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The 2010 Eastern Bering Sea Continental Shelf Bottom Trawl Survey: Results for Commercial Crab Species

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U.S. DEPARTMENT OF COMMERCE
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Alaska Fisheries Science Center
Kodiak Laboratory
301 Research Court
Kodiak, AK 99615-7400
www.afsc.noaa.gov

U.S. DEPARTMENT OF COMMERCE
Gary F. Locke, Secretary
National Oceanic and Atmospheric Administration
Jane Lubchenco, Under Secretary and Administrator
National Marine Fisheries Service
Eric C. Schwaab, Assistant Administrator for Fisheries

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ABSTRACT

The eastern Bering Sea bottom trawl survey has been conducted annually since 1975 by the National Marine Fisheries Service's Alaska Fisheries Science Center's Resource Assessment and Conservation Engineering Division. The purpose of this survey is to collect data on the distribution and abundance of crab and groundfish resources in the eastern Bering Sea. These data are used to estimate population abundances for the management of commercially important species in the region. In 2010, 376 standard stations were sampled along with four extra tows at a hot spot station and 23 stations were resampled in Bristol Bay at the end of the standard survey to adequately account for female red king crab maturity. The 2010 biomass estimates reported in metric tons (t) and pounds (lbs) with 95% confidence intervals (CI = 1.96 SE) for legal-sized males of commercial crab stocks in the EBS were as follows:

	2010 legal-sized male biomass (± CI)	
	Metric tons	Pounds
Bristol Bay District red king crab (*Paralithodes camtschaticus*)	21,347 (7,504)	47,062 (16,544)
Pribilof District red king crab (*P. camtschaticus*)	2,881 (2,049)	6,351 (4,517)
Pribilof District blue king crab (*P. platypus*)	202 (191)	445(421)
St. Matthew Island Section blue king crab (*P. platypus*)	4,317 (2,165)	9,517 (4,773)
Southern Tanner crab, all Districts (*Chionoecetes bairdi*)	7,955 (3,172)	17,536 (6,993)
Snow crab, all Districts (*C. opilio*)	136,140 (31,567)	300,134 (69,593)
Snow crab, all Districts ≥ 4.0 inches	88,788 (24,996)	195,472 (55,106)

CONTENTS

INTRODUCTION

Survey History and Purpose

The eastern Bering Sea (EBS) bottom trawl survey has been conducted by the National Marine Fisheries Service's (NMFS) Resource Assessment and Conservation Engineering (RACE) Division of the Alaska Fisheries Science Center (AFSC) since 1971. Since 1975, annual bottom trawl surveys have been conducted and were expanded to include Bristol Bay and the majority of the Bering Sea continental shelf with the original purpose of assessing potential resource impacts of offshore oil development (Pereyra et al. 1976). The annual collection of data on the distribution and abundance of crab and groundfish resources provides fishery-independent estimates of population abundances and biological data for management of commercially important species in the EBS. The crab species that have previously been assessed during the survey include: red king crab (*Paralithodes camtschaticus*), blue king crab (*P. platypus*), southern Tanner crab (*Chionoecetes bairdi*), snow crab (*C. opilio*), and hair crab (*Erimacrus isenbeckii*). The common name for *C. bairdi* has changed from Tanner crab to southern Tanner crab (McLaughlin et al., 2005) and will hereafter be referred to as Tanner crab. Golden king crab (*Lithodes aequispinus*) are periodically encountered on the bottom trawl survey, although the center of their distribution is at depths beyond the range of this survey. Since 1988, 376 standard stations have been included in the survey covering a 140,350 square nautical mile (nmi^2) area of the EBS with station depths ranging from 20 to 150 m (Fig. 1).

In 2001 and from 2004 to 2006, an additional 29 stations were sampled northeast of the standard survey area to assess the northern distributions of snow crab and walleye pollock (*Theragra chalcogramma*). These stations were not incorporated into the standard survey assessment in those years. These northeastern 29 stations were not sampled in 2010; however, a northern extension of the standard survey did occur in late July though early August of 2010 to establish baseline information of crab and groundfish species within the northern Bering Sea as a part of a study examining the loss of seasonal sea ice due to climate change. These stations were not incorporated into the standard survey assessment for 2010, since the stations were outside of the standard survey area and EBS crab management districts. Future research will be done to determine the appropriate inclusion of the data collected at these stations into the assessments of EBS crab stocks.

Large catches of legal male red king crab or Tanner crab are occasionally caught at a single station on the EBS bottom trawl survey. Beginning in 1994, a station producing ≥ 100 legal-sized male red king or Tanner crab has been considered a "hot spot". At each hot spot, additional tows were made within the station area and all crab species caught in tows were sampled according to the standard survey tow protocol described in the Methods section.

The annual EBS bottom trawl survey begins in the northeast section of Bristol Bay in early June. Approximately 10 to 12 stations are sampled each day from two vessels. The standard survey is completed in late July at the western edge of the survey grid northwest of St. Matthew Island. In years when the reproductive cycle of red king crab is delayed due to colder water temperatures, a small portion of the inner Bristol Bay area is resampled after the conclusion of the standard survey (see Results: Bristol Bay District Red King Crab section).

Eastern Bering Sea Crab Stock Assessment Process

Bering Sea and Aleutian Islands (BSAI) king and Tanner crabs included in the federal fisheries management plan in the eastern Bering Sea are managed by the Alaska Department of Fish and Game (ADF&G) with federal oversight by NMFS (NPFMC 1998). The annual Stock Assessment and Fishery Evaluation (SAFE) report prepared by the North Pacific Fishery Management Council's Crab Plan Team for the king and Tanner crab fisheries of the Bering Sea and Aleutian Islands region provides current biological, economic, and ecosystem data associated with these species. The Crab Plan Team reviews the survey, biological, economic, and modeling data to recommend biological reference points associated with the status of stocks. Finally, NMFS determines the procedure for setting overfishing levels (OFLs) and ADF&G sets the annual Total Allowable Catch or Guideline Harvest Level for each crab stock. Crab stocks are defined by ADF&G management units for king crab and Tanner crab species (Bowers et al. 2010). Red king crab are split into Bristol Bay and Pribilof Islands stocks, and blue king crab are split into Pribilof Islands and St. Matthew Island stocks for management purposes, while Tanner and snow crab are split into separate management units defined by the ADF&G Board of Fish using 166°W and 173°W as the boundary for each east and west unit, respectively. Results of the 2010 standard EBS bottom trawl survey are presented for these crab stocks as defined by the management units.

This report summarizes the 2010 survey results for commercially important crab resources in the EBS. Details of the survey design and fishing gear specifications in addition to the number and weights of the groundfish species sampled at each standard station during this survey will be reported in a separate NOAA Technical Memorandum (e.g., Lauth 2010). The results for commercially important crab encountered on the northern extension of the 2010 EBS standard survey (NBS) are also reported in this document. All crab species caught in the NBS area were sampled according to the standard survey tow protocol described in the Methods section and calculations of biomass estimates for crab species caught in the NBS area are detailed in the Northern Extension of the 2010 Standard Survey section.

METHODS

Survey Area and Sampling Logistics

The 2010 standard survey was conducted onboard the chartered fishing vessels FV *Alaska Knight* and FV *Aldebaran*, beginning 7 June in Bristol Bay and moving westward to end at station V-27 in the northwest section of St. Matthew Island on 4 August. The vessels sampled in close proximity during the standard survey and the FV *Aldebaran* returned to Bristol Bay to resample 23 stations between 24 and 29 July due to the delaying effects of cold water temperatures on the red king crab reproductive cycle (see Results: Bristol Bay District Red King Crab). The northern Bering Sea survey was conducted onboard three charter fishing vessels, the two listed above along with the FV *Vesteraalen*.

The survey stations are divided into multiple districts, which are defined by ADF&G commercial crab management units (Fig. 2). Management units are defined by registration areas and districts, which are further divided into sections which have standard or high station densities. Standard-density sections have stations centered in 20 × 20 nmi (37.04 × 37.04 km) cells while high-density sections include additional stations at the corners of the 20 × 20 nmi cells. Total area calculations for each stock management unit uses an area of 401 nmi^2 for each 20 × 20 nmi cell due to the use of a spherical projection of the grid surface in an area as large as the EBS. The king crab Registration Area T in Bristol Bay (south of 58° 39′N and east of 168°W) is 54,536 nmi^2 and consists of 136 stations. The king crab Registration Area Q in the Bering Sea is divided into the Northern District (north of 58° 39′N) and the Pribilof District (south of 58° 39′N and west of 168°W). The St. Matthew Island Section of the Northern District is divided into two sampling areas: 1) a high-density 7,218 nmi^2 area with 28 stations and 2) a standard-density 60,551 nmi^2 area with 151 stations. The stations in the Pribilof District are divided into two sampling areas: 1) a high-density 10,025 nmi^2 area with 41 total stations and 2) a standard-density 14,436 nmi^2 area with 36 stations.

Stations with more than 100 legal-sized male red king (≥135 mm CL) or Tanner crab (≥ 138 mm CW) are identified as a ‘hot spot’ and four additional tows occur within 5 nmi to the north, south, east, and west of the original tow. This station is then treated as a high density station in the crab biomass estimation described below.

The fishing gear used in 2010 was identical to that of EBS annual bottom trawl surveys since 1982 with both vessels fishing a standard 83-112 Eastern otter trawl with an 83 ft (25.3 m) headrope and a 112 ft (34.1 m) footrope (Lauth 2010). The trawls on each vessel were rotated every 30 consecutive tows to mitigate potential impacts due to changes in net configuration from fishing. Each tow was approximately 0.5 h in duration and 1.5 nmi (2.8 km) in length at a speed of 3 knots (1.54 m/sec) and conducted 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 the net's fishing performance during each tow (Lauth 2010). A bottom contact sensor (inclinometer) was attached to the center of the footrope to measure bottom contact of the net at 1-second intervals. The net mensuration system also consisted of an acoustic sensor attached to the headrope and two sensors attached to the port and starboard dandylines to measure net height and width during trawling operations. The bottom contact of the footrope and GPS data were used to calculate distance fished. 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 Seabird 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 to 35 ± 0.002 °C with pressure sensors measuring to 1,000 ± 1 m and calibrated every year by Sea-Bird Electronics. Bottom depth was also derived from this data by adding the net height from the net mensuration system to the headrope depth recorded by the SBE-39.

Biological Data Collection

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 are identified by a combination of characteristics including eyestalk color, curve of the epistome margin, and space between or shape of rostrum horns (Karinen and Hoopes 1971, Urban et al. 2002). Subsampling the total catch of either *Chionoecetes* sp. crab occurred when an exceptionally large number of that species was caught in a tow. The weights of the sampled crab and non-sampled crab were recorded and an expansion factor was calculated to determine the final number of that species in the catch.

Individual crab carapaces were measured (± 1 mm) to provide a size-frequency distribution of each sample. Crab sizes are reported as carapace width excluding spines (CW) for Tanner and snow crab, and carapace length (CL) for all king crab and hair crab (Donaldson and Byersdorfer 2005). Carapace shell condition was assessed for each crab sampled and assigned to one of six classes according to specific criteria (0 = premolt or molting, 1 = soft and pliable, 2 = new hard shell both firm and clean, 3 = old shell slightly worn, 4 = old shell worn, 5 = very old shell). All female crab abdomens were evaluated to determine reproductive condition based on the size of the egg clutch (0 = immature, 1 = mature female no eggs, 2 = trace to 1/8, 3 = 1/4, 4 = 1/2, 5 = 3/4, 6 = full) and the condition (0 = no eggs, 1 = uneyed, 2 = eyed, 3 = dead, 4 = empty egg cases) and color of the eggs (0 = no eggs, 2 = purple, 3 = brown, 4 = orange, 5 = purple-brown, 6 = pink).

Egg condition codes were assigned to assess the stage in the molt-mate cycle of mature female red king crab during the survey. The presence of eyed embryos, empty egg cases, or absence of eggs (barren, hereafter) in mature-sized females indicated an incomplete cycle while mature females brooding uneyed embryos indicated completion of the cycle. The ratio of females

with eyed embryos, empty egg cases, and old shell barren females to females with uneyed embryos was derived as a measurement of the molt-mate cycle progression during the survey.

Chela height and carapace width measurements (± 0.1 mm) were collected from a subsample of male *Chionoecetes* spp. crab caught at each station to determine morphometric molt to functional maturity based on the chela height to carapace width ratio (Stevens et al. 1993, Tamone et al. 2007). Functional maturity in male *Chionoecetes* spp. can be separated into two morphometric groups, small claw and large claw. The dataset that defines functional maturity was updated with 1,795 *C. bairdi* measurements in 2010.

All crab carapaces were scanned for evidence of bitter crab syndrome or black mat fungus and recorded when present. Crabs with bitter crab syndrome as well as a subset of *Chionoecetes* spp. selected randomly from previously designated tows were set aside for further testing by the Fisheries Resource Pathology Laboratory at the AFSC in Seattle, WA.

Crab Biomass Estimates

Crab density (weight/nmi^2) was estimated at each station for legal males, as well as mature and immature males and females of each stock (Table 1). The area swept by the trawl (nmi^2) was calculated as the product of the distance traveled while the net had bottom contact by the mean net width over the duration of the tow. Prior to 2009, data reported in this annual document used a fixed width of 50 ft (15.2 m; 0.008 nmi) in the area swept calculation to maintain consistency with historical calculations of crab abundances. In this document, population biomass estimates are calculated using the variable net width. The effective width of the trawl typically ranges from 48-60 ft 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 2010 and all previous year's 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). Distance traveled by the trawl was determined from ship positions recorded at the beginning and end of each tow using GPS equipment.

In 2010 and all previous years' reported data, biomass estimates are calculated for the number of individual male and female crab species at the 1 mm size category using the weight-size relationship developed by the AFSC Kodiak Laboratory (Table 2). The weight-size relationships are described by the expression:

$$W = a\, L^b,$$

where W is the total weight in grams, L is either carapace length (CL) or carapace width (CW) in mm, a is the intercept in log scale and b is the slope. Parameters a and b for the weight-size relationships are estimated from a linear regression fitted to log-transformed weight-size measurements.

The weights calculated at the 1 mm size category are summed within the legal male, mature, and immature size categories for each species and sex caught at a station. The crab biomass within a district was estimated by averaging crab densities from all stations within the defined district and multiplied by the total area of the district specific to that stock. Total biomass was calculated using a stratified design based on management units (standard-density, high-density, and ADF&G defined districts). Population biomass estimates were calculated in each stratum and then summed among strata. Variance of the total biomass estimate for each size class was calculated by summing the variance of each stratum. The 95% confidence intervals were calculated using the standard error of the total population multiplied by 1.96. All biomass estimates and confidence intervals reported in this document are reported in metric tons (t) except in the Abstract where both metric tons and pounds are reported. Metric tons can be converted to pounds by multiplying the biomass (t) by 2.2046 for comparison with ADF&G reported values of Total Allowable Catch (TAC) and Guideline Harvest Levels (GHL).

In the Bristol Bay District, two tows were completed at A-04 due to the final position of the Z-04 tow which only has limited area within the trawlable depth range. At stations with multiple tows (i.e., station A-04 or hot spot stations), a single estimate of crab density was calculated by averaging all tows within the station prior to calculating total crab biomass.

In 2010, the additional data from stations resampled in Bristol Bay after the standard survey were handled differently to calculate biomass for male and female red king crab. The total population biomass for Bristol Bay red king crab males was calculated by averaging data collected at the original stations in early June with data collected at the 23 resample stations in late July. Female red king crab biomass was calculated by replacing data collected at the original stations with data collected at the resample stations due to crab movement into the sampling area between the standard survey and the resampling event.

The population biomass estimates reported in this document have substantial uncertainty due to the expanse of the area being sampled and the distributions of the crab populations. These point estimates are least precise for small crabs due to gear selectivity, and for females of some stocks due to crab behavior. However, for consistent analyses, catchability is assumed to be near or equal to one.

RESULTS

Survey Overview and Ancillary Data Collection

The 2010 EBS bottom trawl survey consisted of 403 bottom trawls (376 standard survey stations, 4 additional tows at hot spot station G-21, and 23 resampled stations in Bristol Bay) conducted from 7 June to 4 August 2010 over an area of approximately 140,350 nmi^2. The standard survey tow made at G-21 was designated a hot spot due to the high number of legal-sized Tanner crab in the catch (see Appendix A for crab densities at each station), resulting in four additional tows. The latitude and longitude of the midpoint of each successful tow along with the duration (hr), distance fished (km), bottom depth (m) and bottom temperatures (°C) are listed in Appendix A. The mean distance fished was 1.52 nmi (2.82 km, SD = 0.12 nmi) with a range of 0.62 to 2.12 nmi (1.15 to 3.93 km) and the mean fishing time was 30.9 minutes (0.52 hr, SD = 2.3 min). The fishing depth of the 83/112 otter trawl net ranged from 17 to 190 m with a mean gear depth of 79 m (SD = 33.9).

The mean bottom temperature per tow during the standard survey ranged from -1.6° to 6.4°C (Fig. 3). These temperatures were collected for the duration of the tow at each station as the survey progressed from east to west, beginning on 7 June 2010 in the northeast corner of Bristol Bay and moving northwest of St. Matthew Island to finish on 4 August 2010. A cold pool of water < 2°C was prevalent between the 50 m and 100 m isobaths in the middle shelf and the southwestern portion of Bristol Bay with cool temperatures persisting at the nearshore stations along the Alaska Peninsula. Warmer bottom temperatures were evident between the 100 m and 200 m isobaths in the southwestern area of the survey area and in shallow waters south of Nunivak Island, while cooler water temperatures persisted in the northwestern area between the 100 m and 200 m isobaths and the waters surrounding St. Matthew Island. In 2010, the average mean bottom water temperature during the first survey leg (7 to 26 June 2010) was 1.8°C (SD = 1.6) which was warmer than the average mean bottom water temperature during the first survey leg in 2009 and 2008 (1.5°C, SD = 0.5 and 1.4°C, SD = 0.7, respectively), and equal to the mean bottom water temperature of 1.8°C (SD = 0.9) in 2007. The mean bottom water temperatures at the 23 stations resampled in July ranged from 2.8°C to 6.5°C, with an average of 4.8°C (SD = 0.9) (Fig. 4).

In 2010, the mean net width per tow ranged from 46 ft (14.0 m) to 70 ft (21.3 m) and the average mean net width for all 380 successful tows was 56 ft (17.0 m) with a standard deviation of 1.2. Only 31 of 380 successful tows completed on the 2010 EBS bottom trawl survey fished with a mean net width of 50 ft or less.

Nine ancillary research projects and collections were conducted in addition to the assessment survey to collect specific biological data from particular crab species (Table 3). Seven of the projects originated from the AFSC Shellfish Assessment Program; investigating the reproductive potential of female red king crab by evaluating egg loss and the presence of non-viable eggs during the incubation period, examine Tanner crab stomach content and potential

prey, investigate the role of pathogens and parasites in the vitality of shellfish populations by providing shellfish quality reference material, collecting specimens with rare or unusual pathological conditions, collecting hemolymph samples from *Paralithodes, Hyas,* and *Pagurus* spp. at randomly selected stations to monitor bitter crab syndrome and for population genetics, documenting any visual observations of bitter crab or black mat syndrome, and photographing invertebrate species to update the database for educational purposes. Data for two additional projects were collected for ADF&G and University of Alaska, Fairbanks researchers to: 1) evaluate sperm reserves and clutch fullness in *Chionoecetes* spp. as indicators of reproductive potential, and 2) define genetic population structure in EBS snow crab.

A total of 146 red king crab egg clutches were collected and returned to the AFSC Kodiak Laboratory to evaluate seasonal and interannual variability in fecundity, assess clutch fullness indices as a tool for estimating fecundity, and determine if egg quality varies among females of different sizes. Several potential Tanner crab prey were collected throughout the survey as well as 80 stomachs from both male and female Tanner crab to investigate the diet of this crab species. Hemolymph samples were collected for population genetics from 11 *P. camtschaticus* and 216 *P. platypus* while 684 male and 553 female *C. opilio*, 194 male and132 female *C. bairdi* and 2 *Hyas lyratus* hemolymph samples were collected to monitor bitter crab syndrome. Black mat was visually observed on 42 individual *C. bairdi* crabs during the 2010 EBS trawl survey at stations A-04, B-03, E-18, E-19, and E-20 (Fig. 1), while digital photographs were taken throughout the survey of numerous invertebrate species for the digital imagery database. Two hundred female *C. opilio* samples were collected to support the University of Alaska Fairbanks project on population structure in the EBS. All collections were completed within the guidelines stipulated by the ADF&G collection permits for each project.

Bristol Bay District Red King Crab

One objective of this multispecies bottom trawl survey is to assess the mature red king crab population by sampling after completion of the molt-mate cycle when mature females are carrying newly extruded, uneyed embryos (Otto 1986). Embryo development and larval hatching in female red king crab, followed by the molting and mating cycle, are delayed in years with cold bottom water temperatures (Shirley et al. 1990, Stevens and Swiney 2007). A delay in the molting and mating cycle is apparent in June, at the beginning of the EBS bottom trawl survey, by high numbers of old shell mature females either brooding eyed embryos, which were fertilized from the previous season, or exhibiting pleopods with empty egg cases. In years with relatively warmer water temperatures, 94%-99% of the mature females in June carried uneyed embryos.

In years with colder than average bottom water temperatures, (1999, 2000, and 2006 to 2009) a number of standard Bristol Bay stations were sampled in early June and again in late July to assess the percentage of ovigerous red king crab females which had recently completed the molting and mating cycle and extruded a new clutch of uneyed embryos. In 2010, it was necessary to resample 23 Bristol Bay stations in late July due to the low number of newly molted, ovigerous female with clutches of uneyed embryos encountered in early June. These resample

stations were selected based on the density of female red king crab at these stations during the first sampling event and from expected distributions based on previous Bristol Bay surveys.

Red king crab were caught at 53 of the 136 stations in the Bristol Bay management district in 2010. The density of legal-sized male crab caught at a station ranged from 66 to 4,471 crab/nmi^2 (Appendix A). Legal-sized male Bristol Bay red king crab were caught at 39 stations (Appendix A), resulting in a total biomass estimate of 21,347 ± 7,504 (t) in the Bristol Bay District (Table 4). The majority of these males were concentrated in the central and southwest section of Bristol Bay along the Alaska Peninsula (Figs. 5 and 6). The 2010 estimate is lower than the 24,521 ± 9,474 (t) average for the previous 20 years (Table 4).

Red king crab mature males were encountered at 46 stations, with an estimated biomass of 30,248 ± 9,246 (t), and represented 84% of the total male biomass in 2010 (Table 4) with the remaining balance of 5,641 ± 1,768 (t) of immature male red king crab. The majority of both size categories were centrally located in the Bristol Bay District, with a high number of immature males caught in the nearshore stations of eastern Bristol Bay (Figs. 5 and 6).

The 2008 male red king crab 110 to 115 mm CL cohort appears in 2009 at 125 to 135 mm CL and at approximately 140 to 150 mm CL size class in 2010 (Fig. 7). The 70 mm CL cohort of 2002, which grew to 150-160 mm CL range in 2008, declined in abundance in 2009 and aged as indicated by increasing very old shell condition classes in 2010. In 2010, 59% legal-sized male were hard shell crabs and 41% were old shell and very old shell crabs with the majority of old shell males caught in central Bristol Bay at depths of 50 m or less (Fig. 8).

The 2010 mature female red king crab biomass estimate of 40,797 ± 21,869 (t) represented 99% of the total female abundance (Table 4) with immature female red king crab biomass estimated at 386 ± 365 (t). The majority of the mature female red king crab were caught in the central area of Bristol Bay and along the Alaska Peninsula in shallow, nearshore waters (Figs. 5 and 6).

Similar to the previous 4 years, the cold water temperatures in 2010 delayed the molting and mating cycle and only 54% of the 558 mature females sampled during the standard survey had extruded a new clutch of uneyed embryos. In early June, the old shell females with empty egg cases and the new, hard shell females with uneyed embryos were primarily distributed in the shallow waters and along the Alaska Peninsula (Fig. 9a). Among resurveyed female crab in late July of 2010, 96% were mature and 100% of these were new, hard shell females with newly extruded uneyed embryos (Fig. 10). These new, hard shell females had molted and mated over the 6-week period between the first sampling event in early June samples and the resample in late July (Fig. 9b).

During years with colder than average bottom temperatures, such as 1999, 2000, and 2006 to 2009, the ratio of eyed to uneyed embryos encountered on the EBS bottom trawl survey in June was higher compared to years with warmer bottom temperatures (2001-2005). The eyed to uneyed embryo ratio ranges from 6.54 to 0.42 in cold years, compared to 0.06 to 0.01 in the warmer years, indicating a high number of females within the survey area had not completed the

molting and mating cycle in early June. When the Bristol Bay stations were resampled in late July of 1999, 2000, 2006, 2007, 2008, and 2009 the ratio of eyed to uneyed embryos decreased dramatically, ranging from 0.02 to < 0.01, indicating the majority of mature females have completed the mating and molting cycle (Table 5). In 2010, the ratio of eyed to uneyed embryos decreased from 0.64 during the standard survey in early June to 0.03 during the resampling event in late July.

Pribilof District Red King Crab

Historically, red king crab were not abundant in the Pribilof District and landings were taken incidentally during the blue king crab fishery. The red king crab fishery first opened in 1993 while fishing for blue king crab was closed. A combined fishery for red and blue king crab occurred in the Pribilof District from 1995 through 1998, but due to low abundance of blue king crab, the combined fishery and the red king crab fishery have both remained closed since the 1998-1999 season (Gish 2006).

Red king crab were caught at 13 of the 41 stations in the Pribilof District high-density sampling area in 2010. The density of legal-sized males caught at a station ranged from 66 to 1,854 crab/nmi^2 (Appendix A). Legal-sized male red king crab were caught at 11 stations in the Pribilof District high-density sampling area with a biomass estimate of 2,881 ± 2,049 (t), representing 92% of the total male biomass but below the average of 5,222 ± 4,742 (t) million crab from the previous 20 years (Table 6). The majority of the legal-sized males were distributed south and west of St. Paul Island at stations G-21 and GH-2122 (Figs. 11 and 12).

Mature males were encountered at 11 of the 41 stations with a biomass estimate of 3,107 ± 2,336 (t) representing 99% of the total male biomass (Table 6) with the remaining 1% represented by 30 ± 47 (t) of immature male red king crab. Mature males were distributed ubiquitously around St. Paul Island in the nearshore shallow water stations (Figs. 11 and 12).

The 2010 size-frequency for red king crab males shows a decrease in the number of old shell and very old shell legal-sized males in comparison to the 2008 shell conditions but an increase when compared to 2009 (Fig. 13). In 2010, one legal-sized male was in softshell condition and caught east of St. Paul Island at depths less than 50 m while 54% of the legal-sized males were evaluated as new hard shell crabs and distributed north and south of St. Paul Island. Forty-five percent of the legal-sized males were in old shell and very old shell condition and primarily distributed east of St. Paul Island (Fig. 14).

The 2010 biomass estimate of mature-sized red king crab females was 468 ± 379 (t), representing 100% of the total female biomass as no immature females were caught on the 2010 survey (Table 6). Female biomass estimates are imprecise due to the limited number of tows with positive crab catches (Appendix A, Figs. 9 and 10). None of the mature females were carrying eyed embryos, while 85% of the mature females were brooding uneyed embryos and 15% were

barren or had empty egg cases. The majority of mature females with uneyed embryos were in the 130 mm CL to 140 mm CL size class (Fig. 15).

Pribilof District Blue King Crab

Blue king crab were caught at 8 of the 41 stations in the Pribilof District high-density sampling area in 2010. Legal-sized males were caught at three stations east of St. Paul Island and one station north of St. George, with a density ranging from 62 to 71 crab/nmi^2 (Appendix A, Figs. 15 and 16). The 2010 biomass estimate of legal-sized males was 202 ± 191 (t), representing 48% of the total male abundance and below the average of 1,663 ± 1,586 (t) for the previous 20 years (Table 7).

Blue king crab mature males were caught at five stations in the Pribilof District high-density sampling area with a biomass estimate of 322 ± 290 (t) representing 77% of the total male abundance (Table 7). Immature male blue king crab were caught at two stations with a biomass estimate of 98 ± 163 (t) in 2010 and represent the remaining 33% of the total male abundance in the Pribilof District (Figs. 16 and 17).

The 2008 male blue king crab cohort at the 95 to 100 mm CL size class advanced to approximately the 125 to 130 mm CL size class in 2009 and into the 145 to 155 mm CL in 2010 although a proportion of that size class was in the soft and molting stage (Fig. 18). Four legal-sized male blue king crab were captured on the 2010 survey in the Pribilof District, two in molting or softshell condition and one in new hard shell condition east of St. Paul Island. The remaining legal-sized male was in old shell condition and caught north of St. George Island (Fig. 19).

Mature female blue king crab were caught at five stations in the Pribilof District high-density sampling area with a biomass estimate of 352 ± 428 (t) representing 81% of the total female biomass (Table 7, Figs. 16 and 17). Immature female blue king crab were caught at four stations northeast of St. Paul Island in the Pribilof District high-density sampling area with a biomass estimate of 81 ± 98 (t) for 2010 (Figs. 16 and 17). Estimates of female biomass are imprecise due to the preference of these crab for rocky habitat which is not sampled well by trawls. Blue king crab females are predominantly biennial spawners with only a portion of the female population carrying eyed embryos in a given year, while the remainder is in a non-embryo-bearing phase (Somerton and MacIntosh 1985). Sixteen of the 28 female blue king crab sampled during the survey were brooding uneyed or eyed embryos. While eight of the females were immature and in softshell condition, 50% of the mature females were new hard shell crab with newly extruded embryos while 50% were old shell females of which 60% were brooding eyed embryos and 40% had empty egg cases (Fig. 20).

St. Matthew Island Section, Northern District Blue King Crab

Blue king crab were caught at 35 of the 56 total stations in the St. Matthew Island Section: 24 stations in the high-density sampling area and 11 stations in the standard-density sampling area. The density of legal-sized males caught at a station ranged from 64 to 1,209 crab/nmi^2 and they were captured primarily south and west of St. Matthew Island (Appendix A, Figs. 21 and 22). One hundred and twelve legal-sized male blue king crab were caught in 2010 with a biomass estimate of 4,317 ± 2,165 (t) representing 36% of the total male biomass and above the average of 2,997 ±1,822 (t) from the previous 20 years (Table 8).

The mature male biomass estimate in 2010 was 8,114 ± 5,955 (t) and represents 67% of the total male biomass (Table 8), with the immature male biomass estimate of 3,974 ± 5,873 (t) contributing to the remaining 33% of the total male biomass. The majority of the immature male blue king crab were distributed north and west of St. Matthew Island with a large number caught at station R-24 (Figs. 21 and 22).

The 2008 85 mm CL mm male blue king crab cohort appears in 2009 at approximately the 100 mm to 110 mm CL range. In 2010, this cohort is increasing in age as reflected in the 115 mm to 120 mm CL range with increasing old shell and very old shell condition classes (Fig. 23). In 2010, 98 legal-sized male crab were new hard shell crabs, with the majority distributed southwest of St. Matthew Island, and 14 were old shell and very old shell condition crabs (Fig. 24).

The 2010 mature female blue king crab biomass estimate was 362 ± 673 (t), representing 64% of the female biomass (Table 8), with the immature female blue king crab biomass estimate of 206 ± 250 (t) contributing to the remaining balance. Mature females were caught at two stations, Q-24 and R-25, and immature females were caught at four stations, primarily southwest of St. Matthew Island (Figs. 21 and 22). Thirty-three of the females caught were mature and in new hard shell condition at the 75 mm to 90 mm CL range but with no extruded embryos (see female Pribilof District Blue King Crab discussion above) while one mature female was old shell with empty egg cases. The remaining 14 females were immature in the 55 mm to 80 mm CL size classes (Fig. 25).

Tanner Crab

Tanner crab were caught at 252 of the 376 stations in the combined areas of the Bristol Bay District, Pribilof District, and Northern District with four extra tows occurring at G-21 due to Tanner crab hot spot protocol. Tanner crab occurred at 41 stations in the Pribilof District high-density sampling area and 22 stations in the high-density sampling area of the St. Matthew Island Section in the Northern District (Appendix A).

Legal-sized male Tanner crab were caught at 59 stations, ranging from 66 to 10,403 crab/nmi^2 per standard tow (Appendix A). The 2010 biomass estimate for legal male Tanner crab was 7,955 ± 3,172 (t), with high abundance regions occurring along the Alaska

Peninsula in the Bristol Bay District and west of St. Paul Island in the Pribilof District as well as at station G-21 (Table 9, Figs. 26 and 27). Legal-sized male crab represented only 18% of the total male biomass in 2010 with 58% of legal males occurring east of 166°W in the ADF&G Eastern management district compared to 54% in 2009 and 69% in 2008.

Mature male Tanner crab represented 56% of the total male biomass with an estimate of 27,949 ± 8,538 (t) (Table 9), and the remaining balance of immature males biomass estimate was 16,044 ± 2,882 (t). High abundances of mature males occurred south of the Pribilof Islands and in the southwest area of the Bristol Bay District while immature male Tanner crab were distributed throughout the eastern Bering Sea shelf (Figs. 26 and 27).

In 2010, a total of 1,795 male Tanner crab chela height and carapace width measurements were collected on the EBS bottom trawl survey. The scatterplot of the allometric relationship between chela height and carapace width using the data collected in 2010 and in 2008 (n =1,783) graphically represents two distinct maturity groups; immature males (small claw) with a ratio of less than 0.18 and mature males (large claw) with a ratio greater than or equal to 0.18 (Fig 28). The carapace widths for small claw males ranged from 14.0 to 137.3 mm compared to 66.6 to 175.2 mm for large claw males. The large claw males less than 138 mm will not molt to legal-size in the future, as morphometrically mature male *Chionoecetes* spp. crab will not molt again during their lifespan (Tamone et al. 2007).

The 2008 male size class of 95 to 100 mm CW range appeared at approximately the 110 to 120 mm CW in 2009 and advanced into the 120 mm to 130 mm CW size classes in 2010 (Fig. 29). Old and very old shell males remain a relatively large proportion in the 90 mm CW size distribution, representing 20% of the total biomass, and are distributed in the southwest section of the EBS shelf as well as the Pribilof Islands (Fig. 30).

The 2010 mature female Tanner crab biomass estimate was 5,922 ± 1,906 (t), representing 65% of the total female biomass (Table 9), while the immature female Tanner crab biomass of 5,057 ± 1,402 (t) made up the balance. Thirty-five percent of the mature female population was distributed east of 166°W in the ADF&G Eastern management district in the southwest Bristol Bay District with a few large catches in the Pribilof Islands area, while the immature females were distributed throughout the eastern Bering Sea shelf between the 50 to 200 m isobaths (Figs. 26 and 27). Among sampled mature females, 1% were softshell, 19% were newhard shell, and 80% were old shell and very old shell. Eighty-six percent of the mature females carried newly extruded embryos while 7% had not produced a new clutch and 7% were barren (Fig. 31).

Snow Crab

Snow crab were caught at 283 of the 376 stations in the combined areas of the Bristol Bay District, Pribilof District, and Northern District. Snow crab occurred at 41 stations in the Pribilof District high-density sampling area, and 27 stations in the high-density sampling area of the St. Matthew Island Section of the Northern District (Appendix A).

Although the legal minimum size limit for male snow crab is 3.1 inches CW (78 mm), processors currently prefer a minimum size of 4.0 inches CW (102 mm). The density of legal-sized male snow crab is reported for both legal (≥ 3.1 in. CW) and preferred (≥ 4.0 in. CW) size categories and listed by station in Appendix A. The biomass estimates for male snow crab are reported for both legal and preferred size categories in this report (Table 10).

Legal-sized male snow crab were caught at 224 stations, throughout all Districts combined, resulting in a biomass estimate of 136,140 ± 31,567 (t) and representing 54% of the total male abundance. Sixty-five percent of those legal males were ≥ 4 inches in carapace width with a biomass estimate of 88,788 ± 24,996 (t). Approximately 70% of all legal male snow crab were east of 173°W in the ADF&G Eastern management district as compared to 79% in 2009. In 2010, 67% of the legal males were distributed between 166°W and 173°W with the remaining balance of 30% distributed west of 173°W. These legal-sized male snow crab were distributed throughout the eastern Bering Sea shelf with higher concentrations around the Pribilof Islands (Table 10, Figs. 32 and 33).

The mature male snow crab biomass estimate was 107,132 ± 27,491 (t) in 2010, representing 42% of the total male biomass (Table 10). Seventy-six percent of these males were distributed east of 173°W in the ADF&G Eastern management district compared to 52% in 2009 (Figs. 32 and 33).

In 2009, a total of 1,353 male snow crab chela height and carapace width measurements were collected on the EBS bottom trawl survey. The scatterplot of the allometric relationship between chela height and carapace width for snow crab graphically represents two distinct maturity groups: immature males (small claw) with a ratio of less than 0.20, and mature males (large claw) with a ratio greater than or equal to 0.20 (Fig. 34). The carapace widths for small claw males ranged from 27.0 to 121.2 mm compared to 40.0 to 151.5 mm for large claw males.

The 60 to 65 mm CW size class of 2008 male crab recruited to the 70 to 75 mm CW in 2009 and appears at approximately the 85 to 95 mm CW size class in 2010. A smaller size class of immature males is appearing in 2010 at the 45 to 55 mm CW range (Fig. 35). Among legal-sized male crab, 13% were in molting or softshell condition and 69% were in new hard shell condition indicating a recent molt, and were ubiquitously distributed between the 100 m and 200 m isobaths of the EBS survey area. Eighteen percent of the legal-sized males were old shell and very old shell condition crabs and primarily distributed in the northwest section of the EBS shelf between the 100 m and 200 m isobaths (Fig. 36).

The mature female snow crab biomass estimate of 132,166 ± 45,594 (t) comprised 54% of the total female biomass (Table 10) with the immature female crab biomass estimate of 110,581 ± 40,656 (t) representing the remaining balance. Thirty-one percent of the total biomass of immature female crab and 52% of the total biomass of mature female snow crab were caught east of 173°W in the ADF&G Eastern management district with 69% immature and 48% mature females distributed west of 173°W (Figs. 32 and 33). Among sampled mature females, 46% were in new hard shell condition with 98% brooding newly extruded embryos, 54% were old

shell and very old shell condition with 97% brooding new embryos, while less than 1% of the old and very old shell females had not produced a new clutch, and less than 3% of the mature females were barren (Fig. 37).

Chionoecetes bairdi/opilio hybrid

Chionoecetes hybrid crab were caught at 170 of the 365 stations in the combined areas of the Bristol Bay District, Pribilof District, and Northern District. *Chionoecetes* hybrid crab occurred at 25 stations in the Pribilof District high-density sampling area, and 11 stations in the high-density sampling area of the St. Matthew Island Section of the Northern District (Appendix A).

In this document, *C.* hybrid crab size classes for legal males and mature females are based on the size categories for snow crab (see Snow Crab section and Table 1). The biomass estimates reported in this report for legal-sized male *C.* hybrid crab combines both the preferred and legal size categories. The density of legal-sized male *C.* hybrid crab is listed for each station in Appendix A and are separated into preferred (≥ 4.0 in. CW) and legal (≥ 3.1 in. CW) size categories.

Legal-sized male *C.* hybrid crab were caught at 104 stations, throughout all Districts combined, resulting in a biomass estimate of 4,733 ± 1,259 (t), they were distributed primarily between 50 and 100 m along the eastern Bering Sea shelf (Figs. 38 and 39). Seventy-six percent of those legal males were ≥ 4 inches in carapace width, with a biomass estimate of 3,575 ± 974. The 2010 pre-recruit male *C.* hybrid crab biomass estimate for all Districts combined was 866 ± 461 (t), distributed throughout the eastern Bering Sea shelf at depths greater than 50 m (Figs. 38 and 39).

The 2010 mature female *C.* hybrid crab biomass estimate was 1,246 ± 489 (t) and the immature female crab biomass estimate was 240 ± 154 (t). The majority of the mature female hybrid crab were distributed between 100 and 200 m of the northwestern area of the eastern Bering Sea (Figs. 38 and 39).

Other Crab Stocks and Species of Interest

Northern District Red King Crab

Red king crab were caught at 29 stations in the Northern District and did not occur in either of the management units where red king crab are commercially fished or managed (Fig. 2). The 2010 biomass estimates were calculated using an area of 11,629 nmi^2 based on the number of stations with positive catches of red king crab in the Northern District. Legal-sized males were caught at 16 of those stations. The density of legal-sized males caught at a station ranged from 68 to 247 crab/nmi^2 (Appendix A). The 2010 biomass estimate of legal-sized males was 1,189 ±

893 (t) and the biomass estimate of mature and immature males was 2,155 ± 869 and 630 ± 360 (t), respectively. The biomass estimate of mature female red king crab was 1,081 ± 568 (t) while the biomass estimate of immature females was 41 ± 45 (t). Both legal males and mature female red king crab were caught at stations south and west of Nunivak Island (Fig. 40).

Northern District Blue King Crab

Blue king crab were caught at seven stations not included in the biomass estimates for the Pribilof District blue king crab or the St. Matthew Island section, Northern District blue king crab. One immature hard shell male was caught at station R-29 while one mature hard shell male and three mature old shell males, were caught northwest of St. Matthew Island. One mature, hard shell male was caught at station M-23 and one immature, old shell female was caught at station J-01 (Appendix A, Fig. 41).

Hair Crab

In 2010, a total of 322 hair crab were captured at 75 of the 317 stations throughout all Districts combined on the EBS bottom trawl survey (Fig. 41). Historically, hair crab have been concentrated just north of the Alaska Peninsula and near the Pribilof Islands. In recent years, the abundance of hair crab north of 58°N has been increasing (Fig. 42).

In this report, legal male hair crab are defined as > 3.25 inches CW (≥ 83 mm CL), as specified in the previous Pribilof District fishery, while the female hair crab biomass estimate is presented for all sizes combined regardless of carapace size. The 2010 density of legal male hair crab caught at a station ranged from 66 to 626 crab/nmi^2, resulting in a biomass estimate of 1,572 ± 91 (t). Legal male hair crab were primarily concentrated in Bristol Bay with a few near St. Paul Island and distributed along the 50 m isobath in the northeast section of the standard survey (Fig. 42).

The 2010 pre-recruit male hair crab biomass estimate was 893 ± 104 (t) and the female hair crab biomass estimate was 468 ± 16 (t). The majority of pre-recruit male and female hair crab were distributed north of 58°N, south and west of Nunivak along the 50 m isobath (Fig. 42). The density of both pre-recruit male and female hair crab has increased in this area over the last 3 years with an increasing number of females occurring west of Nunivak Island (Chilton et al. 2008 and 2009).

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. After one year of experimental fishing with minimal vessel participation, the Northern District fishery was closed in 2001 (Bowers et al. 2010). In the last few years, the biomass estimates of both size classes of male hair crab have increased relative to 2006 although the 2010 biomass estimate for legal-sized male hair crab is lower than the 20-year average of 1,741 ± 1,334 (t) (Table 11).

Golden King Crab

Three golden king crab were caught on the standard survey: two new hard shell males at 149 mm and 164 mm CL at station E-19 with an average depth of 128 m, and one old shell female at 118 mm CL at station K-27 with an average depth of 162 m (Fig. 1). One new hard shell male and one old shell female with carapace lengths of 156 mm and 137 mm, respectively, were caught at E-19 in 2009. This species is managed by ADF&G in the Pribilof District of the Bering Sea king crab registration Area Q (Fig. 2). There has been limited commercial effort for this stock since the fishery began in 1982 and ADF&G does not currently survey this population nor estimate population abundances (Bowers et al. 2010). The annual EBS bottom trawl survey does not routinely encounter golden king crab due to this species' habitat and depth preferences which are outside of the surveyed area.

Northern Extension of the 2010 Standard Survey

Northern Extension Survey Overview and Ancillary Data Collection

The northern extension of the 2010 EBS standard survey (NBS) consisted of 142 successful tows conducted from 23 July to 9 August 2010 at 145 stations covering an area of approximately 58,145 nmi^2 (Fig. 43). The latitude and longitude of the midpoint of each successful tow, along with the duration (hr), distance fished (km), bottom depth (m), and bottom temperatures (°C) are listed in Appendix B. The mean distance fished was 1.49 nmi (2.75 km, SD = 0.17 nmi) with a range of 0.65 to 2.03 nmi (1.20 to 3.76 km) and the mean fishing time was 30 minutes (0.50 hr, SD = 3 min). The fishing depth of the 83/112 otter trawl net ranged from 9 to 76 m with a mean gear depth of 35.5 m (SD = 15.8). The mean net width per tow ranged from 46 ft (14.0 m) to 67 ft (20.5 m) and the average mean net width for all 380 successful tows was 53 ft (16.0 m, SD = 4 ft). Only 25 of 142 successful tows completed in the NBS area fished with a mean net width of 50 ft or less.

The mean bottom temperature per tow in the NBS area ranged from -1.6° to 12.3°C (Fig. 44). A cold pool of water < 2°C was prevalent west and south of St. Lawrence Island with cooler temperatures persisting at stations along 50 m isobath and deeper. Warmer bottom temperatures were evident in Norton Sound and in shallow waters along the Alaskan coastline, south of Norton Sound.

Norton Sound Section, Northern District Red King Crab

The 2010 red king crab biomass estimates were calculated using an area of 17,644 nmi^2 based on the number of stations within the Norton Sound Section of the Northern District. Red king crab were caught at 22 of the 44 total stations within the Norton Sound Section (Appendix B). Norton Sound legal males are defined by ADF&G as ≥ 104 mm CL and mature males are ≥ 94 mm CL (Zheng et al. 2010) while Otto et al. (1990) defined 50% maturity in Norton Sound females at 71 mm CL. The density of legal-sized males caught at a station ranged from 71 to 935 crab/nmi^2 (Appendix B). The 2010 biomass estimate of legal-sized males was 1,030 ± 993 (t) and the biomass estimate of mature and immature males was 1,656 ± 1,598 and 263 ± 222 (t), respectively. The biomass estimate of mature female red king crab was 347 ± 207 (t) while the biomass estimate of immature females was 23 ± 22 (t). The majority of legal male and mature female red king crab were caught in shallow waters within the northwest area of Norton Sound (Fig. 45).

In 2010, red king crab males in the Norton Sound Section were primarily new hard shell with 39% and 11% of the males in old or very old shell condition, respectively, while red king crab females were all new hard shell. Sixty-nine percent of the new hard shell females were brooding uneyed embryos, primarily within the 70 mm to 90 mm CL size range, while the remaining balance were immature (Fig. 46).

Red king crab were caught at four stations outside of the defined management area of the Norton Sound Section and are not included in the biomass estimates reported for Norton Sound Section red king crab in the previous paragraph (Fig. 44). Four mature males, two new hard shell and two old shell, and three legal-sized males were caught west and south of Cape Romanzof while one mature new hard shell female with uneyed eggs was caught at station R-20 (Appendix B, Fig. 45).

Blue King Crab

The 2010 biomass estimates were calculated using an area of 10,426 nmi^2 based on the number of stations with positive catches of blue king crab in the NBS area (Fig. 47). Blue king crab size categories in the NBS area are the same as the St. Matthew Island blue king crab (Table 1). Legal-sized males were caught at station EE-02 with a density of 75 crab/nmi^2 (Appendix B). The 2010 biomass estimate of legal-sized males was 45 ± 88 (t) and the biomass estimate of mature and immature males was 566 ± 329 and 590 ± 341 (t), respectively. The biomass estimate of mature female red king crab was 730 ± 300 (t) while the biomass estimate of immature females was 247 ± 136 (t). The majority of both mature and immature males and females were distributed off the northwest coast of St. Lawrence Island while a smaller number of mature male and female blue king crab were distributed in shallow water just south of Bering Strait (Fig. 47).

The majority of blue king crab males caught in the NBS area were in new hard shell condition with 15% of the males in old shell and very old shell condition, primarily in the 100 mm to 120 mm CL size range. Female blue king crab were primarily in new hard shell

condition with 58% of the females immature while 21% were brooding uneyed embryos and the remaining females were old shell with empty egg cases (Fig. 48).

Tanner Crab

Two immature Tanner crab were caught in the NBS area at station AA-23 (Fig. 43): one new hard shell male and one new hard shell female with a density of 73 crab/nmi^2 for each category at that station (Appendix B).

Snow Crab

Snow crab were caught at 118 of the 145 total stations, although legal-sized males were caught only at BB-07 with a density of 77 crab/nmi^2 and no legal-sized males were caught in the preferred size category (≥ 102 mm CW) (Fig. 49 and Appendix B). The size category for mature male snow crab in the NBS area is smaller than the mature male snow crab in the standard survey (Table 1), while the size categories for legal males, mature and immature females follow Table 1. Otto (1998) reported the size at 50% maturity for male snow crab at 75 mm CW, which was developed by using the chela height to carapace width relationship to define large claw, mature males. Less than 0.01% of all male snow crab caught in the NBS area were ≥ 70 mm CW, thus the majority of snow crab males caught in the NBS area were classified as immature.

The 2010 snow crab biomass estimates were calculated using an area of 58,145 nmi^2 based on the total number of stations within the NBS area (Fig. 43). The 2010 biomass estimate of legal-sized males was 8 ± 16 (t) and the biomass estimate of mature and immature males was 8 ± 16 and 182,348 ± 47,903 (t), respectively. The biomass estimate of mature female snow crab was 30,277 ± 10,883 (t) while the estimate of immature females was 134,393 ± 39,275 (t). Both immature male and female snow crab were ubiquitous throughout the NBS area, while the majority of mature females were caught in the southwestern portion of the NBS area (Fig. 50).

Ninety-nine percent of the snow crab males caught in the NBS area were in new hard shell condition with < 1% in old shell condition and 88% in the 15 mm to 49 mm CW size range. Ninety-eight percent of the females were new hard shell with < 2% old shell and very old shell combined (Fig. 51). Ninety-three percent of the females were immature with < 7% brooding uneyed embryos and the remaining females were either brooding eyed embryos or barren females (Fig. 51).

Hair Crab

The 2010 biomass estimates were calculated using an area of 4,812 nmi^2 based on the number of stations with positive catches of hair crab. The 2010 biomass estimate for pre-recruit males (< 83 mm CL) in the NBS area was 227 ± 169 (t) while the biomass estimate for all females was 91 ± 77 (t). A total of 59 hair crab were caught at 12 stations in the NBS area, 33

pre-recruit new hard shell males and 26 new hard shell females. Twenty-five of the females were immature while one female carried a full clutch of uneyed embryos. The majority of pre-recruit males and females were distributed north and east of St. Matthew Island, primarily along the 50 m isobath (Fig. 52).

Chionoecetes bairdi/opilio hybrid

In this document, *C.* hybrid crab size classes for immature males are based on the size categories for snow crab in the NBS area (see Snow Crab section above). One 45 mm CW, new hard shell immature *Chionoecetes* spp. hybrid crab was measured in the subsample of the total catch at station Y-24, and with a corresponding sampling factor of 57.78, the density for immature males was 2,687 crabs/nmi^2 at that station (Appendix B).

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Table 1. --Definition of carapace size classes for crab species caught in the National Marine Fisheries Service eastern Bering Sea standard survey. Carapace length (CL) is measured for *Paralithodes* species and *Erimacrus isenbeckii*, while carapace width (CW) is measured for *Chionoecetes* species.

	Immature	Mature	Legal male
Paralithodes camtschaticus			
Bristol Bay District			
males	< 120 mm	≥ 120 mm	≥ 135 mm CL or ≥ 6.5 in. CW
females	< 90 mm	≥ 90 mm	
Pribilof District			
males	< 120 mm	≥ 120 mm	≥ 135 mm CL or ≥ 6.5 in. CW
females	< 90 mm	≥ 90 mm	
P. platypus			
Pribilof District			
males	< 120 mm	≥ 120 mm	≥ 135 mm CL or ≥ 6.5 in. CW
females	< 100 mm	≥ 100 mm	
St. Matthew Island			
males	< 105 mm	≥ 105 mm	≥ 120 mm CL or ≥ 5.5 in. CW
females	< 80 mm	≥ 80 mm	
Chionoecetes bairdi			
males	< 113 mm	≥ 113 mm	≥ 138 mm or ≥ 5.5 in. CW
females	< 80 mm	≥ 80 mm	
C. opilio			
males		≥ 95 mm	≥ 78 mm or ≥ 3.1 in. CW[1]
females	< 50 mm	≥ 50 mm	≥ 50 mm
Erimacrus isenbeckii			
males			≥ 83 mm[2] CL or > 3.25 in. CW
females			

[1] The legal minimum size limit for *C. opilio* is 3.1 in. CW (78 mm), although processors currently prefer a minimum size of 4.0 in. CW (102 mm).

[2] Legal-sized male crab for *E. isenbeckii* are defined as those larger than a minimum size of 3.25 inches CW (≥ 83 mm CL) from the Alaska Department of Fish and Game permit guidelines.

Table 2. --Weight-size regression relationships used to calculate biomass of crab species caught in the National Marine Fisheries Service eastern Bering Sea bottom trawl surveys.

Species	Number collected	*a*	*b*
Red king crab males	1086	0.000403	3.141334
Ovigerous red king crab	1010	0.003593	2.666076
Non-ovigerous RKC	201	0.000408	3.127956
Blue king crab males	409	0.000508	3.106409
Blue king crab females[2]	n/a	0.02065	2.2700
St. Matthew males	386	0.000502	3.107158
Tanner crab males	1030	0.00027	3.022134
Ovigerous Tanner crab	331	0.000441	2.898686
Non-ovigerous Tanner	487	0.000562	2.816928
Snow crab males	1107	0.000267	3.097253
Ovigerous snow crab	588	0.001158	2.827784
Non-ovigerous snow crab	344	0.001047	2.708367
Hair crab males[3]	703	0.0071731	3.02
Hair crab females[3]	178	0.00119453	2.86

[1]Chilton, E.A, and R.J. Foy. Unpublished manuscript. Growth and weight-size relationships of commercial crab in the eastern Bering Sea.

[2] Unpublished data. Available from Kodiak Laboratory, Alaska Fisheries Science Center, 301 Research Court Kodiak AK 99615.

[3] Armetta and Stevens (1987).

Table 3. --Scientific projects and collections related to crab species conducted on the National Marine Fisheries Service eastern Bering Sea bottom trawl survey in 2010.

Project	Principle Investigator	Agency
Visual monitoring for bitter crab and black mat syndrome	Bob Foy and Frank Morado	RACE[1]-SAP[2]
Pathological specimen voucher	Pam Jensen and Frank Morado	RACE[1]-SAP[2]
Bitter crab syndrome in North Pacific *Paralithodes*, *Hyas,* and *Pagurus* species	Frank Morado	RACE[1]-SAP[2]
Tanner crab stomach contents and potential prey	Bob Foy and Kathy Swiney	RACE[1]-SAP[2]
Providing product quality reference material for marketable shellfish	Frank Morado and Vanessa Lowe	RACE[1]-SAP[2]
Reproductive potential of snow and Tanner crabs in the eastern Bering Sea	Laura Slater and Joel Webb	ADF&G[3]
Developing biological reference points for crustacean fisheries: Reproductive potential of Bristol Bay red king crab	Kathy Swiney	RACE[1]-SAP[2]
Reproductive indices of male snow crab from the Bering Sea: Analysis of hormones, reproductive structures, and behavior	Gregg Albrecht	UAF[4]

[1] Alaska Fisheries Science Center, Resource Assessment and Conservation Engineering Division, Seattle, Washington.
[2] AFSC, Resource Assessment and Conservation Engineering Division, Shellfish Assessment Program, Kodiak, Alaska.
[3] State of Alaska, Department of Fish and Game.
[4] University of Alaska Fairbanks.

Table 4. --Time series of biomass estimates (t) for Bristol Bay District red king crab (*Paralithodes camtschaticus*) from the National Marine Fisheries Service eastern Bering Sea bottom trawl surveys. The 95% confidence intervals (CI) are 1.96 SE.

Carapace length	Mature male ≥ 120 mm	Mature male ± CI	Legal male ≥ 135 mm	Legal male ± CI	Mature female ≥ 90 mm	Mature female ± CI	Grand total	Grand total ± CI
1975	90,276	29,852	60,026	21,210	39,514	25,130	205,284	75,990
1976	114,833	29,855	71,170	17,175	61,012	35,817	274,281	90,984
1977	150,193	55,524	94,684	38,241	106,413	37,247	353,230	97,109
1978	143,700	65,068	96,358	44,868	104,669	40,494	312,120	93,670
1979	131,619	48,206	94,312	34,386	74,790	22,065	237,037	61,231
1980	122,361	60,234	98,940	50,257	52,526	30,132	224,846	96,489
1981	36,083	7,894	24,336	5,849	39,558	12,443	110,295	27,088
1982	22,220	8,345	9,838	3,420	37,106	14,474	130,594	67,045
1983	9,582	2,440	2,809	936	6,022	2,345	47,487	19,533
1984	14,117	7,164	6,830	4,951	9,665	7,828	127,135	169,052
1985	13,606	4,013	5,210	2,023	3,727	1,828	32,137	9,952
1986	27,390	26,390	12,678	11,302	4,021	2,268	45,190	37,836
1987	29,162	14,064	17,600	8,692	12,048	7,604	63,446	25,922
1988	24,679	8,806	18,296	7,051	14,313	11,744	48,594	20,664
1989	38,901	15,998	28,678	12,954	9,679	6,395	57,327	23,846
1990	29,435	10,316	22,490	8,598	13,559	11,135	51,259	21,426
1991	61,403	67,982	53,217	60,515	11,881	10,525	81,217	70,131
1992	17,838	6,651	13,393	4,856	8,547	4,250	33,735	11,480
1993	28,283	9,042	19,183	6,461	12,504	6,149	48,426	16,464
1994	19,240	6,588	13,023	4,593	6,491	2,791	29,787	9,945
1995	20,372	14,360	15,159	9,703	6,918	3,299	34,826	18,801
1996	17,631	7,148	14,682	6,438	9,706	5,373	40,531	16,107
1997	31,679	13,031	26,699	11,934	18,084	12,686	76,661	39,515
1998	32,386	10,211	18,906	6,459	27,643	13,942	74,171	25,796
1999	35,215	11,419	26,376	9,158	12,003	5,442	53,032	13,942
2000	29,950	6,511	21,180	4,617	15,930	8,610	55,859	15,353
2001	18,557	5,622	14,965	4,737	17,589	10,493	46,121	16,117
2002	32,469	12,371	24,588	9,507	14,664	7,910	63,780	25,223
2003	42,629	16,149	32,165	12,968	28,445	12,691	85,591	27,509
2004	39,676	12,686	33,470	11,228	24,260	11,459	87,987	28,393
2005	37,090	13,714	27,643	11,650	34,955	14,979	93,764	31,741
2006	36,953	15,679	29,273	14,164	24,696	4,995	78,645	18,777
2007	42,543	16,015	33,451	13,949	27,532	6,853	84,879	20,608
2008	39,411	11,195	28,013	8,701	35,764	19,492	90,324	27,059
2009	34,262	24,416	22,542	17,128	28,758	18,146	71,912	46,293
2010	30,248	9,246	21,347	7,504	40,797	21,869	77,072	32,165

Table 5. --Average bottom water temperatures collected at stations with mature Bristol Bay red king crab (*Paralithodes camtschaticus*) females on the National Marine Fisheries Service eastern Bering Sea bottom trawl surveys and the ratio of eyed to uneyed embryos in mature red king crab females with the warm years highlighted in gray. An * indicates statistical significance within the year using a two sample t-test, alpha = 0.95 and $P < 0.001$.

Sample event	Average bottom temperature (°C)	Standard deviation (n = Stations)	Two sample t-test values	Eyed to uneyed embryo ratio
May 1999	0.1	0.8 (41)	t = -11.9	6.54
July 1999	2.5*	0.8 (31)		0.02
May 2000	1.7	0.5 (49)	t = -9.2	1.45
July 2000	4.6*	1.6 (23)		0.01
June 2001	3.5	0.3 (40)		0.01
June 2002	3.4	0.6 (52)		0.06
June 2003	4.2	0.4 (51)		0.01
June 2004	3.9	0.5 (61)		0.03
June 2005	4.3	0.5 (49)		0.01
June 2006	2.2	0.7 (69)	t = -12.5	0.59
July 2006	4.2*	0.8 (30)		0.01
June 2007	1.8	0.9 (68)	t = -7.4	0.86
July 2007	3.4*	1.0 (32)		0.01
June 2008	1.4	0.7 (76)	t = -9.5	0.45
July 2008	3.6*	1.1 (32)		0.00
June 2009	1.5	1.6 (73)	t = -8.6	0.42
July 2009	4.5*	1.5 (32)		0.00
June 2010	2.0	0.9 (38)	t = -10.9	0.64
July 2010	4.8*	1.0 (23)		0.03

Table 6. --Time series of biomass estimates (t) for Pribilof District red king crab (*Paralithodes camtschaticus*) from the National Marine Fisheries Service eastern Bering Sea bottom trawl surveys. The 95% confidence intervals (CI) are 1.96 SE.

Carapace length	Mature male ≥ 120 mm	Mature male ± CI	Legal male ≥ 135 mm	Legal male ± CI	Mature female ≥ 90 mm	Mature female ± CI	Grand total	Grand total ± CI
1978	1,228	1,986	1,228	1,986	42	82	1,270	2,068
1979	859	661	790	657	76	108	935	715
1980	1,312	1,354	1,312	1,354	195	247	1,512	1,586
1981	299	343	299	343	97	148	396	366
1982	1,440	1,970	1,440	1,970	673	1,007	2,131	2,988
1983	518	542	486	494	216	205	761	716
1984	261	283	233	279	67	75	328	343
1985	60	118	60	118	0	0	60	118
1986	135	185	135	185	57	111	192	273
1987	53	103	53	103	25	49	77	113
1988	104	204	43	84	420	718	1,529	1,756
1989	1,498	2,671	854	1,415	1,442	1,961	4,000	5,512
1990	897	1,632	109	213	1,754	2,375	8,589	14,123
1991	4,335	6,765	1,295	2,047	3,790	4,468	8,819	11,747
1992	3,238	3,785	2,479	2,630	2,591	4,658	6,117	8,649
1993	9,687	17,497	9,017	16,185	4,829	6,789	14,800	22,430
1994	9,052	13,170	7,994	11,344	3,393	5,024	12,996	18,940
1995	24,282	20,572	22,428	19,226	6,171	6,180	31,053	25,213
1996	2,323	1,692	2,292	1,670	1,456	2,117	3,845	3,448
1997	6,056	7,393	5,843	7,305	1,436	1,597	8,970	8,604
1998	2,282	1,610	1,749	1,296	1,259	1,885	3,951	3,553
1999	5,422	7,092	4,394	5,995	2,252	3,258	13,445	16,773
2000	4,239	3,104	3,773	2,722	727	891	5,127	3,892
2001	8,434	12,995	5,663	7,808	4,333	8,450	15,047	25,801
2002	6,916	9,299	6,894	9,300	571	576	7,495	9,735
2003	5,280	6,807	5,184	6,638	1,642	2,922	6,924	8,408
2004	3,563	4,114	3,563	4,114	844	881	4,693	5,188
2005	1,219	1,398	1,219	1,398	2,207	3,393	3,479	4,019
2006	6,762	4,735	6,484	4,573	1,406	1,690	8,265	6,075
2007	7,176	5,489	6,947	5,245	2,527	2,563	9,912	8,127
2008	5,375	5,335	5,022	5,162	2,076	2,827	7,797	7,639
2009	2,454	3,066	2,088	2,519	546	590	3,044	3,623
2010	3,107	2,336	2,881	2,049	468	379	3,605	2,486

Table 7. --Time series of biomass estimates (t) for blue king crab (*Paralithodes platypus*) in the Pribilof District from the National Marine Fisheries Service eastern Bering Sea bottom trawl surveys. The 95% confidence intervals (CI) are 1.96 SE.

Carapace length	Mature male ≥ 120 mm	Mature male ± CI	Legal male ≥ 135 mm	Legal male ± CI	Mature female ≥ 100 mm	Mature female ± CI	Grand total	Grand total ± CI
1975	34,051	33,248	24,267	23,702	10,912	14,772	53,560	46,308
1976	9,543	7,723	8,595	7,056	2,594	4,126	19,076	21,334
1977	38,756	58,267	36,706	56,390	11,259	19,765	55,710	66,015
1978	15,798	17,245	12,291	15,458	6,171	8,918	24,807	26,813
1979	13,261	6,655	11,198	5,469	2,843	2,706	18,720	10,371
1980	14,782	9,167	12,418	7,042	62,997	111,482	80,052	116,752
1981	10,675	3,524	9,617	3,203	8,298	7,358	22,816	11,733
1982	6,584	2,450	6,185	2,343	8,763	11,923	17,009	13,670
1983	4,867	1,708	4,069	1,392	9,864	15,159	15,992	16,991
1984	1,615	779	1,342	693	2,536	1,922	4,294	2,351
1985	959	501	687	381	520	457	1,518	856
1986	1,368	812	1,340	807	2,383	4,271	3,766	4,443
1987	2,659	2,144	2,529	2,054	785	908	3,746	2,961
1988	766	794	766	794	478	459	1,617	1,129
1989	752	940	752	940	714	658	3,660	3,722
1990	3,121	2,706	1,411	1,140	2,224	1,701	9,002	6,840
1991	4,203	3,221	3,025	2,666	2,119	1,651	8,237	5,304
1992	3,982	3,308	2,790	2,414	1,543	1,400	8,286	6,985
1993	4,072	2,491	2,841	1,710	1,636	1,465	7,155	3,986
1994	3,028	2,051	2,491	1,716	4,524	3,969	8,436	5,821
1995	7,696	8,198	6,307	6,780	4,482	3,835	13,402	11,546
1996	4,221	2,223	3,522	1,830	5,418	5,356	10,449	6,631
1997	2,940	1,591	2,515	1,337	2,840	2,390	6,316	3,392
1998	2,453	1,230	2,191	1,125	1,761	1,588	5,265	2,508
1999	1,476	1,020	1,201	862	2,755	2,480	4,491	3,568
2000	1,902	1,103	1,588	949	1,439	1,304	3,467	2,072
2001	1,454	2,093	1,329	1,975	1,816	2,571	3,350	4,724
2002	618	613	588	605	1,401	2,129	2,019	2,675
2003	638	501	610	492	1,286	1,880	1,963	2,311
2004	97	111	44	86	118	120	251	172
2005	313	435	313	435	370	413	1,457	1,662
2006	137	163	115	158	522	732	758	886
2007	254	397	170	245	216	350	674	872
2008	42	82	42	82	493	637	906	1,291
2009	452	632	170	201	595	979	1,309	1,929
2010	322	290	202	191	352	428	852	938

Table 8. --Time series of biomass estimates (t) for blue king crab (*Paralithodes platypus*) in the St. Matthew Island Section of the Northern District from the National Marine Fisheries Service eastern Bering Sea bottom trawl surveys. The 95% confidence intervals (CI) are 1.96 SE.

Carapace length	Mature male ≥ 105 mm	Mature male ± CI	Legal male ≥ 120 mm	Legal male ± CI	Mature female ≥ 80 mm	Mature female ± CI	Grand total	Grand total ± CI
1978	5,387	4,125	3,004	1,940	143	140	8,477	6,876
1979	5,835	4,472	3,500	2,761	1,025	1,662	9,626	8,348
1980	7,586	7,052	4,945	3,893	938	1,611	11,039	11,807
1981	5,821	4,609	4,483	4,110	125	109	6,455	5,059
1982	13,947	8,641	11,280	6,366	296	471	15,986	10,807
1983	8,129	4,496	6,382	3,341	1,645	2,194	10,861	7,507
1984	3,486	1,289	2,946	1,168	228	305	4,208	1,591
1985	2,608	1,109	2,223	910	95	93	3,105	1,227
1986	1,170	891	668	407	34	66	1,509	1,213
1987	1,842	1,029	1,174	628	84	73	2,523	1,501
1988	2,582	1,226	1,722	752	443	414	3,941	2,089
1989	4,388	2,152	3,137	1,586	1,041	830	8,815	5,139
1990	5,423	2,809	4,314	2,233	143	167	6,775	3,743
1991	5,559	2,666	3,754	1,742	454	724	7,818	4,750
1992	5,737	2,296	4,223	1,663	198	262	7,349	3,025
1993	7,692	2,451	5,729	1,832	1,798	3,279	11,813	6,576
1994	5,305	1,830	3,886	1,326	197	155	6,352	2,107
1995	4,465	1,512	3,160	1,182	64	54	5,597	1,925
1996	7,762	3,662	5,700	2,539	487	778	9,711	4,468
1997	9,137	5,899	6,723	3,736	498	767	11,030	7,158
1998	6,828	4,803	5,025	3,259	280	272	8,083	5,279
1999	1,302	465	1,067	424	24	34	1,652	612
2000	1,721	1,041	1,407	912	75	66	2,092	1,258
2001	2,297	1,147	1,776	971	89	100	2,917	1,419
2002	1,502	948	1,258	892	89	120	1,698	1,026
2003	1,126	697	841	453	365	467	2,041	1,752
2004	1,227	689	1,044	548	117	110	1,881	1,277
2005	1,276	901	932	640	103	113	1,821	1,319
2006	2,946	2,064	2,254	1,341	123	115	4,042	2,569
2007	4,153	2,829	2,028	1,220	81	80	6,788	4,903
2008	3,335	1,879	2,471	1,417	103	129	5,346	3,129
2009	4,622	2,390	2,351	1,098	202	178	6,720	3,371
2010	8,141	5,955	4,317	2,165	362	672	12,683	12,501

Table 9. -- Time series of biomass estimates (t) for Tanner crab (*Chionoecetes bairdi*) from the National Marine Fisheries Service eastern Bering Sea bottom trawl surveys, all Districts combined. The 95% confidence intervals (CI) are 1.96 SE.

Carapace width	Mature male ≥ 113 mm	Mature male ± CI	Legal male ≥ 138 mm	Legal male ± CI	Mature female ≥ 80 mm	Mature female ± CI	Grand total	Grand total ± CI
1976	149,948	33,320	93,801	23,511	82,858	21,705	271,274	51,315
1977	124,752	33,809	77,657	26,050	82,664	36,420	264,020	79,082
1978	75,904	19,848	41,923	13,310	46,527	17,784	160,098	38,331
1979	43,418	9,148	22,687	5,858	36,599	11,513	107,814	30,078
1980	66,621	27,290	30,957	17,548	121,951	23,898	291,679	97,868
1981	34,157	9,088	10,403	3,323	72,744	15,297	167,868	53,724
1982	33,761	9,704	6,755	2,168	106,546	18,918	183,074	71,088
1983	22,219	6,685	4,397	1,657	35,403	8,390	79,170	21,433
1984	20,152	4,917	6,404	2,070	25,277	7,801	61,182	16,052
1985	9,513	3,281	3,812	1,988	10,079	4,302	26,823	8,316
1986	7,991	3,473	2,496	2,515	7,891	2,316	34,116	11,840
1987	17,724	5,919	5,790	3,035	29,202	9,742	84,896	28,357
1988	48,416	31,555	16,120	14,379	52,853	20,294	161,322	57,614
1989	90,408	24,142	32,411	11,242	50,507	9,435	220,402	41,171
1990	92,377	26,873	45,495	16,726	69,753	24,551	221,843	51,256
1991	96,317	42,720	35,152	14,187	83,459	25,831	238,394	68,069
1992	99,991	50,081	39,595	23,772	48,115	12,050	184,440	64,362
1993	56,701	18,549	19,001	7,282	20,443	4,329	97,695	23,730
1994	39,466	10,651	15,214	4,804	17,818	5,647	70,349	17,755
1995	29,507	10,821	9,466	4,413	23,565	7,403	62,495	20,366
1996	23,075	12,205	8,552	5,712	17,742	7,058	50,830	21,757
1997	8,465	2,289	3,324	1,425	6,545	1,675	23,987	5,722
1998	7,743	1,842	2,021	734	4,817	1,081	23,235	4,839
1999	7,909	3,104	2,139	1,180	8,617	3,546	33,971	14,908
2000	13,204	7,043	4,392	3,242	7,838	3,366	35,530	12,124
2001	14,273	4,939	5,898	3,262	10,084	2,846	50,310	13,620
2002	13,037	4,739	6,140	3,411	8,694	1,624	46,541	11,819
2003	16,889	5,899	6,614	3,947	14,972	2,540	62,322	16,334
2004	17,330	6,707	4,835	4,458	8,028	1,468	55,654	13,155
2005	34,817	10,960	10,279	4,889	22,031	4,974	105,491	23,523
2006	46,312	18,192	12,768	7,933	38,824	8,412	157,416	41,357
2007	50,149	24,920	10,478	5,971	26,034	7,384	147,303	44,221
2008	47,897	19,180	12,395	7,282	21,560	5,106	106,529	28,365
2009	30,281	8,994	7,027	3,028	14,832	4,730	68,315	16,905
2010	27,949	8,538	7,955	3,172	5,922	1,906	53,133	11,810

Table 10. -- Time series of biomass estimates (t) for eastern Bering Sea snow crab (*Chionoecetes opilio*) from the National Marine Fisheries Service bottom trawl surveys, all Districts combined. The 95% confidence intervals (CI) are 1.96 SE.

Carapace width	Mature male ≥ 95 mm	Mature male ± CI	Legal male ≥ 78 mm	Legal male ± CI	Preferred male ≥ 102 mm	Preferred male ± CI	Mature female ≥ 50 mm	Mature female ± CI	Grand total	Grand total ± CI
1980	112,156	23,117	189,234	44,165	81,496	16,389	260,950	140,114	670,790	210,422
1981	38,715	7,935	96,180	19,914	23,307	4,814	144,871	45,737	366,972	82,341
1982	66,073	19,393	177,666	47,437	35,037	9,912	161,179	47,003	496,664	97,049
1983	68,051	18,258	162,470	39,061	35,138	9,723	86,298	32,808	357,050	71,583
1984	112,003	30,107	173,278	39,318	78,377	23,058	45,606	16,700	295,979	54,006
1985	55,857	11,895	79,401	15,792	43,273	9,538	7,985	3,081	114,554	19,814
1986	59,566	14,357	84,972	18,029	46,730	11,772	29,501	10,552	197,376	44,047
1987	110,614	23,086	182,229	35,811	76,981	15,580	191,911	58,150	669,378	133,957
1988	143,031	53,053	244,099	70,776	104,981	44,036	194,829	62,097	717,678	139,285
1989	147,971	29,304	299,545	61,320	95,777	18,835	270,382	131,495	879,238	229,565
1990	356,511	99,367	533,863	137,444	230,379	63,244	207,679	75,475	928,380	184,686
1991	342,610	103,124	471,500	134,243	273,249	91,303	239,877	87,868	972,185	220,736
1992	178,707	39,022	240,544	43,398	149,383	34,712	154,161	51,594	611,515	104,170
1993	98,923	21,198	142,909	27,985	77,337	16,398	129,262	38,630	626,939	153,987
1994	57,849	11,650	109,755	16,969	45,063	9,757	129,423	37,003	588,094	106,658
1995	60,743	19,825	155,270	39,182	37,525	11,116	160,727	42,361	664,769	100,290
1996	144,002	52,199	312,019	75,336	89,236	37,346	90,375	23,432	623,773	94,601
1997	232,831	56,874	362,785	66,506	171,986	49,745	92,988	33,764	573,323	87,782
1998	164,505	30,683	219,565	36,397	127,921	25,811	73,582	36,071	369,902	69,225
1999	67,232	13,595	86,773	14,895	51,992	12,251	33,562	13,500	156,177	26,311
2000	53,757	15,470	76,333	19,638	41,070	11,472	104,784	104,992	261,461	134,299
2001	56,352	10,620	105,477	22,242	39,997	6,996	97,135	52,856	335,933	100,890
2002	56,095	26,889	100,723	44,492	37,354	18,178	35,224	18,692	180,828	58,456
2003	44,518	10,041	72,353	15,988	31,642	7,124	47,252	28,272	193,313	56,798
2004	44,320	14,384	61,831	16,327	35,755	13,110	50,109	26,079	235,326	60,384
2005	50,388	9,605	106,237	22,523	40,162	8,094	103,619	34,344	385,952	92,856
2006	90,094	61,110	141,290	71,516	72,344	51,653	77,362	25,977	311,843	107,058
2007	98,824	35,074	160,504	44,710	73,844	30,309	87,063	37,408	340,991	83,585
2008	79,705	16,881	123,374	23,878	60,477	14,219	61,862	23,212	265,828	54,954
2009	103,550	30,632	149,714	36,776	77,903	25,537	68,026	26,916	303,219	69,010
2010	107,131	27,491	136,140	31,567	88,788	24,996	132,166	45,594	496,226	106,812

Table 11. -- Time series of biomass estimates (t) for hair crab (*Erimacrus isenbeckii*) from the National Marine Fisheries Service bottom trawl surveys, all Districts combined. The 95% confidence intervals (CI) are 1.96 SE.

Carapace length	Legal male ≥ 83 mm	Legal male ± CI	Total female	Total female ± CI	Grand total	Grand total ± CI
1980	12,172	8,498	370	338	13,153	8,876
1981	12,052	5,423	159	83	12,911	6,276
1982	7,107	3,941	194	69	7,482	4,009
1983	4,537	1,331	296	151	4,899	1,375
1984	2,657	839	123	89	3,249	928
1985	2,081	1,041	60	51	2,223	1,071
1986	1,478	786	100	69	1,785	856
1987	1,079	606	207	109	1,639	716
1988	643	350	284	88	1,564	976
1989	507	252	114	127	3,653	5,235
1990	803	440	246	148	5,461	5,342
1991	793	433	229	129	2,399	1,497
1992	591	299	120	53	1,609	644
1993	2,296	1,588	248	148	3,656	1,926
1994	2,420	1,223	193	133	3,941	1,633
1995	5,948	3,260	189	98	7,775	3,580
1996	3,159	1,738	275	132	4,750	2,064
1997	3,110	1,288	176	56	3,869	1,383
1998	1,991	797	359	241	2,563	1,027
1999	1,674	503	305	123	2,165	553
2000	2,865	1,255	330	180	3,519	1,390
2001	1,283	521	564	243	1,978	684
2002	1,368	528	101	64	1,533	549
2003	676	272	222	47	1,253	458
2004	467	184	83	71	751	390
2005	209	131	271	133	805	319
2006	662	413	1,174	950	2,188	1,528
2007	1,266	517	355	167	2,200	683
2008	1,341	629	464	174	2,427	859
2009	1,904	729	512	269	3,572	1,134
2010	1,572	91	468	16	2,933	168

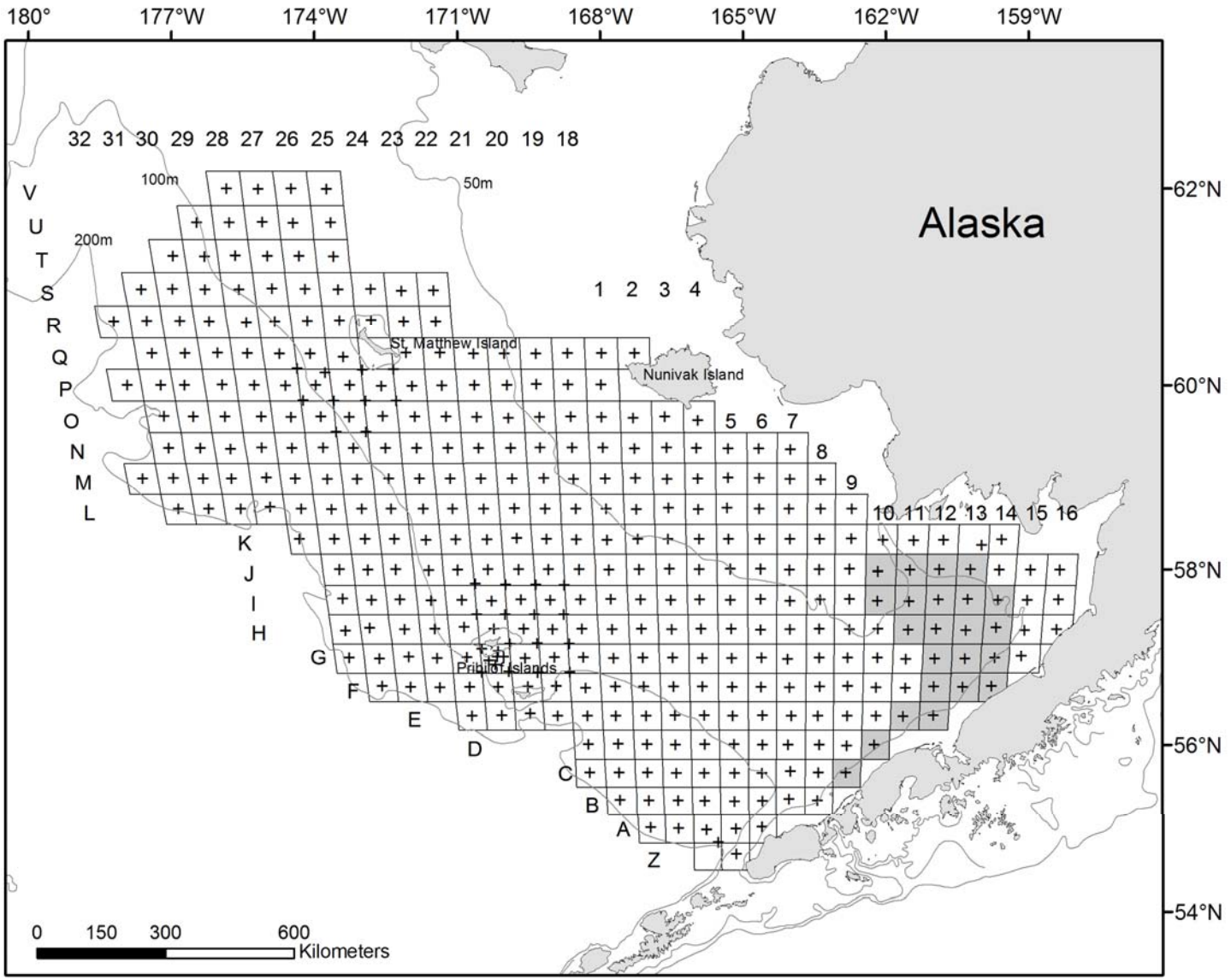

Figure 1. –The National Marine Fisheries Service eastern Bering Sea standard bottom trawl area surveyed by FV *Alaska Knight* and FV *Aldebaran* from 3 June to 4 August 2010. Shaded area depicts Bristol Bay resample stations, 24 to 29 July 2010.

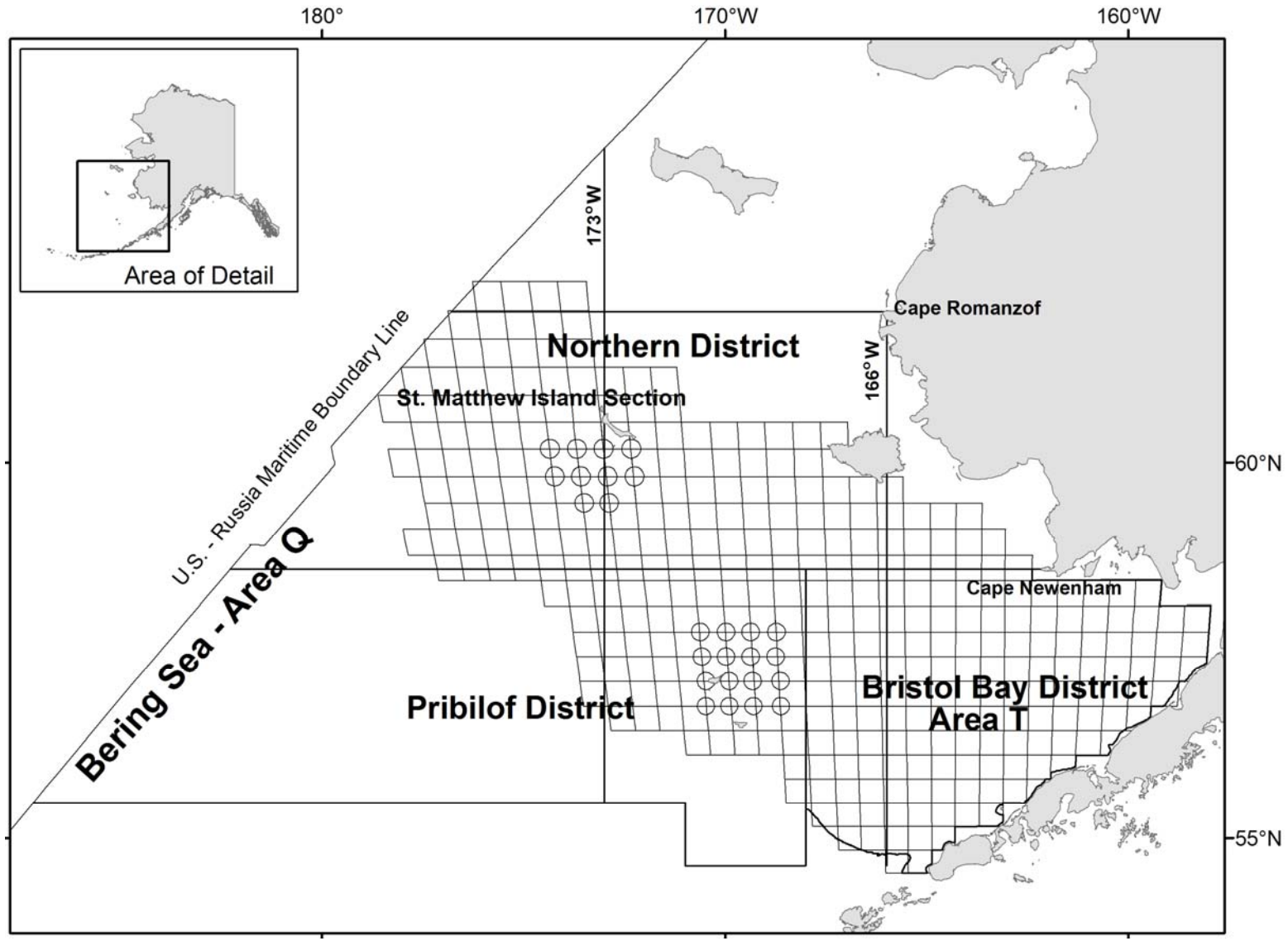

Figure 2. --Alaska Department of Fish and Game commercial crab management units within the 2010 eastern Bering Sea bottom trawl survey area. Circles represent the high-density sampling areas in the Pribilof District and St. Matthew Island Section, Northern District.

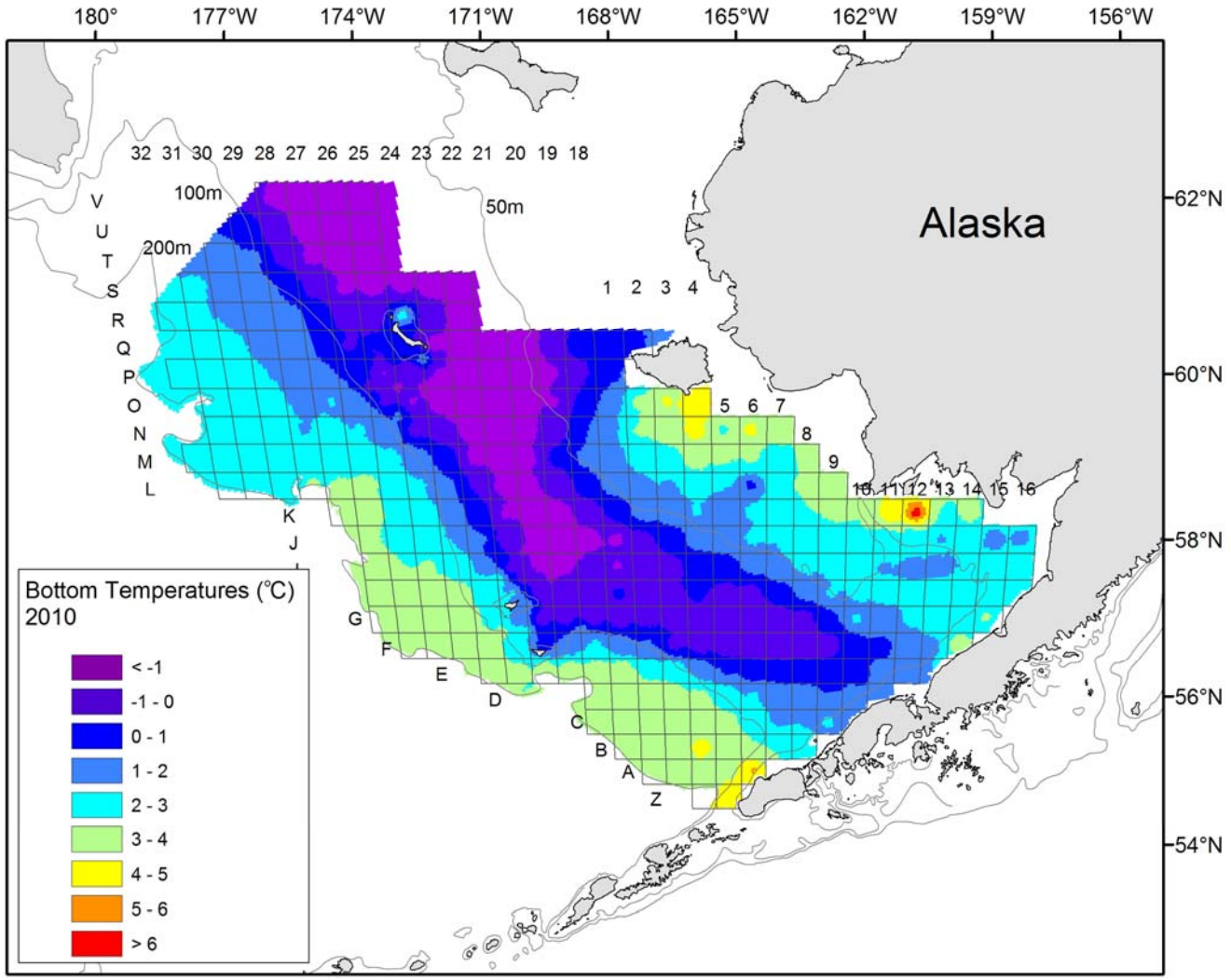

Figure 3. --Mean bottom temperatures (°C) measured at stations from the National Marine Fisheries Service eastern Bering Sea bottom trawl survey, beginning 7 June 2010 in Bristol Bay and ending on 4 August 2010 at V-27. This figure does not include the 23 stations resampled in Bristol Bay from 24 to 29 July 2010.

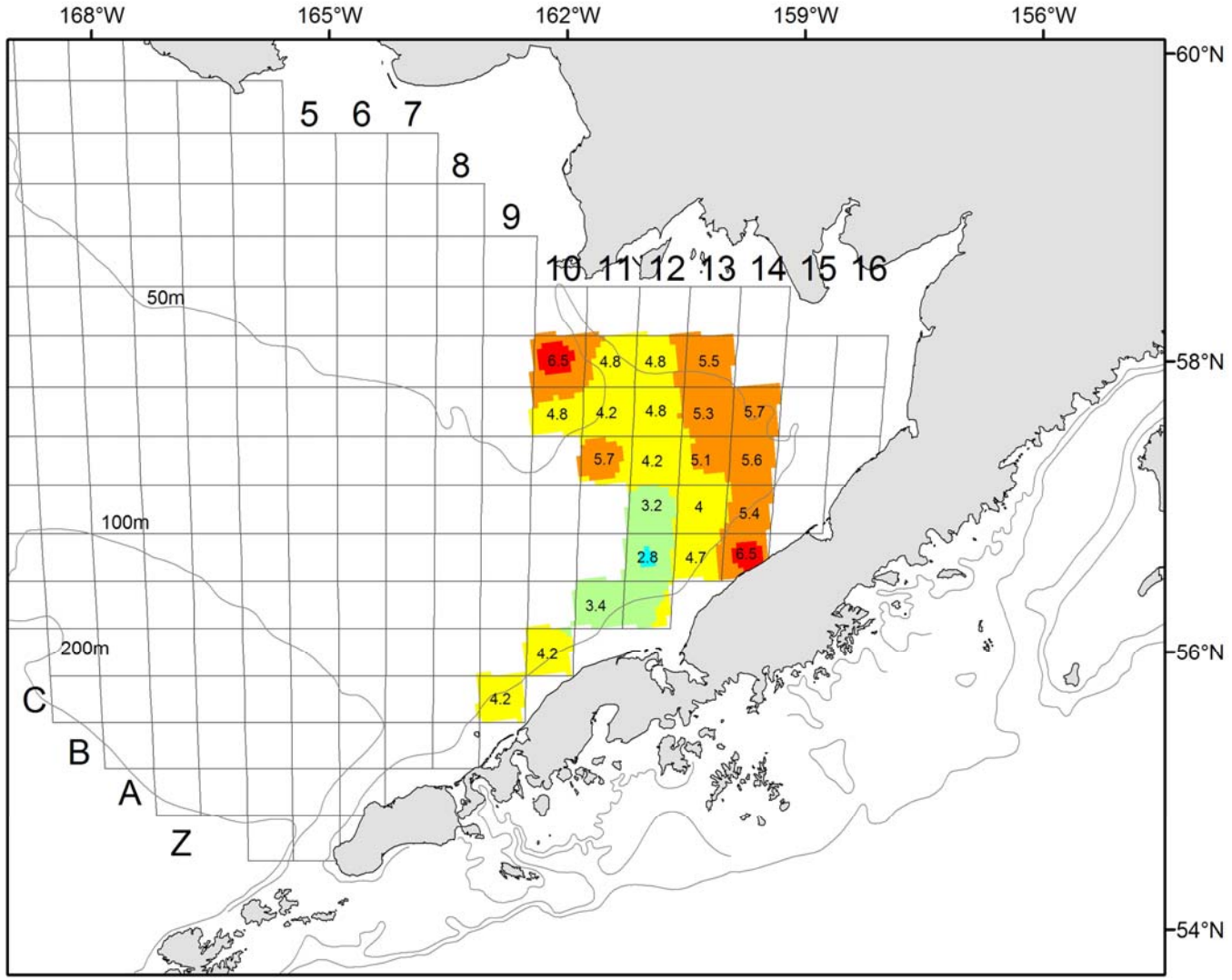

Figure 4. --Mean bottom temperatures (°C) measured at the 23 resample stations in Bristol Bay, surveyed from 24 to 29 July 2010.

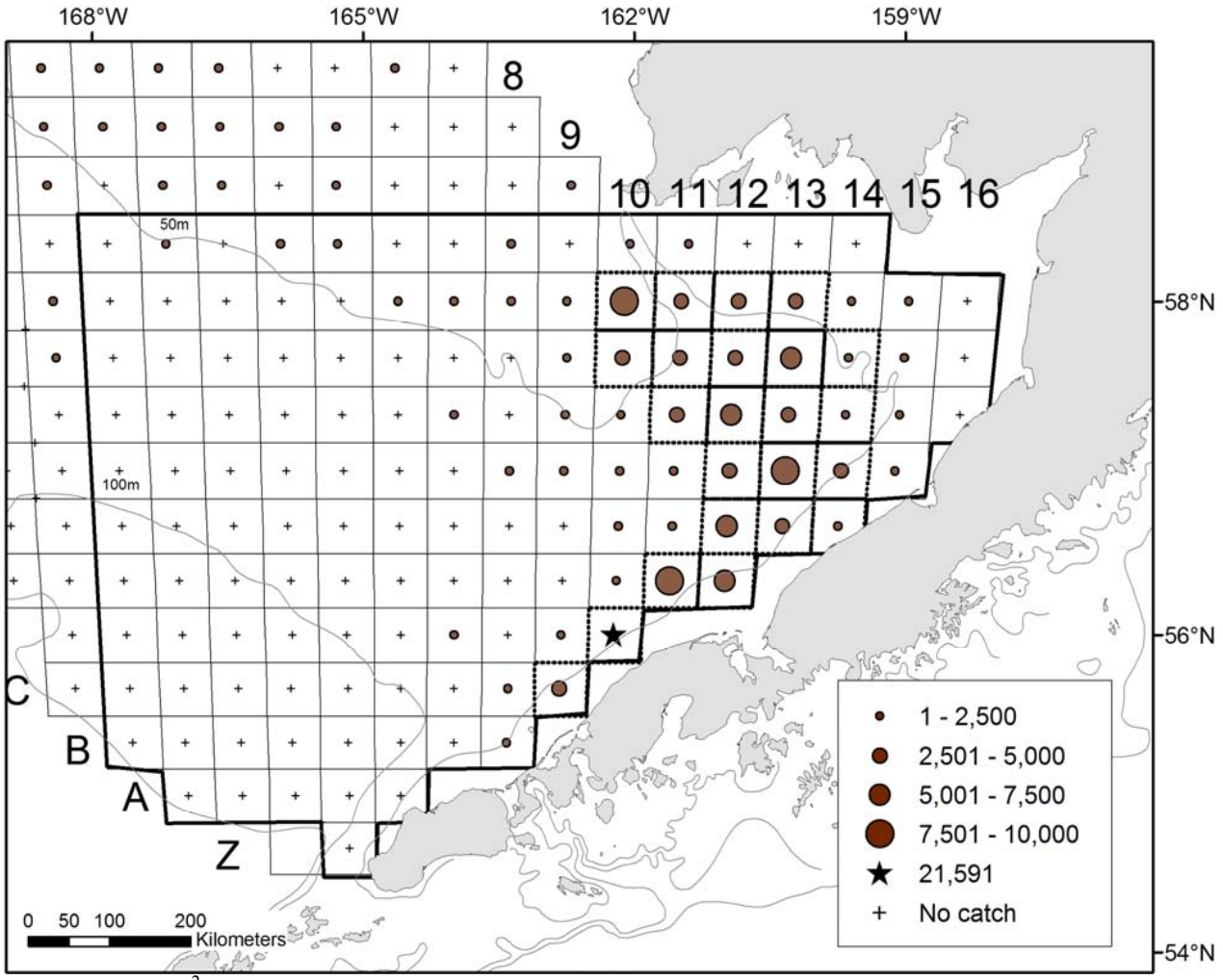

Figure 5. --Total density (number/nmi^2) of red king crab (*Paralithodes camtschaticus*) at each station sampled in the 2010 Bristol Bay District. Data depicted by circles are equal interval densities, while stars represent densities larger than the standard scale. Outlined area depicts the management district and dashed area depicts resurveyed stations which were included in biomass estimates by averaging male data and replacing female data collected in 8 to 12 June with data collected in 24 to 29 July at the 23 resampled stations.

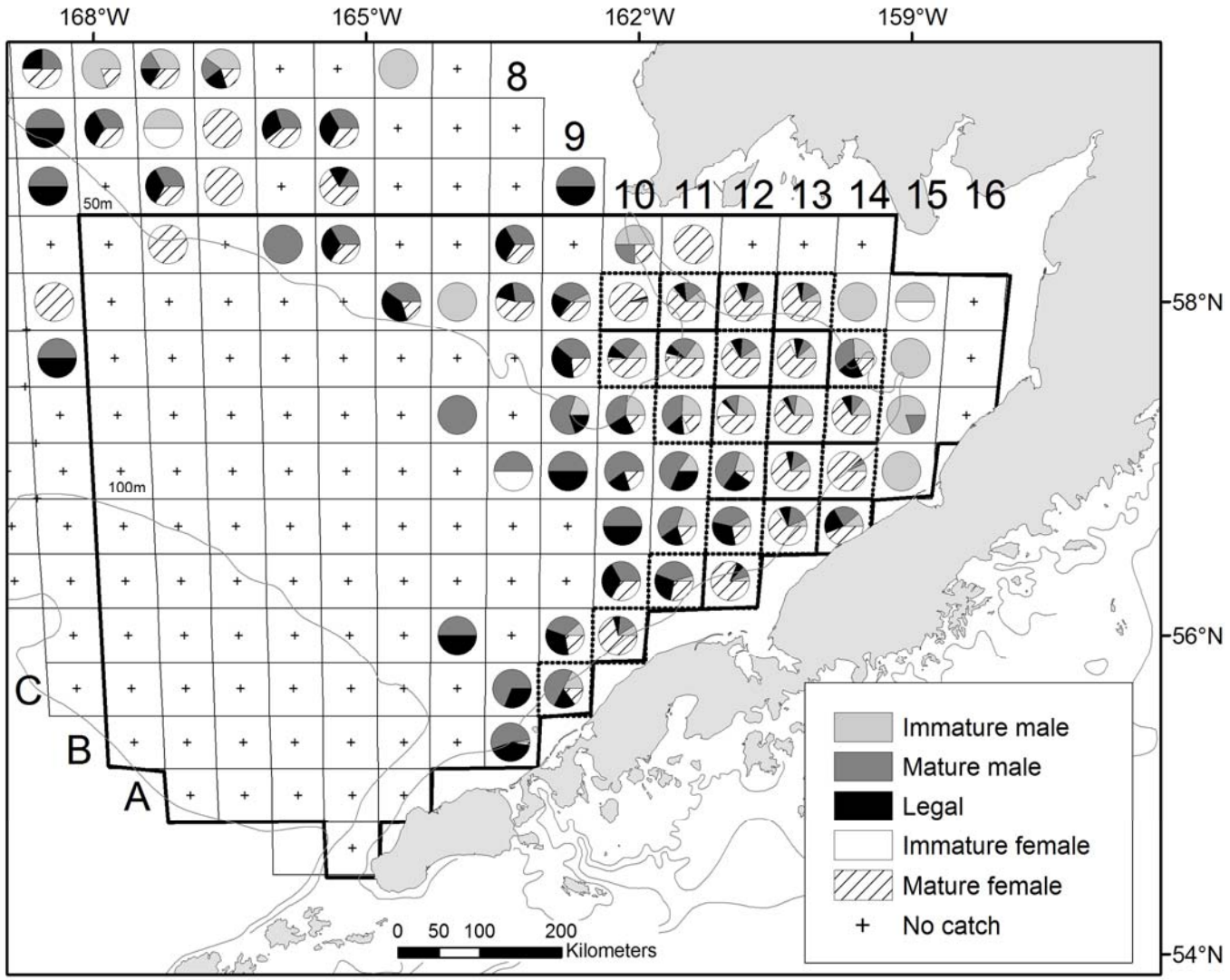

Figure 6. --Percentage of size classes for male and female red king crab (*Paralithodes camtschaticus*) caught at each station of the Bristol Bay District in 2010. Outlined area depicts management district and dashed area depicts the 23 resurveyed stations.

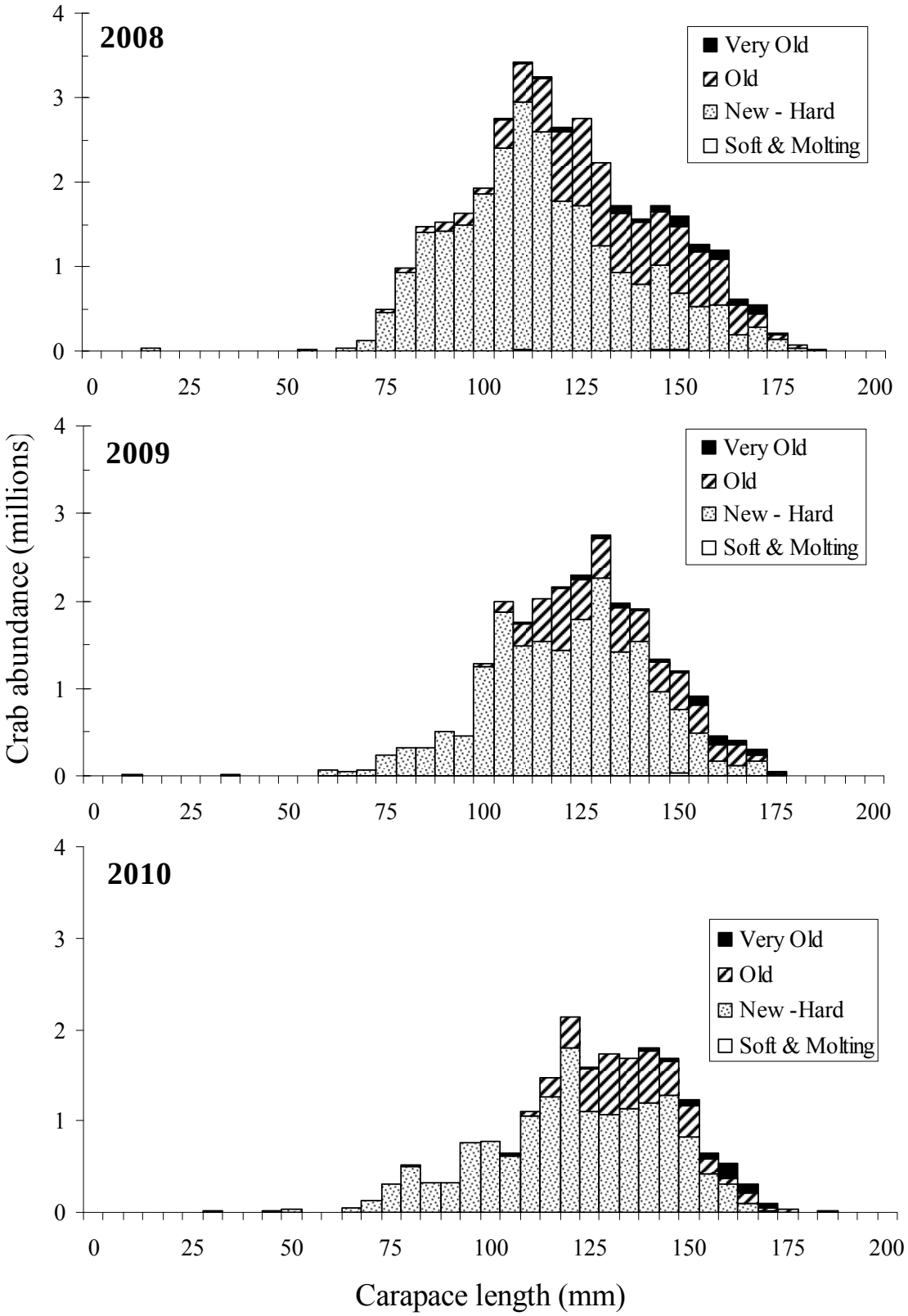

Figure 7. --Size-frequency of Bristol Bay District male red king crab (*Paralithodes camtschaticus*) by 5 mm length classes, 2008-2010.

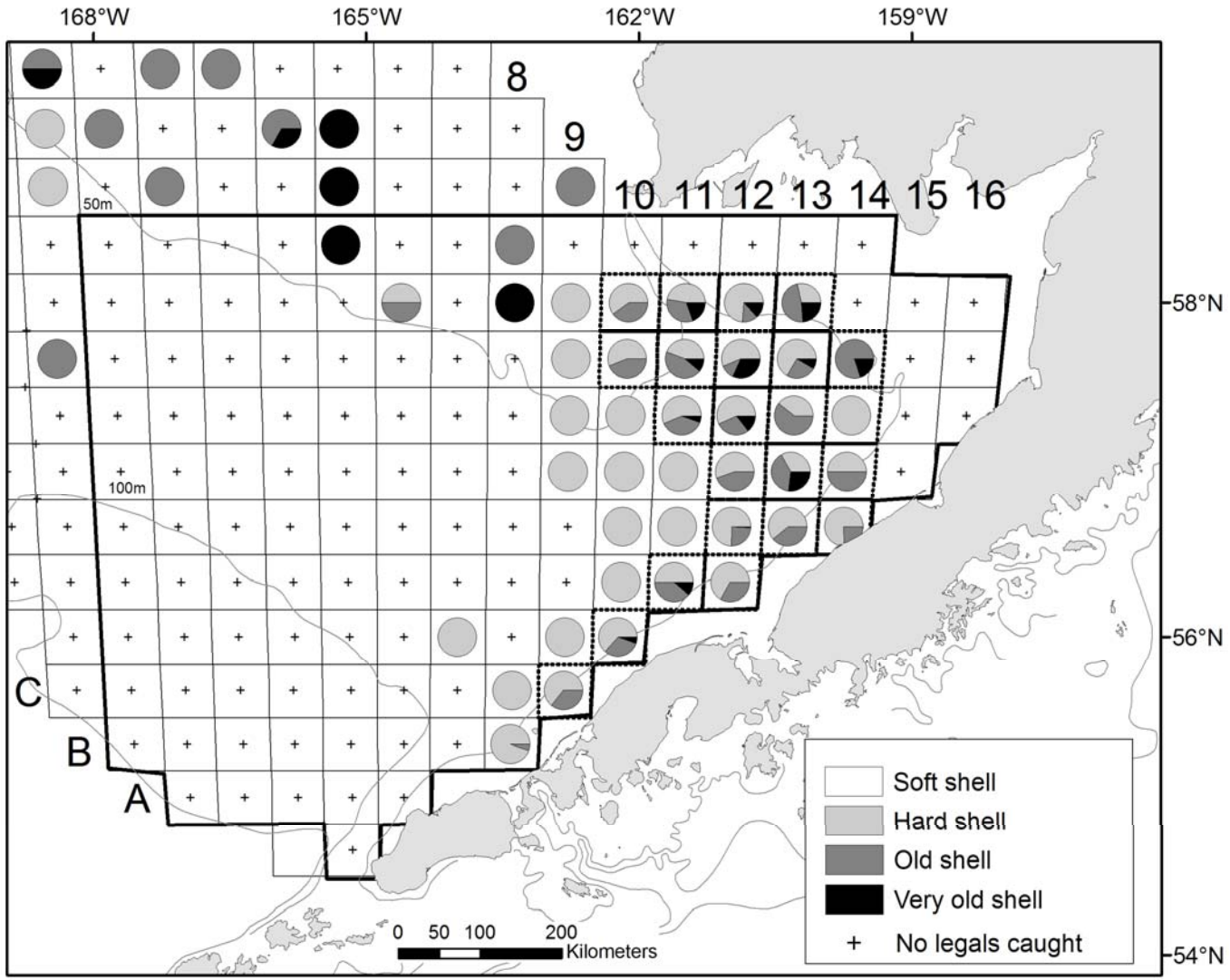

Figure 8. --Distribution of legal-sized male red king crab (*Paralithodes camtschaticus*) caught at each station in the 2010 Bristol Bay District and distinguished by shell condition. Outlined area depicts management district and dashed area depicts the 23 resurveyed stations.

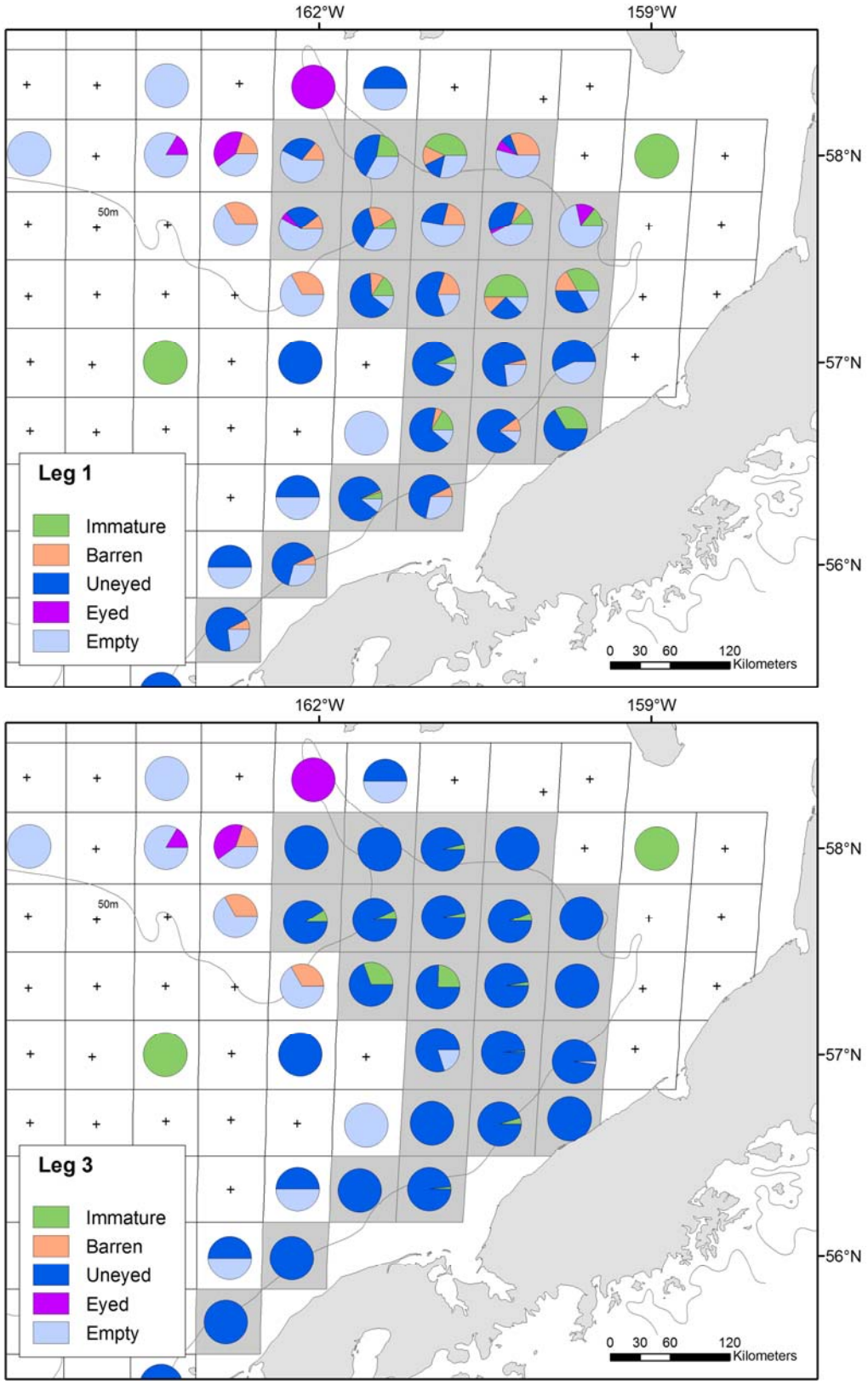

Figure 9. --Changes in egg condition and distribution of female red king crab (*Paralithodes camtschaticus)* from (A) Leg 1 (7-13, June 2010) and (B) Leg 3 (24-29, July 2010) in the Bristol Bay District.

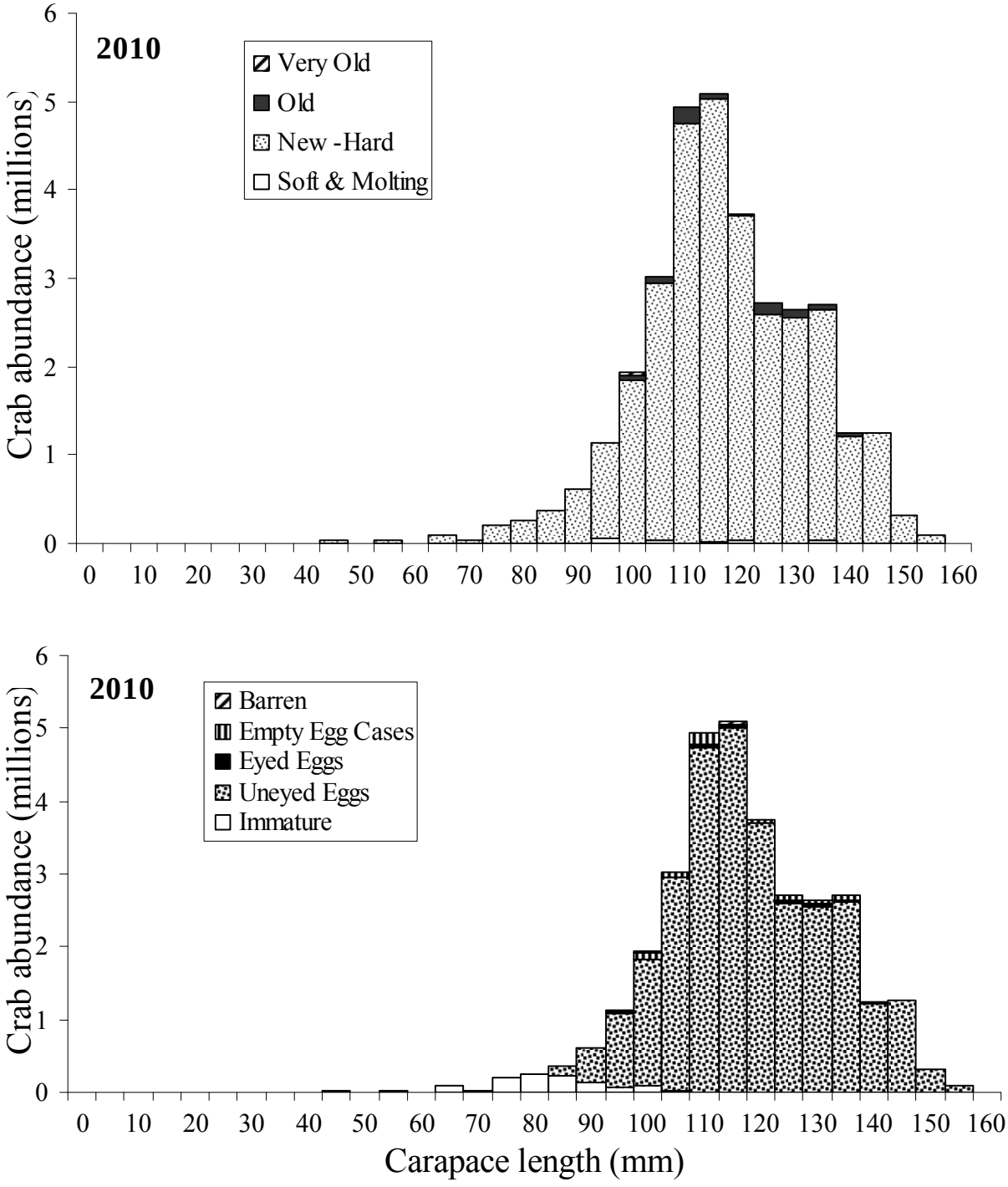

Figure 10. --Size-frequency by shell and egg condition of Bristol Bay District female red king crab (*Paralithodes camtschaticus*) by 5 mm length classes in 2010.

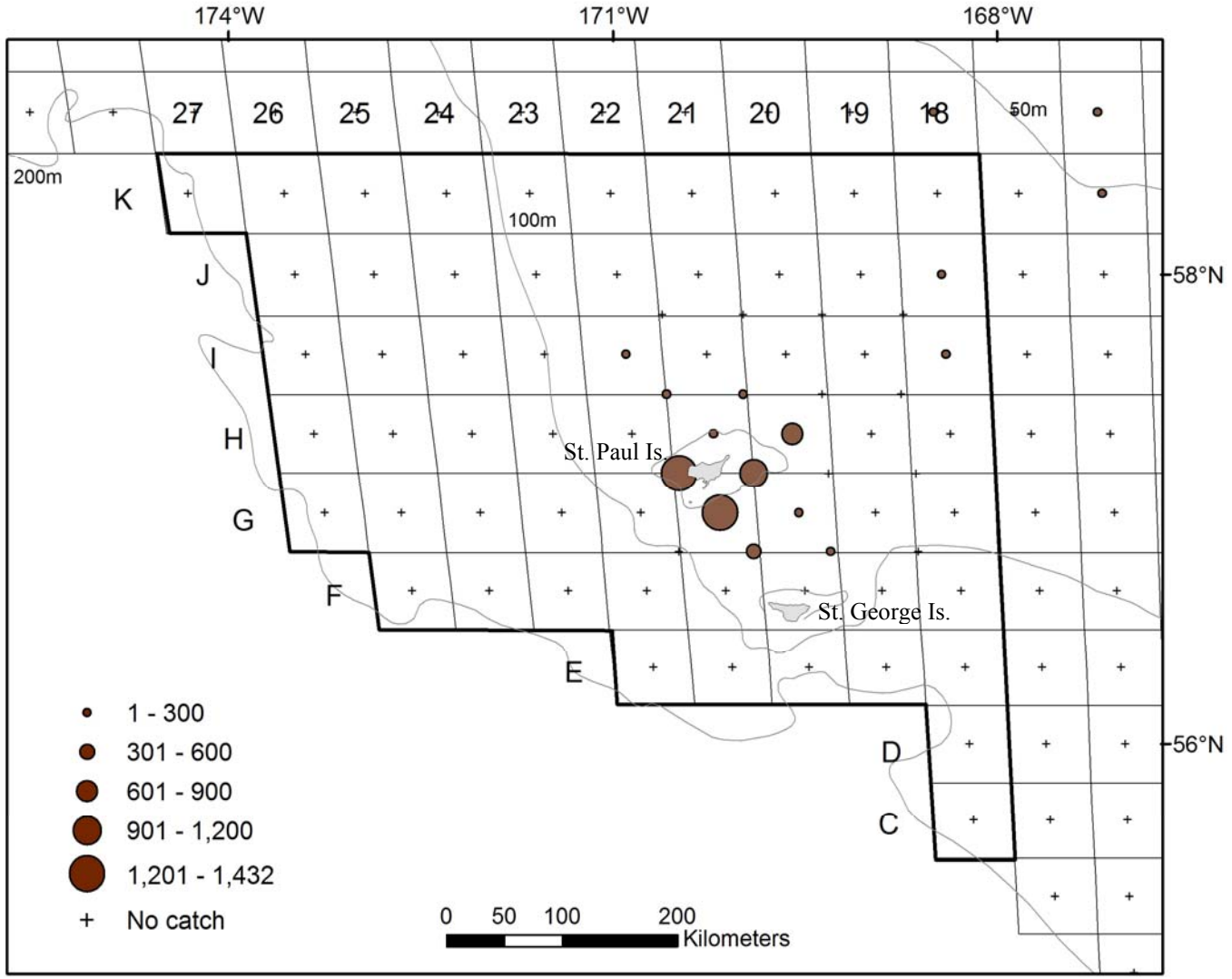

Figure 11. --Total density (number/nmi^2) of red king crab (*Paralithodes camtschaticus*) at each station sampled in the Pribilof District in 2010. Data depicted by circles are equal interval densities and outlined area depicts stations within the management district.

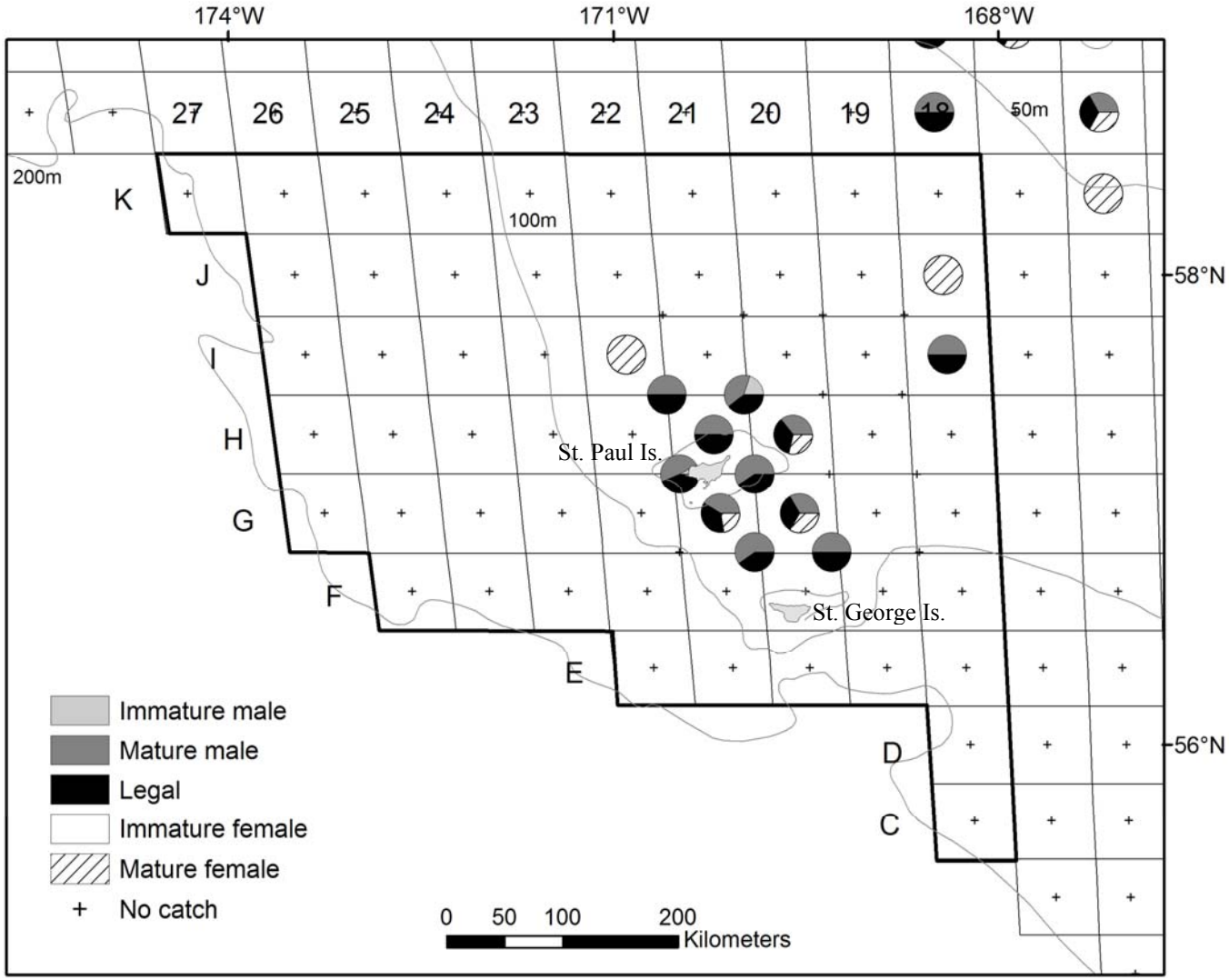

Figure 12. --Percentage of size classes for male and female red king crab (*Paralithodes camtschaticus*) at each station of the Pribilof District in 2010. The outlined area depicts stations within the management district.

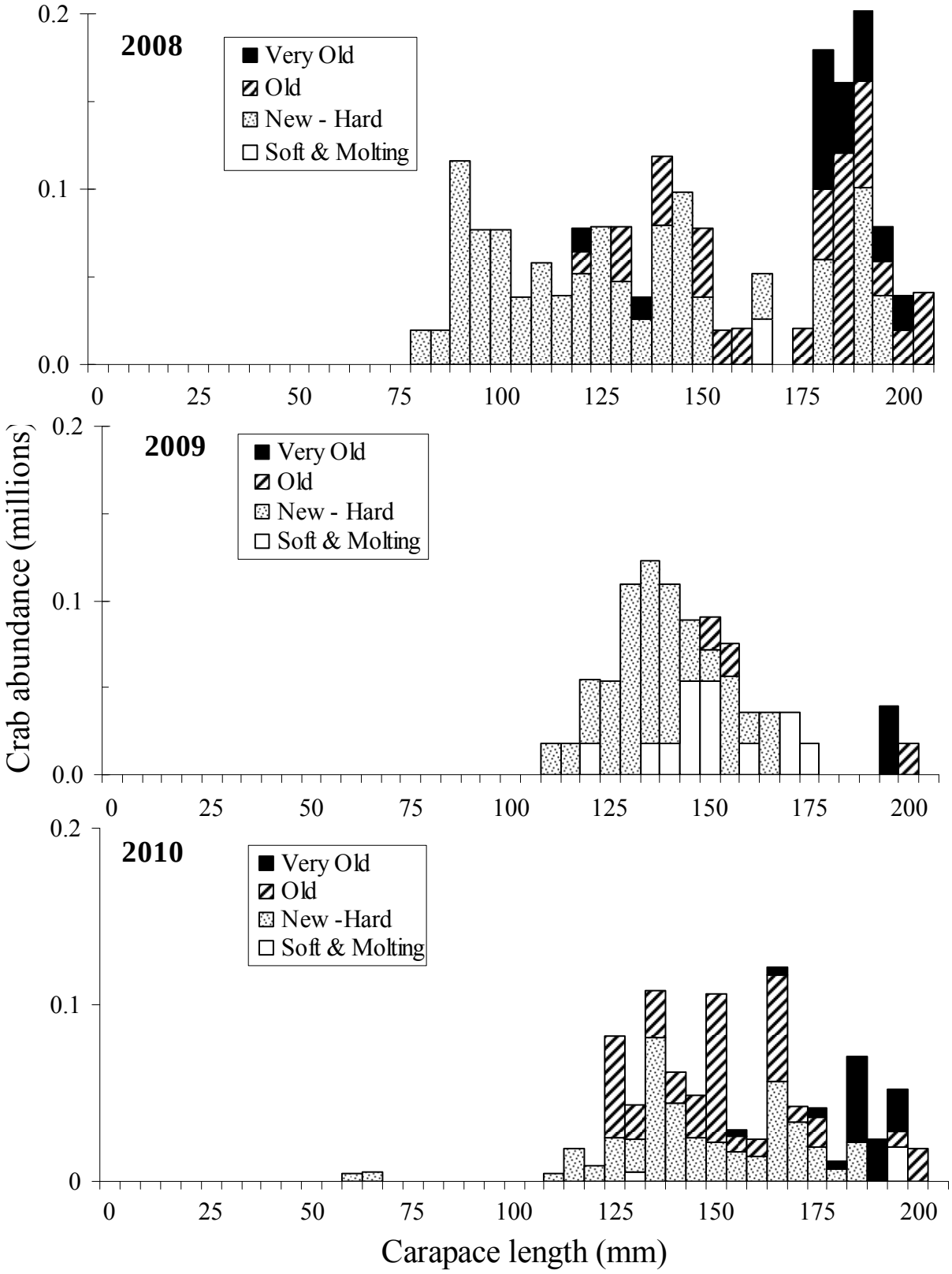

Figure 13. --Size-frequency of Pribilof District male red king crab (*Paralithodes camtschaticus*) by 5 mm length classes, 2008-2010.

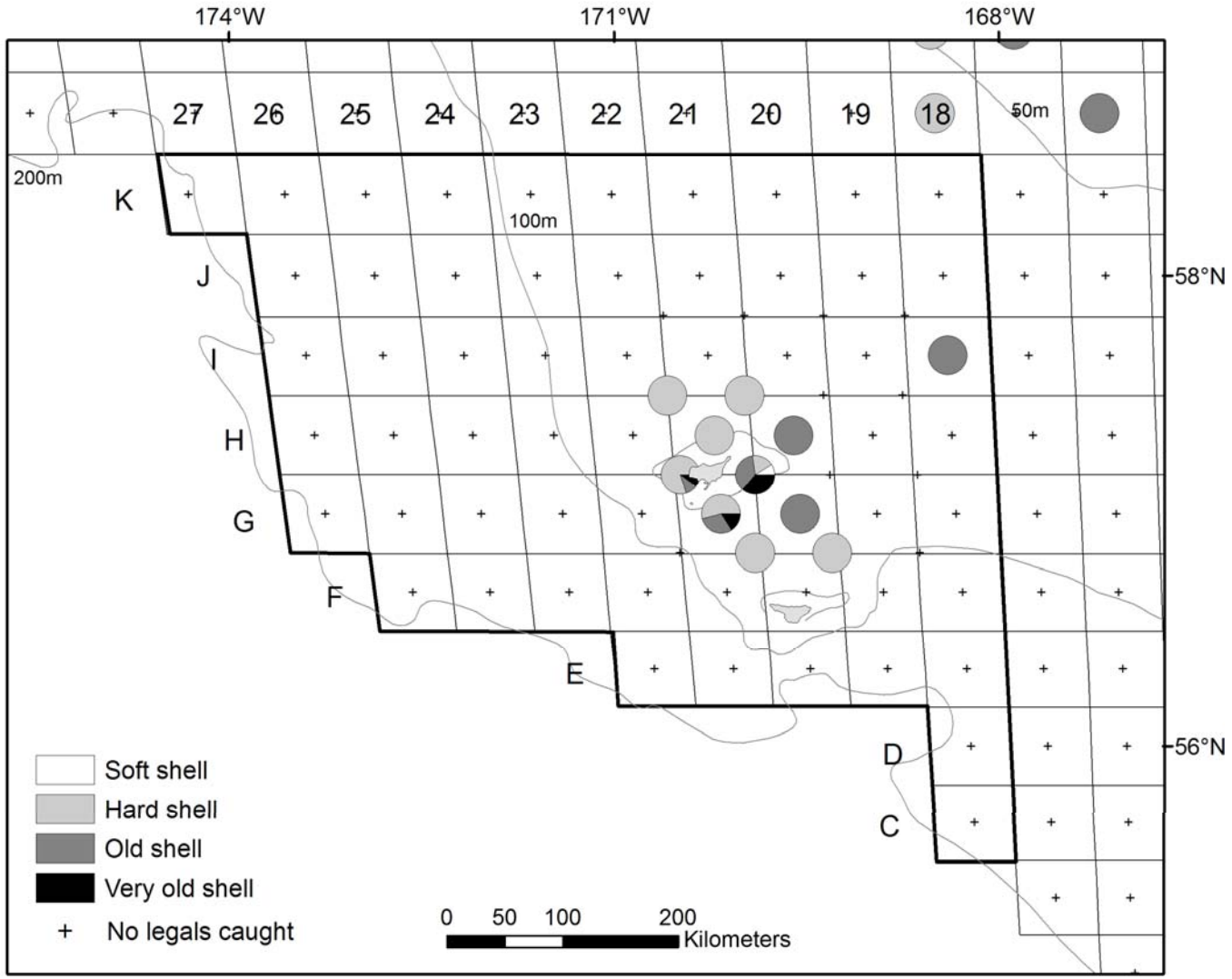

Figure 14. --Distribution of legal-sized male red king crab (*Paralithodes camtschaticus*) caught at each station of the Pribilof District in 2010 and distinguished by shell condition. The outlined area depicts stations within the management district.

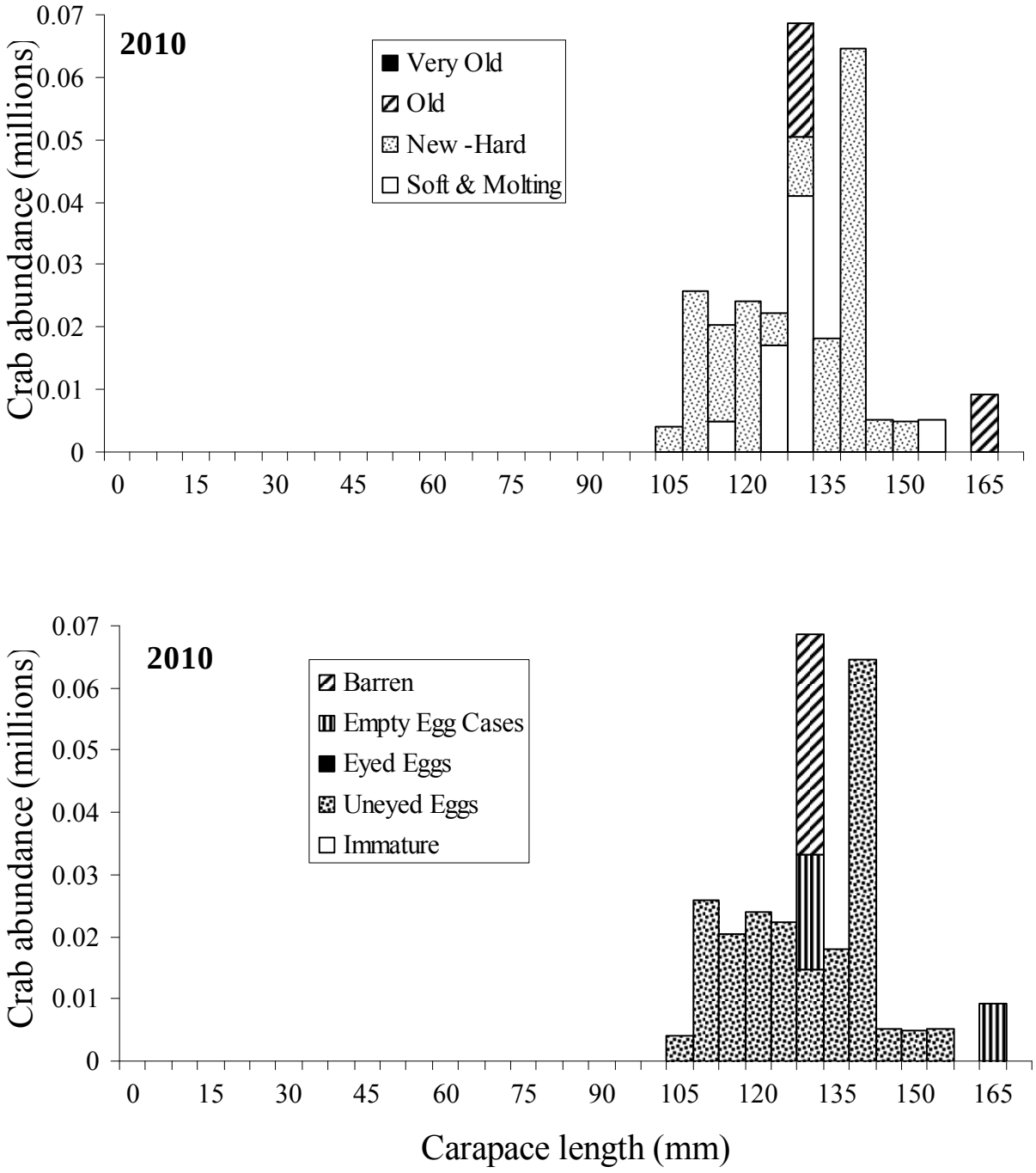

Figure 15. --Size-frequency by shell and egg condition of Pribilof District female red king crab (*Paralithodes camtschaticus*) by 5 mm length classes in 2010.

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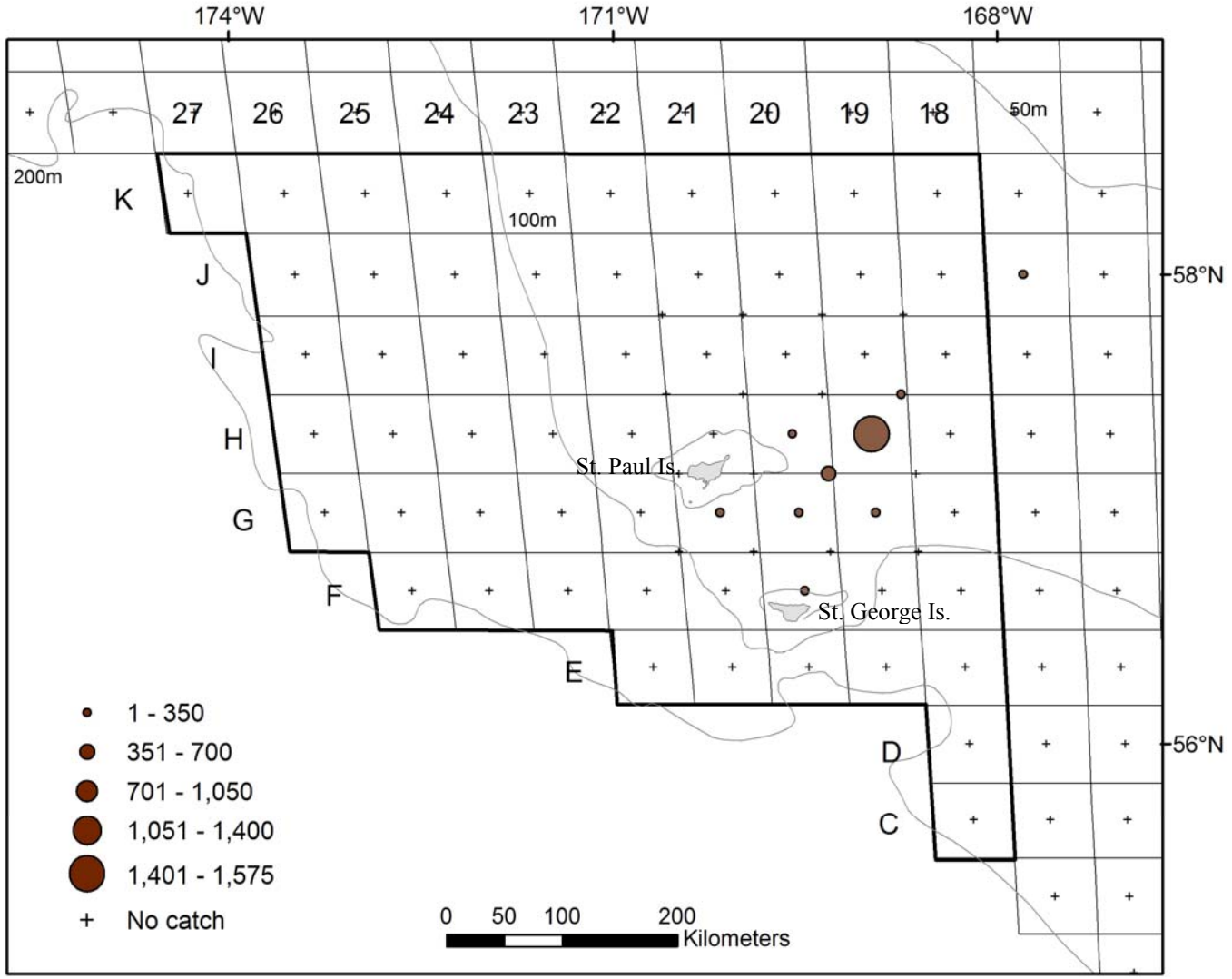

Figure 16. --Total density (number/nmi^2) of blue king crab (*Paralithodes platypus*) at each station sampled in the Pribilof District in 2010. The outlined area depicts the management district.

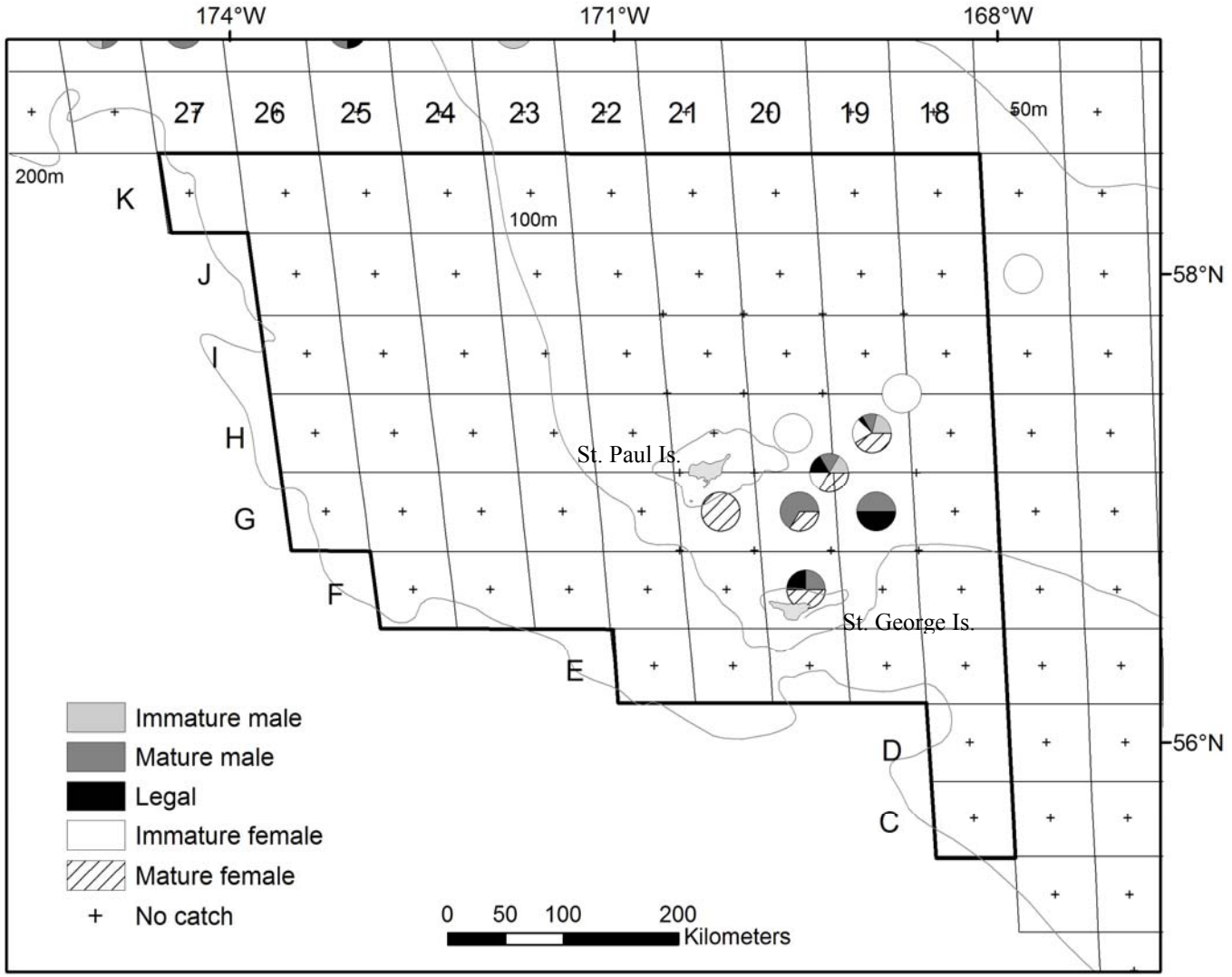

Figure 17. --Percentage of size categories for male and female blue king crab (*Paralithodes platypus*) at each station of the Pribilof District in 2010. The outlined area depicts stations within the management district.

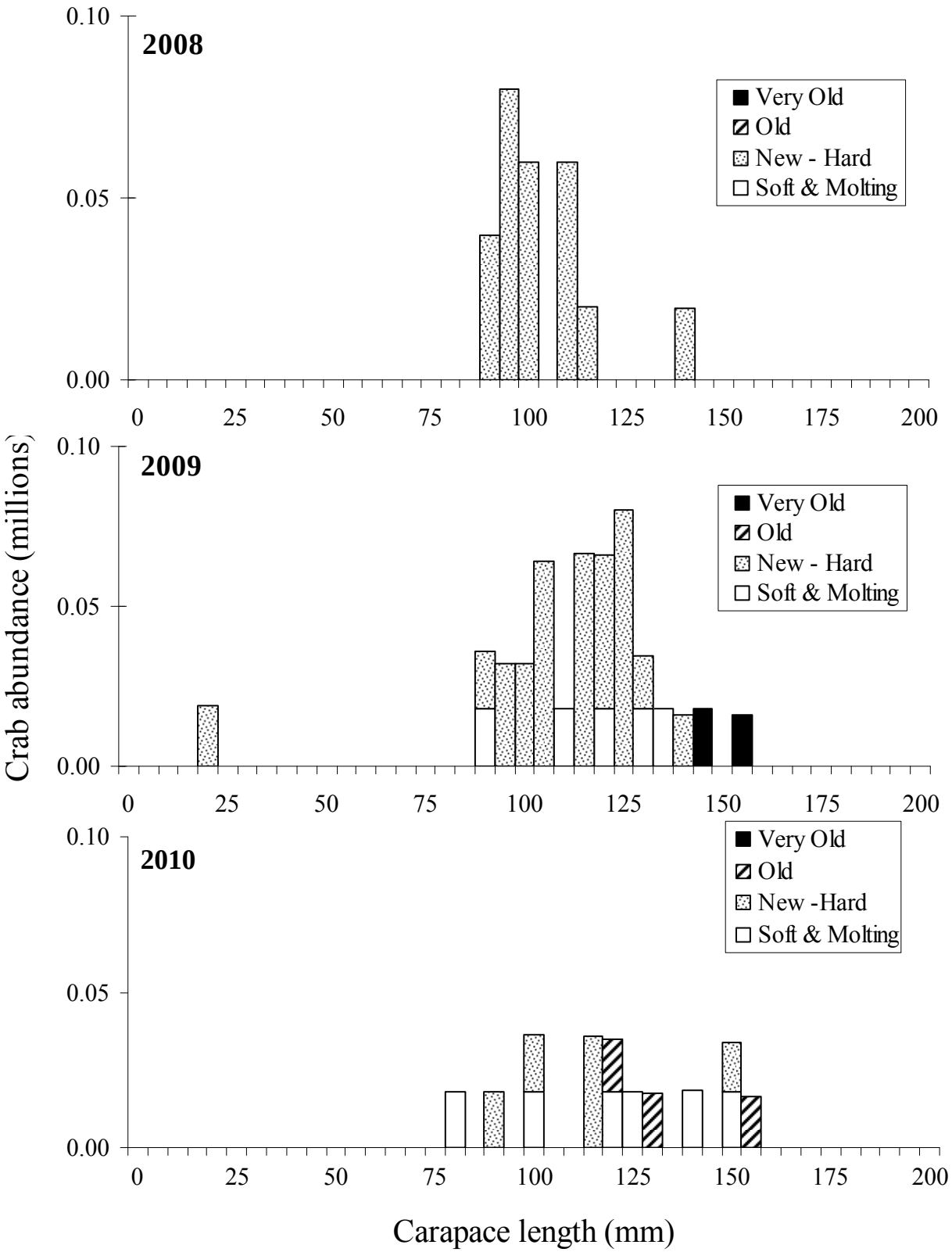

Figure 18. --Size-frequency of Pribilof District male blue king crab (*Paralithodes platypus*) by 5 mm length classes, 2008-2010.

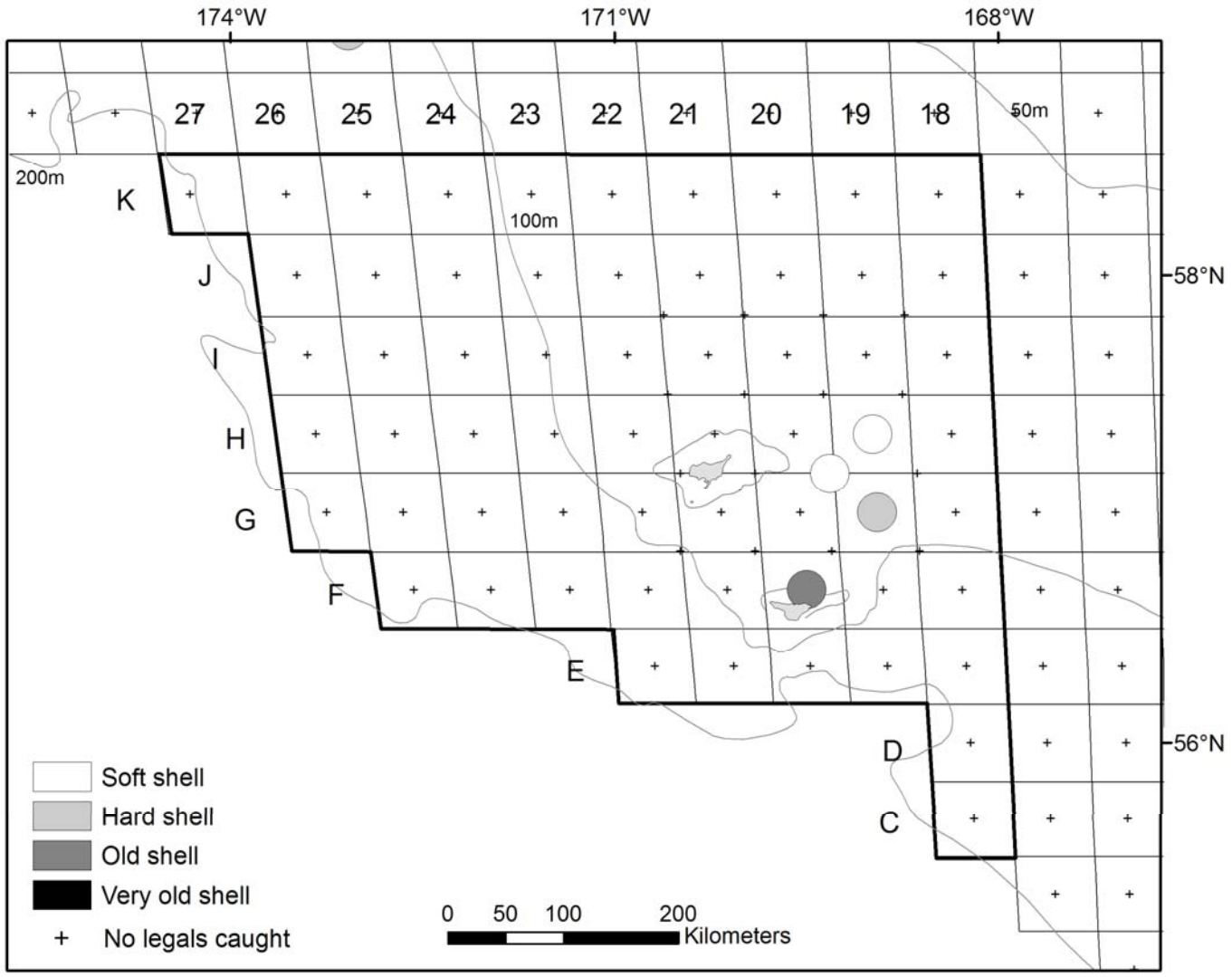

Figure 19. --Distribution of legal-sized male blue king crab (*Paralithodes platypus*) caught at each station of the Pribilof District in 2010 and distinguished by shell condition. The outlined area depicts stations within the management district.

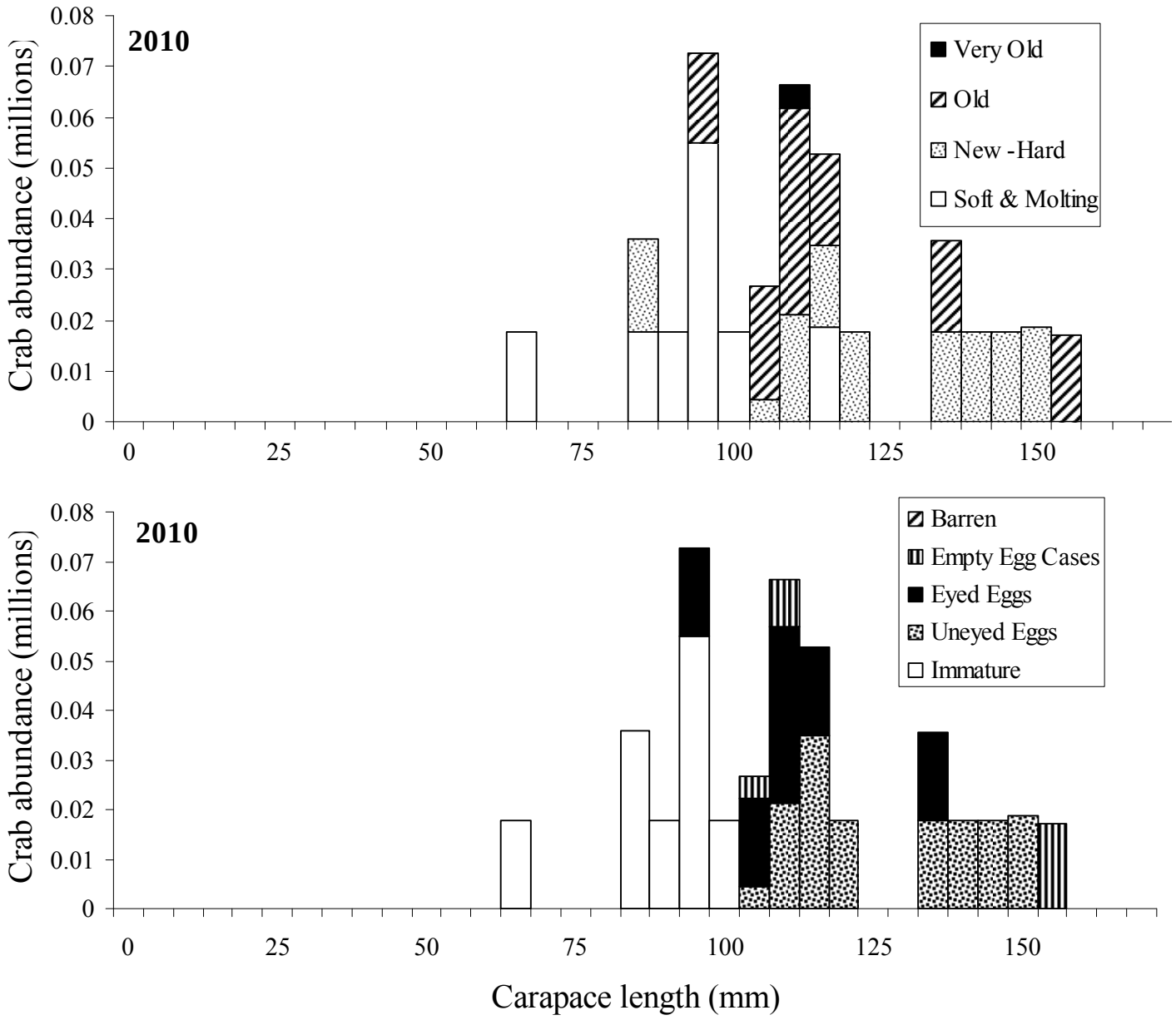

Figure 20. --Size-frequency by shell and egg condition of Pribilof District female blue king crab (*Paralithodes platypus*) by 5 mm length classes in 2010.

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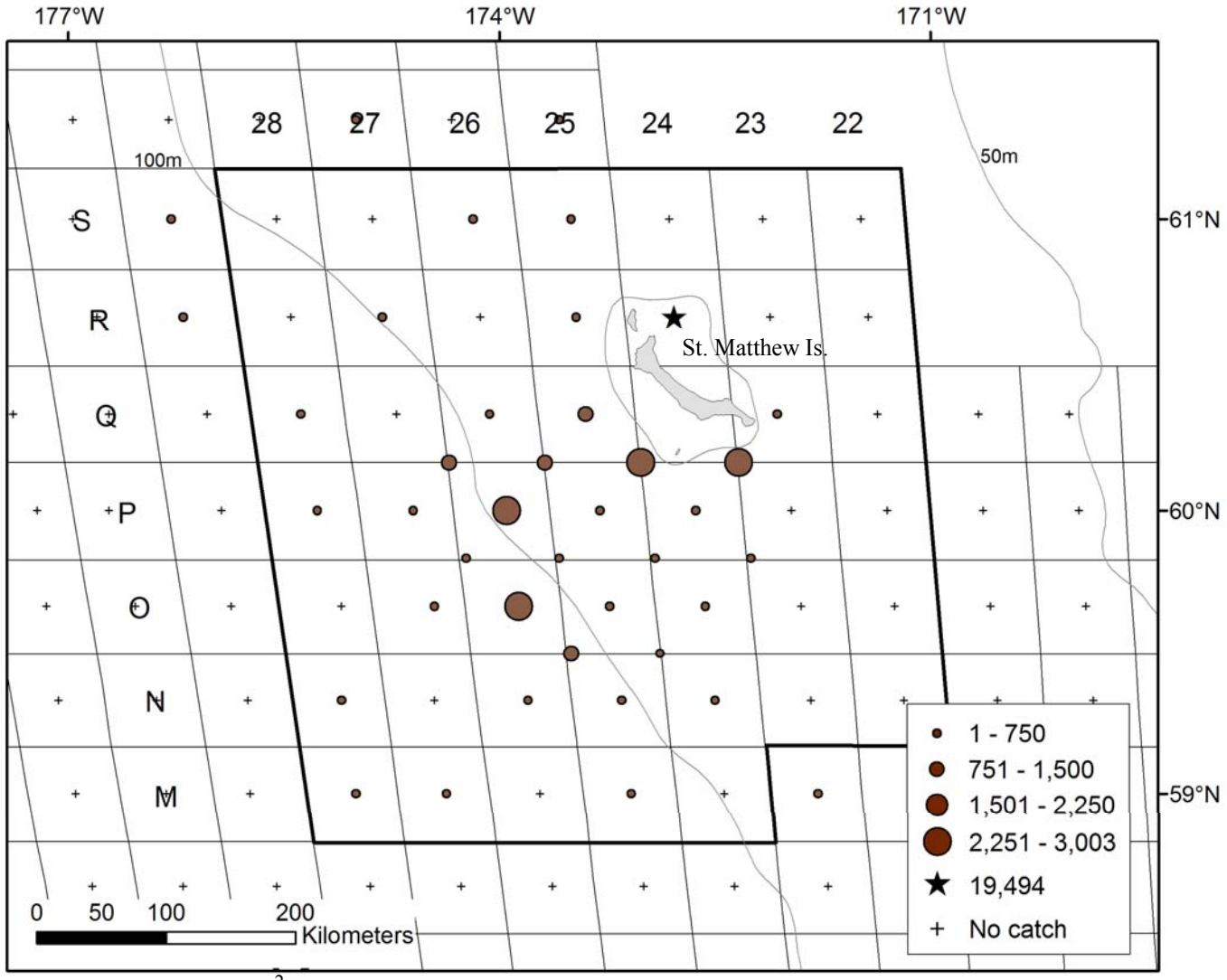

Figure 21. --Total density (number/nmi^2) of blue king crab (*Paralithodes platypus*) at each station sampled in the St. Mathew Island Section of the Northern District in 2010. Data depicted by circles are equal interval densities, while stars represent densities larger than the standard scale. The outlined area depicts stations within the management district.

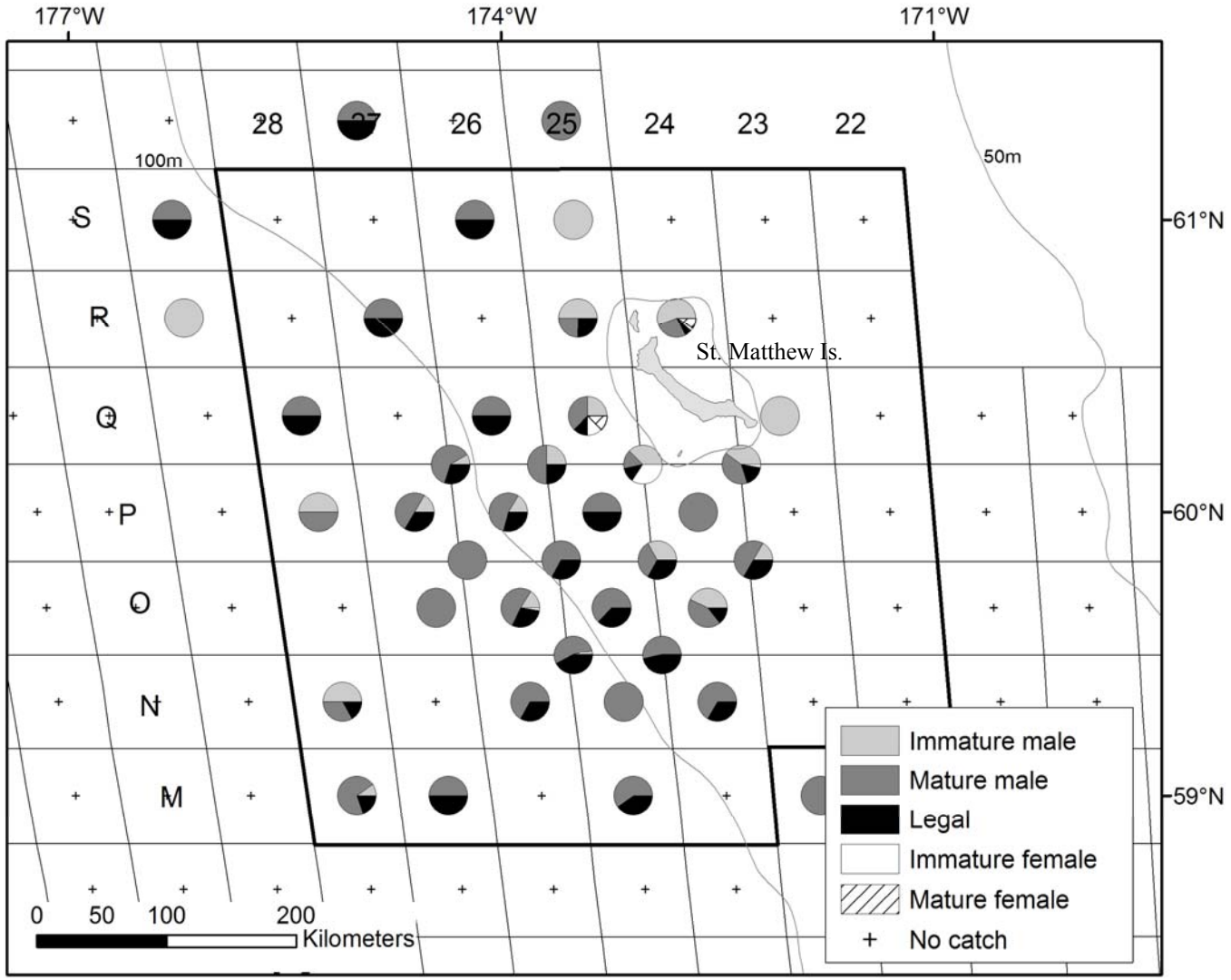

Figure 22. --Percentage of size categories for male and female blue king crab (*Paralithodes platypus*) at each station of the St. Matthew Island Section of the Northern District in 2010. The outlined area depicts stations within the management district.

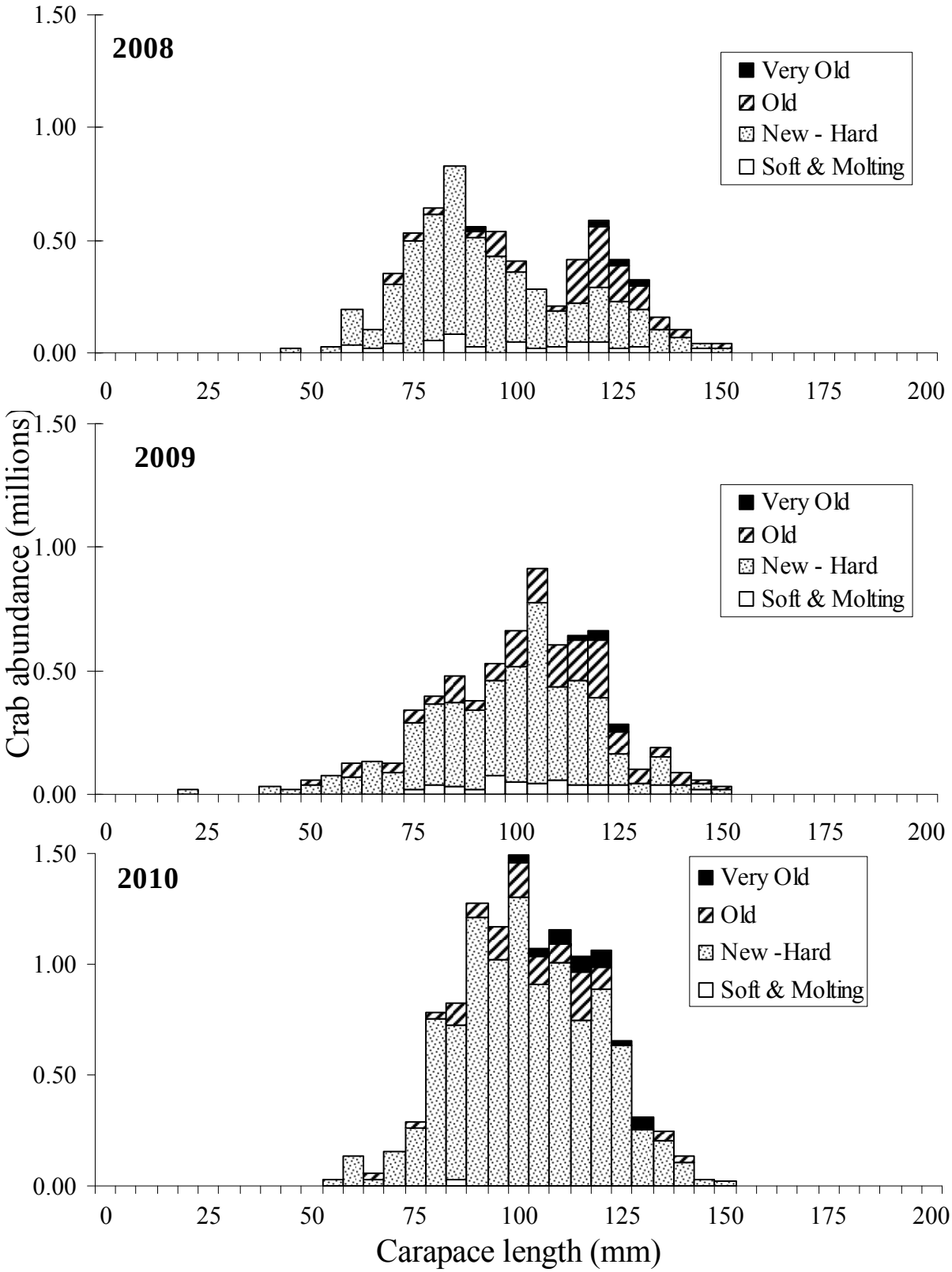

Figure 23. --Size-frequency of St. Matthew Island Section male blue king crab (*Paralithodes platypus*) by 5 mm length classes, 2008-2010.

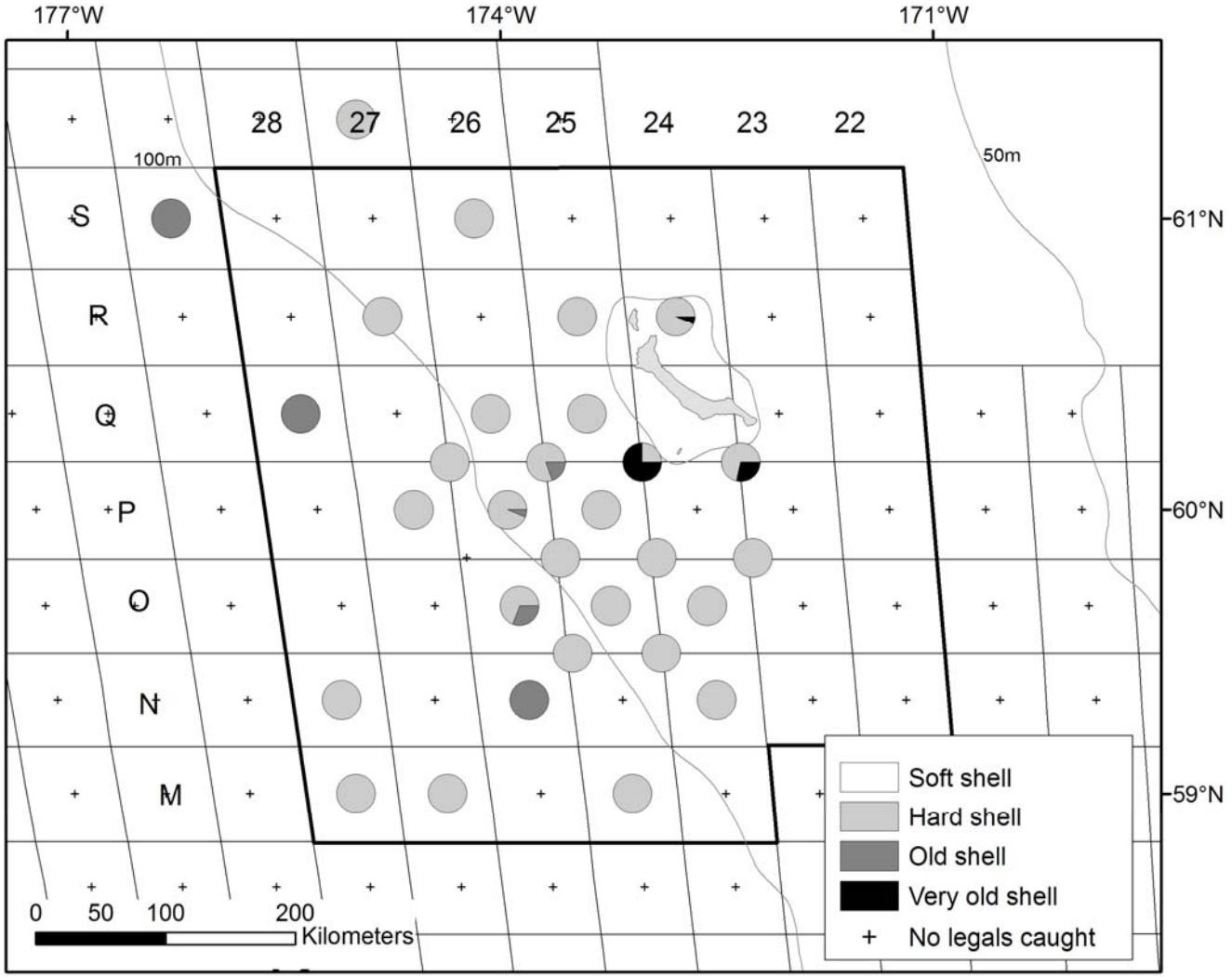

Figure 24. --Distribution of legal-sized male blue king crab (*Paralithodes platypus*) caught at each station of the St. Matthew Island Section of the Northern District in 2010 and distinguished by shell condition. The outlined area depicts stations within the management district.

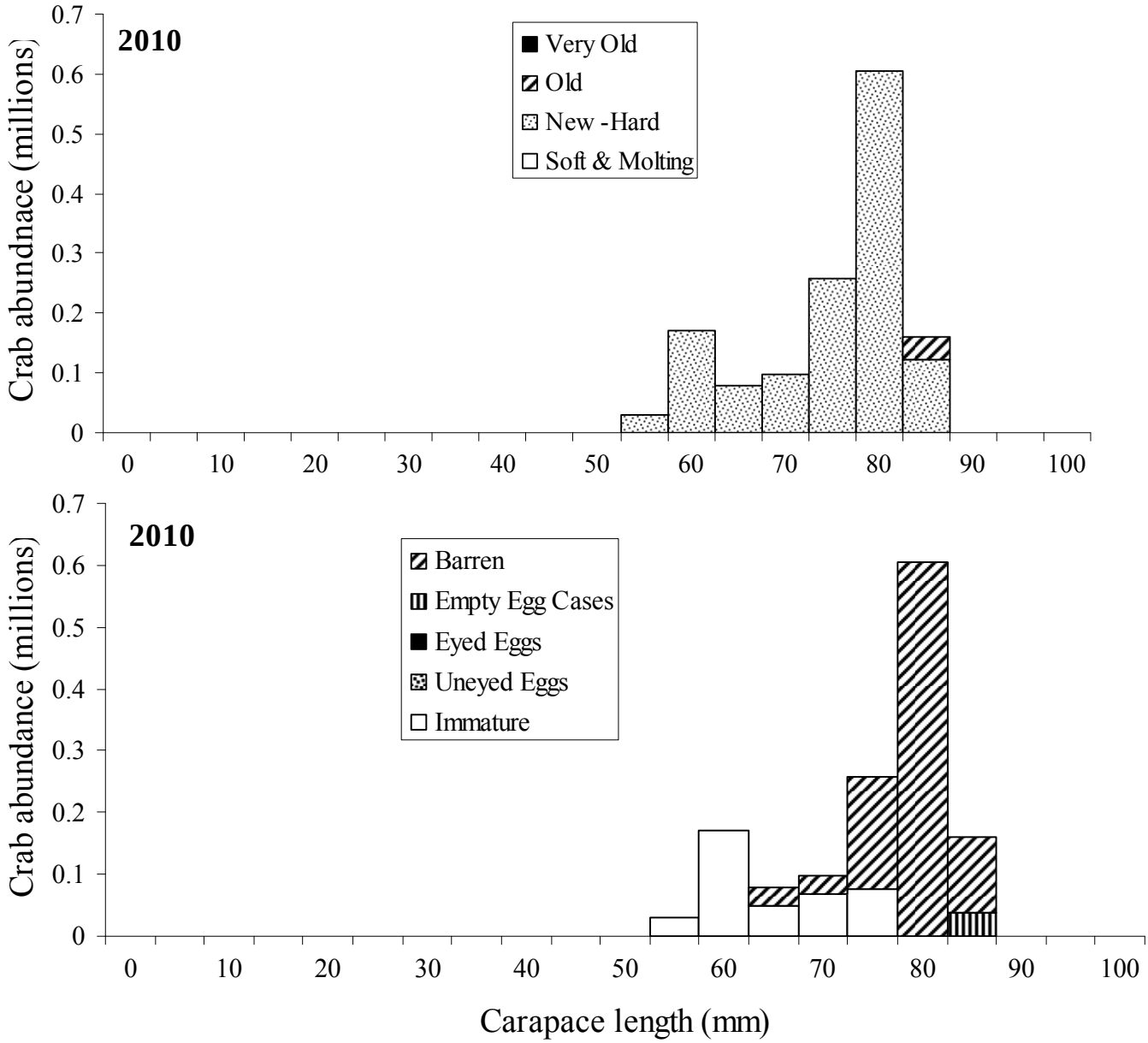

Figure 25. --Size-frequency by shell and egg condition of St. Matthew Island Section female blue king crab (*Paralithodes platypus*) by 5 mm length classes in 2010.

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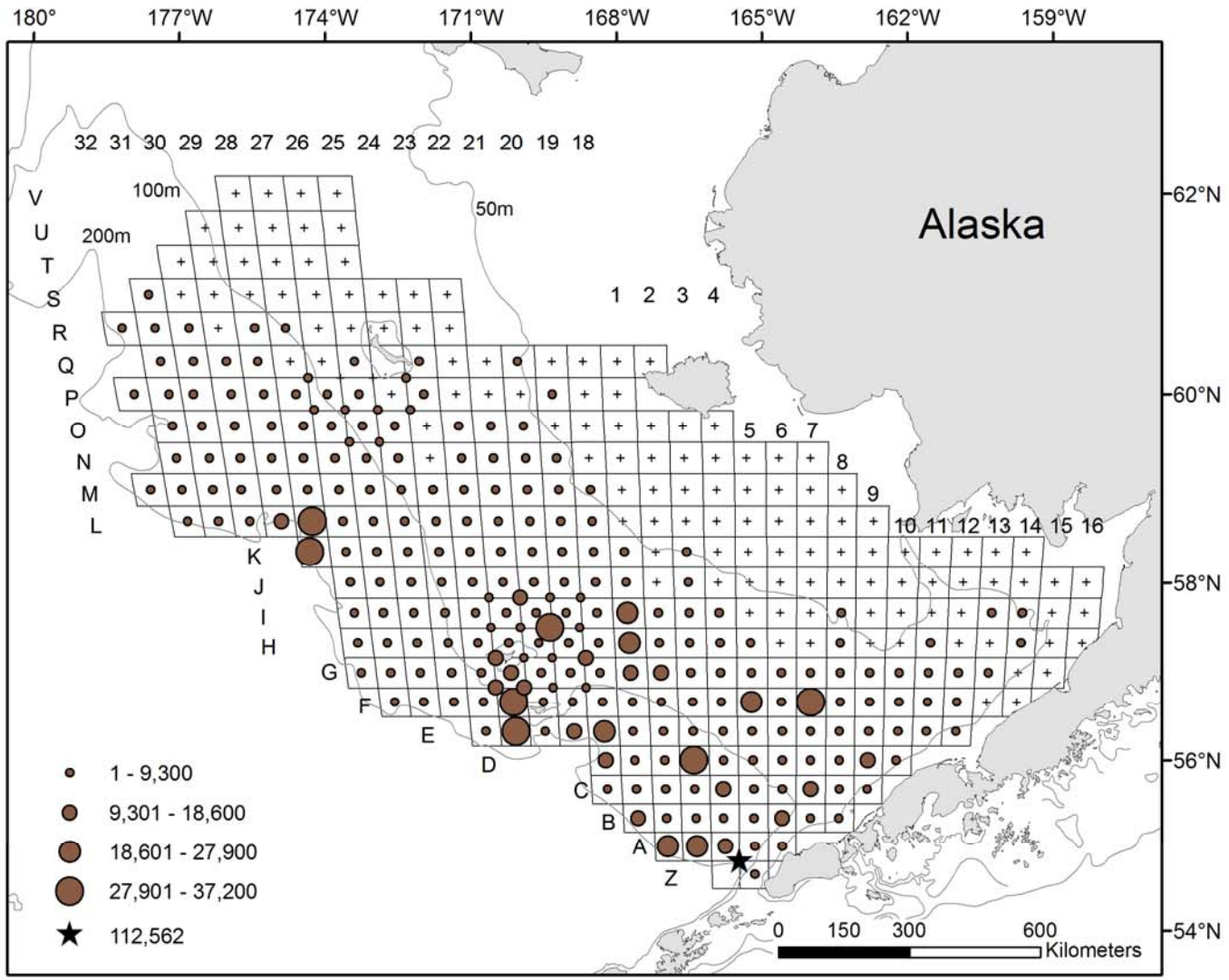

Figure 26. --Total density (number/nmi^2) of Tanner crab (*Chionoecetes bairdi)* at each station sampled in 2010. Data depicted by circles are crab densities at equal intervals, while stars represent densities larger than the standard scale.

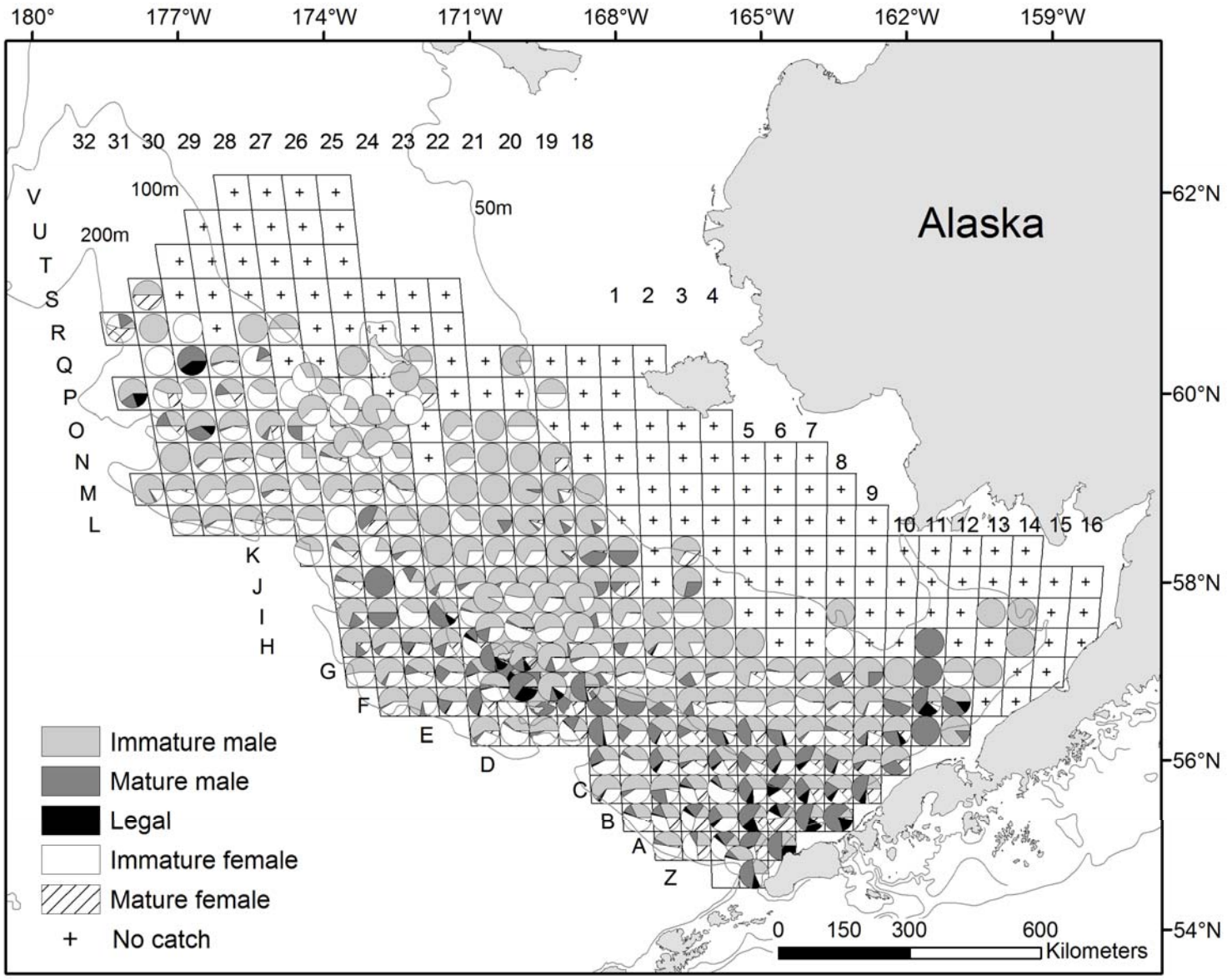

Figure 27. --Percentage of size categories for male and female Tanner crab (*Chionoecetes bairdi*) at each station sampled in 2010**.**

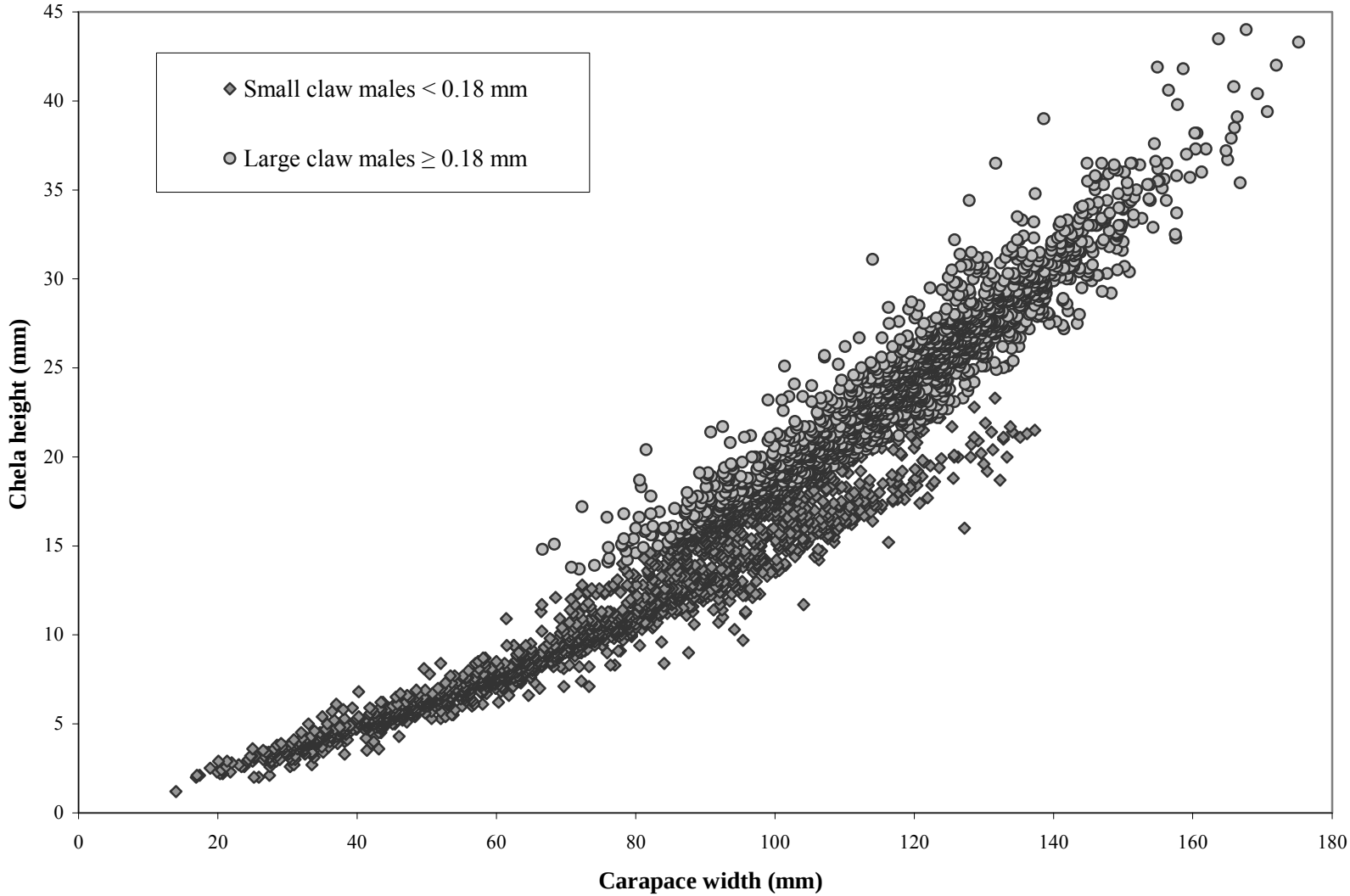

Figure 28. --Male Tanner crab (*Chionoecetes bairdi*) chela height versus carapace width measurements collected on the 2008 and 2010 National Marine Fisheries Service eastern Bering Sea bottom trawl survey.

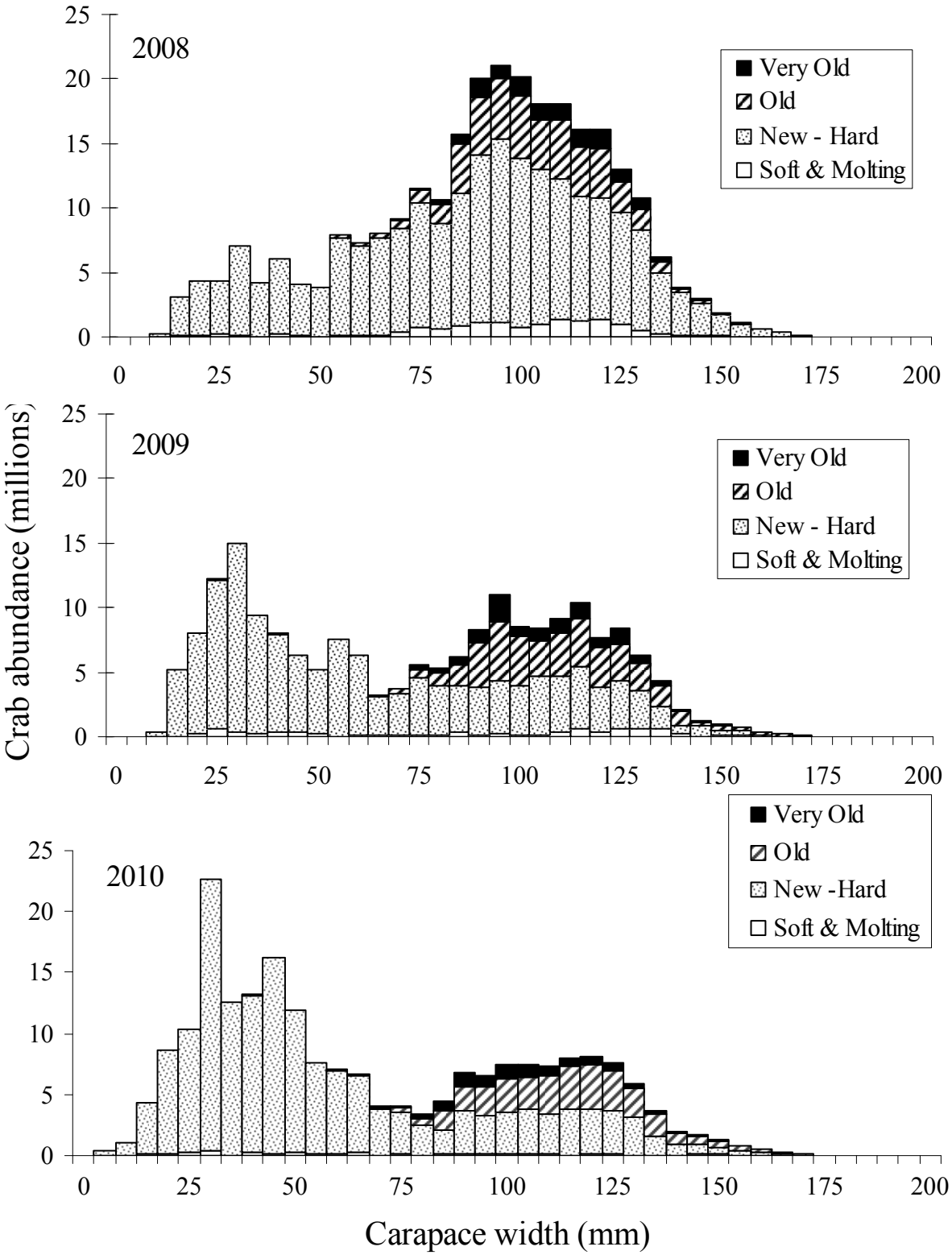

Figure 29. --Size-frequency of male Tanner crab (*Chionoecetes bairdi*) by 5 mm width classes for all districts combined, 2008-2010.

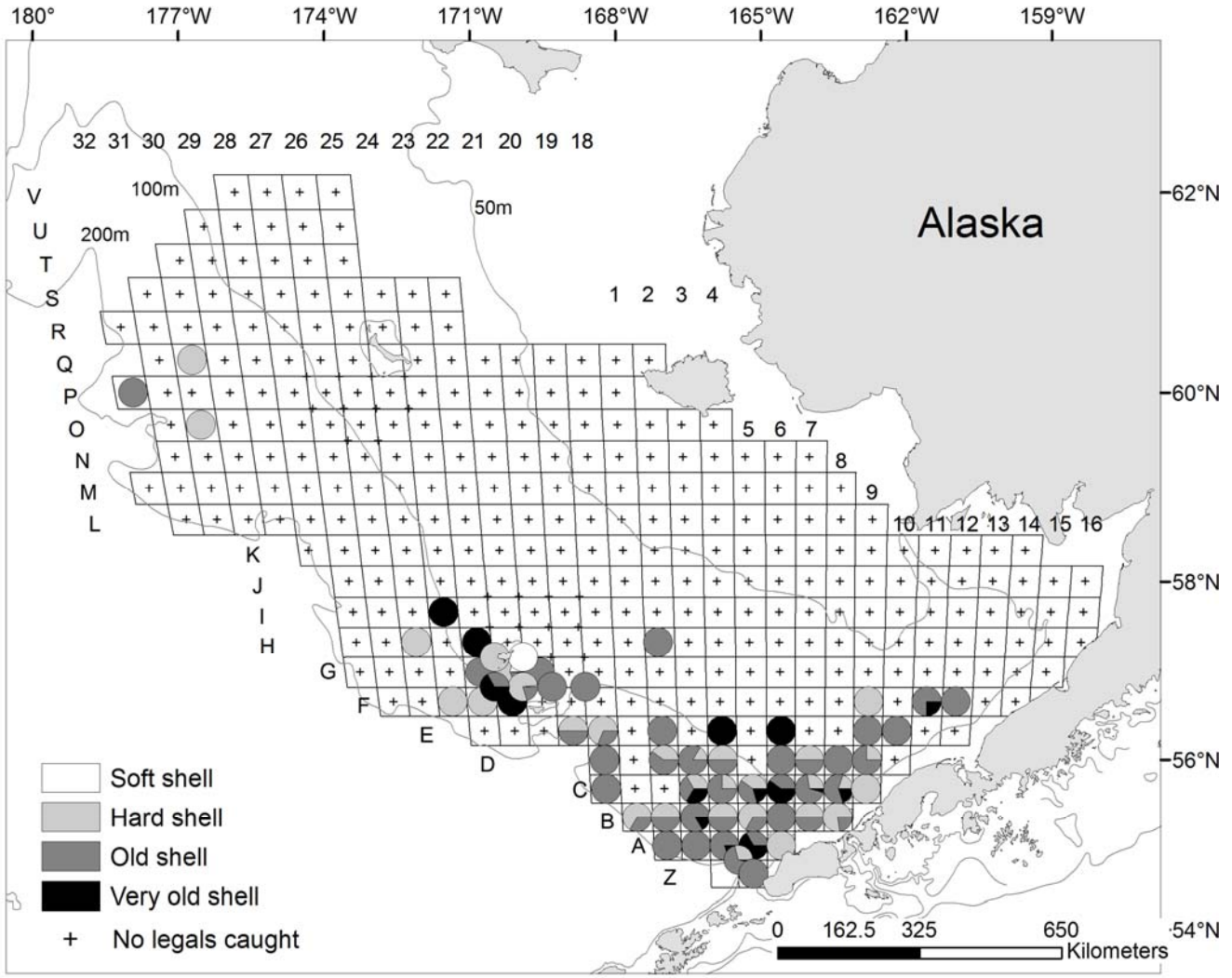

Figure 30. --Distribution of legal-sized male Tanner crab (*Chionoecetes bairdi*) distinguished by shell condition caught at each station in 2010.

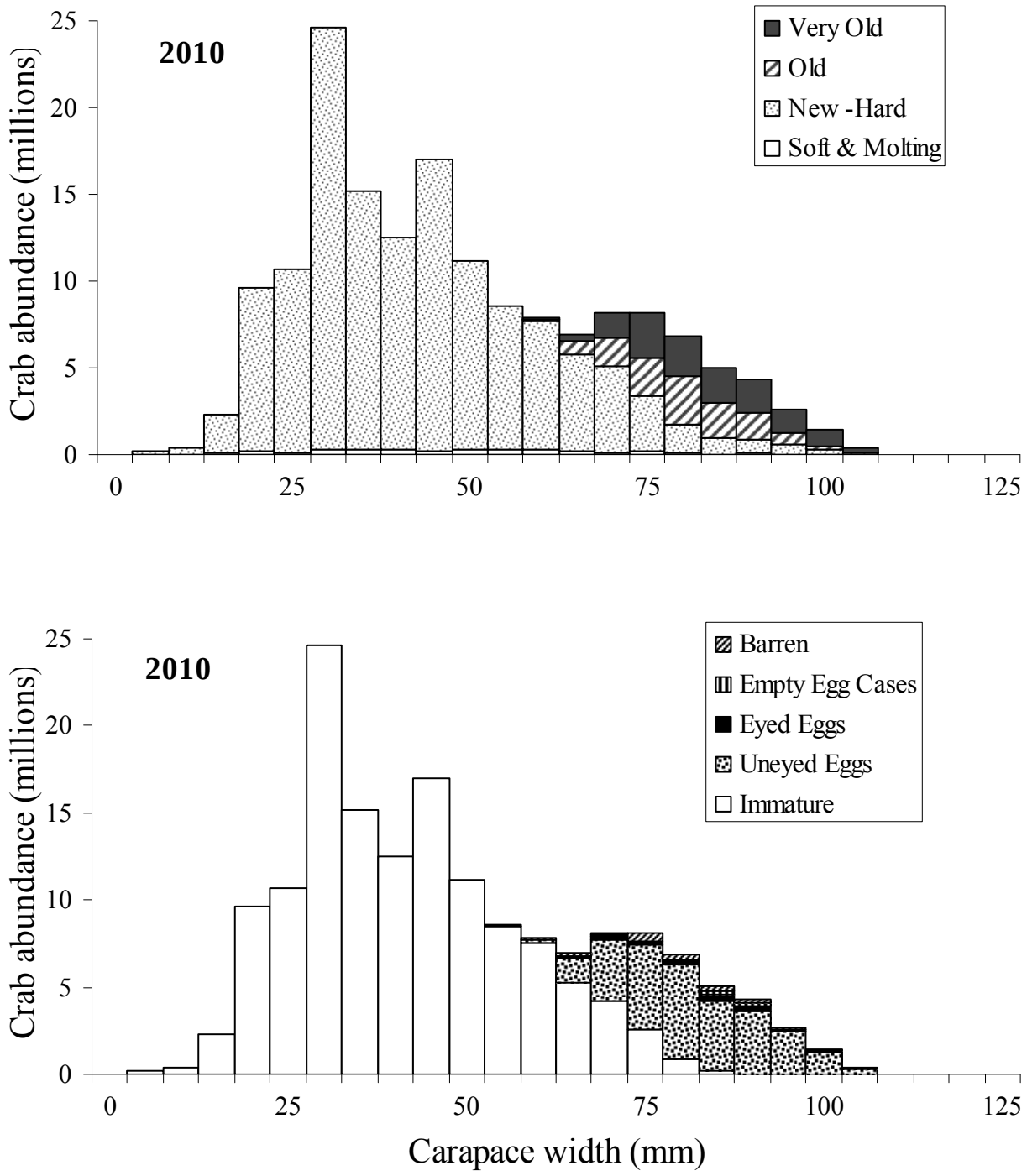

Figure 31. --Size-frequency by shell and egg condition of female Tanner crab (*Chionoecetes bairdi*) by 5 mm width classes for all districts combined in 2010.

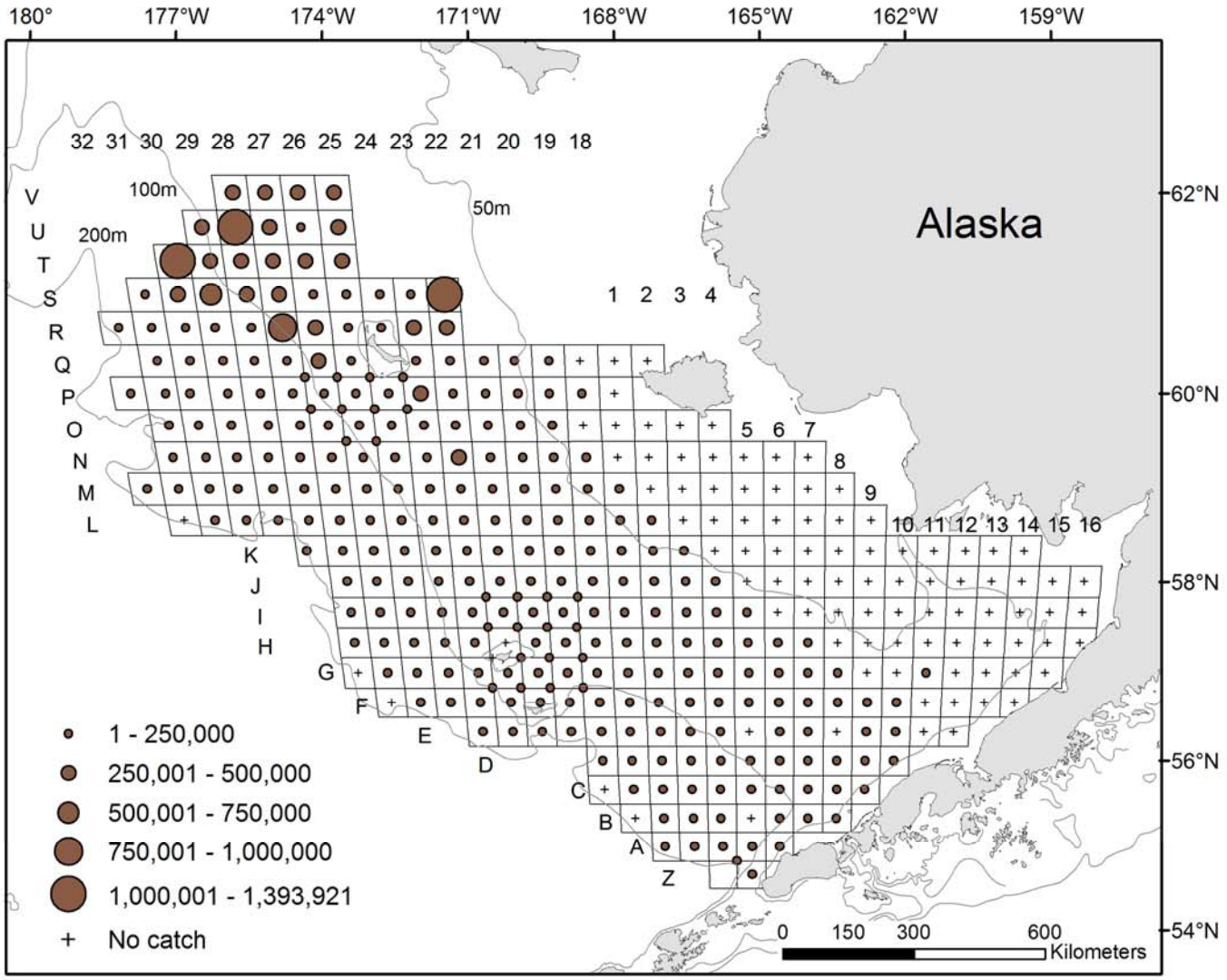

Figure 32. --Total density (number/nmi^2) of snow crab (*Chionoecetes opilio*) at each station sampled in 2010. Data depicted by circles are crab densities at equal intervals.

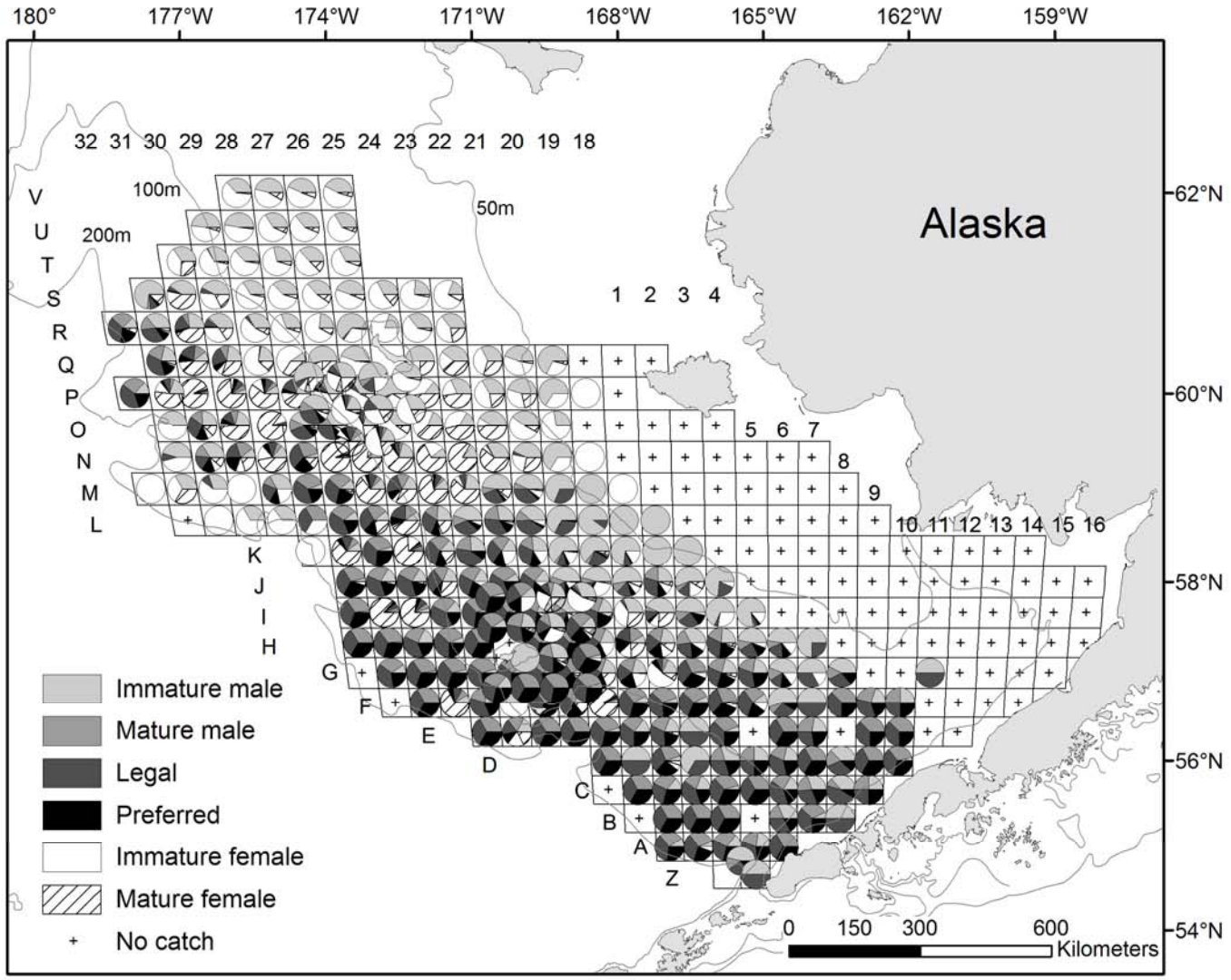

Figure 33. --Percentage of size categories of male and female snow crab (*Chionoecetes opilio*) at each station sampled in 2010.

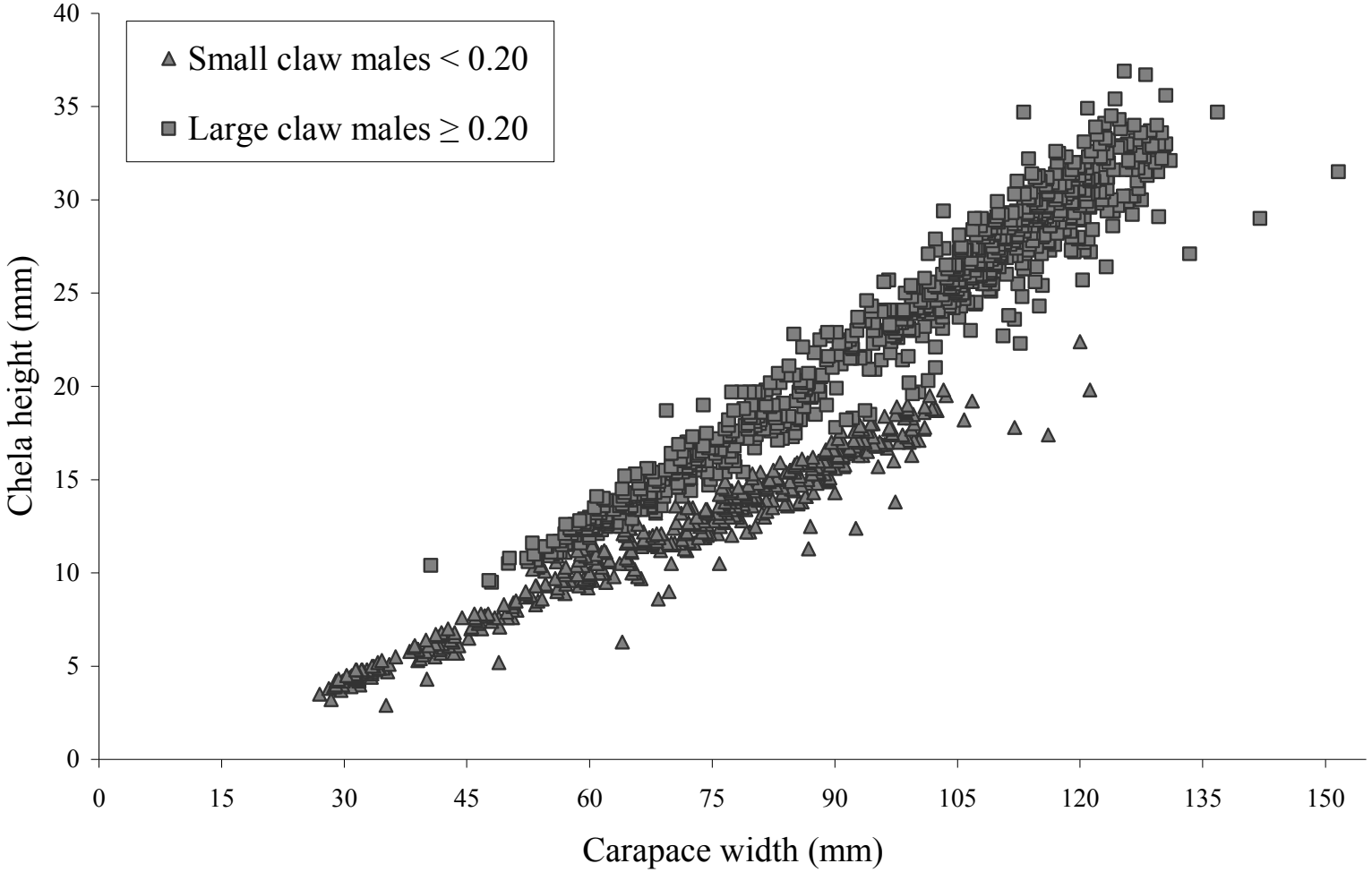

Figure 34. -- Male snow crab (*Chionoecetes opilio*) chela height versus carapace width measurements collected on the 2009 National Marine Fisheries Service eastern Bering Sea bottom trawl survey.

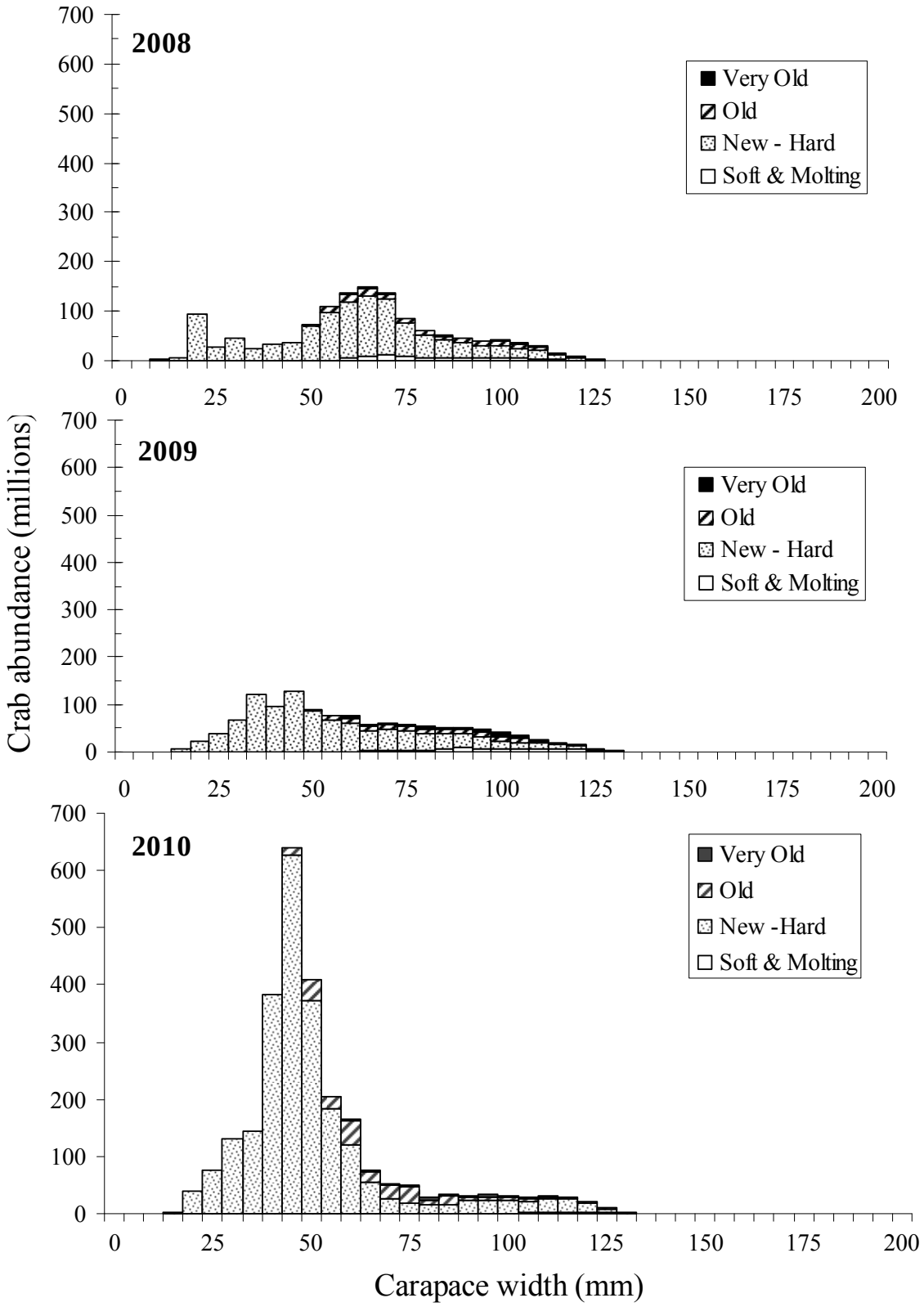

Figure 35. --Size-frequency of male snow crab (*Chionoecetes opilio*) by 5 mm width classes of all districts combined, 2008-2010.

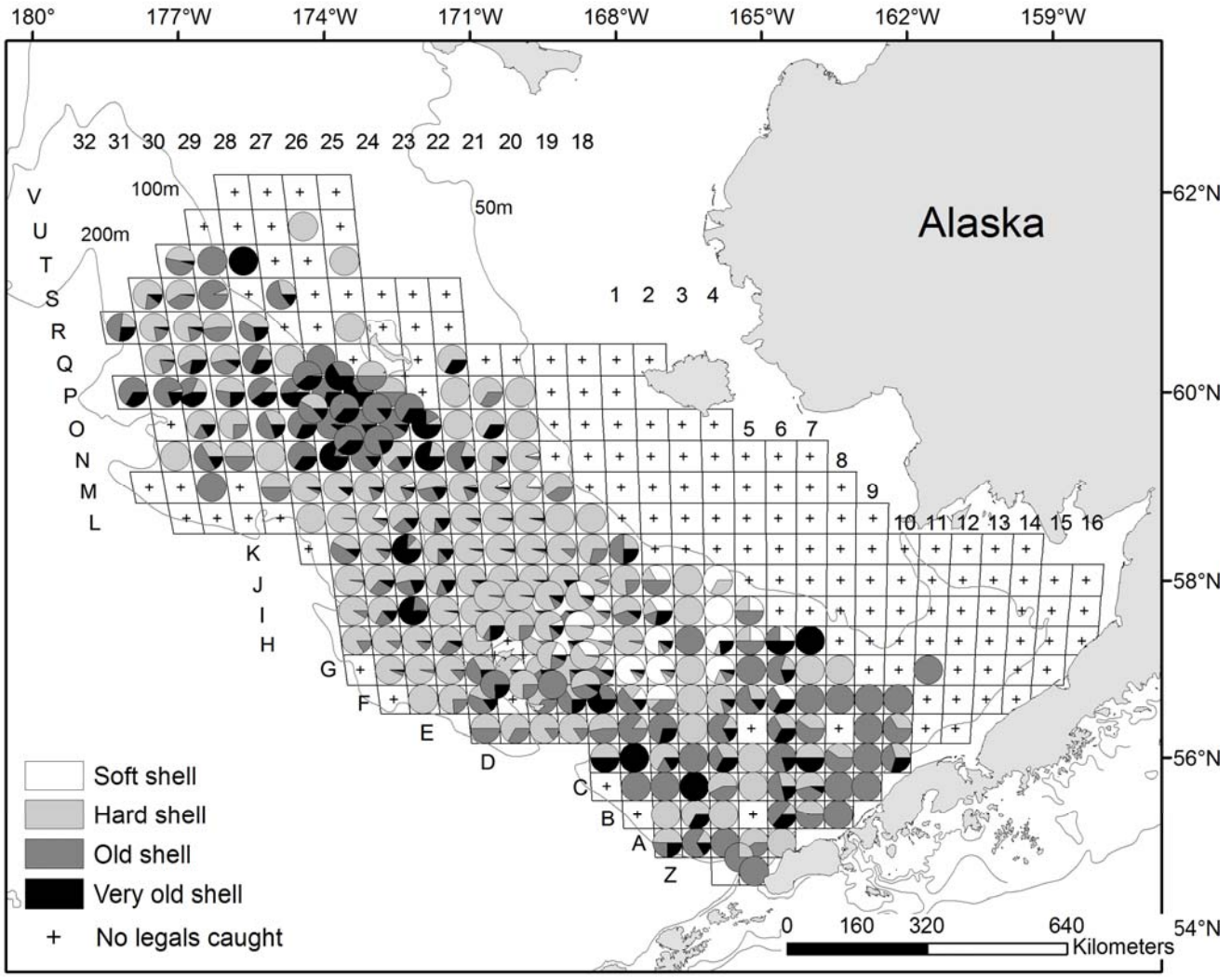

Figure 36.--Distribution of legal-sized male snow crab (*Chionoecetes opilio*) distinguished by shell condition caught at each station in 2010.

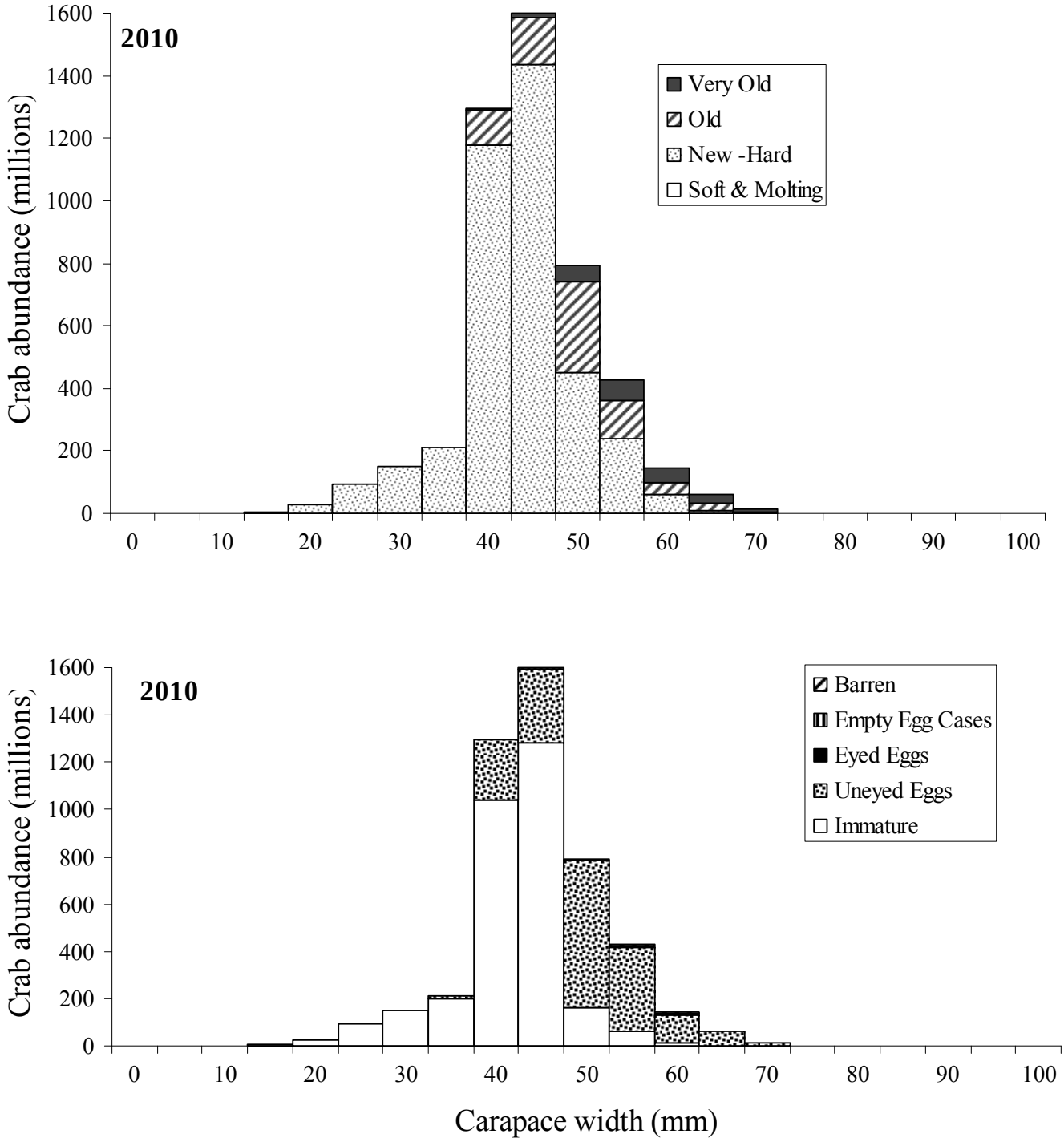

Figure 37. --Size-frequency by shell and egg condition of female snow crab (*Chionoecetes opilio*) by 5 mm width classes of all districts combined in 2010.

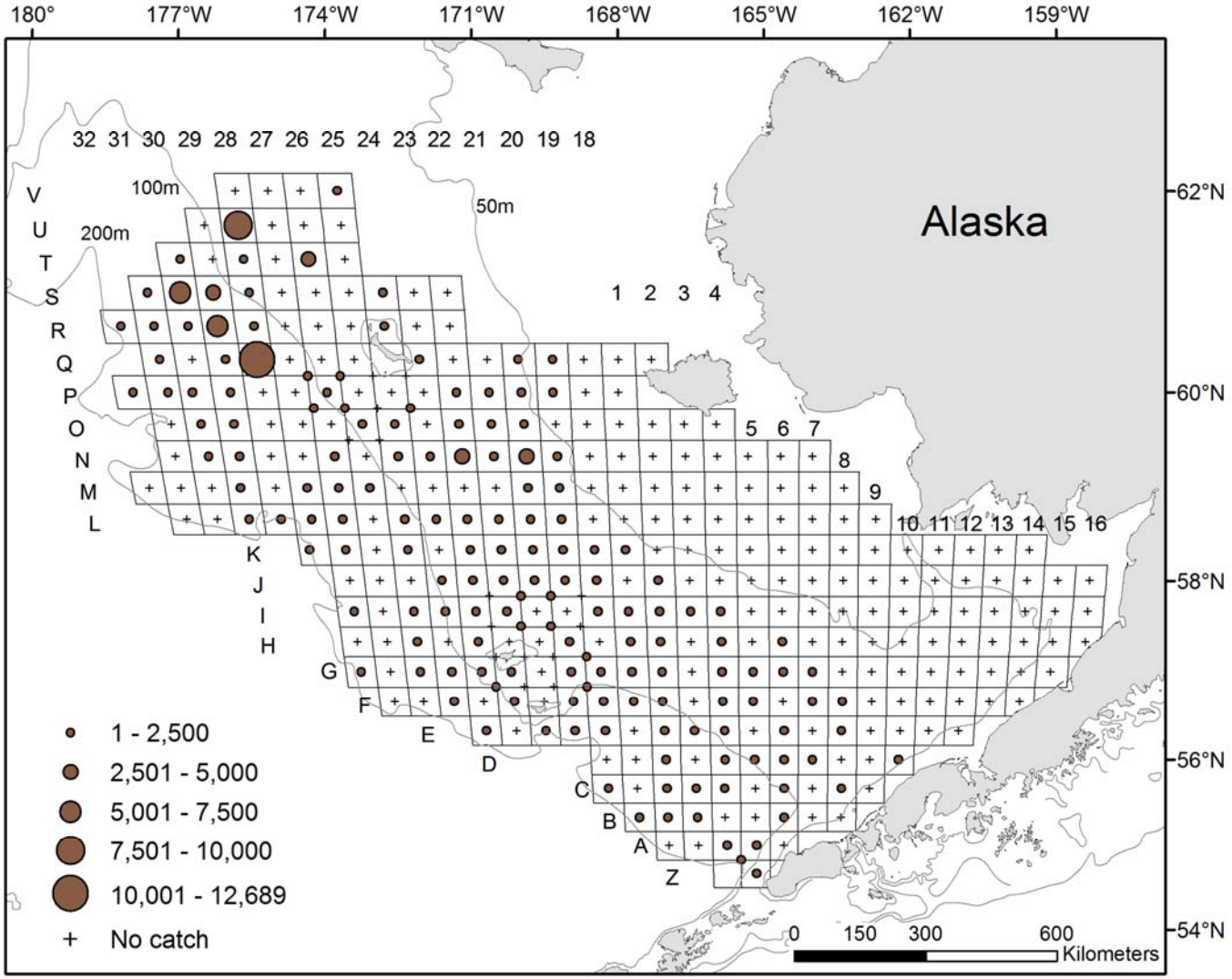

Figure 38. --Total density (number/nmi^2) of *Chionoecetes bairdi/opilio* hybrid crab at each station sampled in 2010. Data depicted by circles are crab densities at equal intervals.

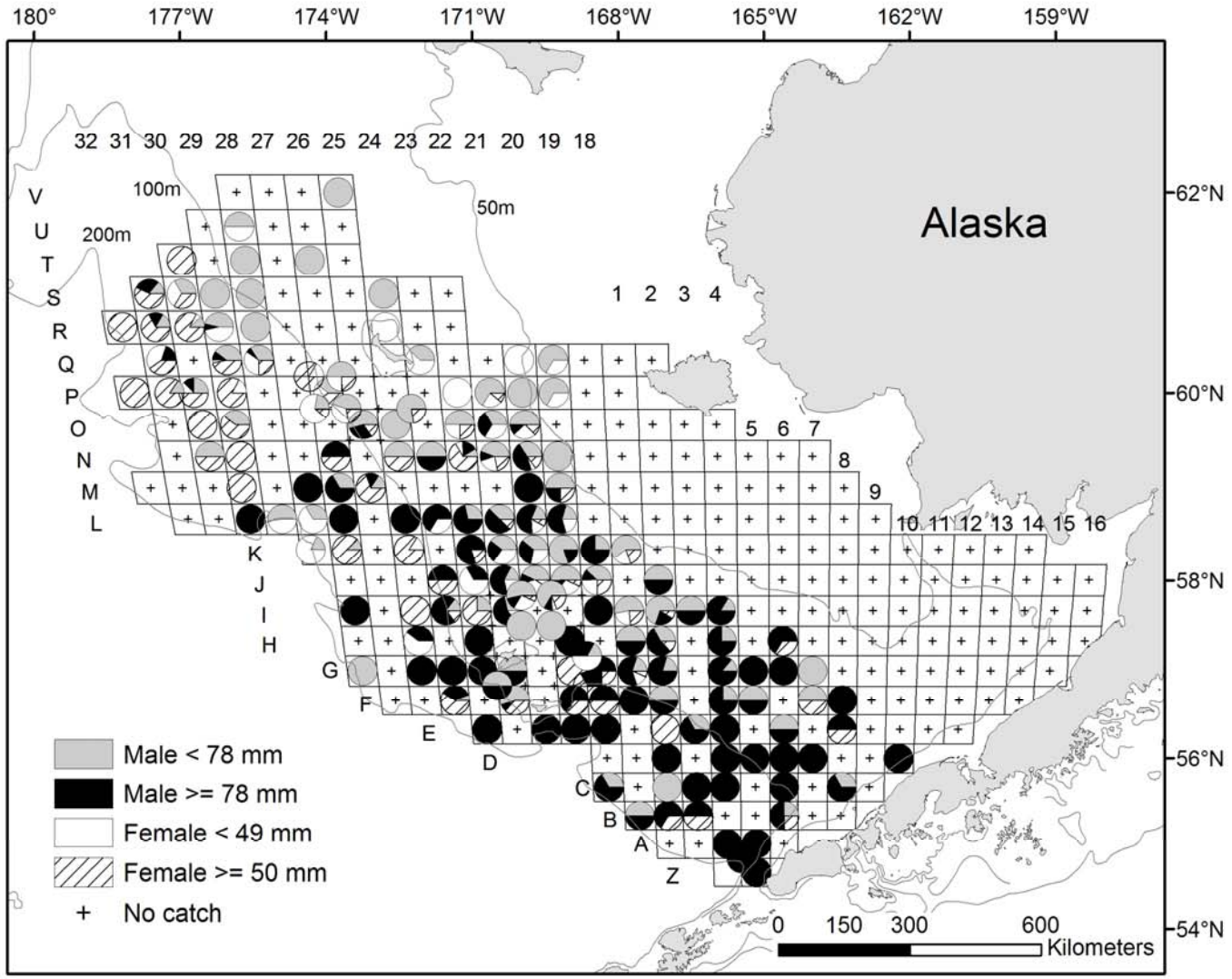

Figure 39. --Percentage of size categories for male and female *Chionoecetes bairdi/opilio* hybrid crab at each station sampled in 2010.

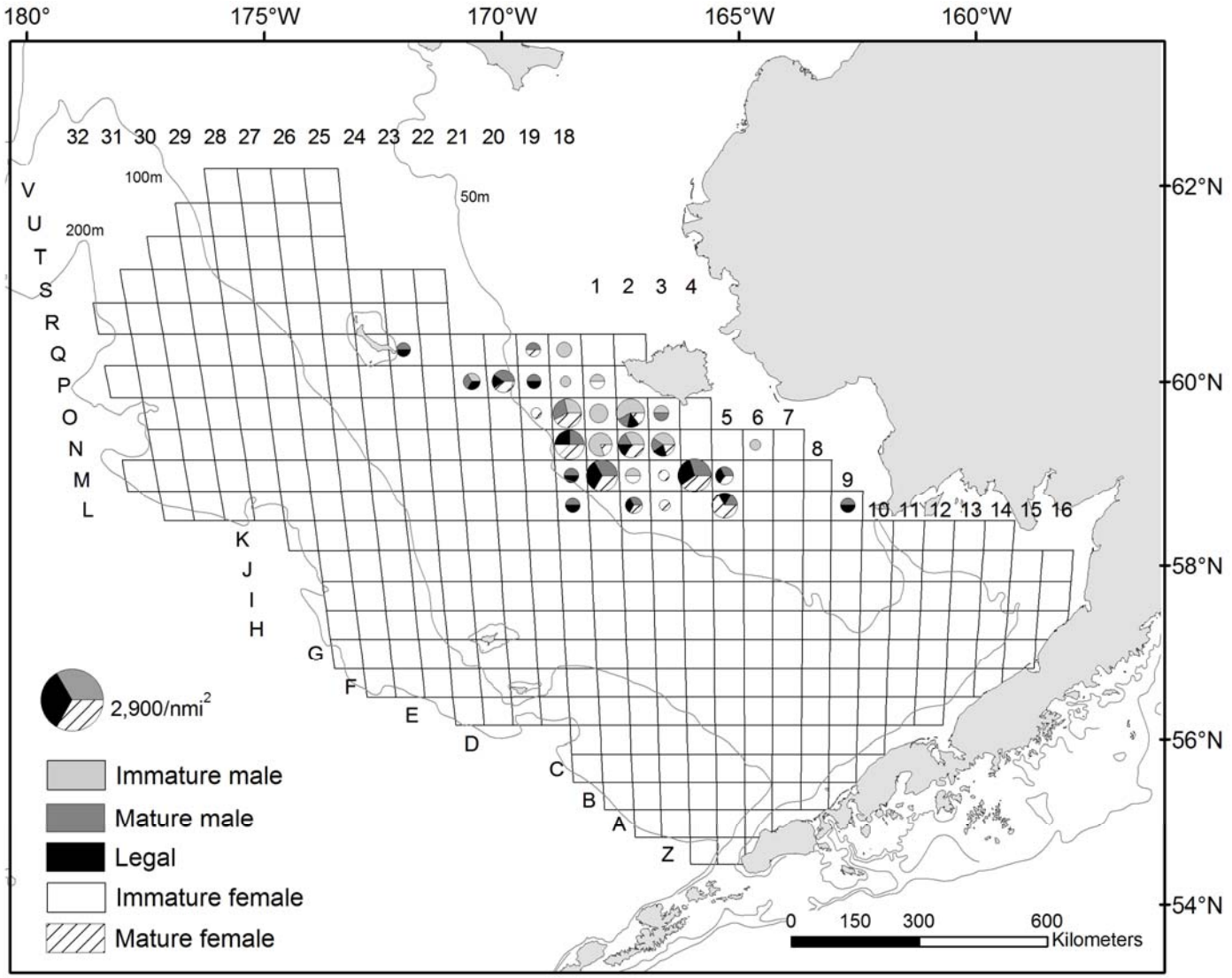

Figure 40. --Total density (number/nmi^2) and percentage of size categories for male and female red king crab (*Paralithodes camtschaticus*) at each station sampled in the Northern District in 2010.

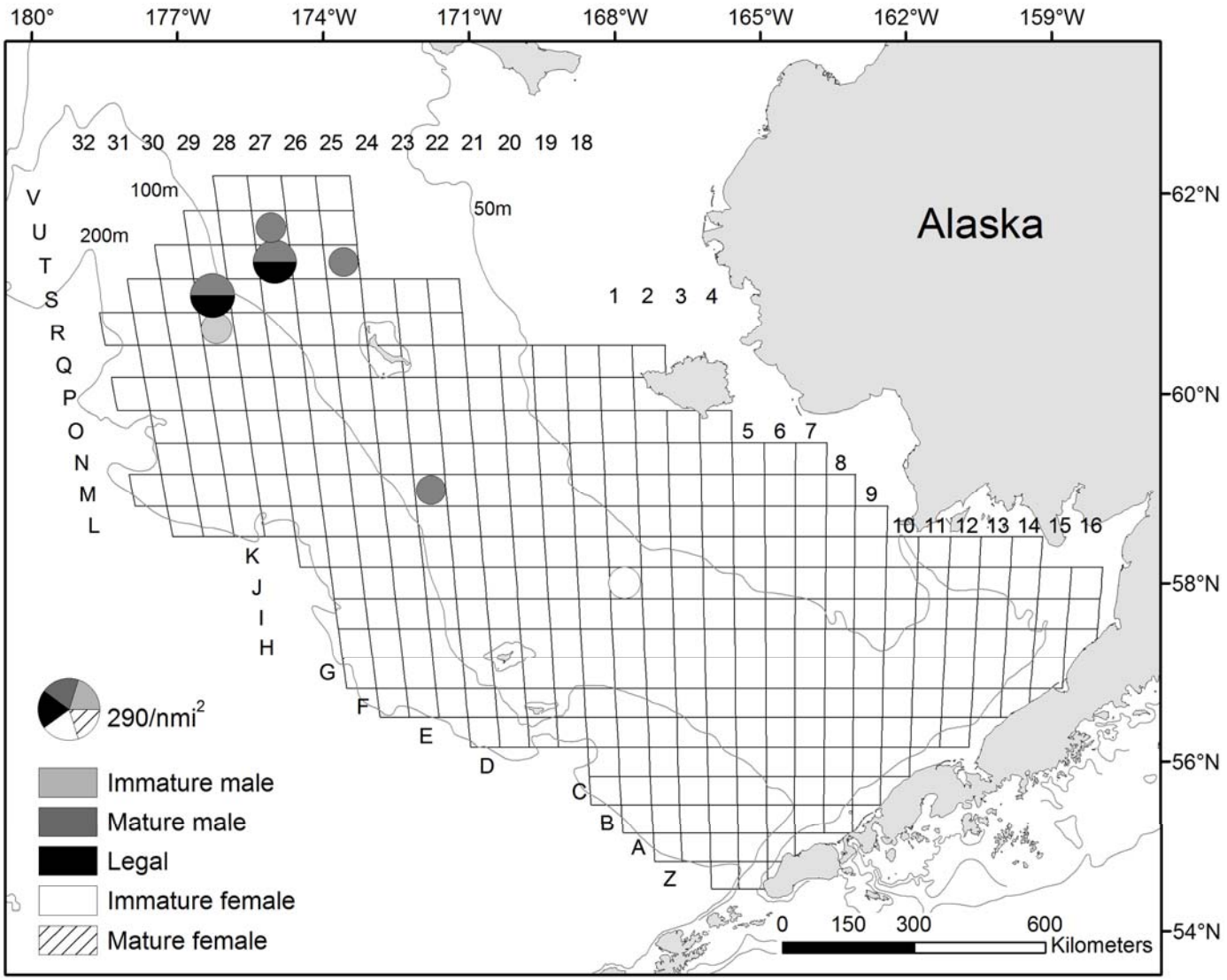

Figure 41. --Total density (number/nmi^2) and percentage of size categories for male and female blue king crab (*Paralithodes platypus*) at each station sampled in the Northern District in 2010.

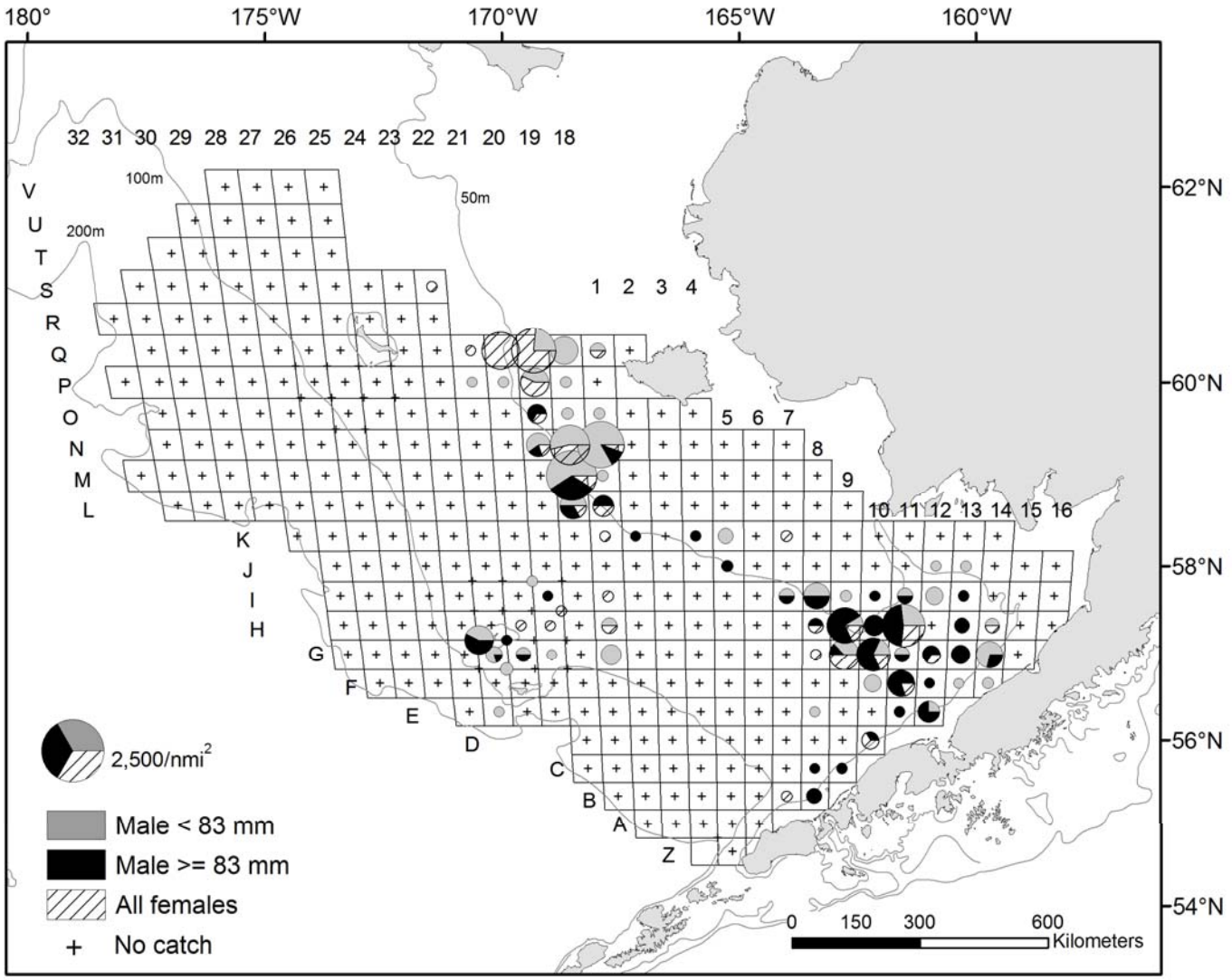

Figure 42. --Total density (number/nmi^2) and percentage of size categories for male and female hair crab (*Erimacrus isenbeckii*) at each station sampled in 2010.

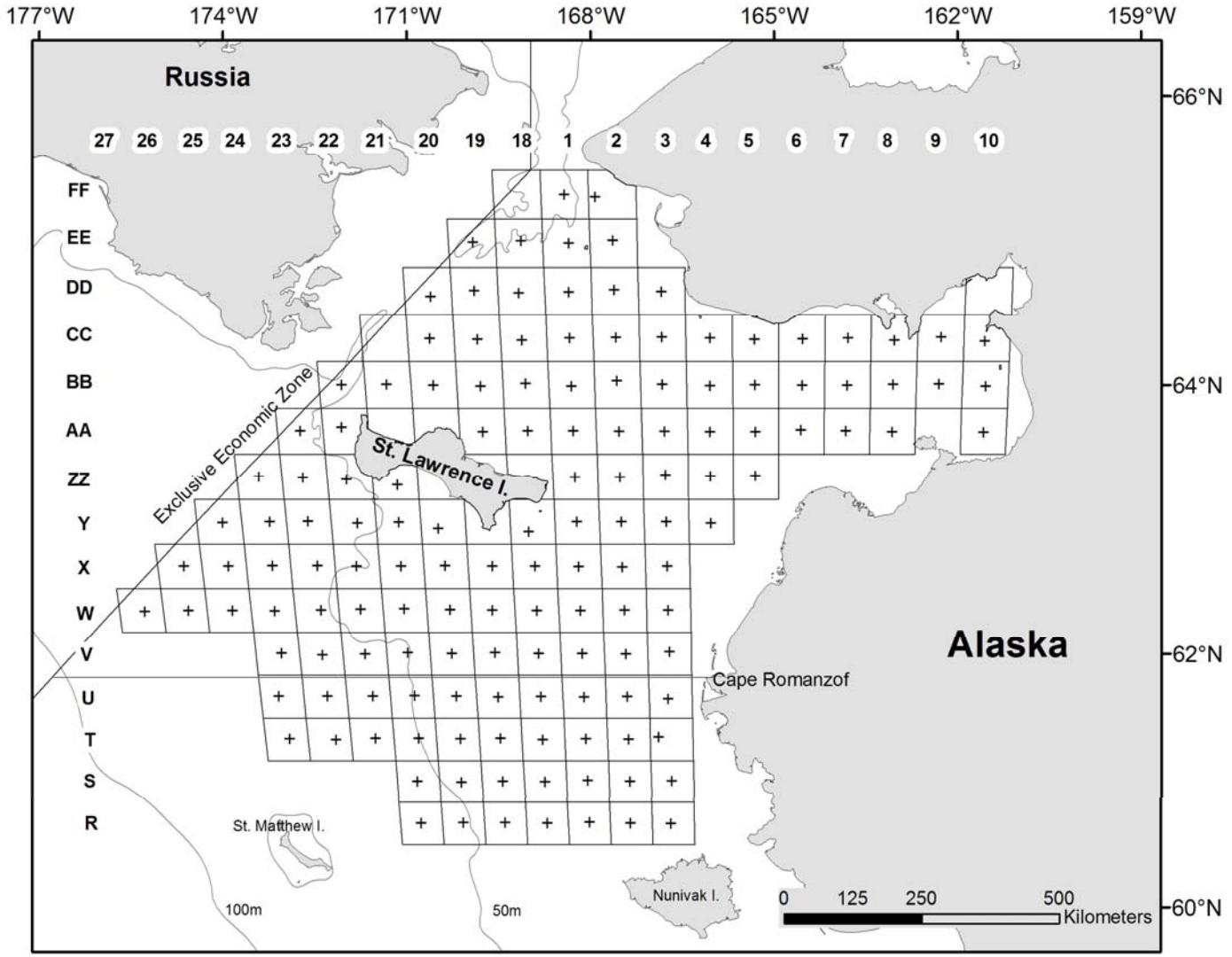

Figure 43. –Station map of the northern extension of the 2010 National Marine Fisheries Service eastern Bering Sea bottom trawl survey area.

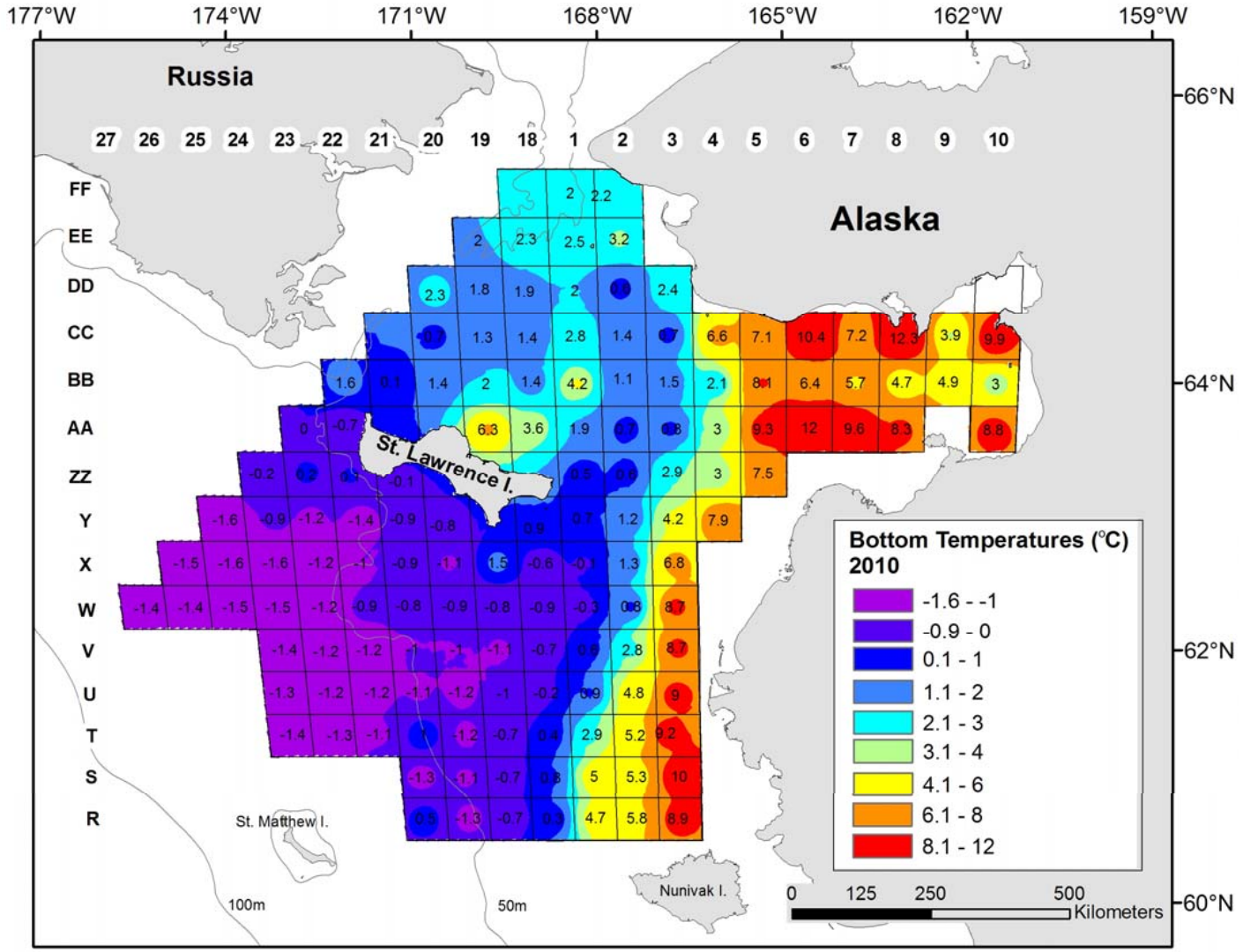

Figure 44.--Mean bottom temperatures (°C) measured at stations sampled on the northern extension of the 2010 National Marine Fisheries Service eastern Bering Sea bottom trawl survey.

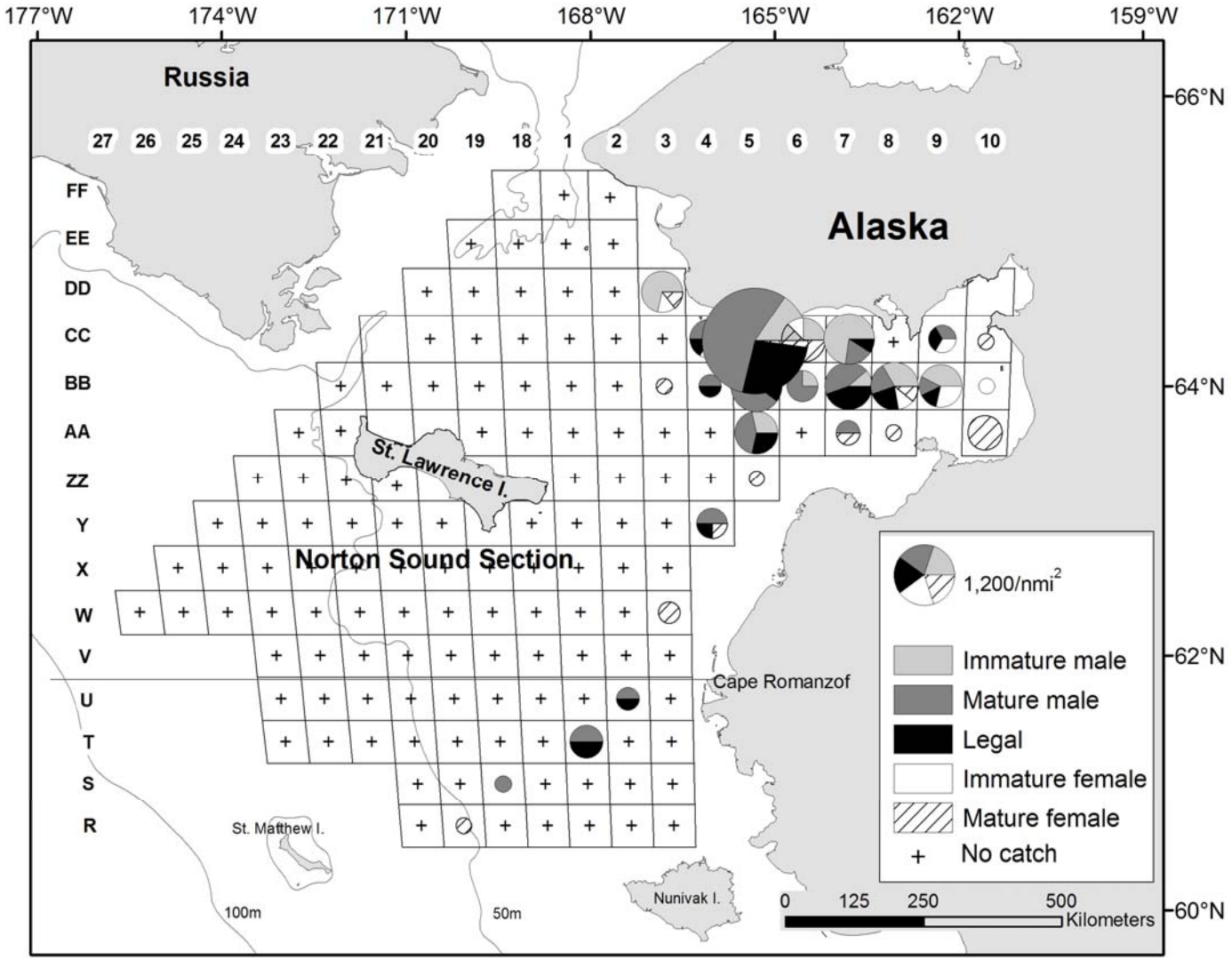

Figure 45. -- Total density (number/nmi^2) and percentage of size categories for male and female red king crab (*Paralithodes camtschaticus*) at each station sampled in the northern extension of the 2010 National Marine Fisheries Service eastern Bering Sea bottom trawl survey.

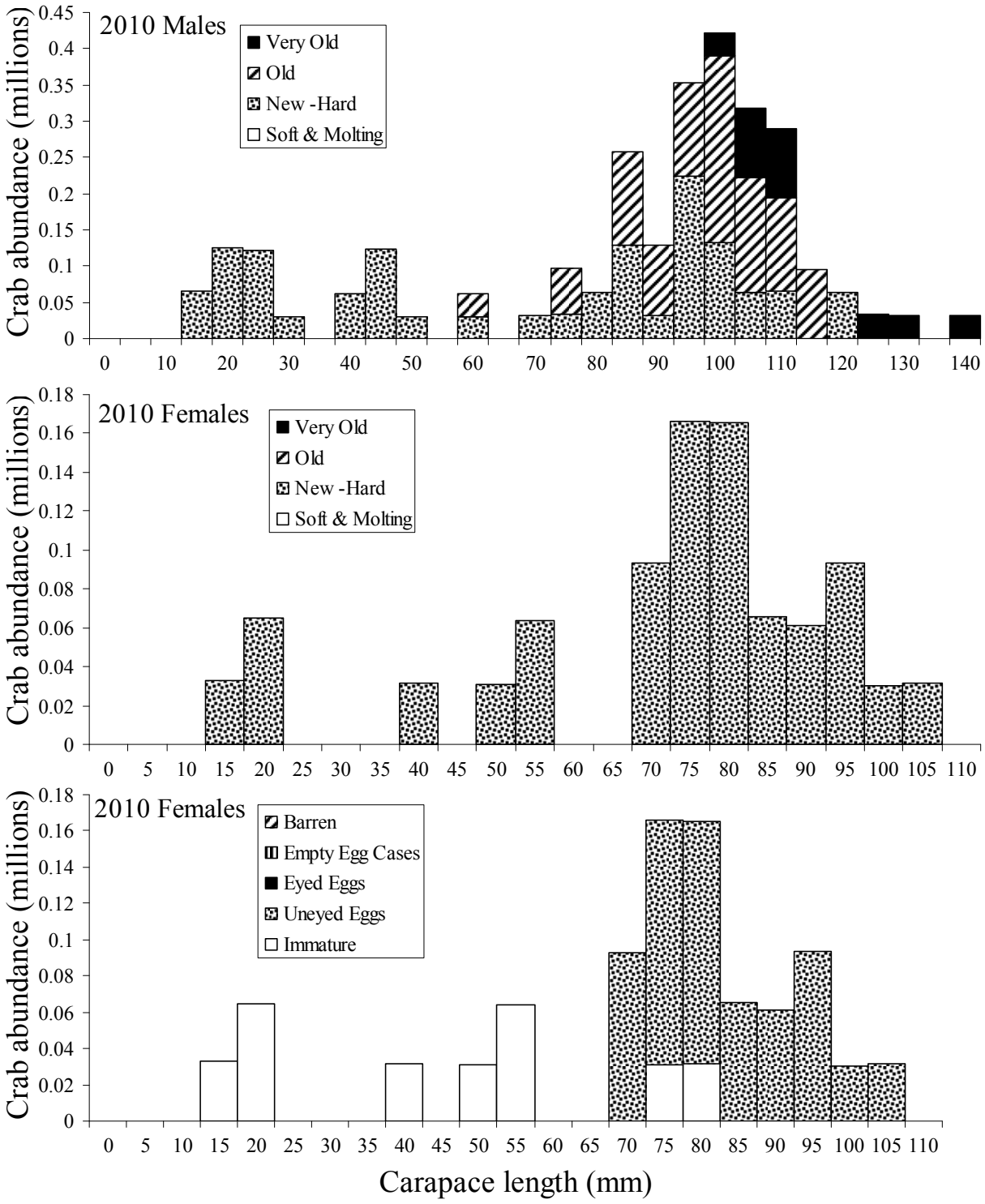

Figure 46. --2010 size-frequency and shell condition of male and female red king crab (*Paralithodes camtschaticus*) and egg condition of female red king crab by 5 mm length classes.

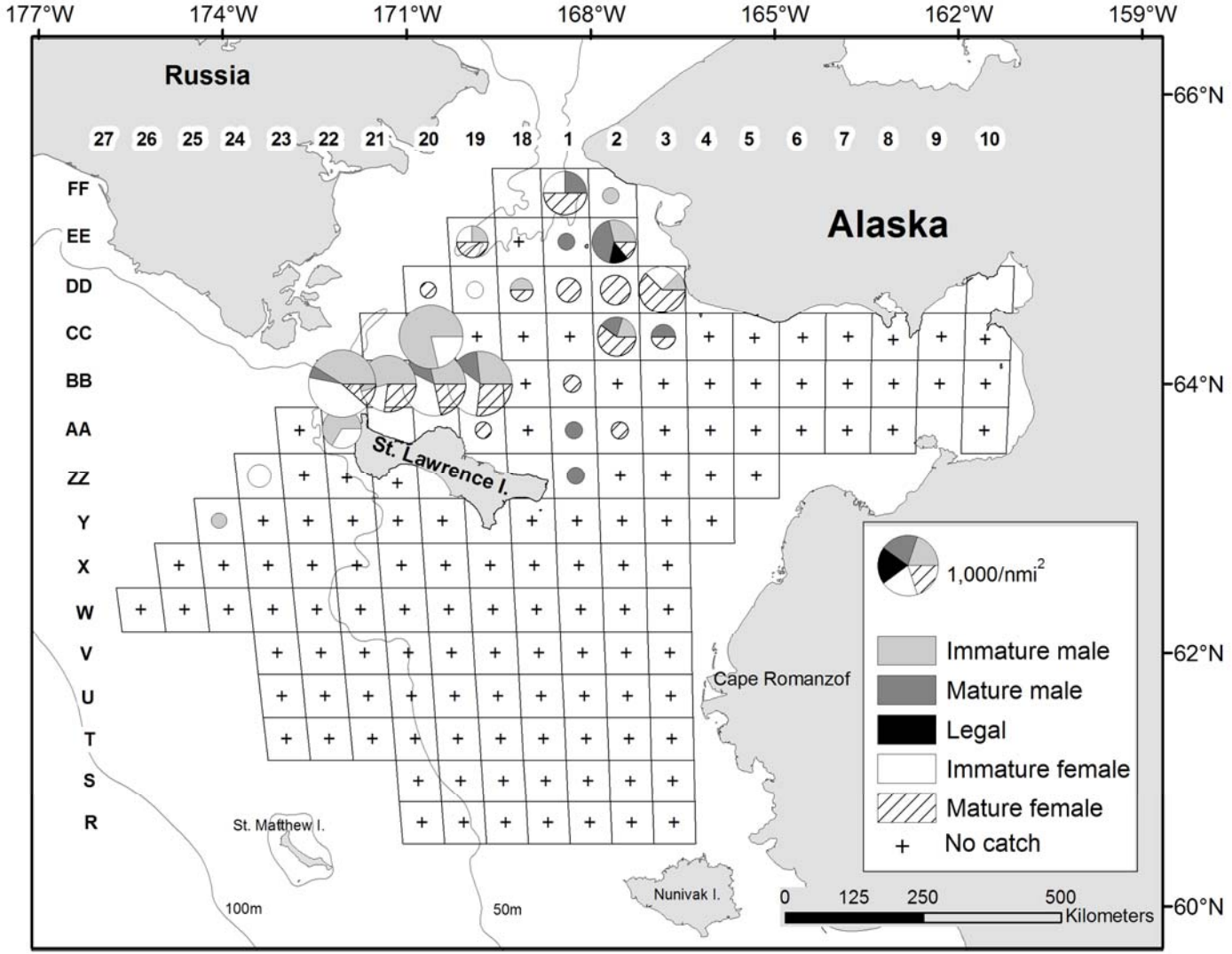

Figure 47. -- Total density (number/nmi^2) and percentage of size categories for male and female blue king crab (*Paralithodes platypus*) at each station sampled in the northern extension of the 2010 National Marine Fisheries Service eastern Bering Sea bottom trawl survey.

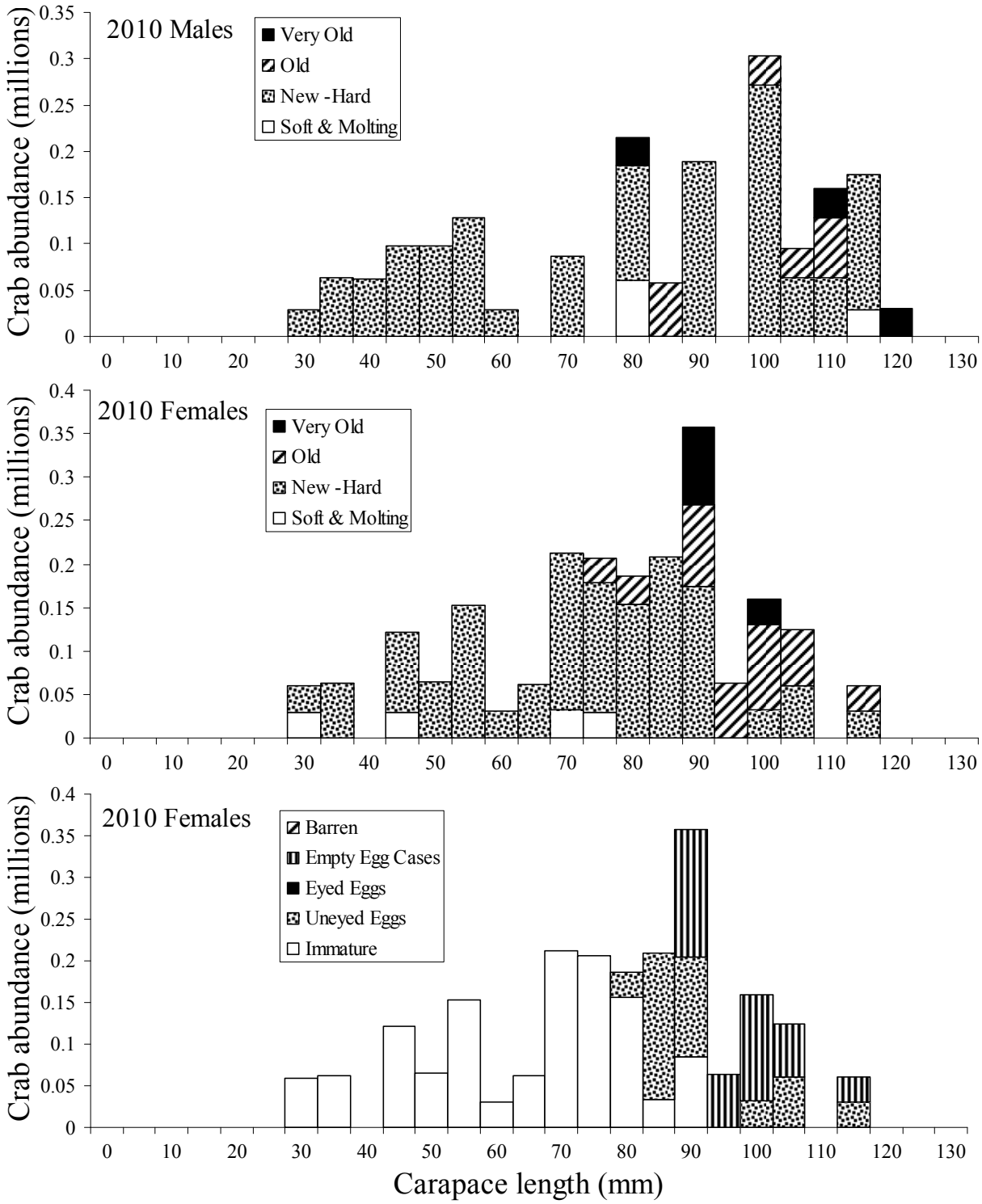

Figure 48. --2010 size-frequency and shell condition of male and female blue king crab (*Paralithodes platypus*) and egg condition of female blue king crab by 5 mm length classes.

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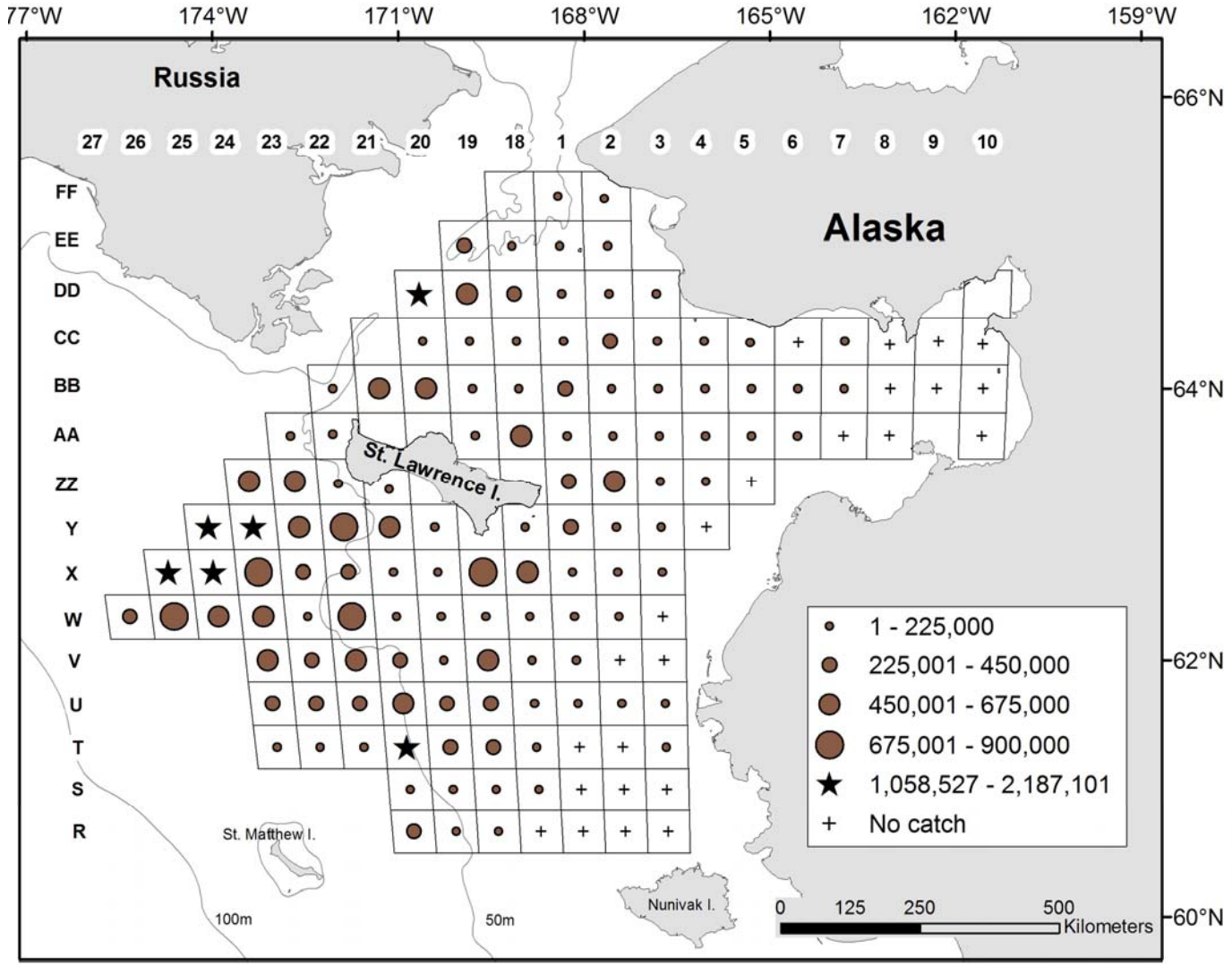

Figure 49. -- Total density (number/nmi^2) of snow crab (*Chionoecetes opilio*) at each station sampled in the northern extension of the 2010 National Marine Fisheries Service eastern Bering Sea bottom trawl survey. Data depicted by circles are crab densities at equal intervals while stars represent densities larger than the standard scale.

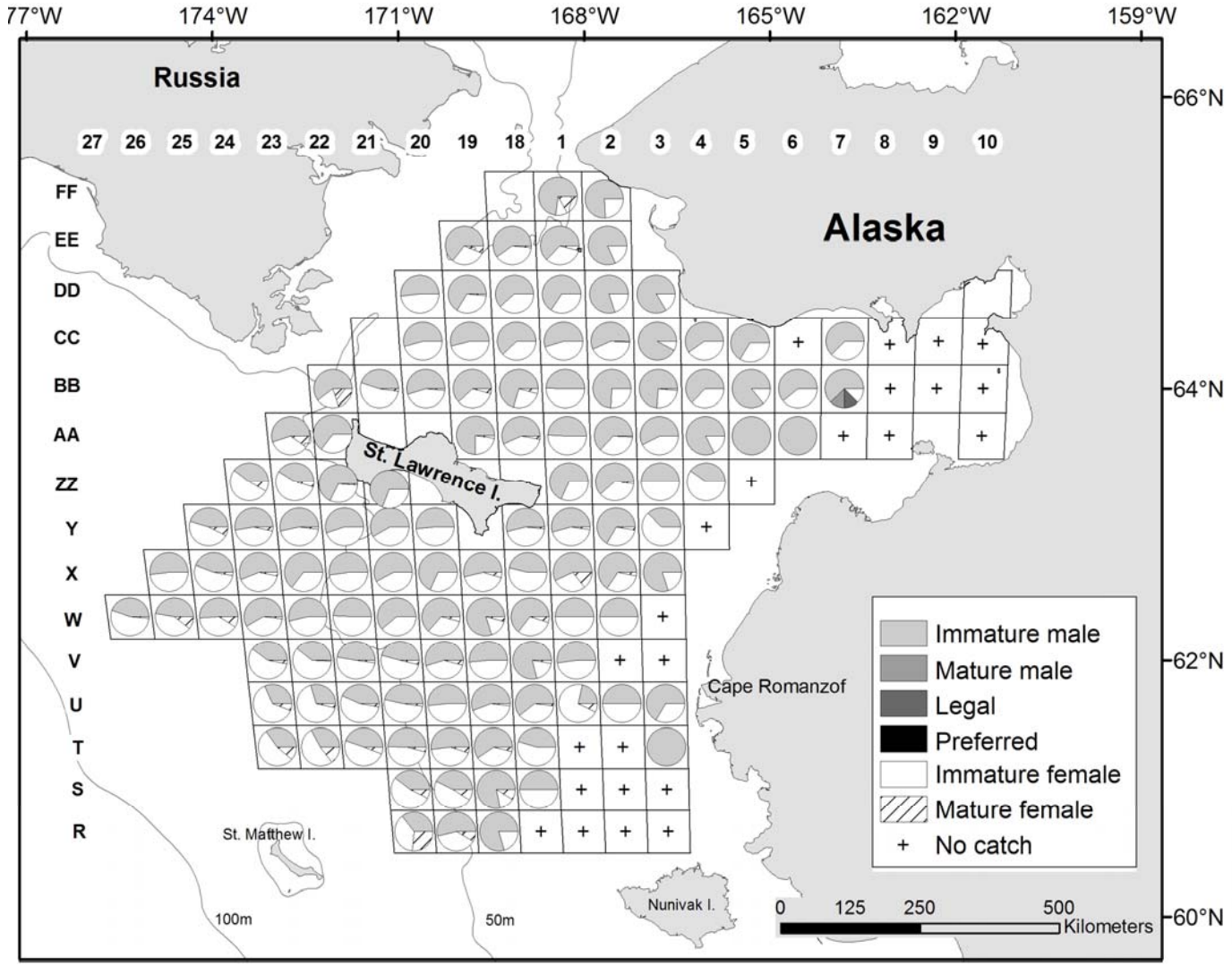

Figure 50. -- Percentage of size categories for male and female snow crab (*Chionoecetes opilio*) at each station sampled in the northern extension of the 2010 National Marine Fisheries Service eastern Bering Sea bottom trawl survey.

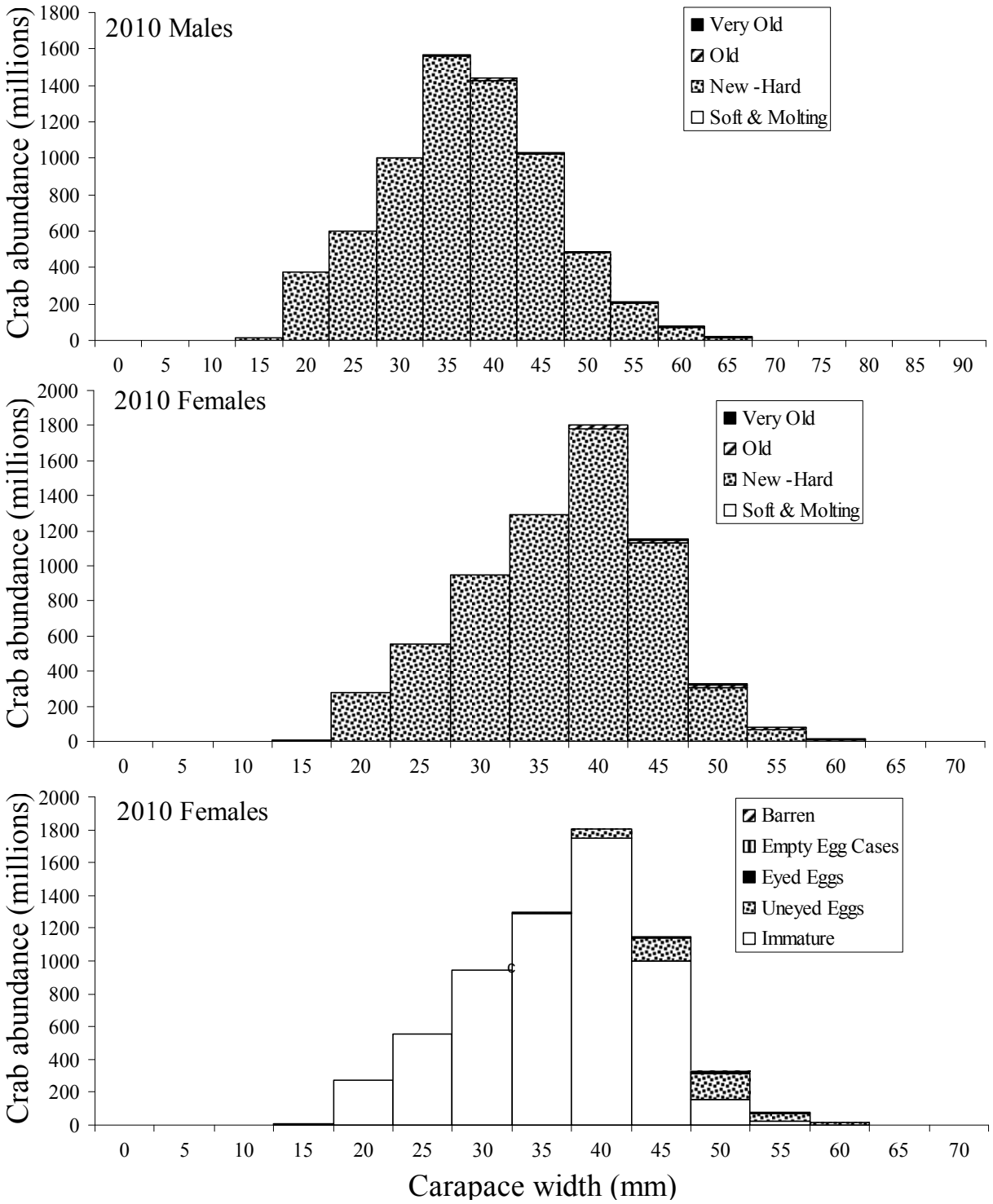

Figure 51. --2010 size-frequency and shell condition of male and female snow crab (*Chionoecetes opilio*) and egg condition of female snow crab by 5 mm width classes.

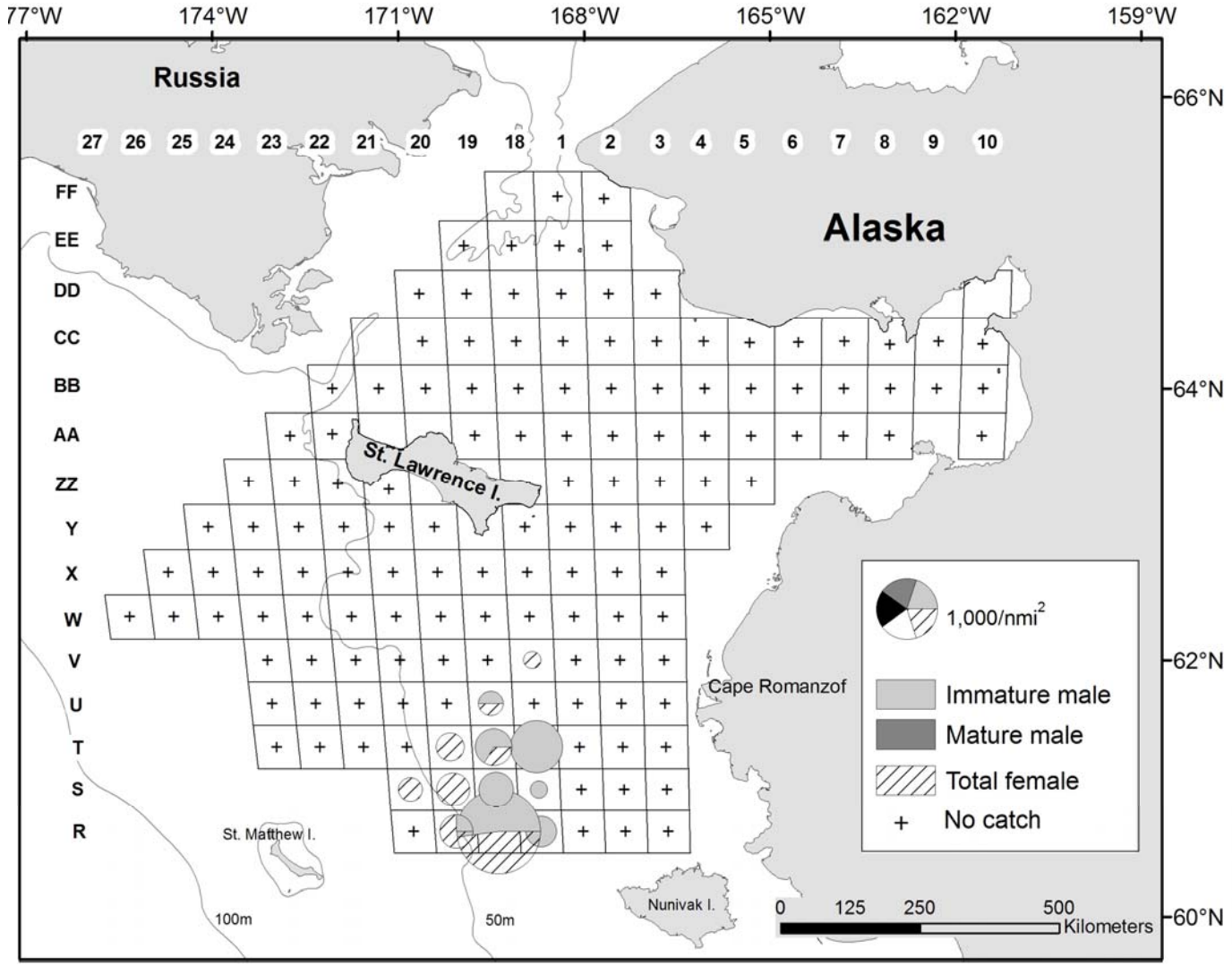

Figure 52. -- Total density (number/nmi^2) and percentage of size categories for male and female hair crab (*Erimacrus isenbeckii*) at each station sampled in the northern extension of the 2010 National Marine Fisheries Service eastern Bering Sea bottom trawl survey.

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	A-02	A-03	AZ0504	A-04	A-05	A-06	B-01	B-02	B-03	B-04	B-05
Start Date	06/30/2010	06/30/2010	06/18/2010	06/19/2010	06/18/2010	06/18/2010	06/30/2010	06/30/2010	06/19/2010	06/17/2010	06/17/2010
Duration (hour)	0.59	0.50	0.55	0.56	0.56	0.53	0.52	0.55	0.55	0.50	0.52
Distance Fished (km)	3.23	2.76	3.10	3.16	3.05	2.92	2.83	3.03	3.03	2.74	2.91
Mid-Latitude (^{o}N)	55.01	55.00	54.83	54.99	55.00	55.02	55.34	55.34	55.34	55.33	55.33
Mid-Longitude (^{o}W)	-166.93	-166.35	-165.52	-165.76	-165.14	-164.59	-167.57	-166.96	-166.35	-165.79	-165.17
Bottom Depth (m)	154	144	155	131	111	64	147	139	132	120	111
Bottom Temperature (^{o}C)	4.00	4.00	4	3.90	3.80	5.10	3.90	3.80	4.00	4.20	3.90
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi Tanner Crab											
Immature males	8,642	5,852	43,118	1,665	624	70	3,258	2,667	1,180	944	787
Mature males	1,037	2,128	8,156	2,676	1,372	140	1,108	1,178	1,615	607	2,296
Legal	58	199	1,859	595	187	70	195	124	373	135	984
Immature females	10,255	10,174	61,228	5,471	748	0	4,952	2,853	2,236	1,012	328
Mature females	519	5,519	60	2,141	811	0	586	1,737	2,236	0	656
Total weight (kg)	26.24	57.10	127.88	64.46	19.49	1.82	20.06	27.44	32.35	9.56	37.62
Opilio Tanner Crab											
Immature males	58	66	420	119	437	0	0	0	0	0	0
Mature males	173	332	120	238	437	70	0	62	186	135	0
Legal	230	399	240	238	624	70	0	62	186	135	0
Preferred	173	266	120	238	437	70	0	62	186	135	0
Immature females	0	66	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)	2.76	3.42	2.46	3.11	6.08	0.36	0.00	0.55	2.42	1.55	0.00
Hybrid Tanner Crab											
Immature males	0	0	0	0	0	0	65	0	0	0	0
Mature males	0	0	900	119	62	0	65	124	124	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	0	0	0	0	62	124	0	0
Total weight (kg)	0.00	0.00	8.72	1.57	0.64	0.00	0.49	1.50	1.53	0.00	0.00

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	B-06	B-07	B-08	C-01	C-02	C-03	C-04	C-05	C-06	C-07	C-08
Start Date	06/18/2010	06/13/2010	06/12/2010	06/30/2010	06/26/2010	06/19/2010	06/20/2010	06/17/2010	06/17/2010	06/13/2010	06/12/2010
Duration (hour)	0.54	0.51	0.51	0.51	0.55	0.54	0.54	0.52	0.55	0.53	0.54
Distance Fished (km)	3.03	2.75	2.79	2.77	3.06	2.91	2.94	2.88	2.99	2.84	2.93
Mid-Latitude (^{o}N)	55.33	55.35	55.34	55.67	55.67	55.66	55.67	55.67	55.66	55.69	55.67
Mid-Longitude (^{o}W)	-164.58	-164.02	-163.43	-167.59	-166.99	-166.38	-165.80	-165.16	-164.59	-163.99	-163.41
Bottom Depth (m)	101	80	54	135	134	126	117	109	96	95	81
Bottom Temperature (^{o}C)	3.00	3	2.20	3.80	4	3.70	3.60	3.40	2	1.80	2.00
Red King Crab											
Immature males	0	0	77	0	0	0	0	0	0	0	0
Mature males	0	0	1,854	0	0	0	0	0	0	0	748
Legal	0	0	1,468	0	0	0	0	0	0	0	340
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	77	0	0	0	0	0	0	0	0
Total weight (kg)	0.00	0.00	60.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.09
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi Tanner Crab											
Immature males	2,425	149	1,159	1,659	860	2,680	3,300	1,379	324	4,609	2,107
Mature males	2,744	372	6,876	191	430	719	777	1,314	647	3,422	951
Legal	1,914	149	1,700	0	0	196	259	328	324	1,536	340
Immature females	1,787	0	0	1,276	307	2,484	5,953	985	647	1,467	1,019
Mature females	7,913	74	309	0	61	1,503	453	0	259	2,235	680
Total weight (kg)	83.92	3.82	59.94	4.20	6.61	14.81	17.02	18.60	20.34	51.36	18.48
Opilio Tanner Crab											
Immature males	830	149	77	0	61	65	65	0	388	908	272
Mature males	511	669	0	64	123	65	453	394	518	629	68
Legal	893	818	77	64	123	131	453	394	906	908	340
Preferred	447	520	0	64	123	65	453	394	453	559	68
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)	8.76	6.11	0.25	0.50	1.28	0.82	5.31	4.48	6.38	8.17	1.65
Hybrid Tanner Crab											
Immature males	64	0	0	0	61	0	0	0	0	0	68
Mature males	64	0	0	0	0	392	129	0	65	0	68
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	64	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	1.45	0.00	0.00	0.00	0.13	3.57	1.73	0.00	0.80	0.00	0.78

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	C-09	C-18	D-01	D-02	D-03	D-04	D-05	D-06	D-07	D-08	D-09
Start Date	06/12/2010	06/30/2010	06/26/2010	06/26/2010	06/18/2010	06/20/2010	06/17/2010	06/17/2010	06/13/2010	06/12/2010	06/12/2010
Duration (hour)	0.50	0.51	0.50	0.55	0.49	0.55	0.51	0.55	0.51	0.56	0.72
Distance Fished (km)	2.70	2.80	2.71	3.09	2.72	3.07	2.76	3.04	2.72	3.04	3.93
Mid-Latitude (^{o}N)	55.67	55.67	56.01	56.00	56.00	56.01	56.01	56.00	56.00	56.00	55.99
Mid-Longitude (^{o}W)	-162.83	-168.20	-167.61	-167.01	-166.40	-165.79	-165.18	-164.58	-164.04	-163.39	-162.81
Bottom Depth (m)	51	135	132	134	124	107	96	93	90	87	78
Bottom Temperature (^{o}C)	2.10	3.90	3.80	3.70	3.80	3.30	2.60	2.10	1.80	1.60	1.00
Red King Crab											
Immature males	1,178	0	0	0	0	0	0	0	0	0	52
Mature males	2,906	0	0	0	0	0	0	0	71	0	156
Legal	1,099	0	0	0	0	0	0	0	71	0	156
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	1,021	0	0	0	0	0	0	0	0	0	104
Total weight (kg)	112.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.88	0.00	10.81
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi Tanner Crab											
Immature males	1,178	1,641	1,228	2,008	17,958	994	501	382	357	2,559	6,858
Mature males	2,434	66	136	1,703	1,995	683	358	382	715	1,481	987
Legal	393	66	0	304	413	124	0	64	143	202	208
Immature females	236	853	1,842	1,825	10,321	559	358	382	500	1,077	4,105
Mature females	1,178	0	0	243	3,027	497	72	0	214	741	416
Total weight (kg)	24.03	2.56	2.40	23.18	51.02	13.33	5.32	4.79	8.02	22.26	30.79
Opilio Tanner Crab											
Immature males	79	0	68	61	138	186	143	191	0	404	0
Mature males	79	0	0	304	0	124	143	191	143	202	52
Legal	79	0	68	365	69	186	143	319	143	337	52
Preferred	79	0	0	304	0	124	143	191	143	135	52
Immature females	0	0	0	61	0	0	0	0	0	0	0
Mature females	0	0	0	61	0	0	0	0	0	0	0
Total weight (kg)	0.62	0.00	0.40	3.54	0.41	1.77	1.51	2.24	1.26	2.88	0.51
Hybrid Tanner Crab											
Immature males	0	66	0	0	0	0	0	0	0	0	0
Mature males	0	66	0	243	0	186	215	64	71	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)	0.00	1.10	0.00	3.19	0.00	1.90	1.60	0.69	0.88	0.00	0.00

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	D-10	D-18	E-01	E-02	E-03	E-04	E-05	E-06	E-07	E-08	E-09
Start Date	06/11/2010	06/26/2010	06/25/2010	06/26/2010	06/18/2010	06/20/2010	06/17/2010	06/17/2010	06/13/2010	06/12/2010	06/12/2010
Duration (hour)	0.54	0.51	0.51	0.56	0.50	0.54	0.50	0.55	0.50	0.53	0.51
Distance Fished (km)	2.92	2.77	3	3.15	2.74	3.03	2.74	3.06	2.77	2.86	2.82
Mid-Latitude (^{o}N)	56.00	56.01	56.33	56.33	56.34	56.34	56.33	56.34	56.33	56.33	56.33
Mid-Longitude (^{o}W)	-162.23	-168.23	-167.66	-167.03	-166.42	-165.81	-165.20	-164.58	-163.97	-163.42	-162.80
Bottom Depth (m)	70	152	129	113	103	92	86	88	85	84	77
Bottom Temperature (^{o}C)	1.60	3.90	3.90	2.80	2.90	1.60	0.90	0	0.40	0.60	0
Red King Crab											
Immature males	1,001	0	0	0	0	0	0	0	0	0	0
Mature males	3,137	0	0	0	0	0	0	0	0	0	0
Legal	1,935	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	3,003	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	176.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi Tanner Crab											
Immature males	1,135	3,668	1,747	1,209	1,795	930	661	807	4,635	982	2,117
Mature males	601	2,257	908	786	646	665	881	496	285	140	365
Legal	0	212	0	60	0	66	0	62	0	0	73
Immature females	0	4,515	1,537	423	1,149	199	147	310	2,781	912	657
Mature females	267	71	0	544	575	133	367	0	0	210	219
Total weight (kg)	10.09	27.82	12.35	15.69	10.31	15.83	10.01	8.97	7.77	4.60	9.13
Opilio Tanner Crab											
Immature males	67	0	210	242	72	66	0	0	285	0	0
Mature males	601	141	349	302	0	332	0	186	357	0	219
Legal	667	141	489	423	72	399	0	186	357	0	219
Preferred	534	141	349	242	0	266	0	186	285	0	146
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	60	0	0	0	0	0	0	0
Total weight (kg)	5.67	1.08	3.65	4.55	0.35	3.84	0.00	1.72	3.70	0.00	1.34
Hybrid Tanner Crab											
Immature males	0	0	0	0	72	0	0	62	0	0	0
Mature males	67	0	0	0	144	199	0	0	0	70	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	181	0	0	0	0	0	70	0
Total weight (kg)	0.31	0.00	0.00	0.65	1.22	1.60	0.00	0.20	0.00	0.54	0.00

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	E-10	E-11	E-12	E-18	E-19	E-20	E-21	E-22	F-01	F-02	F-03
Start Date	06/11/2010	06/09/2010	06/09/2010	06/25/2010	06/25/2010	06/25/2010	06/25/2010	07/01/2010	06/25/2010	06/25/2010	06/18/2010
Duration (hour)	0.55	0.51	0.50	0.50	0.49	0.46	0.53	0.51	0.55	0.55	0.51
Distance Fished (km)	3.08	2.74	2.74	2.75	2.72	2.54	2.86	2.74	2.91	3.05	2.73
Mid-Latitude (^{o}N)	56.33	56.33	56.34	56.33	56.33	56.36	56.34	56.33	56.67	56.67	56.67
Mid-Longitude (^{o}W)	-162.19	-161.63	-160.99	-168.25	-168.88	-169.46	-170.05	-170.68	-167.66	-167.08	-166.44
Bottom Depth (m)	77	65	54	155	128	135	109	121	100	96	84
Bottom Temperature (^{o}C)	0.20	2	2	3.80	3.80	3.80	3.30	3.80	1	1.10	-0.40
Red King Crab											
Immature males	0	545	306	0	0	0	0	0	0	0	0
Mature males	128	5,134	765	0	0	0	0	0	0	0	0
Legal	128	3,889	612	0	0	0	0	0	0	0	0
Immature females	0	467	0	0	0	0	0	0	0	0	0
Mature females	128	9,023	1,071	0	0	0	0	0	0	0	0
Total weight (kg)	7.40	311.91	44.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi Tanner Crab											
Immature males	962	0	459	6,139	2,104	1,720	11,090	3,225	263	735	1,120
Mature males	513	233	77	11,021	2,179	156	837	269	329	367	224
Legal	128	0	0	767	150	0	0	0	0	0	0
Immature females	0	0	0	4,883	5,410	1,407	16,252	1,612	0	122	224
Mature females	257	0	0	140	1,803	0	907	336	0	0	149
Total weight (kg)	9.53	1.83	2.13	137.53	34.55	4.73	34.58	8.39	3.72	5.87	10.97
Opilio Tanner Crab											
Immature males	0	0	0	140	0	0	209	0	197	61	224
Mature males	192	0	0	977	977	1,095	209	269	723	429	971
Legal	192	0	0	1,046	977	1,095	209	269	920	490	971
Preferred	128	0	0	837	977	1,016	139	269	657	306	971
Immature females	0	0	0	0	0	0	209	0	0	0	0
Mature females	0	0	0	0	0	0	209	0	66	0	0
Total weight (kg)	1.89	0.00	0.00	8.97	10.95	8.50	1.83	2.33	7.40	3.66	7.39
Hybrid Tanner Crab											
Immature males	0	0	0	0	0	0	0	0	0	61	0
Mature males	0	0	0	140	451	156	0	67	131	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)	0.00	0.00	0.00	1.87	3.52	0.75	0.00	0.28	0.85	0.24	0.00

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	F-04	F-05	F-06	F-07	F-08	F-09	F-10	F-11	F-12	F-13	F-14
Start Date	06/20/2010	06/16/2010	06/17/2010	06/13/2010	06/13/2010	06/12/2010	06/11/2010	06/09/2010	06/09/2010	06/09/2010	06/09/2010
Duration (hour)	0.54	0.52	0.54	0.52	0.55	0.50	0.53	0.48	0.54	0.55	0.52
Distance Fished (km)	3.01	2.81	3.03	2.82	2.99	2.77	3.08	2.61	2.98	3.03	2.85
Mid-Latitude (°N)	56.67	56.67	56.66	56.66	56.67	56.68	56.66	56.65	56.67	56.67	56.68
Mid-Longitude (°W)	-165.84	-165.22	-164.61	-164.01	-163.38	-162.79	-162.19	-161.58	-160.99	-160.38	-159.78
Bottom Depth (m)	78	75	75	74	76	71	72	89	68	60	40
Bottom Temperature (°C)	-0.70	-1.00	-0.70	-0.90	-1.00	-0.70	0.60	0.40	1.50	1.80	3.60
Red King Crab											
Immature males	0	0	0	0	0	0	0	94	769	540	166
Mature males	0	0	0	0	0	0	66	187	5,170	743	331
Legal	0	0	0	0	0	0	66	94	4,471	338	331
Immature females	0	0	0	0	0	0	0	0	559	0	83
Mature females	0	0	0	0	0	0	0	94	3,284	675	166
Total weight (kg)	0.00	0.00	0.00	0.00	0.00	0.00	2.24	6.72	250.54	40.36	15.36
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi Tanner Crab											
Immature males	2,747	12,708	4,115	15,382	2,055	5,769	465	374	210	0	0
Mature males	65	0	0	144	133	148	465	655	210	0	0
Legal	0	0	0	0	0	74	0	374	70	0	0
Immature females	2,355	13,211	3,180	19,551	1,259	2,515	66	94	0	0	0
Mature females	131	144	0	359	66	0	0	94	0	0	0
Total weight (kg)	6.88	11.46	4.25	14.53	3.84	5.75	4.94	7.20	2.64	0.00	0.00
Opilio Tanner Crab											
Immature males	65	144	374	72	0	222	66	0	0	0	0
Mature males	1,177	359	62	0	199	296	66	0	0	0	0
Legal	1,243	503	187	72	199	370	66	0	0	0	0
Preferred	1,177	287	62	0	133	222	66	0	0	0	0
Immature females	196	144	0	0	0	0	0	0	0	0	0
Mature females	65	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	10.76	2.96	1.23	0.24	1.52	2.23	0.79	0.00	0.00	0.00	0.00
Hybrid Tanner Crab											
Immature males	65	72	0	72	0	0	0	0	0	0	0
Mature males	131	72	0	0	133	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	72	0	0	0	0	0	0	0
Total weight (kg)	1.42	0.64	0.00	0.39	2.01	0.00	0.00	0.00	0.00	0.00	0.00

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	F-18	F-19	F-20	F-21	F-22	F-23	F-24	F-25	G-01	G-02	G-03
Start Date	07/05/2010	07/01/2010	07/04/2010	07/08/2010	07/08/2010	07/01/2010	07/01/2010	07/01/2010	06/25/2010	06/25/2010	06/18/2010
Duration (hour)	0.48	0.55	0.55	0.52	0.52	0.51	0.53	0.50	0.55	0.55	0.53
Distance Fished (km)	2.67	3.05	3.08	2.80	2.82	2.80	2.89	2.75	2.98	3.02	2.81
Mid-Latitude (°N)	56.66	56.68	56.67	56.66	56.67	56.66	56.67	56.67	57.00	57.00	57.00
Mid-Longitude (°W)	-168.29	-168.91	-169.51	-170.13	-170.73	-171.35	-171.97	-172.57	-167.71	-167.09	-166.47
Bottom Depth (m)	107	100	80	97	113	119	126	134	77	74	74
Bottom Temperature (°C)	2.30	1.80	0.40	2.30	3.70	3.70	3.70	3.70	-0.70	-0.40	-0.30
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Blue King Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	0	0	63	0	0	0	0	0	0	0	0
Legal	0	0	63	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	125	0	0	0	0	0	0	0	0
Total weight (kg)	0.00	0.00	5.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi Tanner Crab											
Immature males	287	2,068	563	15,629	819	1,553	2,438	2,216	7,896	4,803	1,186
Mature males	431	1,316	313	347	1,160	608	203	69	196	0	419
Legal	0	0	0	69	68	68	0	0	0	0	0
Immature females	72	752	0	15,629	409	1,080	745	1,592	6,003	5,508	349
Mature females	0	1,002	63	347	409	0	0	0	326	448	0
Total weight (kg)	4.75	27.23	6.64	30.22	13.71	0.42	6.22	3.50	12.74	11.13	6.37
Opilio Tanner Crab											
Immature males	3,733	1,316	188	69	1,092	2,835	0	0	2,545	6,660	489
Mature males	1,795	2,193	3,064	0	1,228	2,700	474	0	2,414	2,434	8,723
Legal	3,015	2,757	3,189	0	1,842	3,645	474	0	2,480	2,690	8,793
Preferred	1,507	1,692	2,751	0	955	2,093	474	0	2,349	2,241	8,584
Immature females	0	0	0	69	0	0	0	0	2,349	19,981	1,605
Mature females	115,573	1,316	0	0	0	23,019	0	0	131	3,266	279
Total weight (kg)	182.68	26.09	28.45	0.17	12.84	66.22	4.46	0.00	22.24	30.46	64.98
Hybrid Tanner Crab											
Immature males	0	0	0	417	0	68	0	0	196	64	0
Mature males	72	125	0	0	0	338	0	0	522	256	0
Immature females	0	0	0	0	0	0	0	0	131	0	0
Mature females	72	63	0	278	0	675	0	0	65	0	0
Total weight (kg)	0.61	1.30	0.00	0.79	0.00	3.87	0.00	0.00	4.69	2.27	0.00

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	G-04	G-05	G-06	G-07	G-08	G-09	G-10	G-11	G-12	G-13	G-14
Start Date	06/20/2010	06/16/2010	06/17/2010	06/14/2010	06/13/2010	06/12/2010	06/11/2010	06/09/2010	06/09/2010	06/08/2010	06/08/2010
Duration (hour)	0.55	0.50	0.52	0.50	0.53	0.51	0.54	0.49	0.54	0.51	0.55
Distance Fished (km)	2.93	2.79	2.89	2.69	2.89	2.80	3.04	2.74	2.95	2.76	2.99
Mid-Latitude (^{o}N)	57.00	57.00	57.00	56.99	57.00	57.00	57.00	56.99	56.99	56.99	57.00
Mid-Longitude (^{o}W)	-165.84	-165.22	-164.60	-164.05	-163.39	-162.79	-162.17	-161.57	-160.96	-160.33	-159.70
Bottom Depth (m)	72	71	69	69	67	61	61	67	62	62	56
Bottom Temperature (^{o}C)	-0.20	-1.00	-1.00	-1.00	-0.60	1	2.20	2	2.10	2.30	2.60
Red King Crab											
Immature males	0	0	0	0	0	0	0	295	277	1,073	327
Mature males	0	0	0	0	71	74	202	959	1,456	996	262
Legal	0	0	0	0	0	74	67	590	832	460	131
Immature females	0	0	0	0	71	0	0	0	0	0	0
Mature females	0	0	0	0	0	0	67	0	1,109	1,992	458
Total weight (kg)	0.00	0.00	0.00	0.00	3.06	2.86	6.54	31.54	69.10	70.92	21.19
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi Tanner Crab											
Immature males	753	523	1,914	3,830	213	221	134	0	69	77	0
Mature males	68	0	71	78	71	74	0	74	0	0	0
Legal	0	0	0	0	0	0	0	0	0	0	0
Immature females	616	131	2,127	2,345	0	0	0	0	69	0	0
Mature females	0	65	0	0	71	0	0	0	0	0	0
Total weight (kg)	2.02	0.61	1.06	1.55	2.98	0.74	0.73	0.67	0.28	0.32	0.00
Opilio Tanner Crab											
Immature males	1,917	131	1,063	234	213	0	0	74	0	0	0
Mature males	2,054	131	354	0	71	0	0	0	0	0	0
Legal	2,397	196	354	156	142	0	0	74	0	0	0
Preferred	2,054	131	284	0	71	0	0	0	0	0	0
Immature females	274	0	354	78	0	0	0	0	0	0	0
Mature females	411	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	25.55	1.26	3.89	0.65	2.21	0.00	0.00	0.30	0.00	0.00	0.00
Hybrid Tanner Crab											
Immature males	137	0	0	313	0	0	0	0	0	0	0
Mature males	685	196	142	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)	4.86	1.31	0.86	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	G-15	G-18	G-19	G-20	G-21	G-21-W	G-21-N	G-21-E	G-21-S	G-22	G-23
Start Date	06/07/2010	07/05/2010	07/01/2010	07/04/2010	07/03/2010	07/03/2010	07/03/2010	07/04/2010	07/04/2010	07/08/2010	07/02/2010
Duration (hour)	0.49	0.55	0.55	0.54	0.37	0.36	0.50	0.37	0.54	0.52	0.51
Distance Fished (km)	2.70	3.04	3.04	3.02	1.97	1.95	2.78	2.03	2.97	2.86	2.77
Mid-Latitude (°N)	57.03	57.01	57.01	57.00	57.01	56.97	57.08	57.01	56.92	57.01	57.00
Mid-Longitude (°W)	-159.14	-168.35	-168.95	-169.56	-170.15	-170.32	-170.13	-170.01	-170.19	-170.79	-171.41
Bottom Depth (m)	35	81	80	61	67	74	43	66	81	94	109
Bottom Temperature (°C)	3.10	-0.50	-0.40	-1	1.60	1.90	2.30	1.50	2.40	2.90	3.60
Red King Crab											
Immature males	88	0	0	0	103	0	0	0	0	0	0
Mature males	0	0	0	132	2,266	0	695	680	949	0	0
Legal	0	0	0	132	1,854	0	695	583	949	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	132	1,648	0	261	486	73	0	0
Total weight (kg)	0.77	0.00	0.00	10.99	60.98	0.00	35.12	49.44	49.86	0.00	0.00
Blue King Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	0	0	62	132	0	0	0	0	0	0	0
Legal	0	0	62	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	66	0	0	174	291	0	0	0
Total weight (kg)	0.00	0.00	2.87	6.24	0.00	0.00	1.60	3.79	0.00	0.00	0.00
Bairdi Tanner Crab											
Immature males	0	3,056	2,363	1,717	5,253	1,808	695	2,137	2,263	2,196	1,501
Mature males	0	1,400	560	858	32,754	7,021	1,043	3,982	24,970	1,133	818
Legal	0	0	0	66	10,403	2,553	261	1,165	15,405	71	0
Immature females	0	637	1,741	330	412	532	0	194	1,314	2,621	1,228
Mature females	0	127	62	462	1,751	3,191	0	777	876	71	68
Total weight (kg)	0.00	29.37	9.85	17.97	214.72	61.16	10.18	27.14	304.04	14.00	10.00
Opilio Tanner Crab											
Immature males	0	2,928	1,119	198	103	194	438	0	0	71	614
Mature males	0	2,928	4,477	792	309	1,068	1,387	0	0	638	5,457
Legal	0	3,692	4,539	990	412	1,165	1,460	0	0	638	5,798
Preferred	0	2,483	4,104	528	309	874	1,095	0	0	425	5,047
Immature females	0	0	622	0	0	0	0	0	0	0	0
Mature females	0	2,801	1,306	66	0	0	0	0	0	0	0
Total weight (kg)	0.00	35.38	43.99	8.21	1.58	6.00	10.24	0.00	0.00	4.75	49.57
Hybrid Tanner Crab											
Immature males	0	0	0	0	103	0	0	0	0	0	0
Mature males	0	191	0	0	0	0	0	0	0	142	136
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	64	62	0	0	0	0	0	0	0	0
Total weight (kg)	0.00	1.53	0.15	0.00	0.17	0.00	0.00	0.00	0.00	0.53	1.14

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	G-24	G-25	G-26	GF1918	GF2019	GF2120	GF2221	H-01	H-02	H-03	H-04
Start Date	07/02/2010	07/02/2010	07/02/2010	07/01/2010	07/04/2010	07/04/2010	07/08/2010	06/24/2010	06/25/2010	06/18/2010	06/21/2010
Duration (hour)	0.51	0.50	0.52	0.55	0.54	0.37	0.51	0.49	0.53	0.50	0.53
Distance Fished (km)	2.77	2.74	2.80	3.04	2.97	2.02	2.80	2.71	2.94	2.66	2.91
Mid-Latitude (^{o}N)	57.01	56.99	57.00	56.84	56.83	56.84	56.84	57.33	57.34	57.33	57.33
Mid-Longitude (^{o}W)	-172.01	-172.62	-173.25	-168.63	-169.30	-169.90	-170.47	-167.74	-167.12	-166.49	-165.87
Bottom Depth (m)	116	122	141	97	80	72	100	74	71	70	68
Bottom Temperature (^{o}C)	3.70	3.40	3.70	2.00	0.20	2.40	3.30	0.20	0	0	0
Red King Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	0	0	0	0	66	304	0	0	0	0	0
Legal	0	0	0	0	66	203	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)	0.00	0.00	0.00	0.00	2.62	8.86	0.00	0.00	0.00	0.00	0.00
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi Tanner Crab											
Immature males	494	900	539	1,082	526	2,030	7,094	11,165	1,753	308	141
Mature males	141	69	0	2,164	66	10,149	983	3,826	130	0	0
Legal	0	0	0	64	66	5,988	211	0	65	0	0
Immature females	494	415	472	191	66	304	6,743	6,793	909	77	0
Mature females	71	0	0	700	0	304	351	78	0	0	0
Total weight (kg)	1.35	3.03	0.74	30.41	3.69	92.05	17.57	39.59	4.02	0.70	0.43
Opilio Tanner Crab											
Immature males	353	761	0	318	0	0	140	11,399	5,195	540	703
Mature males	5,787	2,492	0	2,037	592	406	281	24,985	4,091	308	562
Legal	5,999	3,045	0	2,228	592	406	281	26,156	5,000	386	913
Preferred	5,293	1,799	0	1,528	461	406	281	24,516	3,832	231	562
Immature females	0	0	0	0	0	0	0	19,676	2,857	154	70
Mature females	0	0	0	127	0	0	0	32,949	2,403	0	141
Total weight (kg)	52.37	22.22	0.00	18.56	4.68	2.01	1.87	192.32	34.63	2.71	4.91
Hybrid Tanner Crab											
Immature males	0	0	67	0	0	0	140	78	325	0	70
Mature males	212	0	0	64	0	0	140	78	325	0	141
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	127	0	0	0	0	130	0	0
Total weight (kg)	2.07	0.00	0.01	0.76	0.00	0.00	1.07	0.50	2.28	0.00	1.21

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	H-05	H-06	H-07	H-08	H-09	H-10	H-11	H-12	H-13	H-14	H-15
Start Date	06/16/2010	06/16/2010	06/14/2010	06/13/2010	06/11/2010	06/11/2010	06/10/2010	06/09/2010	06/08/2010	06/08/2010	06/07/2010
Duration (hour)	0.50	0.53	0.51	0.54	0.50	0.53	0.49	0.54	0.51	0.56	0.51
Distance Fished (km)	2.75	2.90	2.78	2.93	2.68	2.88	2.68	2.94	2.85	3.16	2.75
Mid-Latitude (^{o}N)	57.34	57.33	57.33	57.33	57.33	57.33	57.33	57.33	57.32	57.35	57.32
Mid-Longitude (^{o}W)	-165.23	-164.62	-164.00	-163.38	-162.76	-162.15	-161.52	-160.93	-160.31	-159.67	-159.08
Bottom Depth (m)	67	65	62	53	48	52	57	63	61	55	48
Bottom Temperature (^{o}C)	-0.50	-0.50	1	1	2.10	2.20	2.30	2	2.30	2.30	2.10
Red King Crab											
Immature males	0	0	0	0	78	282	557	218	1,812	453	305
Mature males	0	0	77	0	235	423	875	436	453	324	76
Legal	0	0	0	0	78	282	398	0	226	259	0
Immature females	0	0	0	0	0	0	159	0	1,661	130	0
Mature females	0	0	0	0	0	212	1,353	363	1,359	259	0
Total weight (kg)	0.00	0.00	1.44	0.00	5.85	19.29	46.37	19.60	54.04	26.34	4.46
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi Tanner Crab											
Immature males	74	0	0	0	0	0	0	0	0	65	0
Mature males	0	0	0	0	0	0	80	0	0	0	0
Legal	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	70	0	0	0	0	0	0	0
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0.10	0.00	0.00	0.01	0.00	0.00	0.61	0.00	0.00	0.18	0.00
Opilio Tanner Crab											
Immature males	589	707	230	0	0	0	0	0	0	0	0
Mature males	147	141	0	0	0	0	0	0	0	0	0
Legal	294	283	77	0	0	0	0	0	0	0	0
Preferred	147	141	0	0	0	0	0	0	0	0	0
Immature females	74	212	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)	1.96	1.77	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hybrid Tanner Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	0	141	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	71	0	0	0	0	0	0	0	0	0
Total weight (kg)	0.00	0.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	H-16	H-18	H-19	H-20	H-21	H-22	H-23	H-24	H-25	H-26	HG1918
Start Date	06/07/2010	07/05/2010	07/01/2010	07/03/2010	07/06/2010	07/07/2010	07/09/2010	07/03/2010	07/03/2010	07/02/2010	07/01/2010
Duration (hour)	0.46	0.55	0.52	0.54	0.51	0.53	0.51	0.52	0.53	0.51	0.55
Distance Fished (km)	2.53	3.05	2.90	2.98	2.82	2.94	2.78	2.90	2.89	2.75	2.99
Mid-Latitude (^{o}N)	57.33	57.33	57.33	57.33	57.34	57.36	57.34	57.33	57.35	57.31	57.17
Mid-Longitude (^{o}W)	-158.41	-168.37	-168.98	-169.59	-170.22	-170.85	-171.46	-172.09	-172.82	-173.33	-168.63
Bottom Depth (m)	32	74	70	64	56	84	99	108	117	121	76
Bottom Temperature (^{o}C)	2.90	-0.70	-0.90	-0.40	2.20	3	3.50	3.40	3.10	3.40	-0.90
Red King Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	0	0	0	350	148	0	0	0	0	0	0
Legal	0	0	0	350	148	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	280	0	0	0	0	0	0	0
Total weight (kg)	0.00	0.00	0.00	24.22	4.36	0.00	0.00	0.00	0.00	0.00	0.00
Blue King Crab											
Immature males	0	0	342	0	0	0	0	0	0	0	0
Mature males	0	0	205	0	0	0	0	0	0	0	0
Legal	0	0	68	0	0	0	0	0	0	0	0
Immature females	0	0	342	70	0	0	0	0	0	0	0
Mature females	0	0	684	0	0	0	0	0	0	0	0
Total weight (kg)	0.00	0.00	25.50	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi Tanner Crab											
Immature males	0	3,054	5,202	1,119	148	328	279	1,648	931	418	5,137
Mature males	0	64	342	0	0	197	70	527	133	70	400
Legal	0	0	0	0	0	66	0	66	0	0	0
Immature females	0	2,736	1,164	280	0	591	70	1,055	532	0	4,336
Mature females	0	0	137	140	0	197	70	66	0	70	67
Total weight (kg)	0.00	1.83	19.40	5.04	0.59	5.12	2.07	9.56	1.88	1.61	8.60
Opilio Tanner Crab											
Immature males	0	2,736	2,738	490	0	657	629	8,174	199	0	1,801
Mature males	0	3,182	9,582	1,819	0	44,452	3,284	11,535	4,388	418	15,343
Legal	0	3,436	10,472	2,028	0	44,846	3,843	16,809	4,587	418	15,610
Preferred	0	2,927	9,240	1,539	0	43,598	2,515	8,833	3,856	418	14,742
Immature females	0	2,673	0	0	0	0	0	66	0	0	2,135
Mature females	0	64	684	140	0	197	0	132	0	0	400
Total weight (kg)	0.00	28.24	57.15	13.82	0.00	390.67	30.69	124.99	41.28	4.24	122.27
Hybrid Tanner Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	67
Mature males	0	0	68	0	0	66	0	132	0	0	133
Immature females	0	0	0	0	0	0	0	198	0	0	200
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0.00	0.00	0.31	0.00	0.00	0.33	0.00	1.60	0.00	0.00	0.86

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	HG2019	HG2120	HG2221	I-01	I-02	I-03	I-04	I-05	I-06	I-07	I-08
Start Date	07/03/2010	07/03/2010	07/08/2010	06/24/2010	06/24/2010	06/19/2010	06/21/2010	06/16/2010	06/16/2010	06/14/2010	06/13/2010
Duration (hour)	0.52	0.52	0.51	0.50	0.53	0.50	0.53	0.52	0.51	0.50	0.53
Distance Fished (km)	2.86	2.83	2.81	2.70	2.90	2.73	2.92	2.78	2.89	2.68	2.86
Mid-Latitude (^{o}N)	57.17	57.17	57.11	57.67	57.67	57.66	57.67	57.66	57.67	57.65	57.67
Mid-Longitude (^{o}W)	-169.31	-169.89	-170.48	-167.77	-167.14	-166.51	-165.89	-165.25	-164.62	-164.01	-163.37
Bottom Depth (m)	73	50	49	69	68	66	63	60	54	52	46
Bottom Temperature (^{o}C)	-0.80	1.60	3	-1.10	-0.30	-0.60	0.60	0.50	1.40	2	2.30
Red King Crab											
Immature males	0	0	160	0	0	0	0	0	0	0	0
Mature males	0	1,186	963	0	0	0	0	0	0	0	0
Legal	0	816	802	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	80	0	0	0	0	0	0	0	0
Total weight (kg)	0.00	58.32	33.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Blue King Crab											
Immature males	71	0	0	0	0	0	0	0	0	0	0
Mature males	71	0	0	0	0	0	0	0	0	0	0
Legal	71	0	0	0	0	0	0	0	0	0	0
Immature females	71	0	0	0	0	0	0	0	0	0	0
Mature females	143	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	6.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi Tanner Crab											
Immature males	4,216	593	4,251	18,363	1,318	74	70	0	0	0	75
Mature males	715	148	6,417	0	0	0	0	0	0	0	0
Legal	0	74	2,246	0	0	0	0	0	0	0	0
Immature females	1,215	0	321	8,539	198	74	0	0	0	0	0
Mature females	71	148	802	302	0	0	0	0	0	0	0
Total weight (kg)	21.50	3.83	69.01	21.45	2.14	0.28	0.05	0.00	0.00	0.00	0.04
Opilio Tanner Crab											
Immature males	3,001	74	0	18,968	7,313	1,187	2,241	5,983	0	0	0
Mature males	1,858	0	0	831	856	297	0	157	0	0	0
Legal	3,001	0	0	1,511	1,910	593	140	315	0	0	0
Preferred	1,572	0	0	605	527	297	0	157	0	0	0
Immature females	357	0	0	22,973	1,779	74	911	1,102	0	0	0
Mature females	715	0	0	16,701	4,414	0	0	0	0	0	0
Total weight (kg)	20.07	0.08	0.00	37.50	19.36	3.76	2.10	3.23	0.00	0.00	0.00
Hybrid Tanner Crab											
Immature males	0	0	0	680	1,515	74	70	0	0	0	0
Mature males	0	0	0	0	264	0	280	0	0	0	0
Immature females	0	0	0	302	0	0	0	0	0	0	0
Mature females	0	0	0	302	198	0	0	0	0	0	0
Total weight (kg)	0.00	0.00	0.00	0.62	3.24	0.19	1.48	0.00	0.00	0.00	0.00

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	I-09	I-10	I-11	I-12	I-13	I-14	I-15	I-16	I-18	I-19	I-20
Start Date	06/11/2010	06/10/2010	06/10/2010	06/10/2010	06/08/2010	06/08/2010	06/07/2010	06/07/2010	07/05/2010	07/02/2010	07/02/2010
Duration (hour)	0.49	0.52	0.50	0.55	0.50	0.53	0.52	0.52	0.52	0.51	0.53
Distance Fished (km)	2.64	2.90	2.70	2.99	2.79	2.97	2.81	2.85	2.85	2.81	2.89
Mid-Latitude (°N)	57.67	57.65	57.65	57.67	57.67	57.66	57.66	57.67	57.67	57.66	57.67
Mid-Longitude (°W)	-162.76	-162.17	-161.50	-160.88	-160.27	-159.64	-159.02	-158.36	-168.40	-169.03	-169.65
Bottom Depth (m)	43	46	54	58	53	50	46	37	71	69	71
Bottom Temperature (°C)	2.20	2.10	1.90	1.60	1.70	2.00	2.00	2.40	-0.20	-1.10	-1.20
Red King Crab											
Immature males	0	223	1,180	402	1,247	362	75	0	0	0	0
Mature males	424	1,113	1,494	670	857	580	0	0	70	0	0
Legal	424	445	629	335	779	362	0	0	70	0	0
Immature females	0	0	0	0	390	72	0	0	0	0	0
Mature females	254	1,410	1,888	1,272	2,727	435	0	0	0	0	0
Total weight (kg)	18.39	55.62	75.50	54.78	84.39	34.06	0.37	0.00	2.57	0.00	0.00
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi Tanner Crab											
Immature males	0	0	0	0	78	72	0	0	771	656	2,313
Mature males	0	0	0	0	0	0	0	0	210	0	0
Legal	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	280	438	1,089
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0.00	0.00	0.00	0.00	0.22	0.58	0.00	0.00	3.14	0.99	1.71
Opilio Tanner Crab											
Immature males	0	0	0	0	0	0	0	0	4,558	1,824	2,994
Mature males	0	0	0	0	0	0	0	0	5,750	511	3,402
Legal	0	0	0	0	0	0	0	0	7,433	802	4,422
Preferred	0	0	0	0	0	0	0	0	4,628	365	2,449
Immature females	0	0	0	0	0	0	0	0	70	656	1,361
Mature females	0	0	0	0	0	0	0	0	1,402	365	204
Total weight (kg)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	42.80	8.67	28.76
Hybrid 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	70	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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43	0.00	0.00

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	I-21	I-22	I-23	I-24	I-25	I-26	IH1918	IH2019	IH2120	IH2221	J-01
Start Date	07/07/2010	07/09/2010	07/09/2010	07/16/2010	07/03/2010	07/03/2010	07/02/2010	07/02/2010	07/07/2010	07/07/2010	06/24/2010
Duration (hour)	0.50	0.51	0.52	0.51	0.53	0.49	0.52	0.52	0.45	0.52	0.50
Distance Fished (km)	2.71	2.81	2.78	2.72	2.87	2.70	2.89	2.89	2.42	2.82	2.72
Mid-Latitude (°N)	57.65	57.66	57.66	57.67	57.66	57.68	57.50	57.50	57.50	57.50	58.00
Mid-Longitude (°W)	-170.26	-170.89	-171.54	-172.19	-172.79	-173.40	-168.75	-169.37	-169.98	-170.58	-167.80
Bottom Depth (m)	73	84	99	108	119	146	71	70	69	74	67
Bottom Temperature (°C)	-0.30	1.80	2.80	3.10	3.00	3.40	-1.00	-1.10	-0.50	2.80	-1.30
Red King Crab											
Immature males	0	0	0	0	0	0	0	0	72	0	0
Mature males	0	0	0	0	0	0	0	0	143	221	0
Legal	0	0	0	0	0	0	0	0	143	221	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	73	0	0	0	0	0	0	0	0	0
Total weight (kg)	0.00	1.24	0.00	0.00	0.00	0.00	0.00	0.00	10.84	8.85	0.00
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	71	0	0	0	75
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0.00	0.00	0.00	0.00	0.00	0.00	0.49	0.00	0.00	0.00	0.17
Bairdi Tanner Crab											
Immature males	1,675	1,088	288	146	65	871	4,466	19,223	3,587	442	300
Mature males	0	73	360	0	65	218	0	299	287	147	75
Legal	0	0	72	0	0	0	0	0	0	0	0
Immature females	1,675	1,306	0	219	0	145	1,985	15,034	4,520	221	75
Mature females	0	0	72	0	0	0	0	150	430	0	150
Total weight (kg)	2.50	2.50	4.81	0.39	0.93	4.59	7.96	22.61	16.01	2.31	1.70
Opilio Tanner Crab											
Immature males	1,276	3,917	10,599	2,560	2,356	508	2,127	8,527	1,220	221	3,896
Mature males	9,094	21,831	23,000	2,852	4,058	7,981	4,041	3,665	1,363	662	749
Legal	9,972	24,298	32,012	4,388	5,367	8,488	4,254	5,236	1,722	883	1,274
Preferred	8,536	18,640	13,122	1,755	2,749	7,255	3,899	2,693	861	662	375
Immature females	0	73	72	731	654	0	638	8,527	0	0	674
Mature females	0	73	72	41,391	95,817	290	1,560	1,571	359	0	450
Total weight (kg)	58.10	176.57	190.70	85.44	167.76	70.57	30.90	32.13	12.56	4.37	7.32
Hybrid Tanner Crab											
Immature males	160	73	72	0	0	0	0	75	72	0	0
Mature males	160	0	360	0	0	145	0	0	0	0	0
Immature females	80	0	0	0	0	0	0	0	0	0	0
Mature females	0	218	72	585	0	0	0	0	0	0	0
Total weight (kg)	1.55	0.22	2.69	0.74	0.00	1.10	0.00	0.05	0.09	0.00	0.00

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	J-02	J-03	J-04	J-05	J-06	J-07	J-08	J-09	J-10	J-11	J-12
Start Date	06/24/2010	06/19/2010	06/21/2010	06/15/2010	06/16/2010	06/14/2010	06/13/2010	06/11/2010	06/10/2010	06/10/2010	06/10/2010
Duration (hour)	0.54	0.51	0.54	0.50	0.38	0.51	0.53	0.51	0.50	0.34	0.54
Distance Fished (km)	2.91	2.85	2.97	2.67	2.01	2.73	2.96	2.76	2.81	1.86	2.97
Mid-Latitude (^{o}N)	58.00	58.00	58.00	58.01	58.01	58.00	58.00	58.01	57.98	57.99	58.00
Mid-Longitude (^{o}W)	-167.17	-166.53	-165.91	-165.25	-164.62	-164.01	-163.38	-162.75	-162.16	-161.48	-160.86
Bottom Depth (m)	64	60	56	49	46	46	43	40	36	54	46
Bottom Temperature (^{o}C)	-0.40	0.10	1.60	1.70	2	2.00	2.50	2.60	2.80	2.40	2.20
Red King Crab											
Immature males	0	0	0	0	0	78	0	81	0	786	580
Mature males	0	0	0	0	215	0	218	403	544	674	290
Legal	0	0	0	0	215	0	145	242	389	337	290
Immature females	0	0	0	0	0	0	0	0	0	225	218
Mature females	0	0	0	0	107	0	436	403	544	786	290
Total weight (kg)	0.00	0.00	0.00	0.00	6.13	1.38	17.13	17.62	20.87	27.25	23.99
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi Tanner Crab											
Immature males	0	366	0	0	0	0	0	0	0	0	0
Mature males	0	146	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)	0.00	1.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Opilio Tanner Crab											
Immature males	328	1,464	758	0	0	0	0	0	0	0	0
Mature males	263	146	0	0	0	0	0	0	0	0	0
Legal	394	366	207	0	0	0	0	0	0	0	0
Preferred	131	0	0	0	0	0	0	0	0	0	0
Immature females	131	439	69	0	0	0	0	0	0	0	0
Mature females	66	220	0	0	0	0	0	0	0	0	0
Total weight (kg)	2.35	2.75	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hybrid Tanner Crab											
Immature males	66	0	0	0	0	0	0	0	0	0	0
Mature males	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)	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	J-13	J-14	J-15	J-16	J-18	J-19	J-20	J-21	J-22	J-23	J-24
Start Date	06/08/2010	06/08/2010	06/07/2010	06/07/2010	07/06/2010	07/06/2010	07/06/2010	07/06/2010	07/06/2010	07/09/2010	07/12/2010
Duration (hour)	0.51	0.54	0.52	0.52	0.51	0.56	0.51	0.52	0.51	0.51	0.40
Distance Fished (km)	2.74	2.96	2.84	2.87	2.81	3.13	2.81	2.88	2.75	2.81	2.10
Mid-Latitude (^{o}N)	58.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00	57.99	58.00
Mid-Longitude (^{o}W)	-160.21	-159.60	-158.95	-158.33	-168.43	-169.07	-169.70	-170.35	-170.98	-171.59	-172.28
Bottom Depth (m)	51	43	40	35	69	70	70	74	86	98	104
Bottom Temperature (^{o}C)	1.90	2.00	1.80	1.90	-1.30	-1.40	-1.30	-0.70	1.20	2.00	2.20
Red King Crab											
Immature males	305	73	78	0	0	0	0	0	0	0	0
Mature males	534	0	0	0	0	0	0	0	0	0	0
Legal	229	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	78	0	0	0	0	0	0	0	0
Mature females	992	0	0	0	72	0	0	0	0	0	0
Total weight (kg)	37.77	1.31	0.36	0.00	1.65	0.00	0.00	0.00	0.00	0.00	0.00
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi Tanner Crab											
Immature males	0	0	0	0	287	186	2,301	559	566	1,519	95
Mature males	0	0	0	0	72	0	70	112	71	207	95
Legal	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	124	1,185	336	425	760	379
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0.00	0.00	0.00	0.00	0.52	0.73	2.19	1.92	1.53	6.97	0.62
Opilio Tanner Crab											
Immature males	0	0	0	0	6,736	4,780	4,532	7,046	778	3,661	2,272
Mature males	0	0	0	0	932	1,304	7,739	23,709	1,203	3,177	3,692
Legal	0	0	0	0	1,361	1,862	10,180	30,363	1,344	5,525	5,490
Preferred	0	0	0	0	860	931	5,090	14,483	1,061	1,796	2,366
Immature females	0	0	0	0	4,443	1,676	3,207	280	354	0	0
Mature females	0	0	0	0	358	124	279	56	0	5,387	473
Total weight (kg)	0.00	0.00	0.00	0.00	13.31	12.98	58.82	184.06	10.09	40.20	25.35
Hybrid Tanner Crab											
Immature males	0	0	0	0	215	435	1,046	224	0	0	0
Mature males	0	0	0	0	72	124	279	671	71	138	0
Immature females	0	0	0	0	143	248	906	280	142	0	0
Mature females	0	0	0	0	143	62	209	0	0	138	0
Total weight (kg)	0.00	0.00	0.00	0.00	0.65	0.86	2.70	3.41	0.38	1.11	0.00

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	J-25	J-26	JI1918	JI2019	JI2120	JI2221	K-01	K-02	K-03	K-04	K-05
Start Date	07/12/2010	07/03/2010	07/02/2010	07/07/2010	07/07/2010	07/09/2010	06/24/2010	06/24/2010	06/19/2010	06/21/2010	06/15/2010
Duration (hour)	0.58	0.52	0.53	0.51	0.51	0.52	0.52	0.52	0.51	0.54	0.52
Distance Fished (km)	3.17	2.82	2.94	2.80	2.80	2.82	2.85	2.88	2.75	2.88	2.86
Mid-Latitude (^{o}N)	58.00	58.00	57.83	57.83	57.83	57.84	58.33	58.33	58.34	58.33	58.34
Mid-Longitude (^{o}W)	-172.87	-173.46	-168.74	-169.34	-169.97	-170.61	-167.84	-167.20	-166.57	-165.91	-165.29
Bottom Depth (m)	108	116	70	66	71	77	60	52	47	44	45
Bottom Temperature (^{o}C)	2.80	3.00	-1.20	-1.40	-1.10	0	0	1.60	1.70	2.10	1.10
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	78	74
Legal	0	0	0	0	0	0	0	0	0	0	74
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	0	0	0	0	70	0	0	74
Total weight (kg)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76	0.00	1.53	3.14
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi Tanner Crab											
Immature males	0	1,474	2,571	3,254	5,341	989	208	0	161	0	0
Mature males	59	201	0	0	72	0	208	0	0	0	0
Legal	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	1,474	625	1,514	6,063	71	0	0	0	0	0
Mature females	0	335	0	76	0	0	0	0	81	0	0
Total weight (kg)	0.67	7.20	3.08	4.08	4.87	0.64	2.50	0.00	0.26	0.00	0.00
Opilio Tanner Crab											
Immature males	591	335	28,007	5,524	3,537	989	2,779	351	81	0	0
Mature males	945	2,612	2,363	1,589	6,568	7,417	69	0	0	0	0
Legal	1,299	2,880	3,266	2,497	7,290	8,053	278	0	0	0	0
Preferred	591	2,478	1,876	1,135	5,053	6,852	69	0	0	0	0
Immature females	0	67	48,926	5,978	7,434	0	625	0	0	0	0
Mature females	118	402	4,239	8,249	72	71	0	0	0	0	0
Total weight (kg)	11.07	24.91	53.07	23.72	45.28	51.05	2.61	0.23	0.01	0.00	0.00
Hybrid Tanner Crab											
Immature males	0	0	0	1,059	577	0	208	0	0	0	0
Mature males	0	0	0	151	144	0	0	0	0	0	0
Immature females	0	0	0	76	289	0	69	0	0	0	0
Mature females	0	0	0	303	72	0	69	0	0	0	0
Total weight (kg)	0.00	0.00	0.26	2.00	1.10	0.00	0.24	0.00	0.00	0.00	0.00

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	K-06	K-07	K-08	K-09	K-10	K-11	K-12	K-13	K-14	K-18	K-19
Start Date	06/16/2010	06/14/2010	06/14/2010	06/11/2010	06/10/2010	06/10/2010	06/10/2010	06/08/2010	06/08/2010	06/24/2010	06/23/2010
Duration (hour)	0.54	0.50	0.53	0.51	0.53	0.53	0.54	0.52	0.55	0.51	0.52
Distance Fished (km)	2.95	2.78	2.95	2.85	2.98	2.91	3.03	2.87	3.04	2.76	2.78
Mid-Latitude (^{o}N)	58.34	58.33	58.33	58.34	58.33	58.32	58.32	58.27	58.33	58.33	58.34
Mid-Longitude (^{o}W)	-164.64	-164.00	-163.38	-162.72	-162.05	-161.40	-160.77	-159.97	-159.55	-168.49	-169.12
Bottom Depth (m)	44	40	38	32	47	34	24	41	25	66	68
Bottom Temperature (^{o}C)	2.10	2.70	3.00	3.20	3.00	4.80	6.40	3	3.70	-0.80	-1.40
Red King Crab											
Immature males	0	0	0	0	145	0	0	0	0	0	0
Mature males	0	0	80	0	72	0	0	0	0	0	0
Legal	0	0	80	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	80	0	72	162	0	0	0	0	0
Total weight (kg)	0.00	0.00	3.35	0.00	5.13	2.93	0.00	0.00	0.00	0.00	0.00
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi Tanner Crab											
Immature males	0	0	0	0	0	0	0	0	0	1,765	1,450
Mature males	0	0	0	0	0	0	0	0	0	1,177	72
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	74	145
Total weight (kg)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.90	4.58
Opilio Tanner Crab											
Immature males	0	0	0	0	0	0	0	0	0	2,795	8,191
Mature males	0	0	0	0	0	0	0	0	0	221	507
Legal	0	0	0	0	0	0	0	0	0	1,030	1,377
Preferred	0	0	0	0	0	0	0	0	0	74	435
Immature females	0	0	0	0	0	0	0	0	0	74	2,102
Mature females	0	0	0	0	0	0	0	0	0	221	145
Total weight (kg)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.57	8.26
Hybrid Tanner Crab											
Immature males	0	0	0	0	0	0	0	0	0	147	580
Mature males	0	0	0	0	0	0	0	0	0	368	145
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.83

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	K-20	K-21	K-22	K-23	K-24	K-25	K-26	K-27	L-01	L-02	L-03
Start Date	07/11/2010	07/11/2010	07/13/2010	07/13/2010	07/13/2010	07/12/2010	07/04/2010	07/04/2010	06/24/2010	06/24/2010	06/19/2010
Duration (hour)	0.51	0.52	0.51	0.52	0.51	0.56	0.53	0.51	0.53	0.53	0.50
Distance Fished (km)	2.80	2.91	2.86	2.79	2.78	3.08	2.93	2.76	2.93	3.00	2.69
Mid-Latitude (°N)	58.34	58.33	58.33	58.33	58.33	58.33	58.34	58.33	58.67	58.66	58.68
Mid-Longitude (°W)	-169.74	-170.37	-171.02	-171.65	-172.31	-172.92	-173.57	-174.30	-167.86	-167.23	-166.56
Bottom Depth (m)	69	73	84	95	102	109	115	162	47	44	42
Bottom Temperature (°C)	-1.40	-1.20	0	1.80	2.50	3	3.50	3.10	1.60	1.90	1.90
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	69	0
Legal	0	0	0	0	0	0	0	0	0	69	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	69	85
Total weight (kg)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.92	1.02
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi Tanner Crab											
Immature males	427	2,036	1,118	495	507	128	715	12,404	0	0	0
Mature males	0	0	0	0	72	0	130	0	0	0	0
Legal	0	0	0	0	0	0	0	0	0	0	0
Immature females	214	913	419	0	362	511	911	15,891	0	0	0
Mature females	0	0	0	0	0	0	195	201	0	0	0
Total weight (kg)	1.18	0.96	0.78	0.15	2.16	0.47	3.55	11.67	0.00	0.00	0.00
Opilio Tanner Crab											
Immature males	2,849	4,985	7,267	2,051	2,316	511	2,536	0	74	69	0
Mature males	1,710	6,599	6,288	3,608	3,692	3,194	2,016	0	0	0	0
Legal	3,206	9,197	12,507	5,093	5,212	3,577	3,252	0	0	0	0
Preferred	1,282	4,353	2,655	1,910	2,316	2,619	1,366	0	0	0	0
Immature females	1,710	6,599	70	0	16,650	0	0	134	0	0	0
Mature females	71	211	70	2,617	85,927	0	15,869	0	0	0	0
Total weight (kg)	16.35	47.41	58.29	28.07	108.04	27.92	50.87	0.01	0.01	0.02	0.00
Hybrid Tanner Crab											
Immature males	499	632	0	0	0	0	130	268	0	0	0
Mature males	356	351	279	0	0	0	0	0	0	0	0
Immature females	356	562	0	0	217	0	0	1,207	0	0	0
Mature females	0	0	70	0	1,158	0	911	0	0	0	0
Total weight (kg)	2.37	2.48	1.55	0.00	0.99	0.00	2.74	0.13	0.00	0.00	0.00

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	L-04	L-05	L-06	L-07	L-08	L-09	L-18	L-19	L-20	L-21	L-22
Start Date	06/21/2010	06/15/2010	06/15/2010	06/15/2010	06/14/2010	06/11/2010	06/23/2010	06/23/2010	07/11/2010	07/11/2010	07/11/2010
Duration (hour)	0.51	0.50	0.51	0.52	0.53	0.53	0.50	0.51	0.51	0.53	0.51
Distance Fished (km)	2.79	2.75	2.82	2.86	2.99	2.89	2.72	2.74	2.78	2.89	2.77
Mid-Latitude (°N)	58.66	58.68	58.67	58.66	58.67	58.67	58.67	58.67	58.67	58.67	58.67
Mid-Longitude (°W)	-165.93	-165.33	-164.65	-164.02	-163.36	-162.70	-168.49	-169.14	-169.79	-170.43	-171.08
Bottom Depth (m)	38	39	38	35	33	22	53	63	67	73	82
Bottom Temperature (°C)	2.30	2	0.70	2.50	3.40	3.90	1	-0.90	-1.10	-1.40	-0.10
Red King Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	0	80	0	0	0	78	79	0	0	0	0
Legal	0	80	0	0	0	78	79	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	320	0	0	0	0	0	0	0	0	0
Total weight (kg)	0.00	8.05	0.00	0.00	0.00	3.72	3.46	0.00	0.00	0.00	0.00
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi Tanner Crab											
Immature males	0	0	0	0	0	0	628	2,511	4,494	352	212
Mature males	0	0	0	0	0	0	79	295	140	70	0
Legal	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	79	295	351	0	354
Mature females	0	0	0	0	0	0	0	0	211	0	0
Total weight (kg)	0.00	0.00	0.00	0.00	0.00	0.00	2.30	10.52	15.40	1.27	0.17
Opilio Tanner Crab											
Immature males	0	0	0	0	0	0	707	3,101	8,567	7,044	19,515
Mature males	0	0	0	0	0	0	0	74	2,668	5,495	5,162
Legal	0	0	0	0	0	0	79	1,403	8,918	9,228	13,646
Preferred	0	0	0	0	0	0	0	74	562	2,606	2,475
Immature females	0	0	0	0	0	0	0	0	1,475	775	424
Mature females	0	0	0	0	0	0	0	0	140	634	2,828
Total weight (kg)	0.00	0.00	0.00	0.00	0.00	0.00	1.11	5.70	34.44	48.79	76.99
Hybrid Tanner Crab											
Immature males	0	0	0	0	0	0	0	74	492	211	141
Mature males	0	0	0	0	0	0	0	222	1,334	282	283
Immature females	0	0	0	0	0	0	0	74	421	0	0
Mature females	0	0	0	0	0	0	0	0	211	70	0
Total weight (kg)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90	7.35	1.35	2.06

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	L-23	L-24	L-25	L-26	L-27	L-28	L-29	L-30	L-31	M-01	M-02
Start Date	07/13/2010	07/13/2010	07/12/2010	07/04/2010	07/04/2010	07/05/2010	07/09/2010	07/09/2010	07/09/2010	06/23/2010	06/23/2010
Duration (hour)	0.51	0.51	0.51	0.50	0.51	0.51	0.56	0.56	0.56	0.52	0.52
Distance Fished (km)	2.77	2.74	2.75	2.73	2.85	2.83	3.15	3.04	3.07	2.87	2.81
Mid-Latitude (°N)	58.67	58.67	58.67	58.66	58.67	58.69	58.67	58.67	58.67	59.00	59.01
Mid-Longitude (°W)	-171.71	-172.38	-173.00	-173.63	-174.27	-174.92	-175.54	-176.21	-176.84	-167.89	-167.25
Bottom Depth (m)	92	101	112	126	155	192	135	139	135	42	39
Bottom Temperature (°C)	1.20	2.10	2.60	3.40	3.10	3.10	2.50	2.80	2.60	1.50	2.40
Red King Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	84
Mature males	0	0	0	0	0	0	0	0	0	247	0
Legal	0	0	0	0	0	0	0	0	0	247	0
Immature females	0	0	0	0	0	0	0	0	0	0	84
Mature females	0	0	0	0	0	0	0	0	0	247	0
Total weight (kg)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.99	2.14
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi Tanner Crab											
Immature males	71	213	286	0	16,913	4,938	3,767	1,240	550	0	0
Mature males	0	0	643	0	0	0	0	62	0	0	0
Legal	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	213	71	70	19,577	5,728	3,767	868	489	0	0
Mature females	0	0	500	0	67	0	359	0	0	0	0
Total weight (kg)	0.01	0.24	8.59	0.01	8.74	1.10	9.60	2.56	0.77	0.00	0.00
Opilio Tanner Crab											
Immature males	2,275	2,416	2,785	4,736	0	461	120	0	0	0	0
Mature males	1,635	3,767	6,212	13,789	67	0	0	0	0	0	0
Legal	2,773	5,401	7,998	18,455	67	0	0	0	0	0	0
Preferred	924	2,416	4,142	8,496	0	0	0	0	0	0	0
Immature females	213	497	0	0	67	856	239	62	0	82	0
Mature females	1,849	10,305	5,927	348	0	0	0	0	0	0	0
Total weight (kg)	18.50	41.34	45.15	113.98	0.37	0.07	0.06	0.00	0.00	0.01	0.00
Hybrid Tanner Crab											
Immature males	0	0	0	0	67	724	0	0	0	0	0
Mature males	142	71	0	70	0	0	60	0	0	0	0
Immature females	71	0	0	0	133	658	0	0	0	0	0
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0.98	0.32	0.00	0.27	0.04	0.36	0.37	0.00	0.00	0.00	0.00

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	M-03	M-04	M-05	M-06	M-07	M-08	M-18	M-19	M-20	M-21	M-22
Start Date	06/19/2010	06/22/2010	06/15/2010	06/15/2010	06/15/2010	06/14/2010	06/23/2010	06/23/2010	07/08/2010	07/08/2010	07/08/2010
Duration (hour)	0.50	0.52	0.55	0.53	0.53	0.54	0.51	0.50	0.54	0.53	0.56
Distance Fished (km)	2.73	2.89	2.90	2.82	2.86	2.95	2.78	2.72	2.98	2.96	3.14
Mid-Latitude (°N)	59.00	59.00	59.01	59.00	59.00	58.99	59.00	59.00	59.00	59.00	59.00
Mid-Longitude (°W)	-166.58	-165.93	-165.30	-164.65	-164.00	-163.35	-168.55	-169.17	-169.84	-170.49	-171.13
Bottom Depth (m)	34	31	27	29	28	24	47	54	64	71	76
Bottom Temperature (°C)	2.20	3.90	3.30	3.20	2.40	3.10	1.40	0.50	-1.20	-1.50	-1.40
Red King Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	0	246	77	0	0	0	76	0	0	0	0
Legal	0	246	77	0	0	0	76	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	82	327	77	0	0	0	0	0	0	0	0
Total weight (kg)	0.85	16.00	5.42	0.00	0.00	0.00	3.20	0.00	0.00	0.00	0.00
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi Tanner Crab											
Immature males	0	0	0	0	0	0	76	1,300	1,260	128	58
Mature males	0	0	0	0	0	0	0	76	66	0	0
Legal	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	229	0	0	0
Mature females	0	0	0	0	0	0	0	76	0	0	0
Total weight (kg)	0.00	0.00	0.00	0.00	0.00	0.00	0.14	5.94	3.69	0.27	0.03
Opilio Tanner Crab											
Immature males	0	0	0	0	0	0	76	841	5,041	14,341	16,608
Mature males	0	0	0	0	0	0	0	0	730	2,305	1,404
Legal	0	0	0	0	0	0	0	382	4,179	8,003	5,672
Preferred	0	0	0	0	0	0	0	0	332	1,024	702
Immature females	0	0	0	0	0	0	0	0	995	768	4,620
Mature females	0	0	0	0	0	0	0	0	265	3,201	44,971
Total weight (kg)	0.00	0.00	0.00	0.00	0.00	0.00	0.15	1.71	15.95	52.32	106.47
Hybrid Tanner Crab											
Immature males	0	0	0	0	0	0	0	153	0	0	0
Mature males	0	0	0	0	0	0	0	0	66	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	0	0	0	0	76	0	0	0
Total weight (kg)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.18	0.00	0.00

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	M-23	M-24	M-25	M-26	M-27	M-28	M-29	M-30	M-31	M-32	N-01
Start Date	07/08/2010	07/08/2010	07/05/2010	07/05/2010	07/05/2010	07/05/2010	07/10/2010	07/10/2010	07/09/2010	07/09/2010	06/22/2010
Duration (hour)	0.53	0.55	0.50	0.52	0.52	0.52	0.57	0.57	0.58	0.57	0.51
Distance Fished (km)	2.92	2.99	2.76	2.86	2.87	2.87	3.13	3.10	3.19	3.05	2.81
Mid-Latitude (°N)	59.00	59.00	59.00	59.00	59.00	59.01	59.00	59.00	59.01	59.00	59.34
Mid-Longitude (°W)	-171.78	-172.43	-173.09	-173.71	-174.39	-175.00	-175.73	-176.32	-176.95	-177.60	-167.93
Bottom Depth (m)	87	98	106	117	126	129	133	135	136	135	41
Bottom Temperature (°C)	1	1.50	2.30	2.60	2.90	2.20	2.70	2.70	2.50	2.70	1.90
Red King Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	319
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	80
Total weight (kg)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.10
Blue King Crab											
Immature males	0	0	0	0	0	66	0	0	0	0	0
Mature males	64	0	203	0	66	464	0	0	0	0	0
Legal	0	0	135	0	66	132	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	1.22	0.00	5.66	0.00	1.41	10.87	0.00	0.00	0.00	0.00	0.00
Bairdi Tanner Crab											
Immature males	0	1,003	3,311	1,152	663	1,457	1,310	675	940	1,553	0
Mature males	0	63	0	0	0	199	0	0	0	60	0
Legal	0	0	0	0	0	0	0	0	0	0	0
Immature females	64	1,505	2,500	542	1,260	993	1,012	368	764	299	0
Mature females	0	63	541	68	0	66	0	0	117	0	0
Total weight (kg)	0.01	1.85	6.55	2.69	0.83	5.23	2.19	2.07	2.75	5.74	0.00
Opilio Tanner Crab											
Immature males	8,723	6,021	12,973	1,016	1,127	199	0	184	117	0	0
Mature males	3,335	5,205	6,351	2,506	6,894	66	0	0	0	0	0
Legal	5,644	8,404	10,405	3,184	7,955	132	0	61	0	0	0
Preferred	2,117	3,512	4,392	2,100	4,044	66	0	0	0	0	0
Immature females	1,860	1,756	5,067	203	133	132	60	368	117	60	0
Mature females	55,738	11,477	70,269	339	66	0	0	0	117	0	0
Total weight (kg)	106.84	71.21	144.73	21.47	52.27	0.78	0.00	0.31	0.17	0.00	0.00
Hybrid Tanner Crab											
Immature males	0	0	135	68	0	0	0	0	0	0	0
Mature males	0	0	68	135	66	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	608	0	0	0	60	0	0	0	0
Total weight (kg)	0.00	0.00	2.06	0.96	0.47	0.00	0.13	0.00	0.00	0.00	0.00

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	N-02	N-03	N-04	N-05	N-06	N-07	N-18	N-19	N-20	N-21	N-22
Start Date	06/23/2010	06/23/2010	06/22/2010	06/15/2010	06/15/2010	06/14/2010	06/22/2010	06/22/2010	07/10/2010	07/10/2010	07/14/2010
Duration (hour)	0.53	0.53	0.53	0.53	0.54	0.54	0.50	0.51	0.52	0.51	0.52
Distance Fished (km)	2.92	2.91	2.95	2.91	2.87	2.95	2.76	2.79	2.89	2.74	2.86
Mid-Latitude (°N)	59.33	59.34	59.33	59.33	59.33	59.32	59.34	59.34	59.33	59.33	59.33
Mid-Longitude (°W)	-167.27	-166.59	-165.96	-165.30	-164.65	-164.00	-168.57	-169.25	-169.86	-170.54	-171.18
Bottom Depth (m)	32	28	25	20	22	24	42	50	60	68	75
Bottom Temperature (°C)	3.20	3.70	4.50	2.90	4	3.50	1.00	-0.70	-1.20	-1.50	-1.50
Red King Crab											
Immature males	162	162	0	0	82	0	0	0	0	0	0
Mature males	81	81	0	0	0	0	159	0	0	0	0
Legal	81	81	0	0	0	0	159	0	0	0	0
Immature females	0	0	0	0	0	0	80	0	0	0	0
Mature females	162	81	0	0	0	0	239	0	0	0	0
Total weight (kg)	5.92	3.81	0.00	0.00	0.79	0.00	8.26	0.00	0.00	0.00	0.00
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi Tanner Crab											
Immature males	0	0	0	0	0	0	0	226	285	74	1,020
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	680
Mature females	0	0	0	0	0	0	0	75	0	0	0
Total weight (kg)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.66	0.68	0.03	0.49
Opilio Tanner Crab											
Immature males	0	0	0	0	0	0	0	451	27,828	28,566	58,348
Mature males	0	0	0	0	0	0	0	0	143	443	340
Legal	0	0	0	0	0	0	0	0	2,569	2,067	3,264
Preferred	0	0	0	0	0	0	0	0	143	221	0
Immature females	0	0	0	0	0	0	159	226	15,555	3,986	13,261
Mature females	0	0	0	0	0	0	0	0	18,338	52,555	364,572
Total weight (kg)	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.65	51.71	86.40	388.24
Hybrid Tanner Crab											
Immature males	0	0	0	0	0	0	0	75	1,427	295	340
Mature males	0	0	0	0	0	0	0	0	999	0	340
Immature females	0	0	0	0	0	0	0	0	214	148	340
Mature females	0	0	0	0	0	0	0	0	642	148	2,652
Total weight (kg)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	7.42	0.57	4.98

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	N-23	N-24	N-25	N-26	N-27	N-28	N-29	N-30	N-31	O-01	O-02
Start Date	07/31/2010	07/22/2010	07/22/2010	07/22/2010	07/22/2010	07/11/2010	07/10/2010	07/10/2010	07/10/2010	06/20/2010	06/20/2010
Duration (hour)	0.51	0.51	0.52	0.54	0.51	0.56	0.42	0.56	0.58	0.50	0.51
Distance Fished (km)	2.76	2.72	2.79	2.86	2.71	2.97	2.27	3.11	3.15	2.73	2.75
Mid-Latitude (°N)	59.33	59.33	59.33	59.34	59.33	59.33	59.32	59.33	59.33	59.66	59.65
Mid-Longitude (°W)	-171.84	-172.49	-173.17	-173.80	-174.46	-175.10	-175.75	-176.39	-177.05	-167.96	-167.29
Bottom Depth (m)	80	87	102	110	120	132	135	135	148	35	31
Bottom Temperature (°C)	-0.90	-0.40	1.60	2.10	2.40	1.90	2.60	2.60	2.50	1.40	3.20
Red King Crab											
Immature males	0	0	0	0	0	0	0	0	0	246	329
Mature males	0	0	0	0	0	0	0	0	0	0	82
Legal	0	0	0	0	0	0	0	0	0	0	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	0	82
Total weight (kg)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.15	6.41
Blue King Crab											
Immature males	0	0	0	0	0	191	0	0	0	0	0
Mature males	0	145	70	139	0	127	0	0	0	0	0
Legal	0	73	0	69	0	64	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)	0.00	2.79	0.92	2.62	0.00	6.95	0.00	0.00	0.00	0.00	0.00
Bairdi Tanner Crab											
Immature males	0	1,597	209	555	141	636	1,544	988	238	0	0
Mature males	0	0	0	69	0	0	86	62	0	0	0
Legal	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	3,268	279	624	424	509	1,029	617	0	0	0
Mature females	0	0	0	69	0	254	343	0	0	0	0
Total weight (kg)	0.00	5.80	1.13	1.97	0.31	4.41	4.15	2.51	0.59	0.00	0.00
Opilio Tanner Crab											
Immature males	17,109	32,530	8,232	1,040	212	254	86	741	298	0	0
Mature males	719	6,317	1,046	1,803	1,415	127	172	309	0	0	0
Legal	1,653	10,819	1,465	2,288	1,627	191	172	370	60	0	0
Preferred	503	4,865	628	1,525	1,132	127	172	309	0	0	0
Immature females	36,446	43,712	8,441	2,219	0	318	86	185	298	0	0
Mature females	112,213	60,630	67,459	107,391	707	890	172	247	0	0	0
Total weight (kg)	132.56	153.80	82.38	122.80	11.81	4.20	1.48	4.34	0.43	0.00	0.00
Hybrid Tanner Crab											
Immature males	72	799	0	0	0	0	0	123	0	0	0
Mature males	0	0	0	69	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	799	0	69	0	0	515	123	0	0	0
Total weight (kg)	0.20	1.36	0.00	0.52	0.00	0.00	0.62	0.38	0.00	0.00	0.00

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	O-03	O-04	O-18	O-19	O-20	O-21	O-22	O-23	O-24	O-25	O-26
Start Date	06/22/2010	06/22/2010	06/22/2010	06/22/2010	07/10/2010	07/12/2010	07/14/2010	07/31/2010	07/23/2010	07/23/2010	07/23/2010
Duration (hour)	0.52	0.53	0.50	0.49	0.52	0.51	0.52	0.51	0.51	0.54	0.50
Distance Fished (km)	2.85	2.94	2.70	2.69	2.85	2.74	2.87	2.74	2.83	2.90	2.73
Mid-Latitude (^{o}N)	59.67	59.63	59.67	59.66	59.66	59.66	59.67	59.67	59.67	59.66	59.67
Mid-Longitude (^{o}W)	-166.63	-165.93	-168.60	-169.26	-169.92	-170.58	-171.22	-171.88	-172.56	-173.25	-173.85
Bottom Depth (m)	28	26	40	48	56	66	72	78	84	95	104
Bottom Temperature (^{o}C)	4.10	4.80	0.10	-1.10	-1.40	-1.50	-1.50	-1.40	-1.10	-0.20	1.80
Red King Crab											
Immature males	83	0	171	0	0	0	0	0	0	0	0
Mature males	83	0	171	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	257	79	0	0	0	0	0	0	0
Total weight (kg)	1.89	0.00	7.17	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Blue King Crab											
Immature males	0	0	0	0	0	0	0	0	209	0	514
Mature males	0	0	0	0	0	0	0	0	209	335	1,688
Legal	0	0	0	0	0	0	0	0	70	201	954
Immature females	0	0	0	0	0	0	0	0	0	0	73
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.16	7.30	36.47
Bairdi Tanner Crab											
Immature males	0	0	0	0	70	72	457	0	418	403	147
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	70	0	261	0	279	470	367
Mature females	0	0	0	0	0	0	0	0	0	0	73
Total weight (kg)	0.00	0.00	0.00	0.00	0.16	0.14	0.19	0.00	0.32	0.46	0.38
Opilio Tanner Crab											
Immature males	0	0	0	238	31,424	16,586	23,586	36,657	37,172	10,801	6,900
Mature males	0	0	0	0	140	72	392	433	139	1,744	2,936
Legal	0	0	0	0	280	216	784	866	767	3,421	5,652
Preferred	0	0	0	0	0	72	392	361	70	1,006	1,762
Immature females	0	0	0	635	40,592	3,822	51,550	82,335	53,003	23,078	1,248
Mature females	0	0	0	0	6,509	19,614	65,597	72,810	10,043	11,942	1,101
Total weight (kg)	0.00	0.00	0.00	0.18	35.93	37.11	99.43	134.06	56.33	49.28	43.68
Hybrid Tanner Crab											
Immature males	0	0	0	0	280	72	261	0	279	470	0
Mature males	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	140	72	131	0	0	0	0
Mature females	0	0	0	0	70	0	131	0	0	134	0
Total weight (kg)	0.00	0.00	0.00	0.00	0.44	0.18	0.21	0.00	0.20	1.21	0.00

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	O-27	O-28	O-29	O-30	O-31	ON2524	ON2625	P-01	P-18	P-19	P-20
Start Date	07/22/2010	07/11/2010	07/11/2010	07/11/2010	07/11/2010	07/23/2010	07/23/2010	06/20/2010	06/21/2010	06/21/2010	07/10/2010
Duration (hour)	0.51	0.54	0.55	0.55	0.55	0.52	0.51	0.52	0.51	0.51	0.51
Distance Fished (km)	2.77	2.91	2.97	3.04	2.99	2.88	2.76	2.98	2.77	2.79	2.81
Mid-Latitude (°N)	59.67	59.67	59.67	59.67	59.67	59.51	59.50	60.00	60.00	60.01	60.00
Mid-Longitude (°W)	-174.48	-175.10	-175.87	-176.53	-177.14	-172.90	-173.53	-167.97	-168.67	-169.32	-169.94
Bottom Depth (m)	116	124	136	135	172	93	102	25	40	46	53
Bottom Temperature (°C)	2.10	1.70	2.20	2.70	2.40	1.20	2	0.60	-0.30	-1.20	-1.30
Red King Crab											
Immature males	0	0	0	0	0	0	0	79	80	0	0
Mature males	0	0	0	0	0	0	0	0	0	75	148
Legal	0	0	0	0	0	0	0	0	0	75	74
Immature females	0	0	0	0	0	0	0	79	0	0	0
Mature females	0	0	0	0	0	0	0	0	0	0	148
Total weight (kg)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.17	0.83	2.20	5.87
Blue King Crab											
Immature males	0	0	0	0	0	0	70	0	0	0	0
Mature males	138	0	0	0	0	540	985	0	0	0	0
Legal	0	0	0	0	0	473	774	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)	2.11	0.00	0.00	0.00	0.00	13.51	24.12	0.00	0.00	0.00	0.00
Bairdi Tanner Crab											
Immature males	138	588	2,652	317	316	203	281	0	0	75	0
Mature males	69	65	129	190	189	0	0	0	0	0	0
Legal	0	0	0	63	0	0	0	0	0	0	0
Immature females	69	65	2,005	0	379	135	141	0	0	75	0
Mature females	0	196	129	0	126	0	0	0	0	0	0
Total weight (kg)	0.91	3.21	5.95	3.23	3.32	0.32	0.33	0.00	0.00	0.04	0.00
Opilio Tanner Crab											
Immature males	9,900	785	1,423	1,015	253	6,485	1,618	0	0	1,579	37,036
Mature males	3,115	1,242	582	571	0	1,351	1,336	0	0	0	222
Legal	6,923	1,634	776	1,142	0	2,027	2,040	0	0	0	444
Preferred	1,938	719	388	508	0	1,081	1,055	0	0	0	222
Immature females	485	7,126	194	254	316	18,037	1,196	0	80	827	27,056
Mature females	831	64,329	3,235	508	0	7,836	9,355	0	0	0	17,594
Total weight (kg)	49.70	78.07	10.63	9.08	0.20	31.45	24.55	0.00	0.01	0.78	48.70
Hybrid Tanner Crab											
Immature males	0	0	129	0	0	0	0	0	0	301	148
Mature males	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	150	0
Mature females	0	0	194	317	0	0	0	0	0	0	0
Total weight (kg)	0.00	0.00	0.41	0.56	0.00	0.00	0.00	0.00	0.00	0.06	0.04

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	P-21	P-22	P-23	P-24	P-25	P-26	P-27	P-28	P-29	P-30	P-31
Start Date	07/12/2010	07/14/2010	07/31/2010	07/24/2010	07/24/2010	07/26/2010	07/26/2010	07/30/2010	07/30/2010	07/27/2010	07/27/2010
Duration (hour)	0.52	0.51	0.50	0.51	0.24	0.50	0.52	0.50	0.63	0.49	0.50
Distance Fished (km)	2.89	2.77	2.70	2.82	1.15	2.78	2.81	2.74	3.39	2.68	2.68
Mid-Latitude (°N)	60.00	59.99	59.99	59.99	60.00	60.00	60.00	60.00	60.00	60.00	60.00
Mid-Longitude (°W)	-170.62	-171.31	-171.94	-172.58	-173.24	-173.96	-174.59	-175.25	-175.93	-176.72	-177.21
Bottom Depth (m)	65	69	67	65	75	97	108	117	129	141	135
Bottom Temperature (°C)	-1.50	-1.50	-1.30	-1.00	-1	0.60	1	1.60	2.00	2.40	2.00
Red King Crab											
Immature males	68	0	0	0	0	0	0	0	0	0	0
Mature males	68	0	0	0	0	0	0	0	0	0	0
Legal	68	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)	3.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Blue King Crab											
Immature males	0	0	0	0	0	616	71	71	0	0	0
Mature males	0	0	0	70	171	2,054	213	71	0	0	0
Legal	0	0	0	0	171	1,095	142	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)	0.00	0.00	0.00	1.15	1.83	50.95	5.86	2.29	0.00	0.00	0.00
Bairdi Tanner Crab											
Immature males	0	0	459	0	0	137	0	286	1,056	292	295
Mature males	0	0	0	0	0	0	0	0	411	0	0
Legal	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	459	0	341	205	71	429	880	511	222
Mature females	0	0	459	0	0	0	0	0	469	0	148
Total weight (kg)	0.00	0.00	1.48	0.00	0.01	0.16	0.08	0.30	7.74	0.78	0.46
Opilio Tanner Crab											
Immature males	13,522	32,526	46,977	1,324	2,219	3,355	3,188	3,217	1,819	948	4,210
Mature males	0	0	0	0	0	479	1,063	2,145	2,582	948	886
Legal	406	689	0	139	512	959	2,055	3,432	3,521	1,167	1,846
Preferred	0	0	0	0	0	274	638	1,573	2,054	730	665
Immature females	17,917	21,845	126,395	697	3,243	3,903	1,346	4,289	1,467	1,824	2,659
Mature females	8,925	48,307	155,163	209	512	1,780	5,738	22,091	32,039	66,538	11,078
Total weight (kg)	25.79	70.22	196.73	1.81	1.36	10.61	21.92	54.65	81.54	77.12	24.41
Hybrid Tanner Crab											
Immature males	406	0	0	0	0	137	0	0	0	146	222
Mature males	0	0	0	0	0	0	0	0	0	0	0
Immature females	135	69	0	0	0	68	0	0	59	73	0
Mature females	68	0	0	0	0	137	0	0	293	292	1,255
Total weight (kg)	0.37	0.03	0.00	0.00	0.00	0.25	0.00	0.00	1.75	0.38	1.10

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	P-32	PO2423	PO2524	PO2625	PO2726	Q-01	Q-02	Q-18	Q-19	Q-20	Q-21
Start Date	07/27/2010	07/24/2010	07/25/2010	07/25/2010	07/26/2010	06/21/2010	06/20/2010	06/21/2010	06/21/2010	07/10/2010	07/12/2010
Duration (hour)	0.48	0.51	0.51	0.51	0.50	0.51	0.50	0.50	0.52	0.51	0.52
Distance Fished (km)	2.60	2.87	2.78	2.80	2.72	2.80	2.83	2.72	2.77	2.76	2.82
Mid-Latitude (°N)	60.00	59.83	59.83	59.83	59.83	60.33	60.34	60.33	60.33	60.33	60.33
Mid-Longitude (°W)	-177.92	-172.28	-172.92	-173.58	-174.23	-167.96	-167.27	-168.68	-169.34	-170.01	-170.65
Bottom Depth (m)	141	76	80	94	106	33	31	37	43	53	61
Bottom Temperature (°C)	2.10	-1.30	-1.20	-0.30	1.30	0.60	0.90	1	-0.90	-1.50	-1.60
Red King Crab											
Immature males	0	0	0	0	0	0	0	166	0	0	0
Mature males	0	0	0	0	0	0	0	0	76	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	76	0	0
Total weight (kg)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.53	2.19	0.00	0.00
Blue King Crab											
Immature males	0	68	70	0	0	0	0	0	0	0	0
Mature males	0	205	70	273	71	0	0	0	0	0	0
Legal	0	137	70	136	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)	0.00	5.24	1.94	5.55	1.02	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi Tanner Crab											
Immature males	233	0	278	68	568	0	0	0	0	379	0
Mature males	78	0	0	0	0	0	0	0	0	0	0
Legal	78	0	0	0	0	0	0	0	0	0	0
Immature females	0	68	70	273	355	0	0	0	0	76	0
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	1.50	0.09	0.29	0.13	0.50	0.00	0.00	0.00	0.00	0.09	0.00
Opilio Tanner Crab											
Immature males	155	34,721	2,641	5,452	7,168	0	0	0	7,362	83,970	14,651
Mature males	311	274	70	750	2,129	0	0	0	0	0	0
Legal	466	411	1,043	1,840	5,252	0	0	0	0	0	0
Preferred	233	137	0	545	1,206	0	0	0	0	0	0
Immature females	0	56,431	2,224	18,673	1,064	0	0	0	3,036	97,016	17,205
Mature females	0	19,723	1,251	1,636	923	0	0	0	455	6,144	13,374
Total weight (kg)	2.83	68.54	7.45	21.07	33.75	0.00	0.00	0.00	3.15	64.30	40.26
Hybrid Tanner Crab											
Immature males	0	479	0	545	142	0	0	0	455	0	0
Mature males	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	409	426	0	0	0	228	152	0
Mature females	233	137	0	273	71	0	0	0	0	0	0
Total weight (kg)	0.52	0.38	0.00	0.66	0.45	0.00	0.00	0.00	0.20	0.06	0.00

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	Q-22	Q-23	Q-25	Q-26	Q-27	Q-28	Q-29	Q-30	Q-31	QP2423	QP2524
Start Date	07/12/2010	07/12/2010	07/25/2010	07/26/2010	07/30/2010	07/30/2010	07/30/2010	07/27/2010	07/27/2010	07/24/2010	07/24/2010
Duration (hour)	0.51	0.52	0.25	0.51	0.50	0.50	0.49	0.49	0.48	0.53	0.37
Distance Fished (km)	2.80	2.76	1.35	2.76	2.68	2.71	2.67	2.71	2.66	2.91	1.97
Mid-Latitude (°N)	60.34	60.34	60.29	60.33	60.33	60.33	60.34	60.33	60.34	60.16	60.16
Mid-Longitude (°W)	-171.36	-172.07	-173.38	-174.08	-174.72	-175.39	-176.03	-176.71	-177.40	-172.33	-172.99
Bottom Depth (m)	66	59	63	90	103	112	121	137	147	58	60
Bottom Temperature (°C)	-1.50	-1.50	0.00	-0.20	1.00	1.50	1.80	2.10	2.00	1.70	0.50
Red King Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	0	73	0	0	0	0	0	0	0	0	0
Legal	0	73	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)	0.00	1.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Blue King Crab											
Immature males	0	220	290	0	0	0	0	0	0	1,168	1,287
Mature males	0	0	435	64	0	76	0	0	0	1,168	536
Legal	0	0	145	64	0	76	0	0	0	511	429
Immature females	0	0	145	0	0	0	0	0	0	73	1,180
Mature females	0	0	145	0	0	0	0	0	0	0	0
Total weight (kg)	0.00	1.55	5.32	1.67	0.00	2.44	0.00	0.00	0.00	30.00	13.61
Bairdi Tanner Crab											
Immature males	0	220	145	0	0	76	1,711	0	0	73	0
Mature males	0	0	0	0	0	153	74	210	0	0	0
Legal	0	0	0	0	0	0	0	140	0	0	0
Immature females	0	220	0	0	0	841	1,339	0	71	0	0
Mature females	0	0	0	0	0	0	74	0	0	0	0
Total weight (kg)	0.00	0.26	0.05	0.00	0.00	2.15	3.58	1.81	0.01	0.01	0.00
Opilio Tanner Crab											
Immature males	66,730	101,709	4,205	147,575	13,261	50,754	12,277	4,554	6,069	1,533	751
Mature males	0	0	0	3,966	0	1,452	5,432	5,534	5,783	0	107
Legal	212	0	0	3,966	771	4,051	11,979	8,407	10,067	0	214
Preferred	0	0	0	0	0	611	3,720	3,783	4,070	0	0
Immature females	35,877	48,293	5,076	50,919	77,177	146,683	3,497	4,133	643	2,117	322
Mature females	63,970	49,464	145	69,086	47,340	28,664	16,072	16,463	1,214	146	0
Total weight (kg)	131.72	148.66	1.32	264.23	85.34	127.73	85.56	100.68	62.02	0.54	0.99
Hybrid Tanner Crab											
Immature males	0	366	0	0	0	4,663	893	0	0	0	0
Mature males	0	0	0	0	0	0	0	0	71	0	0
Immature females	0	585	0	0	0	4,663	74	0	143	0	0
Mature females	0	0	0	0	0	3,363	1,042	0	143	0	0
Total weight (kg)	0.00	0.48	0.00	0.00	0.00	12.00	2.69	0.00	0.56	0.00	0.00

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	QP2625	QP2726	R-22	R-23	R-24	R-25	R-26	R-27	R-28	R-29	R-30
Start Date	07/25/2010	07/26/2010	07/14/2010	08/01/2010	08/01/2010	08/01/2010	07/25/2010	08/02/2010	07/29/2010	07/29/2010	07/29/2010
Duration (hour)	0.51	0.50	0.51	0.51	0.52	0.51	0.50	0.51	0.48	0.50	0.50
Distance Fished (km)	2.72	2.70	2.81	2.79	2.79	2.77	2.66	2.77	2.63	2.77	2.75
Mid-Latitude (°N)	60.13	60.17	60.66	60.66	60.68	60.67	60.67	60.67	60.66	60.67	60.67
Mid-Longitude (°W)	-173.76	-174.35	-171.44	-172.12	-172.79	-173.46	-174.14	-174.82	-175.42	-176.20	-176.81
Bottom Depth (m)	87	100	62	61	45	66	86	98	106	118	129
Bottom Temperature (°C)	0.40	0.60	-1.60	-0.70	2.50	-0.40	-0.80	1.00	1.40	1.70	2.00
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Blue King Crab											
Immature males	357	138	0	0	11,561	147	0	0	0	71	0
Mature males	715	968	0	0	5,516	74	0	70	0	0	0
Legal	357	484	0	0	1,209	74	0	70	0	0	0
Immature females	0	0	0	0	604	0	0	0	0	0	0
Mature females	0	0	0	0	1,813	0	0	0	0	0	0
Total weight (kg)	17.17	19.78	0.00	0.00	188.53	1.94	0.00	1.23	0.00	0.73	0.00
Bairdi Tanner Crab											
Immature males	0	138	0	0	0	0	0	1,044	79	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	277	0	0	0	0	0	1,044	0	0	69
Mature females	0	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.51	0.03	0.00	0.07
Opilio Tanner Crab											
Immature males	1,572	31,614	134,453	133,847	76	10,523	72,356	296,160	27,744	97,173	23,757
Mature males	214	899	0	0	0	0	0	0	476	4,478	6,008
Legal	429	3,390	0	0	0	442	0	0	3,092	23,458	16,851
Preferred	71	484	0	0	0	0	0	0	396	3,341	2,555
Immature females	1,286	4,358	158,091	232,254	302	5,225	208,978	623,286	44,391	88,572	760
Mature females	1,572	16,879	85,282	13,142	0	368	25,467	53,025	6,500	40,447	38,260
Total weight (kg)	4.71	61.32	270.68	253.27	0.17	14.22	146.54	524.27	52.69	263.34	135.26
Hybrid Tanner Crab											
Immature males	286	0	0	0	0	0	0	0	79	2,914	138
Mature males	0	0	0	0	0	0	0	0	0	427	0
Immature females	143	69	0	0	76	0	0	0	0	2,914	69
Mature females	143	346	0	0	0	0	0	0	0	0	967
Total weight (kg)	0.51	0.32	0.00	0.00	0.05	0.00	0.00	0.00	0.08	4.06	1.11

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	R-31	R-32	S-22	S-23	S-24	S-25	S-26	S-27	S-28	S-29	S-30
Start Date	07/28/2010	07/28/2010	07/14/2010	08/01/2010	08/01/2010	08/02/2010	08/02/2010	08/02/2010	07/29/2010	07/29/2010	07/28/2010
Duration (hour)	0.51	0.50	0.52	0.34	0.50	0.52	0.51	0.51	0.50	0.50	0.49
Distance Fished (km)	2.79	2.77	2.80	1.91	2.71	2.87	2.80	2.81	2.73	2.75	2.67
Mid-Latitude (°N)	60.67	60.67	60.98	60.98	61.00	60.99	61.00	61.00	60.99	60.99	61.00
Mid-Longitude (°W)	-177.51	-178.20	-171.49	-172.16	-172.81	-173.49	-174.18	-174.88	-175.57	-176.28	-176.97
Bottom Depth (m)	147	162	60	64	67	74	84	92	102	111	122
Bottom Temperature (°C)	2.00	2.50	-1	-1.40	-1.30	-1.40	-1.20	-0.50	1.00	1.70	1.90
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Blue King Crab											
Immature males	0	0	0	0	0	65	0	0	0	0	0
Mature males	0	0	0	0	0	0	67	0	0	74	0
Legal	0	0	0	0	0	0	67	0	0	74	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)	0.00	0.00	0.00	0.00	0.00	0.93	1.40	0.00	0.00	1.78	0.00
Bairdi Tanner Crab											
Immature males	68	68	0	0	0	0	0	0	0	0	0
Mature males	0	136	0	0	0	0	0	0	0	0	0
Legal	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	136	0	0	0	0	0	0	0	0	0
Mature females	0	409	0	0	0	0	0	0	0	0	0
Total weight (kg)	0.14	2.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Opilio Tanner Crab											
Immature males	12,598	1,909	256,920	45,182	69,296	104,523	46,733	143,662	131,406	289,689	180,535
Mature males	5,757	4,023	0	0	0	0	0	69	0	3,865	8,850
Legal	11,446	5,524	0	0	0	0	0	484	0	38,581	15,039
Preferred	3,251	3,137	0	0	0	0	0	69	0	1,784	6,404
Immature females	677	0	966,406	133,006	118,399	115,047	68,757	222,483	249,245	232,153	62,313
Mature females	1,490	1,023	103,637	5,714	28,973	13,558	12,019	17,439	11,694	123,324	177,297
Total weight (kg)	73.23	41.94	723.96	57.44	122.34	129.15	76.28	196.79	189.53	607.48	439.43
Hybrid Tanner Crab											
Immature males	135	0	0	0	314	0	0	0	600	2,825	1,871
Mature males	68	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	1,871
Mature females	542	68	0	0	0	0	0	0	0	0	1,871
Total weight (kg)	1.54	0.06	0.00	0.00	0.11	0.00	0.00	0.00	0.12	1.21	5.72

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	S-31	T-25	T-26	T-27	T-28	T-29	T-30	U-25	U-26	U-27	U-28
Start Date	07/28/2010	07/15/2010	08/03/2010	08/03/2010	08/03/2010	08/03/2010	07/28/2010	07/15/2010	07/15/2010	08/04/2010	08/04/2010
Duration (hour)	0.50	0.52	0.52	0.51	0.51	0.52	0.50	0.51	0.52	0.51	0.51
Distance Fished (km)	2.71	2.83	2.82	2.77	2.78	2.81	2.68	2.79	2.77	2.79	2.73
Mid-Latitude (^{o}N)	60.99	61.33	61.33	61.34	61.34	61.33	61.33	61.66	61.66	61.67	61.66
Mid-Longitude (^{o}W)	-177.63	-173.59	-174.31	-174.98	-175.65	-176.30	-176.96	-173.65	-174.44	-175.09	-175.78
Bottom Depth (m)	132	73	78	86	97	106	117	70	76	85	95
Bottom Temperature (^{o}C)	2.10	-1	-1.40	-1.20	0	1.30	1.80	-1.50	-1.40	-1.40	-1.00
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Blue King Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	0	64	0	70	0	0	0	0	0	68	0
Legal	0	0	0	70	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)	0.00	1.32	0.00	1.60	0.00	0.00	0.00	0.00	0.00	1.16	0.00
Bairdi Tanner Crab											
Immature males	70	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	70	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0.27	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00
Opilio Tanner Crab											
Immature males	70,191	113,008	135,072	83,405	111,777	151,132	479,832	115,548	76,213	136,148	503,457
Mature males	3,864	0	0	0	0	0	1,577	0	0	0	0
Legal	8,502	510	0	0	1,831	7,011	3,225	0	431	0	0
Preferred	2,529	0	0	0	0	0	860	0	0	0	0
Immature females	351	209,809	186,943	192,895	183,673	298,493	550,918	209,027	121,927	236,794	534,124
Mature females	11,593	19,590	45,744	13,773	6,783	14,220	361,522	19,365	12,774	25,826	22,739
Total weight (kg)	145.45	188.65	205.16	150.55	166.56	298.05	888.70	159.38	92.50	157.71	339.43
Hybrid Tanner Crab											
Immature males	70	0	4,108	0	339	0	0	0	0	0	4,937
Mature males	70	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0	4,937
Mature females	281	0	0	0	0	0	2,365	0	0	0	0
Total weight (kg)	1.65	0.00	0.94	0.00	0.00	0.00	3.39	0.00	0.00	0.00	2.64

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	U-29	V-25	V-26	V-27	V-28	Z-05	C-09	D-10	E-11	E-12	F-12
Start Date	08/03/2010	07/15/2010	07/15/2010	08/04/2010	08/04/2010	06/18/2010	07/24/2010	07/25/2010	07/25/2010	07/25/2010	07/25/2010
Duration (hour)	0.49	0.52	0.53	0.51	0.51	0.54	0.35	0.52	0.51	0.50	0.50
Distance Fished (km)	2.69	2.75	2.87	2.77	2.82	2.93	2.01	2.88	2.81	2.81	2.81
Mid-Latitude (^{o}N)	61.66	62.00	62.00	62.00	62.00	54.69	55.66	55.99	56.33	56.33	56.66
Mid-Longitude (^{o}W)	-176.46	-173.74	-174.48	-175.17	-175.84	-165.13	-162.84	-162.25	-161.63	-161.01	-160.98
Bottom Depth (m)	105	62	72	81	92	82	55	68	63	48	69
Bottom Temperature (^{o}C)	0.50	-1.50	-1.50	-1.50	-1.20	4.80	4.20	4.20	3.40		2.80
Red King Crab											
Immature males	0	0	0	0	0	0	109	3,132	510	158	949
Mature males	0	0	0	0	0	0	654	3,424	4,229	237	2,920
Legal	0	0	0	0	0	0	218	728	2,771	79	2,117
Immature females	0	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	0	0	0	545	16,244	3,281	4,666	2,263
Total weight (kg)	0.00	0.00	0.00	0.00	0.00	0.00	18.71	385.51	217.32	75.71	153.44
Blue King Crab											
Immature males	0	0	0	0	0	0.00					
Mature males	0	0	0	0	0	0.00					
Legal	0	0	0	0	0	0.00					
Immature females	0	0	0	0	0	0.00					
Mature females	0	0	0	0	0	0.00					
Total weight (kg)	0	0	0	0	0	0.00					
Bairdi Tanner Crab											
Immature males	0	0	0	0	0	203					
Mature males	0	0	0	0	0	338					
Legal	0	0	0	0	0	68					
Immature females	0	0	0	0	0	135					
Mature females	0	0	0	0	0	0					
Total weight (kg)	0.00	0.00	0.00	0.00	0.00	3.10					
Opilio Tanner Crab											
Immature males	134,958	129,932	199,297	205,107	145,537	68					
Mature males	0	0	0	0	0	0					
Legal	0	0	0	0	0	68					
Preferred	0	0	0	0	0	0					
Immature females	133,083	162,865	237,163	205,728	242,132	0					
Mature females	12,117	13,203	26,665	37,875	4,972	0					
Total weight (kg)	153.31	102.39	137.71	205.81	168.63	0.24					
Hybrid Tanner Crab											
Immature males	0	225	0	0	0	0					
Mature males	0	0	0	0	0	68					
Immature females	0	0	0	0	0	0					
Mature females	0	0	0	0	0	0					
Total weight (kg)	0.00	0.00	0.00	0.00	0.00	0.71					

Appendix A. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 eastern Bering Sea bottom trawl survey.

Station	F-13	F-14	G-12	G-13	G-14	H-11	H-12	H-13	H-14	I-10	I-11
Start Date	07/26/2010	07/26/2010	07/27/2010	07/27/2010	07/26/2010	07/27/2010	07/27/2010	07/27/2010	07/26/2010	07/28/2010	07/28/2010
Duration (hour)	0.53	0.38	0.50	0.51	0.51	0.49	0.49	0.51	0.50	0.51	0.50
Distance Fished (km)	2.88	2.11	2.75	2.79	2.80	2.69	2.74	2.88	2.75	2.84	2.78
Mid-Latitude (^{o}N)	56.66	56.69	57.02	57.01	56.97	57.34	57.33	57.34	57.33	57.64	57.66
Mid-Longitude (^{o}W)	-160.37	-159.74	-160.93	-160.34	-159.70	-161.53	-160.93	-160.31	-159.67	-162.12	-161.50
Bottom Depth (m)	59	39	64	66	55	54	65	62	55	47	54
Bottom Temperature (^{o}C)	4.70	6.50	3.20	4	5.40	6	4.20	5.10	5.60	4.80	4.20
Red King Crab											
Immature males	0	0	1,584	703	235	1,847	3,349	154	0	684	167
Mature males	781	0	2,464	1,640	78	2,814	1,339	231	0	532	502
Legal	568	0	1,408	703	0	1,143	586	154	0	228	84
Immature females	142	0	0	78	0	264	1,005	77	0	76	167
Mature females	2,981	328	440	6,874	3,768	879	3,767	2,774	1,039	1,595	2,259
Total weight (kg)	83.36	5.35	85.82	164.60	73.02	96.70	108.57	58.86	20.85	47.78	42.83

Station	I-12	I-13	I-14	J-10	J-11	J-12	J-13
Start Date	07/28/2010	07/28/2010	07/26/2010	07/29/2010	07/29/2010	07/29/2010	07/28/2010
Duration (hour)	0.53	0.48	0.51	0.50	0.50	0.52	0.45
Distance Fished (km)	2.95	2.67	2.82	2.75	2.76	2.86	2.50
Mid-Latitude (^{o} N)	57.67	57.65	57.66	58.00	57.99	57.99	58.00
Mid-Longitude ((^{o} W)	-160.88	-160.28	-159.63	-162.11	-161.45	-160.88	-160.21
Bottom Depth (m)	56	55	49	38	56	46	50
Bottom Temperature ((^{o} C)	4.80	5.30	5.70	6.50	4.80	4.80	5.50
Red King Crab							
Immature males	219	177	75	0	156	0	181
Mature males	292	177	0	85	703	399	362
Legal	292	177	0	0	469	319	90
Immature females	73	266	0	85	78	80	0
Mature females	2,117	4,255	151	9,709	2,657	1,994	2,080
Total weight (kg)	48.12	68.41	3.99	132.78	69.74	46.98	41.82

Appendix B. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 northern extension of the National Marine Fisheries Service eastern Bering Sea bottom trawl survey.

Station	AA-01	AA-02	AA-03	AA-04	AA-05	AA-06	AA-07	AA-08	AA-10	AA-18	AA-19
Start Date	07/28/2010	07/28/2010	08/04/2010	08/06/2010	08/05/2010	08/06/2010	08/07/2010	08/07/2010	08/08/2010	07/28/2010	07/28/2010
Duration (hour)	0.49	0.51	0.53	0.49	0.5	0.52	0.52	0.53	0.25	0.5	0.52
Distance Fished (km)	2.71	2.78	2.85	2.7	2.69	2.98	2.65	2.9	1.24	2.83	2.81
Mid-Latitude (^{o}N)	63.67	63.67	63.66	63.66	63.66	63.68	63.67	63.66	63.66	63.67	63.66
Mid-Longitude (^{o}W)	-168.28	-167.53	-166.78	-166.04	-165.3	-164.55	-163.82	-163.06	-161.57	-169.02	-169.75
Bottom Depth (m)	32	28	30	26	18	11	15	15	15	35	39
Bottom Temperature (^{o}C)	1.9	0.7	0.8	3	9.3	12	9.6	8.3	8.8	3.6	6.3
Red King Crab											
Immature males	0	0	0	0	162	0	0	0	0	0	0
Mature males	0	0	0	0	244	0	88	0	0	0	0
Legal	0	0	0	0	162	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	88	77	362	0	0
Total weight (kg)	0.00	0.00	0.00	0.00	4.68	0.00	1.28	0.76	0.61	0.00	0.00
Blue King Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	82	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	81	0	0	0	0	0	0	0	0	73
Total weight (kg)	1.31	0.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.87
Bairdi 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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Opilio Tanner Crab											
Immature males	46,523	142,177	32,196	28,567	81	76	0	0	0	355,952	2,184
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
Preferred	0	0	0	0	0	0	0	0	0	0	0
Immature females	47,259	80,227	23,534	6,110	0	0	0	0	0	255,064	655
Mature females	654	2,345	0	0	0	0	0	0	0	16,906	73
Total weight (kg)	19.38	45.50	12.30	7.41	0.01	0.01	0.00	0.00	0.00	174.85	0.92
Hybrid 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
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Appendix B. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 northern extension of the National Marine Fisheries Service eastern Bering Sea bottom trawl survey.

Station	AA-22	AA-23	BB-01	BB-02	BB-03	BB-04	BB-05	BB-06	BB-07	BB-08	BB-09
Start Date	07/29/2010	07/29/2010	07/31/2010	08/04/2010	08/04/2010	08/06/2010	08/06/2010	08/06/2010	08/07/2010	08/07/2010	08/07/2010
Duration (hour)	0.28	0.49	0.51	0.51	0.51	0.5	0.51	0.52	0.51	0.52	0.52
Distance Fished (km)	1.4	2.78	2.75	2.71	2.84	2.81	2.7	2.94	2.85	2.88	2.87
Mid-Latitude (°N)	63.69	63.67	63.99	64.03	64	63.99	64	64	64	64	64.01
Mid-Longitude (°W)	-172.06	-172.74	-168.3	-167.56	-166.82	-166.04	-165.31	-164.53	-163.8	-163.05	-162.3
Bottom Depth (m)	36	55	35	35	33	24	18	18	20	18	18
Bottom Temperature (°C)	-0.7	0	4.2	1.1	1.5	2.1	8.1	6.4	5.7	4.7	4.9
Red King Crab											
Immature males	0	0	0	0	0	0	245	75	77	233	240
Mature males	0	0	0	0	0	80	490	226	307	155	80
Legal	0	0	0	0	0	80	82	0	307	155	80
Immature females	0	0	0	0	0	0	0	0	0	78	160
Mature females	0	0	0	0	76	0	0	0	0	78	0
Total weight (kg)	0.00	0.00	0.00	0.00	0.72	1.14	6.52	2.43	4.59	3.40	1.36
Blue King Crab											
Immature males	286	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	143	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	81	0	0	0	0	0	0	0	0
Total weight (kg)	1.28	0.00	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi Tanner Crab											
Immature males	0	73	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	73	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)	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Opilio Tanner Crab											
Immature males	3,714	15,515	181,288	91,750	36,441	75,889	490	828	384	0	0
Mature males	0	0	0	0	0	0	0	0	77	0	0
Legal	0	0	0	0	0	0	0	0	77	0	0
Preferred	0	0	0	0	0	0	0	0	0	0	0
Immature females	2,000	9,761	184,042	32,257	12,070	44,833	82	527	77	0	0
Mature females	0	2,841	1,539	1,021	840	0	0	0	0	0	0
Total weight (kg)	1.23	15.40	59.63	36.51	14.13	9.30	0.04	0.12	0.38	0.00	0.00
Hybrid 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
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Appendix B. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 northern extension of the National Marine Fisheries Service eastern Bering Sea bottom trawl survey.

Station	BB-10	BB-18	BB-19	BB-20	BB-21	BB-22	CC-01	CC-02	CC-03	CC-04	CC-05
Start Date	08/08/2010	07/30/2010	07/28/2010	07/29/2010	07/29/2010	07/29/2010	07/31/2010	08/04/2010	08/03/2010	08/09/2010	08/09/2010
Duration (hour)	0.52	0.5	0.51	0.51	0.51	0.51	0.52	0.51	0.51	0.51	0.5
Distance Fished (km)	2.85	2.67	2.85	2.79	2.8	2.77	2.74	2.77	2.72	2.75	2.79
Mid-Latitude (°N)	63.99	64.01	63.99	64	64	64	64.33	64.33	64.34	64.33	64.32
Mid-Longitude (°W)	-161.54	-169.05	-169.79	-170.56	-171.32	-172.06	-168.33	-167.58	-166.83	-166.04	-165.32
Bottom Depth (m)	18	34	34	28	28	52	38	32	30	23	24
Bottom Temperature (°C)	3	1.4	2	1.4	0.1	1.6	2.8	1.4	0.7	6.6	7.1
Red King Crab											
Immature males	0	0	0	0	0	0	0	0	0	79	546
Mature males	0	0	0	0	0	0	0	0	0	158	1,949
Legal	0	0	0	0	0	0	0	0	0	79	935
Immature females	77	0	0	0	0	0	0	0	0	79	0
Mature females	0	0	0	0	0	0	0	0	0	79	78
Total weight (kg)	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.93	26.85
Blue King Crab											
Immature males	0	0	305	322	480	514	0	82	0	0	0
Mature males	0	0	153	161	0	73	0	82	80	0	0
Legal	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	381	402	160	514	0	0	0	0	0
Mature females	0	0	305	241	240	147	0	246	80	0	0
Total weight (kg)	0.00	0.00	7.86	6.99	5.98	4.09	0.00	3.08	1.77	0.00	0.00
Bairdi 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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Opilio Tanner Crab											
Immature males	0	23,191	74,733	363,841	235,446	27,242	35,062	222,275	1,844	5,309	22,059
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
Preferred	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	8,335	40,264	292,151	273,181	8,811	28,922	164,019	160	3,566	11,302
Mature females	0	1,403	5,262	10,138	12,152	9,032	0	4,349	0	0	0
Total weight (kg)	0.00	10.25	54.34	103.25	156.81	29.19	12.16	81.59	0.54	0.59	3.09
Hybrid 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
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Appendix B. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 northern extension of the National Marine Fisheries Service eastern Bering Sea bottom trawl survey.

Station	CC-06	CC-07	CC-08	CC-09	CC-10	CC-18	CC-19	CC-20	DD-01	DD-02	DD-03
Start Date	08/09/2010	08/08/2010	08/08/2010	08/08/2010	08/08/2010	07/30/2010	07/30/2010	07/30/2010	07/31/2010	08/03/2010	08/03/2010
Duration (hour)	0.52	0.51	0.53	0.5	0.51	0.51	0.53	0.48	0.52	0.51	0.51
Distance Fished (km)	3	2.86	2.81	2.77	2.83	2.88	2.88	2.7	2.75	2.65	2.9
Mid-Latitude (^{o}N)	64.33	64.33	64.31	64.34	64.31	64.32	64.32	64.33	64.66	64.67	64.66
Mid-Longitude (^{o}W)	-164.52	-163.79	-163.03	-162.26	-161.55	-169.11	-169.84	-170.62	-168.35	-167.61	-166.83
Bottom Depth (m)	15	17	14	19	14	39	38	36	38	31	26
Bottom Temperature (^{o}C)	10.4	7.2	12.3	3.9	9.9	1.4	1.3	0.7	2	0.6	2.4
Red King Crab											
Immature males	149	587	0	0	0	0	0	0	0	0	376
Mature males	0	147	0	78	0	0	0	0	0	0	0
Legal	0	73	0	78	0	0	0	0	0	0	0
Immature females	74	0	0	78	0	0	0	0	0	0	75
Mature females	372	0	0	0	79	0	0	0	0	0	75
Total weight (kg)	2.37	2.33	0.00	1.24	0.58	0.00	0.00	0.00	0.00	0.00	0.75
Blue King Crab											
Immature males	0	0	0	0	0	0	0	897	0	0	75
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	245	0	0	150
Mature females	0	0	0	0	0	0	0	0	161	246	376
Total weight (kg)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.23	1.30	1.03	4.31
Bairdi 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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Opilio Tanner Crab											
Immature males	0	8,292	0	0	0	26,376	39,722	76,344	105,079	98,403	376
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
Preferred	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	4,990	0	0	0	16,139	33,634	64,191	55,512	24,314	75
Mature females	0	0	0	0	0	75	0	653	1,125	164	0
Total weight (kg)	0.00	1.11	0.00	0.00	0.00	10.72	17.95	42.35	31.20	19.94	0.04
Hybrid 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
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Appendix B. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 northern extension of the National Marine Fisheries Service eastern Bering Sea bottom trawl survey.

Station	DD-18	DD-19	DD-20	EE-01	EE-02	EE-18	EE-19	FF-01	FF-02	R-01	R-02
Start Date	08/01/2010	08/01/2010	08/01/2010	08/03/2010	08/02/2010	08/01/2010	08/01/2010	08/02/2010	08/02/2010	07/23/2010	07/24/2010
Duration (hour)	0.53	0.51	0.53	0.5	0.51	0.54	0.54	0.28	0.52	0.47	0.48
Distance Fished (km)	2.92	2.73	2.9	2.66	2.92	2.87	3.01	1.5	2.81	2.63	2.77
Mid-Latitude (^{o}N)	64.65	64.67	64.63	65	65.02	65.02	65.01	65.33	65.32	60.67	60.67
Mid-Longitude (^{o}W)	-169.16	-169.89	-170.6	-168.35	-167.63	-169.13	-169.91	-168.42	-167.92	-168	-167.33
Bottom Depth (m)	42	46	47	45	33	48	49	53	38	28	24
Bottom Temperature (^{o}C)	1.9	1.8	2.3	2.5	3.2	2.3	2	2	2.2	4.7	5.8
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Blue King Crab											
Immature males	71	0	0	0	151	0	70	0	73	0	0
Mature males	0	0	0	79	226	0	0	130	0	0	0
Legal	0	0	0	0	75	0	0	0	0	0	0
Immature females	0	78	0	0	0	0	70	130	0	0	0
Mature females	71	0	72	0	75	0	139	260	0	0	0
Total weight (kg)	1.49	0.26	0.59	1.03	5.24	0.00	2.23	2.50	0.51	0.00	0.00
Bairdi 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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Opilio Tanner Crab											
Immature males	175,029	315,142	872,846	34,274	4,678	125,496	188,061	8,849	20,501	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
Preferred	0	0	0	0	0	0	0	0	0	0	0
Immature females	109,039	154,775	812,167	18,002	1,056	79,607	85,957	1,171	6,543	0	0
Mature females	2,337	7,067	15,297	2,280	0	3,651	18,235	2,082	0	0	0
Total weight (kg)	62.04	104.19	425.05	15.56	0.94	64.05	96.49	3.15	4.12	0.00	0.00
Hybrid 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
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Appendix B. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 northern extension of the National Marine Fisheries Service eastern Bering Sea bottom trawl survey.

Station	R-03	R-18	R-19	R-20	R-21	S-01	S-02	S-03	S-18	S-19	S-20
Start Date	08/08/2010	07/30/2010	08/02/2010	08/02/2010	08/02/2010	07/24/2010	07/24/2010	08/08/2010	07/30/2010	08/02/2010	08/03/2010
Duration (hour)	0.53	0.5	0.49	0.5	0.51	0.49	0.48	0.54	0.51	0.5	0.5
Distance Fished (km)	3.05	2.75	2.74	2.78	2.83	2.71	2.63	3.05	2.79	2.74	2.77
Mid-Latitude (°N)	60.66	60.67	60.67	60.67	60.67	61.01	61	61	61	61	60.99
Mid-Longitude (°W)	-166.67	-168.69	-169.38	-170.06	-170.76	-168.04	-167.35	-166.66	-168.74	-169.42	-170.1
Bottom Depth (m)	21	38	43	50	62	29	23	19	37	42	48
Bottom Temperature (°C)	8.9	0.3	-0.7	-1.3	0.5	5	5.3	10	0.8	-0.7	-1.1
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	85	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	76	0	0	0	0	0	0	0
Total weight (kg)	0.00	0.00	0.00	0.94	0.00	0.00	0.00	0.00	0.00	1.58	0.00
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi 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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Opilio Tanner Crab											
Immature males	0	0	3,656	76,355	81,563	0	0	0	83	63,477	91,645
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
Preferred	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	935	53,678	87,699	0	0	0	83	10,565	101,786
Mature females	0	0	0	11,911	60,121	0	0	0	0	7,185	20,357
Total weight (kg)	0.00	0.00	2.23	70.90	140.93	0.00	0.00	0.00	0.01	62.61	110.58
Hybrid 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
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Appendix B. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 northern extension of the National Marine Fisheries Service eastern Bering Sea bottom trawl survey.

Station	S-21	T-01	T-02	T-03	T-18	T-19	T-20	T-21	T-22	T-23	T-24
Start Date	08/02/2010	07/24/2010	07/25/2010	08/08/2010	07/30/2010	08/01/2010	08/03/2010	08/03/2010	08/03/2010	08/08/2010	08/07/2010
Duration (hour)	0.49	0.49	0.5	0.54	0.5	0.35	0.51	0.5	0.5	0.51	0.5
Distance Fished (km)	2.69	2.65	2.8	2.99	2.74	1.96	2.81	2.78	2.73	2.81	2.71
Mid-Latitude (°N)	61	61.34	61.33	61.35	61.33	61.34	61.34	61.34	61.34	61.33	61.34
Mid-Longitude (°W)	-170.82	-168.07	-167.37	-166.88	-168.77	-169.46	-170.11	-170.8	-171.5	-172.15	-172.9
Bottom Depth (m)	54	28	25	20	34	41	47	41	55	61	68
Bottom Temperature (°C)	-1.3	2.9	5.2	9.2	0.4	-0.7	-1.2	1	-1.1	-1.3	-1.4
Red King Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	0	167	0	0	0	0	0	0	0	0	0
Legal	0	167	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)	0.00	3.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi 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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Opilio Tanner Crab											
Immature males	78,420	0	0	75	418	196,469	141,976	615,885	22,654	63,025	74,763
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
Preferred	0	0	0	0	0	0	0	0	0	0	0
Immature females	103,709	0	0	0	502	119,835	116,608	568,848	25,035	99,040	115,364
Mature females	15,317	0	0	0	0	13,148	14,037	52,158	2,958	28,306	23,679
Total weight (kg)	103.81	0.00	0.00	0.04	0.13	96.32	144.36	550.60	23.27	117.31	113.48
Hybrid 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
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Appendix B. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 northern extension of the National Marine Fisheries Service eastern Bering Sea bottom trawl survey.

Station	U-01	U-02	U-03	U-18	U-19	U-20	U-21	U-22	U-23	U-24	V-01
Start Date	07/25/2010	07/25/2010	08/08/2010	07/31/2010	08/01/2010	08/07/2010	08/04/2010	08/03/2010	08/08/2010	08/07/2010	07/25/2010
Duration (hour)	0.51	0.51	0.54	0.5	0.49	0.52	0.51	0.49	0.51	0.5	0.52
Distance Fished (km)	2.76	2.78	3.08	2.74	2.73	2.91	2.81	2.7	2.78	2.71	2.84
Mid-Latitude (^{o}N)	61.66	61.66	61.65	61.67	61.66	61.67	61.67	61.67	61.67	61.67	62
Mid-Longitude (^{o}W)	-168.1	-167.39	-166.73	-168.8	-169.5	-170.18	-170.87	-171.55	-172.29	-173.09	-168.13
Bottom Depth (m)	29	24	20	37	42	46	50	55	60	65	28
Bottom Temperature (^{o}C)	0.9	4.8	9	-0.2	-1	-1.2	-1.1	-1.2	-1.2	-1.3	0.6
Red King Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	0	80	0	0	0	0	0	0	0	0	0
Legal	0	80	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)	0.00	1.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi 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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Opilio Tanner Crab											
Immature males	242	80	2,693	123,103	127,433	139,673	216,070	117,903	108,169	138,018	774
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
Preferred	0	0	0	0	0	0	0	0	0	0	0
Immature females	808	80	1,347	75,797	96,143	130,330	236,361	145,923	242,103	270,494	697
Mature females	81	0	0	3,763	4,795	2,679	10,938	7,871	12,718	25,497	0
Total weight (kg)	0.16	0.02	1.53	70.04	84.58	126.62	185.65	104.92	175.01	213.51	0.30
Hybrid 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
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Appendix B. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 northern extension of the National Marine Fisheries Service eastern Bering Sea bottom trawl survey.

Station	V-02	V-03	V-18	V-19	V-20	V-21	V-22	V-23	V-24	W-01	W-02
Start Date	07/26/2010	08/10/2010	07/31/2010	08/01/2010	08/07/2010	08/04/2010	08/04/2010	08/04/2010	08/07/2010	07/26/2010	07/26/2010
Duration (hour)	0.49	0.51	0.5	0.48	0.52	0.5	0.5	0.49	0.52	0.5	0.49
Distance Fished (km)	2.7	2.81	2.78	2.7	2.91	2.78	2.77	2.71	2.79	2.76	2.69
Mid-Latitude (^{o}N)	62	62.01	62	62	62	62	62	61.99	62	62.33	62.34
Mid-Longitude (^{o}W)	-167.41	-166.7	-168.84	-169.55	-170.26	-170.97	-171.67	-172.37	-173.04	-168.15	-167.44
Bottom Depth (m)	25	21	37	42	47	49	52	56	58	29	25
Bottom Temperature (^{o}C)	2.8	8.7	-0.7	-1.1	-1	-1	-1.2	-1.2	-1.4	-0.3	0.8
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi 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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Opilio Tanner Crab											
Immature males	0	0	25,271	289,116	98,600	162,044	320,779	105,691	252,602	79	83
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
Preferred	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	5,897	269,721	72,916	175,783	336,930	159,548	356,943	79	83
Mature females	0	0	927	2,175	8,267	13,739	16,151	2,802	20,238	0	0
Total weight (kg)	0.00	0.00	13.10	146.03	89.76	126.27	232.77	80.12	196.96	0.00	0.04
Hybrid 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
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Appendix B. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 northern extension of the National Marine Fisheries Service eastern Bering Sea bottom trawl survey.

Station	W-03	W-18	W-19	W-20	W-21	W-22	W-23	W-24	W-25	W-26	W-27
Start Date	08/10/2010	07/31/2010	08/01/2010	08/07/2010	08/06/2010	08/05/2010	08/04/2010	08/07/2010	08/05/2010	08/05/2010	08/04/2010
Duration (hour)	0.54	0.5	0.5	0.51	0.53	0.52	0.5	0.52	0.51	0.5	0.51
Distance Fished (km)	3.14	2.78	2.73	2.8	2.93	2.9	2.75	2.87	2.77	2.77	2.75
Mid-Latitude (°N)	62.33	62.33	62.34	62.34	62.34	62.34	62.33	62.33	62.33	62.33	62.32
Mid-Longitude (°W)	-166.72	-168.87	-169.6	-170.28	-171.03	-171.75	-172.39	-173.15	-173.84	-174.56	-175.27
Bottom Depth (m)	21	35	37	40	43	47	54	58	63	70	78
Bottom Temperature (°C)	8.7	-0.9	-0.8	-0.9	-0.8	-0.9	-1.2	-1.5	-1.5	-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	141	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	1.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi 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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Opilio Tanner Crab											
Immature males	0	123,469	23,853	5,755	72,117	396,705	107,185	278,298	321,468	421,624	158,166
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
Preferred	0	0	0	0	0	0	0	0	0	0	0
Immature females	0	58,522	4,620	2,915	45,741	411,573	92,059	191,043	252,654	375,487	192,197
Mature females	0	9,377	1,176	374	1,111	0	0	7,957	56,137	96,585	5,065
Total weight (kg)	0.00	75.29	16.06	1.88	25.94	106.77	48.99	133.25	250.23	433.98	174.18
Hybrid 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
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Appendix B. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 northern extension of the National Marine Fisheries Service eastern Bering Sea bottom trawl survey.

Station	X-01	X-02	X-03	X-18	X-19	X-20	X-21	X-22	X-23	X-24	X-25
Start Date	07/26/2010	07/26/2010	08/10/2010	07/31/2010	08/01/2010	08/06/2010	08/06/2010	08/05/2010	08/06/2010	08/07/2010	08/05/2010
Duration (hour)	0.51	0.51	0.51	0.5	0.5	0.53	0.53	0.51	0.5	0.51	0.5
Distance Fished (km)	2.87	2.87	2.75	2.8	2.74	3.01	2.94	2.85	2.73	2.72	2.71
Mid-Latitude (°N)	62.66	62.66	62.67	62.67	62.67	62.67	62.67	62.67	62.67	62.67	62.67
Mid-Longitude (°W)	-168.19	-167.47	-166.74	-168.9	-169.6	-170.37	-171.09	-171.81	-172.46	-173.18	-173.91
Bottom Depth (m)	33	27	26	37	40	43	45	49	53	63	69
Bottom Temperature (°C)	-0.1	1.3	6.8	-0.6	1.5	-1.1	-0.9	-1	-1.2	-1.6	-1.6
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi 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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Opilio Tanner Crab											
Immature males	311	12,089	328	218,564	380,595	7,976	77,634	193,099	196,331	424,886	591,792
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
Preferred	0	0	0	0	0	0	0	0	0	0	0
Immature females	155	5,647	82	256,438	295,049	3,741	56,058	177,195	107,735	306,560	712,086
Mature females	78	557	0	1,819	32,038	0	0	2,252	2,542	24,053	33,919
Total weight (kg)	0.24	5.87	0.02	140.52	170.01	1.39	15.51	68.43	91.07	306.06	524.57
Hybrid 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
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Appendix B. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 northern extension of the National Marine Fisheries Service eastern Bering Sea bottom trawl survey.

Station	X-26	Y-01	Y-02	Y-03	Y-04	Y-18	Y-20	Y-21	Y-22	Y-23	Y-24
Start Date	08/05/2010	07/27/2010	07/27/2010	08/05/2010	08/05/2010	07/31/2010	08/06/2010	08/06/2010	08/05/2010	08/06/2010	08/06/2010
Duration (hour)	0.5	0.51	0.5	0.51	0.53	0.51	0.53	0.52	0.51	0.51	0.69
Distance Fished (km)	2.68	2.82	2.75	2.8	3.04	2.87	3	2.94	2.84	2.83	3.76
Mid-Latitude (^{o}N)	62.67	63	63	63	62.99	62.93	62.95	63	62.99	63	63
Mid-Longitude (^{o}W)	-174.64	-168.22	-167.48	-166.76	-166.03	-169	-170.48	-171.13	-171.8	-172.61	-173.23
Bottom Depth (m)	73	39	34	28	21	29	42	47	53	60	68
Bottom Temperature (^{o}C)	-1.5	0.7	1.2	4.2	7.9	0.9	-0.8	-0.9	-1.4	-1.2	-0.9
Red King Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	0
Mature males	0	0	0	0	143	0	0	0	0	0	0
Legal	0	0	0	0	71	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)	0.00	0.00	0.00	0.00	2.34	0.00	0.00	0.00	0.00	0.00	0.00
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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bairdi 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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Opilio Tanner Crab											
Immature males	1,127,975	189,647	5,220	229	0	5,677	31,608	330,686	472,704	319,100	885,848
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
Preferred	0	0	0	0	0	0	0	0	0	0	0
Immature females	1,039,873	151,425	2,380	382	0	4,717	29,496	233,752	382,689	263,027	734,848
Mature females	19,253	8,075	230	0	0	160	0	0	0	11,974	58,009
Total weight (kg)	780.38	102.20	1.58	0.04	0.00	3.29	12.74	59.92	150.45	196.32	875.94
Hybrid Tanner Crab											
Immature males	0	0	0	0	0	0	0	0	0	0	2,687
Mature males	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)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.62

Appendix B. Tow details, crab density (number/nmi^2), and catch weight at successful stations on the 2010 northern extension of the National Marine Fisheries Service eastern Bering Sea bottom trawl survey.

Station	Y-25	ZZ-01	ZZ-02	ZZ-03	ZZ-04	ZZ-05	ZZ-21	ZZ-22	ZZ-23	ZZ-24
Start Date	08/05/2010	07/27/2010	07/27/2010	08/04/2010	08/05/2010	08/05/2010	08/05/2010	08/05/2010	08/06/2010	08/06/2010
Duration (hour)	0.51	0.52	0.51	0.51	0.52	0.49	0.24	0.21	0.51	0.5
Distance Fished (km)	2.75	2.76	2.84	2.82	2.73	2.93	1.33	1.2	2.77	2.73
Mid-Latitude (^{o}N)	62.99	63.33	63.33	63.35	63.34	63.34	63.28	63.31	63.33	63.34
Mid-Longitude (^{o}W)	-174	-168.24	-167.51	-166.77	-166.03	-165.3	-171.15	-171.98	-172.69	-173.41
Bottom Depth (m)	74	27	33	27	24	15	33	61	63	70
Bottom Temperature (^{o}C)	-1.6	0.5	0.6	2.9	3	7.5	-0.1	0.1	0.2	-0.2
Red King Crab										
Immature males	0	0	0	0	0	0	0	0	0	0
Mature males	0	0	0	0	0	0	0	0	0	0
Legal	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	0	0	72	0	0	0	0
Total weight (kg)	0.00	0.00	0.00	0.00	0.00	0.44	0.00	0.00	0.00	0.00
Blue King Crab										
Immature males	64	0	0	0	0	0	0	0	0	0
Mature males	0	81	0	0	0	0	0	0	0	0
Legal	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	148
Mature females	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0.51	1.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52
Bairdi Tanner Crab										
Immature males	0	0	0	0	0	0	0	0	0	0
Mature males	0	0	0	0	0	0	0	0	0	0
Legal	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Opilio Tanner Crab										
Immature males	479,338	212,707	285,799	700	161	0	3,250	24,031	228,008	223,979
Mature males	0	0	0	0	0	0	0	0	0	0
Legal	0	0	0	0	0	0	0	0	0	0
Preferred	0	0	0	0	0	0	0	0	0	0
Immature females	496,429	98,754	171,510	700	241	0	1,463	10,772	299,503	294,075
Mature females	82,760	2,520	6,230	0	0	0	0	497	26,062	47,076
Total weight (kg)	466.51	82.87	130.48	0.17	0.02	0.00	0.40	3.55	184.84	278.93
Hybrid Tanner Crab										
Immature males	0	0	0	0	0	0	0	0	0	0
Mature males	0	0	0	0	0	0	0	0	0	0
Immature females	0	0	0	0	0	0	0	0	0	0
Mature females	0	0	0	0	0	0	0	0	0	0
Total weight (kg)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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