76	0
Total weight (kg)	74.39	43.42	49.5	17.17	328.08	24.82	9.94	21.31	12.57	2.07	0
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	686	752	102	0	0	154	0	617	0	0
Males ≥ 78 mm	0	0	0	0	0	0	77	0	0	0	0
Immature females	0	0	0	102	0	0	77	0	1608	0	0
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0	0.19	0.42	0.03	0	0	0.66	0	1.17	0	0

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 eastern Bering Sea bottom trawl survey stations.

Station	Q-01	Q-02	Q-18	Q-19	Q-20	Q-21	Q-22	Q-23	Q-25	Q-26	Q-27
Start Date	6/29/2024	6/29/2024	6/29/2024	6/29/2024	6/29/2024	6/30/2024	7/15/2024	7/15/2024	7/15/2024	7/21/2024	7/20/2024
Duration (hour)	0.53	0.53	0.53	0.54	0.53	0.55	0.22	0.52	0.22	0.54	0.5
Distance Fished (km)	3.03	3.11	2.94	2.99	2.91	3.12	1.18	2.94	1.23	2.97	2.81
Mid-Latitude (°N)	60.34	60.34	60.33	60.34	60.33	60.34	60.32	60.33	60.29	60.33	60.34
Mid-Longitude (°W)	-167.99	-167.27	-168.67	-169.3	-170	-170.68	-171.36	-172.06	-173.37	-174.08	-174.72
Bottom Depth (m)	32	31	36	43	52	62	66	59	63	91	105
Bottom Temperature (°C)	4.8	5.4	2.6	1.7	-0.4	-1	-1	-0.4	0.6	1.3	1.4
Red King Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	0	0	77	0	76	0	0	0	0	0	0
Legal	0	0	77	0	0	0	0	0	0	0	0
Immature females	0	81	0	0	0	0	0	0	0	0	0
Mature females	77	0	77	0	76	0	0	0	0	0	0
Total weight (kg)	1.23	0.11	5.29	0	3.04	0	0	0	0	0	0
Blue King Crab											
Immature males	0	0	0	0	0	0	0	1621	714	0	0
Mature males	0	0	0	0	0	0	0	256	357	0	0
Legal	0	0	0	0	0	0	0	256	0	0	0
Immature females	0	0	0	0	0	0	0	597	1071	0	0
Mature females	0	0	0	0	0	0	0	0	179	0	0
Total weight (kg)	0	0	0	0	0	0	0	11.11	5.73	0	0
Tanner 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	2437	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	1.2	0	0	0
Snow Crab											
Immature males	0	0	0	1170	143828	292292	69462	407232	100422	139990	8962
Mature males	0	0	0	0	0	0	0	0	0	70	1336
Legal	0	0	0	0	0	0	0	85	0	772	4953
Immature females	0	0	0	1024	140184	320042	79085	97497	87407	178340	2042
Mature females	0	0	0	0	0	6358	46957	95060	0	10919	3702
Total weight (kg)	0	0	0	0.66	71.71	255.45	48.4	366.51	23.62	202.98	29.61
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	0	0	0	0	0	0	2437	0	0	0
Males ≥ 78 mm	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	1.74	0	0	0

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 eastern Bering Sea bottom trawl survey stations.

Station	Q-28	Q-29	Q-30	Q-31	R-22	R-23	R-24	R-25	R-26	R-27	R-28
Start Date	7/21/2024	7/21/2024	7/21/2024	8/5/2024	7/15/2024	7/16/2024	7/16/2024	7/17/2024	7/17/2024	7/20/2024	7/20/2024
Duration (hour)	0.52	0.5	0.49	0.51	0.52	0.52	0.52	0.52	0.5	0.52	0.54
Distance Fished (km)	2.94	2.81	2.73	2.8	2.88	2.95	2.85	2.88	2.8	2.86	3.04
Mid-Latitude (°N)	60.34	60.33	60.34	60.33	60.68	60.66	60.67	60.67	60.67	60.66	60.66
Mid-Longitude (°W)	-175.4	-176.05	-176.71	-177.37	-171.41	-172.09	-172.76	-173.47	-174.13	-174.83	-175.5
Bottom Depth (m)	111	122	137	147	63	62	45	65	86	98	109
Bottom Temperature (°C)	1.5	1.6	0.9	1.5	-1.2	-1.3	2.5	0.4	1.1	1.4	1.4
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	0	0	0	0	0	0	0	0	0	0
Mature males	0	0	0	0	0	0	327	0	0	0	0
Legal	0	0	0	0	0	0	245	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	6.74	0	0	0	0
Tanner Crab											
Immature males	71	217	79	0	0	0	0	0	0	0	281
Mature males	71	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	72	79	0	0	0	0	0	0	0	422
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0.33	0.04	0.3	0	0	0	0	0	0	0	0.19
Snow Crab											
Immature males	3287	724	1573	224	39895	47481	1716	71	41297	4133	11022
Mature males	2001	1087	2203	1045	0	0	0	0	0	0	1164
Legal	4073	1739	3068	1120	0	0	0	0	305	74	4596
Immature females	0	0	315	0	76628	65255	1798	0	38212	5234	2671
Mature females	1786	580	10994	75	47022	16985	0	0	42463	3490	984
Total weight (kg)	23.05	10.8	25.75	8.1	88.54	66.43	1.65	0.03	83.27	9.58	35.17
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	0	0	0	0	386	0	0	0	0	0
Males ≥ 78 mm	0	0	0	75	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	386	0	0	0	0	0
Mature females	0	0	0	0	0	386	0	0	0	0	0
Total weight (kg)	0	0	0	0.32	0	0.47	0	0	0	0	0

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 eastern Bering Sea bottom trawl survey stations.

Station	R-29	R-30	R-31	R-32	S-22	S-23	S-24	S-25	S-26	S-27	S-28
Start Date	7/20/2024	7/21/2024	8/5/2024	8/5/2024	7/15/2024	7/16/2024	7/16/2024	7/16/2024	7/17/2024	7/19/2024	7/19/2024
Duration (hour)	0.52	0.53	0.53	0.49	0.53	0.52	0.51	0.54	0.51	0.53	0.52
Distance Fished (km)	2.92	2.96	3	2.63	2.96	2.86	2.81	2.99	2.89	3	2.83
Mid-Latitude (°N)	60.67	60.67	60.66	60.65	60.99	61	61	60.99	61	61.01	61
Mid-Longitude (°W)	-176.23	-176.81	-177.52	-178.14	-171.47	-172.16	-172.81	-173.5	-174.19	-174.94	-175.55
Bottom Depth (m)	118	130	147	159	60	64	66	75	83	93	103
Bottom Temperature (°C)	1.3	1	0.8	2.5	-1.1	-1.2	-0.1	0.6	0.7	1.3	1.3
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	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	0	540	0	0	0	0	0	0	0
Mature males	0	71	0	0	0	0	0	0	0	0	0
Legal	0	71	0	0	0	0	0	0	0	0	0
Immature females	0	71	0	386	0	0	0	0	0	0	0
Mature females	0	0	0	154	0	0	0	0	0	0	0
Total weight (kg)	0	0.53	0	0.84	0	0	0	0	0	0	0
Snow Crab											
Immature males	12650	7279	2475	154	77796	74592	157047	23175	15810	4170	6121
Mature males	1281	1904	2887	618	0	0	0	0	0	72	689
Legal	7097	5824	4330	772	0	0	2804	0	0	144	2219
Immature females	686	71	481	0	56523	29837	56088	26755	23729	3163	383
Mature females	1029	71	69	77	17392	29837	39262	12591	9542	1941	4361
Total weight (kg)	42.24	35.98	29.66	5.27	81.49	81.96	180.71	36.36	26.51	7.14	18.41
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	212	0	0	0	0	0	0	0	0	0
Males ≥ 78 mm	0	71	69	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	184	0	0
Mature females	0	0	0	0	0	0	0	0	184	0	0
Total weight (kg)	0	0.99	0.15	0	0	0	0	0	0.2	0	0

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 eastern Bering Sea bottom trawl survey stations.

Station	S-29	S-30	S-31	T-25	T-26	T-27	T-28	T-29	T-30	U-25	U-26
Start Date	7/20/2024	7/20/2024	7/19/2024	7/16/2024	7/17/2024	7/19/2024	7/19/2024	7/19/2024	7/19/2024	7/17/2024	7/17/2024
Duration (hour)	0.52	0.52	0.52	0.53	0.51	0.52	0.52	0.52	0.52	0.5	0.51
Distance Fished (km)	2.96	2.92	2.91	2.97	2.85	2.76	2.89	2.92	2.92	2.69	2.79
Mid-Latitude (°N)	61	61.01	61	61.33	61.33	61.33	61.34	61.33	61.34	61.66	61.67
Mid-Longitude (°W)	-176.29	-176.97	-177.64	-173.59	-174.34	-175.04	-175.7	-176.32	-176.97	-173.67	-174.42
Bottom Depth (m)	112	122	135	74	78	88	98	107	115	70	77
Bottom Temperature (°C)	1.2	0.9	0.9	-0.1	0.8	1.2	1.2	1	1.3	-0.1	0.5
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	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	70	0	0	0	0
Total weight (kg)	0	0	0	0	0	0	0.65	0	0	0	0
Tanner Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	0	0	71	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	0.35	0	0	0	0	0	0	0	0
Snow Crab											
Immature males	6125	14367	1413	72822	10980	15723	25028	12164	19289	72365	75059
Mature males	656	1133	919	0	0	0	70	73	1014	0	0
Legal	1969	6985	1766	0	73	0	1291	1379	7590	0	82
Immature females	3573	71	353	31369	14502	684	5325	5921	2027	46314	55066
Mature females	1385	5196	71	14564	3523	15039	10337	5019	12994	22192	14422
Total weight (kg)	19.77	49.12	10.13	72.12	16.22	30.25	48.81	30.31	59.62	71.91	64.81
Chionoecetes spp. Hybrid											
Males ≤ 77 mm	0	142	0	0	201	0	0	0	0	0	0
Males ≥ 78 mm	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	201	0	0	0	0	0	0
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0	0.28	0	0	0.17	0	0	0	0	0	0

Appendix A. – Tow details, crab density (number nmi-2), and catch weight at 2024 eastern Bering Sea bottom trawl survey stations.

Station	U-27	U-28	U-29	V-25	V-26	V-27	V-28	Z-05
Start Date	7/18/2024	7/18/2024	7/19/2024	7/17/2024	7/17/2024	7/18/2024	7/18/2024	6/18/2024
Duration (hour)	0.5	0.53	0.52	0.51	0.5	0.51	0.54	0.53
Distance Fished (km)	2.83	2.89	2.93	2.73	2.7	2.89	2.98	3.04
Mid-Latitude (°N)	61.66	61.67	61.66	61.99	62	61.99	61.99	54.68
Mid-Longitude (°W)	-175.08	-175.79	-176.46	-173.73	-174.48	-175.19	-175.85	-165.16
Bottom Depth (m)	85	96	105	63	73	81	92	84
Bottom Temperature (°C)	1	1.1	0.9	-1.6	-0.2	0.9	1.1	5.4
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	0	0	0	0	0	0	0	0
Total weight (kg)	0	0	0	0	0	0	0	0
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	0	141
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	0.01
Snow Crab								
Immature males	2708	31814	7202	98455	55617	10947	25303	0
Mature males	75	123	72	0	0	0	0	0
Legal	75	772	746	1119	70	74	0	0
Immature females	3310	4651	1645	49227	38959	12097	10543	0
Mature females	1881	7908	2861	17901	5436	2721	8434	0
Total weight (kg)	5.42	51.38	16.45	69.25	42.99	12.69	40.58	0
Chionoecetes spp. Hybrid								
Males ≤ 77 mm	75	0	0	0	0	294	0	0
Males ≥ 78 mm	0	0	0	0	0	0	0	0
Immature females	75	0	0	0	0	588	0	0
Mature females	0	0	0	0	0	0	0	0
Total weight (kg)	0.05	0	0	0	0	0.59	0	0