

Fishery Management Report No. 20-16

Large-Mesh Bottom Trawl Survey of Crab and Groundfish: Kodiak, Chignik, South Peninsula, and Eastern Aleutian Management Districts, 2019

by

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and

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June 2020

Alaska Department of Fish and Game

Divisions of Sport Fish and Commercial Fisheries



Symbols and Abbreviations

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Weights and measures (metric)		General	Mathematics, statistics	
centimeter	cm	Alaska Administrative Code	<i>all standard mathematical signs, symbols and abbreviations</i>	
deciliter	dL	all commonly accepted abbreviations	alternate hypothesis	H _A
gram	g	e.g., Mr., Mrs., AM, PM, etc.	base of natural logarithm	e
hectare	ha		catch per unit effort	CPUE
kilogram	kg		coefficient of variation	CV
kilometer	km	all commonly accepted professional titles	common test statistics	(F, t, χ^2 , etc.)
liter	L	e.g., Dr., Ph.D., R.N., etc.	confidence interval	CI
meter	m		correlation coefficient	R
milliliter	mL	at	(multiple)	
millimeter	mm	compass directions:	correlation coefficient	
		east	east	
		north	N	
		south	S	(simple)
		west	W	covariance
		copyright	©	degree (angular)
		corporate suffixes:		degrees of freedom
		Company	Co.	expected value
		Corporation	Corp.	greater than
		Incorporated	Inc.	greater than or equal to
		Limited	Ltd.	harvest per unit effort
		District of Columbia	D.C.	less than
		et alii (and others)	et al.	less than or equal to
		et cetera (and so forth)	etc.	logarithm (natural)
		exempli gratia		logarithm (base 10)
		(for example)	e.g.	logarithm (specify base)
		Federal Information Code	FIC	minute (angular)
		id est (that is)	i.e.	not significant
		latitude or longitude	lat or long	null hypothesis
		monetary symbols		percent
		(U.S.)	\$, ¢	probability
		months (tables and figures): first three letters		probability of a type I error
			Jan,...,Dec	(rejection of the null hypothesis when true)
		registered trademark	®	probability of a type II error
		trademark	™	(acceptance of the null hypothesis when false)
		United States		second (angular)
		(adjective)	U.S.	standard deviation
		United States of America (noun)	USA	standard error
		U.S.C.	United States Code	variance
		U.S. state	use two-letter abbreviations (e.g., AK, WA)	population sample
				Var var
Time and temperature				
day	d			
degrees Celsius	°C			
degrees Fahrenheit	°F			
degrees kelvin	K			
hour	h			
minute	min			
second	s			
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. 20-16

**LARGE-MESH BOTTOM TRAWL SURVEY OF CRAB AND
GROUNDFISH: KODIAK, CHIGNIK, SOUTH PENINSULA, AND
EASTERN ALEUTIAN MANAGEMENT DISTRICTS, 2019**

by

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ABSTRACT

This report summarizes results from the large-mesh bottom trawl survey that took place June through September, 2019 to assess crab and groundfish resources in the Kodiak, Chignik, South Peninsula, and Eastern Aleutian Tanner crab *Chionoecetes bairdi* management districts. A total of 367 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 abundance was sufficient to support a commercial fishery in 2 sections of the Kodiak District. 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.

Key words: 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 2019 around Kodiak Island, along the Alaska Peninsula from Cape Douglas to False Pass, and in the Eastern Aleutian Islands from Akutan Island to Unalaska Island (Figure 1). The survey area corresponds to the Kodiak, Chignik, South Peninsula, and Eastern Aleutian districts of Registration Area J (Westward) for Tanner crab *Chionoecetes bairdi* (5 AAC 35.505¹(a)(b)(c) and (f)); the Kodiak and Alaska Peninsula king crab registration areas, and the Dutch Harbor District of the Aleutian Islands king crab Registration Area (5 AAC 34.400², 34.500³, and 34.604⁴(1)); the Kodiak, Alaska Peninsula, and Dutch Harbor scallop registration areas (5 AAC 38.076⁵(b)(5)(6)and(7)); and the Kodiak, Chignik, and South Alaska Peninsula groundfish registration areas, and Aleutian Islands District of the Bering Sea–Aleutian Islands (BSAI) groundfish Registration Area (5 AAC 28.400⁶, 28.500⁷, 28.550⁸, and 28.605⁹(a)) (Figure 2). Tanner crab management units are districts; king crab, weathervane scallops, 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; Figure 3); 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

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: *Description of red king crab [Registration Area O (Aleutian Islands)] districts*

⁵ Alaska Administrative Code: *Alaska Scallop Fishery Management Plan*

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

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

⁸ Alaska Administrative Code: *Description of South Alaska Peninsula Area [for groundfish]*

⁹ Alaska Administrative Code: *Description of Bering Sea–Aleutian Islands Area districts [for groundfish]*

survey development was focused on Tanner crab assessment and expanded to additional areas of 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; Spalinger 2015b). 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. 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 35.507¹⁰, 35.509¹¹; 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 2019 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 *Patinopecten caurinus*; 2) determine sex composition of skate species (*Raja* spp. and *Bathyraja* spp.); and 3) measure chela (claw) height of male Tanner crab in Northeast, Eastside, and Westside sections of the Kodiak District (Spalinger 2015b). Collections of chela height of male Tanner crab in the Eastside, Westside, and Northeast sections of the Kodiak District are ongoing ADF&G research projects; results are not presented here.

Additionally, the following special projects were conducted in 2019 (Knutson 2019):

1. A paired tow study was continued using ADF&G research vessel (R/V) *Resolution* and R/V *Solstice* to quantify species-specific differences in fishing power between the two vessels (Spalinger 2019).
2. Small-mesh survey hauls were conducted in Pavlof and Chiniak Bays upon completion of large-mesh bottom trawl survey hauls. Data were incorporated into the small-mesh trawl survey time-series. Information on the small-mesh survey can be obtained by contacting the ADF&G shellfish management office in Kodiak.
3. Tanner crab were examined for signs of black eye pathology as part of research efforts to establish a range across the state in preparation for further research to examine the cause of the black eye symptoms.

¹⁰ Alaska Administrative Code: *Kodiak, Chignik, and South Peninsula Districts C. bairdi Tanner crab harvest strategies*

¹¹ Alaska Administrative Code: *Eastern Aleutian District Tanner crab harvest strategy*

METHODS

SURVEY DESIGN

The 2019 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 and bathymetry. Offshore stations average approximately 74.4 km² each, and inshore stations average approximately 21.7 km² each (Appendix B2; Spalinger 2015b). In 2019, one successful bottom trawl haul was conducted in each of 367 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 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 (Spalinger 2015b). Astoria “V” type doors weighing 340 kg and measuring 1.5 m x 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 (Spalinger 2015b). 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 one-minute intervals for each haul. Only temperatures recorded when the footrope was on bottom were used to determine average water temperature during the haul. In 2019, because of equipment failure, temperatures were only available from 166 stations.

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 International¹²; ±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

¹² Product names used in this publication are intended for scientific completeness and do not indicate product endorsement.

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 *Gadus chalcogrammus*, Pacific halibut *Hippoglossus stenolepis*, all rockfish *Sebastodes* spp. and *Sebastolobus* spp., lingcod *Ophiodon elongatus*, Atka mackerel *Pleurogrammus monopterygius*, giant Pacific octopus *Octopus 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. parmisera*, 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 was 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 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 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 tenth anterolateral spine (Spalinger 2015b).

Tanner, king, and Dungeness crabs were subsampled when each species/sex exceeded 200 individuals per haul. Chela height measurements (the greatest height, excluding spines, on the right chela) from up to 50 Tanner crab per haul were taken from male crab >60 mm CW in the Northeast, Eastside, and Westside sections of the Kodiak District. 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 (Spalinger 2015b). 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 (Spalinger 2015b).

Length measurements were taken from selected finfish species. Target sample size was 30 to 50 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 mid-point 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 (Spalinger 2015b).

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:

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

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:

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

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

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

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:

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

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, Southeast, and Southwest sections of the Kodiak Tanner crab District, 149 hauls were successfully completed between June 3 and July 11 (haul numbers 1–151). Two hauls were unsuccessful. Haul locations are shown in Appendices C1–C7. In the Westside and North Mainland sections, 61 hauls were successfully completed between September 3 and September 12 (haul numbers 310–370). The total area of the surveyed sections used to determine abundance estimates for the district in 2019 was 8,231.6 km² (Appendix B2).

Throughout the Kodiak District, 156 species were identified and weighed. A total of 44,428 size measurements were collected from 4 invertebrate species and 31,281 length measurements were collected from 39 fish species.

Catch Composition

The CPUE of all species from Kodiak sample hauls was 554 kg per km towed. Arrowtooth flounder *Atheresthes stomias* was the dominant species caught by weight (22.0%), followed by flathead sole *Hippoglossoides elassodon* (17.2%), Tanner crab (15.7%), walleye pollock (6.6%), and Pacific halibut (4.2%; Table 3). Arrowtooth flounder, flathead sole, walleye pollock, and Tanner crab were the 4 most abundant species captured by weight in previous years (2015–2018; Figure 4), with the exception of 2016 when walleye pollock was the 6th most abundant by weight.

Tanner Crab

The 2019 Kodiak District survey captured 102,319 male Tanner crab and 78,856 female Tanner crab. Tanner crab were caught in 98% of all hauls, with catches ranging from 0 to 30,820 crab per km towed, with the highest CPUE at station UGI in Ugak Bay within the Eastside Section (Figure 5). Total Tanner crab CPUE was 517 crab per km towed.

Tanner crab abundance estimates for each station were summed by management section (Appendix D1). The total 2019 Kodiak District surveyed Tanner crab abundance was estimated at 223.4 million crab, a decrease from 271.7 million crab estimated in 2018 and the second largest estimate in survey record (Table 4). Abundance estimates for adult females and juvenile males 70–91 mm CW increased to the largest in survey record. The largest decreases were observed among males <70 mm CW and juvenile females (Table 4).

The 2019 estimated abundance of legal-sized male Tanner crab was 1.1 million crab, a decrease from the 2018 estimate of 3.2 million (Table 4). In 2019, the abundance estimate of 0.5 million legal-sized male crab in the Eastside Section was the largest in the district, while the Westside and Northeast sections had the smallest estimated abundances of legal males.

Trawl survey results indicated that mature male Tanner crab abundance in the Eastside and Southeast sections met minimum regulatory thresholds and both sections opened to commercial Tanner crab fishing in 2020. Mature male Tanner crab abundance estimates for the Northeast, Southwest, Westside, and North Mainland sections were below thresholds needed for commercial seasons (Table 2).

Male Tanner crab had a mean size of 79.5 mm CW and females had a mean size of 74.3 mm CW. A large proportion of male and female crab were between 60 mm CW and 95 mm CW (Figure 6). Only 6.2% of male crab were mature (Figure 7; Table 5). In the Eastside, Southeast, and Southwest sections most male crab were less than 100 mm and in new shell condition. The Northeast, Westside, and North Mainland sections had smaller numbers of male crab that were more evenly distributed in size (Figures 8 and 9). Soft/new pliable shell and new shell crab comprised 96.6% (98,875) of the total male Tanner crab captured in the Kodiak District (Table 5).

Mature female Tanner crab had a mean size of 84.5 mm CW. A total of 7,640 mature female crab were measured and clutch information was determined. Multiparous crab accounted for 36.1% (2,759) of mature females, down from 47.1% in 2018 (Figure 11; Spalinger and Knutson 2019). Only 226 mature females examined did not produce an egg clutch and 49.0% (3,744) of mature females had an egg clutch greater than half full (Figure 10). This was similar to 2018 when 51.3% of mature females sampled had egg clutches that were more than half full (Spalinger and Knutson 2018). Average clutch fullness in 2019 increased from 2018 (Figure 11).

Red King Crab

Red king crab were caught in 13.3% of Kodiak Area hauls totaling 235 males and 145 females. King crab catch ranged from 0 to 83 crab per haul, with 79.5% of king crab caught inside Alitak Bay and 13.2% caught on Alitak Flats (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 2019 Kodiak red king crab abundance was estimated at 300,464 crab, which was less than the estimated 401,991 crab in 2018. The largest decreases were observed among mature females. Total number of male king crab declined due to lower numbers of prerecruit males (Table 6). The total estimated abundance of legal males increased from 113,991 crab in 2018 to 162,349 crab in 2019 and represented 89.5% of the total male abundance.

Mean king crab size was 167.3 mm CL for males and 143.1 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 2019 Kodiak Area survey, 34.5% (48) of all mature females examined had an egg clutch that was more than half full (Figure 15), lower than 2018 (66.2%; Spalinger and Knutson 2019).

CHIGNIK

In the Chignik Tanner crab district, 44 hauls were successfully completed from July 21 through July 26 (haul numbers 152–195; Appendices C8–C9). The total area used to determine abundance estimates for the district in 2019 was 1,358.8 km² (Appendix B2).

Throughout the Chignik District 95 species were identified and weighed. A total of 9,683 size measurements were collected from 4 invertebrate species and 5,744 length measurements were collected from 32 fish species.

Catch Composition

The CPUE of all species from Chignik sample hauls was 446 kg per km towed. Arrowtooth flounder (32.7%), flathead sole (18.8%), and Tanner crab (10.9%) were the dominant species caught by weight, followed by walleye pollock (9.2%) and big skate (4.4%; Table 7). With the exception of Tanner crab in 2017, these species have been among the top 10 species in recent surveys (Spalinger 2015a, 2016, 2017; Spalinger and Knutson 2018, 2019; Figure 4).

Tanner Crab

The 2019 Chignik District bottom trawl survey captured 12,640 male Tanner crab and 7,576 female Tanner crab. Tanner crab were caught in 95% of all hauls, with catches ranging from 0 to 4,553 crab per km towed. Station 4049 near Mitrofania Island had the highest CPUE of Tanner crab (Figure 16). Total Tanner crab CPUE was 257 crab per km towed.

Abundance estimates for Tanner crab in each station were summed by surveyed locale (Appendix D2). The total 2019 Chignik District Tanner crab abundance was estimated at 33.9 million crab, a decrease from 55.3 million crab in 2018 and the third highest abundance estimate in survey history (Table 8). Juvenile female crab and male crab <70 mm CW showed the largest decreases from recent years. Abundance estimates for adult females and juvenile males 70–91 mm CW increased to the largest in survey record. The estimated abundance of legal-sized male Tanner crab in 2019 increased to 110,812 crab from 106,875 crab in 2018.

(Table 8; Figure 17). Estimated mature male abundance was above the threshold needed for consideration of a commercial fishery in 2020 (Table 2); however, regulatory harvest level requirements were not met, so the fishery remained closed.

The mean Chignik District Tanner crab CW was 85.0 mm for males and 79.4 mm for females. A large proportion of male and female crab were between 60 mm CW and 95 mm CW (Figure 6). Juvenile males with soft/new pliable or new shell conditions accounted for 91.5% (11,573) of all male Tanner crab captured in the district (Table 5) compared to 95.9% in 2018 (Spalinger and Knutson 2019). Mitrofania had the highest number of new shell male crab, which were predominantly smaller-sized crab (<100 mm CW; Figures 18 and 19).

Mature female Tanner crab had a mean size of 86.7 mm CW. A total of 1,384 mature females were measured and clutch information recorded. Most mature females were primiparous; multiparous females accounted for 11.2% (155) of mature female Tanner crab examined in 2019 compared to 43.5% in 2018 (Spalinger and Knutson 2019). Egg clutches that were more than half full were found in 38.3% (530) of mature females examined (Figure 20). Average clutch fullness in 2019 increased from 2018 (Figure 21).

SOUTH PENINSULA

In the South Peninsula Tanner crab District, 93 hauls were successfully completed from July 27 through August 17 (haul numbers 196–229 and 251–309; Appendices C9–C12). The total area used to determine abundance estimates for the district in 2019 was 2,929.4 km² (Appendix B2).

Throughout the South Peninsula District, 117 species were identified and weighed. A total of 21,155 size measurements were collected from 4 invertebrate species and 12,583 length measurements were collected from 33 fish species.

Catch Composition

The CPUE of all species from South Peninsula sample hauls was 771 kg per km towed. Flathead sole (21.1%), arrowtooth flounder (17.9%), yellowfin sole (14.6%), and walleye pollock (9.5%) were the dominant species caught by weight, followed by Tanner crab (7.6%) and starry flounder (6.4%; Table 9). These species, with the exception of starry flounder, have been among the top 10 species in recent surveys (Spalinger 2015a, 2016, 2017; Spalinger and Knutson 2018, 2019; Figure 4).

Tanner Crab

The 2019 South Peninsula District survey caught 27,263 male Tanner crab and 26,263 female Tanner crab. Tanner crab were caught in 98% of all hauls, with catches ranging from 0 to 13,703 crab per km towed, with the highest CPUE at station COGA in Cold Bay, in the Western Section (Figure 16). Total Tanner crab CPUE was 372 crab per km towed.

Tanner crab abundance estimates for each station were summed by surveyed locale and management section (Appendix D3). The total 2019 Tanner crab abundance in the surveyed portion of the South Peninsula District was estimated at 66.2 million crab, an increase from 52.6 million crab in 2018, and the highest estimate since 2008 (Table 10). In 2019, decreases in Tanner crab abundance were observed among juvenile females, male crab <70 mm CW, and newly recruited legal males. Adult female crab and male crab 70–91 mm CW showed the largest increases from recent years (Table 10; Figure 22). Estimated abundance of legal-sized male Tanner crab increased to 0.4 million crab in 2019 from 0.2 million crab in 2018 due to increases

in the number of postrecruit males. Abundance estimates of mature male Tanner crab in the Eastern and Western sections were below thresholds needed for commercial seasons in 2020 (Table 2).

Male Tanner crab in the South Peninsula District had a mean size of 75.9 mm CW and females had a mean size of 75.1 mm CW. The highest proportions of male and female crab were between 60 mm CW and 95 mm CW (Figure 6). Sublegal male crab <92 mm CW accounted for 82.5% (22,501) 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 87.3 mm CW. A total of 2,586 mature female Tanner crab were measured and clutch information determined. Multiparous females in the South Peninsula District accounted for 20.9% (541) of mature female Tanner crab examined in 2019 compared to 58.9% in 2018 (Spalinger and Knutson 2019). Egg clutches that were more than half full were found in 40.9% (1,058) of mature female Tanner crab examined (Figure 25). Average clutch fullness declined from a peak in 2017, while the proportion of primiparous females increased (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 2019 abundance estimate was 172,741 crab, which was lower than 1,135,124 crab estimated in 2018 (Table 6). A total of 57 male and 92 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 162.2 mm and female red king crab mean carapace length was 131.4 mm. Most female king crab examined were mature (97.8%; 90 crab). The patchy catches of king crab in the sampling areas may not accurately reflect changing abundance.

EASTERN ALEUTIAN

In the Eastern Aleutian Tanner crab District, 20 hauls (haul numbers 230–250) were completed from August 3 to August 7 (Appendices C13–C14). One haul was unsuccessful. The total area used to determine abundance estimates was 432.7 km² (Appendix B2).

Throughout the Eastern Aleutian District, 91 species were identified and weighed. A total of 3,840 size measurements were collected from 4 invertebrate species and 2,736 length measurements were collected from 23 fish species.

Catch Composition

The CPUE of all species from Eastern Aleutian sample hauls was 446 kg per km towed. Arrowtooth flounder was the dominant species by weight (41.5%), followed by flathead sole (14.7%), walleye pollock (9.6%), rex sole *Glyptocephalus zachirus* (6.3%), and Tanner crab (4.5%; Table 11). These species have been among the top 10 species in recent surveys (Spalinger 2015a, 2016, 2017; Spalinger and Knutson 2018, 2019; Figure 4).

Tanner Crab

The 2019 Eastern Aleutian District survey captured 2,505 male and 3,787 female Tanner crab. Tanner crab were caught in 95% of hauls with catches ranging from 0 to 1,154 crab per km

towed. Makushin Bay had the highest CPUE of 729 crab per km towed at station MKB (Figure 27). Total Tanner crab CPUE was 180 crab per km towed.

Tanner crab abundance estimates for each station were summed by management section (Appendix D4). Total abundance in 2019 was estimated at 5.8 million crab, a decrease from 6.8 million crab in 2018 (Table 12). The legal-sized male abundance was estimated to be 19,298 crab, a decrease from 139,469 crab in 2018 and the lowest legal-sized male estimate in survey record. Estimated mature male abundance for Akutan and Unalaska/Kalekta Bay sections of the Eastern Aleutian District were below thresholds needed for a commercial fishery in 2020 (Table 2). The Makushin/Skan Bay Section met mature male abundance thresholds but not regulatory harvest level requirements, so the fishery remained closed.

Mean Tanner crab CW was 69.5 mm for males and 65.3 mm for females. The highest proportion of male crab was observed at 35 mm CW, while size distribution of female Tanner crab showed relatively similar proportions of small (35 mm CW) and large (85 mm CW) size crab (Figure 6). Of the 1,074 mature female Tanner crab sampled, 71.0% (763) had an egg clutch greater than half full (Figures 28 and 29).

Red King Crab

Red king crab abundance in the surveyed areas around Akutan and Unalaska Islands remains at historic low levels. A total of 1 male and 1 female red king crab were captured during the 2019 trawl survey at a single station in Makushin Bay.

WEATHERVANE SCALLOPS

Weathervane scallops accounted for 0.5% of total animal weight from all areas surveyed in 2019. Total CPUE was 3.1 kg per km towed, which is just above the 1988–2018 CPUE of 3.0 kg per km towed (Figure 30). The highest catch of 198.6 kg per km towed was at station 646D on Alitak Flats, and overall, the Kodiak Area had the highest total weathervane scallop CPUE at 4.9 kg per km towed. Ninety-three percent of all weathervane scallops caught were located in the Kodiak Area (Figure 31).

A total of 5,769 scallops were caught in 2019 and averaged 140.4 mm in shell height (Figure 32). This was an increase from 132.0 mm in 2018, and below the average height since 2000 (Figure 33).

ARROWTOOTH FLOUNDER

Arrowtooth flounder accounted for 22.8% of total animal weight from all areas surveyed in 2019. Total CPUE was 131.3 kg per km towed, which is below the 1988–2018 CPUE of 165.3 kg per km towed (Figure 34). The highest catch of 1,280.6 kg per km towed was at station 4266 in Chignik Bay, but overall, the Aleutian Islands District of the BSAI Area had the highest total CPUE at 216.9 kg per km towed (Figure 35).

A total of 157,327 arrowtooth flounder were caught in 2019, and averaged 34.0 cm in length (Figure 36). This was a decrease from 35.2 cm in 2018 and below the average survey length since 2000 (Figure 37).

FLATHEAD SOLE

Of all species captured in 2019, flathead sole accounted for 18.4% of animal weight. Total CPUE was 106.0 kg per km towed, which is below the 1988–2018 CPUE of 135.0 kg per km towed (Figure 38). The highest catch of 908.9 kg per km was at station MOG in Morzhovoi Bay in the South Alaska Peninsula Area, which also had the highest total CPUE at 157.9 kg per km towed (Figure 39).

A total of 241,151 flathead sole were caught in 2019 and averaged 28.7 cm in length (Figure 40), which was a decrease from 29.3 cm in 2018 and below the average length since 2000 (Figure 41).

WALLEYE POLLOCK

Walleye pollock accounted for 7.9% of total animal weight from all areas surveyed in 2019. Total CPUE was 45.6 kg per km towed, which is less than half of the 1988–2018 CPUE of 107.7 kg per km towed (Figure 42). The highest catch of 3,310.0 kg per km towed was at station 510C in Barnabas Gully on the east side of Kodiak Island, but overall, the South Alaska Peninsula Area had the highest total CPUE at 71.2 kg per km towed (Figure 43).

A total of 32,259 walleye pollock were caught in 2019, and averaged 46.3 cm in length (Figure 44). This was larger than 44.4 cm in 2018 and below the average length since 2000 (Figure 45).

PACIFIC HALIBUT

Pacific halibut accounted for 3.5% of total animal weight from all areas surveyed in 2019. Total CPUE was 20.3 kg per km towed, which is similar to the 1988–2018 CPUE of 21.0 kg per km towed (Figure 46). The highest catch of 156.0 kg per km towed was at station 684C on Alitak Flats, and overall the Kodiak Area had the highest total CPUE of 22.8 kg per km towed (Figure 47).

A total of 2,614 Pacific halibut were caught in 2019. They averaged 66.5 cm in length (Figure 48), which was smaller than the 2018 average length of 70.0 cm and below the 2000–2018 average length (Figure 49).

PACIFIC COD

Pacific cod accounted for 1.6% of total animal weight from all areas surveyed in 2019. Total CPUE was 9.1 kg per km towed, which is less than half of the overall CPUE of 22.8 kg per km towed from 1988–2018 (Figure 50). The highest catch of 140.8 kg per km towed was at station ALCA in Alitak Bay. Kodiak and South Alaska Peninsula areas had similar CPUE of Pacific cod, ranging from 9.5 kg per km towed in Kodiak Area to 9.8 kg per km towed in South Alaska Peninsula Area (Figure 51).

A total of 2,147 Pacific cod were caught in 2019. They averaged 57.6 cm in length (Figure 52), which was larger than the 2018 average length of 54.2 cm, and larger than the 2000–2018 average length (Figure 53).

YELLOWFIN SOLE

Yellowfin sole accounted for 6.3% of total animal weight from all areas surveyed in 2019. Total CPUE was 36.0 kg per km towed, which is below the 1988–2018 CPUE of 45.2 kg per km

towed (Figure 54). The highest catch of 1,297.3 kg per km towed was at station COC in Cold Bay and the South Alaska Peninsula Area had the highest total yellowfin sole CPUE at 109.5 kg per km towed (Figure 55).

A total of 54,264 yellowfin sole were caught in 2019, averaging 30.8 cm in length (Figure 56). This was similar to 2018, and smaller than the 2000–2018 average length (Figure 57).

SABLEFISH

Sablefish accounted for 1.1% of total animal weight from all areas surveyed in 2019. Total CPUE was 6.5 kg per km towed, which is more than 4 times the 1988–2018 CPUE of 1.6 kg per km towed (Figure 58). The highest catch of 163.4 kg per km towed was at station 535C in Barnabas Gully on the east side of Kodiak Island, and the both the Kodiak and Chignik areas had total sablefish CPUEs at 7.6 kg per km towed (Figure 59).

A total of 3,600 sablefish were caught in 2019. They averaged 46.4 cm in length (Figure 60), which was larger than the 2018 average length of 45.2 cm, and larger than the 2000–2018 average length (Figure 61).

SKATES

Skate species accounted for 4.7% of total animal weight from all areas surveyed in 2019. Total skate CPUE was 27.3 kg per km towed, which is higher than the 1988–2018 CPUE of 20.6 kg per km towed (Figure 62). The highest catch of a single skate species in 2019 was 263.6 kg per km towed of big skates at station CHB in Chiniak Bay in the Kodiak Area, although the Chignik Area had the highest total big skate CPUE at 19.6 kg per km towed (Figure 63). The Kodiak Area had the highest total CPUE of longnose skate (10.9 kg per km), Bering skate (4.4 kg per km), and Aleutian skate (2.4 kg per km) and the Aleutian Islands District of the BSAI Area had the highest total Alaska skate CPUE (2.4 kg per km; Figure 64).

Species, sex, and length were determined for each skate caught during the 2019 trawl survey. A total of 2,799 skates were captured and measured from all districts surveyed. Although big skates accounted for the largest proportion of skate weight (55.7%), Bering skates, which only accounted for 10.3% of total skate weight, were the most abundant (Table 13). Bering skates comprised 39.6% of the total number of skates caught and averaged 28.4 cm from snout to anterior notch of the pectoral fin (Figure 65). Longnose skates made up 28.3% of the total number of skates caught and averaged 44.9 cm in length. Big skates accounted for 25.4% of the number of skates caught and had an average length of 59.6 cm. Aleutian skates accounted for 4.8% of all skates caught and averaged 53.3 cm, and Alaska skates made up 1.9% and averaged 41.1 cm (Figure 65). Larger skate species, big and Aleutian skates, were mostly female (big skates: 76.3% female; Aleutian skates: 71.6% female), whereas the smaller species (Bering, longnose, and Alaska skates) were composed of 49.2%, 51.1%, and 59.3% females, respectively.

WATER TEMPERATURE

Near-bottom water temperatures (~2 m above sea floor) in 2019 ranged from 5.37°C (Makushin Bay, Station MKC) to 11.57°C (Terror Bay, Station KUYB; Figure 66; Appendix B1). Stations with the lowest average temperatures since 1997 were in Deadman Bay, although temperatures are not available for 2019. The warmest stations, on average, were in Cold Bay, sampled during mid-August at an average depth of 61 m (10.72°C, Figures 66 and 67). Average near-bottom water temperature across the sampled survey area was 7.26°C, which was 1.04°C higher than the

survey average in 2018; however, the historically coldest location does not have temperature data available (Appendix B1; Figure 67). Average survey temperature increased from 2012 to 2016, declined in 2017, and increased in 2018 and 2019 (Figure 67).

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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, 1988–2019.

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

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, 2015–2019.

	Fishery Threshold (number of mature males >114 mm CW)	Survey estimated number of mature males (> 114 mm CW)				
		2015	2016	2017	2018	2019
Kodiak District						
Northeast Section	1,123,000	245,327	285,473	411,803	530,533	964,771
Eastside Section	1,552,000	795,901	5,779,765 ^a	5,164,475 ^a	6,207,284 ^a	3,377,273 ^a
Southeast Section	733,000	770,595 ^a	1,258,528 ^a	667,890	1,945,812 ^a	3,863,863 ^a
Southwest Section	1,236,000	581,810	1,021,219	1,581,401 ^a	829,358	454,256
Westside Section	764,000	231,583	224,050	308,643	637,127	387,567
North Mainland Section	1,469,000	561,951	447,094	313,323	613,235	592,594
Chignik District	973,000	1,043,633 ^a	610,875	319,501	777,204	1,149,541 ^a
South Peninsula District						
Eastern Section	2,015,000	1,194,423	1,370,094	436,361	421,580	722,459
Western Section	1,250,000	1,733,879 ^a	3,420,640 ^a	733,065	899,185	1,213,950
Eastern Aleutian District						
Akutan Section	200,000	13,017	74,855	106,962	40,697	6,530
Unalaska/Kalekta Bay Section	65,000	175,550 ^a	14,865	65,317 ^a	253,449 ^a	46,523
Makushin/Skan Bay Section	45,000	203,114 ^a	150,737 ^a	292,866 ^a	250,735 ^a	120,773 ^a

^a Above mature male harvest strategy threshold.

Table 3.—Predominant species by weight in the Kodiak Tanner crab District large-mesh bottom trawl survey, 2019.

Common name	Species name	% of catch by weight
Arrowtooth flounder	<i>Atheresthes stomias</i>	22.0
Flathead sole	<i>Hippoglossoides elassodon</i>	17.2
Tanner crab	<i>Chionoecetes bairdi</i>	15.7
Walleye pollock	<i>Gadus chalcogrammus</i>	6.6
Pacific halibut	<i>Hippoglossus stenolepis</i>	4.2
Yellowfin sole	<i>Limanda aspera</i>	2.8
Big skate	<i>Raja binoculata</i>	2.6
Longnose skate	<i>Raja rhina</i>	2.0
Sunflower seastar	<i>Pycnopodia helianthoides</i>	1.9
Pacific ocean perch	<i>Sebastodes alutus</i>	1.8
Pacific cod	<i>Gadus macrocephalus</i>	1.8
Starry flounder	<i>Platichthys stellatus</i>	1.7
English sole	<i>Parophrys vetulus</i>	1.7
Sablefish	<i>Anoplopoma fimbria</i>	1.4
Spiny dogfish shark	<i>Squalus acanthius</i>	1.3
Northern rock sole	<i>Lepidopsetta polyxystra</i>	1.3
Anemone	Order: Actinaria	1.3
Rex sole	<i>Glyptocephalus zachirus</i>	1.1
Weathervane scallop	<i>Patinopecten caurinus</i>	0.9
Alaska plaice	<i>Pleuronectes quadrituberculatus</i>	0.9
All others	(136 species)	10.0
		100.0

Table 4.—Tanner crab abundance estimates from large-mesh bottom trawl surveys in the Kodiak District, 1988–2019.

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

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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

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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

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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

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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

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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

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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

Table 5.—Number of male red king and male Tanner crabs by management unit, crab cohort, and shell condition captured in the 2019 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	3	0	0	3
Prerecruit III	95–112 mm CL	0	0	0	1	1
Prerecruit II	113–130 mm CL	0	3	0	0	3
Prerecruit I	>130 mm CL and sublegal	0	19	0	0	19
Recruit	<164 mm CL and legal soft/new	0	60	—	—	60
Postrecruit	≥164 mm CL or legal and not soft/new	0	94	13	40	147
Total		0	179	13	41	233
Alaska Peninsula Area red king crab						
Prerecruit IV	<79 mm CL	0	0	0	0	0
Prerecruit III	79–95 mm CL	0	0	0	0	0
Prerecruit II	96–115 mm CL	0	1	0	0	1
Prerecruit I	>115 mm CL and sublegal	0	7	0	0	7
Recruit	<152 mm CL and legal soft/new	0	9	—	—	9
Postrecruit	≥152 mm CL or legal and not soft/new	0	26	8	6	40
Total		0	43	8	6	57
Kodiak District Tanner crab						
Prerecruit IV	<70 mm CW	948	29,640	24	0	30,612
Prerecruit III	70–91 mm CW	426	48,550	222	127	49,325
Prerecruit II	92–114 mm CW	368	14,782	523	406	16,079
Prerecruit I	≥115 mm CW and sublegal	283	3,411	778	962	5,434
Recruit	<165 mm CW and legal soft/new	30	412	—	—	442
Postrecruit	≥165 mm CW or legal and not soft/new	0	25	207	194	426
Total		2,055	96,820	1,754	1,689	102,318
Mature only	≥115 mm CW	313	3,848	985	1,156	6,302
Chignik District Tanner crab						
Prerecruit IV	<70 mm CW	62	2,365	0	0	2,427
Prerecruit III	70–91 mm CW	24	6,232	27	7	6,290
Prerecruit II	92–114 mm CW	11	2,879	78	19	2,987
Prerecruit I	≥115 mm CW and sublegal	3	721	94	9	827
Recruit	<165 mm CW and legal soft/new	2	82	—	—	84
Postrecruit	≥165 mm CW or legal and not soft/new	0	0	19	8	27
Total		102	12,279	218	43	12,642
Mature only	≥115 mm CW	5	803	113	17	938

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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	472	9,323	98	96	9,989
Prerecruit III	70–91 mm CW	147	11,719	461	185	12,512
Prerecruit II	92–114 mm CW	104	3,057	307	170	3,638
Prerecruit I	≥115 mm CW and sublegal	7	209	339	343	898
Recruit	<165 mm CW and legal soft/new	0	38	—	—	38
Postrecruit	≥165 mm CW or legal and not soft/new	0	0	127	62	189
Total		730	24,346	1,332	856	27,264
Mature only	≥115 mm CW	7	247	466	405	1,125
Eastern Aleutian District Tanner crab						
Prerecruit IV	<70 mm CW	175	1,080	5	1	1,261
Prerecruit III	70–91 mm CW	8	462	44	8	522
Prerecruit II	92–114 mm CW	4	393	90	31	518
Prerecruit I	≥115 mm CW and sublegal	5	100	36	38	179
Recruit	<165 mm CW and legal soft/new	0	1	—	—	1
Postrecruit	≥165 mm CW or legal and not soft/new	0	0	10	12	22
Total		192	2,036	185	90	2,503
Mature only	≥115 mm CW	5	101	46	50	202

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, 2010–2019.

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																	
2010	0	0	0	0	327	0	0	0	0	0	327	327					
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	0	2,187	3,990	3,625	7,617	9,804					
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					
Southeast District																	
2010	0	0	0	0	0	0	0	0	0	0	0	0					
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					
Southwest District																	
2010	26,655	22,075	48,730	22,907	22,658	10,572	567	3,211	23,842	27,054	83,758	132,488					
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					

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Table 6.—Page 2 of 6.

Year	Females			Prerecruit males				Recruit males	Postrecruit males	Legal males	Total males	Total crab
	Juvenile	Adult	Total	IV	III	II	I					
Shelikof District												
2010	0	0	0	0	0	0	0	0	0	0	0	0
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
KODIAK AREA TOTAL												
2010	26,655	22,075	48,730	22,907	22,985	10,572	567	3,211	23,842	27,054	84,085	132,815
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
ALASKA PENINSULA AREA												
Morzhovoi Bay												
2010	0	2,344	2,344	0	0	0	0	0	0	0	0	2,344
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

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Table 6.—Page 3 of 6.

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												
2010	1,073	19,275	20,349	1,496	537	537	358	0	714	714	3,641	23,991
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
Pavlof Bay/Volcano Bay												
2010	5,258	22,003	27,260	786	782	3,915	3,137	0	1,572	1,572	10,192	37,453
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
Beaver Bay/Balboa Bay/Unga Strait												
2010	773	0	773	747	0	0	0	0	3,553	3,553	4,301	5,074
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

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Table 6.—Page 4 of 6.

Year	Females			Prerecruit males				Recruit males	Postrecruit males	Legal males	Total males	Total crab
	Juvenile	Adult	Total	IV	III	II	I					
Stepovak Bay												
2010	0	0	0	0	0	0	0	0	0	0	0	0
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
West Nagai Strait												
2010	0	0	0	0	0	0	0	0	0	0	0	0
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
Ivanof Bay												
2010	0	0	0	0	0	0	0	0	0	0	0	0
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

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Table 6.—Page 5 of 6.

Year	Females			Prerecruit males				Recruit males	Postrecruit males	Legal males	Total males	Total crab
	Juvenile	Adult	Total	IV	III	II	I					
Mitrofania Island												
2010	0	0	0	0	0	0	0	0	1,557	1,557	1,557	1,557
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	0	0	0	0	0	0	0	0	0	0	0
Chignik Bay/Castle Bay												
2010	10,554	29,591	40,145	0	5,277	8,795	8,795	0	7,604	7,604	30,471	70,617
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
Kujulik Bay												
2010	0	0	0	0	0	0	0	0	0	0	0	0
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

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Table 6.—Page 6 of 6.

Year	Females			Prerecruit males				Recruit males	Postrecruit males	Legal males	Total males	Total crab
	Juvenile	Adult	Total	IV	III	II	I					
ALASKA PENINSULA AREA TOTAL												
2010	17,658	73,213	90,871	3,029	6,596	13,247	12,290	0	15,000	15,000	50,162	141,036
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	18,845	116,455	135,300	9,449	5,312	0	9,357	230	49,294	49,524	73,640	208,942
2015	50,847	269,047	319,894	14,746	30,754	59,950	24,361	28,237	101,521	129,756	259,569	579,463
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	3,076	8,165	6,574	16,450	88,000	104,450	123,384	207,976
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

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, 2019.

Common name	Species name	% of catch by weight
Arrowtooth flounder	<i>Atheresthes stomias</i>	32.7
Flathead sole	<i>Hippoglossoides elassodon</i>	18.8
Tanner crab	<i>Chionoecetes bairdi</i>	10.9
Walleye pollock	<i>Gadus chalcogrammus</i>	9.2
Big skate	<i>Raja binoculata</i>	4.4
Pacific halibut	<i>Hippoglossus stenolepis</i>	3.8
Dungeness crab	<i>Metacarcinus magister</i>	2.7
Yellowfin sole	<i>Limanda aspera</i>	2.2
Anemone	Order: Actinaria	1.9
Rex sole	<i>Glyptocephalus zachirus</i>	1.8
Sablefish	<i>Anoplopoma fimbria</i>	1.7
Pacific cod	<i>Gadus macrocephalus</i>	1.4
Longnose skate	<i>Raja rhina</i>	1.3
Jellyfish	Class: Schyphozoa	0.8
English sole	<i>Parophrys vetulus</i>	0.6
Pink shrimp	<i>Pandalus borealis</i>	0.6
Sunflower seastar	<i>Pycnopodia helianthoides</i>	0.6
Oregon triton	<i>Fusitriton oregonensis</i>	0.5
Rougheye rockfish	<i>Sebastodes aleutianus</i>	0.4
Eulachon	<i>Thaleichthys pacificus</i>	0.3
All others	(75 species)	3.3
		100.0

Table 8.—Tanner crab abundance estimates from large-mesh bottom trawl surveys in the Chignik District, 1989–2019.

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			
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

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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			
Mitrofania 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

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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

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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													
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

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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

Table 9.—Predominant species by weight in the South Peninsula Tanner crab District large-mesh bottom trawl survey, 2019.

Common name	Species name	% of catch by weight
Flathead sole	<i>Hippoglossoides elassodon</i>	21.1
Arrowtooth flounder	<i>Atheresthes stomias</i>	17.9
Yellowfin sole	<i>Limanda aspera</i>	14.6
Walleye pollock	<i>Gadus chalcogrammus</i>	9.5
Tanner crab	<i>Chionoecetes bairdi</i>	7.6
Starry flounder	<i>Platichthys stellatus</i>	6.4
Big skate	<i>Raja binoculata</i>	2.6
Pacific halibut	<i>Hippoglossus stenolepis</i>	2.3
Alaska plaice	<i>Pleuronectes quadrituberculatus</i>	2.2
Sunflower seastar	<i>Pycnopodia helianthoides</i>	1.8
Anemone	Order: Actinaria	1.6
Hermit crab	Family: Paguridae	1.4
Pacific cod	<i>Gadus macrocephalus</i>	1.3
Northern rock sole	<i>Lepidopsetta polyxystra</i>	1.1
Dungeness crab	<i>Metacarcinus magister</i>	1.0
Oregon triton	<i>Fusitriton oregonensis</i>	0.9
Great sculpin	<i>Myoxocephalus polyacanthocephalus</i>	0.7
Plain sculpin	<i>Myoxocephalus jaok</i>	0.5
Sablefish	<i>Anoplopoma fimbria</i>	0.5
Common mud star	<i>Ctenodiscus crispatus</i>	0.5
All others	(97 species)	4.5
		100.0

Table 10.—Tanner crab abundance estimates from large-mesh bottom trawl surveys in the South Peninsula District, 1988–2019.

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
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

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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			
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
1995	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
1996	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
1997	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
1998	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
1999	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
2000	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
2001	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
2002	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
2003	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
2004	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
2005	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
2006	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
2007	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
2008	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
2009	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
2010	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
2011	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
2012	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
2013	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
2014	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
2015	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
2016	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
2017	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
2018	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
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

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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			
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
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

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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			
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
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

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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			
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
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
1995	48,279	4,706	52,985	38,902	7,431	16,596	20,149	0	908	0	908	83,987	136,973
1996	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

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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			
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
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

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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			
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
WESTERN SECTION TOTALS ^a				307,206	368,706	349,070	318,004	124,345	49,126	20,147	193,615	1,536,604	2,639,076
1988	563,223	539,247	1,102,469	4,278,684	1,204,518	432,583	195,923	44,148	5,456	0	49,604	6,161,312	12,156,588
1989	4,729,501	1,265,770	5,995,271	3,234,701	1,212,620	900,556	480,080	128,062	85,532	5,083	218,677	6,046,634	12,128,938
1990	4,232,182	1,850,119	6,082,302	2,321,914	570,391	492,417	550,431	93,363	156,880	161	250,405	4,185,557	7,912,133
1991	2,597,378	1,129,189	3,726,568	561,877	595,425	412,673	341,109	71,999	61,232	2,482	135,714	2,046,797	3,970,791
1992	886,856	1,037,143	1,923,994	321,262	258,301	559,297	503,536	96,359	85,815	1,383	183,561	1,825,953	3,116,592
1993	463,956	826,683	1,290,638	143,388	119,095	195,982	283,423	33,847	58,127	1,217	93,191	835,079	1,585,535
1994	215,360	535,094	750,452	811,234	133,955	81,028	115,835	30,207	32,547	201	62,954	1,205,007	2,493,070
1995	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
1996	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
1997	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
1998	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
1999	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
2000	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

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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			
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
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

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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			
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
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

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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			
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

^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.—Predominant species by weight in the Eastern Aleutian Tanner crab districts large-mesh bottom trawl survey, 2019.

Common name	Species name	% of catch by weight
Arrowtooth flounder	<i>Atheresthes stomias</i>	41.5
Flathead sole	<i>Hippoglossoides elassodon</i>	14.7
Walleye pollock	<i>Gadus chalcogrammus</i>	9.6
Rex sole	<i>Glyptocephalus zachirus</i>	6.3
Tanner crab	<i>Chionoecetes bairdi</i>	4.5
Pacific halibut	<i>Hippoglossus stenolepis</i>	2.8
Southern rock sole	<i>Lepidopsetta bilineata</i>	2.3
Jellyfish	Class: Schyphozoa	2.2
Pacific cod	<i>Gadus macrocephalus</i>	1.6
Sunflower seastar	<i>Pycnopodia helianthoides</i>	1.4
English sole	<i>Parophrys vetulus</i>	1.2
Sablefish	<i>Anoplopoma fimbria</i>	1.1
Basket star	<i>Gorgonocephalus</i> sp.	1.1
Yellow Irish lord	<i>Hemilepidotus jordani</i>	1.0
Anemone	Order: Actinaria	0.9
Hermit crab	Family: Paguridae	0.8
Great sculpin	<i>Myoxocephalus polyacanthocephalus</i>	0.6
Northern rock sole	<i>Lepidopsetta polyxystra</i>	0.6
Sea Urchin	<i>Strongylocentrotus</i> spp.	0.5
Bering skate	<i>Bathyraja interrupta</i>	0.5
All others	(71 species)	4.5
		100.0

Table 12.—Tanner crab abundance estimates from large-mesh bottom trawl surveys in the Eastern Aleutian District, 1990–2019.

Year	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit <165 mm	Males (CW) >165 mm	Legal males	Total males	Total crab
	Juvenile	Adult	Total	<70 mm	70-91 mm	92-114 mm	>114 mm						
Akutan Bay Section													
1990	460,092	771,965	1,232,057	614,180	912,058	447,122	146,025	15,190	0	0	15,190	2,134,574	3,366,629
1991	745,088	578,259	1,323,344	812,184	351,737	523,188	371,614	13,291	13,291	0	26,583	2,085,307	3,408,651
1994	949	2,893	3,843	2,893	7,641	15,418	33,911	2,848	949	0	3,798	63,662	67,505
1995	19,077	5,696	24,774	12,477	8,206	31,785	98,796	949	8,727	0	9,676	160,938	185,712
1999	121,515	677,297	798,812	19,867	143,040	701,089	1,030,550	210,330	4,363	0	214,692	2,109,239	2,908,051
2000	9,075	243,581	252,656	8,028	12,224	166,337	323,573	86,368	17,064	0	103,431	613,593	866,248
2003	56,558	675,379	731,937	37,957	139,174	413,879	121,041	21,013	71,664	4,151	96,828	808,878	1,540,816
2004	132,417	988,764	1,121,181	73,039	227,615	290,497	223,425	10,328	23,213	1,990	35,530	850,108	1,971,288
2005	127,291	501,657	628,948	84,899	196,246	188,560	270,776	50,446	9,752	1,187	61,384	801,864	1,430,812
2006	60,197	202,302	262,498	55,313	104,266	256,803	338,154	7,754	89,730	0	97,484	852,019	1,114,519
2007	131,796	353,409	485,203	108,103	216,470	332,576	316,383	9,721	4,975	0	14,696	988,226	1,473,430
2008	13,220	149,953	163,173	5,875	32,024	121,009	217,775	33,493	42,206	0	75,699	452,382	615,555
2009	39,211	915,000	954,210	13,675	32,400	137,412	372,548	62,948	62,610	1,957	127,514	683,550	1,637,760
2010	168,557	228,100	396,657	84,701	77,073	128,810	309,505	30,008	65,134	0	95,142	695,234	1,091,891
2011	19,187	288,006	307,193	20,498	16,328	65,460	188,518	3,798	15,072	0	18,870	309,673	616,866
2012	27,138	379,431	406,568	34,685	36,764	119,177	123,230	14,286	7,960	0	22,246	336,104	742,672
2013	409,654	69,112	478,767	381,318	100,839	125,669	68,880	3,705	12,644	0	16,350	693,054	1,171,822
2014	340,816	1,644,330	1,985,146	255,599	171,315	274,810	408,723	16,674	41,685	0	58,359	1,168,806	3,153,952
2015	187,696	193,663	381,360	209,008	62,030	13,202	13,017	0	0	0	0	297,258	678,616
2016	56,251	414,309	470,559	28,842	180,149	294,404	73,860	0	995	0	995	578,250	1,048,807
2017	179,563	3,888,787	4,068,350	127,266	187,266	285,861	98,239	0	8,723	0	8,723	707,353	4,775,704
2018	82,982	892,825	975,807	45,581	88,616	141,518	38,820	0	1,877	0	1,877	316,414	1,292,222
2019	65,420	215,325	280,746	40,980	63,332	21,538	6,530	0	0	0	0	132,380	413,127
Unalaska/Kalekta Bay Section													
1990	1,120,173	359,538	1,479,709	664,933	59,141	78,357	42,847	11,544	793	2,002	14,339	859,617	2,339,327
1991	981,240	137,467	1,118,707	920,709	167,932	41,207	25,026	8,906	0	1,001	9,907	1,164,780	2,283,487
1994	17,484	1,465	18,950	17,485	949	0	1,982	949	1,549	0	2,498	22,914	41,867
1995	23,706	7,595	31,300	17,863	3,387	10,847	1,899	1,309	0	0	1,309	35,306	66,607
1999	230,687	194,469	425,157	141,403	95,640	253,997	313,785	123,839	43,171	1,356	168,366	973,189	1,398,346
2000	248,548	952,496	1,201,044	31,132	195,166	243,495	148,668	35,059	12,573	738	48,370	666,834	1,867,878
2003	72,717	7,654	80,371	82,917	6,985	55,771	390,915	99,369	175,774	6,561	281,704	818,293	898,664
2004	347,648	136,331	483,979	338,119	127,521	52,962	26,311	68,737	5,855	8,008	82,600	627,510	1,111,488
2005	854,570	212,211	1,066,782	652,400	241,781	90,170	47,959	20,182	6,616	2,730	29,529	1,061,843	2,128,625

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Table 12.–Page 2 of 5.

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			
2006	152,412	372,418	524,829	133,520	262,003	138,544	185,052	42,346	460,626	35,311	538,282	1,257,405	1,782,234
2007	436,607	1,997,302	2,433,907	255,144	109,448	308,033	304,795	104,411	211,536	17,922	333,869	1,311,287	3,745,195
2008	324,108	1,990,322	2,314,430	210,497	217,649	246,376	554,496	98,765	64,243	1,254	164,262	1,393,282	3,707,714
2009	176,340	1,306,064	1,482,403	80,051	54,218	122,947	284,196	108,250	105,576	2,988	216,814	758,229	2,240,631
2010	200,948	386,350	587,298	131,427	27,375	30,870	7,382	1,973	1,187	0	3,160	200,215	787,512
2011	25,900	253,899	279,797	29,250	24,995	64,648	40,142	2,167	6,223	1,112	9,502	168,538	448,334
2012	170,447	503,998	674,443	123,914	64,170	169,249	380,611	20,623	215,056	9,546	245,225	983,166	1,657,610
2013	1,295,974	690,495	1,986,468	660,240	225,539	149,244	128,209	6,738	20,450	0	27,188	1,190,420	3,176,887
2014	290,482	157,233	447,717	313,882	771,861	718,719	186,156	8,170	1,786	0	9,955	2,000,573	2,448,288
2015	408,740	94,026	502,766	308,172	117,455	140,342	156,817	18,733	0	0	18,733	741,522	1,244,287
2016	33,078	8,843	41,922	23,949	9,495	51,148	13,270	1,595	0	0	1,595	99,458	141,378
2017	314,108	56,016	370,124	215,568	5,086	16,914	52,304	12,012	1,001	0	13,013	302,887	673,011
2018	328,884	398,981	727,865	180,726	57,799	59,636	194,377	24,324	34,748	0	59,072	551,612	1,279,479
2019	573,520	771,537	1,345,057	429,906	261,672	172,017	45,107	1,416	0	0	1,416	910,117	2,255,174
Makushin/Skan Bay Section													
1990	436,275	312,831	749,107	364,641	81,416	75,879	124,445	6,890	22,707	0	29,597	675,979	1,425,087
1991	88,736	148,942	237,678	75,775	84,849	51,819	70,174	5,911	29,119	2,576	37,607	320,225	557,904
1994	147,313	155,633	302,945	126,475	19,046	94,473	105,286	34,931	1,581	0	36,512	381,793	684,740
1995	124,369	84,783	209,153	91,971	24,957	37,454	49,905	2,748	8,366	0	11,114	215,403	424,557
1999	533,823	78,127	611,953	482,041	37,346	49,059	39,597	4,719	9,194	0	13,914	621,957	1,233,910
2000	550,513	151,362	701,878	437,255	120,829	42,435	17,909	2,334	0	0	2,334	620,762	1,322,639
2003	65,930	1,142,007	1,207,935	47,632	80,167	265,981	477,210	190,192	74,237	1,159	265,590	1,136,578	2,344,513
2004	156,453	683,603	840,058	160,706	51,556	218,704	365,270	357,930	50,813	7,787	416,529	1,212,765	2,052,824
2005	315,191	227,137	542,327	340,307	23,280	34,802	306,036	158,760	208,820	6,667	374,247	1,078,670	1,620,999
2006	607,078	137,178	744,256	557,140	37,877	33,140	100,740	22,650	115,266	6,759	144,675	873,574	1,617,831
2007	3,151,812	986,508	4,138,324	1,593,227	685,506	408,441	130,211	8,675	160,800	1,734	171,209	2,988,596	7,126,919
2008	399,175	1,384,630	1,783,806	284,038	312,862	322,728	165,870	3,359	155,220	4,591	163,169	1,248,668	3,032,473
2009	266,405	1,754,159	2,020,562	216,307	166,619	477,432	208,790	7,698	33,556	0	41,255	1,110,405	3,130,968
2010	158,522	165,485	324,008	114,236	21,102	83,603	208,500	49,236	16,968	0	66,207	493,648	817,656
2011	192,552	251,856	444,409	129,393	28,940	65,061	220,388	25,163	58,782	0	83,945	527,729	972,136
2012	177,070	293,261	470,330	119,538	96,849	57,403	100,816	7,599	20,165	2,316	30,080	404,690	875,020
2013	436,106	779,459	1,215,565	313,584	44,298	125,020	129,427	10,117	37,061	2,925	50,103	662,434	1,877,998
2014	287,464	690,641	978,102	146,459	162,857	167,488	185,768	11,774	72,882	2,000	86,656	749,232	1,727,334
2015	314,241	454,918	769,160	291,192	72,972	145,617	143,173	38,162	21,779	0	59,941	712,900	1,482,059

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Table 12.–Page 3 of 5.

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			
2016	171,647	1,002,700	1,174,348	89,723	49,441	60,260	112,474	4,676	32,768	819	38,262	350,163	1,524,511
2017	1,791,483	660,675	2,452,158	1,481,760	210,669	200,709	185,735	1,376	105,755	0	107,131	2,186,005	4,638,162
2018	798,103	1,673,815	2,471,918	445,736	550,279	149,211	172,215	6,210	72,310	0	78,520	1,395,961	3,867,880
2019	868,590	958,308	1,826,899	759,383	160,879	254,680	102,890	0	17,882	0	17,882	1,295,714	3,122,613
Beaver Inlet													
1990	943,425	190,116	1,133,540	931,192	229,362	97,860	27,006	3,088	767	0	3,855	1,289,273	2,422,812
1991	468,593	135,739	604,330	445,942	177,808	72,225	21,813	2,114	0	0	2,114	719,903	1,324,235
1994	38,944	51,504	90,449	33,987	6,696	41,015	47,599	17,014	767	0	17,781	147,078	237,528
1995	702,632	28,569	731,200	555,875	15,770	6,518	8,459	3,681	0	0	3,681	590,303	1,321,504
1999	159,645	14,596	174,242	145,888	7,207	5,851	1,534	0	1,534	0	1,534	162,014	336,256
2000	249,885	19,436	269,322	215,525	19,500	11,892	2,577	0	0	0	0	249,491	518,813
2003	70,873	94,779	165,650	135,143	109,191	51,213	5,409	0	0	0	0	300,956	466,607
2006	369,585	62,136	431,720	323,375	19,289	31,636	13,844	829	0	0	829	388,974	820,694
2009	228,442	69,778	298,220	207,989	35,479	87,445	14,992	1,003	0	0	1,003	346,907	645,128
2012	334,008	11,153	345,161	304,359	2,508	6,042	8,550	0	1,161	0	1,161	322,619	667,781
2015	30,257	65,922	96,178	27,473	17,206	32,770	7,702	0	0	0	0	85,151	181,330
2018	165,431	14,611	180,040	161,260	3,482	2,508	2,770	0	0	0	0	170,019	350,059
Us of Bay													
1990	97,777	24,414	122,190	97,607	96,108	28,041	1,957	541	0	0	541	224,252	346,442
1991	84,679	69,979	154,658	219,357	245,549	63,800	26,863	4,396	2,625	0	7,021	562,591	717,249
1994	15,007	3,500	18,507	13,151	8,412	5,957	7,601	875	0	0	875	35,995	54,501
1995	32,329	3,301	35,630	40,438	9,693	6,681	4,375	0	2,625	0	2,625	63,812	99,442
1999	76,557	10,787	87,344	67,910	12,590	2,405	0	0	0	0	0	82,905	170,250
2000	50,848	7,689	58,537	47,161	4,465	4,465	0	0	0	0	0	56,089	114,626
2003	29,595	67,884	97,479	32,895	85,721	148,258	29,458	0	873	0	873	297,204	394,683
Akun Bay													
1990	1,991	1,063	3,055	0	0	0	0	0	0	0	0	0	3,055
1991	0	0	0	928	0	0	0	0	0	0	0	928	928
1994	0	0	0	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	4,253	1,063	5,317	0	4,253	4,253	0	0	0	0	0	8,506	13,823
2000	3,158	5,317	8,474	6,348	3,190	0	0	0	0	0	0	9,537	18,012
2003	0	3,055	3,055	0	1,063	2,127	0	0	0	0	0	3,190	6,245

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Table 12.—Page 4 of 5.

Year	Females			Number sublegal males by size (CW)				Recruit males	Postrecruit <165 mm	Postrecruit >165 mm	Males (CW)	Legal males	Total males	Total crab
	Juvenile	Adult	Total	<70 mm	70-91 mm	92-114 mm	>114 mm							
Pumicestone Bay														
1990	48,373	0	48,373	48,114	668	0	0	0	0	0	0	48,783	97,156	
1991	23,621	228	23,849	18,668	5,696	1,139	0	0	228	0	228	25,732	49,580	
1994	6,350	896	7,246	5,635	5,225	5,149	668	0	0	0	0	16,678	23,924	
1995	10,055	3,493	13,550	9,289	3,903	3,698	1,337	0	0	0	0	18,228	31,777	
1999	12,836	0	12,836	8,408	1,153	0	1,485	743	743	0	1,485	12,531	25,367	
2000	3,253	1,485	4,738	342	743	0	2,970	743	0	0	743	4,798	9,536	
2003	225,266	20,529	245,795	276,451	76,811	25,134	2,673	668	0	0	668	381,738	627,533	
2004	49,246	873	50,120	31,511	1,747	2,673	668	0	0	0	0	36,601	86,719	
2005	45,475	19,382	64,857	41,520	19,382	48,790	7,352	1,337	668	0	2,005	119,050	183,907	
2006	35,646	10,532	46,178	51,545	17,266	17,393	6,912	0	456	0	456	93,571	139,748	
2007	230,825	2,570	233,394	224,319	29,987	2,570	0	0	0	0	0	256,876	490,270	
2008	42,835	4,466	47,301	67,083	128,050	32,195	1,936	0	0	0	0	229,263	276,565	
2009	10,273	1,181	11,453	9,137	5,026	9,347	1,437	0	0	0	0	24,948	36,401	
2010	17,943	4,614	22,557	20,896	11,032	11,431	5,526	0	0	0	0	48,883	71,441	
2011	251,840	513	252,353	231,496	2,563	0	0	1,376	0	0	1,376	235,436	487,789	
2012	97,844	9,741	107,585	87,508	13,586	3,076	769	256	0	0	256	105,194	212,779	
2013	59,780	15,525	75,305	33,502	14,468	8,780	2,021	1,352	0	0	1,352	60,122	135,427	
2014	17,919	655	18,575	13,589	2,877	655	655	0	0	0	0	17,777	36,352	
Cape Idak														
1990	3,255	3,662	6,917	0	2,713	0	2,713	0	3,255	0	3,255	8,680	15,597	
1991	119,622	2,848	122,470	122,470	3,797	949	1,898	0	0	0	0	129,114	251,585	
1994	0	949	949	2,848	5,697	0	0	0	0	0	0	8,545	9,494	
1995	0	0	0	0	1,898	0	0	0	0	0	0	1,898	1,898	
1999	949	2,848	3,798	3,798	3,798	1,898	0	0	0	0	0	9,494	13,292	
2000	12,342	5,697	18,039	18,038	19,937	9,493	949	0	0	0	0	48,419	66,456	
2003	0	6,646	6,646	1,898	9,493	18,038	0	0	0	0	0	29,431	36,076	
Inanudak Bay														
1990	4,462	0	4,462	0	0	2,936	949	0	0	0	0	3,885	8,347	
1994	2,904	0	2,904	1,452	0	0	0	0	0	0	0	1,452	4,356	
EASTERN ALEUTIAN DISTRICT TOTALS														
1990	3,115,823	1,663,589	4,779,410	2,720,667	1,381,466	730,195	345,942	37,253	27,522	2,002	66,777	5,245,043	10,024,452	
1991	2,511,579	1,073,462	3,585,036	2,616,033	1,037,368	754,327	517,388	34,618	45,263	3,577	83,460	5,008,580	8,593,619	
1994	228,951	216,840	445,793	203,926	53,666	162,012	197,047	56,617	4,846	0	61,464	678,117	1,123,915	

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Table 12.–Page 5 of 5.

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			
1995	912,168	133,437	1,045,607	727,913	67,814	96,983	164,771	8,687	19,718	0	28,405	1,085,888	2,131,497
1999	1,140,265	979,187	2,119,459	869,315	305,027	1,018,552	1,386,951	339,631	59,005	1,356	399,991	3,979,835	6,099,295
2000	1,127,622	1,387,063	2,514,688	763,829	376,054	478,117	496,646	124,504	29,637	738	154,878	2,269,523	4,784,208
2003	520,939	2,017,933	2,538,868	614,893	508,605	980,401	1,026,706	311,242	322,548	11,871	645,663	3,776,268	6,315,137
2004	685,764	1,809,571	2,495,338	603,375	408,439	564,836	615,674	436,995	79,881	17,785	534,659	2,726,984	5,222,319
2005	1,342,527	960,387	2,302,914	1,119,126	480,689	362,322	632,123	230,725	225,856	10,584	467,165	3,061,427	5,364,343
2006	1,224,918	784,566	2,009,481	1,120,893	440,701	477,516	644,702	73,579	666,078	42,070	781,726	3,465,543	5,475,026
2007	3,951,040	3,339,789	7,290,828	2,180,793	1,041,411	1,051,620	751,389	122,807	377,311	19,656	519,774	5,544,985	12,835,814
2008	779,338	3,529,371	4,308,710	567,493	690,585	722,308	940,077	135,617	261,669	5,845	403,130	3,323,595	7,632,307
2009	720,671	4,046,182	4,766,848	527,159	293,742	834,583	881,963	179,899	201,742	4,945	386,586	2,924,039	7,690,888
2010	545,970	784,549	1,330,520	351,260	136,582	254,714	530,913	81,217	83,289	0	164,509	1,437,980	2,768,500
2011	489,479	794,274	1,283,752	410,637	72,826	195,169	449,048	32,504	80,077	1,112	113,693	1,241,376	2,525,125
2012	806,507	1,197,584	2,004,087	670,004	213,877	354,947	613,976	42,764	244,342	11,862	298,968	2,151,773	4,155,862
2013	2,201,514	1,554,591	3,756,105	1,388,644	385,144	408,713	328,537	21,912	70,155	2,925	94,993	2,606,030	6,362,134
2014	936,681	2,492,859	3,429,540	729,529	1,108,910	1,161,672	781,302	36,618	116,353	2,000	154,970	3,936,388	7,365,926
2015	940,934	808,529	1,749,464	835,845	269,663	331,931	320,709	56,895	21,779	0	78,674	1,836,831	3,586,292
2016	260,976	1,425,852	1,686,829	142,514	239,085	405,812	199,604	6,271	33,763	819	40,852	1,027,871	2,714,696
2017	2,285,154	4,605,478	6,890,632	1,824,594	403,021	503,484	336,278	13,388	115,479	0	128,867	3,196,245	10,086,877
2018	1,375,400	2,980,232	4,355,630	833,303	700,176	352,873	408,182	30,534	108,935	0	139,469	2,434,006	6,789,640
2019	1,507,530	1,945,170	3,452,702	1,230,269	485,883	448,235	154,527	1,416	17,882	0	19,298	2,338,211	5,790,914

Note: Beaver Inlet, Usof Bay, Akun Bay, Pumicestone Bay, Cape Idak, and Inanudak Bay are part of the General Section of the Eastern Aleutian Tanner crab District. There are no mature male abundance threshold levels or minimum fishery GHLs established for the General Section.

Table 13.—Skate catch in kilograms and number caught by sex and species from the large-mesh bottom trawl survey, 2019.

Species	Weight (kg)	Unsexed	Male	Female	Total count
Bering skate	1,700	1	562	545	1,108
Longnose skate	4,423	0	387	404	791
Big skate	9,227	2	167	543	712
Aleutian skate	976	1	37	96	134
Alaska skate	243	0	22	32	54
Grand Total	16,570	4	1,175	1,620	2,799

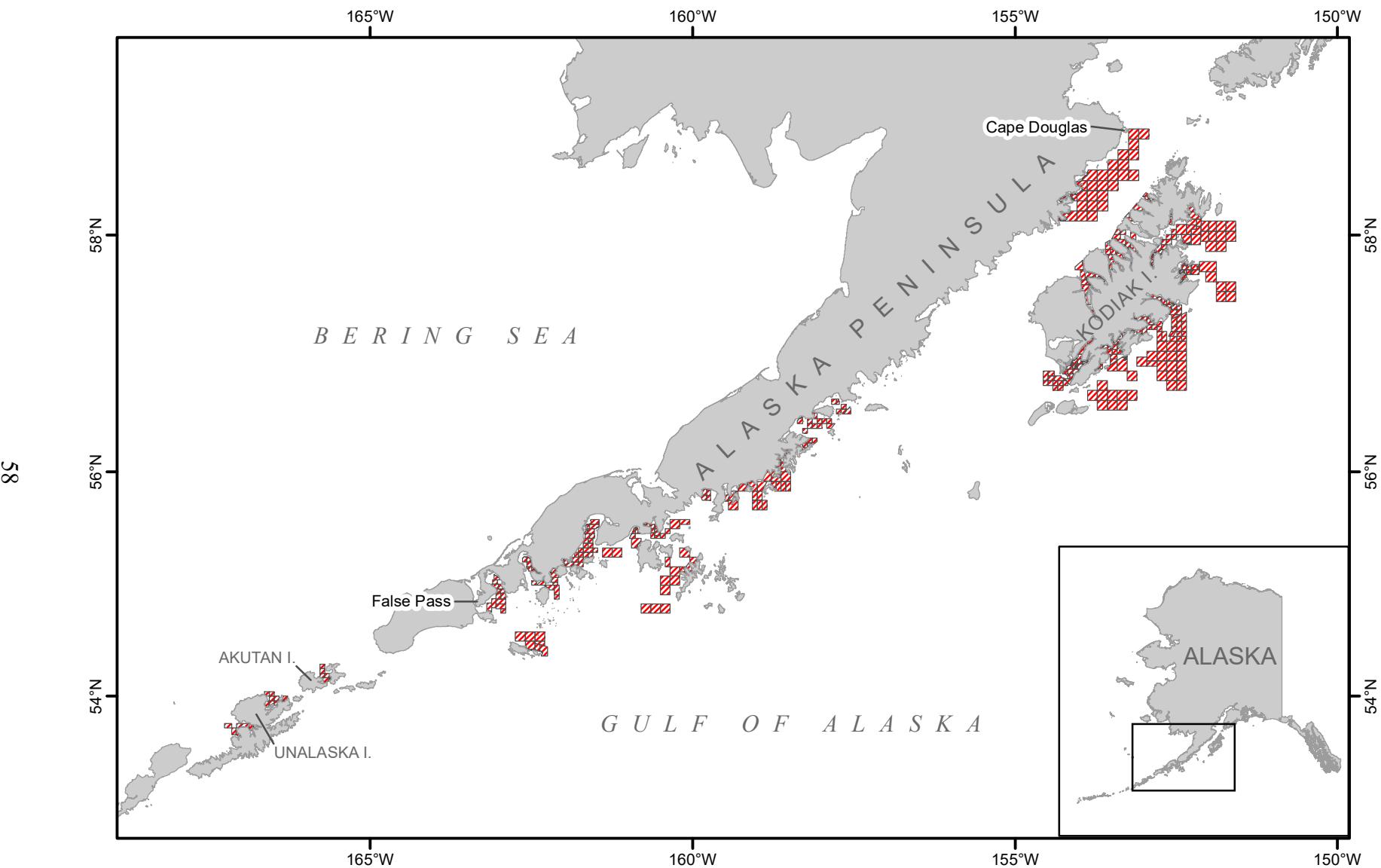


Figure 1.—Large-mesh bottom trawl survey stations, 2019.

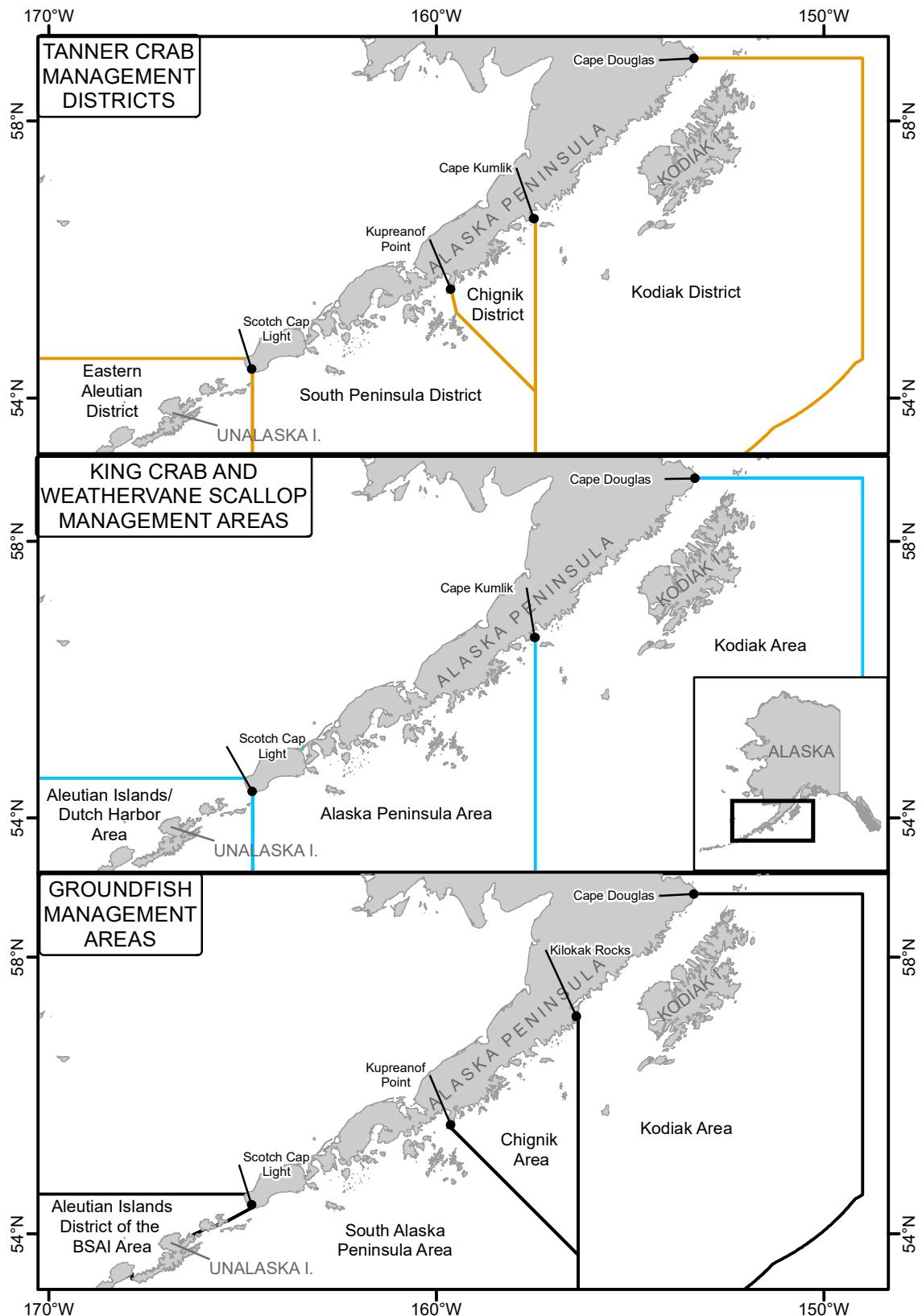


Figure 2.—Tanner crab, king crab, weathervane scallop, and groundfish management units in the bottom trawl survey area.

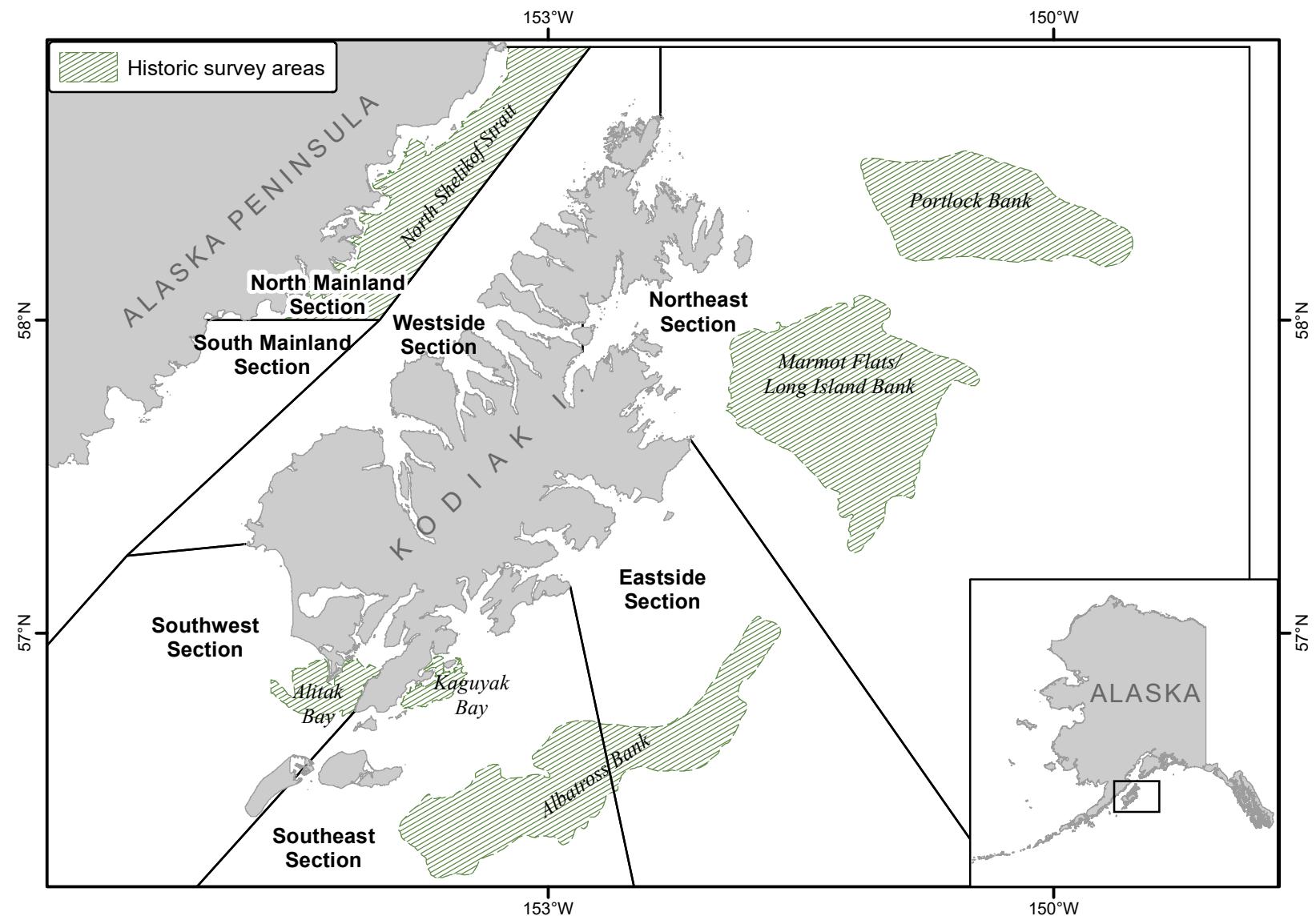


Figure 3.—Historic trawl survey areas and current Tanner crab management sections in the Kodiak District.

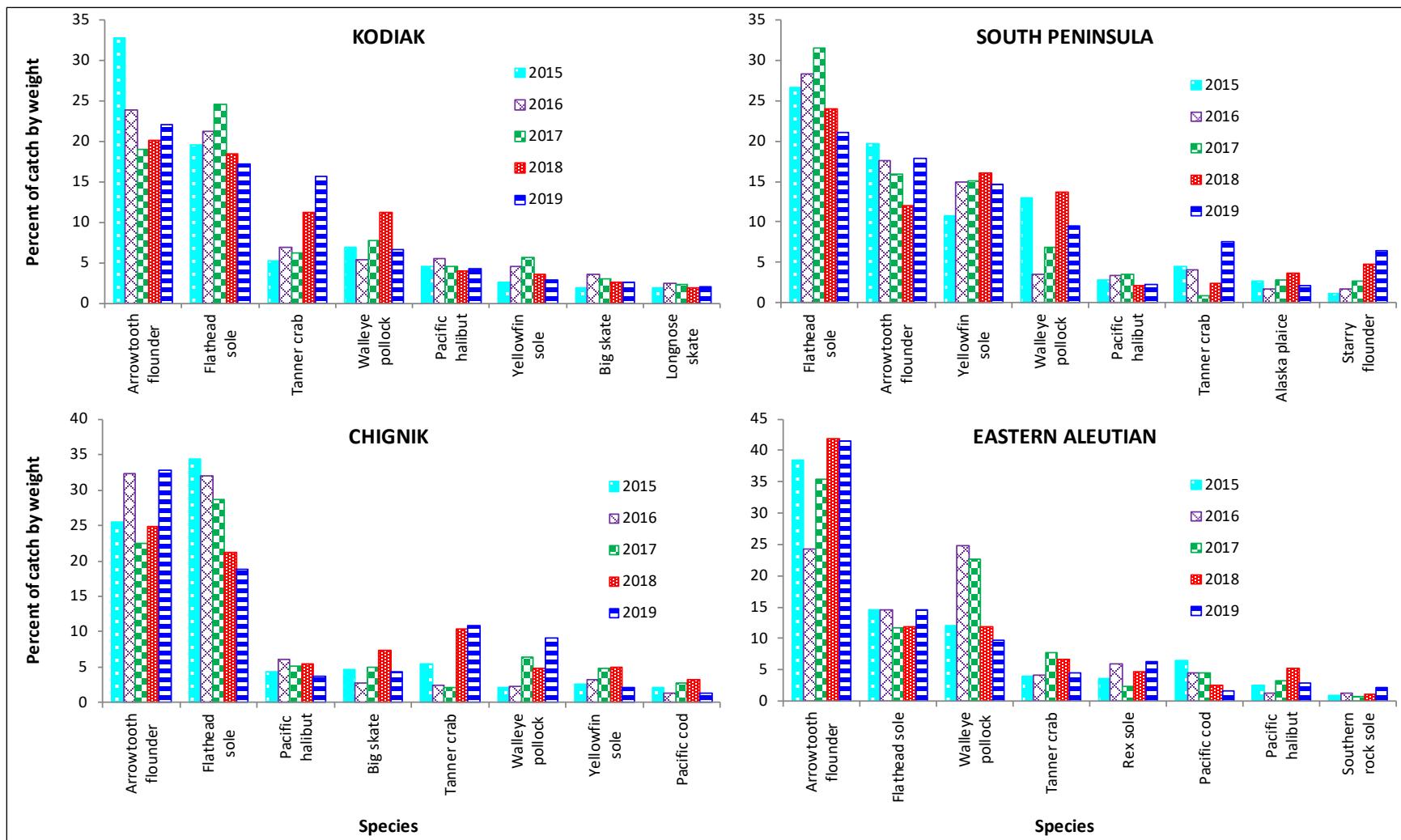


Figure 4.—Top species caught by weight in the large-mesh bottom trawl surveys by district, 2015–2019.

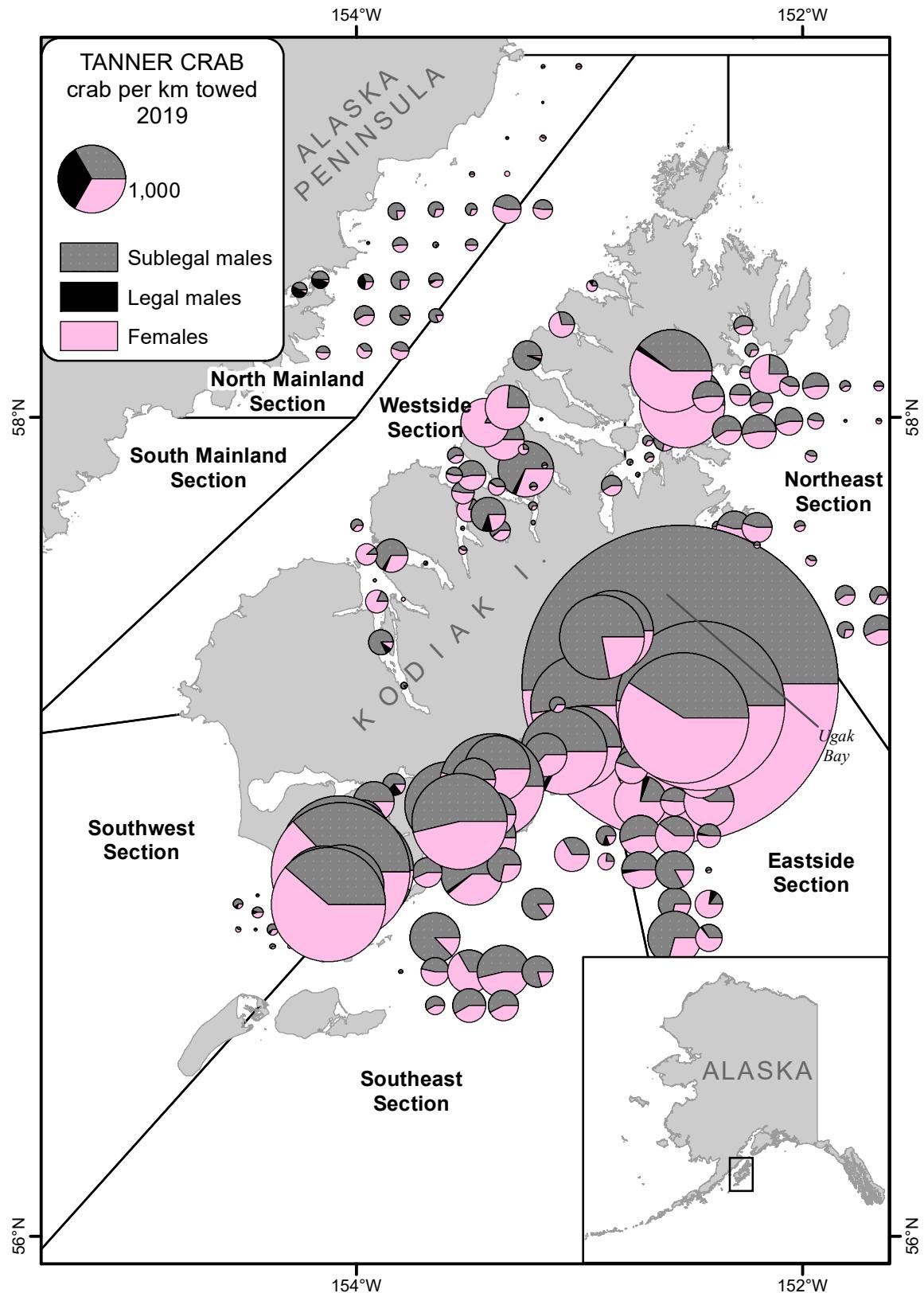


Figure 5.—Number of Tanner crab per kilometer towed in the 2019 Kodiak District large-mesh bottom trawl survey.

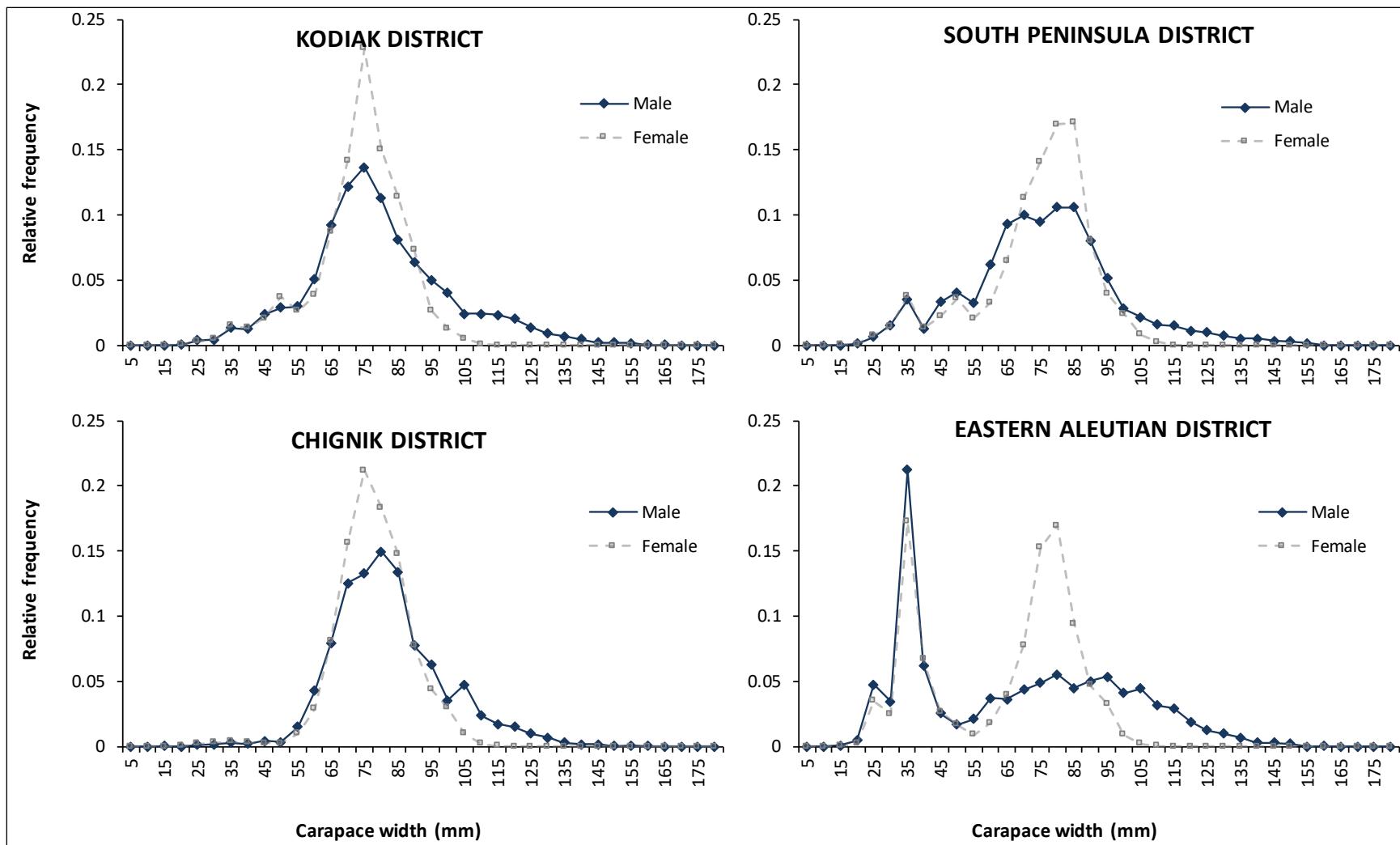


Figure 6.—Tanner crab relative size frequency by sex and district from the 2019 large-mesh bottom trawl survey.

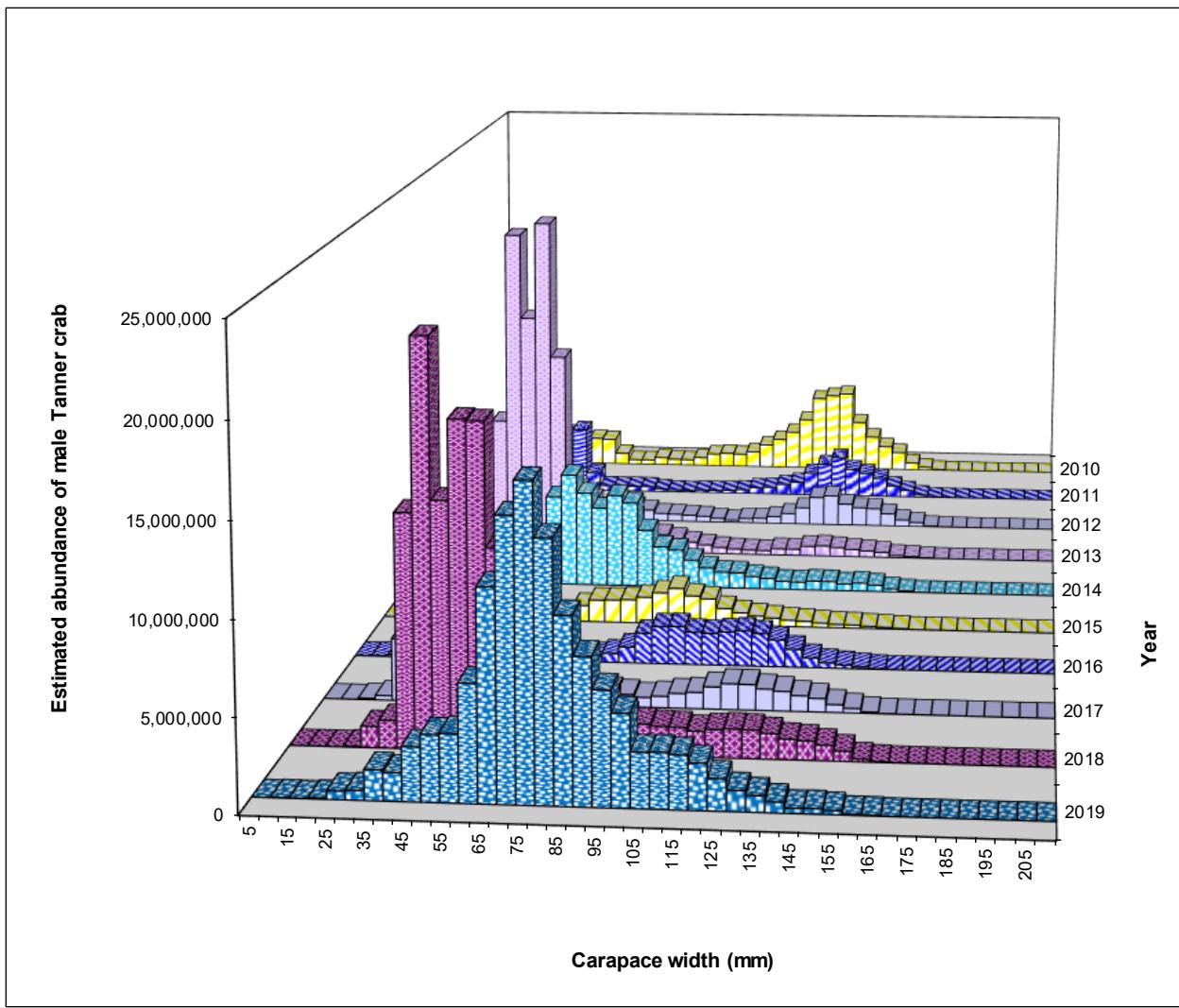


Figure 7.—Tanner crab male abundance estimate by carapace width in the Kodiak District large-mesh bottom trawl surveys, 2010–2019.

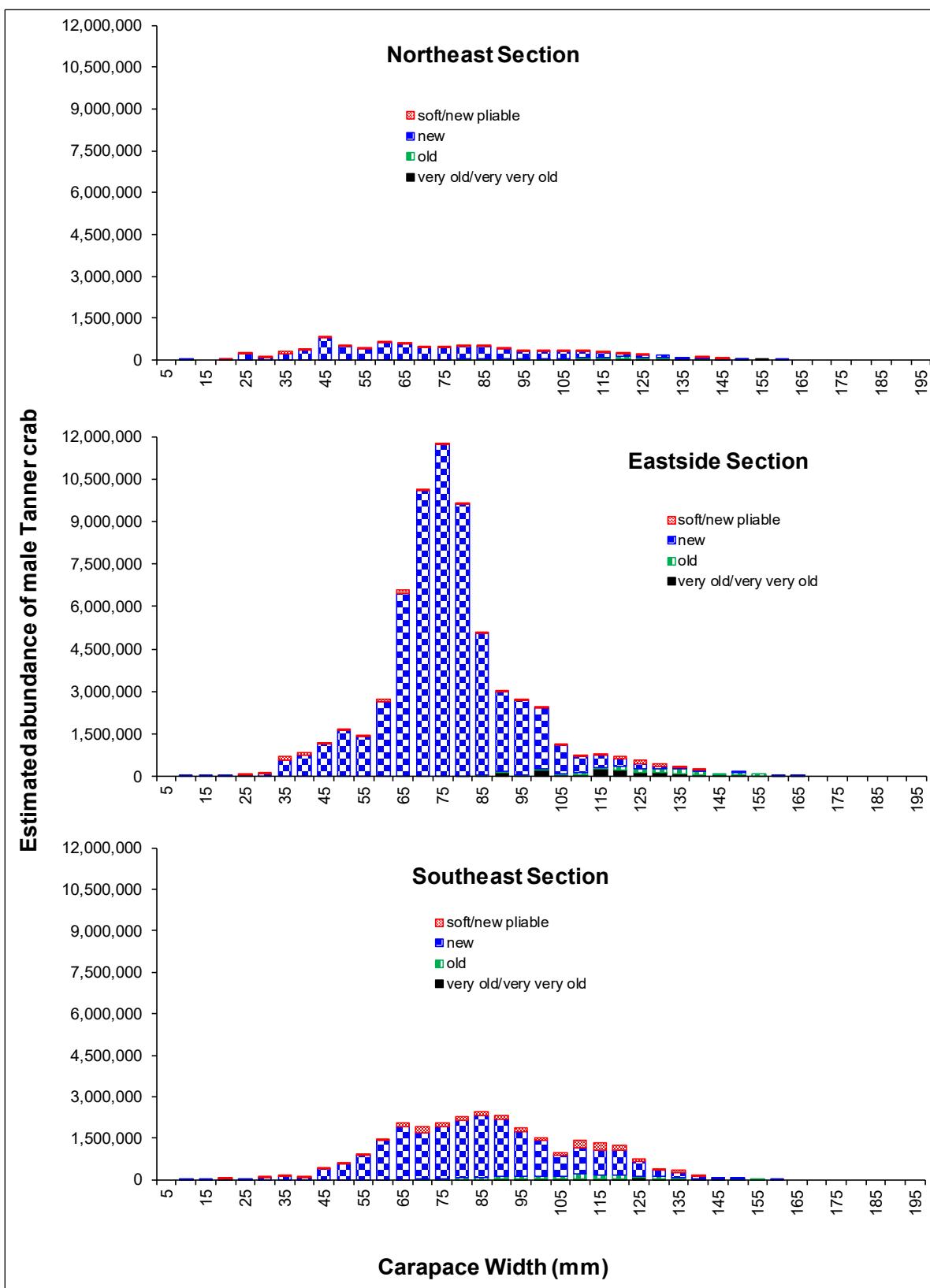


Figure 8.—Tanner crab male abundance estimate by carapace width and shell condition from the Northeast, Eastside, and Southeast sections of the 2019 Kodiak District large-mesh bottom trawl survey.

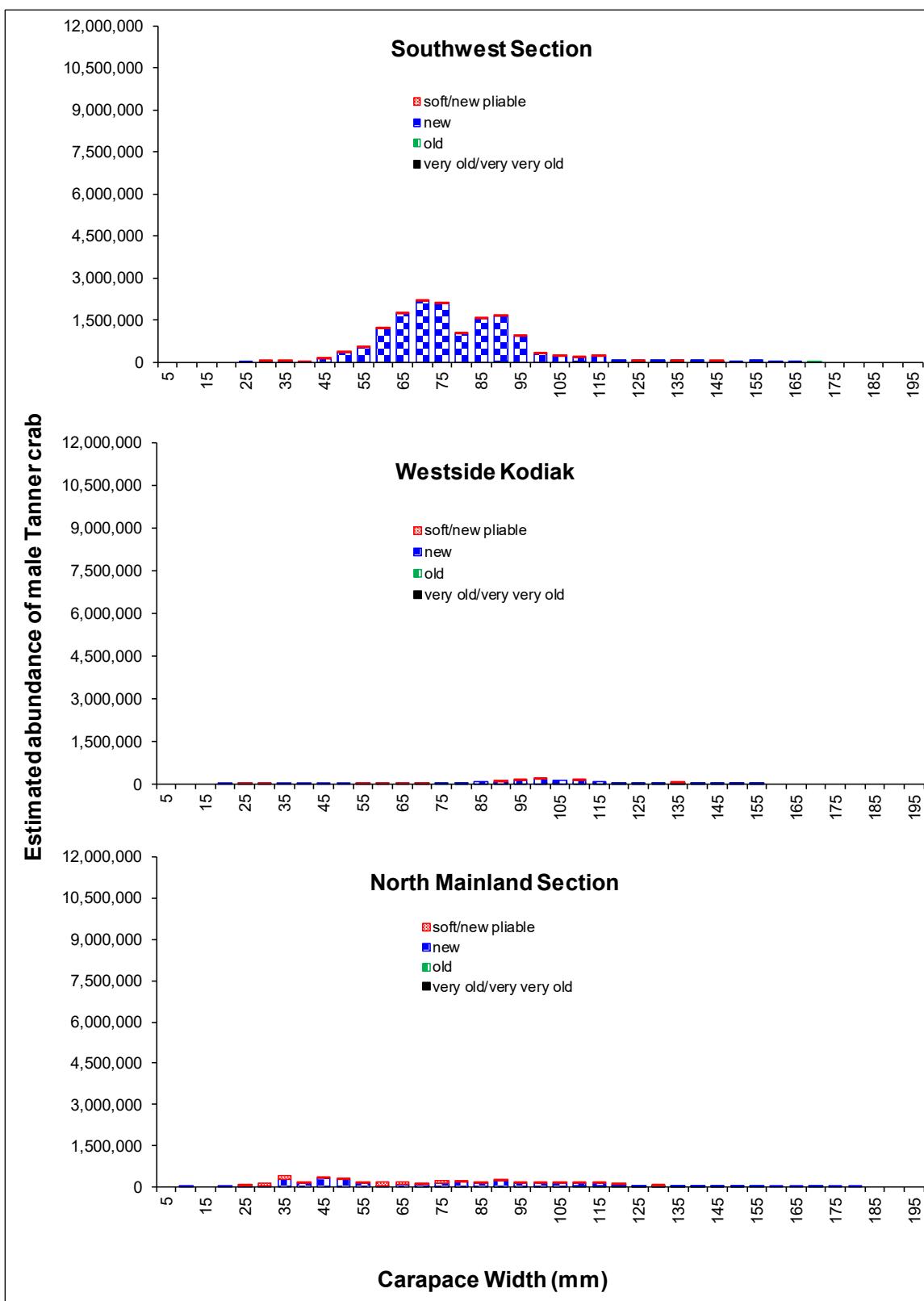


Figure 9.—Tanner crab male abundance estimate by carapace width and shell condition from the Southwest, Westside, and North Mainland sections of the 2019 Kodiak District large-mesh bottom trawl survey.

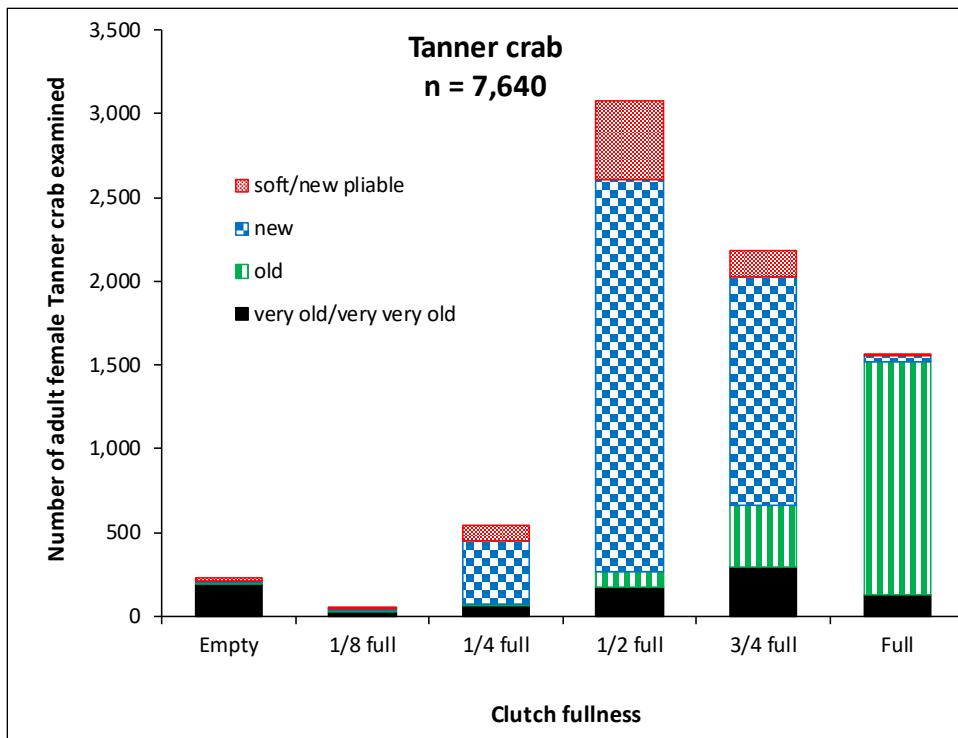


Figure 10.—Tanner crab mature female egg clutch fullness by shell condition in the Kodiak District large-mesh bottom trawl survey, 2019.

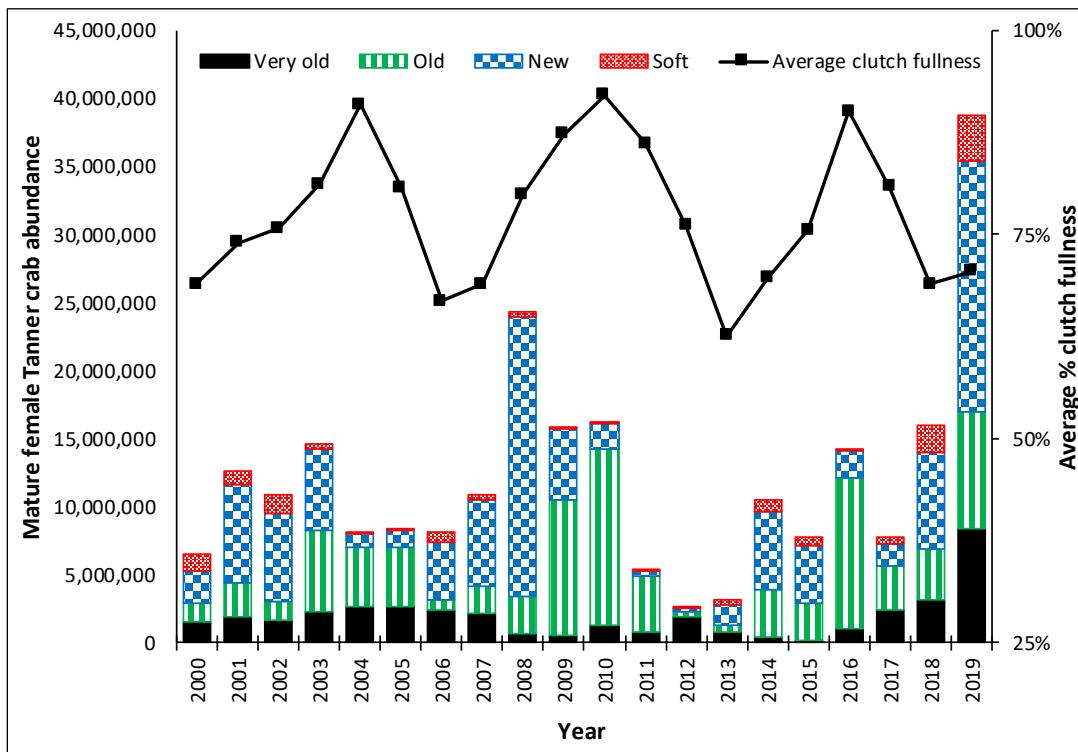


Figure 11.—Tanner crab mature female abundance by shell condition and average clutch fullness for the Kodiak District from the 2000–2019 large-mesh bottom trawl surveys.

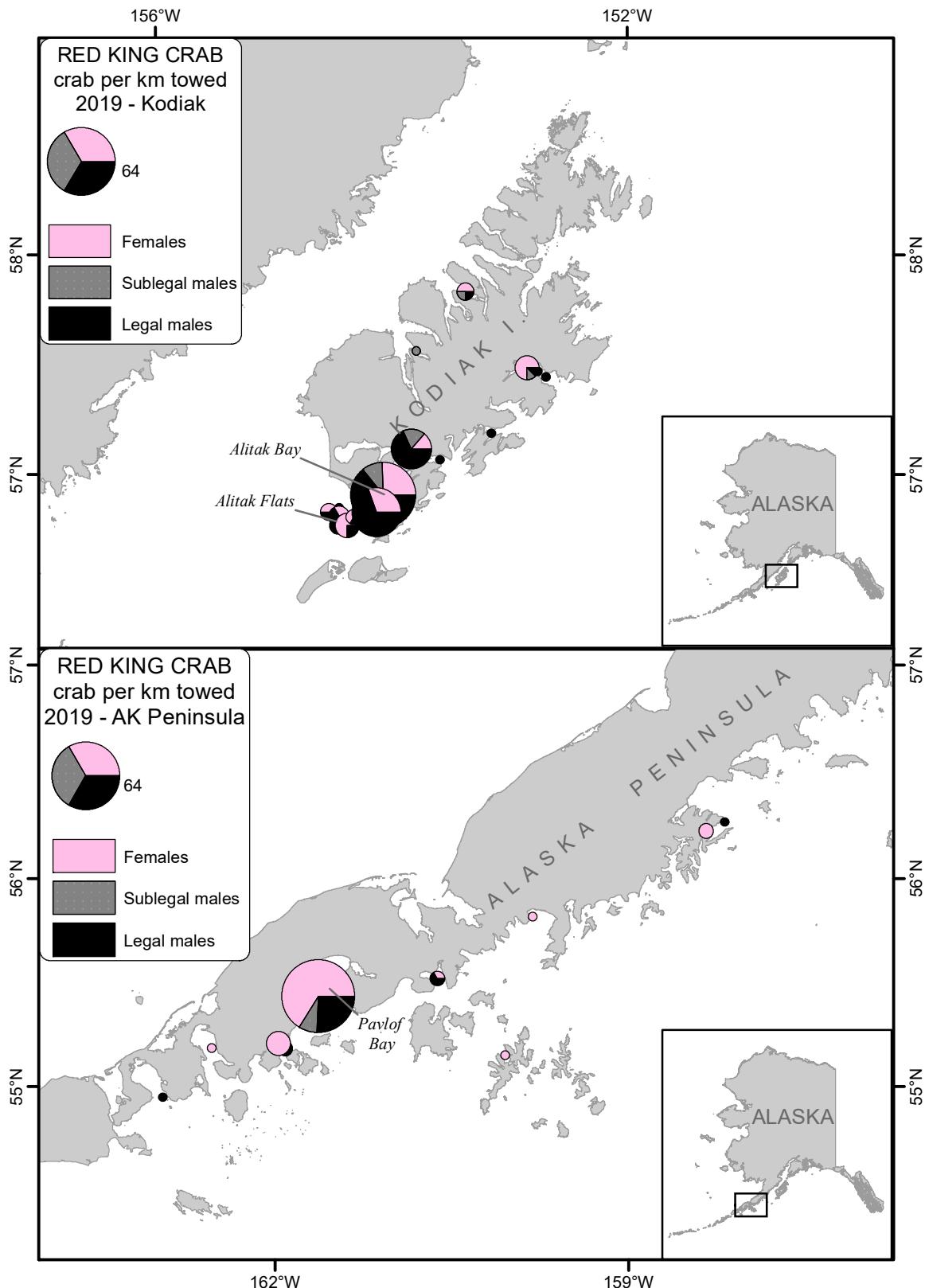


Figure 12.—Number of red king crab per kilometer towed in the 2019 Kodiak (upper) and Alaska Peninsula (lower) areas large-mesh bottom trawl survey.

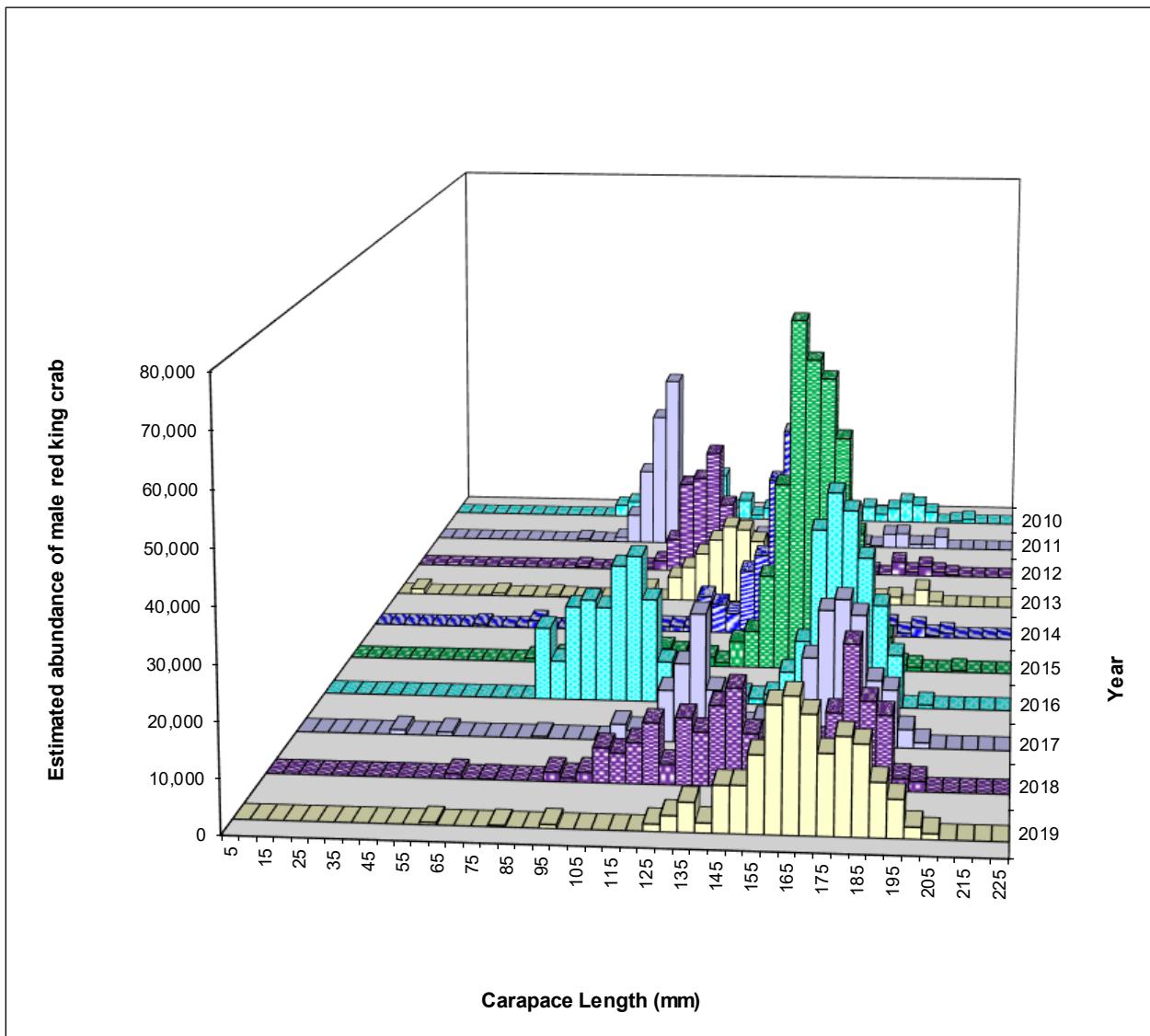


Figure 13.—Red king crab male abundance estimate by carapace length in the Kodiak Area large-mesh bottom trawl surveys, 2010–2019.

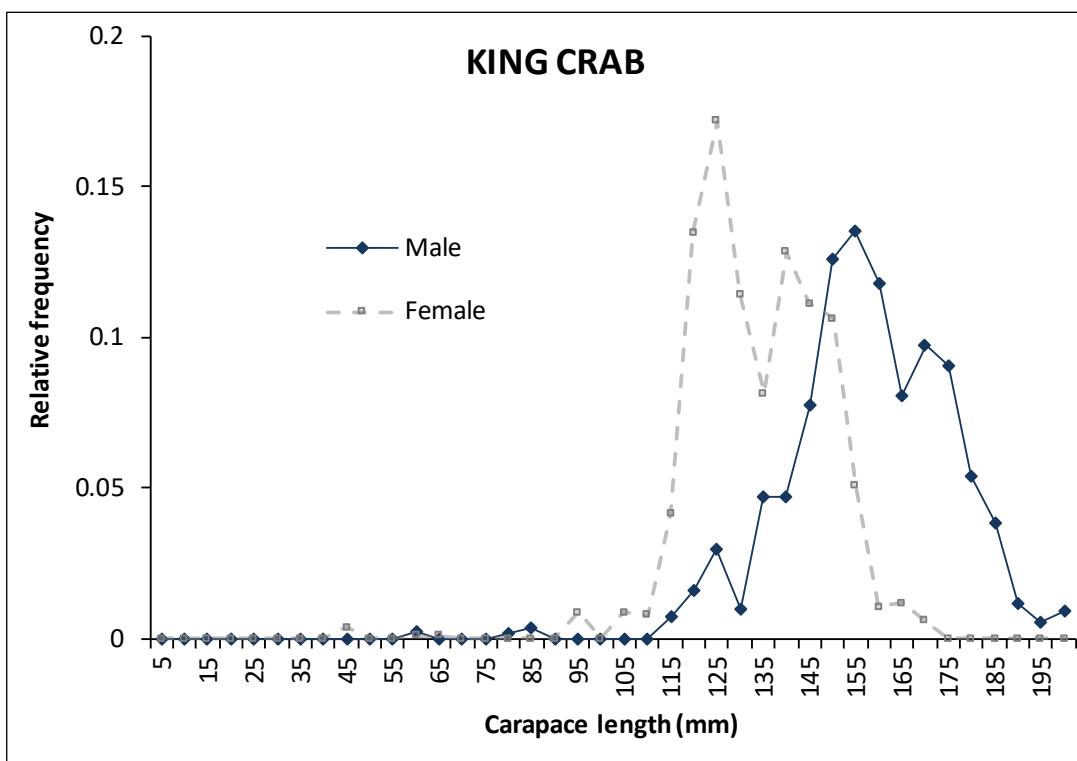


Figure 14.—Red king crab relative size frequency by sex from the Kodiak Area large-mesh bottom trawl survey, 2019.

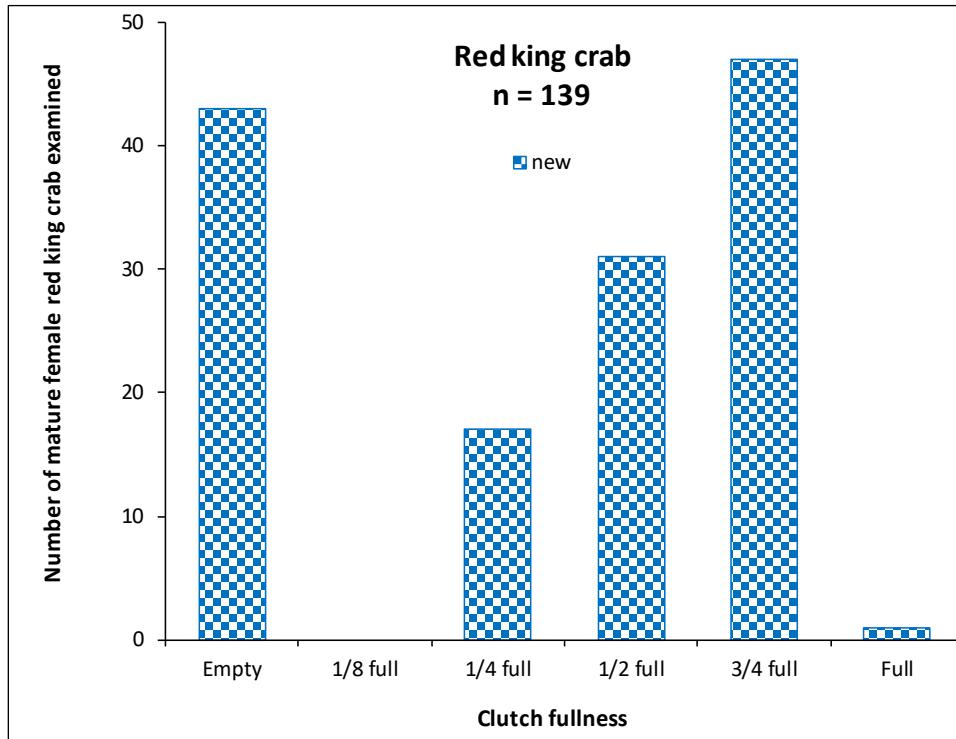


Figure 15.—Red king crab mature female egg clutch fullness by shell condition in the Kodiak Area large-mesh bottom trawl survey, 2019.

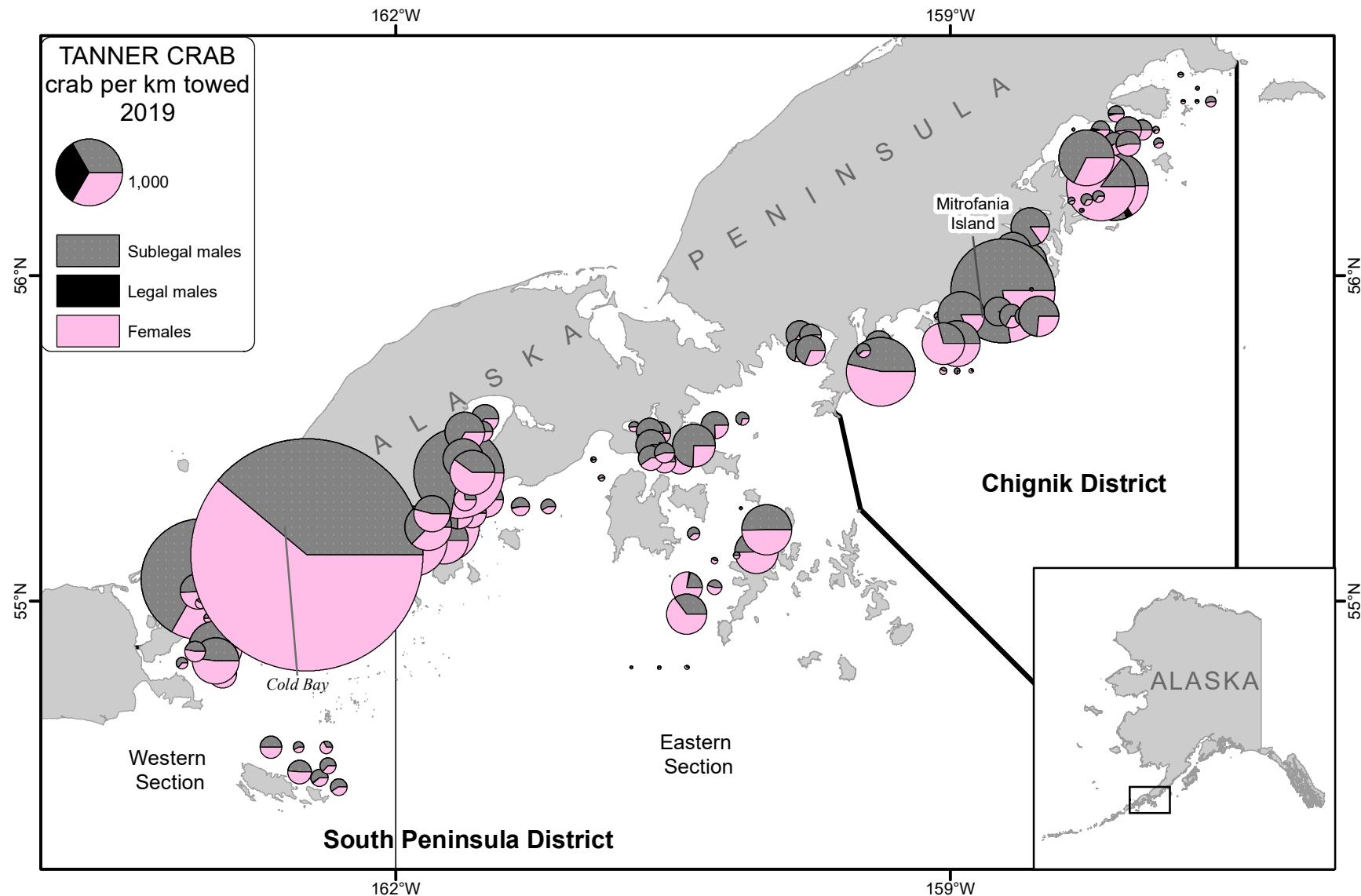


Figure 16.—Number of Tanner crab per kilometer towed in the 2019 South Peninsula and Chignik districts large-mesh bottom trawl survey.

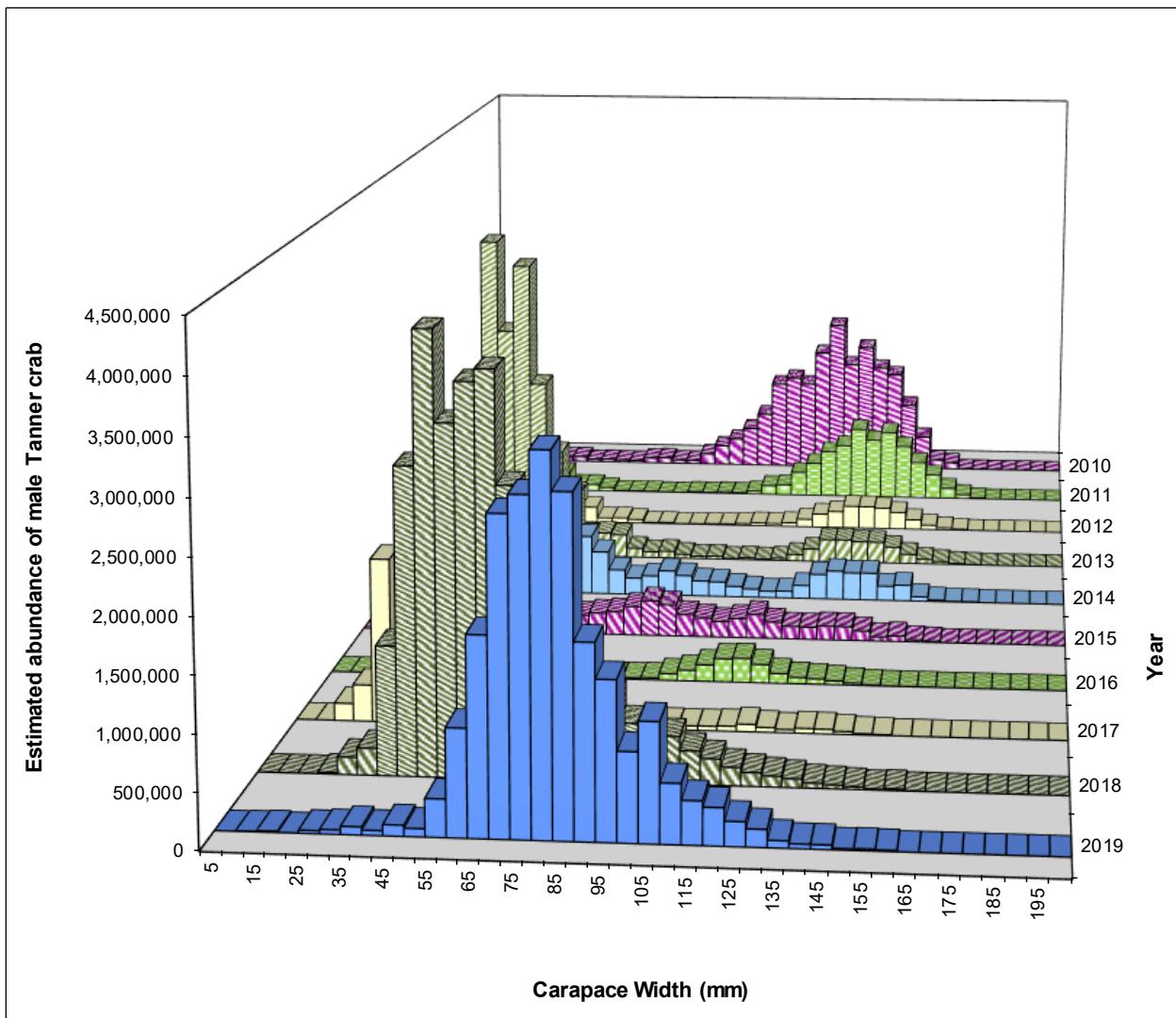


Figure 17.—Tanner crab male abundance estimate by carapace width in the Chignik District large-mesh bottom trawl surveys, 2010–2019.

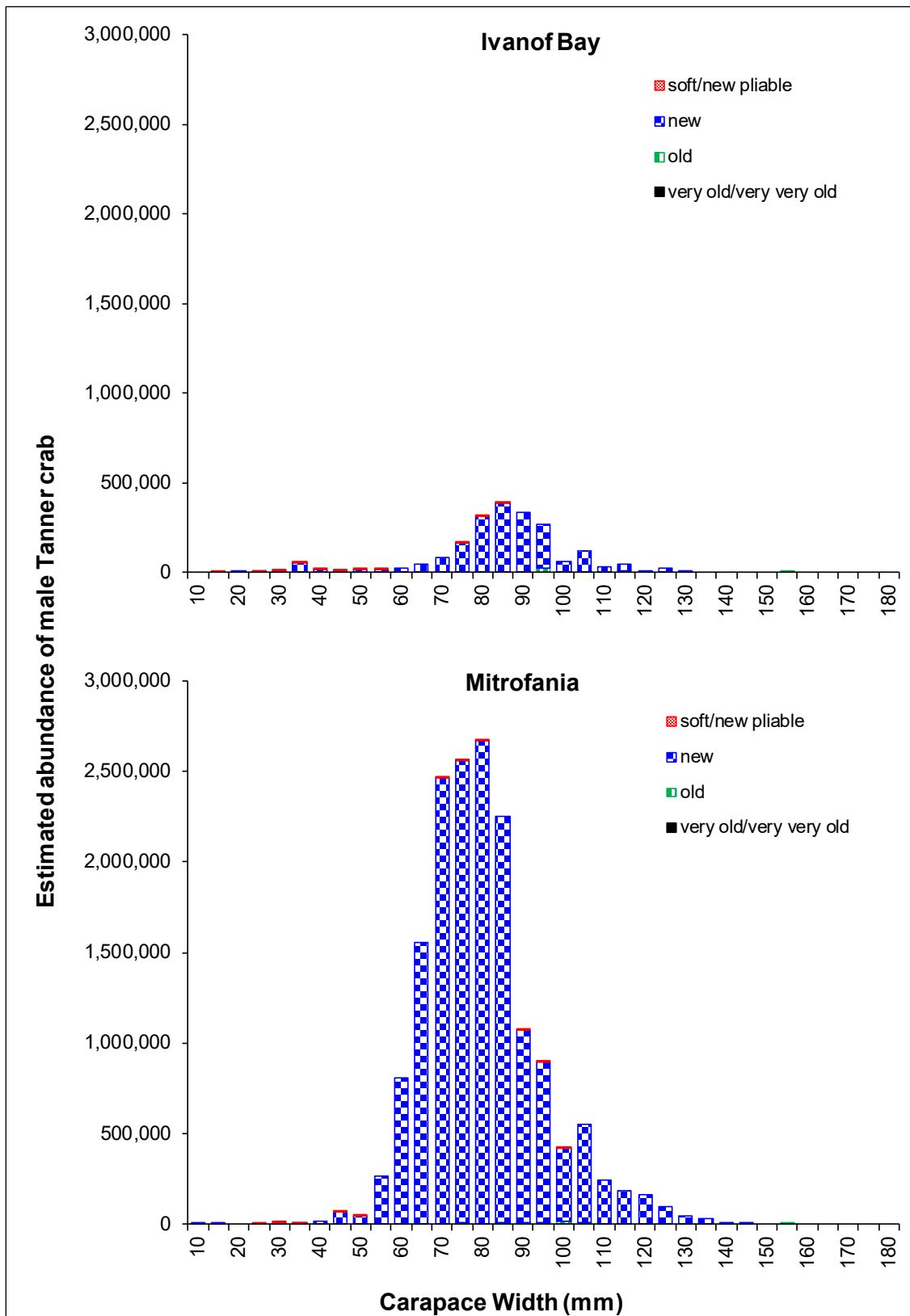


Figure 18.—Tanner crab male abundance estimate by carapace width and shell condition from Ivanof Bay and Mitrofania in the 2019 Chignik District large-mesh bottom trawl survey.

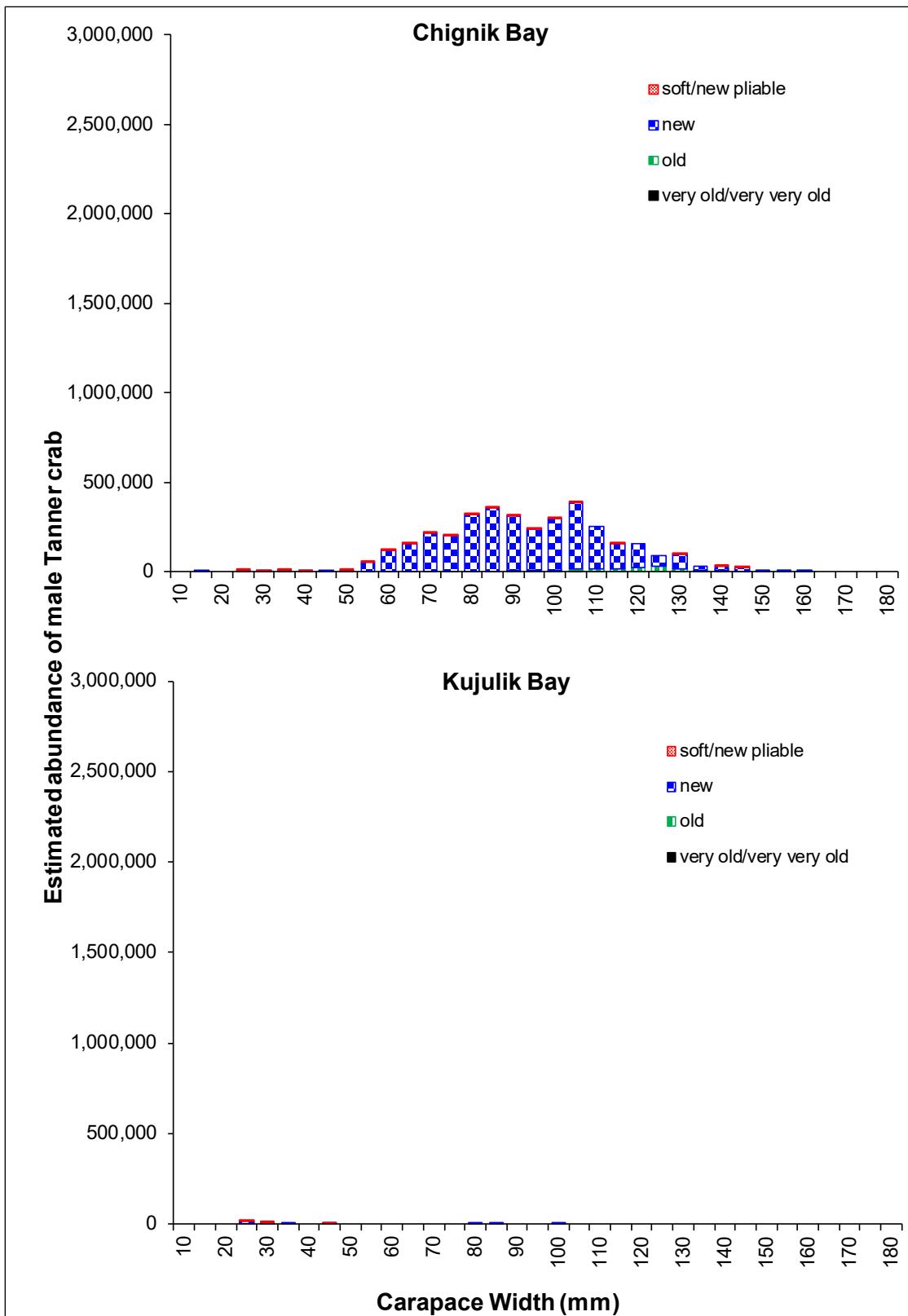


Figure 19.—Tanner crab male abundance estimate by carapace width and shell condition from Chignik Bay and Kujulik Bay in the 2019 Chignik District large-mesh bottom trawl survey.

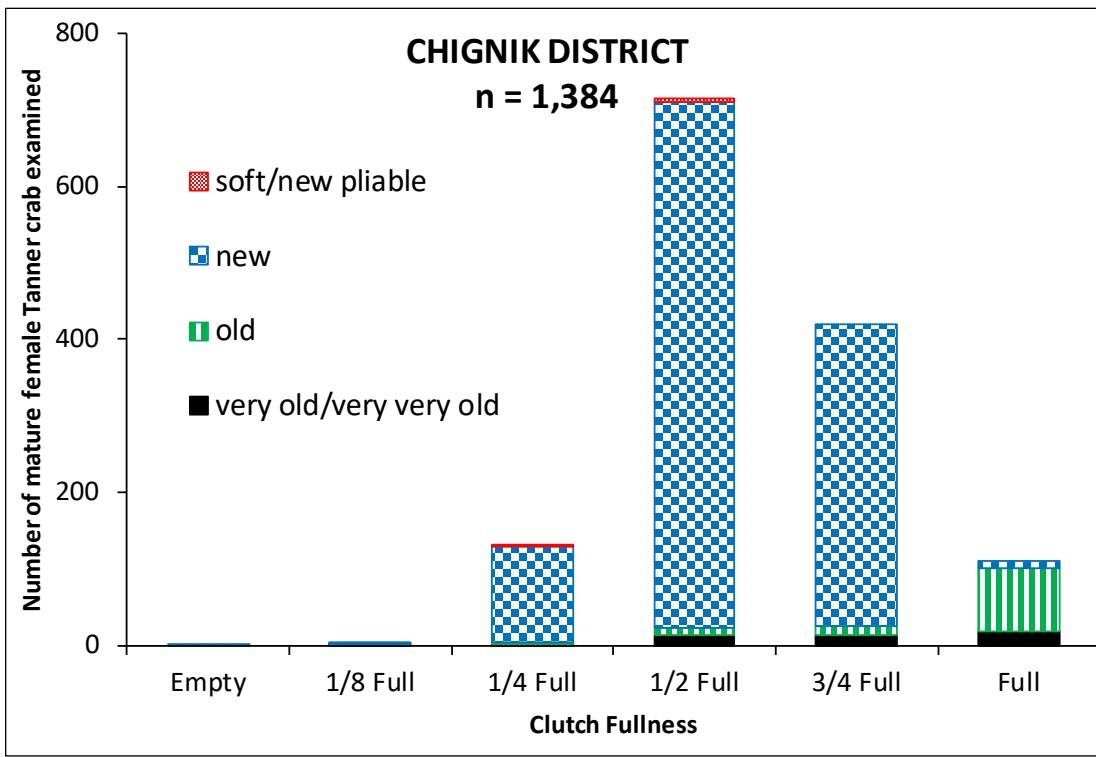


Figure 20.—Tanner crab mature female egg clutch fullness by shell condition in the Chignik District large-mesh bottom trawl survey, 2019.

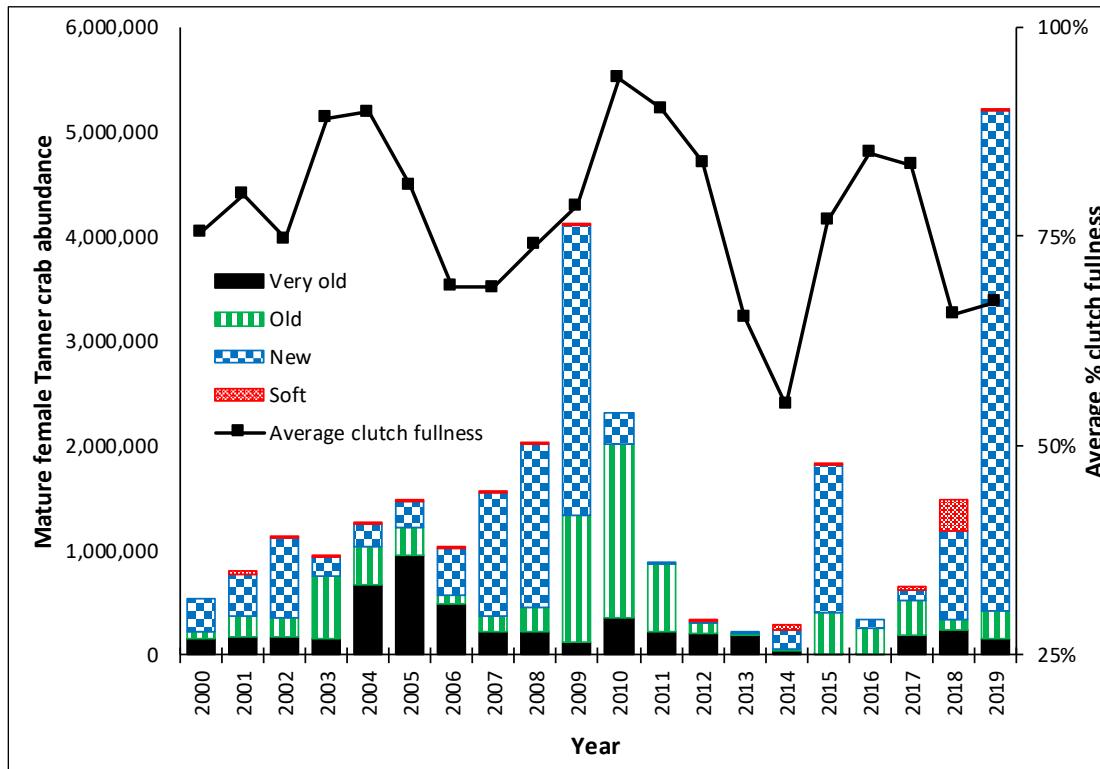


Figure 21.—Tanner crab mature female abundance by shell condition and average clutch fullness for the Chignik District from the 2000–2019 large-mesh bottom trawl surveys.

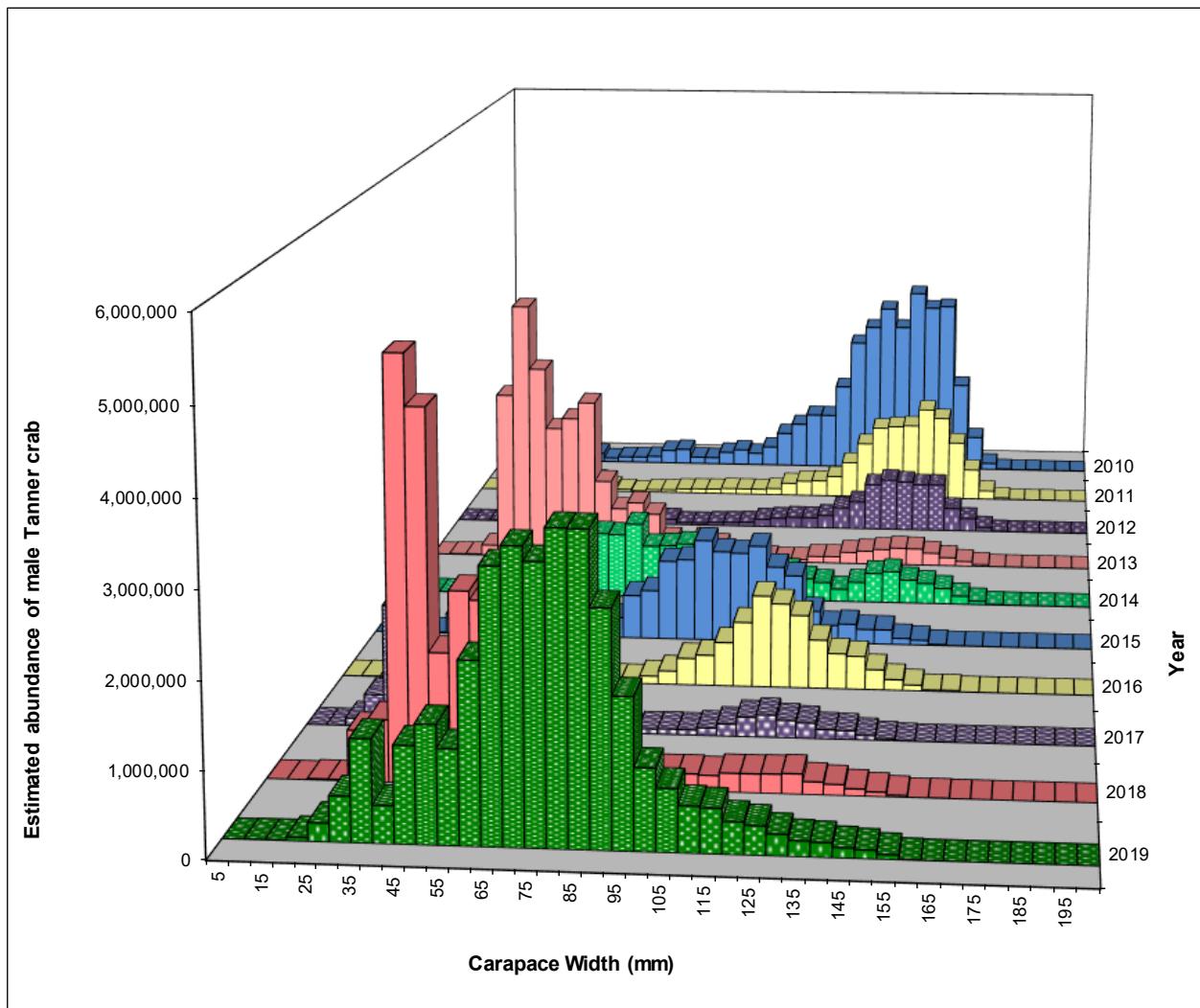


Figure 22.—Tanner crab male abundance estimate by carapace width in the South Peninsula District large-mesh bottom trawl surveys, 2010–2019.

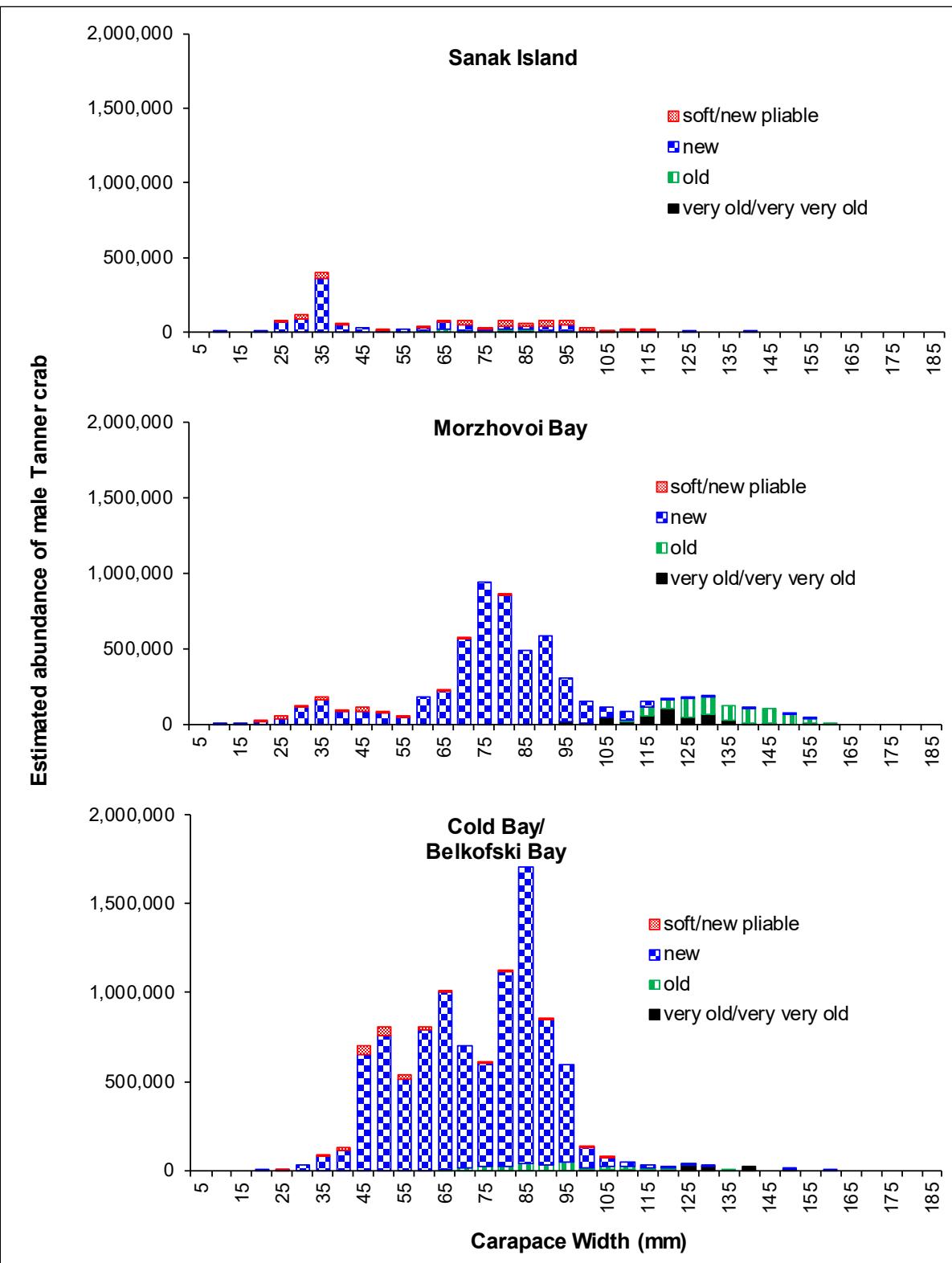


Figure 23.—Tanner crab male abundance estimate by carapace width and shell condition from Sanak Island, Morzhovoi Bay, and Cold Bay/Belkofski Bay in the Western Section of the 2019 South Peninsula District large-mesh bottom trawl survey.

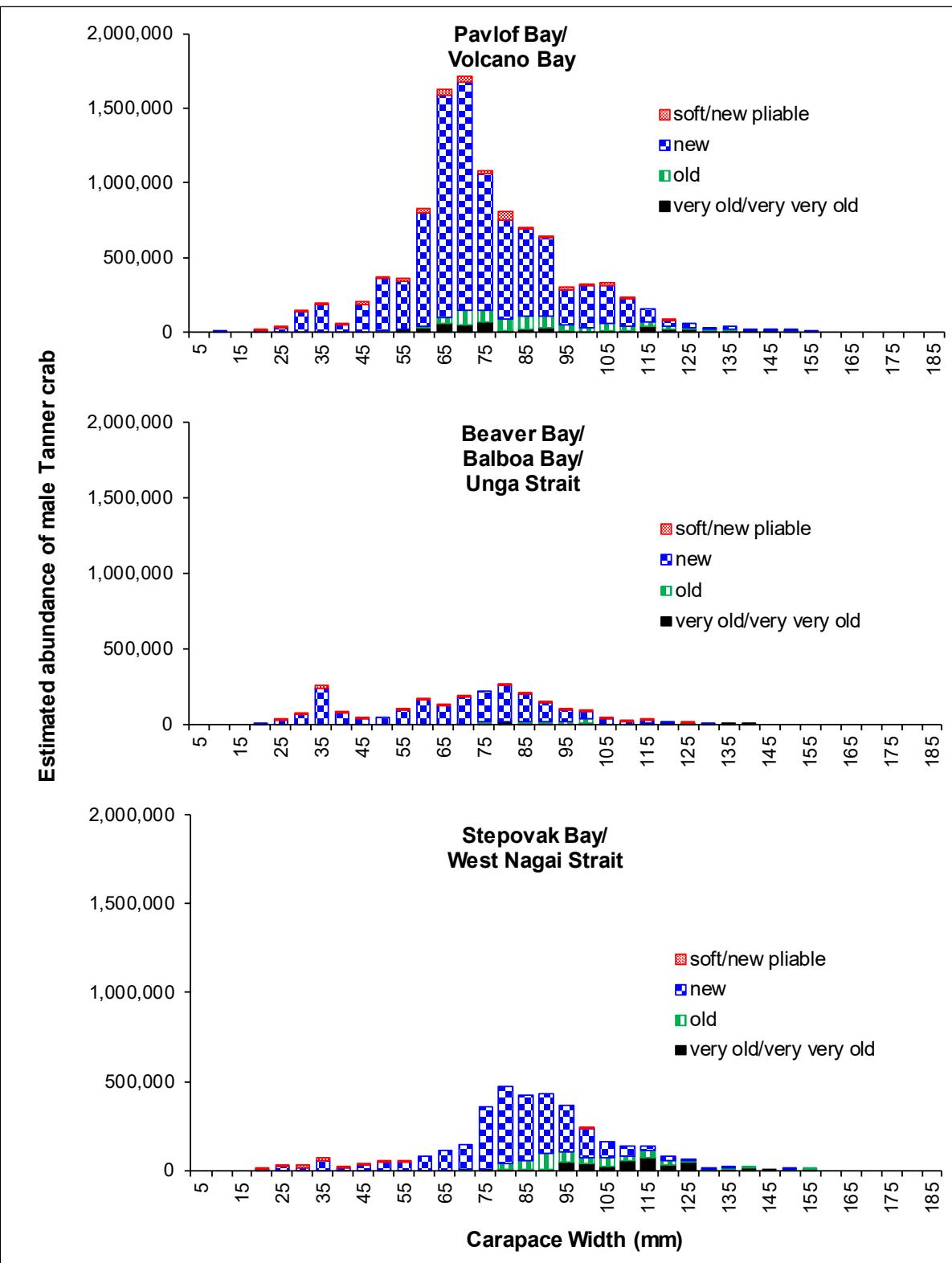


Figure 24.—Tanner crab male abundance estimate by carapace width and shell condition from Pavlof Bay/Volcano Bay, Beaver Bay/Balboa Bay/Unga Strait, and Stepovak Bay/West Nagai Strait in the Eastern Section of the 2019 South Peninsula District large-mesh bottom trawl survey.

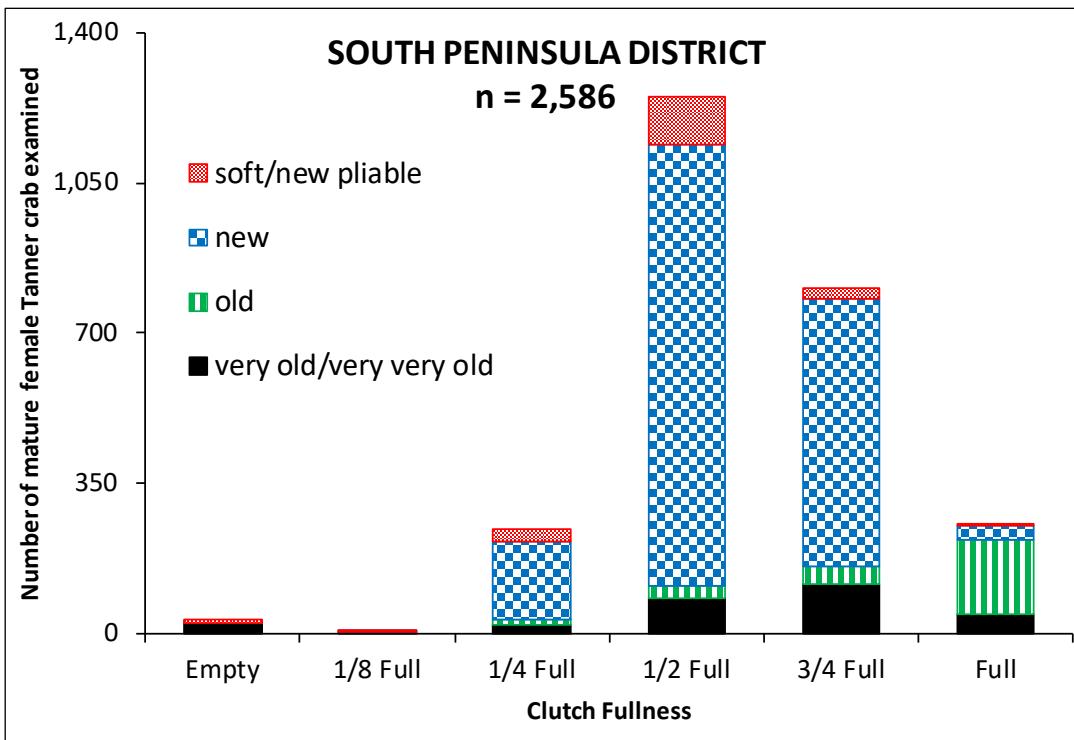


Figure 25.—Tanner crab mature female egg clutch fullness by shell condition in the South Peninsula District large-mesh bottom trawl survey, 2019.

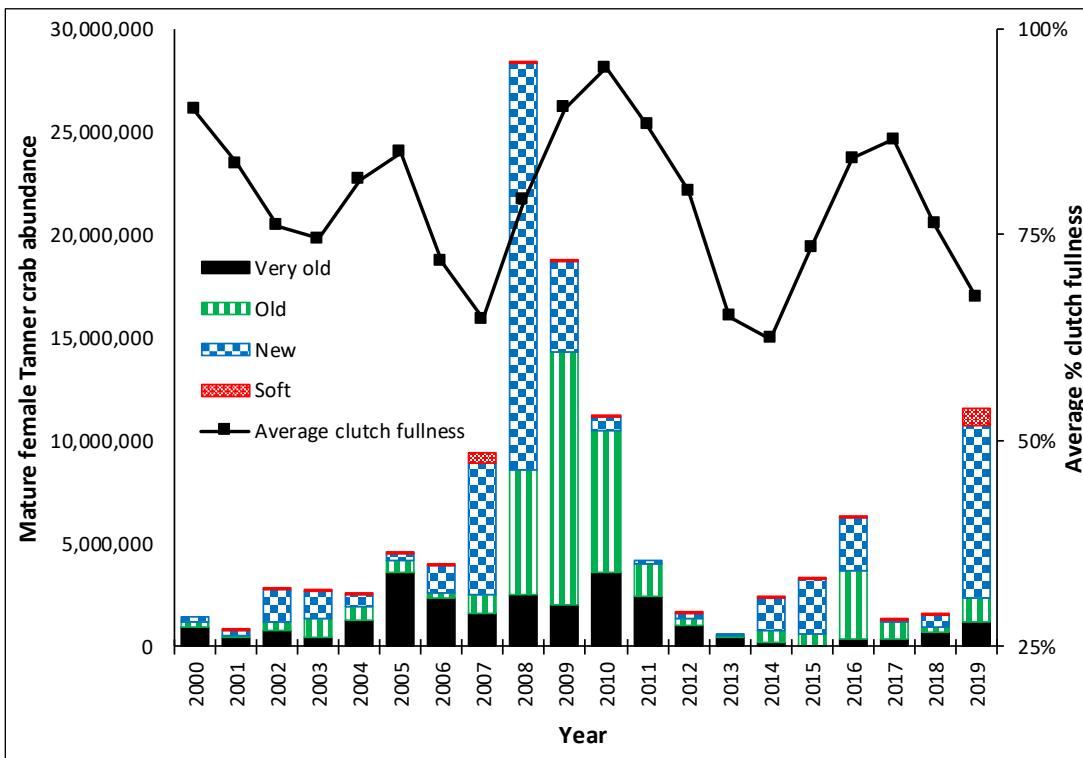


Figure 26.—Tanner crab mature female abundance by shell condition and average clutch fullness for the South Peninsula District from the 2000–2019 large-mesh bottom trawl surveys.

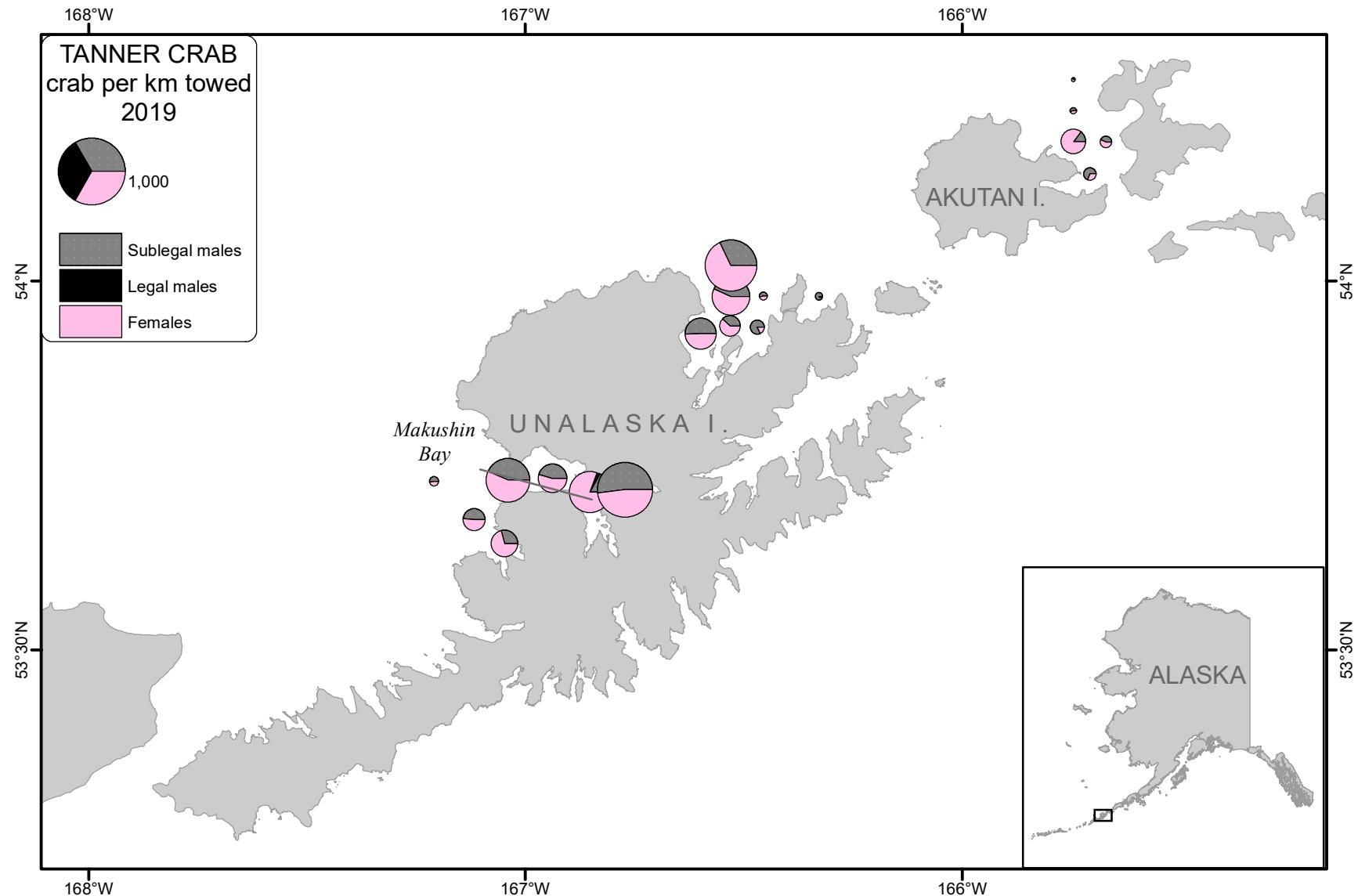


Figure 27.—Number of Tanner crab per kilometer towed in the 2019 Eastern Aleutian District large-mesh bottom trawl survey.

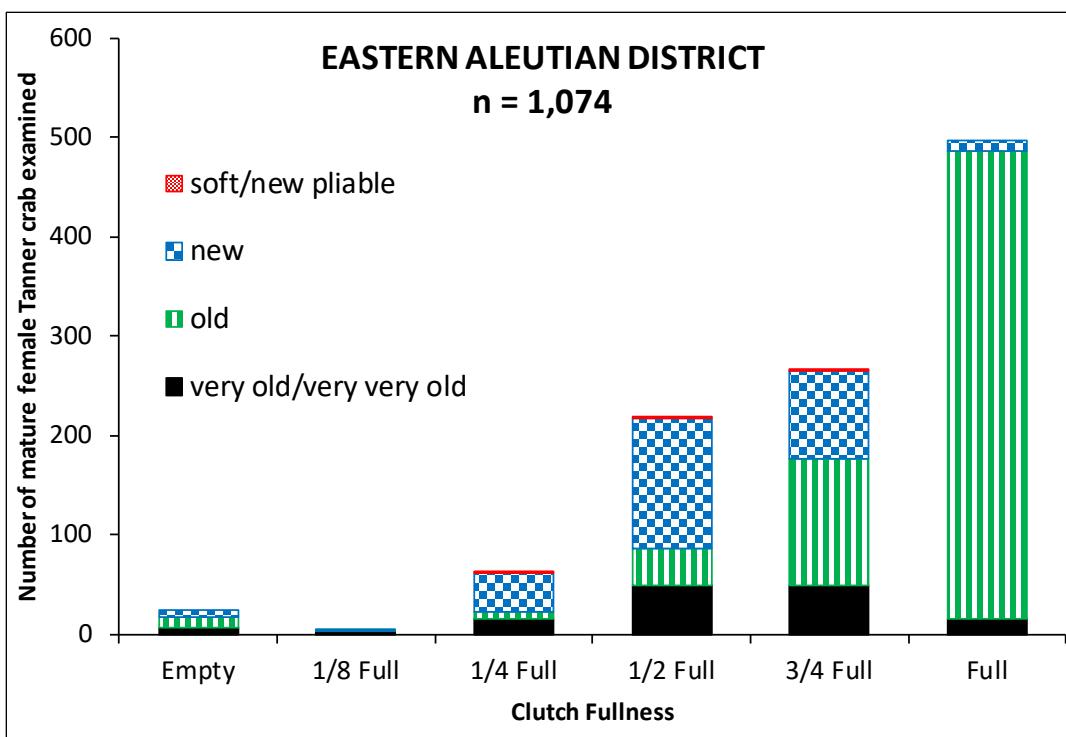


Figure 28.—Tanner crab mature female egg clutch fullness by shell condition in the Eastern Aleutian District large-mesh bottom trawl survey, 2019.

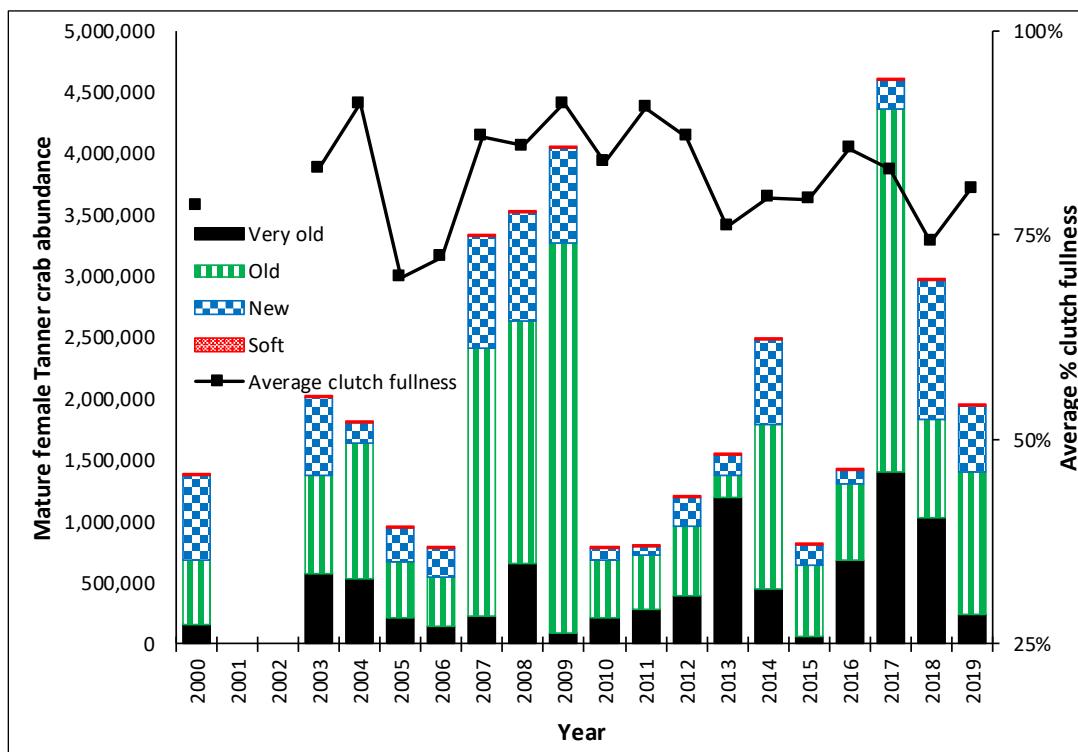


Figure 29.—Tanner crab mature female abundance by shell condition and average clutch fullness for the Eastern Aleutian District from the 2000–2019 large-mesh bottom trawl surveys.

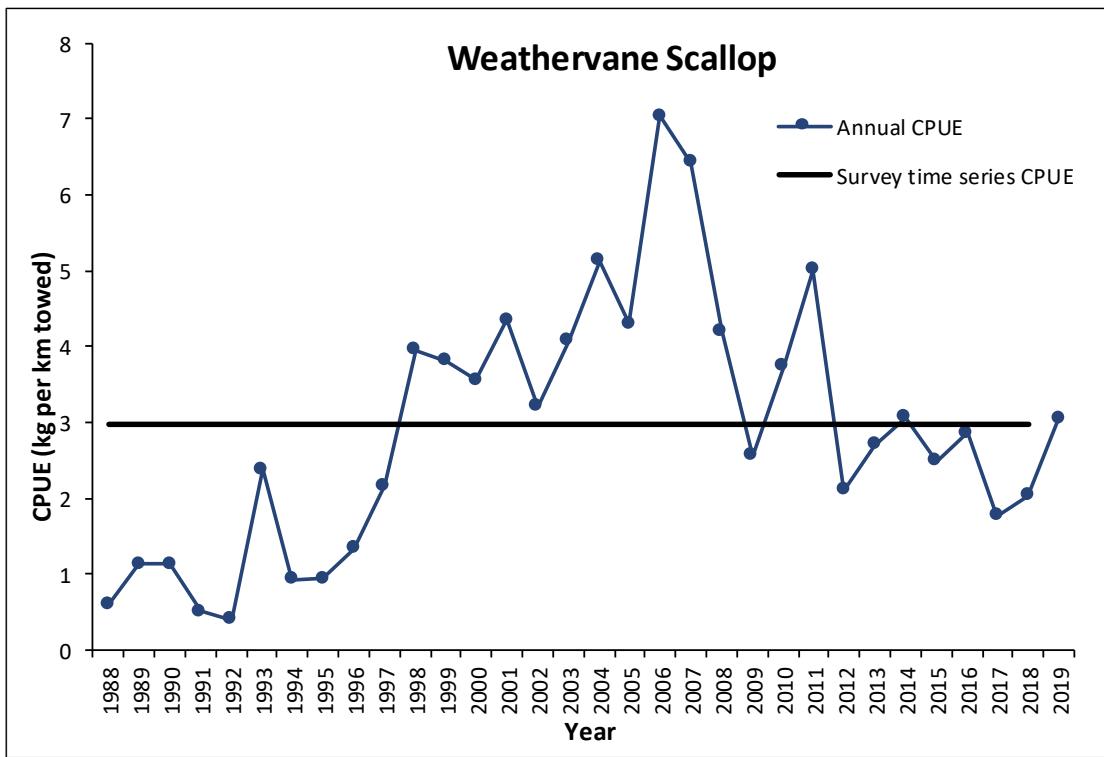


Figure 30.—Weathervane scallop annual CPUE in kilograms per kilometer towed from the 1988–2019 large-mesh bottom trawl surveys.

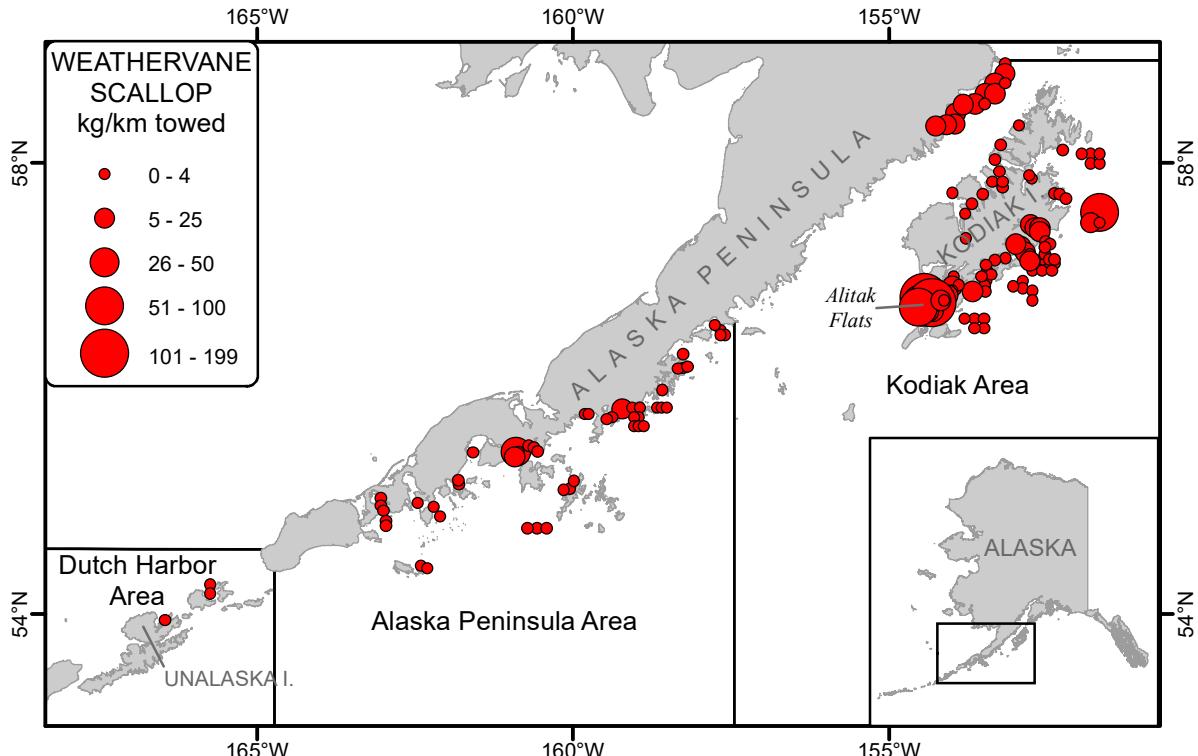


Figure 31.—Weathervane scallop station CPUE in kilograms per kilometer towed from the 2019 large-mesh bottom trawl survey.

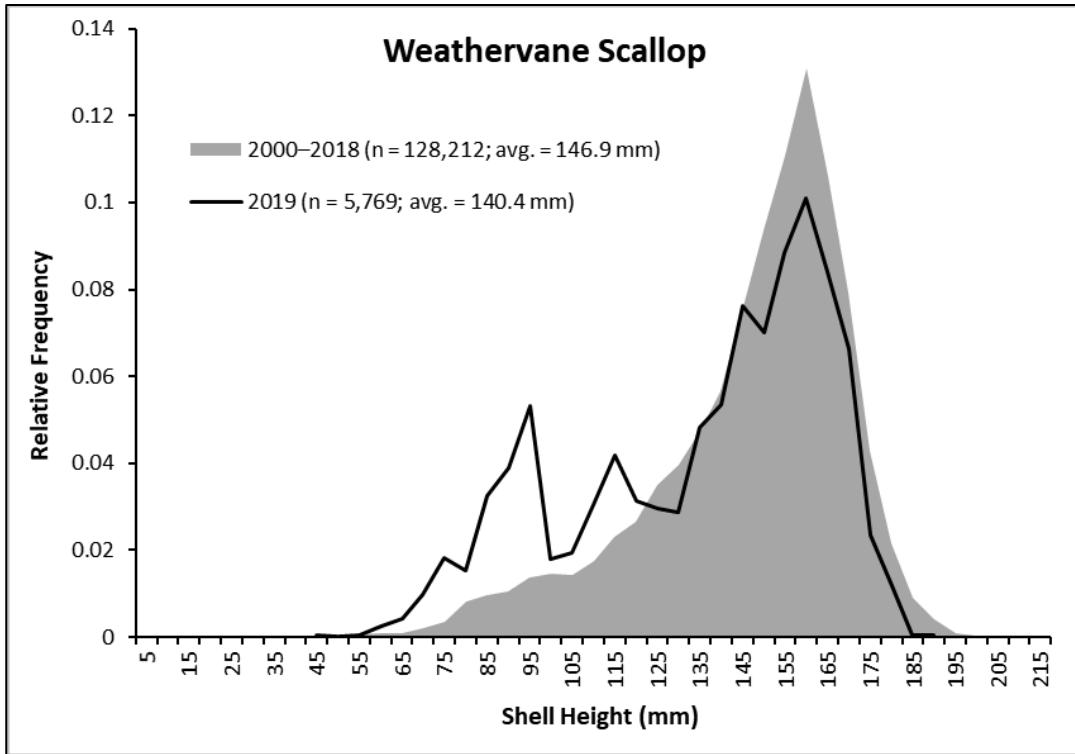


Figure 32.—Weathervane scallop shell height frequency from the large-mesh bottom trawl surveys, 2000–2019.

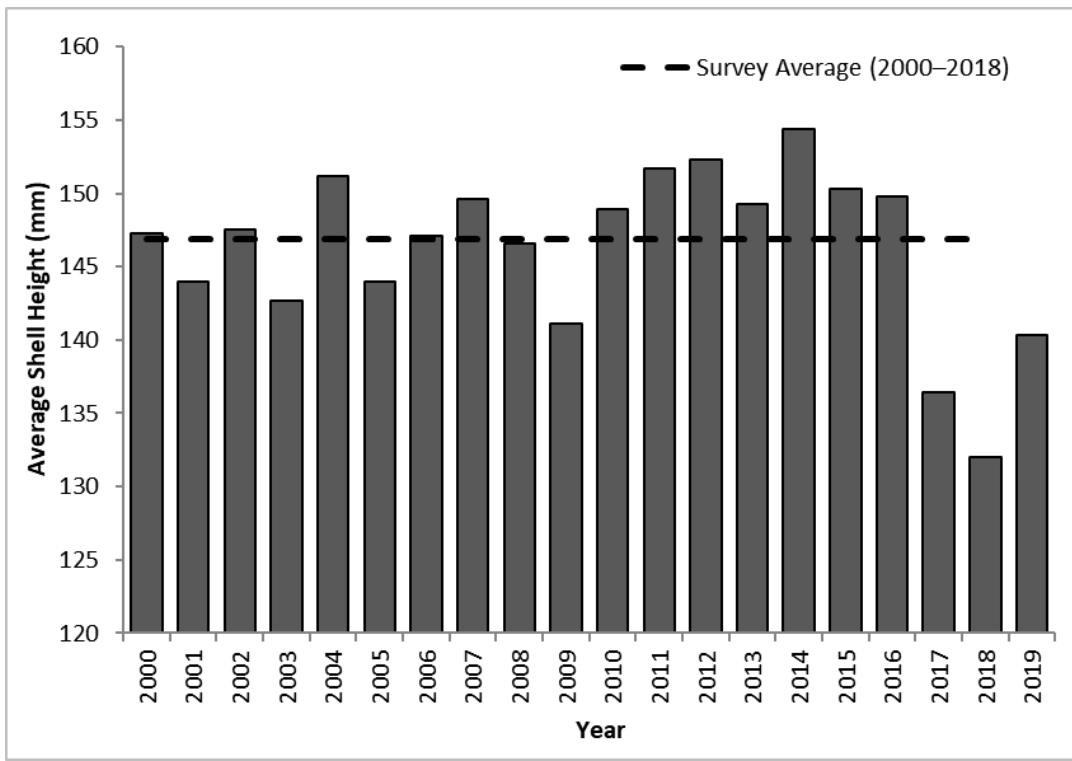


Figure 33.—Average weathervane scallop shell height from scallops caught on the large-mesh bottom trawl surveys, 2000–2019.

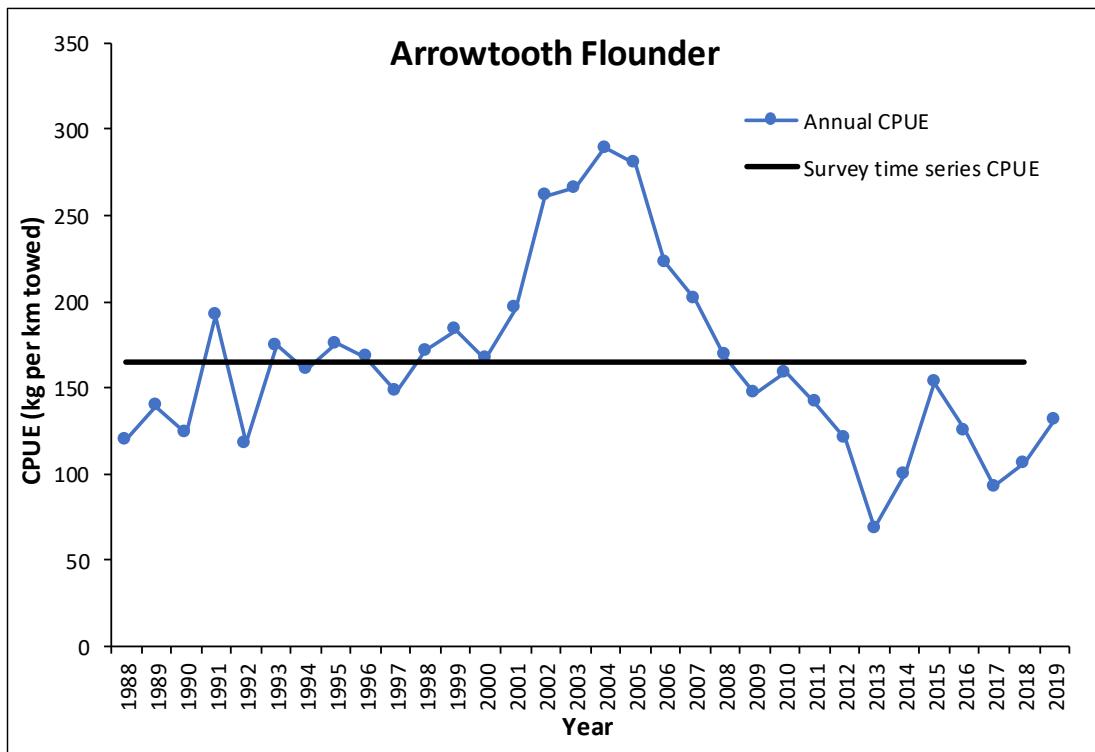


Figure 34.—Arrowtooth flounder annual CPUE in kilograms per kilometer towed from the 1988–2019 large-mesh bottom trawl surveys.

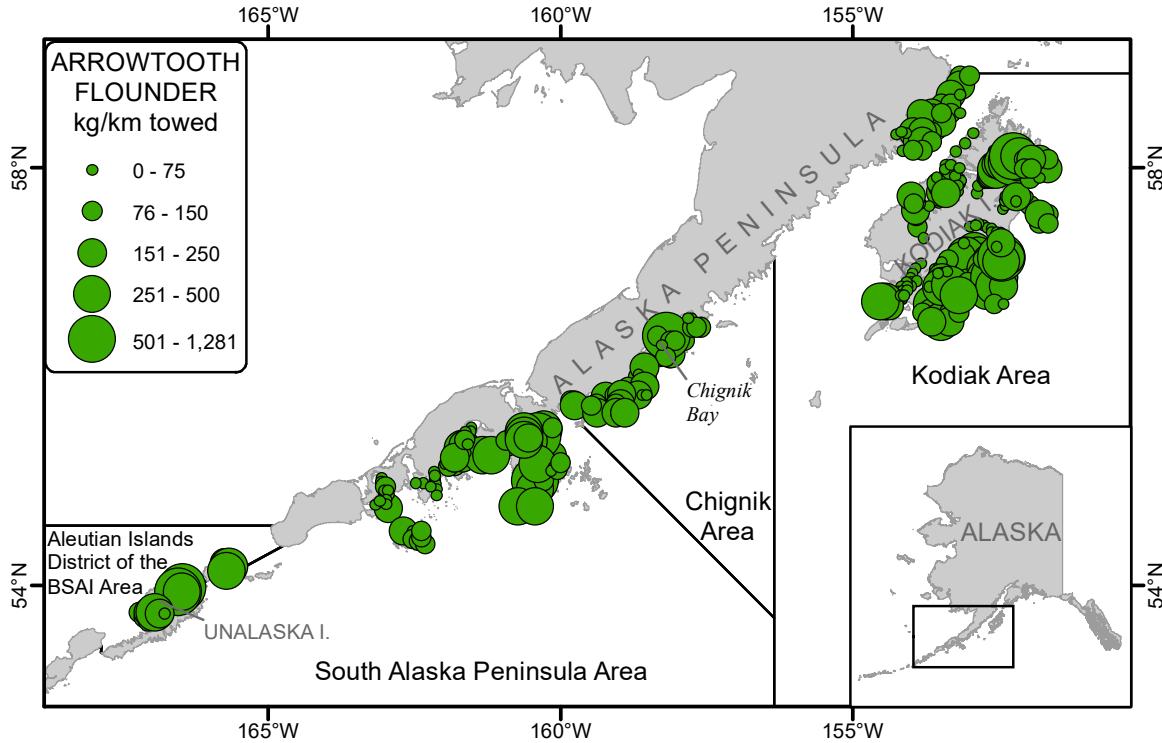


Figure 35.—Arrowtooth flounder station CPUE in kilograms per kilometer towed from the 2019 large-mesh bottom trawl survey.

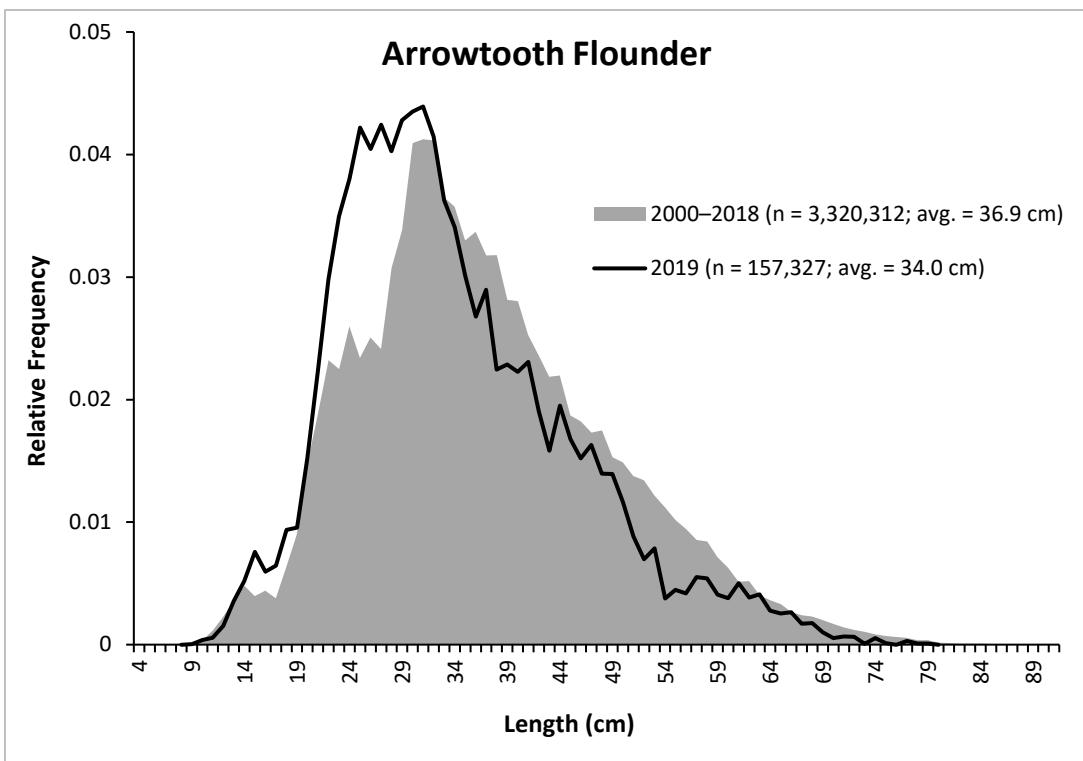


Figure 36.—Arrowtooth flounder length frequency from the large-mesh bottom trawl surveys, 2000–2019.

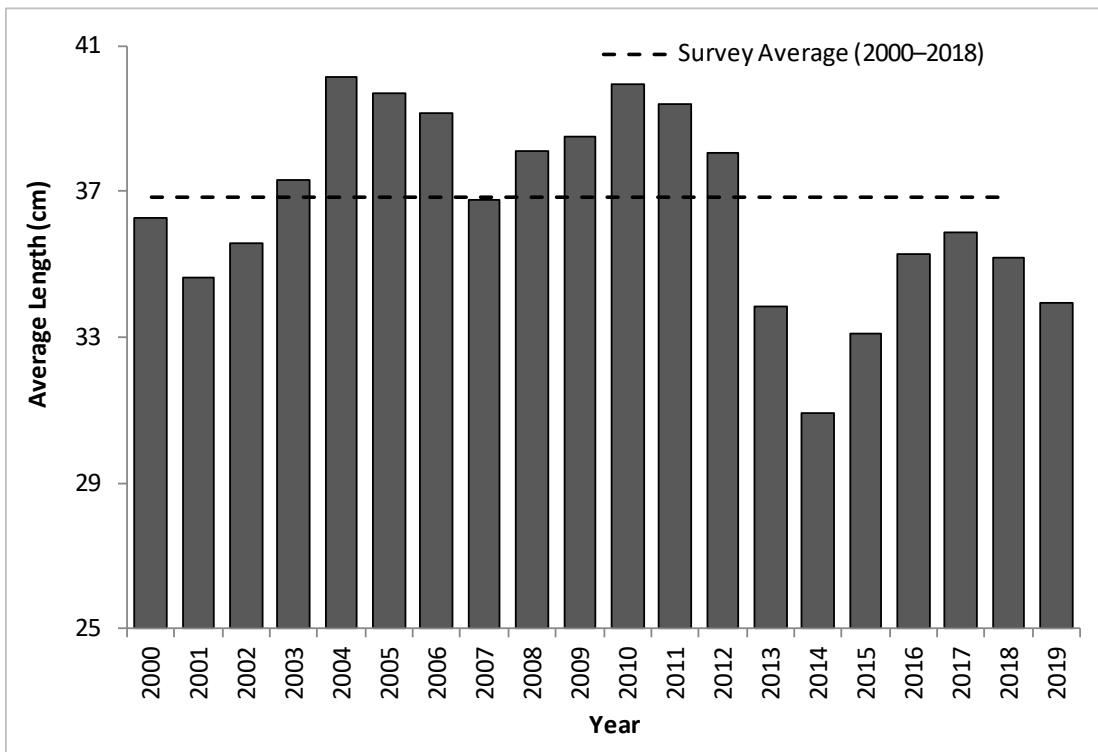


Figure 37.—Average arrowtooth flounder length from fish caught on the large-mesh bottom trawl surveys, 2000–2019.

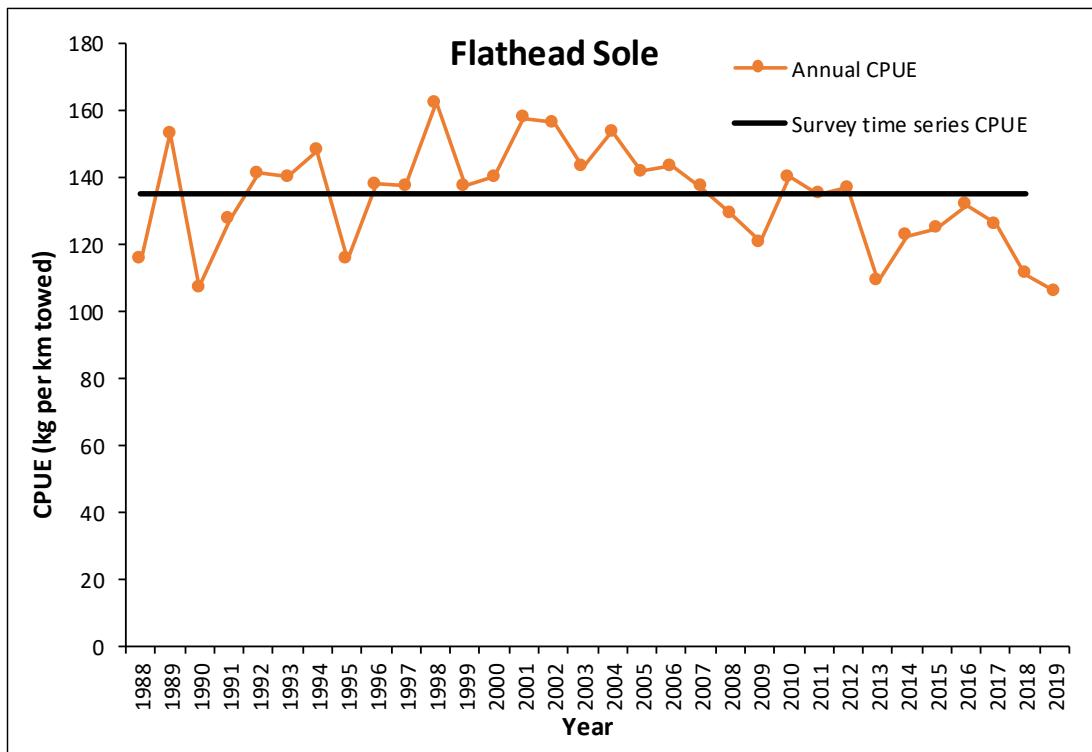


Figure 38.—Flathead sole annual CPUE in kilograms per kilometer towed from the 1988–2019 large-mesh bottom trawl surveys.

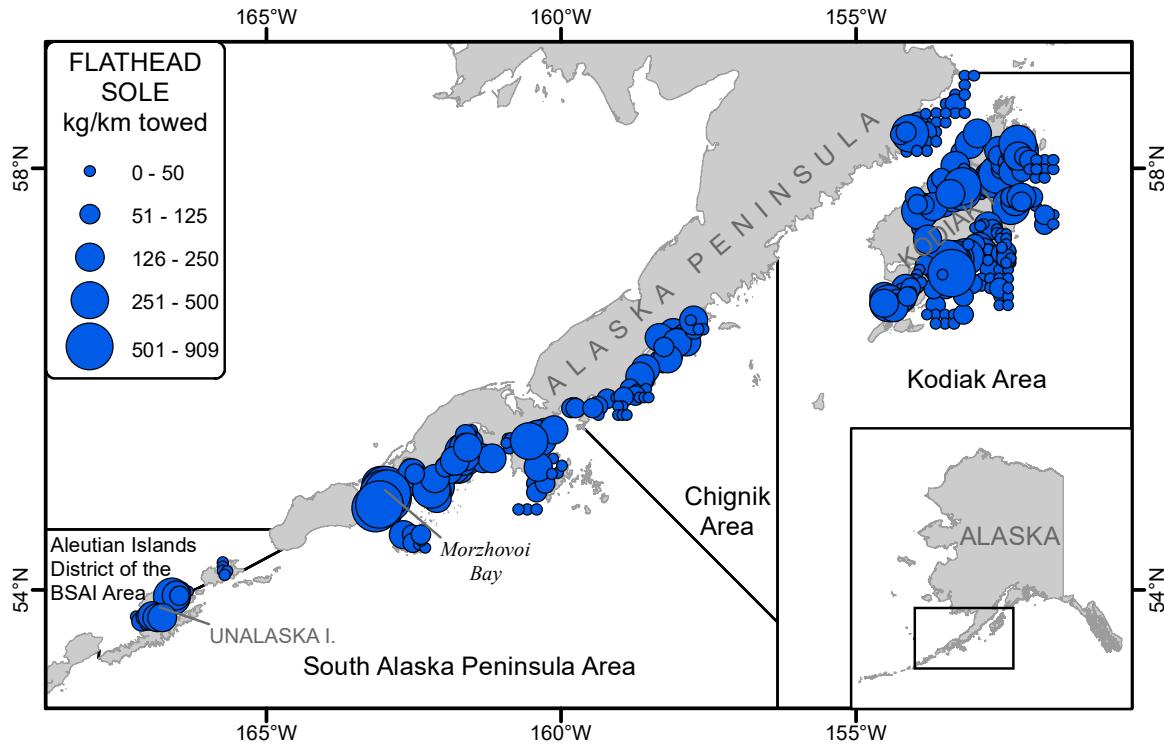


Figure 39.—Flathead sole station CPUE in kilograms per kilometer towed from the 2019 large-mesh bottom trawl survey.

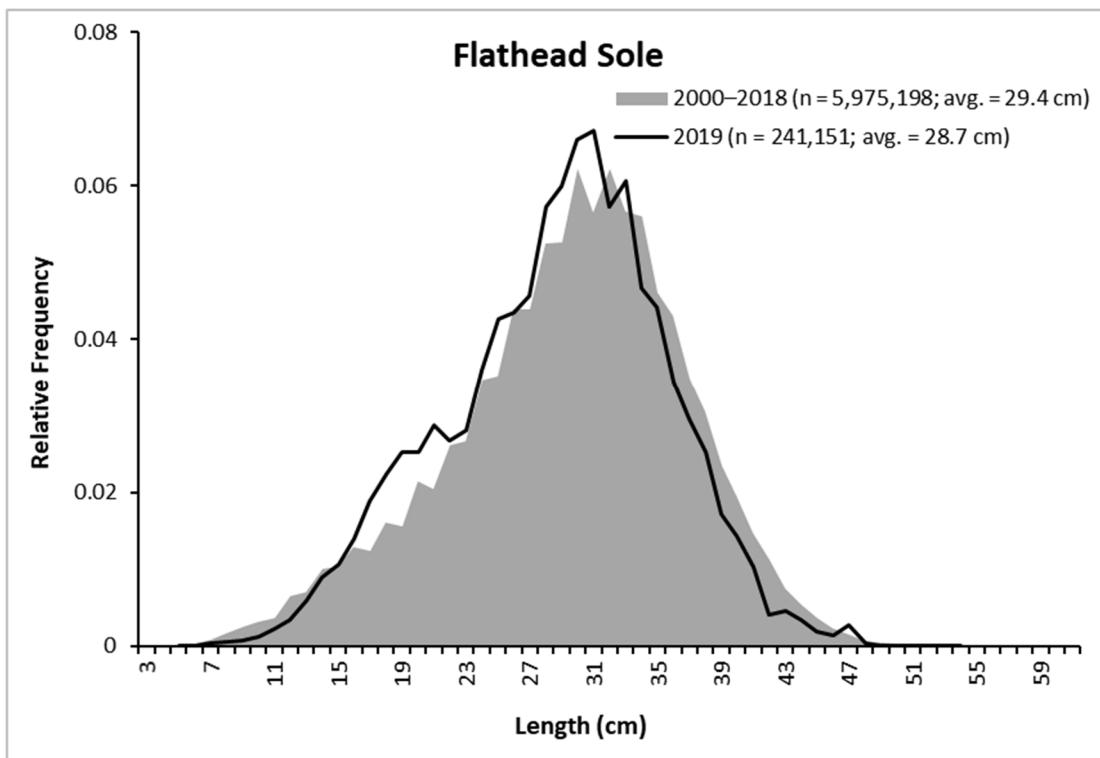


Figure 40.—Flathead sole length frequency from the large-mesh bottom trawl surveys, 2000–2019.

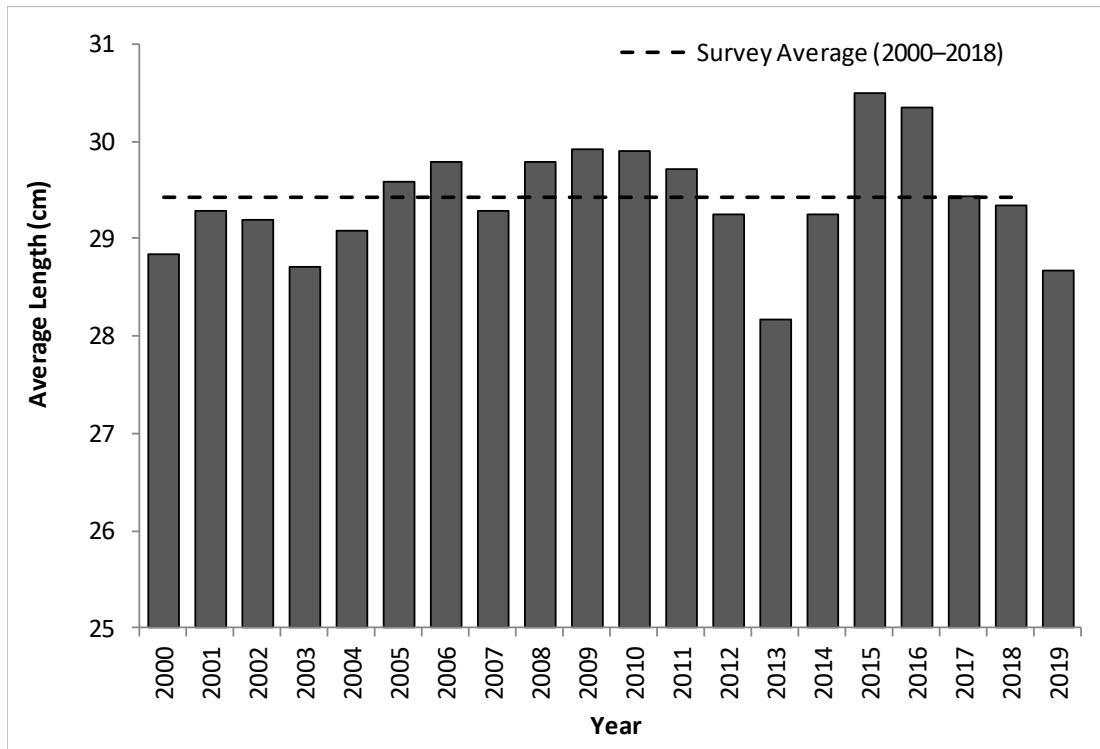


Figure 41.—Average flathead sole length from fish caught on the large-mesh bottom trawl surveys, 2000–2019.

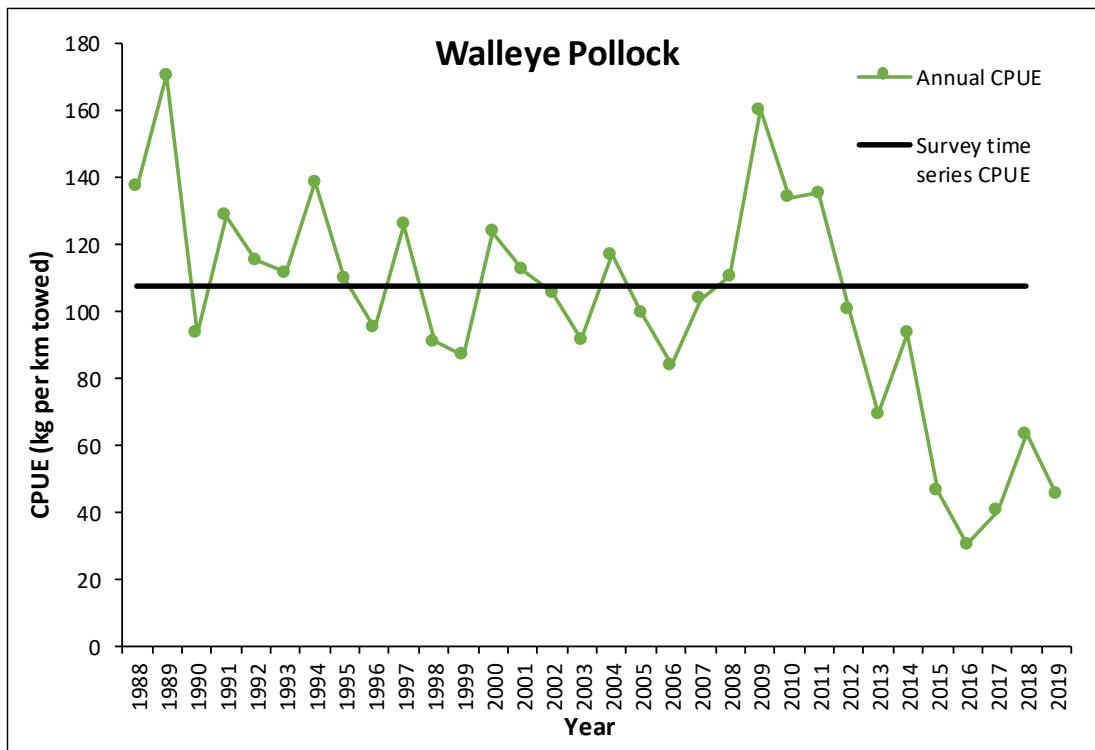


Figure 42.—Walleye pollock annual CPUE in kilograms per kilometer towed from the 1988–2019 large-mesh bottom trawl surveys.

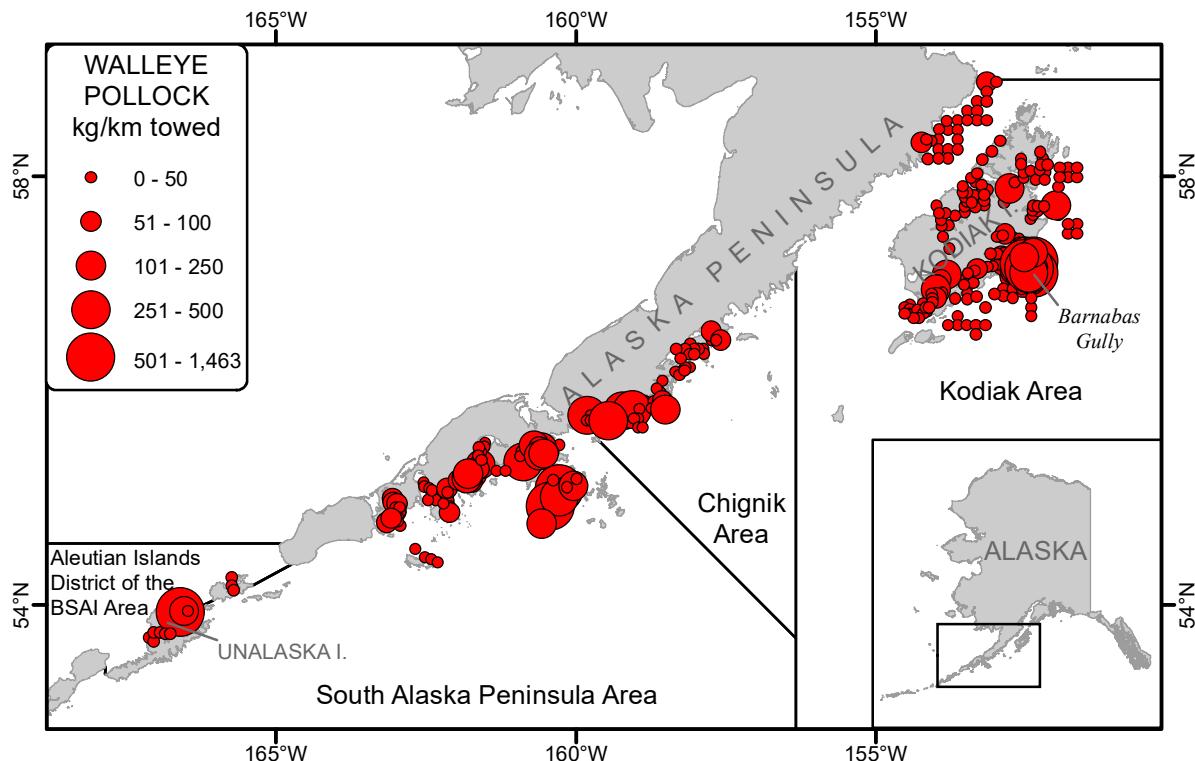


Figure 43.—Walleye pollock station CPUE in kilograms per kilometer towed from the 2019 large-mesh bottom trawl survey.

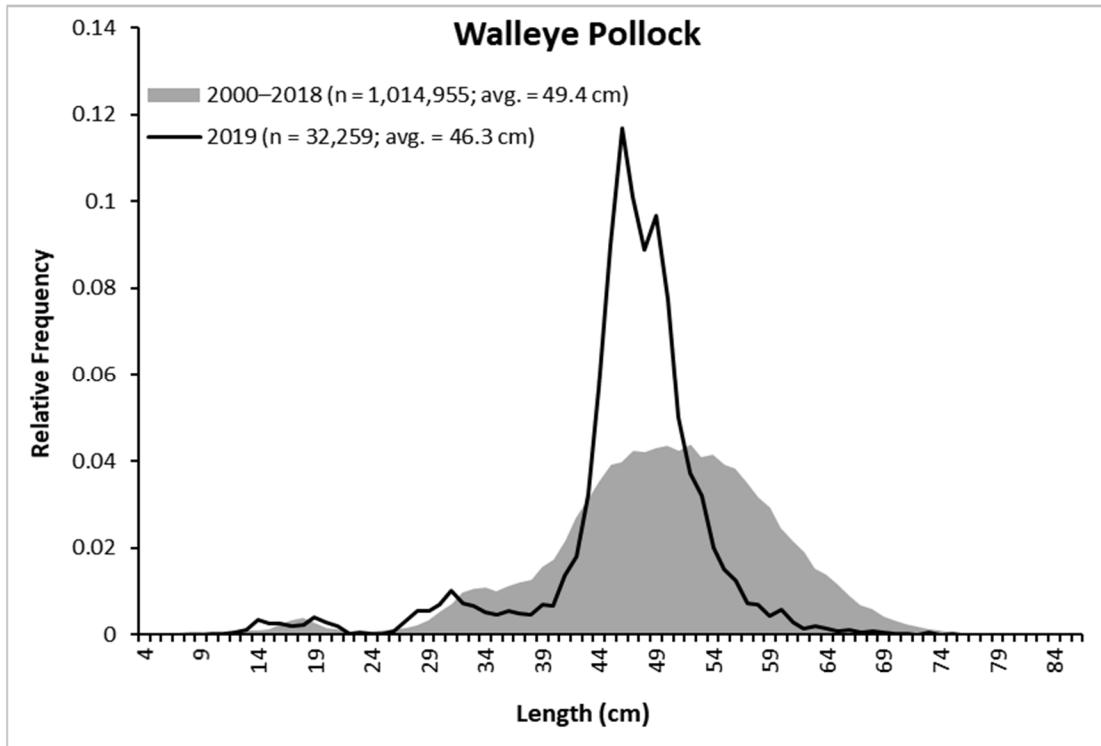


Figure 44.—Walleye pollock length frequency from the large-mesh bottom trawl surveys, 2000–2019.

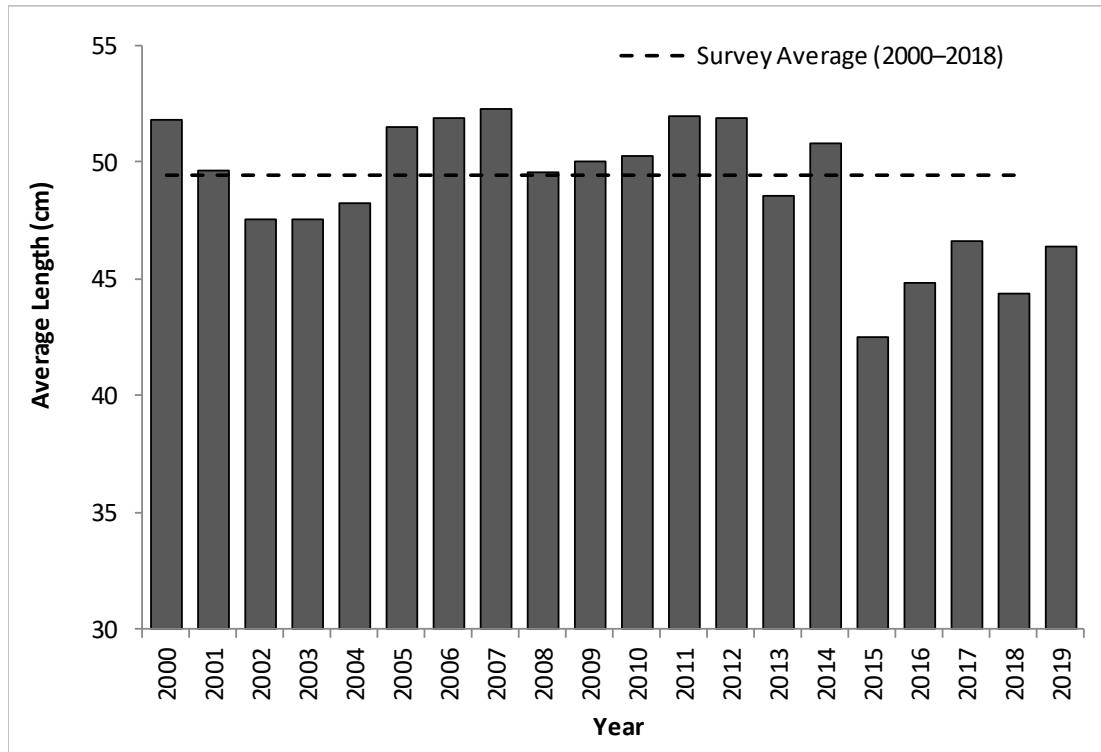


Figure 45.—Average walleye pollock length from fish caught on the large-mesh bottom trawl surveys, 2000–2019.

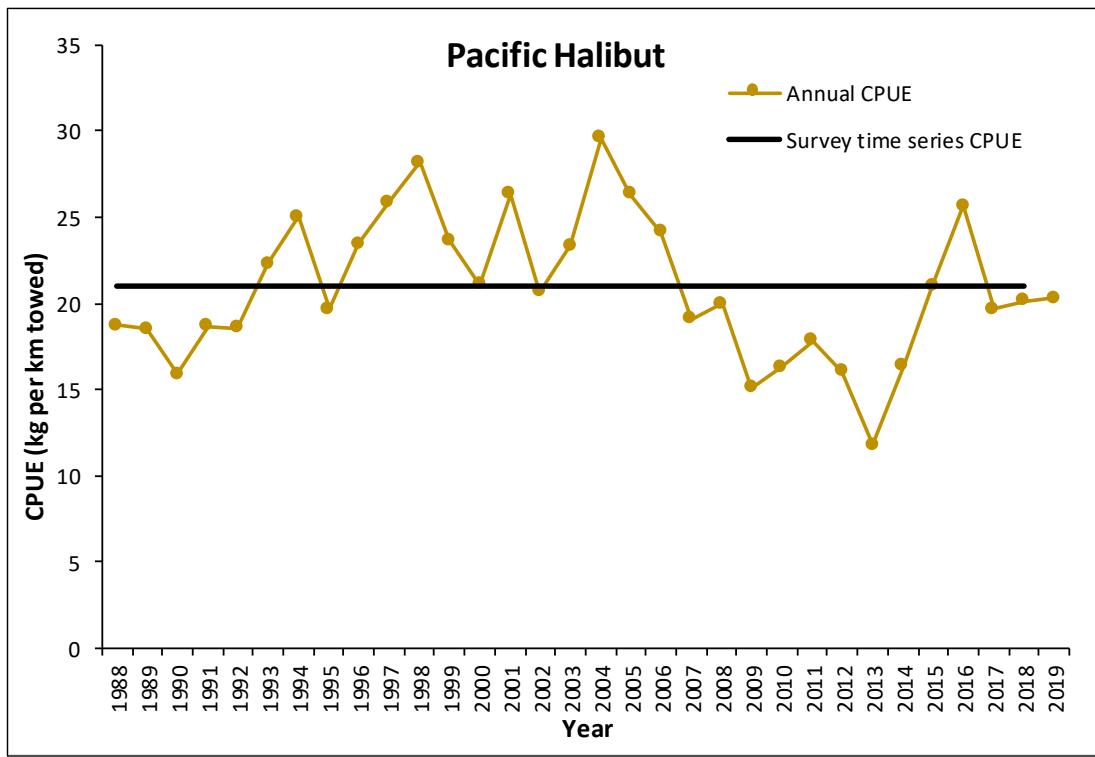


Figure 46.—Pacific halibut annual CPUE in kilograms per kilometer towed from the 1999–2019 large-mesh bottom trawl surveys.

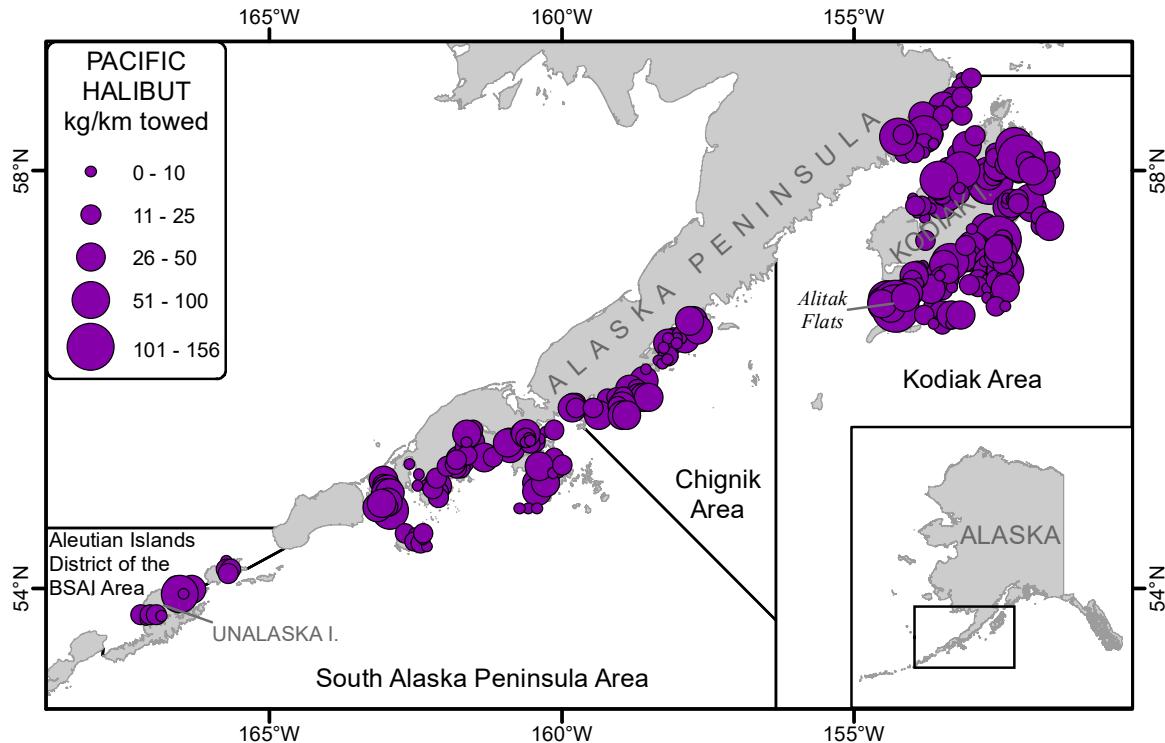


Figure 47.—Pacific halibut station CPUE in kilograms per kilometer towed from the 2019 large-mesh bottom trawl survey.

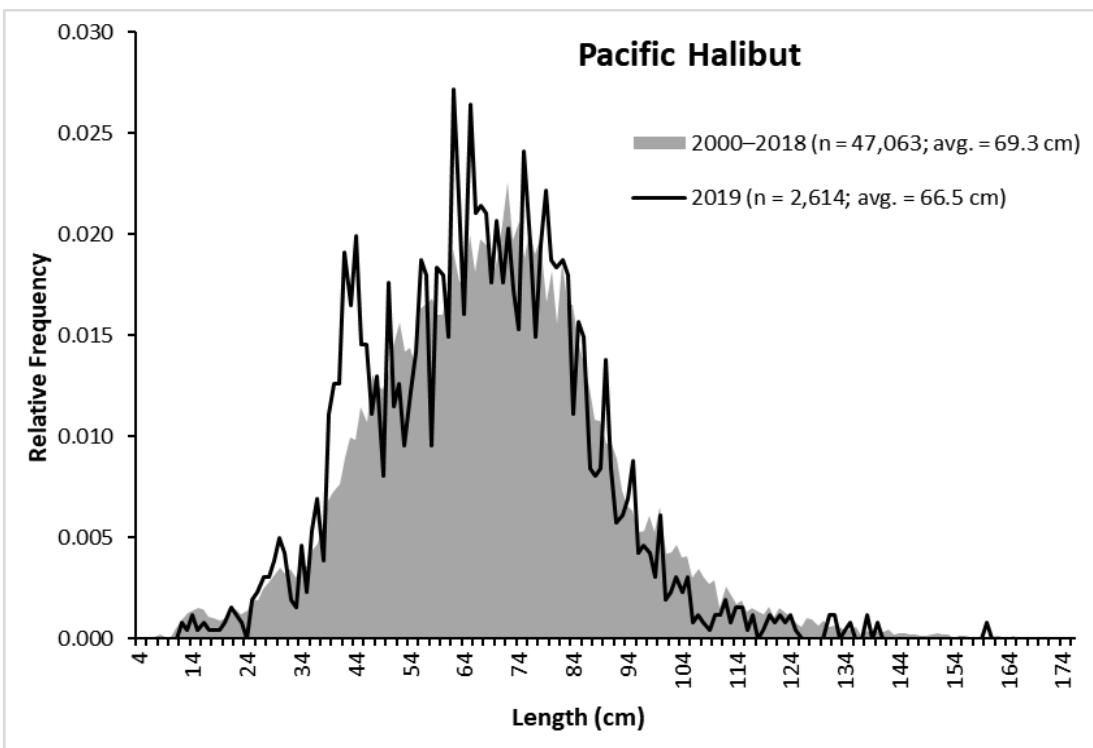


Figure 48.—Pacific halibut length frequency from the large-mesh bottom trawl surveys, 2000–2019.

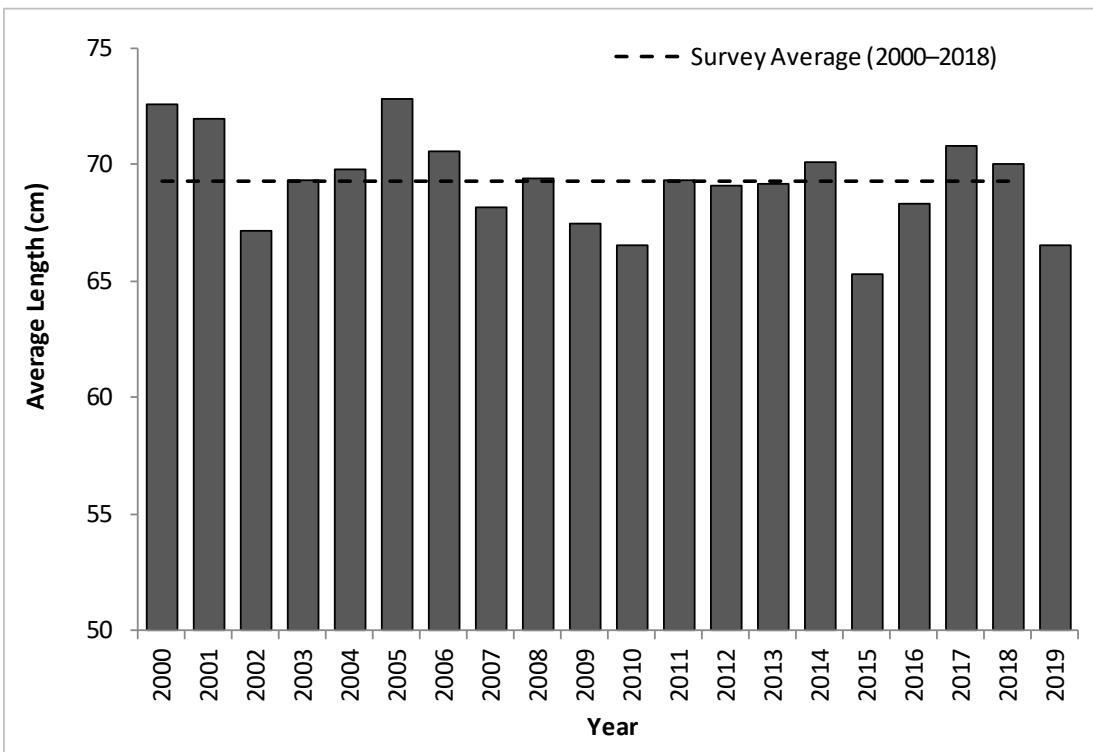


Figure 49.—Average Pacific halibut length from fish caught on the large-mesh bottom trawl surveys, 2000–2019.

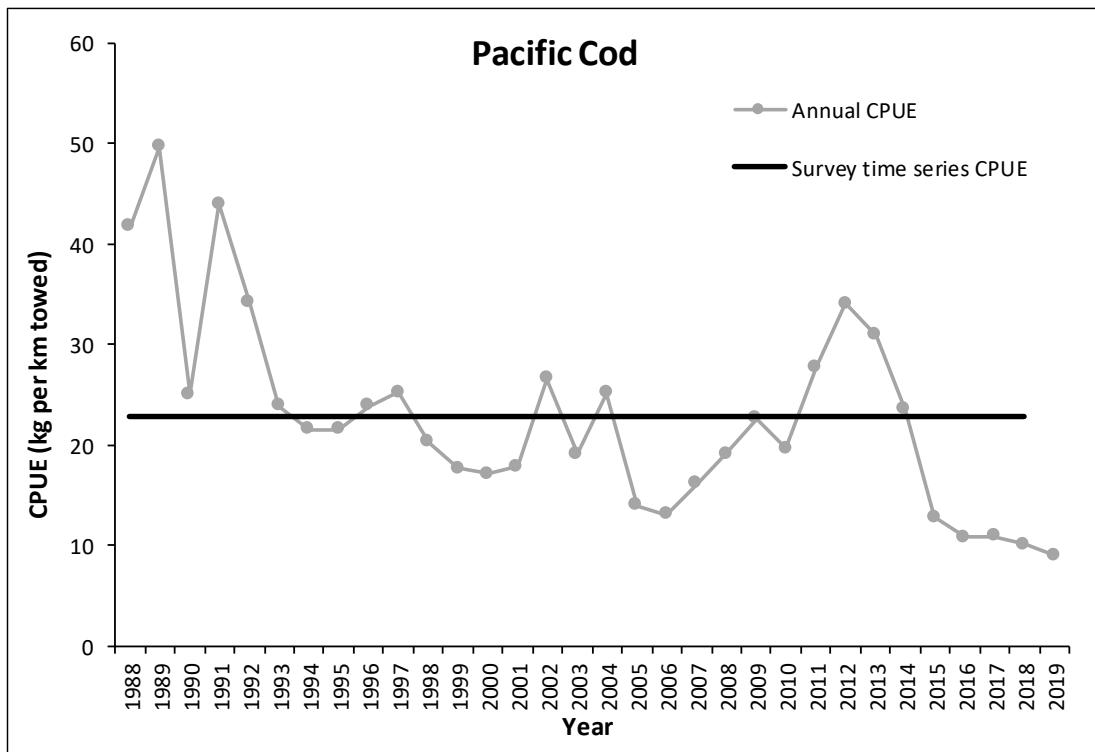


Figure 50.—Pacific cod annual CPUE in kilograms per kilometer towed from the 1988–2019 large-mesh bottom trawl surveys.

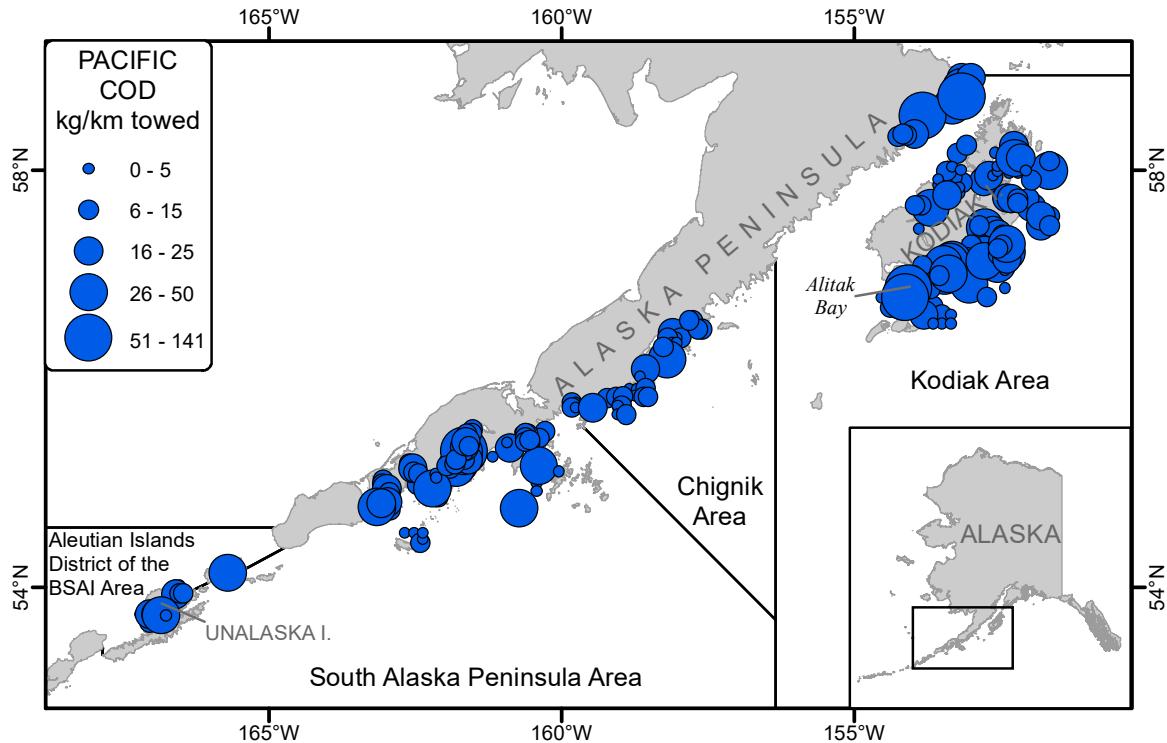


Figure 51.—Pacific cod station CPUE in kilograms per kilometer towed from the 2019 large-mesh bottom trawl survey.

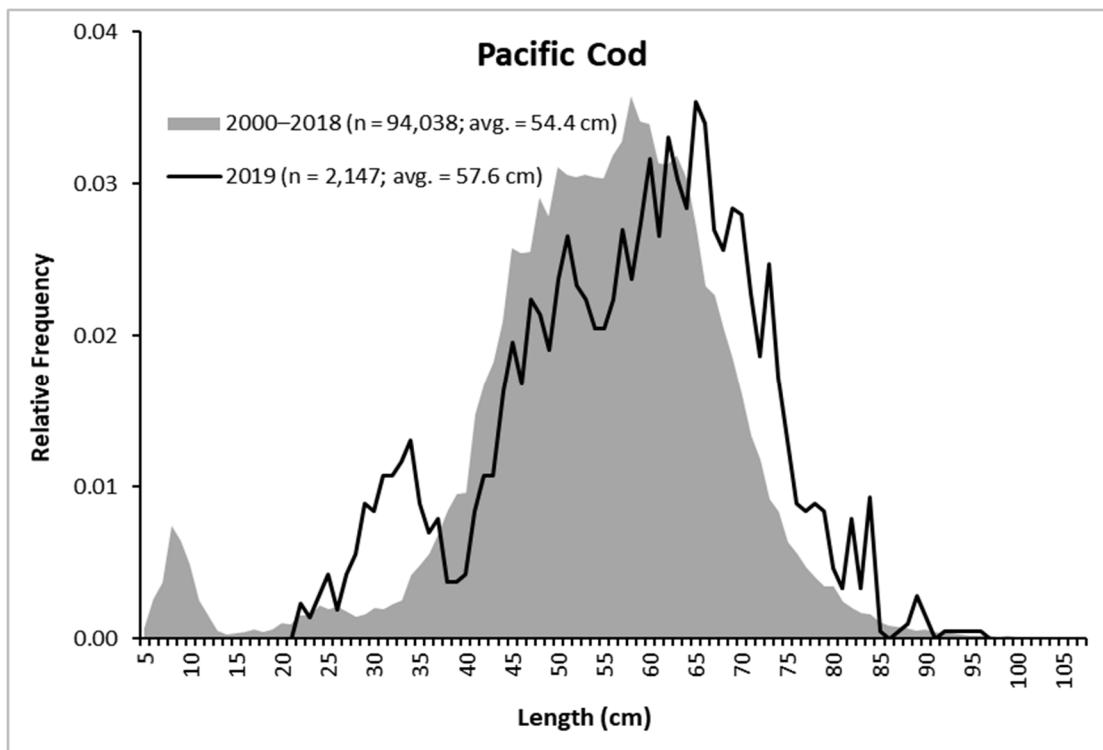


Figure 52.—Pacific cod length frequency from the large-mesh bottom trawl surveys, 2000–2019.

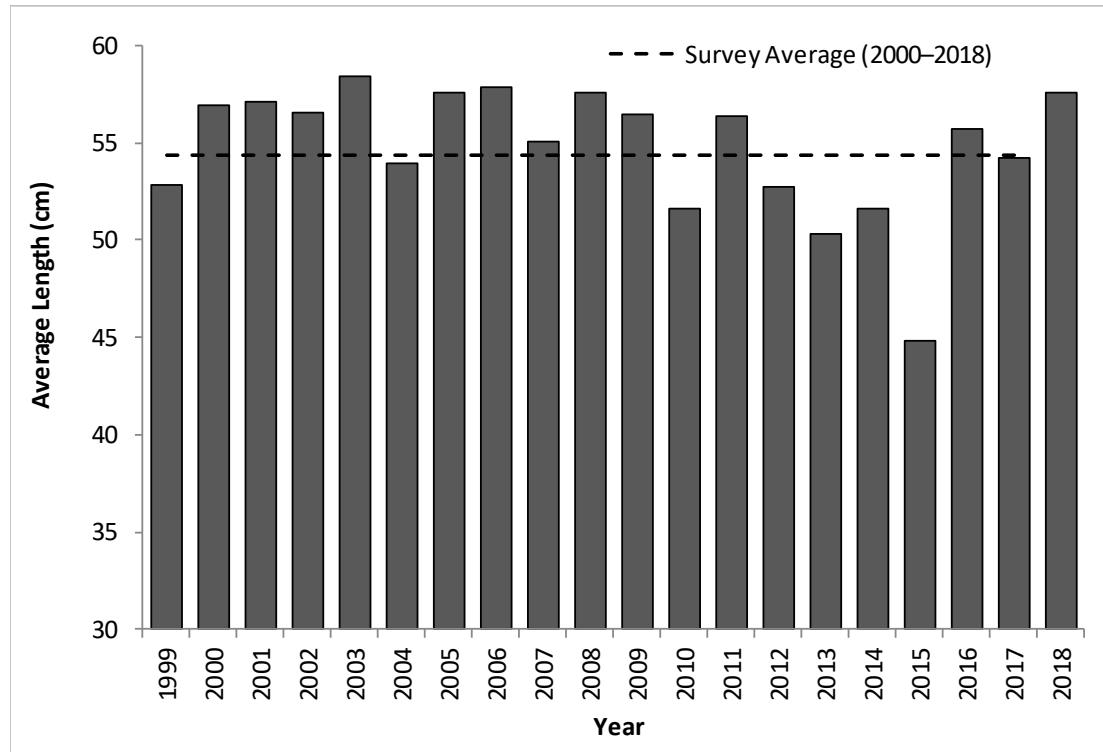


Figure 53.—Average Pacific cod length from fish caught on the large-mesh bottom trawl surveys, 2000–2019.

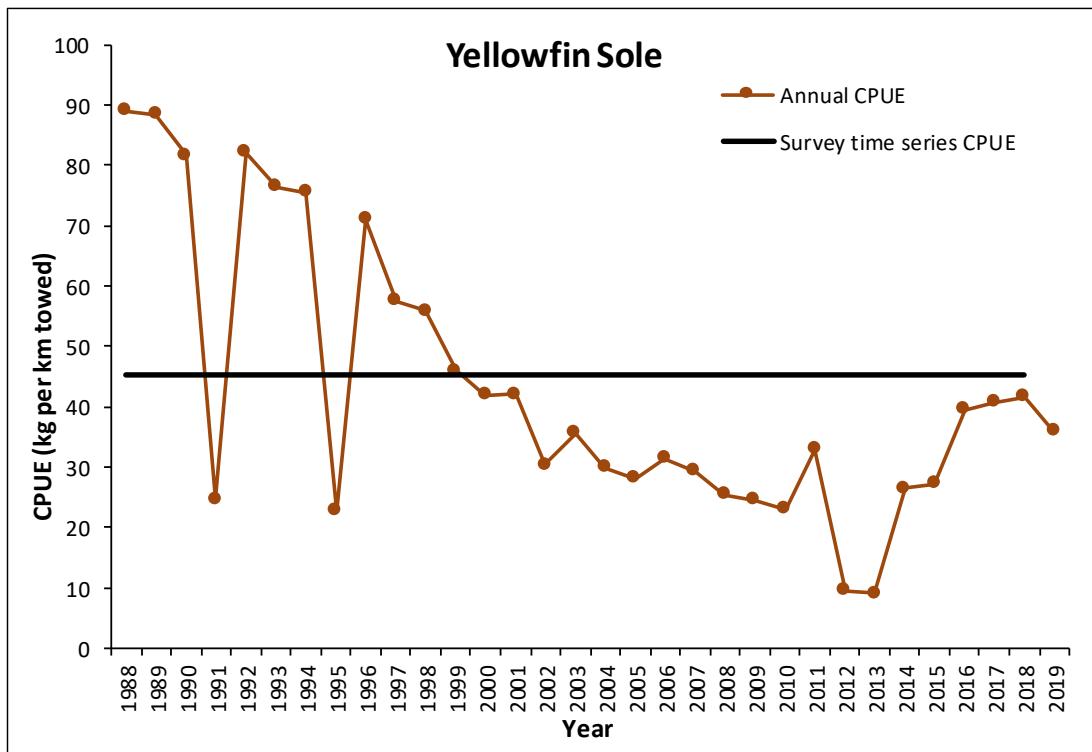


Figure 54.—Yellowfin sole annual CPUE in kilograms per kilometer towed from the 1988–2019 large-mesh bottom trawl surveys.

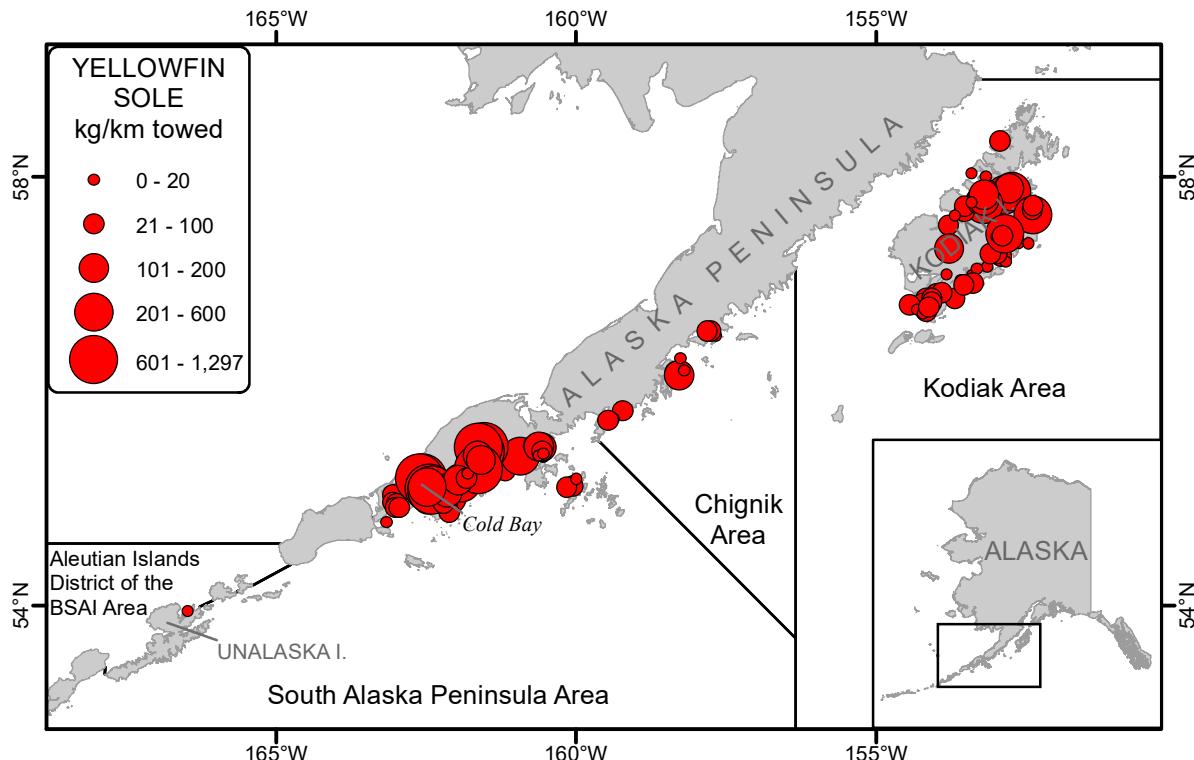


Figure 55.—Yellowfin sole station CPUE in kilograms per kilometer towed from the 2019 large-mesh bottom trawl survey.

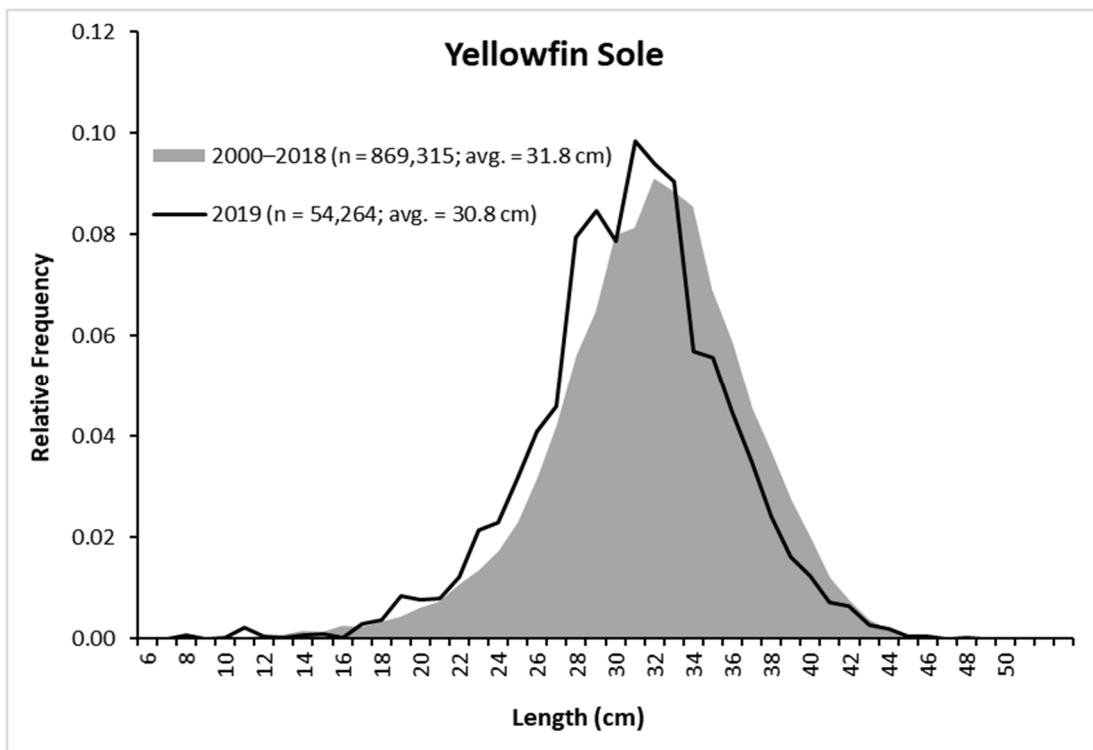


Figure 56.—Yellowfin sole length frequency from the large-mesh bottom trawl surveys, 2000–2019.

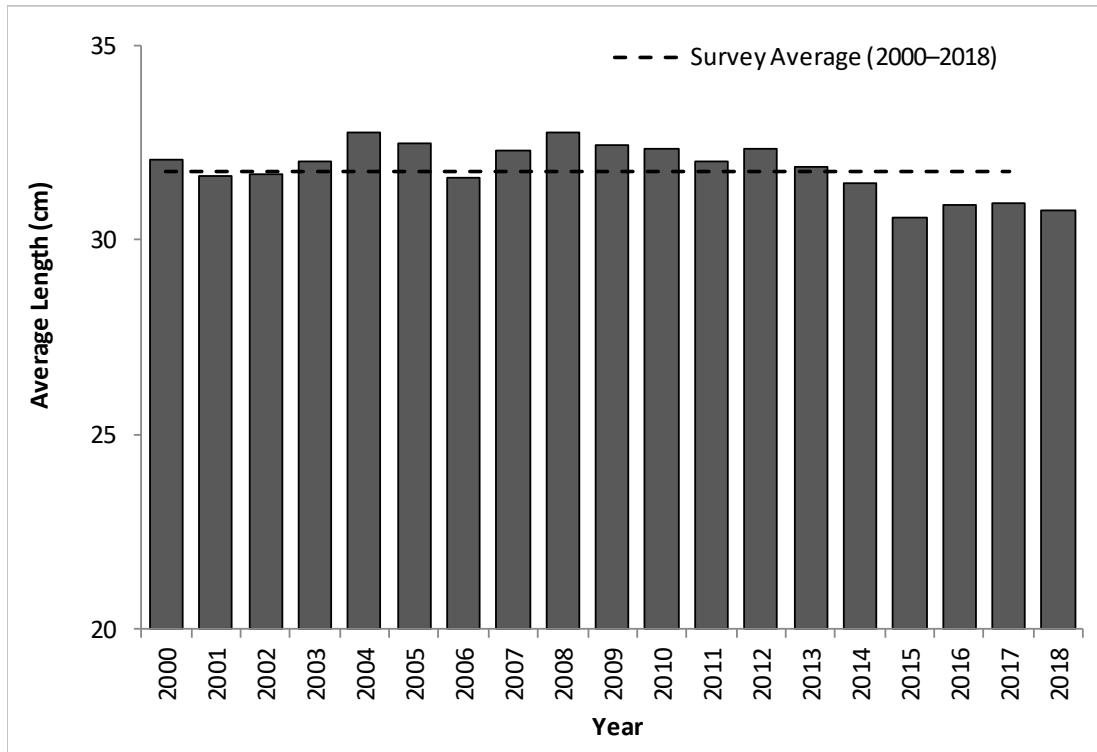


Figure 57.—Average yellowfin sole length from fish caught on the large-mesh bottom trawl surveys, 2000–2019.

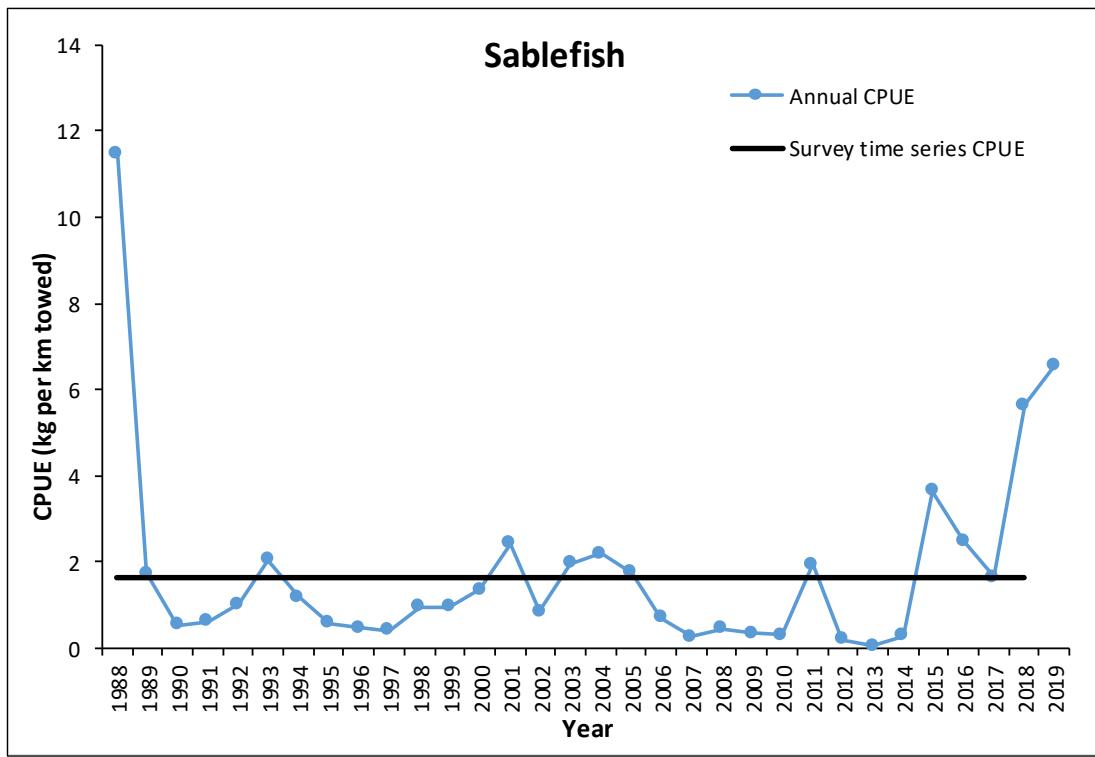


Figure 58.—Sablefish annual CPUE in kilograms per kilometer towed from the 1988–2019 large-mesh bottom trawl surveys.

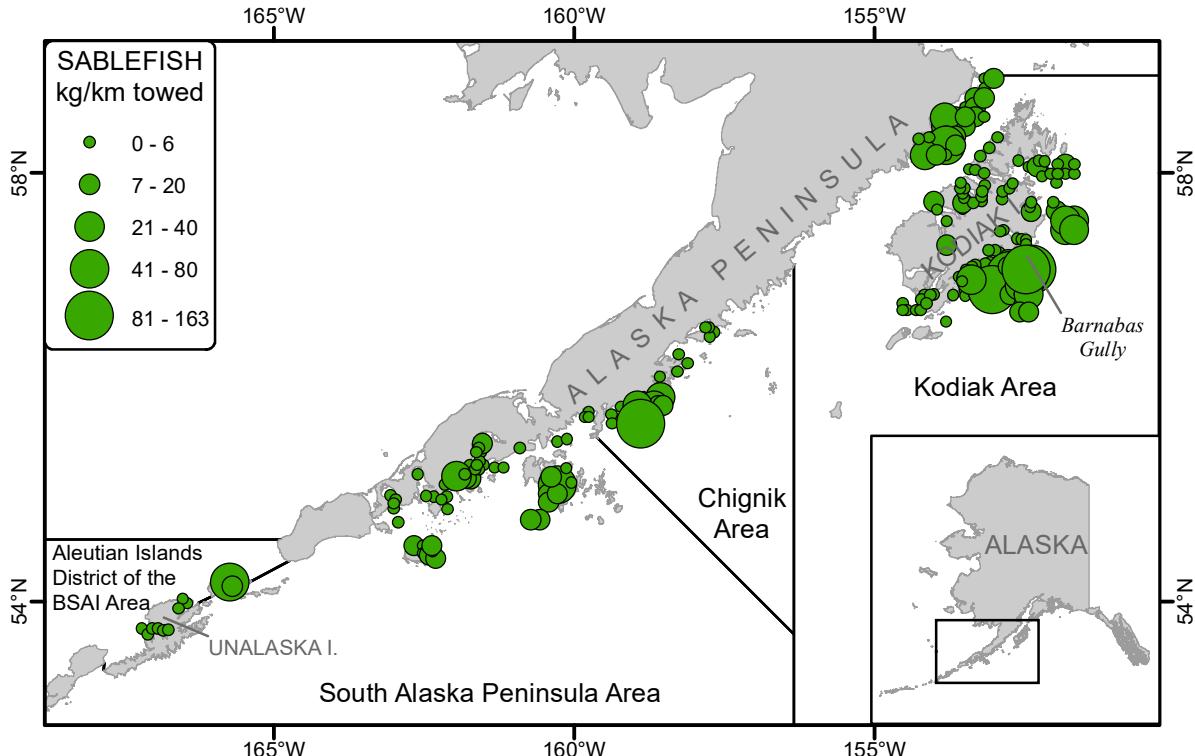


Figure 59.—Sablefish station CPUE in kilograms per kilometer towed from the 2019 large-mesh bottom trawl survey.

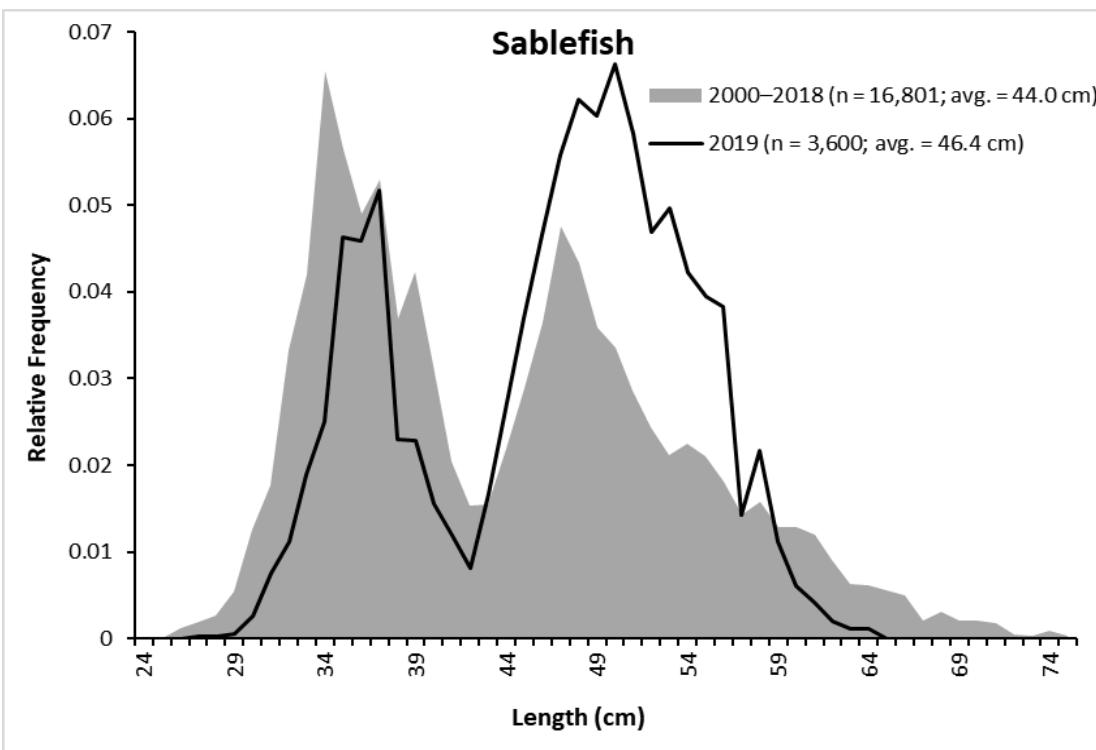


Figure 60.—Sablefish length frequency from the large-mesh bottom trawl surveys, 2000–2019.

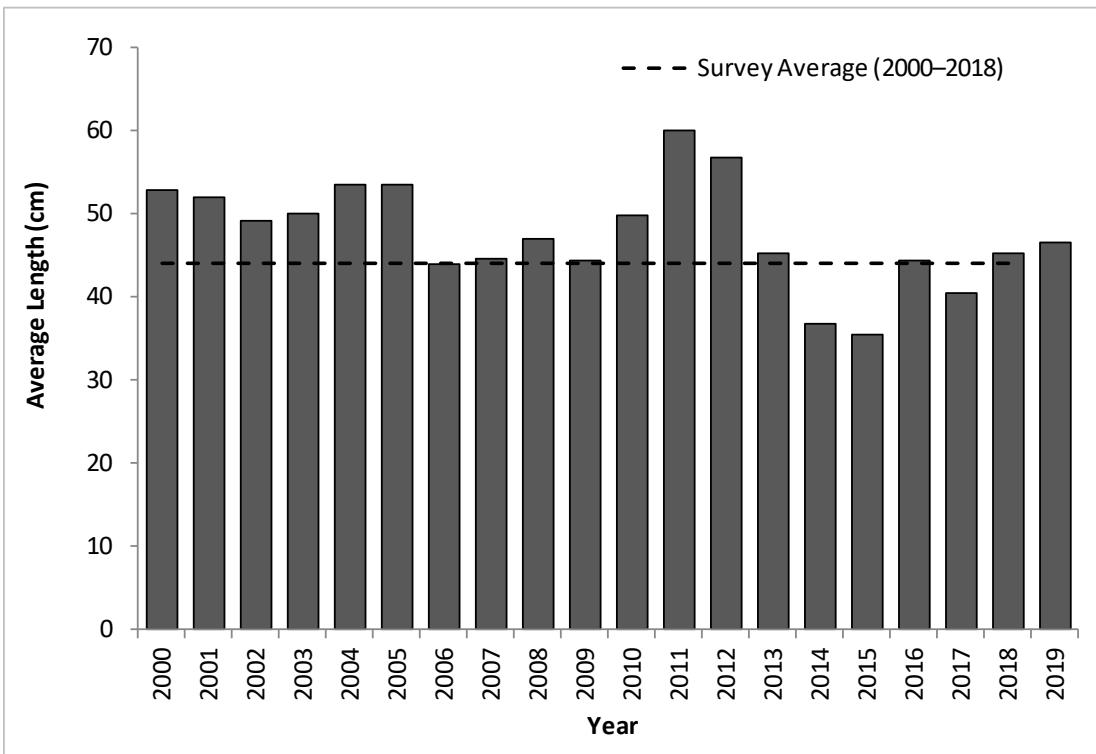


Figure 61.—Average sablefish length from fish caught on the large-mesh bottom trawl surveys, 2000–2019.

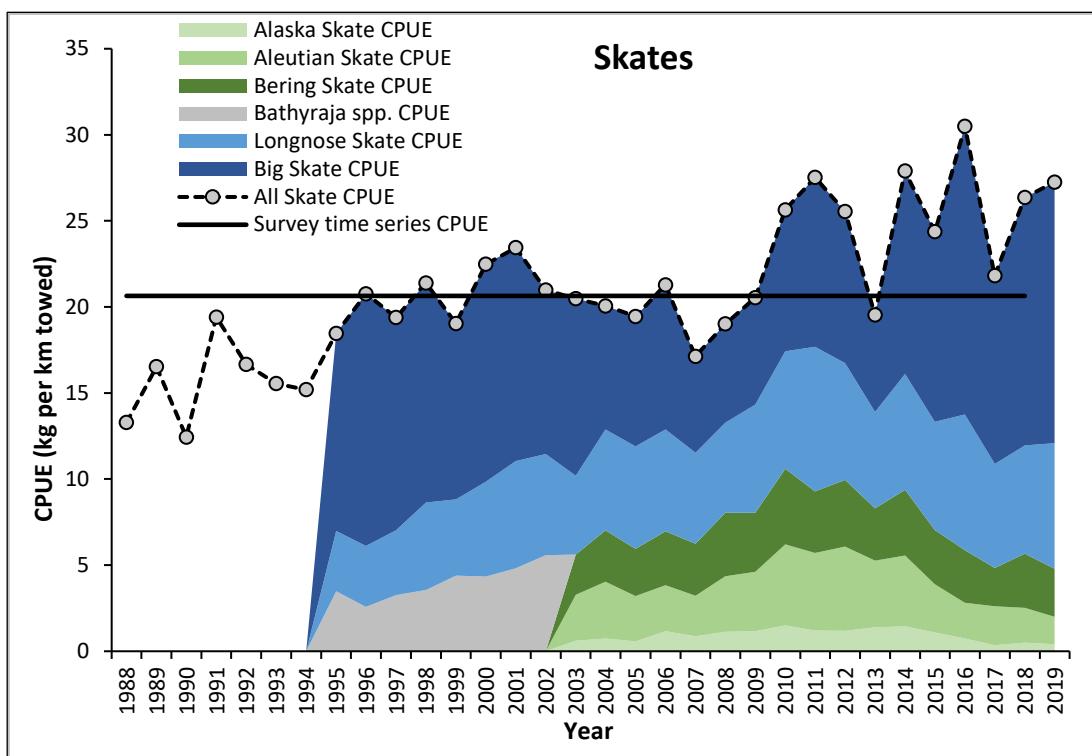


Figure 62.—Annual skate CPUE in kilograms per kilometer towed from the 1988–2019 large-mesh bottom trawl surveys.

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

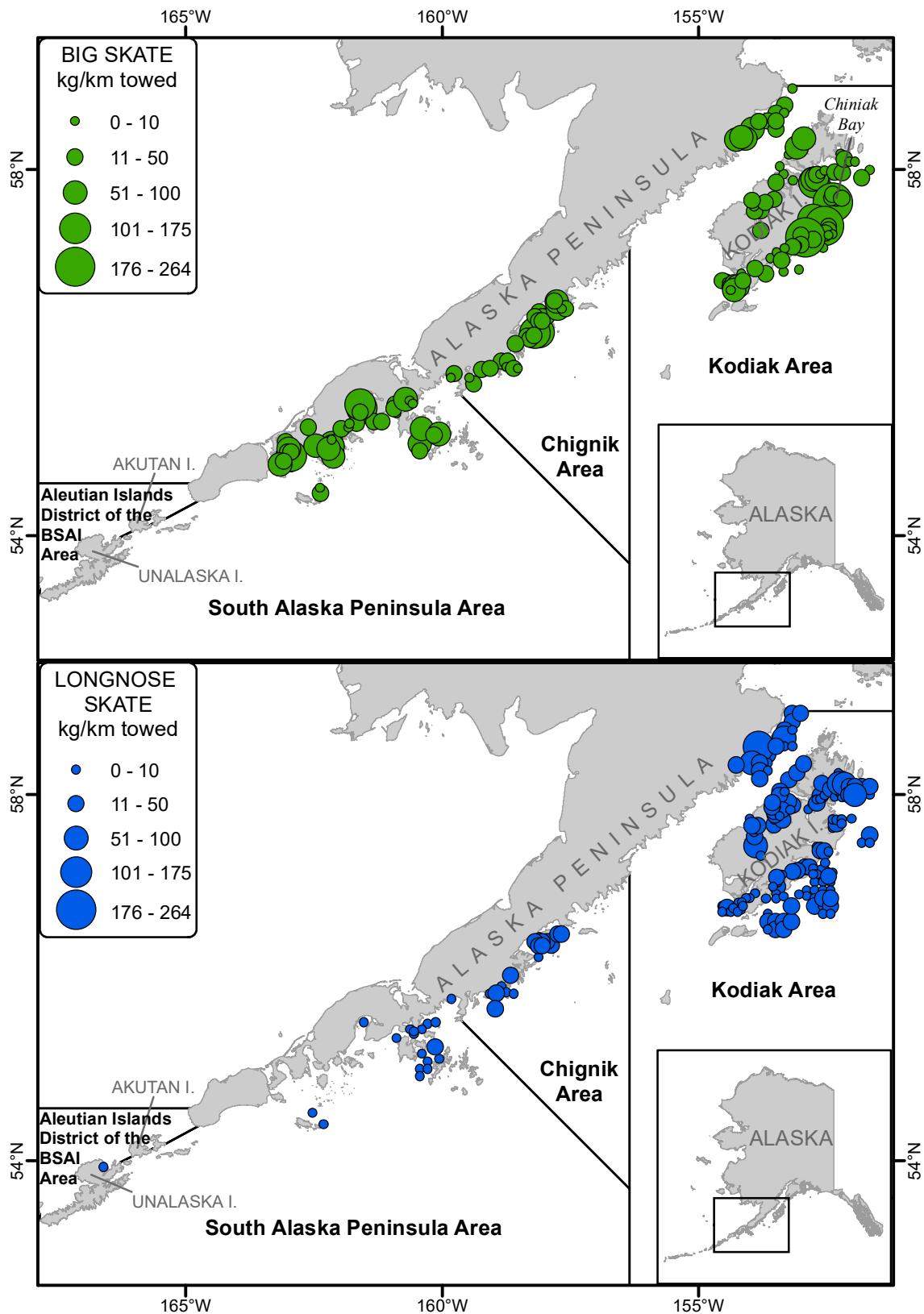


Figure 63.—Big and longnose skate catch in kilograms per kilometer towed from the 2019 large-mesh bottom trawl survey.

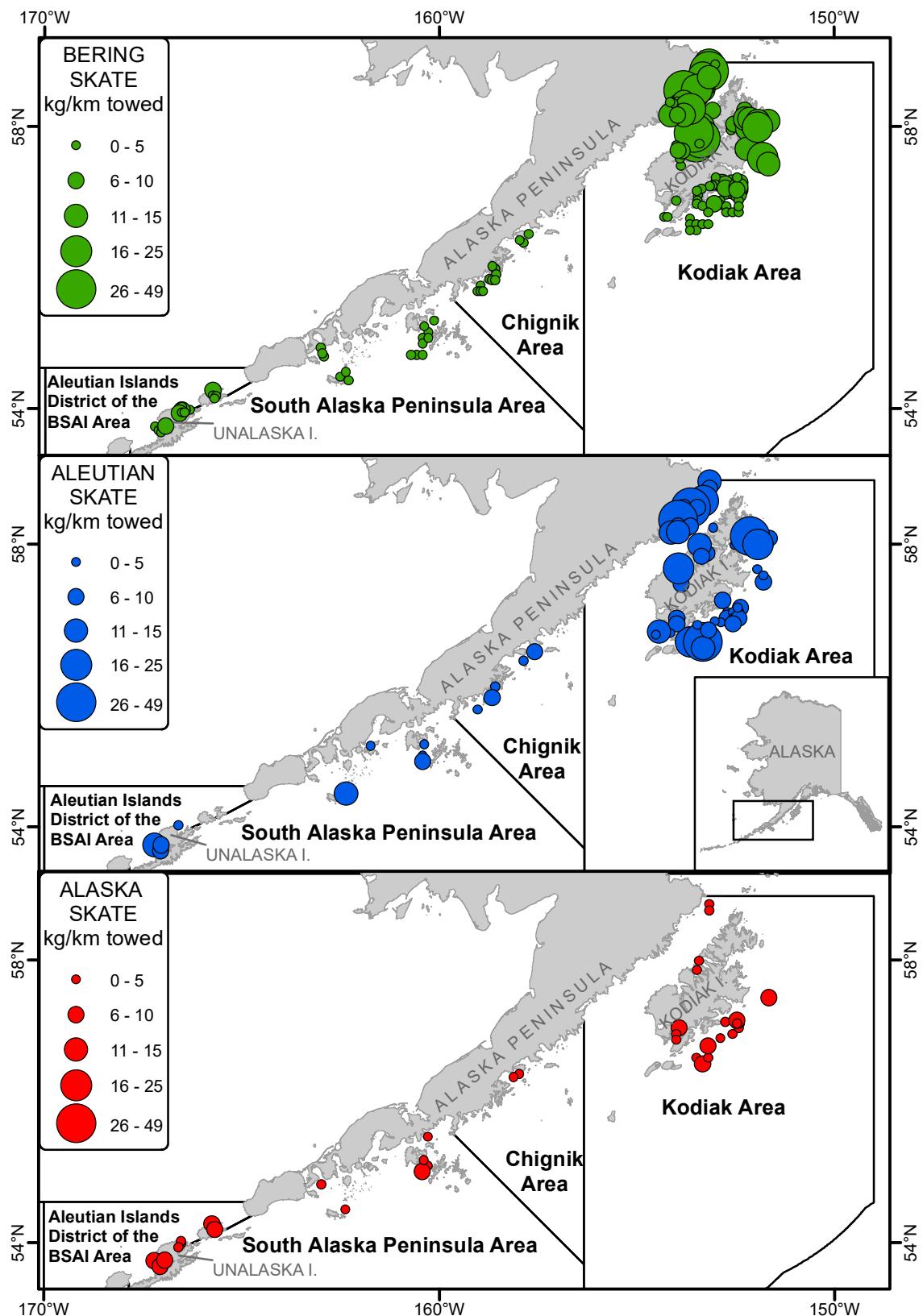


Figure 64.—Bering, Aleutian, and Alaska skate catch in kilograms per kilometer towed from the 2019 large-mesh bottom trawl survey.

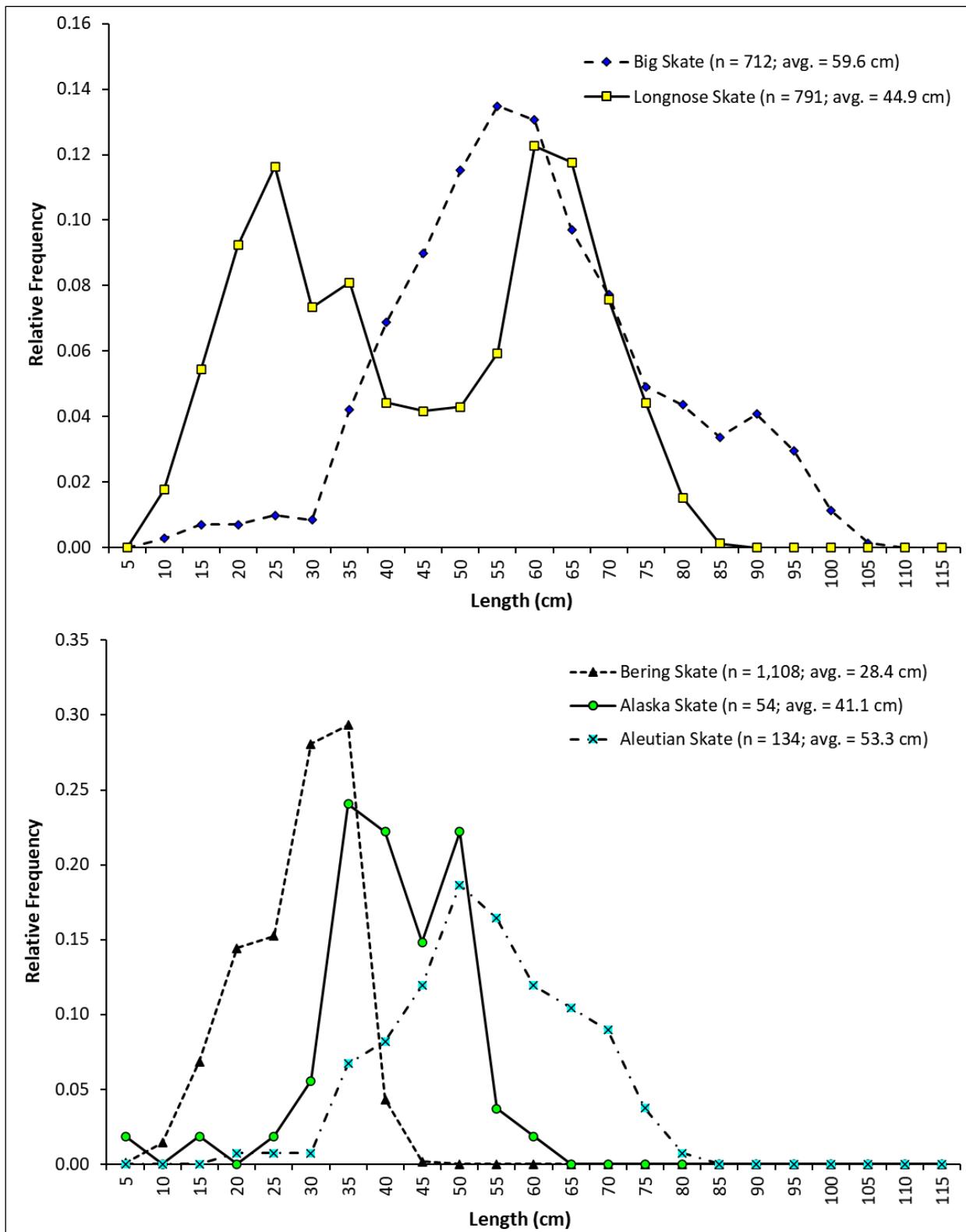


Figure 65.—Big, longnose, Bering, Alaska, and Aleutian skate relative size frequencies (snout to anterior notch of pectoral fin) from the 2019 large-mesh bottom trawl survey.

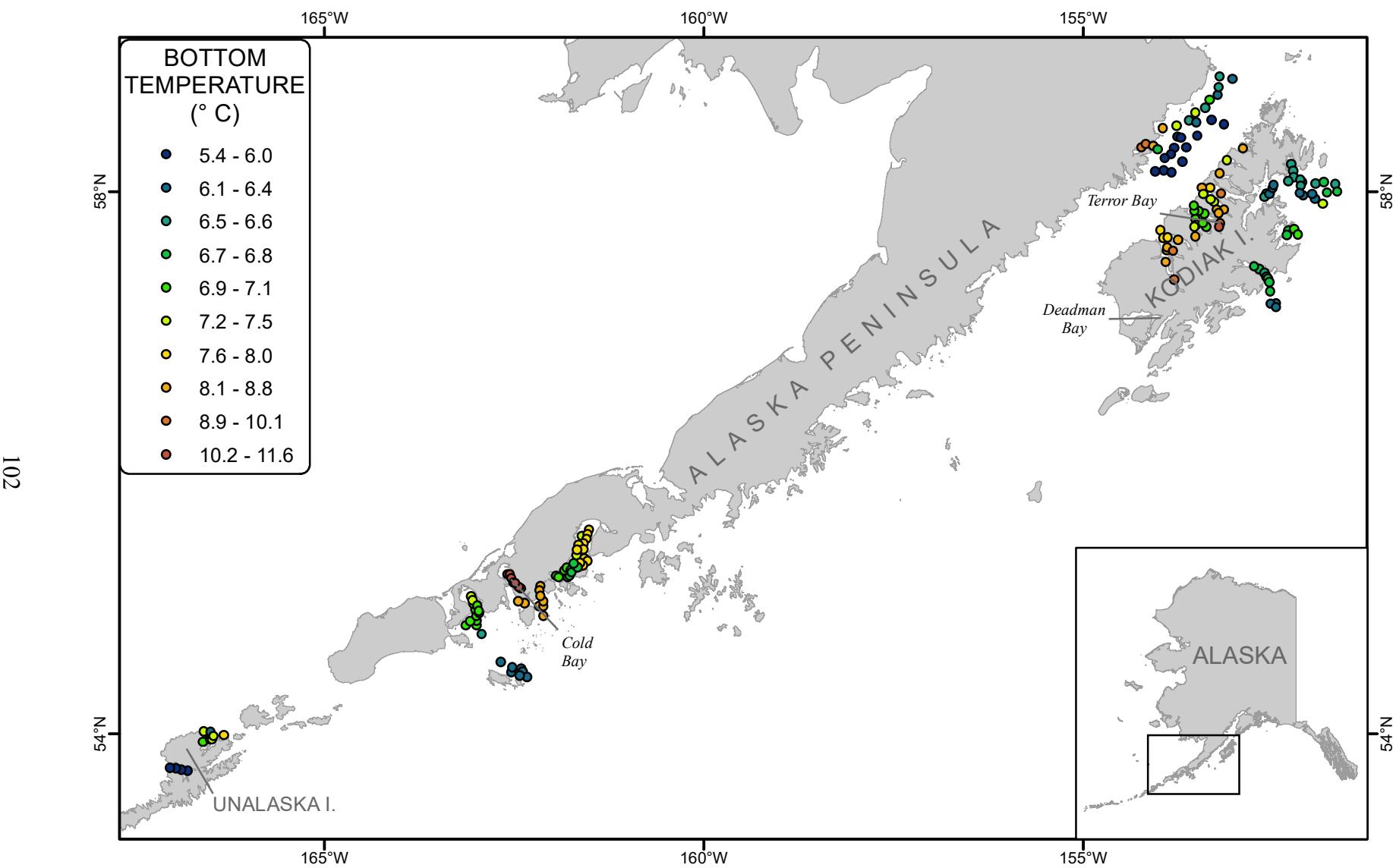


Figure 66.—Near-bottom water temperatures from the 2019 large-mesh bottom trawl survey.

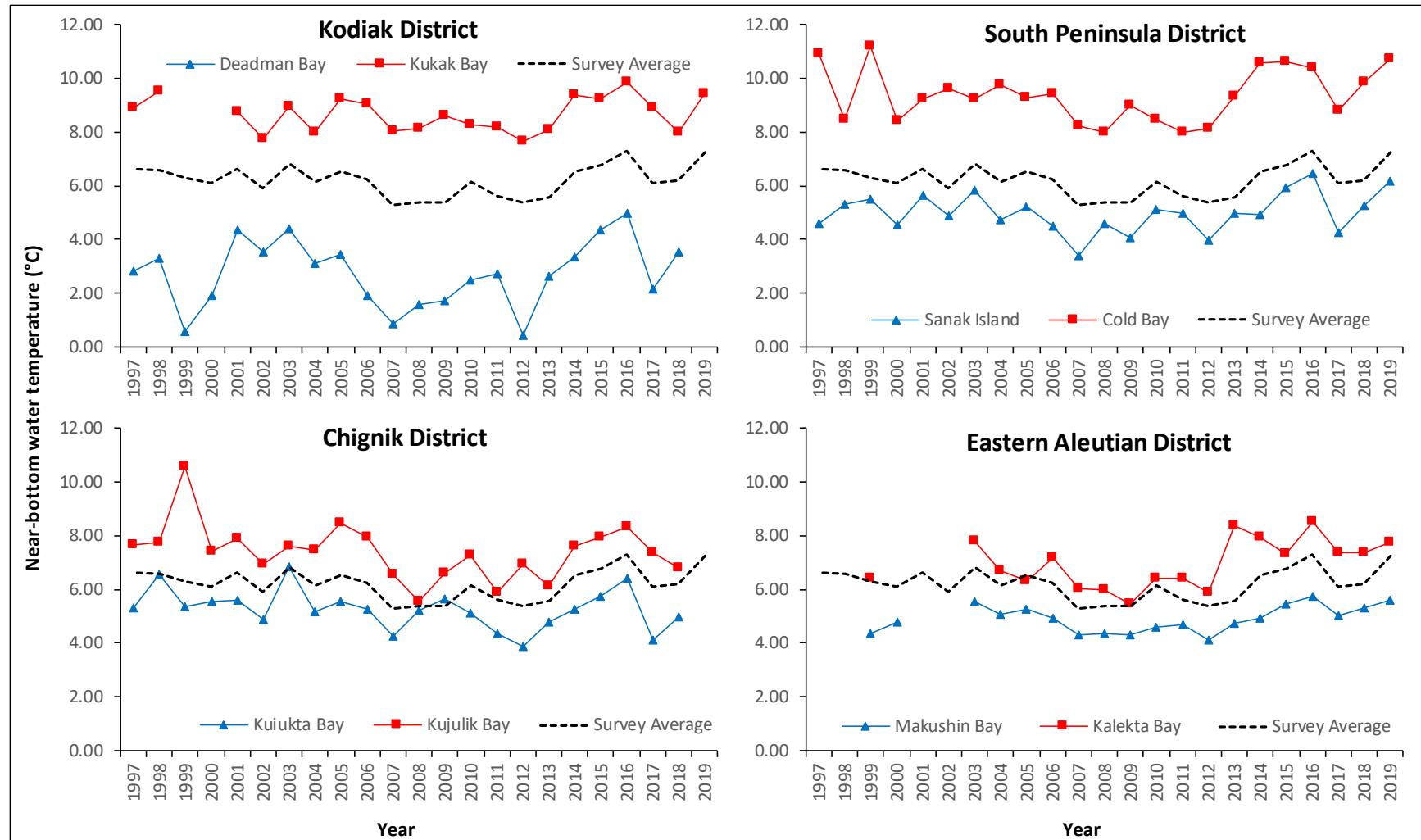


Figure 67.—Near-bottom water temperature (°C) for warmest and coldest bays during the large-mesh bottom trawl survey and the average water temperature in those bays from 1997–2019 surveys.

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 ≥165 mm CW. Red king crab postrecruit males are all legal-size crab that are old or very old/very very old, all males ≥164 mm CL in the Kodiak area, and all males ≥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.

Trawl Net Terms

<i>codend</i>	The trailing end of a tapered trawl net where catch accumulates during towing.
<i>dandy lines</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.
<hr/>	
<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.
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<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.
<hr/>	
<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.—2019 large-mesh bottom trawl survey fishing log.

Haul	1	2	3	4	5	6	7	8	9	10	11	12	13
Location	NE Kod.												
Month/Day/Year	6/3/2019	6/3/2019	6/4/2019	6/4/2019	6/4/2019	6/4/2019	6/4/2019	6/4/2019	6/4/2019	6/4/2019	6/5/2019	6/5/2019	6/5/2019
Station	283A	255A	255B	256	257	285	284	314	313	283B	MOXA	MOXB	MOPA
Longitude Start (°W)	152.0873	152.0973	151.9508	151.86	151.692	151.6218	151.806	151.826	151.9563	151.9552	152.2495	152.2132	
Latitude Start (°N)	57.9557	58.0517	58.0405	58.0692	58.0395	58.0062	57.9793	57.9272	57.9325	57.9773	58.2085	58.16	58.1152
Heading, Degrees	326	332	36	99	34	229	46	210	20	272	191	161	193
Average Depth (m)	173.7	157.2	135.3	135.3	148.1	104.2	133.4	65.83	192	179.2	155.4	157.2	184.6
Distance Fished (km)	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.666
Bottom Temp. (°C)	6.3	6.38	6.55	6.68	6.43	6.73	6.67	7.2	6.35	6.32	6.51	6.42	6.44
Haul	14	15	16	17	19	20	21	22	23	24	25	26	27
Location	NE Kod.												
Month/Day/Year	6/5/2019	6/5/2019	6/5/2019	6/5/2019	6/6/2019	6/6/2019	6/6/2019	6/6/2019	6/7/2019	6/7/2019	6/7/2019	6/7/2019	6/7/2019
Station	MOPB	MOLA	MOLB	MOGX	KZJ	KZG	KZK	KZO	MONX	CHK	CHF	CHL	CHG
Longitude Start (W)	152.2782	152.1523	152.1308	152.1388	152.5852	152.5988	152.5692	152.5213	152.4838	152.3293	152.3348	152.2475	152.2017
Latitude Start (N)	58.084	58.1	58.0568	58.0058	58.0025	57.946	57.971	58.0103	58.0297	57.7292	57.6842	57.7273	57.6982
Heading, Degrees	220	154	168	178	175	327	47	44	357	95	44	66	97
Average Depth (m)	173.7	219.4	153.6	171.8	155.4	135.3	164.5	190.1	195.6	151.7	137.1	177.3	109.7
Distance Fished (km)	1.852	1.852	1.852	1.852	1.852	1.852	1.759	1.852	1.852	1.852	1.852	1.852	1.852
Bottom Temp. (C)	6.45	6.45	6.43	6.37	6.5	6.49	6.38	6.35	6.36	6.77	6.72	6.85	6.9
Haul	28	29	30	31	32	33	34	35	36	37	38	39	40
Location	E Kod.	NE Kod.	NE Kod.	NE Kod.	NE Kod.								
Month/Day/Year	6/8/2019	6/8/2019	6/8/2019	6/8/2019	6/8/2019	6/8/2019	6/9/2019	6/9/2019	6/9/2019	6/9/2019	6/19/2019	6/19/2019	6/19/2019
Station	UGC	UGD	UGE	UGF	UGI	UGB	510D	511A	510C	535A	CHJ	CHE	CHA
Longitude Start (W)	152.7088	152.6362	152.5975	152.5565	152.5602	152.7313	152.536	152.4705	152.513	152.4667	152.3795	152.4528	152.4398
Latitude Start (N)	57.4633	57.4357	57.414	57.3947	57.3718	57.4612	57.3072	57.2152	57.2053	57.1868	57.7282	57.6742	57.6127
Heading, Degrees	118	122	167	217	148	316	163	132	282	140	136	55	41
Average Depth (m)	91.43	95.09	93.26	87.77	95.09	89.6	104.2	102.4	100.5	128	87.77	12.8	40.23
Distance Fished (km)	1.852	1.852	1.852	1.389	1.389	1.389	1.389	0.926	0.926	0.926	1.852	1.296	1.852
Bottom Temp. (C)	6.59	6.55	6.56	6.7	6.66	6.69	6.69	6.34	6.35	6.34	ND	ND	ND
Haul	41	42	43	44	45	46	47	48	49	50	51	52	53
Location	NE Kod.												
Month/Day/Year	6/19/2019	6/19/2019	6/19/2019	6/20/2019	6/20/2019	6/20/2019	6/20/2019	6/20/2019	6/20/2019	6/27/2019	6/27/2019	6/27/2019	6/27/2019
Station	CHB	MOEX	KZR	KZS	KZF	KZE	KZA	KZB	KZC	369X	395	420	421
Longitude Start (W)	152.4073	152.374	152.5883	152.5822	152.6602	152.6795	152.8777	152.8662	152.7478	152.053	151.9577	151.8452	151.724
Latitude Start (N)	57.6355	57.9477	58.114	58.1452	57.9673	57.9135	57.7902	57.8132	57.8612	57.731	57.6633	57.5968	57.5788
Heading, Degrees	42	74	358	197	210	13	19	28	44	1	282	190	193
Average Depth (m)	73.14	124.3	118.8	102.4	124.3	100.5	42.06	51.2	64	113.3	204.8	159	128
Distance Fished (km)	1.852	1.852	1.852	1.296	1.296	1.296	1.111	1.111	1.481	1.481	1.666	1.481	1.481
Bottom Temp. (C)	ND												

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Haul	54	55	56	57	58	59	60	61	62	63	64	65	66
Location	NE Kod.	E 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	6/27/2019	6/28/2019	6/28/2019	6/28/2019	6/28/2019	6/28/2019	6/28/2019	6/28/2019	6/28/2019	6/29/2019	6/29/2019	6/29/2019	6/29/2019
Station	444	UGAC	UGAD	UGAA	UGG	UGJ	486B	486A	UGM	511B	535B	535D	561
Longitude Start (W)	151.7182	152.9885	152.9013	152.8573	152.5028	152.4582	152.4093	152.4945	152.5347	152.415	152.414	152.4073	152.4095
Latitude Start (N)	57.5348	57.4612	57.475	57.4978	57.3857	57.3737	57.3198	57.2943	57.3337	57.2235	57.1745	57.1433	57.1117
Heading, Degrees	176	56	90	126	84	205	177	2	192	169	175	184	215
Average Depth (m)	151.7	38.4	67.66	73.14	65.83	73.14	71.31	98.75	98.75	76.8	128	138.9	149.9
Distance Fished (km)	1.296	1.296	1.852	1.852	1.759	1.852	1.852	1.389	1.111	1.852	1.852	1.481	1.852
Bottom Temp. (C)	ND												
Haul	67	68	69	70	71	72	73	74	75	76	77	78	79
Location	E Kod.												
Month/Day/Year	6/29/2019	6/29/2019	6/29/2019	6/29/2019	6/30/2019	6/30/2019	6/30/2019	6/30/2019	6/30/2019	6/30/2019	6/30/2019	7/1/2019	7/1/2019
Station	560	535C	534DX	534BX	KLL	KLD	KLI	KLA	KLB	KLC	KLH	KLG	KLF
Longitude Start (W)	152.5012	152.4355	152.5043	152.5367	152.7893	152.7487	152.8628	153.0722	152.9827	152.929	152.908	152.9787	153.0742
Latitude Start (N)	57.0712	57.1285	57.1415	57.193	57.2292	57.2783	57.2463	57.3055	57.3103	57.2747	57.2232	57.212	57.1958
Heading, Degrees	230	357	39	249	121	198	137	84	137	149	259	253	66
Average Depth (m)	140.8	149.9	128	98.75	131.6	25.6	122.5	93.26	82.29	91.43	131.6	117	120.6
Distance Fished (km)	1.852	1.852	1.481	1.852	1.852	1.296	1.852	1.481	1.852	1.852	1.852	1.852	1.852
Bottom Temp. (C)	ND												
Haul	80	81	82	83	84	85	86	87	88	89	90	91	92
Location	E Kod.	SE Kod.	SE Kod.	SE Kod.	SE Kod.	SE Kod.	SE Kod.	SE Kod.	SE Kod.	SE Kod.	SE Kod.	SE Kod.	SE Kod.
Month/Day/Year	7/1/2019	7/1/2019	7/1/2019	7/1/2019	7/1/2019	7/1/2019	7/2/2019	7/2/2019	7/2/2019	7/2/2019	7/2/2019	7/2/2019	7/2/2019
Station	KLE	THN	THM	THL	THK	THJ	THI	THFA	THG	THH	THDX	THCX	614
Longitude Start (W)	153.1412	153.3338	153.3465	153.3898	153.4277	153.4608	153.5897	153.5828	153.4692	153.4162	153.4767	153.498	153.463
Latitude Start (N)	57.1758	57.1703	57.1552	57.1233	57.0928	57.0745	57.0682	57.0212	57.0088	57.0193	56.9835	56.946	56.9227
Heading, Degrees	48	197	213	210	22	168	119	72	56	349	186	356	176
Average Depth (m)	115.2	107.8	120.6	122.5	117	115.2	91.43	73.14	120.6	118.8	129.8	131.6	140.8
Distance Fished (km)	1.852	1.481	1.852	1.852	1.852	1.852	1.481	1.389	1.852	1.852	1.852	1.852	1.852
Bottom Temp. (C)	ND												
Haul	93	94	95	96	97	98	99	100	101	102	103	104	105
Location	SE Kod.	SW Kod.											
Month/Day/Year	7/2/2019	7/3/2019	7/3/2019	7/3/2019	7/3/2019	7/3/2019	7/3/2019	7/3/2019	7/3/2019	7/4/2019	7/4/2019	7/4/2019	7/4/2019
Station	THA	ALD	ALBX	ALA	ALCA	ALF	ALG	ALJ	ALM	ALK	ALR	ALQ	ALP
Longitude Start (W)	153.6962	154.19	154.2263	154.132	154.1273	154.1633	154.094	154.01	153.9908	153.9518	153.8063	153.8938	153.9585
Latitude Start (N)	56.8918	56.8788	56.8423	56.7985	56.8255	56.858	56.8607	56.913	56.9252	56.9263	57.1267	57.0863	57.0422
Heading, Degrees	249	185	115	216	31	4	48	216	42	72	213	214	223
Average Depth (m)	49.37	54.86	36.57	62.17	69.49	54.86	58.51	71.31	69.49	65.83	115.2	162.7	151.7
Distance Fished (km)	1.666	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.111	1.111	1.852	1.852	1.852
Bottom Temp. (C)	ND												

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Haul	106	107	108	109	110	112	113	114	115	116	117	118	119
Location	SW Kod.												
Month/Day/Year	7/4/2019	7/4/2019	7/4/2019	7/4/2019	7/5/2019	7/5/2019	7/5/2019	7/5/2019	7/5/2019	7/5/2019	7/5/2019	7/6/2019	7/6/2019
Station	ALO	ALL	ALI	ALH	646D	646A	645B	646C	682B	683A	683B	684B	684A
Longitude Start (W)	153.9617	154.0867	154.1012	154.1285	154.3802	154.4177	154.5028	154.4735	154.5357	154.4795	154.3955	154.2348	154.2853
Latitude Start (N)	57.0208	56.9243	56.8998	56.882	56.801	56.86	56.8537	56.8202	56.7753	56.7643	56.7605	56.762	56.746
Heading, Degrees	219	52	29	35	357	235	139	135	129	119	100	35	276
Average Depth (m)	168.2	85.94	82.29	65.83	54.86	60.34	64	64	69.49	64	62.17	85.94	58.51
Distance Fished (km)	1.852	1.852	1.389	1.389	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.852
Bottom Temp. (C)	ND												
Haul	120	121	122	123	124	125	126	127	128	129	130	131	132
Location	SW Kod.	SW Kod.	SE Kod.										
Month/Day/Year	7/6/2019	7/6/2019	7/6/2019	7/6/2019	7/6/2019	7/7/2019	7/7/2019	7/7/2019	7/7/2019	7/7/2019	7/7/2019	7/8/2019	7/8/2019
Station	683D	684C	725	688	726	727	728	729	761	760	759	615	651
Longitude Start (W)	154.3648	154.3353	153.8312	153.6567	153.588	153.4877	153.3262	153.21	153.2705	153.4527	153.5697	153.4178	153.2488
Latitude Start (N)	56.7308	56.7375	56.6663	56.721	56.6955	56.6723	56.6425	56.6622	56.6127	56.5797	56.5522	56.9053	56.8472
Heading, Degrees	108	68	51	111	163	178	41	28	277	191	201	8	142
Average Depth (m)	67.66	65.83	96.92	151.7	155.4	146.2	142.6	146.2	137.1	131.6	146.2	137.1	171.8
Distance Fished (km)	1.852	1.389	1.389	1.481	1.481	1.481	1.481	1.481	1.481	1.481	1.481	1.852	1.296
Bottom Temp. (C)	ND												
Haul	133	134	135	136	137	138	139	140	141	142	143	144	145
Location	E Kod.												
Month/Day/Year	7/8/2019	7/8/2019	7/8/2019	7/8/2019	7/9/2019	7/9/2019	7/9/2019	7/9/2019	7/9/2019	7/9/2019	7/9/2019	7/10/2019	7/10/2019
Station	654	695	696	656	533B	588	589	621	620	655	619	533A	559
Longitude Start (W)	152.7115	152.5555	152.4405	152.4727	152.7268	152.6208	152.496	152.4642	152.5595	152.5622	152.7272	152.7485	152.7278
Latitude Start (N)	56.8532	56.7572	56.7583	56.8413	57.1467	57.0225	57.0237	56.95	56.932	56.856	56.9243	57.1828	57.0957
Heading, Degrees	324	188	34	23	80	130	92	201	132	180	311	137	224
Average Depth (m)	100.5	142.6	175.5	173.7	144.4	149.9	138.9	153.6	162.7	146.2	135.3	138.9	153.6
Distance Fished (km)	1.666	1.666	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.852
Bottom Temp. (C)	ND												
Haul	146	147	148	149	150	151	152	153	154	155	156	157	158
Location	E Kod.	SE Kod.	SE Kod.	SE Kod.	NE Kod.	NE Kod.	Kujulik	Kujulik	Kujulik	Kujulik	Kujulik	Kujulik	Chignik
Month/Day/Year	7/10/2019	7/10/2019	7/10/2019	7/10/2019	7/11/2019	7/11/2019	7/21/2019	7/21/2019	7/21/2019	7/21/2019	7/21/2019	7/21/2019	7/22/2019
Station	587	618A	586	585X	443	KZD	4308	4302	4301	4298	4290	4296	4272
Longitude Start (W)	152.6527	152.8535	152.9075	153.0113	151.728	152.796	157.6118	157.6772	157.6893	157.7493	157.8313	157.7737	158.0928
Latitude Start (N)	56.9885	56.9235	56.96	56.9497	57.5272	57.8785	56.5392	56.5405	56.5673	56.5345	56.595	56.6223	56.4872
Heading, Degrees	229	20	233	269	279	49	157	120	150	76	322	154	146
Average Depth (m)	149.9	120.6	126.1	133.4	144.4	87.77	126.1	98.75	91.43	91.43	25.6	73.14	124.3
Distance Fished (km)	1.852	1.852	1.666	1.296	1.666	1.666	1.852	1.852	1.852	1.852	1.111	1.852	1.852
Bottom Temp. (C)	ND												

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Haul	159	160	161	162	163	164	165	166	167	168	169	170	171
Location	Chignik												
Month/Day/Year	7/22/2019	7/22/2019	7/22/2019	7/22/2019	7/22/2019	7/22/2019	7/22/2019	7/22/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019
Station	4277	4282	4286	4287	4278	4274	4266	4256	4262	4267	4270	4264	4964
Longitude Start (W)	158.055	157.9965	157.915	157.9085	158.0348	158.1268	158.1755	158.3063	158.2697	158.1648	158.1775	158.26	158.3453
Latitude Start (N)	56.4318	56.4215	56.4263	56.411	56.3925	56.3998	56.4193	56.4212	56.3477	56.4007	56.2533	56.2358	56.2248
Heading, Degrees	167	90	97	228	311	50	271	269	133	309	68	209	101
Average Depth (m)	181	193.8	164.5	192	188.3	184.6	155.4	95.09	76.8	122.5	104.2	74.97	65.83
Distance Fished (km)	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.111	1.666	1.852	1.852	1.852	1.852
Bottom Temp. (C)	ND												
Haul	172	173	174	175	176	177	178	179	180	181	182	183	184
Location	Chignik	Chignik	Chignik	Mitro.									
Month/Day/Year	7/23/2019	7/23/2019	7/23/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/25/2019	7/25/2019
Station	4265	4271	4312	4063	4048	4064	4065	4066B	4066A	4050B	4050A	4035	4049
Longitude Start (W)	158.3063	158.2138	158.1493	158.582	158.6337	158.5917	158.5658	158.5468	158.5978	158.6652	158.7185	158.8422	158.7535
Latitude Start (N)	56.1905	56.233	56.2547	56.1327	56.0655	55.9943	55.9465	55.8675	55.889	55.8747	55.895	55.9517	55.9217
Heading, Degrees	36	61	81	225	183	343	175	345	185	1	298	109	286
Average Depth (m)	54.86	93.26	126.1	146.2	168.2	142.6	102.4	117	115.2	117	138.9	140.8	144.4
Distance Fished (km)	1.852	1.852	1.852	1.852	1.852	1.852	1.759	1.852	1.852	1.852	1.852	1.852	1.852
Bottom Temp. (C)	ND												
Haul	185	186	187	188	189	190	191	192	193	194	195	196	197
Location	Mitro.	Ivanof	Ivanof	Ivanof	Stepovak	Stepovak							
Month/Day/Year	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/27/2019	7/27/2019
Station	4036	4037	4038B	4038A	4026	4025	4024	4915	4007	4000Y	4008	STD	STA
Longitude Start (W)	158.9332	158.9565	158.912	158.959	159.0265	159.0073	159.0667	159.1797	159.3917	159.477	159.4197	159.8242	159.814
Latitude Start (N)	55.8833	55.8163	55.7037	55.7137	55.7182	55.7843	55.89	55.862	55.7788	55.7885	55.7375	55.7553	55.812
Heading, Degrees	205	206	203	227	22	353	137	217	203	132	170	12	0
Average Depth (m)	128	128	146.2	142.6	138.9	122.5	98.75	64	87.77	82.29	100.5	117	96.92
Distance Fished (km)	1.852	1.852	1.481	1.481	1.481	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.666
Bottom Temp. (C)	ND												
Haul	198	199	200	201	202	203	204	205	206	207	208	209	210
Location	Stepovak	Stepovak	Beaver										
Month/Day/Year	7/27/2019	7/27/2019	7/27/2019	7/27/2019	7/28/2019	7/28/2019	7/28/2019	7/28/2019	7/28/2019	7/28/2019	7/28/2019	7/28/2019	7/28/2019
Station	STB	STE	368A	348	329B	329C	311C	311B	311A	BAE	BAF	BAD	BAA
Longitude Start (W)	159.76	159.7658	160.1782	160.2938	160.4255	160.487	160.504	160.582	160.594	160.5987	160.5523	160.5718	160.6845
Latitude Start (N)	55.8273	55.7908	55.577	55.5252	55.4647	55.4295	55.4335	55.4563	55.4502	55.486	55.4772	55.5093	55.5352
Heading, Degrees	183	195	226	59	45	71	272	91	2	171	341	331	303
Average Depth (m)	109.7	120.6	179.2	202.9	175.5	129.8	133.4	137.1	122.5	118.8	82.29	93.26	29.25
Distance Fished (km)	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.111
Bottom Temp. (C)	ND												

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Haul	211	212	213	214	215	216	217	218	219	220	221	222	223
Location	Beaver	Beaver	Beaver	Beaver	Beaver	W. Nagai							
Month/Day/Year	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019
Station	BAC	278	BVC	BVA	BVB	371	373A	353	354	334	335	337	318
Longitude Start (W)	160.6155	160.9448	160.8983	160.907	160.8742	160.149	160.125	160.3083	160.3313	160.3828	160.4462	160.4808	160.6082
Latitude Start (N)	55.5192	55.3795	55.4627	55.494	55.5022	55.2757	55.1183	55.1035	55.0837	55.0543	55.0168	54.7783	54.787
Heading, Degrees	174	3	219	194	198	323	316	210	215	239	225	213	286
Average Depth (m)	98.75	106	91.43	45.71	32.91	133.4	25.6	138.9	138.9	149.9	133.4	106	106
Distance Fished (km)	1.852	1.852	1.852	1.389	1.111	1.481	1.296	1.852	1.852	1.852	1.852	1.481	1.481
Bottom Temp. (C)	ND												
Haul	224	225	226	227	228	229	230	231	232	233	234	235	236
Location	W. Nagai	W. Nagai	W. Nagai	W. Nagai	Pavlof	Pavlof	Akutan	Akutan	Akutan	Akutan	Akutan	Makush.	Makush.
Month/Day/Year	7/30/2019	7/31/2019	7/31/2019	7/31/2019	8/1/2019	8/1/2019	8/3/2019	8/3/2019	8/3/2019	8/3/2019	8/3/2019	8/4/2019	8/4/2019
Station	301	373B	393	332B	245	228	AKA	AKC	AKD	AKG	AKL	MKK	MKN
Longitude Start (W)	160.7125	160.0588	159.9805	160.375	161.2203	161.2822	165.7007	165.7118	165.7058	165.7492	165.7433	167.1783	167.1128
Latitude Start (N)	54.7972	55.1517	55.1993	55.2043	55.2698	55.2797	54.1473	54.1763	54.2072	54.2272	54.2543	53.7285	53.6767
Heading, Degrees	302	321	344	2	300	107	16	355	177	340	347	136	311
Average Depth (m)	109.7	73.14	73.14	179.2	82.29	82.29	71.31	87.77	84.12	96.92	98.75	115.2	131.6
Distance Fished (km)	1.481	1.666	1.389	1.666	1.852	1.852	1.481	1.852	1.852	1.666	1.852	1.852	1.852
Bottom Temp. (C)	ND												
Haul	237	239	240	241	242	243	244	245	246	247	248	249	250
Location	Makush.	Makush.	Makush.	Makush.	Makush.	Unalaska							
Month/Day/Year	8/4/2019	8/5/2019	8/5/2019	8/5/2019	8/5/2019	8/6/2019	8/6/2019	8/6/2019	8/6/2019	8/7/2019	8/7/2019	8/7/2019	8/7/2019
Station	MKP	MKB	MKC	MKE	MKF	UNC	UNF	UNI	UNJ	UNE	UND	UNG	KAA
Longitude Start (W)	167.0612	166.7867	166.8525	166.9252	167.0122	166.6027	166.524	166.614	166.4977	166.5028	166.4793	166.4393	166.3302
Latitude Start (N)	53.6465	53.7012	53.7162	53.731	53.7393	53.9172	53.9693	54.0272	54.032	53.9427	53.9435	53.9917	53.9723
Heading, Degrees	312	315	282	273	257	354	35	127	176	350	9	240	25
Average Depth (m)	138.9	96.92	177.3	192	195.6	138.9	151.7	95.09	166.4	102.4	78.63	87.77	76.8
Distance Fished (km)	1.852	1.666	1.852	1.852	1.852	1.852	1.852	1.852	1.852	1.296	1.296	1.852	1.666
Bottom Temp. (C)	ND	5.91	5.36	5.52	5.51	6.82	6.62	7.19	6.34	7.05	7.47	7.14	7.77
Haul	251	252	253	254	255	256	257	258	259	260	261	262	263
Location	Sanak I.	Morzhov.	Morzhov.	Morzhov.	Morzhov.	Morzhov.	Morzhov.						
Month/Day/Year	8/10/2019	8/10/2019	8/10/2019	8/10/2019	8/10/2019	8/10/2019	8/10/2019	8/11/2019	8/11/2019	8/11/2019	8/11/2019	8/11/2019	8/11/2019
Station	126	125	137	138A	138C	138B	113	87D	87AX	MOOX	MORX	MOSX	MOK
Longitude Start (W)	162.5542	162.5422	162.4192	162.3967	162.3453	162.406	162.6773	162.9463	163.0047	162.9868	163.1675	163.0995	162.9977
Latitude Start (N)	54.4833	54.5178	54.5128	54.4895	54.4482	54.4458	54.5667	54.7775	54.8157	54.8522	54.8317	54.8537	54.8887
Heading, Degrees	121	117	148	155	142	298	172	123	48	356	97	54	19
Average Depth (m)	138.9	146.2	142.6	140.8	142.6	144.4	133.4	91.43	82.29	95.09	91.43	96.92	102.4
Distance Fished (km)	1.481	1.481	1.481	1.481	1.481	1.481	1.481	1.852	1.852	1.852	1.852	1.852	1.852
Bottom Temp. (C)	6.18	6.2	6.19	6.21	6.16	6.16	6.17	6.44	7	6.87	7.04	6.98	7

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Haul	264	265	266	267	268	269	270	271	272	273	274	275	276
Location	Morzhov.	Cold B.											
Month/Day/Year	8/11/2019	8/11/2019	8/11/2019	8/12/2019	8/12/2019	8/12/2019	8/12/2019	8/12/2019	8/12/2019	8/13/2019	8/13/2019	8/13/2019	8/13/2019
Station	MOL	MOH	MOF	MOB	MOD	MOG	MOI	COOX	COM	COB	COC	COE	COF
Longitude Start (W)	162.9562	162.9968	163.0228	163.0692	163.0498	162.9965	162.9695	162.3828	162.4633	162.5953	162.5553	162.544	162.5262
Latitude Start (N)	54.91	54.9395	54.9828	55.0635	55.0353	54.9925	54.9568	55.0012	55.0162	55.227	55.2292	55.1965	55.1618
Heading, Degrees	357	329	338	169	165	153	168	96	105	153	167	165	127
Average Depth (m)	133.4	96.92	80.46	69.49	85.94	91.43	100.5	104.2	76.8	51.2	42.06	64	85.94
Distance Fished (km)	1.852	1.666	1.852	1.296	1.296	1.481	1.666	1.481	1.111	1.111	1.111	1.111	1.111
Bottom Temp. (C)	7	6.99	7.29	7.42	7.25	7.06	6.98	8.39	8.48	10.5	11.3	10.5	10.5
Haul	277	278	279	280	281	282	283	284	285	286	287	288	289
Location	Cold B.	Pavlof	Pavlof	Pavlof	Pavlof								
Month/Day/Year	8/13/2019	8/13/2019	8/13/2019	8/14/2019	8/14/2019	8/14/2019	8/14/2019	8/14/2019	8/14/2019	8/14/2019	8/15/2019	8/15/2019	8/15/2019
Station	COH	COGB	COGA	BEG	157A	156A	BEF	BEBX	BECX	BEE	VOLX	VOPX	VOQ
Longitude Start (W)	162.3982	162.4285	162.4753	162.1715	162.1225	162.1065	162.1235	162.1493	162.16	162.1493	161.9705	161.937	161.8192
Latitude Start (N)	55.1102	55.1116	55.1435	54.991	54.918	54.9642	55.002	55.1408	55.1115	55.0697	55.214	55.185	55.1985
Heading, Degrees	287	325	332	182	156	347	24	203	190	184	121	36	96
Average Depth (m)	43.88	51.2	89.6	80.46	78.63	84.12	91.43	65.83	78.63	80.46	74.97	87.77	91.43
Distance Fished (km)	1.111	1.111	1.111	1.481	1.481	1.852	1.852	1.111	1.481	1.481	1.852	1.852	1.852
Bottom Temp. (C)	10.7	10.6	10.5	8.41	8.23	8.38	8.46	8.28	8.18	8.44	6.85	6.87	6.81
Haul	290	291	292	293	294	295	296	297	298	299	300	301	302
Location	Pavlof												
Month/Day/Year	8/15/2019	8/15/2019	8/15/2019	8/15/2019	8/15/2019	8/16/2019	8/16/2019	8/16/2019	8/16/2019	8/16/2019	8/16/2019	8/16/2019	8/16/2019
Station	VOR	VOM	VOFB	VOG	VON	PAH	PAEX	PAIX	PALX	PAP	PAOB	PARB	PAU
Longitude Start (W)	161.7477	161.8373	161.8177	161.7763	161.7602	161.6035	161.5272	161.5293	161.5443	161.5713	161.6465	161.5938	161.674
Latitude Start (N)	55.1975	55.2315	55.2617	55.253	55.2275	55.5128	55.5517	55.5335	55.4975	55.4558	55.4505	55.418	55.3537
Heading, Degrees	312	0	49	101	65	186	67	184	192	248	198	157	11
Average Depth (m)	117	87.77	96.92	104.2	118.8	53.03	27.43	32.91	51.2	73.14	91.43	82.29	131.6
Distance Fished (km)	1.852	1.852	1.296	1.296	1.296	0.926	1.111	1.296	1.296	1.296	1.296	1.296	1.296
Bottom Temp. (C)	6.62	6.88	7.09	6.69	6.64	7.28	7.62	7.61	7.54	7.53	7.54	7.8	7.45
Haul	303	304	305	306	307	308	309	310	311	312	313	314	315
Location	Pavlof	W Kod.											
Month/Day/Year	8/16/2019	8/17/2019	8/17/2019	8/17/2019	8/17/2019	8/17/2019	8/17/2019	9/3/2019	9/4/2019	9/4/2019	9/4/2019	9/4/2019	9/4/2019
Station	PARA	PAV	VOD	VOI	VOBX	VOH	VOA	KUD	KUM	KUK	KUJ	KUF	KUG
Longitude Start (W)	161.6722	161.5753	161.55	161.6093	161.6113	161.6772	161.7223	153.1665	153.12	153.2513	153.2942	153.2998	153.4327
Latitude Start (N)	55.3913	55.3503	55.3143	55.2817	55.3093	55.2675	55.2925	57.9848	57.8635	57.9175	57.9362	58.0288	58.0417
Heading, Degrees	15	191	55	39	289	44	20	285	287	302	308	274	175
Average Depth (m)	104.2	95.09	98.75	104.2	95.09	102.4	111.5	43.88	69.49	138.9	155.4	155.4	73.14
Distance Fished (km)	1.296	1.296	1.296	1.296	1.296	1.296	1.296	0.926	1.852	1.852	1.852	1.852	1.852
Bottom Temp. (C)	7.6	7.78	7.58	7.52	7.62	6.61	6.64	9.96	8.7	7.43	7.41	7.94	8.83

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Haul	316	317	318	319	320	321	322	323	324	325	326	327	328
Location	W 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	9/4/2019	9/4/2019	9/5/2019	9/5/2019	9/5/2019	9/5/2019	9/5/2019	9/5/2019	9/5/2019	9/5/2019	9/6/2019	9/6/2019	9/6/2019
Station	KUI	KULA	KULB	KUYA	KUYB	KUNX	KUP	KUT	KUU	KUW	KUXB	KUXA	KUV
Longitude Start (W)	153.3882	153.2218	153.2067	153.1955	153.2117	153.3775	153.4488	153.5217	153.5008	153.5265	153.3797	153.407	153.5288
Latitude Start (N)	57.9738	57.8607	57.8342	57.7885	57.7443	57.836	57.8578	57.8253	57.7843	57.695	57.7367	57.7687	57.7395
Heading, Degrees	274	324	1	180	35	302	292	185	197	166	355	316	352
Average Depth (m)	237.7	102.4	82.29	71.31	21.94	131.6	155.4	182.8	157.2	65.83	106	128	82.29
Distance Fished (km)	1.852	1.852	1.852	1.111	0.926	1.852	1.852	1.852	1.852	1.111	1.852	1.574	1.666
Bottom Temp. (C)	7.4	8.31	8.49	10	11.5	7	6.88	6.84	6.9	8.29	6.99	6.93	7.41
Haul	329	330	331	332	333	334	335	336	337	338	339	340	341
Location	W Kod.	W Kod.	W Kod.	W Kod.	W Kod.	W Kod.	W Kod.	W Kod.	W Kod.	W Kod.	N Main	N Main	
Month/Day/Year	9/6/2019	9/6/2019	9/6/2019	9/6/2019	9/7/2019	9/7/2019	9/7/2019	9/7/2019	9/7/2019	9/7/2019	9/8/2019	9/8/2019	
Station	KUS	KUQ	UYBX	UYEX	UYT	UYQX	UYMX	UYKX	UYO	UYHX	UYFX	222	223
Longitude Start (W)	153.5493	153.5238	153.9972	153.9493	153.7963	153.9053	153.8972	153.8765	153.7957	153.717	153.858	154.0628	153.9547
Latitude Start (N)	57.875	57.8855	57.741	57.6892	57.3697	57.4867	57.5675	57.5913	57.5685	57.662	57.6743	58.1298	58.1407
Heading, Degrees	142	323	165	170	358	340	14	326	325	271	291	21	50
Average Depth (m)	181	182.8	135.3	190.1	42.06	144.4	106	137.1	80.46	87.77	173.7	248.7	206.6
Distance Fished (km)	1.852	1.852	1.852	1.852	1.111	1.852	1.852	1.852	1.852	1.852	1.481	1.481	1.481
Bottom Temp. (C)	6.86	6.86	7.9	7.51	10	8.3	8.35	8.14	9.22	8.63	8.02	5.77	5.81
Haul	342	343	344	345	346	347	348	349	350	351	352	353	354
Location	N Main	N Main	N Main	N Main	N Main	N Main	N Main	N Main	N Main	N Main	N Main	N Main	N Main
Month/Day/Year	9/8/2019	9/8/2019	9/8/2019	9/8/2019	9/8/2019	9/8/2019	9/9/2019	9/9/2019	9/9/2019	9/9/2019	9/9/2019	9/9/2019	9/9/2019
Station	224	200	174	173	199	198	171A	171C	171D	172B	145	146	118
Longitude Start (W)	153.8328	153.7152	153.6508	153.7867	153.832	153.905	154.2608	154.2053	154.1013	154.0387	153.7782	153.6977	153.623
Latitude Start (N)	58.1228	58.201	58.2928	58.3123	58.2702	58.2467	58.3033	58.325	58.3197	58.2838	58.374	58.387	58.486
Heading, Degrees	351	49	22	224	217	250	68	70	111	45	66	208	48
Average Depth (m)	193.8	190.1	179.2	197.5	202.9	217.6	109.7	102.4	71.31	126.1	197.5	181	133.4
Distance Fished (km)	1.481	1.481	1.481	1.481	1.481	1.852	1.852	1.852	1.481	1.481	1.481	1.481	1.481
Bottom Temp. (C)	5.82	5.89	5.88	5.83	5.81	5.82	9.66	9.71	8.85	6.75	5.8	5.8	6.49
Haul	355	356	357	358	359	360	361	362	363	364	365	366	367
Location	N Main	N Main	N Main	N Main	N Main	N Main	N Main	N Main	N Main	N Main	N Main	N Main	N Main
Month/Day/Year	9/9/2019	9/10/2019	9/10/2019	9/10/2019	9/10/2019	9/10/2019	9/10/2019	9/10/2019	9/10/2019	9/11/2019	9/11/2019	9/11/2019	9/11/2019
Station	117	144	90	91	60	61	31	2	3	121	120	119	147
Longitude Start (W)	153.7497	153.973	153.5373	153.4107	153.3483	153.2453	153.2233	153.205	153.0458	153.1375	153.2852	153.4827	153.4838
Latitude Start (N)	58.4662	58.437	58.5398	58.5752	58.6272	58.6592	58.7108	58.7833	58.7888	58.4557	58.501	58.488	58.3985
Heading, Degrees	236	77	44	66	60	52	27	19	145	355	279	249	208
Average Depth (m)	117	85.94	117	129.8	118.8	157.2	151.7	142.6	144.4	168.2	170	148.1	179.2
Distance Fished (km)	1.481	1.481	1.481	1.481	1.481	1.481	1.481	1.481	1.481	1.481	1.481	1.481	1.481
Bottom Temp. (C)	7.21	8.65	7.18	6.53	6.89	6.37	6.56	6.49	6.37	5.94	5.97	6.34	5.89

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Haul	368	369	370
Location	W Kod.	W Kod.	W Kod.
Month/Day/Year	9/11/2019	9/11/2019	9/12/2019
Station	RAA	MAA	PMA
Longitude Start (W)	153.2235	153.0728	152.8638
Latitude Start (N)	58.1392	58.2165	58.2962
Heading, Degrees	142	279	284
Average Depth (m)	104.2	135.3	95.09
Distance Fished (km)	1.852	1.852	1.852
Bottom Temp. (C)	8.66	7.28	8.35

Appendix B2.—2019 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
443	83.5	CHF	12.7	UGB	5.8	510D	38.0
444	83.5	CHG	32.8	UGC	17.5	511A	42.0
<u>369X</u>	<u>142.8</u>	CHJ	11.3	UGD	11.0	511B	42.9
Total	562.1	CHK	8.6	UGE	12.7	533A	42.9
Marmot Bay		<u>CHL</u>		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	<u>Kizhuyak Bay</u>		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	<u>Kiliuda Bay</u>		559	85.8
MOPB	19.9	KZD	23.7	Station	KM ²	560	85.8
MOXA	13.0	KZE	25.8	KLA	20.9	561	85.8
MOXB	29.5	KZF	20.1	KLB	9.2	587	85.8
256	82.1	KZG	21.2	KLC	19.5	588	85.8
257	82.1	KZJ	21.4	KLD	18.1	589	85.8
284	82.4	KZK	21.4	KLE	8.2	619	85.8
285	82.4	KZO	21.4	KLF	15.0	620	85.8
313	85.8	KZR	10.8	KLG	16.4	621	85.8
314	82.5	<u>KZS</u>	3.1	KLH	16.8	654	85.8
255A	64.4	Total	195.7	KLI	21.4	655	85.8
255B	63.9			KLL	21.4	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
<u>Southeast Section</u>							
<u>South Sitkalidak Strait</u>		<u>Offshore Twoheaded</u>		<u>Southwest Section</u>			
Station	KM ²	Station	KM ²	Alitak Flats		Alitak Bay	
THA	15.1	618A	42.9	Station	KM ²	Station	KM ²
THCX	19.6	<u>585X</u>	78.8	645B	34.3	ALA	3.1
THDX	28.6	614	61.2	646A	27.1	ALBX	12.8
THFA	22.3	615	99.5	646C	27.9	ALCA	8.1
THG	21.1	<u>651</u>	85.8	646D	37.4	ALD	13.0
THH	19.2	Total	368.1	682B	21.7	ALF	21.4
THI	21.6	<u>Horse's Head</u>		683A	22.2	ALG	19.9
THJ	17.8	Station	KM ²	683B	20.9	ALH	16.1
THK	16.5	586	85.8	683D	9.3	ALI	16.6
THL	9.3	688	85.8	684A	21.7	ALJ	15.1
THM	10.6	725	85.8	684B	10.3	ALK	9.9
THN	5.1	726	85.8	684C	8.6	ALL	8.2
Total	206.8	727	85.8	Total	241.4	ALM	16.1
		728	85.8			ALO	16.8
		729	85.8			ALP	18.4
		759	85.8			ALQ	14.4
		760	85.8			ALR	13.4
		<u>761</u>	85.8			Total	223.5
		Total	857.5				

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KODIAK DISTRICT (Continued)							
Westside Section							
Uganik Bay		Uyak Bay		Kupreanof-Viekoda		North Mainland Section	
Station	KM ²	Station	KM ²	Station	KM ²	Station	KM ²
KUNX	10.6	UYBX	21.5	KUD	27.1	2	85.6
KUP	13.3	UYEX	29.9	KUF	11.3	3	85.6
KUQ	20.6	UYFX	22.1	KUG	15.4	31	83.7
KUS	12.1	UYHX	4.1	KUI	6.4	60	85.8
KUT	9.4	UYKX	13.9	KUJ	17.0	61	85.8
KUU	13.7	UYMX	20.8	KUK	14.1	90	80.3
KUV	4.1	UYO	3.4	KULB	2.7	91	85.8
KUW	5.2	UYQX	7.7	KULA	2.1	117	97.8
KUXB	4.1	UYT	2.8	KUM	10.5	118	85.8
KUXA	5.6	Total	126.1	KUYA	4.1	119	85.8
Total	98.6			KUYB	2.6	120	85.8
				Total	113.2	121	85.8
West Afognak						144	60.7
Station	KM ²					145	85.8
MAA	10.5					146	85.8
PMA	15.1					147	85.8
RAA	6.7					171A	11.4
Total	32.3					171C	7.6
		KODIAK DISTRICT TOTALS				171D	28.6
					KM ²	172B	79.5
		Northeast			1,969.3	173	85.8
		Eastside			1,944.7	174	85.8
		Southeast			1,432.4	198	85.8
		Southwest			465.0	199	85.8
		Westside			370.3	200	85.8
		North Mainland			2,181.7	222	103.2
		Kodiak District			8,363.4	223	85.8
						224	85.8
						Total	2,181.7
CHIGNIK DISTRICT							
Chignik Bay		Ivanof Bay		Kujulik Bay		Mitrofania Island	
Station	KM ²	Station	KM ²	Station	KM ²	Station	KM ²
4256	22.5	4000Y	15.8	4290	21.3	4038A	43.7
4262	21.4	4007	37.2	4296	10.3	4038B	43.7
4264	19.7	4008	42.1	4298	19.0	4050A	25.9
4265	6.6	4915	51.0	4301	21.4	4050B	42.9
4266	19.6	Total	146.2	4302	18.2	4066A	43.6
4267	21.4			4308	17.2	4066B	43.6
4270	17.1			Total	107.3	4024	57.6
4271	10.0					4025	43.7
4272	15.9					4026	43.7
4274	21.4					4035	59.3
4277	21.4					4036	64.9
4278	21.4				KM ²	4037	43.7
4282	21.4			Chignik Bay	321.5	4048	14.7
4286	21.4			Ivanof Bay	146.2	4049	57.2
4287	28.5			Kujulik Bay	107.3	4063	35.2
4312	21.9			Mitrofania Island	783.9	4064	40.5
4964	9.6			Chignik District	1,358.8	4065	80.0
Total	321.5					Total	783.9

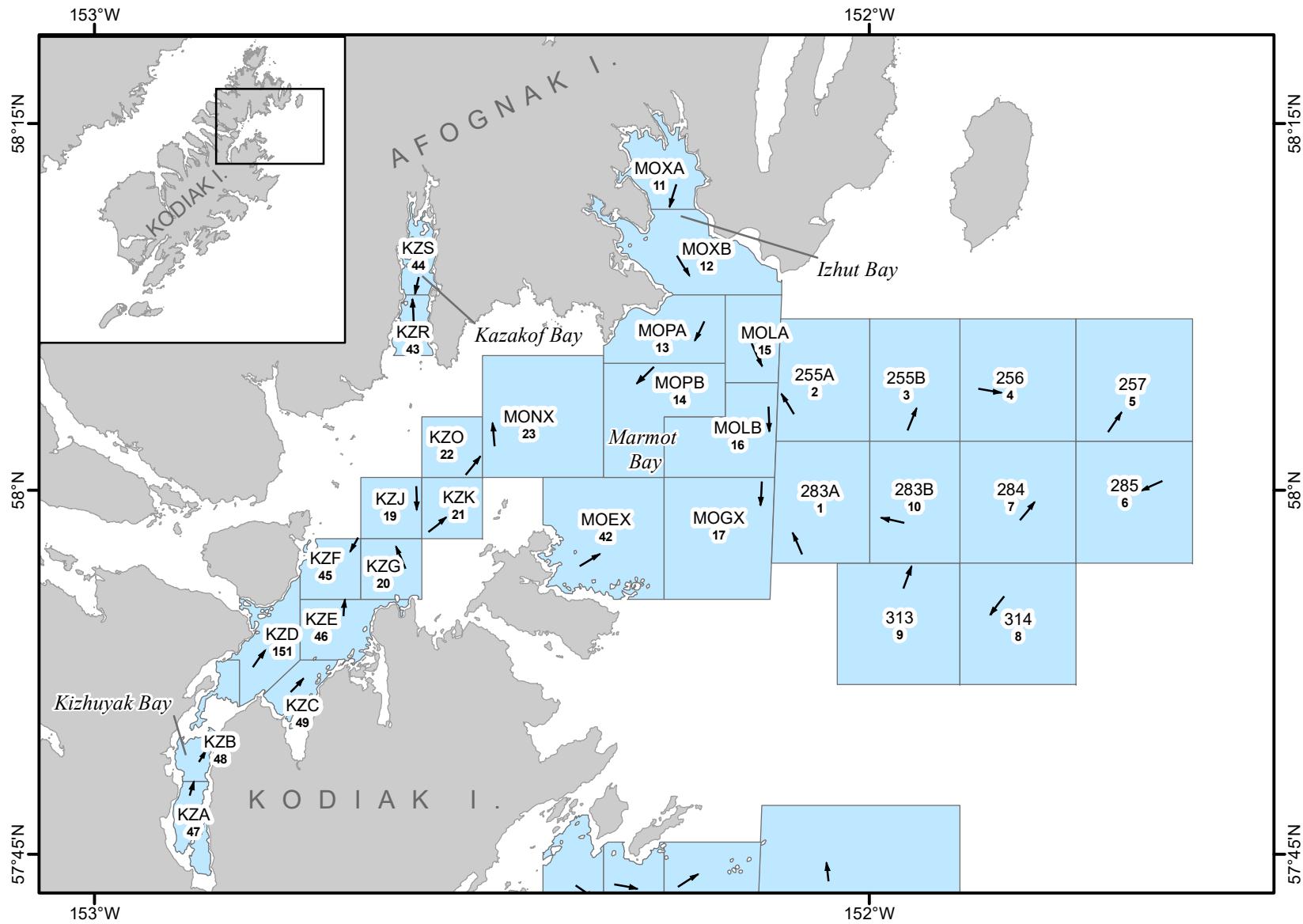
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Appendix B2.—Page 3 of 3.

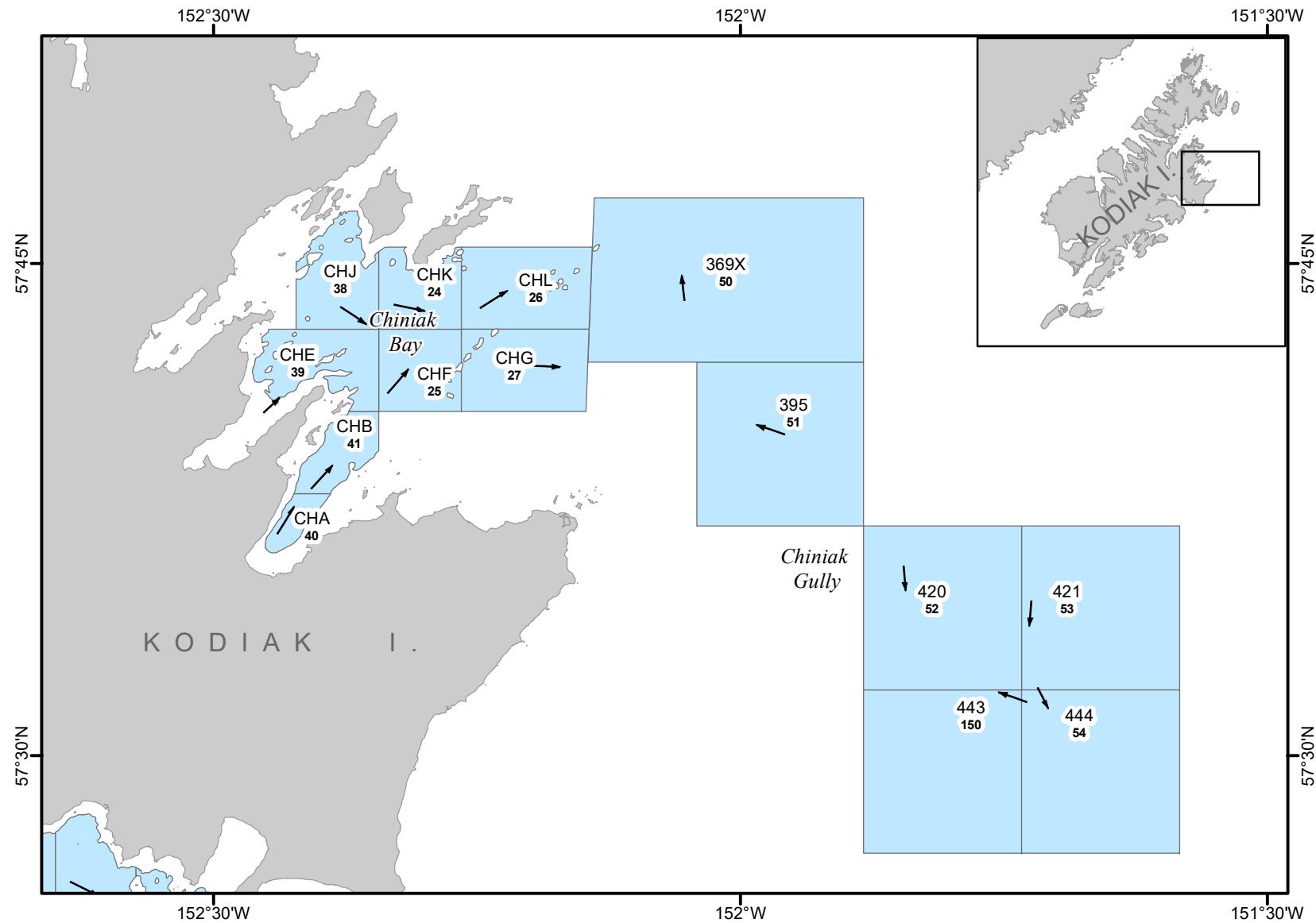
SOUTH PENINSULA DISTRICT							
Pavlof/Volcano Bay		West Nagai Strait		Cold/Belkofski Bay		Morzhovoi Bay	
Station	KM ²	Station	KM ²	Station	KM ²	Station	KM ²
228	12.8	332B	42.9	156A	44.2	87AX	42.9
245	21.0	373A	28.0	157A	21.0	87D	22.3
PAH	37.5	373B	20.5	BEBX	15.1	MOB	18.5
PAEX	14.2	301	85.8	BECX	25.7	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	<u>Beaver/Balboa/Unga</u>		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	<u>Stepovak Bay</u>		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	<u>S PENINSULA DISTRICT TOTALS</u>			
		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
EASTERN ALEUTIAN DISTRICT							
Unalaska/Kalekta Bay		Makushin Bay		Akutan Bay Section			
Section	Section	Section	Section	Section	Section	Section	Section
Station	KM ²	Station	KM ²	Station	KM ²	Section	KM ²
KAA	19.5	MKB	15.8	AKA	33.2		
UNC	22.6	MKC	18.5	AKC	21.2		
UND	11.7	MKE	29.1	AKD	22.5		
UNE	17.9	MKF	20.9	AKG	21.4		
UNF	21.4	MKK	35.7	AKL	21.4		
UNG	21.4	MKN	26.2	Total	119.7		
UNI	19.7	MKP	11.1			<u>E ALEUTIAN DISTRICT TOTALS</u>	
UNJ	21.4	Total	157.3			Section	KM ²
Total	155.7					Akutan Bay	119.7
						Unalaska/Kalekta Bay	155.7
						Makushin Bay	157.3
						E Aleutian District	432.7

APPENDIX C. TRAWL MAPS

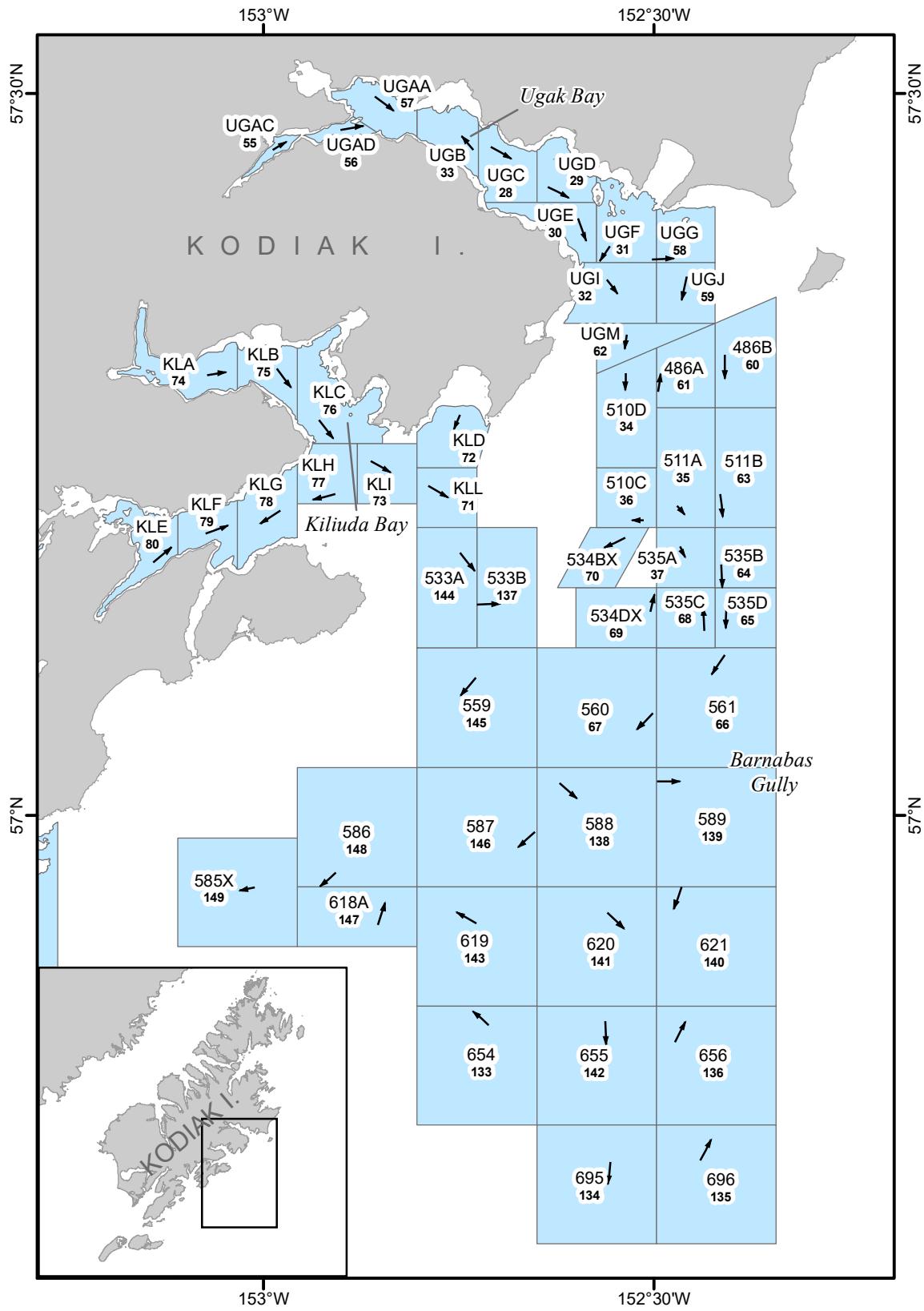
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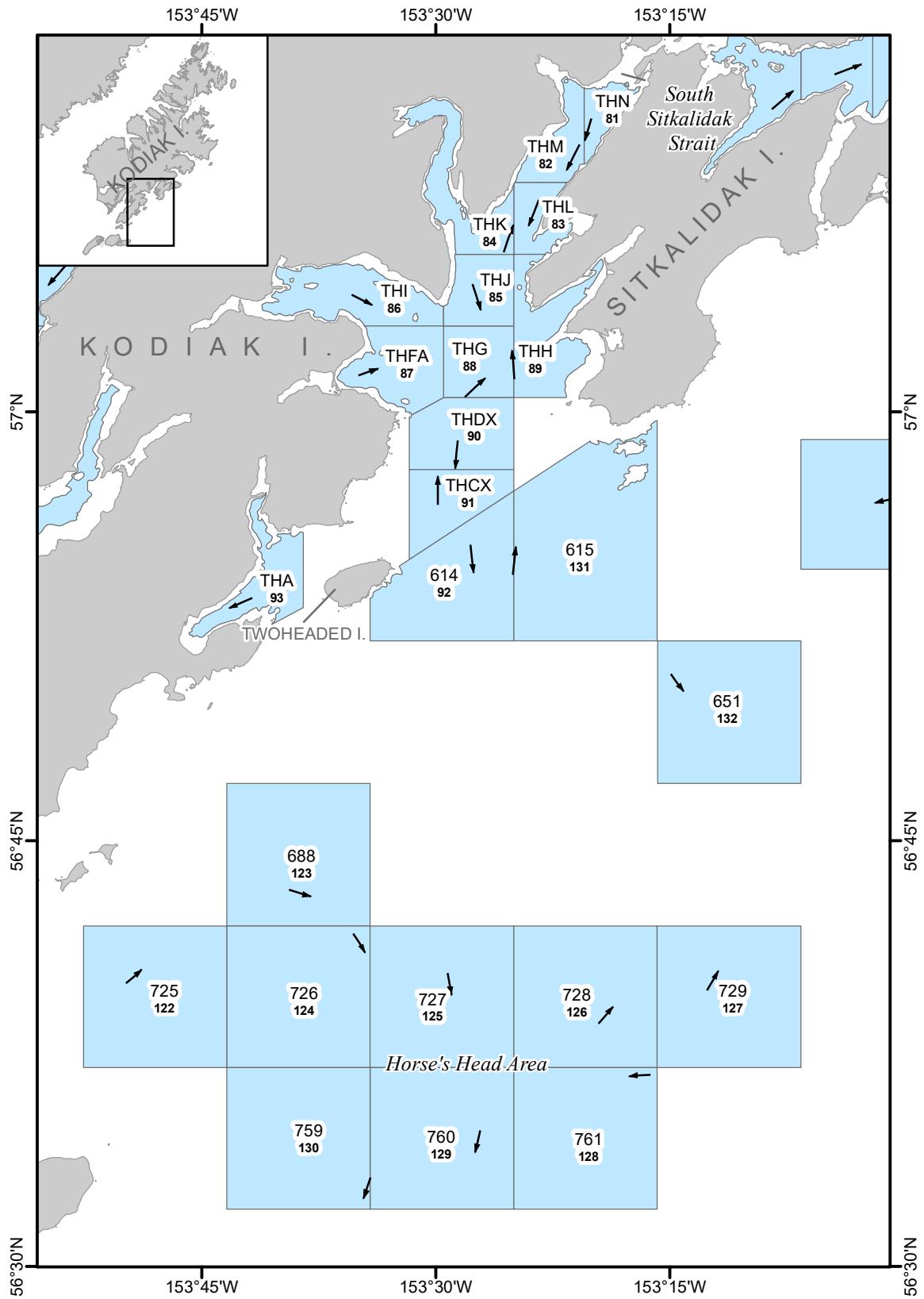
Appendix C1.—Izhut Bay, Kazakof Bay, Kizhuyak Bay, and Marmot Bay station boundaries with station name, trawl haul number (bold), and haul location and direction (arrow), June 2019.



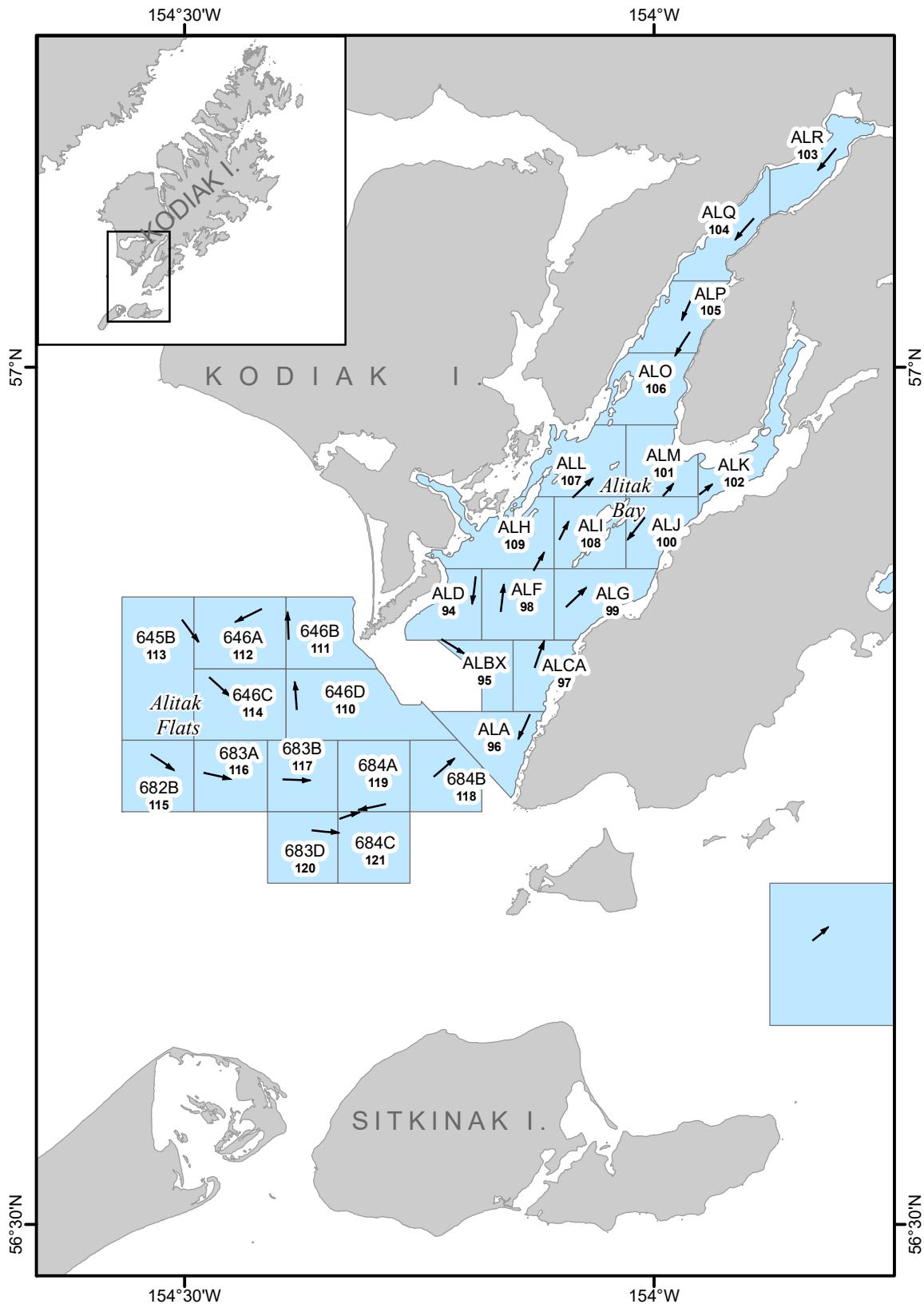
Appendix C2.—Chiniak Bay and Chiniak Gully station boundaries with station name, trawl haul number (bold), and haul location and direction (arrow), June 2019.



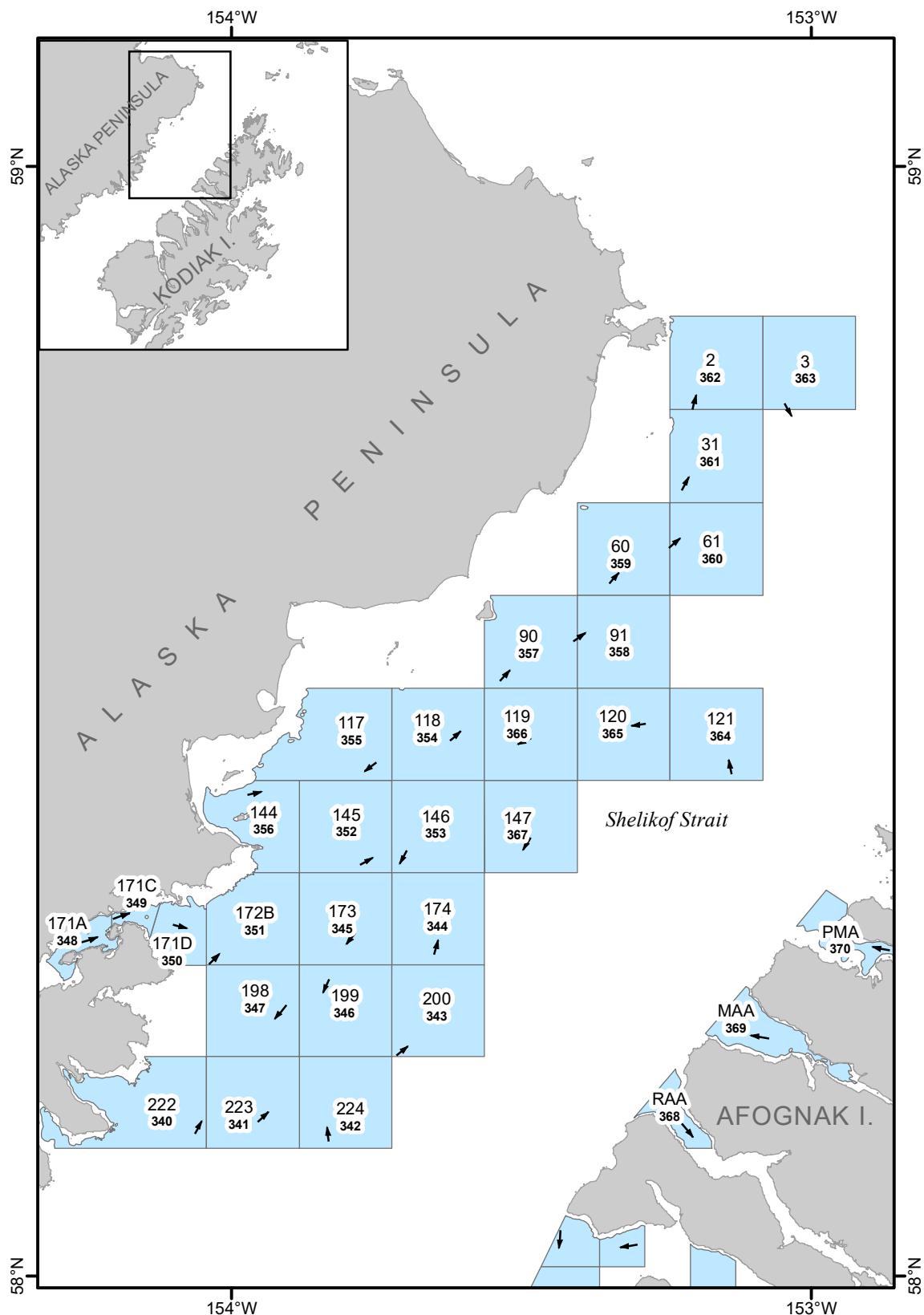
Appendix C3.—Ugak Bay, Kiliuda Bay, and Barnabas Gully station boundaries with station name, trawl haul number (bold), and haul location and direction (arrow), June and July 2019.



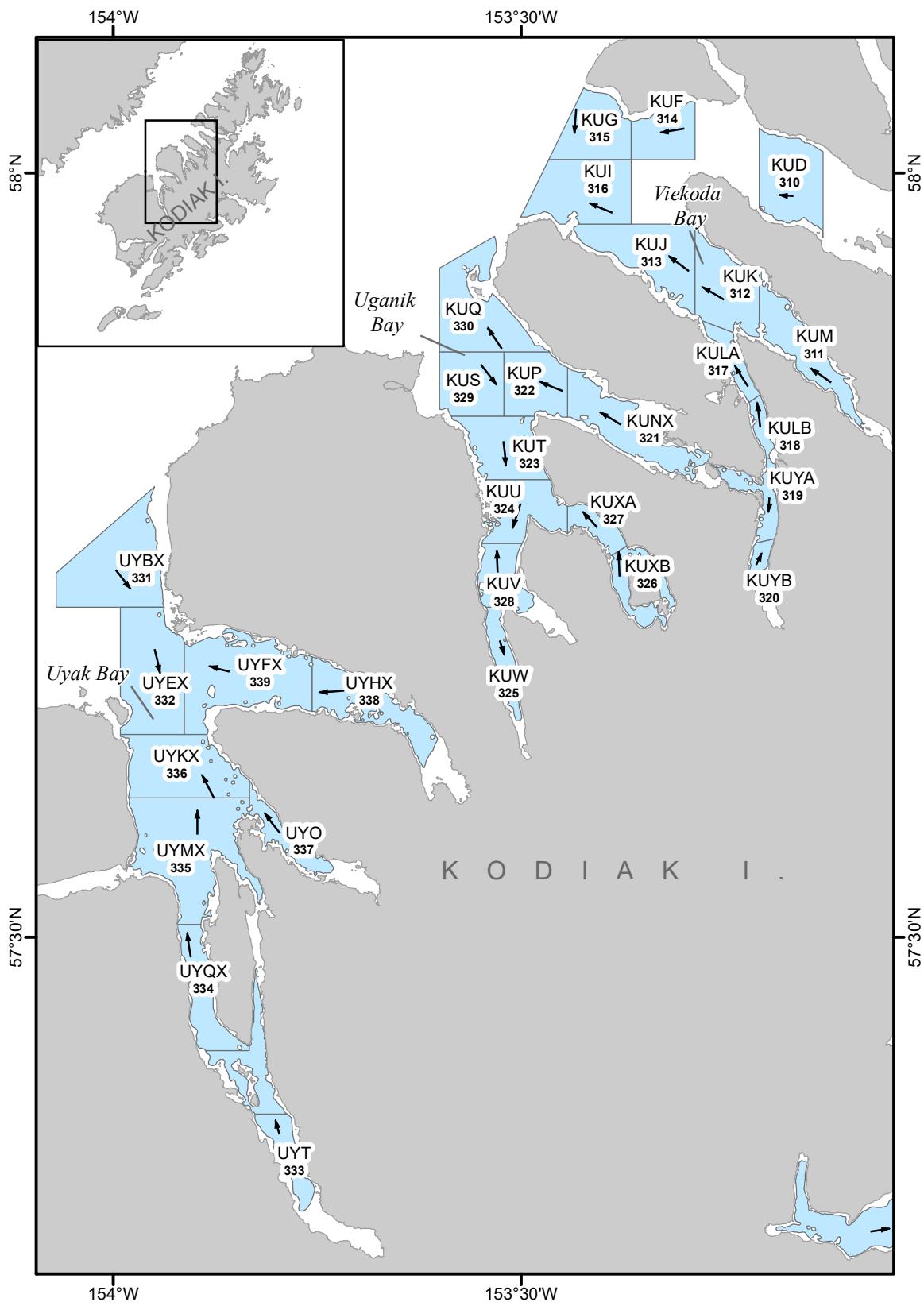
Appendix C4.—South Sitkalidak Strait, Twoheaded Island, and Horse's Head area station boundaries with station name, trawl haul number (bold), and haul location and direction (arrow), July 2019.



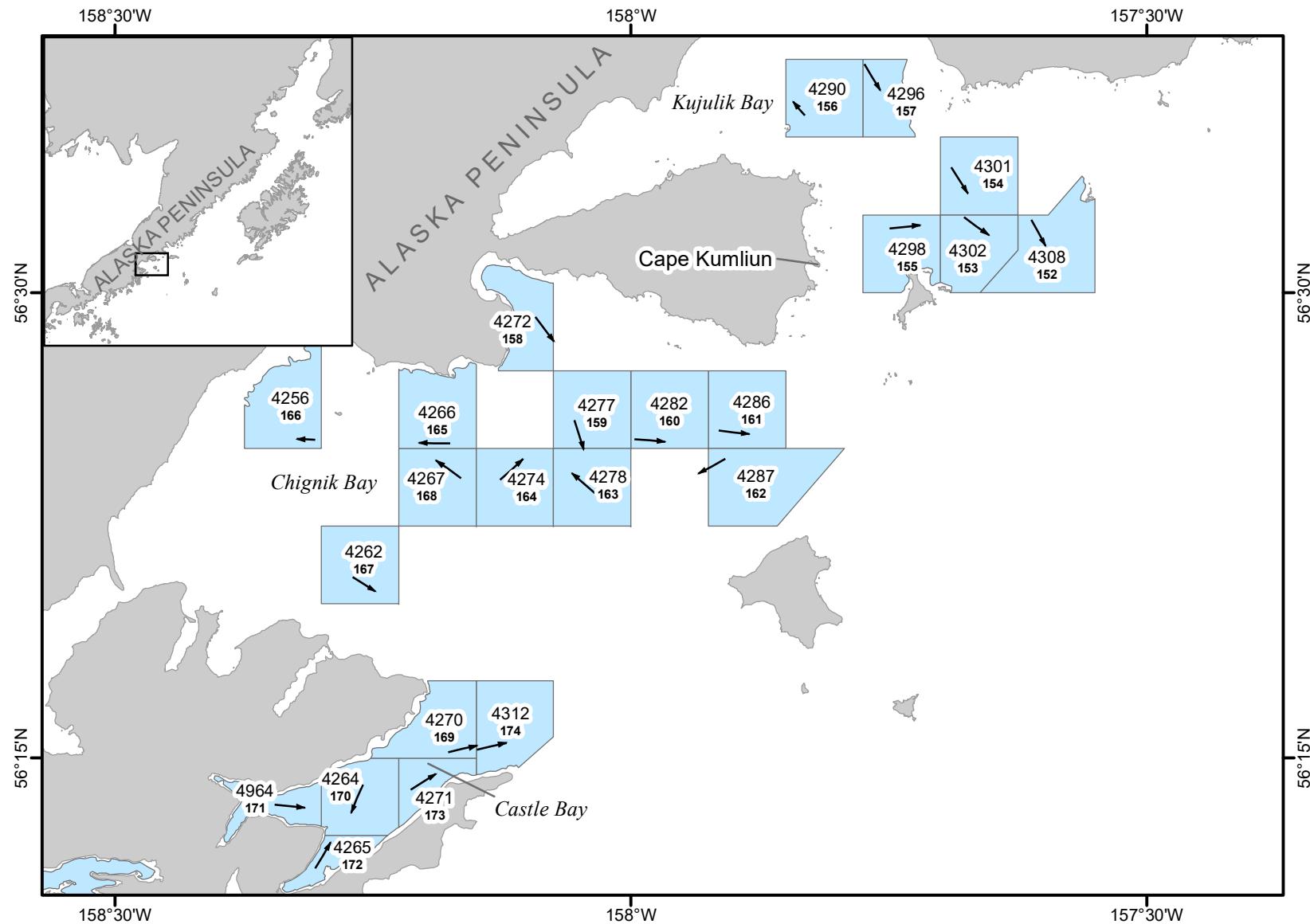
Appendix C5.—Alitak Bay and Alitak Flats station boundaries with station name, trawl haul number (bold), and haul location and direction (arrow), July 2019.



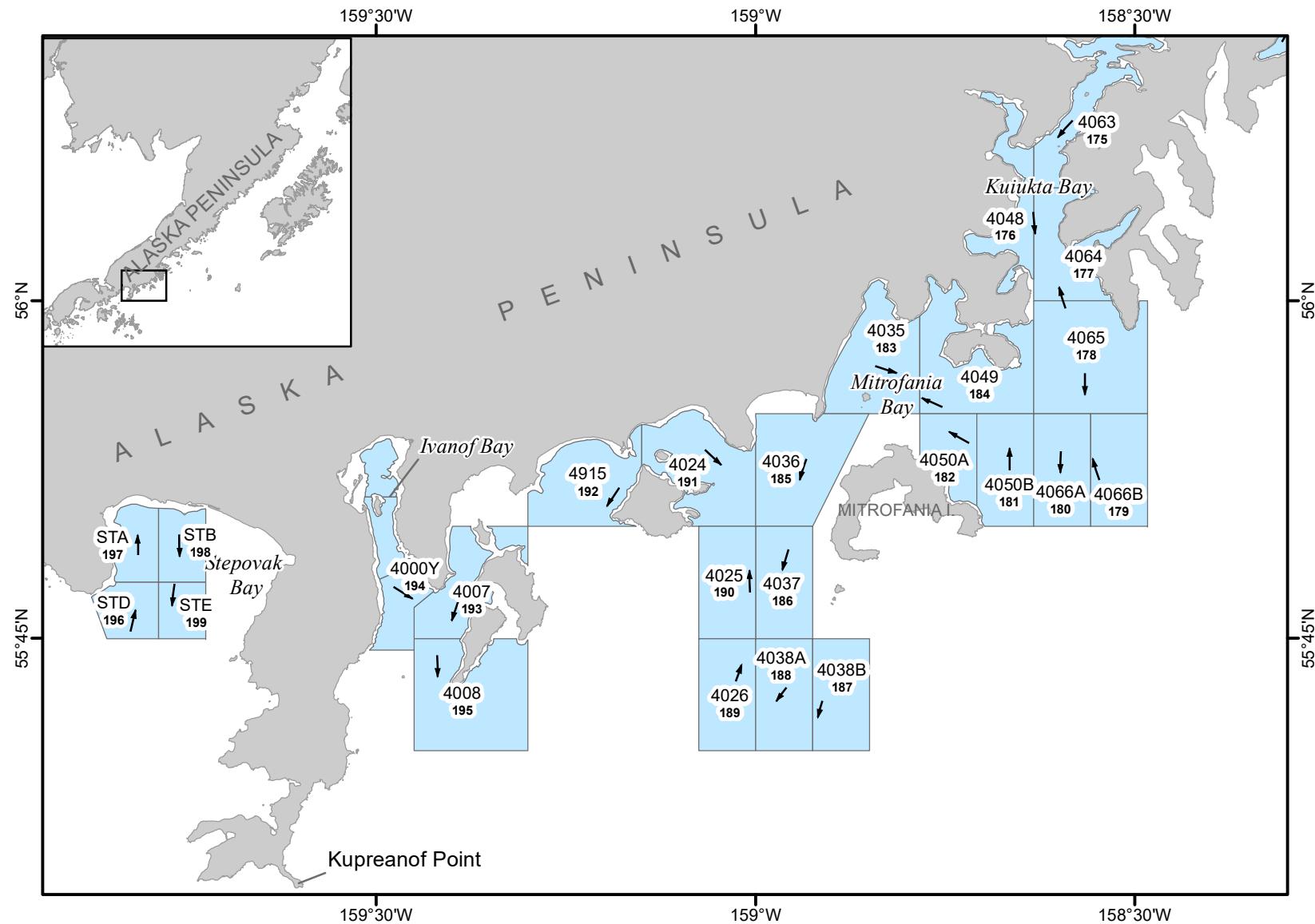
Appendix C6.—Shelikof Strait and Afognak Island station boundaries with station name, trawl haul number (bold), and haul location and direction (arrow), September 2019.



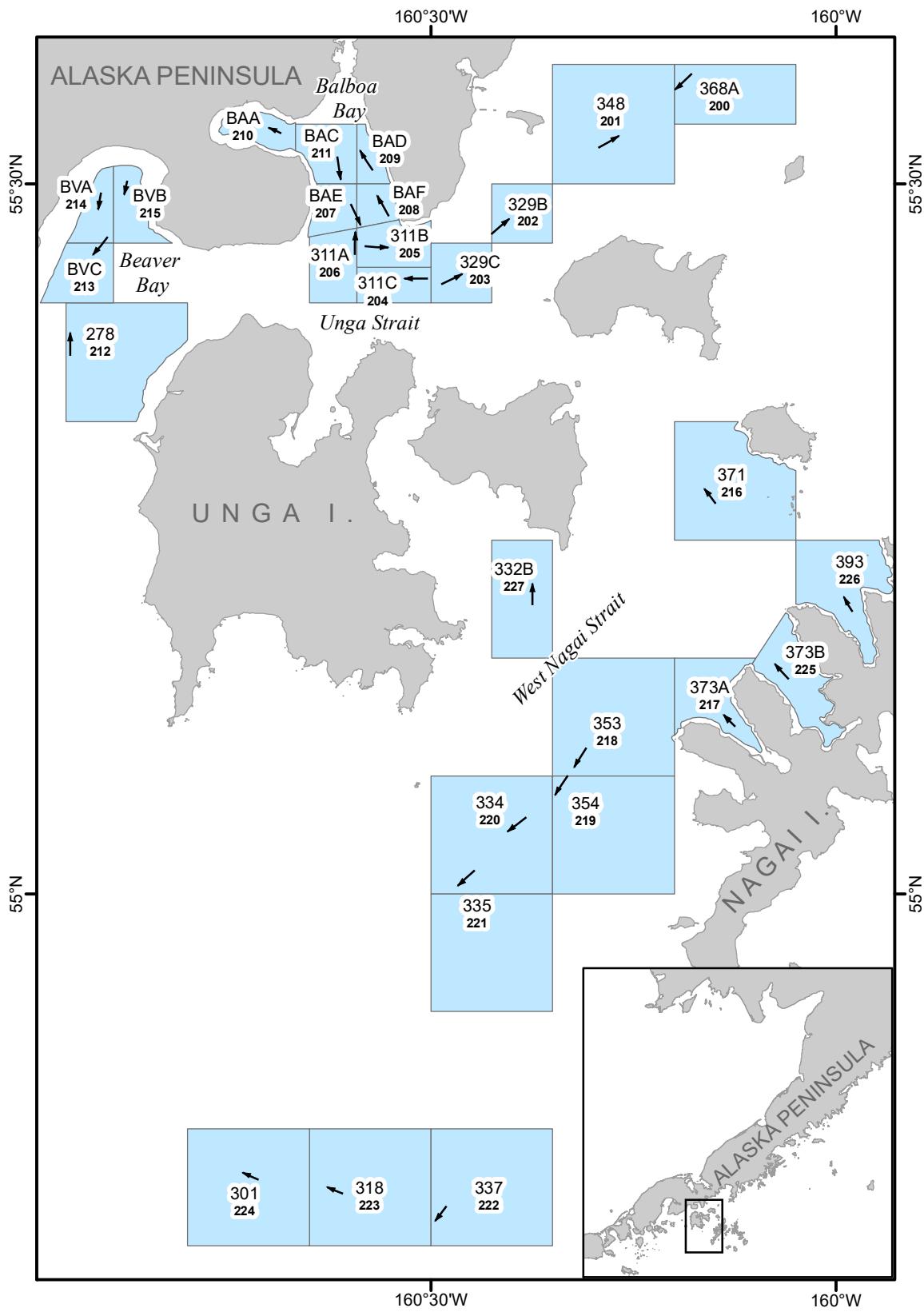
Appendix C7.—Uyak Bay, Uganik Bay, and Viekoda Bay station boundaries with station name, trawl haul number (**bold**), and haul location and direction (arrow), September 2019.



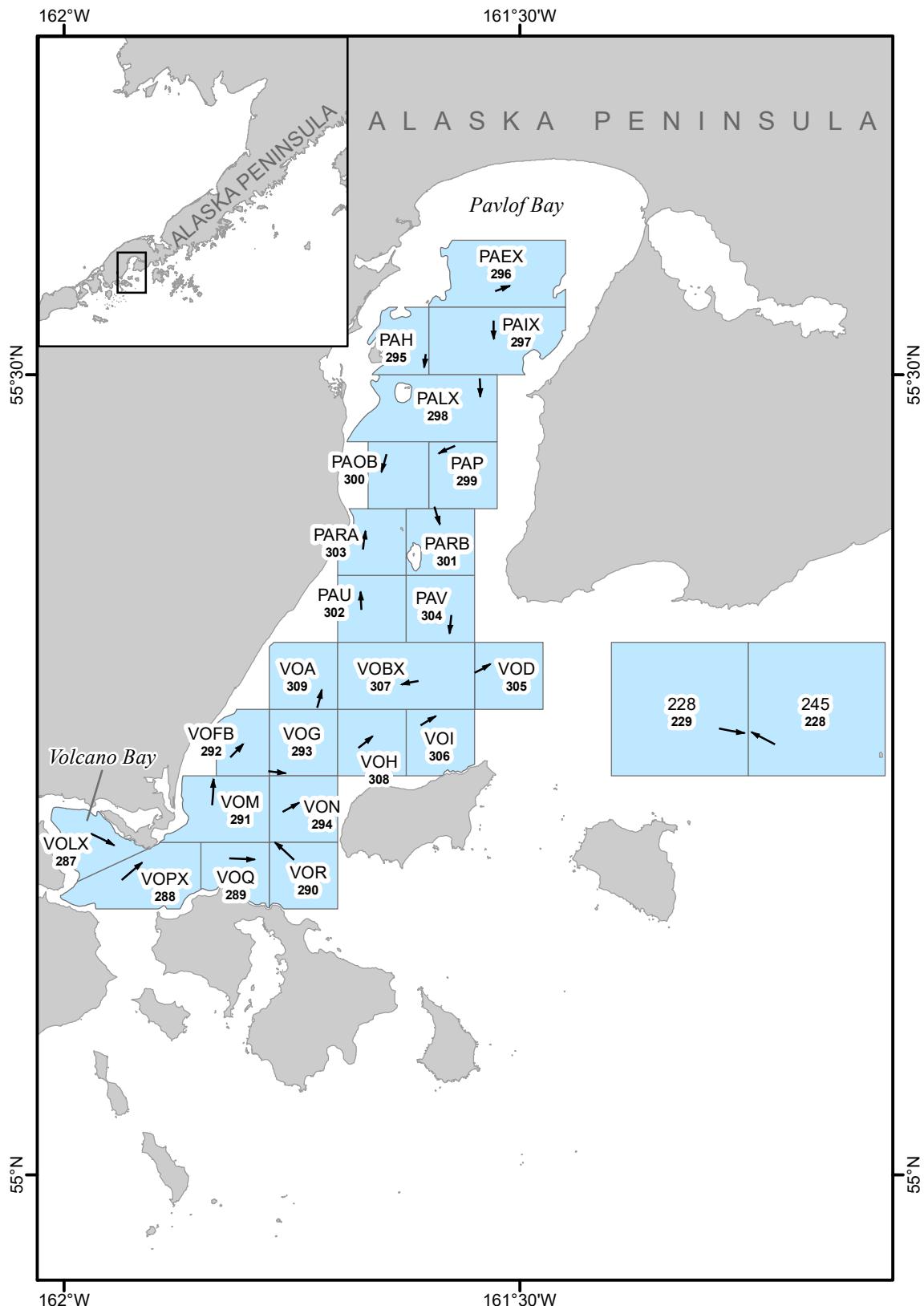
Appendix C8.—Kujulik Bay, Chignik Bay, and Castle Bay station boundaries with station name, trawl haul number (bold), and haul location and direction (arrow), July 2019.



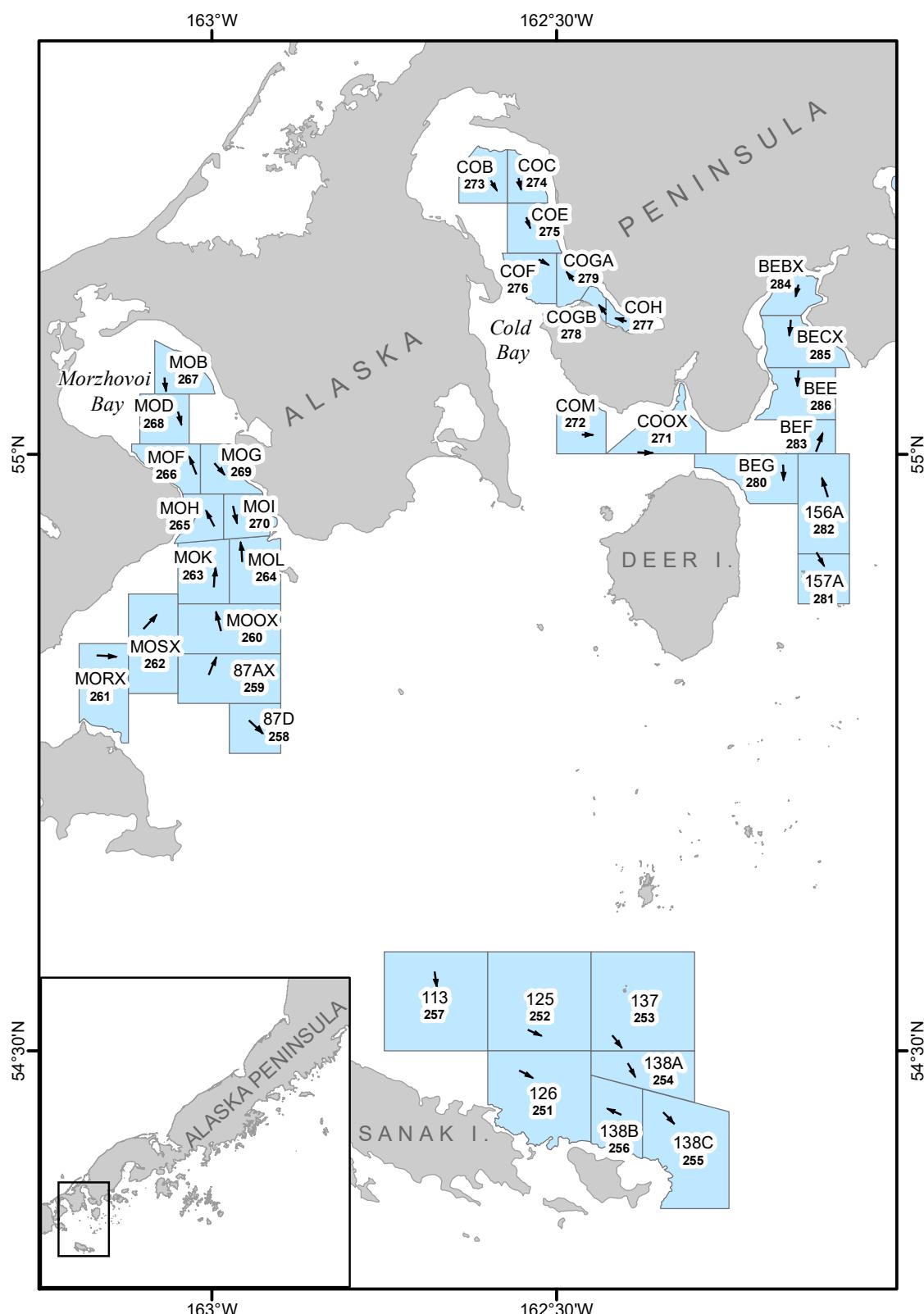
Appendix C9.—Stepovak Bay, Ivanof Bay, Kuiukta Bay, and Mitrofania Bay station boundaries with station name, trawl haul number (bold), and haul location and direction (arrow), July 2019.



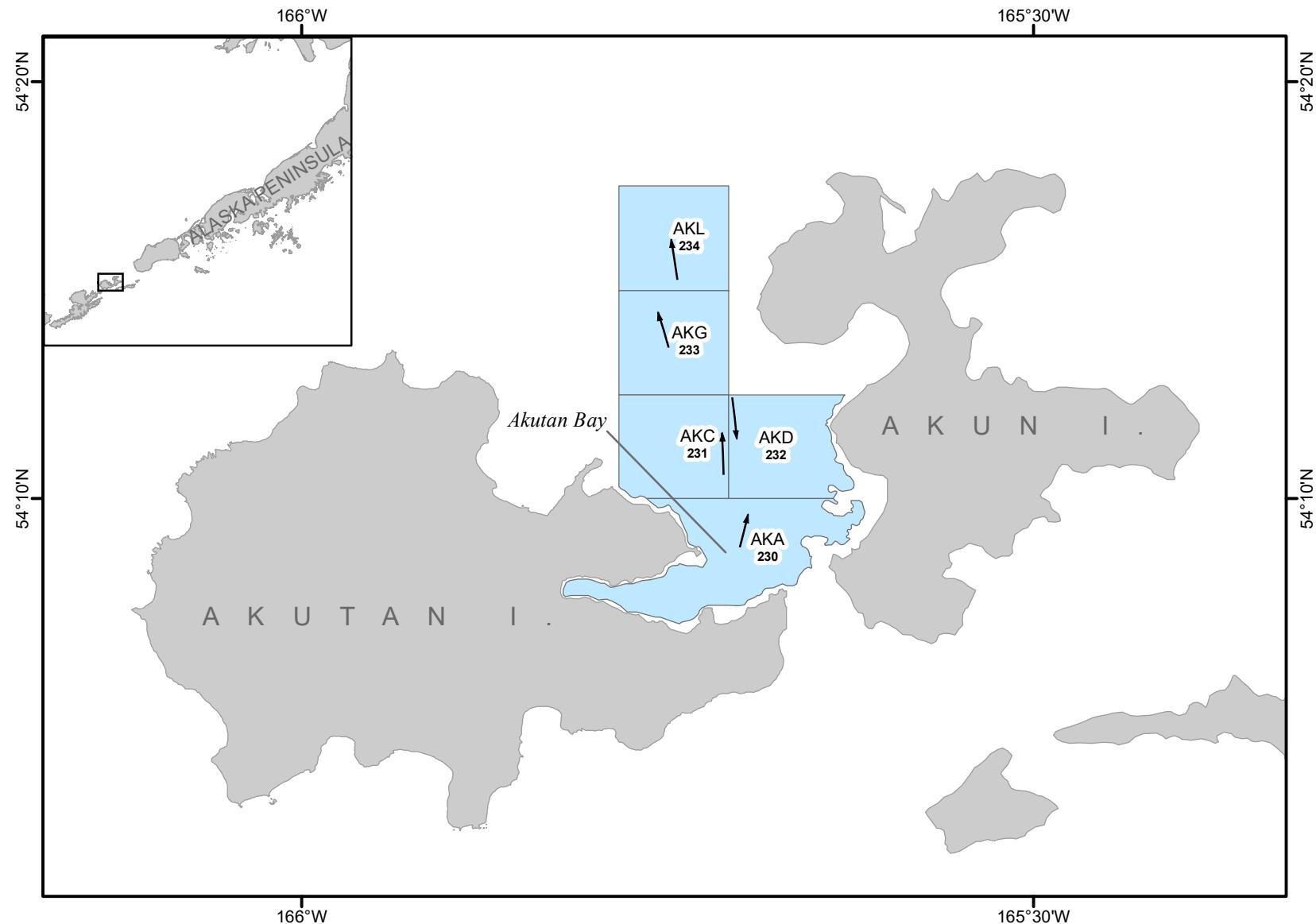
Appendix C10.—Unga Strait, Beaver Bay, Balboa Bay, and West Nagai Strait station boundaries with station name, trawl haul number (bold), and haul location and direction (arrow), July 2019.



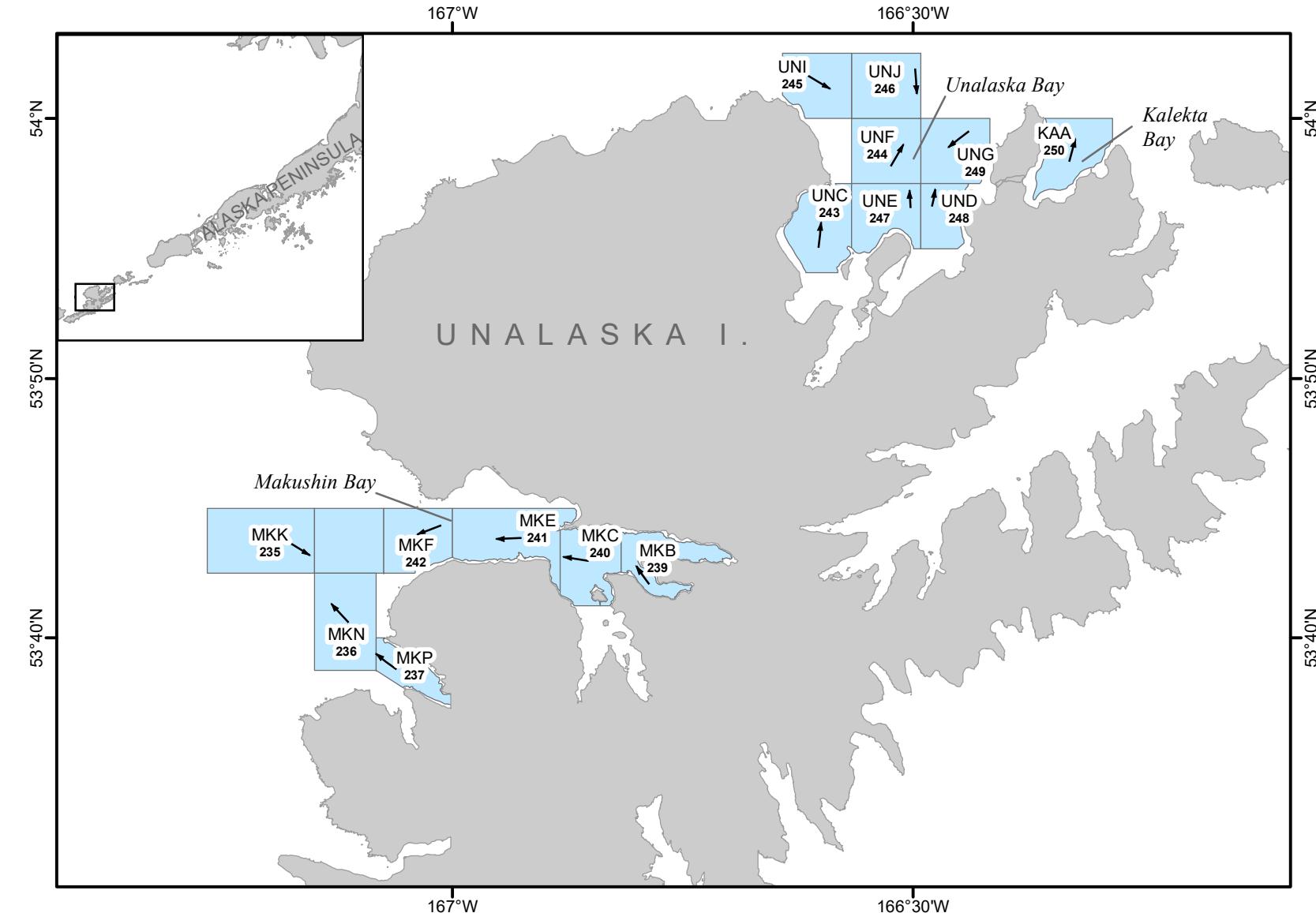
Appendix C11.—Pavlof Bay and Volcano Bay station boundaries with station name, trawl haul number (bold), and haul location and direction (arrow), July 2019.



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), July and August 2019.



Appendix C13.—Akutan Bay station boundaries with station name, trawl haul number (bold), and haul location and direction (arrow), August 2019.



Appendix C14.—Unalaska Bay, Kalekta Bay, and Makushin Bay station boundaries with station name, trawl haul number (bold), and haul location and direction (arrow), August 2019.

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

Appendix D1.—Tanner crab abundance estimates in the Kodiak District by station and section, 2019.

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	4	69,122	0	69,122	87,312	3,638	3,638	0	0	0	0	0	94,588	163,710
257	5	69,122	3,638	72,760	58,208	14,552	0	0	0	0	0	0	72,760	145,520
284	7	7,294	0	7,294	7,294	0	0	0	0	0	0	0	7,294	14,588
285	6	29,177	0	29,177	21,883	0	0	0	0	0	0	0	21,883	51,060
313	9	121,520	0	121,520	75,950	7,595	3,798	0	0	0	0	0	87,343	208,863
314	8	0	0	0	0	0	0	0	0	0	0	0	0	0
395	51	46,414	59,072	105,486	50,633	21,097	0	0	0	0	0	0	71,731	177,217
420	52	179,796	59,932	239,729	258,169	92,203	4,610	0	0	0	0	0	354,983	594,711
421	53	138,305	27,661	165,966	184,407	138,305	9,220	0	0	0	0	0	331,932	497,898
443	150	102,701	8,216	110,917	147,890	127,350	8,216	0	0	0	0	0	283,456	394,373
444	54	390,852	195,426	586,278	485,924	232,398	52,818	0	0	0	0	0	771,140	1,357,417
255A	2	142,634	119,813	262,447	111,255	48,496	31,380	0	0	0	0	0	191,130	453,576
255B	3	356,567	16,979	373,546	396,186	19,809	2,830	0	0	0	0	0	418,825	792,371
283A	1	381,968	45,114	427,082	433,097	54,137	27,069	0	0	0	0	0	514,303	941,385
283B	10	65,227	99,259	164,486	85,079	39,704	8,508	0	0	0	0	0	133,291	297,777
369X	50	94,877	31,626	126,502	79,064	71,158	7,906	0	0	0	0	0	158,128	284,630
CHA	40	3,403	0	3,403	5,590	0	0	0	0	0	0	0	5,590	8,992
CHB	41	61,838	0	61,838	69,175	0	0	0	0	0	0	0	69,175	131,014
CHE	39	0	0	0	5,208	0	0	0	0	0	0	0	5,208	5,208
CHF	25	121,253	49,604	170,857	24,002	82,916	86,189	29,457	0	0	0	0	222,564	393,421
CHG	27	13,056	1,451	14,506	11,605	2,901	0	0	0	0	0	0	14,506	29,013
CHJ	38	10,025	0	10,025	10,025	0	501	0	0	0	0	0	10,527	20,552
CHK	24	70,158	38,070	108,229	42,094	28,964	18,923	1,159	0	0	0	0	91,140	199,369
CHL	26	105,874	17,438	123,312	68,507	31,140	2,491	623	0	0	0	0	102,760	226,073
KZA	47	0	0	0	0	0	0	0	0	0	0	0	0	0
KZB	48	6,279	2,228	8,506	5,468	4,253	2,228	0	0	0	0	0	11,949	20,456
KZC	49	684	684	1,367	2,734	684	0	0	0	0	0	0	3,418	4,785
KZD	151	3,494	0	3,494	9,317	1,165	1,165	0	0	0	0	0	11,646	15,139
KZE	46	16,318	0	16,318	26,109	0	0	0	0	0	0	0	26,109	42,428
KZF	45	12,716	0	12,716	13,988	8,901	5,086	0	0	0	0	0	27,976	40,692
KZG	20	33,849	16,925	50,774	40,431	31,029	40,431	15,044	1,881	0	0	1,881	128,816	179,590
KZJ	19	39,874	30,380	70,254	23,988	100,450	128,936	44,978	4,498	0	0	4,498	302,851	373,104
KZK	21	28,981	156,897	185,878	77,531	74,989	69,905	38,130	1,271	0	0	1,271	261,828	447,705

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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				
KZO	22	0	1,904,446	1,904,446	0	67,363	300,543	528,542	20,727	10,364	0	31,091	927,539	2,831,986	
KZR	43	171,260	613,349	784,609	48,188	152,594	219,521	101,729	18,740	5,354	0	24,094	546,126	1,330,735	
KZS	44	10,937	13,085	24,022	8,593	9,099	18,450	11,373	1,264	2,780	0	4,044	51,559	75,581	
MOEX	42	163,615	64,163	227,777	36,893	149,178	123,513	17,645	3,208	0	0	3,208	330,437	558,214	
MOGX	17	620,101	27,357	647,459	602,217	90,152	28,849	7,212	3,606	0	0	3,606	732,036	1,379,495	
MOLA	15	45,442	525,428	570,871	43,436	32,267	78,184	31,026	0	2,482	0	2,482	187,394	758,265	
MOLB	16	148,672	25,770	174,442	186,336	17,841	7,929	1,982	0	0	0	0	214,088	388,530	
MONX	23	397,674	230,584	628,258	300,762	240,610	113,621	43,443	3,342	0	0	3,342	701,778	1,330,036	
MOPA	13	32,810	2,734	35,545	27,342	5,468	1,367	0	0	0	0	0	34,178	69,722	
MOPB	14	79,292	2,643	81,935	71,363	4,405	1,762	1,762	0	0	0	0	79,292	161,227	
MOXA	11	35,788	1,732	37,519	20,203	15,008	8,081	4,618	0	0	0	0	47,909	85,429	
MOXB	12	24,820	3,919	28,739	26,127	11,757	18,289	6,532	0	0	0	0	62,704	91,444	
	Total	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	
Eastside Section															
143	559	145	260,656	3,058,359	3,319,015	23,873	190,981	286,472	343,766	0	138,461	0	138,461	983,553	4,302,568
	560	67	592,410	49,368	641,778	474,688	56,963	45,570	22,785	0	3,798	0	3,798	603,803	1,245,580
	561	66	1,148,725	1,125,978	2,274,703	1,017,953	315,081	226,212	88,869	0	0	0	0	1,648,115	3,922,818
	587	146	912,311	257,319	1,169,630	1,154,440	98,390	150,864	39,356	0	0	0	0	1,443,050	2,612,680
	588	138	353,168	1,059,503	1,412,670	651,923	142,321	91,820	36,728	0	0	0	0	922,792	2,335,463
	589	139	220,255	224,053	444,308	53,165	102,533	72,153	159,495	3,798	18,988	0	22,785	410,130	854,438
	619	143	449,434	549,308	998,743	459,078	204,035	136,023	272,046	0	56,676	0	56,676	1,127,857	2,126,600
	620	141	205,065	174,685	379,750	533,655	848,599	279,950	209,963	0	0	0	0	1,872,167	2,251,917
	621	140	18,988	3,798	22,785	7,595	3,798	7,595	3,798	0	0	0	0	22,785	45,570
	654	133	0	0	0	0	0	0	0	0	0	0	0	0	0
	655	142	144,305	303,800	448,105	458,819	262,981	335,721	83,930	11,191	5,595	0	16,786	1,158,238	1,606,343
	656	136	59,982	862,811	922,793	15,190	22,785	75,950	60,760	3,798	87,343	0	91,140	265,825	1,188,618
	695	134	659,472	627,459	1,286,931	972,927	1,272,289	611,197	261,942	12,473	0	0	12,473	3,130,828	4,417,758
	696	135	148,103	569,625	717,728	158,750	58,079	77,439	77,439	0	23,232	0	23,232	394,940	1,112,667
	486A	61	4,469,540	2,136,177	6,605,718	790,021	4,992,930	505,613	63,202	0	0	0	0	6,351,765	12,957,483
	486B	60	0	0	0	0	1,300	0	0	0	0	0	0	1,300	1,300
	510C	36	11,429	1,905	13,334	13,334	5,714	3,810	0	0	0	0	0	22,858	36,192
	510D	34	6,079,795	883,099	6,962,893	225,445	3,748,027	619,974	225,445	0	28,181	0	28,181	4,847,072	11,809,966

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Appendix D1.–Page 3 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			
511A	35	0	3,722	3,722	0	3,722	7,443	0	0	0	0	0	11,165	14,886
511B	63	3,798	0	3,798	3,798	5,696	0	0	0	0	0	0	9,494	13,291
533A	144	444,763	18,532	463,295	339,876	11,393	9,494	17,089	0	0	0	0	377,851	841,146
533B	137	1,146,120	247,562	1,393,682	1,164,506	485,975	146,709	27,508	0	0	0	0	1,824,699	3,218,381
534BX	70	3,688	0	3,688	2,766	922	0	0	0	0	0	0	3,688	7,376
534DX	69	0	1,606	1,606	3,213	3,213	0	0	0	0	0	0	6,425	8,032
535A	37	31,711	14,923	46,633	44,768	7,461	22,384	0	0	5,596	0	5,596	80,209	126,843
535B	64	46,519	0	46,519	49,368	23,734	6,646	0	0	0	0	0	79,748	126,267
535C	68	200,662	181,731	382,393	168,901	94,584	60,804	15,201	0	0	0	0	339,490	721,883
535D	65	30,855	13,054	43,909	24,921	16,614	15,427	7,120	0	0	0	0	64,083	107,991
KLA	74	27,798	2,316	30,114	52,121	8,108	0	0	0	0	0	0	60,228	90,343
KLB	75	838,306	0	838,306	770,667	104,884	45,602	0	0	0	0	0	921,152	1,759,458
KLC	76	78,791	41,560	120,350	90,912	1,732	12,122	42,426	0	13,853	0	13,853	161,044	281,395
KLD	72	0	0	0	0	0	0	0	0	0	0	0	0	0
KLE	80	68,820	32,892	101,712	85,779	62,619	21,445	3,431	858	858	0	1,716	174,989	276,701
KLF	79	596,412	61,923	658,335	230,825	835,042	251,191	27,156	0	33,945	0	33,945	1,378,158	2,036,493
KLG	78	327,387	157,477	484,865	205,548	932,306	256,935	88,092	0	22,023	0	22,023	1,504,904	1,989,768
KLH	77	42,702	505,854	548,556	33,326	128,862	226,620	53,322	0	2,222	0	2,222	444,353	992,910
KLI	73	13,291	0	13,291	14,241	0	0	949	0	0	0	0	15,190	28,481
KLL	71	18,038	0	18,038	18,038	949	949	0	0	0	0	0	19,937	37,975
UGAA	57	423,994	237,851	661,845	156,121	748,078	266,706	52,040	19,515	13,010	6,505	39,030	1,261,975	1,923,820
UGAC	55	2,018	202	2,220	4,440	5,247	1,413	202	404	0	0	404	11,705	13,925
UGAD	56	58,140	68,444	126,584	50,663	275,345	116,746	4,406	0	0	0	0	447,160	573,745
UGB	33	50,269	1,377	51,646	63,946	46,969	2,829	0	0	566	0	566	114,310	165,956
UGC	28	238,182	1,197	239,379	591,803	172,297	7,491	0	0	0	0	0	771,591	1,010,970
UGD	29	224,625	4,805	229,430	246,063	271,301	110,413	3,155	0	0	0	0	630,932	860,362
UGE	30	981,445	7,728	989,173	1,357,513	2,329,785	238,482	0	0	0	0	0	3,925,780	4,914,952
UGF	31	1,307,885	131,519	1,439,404	498,152	2,007,259	439,546	0	0	0	0	0	2,944,956	4,384,361
UGG	58	0	0	0	0	512	0	0	0	0	0	0	512	512
UGI	32	15,000,809	5,000,270	20,001,078	6,441,870	12,156,433	1,454,616	519,506	0	0	0	0	20,572,425	40,573,503
UGJ	59	2,784	0	2,784	0	4,641	928	0	0	0	0	0	5,569	8,353
UGM	62	1,504,201	52,647	1,556,848	649,796	1,246,330	191,743	42,610	0	10,652	0	10,652	2,141,132	3,697,980
Total		39,447,651	18,676,439	58,124,087	20,374,797	34,318,819	7,441,047	2,853,737	52,037	464,999	6,505	523,539	65,511,932	123,636,020

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Appendix D1.—Page 4 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			
Southeast Section														
586	148	59,072	54,853	113,925	4,219	101,267	109,706	181,436	8,439	54,853	0	63,292	459,919	573,844
614	92	290,202	1,376,384	1,666,586	422,196	448,584	686,069	1,002,716	52,775	0	0	52,775	2,612,340	4,278,926
615	131	484,561	101,317	585,878	449,009	92,653	334,975	620,059	14,254	0	0	14,254	1,510,949	2,096,828
651	132	227,850	5,425	233,275	408,962	586,178	163,585	170,401	0	0	0	0	1,329,125	1,562,400
688	123	99,684	408,231	507,916	485,537	1,975,635	770,163	167,427	0	0	0	0	3,398,762	3,906,678
725	122	10,127	0	10,127	15,190	0	0	0	0	0	0	0	15,190	25,317
726	124	545,891	99,684	645,575	455,700	80,697	28,481	4,747	0	0	0	0	569,625	1,215,200
727	125	151,531	1,799,434	1,950,966	215,539	215,539	424,738	126,787	0	0	0	0	982,603	2,933,569
728	126	1,493,305	481,395	1,974,700	1,230,898	683,832	273,533	113,972	0	0	0	0	2,302,234	4,276,934
729	127	80,697	227,850	308,547	278,676	218,959	437,919	265,405	0	0	0	0	1,200,959	1,509,506
759	130	218,356	9,494	227,850	256,331	14,241	42,722	9,494	0	0	0	0	322,788	550,638
760	129	23,734	693,044	716,778	104,431	237,344	488,928	170,888	4,747	0	0	4,747	1,006,338	1,723,116
761	128	261,078	341,775	602,853	369,875	169,779	121,271	169,779	0	0	0	0	830,703	1,433,556
585X	149	105,378	1,011,633	1,117,012	104,720	139,626	154,586	154,586	0	4,987	0	4,987	558,506	1,675,518
618A	147	24,684	136,710	161,394	26,583	11,393	7,595	3,798	0	0	0	0	49,368	210,761
THA	93	91,343	13,367	104,710	4,456	98,769	28,962	6,684	0	0	0	0	138,870	243,580
THCX	91	72,835	286,484	359,319	33,128	108,586	126,990	90,181	1,840	5,521	0	7,362	366,246	725,566
THDX	90	265,719	1,018,588	1,284,307	257,784	915,132	928,021	167,559	12,889	0	0	12,889	2,281,385	3,565,691
THFA	87	828,781	891,841	1,720,622	296,596	1,186,384	425,121	88,979	0	0	0	0	1,997,080	3,717,702
THG	88	248,149	69,991	318,139	290,746	202,917	112,058	21,200	0	0	0	0	626,922	945,061
THH	89	197,202	130,294	327,496	151,797	142,652	56,695	12,802	0	1,829	0	1,829	365,775	693,272
THI	86	891,021	215,476	1,106,497	411,929	1,037,450	389,044	15,257	0	0	0	0	1,853,678	2,960,175
THJ	85	163,525	155,587	319,112	52,219	232,612	156,657	28,483	0	4,747	0	4,747	474,718	793,829
THK	84	180,140	98,384	278,524	109,995	92,627	60,787	24,604	0	1,447	0	1,447	289,461	567,984
THL	83	565,967	426,958	992,925	173,437	417,074	181,696	66,071	0	4,129	0	4,129	842,407	1,835,332
THM	82	260,217	70,819	331,036	214,168	176,813	97,123	12,452	0	0	0	0	500,556	831,592
THN	81	40,159	10,253	50,412	37,999	33,946	26,346	2,533	0	0	0	0	100,824	151,235
Total		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
Southwest Section														
645B	113	16,709	0	16,709	21,266	12,152	0	3,038	0	4,557	0	4,557	41,013	57,722
646A	112	1,200	0	1,200	2,400	0	0	0	0	0	0	0	2,400	3,600

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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			
646C	114	28,404	0	28,404	16,054	1,235	0	8,645	1,235	4,940	0	6,175	32,109	60,512
646D	110	39,737	0	39,737	26,491	18,213	3,311	0	0	0	0	0	48,016	87,753
682B	115	5,778	963	6,741	3,852	0	0	0	0	0	0	0	3,852	10,594
683A	116	1,969	0	1,969	0	0	0	0	0	984	0	984	984	2,953
683B	117	10,192	5,560	15,752	5,560	3,706	6,486	12,046	0	3,706	0	3,706	31,504	47,256
683D	120	820	410	1,230	1,230	1,230	0	0	0	0	0	0	2,461	3,691
684A	119	963	0	963	963	0	963	0	0	0	0	0	1,926	2,889
684B	118	456	911	1,367	456	456	0	0	0	0	0	0	911	2,279
684C	121	2,025	0	2,025	506	0	0	0	0	0	0	0	506	2,532
ALA	96	115,114	19,409	134,523	52,797	20,336	4,693	782	0	0	0	0	78,608	213,131
ALBX	95	39,661	2,266	41,927	5,099	3,966	3,400	0	0	0	0	0	12,465	54,392
ALCA	97	832,481	352,648	1,185,130	270,178	352,975	82,797	43,577	0	0	0	0	749,526	1,934,656
ALD	94	314,919	18,137	333,056	131,650	64,454	16,456	2,743	0	0	0	0	215,303	548,359
ALF	98	1,306,674	54,730	1,361,404	876,397	546,812	74,906	0	0	0	0	0	1,498,114	2,859,517
ALG	99	1,009,919	14,708	1,024,626	841,173	585,817	82,615	7,510	0	0	0	0	1,517,116	2,541,743
ALH	109	989,450	404,141	1,393,591	410,331	227,208	54,259	6,782	0	6,782	0	6,782	705,363	2,098,954
ALI	108	1,593,659	2,051,607	3,645,266	209,322	1,144,294	627,966	167,458	0	13,955	0	13,955	2,162,995	5,808,261
ALJ	100	182,462	14,036	196,498	534,264	2,120,362	684,526	33,392	0	0	0	0	3,372,545	3,569,042
ALK	102	119,672	2,937	122,609	156,959	186,505	20,312	1,847	0	0	0	0	365,623	488,232
ALL	107	293,284	23,154	316,438	463,936	1,150,918	187,359	8,922	0	0	0	0	1,811,134	2,127,572
ALM	101	296,056	7,365	303,420	290,953	144,349	13,533	4,511	0	0	0	0	453,346	756,766
ALO	106	713,971	29,595	743,566	502,551	259,793	80,919	17,036	12,777	0	0	12,777	873,076	1,616,641
ALP	105	235,820	4,813	240,632	150,759	115,475	36,888	12,831	14,434	1,604	0	16,038	331,991	572,624
ALQ	104	139,268	8,106	147,373	92,498	129,755	50,103	6,423	2,569	0	0	2,569	281,349	428,723
ALR	103	17,772	0	17,772	17,772	13,033	22,512	21,919	23,104	2,962	1,185	27,251	102,487	120,259
Total		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
Westside Section														
KUD	310	2,400	0	2,400	2,400	0	0	0	0	0	0	0	2,400	4,800
KUF	314	33,093	269,256	302,349	1,499	37,981	49,475	4,498	0	0	0	0	93,453	395,803
KUG	315	0	2,734	2,734	0	0	0	0	0	0	0	0	0	2,734
KUI	316	0	228,095	228,095	284	19,600	26,701	1,136	0	0	0	0	47,721	275,815
KUJ	313	3,655	365,530	369,185	2,256	24,061	102,259	18,046	0	1,504	0	1,504	148,125	517,311

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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			
KUK	312	3,114	16,193	19,306	4,360	0	2,491	0	0	0	0	0	6,851	26,157
KULA	317	16,677	19,367	36,044	4,047	20,642	36,023	17,809	2,024	809	0	2,833	81,355	117,399
KULB	318	1,320	0	1,320	720	360	120	120	0	120	0	120	1,440	2,760
KUM	311	2,324	0	2,324	3,719	0	0	0	0	0	0	0	3,719	6,043
KUNX	321	10,830	21,190	32,021	6,122	4,709	8,005	3,767	0	942	0	942	23,545	55,565
KUP	322	13,556	82,512	96,068	3,536	31,826	58,937	16,502	0	589	0	589	111,391	207,459
KUQ	330	12,760	24,608	37,367	3,646	21,874	24,608	4,557	0	0	0	0	54,684	92,051
KUS	329	1,075	28,499	29,575	0	2,689	15,056	7,528	538	0	0	538	25,811	55,386
KUT	323	9,573	34,961	44,534	2,497	17,064	18,313	2,497	832	0	0	832	41,204	85,738
KUU	324	11,487	103,380	114,867	605	10,278	13,300	2,418	0	0	0	0	26,601	141,468
KUV	328	203	203	405	0	203	203	0	0	0	0	0	405	810
KUW	325	2,676	1,147	3,823	1,147	765	382	0	0	0	0	0	2,294	6,117
KUXA	327	4,053	21,713	25,766	1,410	14,103	31,496	37,137	10,812	0	0	10,812	94,957	120,723
KUXB	326	11,207	362	11,569	11,569	2,892	2,711	904	0	181	0	181	18,257	29,826
KUYA	319	301	1,506	1,808	603	1,808	904	301	0	0	0	0	3,615	5,423
KUYB	320	0	0	0	0	911	0	0	0	0	0	0	911	911
MAA	369	7,928	80,676	88,603	1,399	11,192	17,254	6,062	0	0	0	0	35,908	124,511
PMA	370	0	22,724	22,724	0	1,337	4,679	1,337	0	4,010	0	4,010	11,362	34,086
RAA	368	893	2,977	3,870	1,977	988	36,078	56,836	2,471	494	0	2,965	98,844	102,715
UYBX	331	21,871	0	21,871	37,085	0	0	0	0	0	0	0	37,085	58,955
UYEX	332	0	216,980	216,980	5,292	2,646	13,230	6,615	0	1,323	0	1,323	29,107	246,087
UYFX	339	6,104	131,857	137,961	3,225	19,352	138,686	127,398	6,451	6,451	0	12,901	301,561	439,523
UYHX	338	365	0	365	547	182	0	0	0	0	0	0	729	1,094
UYKX	336	0	0	0	1,227	614	0	0	0	0	0	0	1,841	1,841
UYMX	335	20,285	137,383	157,668	9,220	7,376	17,519	3,688	0	0	0	0	37,803	195,471
UYO	337	0	1,191	1,191	0	0	0	0	0	0	0	0	0	1,191
UYQX	334	1,701	6,805	8,506	1,603	6,413	39,682	22,045	6,413	401	0	6,814	76,558	85,064
UYT	333	0	210	210	1,891	0	0	0	0	0	0	0	1,891	2,101
Total		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
North Mainland Section														
2	362	4,737	0	4,737	14,212	0	0	0	0	0	0	0	14,212	18,950
3	363	18,988	0	18,988	28,481	0	0	0	0	0	0	0	28,481	47,469

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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	361	0	0	0	9,266	0	0	0	0	0	0	0	9,266	9,266
60	359	4,747	0	4,747	9,494	0	0	0	0	0	0	0	9,494	14,241
61	360	37,975	0	37,975	23,734	0	0	0	0	0	0	0	23,734	61,709
90	357	22,215	0	22,215	17,772	0	0	0	0	0	0	0	17,772	39,988
91	358	18,988	14,241	33,228	0	0	0	0	0	0	0	0	0	33,228
117	355	108,229	5,411	113,640	97,406	189,400	70,349	16,234	0	0	0	0	373,389	487,029
118	354	61,709	42,722	104,431	47,469	61,709	118,672	28,481	0	0	0	0	256,331	360,763
119	366	66,456	0	66,456	147,153	4,747	0	0	0	0	0	0	151,900	218,356
120	365	645,575	28,481	674,056	512,663	28,481	4,747	4,747	0	0	0	0	550,638	1,224,694
121	364	313,294	0	313,294	265,825	9,494	4,747	4,747	0	0	0	0	284,813	598,106
144	356	3,361	0	3,361	0	3,361	0	0	0	0	0	0	3,361	6,722
145	352	156,647	0	156,647	137,659	23,734	4,747	4,747	0	0	0	0	170,888	327,534
146	353	9,494	0	9,494	37,975	9,494	0	0	0	0	0	0	47,469	56,963
147	367	109,178	0	109,178	113,925	0	0	0	0	0	0	0	113,925	223,103
173	345	113,925	4,747	118,672	170,888	137,659	71,203	0	0	0	0	0	379,750	498,422
174	344	85,444	37,975	123,419	118,672	4,747	14,241	23,734	0	18,988	0	18,988	180,381	303,800
198	347	174,685	79,748	254,433	182,280	37,975	56,963	75,950	3,798	0	0	3,798	356,965	611,398
199	346	33,228	14,241	47,469	47,469	246,838	223,103	18,988	0	0	0	0	536,397	583,866
200	343	42,722	14,241	56,963	71,203	99,684	75,950	9,494	0	0	0	0	256,331	313,294
222	340	57,133	119,980	177,114	68,560	5,713	51,420	39,993	0	0	0	0	165,687	342,800
223	341	75,950	142,406	218,356	52,216	23,734	14,241	52,216	0	0	0	0	142,406	360,763
224	342	199,369	80,697	280,066	104,431	56,963	37,975	28,481	0	0	0	0	227,850	507,916
171A	348	3,035	506	3,541	4,047	506	1,012	14,669	21,751	0	2,529	24,280	44,513	48,054
171C	349	677	1,694	2,371	339	1,016	3,387	14,904	14,904	677	3,387	18,969	38,616	40,987
171D	350	0	0	0	0	0	0	0	0	0	0	0	0	0
172B	351	35,195	57,192	92,387	21,997	8,799	35,195	48,393	101,186	30,796	8,799	140,781	255,165	347,553
	Total	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
Kodiak District Total		62,693,490	38,689,170	101,382,654	39,030,939	54,292,048	19,010,843	8,523,733	430,817	670,267	22,405	1,123,488	121,981,038	223,363,696

Appendix D2.—Tanner crab abundance estimates in the Chignik District by station and sampling locale, 2019.

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	193	158,365	11,547	169,912	164,963	125,372	24,745	1,650	0	0	0	0	316,730	486,642
4008	195	664,760	1,329,520	1,994,280	76,979	1,026,389	538,854	85,532	0	0	0	0	1,727,755	3,722,035
4915	192	0	0	0	0	0	0	0	0	0	0	0	0	0
4000Y	194	22,360	0	22,360	32,142	699	699	0	0	699	0	699	34,238	56,598
Total		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
Mitrofania Island														
4024	191	20,403	5,101	25,504	22,954	5,101	5,101	2,550	0	0	0	0	35,706	61,210
4025	190	276,729	734,589	1,011,318	79,872	233,471	77,824	24,576	0	0	0	0	415,743	1,427,061
4026	189	24,209	0	24,209	12,105	4,842	2,421	0	0	0	0	0	19,367	43,576
4035	183	70,870	175,864	246,734	44,622	131,242	120,742	23,623	0	0	0	0	320,230	566,964
4036	185	373,416	120,642	494,058	339,775	1,390,956	318,540	74,326	10,618	0	0	10,618	2,134,215	2,628,273
4037	186	422,327	275,734	698,061	455,213	450,265	79,167	24,740	0	0	0	0	1,009,385	1,707,446
4048	176	72,502	18,289	90,791	33,187	135,515	99,562	15,211	0	0	0	0	283,476	374,266
4049	184	2,200,458	400,083	2,600,542	2,287,089	5,849,669	747,702	43,982	0	0	0	0	8,928,442	11,528,984
4063	175	127,672	21,798	149,470	32,964	412,048	280,193	90,651	0	0	0	0	815,855	965,325
4064	177	284,401	290,146	574,547	193,145	327,982	156,703	54,664	0	3,644	0	3,644	736,138	1,310,684
4065	178	3,730	0	3,730	7,461	0	7,461	0	0	0	0	0	14,921	18,652
4038A	188	7,263	0	7,263	19,367	2,421	0	0	0	0	0	0	21,788	29,051
4038B	187	14,525	0	14,525	0	2,421	0	0	0	0	0	0	2,421	16,946
4050A	182	4,587	12,615	17,203	5,711	112,322	205,606	55,209	1,904	0	0	1,904	380,753	397,955
4050B	181	45,643	98,893	144,536	17,116	93,188	129,322	51,348	1,902	0	0	1,902	292,875	437,411
4066A	180	67,520	9,646	77,165	23,150	171,693	30,866	9,646	0	0	0	0	235,354	312,519
4066B	179	254,645	90,669	345,314	362,180	490,849	76,248	33,359	0	0	0	0	962,636	1,307,950
Total		4,270,900	2,254,069	6,524,970	3,935,911	9,813,985	2,337,458	503,885	14,424	3,644	0	18,068	16,609,305	23,134,273

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Appendix D2.–Page 2 of 2.

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	166	0	0	0	0	3,316	0	0	0	0	0	0	3,316	3,316
4262	167	378,649	21,143	399,792	276,075	434,412	117,738	4,060	0	0	0	0	832,285	1,232,078
4264	170	13,975	2,620	16,595	1,747	21,836	7,861	873	0	0	0	0	32,317	48,912
4265	172	293	0	293	880	293	0	0	0	0	0	0	1,173	1,466
4266	165	6,082	52,132	58,214	869	13,902	26,066	15,640	6,082	0	0	6,082	62,558	120,773
4267	168	222,062	29,523	251,584	111,332	94,116	20,660	4,591	0	0	0	0	230,698	482,282
4270	169	250,384	1,033,636	1,284,020	0	40,376	132,665	49,028	0	14,420	0	14,420	236,490	1,520,510
4271	173	8,399	884	9,283	884	9,283	4,862	2,652	0	0	0	0	17,681	26,964
4272	158	5,639	29,602	35,241	705	2,819	12,687	21,144	4,229	0	0	4,229	41,584	76,825
4274	164	14,241	67,406	81,646	3,798	11,393	37,975	66,456	0	4,747	0	4,747	124,368	206,014
4277	159	52,216	75,001	127,216	18,988	78,798	28,481	11,393	949	0	0	949	138,609	265,825
4278	163	43,671	65,507	109,178	12,342	71,203	36,076	11,393	1,899	0	0	1,899	132,913	242,091
4282	160	26,583	53,165	79,748	7,595	37,975	23,734	14,241	1,899	0	0	1,899	85,444	165,191
4286	161	6,646	0	6,646	3,798	3,798	1,899	1,899	1,899	0	0	1,899	13,291	19,937
4287	162	20,172	0	20,172	17,651	3,782	2,522	3,782	0	0	0	0	27,737	47,909
4312	174	117,816	192,789	310,605	7,989	447,370	878,763	239,663	55,921	0	0	55,921	1,629,706	1,940,311
4964	171	3,814	0	3,814	4,238	0	424	848	0	0	0	0	5,509	9,324
	Total	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
Kujulik Bay														
4290	156	0	0	0	0	0	0	0	0	0	0	0	0	0
4296	157	2,279	0	2,279	1,823	456	0	0	0	0	0	0	2,279	4,557
4298	155	2,525	0	2,525	1,683	842	0	0	0	0	0	0	2,525	5,049
4301	154	948	0	948	3,791	0	0	0	0	0	0	0	3,791	4,739
4302	153	2,420	0	2,420	1,613	0	807	0	0	0	0	0	2,420	4,840
4308	152	15,190	0	15,190	18,988	0	0	0	0	0	0	0	18,988	34,178
	Total	23,362	0	23,362	27,898	1,298	807	0	0	0	0	0	30,003	53,363
Chignik District Total		6,310,389	5,218,544	11,528,931	4,706,784	12,242,415	4,234,976	1,038,730	87,302	23,510	0	110,812	22,333,710	33,862,639

Appendix D3.—Tanner crab abundance estimates in the South Peninsula District by station, sampling locale, and section, 2019.

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	257	260,603	89,716	350,319	239,243	93,988	12,817	0	0	0	0	0	346,047	696,367
125	252	29,905	42,722	72,627	21,361	21,361	51,266	8,544	0	0	0	0	102,533	175,160
126	251	400,492	12,919	413,411	344,509	21,532	25,838	0	0	0	0	0	391,879	805,290
137	253	156,647	14,241	170,888	66,456	18,988	0	0	0	0	0	0	85,444	256,331
138A	254	57,760	3,851	61,611	69,312	21,179	21,179	0	0	0	0	0	111,669	173,280
138B	256	13,255	25,491	38,746	9,177	29,569	19,373	2,039	1,020	0	0	1,020	61,178	99,924
138C	255	91,406	31,519	122,925	107,165	44,127	22,063	0	0	0	0	0	173,356	296,281
Total		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
Morzhovoi Bay														
87AX	259	710,977	194,726	905,704	291,514	21,521	7,826	1,956	0	0	0	0	322,818	659,331
87D	258	156,989	8,886	165,875	16,295	0	0	0	0	0	0	0	16,295	41,902
MOB	267	1,527,934	168,832	1,696,766	465,802	224,870	80,311	60,233	4,016	4,016	0	8,031	839,248	1,744,951
MOD	268	135,647	50,995	186,642	137,242	14,810	7,899	0	0	0	0	0	159,951	325,826
MOF	266	24,754	0	24,754	4,466	0	0	0	0	0	0	0	4,466	7,815
MOG	269	7,777	972	8,749	14,203	1,420	0	0	0	0	0	0	15,623	29,826
MOH	265	14,142	0	14,142	314,531	14,592	16,213	0	0	0	0	0	345,335	721,525
MOI	270	1,668	0	1,668	243,509	32,004	6,957	2,783	0	0	0	0	285,253	557,686
MOK	263	50,317	949	51,266	87,677	2,248	0	0	0	0	0	0	89,925	179,850
MOL	264	42,722	949	43,671	986,860	79,160	15,832	0	0	0	0	0	1,081,852	2,094,552
MOOX	260	323,567	599,037	922,604	110,317	8,405	2,101	0	0	0	0	0	120,824	224,837
MORX	261	31,325	0	31,325	1,461,299	1,177,158	81,183	27,061	0	0	0	0	2,746,701	6,012,324
MOSX	262	181,551	0	181,551	224,098	391,283	106,713	7,114	0	3,557	0	3,557	732,766	1,655,507
Total		3,209,370	1,025,346	4,234,717	4,357,813	1,967,471	325,035	99,147	4,016	7,573	0	11,588	6,761,057	14,255,932
Cold Bay/Belkofski Bay														
156A	282	330,644	5,869	336,513	632,478	2,568,243	632,478	19,166	0	19,166	0	19,166	3,871,531	9,921,749
157A	281	25,607	0	25,607	805	10,734	13,149	4,025	1,073	0	0	1,073	29,788	34,350
BEBX	284	3,349	0	3,349	0	357	1,428	0	0	0	0	0	1,785	3,927
BECX	285	12,782	1,420	14,203	19,139	0	2,734	0	0	0	0	0	21,874	32,810
BEE	286	357,658	18,532	376,190	49,027	183,399	105,318	38,132	0	0	0	0	375,877	1,239,626

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Appendix D3.—Page 2 of 4.

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	283	257,449	14,984	272,433	271,438	2,748,308	390,192	0	0	0	0	0	3,409,938	5,106,704
BEG	280	89,925	0	89,925	63,234	78,532	42,836	10,199	0	0	0	0	194,801	381,443
COB	273	863,040	149,660	1,012,700	15,029	0	884	0	0	0	0	0	15,913	40,667
COC	274	104,014	0	104,014	14,582	0	0	972	0	0	0	0	15,555	24,304
COE	275	2,473,466	792,156	3,265,622	14,142	0	744	0	0	0	0	0	14,886	29,028
COF	276	733,580	189,162	922,742	5,836	0	0	834	0	0	0	0	6,670	8,338
COGA	279	3,182,667	2,867,551	6,050,218	71,203	2,848	949	949	0	0	0	0	75,950	127,216
COGB	278	2,952	1,610	4,562	36,076	949	0	0	0	0	0	0	37,026	80,697
COH	277	2,142	0	2,142	13,924	97,471	292,414	737,998	6,962	250,641	0	257,603	1,399,412	2,322,016
COM	272	10,937	0	10,937	50,716	1,492	0	1,492	0	0	0	0	53,700	85,025
COOX	271	489,316	374,433	863,749	158,857	0	0	0	0	0	0	0	158,857	340,408
Total		8,939,528	4,415,377	13,354,906	1,416,486	5,692,333	1,483,126	813,767	8,035	269,807	0	277,842	9,683,563	19,778,308
Pavlof Bay/Volcano Bay														
228	229	36,262	567	36,828	38,528	0	1,700	0	567	0	0	567	40,794	77,622
245	228	33,521	931	34,452	41,902	931	3,725	931	0	0	0	0	47,488	81,941
PAEX	296	201,814	0	201,814	18,984	9,492	0	0	0	0	0	0	28,477	53,789
PAH	295	138,351	2,515	140,866	0	4,747	0	0	0	0	0	0	4,747	14,241
PAIX	297	113,923	7,272	121,195	4,747	4,747	0	0	0	0	0	0	9,494	14,241
PALX	298	103,383	7,565	110,948	37,975	113,925	129,115	53,165	0	18,988	0	18,988	353,168	1,541,785
PAOB	300	39,650	166,035	205,686	9,003	306,097	441,140	157,550	0	9,003	0	9,003	922,793	2,593,692
PAP	299	68,381	15,780	84,161	0	0	4,747	0	0	0	0	0	4,747	23,734
PARA	303	675,380	131,782	807,162	406,048	374,813	98,165	13,386	0	0	0	0	892,413	1,177,225
PARB	301	166,539	302,149	468,687	11,438	15,251	0	0	0	0	0	0	26,689	72,441
PAU	302	224,557	209,443	434,000	26,583	68,355	37,975	11,393	0	0	0	0	144,305	322,788
PAV	304	92,442	3,906	96,348	8,419	0	0	0	0	0	0	0	8,419	12,629
VOA	309	228,831	58,603	287,434	78,937	710,437	162,809	39,469	4,934	4,934	0	9,867	1,001,519	1,980,727
VOBX	307	159,716	121,164	280,880	82,208	15,757	6,166	0	0	0	0	0	104,130	174,008
VOD	305	122,588	177,236	299,825	69,640	5,159	8,598	0	0	0	0	0	83,396	149,597
VOFB	292	123,859	82,573	206,432	58,667	1,431	1,431	715	0	0	0	0	62,244	141,659
VOG	293	145,710	244,793	390,502	54,695	298,090	161,351	35,552	0	0	0	0	549,688	737,664
VOH	308	72,916	24,764	97,680	136,710	8,544	3,798	0	0	0	0	0	149,052	341,775
VOI	306	67,053	91,192	158,245	42,194	14,768	10,549	6,329	0	0	0	0	73,840	118,144

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Appendix D3.—Page 3 of 4.

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	287	17,993	1,565	19,557	50,592	31,133	19,458	0	0	0	0	0	101,184	142,046
VOM	291	253,219	169,510	422,729	10,637	0	0	0	0	0	0	0	10,637	21,275
VON	294	537,454	292,538	829,992	107,460	204,174	35,820	16,119	0	1,791	0	1,791	365,363	721,643
VOPX	288	1,220,867	18,405	1,239,272	12,405	0	0	0	0	0	0	0	12,405	23,924
VOQ	289	95,855	13,392	109,246	79,966	31,389	4,484	3,737	0	747	0	747	120,323	221,215
VOR	290	411,714	55,202	466,916	46,685	368	0	368	0	0	0	0	47,420	82,342
Total		5,351,978	2,198,882	7,550,857	1,434,423	2,219,608	1,131,031	338,714	5,501	35,463	0	40,963	5,164,735	10,842,147
Beaver Bay/Balboa Bay/Unga Strait														
278	212	25,313	0	25,313	14,441	129,169	17,650	1,605	0	0	0	0	162,866	213,585
348	201	193,673	91,140	284,813	835	418	0	0	0	0	0	0	1,253	1,253
311A	206	68,507	1,370	69,877	0	0	0	0	0	0	0	0	0	0
311B	205	56,744	9,457	66,201	0	0	0	0	0	0	0	0	0	0
311C	204	67,252	12,163	79,415	0	2,506	835	0	0	835	0	835	4,177	9,190
329B	202	92,089	95,887	187,976	317,927	22,117	0	0	0	0	0	0	340,043	541,858
329C	203	163,293	29,431	192,723	158,141	94,330	30,518	0	0	0	0	0	282,990	423,856
368A	200	23,350	17,513	40,863	106,651	72,717	0	2,424	0	0	0	0	181,792	302,986
BAA	210	11,519	0	11,519	59,229	61,805	0	0	0	0	0	0	121,034	231,982
BAC	211	97,155	3,737	100,892	11,932	184,950	163,074	37,785	0	0	0	0	397,741	603,427
BAD	209	34,554	368	34,922	40,766	65,751	23,670	5,260	0	0	0	0	135,447	219,608
BAE	207	40,012	10,707	50,719	1,159,310	765,973	113,861	41,404	10,351	0	0	10,351	2,090,899	2,898,061
BAF	208	0	0	0	16,394	132,788	122,952	40,984	1,639	1,639	0	3,279	316,397	785,084
BVA	214	0	0	0	105,164	41,512	45,663	11,070	0	1,384	0	1,384	204,794	638,794
BVB	215	0	0	0	127,596	1,302	6,510	0	0	0	0	0	135,408	231,756
BVC	213	2,506	2,506	5,013	99,160	58,876	26,856	0	0	0	0	0	184,893	291,283
Total		875,967	274,279	1,150,246	2,217,546	1,634,214	551,589	140,532	11,990	3,858	0	15,849	4,559,734	7,392,723
Stepovak Bay														
STA	197	101,226	5,165	106,391	26,734	40,937	42,608	0	0	0	0	0	110,279	162,913
STB	198	42,608	10,025	52,633	40,668	62,490	44,636	0	0	0	0	0	147,794	209,292
STD	196	38,684	22,814	61,498	21,879	109,396	49,009	0	0	0	0	0	180,284	262,169

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Appendix D3.—Page 4 of 4.

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	199	50,232	31,653	81,885	399,607	96,457	52,362	5,512	0	0	0	0	553,938	841,372
	Total	232,750	69,657	302,407	488,888	309,280	188,615	5,512	0	0	0	0	992,295	1,475,746
West Nagai Strait														
301	224	9,494	0	9,494	35,798	19,276	35,798	13,769	0	0	0	0	104,642	385,522
318	223	0	4,747	4,747	97,311	30,245	28,930	18,410	1,315	1,315	0	2,630	177,528	477,352
334	220	87,398	1,101,219	1,188,618	67,828	65,862	36,371	6,881	0	0	0	0	176,942	383,374
335	221	65,206	1,605,694	1,670,900	172,797	196,148	67,718	23,351	4,670	0	0	4,670	464,684	855,186
337	222	14,241	4,747	18,988	162,342	70,165	37,146	16,509	0	2,752	0	2,752	288,914	386,594
353	218	26,689	19,063	45,752	36,209	64,371	61,689	10,728	0	2,682	0	2,682	175,679	333,924
354	219	64,558	113,925	178,483	20,339	782	1,565	2,347	0	0	0	0	25,033	44,590
371	216	4,210	0	4,210	292,520	289,037	114,918	10,447	0	6,965	0	6,965	713,887	1,136,616
393	226	548,357	430,852	979,208	306,234	632,883	204,156	27,221	13,610	0	0	13,610	1,184,104	2,014,096
332B	227	42,194	2,110	44,304	496,440	910,140	97,784	7,522	0	0	0	0	1,511,885	2,751,157
373A	217	10,637	0	10,637	98,379	44,011	31,067	3,452	0	0	0	0	176,909	286,155
373B	225	309,963	46,316	356,280	331,086	52,623	50,430	6,578	0	0	0	0	440,717	907,633
	Total	1,182,947	3,328,673	4,511,621	2,117,283	2,375,543	767,572	147,215	19,595	13,714	0	33,309	5,440,924	9,962,199
Western Section^a														
Western Section ^a		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
Eastern Section ^b		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
South Peninsula District Total														
	District Total	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

^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.

Appendix D4.—Tanner crab abundance estimates in the Eastern Aleutian District by station and sampling locale, 2019.

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			
Akutan Bay Section														
AKA	230	23,869	7,344	31,214	12,853	42,230	7,344	1,836	0	0	0	0	64,263	95,477
AKC	231	10,425	197,037	207,462	3,755	13,142	12,204	4,694	0	0	0	0	33,795	241,257
AKD	232	20,894	10,944	31,838	13,929	7,960	1,990	0	0	0	0	0	23,879	55,717
AKG	233	7,384	0	7,384	9,494	0	0	0	0	0	0	0	9,494	16,878
AKL	234	2,848	0	2,848	949	0	0	0	0	0	0	0	949	3,798
Total		65,420	215,325	280,746	40,980	63,332	21,538	6,530	0	0	0	0	132,380	413,127
Unalaska/Kalekta Bay Section														
KAA	250	0	959	959	0	7,669	9,587	0	0	0	0	0	17,256	18,214
UNC	243	93,560	107,645	201,205	82,152	41,076	55,240	28,328	1,416	0	0	1,416	208,212	409,418
UND	248	4,427	2,951	7,378	12,543	18,445	5,165	0	0	0	0	0	36,152	43,530
UNE	247	82,690	5,664	88,354	49,841	2,265	1,133	0	0	0	0	0	53,239	141,593
UNF	244	316,142	0	316,142	237,506	3,635	0	0	0	0	0	0	241,141	557,283
UNG	249	12,342	0	12,342	7,595	5,696	1,899	0	0	0	0	0	15,190	27,532
UNI	245	0	0	0	0	0	0	0	0	0	0	0	0	0
UNJ	246	64,359	654,318	718,677	40,269	182,886	98,993	16,779	0	0	0	0	338,927	1,057,604
Total		573,520	771,537	1,345,057	429,906	261,672	172,017	45,107	1,416	0	0	1,416	910,117	2,255,174
Makushin/Skan Bay Section														
MKB	239	80,148	350,122	430,270	139,587	120,976	151,220	53,508	0	2,326	0	2,326	467,617	897,888
MKC	240	0	473,232	473,232	1,637	7,369	48,306	39,300	0	15,556	0	15,556	112,168	585,400
MKE	241	244,741	0	244,741	200,945	1,288	2,576	0	0	0	0	0	204,810	449,551
MKF	242	411,583	11,174	422,757	315,014	6,269	1,567	0	0	0	0	0	322,850	745,607
MKK	235	25,300	1,581	26,882	26,882	3,163	0	0	0	0	0	0	30,044	56,926
MKN	236	91,561	33,611	125,172	55,632	17,385	34,770	8,113	0	0	0	0	115,900	241,071
MKP	237	15,257	88,588	103,845	19,686	4,429	16,241	1,969	0	0	0	0	42,325	146,170
Total		868,590	958,308	1,826,899	759,383	160,879	254,680	102,890	0	17,882	0	17,882	1,295,714	3,122,613
Eastern Aleutian District Total		1,507,530	1,945,170	3,452,702	1,230,269	485,883	448,235	154,527	1,416	17,882	0	19,298	2,338,211	5,790,914