

Fishery Management Report No. 21-05

**Large-Mesh Bottom Trawl Survey of Crab and
Groundfish: Kodiak, Chignik, South Peninsula, and
Eastern Aleutian Management Districts, 2020**

by

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and

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Alaska Department of Fish and Game

Divisions of Sport Fish and Commercial Fisheries



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Weights and measures (metric)		General		Mathematics, statistics	
centimeter	cm	Alaska Administrative Code	AAC	<i>all standard mathematical signs, symbols and abbreviations</i>	
deciliter	dL	all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.	alternate hypothesis	H_A
gram	g			base of natural logarithm	e
hectare	ha	all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.	catch per unit effort	CPUE
kilogram	kg	at	@	coefficient of variation	CV
kilometer	km	compass directions:		common test statistics	(F, t, χ^2 , etc.)
liter	L	east	E	confidence interval	CI
meter	m	north	N	correlation coefficient (multiple)	R
milliliter	mL	south	S	correlation coefficient (simple)	r
millimeter	mm	west	W	covariance	cov
		copyright	©	degree (angular)	°
		corporate suffixes:		degrees of freedom	df
		Company	Co.	expected value	E
Weights and measures (English)		Corporation	Corp.	greater than	>
cubic feet per second	ft ³ /s	Incorporated	Inc.	greater than or equal to	≥
foot	ft	Limited	Ltd.	harvest per unit effort	HPUE
gallon	gal	District of Columbia	D.C.	less than	<
inch	in	et alii (and others)	et al.	less than or equal to	≤
mile	mi	et cetera (and so forth)	etc.	logarithm (natural)	ln
nautical mile	nmi	exempli gratia (for example)	e.g.	logarithm (base 10)	log
ounce	oz	Federal Information Code	FIC	logarithm (specify base)	log ₂ , etc.
pound	lb	id est (that is)	i.e.	minute (angular)	'
quart	qt	latitude or longitude	lat or long	not significant	NS
yard	yd	monetary symbols (U.S.)	\$, ¢	null hypothesis	H_0
		months (tables and figures): first three letters	Jan, ..., Dec	percent	%
Time and temperature		registered trademark	®	probability	P
day	d	trademark	™	probability of a type I error (rejection of the null hypothesis when true)	α
degrees Celsius	°C	United States (adjective)	U.S.	probability of a type II error (acceptance of the null hypothesis when false)	β
degrees Fahrenheit	°F	United States of America (noun)	USA	second (angular)	"
degrees kelvin	K	U.S.C.	United States Code	standard deviation	SD
hour	h	U.S. state	use two-letter abbreviations (e.g., AK, WA)	standard error	SE
minute	min			variance	
second	s			population sample	Var var
Physics and chemistry					
all atomic symbols					
alternating current	AC				
ampere	A				
calorie	cal				
direct current	DC				
hertz	Hz				
horsepower	hp				
hydrogen ion activity (negative log of)	pH				
parts per million	ppm				
parts per thousand	ppt, ‰				
volts	V				
watts	W				

FISHERY MANAGEMENT REPORT NO. 21-05

**LARGE-MESH BOTTOM TRAWL SURVEY OF CRAB AND
GROUNDFISH: KODIAK, CHIGNIK, SOUTH PENINSULA, AND
EASTERN ALEUTIAN MANAGEMENT DISTRICTS, 2020**

by
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ABSTRACT

This report summarizes results from the large-mesh bottom trawl survey that took place June through September 2020 to assess crab and groundfish resources in the Kodiak, Chignik, and South Peninsula Tanner crab *Chionoecetes bairdi* management districts. A total of 348 trawl hauls were conducted to assess relative abundance and condition of commercially important crabs, as well as spatial distribution, species composition, size frequency, and catch per unit effort of commercially important groundfish. Survey estimates indicated that mature and legal male Tanner crab abundances were not sufficient to support commercial fisheries in the districts. Red king crab *Paralithodes camtschaticus* abundance estimates in each of the surveyed management areas remain too low to consider opening a red king crab commercial fishery. Arrowtooth flounder *Atheresthes stomias*, flathead sole *Hippoglossoides elassodon*, walleye pollock *Gadus chalcogrammus*, and yellowfin sole *Limanda aspera*, were the dominant groundfish captured during the survey.

Keywords: crab, groundfish, *Chionoecetes bairdi*, *Paralithodes camtschaticus*, trawl survey, Kodiak, South Peninsula, Chignik, Eastern Aleutian, *Hippoglossoides elassodon*, *Atheresthes stomias*, *Limanda aspera*, *Gadus chalcogrammus*

INTRODUCTION

The Alaska Department of Fish and Game (ADF&G) conducted a large-mesh bottom trawl survey during 2020 around Kodiak Island and along the Alaska Peninsula from Cape Douglas to False Pass (Figure 1). The survey area corresponds to the Kodiak, Chignik, and South Peninsula Districts of Registration Area J (Westward) for Tanner crab *Chionoecetes bairdi* (5 AAC 35.505¹(a)(b) and (c)); the Kodiak and Alaska Peninsula king crab registration areas (5 AAC 34.400², and 34.500³); the Kodiak and Alaska Peninsula scallop registration areas (5 AAC 38.076⁴(b)(5) and (6)); and the Kodiak, Chignik, and South Alaska Peninsula groundfish registration areas (5 AAC 28.400⁵, 28.500⁶, and 28.550⁷) (Figure 2). Tanner crab management units are districts; king crab, weathervane scallops *Patinopectin caurinus*, and groundfish management units are areas. This report summarizes survey data by district or area, accordingly.

ADF&G began conducting trawl surveys focused on red king crab *Paralithodes camtschaticus* around Kodiak Island in 1963. Early trawl surveys were limited to localized areas known to have concentrations of red king crab (Reynolds and Powell 1964; McMullen 1967a–b; McMullen 1968; Kingsbury and James 1971; Figure 3). Beginning in 1980, bottom trawl surveys to assess Tanner crab were initiated in the North Shelikof Strait of the Kodiak District (Colgate and Hicks 1982); These surveys were not used as the primary crab stock assessment tool. Rather, ADF&G conducted pot surveys from 1973 to 1986 as the primary method to determine crab stock abundance. Pot surveys targeted red king crab; Tanner crab were assessed as a secondary species (Colgate and Hicks 1983). From 1981 through 1986, trawl survey development was focused on Tanner crab assessment and expansion to more locations in the Kodiak, Chignik, and South Peninsula Districts (Colgate and Hicks 1983; Colgate 1984). The first comprehensive large-mesh trawl survey of the Kodiak district occurred in 1987 (Jackson 1990). In 1988, following the collapse of the red king crab stocks, large-mesh trawl surveys replaced pot surveys as the standard Tanner crab stock assessment tool in the Kodiak, Chignik, and South Peninsula Districts (Urban and Vining 1999;

¹ Alaska Administrative Code: *Description of [Tanner crab] Registration Area J Districts [Westward]*

² Alaska Administrative Code: *Description of [king crab] Registration Area K [Kodiak]*

³ Alaska Administrative Code: *Description of [king crab] Registration Area M [Alaska Peninsula]*

⁴ Alaska Administrative Code: *Alaska Scallop Fishery Management Plan*

⁵ Alaska Administrative Code: *Description of Kodiak Area [for groundfish]*

⁶ Alaska Administrative Code: *Description of Chignik Area [for groundfish]*

⁷ Alaska Administrative Code: *Description of South Alaska Peninsula Area [for groundfish]*

Knutson and Spalinger 2020). The Eastern Aleutian District large-mesh bottom trawl survey was added to the regionwide survey program in 1990 and generally continued triennially until 2003. Beginning in 2004, selected locations of the Eastern Aleutian District have been surveyed annually; however, due to scheduling changes associated with the 2020 COVID-19 pandemic, the Eastern Aleutian District was not surveyed in 2020. Since 1988, between 287 and 410 successful hauls have been completed annually in the Kodiak, Chignik, South Peninsula, and Eastern Aleutian Districts (Table 1).

Annual trawl survey results have been used since 1999 to determine if Tanner crab abundance is above regulatory thresholds allowing for commercial fisheries (5 AAC 35.507⁸; Urban et al. 1999; Table 2). When survey results indicate that abundance thresholds are met, Tanner crab guideline harvest levels (GHLs) are primarily determined by estimating the number of molting mature male crab (Appendix A1) as determined by the trawl survey in a district or section and applying a harvest rate based on composition of the male population. Details on the Tanner crab harvest strategy, survey results directly affecting Tanner crab fisheries, and recent fishery information are published annually by ADF&G (Richardson et al. 2020).

Primary objectives of the 2020 crab and groundfish large-mesh bottom trawl survey were to (1) estimate the relative abundance and condition of Tanner and red king crabs; and (2) determine spatial distribution, species composition, length frequency, and catch per unit effort (CPUE) of commercially important groundfish species.

Secondary objectives of the survey were to (1) determine size frequency of weathervane scallops; (2) determine sex composition of skate species (*Raja* spp. and *Bathyraja* spp.); and (3) collect 600 walleye pollock *Gadus chalcogrammus* otoliths and associated biological information for National Marine Fisheries Service (NMFS; Knutson and Spalinger 2020).

Additionally, the following special project was conducted in 2020 (Knutson and Spalinger 2020):

1. Additional tows (9) were conducted on Portlock Bank in NMFS survey stations to supplement the Federal Gulf of Alaska Survey.

Because of personnel reductions and scheduling considerations due to the ongoing COVID-19 pandemic, the following changes to standard sampling procedures were made:

1. The Eastern Aleutian District was not sampled.
2. Chela height measurements from male Tanner crab were not collected.
3. Crab size sampling goals were reduced from 200 males and 200 females to 150 males and 150 females sampled per haul.
4. Fish length sampling goals were reduced from 30–50 measurements to 20–30 measurements per species per haul.

METHODS

SURVEY DESIGN

The 2020 large-mesh bottom trawl survey was conducted in known Tanner crab habitat using a fixed-grid station design developed in 1988. Survey station area totals approximately 15,500 km² at depths greater than 20 fathoms. Station size variation results from irregular coastline topography

⁸ Alaska Administrative Code: Kodiak, Chignik, and South Peninsula Districts *C. bairdi* Tanner crab harvest strategies

and bathymetry. Offshore stations average approximately 74.4 km² each, and inshore stations average approximately 21.7 km² each (Appendix B2; Knutson and Spalinger 2020). In 2020, one successful bottom trawl haul was conducted in each of 348 stations (Figure 1, Appendix C).

VESSEL AND FISHING GEAR

The R/V *Resolution* (28.9 m) has been used to conduct the large-mesh bottom trawl survey since 1988. The R/V *Resolution* is a house-forward stern trawler equipped with an aft net reel, telescoping deck crane, and paired hydraulic trawl winches.

The trawl survey net is a 400-mesh eastern otter trawl designed to sweep a 12.2 m path. The net mouth is constructed with 10.2 cm stretch mesh, the net body with 8.9 cm stretch mesh, and the codend with a 3.2 cm stretch mesh liner. The net has a 21.3 m headrope with 18 floats, each 20.3 cm in diameter. The footrope is 29.0 m long with a 1.0 cm diameter chain attached every 25.4 cm to ensure the footrope contacts bottom. The dandylines are 45.7 m long, each consisting of a 1.5 cm diameter cable that is 18.3 m long and a pair of 1.3 cm diameter cables that are each 27.4 m long; one attached to the top and the other to the bottom of each net wing (Knutson and Spalinger 2020). Astoria “V” type doors weighing 340 kg and measuring 1.5 m × 2.1 m are used to spread the net.

Within each station, the trawl net was towed on bottom at an average speed of 5.0 km/h for a target distance of 1.85 km (1 nmi). Haul distance was determined by Global Positioning System as the distance traveled by the vessel from when the footrope contacted bottom until the footrope left bottom. The vessel captain estimated corrections in distance for hauls that were not straight or when irregular bottom type, net hang ups, or exceptionally large catches caused haul distance to differ from 1.85 km. Haul locations were limited to trawlable substrate as determined from nautical charts and bottom mapping systems on the vessel. All hauls were made during daylight hours. Haul location, distance, time, and depth were recorded on ADF&G skipper trawl record forms. Quality of net performance was rated and a haul was discarded and repeated when the skipper and cruise leader determined the net did not adequately sample the bottom (Knutson and Spalinger 2020). A temperature-depth data logger was attached to the net’s headrope and was approximately 2 m above the sea floor when fishing. Water temperature and depth were recorded in 1-minute intervals for each haul. Only temperatures recorded when the footrope was on bottom were used to determine average water temperature during the haul.

CATCH SAMPLING PROCEDURES

Total catch weight from each haul was determined by weighing the full trawl codend with an electronic crane scale (MSI 9300, Measurement Systems International⁹; ±1.0 kg), emptying the codend into on-deck sorting bins, and subtracting the empty codend weight from the full codend weight. Prior to emptying the trawl catch from the codend, a 1.5 m² subsampling net was tied into the on-deck sorting bin. After emptying the entire catch into the on-deck sorting bin, species selected for sampling from the entire haul (whole-haul) were weighed using a motion compensated electronic scale (Marel 1500; ±0.01 kg), counted, and measured (±1.0 cm) when applicable. The following species were whole-haul sampled: sablefish *Anoplopoma fimbria*, Pacific cod *Gadus macrocephalus*, walleye pollock, Pacific halibut *Hippoglossus stenolepis*, all rockfish *Sebastes* spp. and *Sebastobus* spp., lingcod *Ophiodon elongatus*, Atka mackerel *Pleurogrammus*

⁹ Product names used in this publication are intended for scientific completeness and do not indicate product endorsement.

monopterygus, giant Pacific octopus *Enteroctopus dofleini*, squid *Berryteuthis magister*, Pacific herring *Clupea harengus*, salmon *Onchorhynchus* spp., weathervane scallop, red sea cucumber *Parastichopus californicus*, Bering skate *Bathyraja interrupta*, Aleutian skate *B. aleutica*, Alaska skate *B. parmifera*, longnose skate *Raja rhina*, big skate *R. binoculata*, Dungeness crab *Metacarcinus magister*, Tanner crab, red king crab, snow crab *Chionoecetes opilio*, hair crab *Erimacrus isenbeckii*, box crab *Lopholithodes foraminatus*, spiny dogfish *Squalus acanthius*, Pacific sleeper shark *Somniosus pacificus*, salmon shark *Lamna ditropis*, wolf eel *Anarrichthys ocellatus*, and giant wrymouth *Cryptacanthodes giganteus*. As whole-haul species were removed from the on-deck sorting bin for sampling, the subsampling net was lifted by crane through remaining catch and the resulting subsample was placed on the sorting table for species composition sampling. All species on the sorting table were identified and weighed. Data recorded for subsampled organisms were used post survey to expand results to the entire haul catch. Human-made products, kelp, empty shells, regurgitated fish, rocks, etc. in the subsample were classified as “debris” and weighed.

Length or width measurements were taken from selected shellfish species. Crabs were categorized by sex and shell condition, and measurements were electronically recorded using digital calipers linked to a shellfish measurement database. Tanner crab carapace width (CW) was measured perpendicular to the carapace midline, between the lateral margin spines; however, legal status (meets minimum size requirement to retain in a fishery) was determined by including lateral margin spines. King crab were measured for carapace length (CL) from the right eye socket to the medial-posterior edge of the carapace, whereas legal status was determined by measuring perpendicular to the carapace midline including lateral margin spines. An explanation of the terms used to characterize Tanner and king crabs are presented in Appendix A. Dungeness crab were measured for CW and checked for legal status across the carapace immediately anterior to the 10th anterolateral spine (Knutson and Spalinger 2020).

Tanner, king, and Dungeness crabs were subsampled when each species/sex exceeded 150 individuals per haul. Clutch fullness of mature female Tanner, king, and Dungeness crabs was estimated by examining egg clutch and assigning a fractional clutch size relative to the size of the abdominal flap (Knutson and Spalinger 2020). Embryo development was noted by the presence or absence of eyed eggs. External signs of bitter crab disease, black mat, nemertean worms, and parasitic barnacles were recorded for all measured crabs. When available, shell height measurements for 20 weathervane scallops per haul were collected (Knutson and Spalinger 2020).

Length measurements were taken from selected finfish species. Target sample size was 20 to 30 measurements per species per haul. Measurements were entered directly into a fish measurement database using a magnetic fish measuring board. Commercial finfish species were measured from snout to midpoint of the caudal fin. Sharks were measured from snout to tip of caudal fin. Skates were measured along the dorsal surface from the snout to the anterior notch of the pectoral fin. All sharks and skates were measured and sex determined by the presence or absence of claspers (Knutson and Spalinger 2020).

CPUE, DENSITY, AND ABUNDANCE INDICES

Survey catch data were converted to density estimates for each haul by dividing the number or weight of animals caught in the haul by the area swept with the trawl during the tow. The area swept is the product of the assumed net width of 12.2 m and the haul distance:

$$density = \frac{number\ or\ weight\ of\ animals}{net\ width * haul\ distance}. \quad (1)$$

Relative abundance indices for Tanner and king crabs were derived from trawl survey data using the area swept technique (Alverson and Pereyra 1969). Density estimates were multiplied by the station area (Appendix B2) to estimate station abundance:

$$station\ abundance = density * station\ area. \quad (2)$$

The sum of abundances from stations in a geographic area provides a total abundance index for the area:

$$total\ district\ or\ section\ abundance = \sum station\ abundance. \quad (3)$$

In addition to crab relative abundance indices, a commonly used measure in this report is CPUE, which is standardized to kg or number caught per km towed, allowing for comparisons between hauls:

$$CPUE = \frac{number\ or\ weight\ of\ animals}{distance\ towed}. \quad (4)$$

RESULTS AND DISCUSSION

Detailed haul data are in Appendix B1 and include date, station, start position, heading, average depth, distance fished, and bottom temperature.

KODIAK

In the Northeast, Eastside, and Southeast Sections of the Kodiak Tanner crab District, 86 hauls were successfully completed between June 13 and June 24 (haul numbers 1–86). Haul locations are shown in Appendices C1–C7. In the Northeast, Southwest, Westside, and North Mainland Sections, 124 hauls were successfully completed between August 5 and August 26 (haul numbers 225–257 and 267–357). The total area of the surveyed sections used to determine abundance estimates for the district in 2020 was 8,085.8 km² (Appendix B2).

Throughout the Kodiak District, 148 species were identified and weighed. A total of 27,092 size measurements were collected from 4 invertebrate species and 29,648 length measurements were collected from 42 fish species.

Catch Composition

The CPUE of all species from Kodiak sample hauls was 564 kg per km towed. Arrowtooth flounder *Atheresthes stomias* was the dominant species caught by weight (20.8%), followed by flathead sole *Hippoglossoides elassodon* (19.2%), Tanner crab (12.2%), walleye pollock (9.0%), and Pacific ocean perch (3.3%; Table 3). Arrowtooth flounder, flathead sole, walleye pollock, and Tanner crab were the 4 most abundant species captured by weight in previous years (2016–2019; Figure 4), with the exception of 2016 when walleye pollock was the 6th most abundant by weight.

Tanner Crab

The 2020 Kodiak District survey captured 57,892 male Tanner crab and 26,966 female Tanner crab. Tanner crab were caught in 97% of all hauls, with catches ranging from 0 to 2,790 crab

per km towed, with the highest CPUE at station 510D in Upper Barnabas Gully within the Eastside Section (Figure 5). Total Tanner crab CPUE was 242 crab per km towed.

Tanner crab abundance estimates for each station were summed by management section (Appendix D1). The total 2020 Kodiak District surveyed Tanner crab abundance was estimated at 108.3 million crab, a decrease from 223.4 million crab estimated in 2019 but still among the top 10 largest estimates in survey record. Abundance estimates for adult females and males 92–114 mm CW were the largest in survey record. The largest decreases were observed among males <70 mm CW, males 70–91 mm CW, and juvenile females (Table 4).

The 2020 estimated abundance of legal-sized male Tanner crab was 1.2 million crab, similar to the 2019 estimate of 1.1 million (Table 4). In 2020, the abundance estimate of 0.5 million legal-sized male crab in the Southeast Section was the largest in the district, while the Northeast and North Mainland sections had the smallest estimated abundances of legal males.

Trawl survey results indicated that mature male Tanner crab abundance in the Eastside, Southeast, and Southwest Sections met minimum regulatory thresholds for consideration of a commercial fishery in 2021; however, regulatory harvest level requirements were not met, so the fishery remained closed. Mature male Tanner crab abundance estimates for the Northeast, Westside, and North Mainland Sections were below thresholds needed for commercial seasons (Table 2).

Male Tanner crab had a mean size of 100.6 mm CW and females had a mean size of 82.3 mm CW. A large proportion of male crab were between 75 mm CW and 135 mm CW, while female crab were between 65 mm CW and 100 mm CW (Figure 6). The percent of male crab that were considered mature was 23.3%, up from 6.2% in 2019 (Figure 7, Table 5). In the Eastside, Southeast, Southwest, and Westside Sections most male crab were greater than 85 mm. The Southwest and Westside Sections had larger proportions of male crab in old shell condition than the Eastside and Southwest Sections. Male crab in the Northeast and North Mainland Sections were more evenly distributed in size (Figures 8 and 9). Soft/new pliable shell and new shell crab composed 92.7% (53,645 crab) of the total male Tanner crab captured in the Kodiak District (Table 5).

Mature female Tanner crab had a mean size of 86.6 mm CW. A total of 7,060 mature female crab were measured and clutch information was determined. Multiparous crab accounted for 44.8% (3,161 crab) of mature females, up from 36.1% in 2019 (Spalinger and Knutson 2020). Only 59 mature females examined did not produce an egg clutch and 71.9% (5,078 crab) of mature females had an egg clutch greater than half full (Figure 10). This was greater than 2019 when 49.0% of mature females sampled had egg clutches that were more than half full (Spalinger and Knutson 2020). Average clutch fullness in 2020 increased from 2019 (Figure 11).

Red King Crab

Red king crab were caught in 9.0% of Kodiak Area hauls totaling 147 males and 29 females. King crab catch ranged from 0 to 44 crab per haul, with 87.5% of king crab caught inside Alitak Bay (Figure 12).

Red king crab abundance estimates were derived for 4 districts of the Kodiak Registration Area by size and sex categories (Table 6). The 2020 Kodiak red king crab abundance was estimated at 121,284 crab, which was less than the estimated 300,464 crab in 2019, and the lowest estimate since 2009. The largest decreases were observed among mature females and legal males (Table 6).

The total estimated abundance of legal males decreased from 162,349 crab in 2019 to 94,164 crab in 2020 and represented 93.6% of the total male abundance.

Mean king crab size was 165.7 mm CL for males and 139.7 mm CL for females (Figures 13 and 14). The majority of female king crab were mature and the majority of males were legal (Table 6). During the 2020 Kodiak Area survey, 64.0% (16) of all mature females examined had an egg clutch that was more than half full (Figure 15), higher than 2019 (34.5%; Spalinger and Knutson 2020).

CHIGNIK

In the Chignik Tanner crab district, 45 hauls were successfully completed from June 26 through July 2 (haul numbers 87–131; Appendices C8–C9). The total area used to determine abundance estimates for the district in 2020 was 1,338.5 km² (Appendix B2).

Throughout the Chignik District, 90 species were identified and weighed. A total of 8,949 size measurements were collected from 4 invertebrate species and 4,940 length measurements were collected from 26 fish species.

Catch Composition

The CPUE of all species from Chignik sample hauls was 354 kg per km towed. Arrowtooth flounder (32.8%), flathead sole (21.1%), and Tanner crab (11.8%) were the dominant species caught by weight, followed by walleye pollock (7.1%) and Pacific halibut (6.9%; Table 7). With the exception of Tanner crab in 2017, these species have been among the top 10 species in recent surveys (Spalinger 2016, 2017; Spalinger and Knutson 2018–2020; Figure 4).

Tanner Crab

The 2020 Chignik District bottom trawl survey captured 8,171 male Tanner crab and 4,607 female Tanner crab. Tanner crab were caught in all hauls, with catches ranging from 4 to 1,189 crab per km towed. Station 4270 in Castle Bay had the highest CPUE of Tanner crab (Figure 16). Total Tanner crab CPUE was 162 crab per km towed.

Abundance estimates for Tanner crab in each station were summed by surveyed locale (Appendix D2). The total 2020 Chignik District Tanner crab abundance was estimated at 17.1 million crab, a decrease from 33.9 million crab in 2019 but still among the 10 highest abundance estimates in survey history (Table 8). Juvenile female crab and male crab 70–91 mm CW showed the largest decreases from recent years while estimates of male crab 92–114 mm and sublegal males >114 mm increased. The estimated abundance of legal-sized male Tanner crab in 2020 decreased to 86,880 crab from 110,812 crab in 2019 (Table 8, Figure 17). Estimated mature male abundance was above the threshold needed for consideration of a commercial fishery in 2021 (Table 2); however, regulatory harvest level requirements were not met, so the fishery remained closed.

The mean Chignik District Tanner crab CW was 92.9 mm for males and 76.9 mm for females. A large proportion of male crab were between 75 mm CW and 135 mm CW, while female crab were between 65 mm CW and 105 mm CW (Figure 6). Juvenile males with soft/new pliable or new shell conditions accounted for 75.0% (6,127 crab) of all male Tanner crab captured in the district (Table 5) compared to 91.5% in 2019 (Spalinger and Knutson 2020), and the number of percentage of mature males increased to 21.0% overall. Mitrofanina had the highest number of new shell male crab, which were predominantly >75 mm CW (Figures 18 and 19).

Mature female Tanner crab had a mean size of 86.4 mm CW. A total of 2,245 mature females were measured and clutch information recorded. Multiparous females accounted for 49.3% (1,107 crab) of mature female Tanner crab examined in 2020 compared to 11.2% in 2019 (Spalinger and Knutson 2020). Egg clutches that were more than half full were found in 78.9% (1,772 crab) of mature females examined (Figure 20). Average clutch fullness in 2020 increased from 2019 (Figure 21).

SOUTH PENINSULA

In the South Peninsula Tanner crab District, 93 hauls were successfully completed from July 3 through July 17 (haul numbers 132–224; Appendices C9–C12). The total area used to determine abundance estimates for the district in 2020 was 2,929.4 km² (Appendix B2).

Throughout the South Peninsula District, 113 species were identified and weighed. A total of 17,718 size measurements were collected from 4 invertebrate species and 11,030 length measurements were collected from 29 fish species.

Catch Composition

The CPUE of all species from South Peninsula sample hauls was 688 kg per km towed. Flathead sole (21.0%), arrowtooth flounder (17.5%), yellowfin sole (14.4%), and walleye pollock (11.8%) were the dominant species caught by weight, followed by Tanner crab (11.7%) and starry flounder (2.8%; Table 9). These species, with the exception of starry flounder, have been among the top 10 species in recent surveys (Spalinger 2016, 2017; Spalinger and Knutson 2018, 2019, 2020; Figure 4).

Tanner Crab

The 2020 South Peninsula District survey caught 31,213 male Tanner crab and 22,331 female Tanner crab. Tanner crab were caught in 97% of all hauls, with catches ranging from 0 to 8,494 crab per km towed, with the highest CPUE at station BEE just outside of Belkofski Bay, in the Western Section (Figure 16). Total Tanner crab CPUE was 355 crab per km towed.

Tanner crab abundance estimates for each station were summed by surveyed locale and management section (Appendix D3). The total 2020 Tanner crab abundance in the surveyed portion of the South Peninsula District was estimated at 64.8 million crab, an decrease from 66.2 million crab in 2019, and the 5th highest estimate in survey history (Table 10). In 2020, the largest decreases in Tanner crab abundance were observed among juvenile females and male crab <70 mm CW. Adult female crab and male crab 92–114 mm CW showed the largest increases from recent years (Table 10, Figure 22). Estimated abundance of legal-sized male Tanner crab decreased to 0.2 million crab in 2020 from 0.4 million crab in 2019 due to decreases in the number of postrecruit males. The abundance estimate of mature male Tanner crab in the Eastern Section was below the threshold needed for a commercial season in 2021. Estimated mature male abundance was above the threshold needed for consideration of a commercial fishery in the Western Section in 2021 (Table 2); however, regulatory harvest level requirements were not met, so the fishery remained closed.

Male Tanner crab in the South Peninsula District had a mean size of 91.7 mm CW and females had a mean size of 80.7 mm CW. A large proportion of male crab were between 85 mm CW and 120 mm CW, while female crab were between 65 mm CW and 105 mm CW (Figure 6). Soft/new pliable shell and new shell crab composed 93.8% (29,264 crab) of the total male Tanner crab

captured in the District with most of those found around Cold Bay/Belkofski Bay and Pavlof Bay/Volcano Bay (Table 5, Figures 23 and 24).

Mature female Tanner crab had a mean size of 89.3 mm CW. A total of 3,533 mature female Tanner crab were measured and clutch information determined. Multiparous females in the South Peninsula District accounted for 32.5% (1,149 crab) of mature female Tanner crab examined in 2020 compared to 20.9% in 2019 (Spalinger and Knutson 2020). Egg clutches that were more than half full were found in 63.9% (2,257 crab) of mature female Tanner crab examined (Figure 25). Average clutch fullness in 2020 increased from 2019 (Figure 26).

Red King Crab

The Alaska Peninsula king crab management area consists of waters west of Cape Kumlik and east of Scotch Cap Light (5 AAC 34.500), approximately corresponding to the South Peninsula and Chignik Tanner crab management district boundaries (Figure 2). The 2020 abundance estimate was 198,405 crab, which was similar to 172,741 crab estimated in 2019 (Table 6). A total of 98 male and 91 female red king crab were captured in the Alaska Peninsula Area, most of which were from Pavlof Bay (Figure 12). Male king crab mean carapace length was 179.1 mm and female red king crab mean carapace length was 131.0 mm. Most female king crab examined were mature (90.1%; 82 crab). The patchy catches of king crab in the sampling areas may not accurately reflect changing abundance.

WEATHERVANE SCALLOPS

Weathervane scallops accounted for 0.4% of total animal weight from all areas surveyed in 2020. Total CPUE was 2.5 kg per km towed, which is below the 1988–2019 CPUE of 3.0 kg per km towed (Figure 27). The highest catch of 58.2 kg per km towed was at station 683B on Alitak Flats, and overall, the Kodiak Area had the highest total weathervane scallop CPUE at 3.6 kg per km towed. Ninety-two percent of all weathervane scallops caught were located in the Kodiak Area (Figure 28).

A total of 5,045 scallops were caught in 2020 and averaged 138.4 mm in shell height (Figure 29). This was an decrease from 140.4 mm in 2019, and below the average height since 2001 (Figure 30).

ARROWTOOTH FLOUNDER

Arrowtooth flounder accounted for 20.8% of total animal weight from all areas surveyed in 2020. Total CPUE was 115.4 kg per km towed, which is below the 1988–2019 CPUE of 164.3 kg per km towed (Figure 31). The highest catch of 714.2 kg per km towed was at station 353 in Nagai Strait, and overall, the South Peninsula Area had the highest total CPUE at 118.2 kg per km towed (Figure 32).

A total of 126,668 arrowtooth flounder were caught in 2020, and averaged 35.9 cm in length (Figure 33). This was an increase from 34.0 cm in 2019 and below the average survey length since 2001 (Figure 34).

FLATHEAD SOLE

Of all species captured in 2020, flathead sole accounted for 19.9% of animal weight. Total CPUE was 110.8 kg per km towed, which is below the 1988–2019 CPUE of 134.1 kg per km towed (Figure 35). The highest catch of 863.8 kg per km was at station KUW in Uganik Bay in the Kodiak

Area, but overall, the South Peninsula Area had the highest total CPUE at 142.0 kg per km towed (Figure 36).

A total of 247,801 flathead sole were caught in 2020 and averaged 28.6 cm in length (Figure 37), which was similar to from 28.7 cm in 2019 and below the average length since 2001 (Figure 38).

WALLEYE POLLOCK

Walleye pollock accounted for 9.7% of total animal weight from all areas surveyed in 2020. Total CPUE was 54.0 kg per km towed, which is close to half of the 1988–2019 CPUE of 105.8 kg per km towed (Figure 39). The highest catch of 827.44 kg per km towed was at station 311A in Unga Strait, and overall the South Alaska Peninsula Area had the highest total CPUE at 79.5 kg per km towed (Figure 40).

A total of 35,712 walleye pollock were caught in 2020, and averaged 46.7 cm in length (Figure 41). This was similar to 46.3 cm in 2019 and below the average length since 2001 (Figure 42).

PACIFIC HALIBUT

Pacific halibut accounted for 3.0% of total animal weight from all areas surveyed in 2020. Total CPUE was 16.8 kg per km towed, which is lower than the 1988–2019 CPUE of 21.0 kg per km towed (Figure 43). The highest catch of 128.8 kg per km towed was at station 171D in Kukak Bay in the Kodiak Area, but overall, the Chignik Area had the highest total CPUE of 23.6 kg per km towed (Figure 44).

A total of 2,226 Pacific halibut were caught in 2020. They averaged 66.1 cm in length (Figure 45), which was similar to the 2019 average length of 66.5 cm and below the 2001–2019 average length (Figure 46).

PACIFIC COD

Pacific cod accounted for 2.3% of total animal weight from all areas surveyed in 2020. Total CPUE was 12.9 kg per km towed, which is close to half of the overall CPUE of 22.4 kg per km towed from 1988–2019 (Figure 47). The highest catch of 123.1 kg per km towed was at station 534DX in Upper Barnabas. The Kodiak Area had the highest total Pacific cod CPUE of 16.8 kg per km towed (Figure 48).

A total of 2,786 Pacific cod were caught in 2020. They averaged 58.8 cm in length (Figure 49), which was larger than the 2019 average length of 57.6 cm, and larger than the 2001–2019 average length (Figure 50).

YELLOWFIN SOLE

Yellowfin sole accounted for 6.6% of total animal weight from all areas surveyed in 2020. Total CPUE was 36.5 kg per km towed, which is below the 1988–2019 CPUE of 44.9 kg per km towed (Figure 51). The highest catch of 1,504.5 kg per km towed was at station PALX in Pavlof Bay and the South Alaska Peninsula Area had the highest total yellowfin sole CPUE at 97.2 kg per km towed (Figure 52).

A total of 53,499 yellowfin sole were caught in 2020, averaging 30.4 cm in length (Figure 53). This was similar to 2019, and smaller than the 2001–2019 average length (Figure 54).

SABLEFISH

Sablefish accounted for 1.7% of total animal weight from all areas surveyed in 2020. Total CPUE was 9.3 kg per km towed, which is more than 5 times the 1988–2019 CPUE of 1.8 kg per km towed (Figure 55). The highest catch of 1,136.7 kg per km towed was at station 173 in Shelikof Strait, and the Kodiak Area had the highest total sablefish CPUE at 14.5 kg per km towed (Figure 56).

A total of 4,899 sablefish were caught in 2020. They averaged 46.0 cm in length (Figure 57), which was similar to the 2018 average length of 46.4 cm, and larger than the 2001–2019 average length (Figure 58).

SKATES

Skate species accounted for 3.7% of total animal weight from all areas surveyed in 2020. Total skate CPUE was 20.5 kg per km towed, which is similar to the 1988–2019 CPUE of 20.8 kg per km towed (Figure 59). The highest catch of a single skate species in 2020 was 178.6 kg per km towed of big skates at station 171D in Kukak Bay in the Kodiak Area. Overall, the Kodiak Area had the highest total big skate CPUE at 10.0 kg per km towed (Figure 60). The Kodiak Area also had the highest total CPUE of longnose skate (10.5 kg per km) and Bering skate (3.6 kg per km). The Chignik Area had the highest total CPUE of Aleutian skate (2.4 kg per km) and Alaska skate (0.6 kg per km; Figure 61).

Species, sex, and length were determined for each skate caught during the 2020 trawl survey. A total of 2,107 skates were captured and measured from all districts surveyed. Although big skates accounted for the largest proportion of skate weight (45.0%), Bering skates, which only accounted for 11.4% of total skate weight, were the most abundant (Table 11). Bering skates composed 39.7% of the total number of skates caught and averaged 29.4 cm from snout to anterior notch of the pectoral fin (Figure 62). Longnose skates made up 33.0% of the total number of skates caught and averaged 46.1 cm in length. Big skates accounted for 18.6% of the number of skates caught and had an average length of 60.4 cm. Aleutian skates accounted for 7.3% of all skates caught and averaged 52.7 cm, and Alaska skates made up 1.4% and averaged 43.9 cm (Figure 62). Larger skate species, big and Aleutian skates, were mostly female (big skates: 70.8% female; Aleutian skates: 65.6% female), whereas the smaller species (Bering, longnose, and Alaska skates) were composed of 47.3%, 49.8%, and 50.0% females, respectively.

WATER TEMPERATURE

Near-bottom water temperatures (~2 m above sea floor) in 2020 ranged from 2.09°C (Deadman Bay, Station ALQ) to 10.99°C (Terror Bay, Station KUYB; Figure 63; Appendix B1). Stations with the lowest average temperatures were in Deadman Bay, sampled during mid-August at an average depth of 84 m (2.18°C). The warmest stations, on average, were on Alitak Flats, sampled during mid-August at an average depth of 36 m (10.13°C; Figures 63 and 64). Average near-bottom water temperature across the sampled survey area was 5.85°C, which was 1.41°C lower than the survey average in 2019; however, the historically coldest location does not have temperature data available for 2019 (Appendix B1, Figure 64). Average survey temperature increased from 2012 to 2016, declined in 2017, and increased in 2018 and 2019. The average 2020 survey temperature is the coolest since 2013 (Figure 64).

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TABLES AND FIGURES

Table 1.—Number of large-mesh bottom trawl survey hauls used to determine king and Tanner crab abundance, by Tanner crab management district, 1988–2020.

Year	Kodiak	Chignik	South Peninsula	Eastern Aleutian	Total
1988	213	0	106	0	319
1989	215	34	108	0	357
1990	208	37	120	45	410
1991	223	32	115	37	407
1992	204	29	114	0	347
1993	223	35	111	0	369
1994	200	34	121	44	399
1995	218	31	0	38	287
1996	222	27	122	0	371
1997	218	34	115	0	367
1998	217	35	93	0	345
1999	230	36	93	39	398
2000	220	35	94	36	385
2001	222	36	94	0	352
2002	225	47	93	0	365
2003	211	45	93	39	388
2004	211	45	94	24	374
2005	217	46	92	23	378
2006	207	46	89	28	370
2007	211	45	92	23	371
2008	215	44	89	23	371
2009	215	46	93	28	382
2010	213	45	90	23	371
2011	207	46	91	23	367
2012	209	46	91	28	374
2013	208	45	93	23	369
2014	211	45	92	23	371
2015	211	46	90	26	373
2016	209	46	93	21	369
2017	204	45	93	21	363
2018	210	46	86	26	368
2019	210	44	93	20	367
2020	210	45	93	0	348

Note: All hauls occurring in Chignik and South Peninsula Tanner crab districts are within the Alaska Peninsula king crab area.

Table 2.—Tanner crab mature male abundance threshold levels from regulatory harvest strategies, estimates of number of mature male crab by survey year from large-mesh bottom trawl surveys, 2016–2020.

	Fishery threshold (number of mature males >114 mm CW)	Survey estimated number of mature males (> 114 mm CW)				
		2016	2017	2018	2019	2020
Kodiak District						
Northeast Section	1,123,000	285,473	411,803	530,533	964,771	647,927
Eastside Section	1,552,000	5,779,765 ^a	5,164,475 ^a	6,207,284 ^a	3,377,273 ^a	7,266,442 ^a
Southeast Section	733,000	1,258,528 ^a	667,890	1,945,812 ^a	3,863,863 ^a	4,966,423 ^a
Southwest Section	1,236,000	1,021,219	1,581,401 ^a	829,358	454,256	1,393,340 ^a
Westside Section	764,000	224,050	308,643	637,127	387,567	456,525
North Mainland Section	1,469,000	447,094	313,323	613,235	592,594	316,984
Chignik District	973,000	610,875	319,501	777,204	1,149,541 ^a	2,217,566 ^a
South Peninsula District						
Eastern Section	2,015,000	1,370,094	436,361	421,580	722,459	1,875,762
Western Section	1,250,000	3,420,640 ^a	733,065	899,185	1,213,950	3,058,249 ^a
Eastern Aleutian District						
Akutan Section	200,000	74,855	106,962	40,697	6,530	no survey
Unalaska/Kalekta Bay Section	65,000	14,865	65,317 ^a	253,449 ^a	46,523	no survey
Makushin/Skan Bay Section	45,000	150,737 ^a	292,866 ^a	250,735 ^a	120,773 ^a	no survey

^a Above mature male harvest strategy threshold.

Table 3.—Predominant species by weight in the Kodiak Tanner crab District large-mesh bottom trawl survey, 2020.

Common name	Species name	% of catch by weight
Arrowtooth flounder	<i>Atheresthes stomias</i>	20.8
Flathead sole	<i>Hippoglossoides elassodon</i>	19.2
Tanner crab	<i>Chionoecetes bairdi</i>	12.2
Walleye pollock	<i>Gadus chalcogrammus</i>	9.0
Pacific ocean perch	<i>Sebastes alutus</i>	3.3
Yellowfin sole	<i>Limanda aspera</i>	3.0
Pacific halibut	<i>Hippoglossus stenolepis</i>	2.8
English sole	<i>Parophrys vetulus</i>	2.7
Sablefish	<i>Anoplopoma fimbria</i>	2.6
Pacific cod	<i>Gadus macrocephalus</i>	2.3
Starry flounder	<i>Platichthys stellatus</i>	2.2
Longnose skate	<i>Raja rhina</i>	1.9
Big skate	<i>Raja binoculata</i>	1.8
Sunflower seastar	<i>Pycnopodia helianthoides</i>	1.4
Northern rock sole	<i>Lepidopsetta polyxystra</i>	1.2
Butter sole	<i>Isopsetta isolepis</i>	1.2
Anemone	Order: Actinaria	1.2
Rex sole	<i>Glyptocephalus zachirus</i>	1.2
Spiny dogfish shark	<i>Squalus acanthius</i>	1.0
Dover sole	<i>Microstomus pacificus</i>	0.8
All others	(128 species)	8.2
Total		100.0

Table 4.—Tanner crab abundance estimates from large-mesh bottom trawl surveys in the Kodiak District, 1988–2020.

Year	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
	Juvenile	Adult	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	≥165 mm			
Northeast Section													
1988	1,630,762	234,651	1,865,410	1,521,941	292,778	271,513	330,972	189,767	15,536	13,807	219,110	2,636,315	4,501,727
1989	4,102,889	3,120,366	7,223,255	3,921,034	1,221,125	1,346,371	1,124,565	602,640	86,462	114,652	803,756	8,416,850	15,640,105
1990	1,328,388	2,056,603	3,384,991	1,097,187	1,090,554	755,329	608,856	256,700	59,039	54,797	370,534	3,922,466	7,307,458
1991	3,427,808	1,894,924	5,322,734	2,837,563	1,227,405	1,202,318	1,043,081	428,157	23,871	52,116	504,147	6,814,517	12,137,248
1992	1,686,845	1,278,938	2,965,784	1,329,572	1,172,958	890,239	776,334	207,279	14,039	7,070	228,386	4,397,483	7,363,270
1993	1,432,940	1,039,391	2,472,334	1,333,380	340,021	525,424	592,685	264,729	31,637	16,787	313,153	3,104,662	5,576,997
1994	440,533	1,161,521	1,602,053	449,581	149,768	239,864	434,372	96,667	91,792	2,401	190,860	1,464,446	3,066,499
1995	3,752,250	1,214,569	4,966,819	3,675,881	878,260	269,577	335,922	9,039	124,138	0	133,177	5,292,815	10,259,633
1996	1,912,715	2,302,910	4,215,629	1,514,878	2,332,954	1,096,662	398,858	29,473	51,094	1,604	82,171	5,425,523	9,641,149
1997	379,433	935,783	1,315,214	436,913	869,379	1,007,484	560,733	44,203	22,402	0	68,883	2,943,396	4,258,613
1998	1,383,819	2,325,285	3,709,105	1,025,277	2,159,050	1,803,166	1,408,517	222,130	40,589	11,255	273,975	6,669,986	10,379,086
1999	1,553,845	851,680	2,405,526	1,767,972	255,346	558,088	715,093	168,115	98,924	1,904	268,945	3,565,446	5,970,974
2000	5,704,136	1,475,947	7,180,080	5,594,824	1,147,652	703,341	811,750	293,880	227,555	12,238	533,675	8,791,241	15,971,322
2001	14,094,656	4,872,780	18,967,439	13,622,529	5,042,356	2,846,411	1,495,486	157,690	257,606	2,963	418,258	23,425,036	42,392,477
2002	3,524,427	2,385,993	5,910,419	3,775,736	2,432,295	2,361,790	1,639,344	186,216	45,329	0	231,546	10,440,705	16,351,124
2003	1,409,466	2,615,606	4,025,071	1,540,636	1,689,696	2,938,869	2,673,429	356,077	133,550	6,148	495,777	9,338,398	13,363,472
2004	2,651,777	4,260,341	6,912,119	2,360,296	1,221,360	2,052,940	2,953,781	875,891	129,813	12,533	1,018,239	9,606,617	16,518,733
2005	3,631,110	3,094,318	6,725,425	3,933,422	1,439,686	1,419,878	2,802,277	790,716	264,016	4,905	1,059,636	10,654,890	17,380,317
2006	8,340,276	1,733,887	10,074,165	7,453,502	2,228,019	914,781	912,671	122,964	112,171	7,489	242,624	11,751,595	21,825,756
2007	5,606,114	2,014,429	7,620,552	4,038,766	2,282,508	2,270,599	1,951,415	173,364	188,475	0	361,837	10,905,123	18,525,668
2008	6,085,883	3,010,942	9,096,823	5,529,663	1,822,588	2,531,748	1,744,042	214,053	97,536	3,697	315,285	11,943,325	21,040,150
2009	3,171,509	1,906,897	5,078,409	2,634,387	2,907,862	3,087,715	2,716,467	666,825	29,301	0	696,127	12,042,551	17,120,959
2010	2,576,574	3,940,024	6,516,600	2,379,450	1,610,640	1,058,419	2,159,621	499,837	292,814	13,066	805,717	8,013,844	14,530,442
2011	1,184,358	951,698	2,136,057	1,245,659	204,063	376,750	873,125	86,136	182,328	2,363	281,693	2,981,284	5,117,339
2012	4,155,939	605,221	4,761,158	4,055,429	164,548	205,760	574,211	38,415	170,673	0	209,087	5,209,037	9,970,194
2013	25,030,918	938,563	25,969,480	24,684,698	1,490,903	415,811	228,588	34,034	67,800	0	106,454	26,926,455	52,895,931
2014	5,720,166	3,931,225	9,651,389	4,659,105	2,721,889	1,440,196	346,277	11,901	122,229	6,218	140,348	9,307,818	18,959,208
2015	435,407	1,543,857	1,979,265	439,703	820,670	567,931	194,394	21,733	29,200	0	50,932	2,073,635	4,052,897
2016	759,351	1,268,993	2,028,343	652,806	352,283	436,626	229,991	16,261	39,221	0	55,482	1,727,188	3,755,531
2017	2,695,084	1,603,646	4,298,733	3,150,077	315,008	504,640	360,623	27,072	23,631	477	51,179	4,381,522	8,680,255
2018	5,937,942	2,223,179	8,161,121	5,385,100	1,838,496	1,048,602	443,603	30,848	55,102	983	86,932	8,802,730	16,963,851
2019	4,453,789	4,395,623	8,849,411	4,289,583	2,033,576	1,435,957	885,255	58,537	20,980	0	79,517	8,723,890	17,573,301
2020	1,085,233	1,804,391	2,889,622	1,017,387	419,740	530,414	584,253	60,332	3,342	0	63,674	2,615,463	5,505,088

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Table 4.–Page 2 of 7.

Year	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
	Juvenile	Adult	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	≥165 mm			
Eastside Section													
1988	2,059,069	762,131	2,821,198	1,596,891	432,351	610,398	689,188	279,635	97,689	1,914	379,236	3,708,052	6,529,245
1989	2,300,872	3,397,521	5,698,392	1,975,520	1,228,590	1,360,965	1,253,172	803,733	262,842	29,979	1,096,552	6,914,792	12,613,175
1990	1,459,142	7,376,957	8,836,095	1,244,278	663,056	1,832,608	3,555,094	742,441	127,670	57,684	927,796	8,222,825	17,058,920
1991	1,492,507	3,640,680	5,133,182	1,195,835	304,126	651,831	2,623,994	2,885,963	493,723	37,684	3,417,371	8,193,145	13,326,324
1992	1,494,597	1,955,463	3,450,056	1,612,897	331,773	502,134	1,594,419	525,304	267,165	75,584	868,053	4,909,262	8,359,312
1993	1,719,650	1,500,333	3,219,977	1,357,111	252,168	402,736	989,366	115,839	348,460	14,328	478,628	3,479,992	6,699,967
1994	1,767,160	566,400	2,333,558	1,309,878	705,158	462,351	568,095	47,946	120,912	2,837	171,694	3,217,166	5,550,722
1995	3,792,461	505,129	4,297,586	3,321,664	594,245	456,053	410,938	28,656	84,036	2,394	115,085	4,897,976	9,195,561
1996	2,070,985	916,541	2,987,523	2,159,913	704,721	609,763	848,358	107,362	179,489	14,539	301,388	4,624,138	7,611,664
1997	800,291	652,062	1,452,355	771,288	677,803	724,276	707,297	117,305	103,542	15,558	236,405	3,117,062	4,569,415
1998	4,390,229	2,431,287	6,821,511	3,854,716	1,767,292	2,715,320	2,215,788	288,234	397,429	74,273	759,934	11,313,050	18,134,560
1999	6,267,399	1,468,370	7,735,763	5,090,059	394,774	1,033,098	1,941,389	368,285	568,053	87,803	1,024,143	9,483,445	17,219,206
2000	5,345,242	3,360,682	8,705,921	5,136,356	1,536,289	683,544	1,706,929	486,668	769,101	69,842	1,325,611	10,388,716	19,094,636
2001	28,271,214	3,092,285	31,363,498	22,768,490	3,233,656	1,454,585	1,159,217	72,143	984,133	78,208	1,134,484	29,750,428	61,113,925
2002	14,180,072	4,646,177	18,826,250	4,110,650	8,122,154	2,836,534	1,409,594	275,211	665,910	36,365	977,484	17,456,408	36,282,658
2003	2,520,605	8,553,327	11,073,935	2,649,111	2,922,961	10,092,328	5,074,824	215,854	358,600	19,061	593,514	21,332,730	32,406,665
2004	4,249,060	2,426,488	6,675,551	3,825,810	1,107,990	3,296,833	8,524,404	1,236,288	203,839	12,760	1,452,887	18,207,923	24,883,473
2005	1,553,368	3,316,472	4,869,840	1,768,248	131,919	1,258,057	6,796,866	3,034,483	535,098	51,861	3,621,441	13,576,526	18,446,367
2006	31,131,608	559,421	31,691,028	27,974,217	510,696	575,638	4,639,044	756,712	1,900,603	23,263	2,680,581	36,380,161	68,071,187
2007	41,718,044	2,376,973	44,095,012	21,192,893	25,732,069	1,595,766	3,760,767	206,871	1,427,355	18,357	1,652,582	53,934,064	98,029,072
2008	9,145,867	14,169,105	23,314,969	6,721,840	4,619,632	12,189,763	2,611,890	96,559	991,192	31,642	1,119,393	27,262,511	50,577,476
2009	2,968,693	8,962,999	11,931,690	708,414	3,452,835	5,043,296	12,248,939	2,136,073	251,967	34,437	2,422,474	23,875,940	35,807,628
2010	2,270,143	6,443,397	8,713,543	1,984,618	271,378	2,203,722	10,027,463	3,508,602	1,058,224	103,388	4,670,212	19,157,376	27,870,920
2011	5,202,385	2,592,195	7,794,580	5,097,964	103,753	550,828	4,158,718	1,066,462	1,253,650	55,022	2,375,133	12,286,383	20,080,961
2012	2,580,888	523,392	3,104,280	2,551,539	114,171	439,367	3,764,517	551,200	1,970,519	133,426	2,655,144	9,524,728	12,629,005
2013	30,969,141	540,183	31,509,324	29,649,164	1,407,170	427,549	1,094,291	13,854	608,505	28,115	650,473	33,228,639	64,737,959
2014	20,997,829	1,677,985	22,675,817	14,308,109	6,813,026	1,302,105	589,386	13,148	275,957	1,128	290,233	23,302,864	45,978,679
2015	1,445,145	3,578,999	5,024,143	1,228,244	2,565,413	3,424,944	638,483	78,122	65,453	13,843	157,417	8,014,492	13,038,638
2016	1,180,484	8,881,760	10,062,242	1,137,607	1,906,346	6,641,137	5,290,295	309,345	176,073	4,052	489,469	15,464,847	25,527,085
2017	8,011,302	3,886,433	11,901,533	6,744,456	887,606	1,911,830	4,263,782	763,285	230,021	10,133	1,003,438	14,811,106	26,712,640
2018	46,635,134	5,856,344	52,491,477	44,877,962	2,846,062	1,803,810	4,230,303	1,102,534	866,409	8,039	1,976,984	55,735,111	108,226,590
2019	39,447,651	18,676,439	58,124,087	20,342,481	34,318,819	7,441,047	2,853,737	52,037	464,999	6,505	523,539	65,511,932	123,636,020
2020	3,064,689	28,496,323	31,561,013	2,301,329	7,850,668	20,554,710	7,129,627	109,300	26,804	713	136,817	37,973,148	69,534,158

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Table 4.–Page 3 of 7.

Year	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
	Juvenile	Adult	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	≥165 mm			
Southeast Section													
1988	205,391	306,388	511,777	160,392	160,858	426,837	1,077,533	746,692	123,661	49,324	919,676	2,745,287	3,257,067
1989	903,462	492,317	1,395,778	688,803	93,443	180,551	522,388	184,966	75,168	12,642	272,775	1,757,954	3,153,725
1990	1,122,473	731,106	1,853,577	1,057,451	107,489	225,073	525,876	289,966	101,413	4,420	395,799	2,311,677	4,165,252
1991	4,643,290	916,448	5,559,736	4,419,715	420,967	263,630	345,159	176,786	35,702	7,382	219,871	5,669,332	11,229,066
1992	2,150,176	1,294,433	3,444,604	1,640,451	692,489	446,230	573,374	32,883	142,802	10,199	185,885	3,538,424	6,983,021
1993	3,920,738	597,730	4,518,463	3,647,473	249,339	433,304	414,432	27,357	116,327	8,769	152,453	4,896,999	9,415,458
1994	112,458	221,331	333,789	85,997	28,664	86,943	473,013	107,893	54,496	4,252	166,638	841,253	1,175,042
1995	2,670,117	107,497	2,777,610	2,375,567	15,058	28,423	82,247	76,922	46,938	2,370	126,229	2,627,521	5,405,129
1996	2,547,755	141,637	2,689,389	2,269,696	484,343	110,861	124,290	55,489	68,127	7,990	131,605	3,120,786	5,810,171
1997	457,206	140,330	597,536	360,968	200,785	114,901	45,486	3,133	44,726	1,337	49,197	771,332	1,368,867
1998	1,974,011	127,986	2,101,998	2,218,753	47,419	92,558	227,904	28,851	26,243	866	55,960	2,642,594	4,744,588
1999	3,919,534	158,773	4,078,305	4,019,039	98,997	95,849	193,398	127,663	65,506	8,583	201,751	4,609,036	8,687,340
2000	3,420,858	363,129	3,783,985	3,743,637	301,838	76,008	186,518	19,080	126,209	253	145,543	4,453,533	8,237,516
2001	9,448,017	2,945,931	12,393,951	9,541,603	2,255,870	344,924	321,770	48,095	222,346	13,686	284,129	12,748,291	25,142,241
2002	2,618,992	1,403,060	4,022,051	2,901,813	4,190,180	2,507,979	381,296	21,057	336,139	4,949	362,146	10,343,409	14,365,454
2003	481,349	479,053	960,400	628,937	1,557,932	1,715,093	976,621	51,970	91,267	0	143,239	5,021,814	5,982,213
2004	4,553,549	359,686	4,913,231	4,316,869	418,750	566,065	1,636,243	250,829	60,525	0	311,351	7,249,275	12,162,505
2005	3,968,071	539,475	4,507,545	3,759,906	373,861	476,640	1,483,977	102,187	210,177	1,411	313,777	6,408,150	10,915,692
2006	14,162,611	1,405,607	15,568,219	14,443,798	991,870	552,530	1,063,339	7,675	298,219	0	305,893	17,357,428	32,925,645
2007	10,368,456	3,626,613	13,995,068	8,110,713	8,461,823	2,078,980	1,129,380	10,109	295,360	0	305,470	20,086,357	34,081,423
2008	1,246,835	1,767,652	3,014,487	1,080,046	1,680,529	3,417,448	1,306,242	28,029	125,176	0	153,204	7,637,464	10,651,945
2009	460,373	945,857	1,406,231	574,423	561,598	1,239,465	3,226,378	685,687	41,942	5,463	733,094	6,334,953	7,741,181
2010	2,752,975	1,196,211	3,949,185	2,139,892	289,842	1,179,268	4,470,858	1,046,634	541,587	7,263	1,595,485	9,675,335	13,624,521
2011	1,676,276	390,308	2,066,583	1,789,232	72,952	272,548	1,958,277	349,066	1,418,778	42,854	1,810,697	5,903,698	7,970,276
2012	2,633,029	114,102	2,747,131	2,285,865	1,058,632	318,322	1,253,661	13,636	870,264	26,035	909,934	5,826,407	8,573,538
2013	14,727,401	323,947	15,051,345	12,916,858	738,190	175,543	501,856	32,203	431,622	13,474	477,300	14,809,743	29,861,087
2014	7,391,645	3,226,075	10,617,721	4,998,984	3,780,780	1,456,946	821,934	5,949	1,188,137	32,668	1,226,755	12,285,401	22,903,125
2015	496,492	791,280	1,287,772	379,009	707,633	1,307,676	688,125	50,492	30,988	990	82,470	3,164,907	4,452,675
2016	2,610,131	840,270	3,450,400	2,561,952	57,970	276,964	1,074,156	49,106	135,266	0	184,372	4,155,412	7,605,809
2017	8,411,559	712,059	9,123,617	8,900,592	2,230,451	480,018	476,787	84,920	104,725	1,458	191,103	12,278,940	21,402,556
2018	27,652,635	4,920,944	32,573,582	26,243,837	10,575,036	3,377,034	1,602,252	0	343,560	0	343,560	42,141,714	74,715,292
2019	7,881,208	10,135,271	18,016,481	6,862,120	9,620,689	6,633,771	3,698,300	94,944	77,513	0	172,458	26,987,331	45,003,810
2020	1,650,164	5,171,968	6,822,137	1,910,203	2,189,252	4,206,241	4,445,752	490,617	30,055	0	520,672	13,272,117	20,094,251

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Table 4.–Page 4 of 7.

Year	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
	Juvenile	Adult	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	≥165 mm			
Southwest Section													
1988	163,327	100,814	264,141	143,739	12,490	41,724	437,947	802,236	37,444	36,169	875,850	1,511,753	1,775,893
1989	2,141,921	148,673	2,290,595	1,962,970	114,750	120,197	242,885	184,069	84,671	54,731	323,473	2,764,276	5,054,872
1990	2,316,114	515,965	2,832,078	1,864,020	835,002	448,108	325,391	35,504	29,853	6,232	71,590	3,544,111	6,376,187
1991	1,134,740	159,551	1,294,293	913,796	210,692	309,301	446,336	93,252	33,393	3,471	130,117	2,010,245	3,304,534
1992	455,592	197,142	652,735	450,611	152,337	318,610	234,215	264,484	66,834	4,972	343,096	1,498,868	2,151,600
1993	6,635,495	244,706	6,880,201	6,153,372	504,018	181,474	391,160	250,347	69,727	13,352	333,425	7,563,455	14,443,652
1994	205,248	120,527	325,777	131,512	70,316	60,386	145,272	128,502	23,030	7,394	158,927	566,414	892,191
1995	150,726	91,130	241,856	136,754	56,965	109,373	123,865	33,632	48,012	0	81,642	508,600	750,456
1996	346,288	44,723	391,011	324,729	98,278	161,973	239,780	35,951	74,200	1,536	111,689	936,445	1,327,459
1997	263,210	66,061	329,271	253,919	101,323	81,930	185,074	123,659	88,079	3,169	215,927	838,174	1,167,446
1998	237,613	36,579	274,194	230,680	59,605	54,531	62,803	22,385	85,742	2,193	110,323	517,941	792,136
1999	815,403	29,802	845,202	843,294	56,048	44,878	175,884	33,257	119,806	4,314	157,380	1,277,483	2,122,687
2000	3,003,937	67,880	3,071,814	2,949,004	184,394	113,293	166,972	54,803	104,346	714	159,863	3,573,527	6,645,340
2001	9,655,357	316,117	9,971,472	7,043,577	3,524,938	295,460	216,927	116,958	74,560	1,972	193,493	11,274,392	21,245,865
2002	2,502,575	972,134	3,474,706	1,587,174	1,796,456	1,770,050	423,125	84,294	73,974	1,974	160,243	5,737,043	9,211,752
2003	88,071	305,947	394,017	72,936	332,445	777,843	1,292,737	112,745	88,748	8,694	210,189	2,686,145	3,080,161
2004	336,728	307,894	644,621	304,927	64,562	315,710	940,544	1,195,138	130,481	16,236	1,341,858	2,967,599	3,612,221
2005	590,697	224,679	815,379	562,877	43,825	158,240	588,829	336,600	462,240	22,916	821,757	2,175,520	2,990,901
2006	6,038,059	597,821	6,635,882	7,028,088	242,323	133,434	468,416	106,125	597,805	23,463	727,392	8,599,651	15,235,534
2007	10,357,207	1,416,520	11,773,729	8,392,449	3,209,991	509,710	611,578	135,558	1,051,549	28,927	1,216,033	13,939,761	25,713,488
2008	5,802,830	3,572,935	9,375,768	2,263,701	5,936,109	4,572,867	697,450	129,245	243,032	9,409	381,686	13,851,815	23,227,580
2009	365,497	2,243,247	2,608,743	183,276	529,868	2,472,641	3,308,319	233,605	133,317	8,020	374,943	6,869,046	9,477,794
2010	40,940	3,096,850	3,137,790	24,411	87,825	1,403,646	4,587,459	1,023,856	185,042	6,293	1,215,191	7,318,531	10,456,321
2011	346,439	661,146	1,007,584	335,528	9,500	57,849	756,206	327,979	412,326	12,563	753,228	1,912,307	2,919,897
2012	645,852	699,003	1,344,856	686,600	29,533	42,217	563,026	29,029	522,949	10,290	562,267	1,883,644	3,228,498
2013	19,146,831	231,581	19,378,412	18,627,853	525,916	138,220	404,822	1,202	300,250	5,767	307,221	20,004,032	39,382,443
2014	5,392,720	363,227	5,755,945	5,534,731	2,709,259	715,540	456,448	14,231	112,298	0	126,530	9,542,510	15,298,456
2015	1,344,303	1,080,845	2,425,147	669,631	1,967,846	1,303,993	427,224	73,158	79,021	2,407	154,586	4,523,284	6,948,431
2016	55,651	1,322,224	1,377,871	41,337	391,928	1,306,211	933,779	57,200	30,240	0	87,439	2,760,695	4,138,564
2017	457,304	332,188	789,492	508,877	94,070	165,039	948,065	561,611	71,725	0	633,336	2,349,389	3,138,881
2018	27,069,155	144,170	27,213,324	25,392,195	763,824	98,580	372,514	316,870	134,346	5,626	456,843	27,083,956	54,297,282
2019	8,308,435	3,015,496	11,323,928	5,085,417	7,103,044	2,054,004	359,462	54,119	39,490	1,185	94,794	14,696,723	26,020,653
2020	581,864	1,761,097	2,342,959	106,206	1,905,140	2,745,364	1,093,628	89,773	207,574	2,363	299,711	6,150,051	8,493,007

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Table 4.–Page 5 of 7.

Year	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
	Juvenile	Adult	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	≥165 mm			
Westside Section													
1988	976,851	580,023	1,556,875	750,879	54,229	214,931	285,373	146,494	18,632	14,453	179,578	1,484,988	3,041,860
1989	3,507,063	573,719	4,080,782	2,781,749	510,278	280,932	309,249	140,101	24,289	8,521	172,913	4,055,115	8,135,901
1990	760,384	2,199,069	2,959,457	352,843	692,260	416,072	478,005	111,716	57,928	19,135	188,776	2,127,958	5,087,413
1991	192,204	591,876	784,080	130,432	147,332	497,846	460,635	37,404	22,320	5,288	65,010	1,301,255	2,085,335
1992	168,907	420,383	589,291	129,030	171,208	217,488	309,164	118,442	46,407	5,616	170,465	997,358	1,586,646
1993	397,675	575,892	973,569	266,120	161,061	150,062	273,655	49,604	95,847	7,188	152,638	1,003,542	1,977,111
1994	158,913	248,765	407,678	108,532	113,242	74,756	90,261	31,732	42,413	0	74,149	460,938	868,623
1995	168,930	403,189	572,120	108,065	164,086	159,438	136,282	14,443	88,979	2,203	105,625	673,497	1,245,621
1996	221,984	406,957	628,942	104,838	263,795	293,384	226,222	36,715	99,629	469	136,815	1,025,059	1,654,001
1997	222,218	677,984	900,203	83,886	292,487	419,930	305,820	68,556	62,405	2,605	133,566	1,235,690	2,135,894
1998	788,563	655,693	1,444,258	697,278	171,700	301,684	234,999	30,931	54,363	3,008	88,304	1,493,966	2,938,221
1999	824,547	306,261	1,130,812	538,993	433,666	260,434	209,523	43,439	102,079	8,631	154,151	1,596,770	2,727,577
2000	857,983	673,744	1,531,726	529,492	452,760	470,344	245,893	88,067	73,382	11,132	172,580	1,871,072	3,402,796
2001	1,838,858	867,797	2,706,655	1,454,818	690,480	406,475	419,781	61,894	74,190	9,850	145,933	3,117,483	5,824,141
2002	527,722	793,616	1,321,340	314,807	576,533	490,709	314,587	97,176	71,244	9,680	178,098	1,874,738	3,196,077
2003	571,353	1,595,583	2,166,935	527,990	305,060	850,071	549,657	114,971	113,968	10,548	239,486	2,472,262	4,639,203
2004	348,491	536,566	885,057	318,080	123,002	164,582	183,539	105,808	75,246	6,710	187,762	976,964	1,862,027
2005	1,277,045	612,264	1,889,310	1,010,851	367,489	312,238	187,999	58,631	114,705	6,418	179,753	2,058,329	3,947,639
2006	2,743,480	1,978,839	4,722,322	2,050,866	1,069,393	739,258	422,756	61,494	242,097	26,030	329,622	4,611,892	9,334,218
2007	728,050	1,229,735	1,957,783	346,342	1,001,330	638,751	366,951	55,293	203,496	12,441	271,233	2,624,613	4,582,398
2008	1,512,322	1,677,824	3,190,145	1,337,898	816,546	1,306,246	1,483,097	216,263	28,473	18,447	263,184	5,206,972	8,397,115
2009	1,035,614	1,624,414	2,660,033	801,669	518,633	566,992	682,822	329,135	53,427	10,634	393,196	2,963,312	5,623,343
2010	487,127	1,154,821	1,641,949	449,979	262,351	403,098	397,571	137,521	140,056	15,631	293,211	1,806,207	3,448,153
2011	796,025	593,136	1,389,159	916,487	63,828	96,545	199,071	42,043	101,665	20,900	164,608	1,440,538	2,829,697
2012	1,230,971	597,219	1,828,189	1,210,838	694,666	197,830	142,793	48,115	69,367	20,940	138,422	2,384,545	4,212,734
2013	1,845,911	747,783	2,593,693	1,486,423	945,497	484,694	171,860	34,055	49,742	3,942	87,740	3,176,216	5,769,909
2014	487,317	1,304,339	1,791,657	201,481	647,794	727,617	549,343	66,180	35,895	3,573	105,649	2,231,879	4,023,534
2015	777,276	421,494	1,198,774	653,892	130,508	204,181	171,388	35,964	22,643	1,588	60,195	1,220,160	2,418,936
2016	1,234,892	1,170,363	2,405,251	860,496	268,734	246,642	159,084	16,797	47,240	929	64,969	1,599,927	4,005,178
2017	1,443,291	1,200,162	2,644,450	985,541	318,312	303,028	239,262	20,367	50,051	611	71,028	1,917,171	4,561,622
2018	1,253,977	1,872,681	3,126,657	710,184	834,244	966,842	545,507	55,479	36,141	0	91,618	3,148,400	6,275,059
2019	199,451	1,822,059	2,021,509	113,886	261,866	658,112	341,201	29,541	16,824	0	46,364	1,421,428	3,442,938
2020	212,028	1,191,475	1,403,500	198,432	111,343	359,539	380,337	59,891	16,296	0	76,187	1,125,839	2,529,342

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Table 4.–Page 6 of 7.

Year	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
	Juvenile	Adult	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	≥165 mm			
North Mainland Section													
1988	3,770,435	864,800	4,635,231	3,407,068	168,134	464,878	1,240,542	851,431	82,195	27,343	960,966	6,241,575	10,876,804
1989	4,256,888	1,467,261	5,724,141	4,241,904	298,495	364,437	1,198,231	261,796	117,451	67,482	446,727	6,549,772	12,273,908
1990	6,881,983	3,259,191	10,141,174	5,821,303	2,244,924	787,769	1,459,181	134,091	114,695	27,645	276,431	10,589,593	20,730,758
1991	755,813	1,115,191	1,871,000	607,003	606,410	539,754	947,200	75,300	110,321	4,747	190,368	2,890,728	4,761,725
1992	2,383,311	905,602	3,288,908	2,277,873	225,884	400,297	804,671	157,864	74,715	33,492	266,071	3,974,780	7,263,685
1993	3,807,153	1,019,025	4,826,179	3,209,923	150,131	417,918	820,507	155,196	146,326	35,684	337,205	4,935,673	9,761,850
1994	3,022,644	533,484	3,556,121	2,227,039	543,821	232,749	359,494	140,534	116,067	55,865	312,462	3,675,553	7,231,673
1995	626,009	246,199	872,207	675,064	133,785	61,102	150,469	35,975	48,814	17,201	101,990	1,122,398	1,994,600
1996	4,440,016	390,196	4,830,209	4,282,003	340,013	215,819	339,923	32,850	163,695	21,209	217,753	5,395,498	10,225,703
1997	2,395,756	263,515	2,659,267	2,343,813	505,071	343,635	654,020	56,050	182,961	7,777	246,786	4,093,315	6,752,581
1998	3,767,207	228,193	3,995,396	3,525,948	316,549	274,439	293,764	7,596	121,618	15,531	144,741	4,555,435	8,550,824
1999	3,977,498	247,625	4,225,118	4,094,535	513,789	193,283	548,157	44,446	102,687	0	147,133	5,496,889	9,722,006
2000	4,464,424	541,938	5,006,360	4,612,266	1,391,974	552,192	343,346	64,048	57,500	2,032	123,579	7,023,343	12,029,696
2001	5,569,122	580,559	6,149,675	5,956,896	493,796	449,462	397,510	20,879	170,905	5,420	197,203	7,494,856	13,644,528
2002	7,040,189	638,105	7,678,291	7,239,051	2,443,246	927,375	219,352	9,268	26,922	339	36,528	10,865,543	18,543,832
2003	1,574,882	1,005,193	2,580,071	3,087,322	585,984	252,125	227,455	23,124	52,247	4,137	79,507	4,232,383	6,812,450
2004	4,807,839	269,078	5,076,916	4,052,391	281,654	390,045	410,836	28,132	52,195	5,075	85,402	5,220,316	10,297,226
2005	5,973,092	600,095	6,573,183	5,450,323	570,215	185,935	249,567	62,867	23,541	2,023	88,432	6,544,457	13,117,630
2006	5,752,649	1,905,998	7,658,643	6,277,192	1,549,452	804,595	164,764	123,714	38,778	14,924	177,417	8,973,417	16,632,058
2007	1,151,379	271,686	1,423,066	1,333,229	79,153	169,301	207,441	32,010	76,206	24,684	132,900	1,922,012	3,345,073
2008	2,000,053	163,905	2,163,956	2,074,605	27,948	75,192	224,046	10,840	113,232	22,375	146,447	2,548,229	4,712,180
2009	2,273,385	182,881	2,456,260	1,990,119	67,569	179,329	383,513	0	157,056	25,575	182,632	2,803,160	5,259,416
2010	2,059,073	286,257	2,345,324	2,100,884	214,402	379,884	312,629	40,634	38,751	7,318	86,702	3,094,492	5,439,809
2011	7,339,266	156,406	7,495,670	7,303,300	174,503	275,325	463,036	65,350	9,494	13,460	88,304	8,304,464	15,800,131
2012	2,375,150	58,384	2,433,534	2,411,334	30,386	75,425	196,019	252,242	15,832	18,701	286,775	2,999,937	5,433,472
2013	3,512,861	427,671	3,940,531	3,706,269	270,532	171,682	134,031	53,508	74,304	32,391	160,203	4,442,712	8,383,239
2014	1,778,897	59,311	1,838,205	1,533,746	50,266	99,133	128,835	44,522	9,231	19,338	73,091	1,885,067	3,723,269
2015	3,404,007	307,368	3,711,375	3,365,754	557,307	378,629	243,383	175,976	132,322	10,270	318,568	4,863,632	8,575,005
2016	5,810,449	755,204	6,660,589	4,745,625	460,148	404,148	354,950	48,276	42,722	1,146	92,144	6,057,010	12,717,601
2017	2,020,394	94,061	2,114,452	2,099,893	80,540	101,672	176,330	119,927	15,508	1,558	136,992	2,595,425	4,709,876
2018	3,414,280	953,522	4,367,799	5,169,925	752,631	320,741	328,619	184,307	95,995	4,319	284,620	6,856,524	11,224,319
2019	2,402,956	644,282	3,047,238	2,305,136	954,054	787,952	385,778	141,639	50,461	14,715	206,816	4,639,734	7,686,974
2020	377,439	261,595	639,032	458,050	219,104	490,410	251,650	10,860	47,469	7,005	65,334	1,484,546	2,123,577

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Table 4.–Page 7 of 7.

Year	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
	Juvenile	Adult	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	≥165 mm			
KODIAK DISTRICT TOTALS													
1988	8,805,835	2,848,807	11,654,632	7,580,910	1,120,840	2,030,281	4,061,555	3,016,255	375,157	143,010	3,534,416	18,327,970	29,982,596
1989	17,213,095	9,199,857	26,412,943	15,571,980	3,466,681	3,653,453	4,650,490	2,177,305	650,883	288,007	3,116,196	30,458,759	56,871,686
1990	13,868,484	16,138,891	30,007,372	11,437,082	5,633,285	4,464,959	6,952,403	1,570,418	490,598	169,913	2,230,926	30,718,630	60,725,988
1991	11,646,362	8,318,670	19,965,025	10,104,344	2,916,932	3,464,680	5,866,405	3,696,862	719,330	110,688	4,526,884	26,879,222	46,844,232
1992	8,339,428	6,051,961	14,391,378	7,440,434	2,746,649	2,774,998	4,292,177	1,306,256	611,962	136,933	2,061,956	19,316,175	33,707,534
1993	17,913,651	4,977,077	22,890,723	15,967,379	1,656,738	2,110,918	3,481,805	863,072	808,324	96,108	1,767,502	24,984,323	47,875,035
1994	5,706,956	2,852,028	8,558,976	4,312,539	1,610,969	1,157,049	2,070,507	553,274	448,710	72,749	1,074,730	10,225,770	18,784,750
1995	11,160,493	2,567,713	13,728,198	10,292,995	1,842,399	1,083,966	1,239,723	198,667	440,917	24,168	663,748	15,122,807	28,851,000
1996	11,539,743	4,202,964	15,742,703	10,656,057	4,224,104	2,488,462	2,177,431	297,840	636,234	47,347	981,421	20,527,449	36,270,147
1997	4,518,114	2,735,735	7,253,846	4,250,787	2,646,848	2,692,156	2,458,430	412,906	504,115	30,446	950,764	12,998,969	20,252,816
1998	12,541,442	5,805,023	18,346,462	11,552,652	4,521,615	5,241,698	4,443,775	600,127	725,984	107,126	1,433,237	27,192,972	45,539,415
1999	17,358,226	3,062,511	20,420,726	16,353,892	1,752,620	2,185,630	3,783,444	785,205	1,057,055	111,235	1,953,503	26,029,069	46,449,790
2000	22,796,580	6,483,320	29,279,886	22,565,579	5,014,907	2,598,722	3,461,408	1,006,546	1,358,093	96,211	2,460,851	36,101,432	65,381,306
2001	68,877,224	12,675,469	81,552,690	60,387,913	15,241,096	5,797,317	4,010,691	477,659	1,783,740	112,099	2,373,500	87,810,486	169,363,177
2002	30,393,977	10,839,085	41,233,057	19,929,231	19,560,864	10,894,437	4,387,298	673,222	1,219,518	53,307	1,946,045	56,717,846	97,950,897
2003	6,645,726	14,554,709	21,200,429	8,506,932	7,394,078	16,626,329	10,794,723	874,741	838,380	48,588	1,761,712	45,083,732	66,284,164
2004	16,947,444	8,160,053	25,107,495	15,178,373	3,217,318	6,786,175	14,649,347	3,692,086	652,099	53,314	4,397,499	44,228,694	69,336,185
2005	16,993,383	8,387,303	25,380,682	16,485,627	2,926,995	3,810,988	12,109,515	4,385,484	1,609,777	89,534	6,084,796	41,417,872	66,798,546
2006	68,168,683	8,181,573	76,350,259	65,227,663	6,591,753	3,720,236	7,670,990	1,178,684	3,189,673	95,169	4,463,529	87,674,144	164,024,398
2007	69,929,250	10,935,956	80,865,210	43,414,392	40,766,874	7,263,107	8,027,532	613,205	3,242,441	84,409	3,940,055	103,411,930	184,277,122
2008	25,793,790	24,362,363	50,156,148	19,007,753	14,903,352	24,093,264	8,066,767	694,989	1,598,641	85,570	2,379,199	68,450,316	118,606,446
2009	10,275,071	15,866,295	26,141,366	6,892,288	8,038,365	12,589,438	22,566,438	4,051,325	667,010	84,129	4,802,466	54,888,962	81,030,321
2010	10,186,832	16,117,560	26,304,391	9,079,234	2,736,438	6,628,037	21,955,601	6,257,084	2,256,474	152,959	8,666,518	49,065,785	75,370,166
2011	16,544,749	5,344,889	21,889,633	16,688,170	628,599	1,629,845	8,408,433	1,937,036	3,378,241	147,162	5,473,663	32,828,674	54,718,301
2012	13,621,829	2,597,321	16,219,148	13,201,605	2,091,936	1,278,921	6,494,227	932,637	3,619,604	209,392	4,761,629	27,828,298	44,047,441
2013	95,233,063	3,209,728	98,442,785	91,071,265	5,378,208	1,813,499	2,535,448	168,856	1,532,223	83,689	1,789,391	102,587,797	201,030,568
2014	41,768,574	10,562,162	52,330,734	31,236,156	16,723,014	5,741,537	2,892,223	155,931	1,743,747	62,925	1,962,606	58,555,539	110,886,271
2015	7,902,630	7,723,843	15,626,476	6,736,233	6,749,377	7,187,354	2,362,997	435,445	359,627	29,098	824,168	23,860,110	39,486,582
2016	11,650,958	14,238,814	25,984,696	9,999,823	3,437,409	9,311,728	8,042,255	496,985	470,762	6,127	973,875	31,765,079	57,749,768
2017	23,038,934	7,828,549	30,872,277	22,389,436	3,925,987	3,466,227	6,464,849	1,577,182	495,661	14,237	2,087,076	38,333,553	69,205,830
2018	111,963,123	15,970,840	127,933,960	107,779,203	17,610,293	7,615,609	7,522,798	1,690,038	1,531,553	18,967	3,240,557	143,768,435	271,702,393
2019	62,693,490	38,689,170	101,382,654	38,998,623	54,292,048	19,010,843	8,523,733	430,817	670,267	22,405	1,123,488	121,981,038	223,363,696
2020	6,971,417	38,686,849	45,658,263	5,991,607	12,695,247	28,886,678	13,885,247	820,773	331,540	10,081	1,162,395	62,621,164	108,279,423

Table 5.—Number of male red king and male Tanner crabs by management unit, crab cohort, and shell condition captured in the 2020 large-mesh bottom trawl survey.

Cohort	Definition	Shell Condition			Total	
		Soft/New pliable	New	Old Very old/ Very very old		
Kodiak Area red king crab						
Prerecruit IV	<95 mm CL	0	2	0	2	
Prerecruit III	95–112 mm CL	0	4	0	4	
Prerecruit II	113–130 mm CL	0	2	0	2	
Prerecruit I	>130 mm CL and sublegal	0	3	0	3	
Recruit	<164 mm CL and legal soft/new	0	28	–	28	
Postrecruit	≥164 mm CL or legal and not soft/new	0	104	39	188	
Total		0	143	39	227	
Alaska Peninsula Area red king crab						
Prerecruit IV	<79 mm CL	0	3	0	3	
Prerecruit III	79–95 mm CL	0	3	0	3	
Prerecruit II	96–115 mm CL	0	1	0	1	
Prerecruit I	>115 mm CL and sublegal	0	1	0	1	
Recruit	<152 mm CL and legal soft/new	0	8	–	8	
Postrecruit	≥152 mm CL or legal and not soft/new	0	52	17	90	
Total		0	68	17	106	
Kodiak District Tanner crab						
Prerecruit IV	<70 mm CW	268	3,460	18	6	3,752
Prerecruit III	70–91 mm CW	125	11,213	713	138	12,189
Prerecruit II	92–114 mm CW	479	26,317	1,263	411	28,470
Prerecruit I	≥115 mm CW and sublegal	1,657	9,127	802	559	12,145
Recruit	<165 mm CW and legal soft/new	452	535	–	–	987
Postrecruit	≥165 mm CW or legal and not soft/new	2	10	90	245	347
Total		2,983	50,662	2,886	1,359	57,890
Mature only	≥115 mm CW	2,111	9,672	892	804	13,479
Chignik District Tanner crab						
Prerecruit IV	<70 mm CW	170	1,152	3	0	1,325
Prerecruit III	70–91 mm CW	18	1,698	48	9	1,773
Prerecruit II	92–114 mm CW	54	3,035	197	72	3,358
Prerecruit I	≥115 mm CW and sublegal	73	1,302	187	70	1,632
Recruit	<165 mm CW and legal soft/new	10	55	–	–	65
Postrecruit	≥165 mm CW or legal and not soft/new	0	0	13	5	18
Total		325	7,242	448	156	8,171
Mature only	≥115 mm CW	83	1,357	200	75	1,715

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Table 5.–Page 2 of 2.

Cohort	Definition	Shell Condition				Total
		Soft/New pliable	New	Old	Very old/ Very very old	
South Peninsula District Tanner crab						
Prerecruit IV	<70 mm CW	204	4,258	0	0	4,462
Prerecruit III	70–91 mm CW	54	9,539	78	124	9,795
Prerecruit II	92–114 mm CW	207	11,864	428	415	12,914
Prerecruit I	≥115 mm CW and sublegal	233	2,805	181	607	3,826
Recruit	<165 mm CW and legal soft/new	6	94	–	–	100
Postrecruit	≥165 mm CW or legal and not soft/new	0	0	4	112	116
Total		704	28,560	691	1,258	31,213
Mature only	≥115 mm CW	239	2,899	185	719	4,042

Note: En dashes indicate not applicable.

Table 6.—Red king crab abundance estimates from large-mesh bottom trawl surveys in the Kodiak and Alaska Peninsula areas, 2011–2020.

Year	Females			Prerecruit males				Recruit males	Postrecruit males	Legal males	Total males	Total crab
	Juvenile	Adult	Total	IV	III	II	I					
KODIAK AREA												
Northeast District												
2011	0	0	0	0	0	1,419	0	0	0	0	1,419	1,419
2012	0	0	0	0	0	0	0	0	0	0	0	0
2013	1,519	1,182	2,701	270	0	0	0	0	0	0	270	2,971
2014	365	0	365	0	0	0	0	0	0	0	0	365
2015	0	0	0	0	0	0	0	0	365	365	365	365
2016	0	7,154	7,154	0	0	0	0	0	365	365	365	7,519
2017	0	3,281	3,281	0	0	0	2,187	3,990	3,625	7,617	9,804	13,085
2018	196	4,452	4,648	0	775	0	709	709	4,522	5,232	6,716	11,364
2019	0	7,803	7,803	0	709	0	0	0	2,903	2,903	3,612	11,415
2020	2,027	1,549	3,576	0	2,027	0	486	1,549	4,542	6,091	8,604	12,180
Southeast District												
2011	0	0	0	0	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	0	0	0	0	0
2013	0	0	0	4,232	0	0	0	0	0	0	4,232	4,232
2014	0	0	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	0	0	0	0
2016	0	0	0	0	1,234	0	851	0	0	0	2,085	2,085
2017	0	2,336	2,336	0	0	0	0	851	2,970	3,821	3,821	6,157
2018	1,367	2,734	4,101	0	2,734	0	0	2,734	1,367	4,101	6,836	10,937
2019	0	0	0	0	0	0	0	0	2,392	2,392	2,392	2,392
2020	0	0	0	0	0	0	0	0	0	0	0	0
Southwest District												
2011	140,454	48,315	188,770	74,180	25,982	5,640	4,302	1,124	12,078	13,201	123,306	312,075
2012	45,939	36,492	82,431	2,074	49,416	43,670	5,559	5,917	10,331	16,248	116,966	199,397
2013	19,763	135,960	155,724	1,551	12,884	50,872	30,011	8,948	12,100	21,050	116,370	272,093
2014	5,262	160,532	165,794	4,367	3,798	17,750	48,193	145,167	59,526	204,695	278,800	444,592
2015	8,940	162,793	171,733	3,190	6,863	7,242	22,189	111,896	219,653	331,552	371,037	542,770
2016	124,312	79,933	204,246	66,445	86,292	10,107	2,881	11,770	184,636	196,405	362,129	566,376
2017	1,241	41,734	42,975	1,074	5,046	44,872	21,099	9,404	117,291	126,696	198,785	241,760
2018	8,633	178,987	187,619	2,855	11,321	30,806	42,429	17,416	87,096	104,509	191,920	379,541
2019	2,336	106,965	109,302	0	0	1,929	15,719	51,032	105,081	156,112	173,760	283,063
2020	0	16,429	16,429	714	892	0	1,595	18,967	69,104	88,073	91,274	107,703

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Table 6.–Page 2 of 5.

Year	Females			Prerecruit males				Recruit males	Postrecruit males	Legal males	Total males	Total crab
	Juvenile	Adult	Total	IV	III	II	I					
Shelikof District												
2011	0	334	334	0	0	0	0	0	334	334	334	668
2012	0	446	446	0	446	446	0	446	0	446	1,337	1,782
2013	226	0	226	750	226	0	0	0	0	0	976	1,202
2014	120	0	120	612	0	0	0	0	0	0	612	732
2015	774	0	774	0	0	149	0	0	297	297	446	1,220
2016	4,747	0	4,747	0	0	0	0	0	0	0	0	4,747
2017	614	1,605	2,219	922	0	447	0	0	1,841	1,841	3,210	5,428
2018	0	0	0	0	0	0	0	149	0	149	149	149
2019	471	1,413	1,884	769	0	0	0	471	471	942	1,711	3,594
2020	657	0	657	186	186	372	0	0	0	0	744	1,401
KODIAK AREA TOTAL												
2011	140,454	48,649	189,104	74,180	25,982	7,059	4,302	1,124	12,412	13,535	125,059	314,162
2012	45,939	36,938	82,877	2,074	49,862	44,116	5,559	6,363	10,331	16,694	118,303	201,179
2013	21,508	137,142	158,651	6,803	13,110	50,872	30,011	8,948	12,100	21,050	121,848	280,498
2014	5,747	160,532	166,279	4,979	3,798	17,750	48,193	145,167	59,526	204,695	279,412	445,689
2015	9,714	162,793	172,507	3,190	6,863	7,391	22,189	111,896	220,315	332,214	371,848	544,355
2016	129,059	87,087	216,147	66,445	87,526	10,107	3,732	11,770	185,001	196,770	364,579	580,727
2017	1,855	48,956	50,811	1,996	5,046	45,319	23,286	14,245	125,727	139,975	215,620	266,430
2018	10,196	186,173	196,368	2,855	14,830	30,806	43,138	21,008	92,985	113,991	205,621	401,991
2019	2,807	116,181	118,989	769	709	1,929	15,719	51,503	110,847	162,349	181,475	300,464
2020	2,684	17,978	20,662	900	3,105	372	2,081	20,516	73,646	94,164	100,622	121,284
ALASKA PENINSULA AREA												
Morzhovoi Bay												
2011	0	0	0	0	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0	892	24,095	24,988	24,988	24,988
2014	0	0	0	0	0	0	793	0	34,110	34,110	34,903	34,903
2015	4,666	47,441	52,108	778	7,000	4,666	4,666	3,889	27,221	31,109	48,219	100,327
2016	0	884	884	0	0	0	0	0	1,598	1,598	1,598	2,482
2017	0	0	0	0	0	0	0	0	0	0	0	0
2018	0	0	0	0	0	0	0	0	949	949	949	949
2019	0	0	0	0	0	0	0	0	834	834	834	834
2020	0	14,946	14,946	0	0	0	1,172	1,768	884	2,652	3,824	18,769

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Table 6.–Page 3 of 5.

Year	Females			Prerecruit males				Recruit males	Postrecruit males	Legal males	Total males	Total crab
	Juvenile	Adult	Total	IV	III	II	I					
Cold Bay/Belkofski Bay												
2011	268	671	938	268	535	268	268	803	4,723	5,525	6,863	7,802
2012	5,545	16,121	21,665	1,261	918	2,908	1,173	1,195	25,524	26,719	32,979	54,645
2013	714	230	944	2,431	0	0	0	0	0	0	2,431	3,375
2014	4,703	5,815	10,518	4,299	0	0	0	230	0	230	4,529	15,048
2015	17,894	2,627	20,521	10,438	10,083	1,491	0	1,136	1,491	2,627	24,639	45,161
2016	49,586	24,851	74,437	2,216	39,894	32,575	4,433	2,216	7,897	10,114	89,232	163,667
2017	0	957	957	0	0	0	161	0	161	161	322	1,279
2018	0	0	0	0	0	0	0	1,771	0	1,771	1,771	1,771
2019	1,491	0	1,491	0	0	0	0	0	0	0	0	1,491
2020	4,018	6,654	10,672	3,939	1,914	0	0	0	4,557	4,557	10,410	21,083
Pavlof Bay/Volcano Bay												
2011	368,784	396,581	765,365	43,615	311,287	563,046	246,981	76,487	62,559	139,046	1,303,974	2,069,339
2012	0	0	0	0	0	0	0	0	4,308	4,308	4,308	4,308
2013	6,258	55,542	61,801	3,911	3,129	24,251	46,937	24,251	19,920	44,170	122,399	184,199
2014	10,952	109,569	120,521	4,694	4,694	0	8,108	0	13,321	13,321	30,816	151,338
2015	0	4,337	4,337	3,530	0	0	5,204	9,541	14,827	24,367	33,102	37,438
2016	3,468	10,412	13,880	0	1,689	2,417	0	2,580	17,026	19,606	23,711	37,590
2017	1,961	20,453	22,414	0	0	1,565	2,347	3,384	84,098	87,482	91,393	113,807
2018	4,630	42,605	47,236	919	0	57,485	553,894	191,627	257,801	449,428	1,061,727	1,108,962
2019	2,765	93,549	96,314	0	0	1,239	8,692	11,346	43,742	55,090	65,021	161,336
2020	1,048	68,598	69,646	0	2,522	2,522	0	5,182	73,014	78,196	83,239	152,885
Beaver Bay/Balboa Bay/Unga Strait												
2011	0	0	0	0	0	0	735	0	1,792	1,792	2,527	2,527
2012	0	0	0	0	0	0	0	0	2,977	2,977	2,977	2,977
2013	0	0	0	0	0	0	0	0	2,242	2,242	2,242	2,242
2014	0	0	0	0	618	0	0	0	1,863	1,863	2,481	2,481
2015	0	0	0	0	0	0	0	0	564	564	564	564
2016	0	0	0	0	0	0	0	0	0	0	0	0
2017	0	18,292	18,292	0	0	1,495	747	6,163	0	6,163	8,405	26,697
2018	0	8,589	8,589	0	0	0	0	2,989	4,852	7,841	7,841	16,429
2019	0	747	747	0	0	0	0	0	2,989	2,989	2,989	3,737
2020	0	0	0	0	0	0	0	0	0	0	0	0

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Table 6.–Page 4 of 5.

Year	Females			Prerecruit males				Recruit males	Postrecruit males	Legal males	Total males	Total crab
	Juvenile	Adult	Total	IV	III	II	I					
Stepovak Bay												
2011	0	0	0	0	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	0	0	0	0
2016	0	0	0	0	0	0	0	0	0	0	0	0
2017	0	0	0	0	0	0	0	0	0	0	0	0
2018	0	0	0	0	0	0	0	0	0	0	0	0
2019	0	1,033	1,033	0	0	0	0	0	0	0	0	1,033
2020	886	1,495	2,381	0	0	0	0	0	1,311	1,311	1,311	3,692
West Nagai Strait												
2011	0	0	0	0	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	0	0	0	0	0
2013	3,723	0	3,723	0	0	0	0	1,241	0	1,241	1,241	4,964
2014	0	0	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	0	0	0	0
2016	0	0	0	0	0	0	0	0	0	0	0	0
2017	0	0	0	0	0	0	0	0	0	0	0	0
2018	0	0	0	0	0	0	0	0	0	0	0	0
2019	0	1,009	1,009	0	0	0	0	0	0	0	0	1,009
2020	0	0	0	0	0	0	0	0	0	0	0	0
Ivanof Bay												
2011	1,147	1,147	2,294	0	0	0	2,294	2,294	1,147	3,441	5,734	8,028
2012	0	0	0	0	0	0	0	0	0	0	0	0
2013	0	0	0	917	0	0	0	917	2,813	3,731	4,648	4,648
2014	0	615	615	0	0	0	0	0	0	0	0	615
2015	0	6,015	6,015	0	0	273	820	0	0	0	1,094	7,109
2016	246	2,388	2,634	0	0	0	0	0	0	0	0	2,634
2017	0	2,752	2,752	0	0	738	699	2,953	984	3,937	5,621	8,373
2018	0	0	0	0	0	246	0	984	1,969	2,953	3,199	3,199
2019	0	0	0	0	0	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0	0	1,650	1,650	1,650	1,650

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Table 6.–Page 5 of 5.

Year	Females			Prerecruit males				Recruit males	Postrecruit males	Legal males	Total males	Total crab
	Juvenile	Adult	Total	IV	III	II	I					
Chignik Bay/Castle Bay												
2011	0	873	873	0	0	0	1,403	0	873	873	2,277	3,150
2012	873	0	873	0	0	0	1,297	0	0	0	1,297	2,171
2013	1,466	0	1,466	1,759	0	0	1,092	0	0	0	2,851	4,317
2014	0	0	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	0	0	0	0
2016	0	3,072	3,072	0	0	0	366	0	3,353	3,353	3,719	6,792
2017	1,747	38,431	40,178	0	2,620	4,367	2,620	3,494	2,757	6,251	16,732	56,909
2018	0	3,390	3,390	0	0	0	424	0	0	0	424	3,814
2019	0	2,543	2,543	0	0	0	0	0	758	758	758	3,301
2020	0	326	326	0	0	0	0	0	0	0	0	326
Kujulik Bay												
2011	0	0	0	0	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0	0	0	0	0	0
2014	3,190	456	3,646	456	0	0	456	0	0	0	911	4,557
2015	28,287	208,627	236,913	0	13,671	53,520	13,671	13,671	57,418	71,089	151,951	388,864
2016	0	0	0	0	0	0	0	0	0	0	0	0
2017	0	0	0	0	456	0	0	456	0	456	911	911
2018	0	0	0	0	0	0	0	0	0	0	0	0
2019	0	0	0	0	0	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0	0	0	0	0	0
ALASKA PENINSULA AREA TOTAL												
2011	370,199	399,272	769,470	43,883	311,822	563,314	251,681	79,584	71,094	150,677	1,321,375	2,090,846
2012	6,418	16,121	22,538	1,261	918	2,908	2,470	1,195	32,809	34,004	41,561	64,101
2013	12,161	55,772	67,934	9,018	3,129	24,251	48,029	27,301	49,070	76,372	160,800	228,733
2014	22,035	116,911	138,946	9,905	5,312	0	9,813	230	49,294	49,524	74,551	213,499
2015	79,134	477,674	556,807	14,746	44,425	113,470	38,032	41,908	158,939	200,845	411,520	968,327
2016	53,300	41,607	94,907	2,216	41,583	34,992	4,799	4,796	29,874	34,671	118,260	213,165
2017	3,708	80,885	84,593	0	3,532	8,165	6,574	16,906	88,000	104,906	124,295	208,887
2018	4,630	54,584	59,215	919	0	57,731	554,318	197,371	265,571	462,942	1,075,911	1,135,124
2019	4,256	98,881	103,137	0	0	1,239	8,692	11,346	48,323	59,671	69,602	172,741
2020	5,952	92,019	97,971	3,939	4,436	2,522	1,172	6,950	81,416	88,366	100,434	198,405

Note: Definitions of categories used to distinguish juvenile and mature females; prerecruit males IV, III, II, and I; and recruit and postrecruit males are found in Appendix A1 and differ by management area.

Table 7.—Predominant species by weight in the Chignik Tanner crab District large-mesh bottom trawl survey, 2020.

Common name	Species name	% of catch by weight
Arrowtooth flounder	<i>Atheresthes stomias</i>	32.8
Flathead sole	<i>Hippoglossoides elassodon</i>	21.1
Tanner crab	<i>Chionoecetes bairdi</i>	11.8
Walleye pollock	<i>Gadus chalcogrammus</i>	7.1
Pacific halibut	<i>Hippoglossus stenolepis</i>	6.9
Yellowfin sole	<i>Limanda aspera</i>	2.5
Anemone	Order: Actinaria	2.3
Pacific cod	<i>Gadus macrocephalus</i>	2.1
Dungeness crab	<i>Metacarcinus magister</i>	2.1
Rex sole	<i>Glyptocephalus zachirus</i>	1.5
Big skate	<i>Raja binoculata</i>	1.4
Great sculpin	<i>Myoxocephalus polyacanthocephalus</i>	1.0
Aleutian skate	<i>Bathyraja aleutica</i>	0.8
Longnose skate	<i>Raja rhina</i>	0.8
Sablefish	<i>Anoplopoma fimbria</i>	0.7
Oregon triton	<i>Fusitriton oregonensis</i>	0.5
Rougeye rockfish	<i>Sebastes aleutianus</i>	0.5
Basket star	<i>Gorgonocephalus</i> sp.	0.4
Starry flounder	<i>Platichthys stellatus</i>	0.3
English sole	<i>Parophrys vetulus</i>	0.3
All others	(70 species)	3.1
Total		100.0

Table 8.—Tanner crab abundance estimates from large-mesh bottom trawl surveys in the Chignik District, 1989–2020.

Year	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
	Juvenile	Mature	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	>165 mm			
CHIGNIK DISTRICT													
Ivanof Bay													
1989	267,850	164,754	432,603	213,734	83,220	471,604	445,292	204,617	7,396	7,396	219,409	1,433,259	1,865,862
1990	617,894	19,342	637,235	719,143	10,379	67,805	150,805	64,921	0	0	64,921	1,013,052	1,650,287
1991	275,037	1,476	276,513	302,532	0	0	1,723	7,136	0	738	7,874	312,129	588,643
1992	26,693	2,215	28,907	30,505	1,969	984	5,028	4,100	1,889	738	6,727	45,214	74,119
1993	47,617	1,929	49,546	26,775	41,776	9,880	3,055	0	699	0	699	82,185	131,732
1994	22,819	12,095	34,914	6,775	22,612	12,866	3,833	984	246	0	1,230	47,315	82,229
1995	40,024	3,833	43,857	46,548	2,848	492	2,461	2,707	492	0	3,199	55,548	99,405
1996	63,771	699	64,470	65,883	41,649	6,890	7,872	8,754	0	0	8,754	131,049	195,518
1997	22,655	4,675	27,330	29,632	3,619	7,770	4,183	3,691	492	246	4,429	49,634	76,964
1998	22,035	1,191	23,226	21,497	1,864	246	1,230	1,723	0	0	1,723	26,559	49,785
1999	42,136	3,652	45,786	44,603	492	1,476	9,907	10,089	945	0	11,034	67,511	113,299
2000	457,297	15,177	472,475	503,823	37,727	25,900	15,503	10,089	945	246	11,280	594,234	1,066,709
2001	570,000	85,642	655,640	403,999	296,452	64,697	41,587	2,848	15,299	0	18,147	824,884	1,480,524
2002	263,139	45,073	308,212	93,656	335,981	326,874	94,638	3,514	9,228	0	12,742	863,893	1,172,105
2003	25,198	240,133	265,331	3,168	41,275	91,790	106,904	25,048	7,990	0	33,039	276,173	541,506
2004	22,388	447,395	469,782	28,951	19,736	179,096	280,796	69,766	31,471	5,378	106,614	615,192	1,084,975
2005	339,705	898,151	1,237,856	495,062	40,357	83,921	218,668	56,910	50,474	1,182	108,565	946,573	2,184,429
2006	5,260,959	308,560	5,569,520	6,611,859	1,126,263	82,239	184,384	53,504	112,773	46,687	212,964	8,217,712	13,787,229
2007	2,404,530	177,375	2,581,906	2,320,990	1,640,663	300,377	64,073	16,935	25,403	3,629	45,967	4,372,070	6,953,976
2008	892,396	754,346	1,646,742	372,457	1,213,676	851,003	189,965	12,249	12,249	4,083	28,581	2,655,680	4,302,422
2009	37,251	982,209	1,019,460	46,515	290,602	1,099,892	1,011,168	46,640	31,497	2,515	80,653	2,528,831	3,548,291
2010	9,536	379,026	388,562	14,281	10,052	180,469	847,469	307,864	174,285	4,995	487,146	1,539,416	1,927,979
2011	99,210	137,350	236,559	119,793	0	28,130	313,172	228,662	219,550	30,771	478,981	940,075	1,176,634
2012	120,616	36,960	157,577	151,571	3,231	7,300	53,249	6,836	22,716	0	29,551	244,904	402,480
2013	1,578,022	124,172	1,702,194	1,844,152	16,434	12,578	429,087	0	419,719	19,189	438,908	2,741,162	4,443,354
2014	162,697	63,151	225,849	106,269	161,705	201,522	682,703	0	715,271	19,016	734,288	1,886,488	2,112,336
2015	687,142	1,251,420	1,938,562	276,204	539,085	450,958	460,557	21,702	217,000	3,709	242,411	1,969,214	3,907,774
2016	15,949	19,148	35,098	5,791	20,743	314,860	270,305	24,332	628	0	24,960	636,659	671,756
2017	270,628	328,653	599,281	268,460	30,591	45,622	87,637	43,064	7,455	0	50,519	482,829	1,082,109
2018	856,623	72,797	929,420	852,945	119,645	36,010	34,081	10,841	3,079	0	13,921	1,056,602	1,986,022
2019	845,485	1,341,067	2,186,552	274,084	1,152,460	564,298	87,182	0	699	0	699	2,078,723	4,265,275
2020	380,045	221,294	601,339	240,343	399,361	771,957	366,073	699	0	0	699	1,778,432	2,379,771

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Table 8.–Page 2 of 5.

Year	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
	Juvenile	Mature	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	≥165 mm			
Mitrofanina Island													
1989	238,524	510,311	748,835	295,652	155,511	637,889	315,908	42,526	17,719	21,263	81,508	1,486,468	2,235,303
1990	276,450	29,572	306,022	249,270	91,148	111,575	143,930	50,314	15,682	4,005	70,001	665,923	971,947
1991	369,923	30,210	400,133	319,748	66,937	43,973	35,851	32,084	3,591	1,557	37,232	503,742	903,877
1992	243,032	6,463	249,495	193,452	27,819	5,476	9,745	11,779	0	1,557	13,336	249,825	499,323
1993	99,118	15,182	114,300	63,361	48,606	28,121	12,889	12,846	9,048	653	22,547	175,522	289,822
1994	54,918	5,815	60,733	31,317	14,244	11,469	4,019	8,468	1,795	0	10,264	71,313	132,044
1995	173,519	28,205	201,724	203,549	10,550	29,769	20,644	17,563	0	1,557	19,120	283,630	485,350
1997	421,234	90,723	511,956	303,776	522,670	262,434	65,822	5,358	17,955	6,228	29,541	1,184,241	1,696,197
1998	192,756	202,589	395,345	158,484	113,257	160,133	65,394	17,920	21,756	0	39,676	536,944	932,289
1999	151,136	55,605	206,741	143,630	60,475	44,745	68,493	14,229	2,244	2,244	18,717	336,059	542,801
2000	1,120,703	93,687	1,214,390	1,289,872	74,232	58,562	54,854	58,667	9,801	41,948	110,417	1,587,934	2,802,325
2001	569,255	235,543	804,800	566,154	191,559	211,857	85,869	30,476	26,738	5,985	63,201	1,118,638	1,923,440
2002	821,007	387,781	1,208,787	868,750	1,887,372	1,093,803	286,266	40,844	6,855	1,929	49,629	4,185,820	5,394,608
2003	214,546	204,351	418,895	138,961	530,487	629,309	349,100	20,746	36,137	5,386	62,270	1,710,127	2,129,024
2004	899,469	252,600	1,152,070	921,342	206,230	1,090,695	1,022,954	291,234	29,722	3,591	324,547	3,565,764	4,717,835
2005	2,121,311	133,652	2,254,962	2,169,033	293,170	163,586	242,054	76,711	20,903	3,863	101,477	2,969,320	5,224,282
2006	6,270,837	305,972	6,576,810	6,370,972	808,999	275,366	284,210	23,279	66,215	0	89,493	7,829,040	14,405,849
2007	2,128,167	633,729	2,761,894	2,022,632	1,922,607	646,695	112,305	4,295	24,789	2,335	31,420	4,735,660	7,497,554
2008	2,669,345	842,375	3,511,717	1,934,506	4,368,293	3,101,719	690,953	47,360	11,970	3,474	62,804	10,158,276	13,669,995
2009	643,087	2,351,404	2,994,491	522,959	3,983,619	5,834,258	2,186,701	245,837	6,481	0	252,317	12,779,855	15,774,344
2010	166,039	1,217,108	1,383,145	108,925	211,792	2,465,593	4,302,694	1,514,241	136,391	14,731	1,665,364	8,754,358	10,137,502
2011	263,572	609,510	873,082	208,349	18,044	191,281	1,793,296	1,136,115	474,682	43,029	1,653,826	3,864,796	4,737,877
2012	352,164	127,225	479,389	364,292	15,717	56,097	536,787	95,357	392,931	12,275	500,563	1,473,460	1,952,850
2013	4,582,853	15,290	4,598,144	5,324,038	108,729	37,516	332,606	8,831	199,580	13,574	221,985	6,024,875	10,623,019
2014	1,061,109	93,941	1,155,048	828,743	349,985	242,579	239,854	2,684	100,632	0	103,317	1,764,475	2,919,523
2015	582,641	301,636	884,275	529,680	218,752	248,879	234,632	17,223	45,643	3,947	66,814	1,298,754	2,183,030
2016	36,723	58,550	95,274	15,743	11,540	48,672	69,473	12,744	1,795	1,557	16,097	161,526	256,799
2017	2,831,079	106,535	2,937,615	3,012,086	116,257	51,287	45,245	8,676	0	0	8,676	3,233,552	6,171,166
2018	15,690,726	870,476	16,643,917	16,874,661	4,096,357	1,260,020	206,664	43,889	9,505	0	53,395	22,491,092	39,135,012
2019	4,270,900	2,254,069	6,524,970	3,926,380	9,737,737	2,318,396	489,588	14,424	3,644	0	18,068	16,609,305	23,134,273
2020	448,444	2,438,285	2,886,729	494,757	2,156,729	3,853,677	1,245,558	39,746	11,121	0	50,867	7,801,583	10,688,310

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Table 8.—Page 3 of 5.

Year	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
	Juvenile	Mature	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	≥165 mm			
Chignik Bay													
1989	667,856	444,176	1,112,032	655,157	88,786	81,131	172,141	40,153	13,174	0	53,330	1,050,540	2,162,572
1990	1,634,371	419,126	2,053,495	1,318,505	111,187	132,241	441,451	83,208	77,808	1,387	162,403	2,165,784	4,219,280
1991	1,110,229	479,825	1,590,054	1,056,644	98,077	48,537	131,065	67,099	66,093	0	133,192	1,467,514	3,057,570
1992	1,147,424	321,989	1,469,413	1,305,273	91,362	69,122	34,071	0	14,828	0	14,828	1,514,657	2,984,069
1993	819,309	215,111	1,034,419	788,593	464,122	305,588	185,738	21,972	60,687	3,286	85,945	1,829,984	2,864,402
1994	235,113	135,207	370,319	71,972	520,571	513,603	142,813	28,348	32,261	949	61,558	1,310,519	1,680,837
1995	172,122	93,531	265,653	204,920	3,191	52,923	174,170	82,082	14,528	0	96,610	531,814	797,467
1996	1,000,292	128,230	1,128,523	987,387	34,907	44,492	248,261	263,750	72,372	0	336,121	1,651,168	2,779,693
1997	1,121,412	333,004	1,454,416	1,017,334	268,500	165,228	234,175	148,418	75,513	5,298	229,229	1,914,462	3,368,879
1998	422,380	623,095	1,045,474	287,692	185,898	240,857	226,854	45,157	90,408	1,213	136,778	1,078,078	2,123,552
1999	624,036	145,490	769,531	467,811	307,462	351,337	428,710	143,757	163,065	0	306,820	1,862,137	2,631,665
2000	3,090,772	427,123	3,517,893	2,763,801	1,617,601	782,373	540,226	223,265	182,296	10,387	415,948	6,119,947	9,637,837
2001	2,225,223	482,766	2,707,989	919,915	2,814,170	838,299	414,732	216,631	48,359	2,513	267,503	5,254,619	7,962,611
2002	271,896	688,327	960,222	111,742	433,585	998,933	635,794	85,528	357,576	7,812	450,917	2,630,971	3,591,196
2003	134,167	492,743	626,910	114,283	120,204	343,810	463,268	70,010	130,985	7,402	208,396	1,249,959	1,876,869
2004	932,885	567,187	1,500,070	839,542	359,307	264,081	554,113	286,164	165,744	7,441	459,350	2,476,397	3,976,466
2005	1,009,683	431,973	1,441,654	1,030,864	374,323	636,603	508,778	111,884	82,407	1,585	195,876	2,746,444	4,188,095
2006	1,945,379	424,701	2,370,078	2,652,227	186,324	236,129	368,214	70,281	92,667	2,654	165,601	3,608,496	5,978,572
2007	767,565	760,170	1,527,735	765,008	436,765	583,634	465,569	105,576	38,934	1,898	146,411	2,397,383	3,925,119
2008	1,418,598	427,979	1,846,577	1,097,440	877,101	923,069	680,855	140,365	43,512	2,569	186,447	3,764,909	5,611,487
2009	1,554,631	596,338	2,150,969	958,198	1,048,445	1,090,671	1,012,322	328,686	43,099	9,522	381,307	4,490,943	6,641,914
2010	336,408	592,910	929,319	356,471	345,048	817,926	1,424,161	760,963	698,171	31,756	1,490,888	4,434,497	5,363,815
2011	778,503	130,101	908,606	938,675	16,858	160,026	588,728	135,980	480,223	47,254	663,458	2,367,745	3,276,348
2012	969,320	125,870	1,095,190	1,111,301	15,110	36,033	198,015	57,890	179,953	5,303	243,146	1,603,607	2,698,797
2013	4,806,728	64,133	4,870,860	6,511,779	110,030	30,560	65,009	1,941	72,021	0	73,962	6,791,337	11,662,200
2014	1,961,756	124,532	2,086,286	2,216,449	421,835	141,608	22,945	0	16,088	442	16,530	2,819,366	4,905,652
2015	635,702	283,190	918,891	318,926	538,037	234,591	70,634	0	8,909	677	9,586	1,171,775	2,090,666
2016	122,988	255,346	378,332	147,021	25,076	305,086	214,133	10,445	5,007	0	15,452	706,767	1,085,103
2017	536,697	228,825	765,524	528,287	86,568	108,657	111,259	12,401	1,941	0	14,342	849,113	1,614,637
2018	5,033,386	548,656	5,582,041	4,484,715	711,863	574,551	423,686	35,935	1,941	1,681	39,559	6,234,373	11,816,417
2019	1,170,642	1,623,408	2,794,047	468,891	1,274,672	1,332,413	447,663	72,878	19,167	0	92,045	3,615,679	6,409,728
2020	458,151	1,318,793	1,776,946	516,696	189,937	579,070	511,533	21,434	12,806	0	34,240	1,831,474	3,608,420

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Table 8.–Page 4 of 5.

Year	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
	Juvenile	Mature	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	≥165 mm			
Kujulik Bay												0	
1989	80,263	11,838	92,101	76,292	747	8,136	10,284	807	0	0	807	96,265	188,365
1990	315,664	77,427	393,090	317,588	1,567	7,586	7,047	1,519	0	0	1,519	335,304	728,394
1991	7,612	948	8,560	13,539	0	0	0	0	0	0	0	13,539	22,098
1992	107,864	18,988	126,852	129,191	760	760	3,038	0	1,519	0	1,519	135,267	262,119
1993	106,845	15,935	122,780	99,092	80,941	29,651	1,367	0	0	0	0	211,050	333,830
1994	7,561	3,190	10,751	8,976	7,258	4,943	6,463	0	2,279	0	2,279	29,917	40,667
1995	842	28,612	29,453	2,771	0	911	456	0	0	0	0	4,138	33,591
1996	227,174	7,595	234,769	184,465	0	0	0	0	0	0	0	184,465	419,234
1997	47,555	61,288	108,844	60,483	456	3,711	14,105	0	5,425	0	5,425	84,179	193,022
1998	38,310	15,190	53,500	37,074	0	2,279	3,798	0	760	0	760	43,910	97,411
1999	90,546	0	90,546	85,961	456	0	0	0	456	0	456	86,873	177,416
2000	212,544	949	213,494	253,014	1,298	0	0	0	0	0	0	254,312	467,805
2001	180,902	0	180,902	205,835	760	2,515	0	807	0	0	807	209,915	390,819
2002	15,600	844	16,444	16,059	6,049	7,556	3,376	844	0	0	844	33,881	50,325
2003	370,806	0	370,806	447,147	948	0	0	0	0	0	0	448,095	818,901
2004	294,155	0	294,155	341,301	9,538	2,279	949	0	0	0	0	354,068	648,222
2005	148,861	0	148,861	141,273	4,084	2,069	0	0	0	0	0	147,427	296,287
2006	514,996	948	515,944	802,688	1,801	842	0	0	0	0	0	805,330	1,321,275
2007	132,133	0	132,133	156,794	2,139	0	0	0	0	0	0	158,933	291,067
2008	397,500	3,086	400,585	420,056	9,358	8,233	26,431	9,606	0	456	10,062	474,139	874,725
2009	263,457	182,222	445,679	157,036	190,351	225,422	87,856	9,183	0	0	9,183	669,844	1,115,524
2010	44,191	120,885	165,076	29,488	82,910	287,031	304,547	31,862	1,519	0	33,381	737,357	902,434
2011	89,733	12,445	102,179	86,889	456	8,811	35,859	6,195	10,763	0	16,957	148,970	251,147
2012	164,365	32,264	196,630	195,609	3,038	7,374	25,146	0	9,114	0	9,114	240,279	436,909
2013	550,287	15,048	565,334	720,217	32,736	6,916	6,646	0	3,798	0	3,798	770,312	1,335,642
2014	298,364	4,297	302,659	246,207	15,054	4,342	2,642	0	1,519	0	1,519	269,764	572,423
2015	15,151	911	16,062	11,284	10,528	10,960	0	0	0	0	0	32,773	48,834
2016	0	3,646	3,646	1,790	911	1,367	456	0	0	0	0	4,524	8,170
2017	66,508	0	66,508	92,823	456	911	1,823	0	0	0	0	96,013	162,521
2018	1,021,949	0	1,021,949	469,557	790,357	41,287	5,898	0	0	0	0	1,307,099	2,329,047
2019	23,362	0	23,362	27,898	1,298	807	0	0	0	0	0	30,003	53,363
2020	142,146	6,822	148,968	138,690	68,181	24,710	7,521	1,074	0	0	1,074	240,176	389,143

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Table 8.–Page 5 of 5.

Year	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
	Juvenile	Mature	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	≥165 mm			
CHIGNIK DISTRICT TOTALS													
1989	1,254,493	1,131,079	2,385,571	1,240,835	328,264	1,198,760	943,625	288,103	38,289	28,659	355,054	4,066,532	6,452,102
1990	2,844,379	545,467	3,389,842	2,604,506	214,281	319,207	743,233	199,962	93,490	5,392	298,844	4,180,063	7,569,908
1991	1,762,801	512,459	2,275,260	1,692,463	165,014	92,510	168,639	106,319	69,684	2,295	178,298	2,296,924	4,572,188
1992	1,525,013	349,655	1,874,667	1,658,421	121,910	76,342	51,882	15,879	18,236	2,295	36,410	1,944,963	3,819,630
1993	1,072,889	248,157	1,321,045	977,821	635,445	373,240	203,049	34,818	70,434	3,939	109,191	2,298,741	3,619,786
1994	320,411	156,307	476,717	119,040	564,685	542,881	157,128	37,800	36,581	949	75,331	1,459,064	1,935,777
1995	386,507	154,181	540,687	457,788	16,589	84,095	197,731	102,352	15,020	1,557	118,929	875,130	1,415,813
1996	1,291,237	136,524	1,427,762	1,237,735	76,556	51,382	256,133	272,504	72,372	0	344,875	1,966,682	3,394,445
1997	1,612,856	489,690	2,102,546	1,411,225	795,245	439,143	318,285	157,467	99,385	11,772	268,624	3,232,516	5,335,062
1998	675,481	842,065	1,517,545	504,747	301,019	403,515	297,276	64,800	112,924	1,213	178,937	1,685,491	3,203,037
1999	907,854	204,747	1,112,604	742,005	368,885	397,558	507,110	168,075	166,710	2,244	337,027	2,352,580	3,465,181
2000	4,881,316	536,936	5,418,252	4,810,510	1,730,858	866,835	610,583	292,021	193,042	52,581	537,645	8,556,427	13,974,676
2001	3,545,380	803,951	4,349,331	2,095,903	3,302,941	1,117,368	542,188	250,762	90,396	8,498	349,658	7,408,056	11,757,394
2002	1,371,642	1,122,025	2,493,665	1,090,207	2,662,987	2,427,166	1,020,074	130,730	373,659	9,741	514,132	7,714,565	10,208,234
2003	744,717	937,227	1,681,942	703,559	692,914	1,064,909	919,272	115,804	175,112	12,788	303,705	3,684,354	5,366,300
2004	2,148,897	1,267,182	3,416,077	2,131,136	594,811	1,536,151	1,858,812	647,164	226,937	16,410	890,511	7,011,421	10,427,498
2005	3,619,560	1,463,776	5,083,333	3,836,232	711,934	886,179	969,500	245,505	153,784	6,630	405,918	6,809,764	11,893,093
2006	13,992,171	1,040,181	15,032,352	16,437,746	2,123,387	594,576	836,808	147,064	271,655	49,341	468,058	20,460,578	35,492,925
2007	5,432,395	1,571,274	7,003,668	5,265,424	4,002,174	1,530,706	641,947	126,806	89,126	7,862	223,798	11,664,046	18,667,716
2008	5,377,839	2,027,786	7,405,621	3,824,459	6,468,428	4,884,024	1,588,204	209,580	67,731	10,582	287,894	17,053,004	24,458,629
2009	2,498,426	4,112,173	6,610,599	1,684,708	5,513,017	8,250,243	4,298,047	630,346	81,077	12,037	723,460	20,469,473	27,080,073
2010	556,174	2,309,929	2,866,102	509,165	649,802	3,751,019	6,878,871	2,614,930	1,010,366	51,482	3,676,779	15,465,628	18,331,730
2011	1,231,018	889,406	2,120,426	1,353,706	35,358	388,248	2,731,055	1,506,952	1,185,218	121,054	2,813,222	7,321,586	9,442,006
2012	1,606,465	322,319	1,928,786	1,822,773	37,096	106,804	813,197	160,083	604,714	17,578	782,374	3,562,250	5,491,036
2013	11,517,890	218,643	11,736,532	14,400,186	267,929	87,570	833,348	10,772	695,118	32,763	738,653	16,327,686	28,064,215
2014	3,483,926	285,921	3,769,842	3,397,668	948,579	590,051	948,144	2,684	833,510	19,458	855,654	6,740,093	10,509,934
2015	1,920,636	1,837,157	3,757,790	1,136,094	1,306,402	945,388	765,823	38,925	271,552	8,333	318,811	4,472,516	8,230,304
2016	175,660	336,690	512,350	170,345	58,270	669,985	554,367	47,521	7,430	1,557	56,509	1,509,476	2,021,828
2017	3,704,912	664,013	4,368,928	3,901,656	233,872	206,477	245,964	64,141	9,396	0	73,537	4,661,507	9,030,433
2018	22,602,684	1,491,929	24,177,327	22,681,878	5,718,222	1,911,868	670,329	90,665	14,525	1,681	106,875	31,089,166	55,266,498
2019	6,310,389	5,218,544	11,528,931	4,697,253	12,166,167	4,215,914	1,024,433	87,302	23,510	0	110,812	22,333,710	33,862,639
2020	1,428,786	3,985,194	5,413,982	1,390,486	2,814,208	5,229,414	2,130,685	62,953	23,927	0	86,880	11,651,665	17,065,644

Table 9.—Predominant species by weight in the South Peninsula Tanner crab District large-mesh bottom trawl survey, 2020.

Common name	Species name	% of catch by weight
Flathead sole	<i>Hippoglossoides elassodon</i>	21.0
Arrowtooth flounder	<i>Atheresthes stomias</i>	17.5
Yellowfin sole	<i>Limanda aspera</i>	14.4
Walleye pollock	<i>Gadus chalcogrammus</i>	11.8
Tanner crab	<i>Chionoecetes bairdi</i>	11.7
Starry flounder	<i>Platichthys stellatus</i>	2.8
Pacific cod	<i>Gadus macrocephalus</i>	2.5
Pacific halibut	<i>Hippoglossus stenolepis</i>	2.5
Anemone	Order: Actinaria	2.3
Big skate	<i>Raja binoculata</i>	1.4
Alaska plaice	<i>Pleuronectes quadrituberculatus</i>	1.4
Sunflower seastar	<i>Pycnopodia helianthoides</i>	1.3
Northern rock sole	<i>Lepidopsetta polyxystra</i>	0.9
Hermit crab	Family: Paguridae	0.9
Oregon triton	<i>Fusitriton oregonensis</i>	0.9
Dungeness crab	<i>Metacarcinus magister</i>	0.8
Great sculpin	<i>Myoxocephalus polyacanthocephalus</i>	0.7
Plain sculpin	<i>Myoxocephalus jaok</i>	0.6
Yellow Irish lord	<i>Hemilepidotus jordani</i>	0.6
Red king crab	<i>Paralithodes camtschaticus</i>	0.5
All others	(93 species)	3.5
Total		100.0

Table 10.—Tanner crab abundance estimates from large-mesh bottom trawl surveys in the South Peninsula District, 1988–2020.

Year	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
	Juvenile	Mature	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	≥165 mm			
Sanak Island													
1989	1,071,609	116,990	1,188,600	1,159,768	23,925	31,519	64,965	6,836	0	0	6,836	1,287,012	2,475,613
1990	613,067	104,693	717,759	461,082	84,247	54,276	24,945	0	0	0	0	624,549	1,342,308
1991	502,735	30,289	533,023	515,060	33,734	40,658	0	0	0	0	0	589,451	1,122,475
1992	381,604	45,334	426,937	298,381	51,667	50,678	3,798	0	0	0	0	404,521	831,457
1993	302,560	16,822	319,381	238,482	28,992	33,299	9,219	0	0	0	0	309,991	629,373
1994	85,510	68,744	154,252	107,676	12,903	17,781	19,824	0	0	0	0	158,182	312,433
1996	554,162	132,998	687,160	416,751	52,698	28,959	35,079	0	0	0	0	533,484	1,220,643
1997	103,036	51,367	154,402	76,797	72,743	36,437	16,669	0	0	0	0	202,643	357,045
1998	279,450	401,219	680,667	377,230	81,490	124,402	63,941	0	0	0	0	647,062	1,327,728
1999	82,986	93,707	176,693	52,687	5,043	42,386	20,007	0	0	0	0	120,124	296,816
2000	578,289	183,975	762,263	546,298	59,137	93,362	32,780	0	2,522	0	2,522	734,097	1,496,358
2001	888,599	128,542	1,017,141	770,478	56,029	82,059	114,930	5,043	0	0	5,043	1,028,539	2,045,680
2002	723,329	1,012,098	1,735,427	714,685	270,913	220,391	103,390	0	10,807	0	10,807	1,320,184	3,055,610
2003	217,862	303,284	521,146	196,526	71,366	179,502	109,312	0	10,086	0	10,086	566,789	1,087,935
2004	710,374	200,465	910,838	648,112	100,068	55,619	6,674	0	0	0	0	810,472	1,721,310
2005	254,560	129,049	383,608	215,626	85,685	59,375	0	0	0	0	0	360,682	744,290
2006	3,111,150	64,327	3,175,478	2,873,714	58,344	80,351	16,974	0	0	0	0	3,029,384	6,204,859
2007	3,781,814	1,664,525	5,446,340	3,667,269	664,268	240,298	96,673	0	0	0	0	4,668,506	10,114,845
2008	191,878	1,816,432	2,008,310	843,242	1,791,588	322,364	33,687	0	0	0	0	2,990,878	4,999,188
2009	77,006	660,484	737,491	96,353	193,365	216,737	56,270	16,437	1,925	0	18,363	581,087	1,318,575
2010	172,832	561,273	734,104	187,437	15,876	160,098	574,126	1,007,317	65,331	74,563	1,147,211	2,084,748	2,818,852
2011	142,197	471,130	613,326	161,882	8,613	43,719	260,977	5,767	293,117	5,776	304,659	779,850	1,393,176
2012	94,342	9,249	103,591	100,182	8,578	7,003	75,273	0	166,084	9,349	175,433	366,468	470,059
2013	641,635	17,463	659,097	599,843	27,665	12,646	14,748	0	22,781	0	22,781	677,684	1,336,780
2014	447,199	78,897	526,095	483,930	37,251	24,502	46,007	0	61,810	6,304	68,114	659,807	1,185,900
2015	529,811	4,883	534,693	470,804	57,119	28,273	1,631	0	816	0	816	558,643	1,093,336
2016	58,960	4,747	63,707	79,260	22,547	0	0	0	0	0	0	101,807	165,512
2017	593,898	6,197	600,096	612,080	39,912	39,602	0	0	0	0	0	691,595	1,291,690
2018	2,114,937	107,904	2,222,840	1,652,383	473,954	69,430	34,587	0	0	0	0	2,230,357	4,453,195
2019	1,010,068	220,459	1,230,527	857,223	250,744	152,536	10,583	1,020	0	0	1,020	1,272,106	2,502,633
2020	480,941	120,543	601,483	518,940	291,277	299,541	205,854	0	0	0	0	1,315,611	1,917,093

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Table 10.—Page 2 of 10.

Year	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
	Juvenile	Mature	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	≥165 mm			
Morzhovoi Bay													
1988	397,556	362,040	759,595	226,229	228,579	203,264	197,863	79,615	29,271	15,048	123,933	979,869	1,739,467
1989	3,179,247	1,093,525	4,272,770	2,697,991	1,125,027	371,020	114,369	33,216	4,861	0	38,077	4,346,484	8,619,255
1990	1,824,688	998,503	2,823,192	1,260,747	602,555	538,504	192,148	25,710	24,554	1,005	51,269	2,645,224	5,468,414
1991	1,496,939	456,656	1,953,595	1,143,760	403,857	204,545	55,914	15,385	4,074	0	19,460	1,827,536	3,781,133
1992	330,263	810,767	1,141,027	169,582	434,432	264,117	190,081	31,879	20,925	949	53,754	1,111,964	2,252,994
1993	64,215	532,058	596,273	16,479	143,885	366,655	348,442	59,792	63,465	949	124,208	999,668	1,595,939
1994	35,472	238,877	274,350	8,051	52,802	113,936	185,344	6,269	47,526	0	53,795	413,927	688,278
1996	149,078	103,585	252,663	133,732	21,463	13,585	49,609	5,697	29,549	0	35,246	253,636	506,298
1997	135,455	85,797	221,252	85,565	77,864	61,129	35,004	6,646	8,901	0	15,546	275,100	496,352
1998	804,875	1,648,765	2,453,639	282,155	1,106,789	1,344,154	308,877	38,464	68,354	0	106,819	3,148,793	5,602,429
1999	147,627	461,834	609,461	39,875	282,203	530,116	727,677	59,884	55,341	1,899	117,122	1,696,997	2,306,458
2000	695,218	735,207	1,430,425	611,300	148,103	365,675	700,497	440,737	97,985	0	538,723	2,364,298	3,794,723
2001	891,012	282,222	1,173,232	559,250	789,124	193,149	218,953	184,925	104,396	10,706	300,027	2,060,509	3,233,740
2002	1,732,792	640,182	2,372,971	1,112,634	1,168,992	669,114	278,844	39,825	139,943	2,423	182,189	3,411,769	5,784,740
2003	522,858	1,582,659	2,105,517	103,124	1,152,568	789,285	396,045	38,984	98,362	0	137,345	2,578,366	4,683,885
2004	310,275	1,604,401	1,914,676	263,681	181,095	1,486,507	2,308,994	261,101	162,840	6,585	430,526	4,670,801	6,585,476
2005	522,691	3,645,334	4,168,027	352,529	155,822	359,567	1,251,966	470,992	198,667	2,649	672,306	2,792,193	6,960,221
2006	14,323,767	2,042,064	16,365,829	13,739,049	503,205	279,128	1,012,895	258,921	252,978	19,419	531,319	16,065,593	32,431,424
2007	10,796,647	1,910,977	12,707,627	7,132,383	6,315,109	1,719,699	2,146,565	509,959	221,335	11,696	742,989	18,056,744	30,764,370
2008	3,406,468	11,254,260	14,660,729	909,472	5,521,110	12,297,310	1,914,510	762,050	199,538	40,534	1,002,123	21,644,527	36,305,256
2009	262,475	2,399,538	2,662,012	153,196	526,886	3,968,441	7,748,392	356,469	12,940	9,482	378,890	12,775,800	15,437,811
2010	52,611	2,515,796	2,568,407	46,002	19,241	291,833	2,396,564	4,905,565	119,065	193,356	5,217,985	7,971,626	10,540,034
2011	227,539	1,278,771	1,506,310	241,053	6,443	77,932	794,014	1,334,213	1,666,689	296,884	3,297,787	4,417,230	5,923,538
2012	263,886	750,826	1,014,712	230,588	28,624	19,775	362,297	73,213	1,143,929	118,631	1,335,774	1,977,059	2,991,770
2013	4,566,777	134,517	4,701,292	4,986,700	223,637	41,649	90,394	1,938	513,392	45,837	561,168	5,903,548	10,604,843
2014	2,590,660	1,654,502	4,245,162	1,269,606	885,666	843,607	820,593	0	1,098,645	106,106	1,204,751	5,024,220	9,269,381
2015	1,361,812	2,089,782	3,451,593	203,591	2,008,982	3,169,705	1,136,257	151,603	128,453	0	280,056	6,798,590	10,250,183
2016	104,922	2,566,147	2,671,067	59,882	118,343	1,178,683	2,248,926	103,907	335,478	0	439,386	4,045,220	6,716,288
2017	91,849	359,371	451,219	84,656	5,418	153,359	559,556	44,088	37,336	0	81,424	884,412	1,335,632
2018	2,759,490	633,828	3,393,319	1,907,094	273,274	338,390	612,292	130,682	45,031	0	175,713	3,306,762	6,700,078
2019	3,209,370	1,025,346	4,234,717	1,318,081	3,169,280	816,229	812,677	10,978	254,657	0	265,634	6,381,907	10,616,623
2020	2,915,898	6,489,756	9,405,656	1,226,128	1,594,625	3,516,674	1,146,978	26,536	34,042	0	60,578	7,544,985	16,950,641

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Table 10.—Page 3 of 10.

Year	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
	Juvenile	Mature	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	>165 mm			
Cold Bay/Belkofski Bay													
1988	165,667	177,207	342,874	80,977	140,127	145,806	120,141	44,730	19,855	5,099	69,682	556,736	899,609
1989	478,645	55,255	533,901	420,925	55,566	30,044	16,589	4,096	595	0	4,691	527,817	1,061,720
1990	1,794,427	746,923	2,541,351	1,512,872	525,818	307,776	262,987	102,352	60,978	4,078	167,408	2,776,861	5,318,216
1991	597,704	642,244	1,239,950	663,094	132,800	247,214	494,517	77,978	152,806	161	230,945	1,768,575	3,008,525
1992	174,989	181,042	356,030	93,914	109,326	97,878	147,230	40,120	40,307	1,533	81,960	530,308	886,340
1993	97,181	277,803	374,984	66,301	85,424	159,343	145,875	36,567	22,350	434	59,353	516,296	891,280
1994	94,378	227,473	321,850	27,661	53,390	64,265	78,255	27,578	10,601	1,217	39,396	262,973	584,824
1996	332,658	15,587	348,245	260,751	59,794	38,484	31,147	24,510	2,998	201	27,708	417,885	766,129
1997	117,322	12,418	129,739	43,725	58,863	90,892	81,128	37,535	895	483	38,913	313,523	443,263
1998	384,884	154,913	539,798	113,932	289,247	352,476	183,679	49,039	20,425	5,616	75,081	1,014,417	1,554,215
1999	111,644	80,923	192,566	61,221	59,310	262,551	295,349	64,490	25,925	869	91,284	769,716	962,283
2000	455,241	221,576	676,817	550,630	107,735	284,006	327,963	198,168	16,388	2,811	217,368	1,487,706	2,164,523
2001	979,407	68,623	1,048,031	857,965	153,479	160,451	166,002	100,176	16,350	3,544	120,067	1,457,966	2,505,997
2002	949,717	273,703	1,223,422	502,631	464,036	321,094	218,041	60,958	101,511	3,459	165,929	1,671,733	2,895,154
2003	490,347	254,238	744,585	259,928	311,125	265,983	77,062	0	9,000	1,136	10,137	924,237	1,668,823
2004	623,516	134,040	757,558	425,450	330,655	398,480	192,333	22,874	2,530	0	25,404	1,372,322	2,129,878
2005	992,894	218,680	1,211,573	710,074	296,590	278,635	179,919	22,573	16,203	0	38,777	1,503,995	2,715,571
2006	2,648,711	420,921	3,069,635	2,061,236	466,727	562,538	233,997	27,671	13,589	0	41,260	3,365,761	6,435,392
2007	3,845,191	1,360,194	5,205,386	894,928	1,862,983	740,359	364,053	39,920	869	0	40,789	3,903,113	9,108,500
2008	1,007,953	3,859,704	4,867,657	185,437	2,091,726	3,977,520	1,144,765	95,258	85,637	838	181,733	7,581,179	12,448,838
2009	763,602	1,306,811	2,070,414	420,557	263,321	788,004	3,184,682	348,427	28,011	15,097	391,535	5,048,097	7,118,513
2010	268,382	2,653,858	2,922,240	229,932	77,077	369,308	1,525,723	1,374,298	283,412	79,516	1,737,224	3,939,265	6,861,504
2011	480,533	945,795	1,426,327	433,755	59,300	82,409	449,026	69,629	757,606	40,712	867,946	1,892,438	3,318,761
2012	343,294	171,847	515,142	395,749	85,500	160,419	177,454	19,925	189,934	6,096	215,957	1,035,080	1,550,221
2013	3,185,469	43,765	3,229,233	3,062,065	198,282	35,674	94,159	70,338	75,700	2,482	148,521	3,538,704	6,767,936
2014	839,928	109,252	949,181	799,958	456,297	195,182	82,194	3,471	71,182	4,925	79,578	1,613,210	2,562,394
2015	384,938	372,631	757,571	110,550	412,098	496,241	246,185	15,327	55,506	2,727	73,559	1,338,635	2,096,207
2016	31,558	678,225	709,782	35,537	79,011	502,975	634,564	10,191	86,490	1,025	97,707	1,349,792	2,059,576
2017	21,176	44,903	66,079	27,711	10,329	39,474	71,536	16,703	3,363	483	20,549	169,601	235,681
2018	8,871,246	51,171	8,922,418	7,418,348	26,523	62,257	63,578	3,204	10,031	0	13,235	7,583,943	16,506,360
2019	8,939,528	4,415,377	13,354,906	4,456,218	4,490,524	991,932	100,237	1,073	22,723	0	23,796	10,062,713	23,417,617
2020	4,632,877	5,076,990	9,709,867	1,439,755	4,205,570	5,341,173	1,643,353	0	1,484	0	1,484	12,631,335	22,341,202

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Table 10.—Page 4 of 10.

Year	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
	Juvenile	Mature	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	>165 mm			
Pavlof Bay/Volcano Bay													
1988	383,751	850,419	1,234,170	309,261	186,497	428,169	385,018	178,659	72,260	64,227	315,149	1,624,097	2,858,270
1989	982,971	1,637,332	2,620,303	706,565	378,690	263,715	309,107	82,124	48,809	13,946	144,876	1,802,956	4,423,261
1990	1,018,705	2,014,133	3,032,842	800,548	465,497	483,365	275,354	55,929	101,325	12,666	169,922	2,194,681	5,227,522
1991	476,479	465,867	942,344	442,307	75,625	215,027	198,812	39,934	69,645	4,066	113,645	1,045,424	1,987,767
1992	164,080	251,898	415,976	59,319	134,197	93,527	116,929	31,944	19,546	0	51,490	455,465	871,441
1993	110,998	168,533	279,530	64,214	149,790	472,724	213,751	37,839	24,032	1,897	63,767	964,243	1,243,772
1994	38,811	116,548	155,358	20,940	46,340	87,314	137,635	53,632	27,775	0	81,407	373,644	529,000
1996	264,721	51,767	316,490	250,154	39,274	24,090	48,745	14,698	9,285	980	24,963	387,224	703,715
1997	68,954	78,820	147,775	30,166	47,190	80,373	52,489	5,258	27,733	899	33,892	244,109	391,886
1998	121,882	169,031	290,917	33,563	182,197	331,303	410,737	8,552	56,213	0	64,765	1,022,561	1,313,481
1999	49,386	75,715	125,101	40,258	36,757	103,570	111,380	78,714	9,463	0	88,177	380,141	505,245
2000	1,208,402	228,029	1,436,433	1,052,858	227,837	148,488	243,699	92,281	28,647	0	120,928	1,793,813	3,230,245
2001	633,634	214,598	848,228	372,485	333,557	231,300	146,121	42,688	29,797	0	72,488	1,155,954	2,004,181
2002	1,145,468	397,083	1,542,551	1,086,367	369,825	548,561	416,734	45,909	43,627	1,225	90,759	2,512,249	4,054,802
2003	177,292	256,189	433,482	125,162	189,690	315,450	333,707	43,424	79,977	921	124,322	1,088,325	1,521,810
2004	285,288	346,793	632,082	257,206	102,140	538,602	404,517	104,198	114,956	2,200	221,352	1,523,820	2,155,903
2005	1,049,522	324,604	1,374,125	965,783	331,120	299,427	411,377	30,701	75,657	0	106,358	2,114,062	3,488,192
2006	3,242,499	318,582	3,561,084	3,175,657	685,076	362,259	229,242	27,509	54,757	980	83,245	4,535,478	8,096,564
2007	1,540,602	761,182	2,301,784	1,068,969	1,383,965	972,681	560,761	68,766	65,665	0	134,432	4,120,809	6,422,595
2008	1,923,136	2,095,003	4,018,137	523,358	3,171,995	2,608,034	1,628,469	318,409	21,911	5,912	346,233	8,278,090	12,296,227
2009	1,284,165	2,545,454	3,829,619	921,323	885,710	3,142,115	4,979,100	1,266,476	153,813	23,190	1,443,479	11,371,723	15,201,340
2010	603,453	1,323,815	1,927,269	471,609	386,788	627,223	2,287,168	1,729,591	574,986	32,615	2,337,193	6,109,982	8,037,251
2011	359,194	539,769	898,964	365,824	180,735	179,173	752,979	179,119	1,079,705	36,896	1,295,721	2,774,433	3,673,397
2012	505,467	325,239	830,705	530,227	53,419	216,840	428,060	37,003	532,227	11,533	580,763	1,809,304	2,640,011
2013	5,608,995	268,533	5,877,525	6,186,880	787,493	124,510	173,999	45,117	112,825	661	158,603	7,431,481	13,309,009
2014	1,360,575	329,690	1,690,268	984,614	1,128,253	681,617	248,742	28,556	172,594	3,270	204,421	3,247,643	4,937,911
2015	144,689	375,843	520,531	100,975	520,217	1,266,834	709,502	36,784	38,696	1,035	76,514	2,674,038	3,194,570
2016	195,214	191,069	386,284	230,040	50,025	419,442	628,568	57,157	128,735	7,650	193,540	1,521,610	1,907,894
2017	226,748	122,156	348,904	200,520	51,470	79,737	128,453	20,458	13,643	0	34,102	494,276	843,181
2018	4,770,792	300,943	5,071,737	4,479,357	264,545	265,620	202,492	15,824	21,115	0	36,939	5,248,959	10,320,696
2019	5,351,978	2,198,882	7,550,857	4,700,430	3,916,176	1,331,607	292,585	32,152	16,737	0	48,890	10,289,689	17,840,546
2020	2,925,147	2,969,081	5,894,225	1,587,374	3,986,968	4,023,532	1,202,032	73,791	50,804	0	124,595	10,924,506	16,818,733

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Table 10.–Page 5 of 10.

Year	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
	Juvenile	Mature	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	>165 mm			
Beaver Bay/Balboa Bay/Unga Strait													
1988	87,250	55,859	143,108	71,357	57,883	39,843	22,621	5,085	11,617	0	16,702	208,406	351,515
1989	197,155	257,804	454,960	187,673	58,696	50,884	34,037	0	6,059	0	6,059	337,346	792,308
1990	482,504	480,919	963,421	469,880	39,607	159,200	93,314	20,133	6,616	0	26,748	788,754	1,752,177
1991	369,956	192,356	562,312	343,662	40,332	59,938	51,441	5,013	3,073	0	8,086	503,457	1,065,769
1992	135,820	137,943	273,760	144,580	31,465	47,470	20,585	2,510	2,027	0	4,537	248,638	522,398
1993	26,384	43,104	69,488	41,382	9,532	31,285	33,351	3,164	4,362	0	7,526	123,073	192,560
1994	10,057	31,137	41,195	10,846	4,362	11,236	24,651	2,254	5,846	0	8,100	59,196	100,389
1996	821,170	5,040	826,210	859,655	15,533	10,707	10,287	715	368	0	1,083	897,260	1,723,470
1997	121,975	40,476	162,451	99,343	73,182	18,189	6,765	0	1,946	0	1,946	199,424	361,877
1998	126,979	81,698	208,680	93,259	39,343	56,277	4,983	0	0	0	0	193,862	402,541
1999	34,815	72,130	106,944	81,508	10,811	41,261	31,839	860	0	0	860	166,280	273,223
2000	447,950	37,324	485,274	432,550	6,817	23,244	22,112	1,356	1,356	0	2,713	487,435	972,710
2001	993,788	80,794	1,074,583	1,032,812	91,142	32,641	16,685	0	0	0	0	1,173,278	2,247,861
2002	647,596	316,783	964,379	570,708	679,101	354,635	36,224	0	13,518	0	13,518	1,654,187	2,618,564
2003	83,251	252,020	335,273	38,328	121,196	246,506	135,914	7,972	9,654	0	17,625	559,565	894,837
2004	314,553	203,840	518,391	324,495	108,694	181,829	145,100	37,897	3,666	860	42,421	802,536	1,320,928
2005	2,052,393	151,547	2,203,940	2,610,558	88,385	50,775	64,770	12,484	0	0	12,484	2,826,970	5,030,907
2006	3,800,591	1,083,098	4,883,687	2,631,953	2,261,312	980,256	401,123	8,703	42,734	0	51,437	6,326,082	11,209,765
2007	631,937	1,393,871	2,025,810	565,420	1,747,627	1,405,074	476,954	25,175	2,880	1,148	29,202	4,224,279	6,250,086
2008	794,200	2,652,921	3,447,121	420,984	1,934,846	2,289,198	1,200,370	144,915	3,583	2,154	150,651	5,996,051	9,443,172
2009	414,125	2,090,678	2,504,802	286,953	546,197	1,117,426	1,391,497	752,534	103,165	949	856,649	4,198,722	6,703,528
2010	84,384	814,393	898,778	49,936	67,410	240,531	415,764	104,717	132,100	1,731	238,548	1,012,186	1,910,964
2011	135,533	328,382	463,914	121,776	19,910	80,312	294,279	21,795	157,643	0	179,438	695,712	1,159,627
2012	126,130	132,348	258,476	157,309	1,634	44,081	394,934	8,372	259,847	0	268,219	866,177	1,124,653
2013	1,870,044	112,798	1,982,841	1,710,549	57,369	23,486	47,765	0	12,589	0	12,589	1,851,756	3,834,596
2014	439,348	95,103	534,452	256,515	452,473	165,787	100,688	0	48,515	894	49,409	1,024,875	1,559,324
2015	82,817	256,949	339,762	83,471	126,344	299,302	143,032	0	49,262	0	49,262	701,410	1,041,173
2016	58,376	99,710	158,086	68,857	12,822	65,334	33,343	5,150	1,550	0	6,701	187,058	345,143
2017	210,858	26,021	236,878	234,594	17,149	22,173	22,888	1,513	949	0	2,462	299,265	536,142
2018	2,270,503	79,169	2,349,670	2,319,743	96,829	24,335	10,224	0	0	0	0	2,451,132	4,800,801
2019	875,967	274,279	1,150,246	1,031,876	908,269	321,936	55,363	0	1,582	0	1,582	2,319,028	3,469,272
2020	449,134	1,000,739	1,449,871	584,359	280,430	469,293	133,014	3,798	17,180	0	20,978	1,488,072	2,937,942

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Table 10.–Page 6 of 10.

Year	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
	Juvenile	Mature	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	>165 mm			
West Nagai Strait													
1989	250,282	193,216	443,498	291,460	134,656	68,629	23,042	1,859	5,185	0	7,044	524,830	968,328
1990	221,904	36,745	258,648	227,456	16,930	17,328	5,672	0	908	0	908	268,294	526,945
1991	209,317	22,391	231,706	232,608	5,312	5,312	15,936	3,813	0	0	3,813	262,982	494,688
1992	24,424	31,724	56,149	13,307	8,214	18,230	7,954	0	3,165	0	3,165	50,869	107,019
1993	19,404	4,835	24,239	15,942	9,600	74,295	14,798	908	0	0	908	115,543	139,783
1994	20,348	24,860	45,209	8,271	24,514	29,969	27,083	8,469	0	0	8,469	98,302	143,511
1996	48,279	4,706	52,985	38,902	7,431	16,596	20,149	0	908	0	908	83,987	136,973
1997	333,029	263,583	596,610	180,060	292,165	173,199	25,182	0	4,706	0	4,706	675,310	1,271,918
1998	84,815	122,946	207,760	35,756	106,723	175,190	58,732	3,564	908	0	4,473	380,874	588,635
1999	58,649	24,684	83,333	45,436	34,194	28,481	46,396	5,615	0	0	5,615	160,121	243,452
2000	320,957	23,673	344,630	363,106	5,425	5,696	18,988	5,615	1,899	0	7,513	400,728	745,355
2001	499,829	68,360	568,187	340,805	124,643	65,414	32,390	908	0	0	908	564,160	1,132,347
2002	180,556	126,619	307,175	82,437	89,360	287,060	100,976	4,747	0	0	4,747	564,577	871,751
2003	39,253	57,642	96,894	7,611	59,635	37,323	11,146	3,798	0	0	3,798	119,511	216,403
2004	36,564	92,054	128,616	32,796	11,393	59,786	46,150	12,301	1,899	0	14,199	164,324	292,939
2005	408,940	46,500	455,439	470,143	14,241	38,507	70,970	11,106	0	0	11,106	604,965	1,060,404
2006	1,141,989	123,506	1,265,496	850,316	605,915	157,389	115,801	908	2,725	0	3,633	1,733,056	2,998,552
2007	1,114,056	2,408,980	3,523,033	402,145	1,710,559	1,254,230	435,630	27,634	41,115	0	68,749	3,871,309	7,394,343
2008	814,607	6,810,600	7,625,208	287,211	1,808,034	2,620,888	1,177,024	58,937	42,677	0	101,615	5,994,769	13,619,975
2009	317,524	9,700,974	10,018,498	95,226	1,300,764	2,953,848	3,184,350	542,834	87,282	11,779	641,896	8,176,082	18,194,579
2010	191,030	3,321,173	3,512,202	147,975	164,797	1,003,031	2,061,674	1,302,037	188,142	26,083	1,516,261	4,893,740	8,405,943
2011	30,611	578,793	609,403	61,776	21,573	239,696	708,342	73,083	179,640	9,513	262,232	1,293,619	1,903,020
2012	66,031	190,882	256,912	133,765	9,128	55,834	524,154	39,306	583,933	17,486	640,724	1,363,604	1,620,515
2013	1,668,899	78,948	1,747,847	1,539,235	79,494	54,809	202,169	3,798	99,873	0	103,671	1,979,370	3,727,216
2014	697,452	204,010	901,461	257,672	450,736	158,082	142,954	0	47,241	0	47,241	1,056,685	1,958,145
2015	131,991	174,763	306,751	36,968	184,382	486,886	201,491	7,331	6,122	0	13,453	923,179	1,229,930
2016	13,831	2,697,909	2,711,740	0	47,031	465,316	476,733	5,219	23,855	0	29,075	1,018,152	3,729,891
2017	1,882,711	714,523	2,597,235	1,913,960	43,271	129,983	236,985	10,728	0	0	10,728	2,334,927	4,932,162
2018	3,386,857	344,435	3,731,291	2,336,554	348,938	148,290	161,410	0	9,306	0	9,306	3,004,495	6,735,784
2019	1,182,947	3,328,673	4,511,621	337,393	1,442,501	822,155	284,025	4,934	34,716	0	39,649	2,925,721	7,437,340
2020	316,754	1,637,992	1,954,746	254,173	266,312	553,782	292,751	8,646	19,259	0	27,905	1,394,922	3,349,667

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Table 10.–Page 7 of 10.

Year	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
	Juvenile	Mature	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	≥165 mm			
Stepovak Bay													
1989	267,791	114,335	382,127	245,657	14,727	13,898	0	0	0	0	0	274,280	656,409
1990	680,510	128,590	809,103	793,942	6,962	23,206	14,727	3,883	6,158	0	10,041	848,878	1,657,978
1991	170,885	19,489	190,373	216,341	4,071	25,759	12,640	0	6,158	0	6,158	264,969	455,342
1992	209,362	15,530	224,892	183,775	6,204	27,937	6,985	0	0	0	0	224,900	449,791
1993	8,906	3,883	12,789	9,296	0	3,079	0	0	3,079	0	3,079	15,454	28,243
1994	30,446	0	30,446	30,290	0	0	0	0	0	0	0	30,290	60,736
1996	35,568	0	35,568	32,004	0	0	0	0	0	0	0	32,004	67,572
1997	9,643	0	9,643	23,048	0	0	0	0	0	0	0	23,048	32,692
1998	36,665	0	36,665	43,862	0	0	0	0	0	0	0	43,862	80,527
1999	34,025	0	34,025	53,839	0	0	0	0	0	0	0	53,839	87,865
2000	168,177	0	168,177	179,301	0	0	0	0	0	0	0	179,301	347,480
2001	276,563	0	276,563	278,539	3,415	0	0	0	0	0	0	281,955	558,518
2002	28,474	11,159	39,633	46,174	11,639	2,480	0	0	0	0	0	60,293	99,926
2003	33,770	0	33,770	37,037	0	0	930	0	0	0	0	37,967	71,738
2004	62,485	992	63,477	81,486	688	992	0	0	0	0	0	83,166	146,643
2005	358,179	930	359,108	466,461	4,969	992	0	0	0	0	0	472,422	831,530
2006	938,817	8,397	947,214	1,254,409	34,902	5,761	0	0	0	0	0	1,295,072	2,242,286
2007	341,670	24,047	365,717	406,983	63,342	15,853	0	0	0	0	0	486,177	851,895
2008	149,567	11,295	160,863	126,217	71,453	28,082	6,639	992	0	0	992	233,383	394,245
2009	44,951	4,151	49,101	56,933	7,515	25,021	4,681	0	835	0	835	94,988	144,089
2010	29,109	860	29,969	29,977	4,603	17,862	33,745	12,236	0	0	12,236	98,422	128,391
2011	96,677	3,720	100,396	109,749	2,324	1,240	3,534	0	2,480	0	2,480	119,326	219,721
2012	59,065	3,664	62,729	57,083	992	4,433	8,319	0	992	0	992	71,818	134,547
2013	270,287	992	271,279	299,751	1,162	688	0	0	0	0	0	301,602	572,880
2014	45,249	1,984	47,233	33,618	5,121	1,523	4,352	0	688	835	1,523	46,138	93,371
2015	41,084	0	41,084	49,459	3,842	688	930	0	0	0	0	54,919	96,003
2016	8,783	0	8,783	12,963	0	1,600	0	0	0	0	0	14,564	23,347
2017	256,095	2,480	258,575	278,265	2,168	2,090	0	0	0	0	0	282,524	541,099
2018	1,323,834	5,439	1,329,272	1,220,936	510,015	4,112	822	0	0	0	0	1,735,886	3,065,158
2019	232,750	69,657	302,407	188,441	271,699	163,109	0	0	0	0	0	623,250	925,657
2020	131,555	12,696	144,250	125,484	32,271	117,299	74,486	0	0	0	0	349,540	493,791

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Table 10.–Page 8 of 10.

Year	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
	Juvenile	Mature	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	≥165 mm			
WESTERN SECTION TOTALS ^a													
1988	563,223	539,247	1,102,469	307,206	368,706	349,070	318,004	124,345	49,126	20,147	193,615	1,536,604	2,639,076
1989	4,729,501	1,265,770	5,995,271	4,278,684	1,204,518	432,583	195,923	44,148	5,456	0	49,604	6,161,312	12,156,588
1990	4,232,182	1,850,119	6,082,302	3,234,701	1,212,620	900,556	480,080	128,062	85,532	5,083	218,677	6,046,634	12,128,938
1991	2,597,378	1,129,189	3,726,568	2,321,914	570,391	492,417	550,431	93,363	156,880	161	250,405	4,185,557	7,912,133
1992	886,856	1,037,143	1,923,994	561,877	595,425	412,673	341,109	71,999	61,232	2,482	135,714	2,046,797	3,970,791
1993	463,956	826,683	1,290,638	321,262	258,301	559,297	503,536	96,359	85,815	1,383	183,561	1,825,953	3,116,592
1994	215,360	535,094	750,452	143,388	119,095	195,982	283,423	33,847	58,127	1,217	93,191	835,079	1,585,535
1996	1,035,898	252,170	1,288,068	811,234	133,955	81,028	115,835	30,207	32,547	201	62,954	1,205,007	2,493,070
1997	355,813	149,582	505,393	206,087	209,470	188,458	132,801	44,181	9,796	483	54,459	791,266	1,296,660
1998	1,469,209	2,204,897	3,674,104	773,317	1,477,526	1,821,032	556,497	87,503	88,779	5,616	181,900	4,810,272	8,484,372
1999	342,257	636,464	978,720	153,783	346,556	835,053	1,043,033	124,374	81,266	2,768	208,406	2,586,837	3,565,557
2000	1,728,748	1,140,758	2,869,505	1,708,228	314,975	743,043	1,061,240	638,905	116,895	2,811	758,613	4,586,101	7,455,604
2001	2,759,018	479,387	3,238,404	2,187,693	998,632	435,659	499,885	290,144	120,746	14,250	425,137	4,547,014	7,785,417
2002	3,405,838	1,925,983	5,331,820	2,329,950	1,903,941	1,210,599	600,275	100,783	252,261	5,882	358,925	6,403,686	11,735,504
2003	1,231,067	2,140,181	3,371,248	559,578	1,535,059	1,234,770	582,419	38,984	117,448	1,136	157,568	4,069,392	7,440,643
2004	1,644,165	1,938,906	3,583,072	1,337,243	611,818	1,940,606	2,508,001	283,975	165,370	6,585	455,930	6,853,595	10,436,664
2005	1,770,145	3,993,063	5,763,208	1,278,229	538,097	697,577	1,431,885	493,565	214,870	2,649	711,083	4,656,870	10,420,082
2006	20,083,628	2,527,312	22,610,942	18,673,999	1,028,276	922,017	1,263,866	286,592	266,567	19,419	572,579	22,460,738	45,071,675
2007	18,423,652	4,935,696	23,359,353	11,694,580	8,842,360	2,700,356	2,607,291	549,879	222,204	11,696	783,778	26,628,363	49,987,715
2008	4,606,299	16,930,396	21,536,696	1,938,151	9,404,424	16,597,194	3,092,962	857,308	285,175	41,372	1,183,856	32,216,584	53,753,282
2009	1,103,083	4,366,833	5,469,917	670,106	983,572	4,973,182	10,989,344	721,333	42,876	24,579	788,788	18,404,984	23,874,899
2010	493,825	5,730,927	6,224,751	463,371	112,194	821,239	4,496,413	7,287,180	467,808	347,435	8,102,420	13,995,639	20,220,390
2011	850,269	2,695,696	3,545,963	836,690	74,356	204,060	1,504,017	1,409,609	2,717,412	343,372	4,470,392	7,089,518	10,635,475
2012	701,522	931,922	1,633,445	726,519	122,702	187,197	615,024	93,138	1,499,947	134,076	1,727,164	3,378,607	5,012,050
2013	8,393,881	195,745	8,589,622	8,648,608	449,584	89,969	199,301	72,276	611,873	48,319	732,470	10,119,936	18,709,559
2014	3,877,787	1,842,651	5,720,438	2,553,494	1,379,214	1,063,291	948,794	3,471	1,231,637	117,335	1,352,443	7,297,237	13,017,675
2015	2,276,561	2,467,296	4,743,857	784,945	2,478,199	3,694,219	1,384,073	166,930	184,775	2,727	354,431	8,695,868	13,439,726
2016	195,440	3,249,119	3,444,556	174,679	219,901	1,681,658	2,883,490	114,098	421,968	1,025	537,093	5,496,819	8,941,376
2017	706,923	410,471	1,117,394	724,447	55,659	232,435	631,092	60,791	40,699	483	101,973	1,745,608	2,863,003
2018	13,745,673	792,903	14,538,577	10,977,825	773,751	470,077	710,457	133,886	55,062	0	188,948	13,121,062	27,659,633
2019	13,158,966	5,661,182	18,820,150	6,631,522	7,910,548	1,960,697	923,497	13,071	277,380	0	290,450	17,716,726	36,536,873
2020	8,029,716	11,687,289	19,717,006	3,184,823	6,091,472	9,157,388	2,996,185	26,536	35,526	0	62,062	21,491,931	41,208,936

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Table 10.—Page 9 of 10.

Year	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
	Juvenile	Mature	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	≥165 mm			
EASTERN SECTION TOTALS ^b													
1988	471,001	906,278	1,377,278	380,618	244,380	468,012	407,639	183,744	83,877	64,227	331,851	1,832,503	3,209,785
1989	1,698,199	2,202,687	3,900,888	1,431,355	586,769	397,126	366,186	83,983	60,053	13,946	157,979	2,939,412	6,840,306
1990	2,403,623	2,660,387	5,064,014	2,291,826	528,996	683,099	389,067	79,945	115,007	12,666	207,619	4,100,607	9,164,622
1991	1,226,637	700,103	1,926,735	1,234,918	125,340	306,036	278,829	48,760	78,876	4,066	131,702	2,076,832	4,003,566
1992	533,686	437,095	970,777	400,981	180,080	187,164	152,453	34,454	24,738	0	59,192	979,872	1,950,649
1993	165,692	220,355	386,046	130,834	168,922	581,383	261,900	41,911	31,473	1,897	75,280	1,218,313	1,604,358
1994	99,662	172,545	272,208	70,347	75,216	128,519	189,369	64,355	33,621	0	97,976	561,432	833,636
1996	1,169,738	61,513	1,231,253	1,180,715	62,238	51,393	79,181	15,413	10,561	980	26,954	1,400,475	2,631,730
1997	533,601	382,879	916,479	332,617	412,537	271,761	84,436	5,258	34,385	899	40,544	1,141,891	2,058,373
1998	370,341	373,675	744,022	206,440	328,263	562,770	474,452	12,116	57,121	0	69,238	1,641,159	2,385,184
1999	176,875	172,529	349,403	221,041	81,762	173,312	189,615	85,189	9,463	0	94,652	760,381	1,109,785
2000	2,145,486	289,026	2,434,514	2,027,815	240,079	177,428	284,799	99,252	31,902	0	131,154	2,861,277	5,295,790
2001	2,403,814	363,752	2,767,561	2,024,641	552,757	329,355	195,196	43,596	29,797	0	73,396	3,175,347	5,942,907
2002	2,002,094	851,644	2,853,738	1,785,686	1,149,925	1,192,736	553,934	50,656	57,145	1,225	109,024	4,791,306	7,645,043
2003	333,566	565,851	899,419	208,138	370,521	599,279	481,697	55,194	89,631	921	145,745	1,805,368	2,704,788
2004	698,890	643,679	1,342,566	695,983	222,915	781,209	595,767	154,396	120,521	3,060	277,972	2,573,846	3,916,413
2005	3,869,034	523,581	4,392,612	4,512,945	438,715	389,701	547,117	54,291	75,657	0	129,948	6,018,419	10,411,033
2006	9,123,896	1,533,583	10,657,481	7,912,335	3,587,205	1,505,665	746,166	37,120	100,216	980	138,315	13,889,688	24,547,167
2007	3,628,265	4,588,080	8,216,344	2,443,517	4,905,493	3,647,838	1,473,345	121,575	109,660	1,148	232,383	12,702,574	20,918,919
2008	3,681,510	11,569,819	15,251,329	1,357,770	6,986,328	7,546,202	4,012,502	523,253	68,171	8,066	599,491	20,502,293	35,753,619
2009	2,060,765	14,341,257	16,402,020	1,360,435	2,740,186	7,238,410	9,559,628	2,561,844	345,095	35,918	2,942,859	23,841,515	40,243,536
2010	907,976	5,460,241	6,368,218	699,497	623,598	1,888,647	4,798,351	3,148,581	895,228	60,429	4,104,238	12,114,330	18,482,549
2011	622,015	1,450,664	2,072,677	659,125	224,542	500,421	1,759,134	273,997	1,419,468	46,409	1,739,871	4,883,090	6,955,765
2012	756,693	652,133	1,408,822	878,384	65,173	321,188	1,355,467	84,681	1,376,999	29,019	1,490,698	4,110,903	5,519,726
2013	9,418,225	461,271	9,879,492	9,736,415	925,518	203,493	423,933	48,915	225,287	661	274,863	11,564,209	21,443,701
2014	2,542,624	630,787	3,173,414	1,532,419	2,036,583	1,007,009	496,736	28,556	269,038	4,999	302,594	5,375,341	8,548,751
2015	400,581	807,555	1,208,128	270,873	834,785	2,053,710	1,054,955	44,115	94,080	1,035	139,229	4,353,546	5,561,676
2016	276,204	2,988,688	3,264,893	311,860	109,878	951,692	1,138,644	67,526	154,140	7,650	229,316	2,741,384	6,006,275
2017	2,576,412	865,180	3,441,592	2,627,339	114,058	233,983	388,326	32,699	14,592	0	47,292	3,410,992	6,852,584
2018	11,751,986	729,986	12,481,970	10,356,590	1,220,327	442,357	374,948	15,824	30,421	0	46,245	12,440,472	24,922,439
2019	7,643,642	5,871,491	13,515,131	6,258,140	6,538,645	2,638,807	631,973	37,086	53,035	0	90,121	16,157,688	29,672,815
2020	3,822,590	5,620,508	9,443,092	2,551,390	4,565,981	5,163,906	1,702,283	86,235	87,243	0	173,478	14,157,040	23,600,133

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Table 10.–Page 10 of 10.

Year	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
	Juvenile	Mature	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	≥165 mm			
SOUTH PENINSULA DISTRICT TOTALS													
1988	1,034,224	1,445,525	2,479,747	687,824	613,086	817,082	725,643	308,089	133,003	84,374	525,466	3,369,107	5,848,861
1989	6,427,700	3,468,457	9,896,159	5,710,039	1,791,287	829,709	562,109	128,131	65,509	13,946	207,583	9,100,724	18,996,894
1990	6,635,805	4,510,506	11,146,316	5,526,527	1,741,616	1,583,655	869,147	208,007	200,539	17,749	426,296	10,147,241	21,293,560
1991	3,824,015	1,829,292	5,653,303	3,556,832	695,731	798,453	829,260	142,123	235,756	4,227	382,107	6,262,389	11,915,699
1992	1,420,542	1,474,238	2,894,771	962,858	775,505	599,837	493,562	106,453	85,970	2,482	194,906	3,026,669	5,921,440
1993	629,648	1,047,038	1,676,684	452,096	427,223	1,140,680	765,436	138,270	117,288	3,280	258,841	3,044,266	4,720,950
1994	315,022	707,639	1,022,660	213,735	194,311	324,501	472,792	98,202	91,748	1,217	191,167	1,396,511	2,419,171
1996	2,205,636	313,683	2,519,321	1,991,949	196,193	132,421	195,016	45,620	43,108	1,181	89,908	2,605,482	5,124,800
1997	889,414	532,461	1,421,872	538,704	622,007	460,219	217,237	49,439	44,181	1,382	95,003	1,933,157	3,355,033
1998	1,839,550	2,578,572	4,418,126	979,757	1,805,789	2,383,802	1,030,949	99,619	145,900	5,616	251,138	6,451,431	10,869,556
1999	519,132	808,993	1,328,123	374,824	428,318	1,008,365	1,232,648	209,563	90,729	2,768	303,058	3,347,218	4,675,342
2000	3,874,234	1,429,784	5,304,019	3,736,043	555,054	920,471	1,346,039	738,157	148,797	2,811	889,767	7,447,378	12,751,394
2001	5,162,832	843,139	6,005,965	4,212,334	1,551,389	765,014	695,081	333,740	150,543	14,250	498,533	7,722,361	13,728,324
2002	5,407,932	2,777,627	8,185,558	4,115,636	3,053,866	2,403,335	1,154,209	151,439	309,406	7,107	467,949	11,194,992	19,380,547
2003	1,564,633	2,706,032	4,270,667	767,716	1,905,580	1,834,049	1,064,116	94,178	207,079	2,057	303,313	5,874,760	10,145,431
2004	2,343,055	2,582,585	4,925,638	2,033,226	834,733	2,721,815	3,103,768	438,371	285,891	9,645	733,902	9,427,441	14,353,077
2005	5,639,179	4,516,644	10,155,820	5,791,174	976,812	1,087,278	1,979,002	547,856	290,527	2,649	841,031	10,675,289	20,831,115
2006	29,207,524	4,060,895	33,268,423	26,586,334	4,615,481	2,427,682	2,010,032	323,712	366,783	20,399	710,894	36,350,426	69,618,842
2007	22,051,917	9,523,776	31,575,697	14,138,097	13,747,853	6,348,194	4,080,636	671,454	331,864	12,844	1,016,161	39,330,937	70,906,634
2008	8,287,809	28,500,215	36,788,025	3,295,921	16,390,752	24,143,396	7,105,464	1,380,561	353,346	49,438	1,783,347	52,718,877	89,506,901
2009	3,163,848	18,708,090	21,871,937	2,030,541	3,723,758	12,211,592	20,548,972	3,283,177	387,971	60,497	3,731,647	42,246,499	64,118,435
2010	1,401,801	11,191,168	12,592,969	1,162,868	735,792	2,709,886	9,294,764	10,435,761	1,363,036	407,864	12,206,658	26,109,969	38,702,939
2011	1,472,284	4,146,360	5,618,640	1,495,815	298,898	704,481	3,263,151	1,683,606	4,136,880	389,781	6,210,263	11,972,608	17,591,240
2012	1,458,215	1,584,055	3,042,267	1,604,903	187,875	508,385	1,970,491	177,819	2,876,946	163,095	3,217,862	7,489,510	10,531,776
2013	17,812,106	657,016	18,469,114	18,385,023	1,375,102	293,462	623,234	121,191	837,160	48,980	1,007,333	21,684,145	40,153,260
2014	6,420,411	2,473,438	8,893,852	4,085,913	3,415,797	2,070,300	1,445,530	32,027	1,500,675	122,334	1,655,037	12,672,578	21,566,426
2015	2,677,142	3,274,851	5,951,985	1,055,818	3,312,984	5,747,929	2,439,028	211,045	278,855	3,762	493,660	13,049,414	19,001,402
2016	471,644	6,237,807	6,709,449	486,539	329,779	2,633,350	4,022,134	181,624	576,108	8,675	766,409	8,238,203	14,947,651
2017	3,283,335	1,275,651	4,558,986	3,351,786	169,717	466,418	1,019,418	93,490	55,291	483	149,265	5,156,600	9,715,587
2018	25,497,659	1,522,889	27,020,547	21,334,415	1,994,078	912,434	1,085,405	149,710	85,483	0	235,193	25,561,534	52,582,072
2019	20,802,608	11,532,673	32,335,281	12,889,662	14,449,193	4,599,504	1,555,470	50,157	330,415	0	380,571	33,874,414	66,209,688
2020	11,852,306	17,307,797	29,160,098	5,736,213	10,657,453	14,321,294	4,698,468	112,771	122,769	0	235,540	35,648,971	64,809,069

^a Western Section of the South Peninsula District includes Sanak Island, Morzhovoi Bay, and Cold Bay/Belkofski Bay.

^b Eastern Section of the South Peninsula District includes Pavlof Bay/Volcano Bay, Beaver Bay/Balboa Bay/Unga Strait, West Nagai Strait, and Stepovak Bay.

Table 11.—Skate catch in kilograms and number caught by sex and species from the large-mesh bottom trawl survey, 2020.

Species	Weight (kg)	Unsexed	Male	Female	Total count
Bering skate	1,353	0	441	396	837
longnose skate	3,976	1	348	346	695
big skate	5,333	0	114	277	391
Aleutian skate	1,092	0	53	101	154
Alaska skate	153	0	15	15	30
Grand Total	11,907	1	971	1,135	2,107

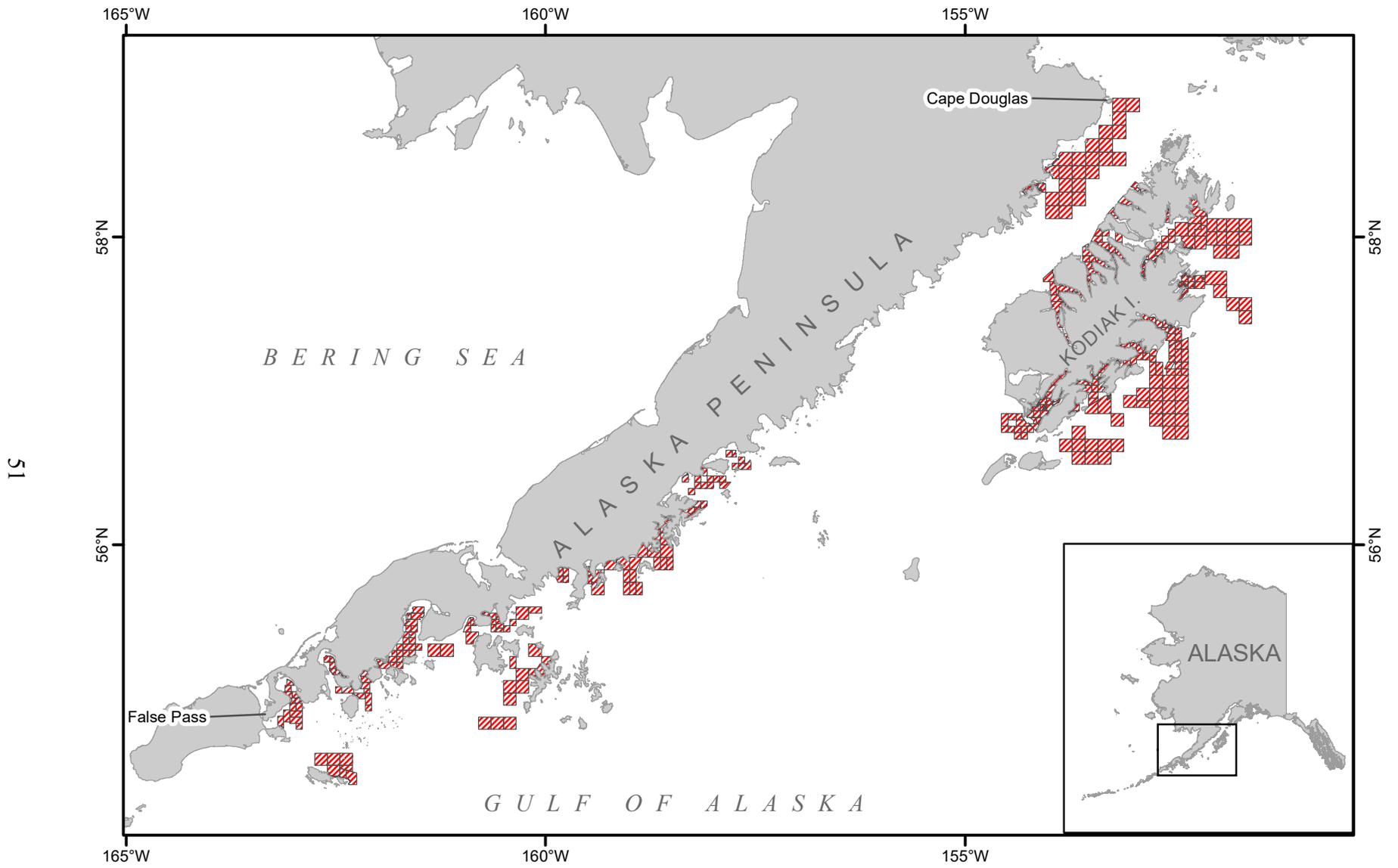


Figure 1.—Large-mesh bottom trawl survey stations, 2020.

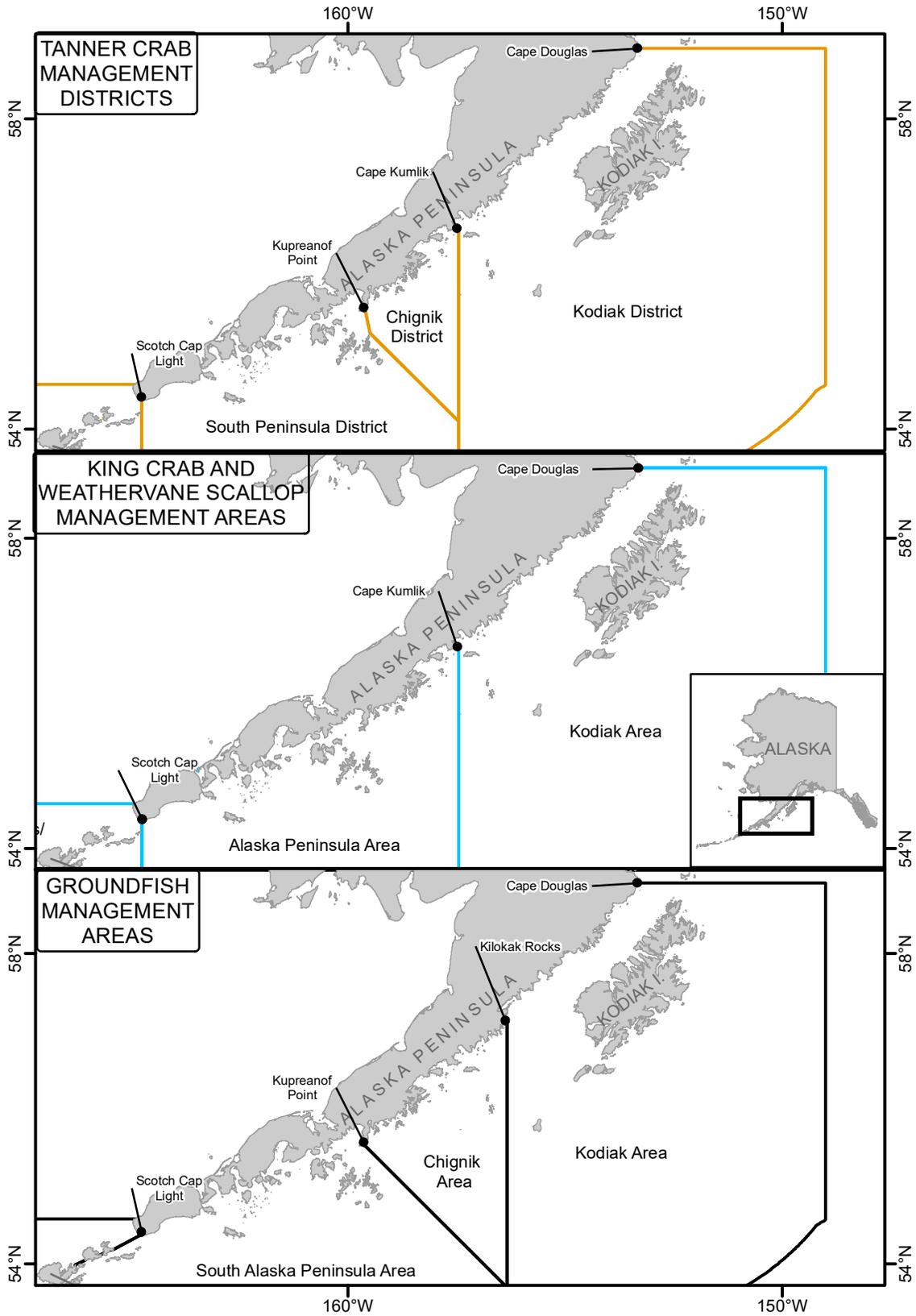


Figure 2.—Tanner crab, king crab, weathervane scallop, and groundfish management units in the bottom trawl survey area.

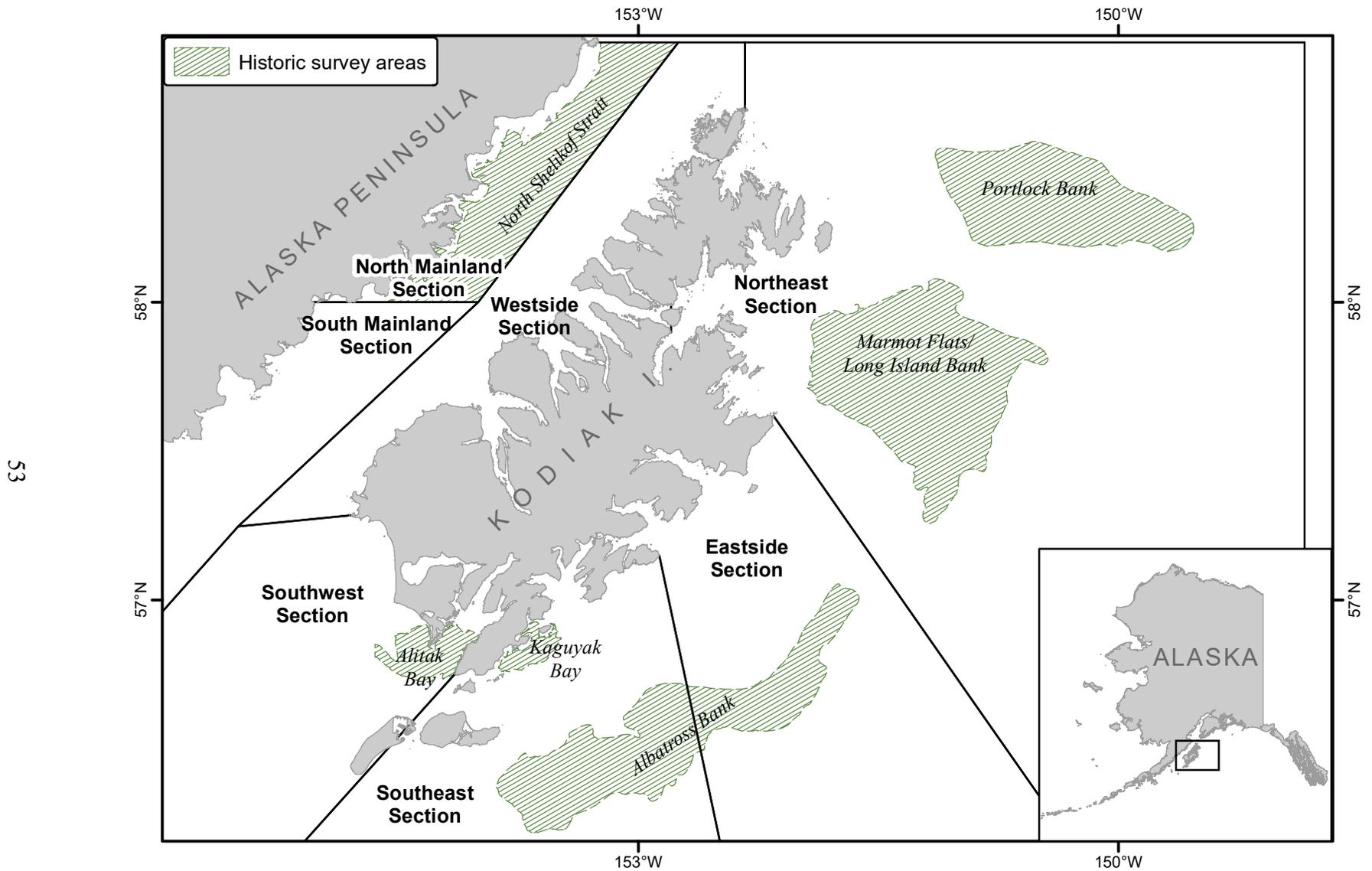


Figure 3.—Historic trawl survey areas and current Tanner crab management sections in the Kodiak District.

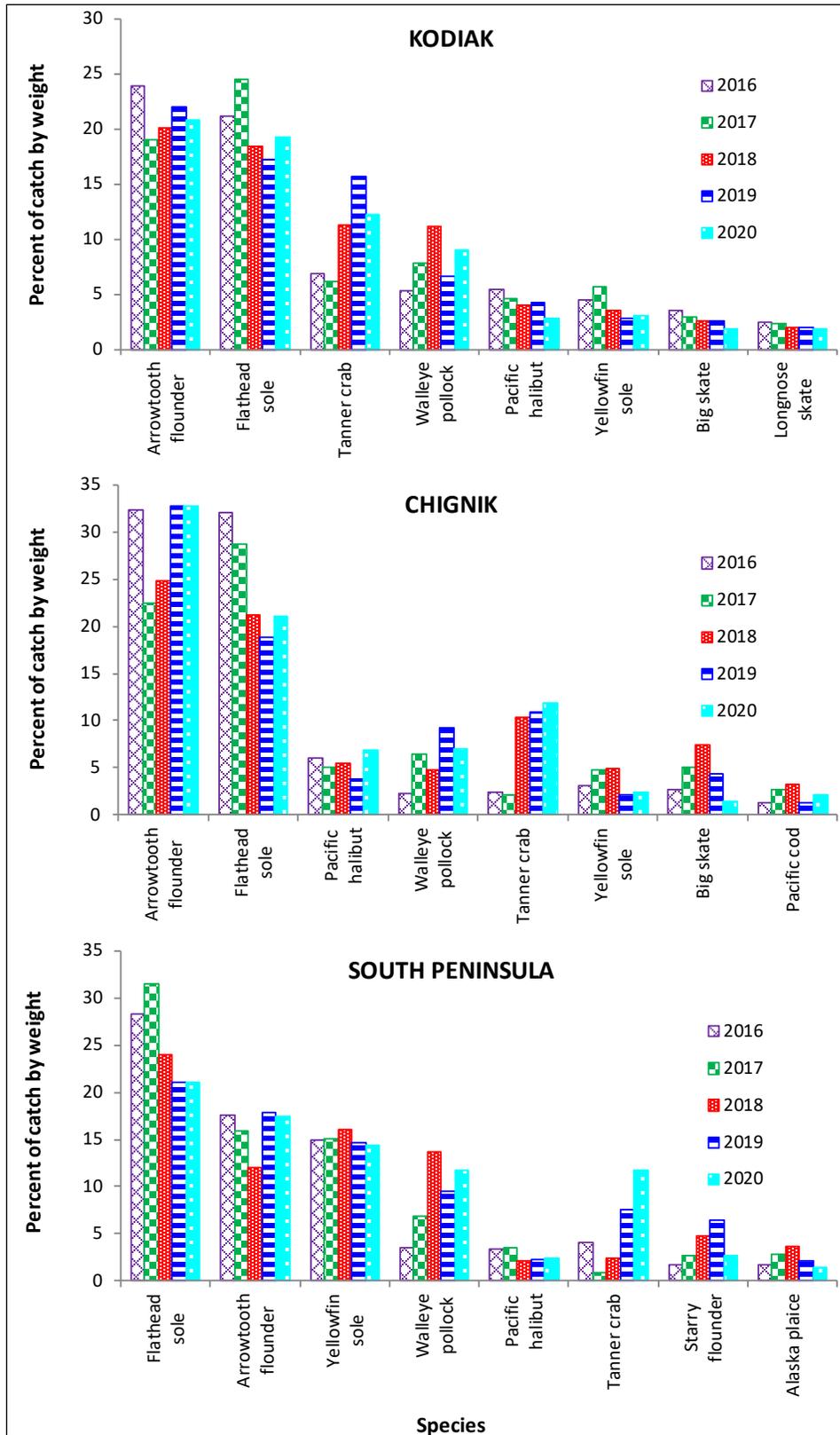


Figure 4.—Top species caught by weight in the large-mesh bottom trawl surveys by district, 2016–2020.

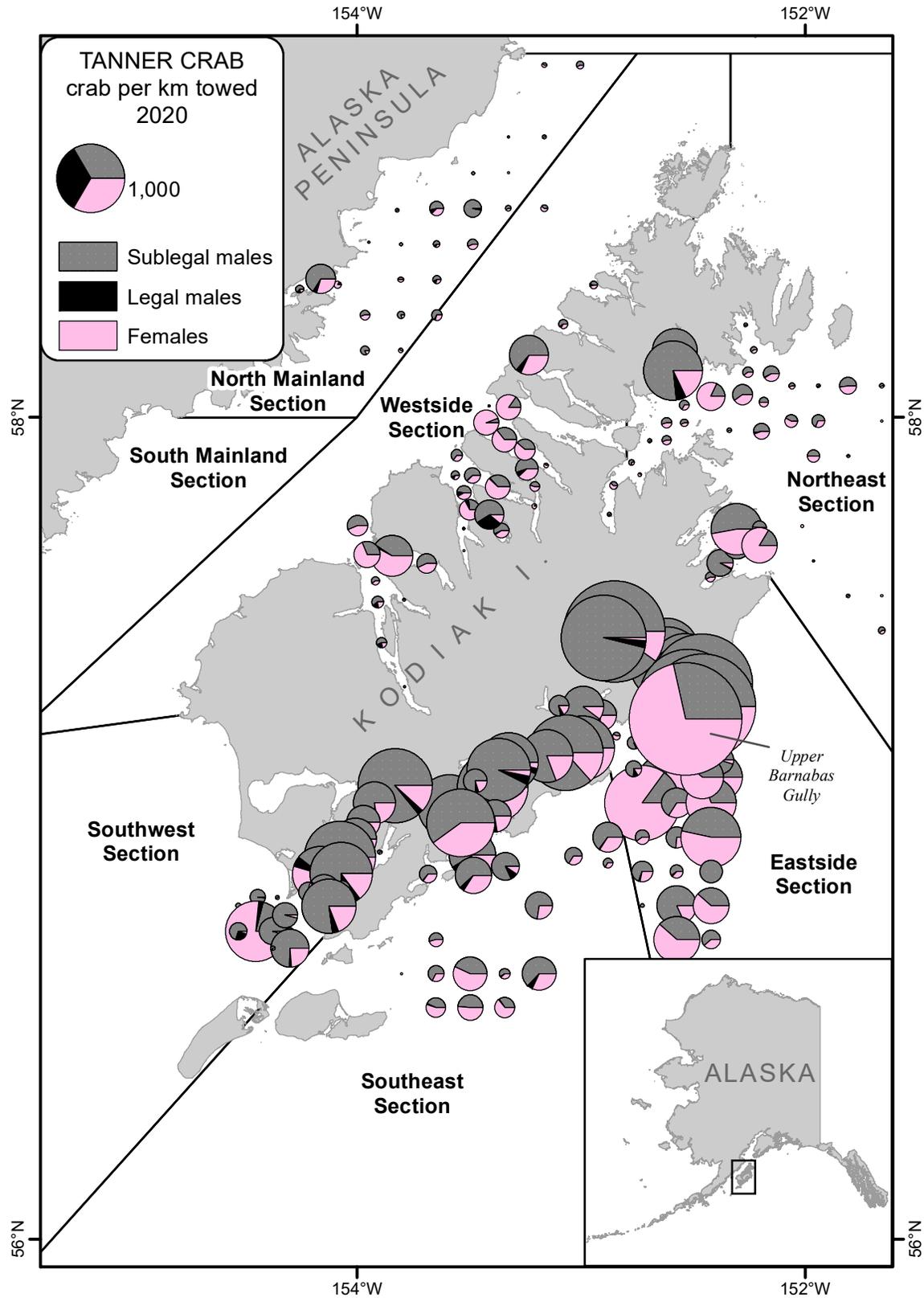


Figure 5.—Number of Tanner crab per kilometer towed in the 2020 Kodiak District large-mesh bottom trawl survey.

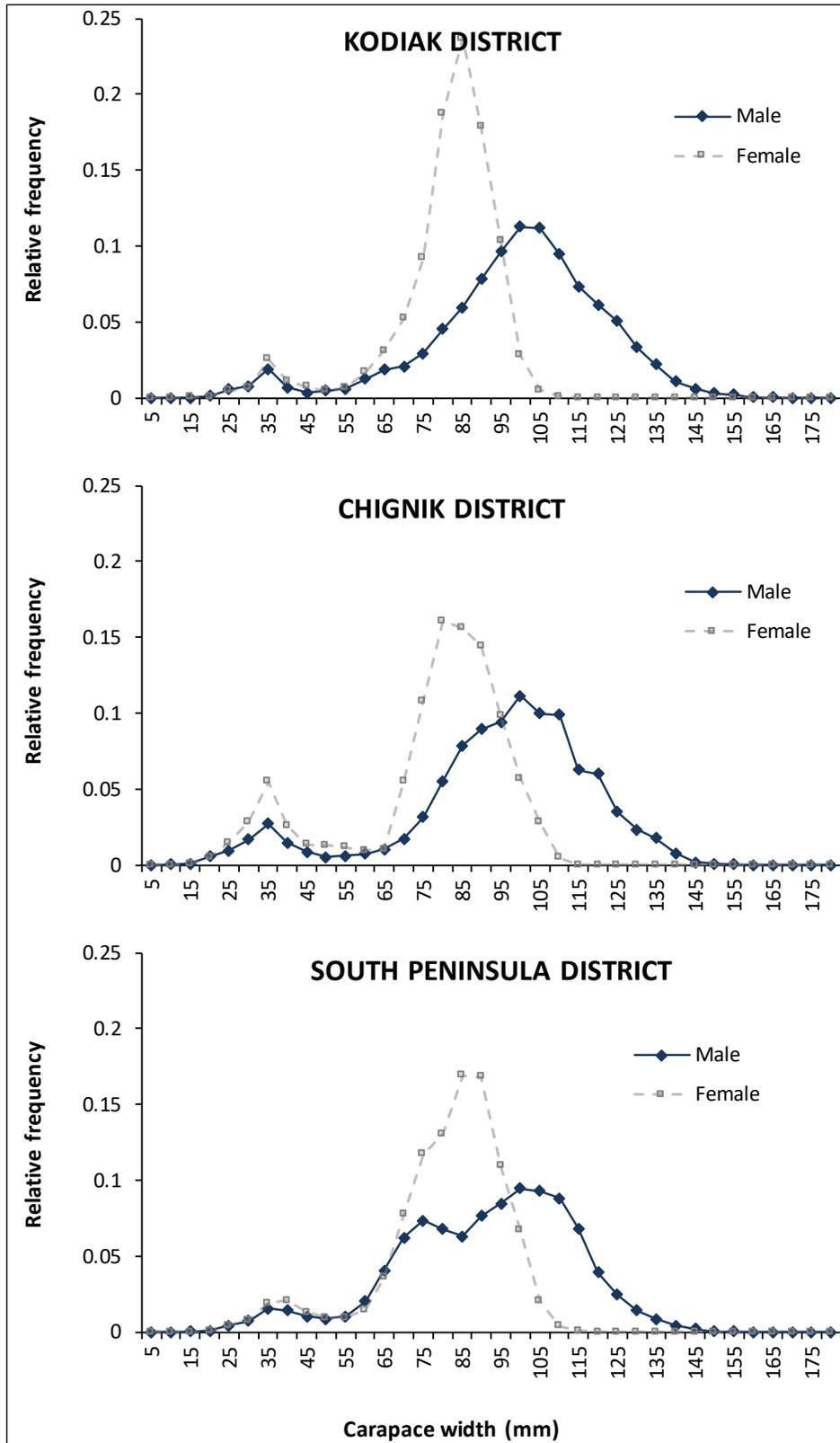


Figure 6.—Tanner crab relative size frequency by sex and district from the 2020 large-mesh bottom trawl survey.

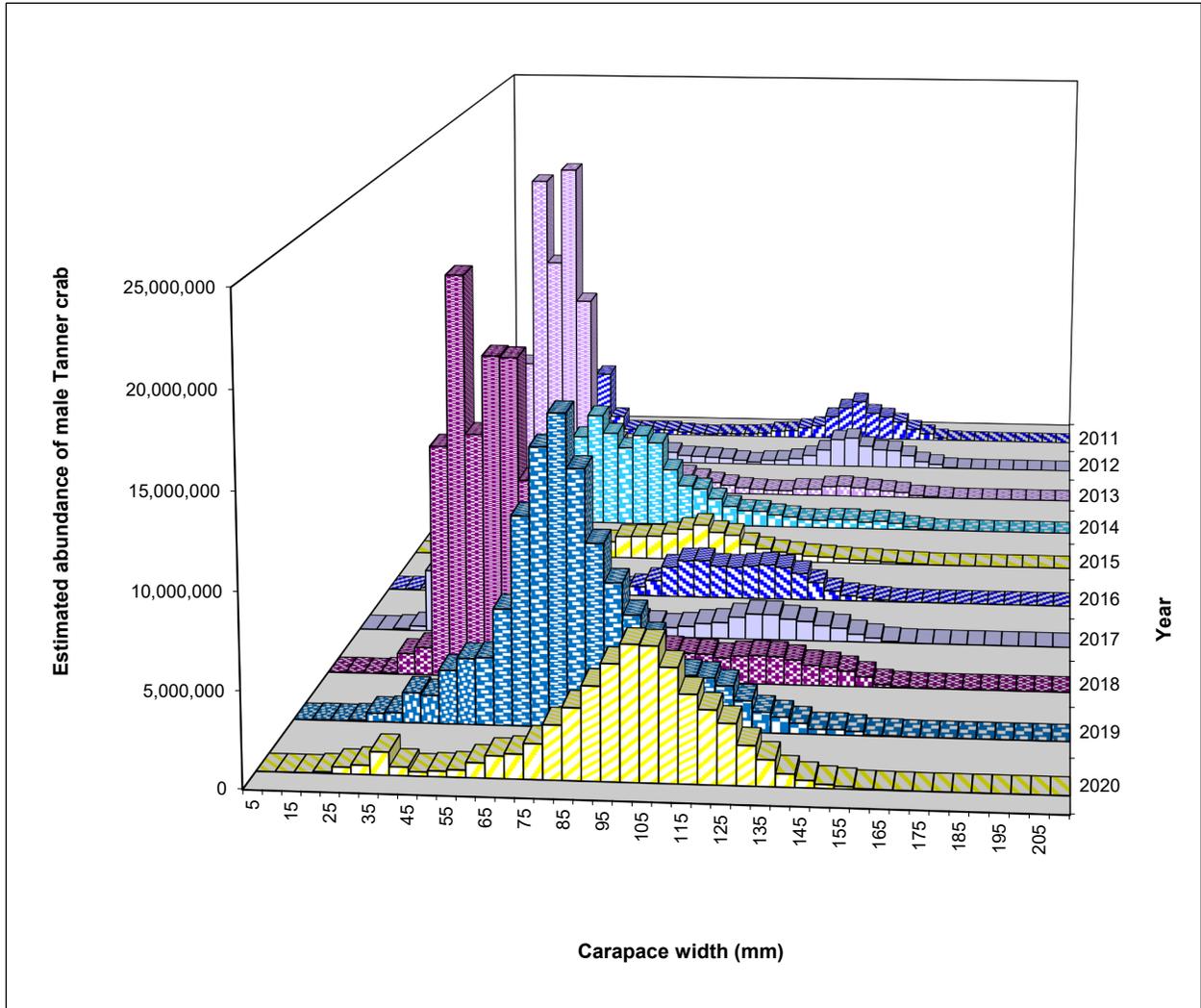


Figure 7.—Tanner crab male abundance estimate by carapace width in the Kodiak District large-mesh bottom trawl surveys, 2011–2020.

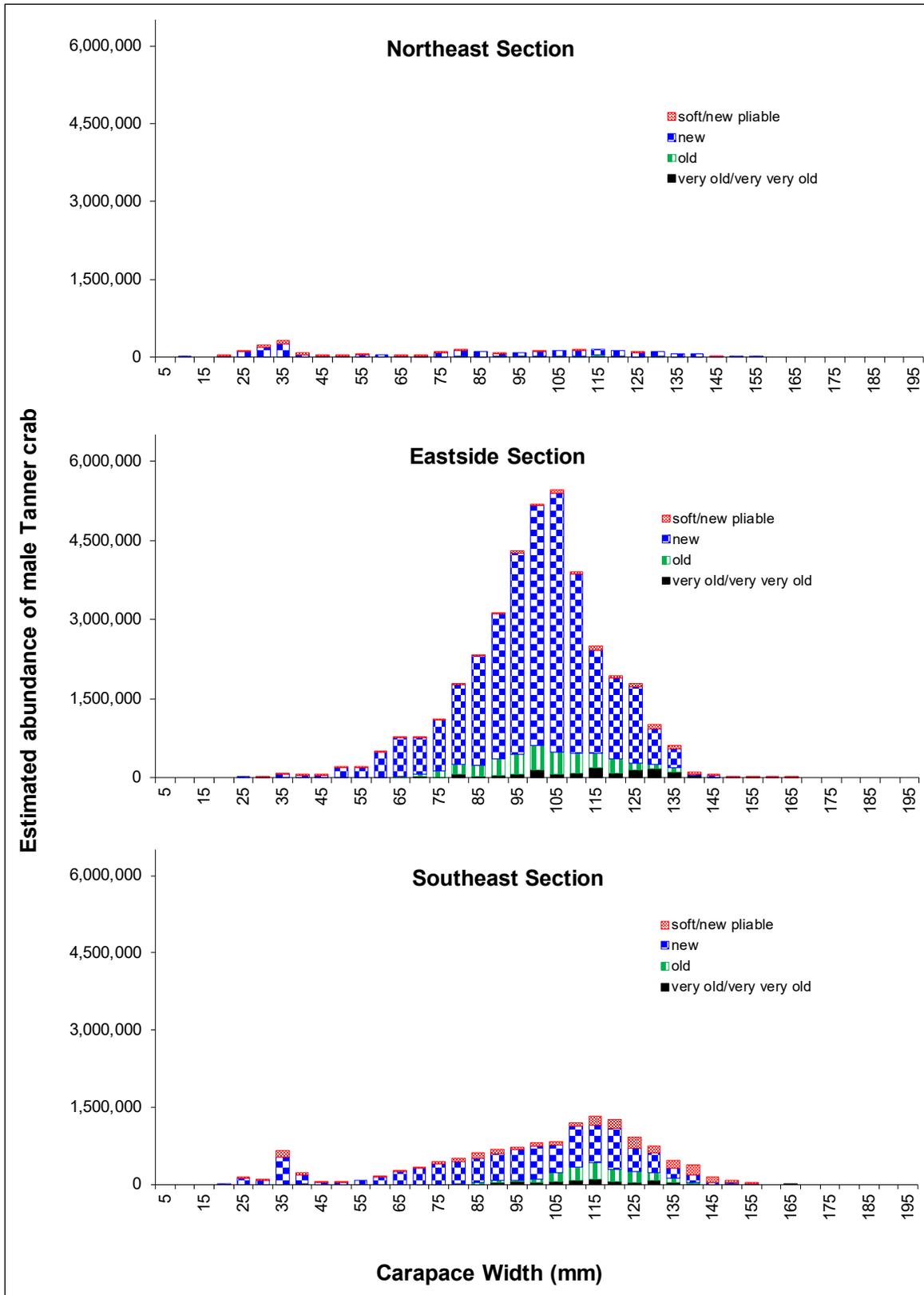


Figure 8.—Tanner crab male abundance estimate by carapace width and shell condition from the Northeast, Eastside, and Southeast Sections of the 2020 Kodiak District large-mesh bottom trawl survey.

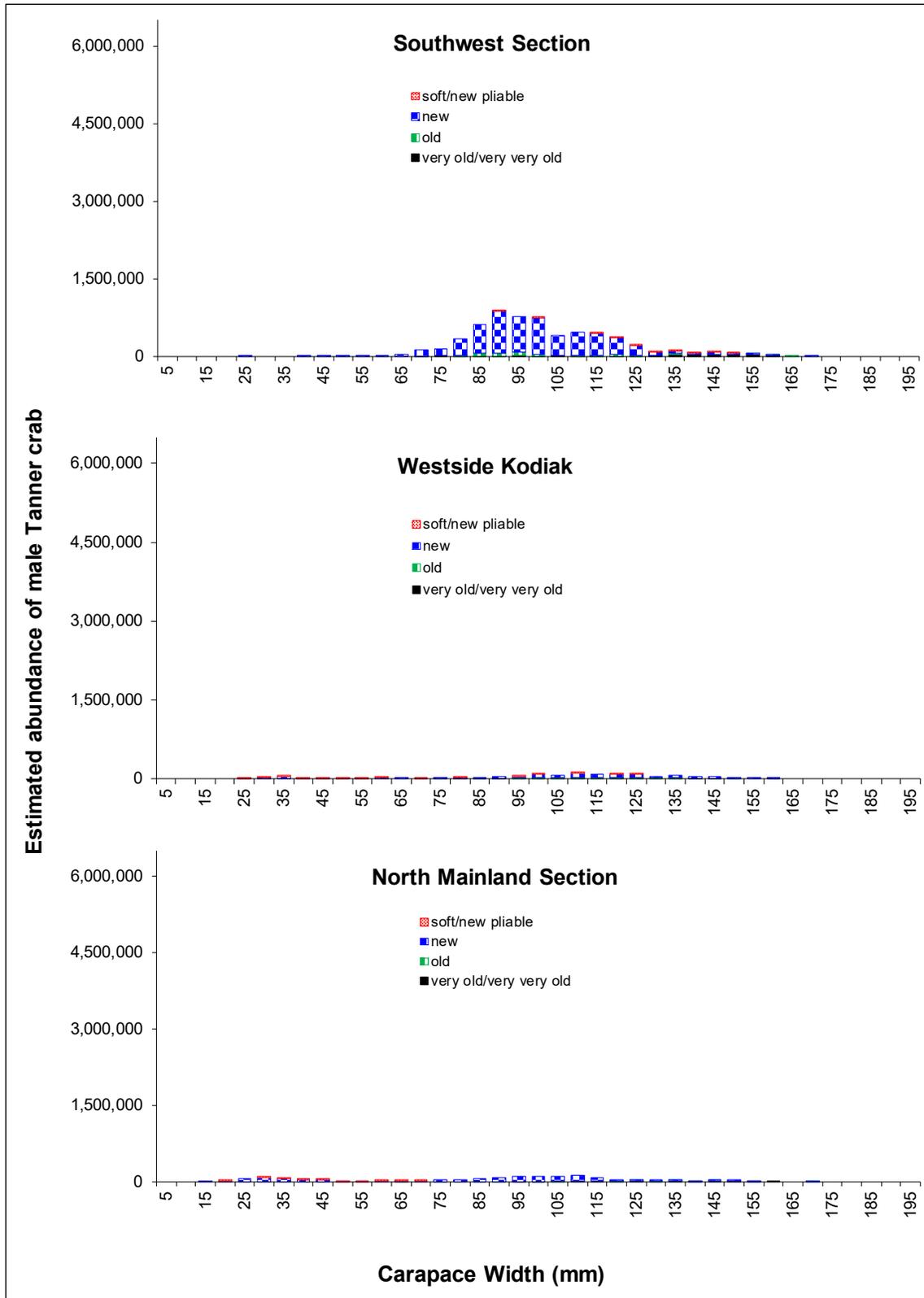


Figure 9.—Tanner crab male abundance estimate by carapace width and shell condition from the Southwest, Westside, and North Mainland Sections of the 2020 Kodiak District large-mesh bottom trawl survey.

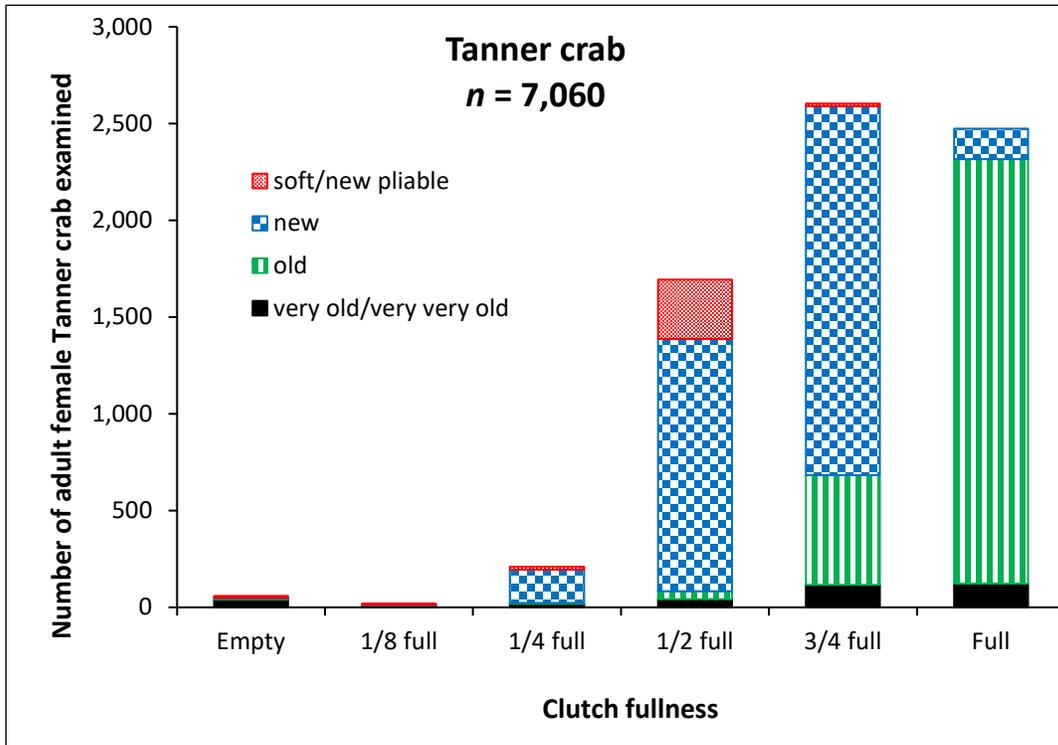


Figure 10.—Tanner crab mature female egg clutch fullness by shell condition in the Kodiak District large-mesh bottom trawl survey, 2020.

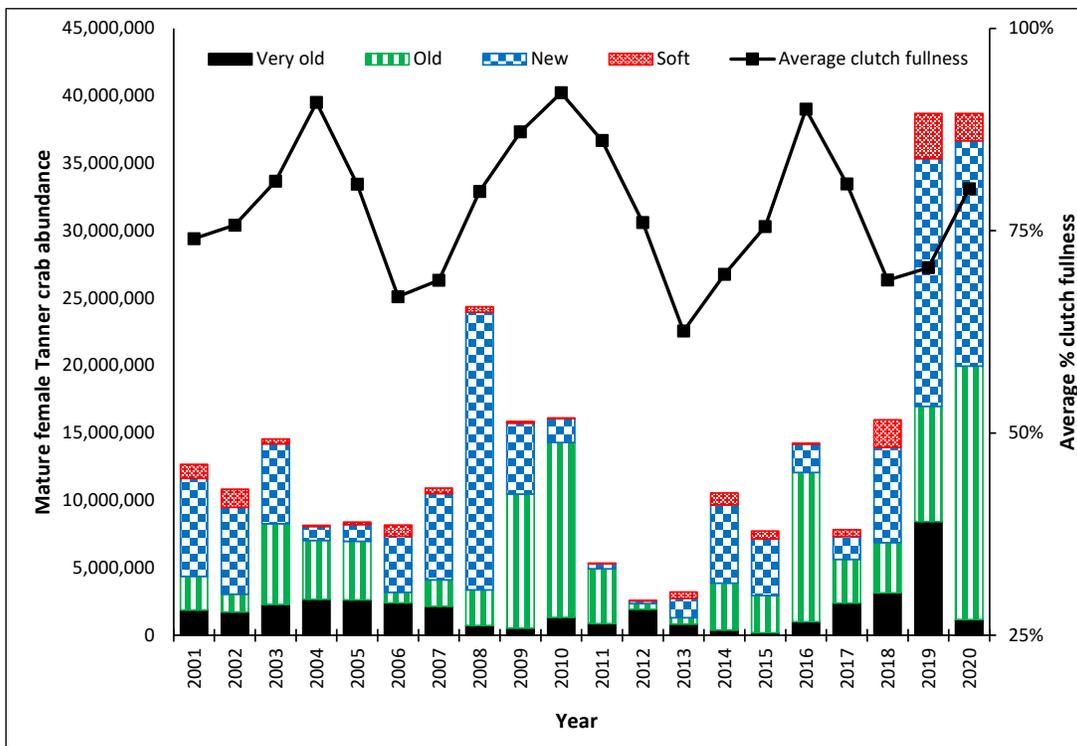


Figure 11.—Tanner crab mature female abundance by shell condition and average clutch fullness for the Kodiak District from the 2001–2020 large-mesh bottom trawl surveys.

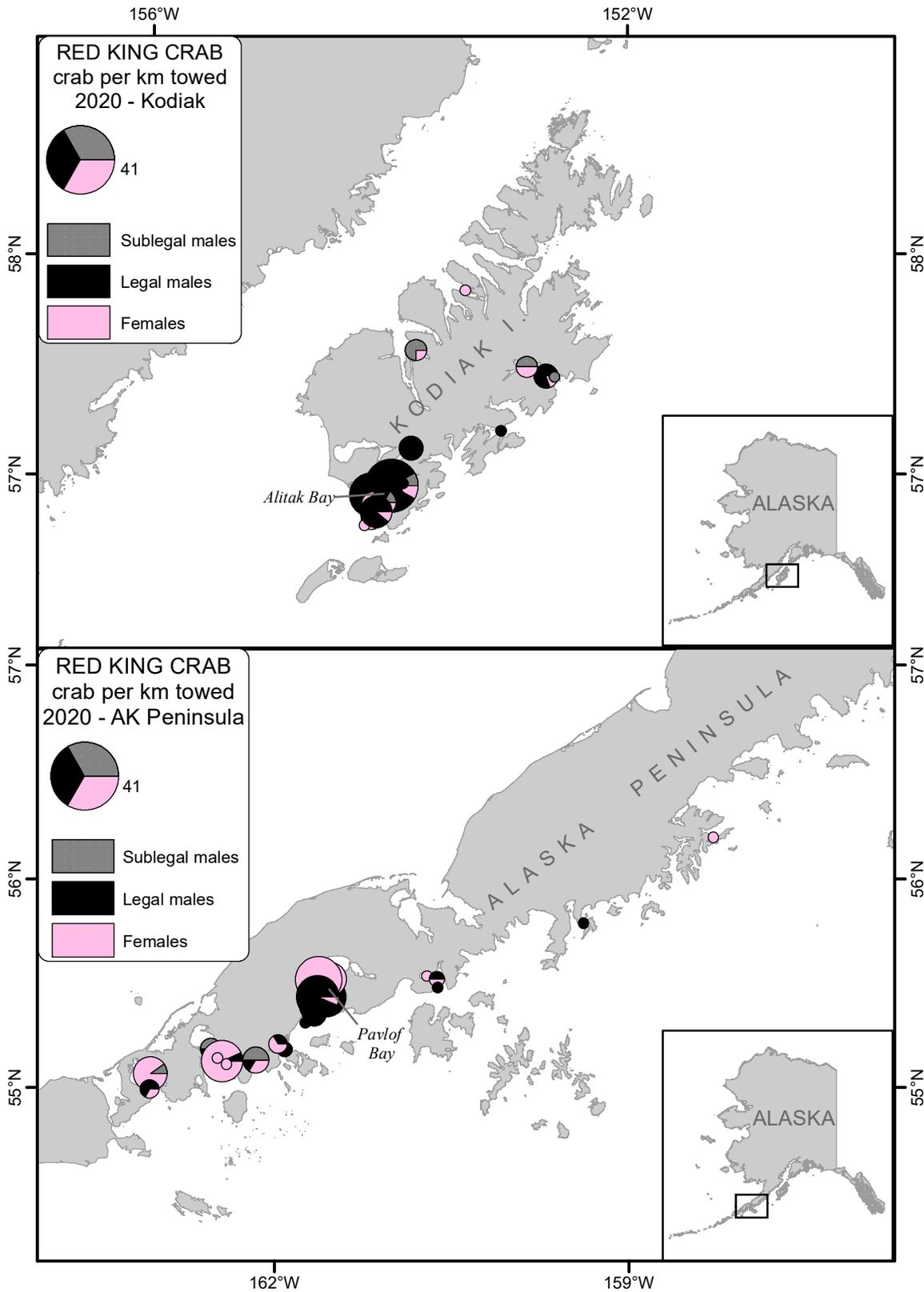


Figure 12.—Number of red king crab per kilometer towed in the 2020 Kodiak (upper) and Alaska Peninsula (lower) areas large-mesh bottom trawl survey.

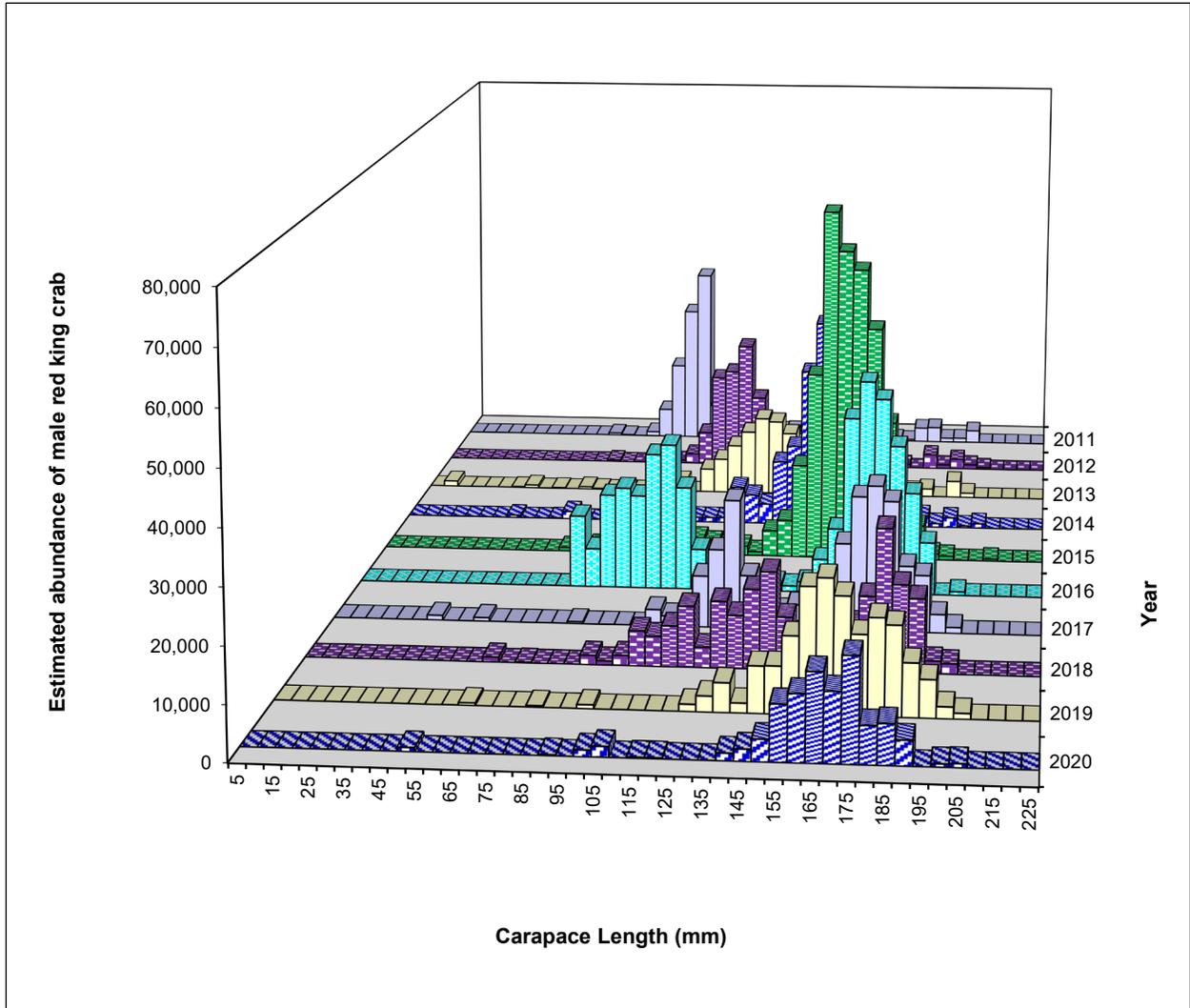


Figure 13.—Red king crab male abundance estimate by carapace length in the Kodiak Area large-mesh bottom trawl surveys, 2011–2020.

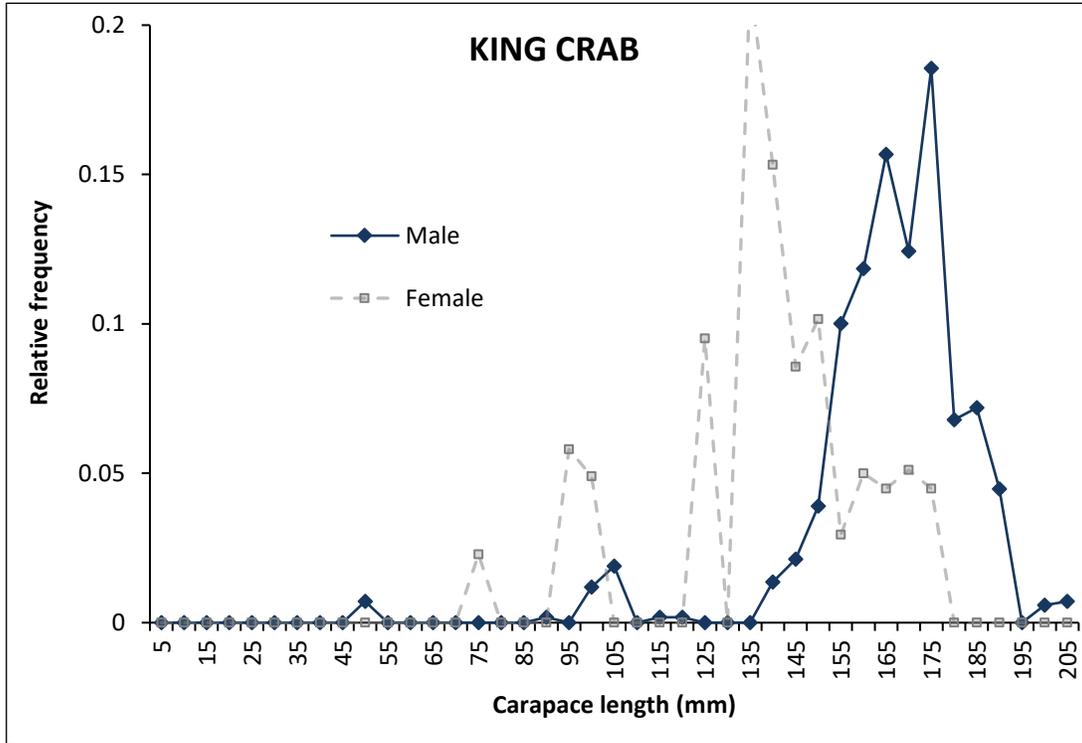


Figure 14.—Red king crab relative size frequency by sex from the Kodiak Area large-mesh bottom trawl survey, 2020.

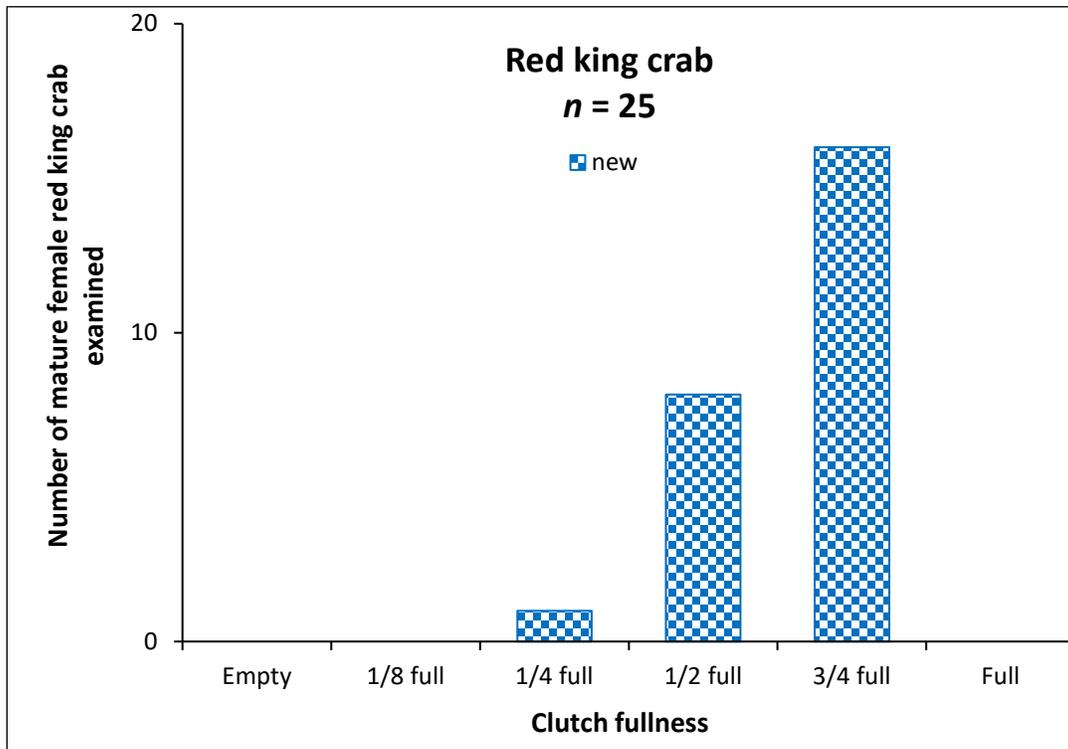


Figure 15.—Red king crab mature female egg clutch fullness by shell condition in the Kodiak Area large-mesh bottom trawl survey, 2020.

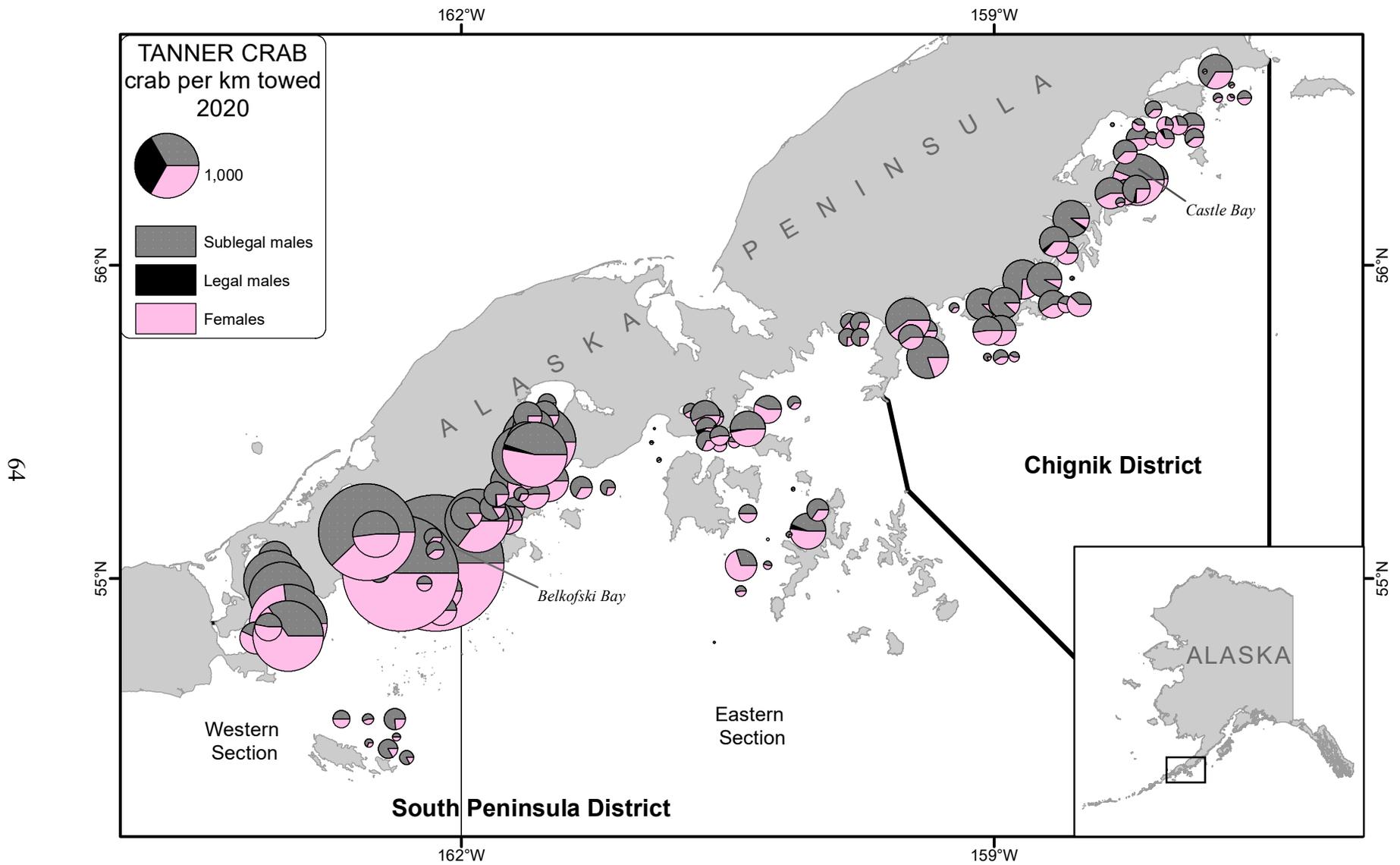


Figure 16.—Number of Tanner crab per kilometer towed in the 2020 South Peninsula and Chignik Districts large-mesh bottom trawl survey.

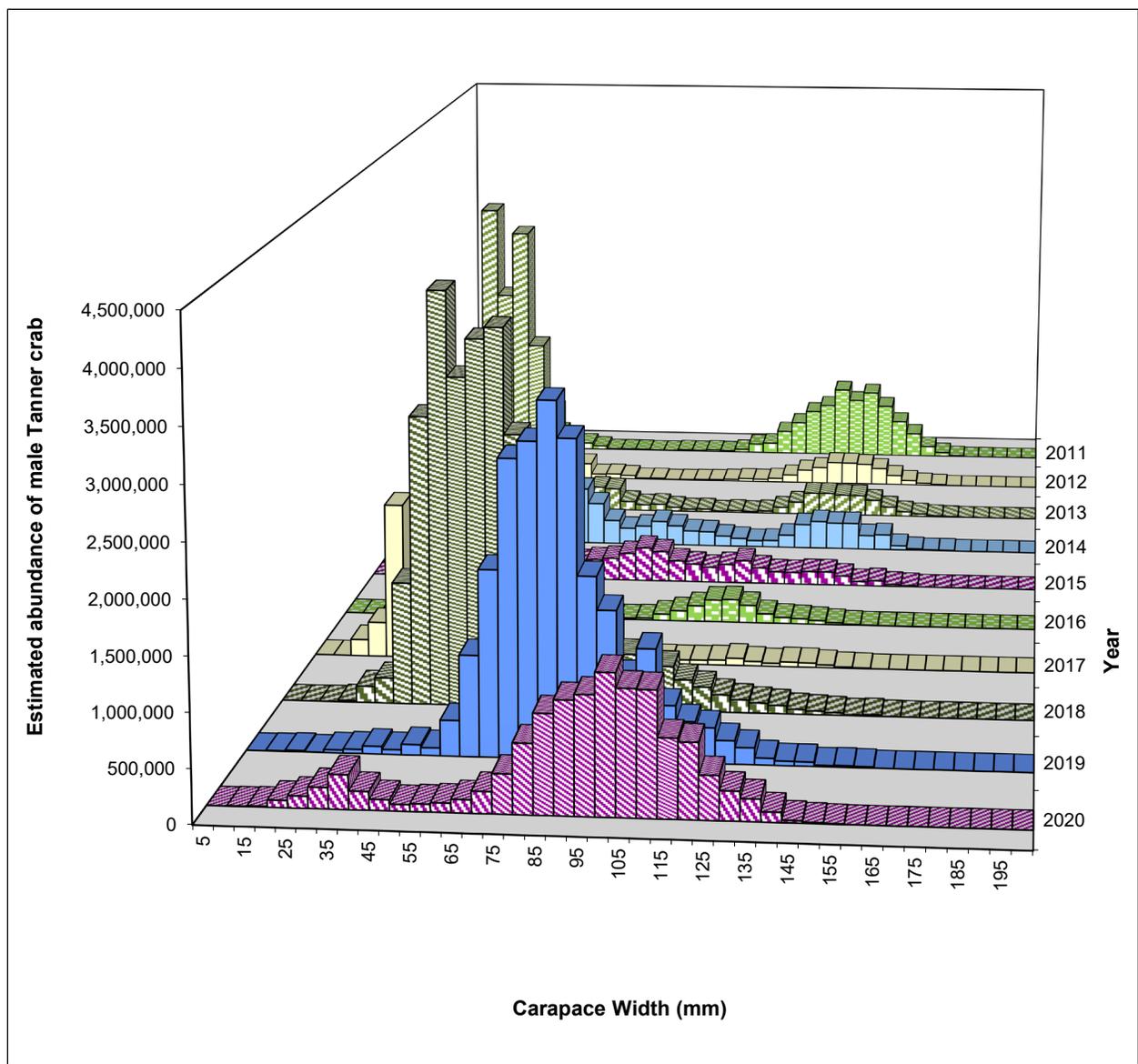


Figure 17.—Tanner crab male abundance estimate by carapace width in the Chignik District large-mesh bottom trawl surveys, 2011–2020.

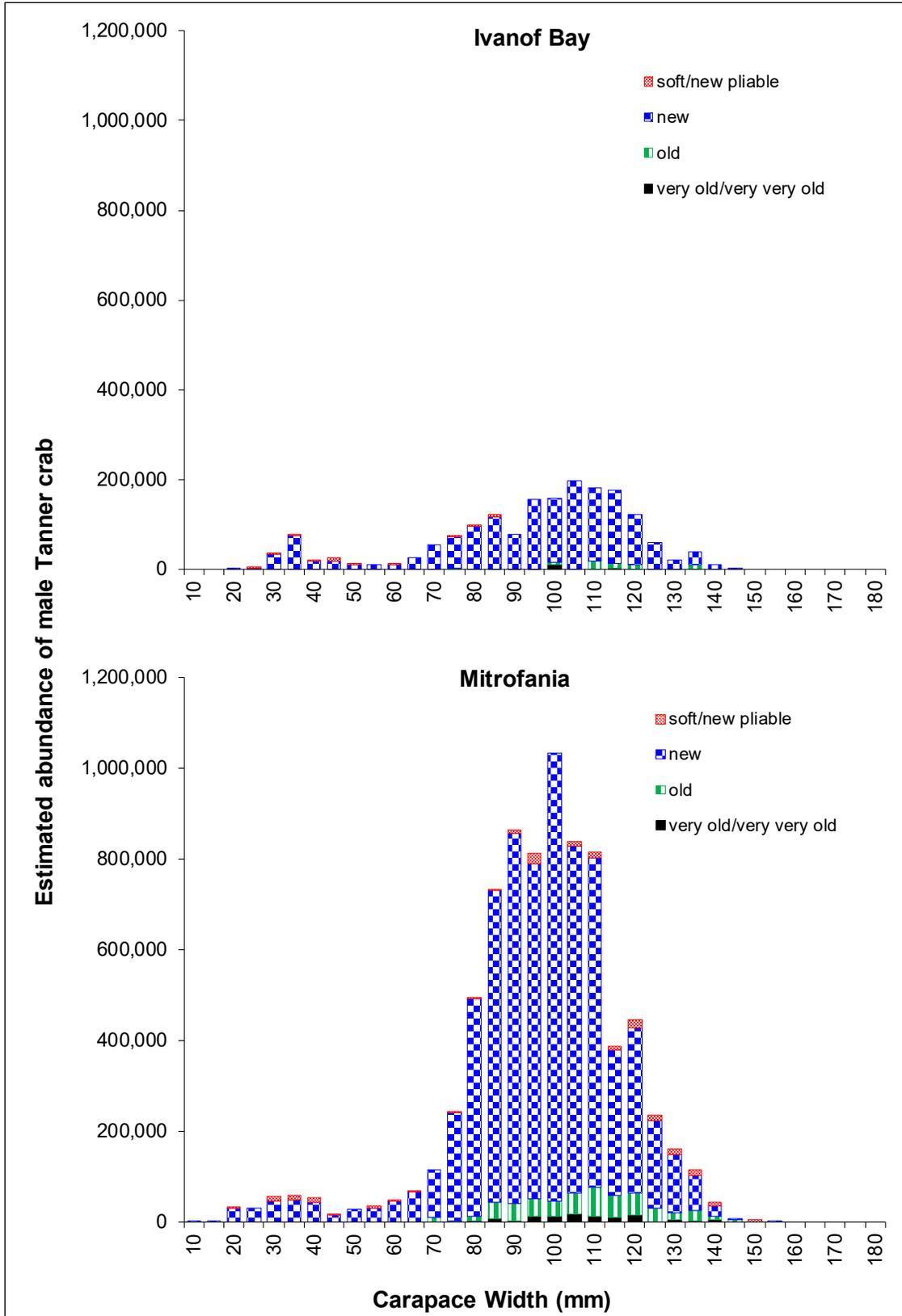


Figure 18.—Tanner crab male abundance estimate by carapace width and shell condition from Ivanof Bay and Mitrofanina in the 2020 Chignik District large-mesh bottom trawl survey.

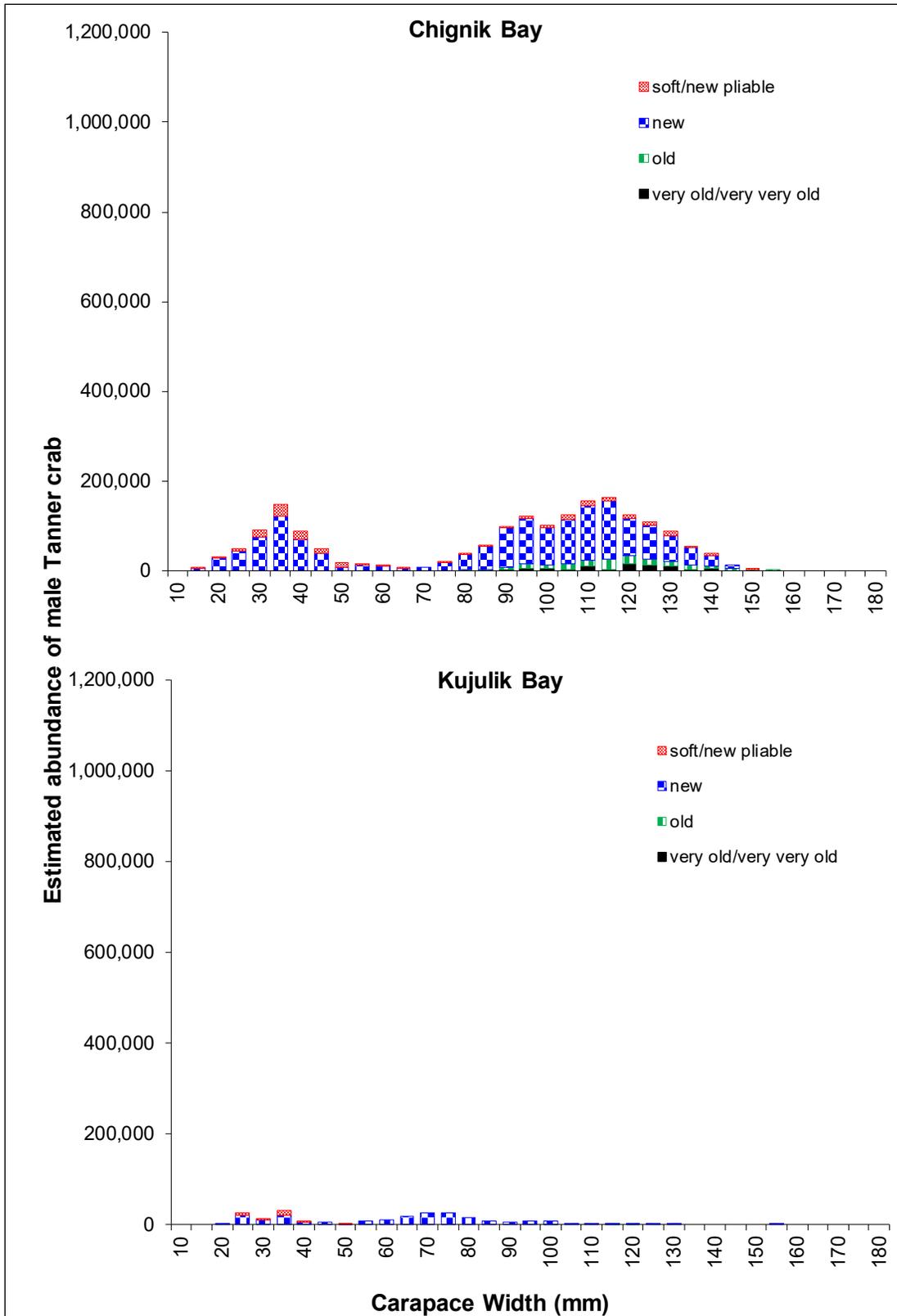


Figure 19.—Tanner crab male abundance estimate by carapace width and shell condition from Chignik Bay and Kujulik Bay in the 2020 Chignik District large-mesh bottom trawl survey.

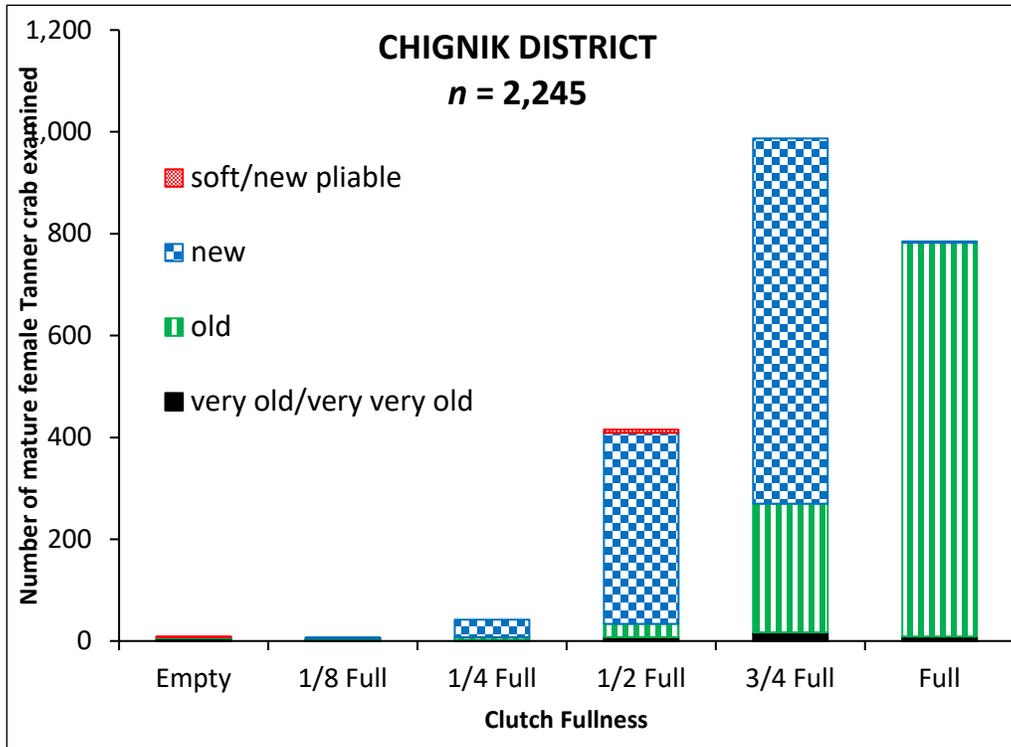


Figure 20.—Tanner crab mature female egg clutch fullness by shell condition in the Chignik District large-mesh bottom trawl survey, 2020.

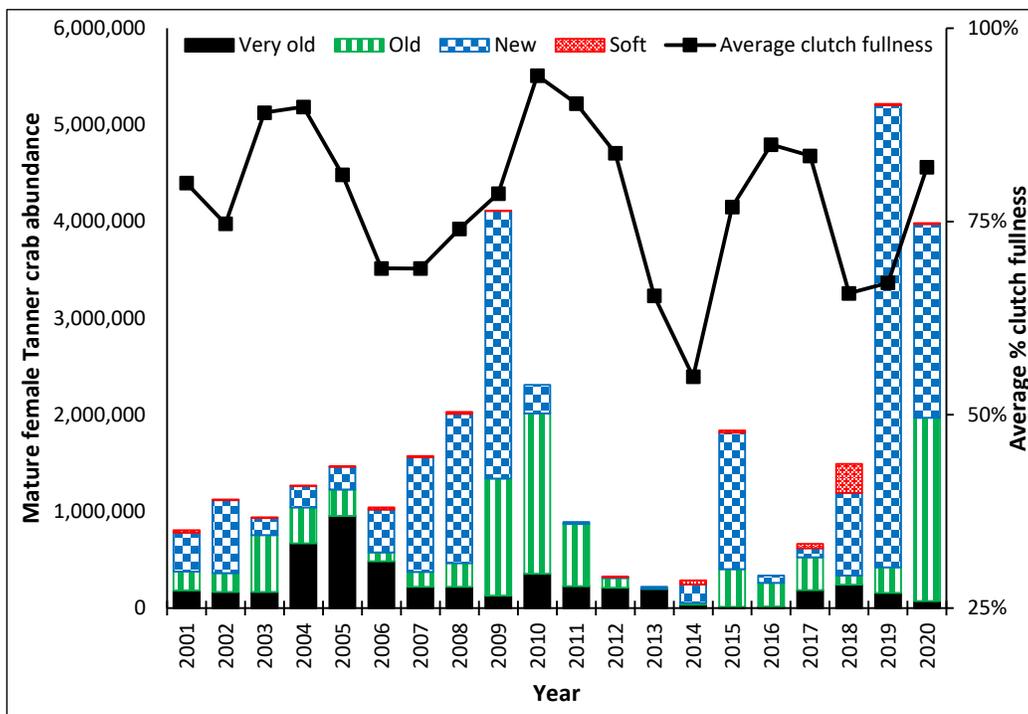


Figure 21.—Tanner crab mature female abundance by shell condition and average clutch fullness for the Chignik District from the 2001–2020 large-mesh bottom trawl surveys.

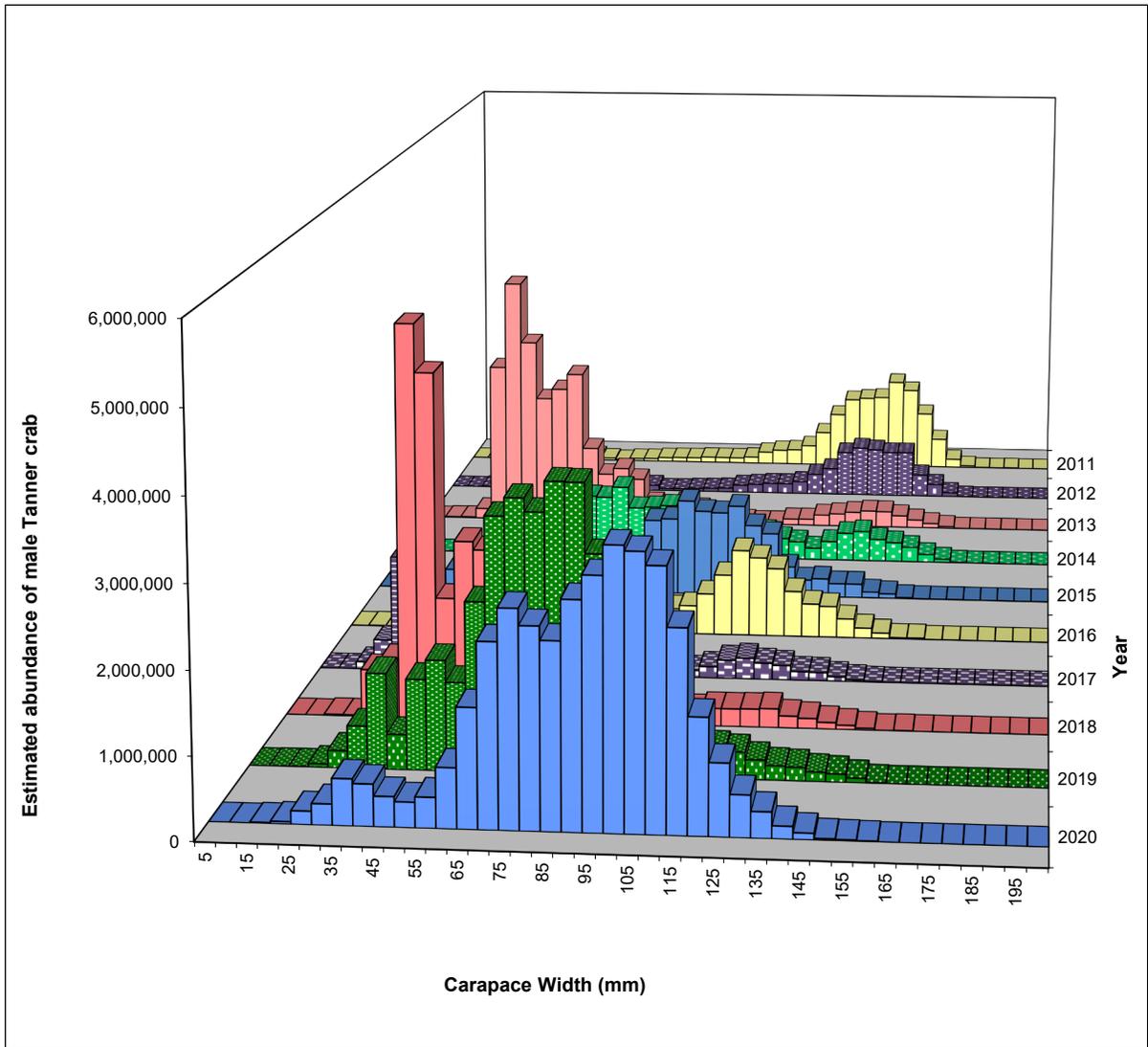


Figure 22.—Tanner crab male abundance estimate by carapace width in the South Peninsula District large-mesh bottom trawl surveys, 2011–2020.

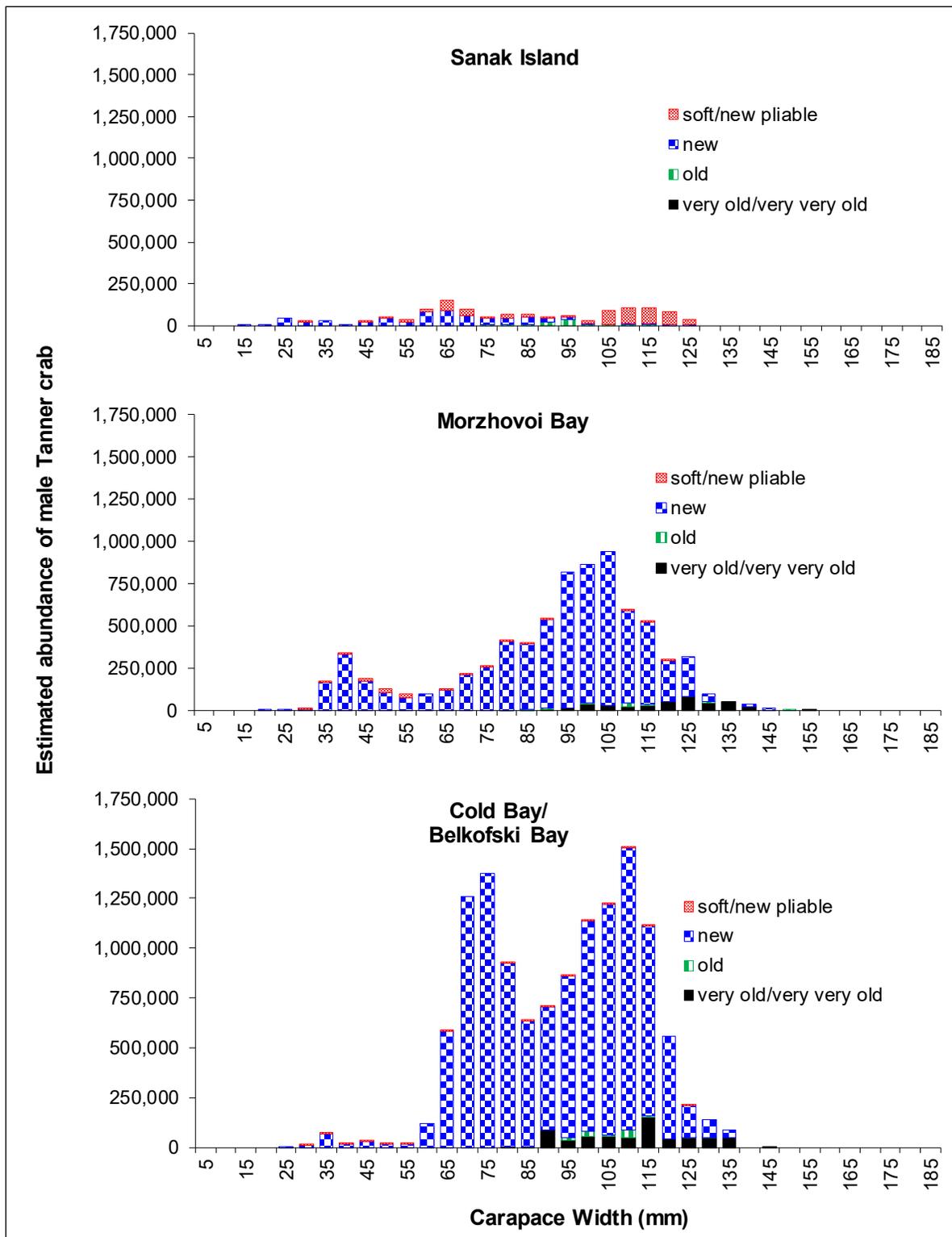


Figure 23.—Tanner crab male abundance estimate by carapace width and shell condition from Sanak Island, Morzhovoi Bay, and Cold Bay/Belkofski Bay in the Western Section of the 2020 South Peninsula District large-mesh bottom trawl survey.

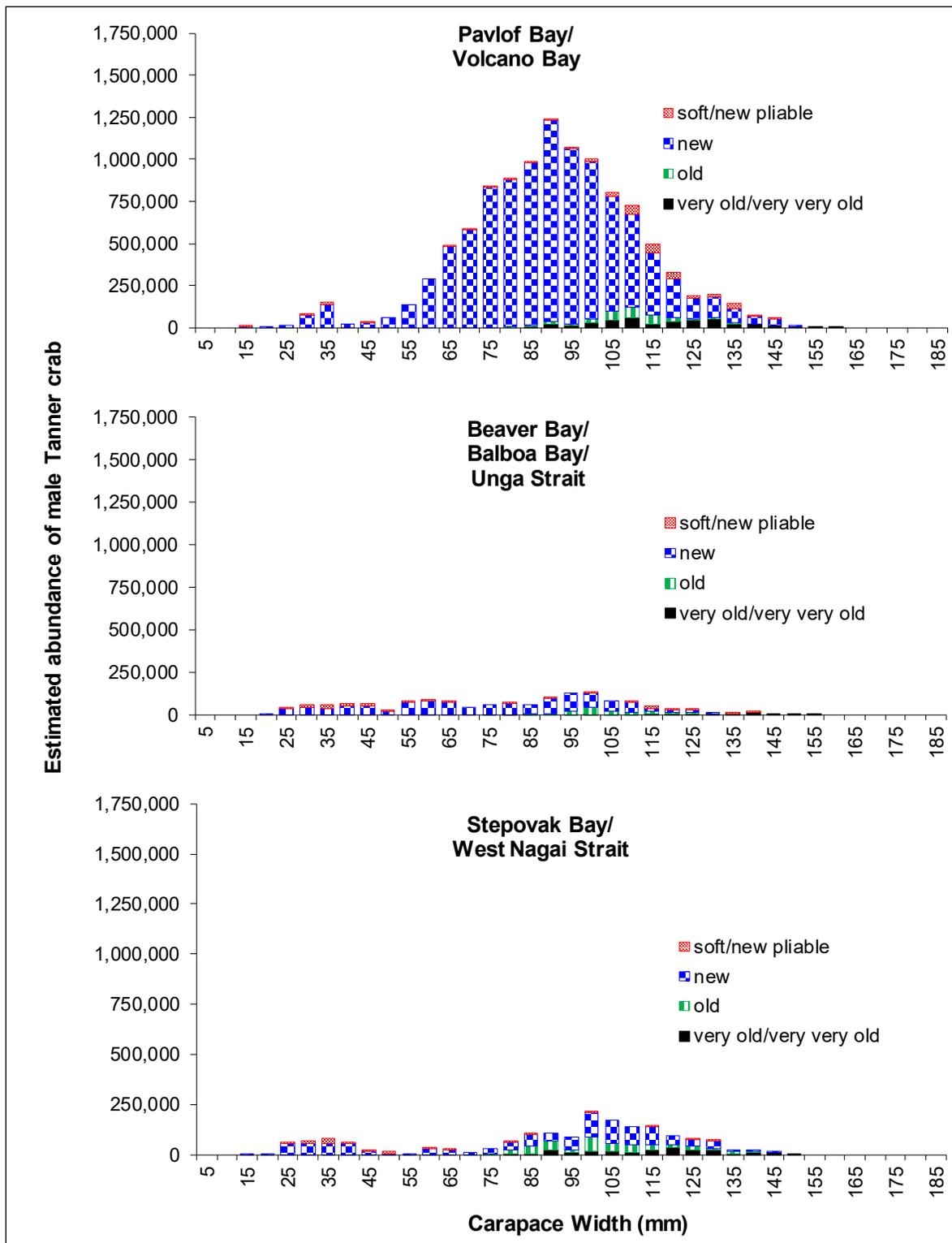


Figure 24.—Tanner crab male abundance estimate by carapace width and shell condition from Pavlof Bay/Volcano Bay, Beaver Bay/Balboa Bay/Unga Strait, and Stepovak Bay/West Nagai Strait in the Eastern Section of the 2020 South Peninsula District large-mesh bottom trawl survey.

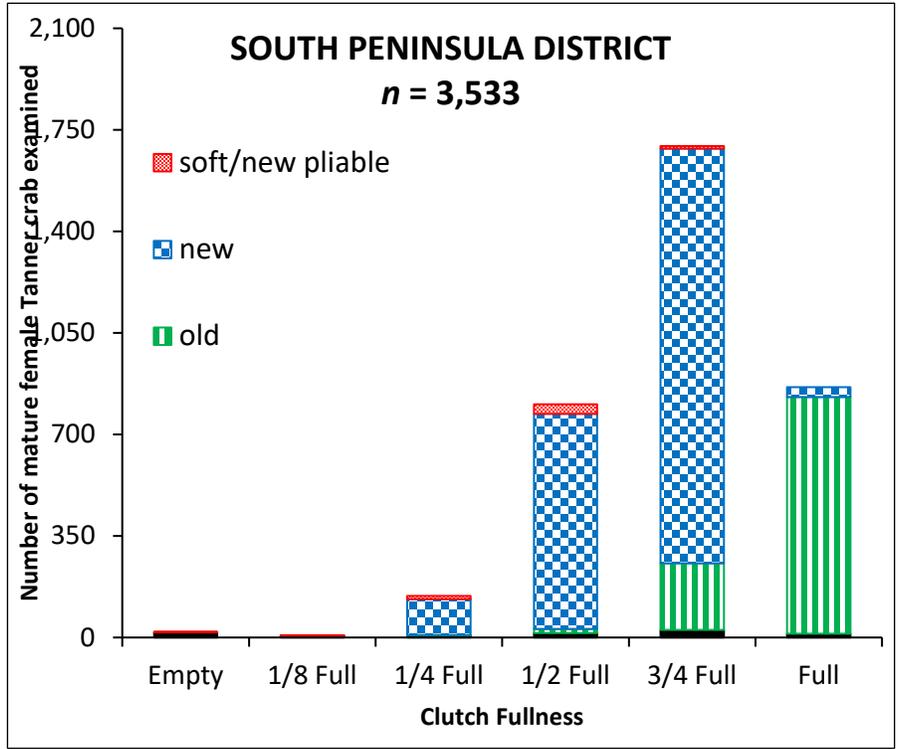


Figure 25.—Tanner crab mature female egg clutch fullness by shell condition in the South Peninsula District large-mesh bottom trawl survey, 2020.

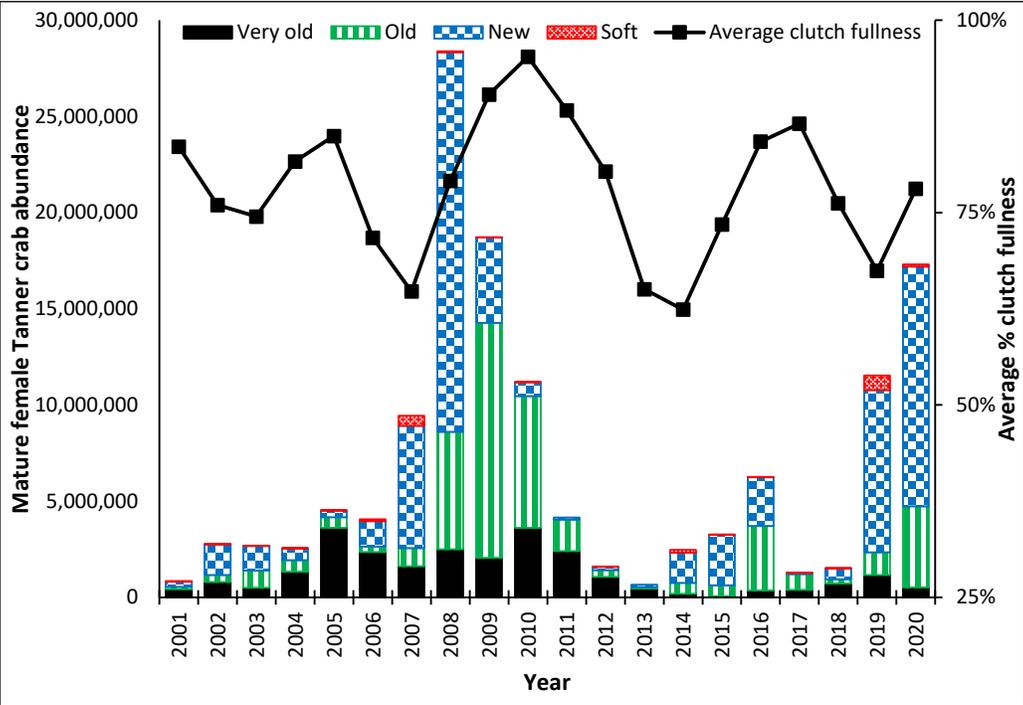


Figure 26.—Tanner crab mature female abundance by shell condition and average clutch fullness for the South Peninsula District from the 2001–2020 large-mesh bottom trawl surveys.

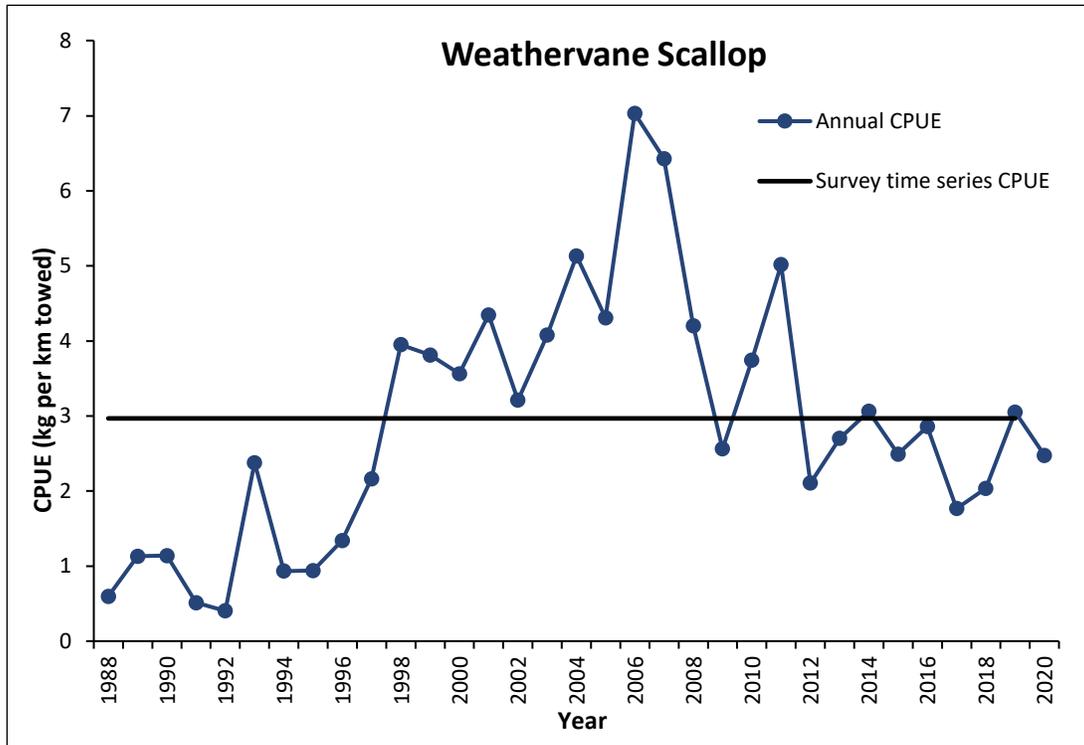


Figure 27.—Weathervane scallop annual CPUE in kilograms per kilometer towed from the 1988–2020 large-mesh bottom trawl surveys.

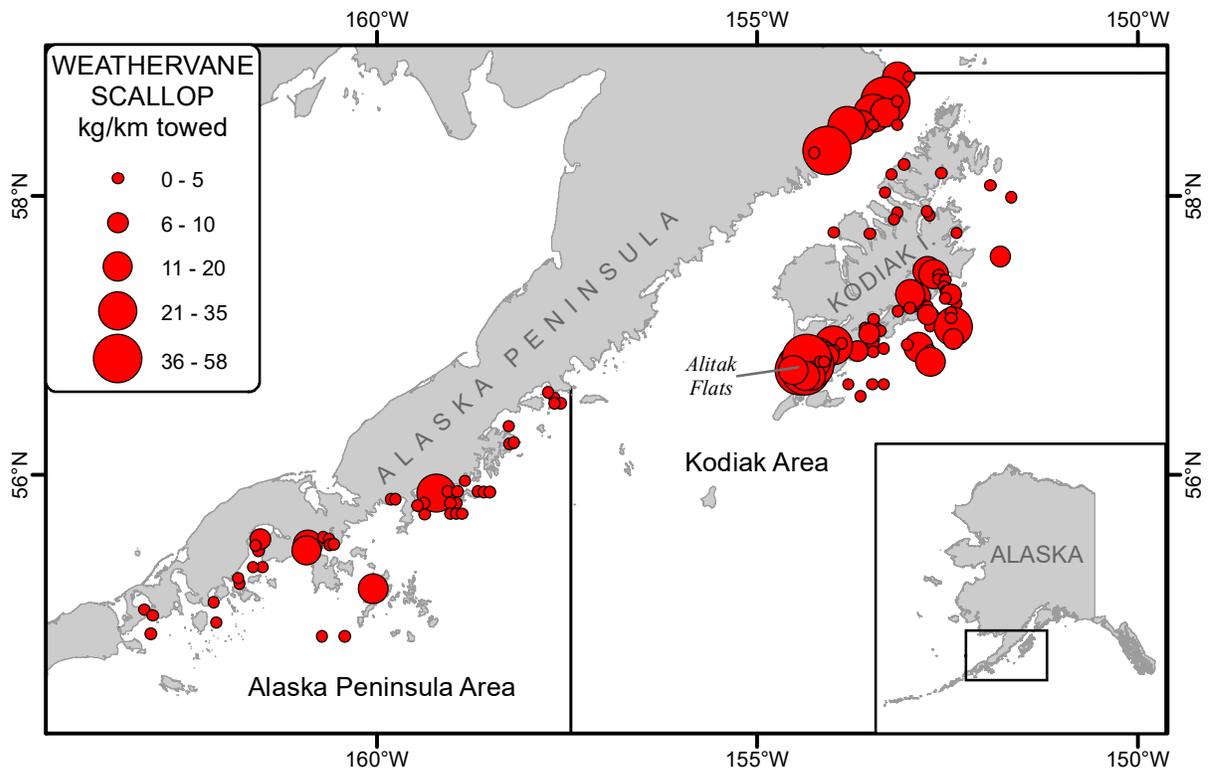


Figure 28.—Weathervane scallop station CPUE in kilograms per kilometer towed from the 2020 large-mesh bottom trawl survey.

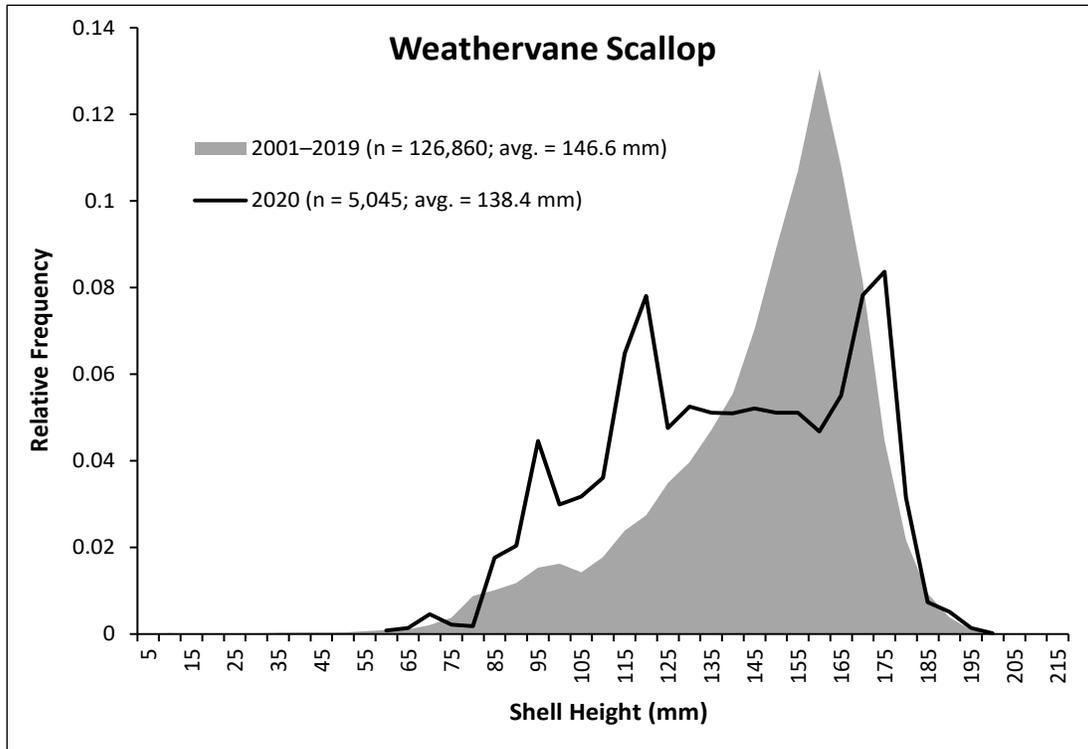


Figure 29.—Weathervane scallop shell height frequency from the large-mesh bottom trawl surveys, 2001–2020.

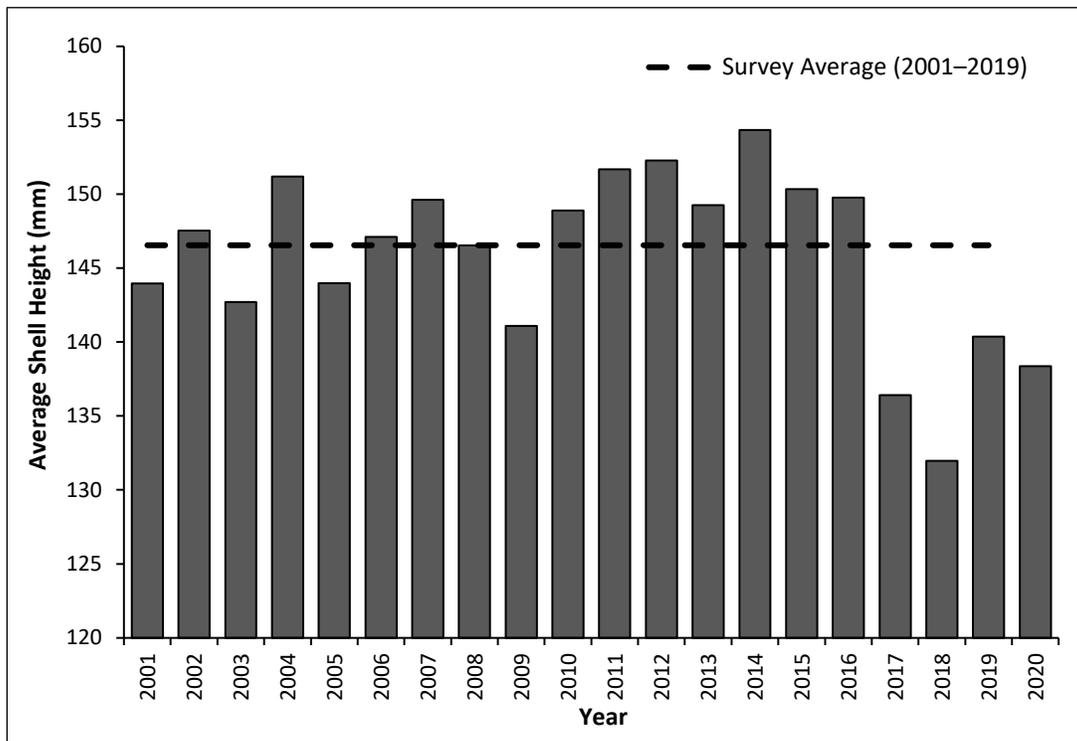


Figure 30.—Average weathervane scallop shell height from scallops caught on the large-mesh bottom trawl surveys, 2001–2020.

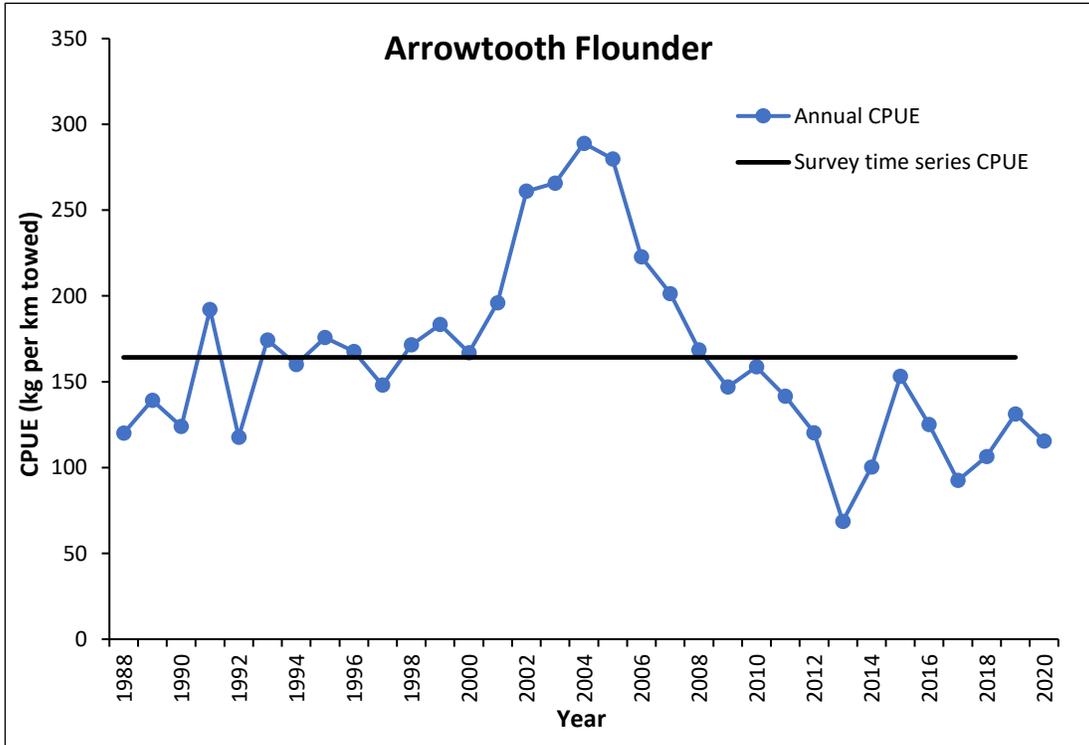


Figure 31.—Arrowtooth flounder annual CPUE in kilograms per kilometer towed from the 1988–2020 large-mesh bottom trawl surveys.

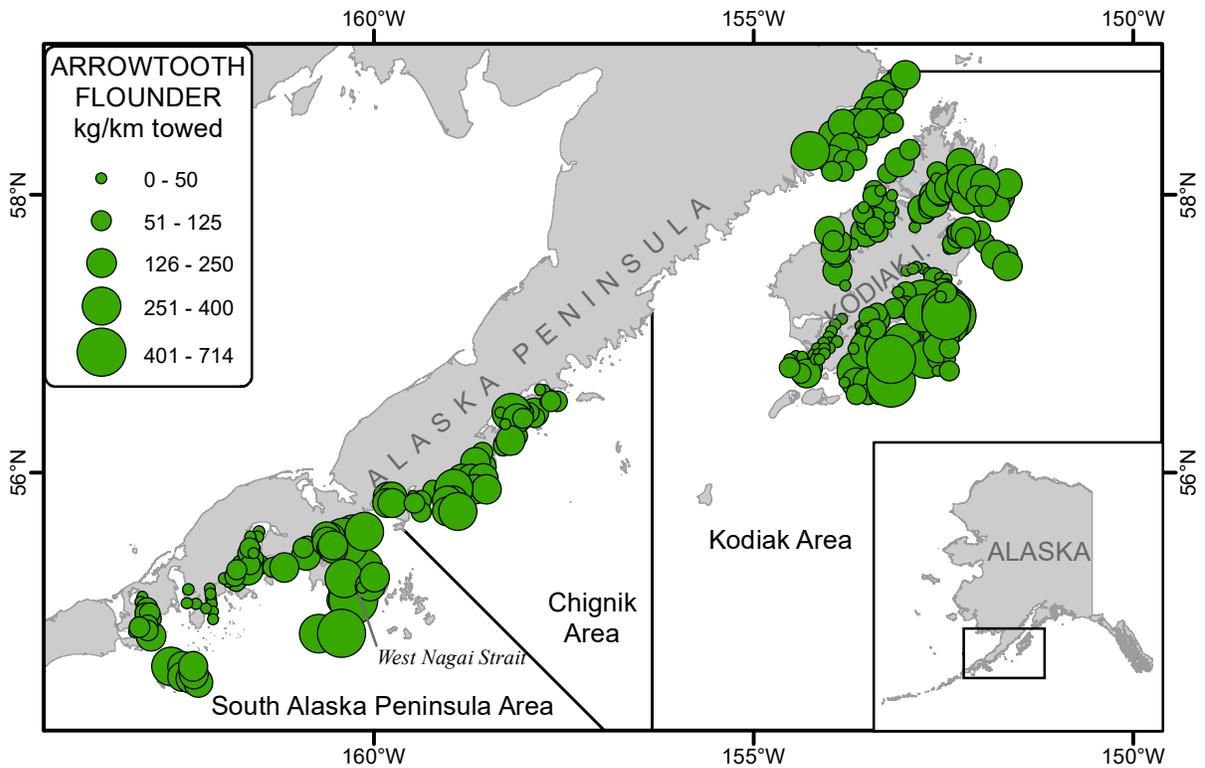


Figure 32.—Arrowtooth flounder station CPUE in kilograms per kilometer towed from the 2020 large-mesh bottom trawl survey.

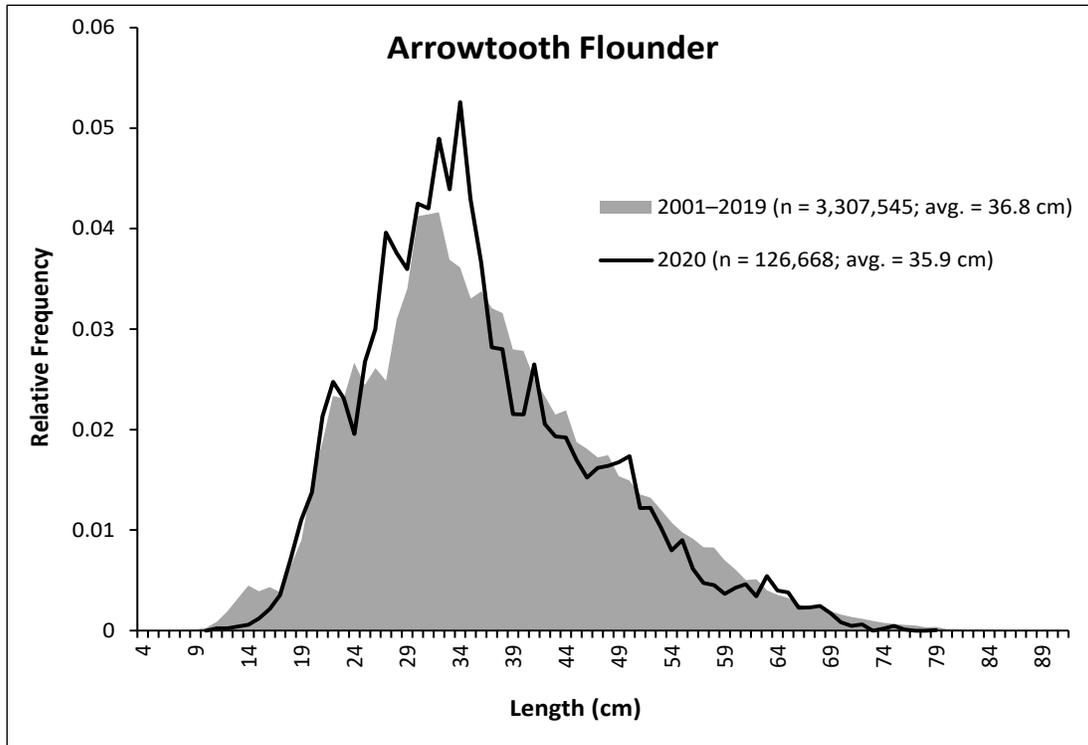


Figure 33.–Arrowtooth flounder length frequency from the large-mesh bottom trawl surveys, 2001–2020.

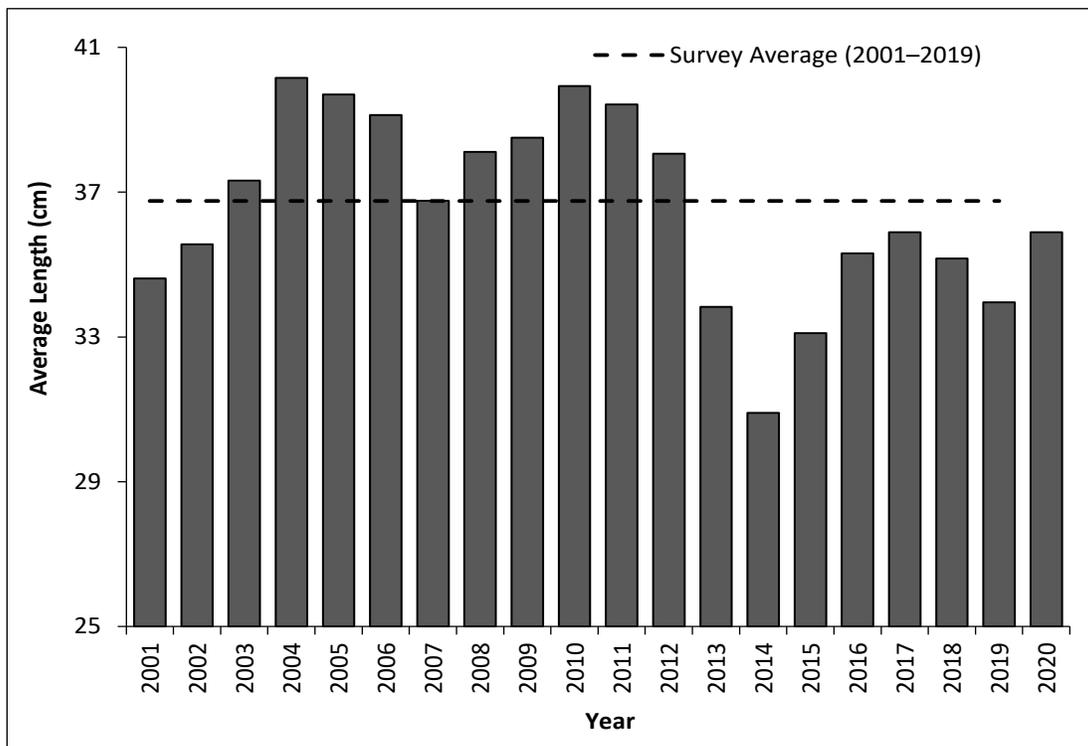


Figure 34.–Average arrowtooth flounder length from fish caught on the large-mesh bottom trawl surveys, 2001–2020.

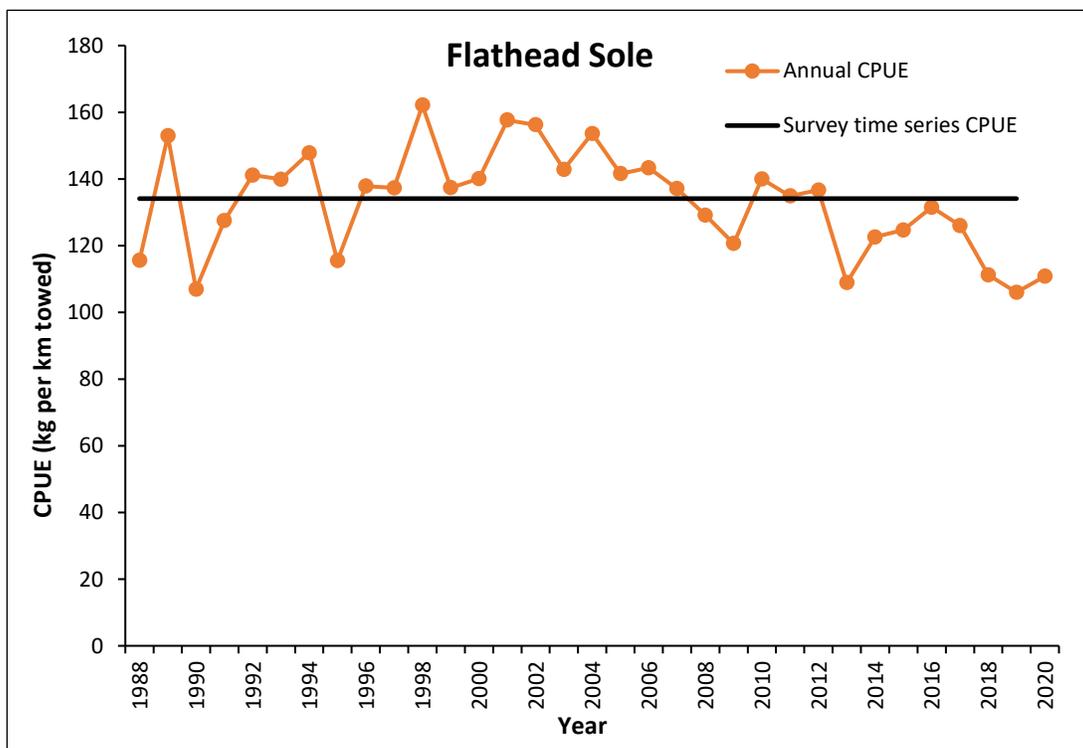


Figure 35.—Flathead sole annual CPUE in kilograms per kilometer towed from the 1988–2020 large-mesh bottom trawl surveys.

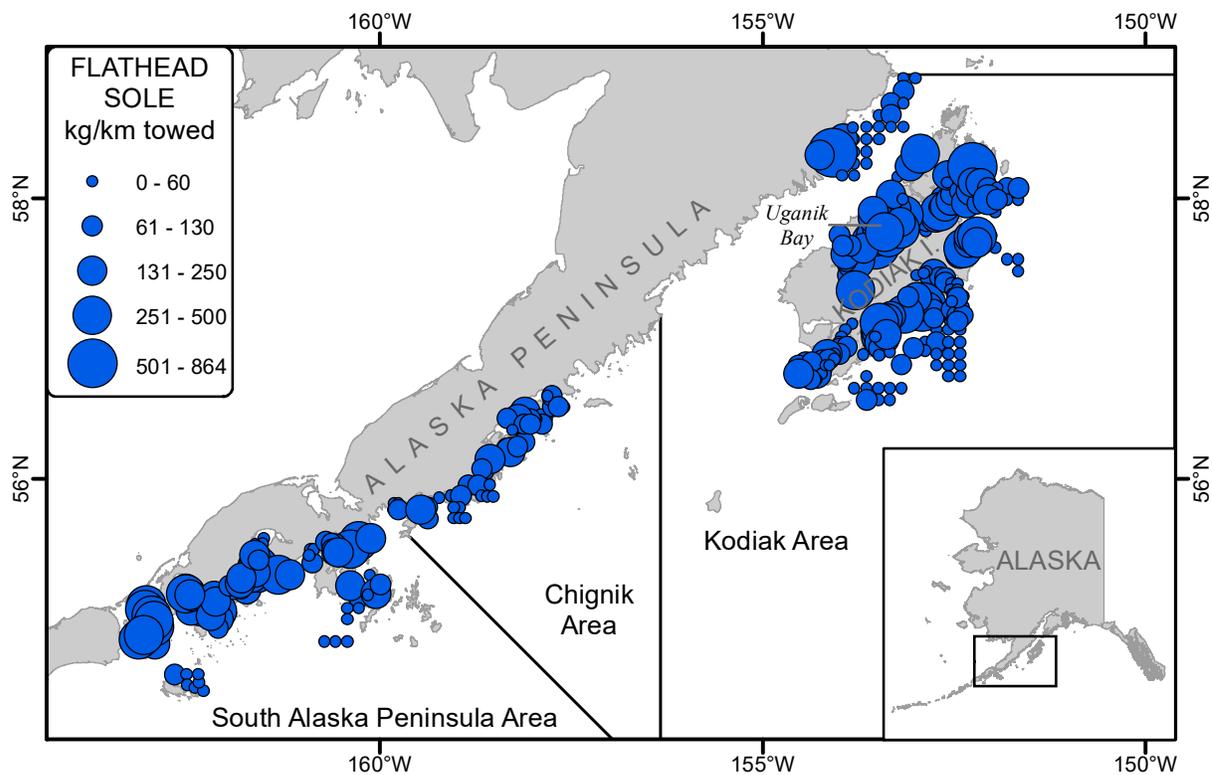


Figure 36.—Flathead sole station CPUE in kilograms per kilometer towed from the 2020 large-mesh bottom trawl survey.

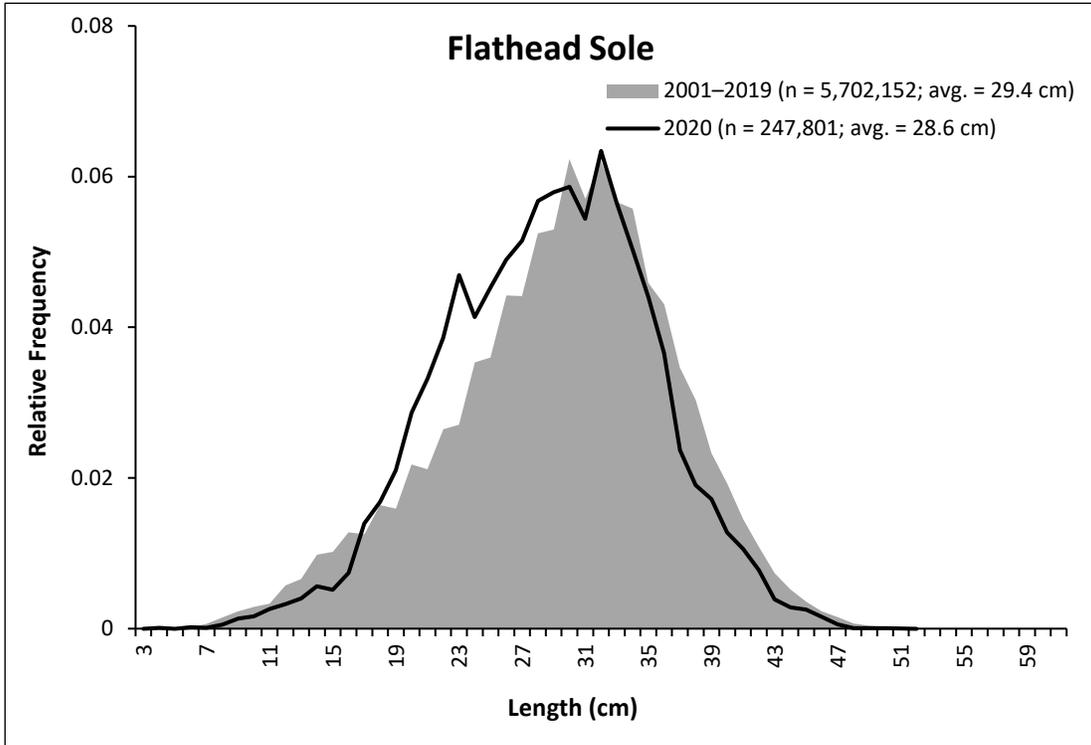


Figure 37.—Flathead sole length frequency from the large-mesh bottom trawl surveys, 2001–2020.

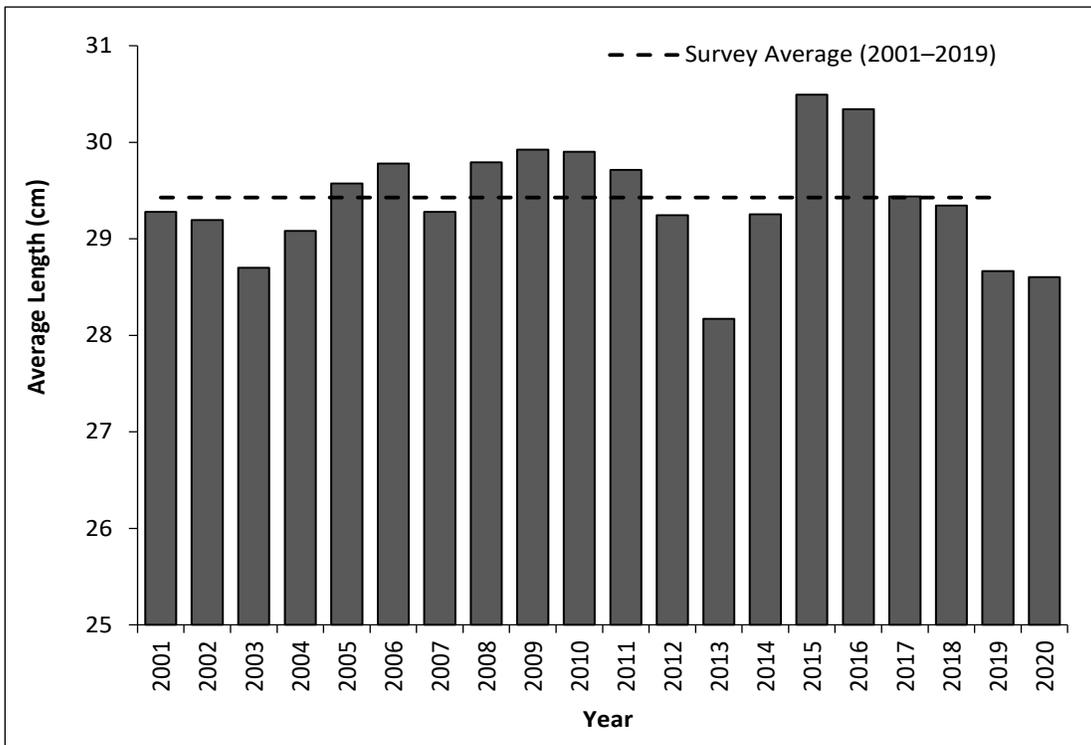


Figure 38.—Average flathead sole length from fish caught on the large-mesh bottom trawl surveys, 2001–2020.

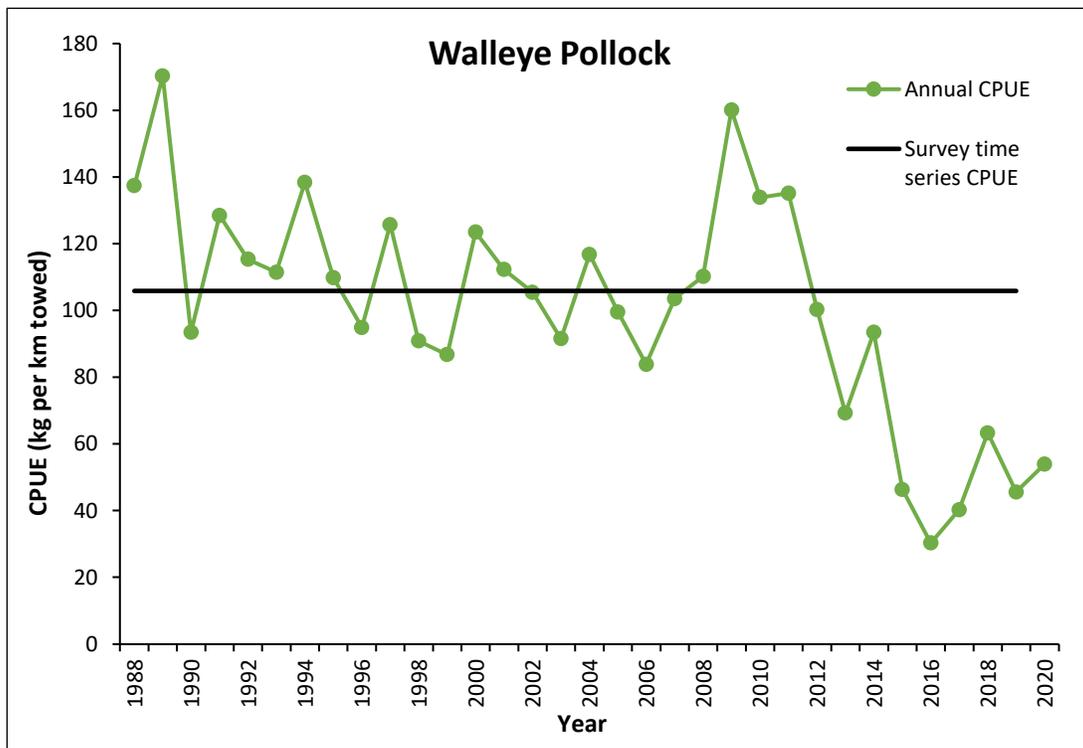


Figure 39.—Walleye pollock annual CPUE in kilograms per kilometer towed from the 1988–2020 large-mesh bottom trawl surveys.

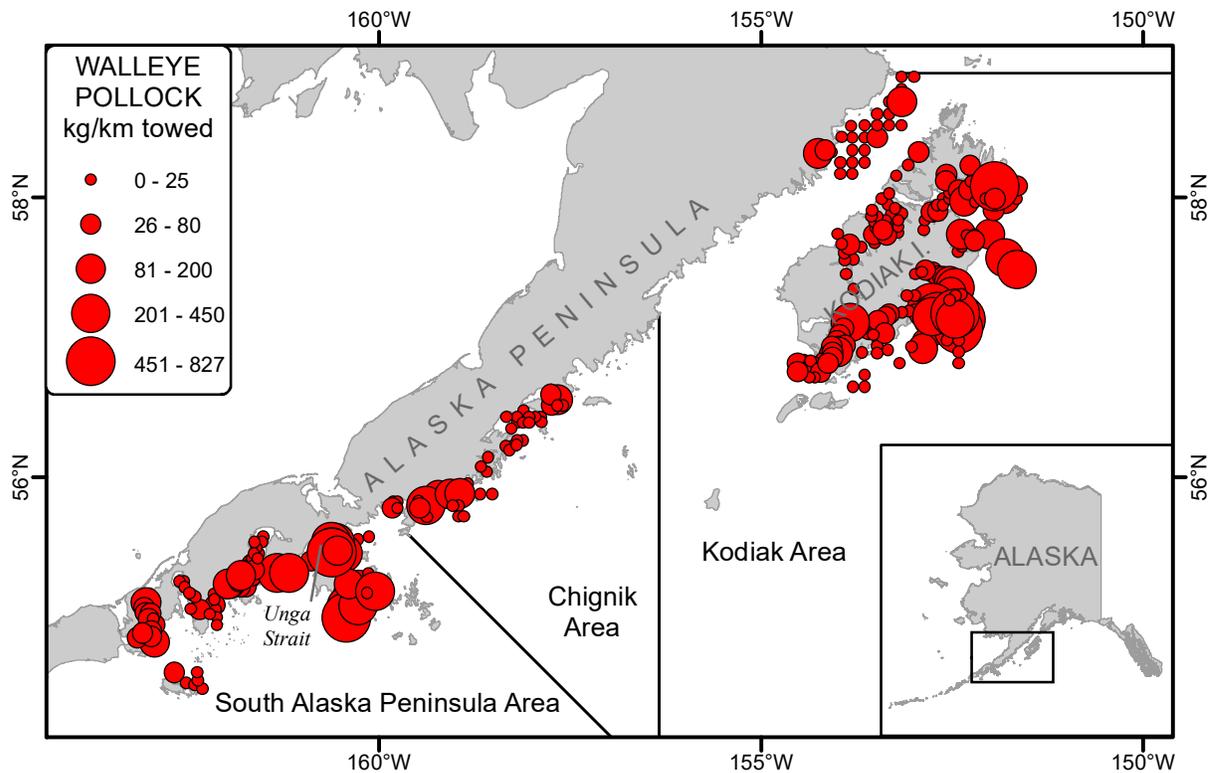


Figure 40.—Walleye pollock station CPUE in kilograms per kilometer towed from the 2020 large-mesh bottom trawl survey.

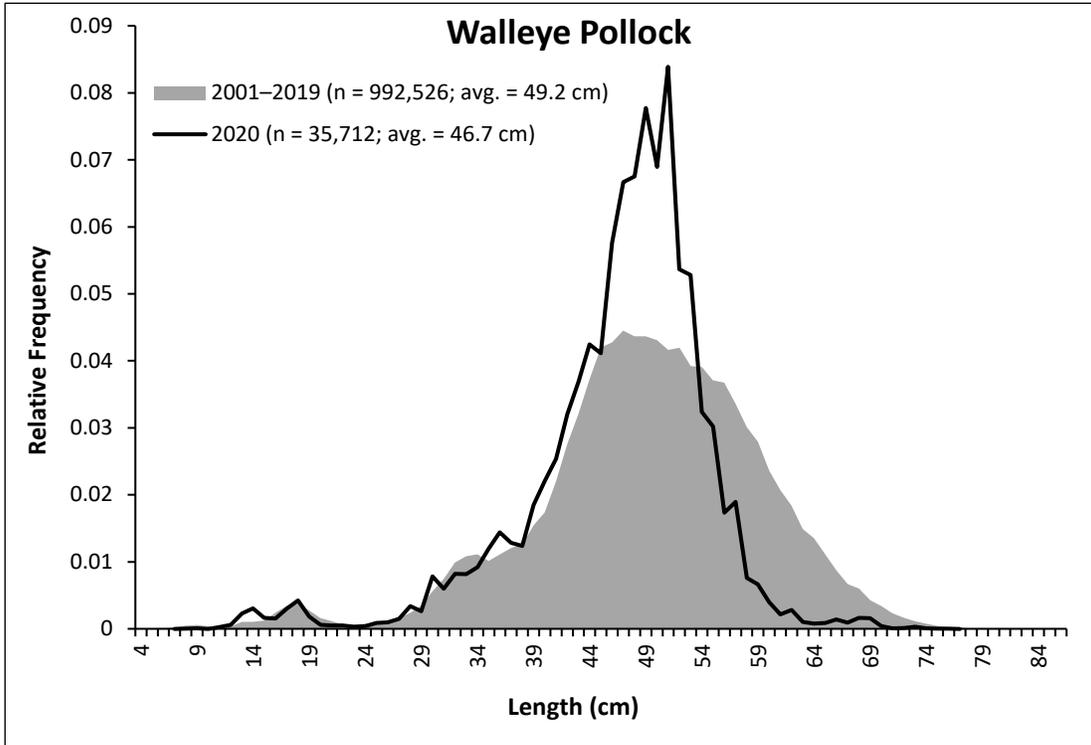


Figure 41.—Walleye pollock length frequency from the large-mesh bottom trawl surveys, 2001–2020.

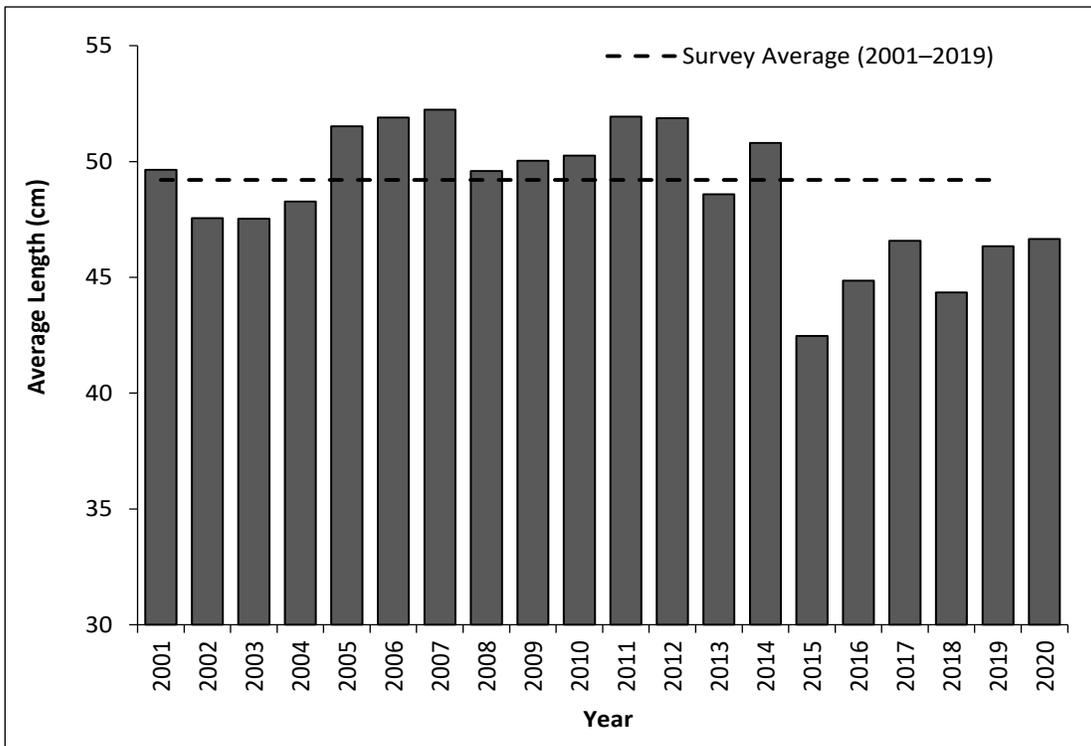


Figure 42.—Average walleye pollock length from fish caught on the large-mesh bottom trawl surveys, 2001–2020.

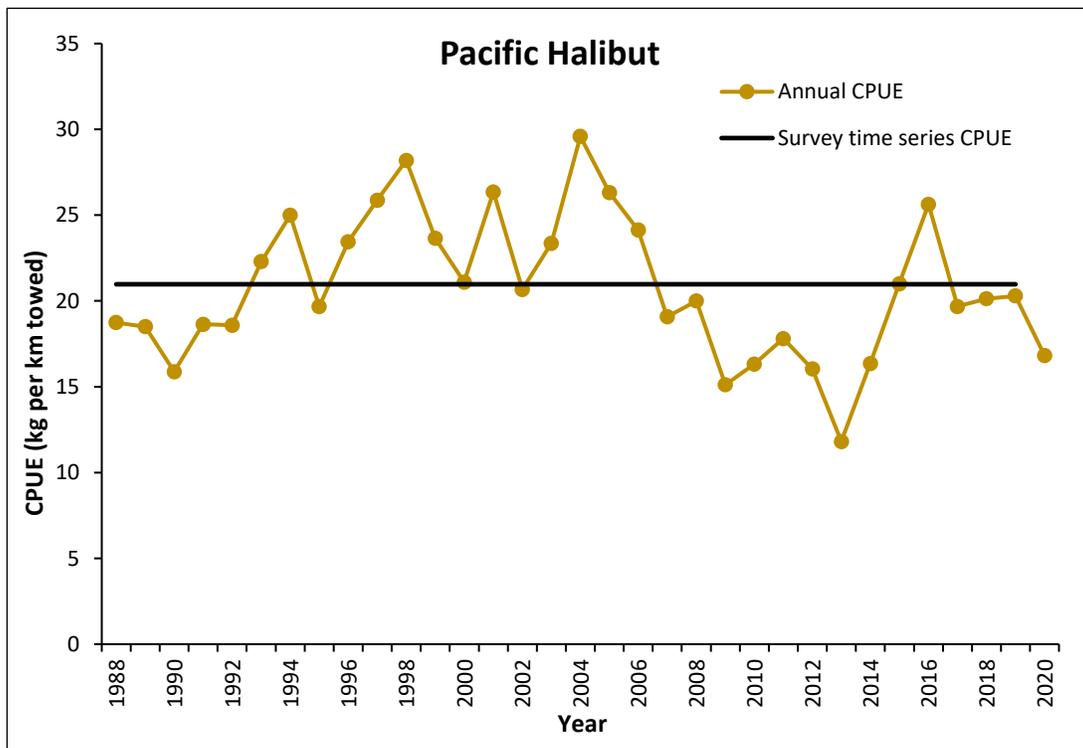


Figure 43.—Pacific halibut annual CPUE in kilograms per kilometer towed from the 1988–2020 large-mesh bottom trawl surveys.

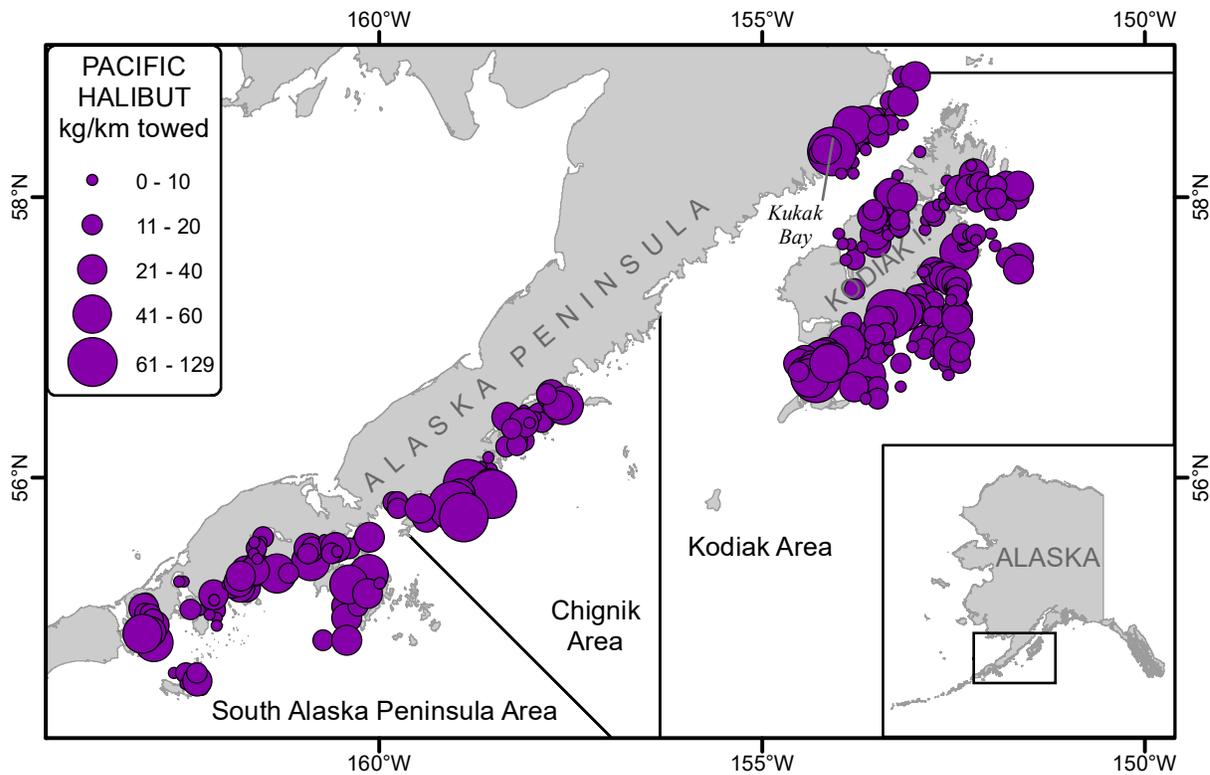


Figure 44.—Pacific halibut station CPUE in kilograms per kilometer towed from the 2020 large-mesh bottom trawl survey.

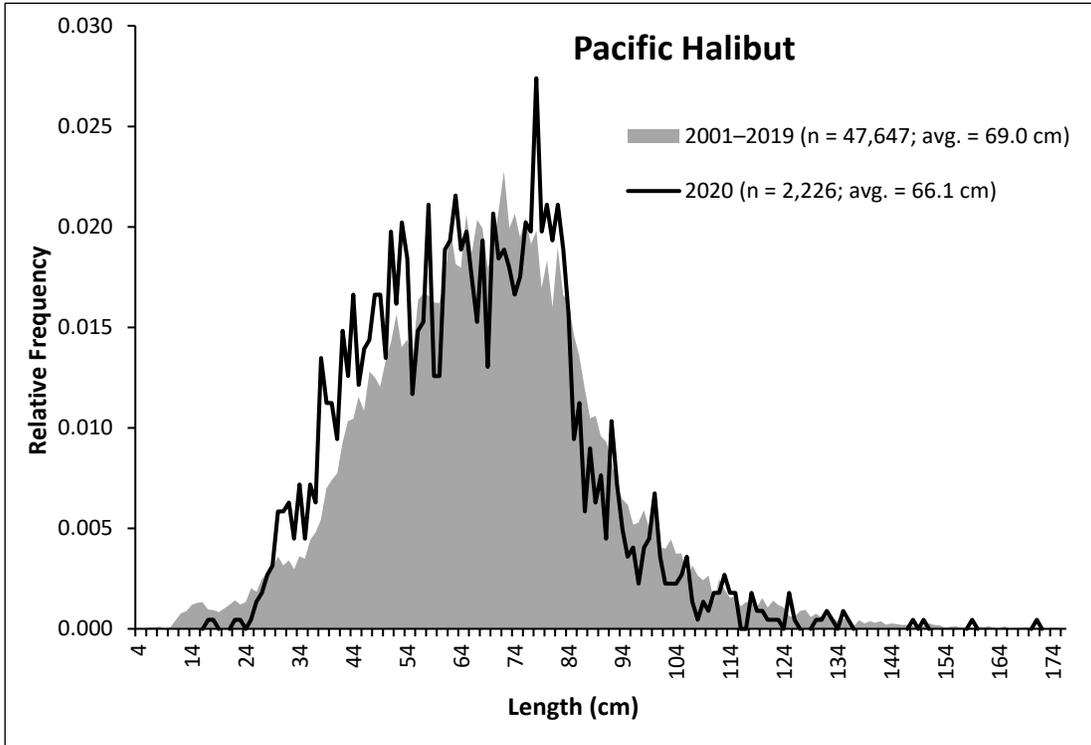


Figure 45.—Pacific halibut length frequency from the large-mesh bottom trawl surveys, 2001–2020.

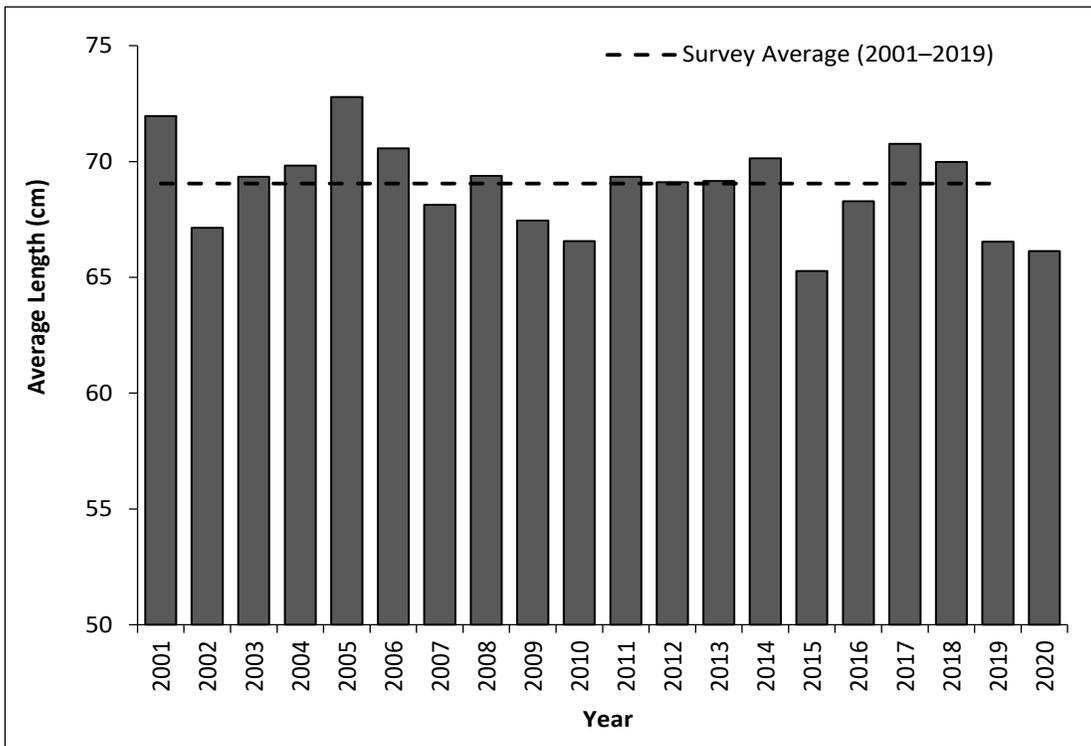


Figure 46.—Average Pacific halibut length from fish caught on the large-mesh bottom trawl surveys, 2001–2020.

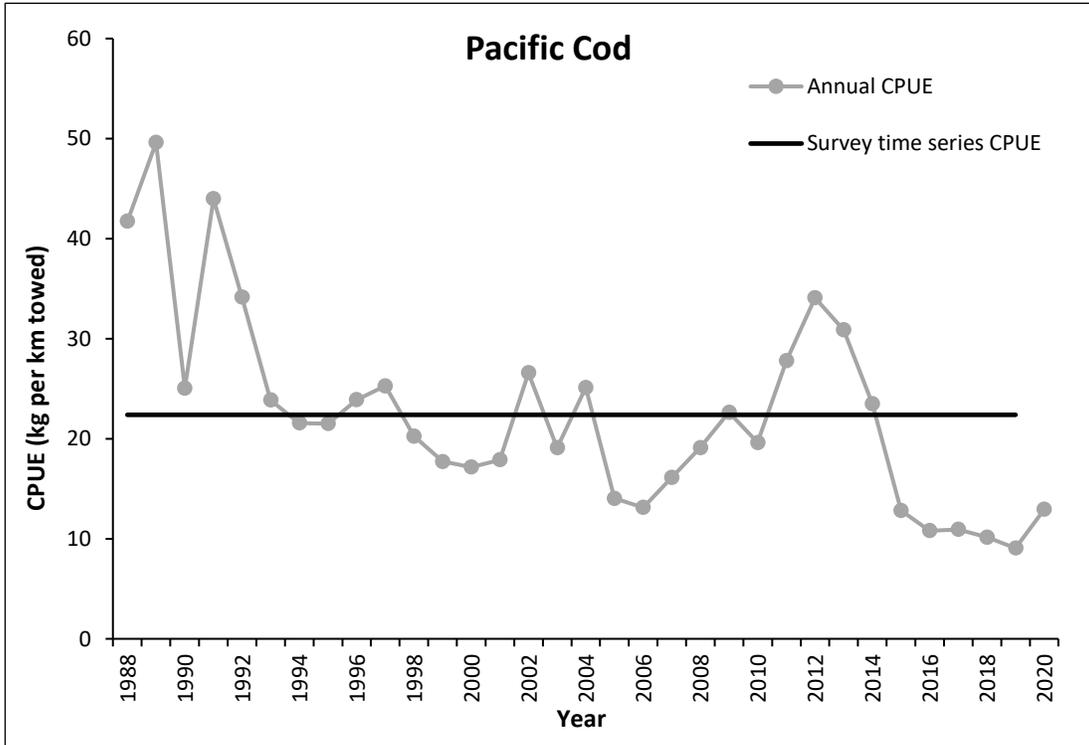


Figure 47.—Pacific cod annual CPUE in kilograms per kilometer towed from the 1988–2020 large-mesh bottom trawl surveys.

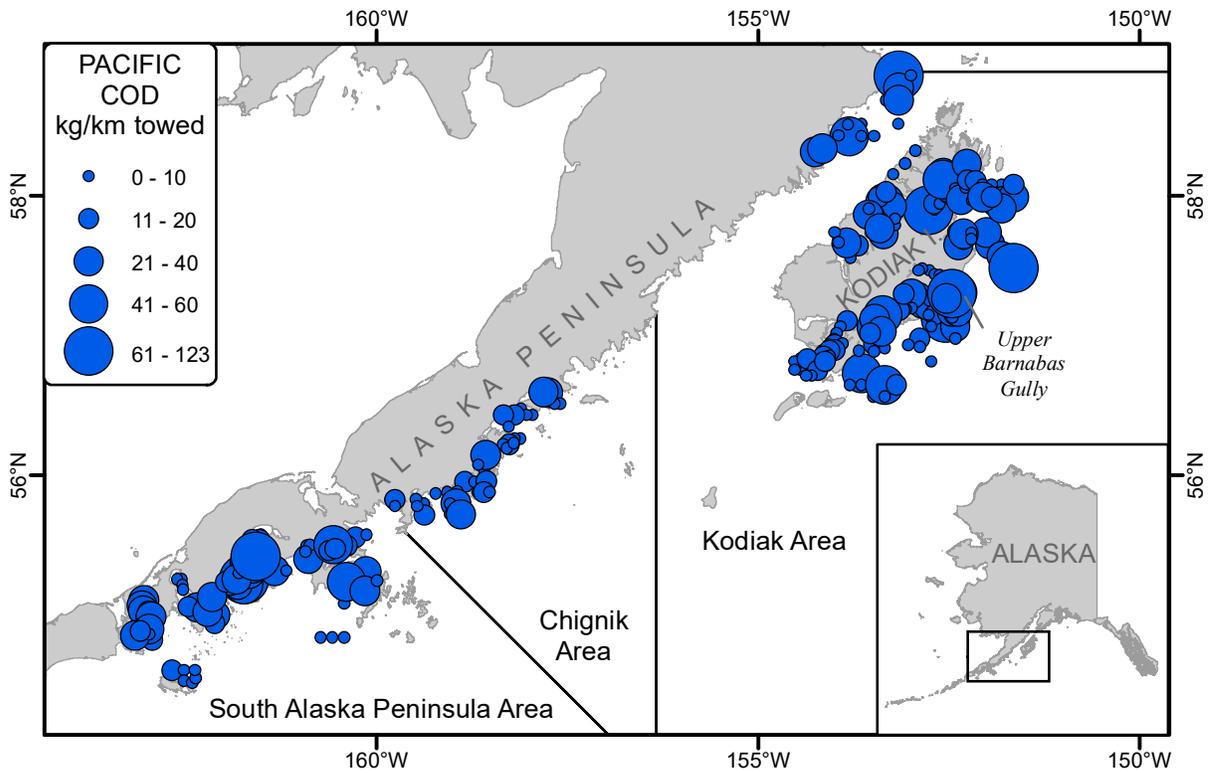


Figure 48.—Pacific cod station CPUE in kilograms per kilometer towed from the 2020 large-mesh bottom trawl survey.

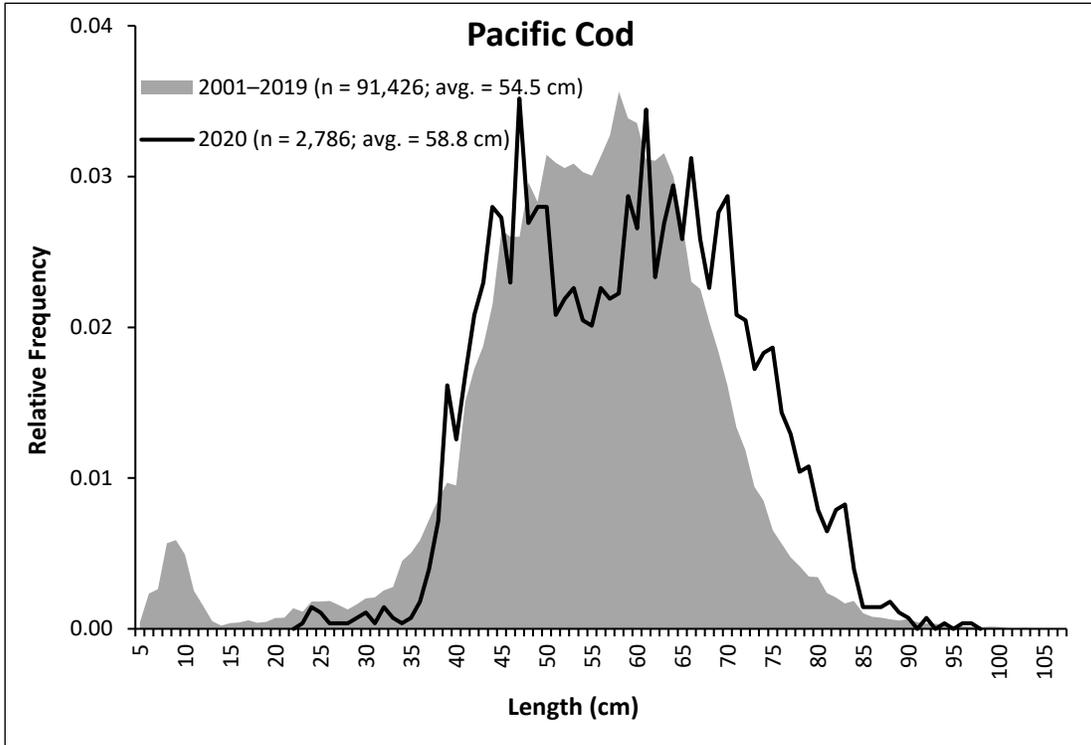


Figure 49.—Pacific cod length frequency from the large-mesh bottom trawl surveys, 2001–2020.

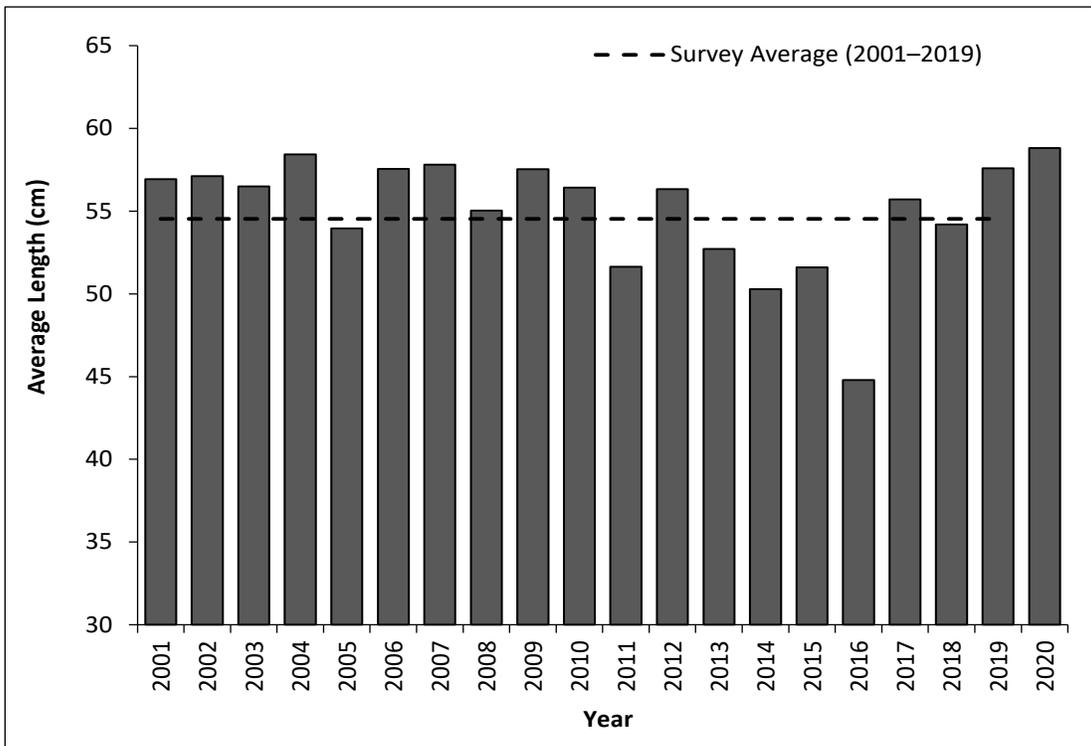


Figure 50.—Average Pacific cod length from fish caught on the large-mesh bottom trawl surveys, 2001–2020.

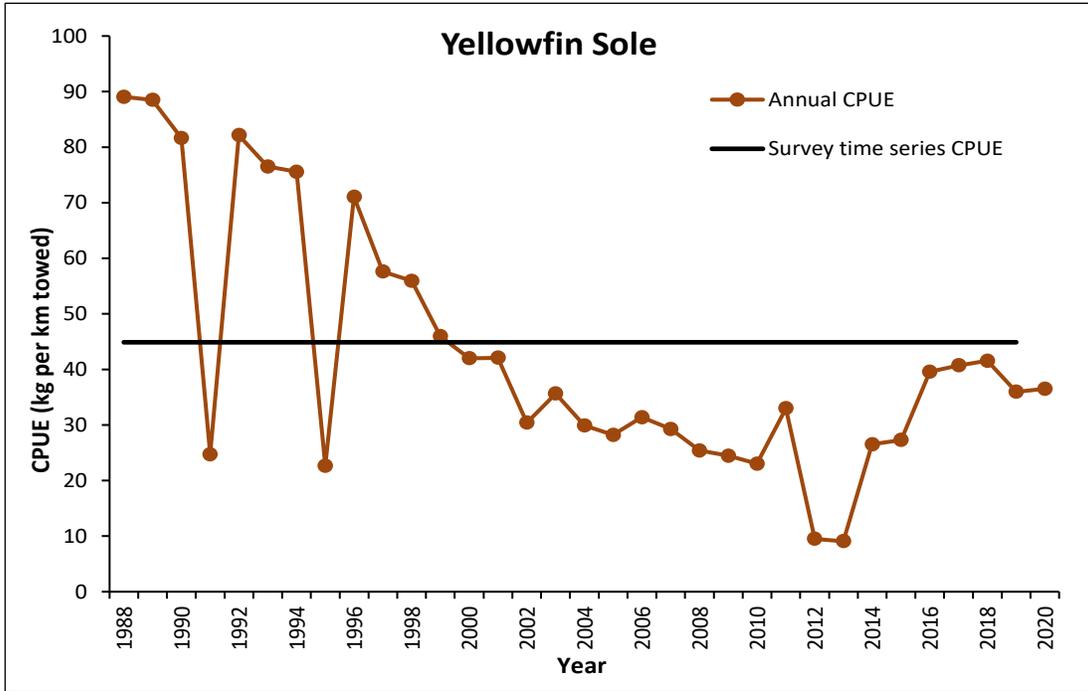


Figure 51.—Yellowfin sole annual CPUE in kilograms per kilometer towed from the 1988–2020 large-mesh bottom trawl surveys.

Note: 1991 and 1995 were incomplete surveys and did not include groundfish data from the South Peninsula District, where the majority of yellowfin sole are captured.

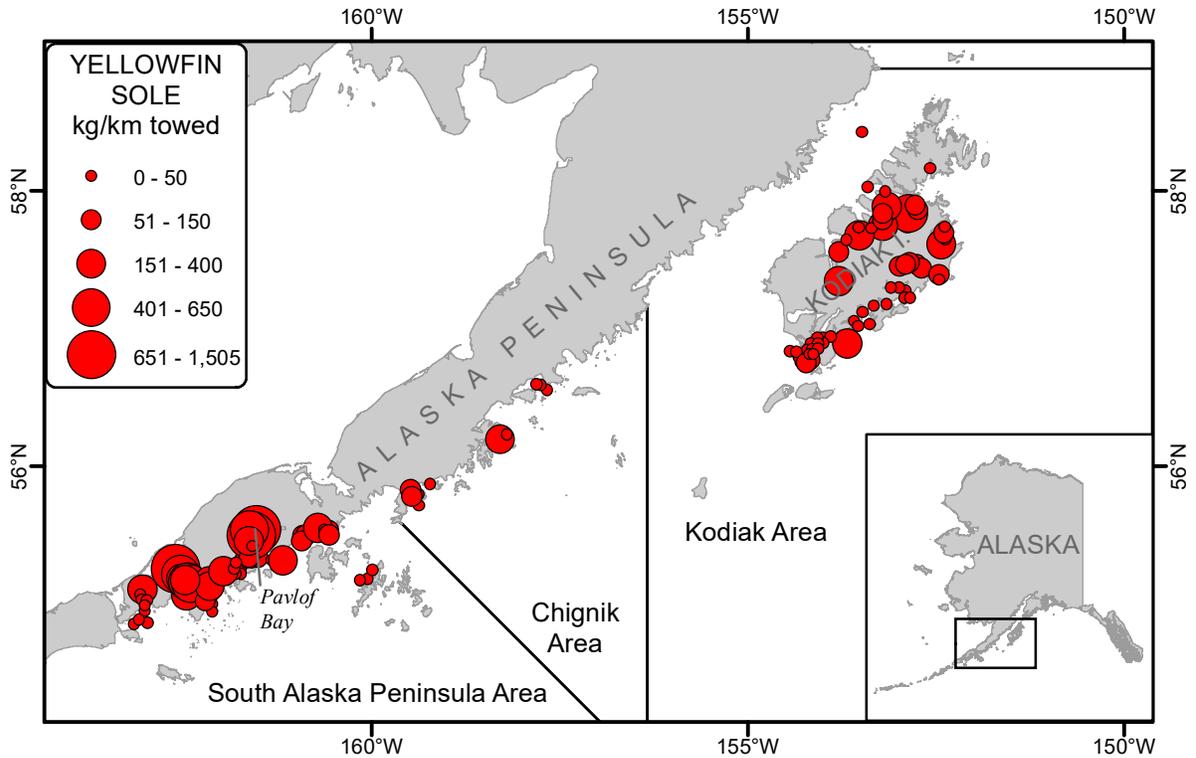


Figure 52.—Yellowfin sole station CPUE in kilograms per kilometer towed from the 2020 large-mesh bottom trawl survey.

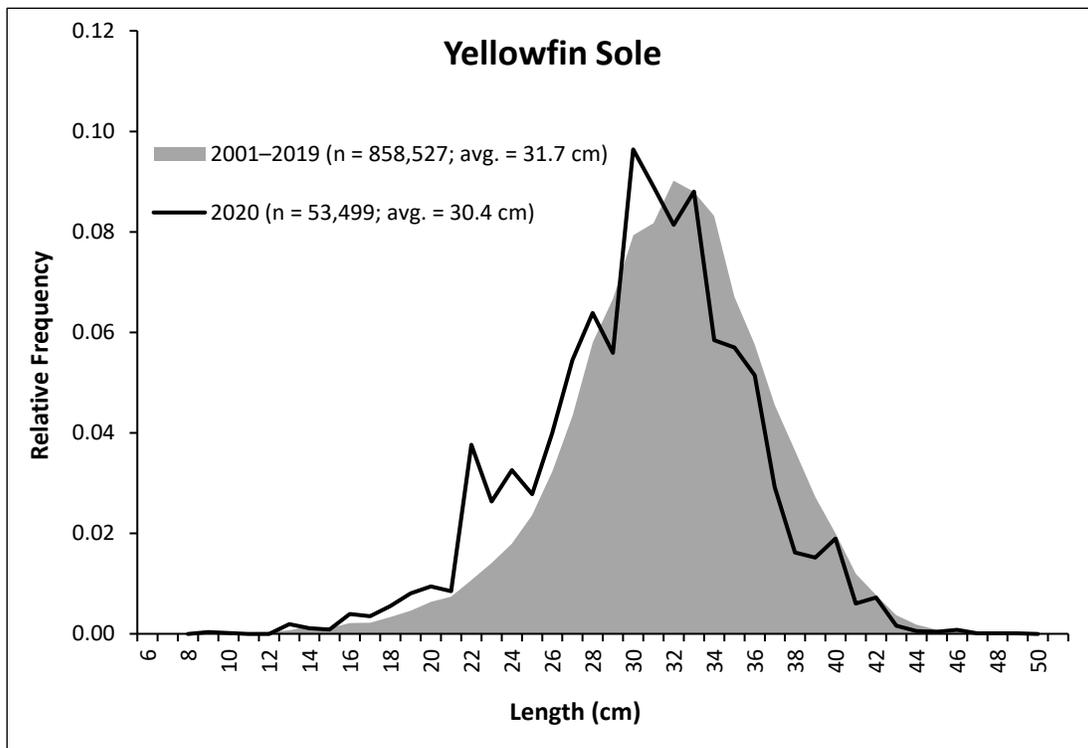


Figure 53.—Yellowfin sole length frequency from the large-mesh bottom trawl surveys, 2001–2020.

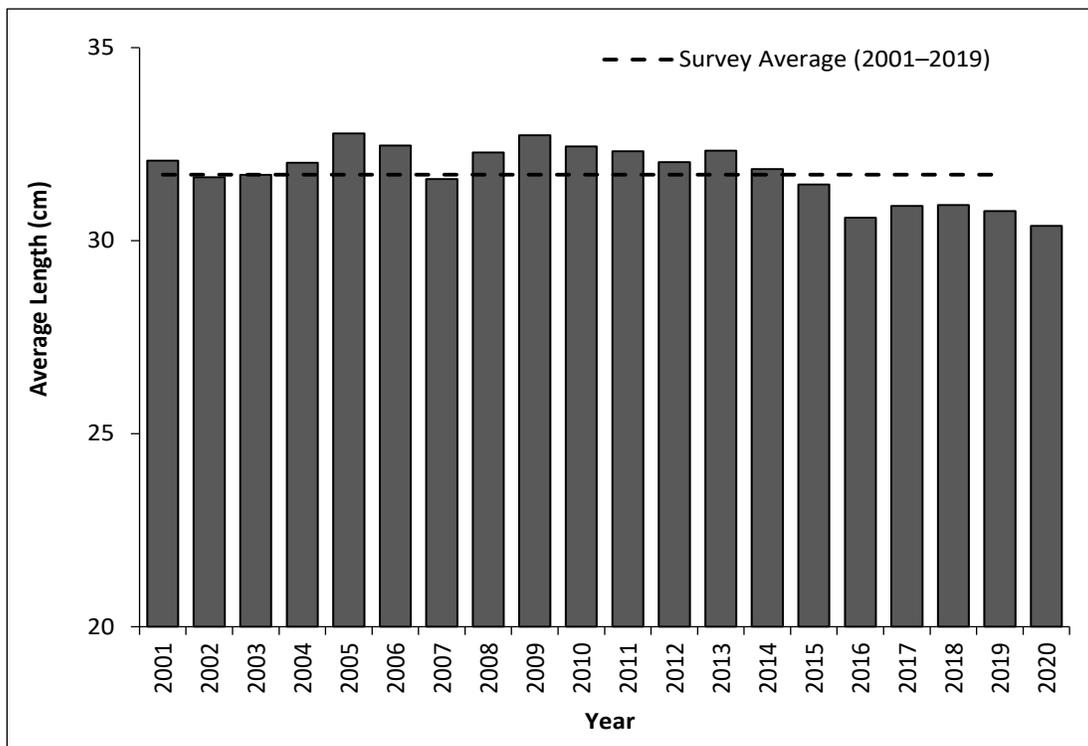


Figure 54.—Average yellowfin sole length from fish caught on the large-mesh bottom trawl surveys, 2001–2020.

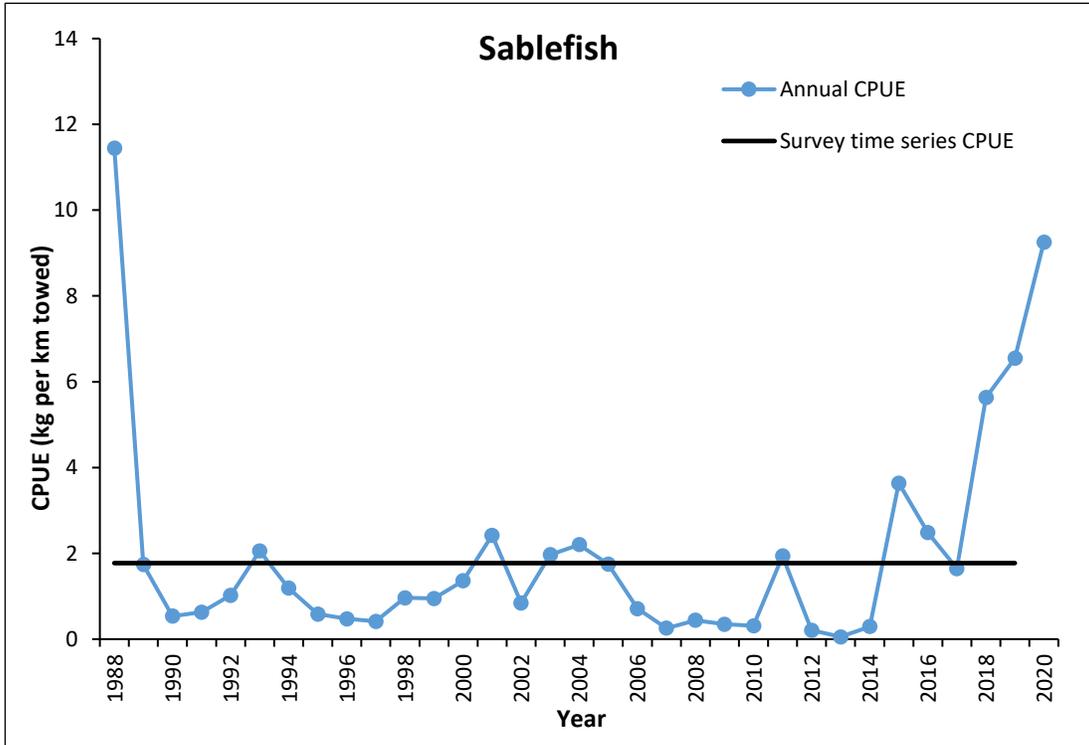


Figure 55.—Sablefish annual CPUE in kilograms per kilometer towed from the 1988–2020 large-mesh bottom trawl surveys.

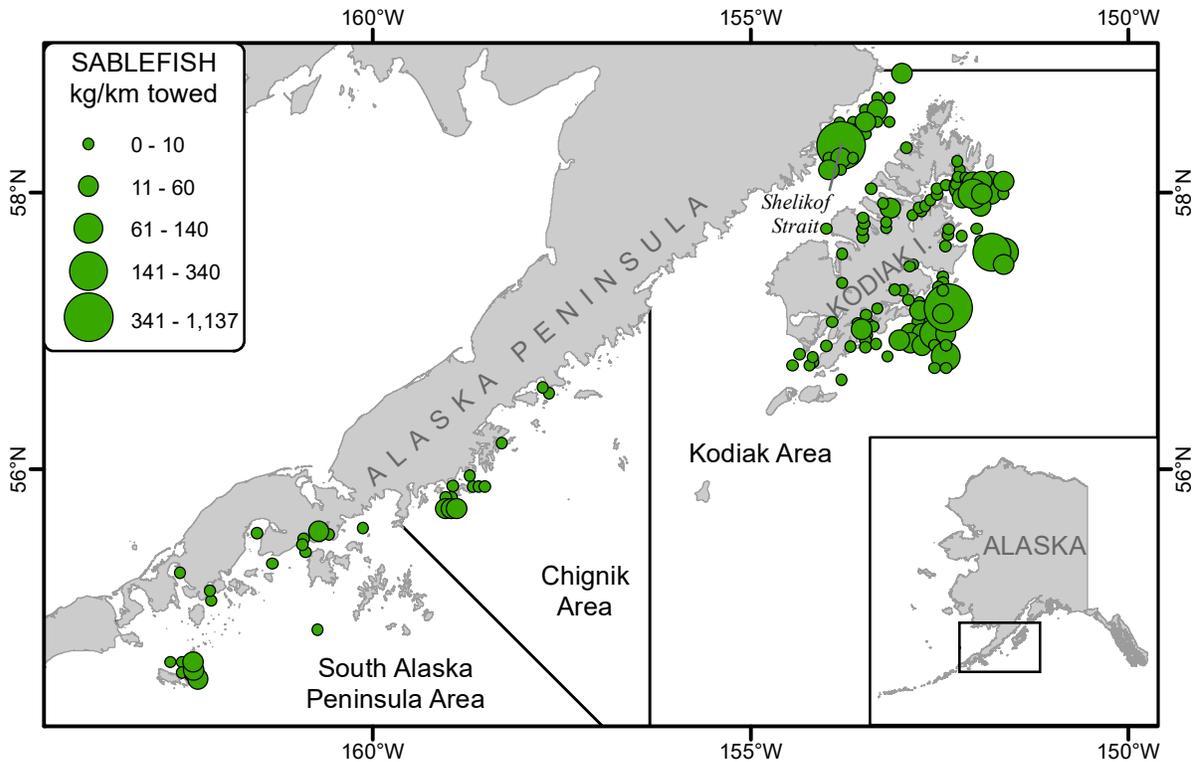


Figure 56.—Sablefish station CPUE in kilograms per kilometer towed from the 2020 large-mesh bottom trawl survey.

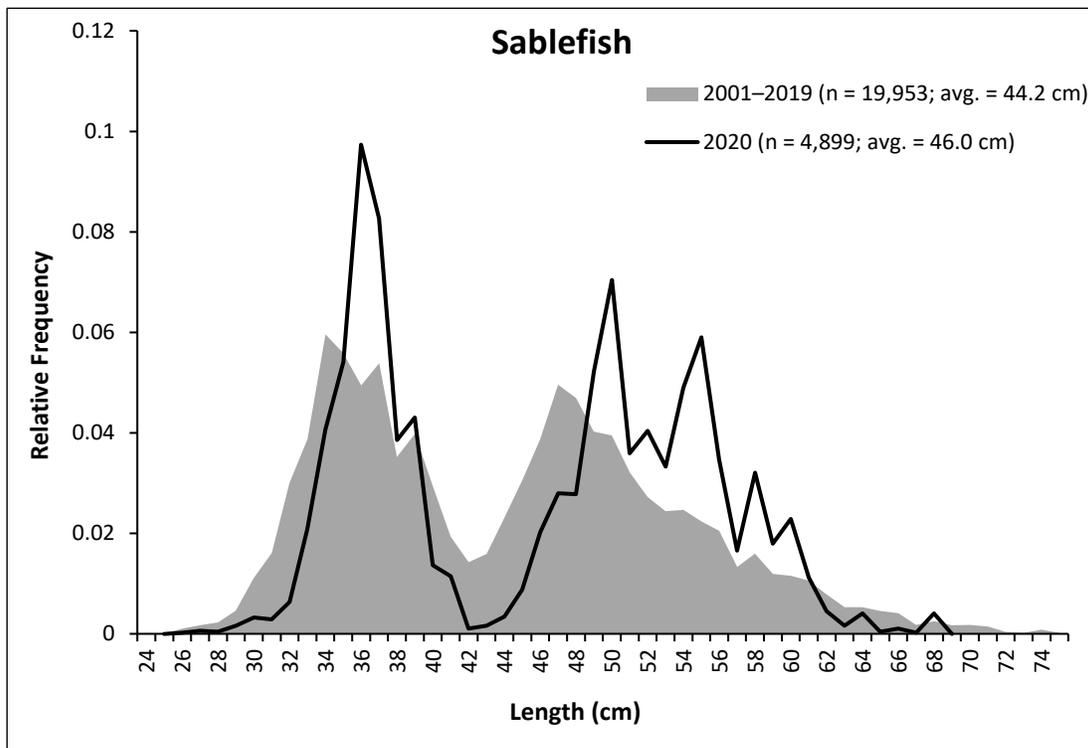


Figure 57.—Sablefish length frequency from the large-mesh bottom trawl surveys, 2001–2020.

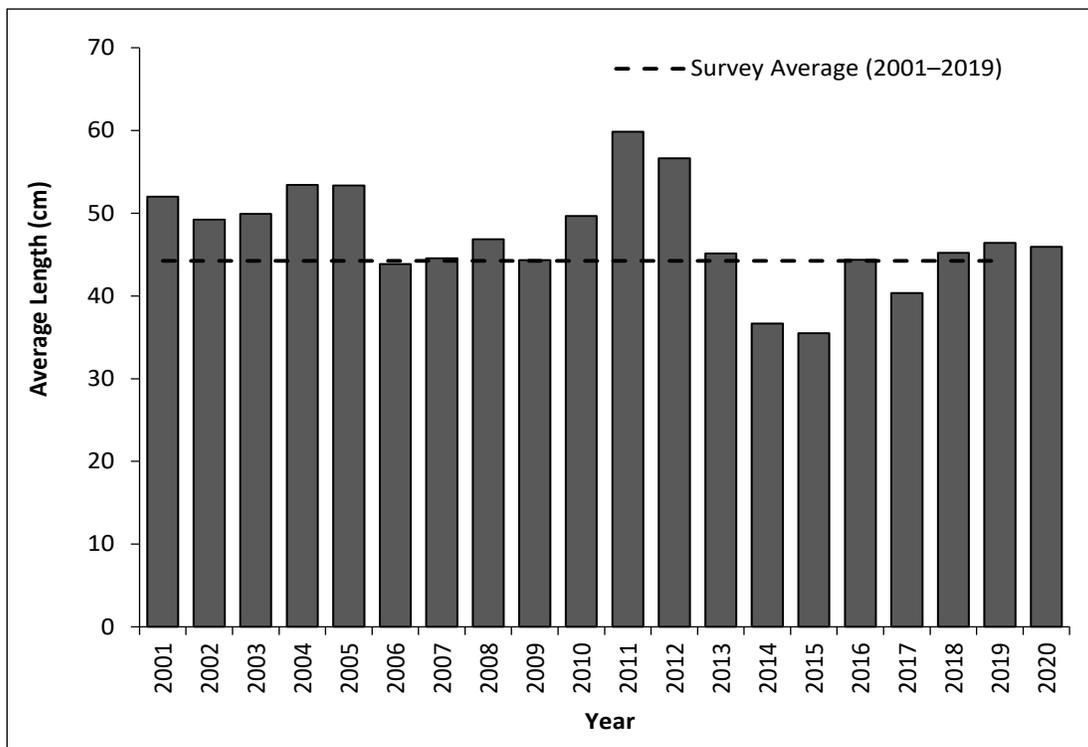


Figure 58.—Average sablefish length from fish caught on the large-mesh bottom trawl surveys, 2001–2020.

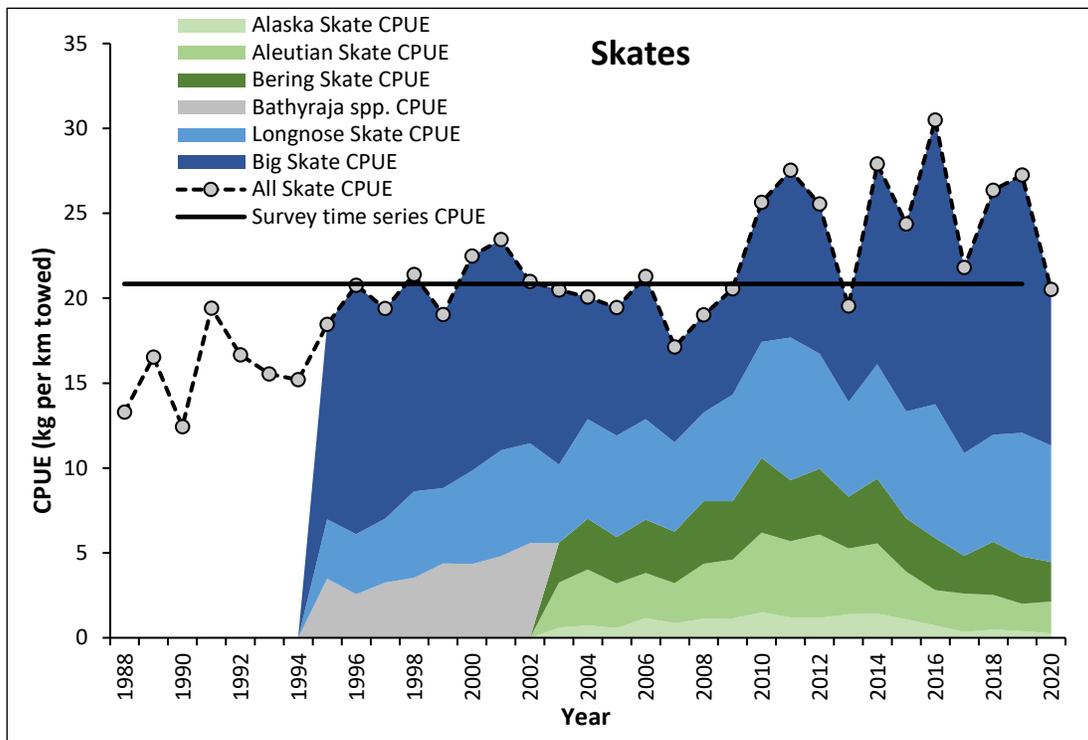


Figure 59.—Annual skate CPUE in kilograms per kilometer towed from the 1988–2020 large-mesh bottom trawl surveys.

Note: Skates were identified to genus starting in 1995, and to species starting in 2003.

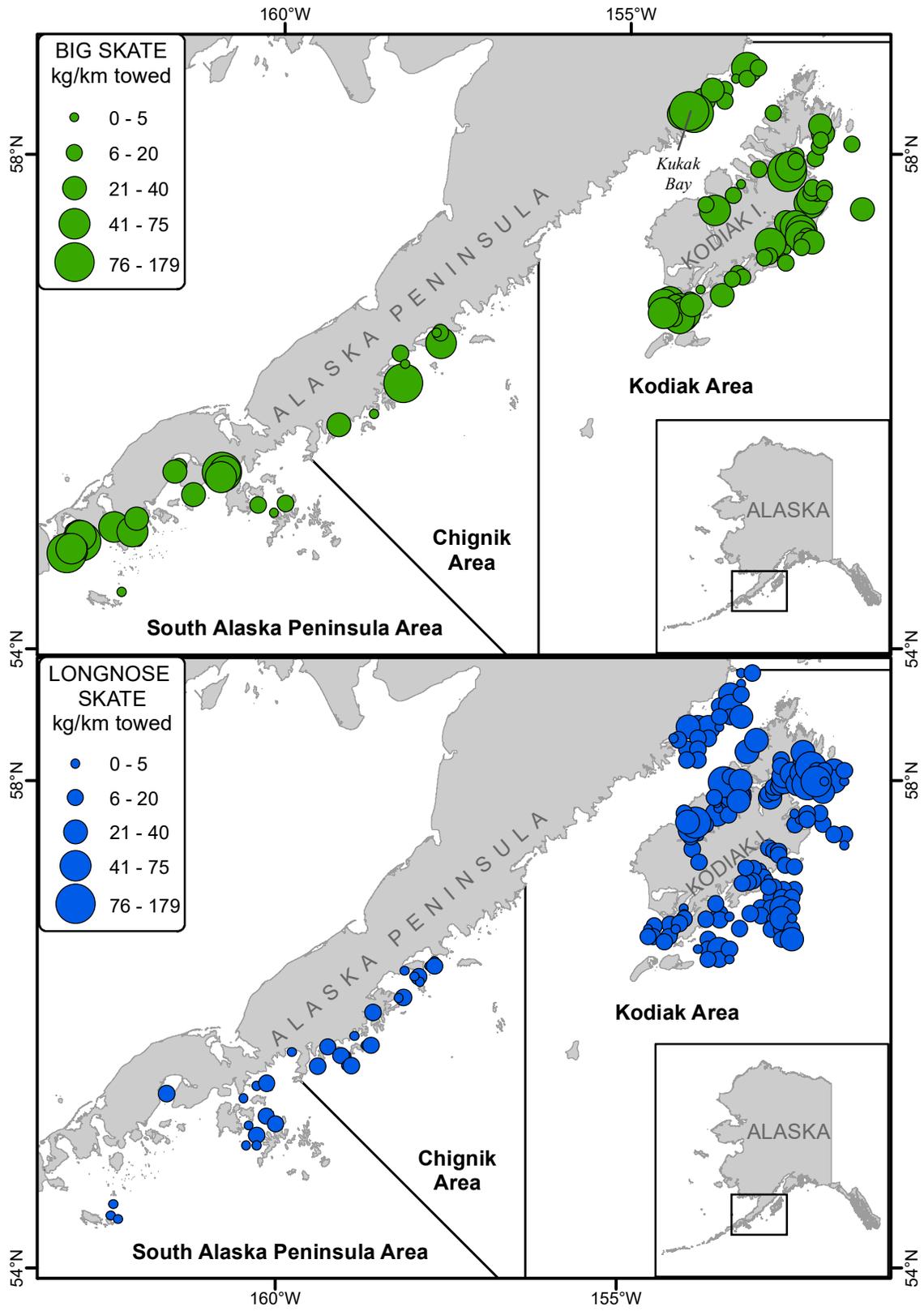


Figure 60.—Big and longnose skate catch in kilograms per kilometer towed from the 2020 large-mesh bottom trawl survey.

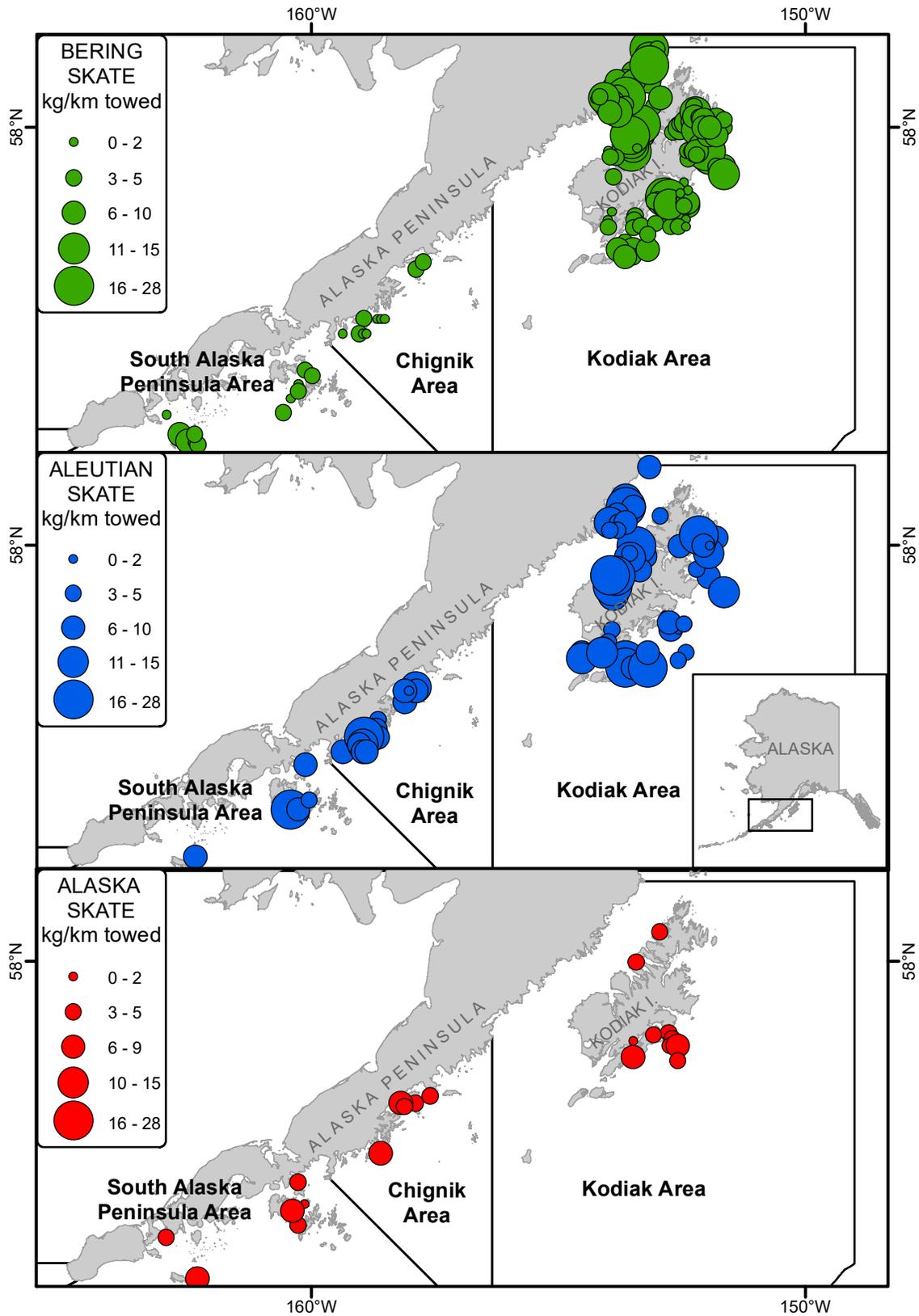


Figure 61.—Bering, Aleutian, and Alaska skate catch in kilograms per kilometer towed from the 2020 large-mesh bottom trawl survey.

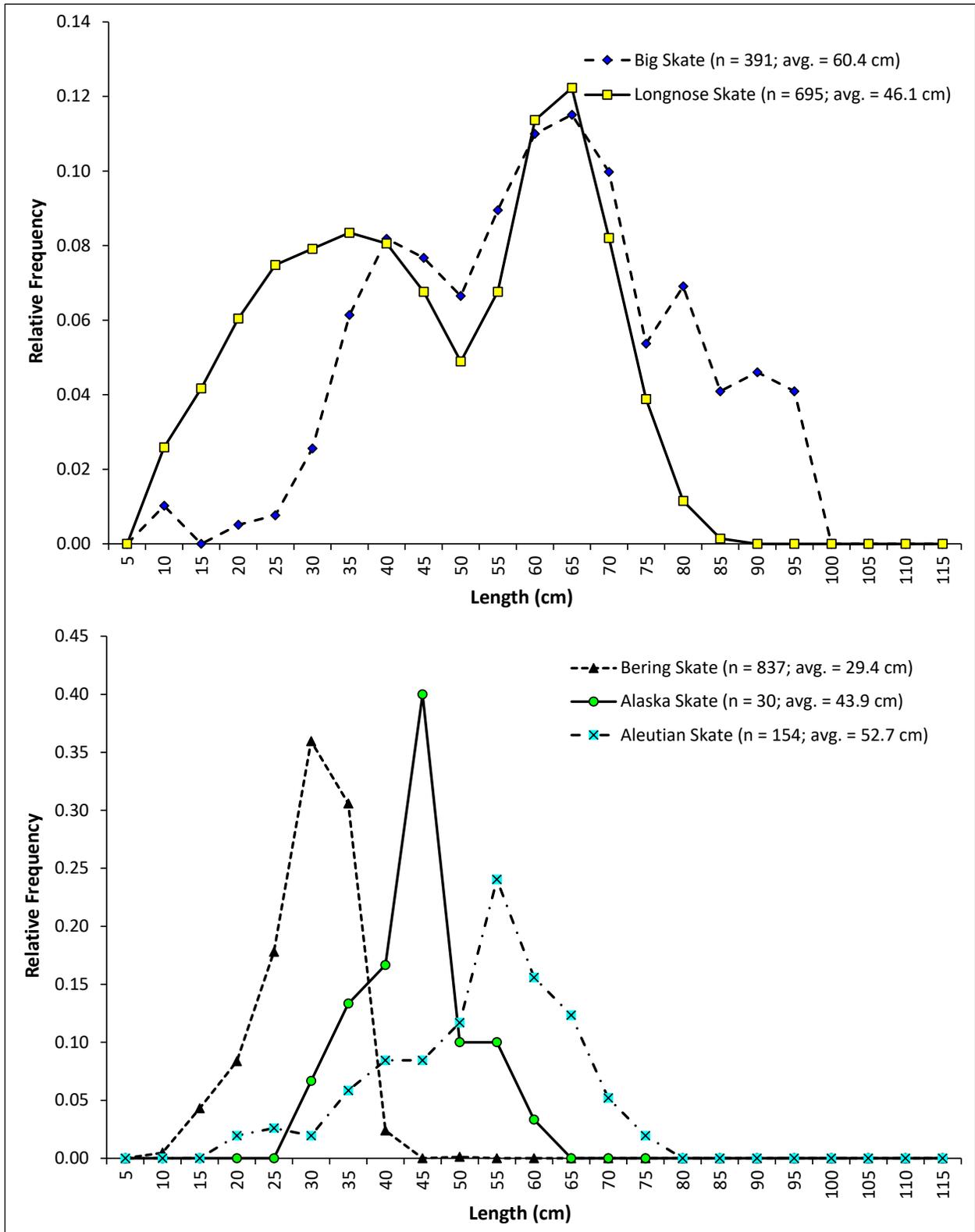


Figure 62.—Big, longnose, Bering, Alaska, and Aleutian skate relative size frequencies (snout to anterior notch of pectoral fin) from the 2020 large-mesh bottom trawl survey.

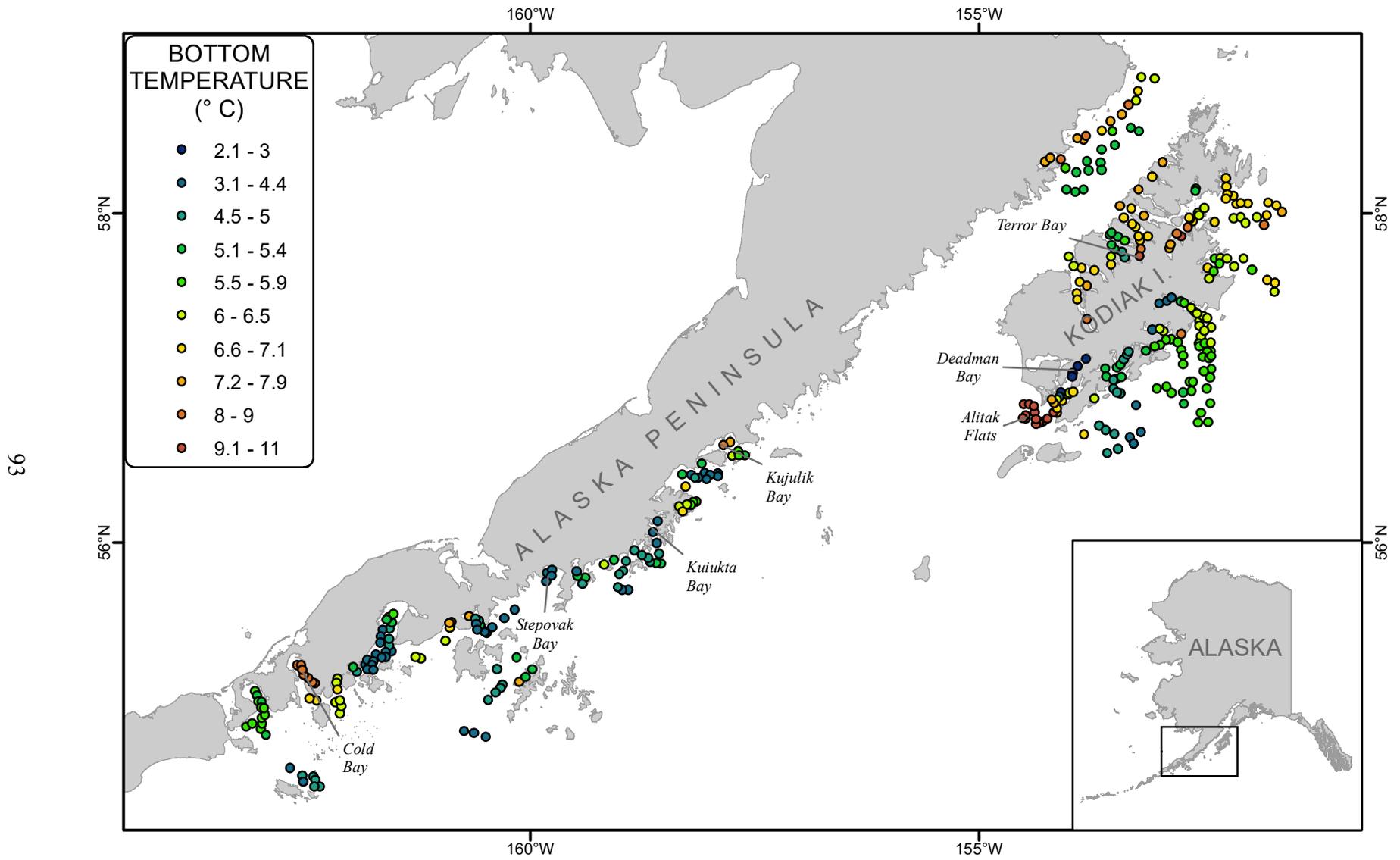


Figure 63.—Near-bottom water temperatures from the 2020 large-mesh bottom trawl survey.

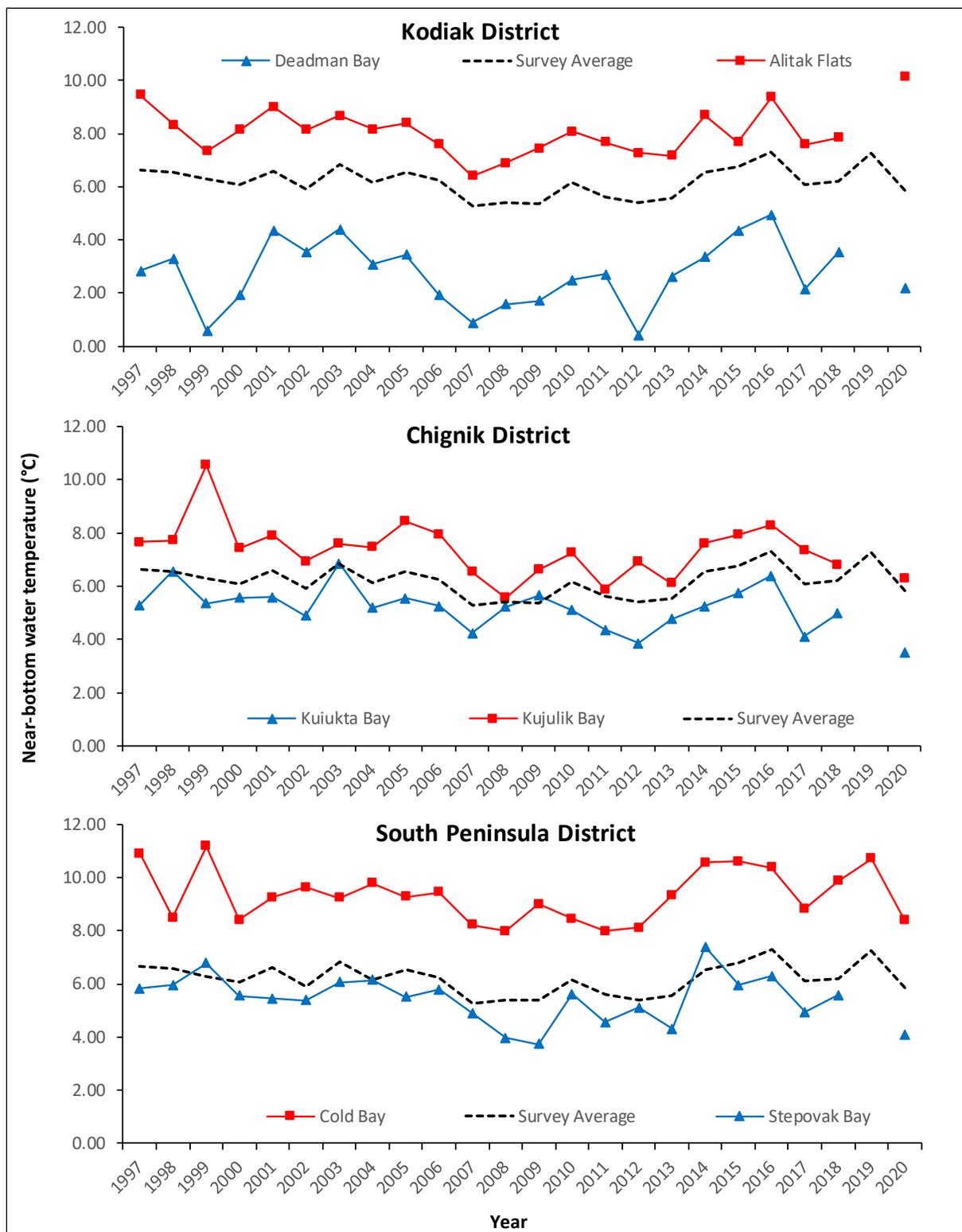


Figure 64.—Near-bottom water temperature (°C) for warmest and coldest bays during the large-mesh bottom trawl survey and the average water temperature in those bays from 1997–2020 surveys.

Note: Temperatures presented are the average temperature of all hauls within the area of interest (bay, district, or entire survey).

APPENDIX A. GLOSSARY

Appendix A1.–Definition of terms in large-mesh trawl survey report.

Crab Terms

<i>abdominal flap</i>	Crab abdomen folded underneath body. Can be lifted to reveal reproductive appendages. Shape of abdominal flap used to identify crab sex; males have a triangular shaped abdominal flap, and females are more rounded.
<i>anterolateral spines</i>	Spines on the margin of anterior half of carapace.
<i>bitter crab disease</i>	Disease lethal to crabs caused by a parasitic dinoflagellate of the genus <i>Hematodinium</i> known to infect <i>Chionoecetes</i> spp. crabs. Live crab in later stages of infection have an exaggerated pink carapace or legs and white opaque hemolymph that can be observed if a leg is cracked. Crab infected with this parasite are unmarketable because of an astringent aspirin aftertaste.
<i>black mat</i>	A systemic fungal infection (<i>Trichomaris invadens</i>) that forms non-discrete blotches of a black, tar-like mass on the carapace and legs. Black mat has a fibrous like texture when scraped.
<i>carapace</i>	Main part of crab shell which covers body of crab. It is divided into the gastric, branchial, and cardiac regions.
<i>carapace length</i>	The biological size measurement of all species of king crabs taken as the straight-line distance from the posterior margin of the right eye orbit to the medial-posterior carapace margin.
<i>carapace width</i>	Crab measurement taken as the greatest straight-line distance perpendicular to a line midway between the eyes to the medial-posterior margin. Biological measurements do not include spines.
<i>chela height</i>	Measurement of the right claw of a crab taken at the greatest height, excluding spines.
<i>clutch</i>	Eggs beneath a female abdominal flap.
<i>eyed eggs</i>	Stage of egg development when dark eyespots are present and visible to the human eye.
<i>juvenile</i>	An animal that has not reached sexual maturity.
<i>lateral margin</i>	The outer edge of the crab carapace.
<i>legal size</i>	The minimum size of an animal that may be retained by state regulation. For Tanner crab males in Kodiak, Chignik, South Peninsula, and Eastern Aleutian Districts legal size is 5.5 inches (140 mm) carapace width including the lateral margin spines. For king crab males minimum legal size is 7.0 inches (177.8 mm) carapace width in the Kodiak Area and 6.5 inches (165.1 mm) carapace width in the Alaska Peninsula and Aleutian Islands Areas, including the lateral margin spines. For Dungeness crab the minimum legal size is 6.5 inches (165.1 mm) carapace width, immediately anterior to the tenth anterolateral spine.
<i>mature female</i>	A female animal that has reached sexual maturity. For Tanner crab, mature females have a circular abdominal flap that covers most of the ventral surface of the crab, whereas a juvenile female abdominal flap covers only about $\frac{2}{3}$ of the ventral surface. For red king crab, mature females include ovigerous females of any size, all females >115 mm CL in the Kodiak area, and all females >99 mm CL in the Alaska Peninsula and Aleutian Islands areas.

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<i>mature male</i>	A male animal that has reached sexual maturity. For Tanner crab, mature males are considered to be all males that are >114 mm carapace width.
<i>medial-posterior edge</i>	The middle of the back edge of the carapace.
<i>midline</i>	The median plane of the body of an animal. For crabs this is an imaginary line running along the carapace from between the eyes to the medial-posterior edge.
<i>multiparous female</i>	A female crab that has produced more than one clutch of eggs. For Tanner crab they may be identified by the presence of discolored grasping marks on legs.
<i>nemertean worms</i>	Egg parasites in clutch of mature female crab that prey on developing embryos. Worms are small, red in color, often S-shaped during early stages of development, and are most obvious in clutch with a high number of dead embryos.
<i>new shell</i>	Carapace and chela are hard and will crack when pressure is applied. Legs are not easily compressed when pinched and will break if bent. Colors are bright. Iridescence, particularly on the chelae, is often visible. Ventral surface can be any variation of white or pink. Spines, chela tips, chela teeth, and dactyl tips are sharp. Abdomen, coxae, and legs have little or no scratches and abrasions. Slight fouling may be present, including but not limited to leech egg cases, small barnacles, and encrusting bryozoans. On Tanner crab females, subtle grasping mark imprints may be present on the first 2 pairs of legs.
<i>old shell</i>	Colors are dull. Iridescence on the chelae may be visible. Ventral surface typically appears yellow to brown. Spines, chela tips, chela teeth, and dactyl tips may show wear. Abdomen, coxae, and legs have few to numerous scratches and abrasions, which may be slightly darker than the shell. Slight fouling may be present, including but not limited to leech egg cases, barnacles, bryozoans, tubeworm casings, and anemones. On Tanner crab females, grasping marks are often present and discolored on the first 2 pairs of legs.
<i>ovigerous</i>	Bearing eggs.
<i>parasitic barnacle</i>	The rhizocephalan barnacle <i>Briarosaccus callosus</i> exclusively parasitizes king crab species. The visible externa of the parasite is located in the abdominal flap of both sexes and varies in size from as small as a jellybean to as large as a chicken egg and in color from pale yellow to deep red. It causes castration in infected crabs and is uncommon around Kodiak and along the Alaska Peninsula.
<i>postrecruit male</i>	Male crab that have been legal size for more than 1 year. Tanner crab postrecruit males are 140–164 mm CW and old or very old/very very old shell and all males \geq 165 mm CW. Red king crab postrecruit males are all legal-size crab that are old or very old/very very old, all males \geq 164 mm CL in the Kodiak area, and all males \geq 152 mm CL in the Alaska Peninsula and Aleutian Islands areas.
<i>prerecruit male</i>	Male crab not legal size. Prerecruit crab are often divided into size groups. For red king crab prerecruit IV are crab <95 mm CL in the Kodiak Area and <79 mm CL in the Alaska Peninsula and Aleutian Islands areas. Prerecruit III are crab 95–112 mm CL in the Kodiak Area and 79–95 mm CL in the Alaska Peninsula and Aleutian Islands areas. Prerecruit II are crab 113–130 mm CL in the Kodiak Area and 96–115 mm CL in the Alaska Peninsula and Aleutian Islands areas. Prerecruit I are crab >130 mm CL in the Kodiak Area and >115 mm CL in the Alaska Peninsula and Aleutian Islands areas.

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<i>primiparous female</i>	A female crab that is carrying its first clutch of eggs. For Tanner crab they may be identified by being soft/new pliable or new shell mature females.
<i>recruit male</i>	Male crab that became legal size in the last year. For Tanner crab a recruit is soft/new pliable and new shell, 140–164 mm CW. For red king crab in the Kodiak Area a recruit is legal-size, soft/new pliable, and ≤ 164 mm CL. For red king crab in the Alaska Peninsula and Aleutian Islands areas a recruit is legal-size, soft/new pliable, and ≤ 152 mm CL.
<i>shell condition</i>	A description of the appearance of a crab's exoskeleton, and is determined by examining characteristics that show wear with time. The ADF&G trawl survey program recognizes 4 shell condition categories: soft/new pliable, new, old, and very old/very very old.
<i>soft/new pliable shell</i>	(1) The exoskeleton is soft, flaccid, similar in texture to skin, and loses shape out of water. No scratches, abrasions, or epibionts are present. OR (2) Carapace and chela are firm, but thin and flexible and can be easily indented with slight thumb pressure. Legs are easily compressed when pinched. Colors are bright. Iridescence is common. Abdominal flap may appear translucent. Spines, chela tips, chela teeth, and dactyl tips are sharp if not pliable. No scratches, abrasions, or epibionts are present.
<i>spines</i>	Pointed processes along the edge of a crab carapace.
<i>very old/very very old shell</i>	(1) Colors are dull and often dark on the dorsal surface. Ventral surface typically appears yellow to brown with darker areas. Spines, chela tips, chela teeth, and dactyl tips are heavily worn. Legs are commonly damaged or missing. Abdomen, coxae, and legs have numerous scratches and abrasions, which are typically darker than the shell. Slight to moderate fouling is common, including—but not limited to—leech egg cases, large barnacles, bryozoans, hydroids, tubeworm casings, and anemones. On Tanner crab females, multiple grasping marks are often present and discolored on the first 2 pairs of legs. OR (2) Carapace may be soft and spongy because of decay. Colors are dark overall. Spines, chela tips, chela teeth, and dactyl tips are heavily worn. Legs are commonly damaged or missing. Moderate to extensive fouling is common.
<u>Trawl Net Terms</u>	
<i>codend</i>	The trailing end of a tapered trawl net where catch accumulates during towing.
<i>dandylines</i>	Also called bridles. Cables between trawl door and side of trawl net.
<i>doors</i>	Steel boards attached between vessel and trawl net, positioned to create hydrodynamic forces while towing that push them apart and spread the opening of the net.
<i>footrope</i>	The line running along lower mouth of net. Net used during large-mesh trawl survey has footrope weighted with chain to keep it on bottom.
<i>headrope</i>	The line running along upper mouth of net with floats attached to keep the net open.
<i>mesh</i>	An open fabric of line or cord, the intersections of which are looped or knotted into various sized spaces and sewn together to form a net.

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<i>net performance</i>	A rating given by the skipper describing problems encountered with the net during a haul.
<i>sweep</i>	The width net covers when towed over the seafloor.
<i>wing</i>	The portion of the trawl net forward of the main body of the net.
<u>Sampling Terms</u>	
<i>catch</i>	Quantity of animals caught in trawl net. Measured in numbers or weight of animals.
<i>catch weight database</i>	The onboard database used to enter weights of all species identified during the haul. All information is entered upon completion of catch sampling. Data from the shellfish and fish measurement databases are incorporated into the catch weight database after each haul.
<i>cruise leader</i>	Biologist in charge of coordinating biological sampling activities during the survey and responsible for the quality of collected data while on the vessel.
<i>debris</i>	Contents of the trawl net that are not identified or sampled, including rocks, empty shells, seaweed, previously dead organisms, or human-made objects.
<i>fish measurement database</i>	The onboard database used to collect fish measurements. Measurements can be entered directly from the magnetic fish measuring board, or entered into the database manually using a networked input program from a network connected device.
<i>haul</i>	From the time trawl net reaches bottom and is towed in an attempt to fish to the time the vessel stops moving and begins retrieving the net.
<i>haul database</i>	The onboard database to store information associated with the fishing process for each haul. Data from skipper trawl record forms are manually entered at the end of each day.
<i>onboard databases</i>	Databases in use during the trawl survey include: fish measurement database, shellfish measurement database, catch weight database, and haul database.
<i>on-deck sorting bin</i>	An area located on the back deck of the survey vessel contained by removable boards where the catch from the codend is emptied after every haul, prior to sorting and removal of the subsample.
<i>shellfish measurement database</i>	Onboard database used to enter crab measurements and biological information. Measurements and crab information are entered directly using electronic calipers and the crab keyboard, or by using a standard keyboard.
<i>sorting table</i>	Table located on the forward part of deck where the subsample is sorted for species composition, weighing, and measuring.
<i>species composition sampling</i>	Sorting, identification, and weighing of organisms in the catch to determine proportion and total weight of each species.
<i>station</i>	Survey area sampling unit. Each station is towed once during the annual survey.
<i>subsample</i>	A representative and random subset of the total haul catch.
<i>subsampling net</i>	The net used to obtain the subsample. This net is tied into the on-deck sorting bin and the haul catch is emptied into the bin. The subsampling net is then untied and lifted through the catch to capture a representative subsample that is sorted at the sorting table.

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<i>whole-haul</i>	When 100% of the trawl catch of a specific species is accounted for by weight, count, or measurement, or a combination. In instances when there is a small total catch, when 100% of the total trawl catch is sorted and weighed.
<u>Management Terms</u>	
<i>abundance threshold</i>	Level of mature male Tanner crab abundance described in state regulation that must be met in order to consider opening a commercial fishery.
<i>GHL</i>	Guideline harvest level. Catch quota established prior to the beginning of each fishing season. GHLs for Tanner crab are based on large-mesh trawl survey data.
<i>legal male</i>	Crab that may be retained by state regulation; only male crab of specific size are considered legal to retain.
<i>long-term average abundance</i>	Average abundance of mature male Tanner crab from 1967–1998 as determined using a combination of trawl survey data, commercial catch history, and pot survey catches, and used to establish regulatory abundance thresholds.
<i>management district</i>	Regulatory unit to facilitate resource management.
<i>management section</i>	Management districts are divided into sections to facilitate management of the Tanner crab fisheries and are based on local distributions and migration patterns. Each section has a separate GHL.
<i>molting mature male crab</i>	Estimated abundance of 100% new shell and 15% old shell male Tanner crab that are >114 mm carapace width.
<u>Other Biological Terms</u>	
<i>anterior</i>	Toward the front, near the head, or rostral end of a crab.
<i>caudal fin</i>	The tail of a fish.
<i>claspers</i>	A paired organ of male sharks and skates. Assists transfer of spermatozoa into the body of a female during copulation.
<i>dorsal</i>	The back or part of an organism away from the ground. Refers to the hinge area of a scallop shell.
<i>inclement weather</i>	Severe, rough, harsh, or stormy.
<i>pectoral fin</i>	Either of a pair of fins situated behind the head, one on each side of the body.
<i>posterior</i>	The rear, away from the head.
<i>shell height</i>	The straight-line distance from the umbo to the outer scallop shell margin, perpendicular to the hinge. Scallop shell heights are measured on the left (top) valve.
<i>umbo</i>	Beak-like projections at the dorsal part of a shell; it is the oldest part of a bivalve shell.
<i>valve</i>	One of the 2 parts of a bivalve shell, 2 valves make up one shell.
<u>Data Analysis Terms</u>	
<i>area swept</i>	The sea floor area sampled by the trawl during a haul.
<i>catchability</i>	The relationship between the proportion of a population available to the survey gear and the proportion of the population in the trawl path retained by the survey net.

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<i>density</i>	The number or weight of a species present per unit of area.
<i>distance towed/haul length</i>	Distance the vessel travels between the time the trawl net footrope contacts bottom and the time the center of footrope leaves bottom.
<i>escapement</i>	The act of an organism in the trawl path evading capture by the trawl net.
<i>relative abundance indices</i>	Indices that track change in population size, but do not estimate actual population size.
<i>size selectivity</i>	The consequence of fishing gear capturing organisms of different sizes at different rates.
<i>true abundance</i>	The actual number of animals present in the area of interest.

**APPENDIX B. FISHING LOG AND TRAWL STATIONS
SAMPLED**

Appendix B1.–2020 large-mesh bottom trawl survey fishing log.

Haul	1	2	3	4	5	6	7	8	9	10	11	12	13
Location	NE Kod.	E Kod.	E Kod.	E Kod.									
Month/day/year	06-13-20	06-13-20	06-13-20	06-13-20	06-14-20	06-14-20	06-14-20	06-14-20	06-14-20	06-14-20	06-15-20	06-15-20	06-15-20
Station	CHJ	CHE	CHK	CHF	CHL	CHB	CHA	CHG	369X	395	UGE	UGI	UGM
Longitude start (°W)	152.3752	152.4518	152.3100	152.3198	152.2408	152.3833	152.4387	152.1590	152.0528	151.9588	152.5968	152.5418	152.5418
Latitude start (°N)	57.7300	57.6760	57.7318	57.7000	57.7312	57.6537	57.6132	57.6835	57.7293	57.6633	57.4132	57.3573	57.3275
Heading, degrees	116	44	280	34	70	51	41	13	4	288	167	329	181
Average depth (m)	106.0	14.62	146.2	138.9	182.8	106.0	45.71	137.1	113.3	201.1	95.09	96.92	106.0
Distance fished (km)	1.852	1.296	1.666	1.852	1.852	1.852	1.852	1.852	1.481	1.852	1.481	1.666	1.852
Bottom temp. (°C)	5.85	7.06	5.93	5.44	6.28	5.59	5.92	6.17	6.03	5.63	5.82	6.06	5.93
Haul	14	15	16	17	18	19	20	21	22	23	24	25	26
Location	E Kod.												
Month/day/year	06-15-20	06-15-20	06-15-20	06-15-20	06-15-20	06-16-20	06-16-20	06-16-20	06-16-20	06-16-20	06-16-20	06-16-20	06-17-20
Station	UGG	UGJ	486B	510D	486A	UGAC	UGAD	UGAA	UGB	UGC	UGD	UGF	KLC
Longitude start (°W)	152.5060	152.4585	152.4093	152.5272	152.4933	152.9902	152.9032	152.8575	152.7555	152.7090	152.6373	152.5732	152.9415
Latitude start (°N)	57.3855	57.3738	57.3198	57.2652	57.3003	57.4603	57.4755	57.4972	57.4728	57.4633	57.4360	57.4010	57.2967
Heading, degrees	82	195	181	322	12	41	83	121	172	119	125	153	150
Average depth (m)	64.00	71.31	71.31	100.5	100.5	38.40	65.83	78.63	91.43	93.26	100.5	87.77	91.43
Distance fished (km)	1.852	1.852	1.852	1.481	1.296	1.296	1.852	1.296	1.481	1.852	1.852	1.852	1.852
Bottom temp. (°C)	6.28	6.24	6.27	5.96	5.96	3.87	3.83	3.75	5.37	5.44	5.99	6.08	5.93
Haul	27	28	29	30	31	32	33	34	35	36	37	38	39
Location	E Kod.	SE Kod.	SE Kod.	SE Kod.	SE Kod.	SE Kod.	SE Kod.						
Month/day/year	06-17-20	06-17-20	06-17-20	06-17-20	06-17-20	06-17-20	06-17-20	06-18-20	06-18-20	06-18-20	06-18-20	06-18-20	06-18-20
Station	KLA	KLB	KLI	KLH	KLG	KLF	KLE	THJ	THI	THFA	THG	THK	THL
Longitude start (°W)	153.0733	152.9838	152.8638	152.9160	152.9788	153.0428	153.1422	153.4613	153.5922	153.5822	153.4725	153.4273	153.3905
Latitude start (°N)	57.3055	57.3115	57.2472	57.2442	57.2118	57.2020	57.1753	57.0753	57.0690	57.0212	57.0077	57.0925	57.1228
Heading, degrees	76	137	139	197	242	262	51	167	117	63	56	17	207
Average depth (m)	93.26	84.12	118.8	109.7	118.8	122.5	117.0	115.2	91.43	74.97	122.5	117.0	126.1
Distance fished (km)	1.296	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.296	1.852	1.852	1.852
Bottom temp. (°C)	3.31	6.11	5.83	5.83	5.74	5.52	5.41	5.17	5.18	5.33	5.07	5.07	4.99
Haul	40	41	42	43	44	45	46	47	48	49	50	51	52
Location	SE Kod.	SE Kod.	E Kod.	E Kod.	E Kod.	E Kod.	E Kod.	E Kod.	E Kod.	E Kod.	E Kod.	E Kod.	E Kod.
Month/day/year	06-18-20	06-18-20	06-19-20	06-19-20	06-19-20	06-19-20	06-19-20	06-19-20	06-19-20	06-19-20	06-20-20	06-20-20	06-20-20
Station	THM	THN	KLL	510C	534BX	511A	511B	535B	535A	KLD	533A	533B	534DX
Longitude start (°W)	153.3478	153.3340	152.7880	152.5472	152.5457	152.4870	152.4150	152.4138	152.4570	152.7473	152.7492	152.7275	152.5080
Latitude start (°N)	57.1538	57.1698	57.2288	57.2192	57.2038	57.2237	57.2257	57.1738	57.1697	57.2797	57.1828	57.1468	57.1373
Heading, degrees	216	193	125	215	178	128	174	176	352	207	128	90	28
Average depth (m)	120.6	109.7	135.3	93.26	100.5	100.5	78.63	128.0	137.1	23.77	138.9	146.2	129.8
Distance fished (km)	1.481	1.481	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.111	1.852	1.852	1.852
Bottom temp. (°C)	4.83	4.88	5.43	5.56	5.52	5.86	6.02	5.62	5.66	8.16	5.49	5.52	5.47

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Haul	53	54	55	56	57	58	59	60	61	62	63	64	65
Location	E Kod.												
Month/day/year	06-20-20	06-20-20	06-20-20	06-20-20	06-20-20	06-21-20	06-21-20	06-21-20	06-21-20	06-21-20	06-21-20	06-21-20	06-21-20
Station	535C	535D	561	589	560	559	587	588	621	656	696	695	655
Longitude start (°W)	152.4360	152.4077	152.4100	152.4268	152.4937	152.7287	152.6505	152.6117	152.4652	152.4223	152.4468	152.5582	152.5303
Latitude start (°N)	57.1292	57.1438	57.0670	57.0160	57.0550	57.0953	56.9893	56.9897	56.9490	56.8578	56.7410	56.7407	56.7987
Heading, degrees	19	179	185	188	351	226	231	26	197	171	151	1	331
Average depth (m)	153.6	142.6	138.9	135.3	144.4	153.6	149.9	155.4	155.4	162.7	182.8	144.4	153.6
Distance fished (km)	1.481	1.852	1.666	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.481	1.481
Bottom temp. (°C)	5.52	5.53	5.65	5.64	5.50	5.54	5.62	5.72	5.69	5.75	5.76	5.64	5.53
Haul	66	67	68	69	70	71	72	73	74	75	76	77	78
Location	SE Kod.	E Kod.	E Kod.	E Kod.	SE Kod.	SE Kod.	SE Kod.	SE Kod.	SE Kod.	SE Kod.	SE Kod.	SE Kod.	SE Kod.
Month/day/year	06-22-20	06-22-20	06-22-20	06-22-20	06-22-20	06-22-20	06-22-20	06-23-20	06-23-20	06-23-20	06-23-20	06-23-20	06-23-20
Station	651	654	620	619	618A	586	585X	THH	615	729	728	761	760
Longitude start (°W)	153.2477	152.7152	152.6317	152.7262	152.8537	152.9087	153.0170	153.4170	153.4268	153.1928	153.3160	153.2765	153.4532
Latitude start (°N)	56.8462	56.8540	56.9338	56.9238	56.9233	56.9597	56.9490	57.0190	56.9188	56.6823	56.6493	56.6122	56.5788
Heading, degrees	136	326	132	310	25	228	254	7	175	182	219	268	186
Average depth (m)	171.8	98.75	151.7	137.1	122.5	122.5	137.1	117.0	144.4	148.1	148.1	140.8	133.4
Distance fished (km)	1.666	1.666	1.852	1.481	1.481	1.574	1.203	1.852	1.852	1.481	1.666	1.481	1.481
Bottom temp. (°C)	4.29	5.41	5.67	5.41	5.54	5.50	5.54	5.06	4.75	4.05	4.11	4.12	4.44
Haul	79	80	81	82	83	84	85	86	87	88	89	90	91
Location	SE Kod.	Kujulik	Kujulik	Kujulik	Kujulik	Kujulik							
Month/day/year	06-23-20	06-24-20	06-24-20	06-24-20	06-24-20	06-24-20	06-24-20	06-24-20	06-26-20	06-26-20	06-26-20	06-26-20	06-26-20
Station	759	THA	THCX	THDX	614	688	726	727	4296	4290	4298	4301	4308
Longitude start (°W)	153.5703	153.7153	153.4985	153.4992	153.4633	153.6612	153.5877	153.4883	157.7728	157.8458	157.7482	157.6875	157.6117
Latitude start (°N)	56.5515	56.8870	56.9477	57.0008	56.9237	56.7220	56.6953	56.6727	56.6218	56.6045	56.5347	56.5660	56.5393
Heading, degrees	194	67	9	194	172	109	151	160	156	143	72	146	158
Average depth (m)	148.1	49.37	129.8	124.3	138.9	151.7	155.4	148.1	73.14	27.43	91.43	91.43	128.0
Distance fished (km)	1.481	1.666	1.852	1.852	1.852	1.481	1.481	1.481	1.852	1.111	1.852	1.852	1.852
Bottom temp. (°C)	4.53	6.44	4.78	4.94	4.58	4.78	4.72	4.68	7.43	8.01	6.01	5.77	5.01
Haul	92	93	94	95	96	97	98	99	100	101	102	103	104
Location	Kujulik	Chignik											
Month/day/year	06-26-20	06-26-20	06-26-20	06-27-20	06-27-20	06-27-20	06-27-20	06-27-20	06-27-20	06-27-20	06-27-20	06-28-20	06-28-20
Station	4302	4286	4287	4256	4266	4272	4277	4282	4278	4274	4267	4262	4312
Longitude start (°W)	157.6733	157.9110	157.9113	158.3073	158.2073	158.0915	158.0590	157.9997	158.0363	158.1287	158.1652	158.2698	158.1482
Latitude start (°N)	56.5393	56.4265	56.4102	56.4210	56.4197	56.4865	56.4310	56.4182	56.3932	56.4007	56.4008	56.3478	56.2552
Heading, degrees	125	108	240	276	95	160	160	103	318	134	304	138	77
Average depth (m)	100.5	168.2	193.8	96.92	155.4	124.3	179.2	195.6	188.3	171.8	124.3	78.63	126.1
Distance fished (km)	1.852	1.481	1.481	1.111	1.852	1.852	1.852	1.852	1.666	1.666	1.852	1.666	1.852
Bottom temp. (°C)	5.68	4.19	4.14	5.15	4.19	5.35	4.03	4.00	3.93	3.98	4.73	6.95	5.63

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Haul	105	106	107	108	109	110	111	112	113	114	115	116	117
Location	Chignik	Chignik	Chignik	Chignik	Chignik	Mitro.							
Month/day/year	06-28-20	06-28-20	06-28-20	06-28-20	06-28-20	06-29-20	06-29-20	06-29-20	06-29-20	06-29-20	06-29-20	06-30-20	06-30-20
Station	4270	4271	4264	4964	4265	4066B	4066A	4050B	4050B	4065	4064	4063	4048
Longitude start (°W)	158.1853	158.2137	158.2568	158.3427	158.3057	158.5475	158.5983	158.6653	158.6858	158.5660	158.5928	158.5825	158.6340
Latitude start (°N)	56.2505	56.2330	56.2363	56.2245	56.1917	55.8685	55.8688	55.8758	55.9027	55.9307	55.9955	56.1322	56.0637
Heading, degrees	64	64	230	93	29	341	0	4	232	8	342	225	184
Average depth (m)	102.4	95.09	76.80	69.49	60.34	120.6	117.0	117.0	126.1	102.4	149.9	151.7	179.2
Distance fished (km)	1.852	1.852	1.852	1.666	1.666	1.852	1.852	1.852	1.852	1.852	1.666	1.852	1.852
Bottom temp. (°C)	5.78	5.77	6.09	6.24	6.76	5.31	5.25	4.81	4.65	4.88	3.59	3.45	3.41
Haul	118	119	120	121	122	123	124	125	126	127	128	129	130
Location	Mitro.	Mitro.	Mitro.	Mitro.	Ivanof	Mitro.	Mitro.	Mitro.	Mitro.	Mitro.	Ivanof	Ivanof	Ivanof
Month/day/year	06-30-20	06-30-20	06-30-20	06-30-20	06-30-20	07-01-20	07-01-20	07-01-20	07-01-20	07-01-20	07-01-20	07-01-20	07-01-20
Station	4049	4035	4036	4024	4915	4037	4025	4038B	4038A	4026	4007	4008	4000Y
Longitude start (°W)	158.7537	158.8422	158.9318	159.0680	159.1800	158.9647	159.0073	158.9117	158.9737	159.0262	159.3913	159.4203	159.4753
Latitude start (°N)	55.9215	55.9517	55.8825	55.8912	55.8617	55.8205	55.8000	55.7035	55.7025	55.7188	55.7795	55.7397	55.7878
Heading, degrees	294	117	197	138	221	184	188	205	33	21	203	170	111
Average depth (m)	144.4	142.6	128.0	98.75	64.00	129.8	124.3	148.1	146.2	140.8	91.43	102.4	82.29
Distance fished (km)	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.481	1.481	1.481	1.852	1.852	1.852
Bottom temp. (°C)	4.63	4.96	4.73	5.15	6.07	4.75	4.81	4.24	4.32	4.41	5.22	4.75	5.12
Haul	131	132	133	134	135	136	137	138	139	140	141	142	143
Location	Ivanof	Stepovak	Stepovak	Stepovak	Stepovak	Beaver							
Month/day/year	07-02-20	07-03-20	07-03-20	07-03-20	07-03-20	07-03-20	07-03-20	07-03-20	07-04-20	07-04-20	07-04-20	07-04-20	07-04-20
Station	4000X	STD	STA	STB	STE	368A	348	329B	311B	BAF	BAD	BAA	BAC
Longitude start (°W)	159.4873	159.8243	159.8140	159.7615	159.7660	160.1763	160.2940	160.4245	160.5180	160.5532	160.5723	160.6840	160.6153
Latitude start (°N)	55.8190	55.7552	55.8097	55.8280	55.7907	55.5780	55.5252	55.4652	55.4455	55.4782	55.5098	55.5350	55.5202
Heading, degrees	155	14	1	158	183	231	68	50	306	334	325	308	179
Average depth (m)	69.49	118.8	98.75	106.0	120.6	179.2	193.8	177.3	142.6	71.31	93.26	29.25	100.5
Distance fished (km)	1.852	1.481	1.481	1.481	1.481	1.852	1.852	1.666	1.852	1.852	1.852	1.111	1.852
Bottom temp. (°C)	4.24	4.00	4.18	4.14	4.01	4.30	4.05	3.84	3.83	5.25	4.89	7.18	4.49
Haul	144	145	146	147	148	149	150	151	152	153	154	155	156
Location	Beaver	W. Nagai											
Month/day/year	07-04-20	07-05-20	07-05-20	07-05-20	07-05-20	07-05-20	07-06-20	07-06-20	07-06-20	07-06-20	07-06-20	07-06-20	07-06-20
Station	BAE	332B	301	318	337	335	373A	353	354	334	373B	393	371
Longitude start (°W)	160.6018	160.3752	160.7357	160.6315	160.4938	160.4677	160.1257	160.3110	160.3363	160.3887	160.0557	159.9798	160.1510
Latitude start (°N)	55.4872	55.2027	54.8037	54.7925	54.7683	55.0053	55.1188	55.1012	55.0795	55.0518	55.1495	55.1987	55.2770
Heading, degrees	173	9	127	116	43	56	318	222	222	236	324	337	320
Average depth (m)	118.8	179.2	106.0	109.7	109.7	133.4	27.43	140.8	140.8	144.4	76.80	74.97	137.1
Distance fished (km)	1.852	1.481	1.481	1.481	1.481	1.481	1.296	1.296	1.296	1.296	1.666	1.481	1.481
Bottom temp. (°C)	3.94	4.85	4.08	4.33	4.28	4.70	7.28	4.95	4.81	4.55	5.07	5.34	5.15

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Haul	157	158	159	160	161	162	163	164	165	166	167	168	169
Location	Beaver	Pavlof	Pavlof	Pavlof	Pavlof	Pavlof	Pavlof						
Month/day/year	07-07-20	07-07-20	07-07-20	07-07-20	07-07-20	07-07-20	07-07-20	07-08-20	07-08-20	07-08-20	07-08-20	07-08-20	07-08-20
Station	329C	311C	311A	278	BVC	BVB	BVA	245	228	VOD	PAV	PARB	PAP
Longitude start (°W)	160.4877	160.5063	160.5948	160.9452	160.8982	160.8752	160.9073	161.2235	161.2788	161.5472	161.5753	161.5747	161.5695
Latitude start (°N)	55.4292	55.4343	55.4507	55.3797	55.4628	55.5007	55.4933	55.2705	55.2792	55.3155	55.3518	55.3925	55.4565
Heading, degrees	62	279	15	8	218	204	192	304	101	69	182	350	241
Average depth (m)	131.6	133.4	122.5	106.0	82.29	38.40	45.71	82.29	82.29	118.8	96.92	82.29	74.97
Distance fished (km)	1.852	1.852	1.852	1.852	1.852	1.296	1.296	1.666	1.666	1.852	1.852	1.852	1.296
Bottom temp. (°C)	3.94	4.04	3.89	6.11	6.70	7.63	7.27	5.96	5.92	4.23	4.75	4.56	4.68
Haul	170	171	172	173	174	175	176	177	178	179	180	181	182
Location	Pavlof												
Month/day/year	07-08-20	07-09-20	07-09-20	07-09-20	07-09-20	07-09-20	07-09-20	07-09-20	07-10-20	07-10-20	07-10-20	07-10-20	07-10-20
Station	PALX	PAIX	PAEX	PAH	PAOB	PARA	PAU	VOBX	VOM	VOFB	VOA	VOI	VOH
Longitude start (°W)	161.5440	161.5832	161.5270	161.6033	161.6468	161.6668	161.6748	161.6125	161.8373	161.8197	161.7217	161.6125	161.6558
Latitude start (°N)	55.4980	55.5303	55.5518	55.5143	55.4495	55.4097	55.3720	55.3088	55.2307	55.2607	55.2945	55.2810	55.2770
Heading, degrees	194	189	73	184	204	201	192	273	10	54	30	59	232
Average depth (m)	54.86	51.20	31.08	54.86	95.09	104.2	128.0	96.92	89.60	96.92	113.3	102.4	102.4
Distance fished (km)	1.296	1.481	1.111	1.111	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.852
Bottom temp. (°C)	5.22	5.55	5.51	5.42	4.24	4.16	4.06	4.04	4.26	3.99	4.02	4.14	4.25
Haul	183	184	185	186	187	188	189	190	191	192	193	194	195
Location	Pavlof	Pavlof	Pavlof	Pavlof	Pavlof	Cold B.	Cold B.	Sanak I.					
Month/day/year	07-10-20	07-10-20	07-11-20	07-11-20	07-11-20	07-11-20	07-11-20	07-12-20	07-12-20	07-12-20	07-12-20	07-12-20	07-12-20
Station	VOG	VON	VOPX	VOQ	VOR	COOX	COM	113	125	137	138A	138C	138B
Longitude start (°W)	161.7477	161.7652	161.9387	161.8203	161.7463	162.3845	162.4633	162.6770	162.5422	162.4195	162.3972	162.3442	162.4098
Latitude start (°N)	55.2510	55.2267	55.1838	55.1985	55.1970	55.0013	55.0158	54.5665	54.5180	54.5128	54.4900	54.4473	54.4467
Heading, degrees	271	80	39	92	310	98	106	163	121	140	157	136	299
Average depth (m)	104.2	118.8	82.29	93.26	120.6	104.2	78.63	135.3	146.2	148.1	144.4	144.4	142.6
Distance fished (km)	1.852	1.852	1.852	1.852	1.852	1.481	1.111	1.481	1.481	1.481	1.481	1.481	1.481
Bottom temp. (°C)	4.00	4.05	4.58	4.35	4.07	6.70	6.95	4.21	4.64	4.86	4.57	4.91	4.46
Haul	196	197	198	199	200	201	202	203	204	205	206	207	208
Location	Sanak I.	Morzhov.											
Month/day/year	07-12-20	07-13-20	07-13-20	07-13-20	07-13-20	07-13-20	07-13-20	07-13-20	07-14-20	07-14-20	07-14-20	07-14-20	07-14-20
Station	126	MORX	MOSX	87AX	87D	MOOX	MOK	MOL	MOB	MOD	MOF	MOG	MOH
Longitude start (°W)	162.5323	163.1645	163.1000	163.0052	162.9473	162.9872	162.9968	162.9565	163.0687	163.0488	163.0328	162.9967	162.9988
Latitude start (°N)	54.4760	54.8318	54.8535	54.8157	54.7782	54.8525	54.8903	54.9103	55.0618	55.0333	54.9975	54.9928	54.9563
Heading, degrees	305	98	57	46	128	354	27	0	176	171	167	145	166
Average depth (m)	140.8	91.43	96.92	85.94	87.77	96.92	106.0	135.3	73.14	89.60	82.29	91.43	98.75
Distance fished (km)	1.481	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.296	1.481	1.852	1.852	1.852
Bottom temp. (°C)	4.31	5.45	5.47	5.59	5.27	5.56	5.44	5.48	5.44	5.38	5.44	5.37	5.44

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Haul	209	210	211	212	213	214	215	216	217	218	219	220	221
Location	Morzhov.	Cold B.											
Month/day/year	07-14-20	07-15-20	07-15-20	07-15-20	07-15-20	07-15-20	07-15-20	07-15-20	07-16-20	07-16-20	07-16-20	07-16-20	07-16-20
Station	MOI	COH	COGB	COGA	COF	COB	COC	COE	BEG	157A	156A	BEF	BEBX
Longitude start (°W)	162.9687	162.4015	162.4303	162.4775	162.5262	162.5960	162.5545	162.5453	162.1715	162.1230	162.1072	162.1240	162.1495
Latitude start (°N)	54.9547	55.1107	55.1170	55.1453	55.1618	55.2278	55.2268	55.1980	54.9905	54.9187	54.9657	55.0013	55.1402
Heading, degrees	167	297	332	327	124	152	173	161	173	159	346	27	200
Average depth (m)	106.0	45.71	56.69	89.60	98.75	53.03	47.54	67.66	84.12	74.97	87.77	95.09	67.66
Distance fished (km)	1.852	1.481	1.481	1.481	1.481	1.296	1.111	1.111	1.666	1.852	1.666	1.852	1.296
Bottom temp. (°C)	5.45	8.46	8.44	8.32	8.39	8.46	8.49	8.32	6.27	6.41	6.28	6.10	6.17
Haul	222	223	224	225	226	227	228	229	230	231	232	233	234
Location	Cold B.	Cold B.	Pavlof	NE Kod.									
Month/day/year	07-16-20	07-16-20	07-17-20	08-05-20	08-05-20	08-05-20	08-05-20	08-06-20	08-06-20	08-06-20	08-06-20	08-06-20	08-06-20
Station	BECX	BEE	VOLX	KZG	KZJ	KZO	MOEX	KZF	KZE	KZC	KZA	KZB	KZD
Longitude start (°W)	162.1597	162.1492	161.9718	152.6143	152.6468	152.5583	152.3747	152.6547	152.6742	152.7477	152.8770	152.8657	152.7955
Latitude start (°N)	55.1127	55.0713	55.2137	57.9523	57.9670	58.0028	57.9477	57.9722	57.9152	57.8612	57.7910	57.8140	57.8787
Heading, degrees	189	182	112	278	69	34	76	209	49	40	19	25	44
Average depth (m)	80.46	82.29	73.14	128.0	129.8	199.3	118.8	126.1	102.4	60.34	43.88	49.37	87.77
Distance fished (km)	1.481	1.852	1.852	1.852	1.852	1.852	1.852	1.481	1.481	1.481	1.111	1.111	1.852
Bottom temp. (°C)	6.05	6.61	5.41	6.61	6.81	6.34	7.09	6.90	7.95	9.36	7.27	7.36	7.96
Haul	235	236	237	238	239	240	241	242	243	244	245	246	247
Location	NE Kod.												
Month/day/year	08-06-20	08-07-20	08-07-20	08-07-20	08-07-20	08-07-20	08-07-20	08-07-20	08-08-20	08-08-20	08-08-20	08-08-20	08-08-20
Station	KZK	KZS	KZR	MONX	MOGX	283A	313	314	MOXA	MOXB	255B	256	257
Longitude start (°W)	152.5505	152.5827	152.5883	152.4908	152.1655	152.0802	152.0292	151.8227	152.2498	152.2418	152.0028	151.7748	151.6872
Latitude start (°N)	57.9873	58.1437	58.1300	58.0312	57.9707	57.9773	57.9407	57.9295	58.2062	58.1565	58.0563	58.0608	58.0435
Heading, degrees	49	188	182	33	46	151	119	223	185	142	75	121	51
Average depth (m)	179.2	104.2	117.0	192.0	173.7	175.5	199.3	64.00	142.6	170.0	124.3	162.7	151.7
Distance fished (km)	1.852	1.203	1.481	1.852	1.852	1.852	1.852	1.852	1.666	1.852	1.852	1.852	1.852
Bottom temp. (°C)	6.46	5.66	5.22	6.38	6.35	6.23	6.22	8.13	6.78	6.64	6.89	6.69	6.70
Haul	248	249	250	251	252	253	254	255	256	257	267	268	269
Location	NE Kod.	SE Kod.	SW Kod.										
Month/day/year	08-08-20	08-08-20	08-08-20	08-09-20	08-09-20	08-09-20	08-09-20	08-09-20	08-11-20	08-11-20	08-13-20	08-14-20	08-14-20
Station	285	284	283B	MOLA	MOLB	255A	MOPA	MOPB	420	421	444	725	684A
Longitude start (°W)	151.6252	151.7942	151.9027	152.1675	152.1300	152.0817	152.2353	152.2507	151.7878	151.7028	151.7055	153.8293	154.2880
Latitude start (°N)	58.0067	57.9870	57.9755	58.1007	58.0543	58.0580	58.1107	58.0848	57.6022	57.5852	57.5298	56.6672	56.7458
Heading, degrees	233	219	279	142	193	355	234	243	132	129	120	47	273
Average depth (m)	106.0	131.6	173.7	202.9	153.6	151.7	168.2	166.4	128.0	117.0	160.9	98.75	62.17
Distance fished (km)	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.481	1.481	1.481	1.296	1.852
Bottom temp. (°C)	7.20	6.82	6.19	6.64	6.57	6.78	6.79	6.67	6.67	6.98	6.17	6.80	10.3

-continued-

Appendix B1.–Page 6 of 7.

Haul	270	271	272	273	274	275	276	277	278	279	280	281	282
Location	SW Kod.												
Month/day/year	08-14-20	08-14-20	08-15-20	08-15-20	08-15-20	08-15-20	08-15-20	08-15-20	08-15-20	08-15-20	08-16-20	08-16-20	08-16-20
Station	684C	683D	684B	ALA	ALBX	ALCA	ALG	ALJ	ALM	ALK	ALR	ALQ	ALP
Longitude start (°W)	154.3347	154.3675	154.2360	154.1312	154.1665	154.1285	154.0742	154.0107	153.9947	153.9527	153.8055	153.8965	153.9580
Latitude start (°N)	56.7368	56.7315	56.7620	56.7990	56.8008	56.8245	56.8713	56.9120	56.9228	56.9267	57.1275	57.0845	57.0423
Heading, degrees	85	112	65	218	47	28	235	218	43	65	221	225	221
Average depth (m)	73.14	71.31	76.80	58.51	40.23	69.49	58.51	71.31	69.49	69.49	115.2	171.8	155.4
Distance fished (km)	1.852	1.852	1.852	1.666	1.852	1.852	1.852	1.852	1.852	1.481	1.852	1.852	1.852
Bottom temp. (°C)	9.98	9.80	10.1	7.45	10.8	6.92	6.76	6.26	6.23	6.77	2.30	2.08	2.12
Haul	283	284	285	286	287	288	289	290	291	292	293	294	295
Location	SW Kod.												
Month/day/year	08-16-20	08-16-20	08-16-20	08-16-20	08-16-20	08-16-20	08-17-20	08-17-20	08-17-20	08-17-20	08-17-20	08-17-20	08-17-20
Station	ALO	ALL	ALI	ALH	ALF	ALD	646D	683B	683A	683A	682B	645B	646A
Longitude start (°W)	153.9625	154.0865	154.1018	154.1297	154.1633	154.1900	154.3803	154.3680	154.4793	154.4798	154.5118	154.5003	154.4435
Latitude start (°N)	57.0203	56.9245	56.8993	56.8813	56.8585	56.8795	56.8023	56.7598	56.7643	56.7827	56.7660	56.8520	56.8528
Heading, degrees	204	50	35	41	13	187	1	268	111	185	306	144	74
Average depth (m)	168.2	87.77	82.29	64.00	54.86	54.86	54.86	60.34	64.00	62.17	71.31	69.49	64.00
Distance fished (km)	1.852	1.852	1.852	1.481	1.666	1.296	1.481	1.481	1.481	1.481	1.481	1.481	1.481
Bottom temp. (°C)	2.16	3.01	4.00	6.39	7.42	7.78	10.0	10.0	9.91	9.91	9.75	10.1	10.7
Haul	296	297	298	299	300	301	302	303	304	305	306	307	308
Location	SW Kod.	W Kod.	W Kod.	W Kod.	W Kod.	W Kod.	W Kod.	W Kod.	W Kod.	W Kod.	W Kod.	W Kod.	W Kod.
Month/day/year	08-17-20	08-18-20	08-18-20	08-18-20	08-18-20	08-18-20	08-18-20	08-18-20	08-18-20	08-18-20	08-19-20	08-19-20	08-19-20
Station	646B	UYBX	UYEX	UYHX	UYFX	UYO	UYKX	UYMX	UYQX	UYT	KUS	KUP	KUQ
Longitude start (°W)	154.3887	153.9985	153.9482	153.7177	153.8562	153.7967	153.8772	153.9112	153.9042	153.7963	153.5442	153.4503	153.5242
Latitude start (°N)	56.8392	57.7425	57.6862	57.6620	57.6742	57.5692	57.5918	57.5232	57.4845	57.3697	57.8707	57.8578	57.8855
Heading, degrees	355	158	170	266	287	318	328	182	333	347	157	299	327
Average depth (m)	60.34	137.1	190.1	96.92	173.7	87.77	128.0	153.6	149.9	42.06	181.0	160.9	184.6
Distance fished (km)	1.481	1.852	1.852	1.852	1.666	1.481	1.852	1.481	1.481	1.296	1.481	1.852	1.852
Bottom temp. (°C)	10.7	6.36	6.19	7.01	6.67	7.62	6.76	6.87	6.92	8.30	5.26	5.39	5.26
Haul	309	310	311	312	313	314	315	316	317	318	319	320	321
Location	W Kod.												
Month/day/year	08-20-20	08-20-20	08-20-20	08-20-20	08-20-20	08-20-20	08-20-20	08-20-20	08-21-20	08-21-20	08-21-20	08-21-20	08-21-20
Station	KUXB	KUXA	KUU	KUW	KUV	KUT	KUNX	KUYA	KUYB	KULB	KULA	KUM	KUK
Longitude start (°W)	153.3795	153.4070	153.4835	153.5267	153.5293	153.5200	153.3760	153.1953	153.2132	153.2067	153.2238	153.1192	153.2523
Latitude start (°N)	57.7360	57.7687	57.7837	57.6962	57.7412	57.8112	57.8363	57.7882	57.7432	57.8350	57.8622	57.8632	57.9177
Heading, degrees	353	315	321	174	356	350	307	185	38	7	327	291	296
Average depth (m)	102.4	126.1	157.2	65.83	82.29	182.8	135.3	69.49	21.94	80.46	104.2	64.00	142.6
Distance fished (km)	1.666	1.666	1.852	1.111	1.481	1.852	1.852	1.111	0.926	1.666	1.666	1.852	1.852
Bottom temp. (°C)	4.85	4.77	5.43	7.03	6.04	5.24	5.72	9.03	10.9	6.83	6.86	7.00	6.54

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Appendix B1.–Page 7 of 7.

Haul	322	323	324	325	326	327	328	329	330	331	332	333	334
Location	W Kod.	N Main											
Month/day/year	08-21-20	08-21-20	08-22-20	08-22-20	08-22-20	08-22-20	08-22-20	08-23-20	08-23-20	08-23-20	08-23-20	08-23-20	08-23-20
Station	KUJ	KUI	KUD	KUF	KUG	RAA	MAA	147	146	174	200	199	224
Longitude start (°W)	153.2932	153.3873	153.1643	153.2995	153.4327	153.2202	153.0713	153.4843	153.6358	153.6477	153.6340	153.7783	153.8355
Latitude start (°N)	57.9357	57.9735	57.9852	58.0288	58.0420	58.1372	58.2162	58.3978	58.3735	58.2983	58.2545	58.2520	58.1382
Heading, degrees	314	292	266	275	164	141	286	225	258	207	217	246	175
Average depth (m)	160.9	246.8	40.23	142.6	73.14	104.2	135.3	179.2	168.2	177.3	177.3	192.0	195.6
Distance fished (km)	1.852	1.852	0.926	1.852	1.852	1.852	1.852	1.481	1.481	1.481	1.481	1.481	1.481
Bottom temp. (°C)	6.54	6.57	7.79	6.82	7.31	7.64	6.88	5.29	5.36	5.33	5.32	5.35	5.29
Haul	335	336	337	338	339	340	341	342	343	344	345	346	347
Location	N Main												
Month/day/year	08-23-20	08-23-20	08-24-20	08-24-20	08-24-20	08-24-20	08-24-20	08-24-20	08-24-20	08-24-20	08-25-20	08-25-20	08-25-20
Station	223	223	171A	171C	171D	198	198	173	145	144	117	118	90
Longitude start (°W)	153.9262	154.0298	154.2620	154.2072	154.0847	154.0402	153.9143	153.7957	153.8317	153.9027	153.8097	153.6295	153.5348
Latitude start (°N)	58.1243	58.1372	58.3032	58.3248	58.3165	58.2665	58.2410	58.3060	58.4305	58.4397	58.4528	58.4838	58.5410
Heading, degrees	227	2	71	76	107	42	38	38	51	263	52	57	46
Average depth (m)	202.9	241.3	104.2	102.4	82.29	160.9	215.7	195.6	98.75	80.46	91.43	135.3	118.8
Distance fished (km)	1.481	1.481	1.852	1.852	1.852	1.481	1.481	1.481	1.852	1.481	1.481	1.481	1.481
Bottom temp. (°C)	5.27	5.24	7.59	7.70	9.01	5.48	5.25	5.28	7.30	7.87	8.66	6.59	7.24
Haul	348	349	350	351	352	353	354	355	356	357			
Location	N Main	W Kod.											
Month/day/year	08-25-20	08-25-20	08-25-20	08-25-20	08-25-20	08-26-20	08-26-20	08-26-20	08-26-20	08-26-20			
Station	91	60	61	31	3	2	119	120	121	PMA			
Longitude start (°W)	153.4107	153.3348	153.2508	153.2268	153.0430	153.1903	153.5110	153.3092	153.2145	152.9502			
Latitude start (°N)	58.5782	58.6352	58.6607	58.7122	58.7860	58.7957	58.4815	58.4992	58.4795	58.3008			
Heading, degrees	46	47	24	13	141	179	72	86	50	323			
Average depth (m)	124.3	117.0	146.2	140.8	146.2	168.2	149.9	171.8	170.0	120.6			
Distance fished (km)	1.481	1.481	1.481	1.481	1.481	1.481	1.481	1.481	1.481	1.852			
Bottom temp. (°C)	7.26	8.06	6.19	6.61	6.09	6.25	5.61	5.34	5.36	7.28			

Appendix B2.–2020 bottom trawl survey locations, stations, and station areas by district and section.

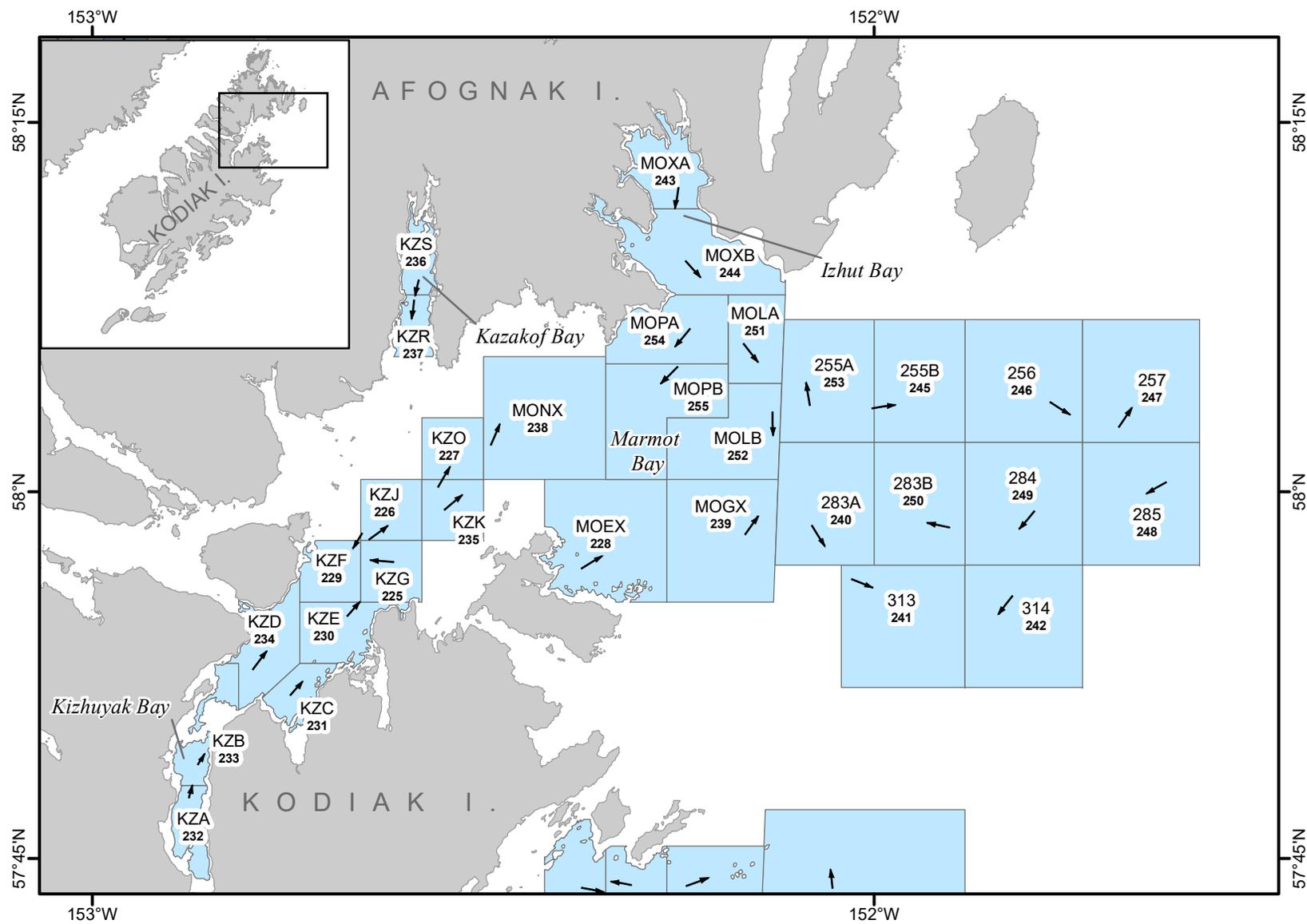
KODIAK DISTRICT							
Northeast Section				Eastside Section			
Chiniak Gully		Chiniak Bay		Ugak Bay		Barnabas Gully	
Station	km ²	Station	km ²	Station	km ²	Station	km ²
395	85.8	CHA	5.5	UGAA	16.0	486A	25.0
420	83.3	CHB	7.9	UGAC	3.2	486B	29.4
421	83.3	CHE	20.6	UGAD	4.4	510C	21.5
444	83.5	CHF	12.7	UGB	5.8	510D	38.0
369X	142.8	CHG	32.8	UGC	17.5	511A	42.0
Total	478.6	CHJ	11.3	UGD	11.0	511B	42.9
		CHK	8.6	UGE	12.7	533A	42.9
Marmot Bay		CHL	14.1	UGF	15.8	533B	42.9
Station	km ²	Total	113.4	UGG	11.0	534BX	20.8
MOEX	36.2			UGI	22.3	534DX	29.0
MOGX	65.9	Kizhuyak Bay		UGJ	21.0	535A	21.1
MOLA	28.0	Station	km ²	UGM	16.8	535B	21.4
MOLB	44.8	KZA	11.7	Total	157.4	535C	21.1
MONX	75.5	KZB	2.7			535D	21.4
MOPA	27.8	KZC	12.3	Kiliuda Bay		559	85.8
MOPB	19.9	KZD	23.7	Station	km ²	560	85.8
MOXA	13.0	KZE	25.8	KLA	20.923	561	85.8
MOXB	29.5	KZF	20.1	KLB	9.261	587	85.8
256	82.1	KZG	21.2	KLC	19.551	588	85.8
257	82.1	KZJ	21.4	KLD	18.179	589	85.8
284	82.4	KZK	21.4	KLE	8.232	619	85.8
285	82.4	KZO	21.4	KLF	15.092	620	85.8
313	85.8	KZR	10.8	KLG	16.464	621	85.8
314	82.5	KZS	3.1	KLH	16.807	654	85.8
255A	64.4	Total	195.7	KLI	21.438	655	85.8
255B	63.9			KLL	21.438	656	85.8
283A	67.9			Total	167.4	695	85.8
283B	64.0					696	85.8
Total	1,098.1					Total	1,619.9
Southeast Section				Southwest Section			
South Sitkalidak Strait		Offshore Twoheaded		Alitak Flats		Alitak Bay	
Station	km ²	Station	km ²	Station	km ²	Station	km ²
THA	15.1	618A	42.9	645B	34.3	ALA	3.1
THCX	19.6	585X	78.8	646A	27.1	ALBX	12.8
THDX	28.6	614	61.2	646B	16.5	ALCA	8.1
THFA	22.3	615	99.5	646D	37.4	ALD	13.0
THG	21.1	651	85.8	682B	21.7	ALF	21.4
THH	19.2	Total	368.1	683A	22.2	ALG	19.9
THI	21.6	Horse's Head		683B	20.9	ALH	16.1
THJ	17.8	Station	km ²	683D	9.3	ALI	16.6
THK	16.5	586	85.8	684A	21.7	ALJ	15.1
THL	9.3	688	85.8	684B	10.3	ALK	9.9
THM	10.6	725	85.8	684C	8.6	ALL	8.2
THN	5.1	726	85.8	Total	230.0	ALM	16.1
Total	206.8	727	85.8			ALO	16.8
		728	85.8			ALP	18.4
		729	85.8			ALQ	14.4
		759	85.8			ALR	13.4
		760	85.8			Total	223.5
		761	85.8				
		Total	857.5				

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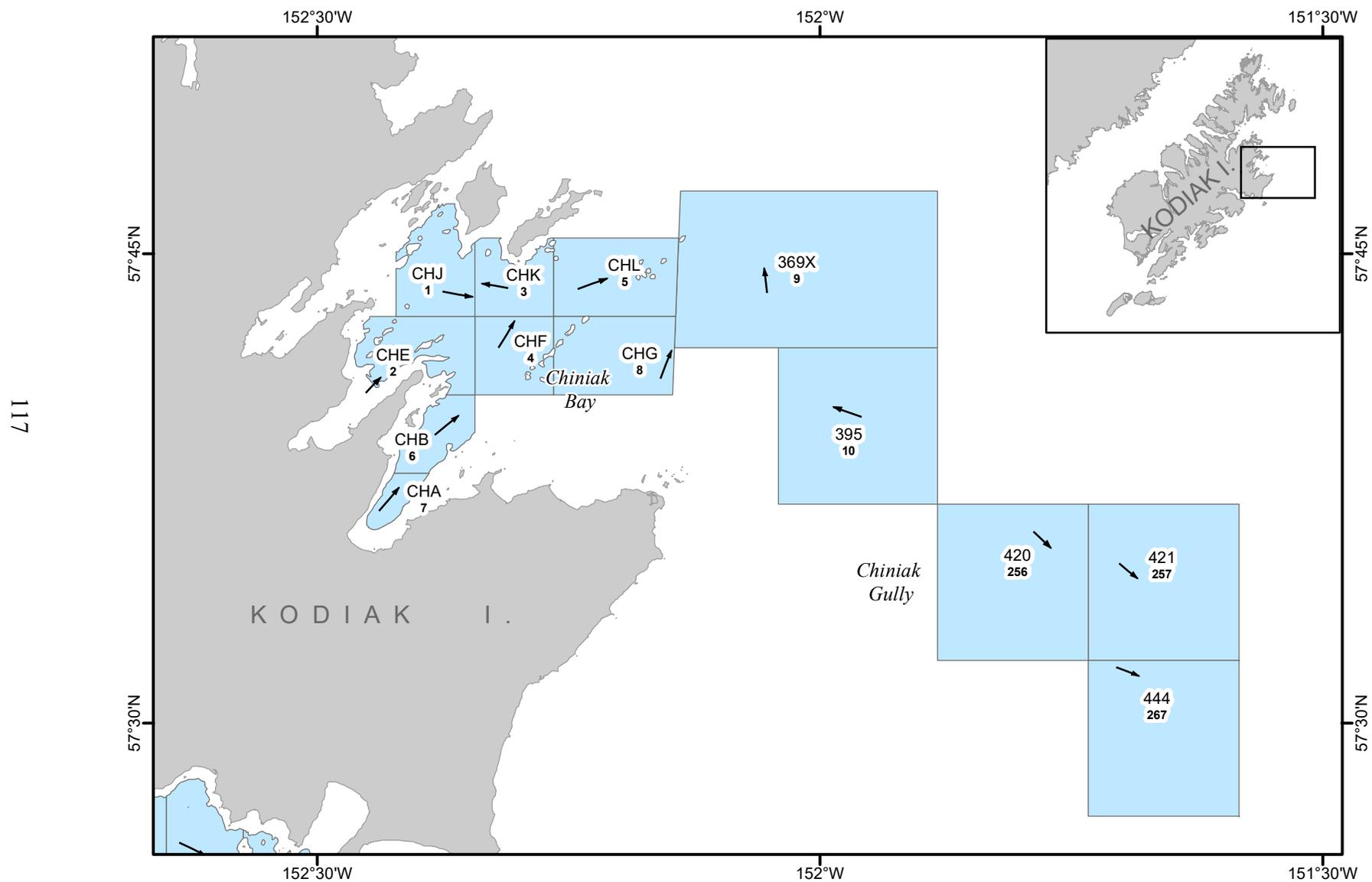
SOUTH PENINSULA DISTRICT							
Pavlof/Volcano Bay		West Nagai Strait		Cold/Belkofski Bay		Morzhovoi Bay	
Station	km ²	Station	KM ²	Station	km ²	Station	km ²
228	12.8	332B	42.9	156A	44.2	87AX	42.9
245	21.0	373A	28.0	157A	21.0	87D	22.3
PAH	37.5	373B	20.5	BEBX	15.1	MOB	18.5
PAEX	14.2	301	85.8	BECX	25.7	MOD	16.1
PAIX	38.3	318	85.8	BEE	21.4	MOF	20.0
PALX	39.9	334	85.8	BEF	14.5	MOG	17.6
PAOB	19.6	335	85.8	BEG	20.3	MOH	15.1
PAP	20.8	337	85.8	COB	20.8	MOI	16.9
PARA	19.1	353	86.1	COC	14.2	MOK	21.4
PARB	20.8	354	85.8	COE	20.2	MOL	21.4
PAU	21.4	371	76.0	COF	11.5	MOOX	43.8
PAV	20.6	393	42.0	COGA	9.8	MORX	33.7
VOA	22.1	Total	810.0	COGB	3.6	MOSX	42.7
VOBX	43.5			COH	4.8	Total	332.4
VOD	20.8	Beaver/Balboa/Unga		COM	18.5		
VOFB	15.5	Station	km ²	COOX	27.7	Sanak Island	
VOG	22.1	278	71.4	Total	293.5	Station	km ²
VOH	21.7	348	85.8			138A	34.8
VOI	21.2	311A	15.5	Stepovak Bay		138B	18.4
VOLX	17.7	311B	19.4	Station	KM ²	138C	56.9
VOM	27.5	311C	16.2	STA	21.0	113	77.2
VON	22.1	329B	21.4	STB	18.9	125	77.2
VOPX	29.7	329C	21.4	STD	22.4	126	77.8
VOQ	15.9	BAA	12.0	STE	15.5	137	85.8
VOR	21.1	BAC	16.9	Total	77.8	Total	428.0
Total	586.9	BAD	8.3			S PENINSULA DISTRICT TOTALS	
		BAE	12.7				km ²
		BAF	9.4			Sanak Island	428.0
		BVA	13.5			Morzhovoi Bay	332.4
		BVB	14.0			Cold/Belkofski Bay	293.5
		BVC	18.9			Pavlof/Volcano Bay	586.9
		368A	43.9			West Nagai Strait	810.0
		Total	400.7			Beaver/Balboa/Unga	400.7
						Stepovak Bay	77.8
						S Peninsula District	2,929.4

APPENDIX C. TRAWL MAPS

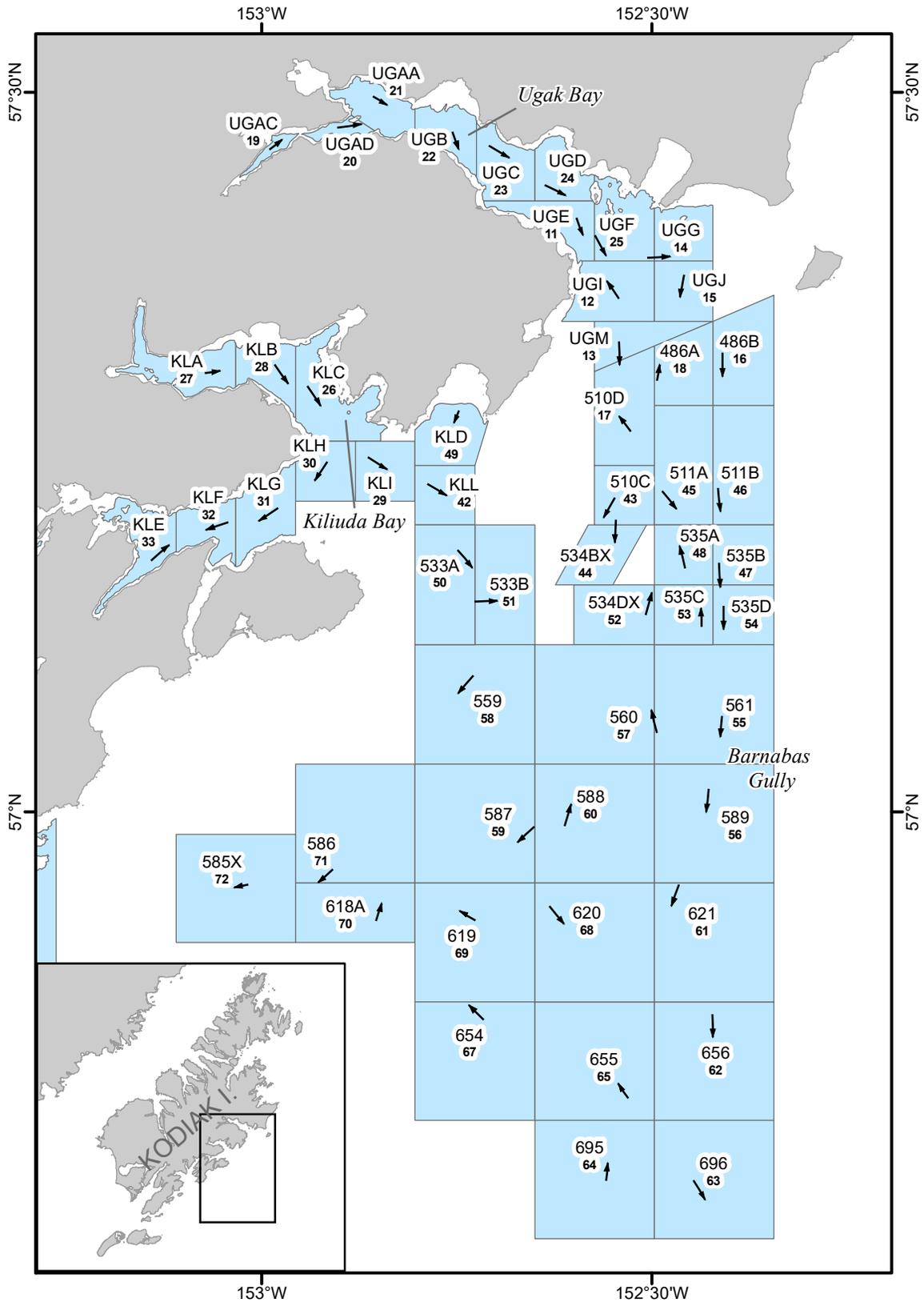
Appendix C1.–Izhut Bay, Kazakof Bay, Kizhuyak Bay, and Marmot Bay station boundaries with station name, trawl haul number (**bold**), and haul location and direction (arrow), August 2020.



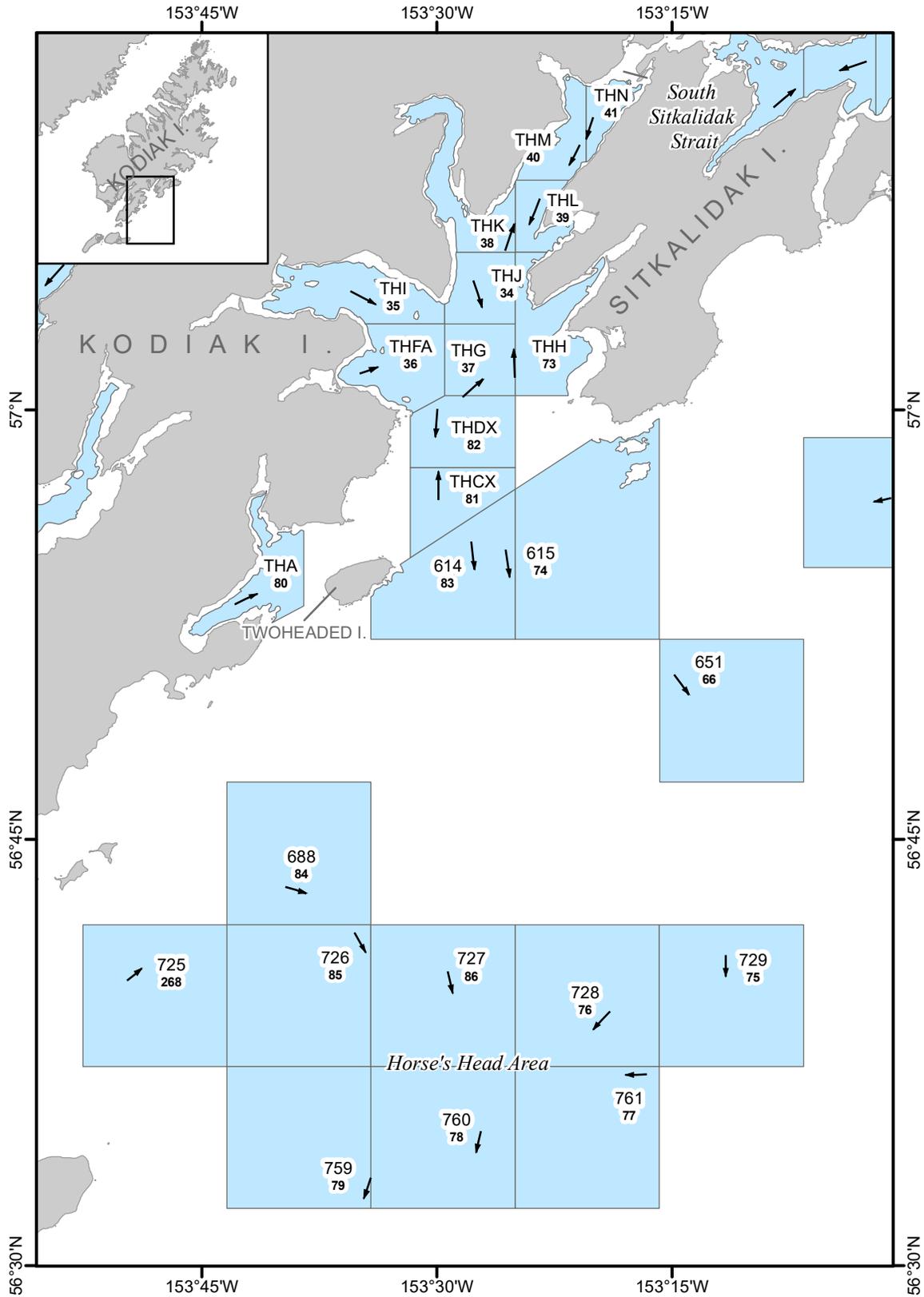
Appendix C2.—Chiniak Bay and Chiniak Gully station boundaries with station name, trawl haul number (**bold**), and haul location and direction (arrow), June and August 2020.



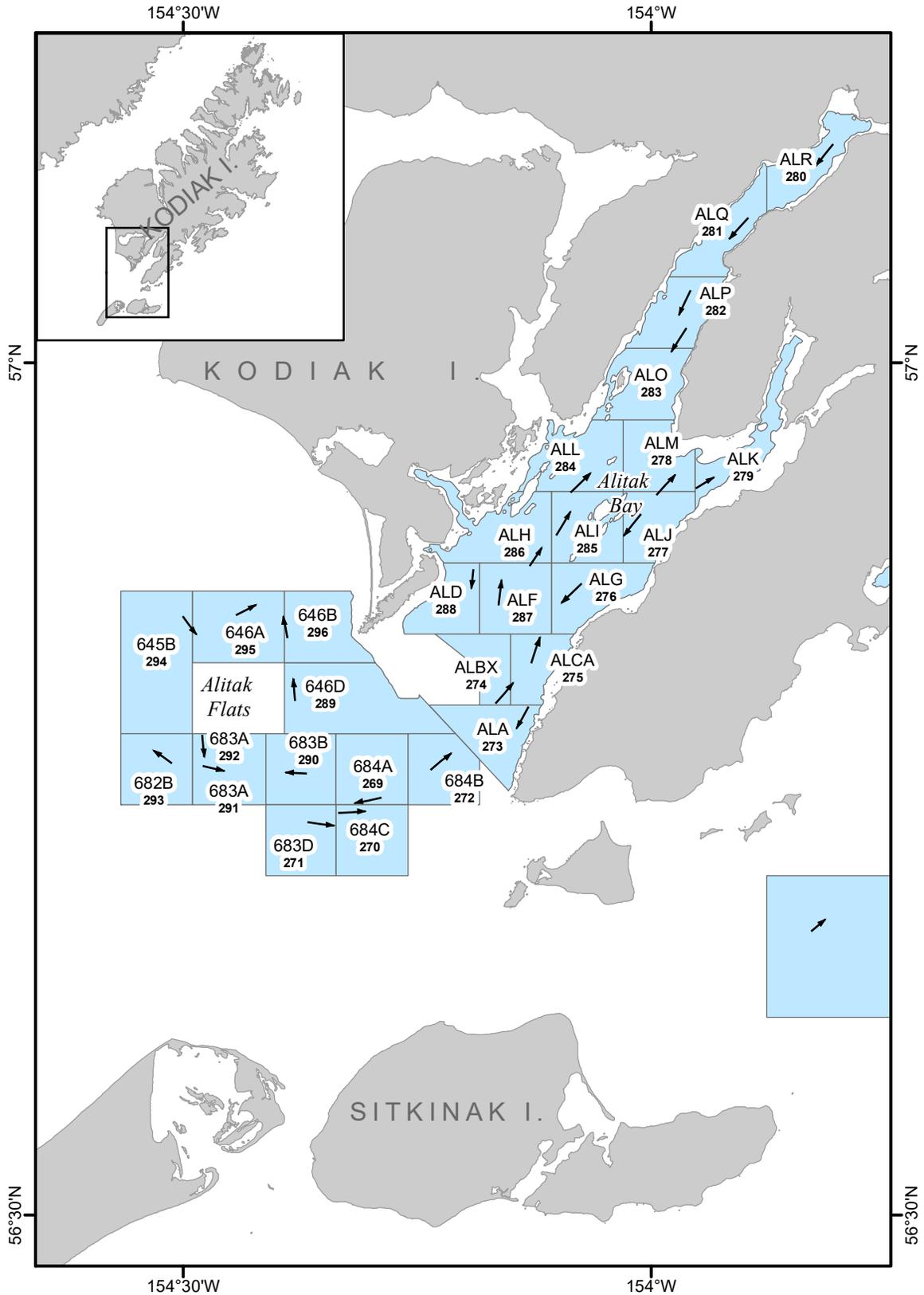
Appendix C3.—Ugak Bay, Kiliuda Bay, and Barnabas Gully station boundaries with station name, trawl haul number (**bold**), and haul location and direction (arrow), June 2020.



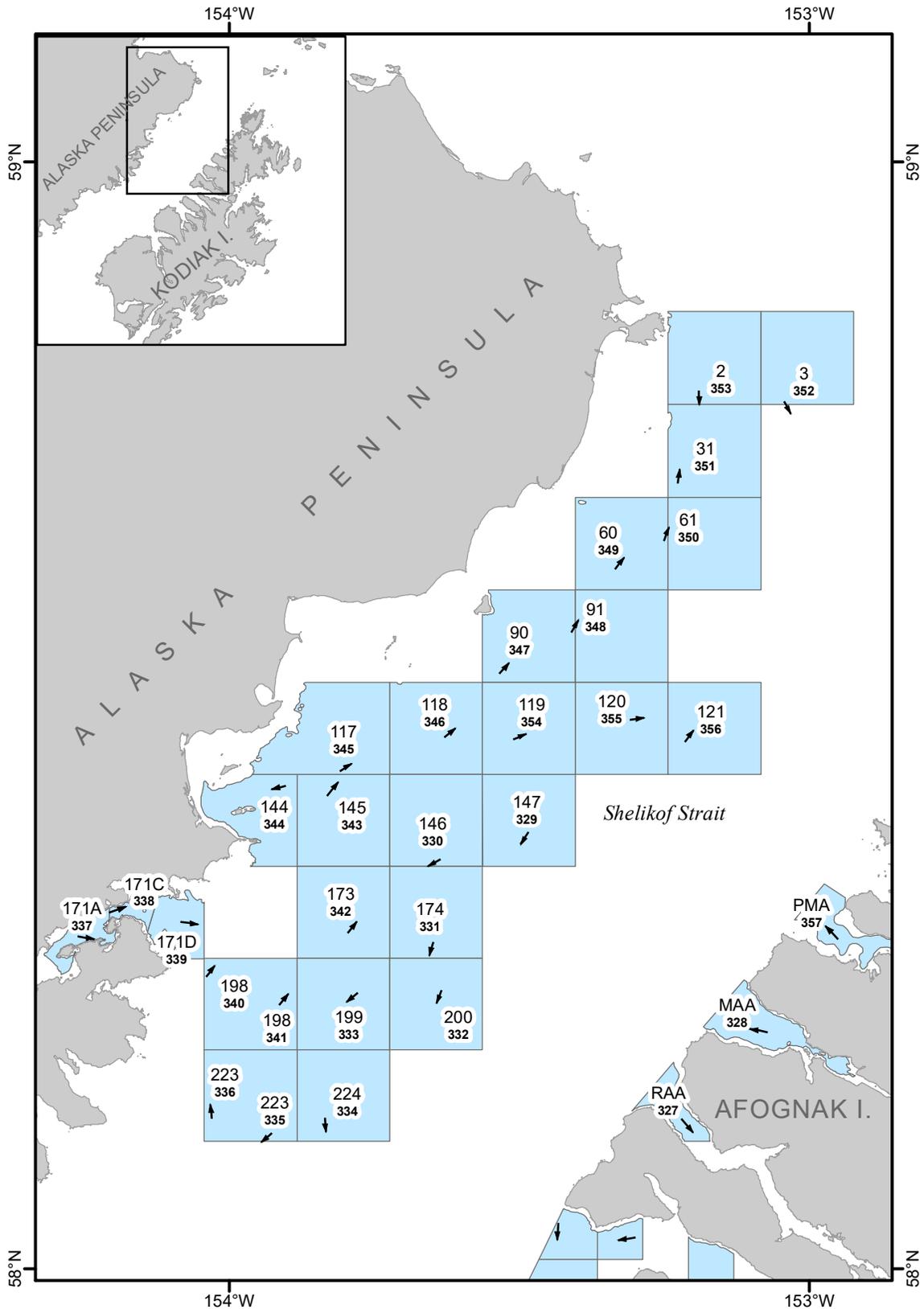
Appendix C4.—South Sitkalidak Strait, Twoheaded Island, and Horse’s Head area station boundaries with station name, trawl haul number (bold), and haul location and direction (arrow), June 2020.



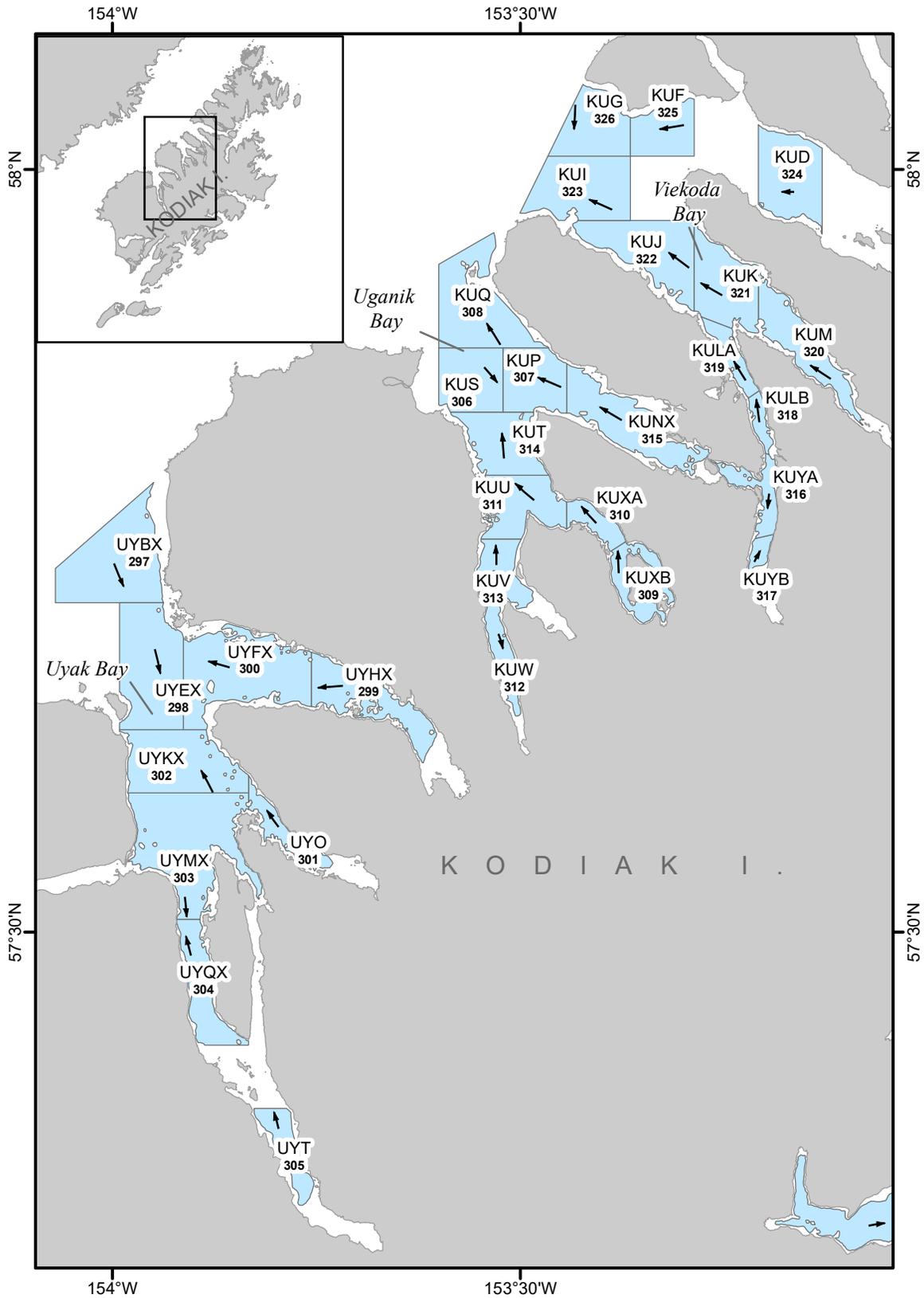
Appendix C5.—Alitak Bay and Alitak Flats station boundaries with station name, trawl haul number (**bold**), and haul location and direction (arrow), August 2020.



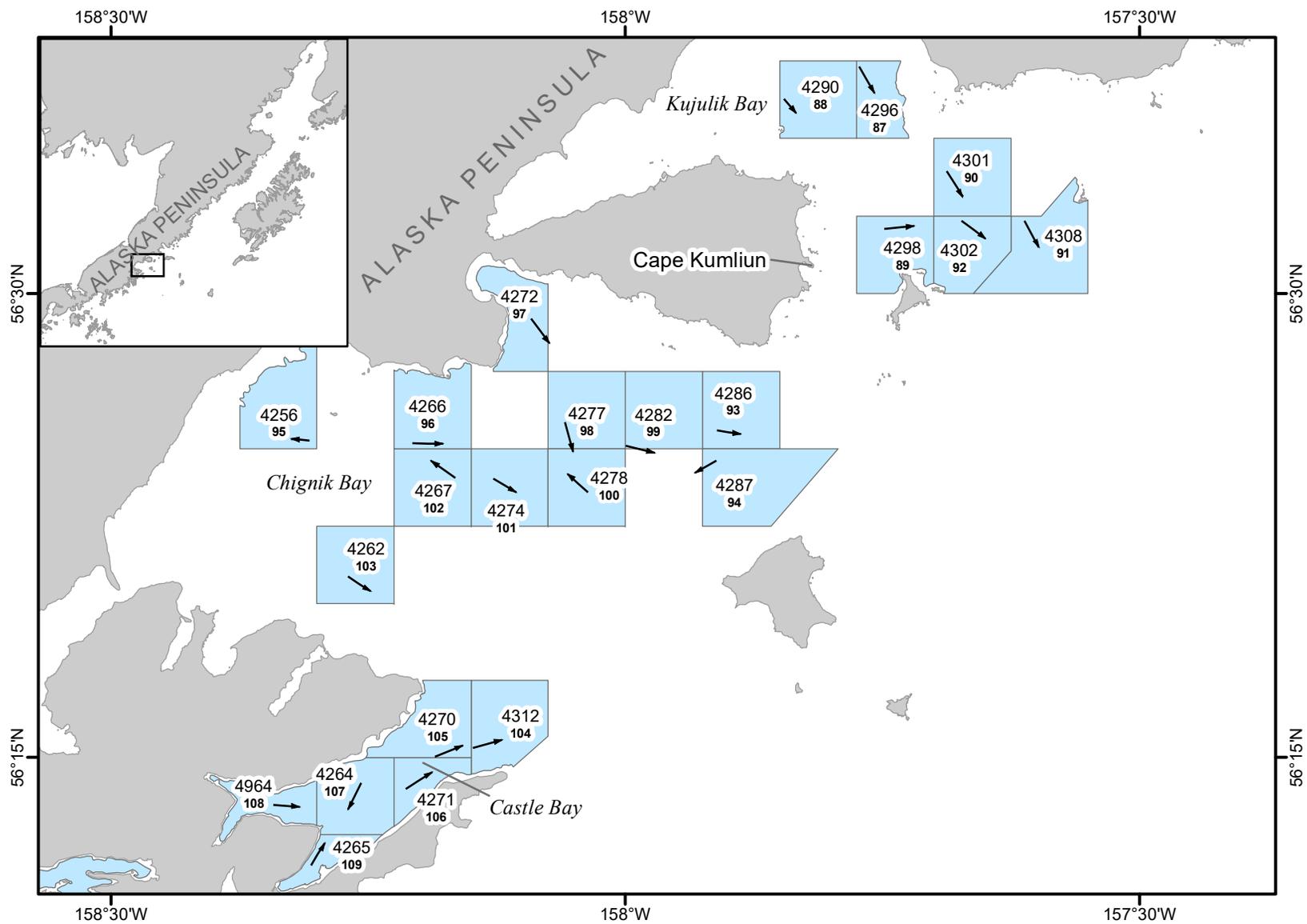
Appendix C6.—Shelikof Strait and Afognak Island station boundaries with station name, trawl haul number (bold), and haul location and direction (arrow), August 2020.



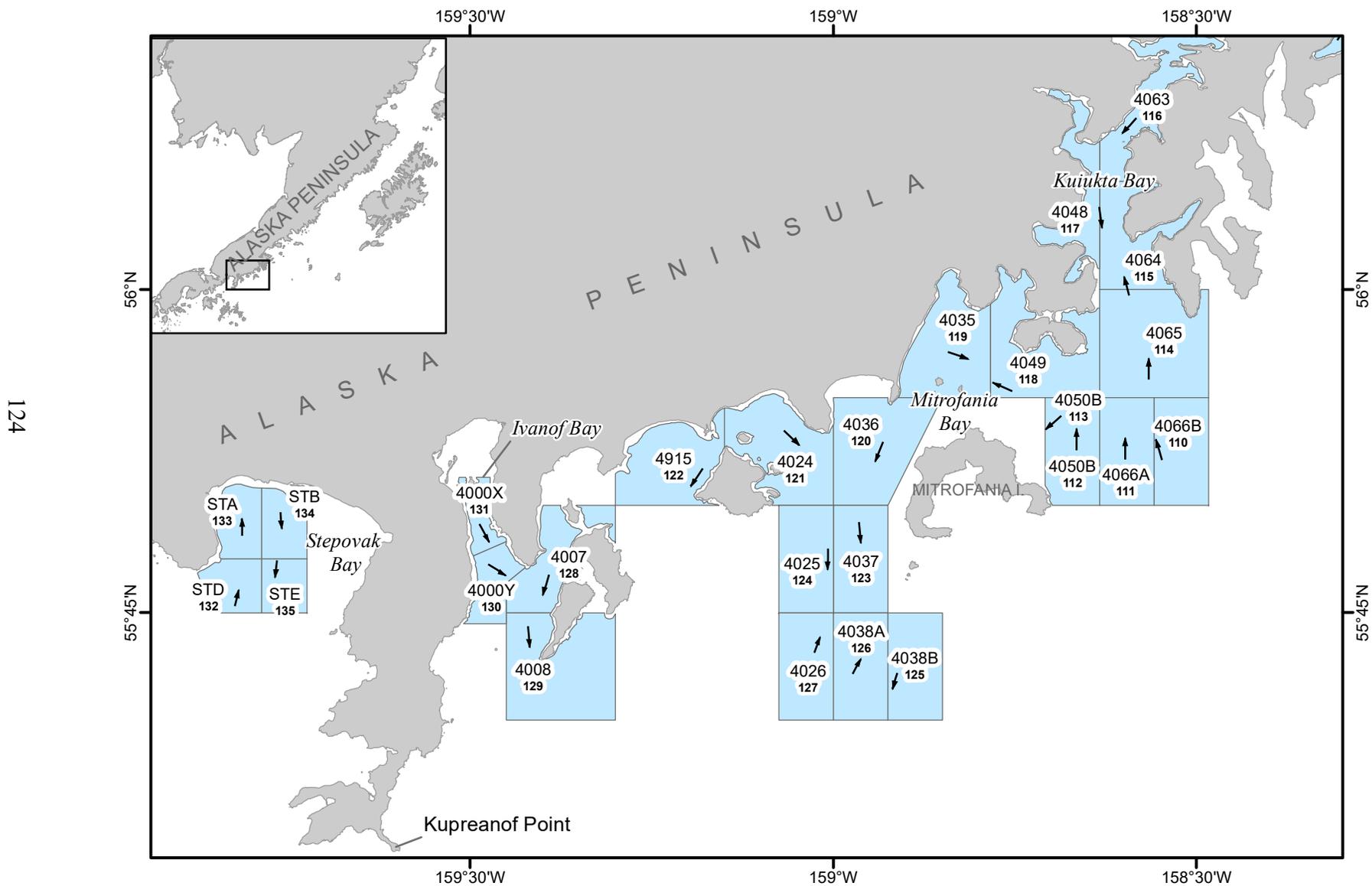
Appendix C7.—Uyak Bay, Uganik Bay, and Viekada Bay station boundaries with station name, trawl haul number (bold), and haul location and direction (arrow), August 2020.



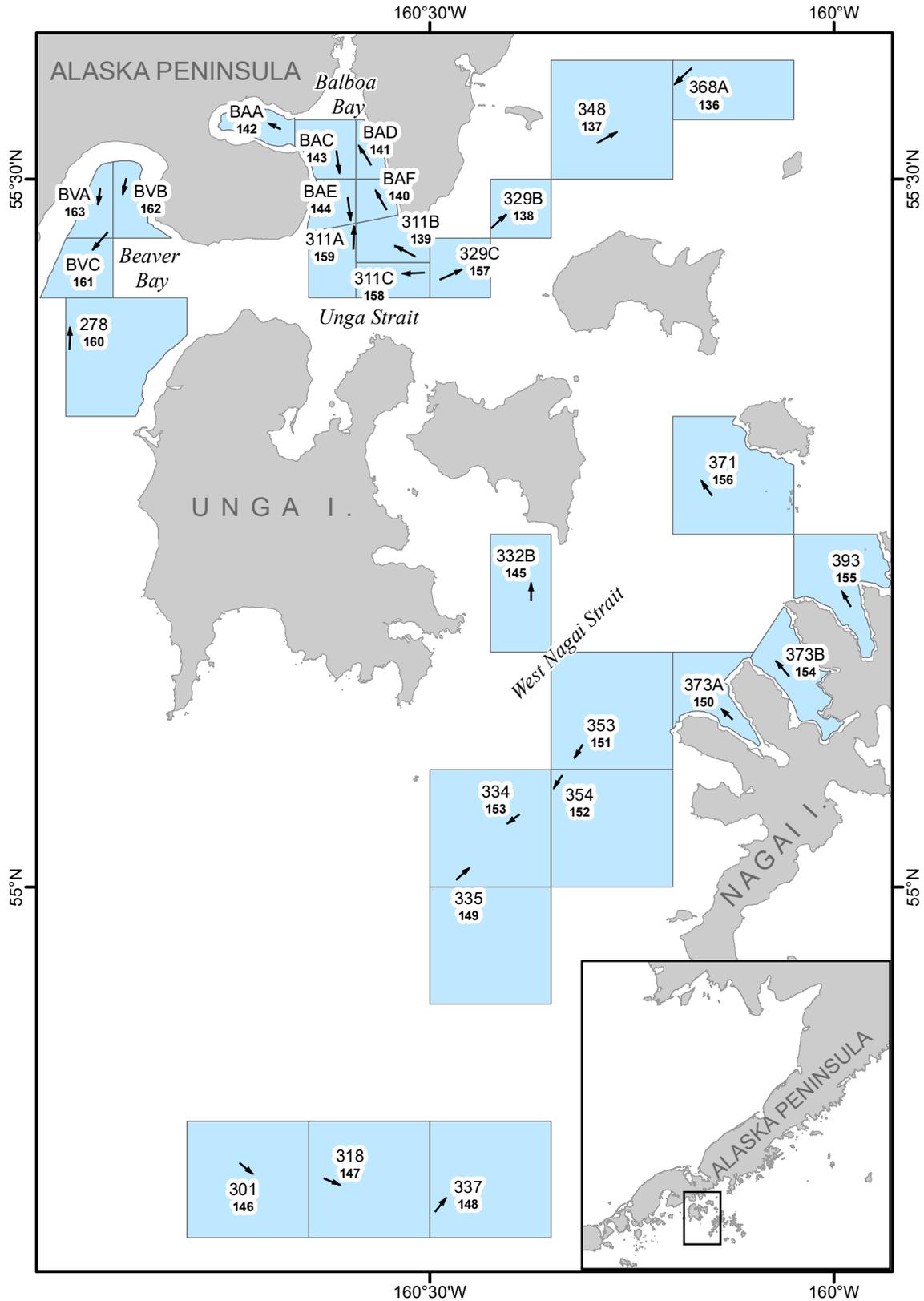
Appendix C8.—Kujulik Bay, Chignik Bay, and Castle Bay station boundaries with station name, trawl haul number (bold), and haul location and direction (arrow), June 2020.



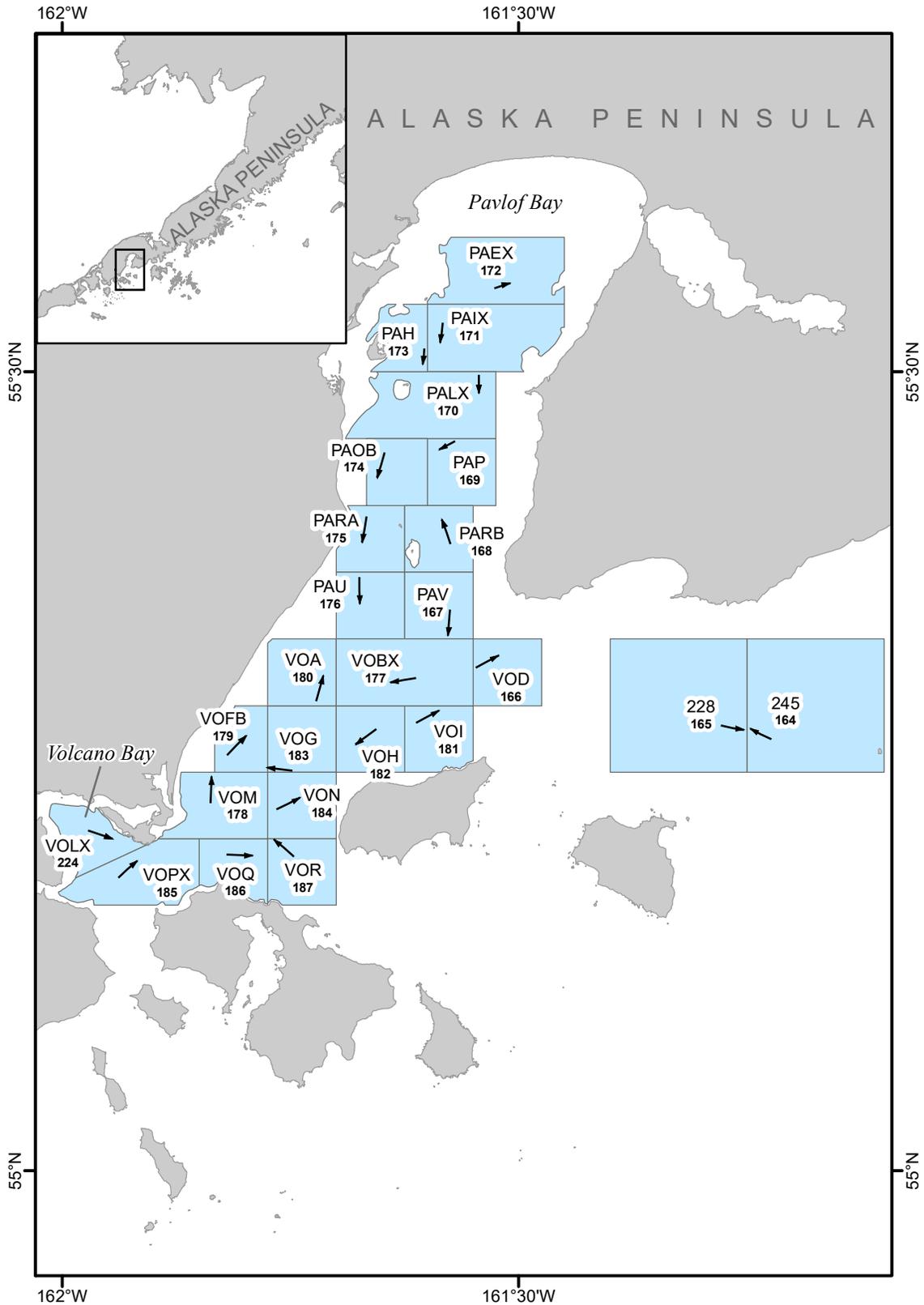
Appendix C9.—Stepovak Bay, Ivanof Bay, Kuiukta Bay, and Mitrofanina Bay station boundaries with station name, trawl haul number (**bold**), and haul location and direction (arrow), June and July 2020.



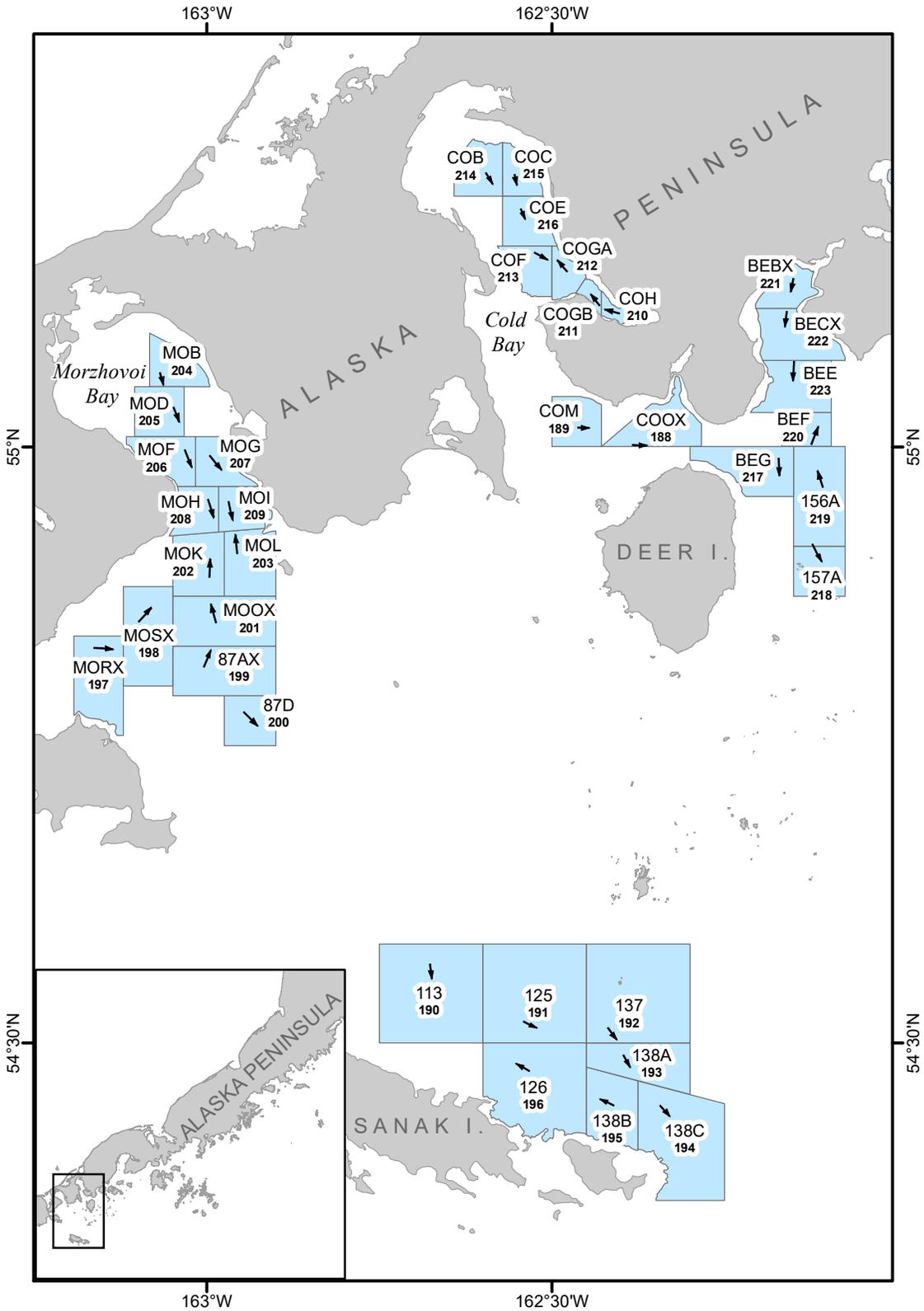
Appendix C10.—Unga Strait, Beaver Bay, Balboa Bay, and West Nagai Strait station boundaries with station name, trawl haul number (**bold**), and haul location and direction (arrow), July 2020.



Appendix C11.—Pavlof Bay and Volcano Bay station boundaries with station name, trawl haul number (bold), and haul location and direction (arrow), July 2020.



Appendix C12.—Morzhovoi Bay, Cold Bay, Belkofski Bay, Deer Island, and Sanak Island station boundaries with station name, trawl haul number (bold), and haul location and direction (arrow), August 2020.



**APPENDIX D. TANNER CRAB ABUNDANCE ESTIMATES
BY STATION**

Appendix D1.—Tanner crab abundance estimates in the Kodiak District by station and section, 2020.

Station	Haul no.	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
		Juvenile	Adult	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	≥165 mm			
Northeast Section														
256	246	200,090	0	200,090	225,556	0	0	0	0	0	0	0	225,556	425,647
257	247	14,552	0	14,552	10,914	0	3,638	0	0	0	0	0	14,552	29,104
284	249	0	0	0	0	0	0	0	0	0	0	0	0	0
285	248	3,647	0	3,647	0	0	0	0	0	0	0	0	0	3,647
313	241	106,330	11,393	117,723	110,128	0	7,595	0	0	0	0	0	117,723	235,445
314	242	3,655	0	3,655	3,655	0	0	0	0	0	0	0	3,655	7,309
395	10	0	0	0	0	7,595	0	0	0	0	0	0	7,595	7,595
420	256	9,220	0	9,220	13,830	0	0	0	0	0	0	0	13,830	23,051
421	257	4,610	0	4,610	0	0	0	0	0	0	0	0	0	4,610
444	267	27,729	0	27,729	32,351	13,865	0	0	0	0	0	0	46,216	73,945
255A	253	19,969	2,853	22,821	28,527	0	0	0	0	0	0	0	28,527	51,348
255B	245	2,830	0	2,830	11,320	0	0	0	0	0	0	0	11,320	14,149
283A	240	99,251	12,030	111,282	51,130	3,008	3,008	24,061	0	0	0	0	81,206	192,488
283B	250	34,032	31,196	65,227	31,196	45,376	42,540	14,180	0	0	0	0	133,291	198,518
369X	9	15,813	7,906	23,719	0	0	0	0	0	0	0	0	0	23,719
CHA	7	3,889	0	3,889	5,104	0	0	243	0	0	0	0	5,347	9,236
CHB	6	6,289	1,048	7,337	3,728	1,864	41,631	44,117	1,243	0	0	1,243	92,583	99,920
CHE	2	1,302	0	1,302	0	0	0	0	0	0	0	0	0	1,302
CHF	4	5,058	3,934	8,992	1,087	8,693	43,464	99,966	9,779	0	0	9,779	162,989	171,981
CHG	8	27,599	587,474	615,073	37,717	44,970	33,365	1,451	0	0	0	0	117,502	732,576
CHJ	1	1,003	0	1,003	501	0	0	0	0	0	0	0	501	1,504
CHK	3	36,002	154,295	190,297	15,768	41,571	88,877	68,808	1,433	0	0	1,433	216,457	406,754
CHL	5	19,306	4,360	23,666	21,798	623	0	0	0	0	0	0	22,420	46,086
KZA	232	861	0	861	0	2,582	0	0	0	0	0	0	2,582	3,443
KZB	233	1,013	810	1,823	0	1,013	203	0	0	0	0	0	1,215	3,038
KZC	231	2,051	0	2,051	1,367	0	0	0	0	0	0	0	1,367	3,418
KZD	234	3,144	0	3,144	3,144	4,192	1,048	0	0	0	0	0	8,385	11,529
KZE	230	0	0	0	0	0	0	0	0	0	0	0	0	0
KZF	229	1,113	0	1,113	5,563	0	0	0	0	0	0	0	5,563	6,676
KZG	225	14,104	0	14,104	16,925	0	0	0	0	0	0	0	16,925	31,029
KZJ	226	19,937	0	19,937	23,734	0	0	0	0	0	0	0	23,734	43,671
KZK	235	6,646	2,848	9,494	10,443	0	0	1,899	0	0	0	0	12,342	21,836
KZO	227	9,494	2,848	12,342	22,785	949	0	0	0	0	0	0	23,734	36,076

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Appendix D1.–Page 2 of 7.

Station	Haul no.	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
		Juvenile	Adult	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	≥165 mm			
KZR	237	56,628	63,806	120,434	3,628	199,535	148,744	166,884	36,279	0	0	36,279	555,069	675,503
KZS	236	42,820	14,388	57,208	15,797	33,063	4,776	1,102	367	0	0	367	55,105	112,313
MOEX	228	4,812	1,604	6,416	9,624	0	0	0	0	0	0	0	9,624	16,041
MOGX	239	110,826	17,499	128,325	64,163	2,916	20,415	61,246	8,749	0	0	8,749	157,490	285,815
MOLA	251	48,400	1,241	49,641	64,533	1,241	0	4,964	2,482	0	0	2,482	73,220	122,861
MOLB	252	31,717	3,965	35,681	35,681	0	0	0	0	0	0	0	35,681	71,363
MONX	238	0	878,893	878,893	0	6,684	90,229	93,570	0	3,342	0	3,342	193,824	1,072,718
MOPA	254	20,917	0	20,917	31,990	0	0	0	0	0	0	0	31,990	52,907
MOPB	255	58,147	0	58,147	85,459	0	881	1,762	0	0	0	0	88,102	146,249
MOXA	243	1,283	0	1,283	2,565	0	0	0	0	0	0	0	2,565	3,848
MOXB	244	9,144	0	9,144	15,676	0	0	0	0	0	0	0	15,676	24,820
Total		1,085,233	1,804,391	2,889,622	1,017,387	419,740	530,414	584,253	60,332	3,342	0	63,674	2,615,463	5,505,088
Eastside Section														
559	58	48,151	7,318,999	7,367,150	67,297	100,946	521,555	622,502	16,824	0	0	16,824	1,329,125	8,696,275
560	57	75,950	387,345	463,295	73,216	109,824	451,497	274,559	0	6,101	0	6,101	915,198	1,378,493
561	55	0	2,717,322	2,717,322	24,220	121,098	791,174	274,489	0	0	0	0	1,210,981	3,928,303
587	59	110,128	15,190	125,318	94,938	11,393	49,368	30,380	0	0	0	0	186,078	311,395
588	60	163,293	18,988	182,280	159,495	224,053	91,140	26,583	0	0	0	0	501,270	683,550
589	56	0	2,946,860	2,946,860	0	510,776	1,379,096	681,035	0	0	0	0	2,570,907	5,517,767
619	69	71,203	118,672	189,875	9,494	37,975	242,091	185,128	0	14,241	0	14,241	488,928	678,803
620	68	15,190	83,545	98,735	72,153	0	53,165	34,178	3,798	0	0	3,798	163,293	262,028
621	61	0	0	0	5,327	21,308	170,466	564,667	5,327	0	0	5,327	767,095	767,095
654	67	0	0	0	0	0	12,658	8,439	0	0	0	0	21,097	21,097
655	65	109,178	318,041	427,219	413,450	1,007,784	426,370	103,362	0	0	0	0	1,950,966	2,378,184
656	62	120,970	1,071,445	1,192,415	76,330	186,054	233,760	262,384	0	4,771	0	4,771	763,298	1,955,712
695	64	1,318,049	699,373	2,017,422	318,674	486,396	402,535	50,317	0	0	0	0	1,257,922	3,275,344
696	63	148,103	56,963	205,065	87,343	98,735	91,140	41,773	0	0	0	0	318,990	524,055
486A	18	15,554	2,301,974	2,317,527	0	418,178	1,999,981	309,088	0	0	0	0	2,727,247	5,044,775
486B	16	0	0	0	0	1,300	0	0	0	0	0	0	1,300	1,300
510C	43	0	0	0	952	1,905	4,762	0	0	0	0	0	7,619	7,619
510D	17	0	6,216,067	6,216,067	0	149,211	1,492,109	845,528	0	0	0	0	2,486,848	8,702,915
511A	45	1,861	139,558	141,419	0	7,443	163,748	55,823	0	0	0	0	227,015	368,433

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Station	Haul no.	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
		Juvenile	Adult	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	≥165 mm			
511B	46	11,393	1,899	13,291	11,393	1,899	3,798	0	0	0	0	0	17,089	30,380
533A	50	26,583	3,798	30,380	24,684	3,798	24,684	91,140	17,089	0	0	17,089	161,394	191,774
533B	51	17,089	0	17,089	15,190	3,798	30,380	140,508	13,291	0	0	13,291	203,166	220,255
534BX	44	3,836	521,723	525,559	0	95,301	690,935	107,214	0	0	0	0	893,450	1,419,009
534DX	52	8,996	0	8,996	5,140	5,140	23,131	19,276	0	0	0	0	52,688	61,684
535A	48	9,793	283,997	293,790	11,081	18,468	164,365	84,953	0	0	0	0	278,867	572,657
535B	47	5,696	8,544	14,241	1,911	11,468	235,103	38,228	0	0	0	0	286,711	300,952
535C	53	0	423,197	423,197	3,536	30,053	197,993	38,892	0	0	0	0	270,473	693,670
535D	54	15,886	460,700	476,586	22,760	59,176	195,735	66,004	0	0	0	0	343,674	820,260
KLA	27	9,266	15,884	25,150	6,619	31,769	60,890	19,856	7,942	0	0	7,942	127,075	152,226
KLB	28	8,613	19,686	28,299	4,954	37,984	178,357	26,423	0	0	0	0	247,719	276,017
KLC	26	58,876	29,438	88,315	43,973	130,227	60,885	16,913	0	1,691	0	1,691	253,688	342,003
KLD	49	0	8,051	8,051	0	1,342	1,342	0	0	0	0	0	2,684	10,734
KLE	33	77,335	1,045	78,380	224,552	45,782	56,683	2,180	0	0	0	0	329,198	407,578
KLF	32	169,520	37,671	207,192	231,582	311,745	525,514	267,210	0	0	0	0	1,336,052	1,543,243
KLG	31	35,925	506,540	542,465	4,618	92,355	457,158	138,533	0	0	0	0	692,664	1,235,129
KLH	30	5,210	1,489	6,699	2,233	744	11,165	37,216	0	0	0	0	51,357	58,056
KLI	29	12,342	0	12,342	3,798	949	949	949	0	0	0	0	6,646	18,988
KLL	42	2,848	0	2,848	5,696	1,899	5,696	37,975	6,646	0	0	6,646	57,912	60,760
UGAA	21	85,631	204,198	289,830	53,548	1,070,951	1,338,688	196,341	17,849	0	0	17,849	2,677,376	2,967,206
UGAC	19	605	2,825	3,431	550	7,153	46,223	28,064	550	0	0	550	82,540	85,971
UGAD	20	5,225	1,045	6,270	0	64,483	348,969	144,139	15,173	0	0	15,173	572,765	579,035
UGB	22	968	3,551	4,519	2,138	26,371	65,571	9,978	1,425	0	713	2,138	106,197	110,716
UGC	23	32,537	37,185	69,722	13,544	176,075	294,587	23,702	3,386	0	0	3,386	511,295	581,018
UGD	24	117,978	243,179	361,157	42,968	211,772	217,910	6,138	0	0	0	0	478,789	839,946
UGE	11	62,571	65,291	127,862	52,915	619,863	445,999	15,119	0	0	0	0	1,133,896	1,261,757
UGF	25	35,107	108,833	143,940	13,649	361,691	641,490	6,824	0	0	0	0	1,023,654	1,167,595
UGG	14	0	1,458	1,458	0	2,916	20,901	8,263	0	0	0	0	32,081	33,540
UGI	12	47,230	201,801	249,032	95,408	586,075	1,172,149	204,445	0	0	0	0	2,058,076	2,307,108
UGJ	15	0	89,098	89,098	0	249,661	2,771,241	724,018	0	0	0	0	3,744,920	3,834,018
UGM	13	0	803,855	803,855	0	95,381	1,689,604	258,891	0	0	0	0	2,043,875	2,847,730
Total		3,064,689	28,496,323	31,561,013	2,301,329	7,850,668	20,554,710	7,129,627	109,300	26,804	713	136,817	37,973,148	69,534,158

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Station	Haul no.	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
		Juvenile	Adult	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	≥165 mm			
Southeast Section														
586	71	26,806	442,297	469,103	59,079	200,868	384,012	242,223	0	11,816	0	11,816	897,997	1,367,100
614	83	80,261	423,779	504,041	70,746	25,726	237,965	572,402	57,883	0	0	57,883	964,723	1,468,764
615	74	88,102	44,051	132,153	49,161	73,741	303,159	688,253	114,709	0	0	114,709	1,229,023	1,361,176
651	66	42,194	270,044	312,239	189,065	350,326	227,990	66,729	0	5,561	0	5,561	839,669	1,151,908
688	84	104,431	28,481	132,913	128,166	4,747	18,988	4,747	0	0	0	0	156,647	289,559
725	268	5,425	0	5,425	0	0	0	0	0	0	0	0	0	5,425
726	85	104,431	18,988	123,419	109,178	9,494	109,178	33,228	0	0	0	0	261,078	384,497
727	86	538,755	453,342	992,097	581,814	49,306	93,682	34,514	4,931	0	0	4,931	764,247	1,756,344
728	76	12,658	50,633	63,292	25,317	12,658	29,536	29,536	8,439	0	0	8,439	105,486	168,778
729	75	104,431	446,206	550,638	288,872	429,405	242,028	132,725	93,688	0	0	93,688	1,186,719	1,737,356
759	79	37,975	284,813	322,788	61,709	4,747	90,191	94,938	0	4,747	0	4,747	256,331	579,119
760	78	47,469	450,953	498,422	71,203	42,722	142,406	218,356	0	4,747	0	4,747	479,434	977,856
761	77	47,469	360,763	408,231	33,228	75,950	75,950	28,481	4,747	0	0	4,747	218,356	626,588
585X	72	75,183	75,183	150,367	48,332	5,370	64,443	171,848	0	0	0	0	289,993	440,360
618A	70	11,867	14,241	26,108	18,988	23,734	2,373	4,747	0	0	0	0	49,842	75,950
THA	80	21,536	6,684	28,220	11,139	11,139	20,051	10,397	743	0	0	743	53,469	81,688
THCX	81	39,532	252,253	291,785	28,658	146,473	191,052	89,158	25,474	3,184	0	28,658	483,999	775,784
THDX	82	13,919	142,982	156,901	6,019	50,155	92,286	146,453	10,031	0	0	10,031	304,944	461,844
THFA	36	39,268	697,013	736,281	0	43,818	467,395	591,547	7,303	0	0	7,303	1,110,063	1,846,344
THG	37	25,264	9,357	34,621	30,036	24,029	64,077	172,207	10,012	0	0	10,012	300,361	334,982
THH	73	49,337	33,175	82,512	29,398	53,284	51,447	123,105	18,374	0	0	18,374	275,607	358,119
THI	35	77,086	312,401	389,487	15,464	355,663	626,277	162,368	7,732	0	0	7,732	1,167,503	1,556,990
THJ	34	19,747	16,587	36,334	23,822	15,536	27,965	78,716	10,357	0	0	10,357	156,396	192,731
THK	38	18,228	13,853	32,081	20,908	6,969	29,619	68,821	7,840	0	0	7,840	134,158	166,239
THL	39	7,276	300,732	308,008	0	112,780	144,500	207,939	63,439	0	0	63,439	528,658	836,665
THM	40	10,343	13,790	24,133	9,901	54,456	346,541	301,985	34,654	0	0	34,654	747,538	771,671
THN	41	1,171	9,367	10,538	0	6,156	123,130	170,329	10,261	0	0	10,261	309,876	320,414
Total		1,650,164	5,171,968	6,822,137	1,910,203	2,189,252	4,206,241	4,445,752	490,617	30,055	0	520,672	13,272,117	20,094,251
Southwest Section														
645B	294	0	0	0	1,899	0	9,494	1,899	0	0	0	0	13,291	13,291
646A	295	1,500	0	1,500	0	37,500	72,001	6,000	0	0	0	0	115,501	117,001

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Station	Haul no.	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
		Juvenile	Adult	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	≥165 mm			
646B	296	1,823	0	1,823	0	911	1,823	0	0	0	0	0	2,734	4,557
646D	289	8,279	8,279	16,557	5,436	133,188	260,940	8,154	0	0	0	0	407,719	424,276
682B	293	0	4,815	4,815	0	19,261	33,707	28,891	0	27,688	0	27,688	109,546	114,362
683A	291	1,230	586,896	588,126	3,819	76,017	79,824	18,107	0	16,018	0	16,018	193,787	781,911
683B	290	8,108	4,633	12,741	0	77,695	166,230	27,103	0	0	0	0	271,028	283,768
683D	271	0	410	410	0	0	410	1,230	0	0	0	0	1,641	2,051
684A	269	0	0	0	1,926	963	8,667	9,630	0	0	0	0	21,187	21,187
684B	272	0	0	0	0	0	0	0	0	0	0	0	0	0
684C	270	2,658	50,127	52,785	0	23,766	118,829	23,766	2,263	2,263	0	4,527	170,887	223,673
ALA	273	0	0	0	152	0	304	456	152	0	0	152	1,063	1,063
ALBX	274	0	0	0	0	0	0	0	0	0	0	0	0	0
ALCA	275	0	81,721	81,721	2,383	59,572	164,419	107,229	4,766	11,914	0	16,680	350,283	432,004
ALD	288	1,649	8,246	9,895	1,649	5,772	32,984	34,633	4,123	0	0	4,123	79,162	89,057
ALF	287	12,537	204,765	217,301	2,110	9,494	79,115	65,401	3,165	3,165	0	6,329	162,449	379,750
ALG	276	8,810	36,122	44,932	0	12,334	21,144	7,048	0	0	0	0	40,527	85,459
ALH	286	140,555	346,702	487,257	0	78,086	190,530	84,333	3,123	49,975	0	53,099	406,048	893,305
ALI	285	112,148	59,507	171,655	13,793	365,513	337,927	165,515	13,793	96,551	0	110,344	993,092	1,164,746
ALJ	277	4,679	668	5,347	668	6,684	1,337	1,337	0	0	0	0	10,025	15,372
ALK	279	1,101	0	1,101	0	551	551	551	0	0	0	0	1,652	2,753
ALL	284	28,226	95,724	123,950	0	250,078	292,465	89,011	4,239	0	0	4,239	635,793	759,743
ALM	278	2,142	0	2,142	0	2,142	1,428	714	0	0	0	0	4,284	6,425
ALO	283	95,203	99,062	194,265	21,267	146,509	80,344	73,255	14,178	0	2,363	16,541	337,917	532,182
ALP	282	47,311	18,761	66,072	34,113	142,471	94,312	28,093	2,007	0	0	2,007	300,994	367,066
ALQ	281	49,124	54,228	103,353	9,230	138,450	122,297	78,455	6,922	0	0	6,922	355,355	458,708
ALR	280	54,781	100,431	155,211	7,761	318,183	574,282	232,817	31,042	0	0	31,042	1,164,086	1,319,297
Total		581,864	1,761,097	2,342,959	106,206	1,905,140	2,745,364	1,093,628	89,773	207,574	2,363	299,711	6,150,051	8,493,007
Westside Section														
KUD	324	0	0	0	0	0	0	0	0	0	0	0	0	0
KUF	325	0	105,947	105,947	0	2,999	13,993	2,499	0	0	0	0	19,490	125,438
KUG	326	0	0	0	0	0	684	0	0	0	0	0	684	684
KUI	323	460	68,565	69,025	0	2,272	2,272	0	0	0	0	0	4,545	73,570
KUJ	322	0	118,801	118,801	752	1,504	34,588	28,572	1,504	0	0	1,504	66,920	185,721

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Station	Haul no.	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
		Juvenile	Adult	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	≥165 mm			
KUK	321	13,701	53,560	67,261	9,965	4,360	20,552	7,473	0	0	0	0	42,350	109,611
KULA	319	3,295	4,015	7,310	1,235	1,853	3,500	4,118	1,132	0	0	1,132	11,840	19,150
KULB	318	2,667	0	2,667	2,133	0	0	0	0	0	0	0	2,133	4,800
KUM	320	2,789	0	2,789	1,394	0	0	0	0	0	0	0	1,394	4,183
KUNX	315	4,709	64,983	69,692	1,413	6,122	16,481	16,952	1,884	0	0	1,884	42,851	112,543
KUP	307	0	21,807	21,807	589	2,357	11,787	21,217	0	589	0	589	36,541	58,348
KUQ	308	6,380	10,025	16,405	2,734	3,646	15,494	10,937	0	0	0	0	32,810	49,216
KUS	306	0	4,705	4,705	0	1,344	2,689	5,377	0	2,016	0	2,016	11,427	16,132
KUT	314	0	14,151	14,151	0	416	3,330	12,486	832	3,330	0	4,162	20,394	34,545
KUU	311	1,209	65,897	67,106	605	1,209	9,068	15,719	1,814	3,627	0	5,441	32,042	99,148
KUV	313	228	0	228	228	0	0	0	0	0	0	0	228	456
KUW	312	382	0	382	0	0	0	0	0	0	0	0	0	382
KUXA	310	6,015	3,008	9,023	4,958	5,454	10,412	28,261	25,286	0	0	25,286	74,370	83,393
KUXB	309	6,628	201	6,829	6,628	201	1,004	1,406	402	0	0	402	9,641	16,469
KUYA	316	603	603	1,205	0	0	301	0	0	0	0	0	301	1,506
KUYB	317	0	0	0	0	0	0	0	0	0	0	0	0	0
MAA	328	1,399	3,731	5,130	4,663	1,399	1,399	1,399	466	0	0	466	9,327	14,456
PMA	357	8,020	0	8,020	5,347	0	668	668	1,337	0	0	1,337	8,020	16,041
RAA	327	31,389	27,858	59,247	9,261	12,629	47,989	48,831	6,735	1,684	0	8,419	127,128	186,375
UYBX	297	71,317	0	71,317	92,237	0	0	0	0	0	0	0	92,237	163,554
UYEX	298	18,192	233,187	251,379	19,846	18,523	47,630	30,430	0	1,323	0	1,323	117,751	369,131
UYFX	300	9,740	379,862	389,602	11,181	35,406	102,491	122,989	7,454	3,727	0	11,181	283,248	672,849
UYHX	299	11,848	0	11,848	13,671	1,458	729	0	0	0	0	0	15,858	27,707
UYKX	302	6,137	614	6,750	5,523	0	3,682	614	0	0	0	0	9,819	16,569
UYMX	303	3,458	8,068	11,525	3,458	6,915	6,915	16,136	8,068	0	0	8,068	41,491	53,017
UYO	301	186	186	372	186	0	0	0	0	0	0	0	186	558
UYQX	304	1,276	1,701	2,977	425	1,276	1,701	4,253	2,977	0	0	2,977	10,633	13,610
UYT	305	0	0	0	0	0	180	0	0	0	0	0	180	180
Total		212,028	1,191,475	1,403,500	198,432	111,343	359,539	380,337	59,891	16,296	0	76,187	1,125,839	2,529,342
North Mainland Section														
2	353	23,687	0	23,687	14,212	0	0	0	0	0	0	0	14,212	37,899
3	352	37,975	0	37,975	52,216	0	0	0	0	0	0	0	52,216	90,191

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Station	Haul no.	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
		Juvenile	Adult	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	≥165 mm			
31	351	0	0	0	0	0	0	0	0	0	0	0	0	0
60	349	0	0	0	4,747	0	0	0	0	0	0	0	4,747	4,747
61	350	4,747	0	4,747	14,241	0	0	0	0	0	0	0	14,241	18,988
90	347	0	0	0	8,886	0	4,443	0	0	0	0	0	13,329	13,329
91	348	4,747	4,747	9,494	0	0	0	0	0	0	0	0	0	9,494
117	345	5,411	0	5,411	16,234	0	0	0	0	0	0	0	16,234	21,646
118	346	23,734	90,191	113,925	9,494	66,456	56,963	33,228	0	23,734	4,747	28,481	194,622	308,547
119	354	4,747	4,747	9,494	14,241	23,734	303,800	113,925	4,747	0	0	4,747	460,447	469,941
120	355	18,988	0	18,988	28,481	0	0	0	0	0	0	0	28,481	47,469
121	356	37,975	4,747	42,722	28,481	0	0	0	0	0	0	0	28,481	71,203
144	344	0	0	0	3,361	0	0	0	0	0	0	0	3,361	3,361
145	343	0	0	0	15,190	0	0	0	0	0	0	0	15,190	15,190
146	330	18,988	4,747	23,734	23,734	4,747	14,241	0	0	4,747	0	4,747	47,469	71,203
147	329	66,456	4,747	71,203	80,697	0	4,747	4,747	0	0	0	0	90,191	161,394
173	342	14,241	4,747	18,988	9,494	4,747	4,747	0	0	0	0	0	18,988	37,975
174	331	9,494	18,988	28,481	14,241	0	4,747	33,228	0	14,241	0	14,241	66,456	94,938
198	340	37,975	14,241	52,216	47,468	0	2,373	7,120	0	0	0	0	56,962	109,177
199	333	4,747	9,494	14,241	4,747	18,988	14,241	18,988	0	0	0	0	56,963	71,203
200	332	9,494	42,722	52,216	23,734	42,722	33,228	14,241	0	4,747	0	4,747	118,672	170,888
223	335	7,120	26,108	33,228	16,614	16,614	21,361	16,614	0	0	0	0	71,203	104,431
224	334	9,494	9,494	18,988	9,494	0	4,747	0	0	0	0	0	14,241	33,228
171A	337	2,529	0	2,529	5,058	1,012	1,012	1,517	2,023	0	0	2,023	10,622	13,152
171C	338	34,890	339	35,229	12,985	40,084	19,760	6,775	2,823	0	2,258	5,081	84,684	119,913
171D	339	0	21,536	21,536	0	0	0	1,267	1,267	0	0	1,267	2,534	24,070
Total		377,439	261,595	639,032	458,050	219,104	490,410	251,650	10,860	47,469	7,005	65,334	1,484,546	2,123,577
Kodiak District Total		6,971,417	38,686,849	45,658,263	5,991,607	12,695,247	28,886,678	13,885,247	820,773	331,540	10,081	1,162,395	62,621,164	108,279,423

Note: CW = carapace width.

Appendix D2.—Tanner crab abundance estimates in the Chignik District by station and sampling locale, 2020.

Station	Haul no.	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
		Juvenile	Adult	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	≥165 mm			
Ivanof Bay														
4007	128	103,927	8,248	112,175	52,831	81,134	139,626	15,095	0	0	0	0	288,686	400,861
4008	129	109,033	181,722	290,755	36,359	254,511	563,560	327,228	0	0	0	0	1,181,657	1,472,412
4915	122	33,904	0	33,904	58,767	0	2,260	0	0	0	0	0	61,027	94,931
4000X	131	57,717	30,625	88,342	7,140	55,331	55,331	16,064	0	0	0	0	133,866	222,208
4000Y	130	75,464	699	76,163	85,246	8,385	11,180	7,686	699	0	0	699	113,196	189,359
Total		380,045	221,294	601,339	240,343	399,361	771,957	366,073	699	0	0	699	1,778,432	2,379,771
Mitrofanina Island														
4024	121	114,768	20,403	135,171	95,691	423,775	471,620	34,175	0	0	0	0	1,025,261	1,160,432
4025	124	0	346,130	346,130	4,840	26,622	225,074	123,428	0	4,840	0	4,840	384,804	730,934
4026	127	7,263	4,842	12,105	19,367	4,842	16,946	2,421	0	0	0	0	43,576	55,681
4035	119	34,123	448,846	482,969	53,217	594,259	594,259	106,434	8,870	0	0	8,870	1,357,038	1,840,007
4036	120	8,617	143,621	152,239	29,295	351,540	549,281	175,770	0	0	0	0	1,105,885	1,258,124
4037	123	0	421,544	421,544	4,847	87,242	213,258	65,431	0	2,423	0	2,423	373,202	794,745
4048	117	33,312	64,011	97,322	23,501	34,692	58,193	42,526	8,953	0	0	8,953	167,865	265,187
4049	118	25,322	91,158	116,480	33,477	318,034	744,870	192,494	0	0	0	0	1,288,876	1,405,356
4063	116	63,836	20,241	84,077	74,351	125,824	451,824	188,737	17,158	0	0	17,158	857,893	941,970
4064	115	31,919	255,354	287,273	19,950	43,889	37,904	17,955	1,995	0	0	1,995	121,692	408,965
4065	114	3,544	0	3,544	3,544	3,544	3,544	0	0	0	0	0	10,631	14,175
4038A	126	75,048	4,842	79,890	89,574	9,684	12,105	2,421	0	0	0	0	113,783	193,673
4038B	125	41,155	12,105	53,260	24,209	9,684	4,842	0	0	0	0	0	38,735	91,994
4050B	112	7,608	173,063	180,671	5,390	92,232	348,421	164,514	2,770	0	0	2,770	613,327	793,998
4066A	111	1,929	125,393	127,323	11,575	11,575	52,087	30,866	0	0	0	0	106,102	233,425
4066B	110	0	306,732	306,732	1,929	19,291	69,449	98,386	0	3,858	0	3,858	192,913	499,645
Total		448,444	2,438,285	2,886,730	494,757	2,156,729	3,853,677	1,245,558	39,746	11,121	0	50,867	7,801,583	10,688,311

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Station	Haul no.	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
		Juvenile	Adult	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	≥165 mm			
Chignik Bay														
4256	95	0	0	0	4,975	0	0	1,658	0	0	0	0	6,633	6,633
4262	103	37,975	52,743	90,718	32,701	29,536	67,511	18,987	0	0	0	0	148,735	239,453
4264	107	41,924	34,937	76,861	23,478	41,365	90,557	12,298	0	0	0	0	167,698	244,559
4265	109	4,886	0	4,886	5,863	326	0	0	0	0	0	0	6,189	11,075
4266	96	7,820	30,410	38,230	14,771	0	6,951	4,344	869	0	0	869	26,935	65,165
4267	102	4,747	112,976	117,723	9,494	15,190	68,355	33,228	1,899	0	0	1,899	128,166	245,888
4270	105	33,351	466,916	500,267	0	64,156	179,101	149,696	8,019	0	0	8,019	400,972	901,239
4271	106	5,304	33,152	38,457	6,019	6,019	46,644	50,406	4,514	0	0	4,514	113,601	152,058
4272	97	29,602	3,524	33,126	50,042	705	4,229	0	0	0	0	0	54,976	88,102
4274	101	4,219	36,920	41,140	3,165	6,329	11,603	12,658	0	0	0	0	33,756	74,895
4277	98	8,544	83,545	92,089	2,848	7,595	9,494	6,646	0	1,899	0	1,899	28,481	120,571
4278	100	5,274	92,828	98,102	4,219	3,165	9,494	28,481	0	8,439	0	8,439	53,798	151,900
4282	99	5,696	101,583	107,279	949	949	15,190	24,684	0	949	0	949	42,722	150,001
4286	93	106,805	0	106,805	151,900	2,373	1,187	1,187	0	0	0	0	156,647	263,452
4287	94	74,070	6,304	80,374	99,286	4,728	11,032	4,728	1,576	0	0	1,576	121,349	201,723
4312	104	8,824	262,955	271,779	1,519	6,076	57,722	162,532	4,557	1,519	0	6,076	233,924	505,704
4964	108	79,110	0	79,110	105,467	1,425	0	0	0	0	0	0	106,892	186,002
Total		458,151	1,318,793	1,776,946	516,696	189,937	579,070	511,533	21,434	12,806	0	34,240	1,831,474	3,608,420
Kujulik Bay														
4290	88	3,139	0	3,139	3,139	1,570	0	0	0	0	0	0	4,709	7,848
4296	87	76,011	6,015	82,026	62,313	66,611	24,710	7,521	1,074	0	0	1,074	162,229	244,255
4298	89	14,306	0	14,306	21,038	0	0	0	0	0	0	0	21,038	35,344
4301	90	4,739	0	4,739	8,531	0	0	0	0	0	0	0	8,531	13,270
4302	92	11,292	807	12,099	6,453	0	0	0	0	0	0	0	6,453	18,552
4308	91	32,659	0	32,659	37,216	0	0	0	0	0	0	0	37,216	69,874
Total		142,146	6,822	148,968	138,690	68,181	24,710	7,521	1,074	0	0	1,074	240,176	389,143
Chignik District Total		1,428,786	3,985,194	5,413,983	1,390,486	2,814,208	5,229,414	2,130,685	62,953	23,927	0	86,880	11,651,665	17,065,645

Note: CW = carapace width.

Appendix D3.—Tanner crab abundance estimates in the South Peninsula District by station, sampling locale, and section, 2020.

Station	Haul no.	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
		Juvenile	Adult	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	≥165 mm			
Sanak Island														
113	190	222,154	4,272	226,426	187,976	34,178	8,544	0	0	0	0	0	230,698	457,124
125	191	81,172	0	81,172	51,266	12,817	25,633	12,817	0	0	0	0	102,533	183,704
126	196	30,145	0	30,145	21,532	25,838	21,532	4,306	0	0	0	0	73,208	103,353
137	192	94,938	85,444	180,381	204,116	123,419	132,913	123,419	0	0	0	0	583,866	764,247
138A	193	19,253	3,851	23,104	7,701	7,701	3,851	3,851	0	0	0	0	23,104	46,208
138B	195	11,216	11,216	22,432	30,589	30,589	37,726	17,334	0	0	0	0	116,238	138,670
138C	194	22,063	15,760	37,823	15,760	56,735	69,342	44,127	0	0	0	0	185,964	223,787
Total		480,941	120,543	601,483	518,940	291,277	299,541	205,854	0	0	0	0	1,315,611	1,917,093
Morzhovoi Bay														
87AX	199	224,052	2,576,604	2,800,656	9,893	326,485	613,396	534,248	0	19,787	0	19,787	1,503,810	4,304,466
87D	200	15,699	489,824	505,523	7,899	18,760	66,152	48,380	0	987	0	987	142,178	647,702
MOB	204	187,488	1,172	188,660	201,306	5,631	2,815	0	0	0	0	0	209,752	398,412
MOD	205	26,772	5,354	32,127	0	25,547	169,416	6,723	0	0	0	0	201,685	233,812
MOF	206	387,349	7,825	395,174	107,236	500,436	450,392	14,298	0	0	0	0	1,072,362	1,467,536
MOG	207	149,474	27,070	176,544	133,839	18,784	211,324	4,696	0	0	0	0	368,643	545,187
MOH	208	173,450	29,523	202,973	14,247	142,470	911,806	21,370	0	0	0	0	1,089,893	1,292,866
MOI	209	26,264	750	27,014	27,014	2,251	51,777	10,505	0	0	0	0	91,547	118,561
MOK	202	58,945	148,018	206,964	22,313	22,313	360,203	76,503	0	0	0	0	481,333	688,297
MOL	203	59,247	180,945	240,192	48,274	28,525	199,677	54,856	0	0	0	0	331,332	571,524
MOOX	201	901,669	2,988,387	3,890,056	132,682	477,654	437,849	371,509	26,536	13,268	0	39,804	1,459,498	5,349,553
MORX	197	369,156	32,100	401,256	235,861	21,987	39,976	1,999	0	0	0	0	299,823	701,079
MOSX	198	336,333	2,184	338,517	285,564	3,782	1,891	1,891	0	0	0	0	293,129	631,646
Total		2,915,898	6,489,756	9,405,656	1,226,128	1,594,625	3,516,674	1,146,978	26,536	34,042	0	60,578	7,544,985	16,950,641
Cold Bay/Belkofski Bay														
156A	219	71,737	130,431	202,169	43,909	61,473	1,132,853	87,818	0	0	0	0	1,326,053	1,528,222
157A	218	33,453	129,497	162,951	19,159	44,214	128,221	30,950	0	0	0	0	222,544	385,495
BEBX	221	35,408	0	35,408	59,332	0	1,914	0	0	0	0	0	61,246	96,654
BECX	222	56,811	8,522	65,332	39,767	19,884	36,927	2,841	0	0	0	0	99,419	164,751
BEE	223	3,260,951	530,853	3,791,804	1,082,288	2,791,163	398,738	0	0	0	0	0	4,272,188	8,063,991

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Station	Haul no.	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
		Juvenile	Adult	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	≥165 mm			
BEF	220	29,487	21,154	50,640	24,585	42,465	216,797	51,405	0	0	0	0	335,252	385,893
BEG	217	46,961	0	46,961	42,964	1,998	0	999	0	0	0	0	45,962	92,922
COB	214	17,123	7,903	25,027	9,220	18,441	22,392	1,317	0	0	0	0	51,370	76,397
COC	215	21,013	1,051	22,063	18,912	2,101	3,152	0	0	0	0	0	24,165	46,228
COE	216	348,979	90,911	439,890	85,890	548,744	76,347	4,772	0	0	0	0	715,753	1,155,643
COF	213	544,918	280,715	825,633	8,990	521,417	584,347	233,739	0	0	0	0	1,348,492	2,174,126
COGA	212	70,972	133,755	204,727	2,969	53,435	103,902	60,857	0	1,484	0	1,484	222,647	427,374
COGB	211	2,818	6,843	9,661	403	4,025	14,290	3,623	0	0	0	0	22,341	32,002
COH	210	268	0	268	0	268	535	535	0	0	0	0	1,339	1,606
COM	189	13,671	2,734	16,405	1,367	21,874	127,140	4,101	0	0	0	0	154,482	170,888
COOX	188	78,307	3,732,621	3,810,928	0	74,068	2,493,618	1,160,396	0	0	0	0	3,728,082	7,539,010
Total		4,632,877	5,076,990	9,709,867	1,439,755	4,205,570	5,341,173	1,643,353	0	1,484	0	1,484	12,631,335	22,341,202
Pavlof Bay/Volcano Bay														
228	165	9,443	32,107	41,550	2,518	20,775	51,622	8,184	0	0	0	0	83,099	124,649
245	164	21,727	6,208	27,934	15,519	6,208	34,142	12,415	0	0	0	0	68,284	96,219
PAEX	172	99,525	0	99,525	138,229	19,352	0	0	0	0	0	0	157,581	257,106
PAH	173	56,598	1,048	57,646	93,913	35,504	35,504	8,017	0	0	0	0	172,938	230,584
PAIX	171	292,685	8,484	301,168	233,299	78,473	10,605	2,121	2,121	0	0	2,121	326,619	627,788
PALX	170	450,969	35,688	486,657	129,439	435,386	270,645	47,069	0	0	0	0	882,539	1,369,196
PAOB	174	33,827	68,521	102,347	6,905	241,667	231,310	44,881	0	3,452	0	3,452	528,216	630,563
PAP	169	752,232	97,271	849,503	530,391	742,548	115,722	48,217	9,643	0	0	9,643	1,446,522	2,296,025
PARA	175	30,249	134,441	164,690	0	368,815	721,595	80,177	16,035	16,035	0	32,071	1,202,659	1,367,349
PARB	168	68,539	866,079	934,618	0	170,933	363,922	253,643	16,542	22,056	0	38,598	827,096	1,761,713
PAU	176	17,101	349,357	366,459	0	87,902	243,857	79,395	14,178	2,836	0	17,013	428,168	794,627
PAV	167	207,763	16,442	224,204	182,699	10,931	24,985	15,615	0	0	0	0	234,230	458,434
VOA	180	36,139	93,765	129,903	18,157	186,753	119,315	67,439	0	0	0	0	391,664	521,567
VOBX	177	38,552	94,453	133,005	19,276	5,783	55,901	15,421	0	1,928	0	1,928	98,308	231,313
VOD	166	35,683	293,861	329,544	10,324	103,242	190,998	87,756	2,581	0	0	2,581	394,901	724,445
VOFB	179	12,386	33,029	45,415	3,864	23,186	83,083	32,847	1,932	966	0	2,898	145,879	191,294
VOG	183	8,818	102,874	111,692	7,031	49,218	78,515	42,187	1,172	1,172	0	2,344	179,295	290,987
VOH	182	19,261	6,741	26,002	17,335	6,741	27,928	5,778	1,926	0	0	1,926	59,709	85,711
VOI	181	29,799	151,378	181,177	11,038	46,912	88,305	57,950	1,380	0	0	1,380	205,584	386,762

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Station	Haul no.	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
		Juvenile	Adult	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	≥165 mm			
VOLX	224	51,631	4,694	56,325	12,235	108,075	154,976	30,587	0	0	0	0	305,873	362,198
VOM	178	23,147	35,329	58,475	6,067	70,780	182,005	42,468	2,022	0	0	2,022	303,341	361,817
VON	184	5,507	163,011	168,518	0	72,397	132,019	110,725	4,259	0	0	4,259	319,400	487,918
VOPX	185	507,831	340,299	848,131	93,252	870,353	559,513	41,445	0	0	0	0	1,564,564	2,412,695
VOQ	186	40,879	19,030	59,909	25,947	141,527	155,680	28,305	0	2,359	0	2,359	353,818	413,727
VOR	187	74,856	14,971	89,828	29,936	83,507	91,385	39,390	0	0	0	0	244,219	334,046
Total		2,925,147	2,969,081	5,894,225	1,587,374	3,986,968	4,023,532	1,202,032	73,791	50,804	0	124,595	10,924,506	16,818,733
Beaver Bay/Balboa Bay/ Unga Strait														
278	160	6,328	6,328	12,656	3,164	9,492	0	0	0	0	0	0	12,656	25,313
348	137	138,732	597,983	736,715	250,635	117,723	174,685	18,988	3,798	0	0	3,798	565,828	1,302,542
311A	159	28,773	8,906	37,679	41,789	13,016	23,292	5,481	0	0	0	0	83,578	121,257
311B	139	8,598	57,604	66,201	10,317	28,372	27,512	12,896	0	0	0	0	79,097	145,298
311C	158	20,033	15,024	35,057	12,878	7,870	6,439	5,724	0	0	0	0	32,911	67,968
329B	138	0	253,167	253,167	0	31,585	187,650	59,453	0	9,290	0	9,290	287,977	541,144
329C	157	19,937	14,241	34,178	14,241	4,747	9,494	949	0	0	0	0	29,431	63,608
368A	136	48,646	5,838	54,483	66,159	17,513	5,838	3,892	0	0	0	0	93,400	147,884
BAA	142	22,152	0	22,152	24,810	4,430	886	0	0	0	0	0	30,127	52,279
BAC	143	123,503	5,041	128,544	123,880	34,288	7,743	0	0	0	0	0	165,911	294,455
BAD	141	22,056	1,103	23,159	30,143	2,941	2,941	0	0	0	0	0	36,025	59,183
BAE	144	6,199	35,504	41,703	5,072	8,453	21,978	24,796	0	7,890	0	7,890	68,189	109,892
BAF	140	1,671	0	1,671	418	0	0	0	0	0	0	0	418	2,089
BVA	163	0	0	0	853	0	0	0	0	0	0	0	853	853
BVB	162	0	0	0	0	0	0	0	0	0	0	0	0	0
BVC	161	2,506	0	2,506	0	0	835	835	0	0	0	0	1,671	4,177
Total		449,134	1,000,739	1,449,871	584,359	280,430	469,293	133,014	3,798	17,180	0	20,978	1,488,072	2,937,942
Stepovak Bay														
STA	133	42,995	1,162	44,157	46,481	5,810	12,782	11,620	0	0	0	0	76,694	120,852
STB	134	38,640	3,133	41,773	39,684	14,620	37,595	6,266	0	0	0	0	98,165	139,938
STD	132	30,997	4,960	35,957	27,277	4,960	35,957	35,957	0	0	0	0	104,150	140,107

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Station	Haul no.	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit males (CW)		Legal males	Total males	Total crab
		Juvenile	Adult	Total	<70 mm	70–91 mm	92–114 mm	>114 mm		<165 mm	≥165 mm			
STE	135	18,923	3,441	22,363	12,042	6,881	30,965	20,643	0	0	0	0	70,531	92,894
Total		131,555	12,696	144,250	125,484	32,271	117,299	74,486	0	0	0	0	349,540	493,791
West Nagai Strait														
301	146	0	0	0	0	0	0	0	0	0	0	0	0	0
318	147	0	0	0	0	4,747	0	0	0	0	0	0	4,747	4,747
334	153	64,232	1,140,118	1,204,350	32,550	113,925	233,275	141,050	0	5,425	0	5,425	526,225	1,730,575
335	149	42,722	47,469	90,191	52,216	47,469	9,494	0	0	0	0	0	109,178	199,369
337	148	0	0	0	0	0	0	0	0	0	0	0	0	0
353	151	5,447	10,893	16,340	0	0	0	0	0	0	0	0	0	16,340
354	152	21,700	48,825	70,525	16,275	10,850	21,700	5,425	0	0	0	0	54,250	124,775
371	156	8,419	0	8,419	8,419	0	4,210	0	0	0	0	0	12,629	21,048
393	155	16,268	125,500	141,768	11,620	44,157	185,926	30,213	0	0	0	0	271,916	413,684
332B	145	111,552	28,481	140,033	106,805	7,120	21,361	7,120	0	0	0	0	142,406	282,439
373A	150	3,546	0	3,546	14,183	0	0	0	0	0	0	0	14,183	17,729
373B	154	42,868	236,706	279,574	12,105	38,044	77,816	108,943	8,646	13,834	0	22,480	259,388	538,961
Total		316,754	1,637,992	1,954,746	254,173	266,312	553,782	292,751	8,646	19,259	0	27,905	1,394,922	3,349,667
Western Section ^a		8,029,716	11,687,289	19,717,006	3,184,823	6,091,472	9,157,388	2,996,185	26,536	35,526	0	62,062	21,491,931	41,208,936
Eastern Section ^b		3,822,590	5,620,508	9,443,092	2,551,390	4,565,981	5,163,906	1,702,283	86,235	87,243	0	173,478	14,157,040	23,600,133
South Peninsula District Total		11,852,306	17,307,797	29,160,098	5,736,213	10,657,453	14,321,294	4,698,468	112,771	122,769	0	235,540	35,648,971	64,809,069

Note: CW = carapace width.

^a Western Section of the South Peninsula District includes Sanak Island, Morzhovoi Bay, and Cold Bay/Belkofski Bay.

^b Eastern Section of the South Peninsula District includes Pavlof Bay/Volcano Bay, Beaver Bay/Balboa Bay/Unga Strait, West Nagai Strait, and Stepovak Bay.