

Fishery Management Report No. 10-07

The 2008 Pribilof District King Crab Survey

by

Robert K. Gish

March 2010

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		Measures (fisheries)	
centimeter	cm	Alaska Administrative Code	AAC	fork length	FL
deciliter	dL	all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.	mid-eye to fork	MEF
gram	g	all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.	mid-eye to tail fork	METF
hectare	ha	at	@	standard length	SL
kilogram	kg	compass directions:		total length	TL
kilometer	km	east	E		
liter	L	north	N	Mathematics, statistics	
meter	m	south	S	<i>all standard mathematical signs, symbols and abbreviations</i>	
milliliter	mL	west	W	alternate hypothesis	H _A
millimeter	mm	copyright	©	base of natural logarithm	<i>e</i>
		corporate suffixes:		catch per unit effort	CPUE
Weights and measures (English)		Company	Co.	coefficient of variation	CV
cubic feet per second	ft ³ /s	Corporation	Corp.	common test statistics	(F, t, χ^2 , etc.)
foot	ft	Incorporated	Inc.	confidence interval	CI
gallon	gal	Limited	Ltd.	correlation coefficient (multiple)	R
inch	in	District of Columbia	D.C.	correlation coefficient (simple)	r
mile	mi	et alii (and others)	et al.	covariance	cov
nautical mile	nmi	et cetera (and so forth)	etc.	degree (angular)	°
ounce	oz	exempli gratia (for example)	e.g.	degrees of freedom	df
pound	lb	Federal Information Code	FIC	expected value	<i>E</i>
quart	qt	id est (that is)	i.e.	greater than	>
yard	yd	latitude or longitude	lat. or long.	greater than or equal to	≥
		monetary symbols (U.S.)	\$, ¢	harvest per unit effort	HPUE
Time and temperature		months (tables and figures): first three letters	Jan,...,Dec	less than	<
day	d	registered trademark	®	less than or equal to	≤
degrees Celsius	°C	trademark	™	logarithm (natural)	ln
degrees Fahrenheit	°F	United States (adjective)	U.S.	logarithm (base 10)	log
degrees kelvin	K	United States of America (noun)	USA	logarithm (specify base)	log ₂ etc.
hour	h	U.S.C.	United States Code	minute (angular)	'
minute	min	U.S. state	use two-letter abbreviations (e.g., AK, WA)	not significant	NS
second	s			null hypothesis	H ₀
Physics and chemistry				percent	%
all atomic symbols				probability	P
alternating current	AC			probability of a type I error (rejection of the null hypothesis when true)	α
ampere	A			probability of a type II error (acceptance of the null hypothesis when false)	β
calorie	cal			second (angular)	"
direct current	DC			standard deviation	SD
hertz	Hz			standard error	SE
horsepower	hp			variance	
hydrogen ion activity (negative log of)	pH			population	Var
parts per million	ppm			sample	var
parts per thousand	ppt, ‰				
volts	V				
watts	W				

FISHERY MANAGEMENT REPORT NO. 10-07

2008 PRIBILOF DISTRICT KING CRAB SURVEY

by

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March 2010

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This document should be cited as:

Gish, R. K. 2010. 2008 Pribilof District king crab survey. Alaska Department of Fish and Game, Fishery Management Report No. 10-07, Anchorage.

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ABSTRACT

This report describes the 2008 Pribilof District king crab pot survey documenting the distribution and relative abundance of red king crabs *Paralithodes camtschaticus* and blue king crabs *P. platypus* around the Pribilof Islands during the fall. The Alaska Department of Fish and Game (ADF&G) conducted the survey aboard the chartered F/V Scandies Rose, a 39.6-m commercial crab-pot-fishing vessel. The primary purpose of this survey was to determine the potential for conducting a red king crab fishery without incurring substantial bycatch of blue king crabs. Results show a substantial overlap in the distribution of blue king crabs and legal-sized red king crabs. Results also show that red and blue king crabs in the Pribilof District are predominately larger, matured-sized crabs and that this survey produced a higher percentage of sublegal males and immature females than previously observed. Legal-sized red king crabs occurred in only a limited portion of the surveyed area and were generally encountered at low abundance within that area of occurrence.

Key words: Red king crab, *Paralithodes camtschaticus*, blue king crab, *P. platypus*, Pribilof Islands, Pribilof District, distribution, relative abundance, pot (trap) survey

INTRODUCTION

The Pribilof District includes the Bering Sea waters between 168°00' W longitude and the United States-Russia Maritime Boundary Line of 1990, bounded to the north by the latitude of Cape Newenham (58°39' N latitude), bounded to the south by the latitude of Cape Sarichef (54°36' N latitude) between 168°00' W longitude and 171°00' W longitude, and bounded to the south by 55°30' N latitude between 171°00' W longitude and the United States-Russia Maritime Boundary Line of 1990 (Figure 1). The commercial fisheries for red king crab *Paralithodes camtschaticus* and blue king crab *P. platypus* in the Pribilof District are managed by the Alaska Department of Fish and Game (ADF&G) under the State/Federal cooperative management regime established by the federal Fishery Management Plan (FMP) for Bering Sea/Aleutian Islands king and Tanner crab as adopted by the North Pacific Fisheries Management Council (NPFMC 1998). The FMP defines a minimum stock size threshold (MSST) and maximum sustainable yield (MSY) biomass for stocks managed under the plan. The MSST sets the stock abundance threshold below which stocks are considered “overfished”; MSY biomass is the target for rebuilding of overfished stocks. An annual National Marine Fisheries Service (NMFS) summer eastern Bering Sea trawl survey provides the data used for estimating the levels of Bering Sea red and blue king crab stocks relative to MSST and MSY biomass, and for the determination of the fishery total allowable catch (TAC) established by the State of Alaska.

ADF&G opened the first Pribilof District red king crab fishery in 1993 and the fishery was prosecuted annually through the 1998 season, resulting in a total harvest of 6.3-million pounds worth \$28.6 million (Bowers et al. 2008). Historically, the Pribilof District king crab fishery was directed on blue king crab. Annual landings of blue king crab fluctuated widely and the fishery was closed from the 1988/89 season through 1994. The Pribilof District king crab fishery opened as a directed red king crab fishery in 1993 and 1994, and the fishery was opened for both red and blue king crab concurrently during the fall 1995 through 1998 seasons. The Pribilof District has been closed to fishing for both red and blue king crab since 1999. The NMFS survey results from 1999 indicated the Pribilof District blue king crab stock was below the threshold for a fishery opening (Stevens et al. 2000; Zheng and Kruse 1999b). Survey results from 1999 through 2002 showed continued decline of blue king crab stock when it was estimated to be below MSST and declared “overfished” (NPFMC 2002). However, Pribilof District red king crab stock abundance estimates initially continued to be well above MSST and approaching or above MSY biomass through 2003 (NPFMC 2004). The department estimated numbers of mature-sized and legal-

sized males during 1999-2003 were comparable to those during 1993-1998 (Vining and Zheng 2004), and the closure of the fishery for red king crabs since 1999 was not a response to low abundance estimates for mature-sized and legal-sized crabs. Instead, the Pribilof red king crab fishery was closed due to conservation concerns resulting from two sources of uncertainty.

The first source was the potential for bycatch of blue king crabs during the prosecution of red king crab fisheries. The blue king crab bycatch concerns are difficult to substantiate. There was limited fishery observer data from historic Pribilof District king crab fisheries and, except for catch and effort by ADF&G statistical area obtained during dockside interviews or recorded on fish tickets, little information was available on the distribution of either red or blue king crabs during the fall fishery. Commercial catch statistics only provide information on legal-sized males in statistical areas that were too large (approximately 900 nmi²) to provide needed information on distribution. Nonetheless, a large proportion of the annual harvest of both red and blue king crabs occurred in a single statistical area (Figure 2, statistical area 695700) directly east of St. Paul Island (Morrison and Gish 1994, 1996, 1997a, 1997b; Morrison et al. 1998, 1999), which suggested that the potential for blue king crab bycatch in a directed red king crab fishery may be significant.

The second source of uncertainty was the reliability of population estimates for Pribilof red king crab determined from NMFS eastern Bering Sea trawl survey results. Population estimates for this stock have low precision due to the low number of survey tows in which red king crabs are captured in the Pribilof District (NPFMC 2008, Chilton et al. 2008b, Vining and Zheng 2006). Additionally, the distribution of legal-sized red king crabs captured by the trawl survey has often shown little agreement with the catch distribution during the corresponding commercial fishery. For example, in 1994 and 1997 the highest densities of legal-sized red king crabs encountered during the trawl survey occurred to the west of St. Paul Island (Stevens et al. 1994, Stevens et al. 1998), whereas highest catches during the subsequent commercial fisheries occurred in the statistical area to the east of St. Paul Island (Morrison and Gish 1996, Morrison et al. 1998). Whether that lack of agreement reflects poor precision afforded by the trawl survey or seasonal movements between the time of the survey (late June to early July) and the fishery season (mid September) is unknown. The low precision of the Pribilof red king crab stock estimates raises concerns for management of both the red king crab stock and protection of the blue king crab stock. Establishment of TACs on the basis of low precision estimates could result in overfishing of the red king crab stock, which in a prolonged fishery would increase the exposure of the blue king crab stock to the effects of bycatch during the fishery.

In September 2003, ADF&G performed the first pot survey for red and blue king crab in the Pribilof District to obtain information needed to determine the distribution and relative abundance of legal-sized red king crab relative to blue king crab during the normal fishing season (Gish and Pengilly 2004). The survey was designed to provide denser spatial sampling than the standard NMFS trawl survey within that area and included areas of highest catch and effort during the 1993-1998 commercial fisheries. The primary objective of the survey was to determine the potential for prosecuting a directed fishery for red king crabs in the Pribilof District while minimizing bycatch of blue king crab. The results of that survey showed a substantial overlap in the distribution of blue king crabs with legal-sized male red king crabs, a limited distribution within the surveyed area for both stocks, low and sporadic catches of both species, and no evidence for recruitment to either stock. Those results, coupled with the results of an ADF&G cost-recovery fishery on Pribilof District red king crab that was performed

concurrent with the survey (Byersdorfer 2004), confirmed the poor reliability of the NMFS trawl survey results for use in establishing harvest levels for a Pribilof District red king crab fishery and the significant risk of blue king crab bycatch during a Pribilof District red king crab fishery

ADF&G performed a second pot survey on Pribilof District king crab from late September to late October 2005 (Gish 2006). The 2005 survey design was based on the 2003 ADF&G pot survey, but with the removal of 21 stations along the southwestern portion of the area and the addition of 52 new stations to the north and east based on the distribution of king crab catch during the 2003 survey. Despite the expanded effort red king crab catches were 80% lower for legal males and 38% lower for sublegal males as compared to 2003. Blue king crab catches displayed a similar pattern: legal males were 58% lower, sublegal males were 69% lower and females were 48% lower as compared to 2003. The catch of female red king crabs, however, was substantially (1,565%) higher in 2005 and almost all (98%) were ovigerous.

Since the 2004 NMFS survey, the ADF&G-estimated numbers of mature-sized and legal males have steadily decreased to the lowest observed since the fishery closure in 1998 (Vining and Zheng 2008). Therefore, in addition to the closure of the Pribilof red king crab fishery due to the above two sources of uncertainty, there are increasing concerns regarding the status of red king crab stocks around the Pribilof Islands due to low abundance.

This report documents the results of the survey pertaining to the distribution and relative abundance of red and blue king crabs around the Pribilof Islands during September/October 2008. Although particular attention is given to results that are most relevant to the survey objectives, this report also documents the catch of other commercial crab species encountered during the survey. Additionally, this report documents the catch of red king crab during simulated commercial fishing.

METHODS

SURVEY AREA AND DESIGN

Prior to the survey, a survey station pattern was developed based on the pattern used for the 2003 and 2005 ADF&G pot surveys (Gish 2006; Gish and Pengilly 2004) and upon the results for king crab from those surveys. The primary survey area established for the 2003 survey was maintained; it was bounded by 56° 30' N latitude to the south, 57° 30' N latitude to the north, 169° 00' W longitude to the east, and 171° 00' W longitude to the west. The survey station pattern within those boundaries was designed by first designating stations at the centers and corners of the stations in the 20 x 20-nmi survey grid established for the NMFS eastern Bering Sea trawl survey (Rugolo et al. 2003). Additional stations were added to achieve 5-nmi spacing between stations for a total of 164 primary stations. Maintaining the 5-nmi spacing, secondary stations to the north (primarily from 57° 30' to 57° 55' N latitude and 168° 24' to 170° 44' W longitude), and east of St. Paul Island (from 57° to 57° 30' N latitude and 168° 20' to 169° W longitude) and east of St. George Island (from 56° 30' to 57° N latitude and 168° 44' to 169° W longitude) were established for a total of 282 stations (Figure 3). The minimum goal for the survey was to fish 135 of the primary stations, with the 29 stations in the southwest corner having lowest priority due to the expectation that they were outside the distribution of king crab, and to fish 105 of the secondary stations at or adjacent to where red king crabs and/or blue king crabs were captured during the 2003 and 2005 surveys. The secondary stations were to be fished dependent upon time available.

Two-hundred-seventeen stations were actually fished during the survey (Figure 4; Appendix A1), covering an area of 5,004 nmi². Those stations included all 205 stations fished during the 2005 survey (Gish 2006) and all but 15 of the 174 stations fished during the 2003 ADF&G survey (Gish and Pengilly 2004); the 15 stations that were not repeated captured no king crabs during the 2003 survey. The area surveyed included the ADF&G shellfish statistical areas that accounted for 83% to 99% of the total annual Pribilof Islands red king crab harvests for the 1993 through 1998 seasons (Morrison and Gish 1994, 1996, 1997a, 1997b; Morrison et al. 1998, 1999). In particular, the survey area included statistical area 695700 (bounded by 57° 00' N latitude, 57° 30' N latitude, 169° 00' W longitude, and 170° 00' W longitude), which accounted for the largest portion of the total Pribilof red king crab harvest during 1993-1998 (36%) and of the total Pribilof Islands blue king crab harvest during 1995-1998 (42%). Hence the survey area includes the area of highest historical fishery production for the red and blue king crab fisheries. Additionally, the surveyed area covered most of the distribution of blue king crabs and legal red king crabs in the Pribilof District during the summer 2003 and 2004 NMFS eastern Bering Sea trawl surveys (Rugolo et al. 2003, 2006a) and the entire distribution of blue king crabs and legal red king crabs in the Pribilof District in the summer 2005 through 2008 NMFS eastern Bering Sea trawl surveys (Chilton et al. 2008a, 2008b; Rugolo et al. 2006b, 2006c)

The survey was conducted aboard the chartered vessel *F/V Scandies Rose*, a 39.6-m commercial crab-pot fishing vessel. Stations consisted of four pots arrayed in a north-south orientation with spacing of 0.125 nmi between adjacent pots and each station center was a minimum of 5 nmi apart. Each station was fished once during this survey. The total number of pots fished during the survey was 868; each pot measured 7' x 7' x 2.8', was fitted with 2.75" stretch mesh on all webbing, and had two opposing tunnel openings measuring 8" x 36". Pots were baited with two 2-quart containers of chopped Pacific herring *Clupea pallasii* and one Pacific cod *Gadus macrocephalus* used as hanging bait. Soak time for survey station pots ranged from 22.5 to 57.2 hours and averaged 37.9 hours. The first pot of the survey was set on September 8, 2008; the last survey pot was pulled on October 7, 2008.

“Niche” Fishing

In addition to and concurrent with the survey, simulated commercial fishing (“niche” fishing) was performed. Niche fishing was performed opportunistically at times that would not impede progress of the survey. Choice of niche fishing locations was based on the knowledge the vessel captain had obtained from previous commercial fishing in this area, on results of the current survey, and recent reports of red king crab caught in the 2008 NMFS eastern Bering Sea trawl survey. The vessel captain determined the deployment configuration of pots to optimize the catch of king crab in such locations. One-hundred-fifty-three pots were fished within the survey area, 148 pots targeted legal male red king crabs and five pots were set to specifically target blue king crabs. Directed niche fishing for legal red king crabs was to the southwest and northeast of St. Paul Island and for blue king crabs was east of the island (Figure 5). The same pots and configuration of those pots, as well as the same bait were used during niche fishing as in the survey. Soak times for niche-fishing pots ranged from 34.5 to 70.6 hours and averaged 41.1 hours.

CATCH SAMPLING

Species composition was determined for each pot fished during the survey, and all commercially important crab species were examined. The fork or total length was recorded for all

commercially important fish species and all other fish and invertebrate species were enumerated. All red and blue king crabs obtained from all survey and niche fishing pots and all hair crabs *Erimacrus isenbeckii*, Tanner crabs *Chionoecetes bairdi*, snow crabs *C. opilio* and *C. bairdi* x *C. opilio* hybrid crabs captured in survey pots were enumerated and sampled for species, sex, size, shell condition, and (for females only) reproductive condition. Red and blue king crabs and hair crabs were measured for carapace length (CL) to the nearest whole mm from the posterior margin of the right eye socket to the midpoint of the rear margin of the carapace (Donaldson and Byersdorfer 2005). Tanner, snow and hybrid crabs were measured for carapace width (CW) as the greatest straight line distance (excluding spines) across the carapace at a right angle to a line midway between the eyes to the midpoint of the posterior margin of the carapace (Jadamec et al. 1999). Male Tanner crabs were measured for CW to the nearest 0.1 mm for males and female Tanner crabs and all snow crabs and hybrid crabs were measured for CW to the nearest whole mm. Additionally, the chela height (CH), measured as the greatest height on the right chela excluding spines (Jadamec et al. 1999), of all male Tanner crabs was recorded to the nearest 0.1 mm, if no sign of regeneration was present. The fishery-legal status of male crabs was determined by the CW including spines relative to minimum legal size (≥ 6.5 in for red and blue king crab, ≥ 3.25 in for hair crab, ≥ 5.5 in for Tanner crab. The industry-preferred size of ≥ 4 in was used for snow crab and hybrid crab males and was reported as large or small crabs. The shell condition of each crab was recorded as new pliable shell, new-shell, old-shell or very old-shell according to the criteria provided in Donaldson and Byersdorfer (2005) for king crabs and in Jadamec et al. (1999) for Tanner and snow crabs.

Females carrying a clutch of eggs were scored for percent clutch fullness, clutch condition (presence or absence of dead embryos), embryo development (uneyed, eyed, or hatching), and color of eggs. Otherwise females were scored as either barren and with clean pleopods (immature) or as barren with matted pleopods (mature).

OCEANOGRAPHIC DATA COLLECTION

Data on temperature, depth, and conductivity (salinity) were obtained by deploying three submersible temperature (STR), seven temperature/depth (TDR), and seven conductivity/temperature/depth (CTD) data loggers in 216 pots fished at 170 survey stations chosen to provide coverage over the range of area and depths fished during the survey (11 stations had 2 loggers, one pot at one station had three loggers) and with 33 pots fished during niche fishing (Figure 6). Two additional STRs were deployed, as survey temperature references, for the duration of the survey at 56° 59.75' North latitude, 169° 28.31' West longitude and 57° 07.547' North latitude, 169° 38.77' West longitude, which were within the area of high king crab concentrations observed during the 2003 and 2005 ADF&G pot surveys. Summaries of the oceanographic data recorded by location are provided in Appendix B.

BENTHIC HABITAT DATA

Data on benthic habitat types were collected throughout the survey using a seabed classification system consisting of specialized hardware and associated software (QTC VIEW¹) that acquires data from the survey vessel's echo sounder for benthic habitat classification. Echo-sounder data

¹ Product names used in this report are included for scientific completeness, but do not constitute a product endorsement.

were acquired at all times that the vessel was traveling in the survey area. Analysis of that data is still in progress and results will not be presented here.

RESULTS

A total of 82,058 crabs of commercially important species were captured during the survey and niche fishing (Table 1). The most abundant species was snow crab at 75.5% of the catch, followed by Tanner crab (11.4%), red king crab (10.2%), *C. bairdi* x *C. opilio* hybrid crab (2.5%), blue king crab (0.3%), and hair crab (0.1%). A total of 558 fish of commercial importance from 7 different species and 11,184 miscellaneous fish and invertebrates (defined as those species which are of limited or no commercial interest in Alaskan waters) representing 61 taxa were also caught during the survey (Tables 1 and 2).

SURVEY CATCH COMPOSITION

A total of 74,755 crabs of commercially important species were captured during the survey (Table 3). The most abundant species was snow crab at 82.9% of the catch, followed by Tanner crab (11.6%), *C. bairdi* x *C. opilio* hybrid crab (2.7%), red king crab (2.4%), blue king crab (0.3%), and hair crab (<0.1%).

RED KING CRAB

Red king crabs were captured at 56 of the 217 stations fished during the survey (Figure 7; Appendix A1). Those stations were largely north, east and southeast of St. Paul Island and north of St. George Island, essentially in the center portion of the surveyed area. Male red king crabs were captured at 54 stations; their distribution was centered just east of St. Paul Island but they were present in all quadrants around that island except to the northwest. Legal males were captured at 53 stations. Females were captured at 14 stations which were predominately just east of St. Paul Island and shoreward of the stations at which males occurred. Male and female red king crab co-occurred at 12 of those stations.

A total of 1,808 red king crabs were captured during the survey (Table 3; Appendix A1), 74% (1,341) were males of which ranged in size from 76-mm CL to 228-mm CL (Figure 7) and 46% (622) of those males were of legal size. Of all the males captured during the survey 61.5% (825) of the males were ≥ 120 -mm CL, the size used to identify mature males for management purposes (Vining and Zheng 2006) and 23.2% (144) of those legal males would be considered new recruits to legal size (i.e., were new-shelled legal males <150-mm CL; Vining and Zheng 2006). Of the 719 sublegal males captured, 24.2% (175) were pre-recruit crabs estimated to be one molt from legal size (i.e., sublegal males ≥ 120 -mm CL; Vining and Zheng 2006). New-shelled crabs prevailed in all size classes less than 170-mm CL (Figure 8), representing 78.3% of all captured males in the survey.

Female red king crabs represented 26% (467) of the captured red king crabs. they ranged in size from 80-mm CL to 182-mm CL (Figure 9) and averaged 125-mm CL. Over 43% (203) of females were smaller than 102-mm CL, the estimated size at which 50% of Pribilof female red king crabs are mature (Otto et al. 1990). Additionally, 51.4% (240 of 467) of the females examined for clutch condition were mature, as evidenced by the presence of eggs or empty egg cases. Of the mature females, almost 98% carried eggs.

The stations that produced the most legal red king crabs (570 crabs or 92%) straddled or were between 57° 00' North latitude and south of 57° 30' North latitude. No legal-sized males were

captured at 164 of the 217 stations. The seven stations at which the catch per unit effort (CPUE) of legal male red king crabs was 5.0 crabs per pot lift or better accounted for 69% (432 crabs) of all captured legal males, and one station (station 134) alone accounted for 35% (215 crabs) of all legal males captured. As a result, the survey catch per unit effort (CPUE) of legal male red king crabs was very low over the entire survey area at 0.7 crabs per pot lift. At the 53 stations where legal males were captured, the CPUE for legal males was 2.9 crabs per pot lift; when considering the 25 stations where the legal male CPUE was 1.0 crabs per pot lift or greater, the CPUE was only 5.8 crabs per pot. The major area of legal male red king crab concentration was centered on stations 134 and 133 with 42% (264 crabs, CPUE equal to 33 crabs per pot) of the legal red king crab. The highly localized distribution of legal males is revealed when examining the CPUE in the ten stations adjacent to those stations that produced the highest catch of legal males the legal CPUE was 1.5 crabs per pot lift (59 crabs).

BLUE KING CRAB

Blue king crabs were captured at 63 of the 217 stations fished during the 2008 survey (Figure 10). Males occurred at 48 of those locations and were primarily northeast and east of St. Paul Island and north of St. George Island. Females occurred at 38 locations and were captured primarily east of St. Paul Island and north of St. George Island. Male and female blue king crab co-occurred at 23 stations. Although relatively widespread through the middle of the surveyed area, they were sparsely abundant, one or fewer blue king crabs per pot lift were captured at 46 of those stations.

A total of 241 blue king crabs were caught during the survey, over 67% (163) were large, mature-sized animals (Table 3; Appendix A1). Males accounted for 61% (147) of the captured blue king crabs and they ranged in size from 71-mm to 181-mm CL (Figure 11); 33% (49) of the captured blue king crab males were of fishery legal size and 16% (8) of the legal males would be considered newly recruited to legal size (i.e., were new-shelled legal males <149-mm CL; Vining and Zheng 2006).. Of the sublegal male crabs, 40 were \geq 120-mm CL; the size used to identify mature males for management purposes (Vining and Zheng 2006). Males in new-shell condition were present over most of the size range of captured males and accounted for 73.5% (108) of all males.

The 94 female crabs captured during the survey ranged in size from 81-mm CL to 155-mm CL (Figure 12). Seventy-four females (78.7%) were \geq 100-mm CL, the estimated size at 50% maturity for female Pribilof blue king crab (Somerton and MacIntosh 1983). Over 71% (67) of the females were mature as evidenced by the presence of eggs or empty egg cases; 76.1% (51) of those females carried eggs which is somewhat inconsistent with biennial spawning in blue king crab as described by Somerton and MacIntosh (1985).

The distribution of blue king crab was primarily east and northeast of St. Paul Island but also to the north of St. George Island. Stations with the highest catch of blue king crab were relatively close (within in 18 nmi) to St. Paul Island. Legal-sized male blue king crabs were widely distributed within the area of occurrence, but occurred at only 26 stations. The survey CPUE of legal males was only 0.06 crabs per pot lift. Only at a single station (station 133, CPUE of 5 crabs per pot lift) was the CPUE of legal male blue king crab greater than 0.5 crabs per pot lift, and only four stations where the survey CPUE was 0.5 crabs per pot lift. The CPUE of legal males was <0.5 crabs per pot lift when considering only the 26 stations at which legal males occurred.

DISTRIBUTION OF LEGAL MALE RED KING CRABS RELATIVE TO BLUE KING CRABS DURING THE 2008 SURVEY

Of the 53 stations where legal-sized male red king crabs occurred and the 63 stations where blue king crabs occurred, legal male red king crabs and blue king crabs co-occurred at 25 stations (Figure 13). Legal-sized male red king crabs were captured at eleven stations south and southwest of St. Paul Island. These stations were west of 170° W longitude and south of 57° 05' N latitude and were primarily in statistical area 705630 (an area which produced from less than 1% to approximately 35% and averaged less than 12% of the commercial harvest between 1993 and 1998). Station 97 (CPUE of 11.5 crabs per pot lift; Figures 3 and 13) was the only station with a CPUE of greater than 10 crabs per pot lift. Only three other stations (stations 72, 73 and 86 with CPUEs of 2.25, 5.25 and 3.25, respectively) had CPUEs of greater than one crab per pot lift. The three easternmost stations (stations 71, 84 and 97) had catches of blue king crab at adjacent stations east of 170° W longitude. No blue king crabs were caught in the area west of 170° W longitude and south of 57° 05' N latitude (statistical area 705630).

Catches of legal red king crab occurred along an elongated arc offshore and around St. Paul Island, occurring in all but the northwest quadrant around the island (Figure 13). Eighty-five percent of the legal red king crab occurred in a band within that elongated arc from 5-nmi to 15-nmi offshore with the highest catches coming from northeast of St. Paul Island. Beginning at station 160 (Figure 3) north of St. Paul extending primarily to the southeast through station 134 (the station with the largest catch of legal red king crab observed during the survey) and station 133 to station 106 east of the island, then southwest through station 96 and station 97 to station 73 south of the island, and finally extending northwest through stations with lower catches of legal red king crab to station 101 southwest of the island.

The stations with blue king crab catches tended to occur east of St. Paul Island and north of St. George Island (Figures 10 and 13). The range of blue king crab extended from station 43 (Figure 3) to the south to station 237 to the north, and from station 180 to the east to station 150 to the west. Blue king crab displayed a sparse and wide distribution but with 74%, (179 crabs) occurring in the quadrant northeast of St. Paul Island and with 57% (102) of those crabs occurring in a northwest to southeast band from 8-nmi to 18-nmi from the island. With the exception of the eight southwest stations west of 170° W longitude and south of 57° 05' N latitude, blue king crabs co-occurred with, were adjacent to, or surrounded legal red king crab stations.

Although co-occurrence with blue king crab was present at only 47% of the legal red king crab stations; they were highly aggregated. Within the distribution of legal red king crab over 75% occurred in an area east and northeast of St. Paul Island bounded by station 159, station 156, station 94 and station 97 (Figures 3 and 13). Over 52% of blue king crabs also occurred within this area of high red king crab concentration.

Legal red king crabs and blue king crabs showed similar depth distributions. Legal red king crabs were captured only at depths from 22 to 48 fathoms (all blue king crabs were captured within the 24 to 42 fathoms depth range); the depth range in which 90% (780) of the total 868 pot lifts were fished during the survey. Of the remaining pot lifts fished during the survey, 24 pots, or 3%, were fished from 13.8 to 21.0 fathoms and 64 pots, or 7%, were fished from 48.8 to 55.0 fathoms.

The most commonly fished depths were from 37.0 to 41.0 fathoms (460 pot lifts, or 53% of total pot lifts), however, only 12% of legal red king crabs and 40% of blue king crabs were caught in that depth range. Legal male red king crab (82%, 508 crabs) were predominantly captured at depths less than 37 fathoms; also, 59% (141) of blue king crabs captured at similar depths.

Highest CPUE of both legal red king crabs and blue king crabs primarily occurred in pots fished at 24 to 34 fathoms (77% of the legal red king crab catch, CPUE of 5.2 crabs per pot lift and 54% of the blue king crab catch, CPUE of 1.4 crabs per pot lift). The depth with highest catch of legal red king crab (215, 35% of the catch) was 27 fathoms, where 4 pot lifts produced a CPUE of 53.8 crabs per pot lift. The blue king crab CPUE at 32 fathoms (depth of highest catch) was 4.9 crabs per pot lift and represented 16% of the catch. Both legal red king crabs and blue king crabs display a secondary CPUE increase at greater depths. Legal red king crabs were centered around 45.5 fathoms where the CPUE averaged 0.5 crabs per pot lift and the blue king crab CPUE of 0.2 crabs per pot lift was centered around 39 fathoms.

Although their distributions overlapped broadly by depth and geographic location, catch per station of legal red king crabs and blue king crabs was negatively associated; highest catches of legal red king crabs occurred at stations with low catches of blue king crabs and highest catches of blue king crabs occurred at stations with low catches of legal red king crabs (with one exception). At the 91 stations at which either legal red king crab or blue king crab occurred, the catches for both were generally low. At 54 of those stations, the CPUE for both legal red king crabs and blue king crabs was <1.0 crab per pot lift and averaged 0.4 crab per pot lift. There were 23 stations at which the station CPUE for legal red king crab was ≥ 1.0 crab per pot lift (ranging up to 53.8 crabs per pot lift), and at those the station CPUE for blue king crabs was <0.8 crab per pot lift. At the 17 stations at which CPUE for blue king crabs was >1.0 crab per pot lift (ranging from 1.3 to 9.8 crabs per pot lift); the CPUE for legal red king crabs (with the one exception noted above) was 0.6 crab per pot lift. The exception was station 133 ($57^{\circ}20'$ N latitude, $169^{\circ}54'$ W longitude) where the CPUE of legal red king crabs at was 12.25 crabs per pot lift and of blue king crabs it was 9.75 crabs per pot lift.

TANNER CRAB

Tanner crabs were distributed throughout the surveyed area and were captured at 197 of the 217 stations fished during the survey (Figure 14; Appendix A1). The highest numbers of male and female Tanner crabs were observed primarily between and, with few exceptions, offshore of the islands. Male crabs occurred at all 197 of those locations with secondary areas of concentration southwest, north and east of St. Paul. Female crabs were primarily south of $57^{\circ}30'$ N latitude and occurred at 121 widely distributed locations predominantly southeast of St. Paul Island and north of St. George Island. A secondary area of concentration was along the eastern border of the surveyed area north of $57^{\circ}45'$ N latitude. A total of 8,684 Tanner crabs were caught during the survey (Table 3), of which 78.4% were males; one Tanner crab was identified as a hermaphrodite.

A total of 6,812 male Tanner crabs were captured during the survey. Carapace width ranged from 40.0 mm to 170.4 mm and averaged 118.1 mm (Figure 15). Only 719 of the males (11%) were of fishery legal size (≥ 139.7 -mm CW including lateral spines). Crabs >112 -mm CW (the size used to identify mature males for management purposes; Zheng and Kruse 1999a) comprised 57% of male catch. Shell condition was evenly distributed between new-shell

condition (33.3%), old-shell condition (33.5%) and very-old-shell condition (33.2%); new-shell males comprised 40.6% of the catch >112-mm CW and 61.1% of the legal-sized male catch.

There were 1,871 female Tanner crabs captured during the survey, they ranged in size from 47-mm to 126-mm CW and averaged 84.2-mm CW; 57.1% of the female crabs were between 75-mm and 89-mm CW (Figure 16). Immature crabs accounted for <1.0% of the 1,870 females for which reproductive status was determined. Of the 1,867 mature females examined, 95.7% were ovigerous; full clutches were observed in 16.6% of the ovigerous females, dead eggs were observed in only one (<0.01%) of the clutches, and eyed eggs were apparent in only three (0.2%) of the clutches. Shell condition was recorded for all female Tanner crabs, of which 4.4% were in new-shell condition; old-shell condition was observed in 46.8% and very-old-shell condition was observed in 48.8% of the captured female crabs.

SNOW CRAB

Snow crabs were captured at 177 of the 217 stations fished during the survey (Figure 17; Appendix A1). Male crabs occurred at all of those locations and were distributed north, northeast and east of St. Paul Island and northeast of St. George Island, a few males were captured south and west of St. Paul Island. Female crabs occurred at 43 locations that were scattered to the northeast of both islands. A total of 61,964 snow crabs were caught during the survey and 98.8% of those were males (Table 3).

A total of 61,192 snow crab males were captured on the survey, carapace width of male crabs ranged from 43 mm to 192 mm and averaged 96.5 mm (Figure 18). Over 83% were legal-sized (≥ 79 mm-CW including lateral spines), but only 47.2% were of the industry-preferred size (≥ 102 -mm CW). New-shell crabs comprised 58.6% of the captured males.

There were 772 female snow crabs captured during the survey. Reproductive status was determined for 128 of the females. Immature crabs accounted for 56.3% of those captured. Of the mature females, 43.8% were ovigerous; full clutches were observed in 0.8% of the ovigerous females and no eyed or dead eggs were apparent in any clutch. New-shell crabs accounted for 78.1% of all female snow crabs. Female crabs ranged from 54-mm to 98-mm CW, and averaged 67.4-mm CW (Figure 19).

TANNER CRAB X SNOW CRAB HYBRIDS

Crabs identified as Tanner crab x snow crab hybrids (hybrids) were captured at 175 of the 217 stations fished during the survey (Figure 20). Males occurred at 173 of those locations and were predominantly distributed along the eastern boundary of the surveyed area. Females occurred at 50 stations widely scattered throughout the area inhabited by males but were primarily northeast of St. George Island. A total of 2,029 hybrid crabs were caught during the survey (Table 3), of those crabs 91.2% were males; two crabs were identified as hermaphrodites.

There were 1,851 male hybrid crabs; fishery legal status was determined using ≥ 79 -mm CW including lateral spines (the legal size for snow crabs), 1,732 (93.6%) were legal-sized while 1,091 (58.9%) were of the industry-preferred size for snow crabs (≥ 102 -mm CW). The CPUE of industry-preferred male hybrid crab was 1.26 crabs per pot. Male new-shell crabs accounted for 41.3% of the catch, old-shell crabs comprised 54.1%, and very old-shell crabs were 4.6% of the catch. Carapace width of male hybrid crabs ranged from 52 to 141-mm CW and averaged 100.6-mm CW (Figure 21).

There were 176 female hybrid crabs captured during the survey, half were new-shell crabs and half were old-shell crabs (Figure 22). Seven crabs were mature; six crabs carried eggs and no eyed or dead eggs were apparent. Carapace widths of the female crabs ranged from 55 to 82 mm and averaged 68.1 mm.

HAIR CRAB

Hair crabs were captured at 14 of the 217 stations fished during the survey (Table 3; Figure 23). Male crabs occurred at 12 of those stations and female crabs at 5 stations. Male crabs were distributed around St. Paul Island except to the northwest and also just north of St. George Island. Female crab distribution mirrored that of the males except they did not occur south of St. Paul Island. A total of 29 hair crabs were caught, 82.8% were males.

There were 24 male hair crabs captured and 10 of those were of fishery legal size (Table 3). New-shell crabs were 79% and old-shell crabs were 21% of the catch. Carapace length of male crabs ranged from 59-mm to 105-mm CL and averaged 76.7-mm CL (Figure 24).

There were five female hair crabs captured during the survey; they ranged in size from 67-mm to 90-mm CL (Figure 24) and only one was a new-shell crab. The three female crabs that maturity was determined were mature and did not carry clutches.

NICHE FISHING

The 153 pots fished during niche fishing resulted in a total catch of 7,303 crabs of commercial importance. Red king crabs comprised the majority (6,537) of the catch, followed by Tanner crabs (702), hair crabs (40), blue king crabs (23) and a snow crab (1). There were 148 pots directed toward red king crabs and were set in two areas; 76 pots were set southwest of St. Paul Island approximately 2 to 5-nmi offshore of Southwest Point and 72 pots were set northeast of St. Paul Island approximately 4 to 9-nmi offshore of Northeast Point (Figure 5); five pots were set specifically to target blue king crabs approximately 32-nmi east-northeast of St. Paul Island.

The area southwest of St. Paul Island was selected for niche fishing based primarily on the results of the 2008 NMFS Bering Sea trawl survey and, to a lesser extent, the vessel captain's previous commercial fishing experience. Those 76 pots (Table 4, Strings 2 to 8) produced a catch of 5,405 red king crabs; there were 1,394 legal male crabs; 3,328 sublegal crabs and 683 female crabs (Figure 26; Appendix A2). One female blue king crab was also caught in this area. The CPUE for legal male red king crabs captured in those strings ranged from 12.7 to 25.2 crabs per pot lift and averaged 18.3 crabs per pot lift (Table 4). The bycatch of sublegal male red king crabs was high, exceeding the CPUE of legal males in five of the seven strings set in this area by as much as 580%; the bycatch of female red king crabs exceeded the catch of legal males in two of the seven strings, in one case by as much as 200% (Table 4).

The area northeast of St. Paul Island was selected for niche fishing based on the results of the 2008 ADF&G survey and the vessel captain's previous commercial fishing experience. The 72 pots fished in that area produced a catch of 1,129 red king crabs (Figure 27; Appendix A2) and six blue king crabs. There were 36 pots (Table 4, Strings 9 to 11) which were fished north of Northeast Point at locations based on the current survey (i.e. Station 134 with 215 legal male red king crabs). Those pots produced 945 red king crabs; there were 744 legal male crabs, 191 sublegal crabs and 10 female crabs. Only one sublegal male blue king crab was captured in this area. The CPUE for legal male red king crabs captured in those strings ranged from 4.8 to 29.8

crabs per pot lift and averaged 20.7 crabs per pot lift (Table 4). The bycatch of sublegal male red king crabs was much less in this area, only one of the three strings produced catches of 10.4 crabs per pot lift and the female red king crab bycatch was 0.5 crabs per pot lift or less. The remaining 36 pots (Table 4, Strings 12 to 15) were fished more to the northeast of Northeast Point at locations based on the vessel captain's previous commercial fishing experience in the Pribilof District. Those pots produced 184 red king crabs; there were 144 legal male crabs; 37 sublegal crabs and 3 female crabs. The CPUE for legal male red king crabs captured in those strings ranged from no catch to 9.4 crabs per pot lift and averaged 4 crabs per pot lift (Table 4). Only one string produced bycatch of sublegal and female red king crabs, the CPUE for sublegal males was 4.1 crabs per pot lift and was 0.3 crabs per pot lift for females. Three legal male, one sublegal male and one female blue king crabs were caught in this area, in all cases the CPUE was 0.2 crabs per pot lift or less.

The overall distribution of red king crabs captured during niche fishing was consistent with that observed during the survey. Legal male red king crabs were captured at locations adjacent to survey stations where legal males were present, including the three that were caught in the five pots that were set to target blue king crabs. Female red king crabs were captured east and east-southeast of St. Paul Island at locations close to those stations which produced the highest catches females during the survey.

Niche fishing for blue king crabs was very limited as only five pots total were set to specifically to target blue king crabs in the survey area (Table 4, String 1). Three pots produced 16 blue king crabs; a total of 11 legal male, 2 sublegal male and 3 female blue king crabs were captured. The CPUE for this effort was 2.2 crabs per pot lift for legal males, 0.4 crabs per pot lift for sublegal males and 0.6 crabs per pot lift for females. Three legal male red king crabs were also captured in those pots; legal red king crabs and blue king crabs co-occurred in two of the three pots set to target blue king crabs. Seven blue king crabs were also captured in the 148 pots set specifically to target red king crabs. Blue king crabs were captured primarily east and northeast of St. Paul Island between and around stations which produced catches of blue king crab in the survey; however, one blue king crab was captured southwest of St. Paul Island where no other catches of blue king crab occurred.

DISCUSSION

Results of the 2008 Pribilof District king crab pot survey were similar for red king crab and blue king crab in several respects. Both species showed a distribution primarily in the eastern and northern portions of the surveyed area. Red king crabs were captured at stations north, east and south of St. Paul Island and north of St. George. In general, red king crabs were shoreward toward St. Paul Island when compared to blue king crab. Blue king crabs were primarily captured at stations northeast and east of St. Paul Island and north and northeast of St. George Island and generally more offshore from St. Paul Island compared to red king crab. Red and blue king crab also showed a similar distribution by depth during the pot survey. Larger, mature-sized animals were more numerous in the catch of both species during the survey (approximately 60% for red king crabs and 65% for blue king crabs). Survey results did show some indications of potential recruitment to the fishery for red king crabs as almost 54% of males were sublegal crabs (over 28% of those sublegals were mature crabs) and for blue king crabs as almost 67% of males were sublegal crabs (almost 41% of those sublegals were mature crabs).

Catch per station of red king crab and blue king crab was generally low at all the stations where king crabs were captured. At only four stations did the CPUE for legal-sized male red king crab exceed 11 crabs per pot lift (station 97, 11.5; station 108, 11.5; station 133, 12.25 and station 134, 53.75), the high CPUE observed in the fishery from 1993 through 1998. At two additional stations the CPUE for legal-sized male red king crab exceed 5 crabs per pot lift (station 73, 5.25; station 96, 8.75), the average CPUE observed in the six year fishery. At no station was the CPUE for legal-sized blue king crabs near the high of 25.6 crabs per pot during the 1973/74 season or even the 8 crabs per pot lift or greater, the average CPUE of legal-sized male blue king crabs during the 15 year fishery from the 1973/74 through 1987/88 seasons. Only at one station did legal-sized male blue king crabs exhibit catches of 5 crabs per pot (station 133, CPUE of 5) which was the high CPUE observed in the fishery from 1995 through 1998.

Because the pot survey had a denser spatial distribution of survey stations than the NMFS trawl survey, it afforded greater insights into the characteristics of the distribution of legal male red king crab than the trawl survey. The pot survey results showed that legal red king crabs in September/October 2008 had a limited distribution in the Pribilof District and that within that limited distribution densities were generally low. Legal male red king crabs were absent at 164 of the 217 survey stations. At stations where legal red king crab males were captured, the number captured was generally low; only 64 (10.3% of legal males) were captured at 32 stations (60.4% of the stations where legal red king crab occurred). However, during this survey 215 legal male red king crabs were captured at one station (station 134) and during the 2003 pot survey one station produced a catch of 157 legal male red king crabs (station 80, Gish and Pengilly 2004) show that high densities of legal males in this area can be highly localized and appear unpredictably within the survey area. That feature of the distribution of red king crab in the Pribilof District has posed problems for reliable abundance estimation using data from the summer NMFS trawl survey (Chilton et al. 2008a, 2008b; Rugolo et al. 2003, 2006a, 2006b, 2006c; Vining and Zheng 2004, 2006, 2008).

Some commercial fishermen with experience fishing for king crabs in the Pribilof District have reported that red king crabs tend not to be captured in the same areas as blue king crabs. Like the 2003 and 2005 pot surveys (Gish and Pengilly 2004; Gish 2006), results from the 2008 pot survey provided some support for that observation. During all three pot surveys, the highest catches of legal red king crabs occurred at stations with low catches of blue king crabs and the highest catches of blue king crabs occurred at stations with low catches of legal red king crabs. However, during all three surveys, blue king crabs overlapped broadly in distribution with legal red king crabs. Moreover, the areas that are occupied predominately by blue king crabs or predominately by legal red king crabs appear to be highly localized and stations in which blue king crabs dominated the king crab catch were interspersed among stations in which legal red king crabs dominated the catch. Therefore, although legal red king crabs and blue king crabs may not occupy the same area in abundance at the same time, it would be difficult to define closure areas prior to a commercial season for red king crab in the Pribilof District that would assure minimizing bycatch of blue king crab and still maintain sufficient numbers of legal red king crabs to justify a fishery.

Results on the geographic and size distributions for the Pribilof red and blue king crab from the 2008 pot survey generally corroborated results reported from the trawl survey performed by NMFS earlier in the summer of 2008 (Chilton et al. 2008a,). The NMFS survey captured legal red king crabs southwest of St. Paul Island at 57°28.6' N latitude, 170°6.8' W longitude during

the summer 2008 trawl survey (Chilton et al. 2008a) while the 2008 pot survey captured legal male red king crabs at the nearest station and niche fishing centered around the NMFS trawl station produced large catches of legal male red king crabs (Figure 26). In 2008, the trawl survey offered some evidence of juvenile crabs that could provide recruitment to the mature or fishable component of the red king crab stock (38.9% of captured males were <135-mm CL) while the pot survey showed an even higher percentage (52.4%) of the captured males were one or more molts from attaining legal size. The summer 2008 trawl survey also provided data that resulted in an estimate for legal red king crab abundance in the Pribilof District of 0.8 million crabs (Doug Pengilly, ADF&G unpublished data). However, given the results of the 2008 pot survey, it is doubtful that even a small commercial red king crab fishery (e.g., 0.5 million pounds or roughly 70,000 animals) could have been prosecuted in the near term without a prolonged season that would increase the bycatch of blue king crab. The results of the pot survey for blue king crab were consistent with the extremely low abundance estimated for blue king crabs from the trawl survey data. Both surveys indicated that the blue king crab stock is depressed but with a small indication that stock conditions may be improving as the percentage of sublegal males in both surveys was high (66.7% in the pot survey and 98.1% in the trawl survey). However, the extremely low number of king crabs, especially blue king crabs, encountered in all surveys must be noted and the extent of any future stock improvement is uncertain.

Efforts to find localized high densities of legal red king crabs through niche fishing were somewhat successful and did confirm the local high densities of legal male red king crabs observed during the survey. Niche fishing efforts that were the result of the current ADF&G survey or the summer 2008 NMFS trawl survey produced reasonably good average CPUEs of legal males (approximately 21 crabs per pot lift for the ADF&G survey and 18 crabs per pot lift for the NMFS survey). Niche fishing locations that were based solely on the captain's previous fishing experience in the area were not as good. Pots directed toward legal red king crab produced a CPUE of 4 legal male crabs per pot lift and a bycatch of 5 blue king crabs while pots directed at legal male blue king crabs produced a CPUE of 2.2 legal male crabs per pot lift and a bycatch of 3 legal male red king crabs. The overall niche fishing effort directed at legal male red king crabs produced a catch of 15.4 legal male crabs per pot lift and a bycatch 7 blue king crabs. Moreover, niche fishing results demonstrate the difficulty of prosecuting of fishery for red king crabs after 10 years of no king crab fishing activity in the Pribilof District without blue king crab bycatch.

Overall, the catch of king crabs in the 2008 ADF&G survey was greater than or comparable to the 2003 or 2005 surveys when comparing the only the stations fished in common. There were 153 "core" stations fished during all three surveys (Figure 27, Appendix A3); the 2008 survey occurred essentially during the same time frame as the 2003 survey and overlapped the 2005 survey for more than two weeks of the four week survey. The red king crab CPUE for those 153 stations during 2008 greatly exceeded those of the earlier surveys for legal and sublegal males and for females in 2003 (Table 5). The blue king crab CPUE for those stations during 2008 exceeded the catch in 2005 and for sublegal males in 2003, while it was comparable to the catch of legal blue king crabs and was approximately 70% of the female catch in 2003 (Table 5). Carapace length comparisons of crabs captured at the core stations during all three surveys showed a higher percentage of sublegal males and immature females in 2008 than in the prior surveys. Red king crab sublegal males in 2008 comprised 52.2% of the male catch compared to 12.0% in 2005 and 3.2% in 2003 (Figure 28) while females in 2008 represented 19.8% of the female catch compared to <0.1% in 2005 and none of the catch in 2003 (Figure 29). Blue king

crab sublegal males in 2008 comprised 60.0% of the male catch compared to 13.6% in 2005 and 14.5% in 2003 (Figure 30) while females represented 5.4% of the female catch in 2008 compared to none of the catch in 2005 and 0.8% in 2003 (Figure 31).

Changes in biological productivity have been linked to changes in the Bering Sea environment (Hunt et al. 2002; Schumacher et al. 2003; Livingston and Wilderbuer 2004; Overland, and Stabeno 2004; Lovvorn et al. 2005; Grebmeier et al. 2006; Rho and Whitley 2007; Hunt et al. 2008). The apparent lack of king crab recruitment in the Pribilof District through the 2005 survey may have reflected a large-scale environmental event affecting abundance and distribution. Bottom temperatures in the survey area have recently decreased from the 4°C to 5°C observed in 2003 and 2005 to 1°C to 3°C in 2008. Although, the observed increase in the relative percentage of sublegal males and immature females in the red and blue king crab catch may be intriguing, the extent to which these temperature changes will affect the red and blue king crabs relative abundance and distribution is not known. ADF&G is planning to conduct another king crab pot survey in fall of 2011 in the Pribilof District to gain additional information on the relative abundance, distribution and condition of red and blue king crab stocks.

ACKNOWLEDGEMENTS

The Bering Sea Crab Test Fish Project (BSTF), authorized by the State of Alaska under the Test Fish Program (AS 16.05.050 (15)), and the National Oceanic and Atmospheric Administration (NOAA) Award NA04NMF4370175 (“Bering Sea Crab VII”) provided funding for this project. The views expressed herein are those of the author and do not necessarily reflect the views of NOAA or any of its sub-agencies.

The following Alaska Department of Fish and Game Westward Region staff are acknowledged for their contributions: Doug Pengilly for initial design and structure for this project and for review of this report, to Forrest Bowers and Steve Schrof for review of this report and to Ryan Burt, Laura Slater and Kevin Renfro who were members of the survey crew. Thanks are given to Tammy Chisum for data entry and to Lisa Marcato for report formatting and distribution.

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TABLES AND FIGURES

Table 1.—Catches of crabs and fish of commercial importance and other fish of limited or no commercial importance in Alaskan waters, ranked by number of occurrences, during the 2008 Pribilof District pot survey and concurrent niche fishing.

Scientific Name	Common Name	Total
Commercial Crab		
<i>Chionoecetes opilio</i>	Snow Crab	61,965
<i>Chionoecetes bairdi</i>	Tanner Crab	9,386
<i>Paralithodes camtschaticus</i>	Red King crab	8,345
<i>Chionoecetes hybrid</i>	Hybrid Tanner Crab	2,029
<i>Paralithodes platypus</i>	Blue King Crab	264
<i>Erimacrus isenbeckii</i>	Hair Crab	69
		82,058
Commercial Fish		
<i>Gadus macrocephalus</i>	Pacific Cod	258
<i>Limanda aspera</i>	Yellowfin Sole	162
<i>Hippoglossus stenolepis</i>	Pacific Halibut	134
<i>Theragra chalcogramma</i>	Walleye Pollock	1
<i>Clupea pallasii</i>	Pacific herring	1
<i>Pleurogrammus monopterygius</i>	Atka mackerel	1
<i>Sebastes aleutianus</i>	rougeye rockfish	1
		558
Other Fish		
<i>Hemilepidotus jordani</i>	yellow Irish lord	1,352
<i>Radulinus asprellus</i>	slim sculpin	224
<i>Myoxocephalus verrucosus</i>	warty sculpin	32
<i>Hemitripterus bolini</i>	bigmouth sculpin	16
<i>Bathyraja parmifera</i>	Alaska skate	2
<i>Liparis gibbus</i>	variegated snailfish	2
<i>Pleuronectiformes</i>	flatfish unident.	1
<i>Anarhichas orientalis</i>	Bering wolffish	1
<i>Bathymaster signatus</i>	searcher	1
<i>Hemilepidotus papilio</i>	butterfly sculpin	1
<i>Myoxocephalus polyacanthocephalus</i>	great sculpin	1
		1,633

Table 2.–Catches of invertebrates of limited or no commercial importance in Alaskan waters, ranked by number of occurrences, during the 2008 Pribilof District pot survey and concurrent niche fishing.

Scientific Name	Common Name	Total
<i>Asterias amurensis</i>	Purple-Orange Sea Star	5,219
<i>Hyas lyratus</i>	Pacific Lyre Crab	1,876
<i>Buccinum sp.</i>		1,103
<i>Ophiura sarsi</i>	notched brittlestar	571
<i>Neptunea sp.</i>		157
<i>Boltenia ovifera</i>		131
<i>Fusitriton oregonensis</i>	Oregon triton	103
<i>Strongylocentrotus droebachiensis</i>	green sea urchin	90
<i>Pagurus aleuticus</i>	Aleutian hermit	59
<i>Modiolus modiolus</i>	northern horse mussel	40
<i>Octopus dofleini</i>	giant octopus	20
<i>Gastropod unident.</i>	snail unident.	19
<i>Elassochirus cavimanus</i>	purple hermit	15
<i>Cucumaria fallax</i>	sea football	15
<i>Pododesmus macrochisma</i>	Alaska falsejingle	12
<i>Halocynthia aurantium</i>	sea peach	12
<i>Chrysaora melanaster</i>		11
<i>Oregonia gracilis</i>	graceful decorator crab	8
<i>Pagurus confragosus</i>	knobbyhand hermit	7
<i>Strongylocentrotus pallidus</i>	white sea urchin	7
<i>Actiniaria</i>	sea anemone unident.	6
<i>Telmessus cheiragonus</i>	helmet crab	6
<i>Elassochirus sp.</i>	unidentified stone crab	6
<i>Ophiopholis aculeata</i>	ubiquitous brittle star	6
<i>Pagurus capillatus</i>	hairy hermit crab	5
<i>Leptasterias arctica</i>		4
<i>Crossaster papposus</i>	rose sea star	4
<i>Styela rustica</i>	sea potato	4
<i>Hyas coarctatus</i>	circumboreal toad crab	3
<i>Lethasterias nanimensis</i>	blackspined sea star	3
<i>Echinarachnius parma</i>	Parma sand dollar	3

-continued-

Table 2.–Page 2 of 2.

Scientific Name	Common Name	Total
<i>Bryozoa unident.</i>	bryozoan unident.	3
<i>Pagurus ochotensis</i>	Alaskan hermit crab	2
<i>Colus sp.</i>		2
<i>Plicifusus (=Colus) kroyeri</i>		2
<i>Gorgonocephalus eucnemis</i>	basketstar	2
<i>Psolus fabricii</i>	brownscaled sea cucumber	2
<i>Gersemia sp.</i>	sea raspberry	1
<i>Pandalus borealis</i>	northern shrimp	1
<i>Paguridae</i>	hermit crab unident.	1
<i>gastropod eggs</i>	snail eggs	1
<i>Buccinum scalariforme</i>	ladder whelk	1
<i>Chlamys rubida</i>	reddish scallop	1
<i>Mya truncata</i>	truncate softshell	1
<i>Evasterias troschelii</i>	mottled sea star	1
<i>Evasterias echinosoma</i>	giant sea star	1
<i>Pteraster tessellatus</i>		1
<i>Holothuroidea unident.</i>	sea cucumber unident.	1
<i>Porifera</i>	sponge unident.	1
<i>Ascidian unident.</i>	tunicate unident.	1
		9,551

Table 3.–Crabs of commercial importance captured during the 2008 Pribilof District king crab survey.

Species	Number	CPUE
Red King Crab		
Legal Males	622	0.72
Sublegal Males	719	0.83
Females	467	0.54
	<u>1,808</u>	
Blue King Crab		
Legal Males	49	0.06
Sublegal Males	98	0.11
Females	94	0.11
	<u>241</u>	
Hair Crab		
Legal Males	10	0.01
Sublegal Males	14	0.02
Females	5	0.01
	<u>29</u>	
Tanner Crab^a		
Legal Males	719	0.83
Sublegal Males	6,093	7.02
Females	1,871	2.16
	<u>8,684</u>	
Snow Crab		
Large Males ^b	10,459	12.05
Small Males ^b	50,733	58.45
Females	772	0.89
	<u>61,964</u>	
Tanner Crab x Snow Crab Hybrid^c		
Large Males ^b	1,091	1.26
Small Males ^b	760	0.88
Females	176	0.20
	<u>2,029</u>	
Survey Total	74,755	

^a Total includes 1 hermaphrodite Tanner crab.

^b Large males are 102-mm CW and greater, small male are less than 102-mm CW.

^c Total includes 2 hermaphrodite hybrid crabs.

Table 4.—Results of niche fishing, by string, during 2008 in the Pribilof District showing catch per pot lift (CPUE), number of pots fished and mean depth.

String	Number of Pots Fished	Mean Depth (fathoms)	Red King Crab			Blue King Crabs		
			Male		Female	Male		Female
			Legal	Sublegal		Legal	Sublegal	
1	5	39.4	0.6	0.0	0.0	2.2	0.4	0.6
2	4	26.3	13.8	11.8	1.0	0.0	0.0	0.0
3	12	27.3	19.9	23.2	0.8	0.0	0.0	0.0
4	12	26.9	25.2	48.9	2.8	0.0	0.0	0.0
5	12	28.4	16.8	98.1	33.8	0.0	0.0	0.1
6	12	28.4	12.7	11.9	0.4	0.0	0.0	0.0
7	12	25.4	15.4	41.3	16.4	0.0	0.0	0.0
8	12	29.6	21.7	50.1	2.4	0.0	0.0	0.0
9	11	27.3	4.8	0.1	0.3	0.0	0.0	0.0
10	13	29.2	29.8	5.0	0.1	0.0	0.1	0.0
11	12	29.4	25.3	10.4	0.5	0.0	0.0	0.1
12	9	26.2	0.0	0.0	0.0	0.0	0.0	0.0
13	9	30.2	5.8	0.0	0.0	0.2	0.1	0.1
14	9	30.6	9.4	4.1	0.3	0.1	0.0	0.0
15	9	33.8	0.8	0.0	0.0	0.0	0.0	0.0
Total	153	28.9	14.9	23.2	4.5	0.1	<0.1	<0.1

Table 5.—Core stations comparison of king crabs captured during the 2003, 2005 and 2008 Pribilof District king crab surveys.

	2008		2005		2003	
	Catch	CPUE	Catch	CPUE	Catch	CPUE
Red King Crab						
Legal	621	1.01	66	0.11	386	0.63
Sublegal	719	1.17	9	0.01	16	0.03
Female	467	0.76	2,283	3.76	146	0.24
Blue King Crab						
Legal	49	0.08	18	0.03	53	0.09
Sublegal	91	0.15	4	0.01	16	0.03
Female	92	0.15	67	0.11	133	0.22

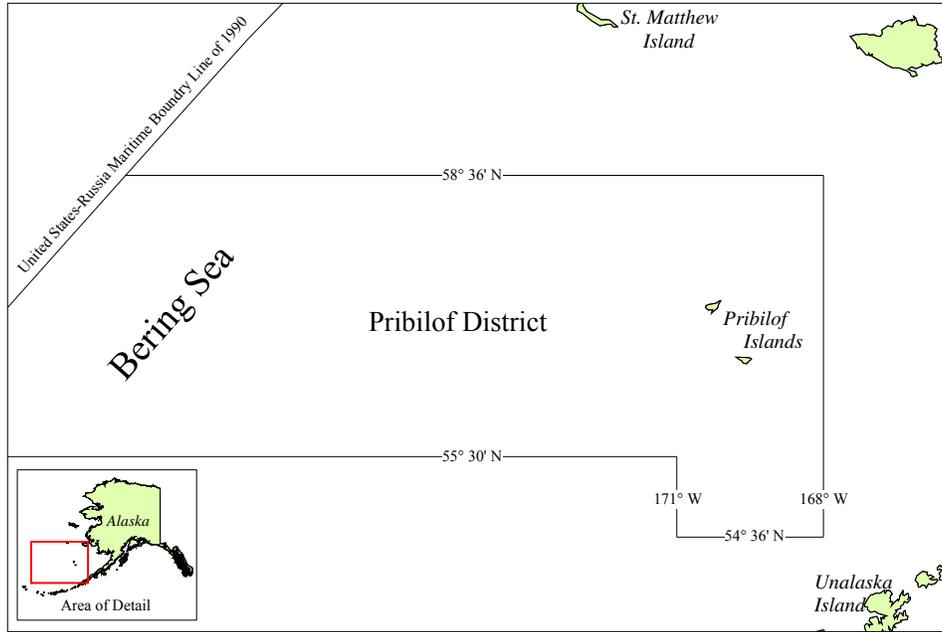


Figure 1.—The Pribilof District of the Bering Sea king crab registration area, “Area Q.”

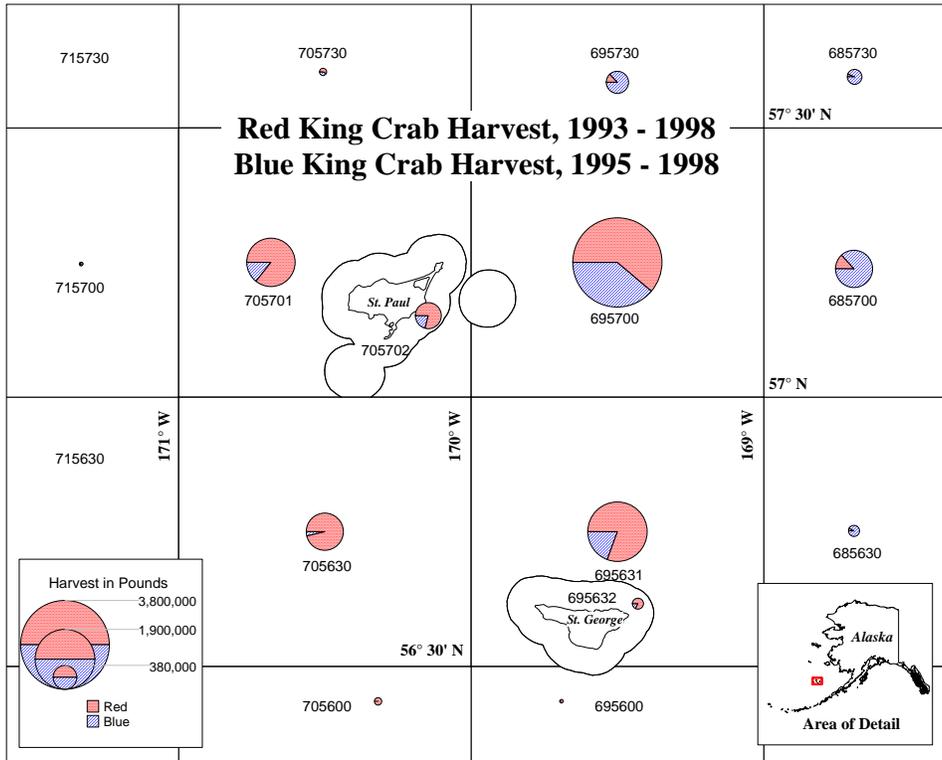


Figure 2.—King crab harvest in the Pribilof District by statistical area for the years 1993 through 1998.

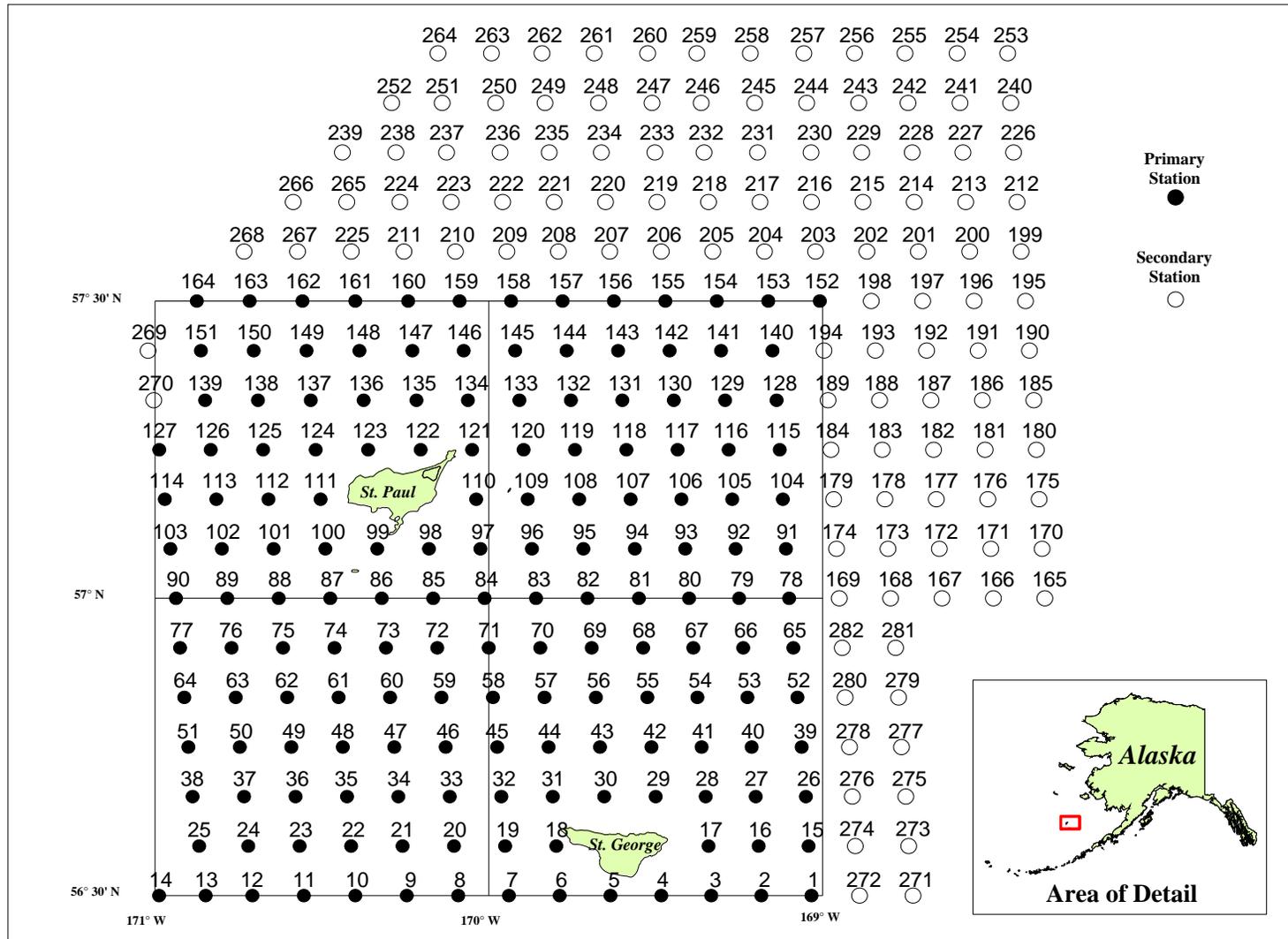


Figure 3.—The 2008 Pribilof District king crab survey area showing the location of primary and secondary stations.

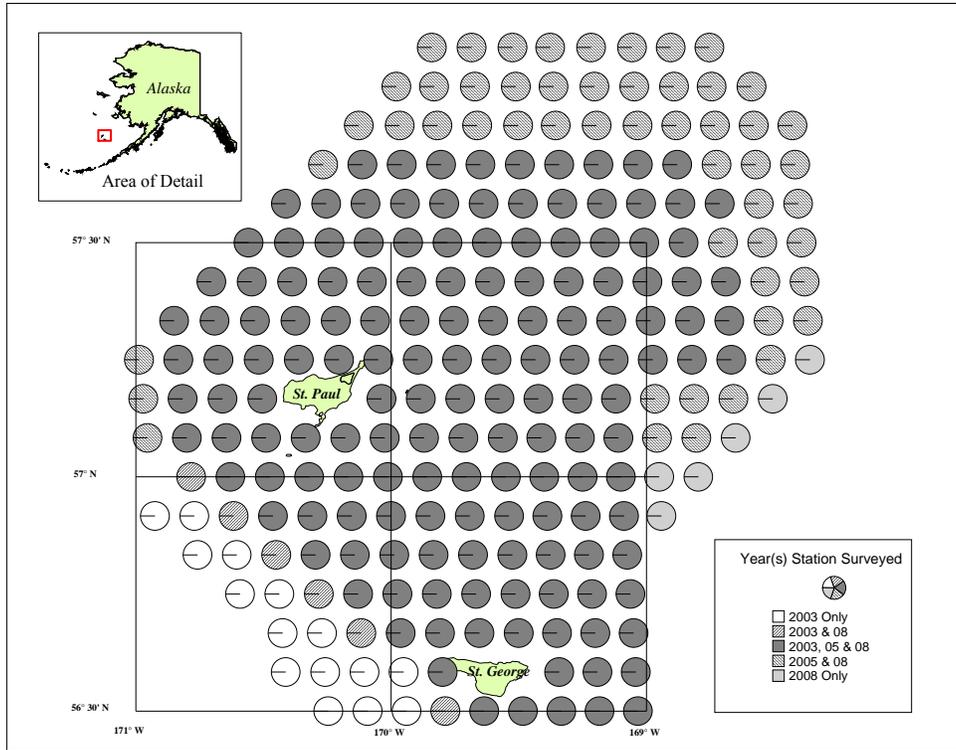


Figure 4.—Comparison of stations fished in the 2003, 2005 and 2008 surveys.

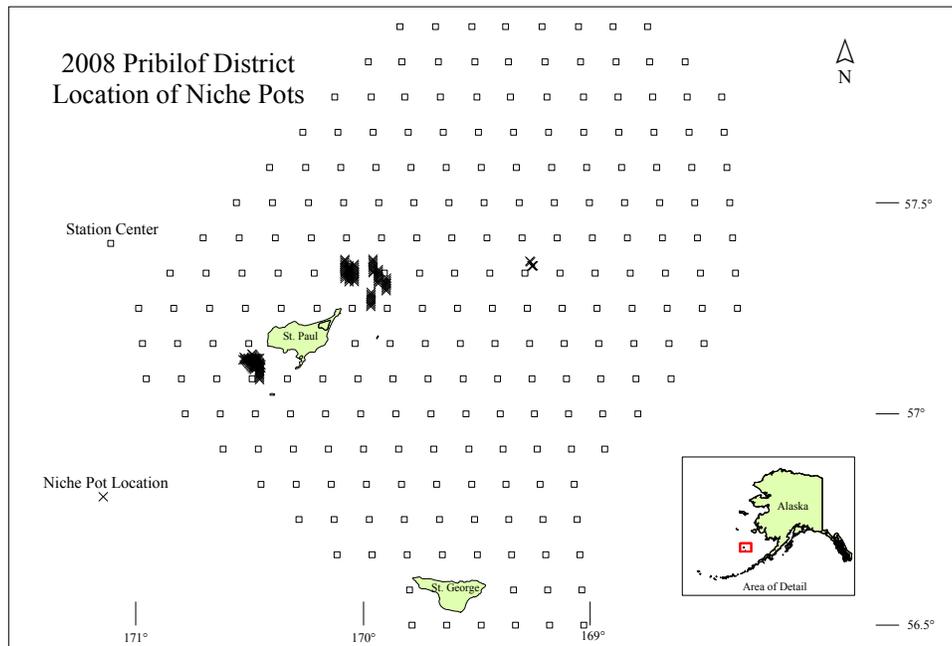


Figure 5.—Location of niche pots fished within the 2008 survey area.

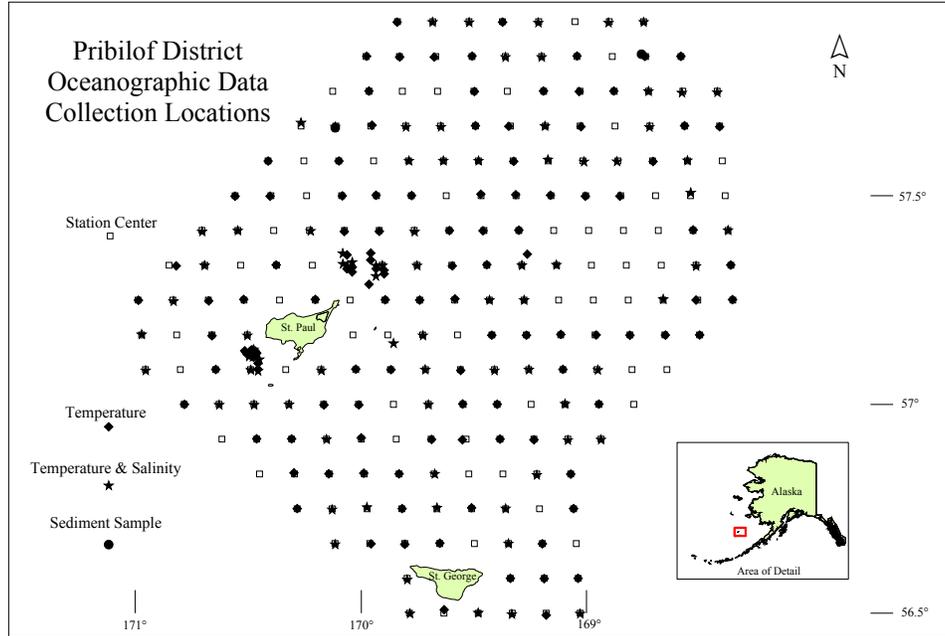


Figure 6.—Oceanographic data collection sites sampled in the Pribilof District during the 2008 survey.

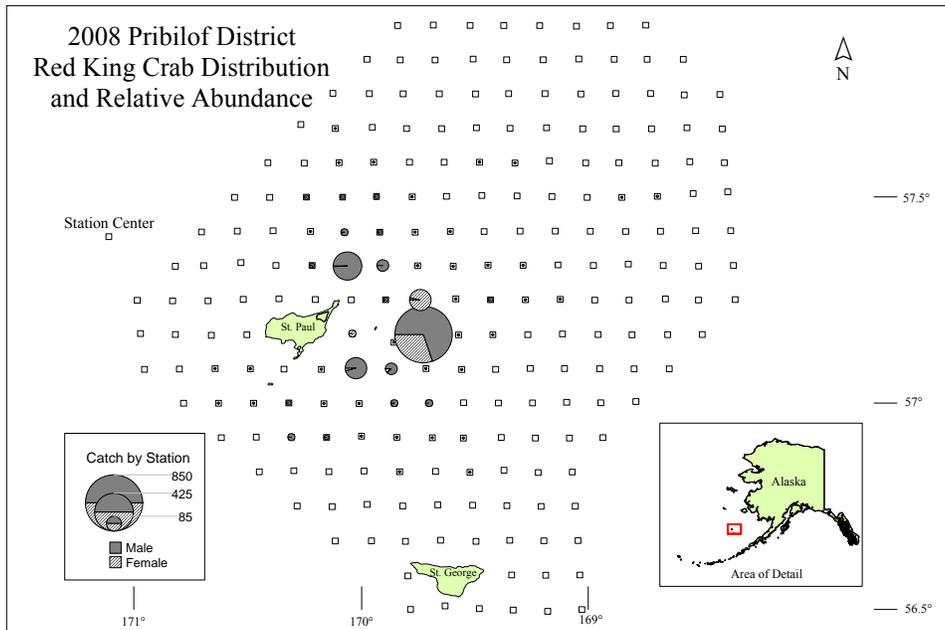


Figure 7.—Distribution and relative abundance by sex of red king crab captured in the Pribilof District during the 2008 survey.

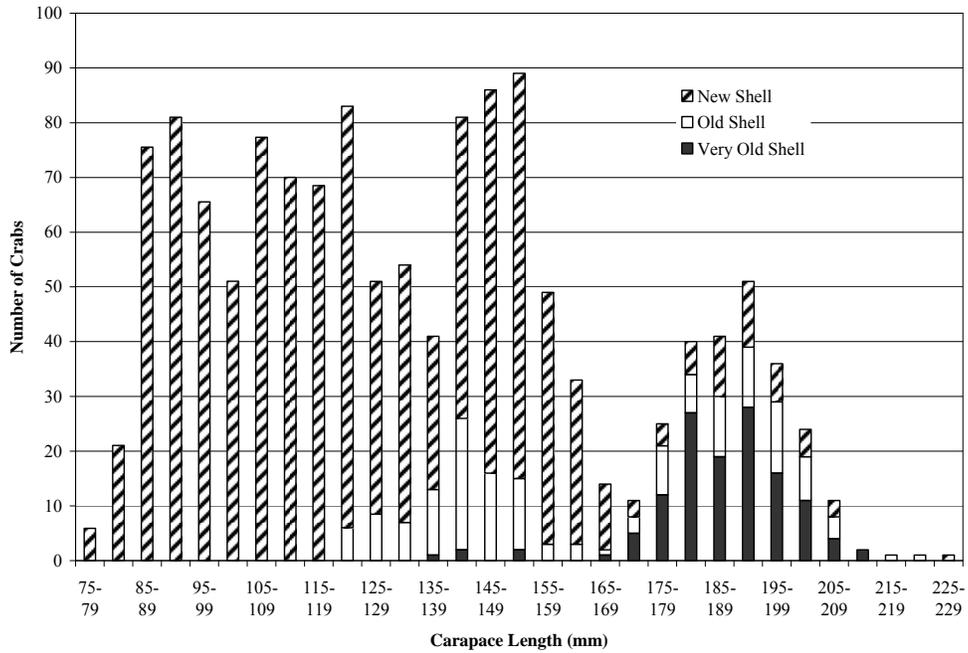


Figure 8.—Male red king crab length frequency, by 5-mm size classes, showing shell-condition categories (n=1,341).

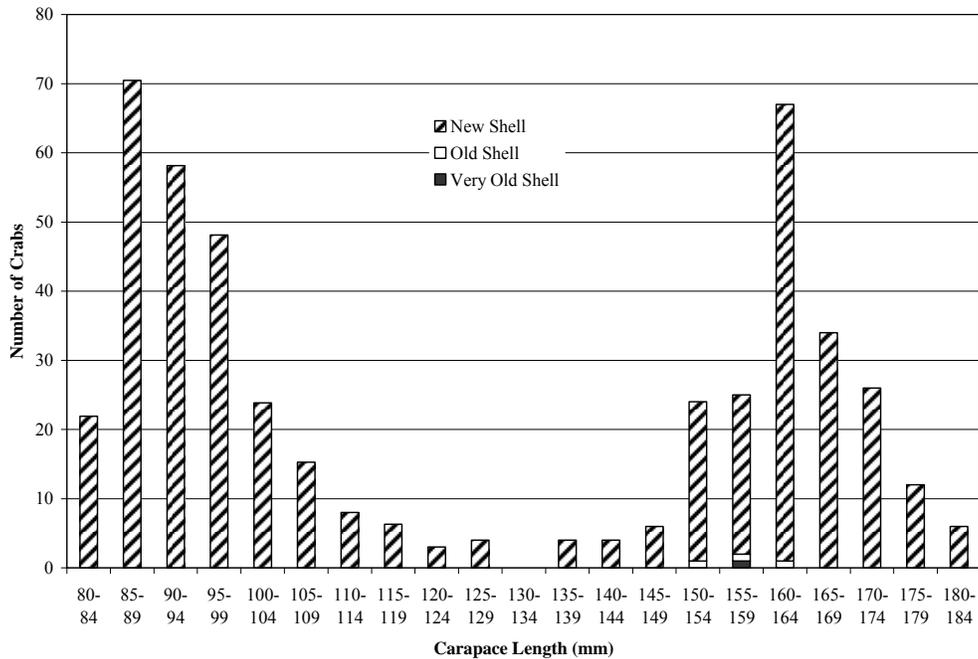


Figure 9.—Female red king crab length frequency, by 5-mm size classes, showing shell-condition categories (n=467).

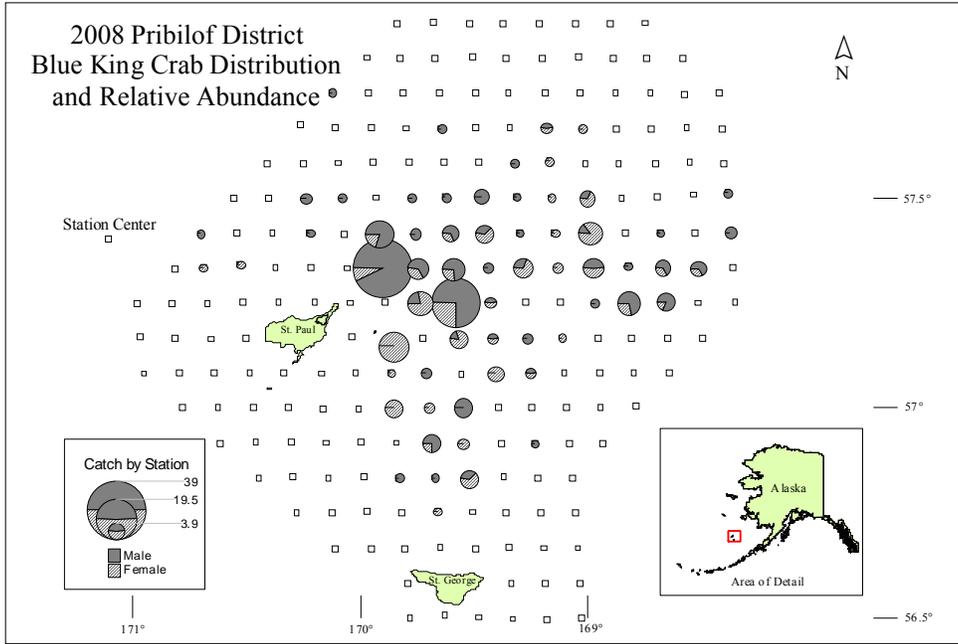


Figure 10.—Distribution and relative abundance by sex of blue king crab captured in the Pribilof District during the 2008 survey.

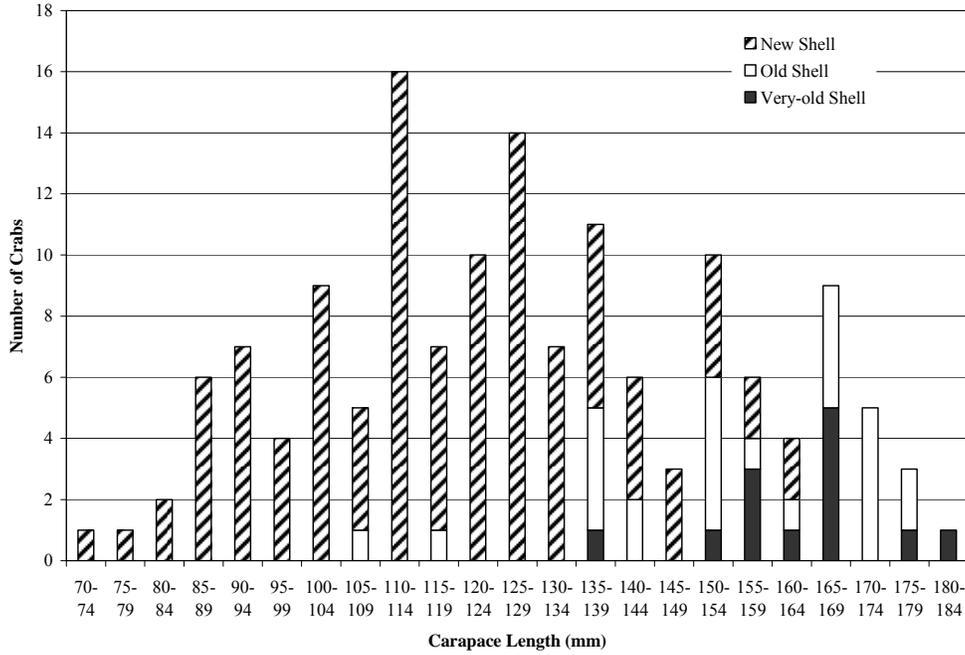


Figure 11.—Male blue king crab length frequency, by 5-mm size classes, showing shell-condition categories (n=147).

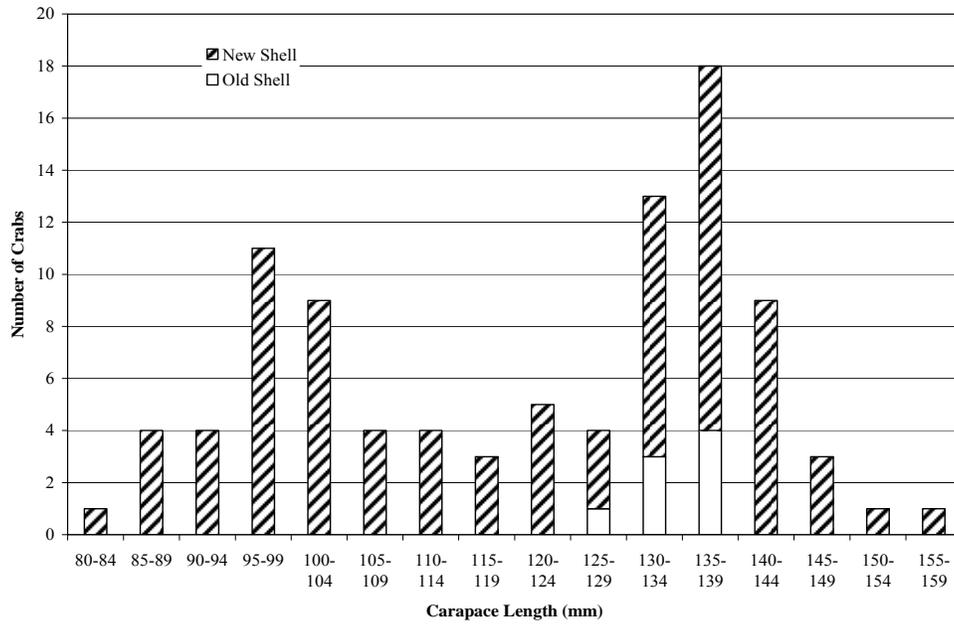


Figure 12.—Female blue king crab length frequency, by 5-mm size classes, showing shell-condition categories (n=94).

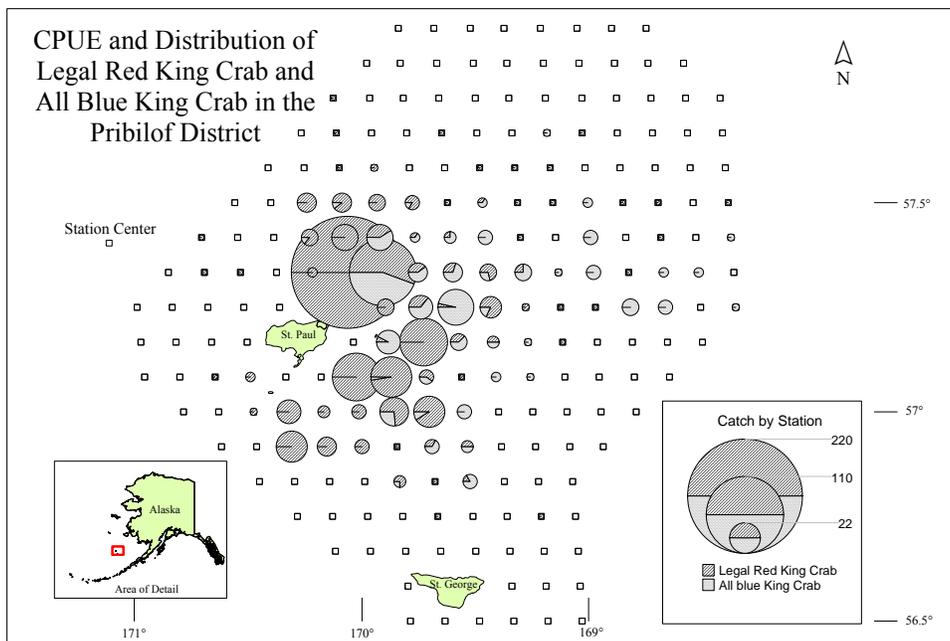


Figure 13.—CPUE and distribution of legal red king crab and all blue king crab captured in the Pribilof District during the 2008 survey.

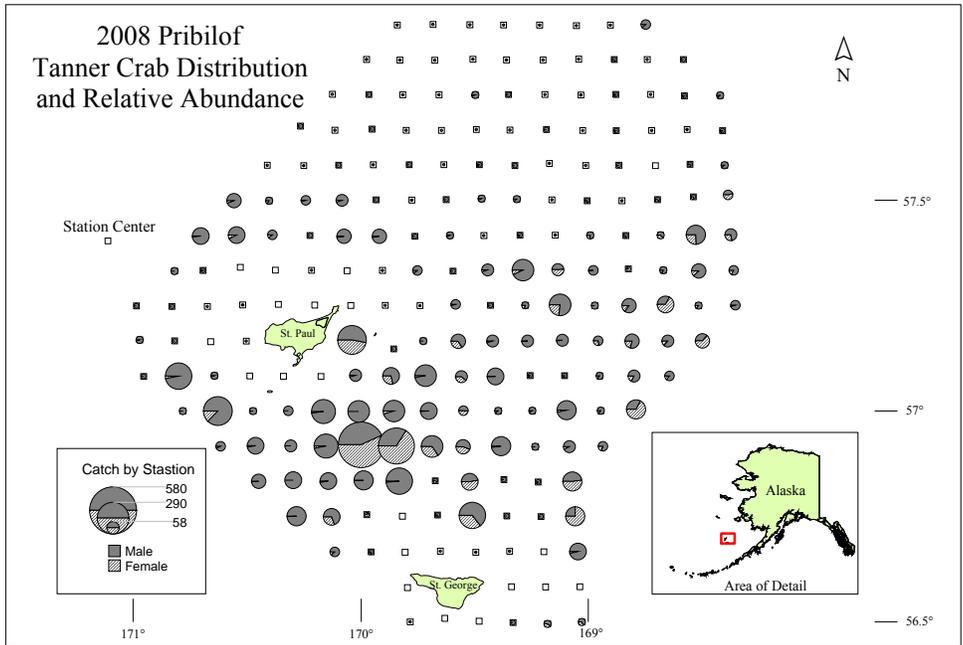


Figure 14.—Distribution and relative abundance by sex of Tanner crab captured in the Pribilof District during the 2008 survey.

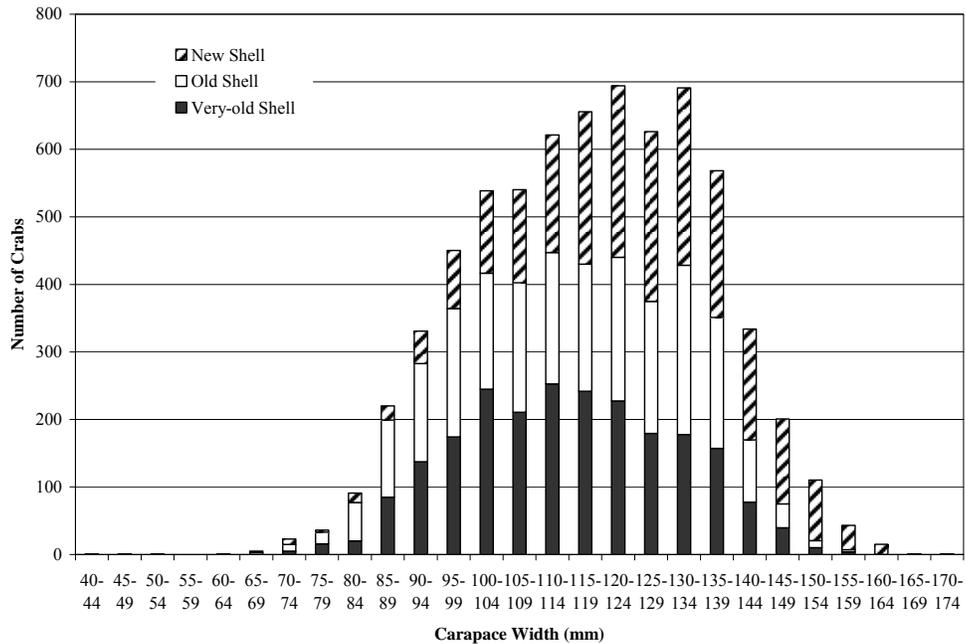


Figure 15.—Male Tanner crab width frequency, by 5-mm size classes, showing shell-condition categories (n=6,800).

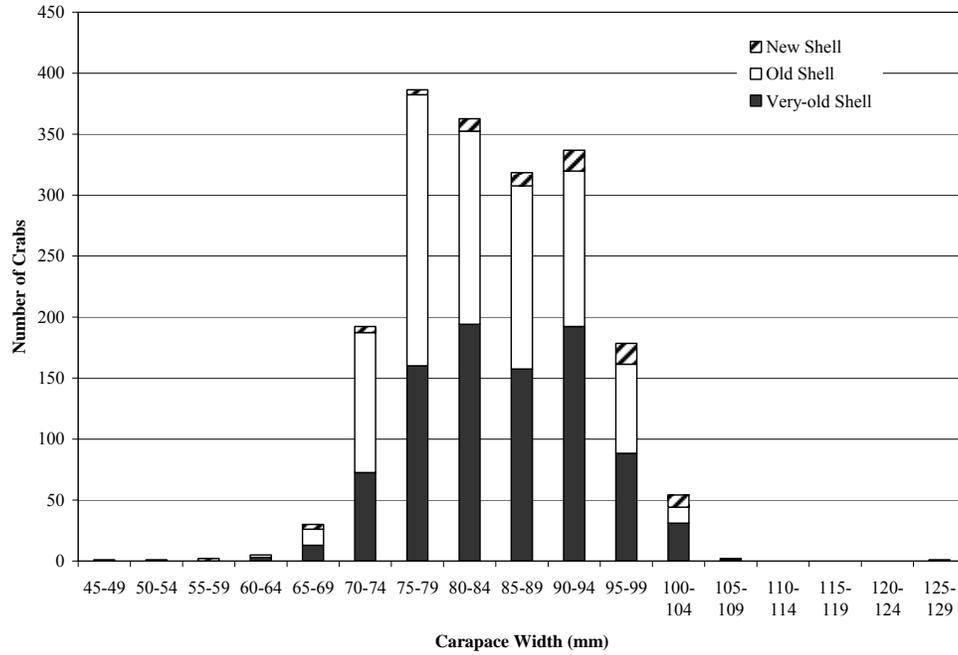


Figure 16.—Female Tanner crab width frequency, by 5-mm size classes, showing shell-condition categories (n=1,871).

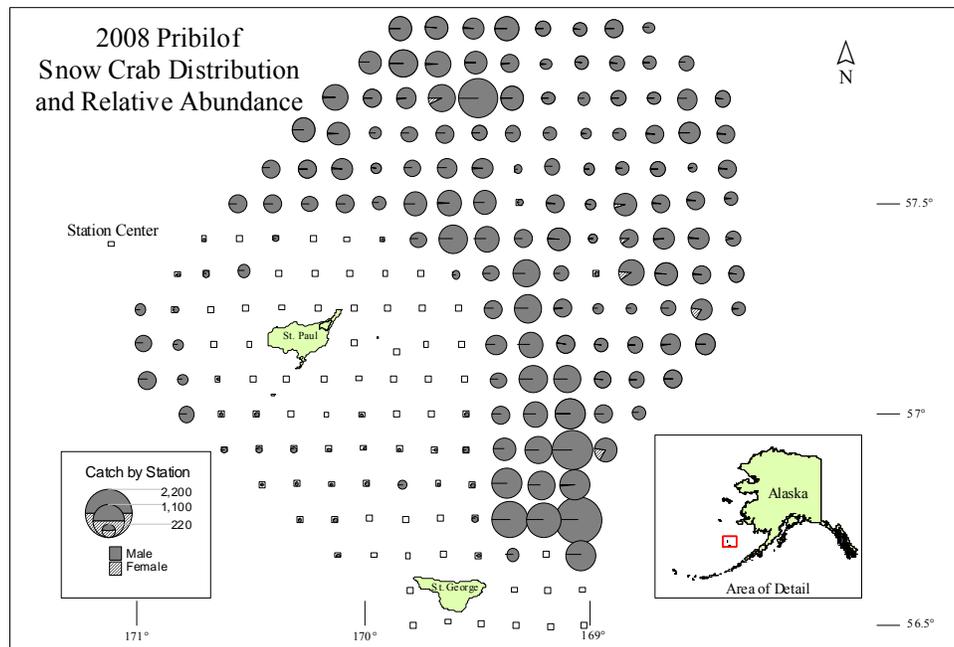


Figure 17.—Distribution and relative abundance by sex of snow crab captured in the Pribilof District during the 2008 survey.

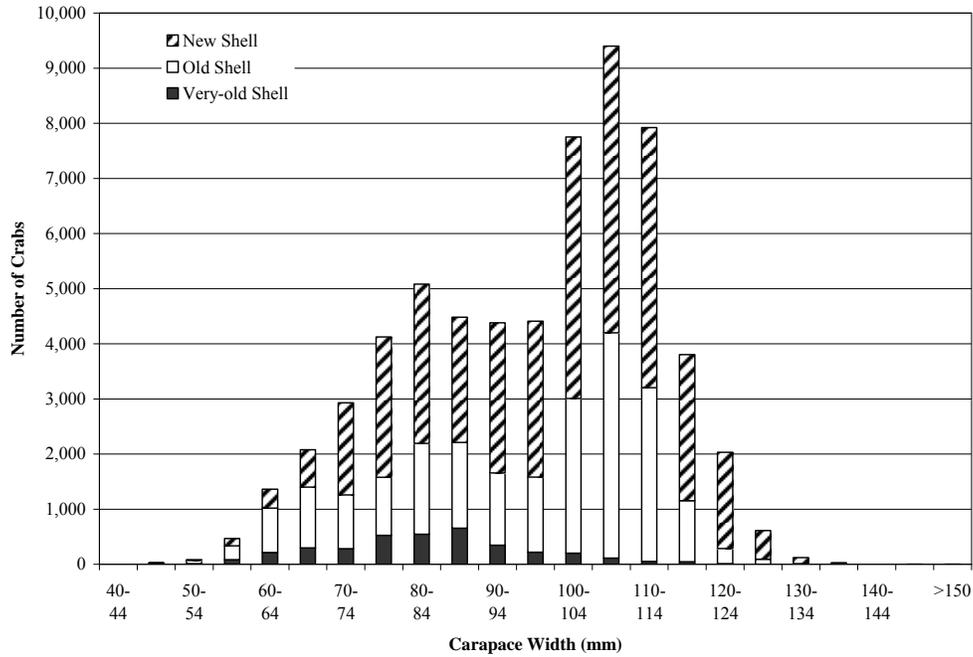


Figure 18.—Male snow crab width frequency and shell condition by 5-mm size classes (n=61,114).

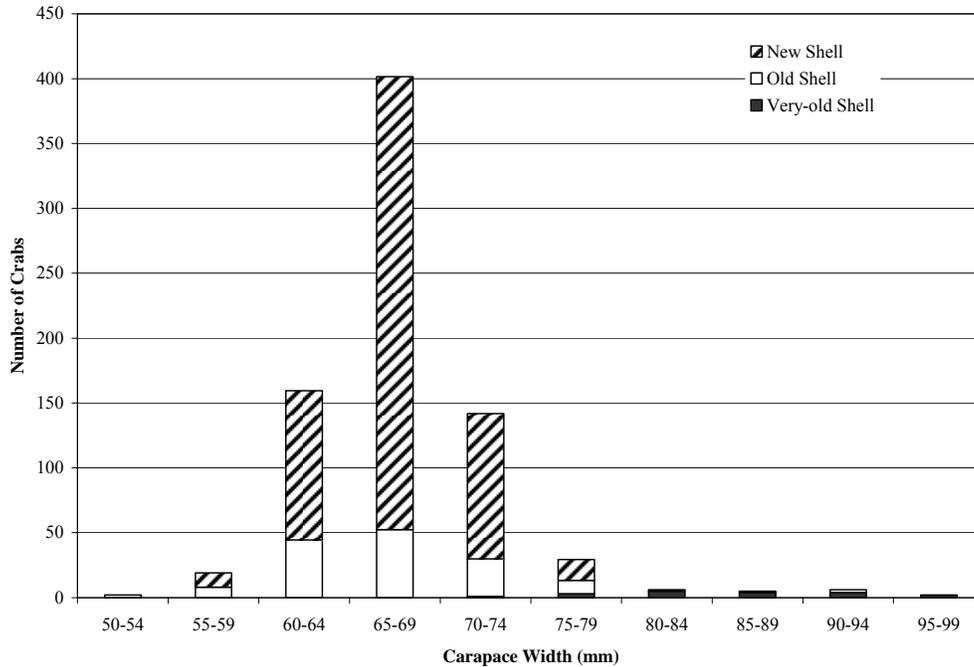


Figure 19.—Female snow crab width frequency and shell condition by 5-mm size classes (n=772).

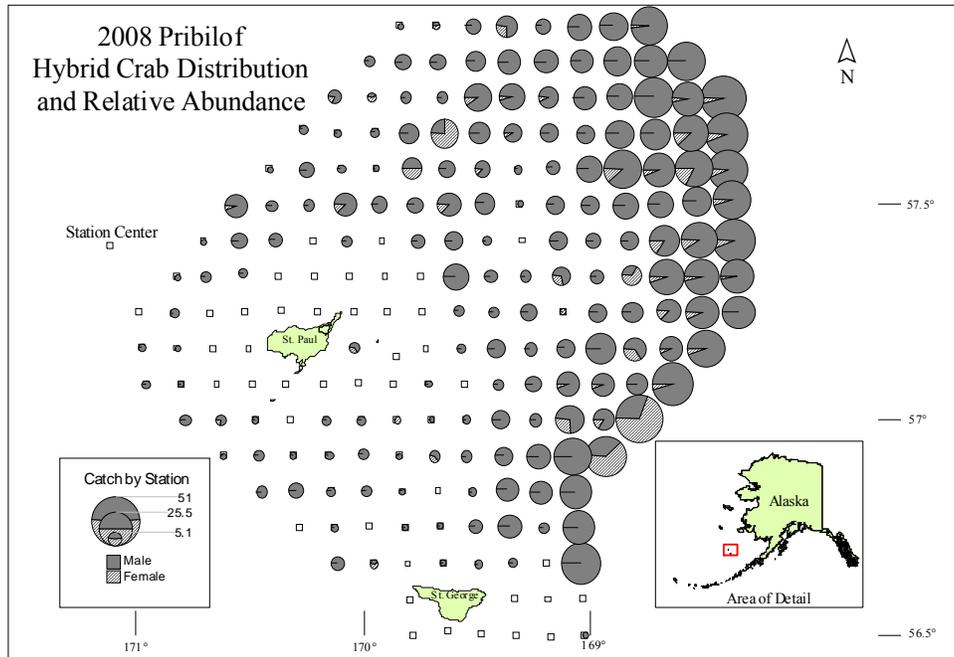


Figure 20.—Distribution and relative abundance by sex of Tanner crab x snow crab hybrid captured in the Pribilof District during the 2008 survey.

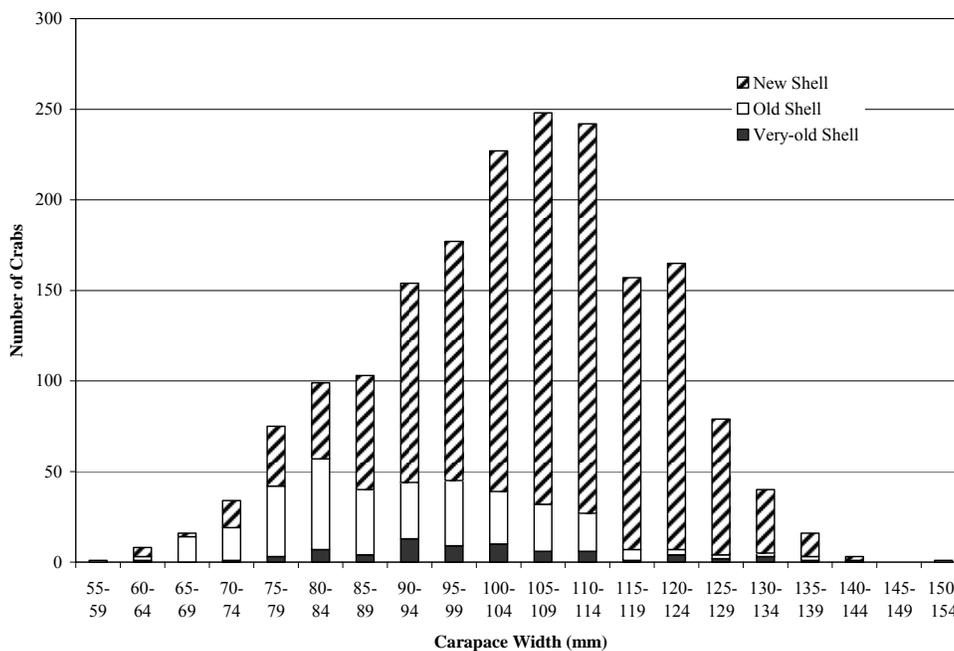


Figure 21.—Male Tanner crab x snow crab hybrid width frequency, by 5-mm size classes, showing shell-condition categories (male n=1,851).

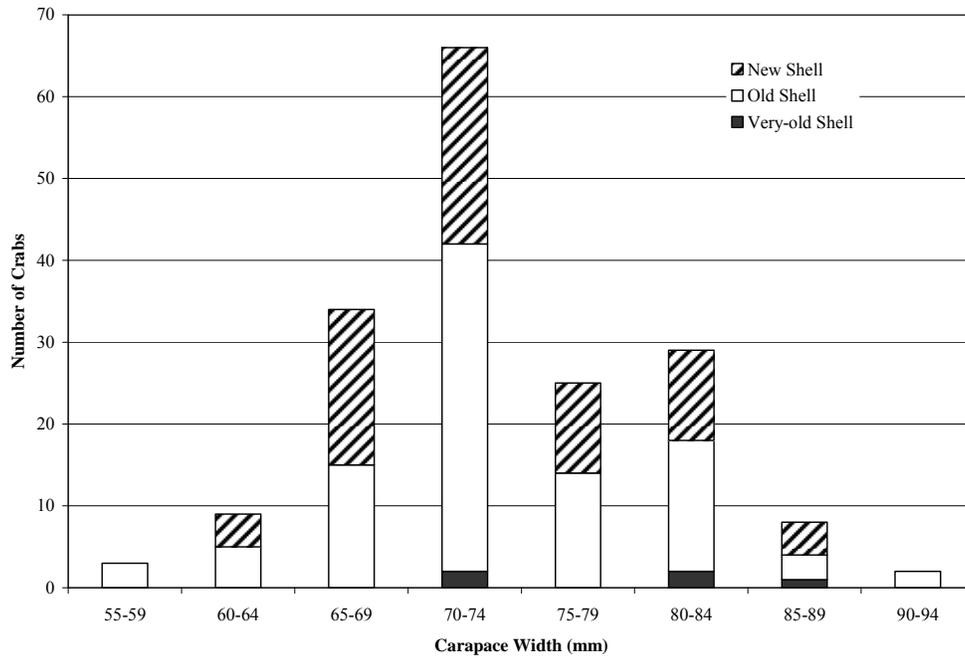


Figure 22.—Female Tanner crab x snow crab hybrid width frequency showing shell-condition categories (female n=176).

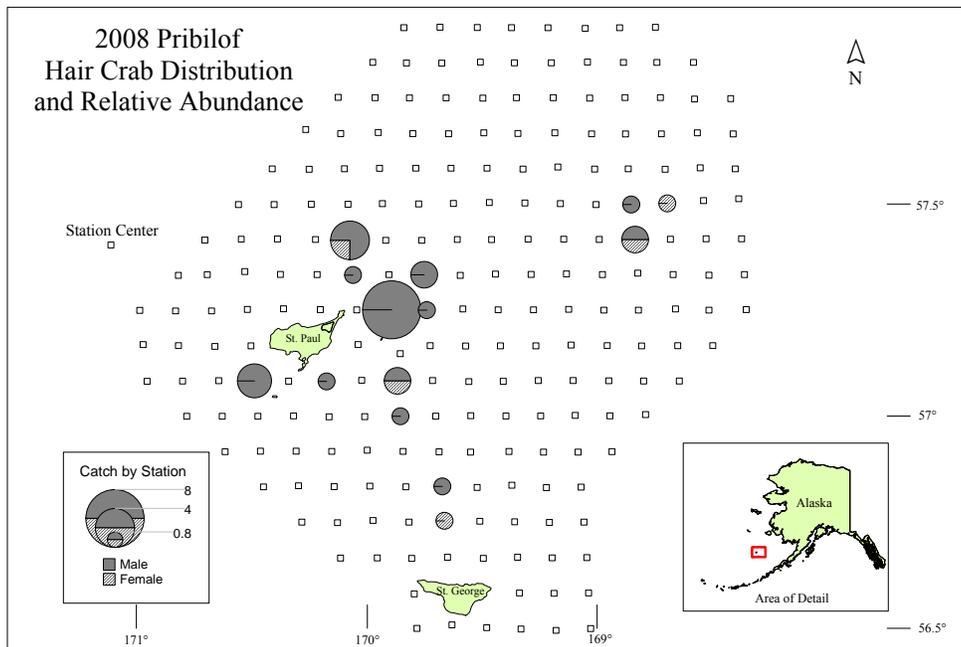


Figure 23.—Distribution and relative abundance by sex of hair crab captured in the Pribilof District during the 2008 survey.

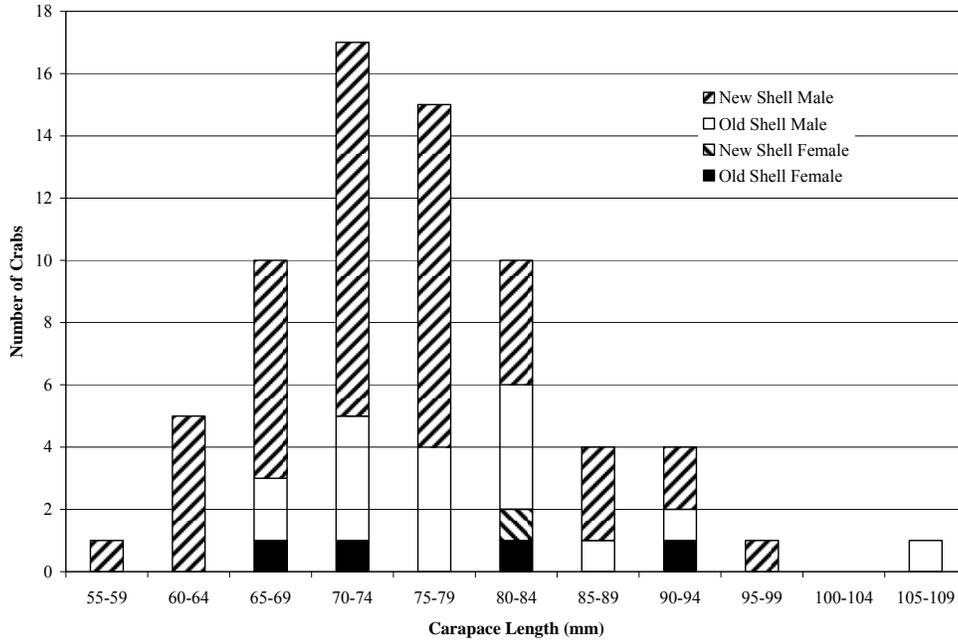


Figure 24.—Male and female hair crab length frequency, by 5-mm size classes, showing shell-condition categories (male n=63, female n=6).

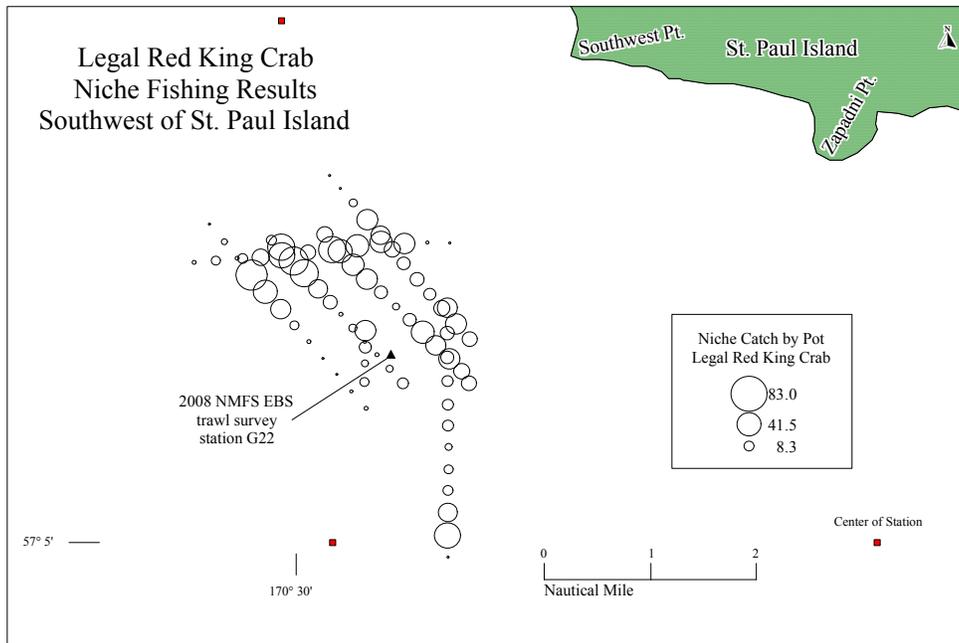


Figure 25.—CPUE of legal red king crab captured during niche fishing southwest of St. Paul Island during niche fishing in the Pribilof District, 2008 (76 pots).

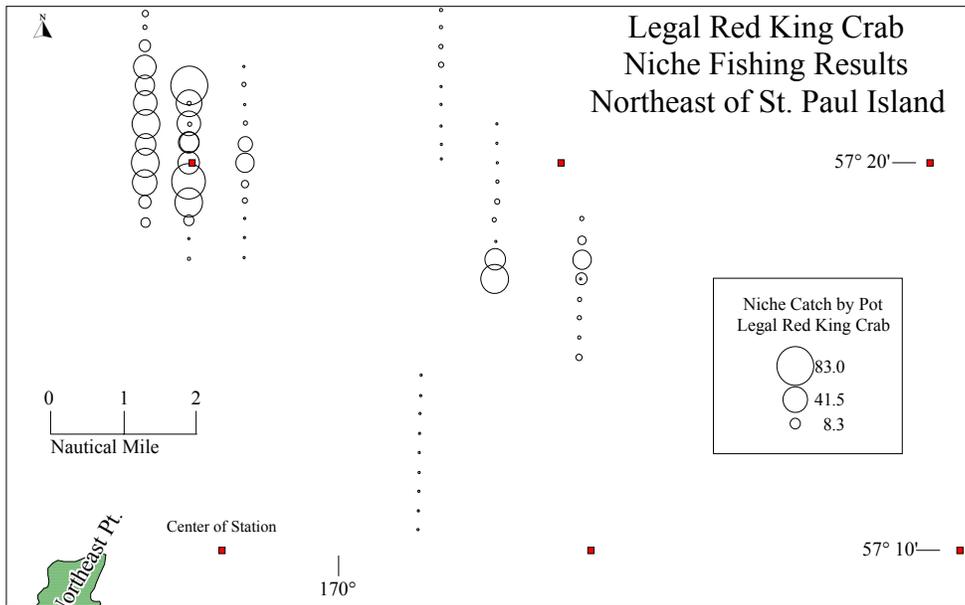


Figure 26.—CPUE of legal red king crab captured during niche fishing northeast of St. Paul Island during niche fishing in the Pribilof District, 2008 (72 pots).

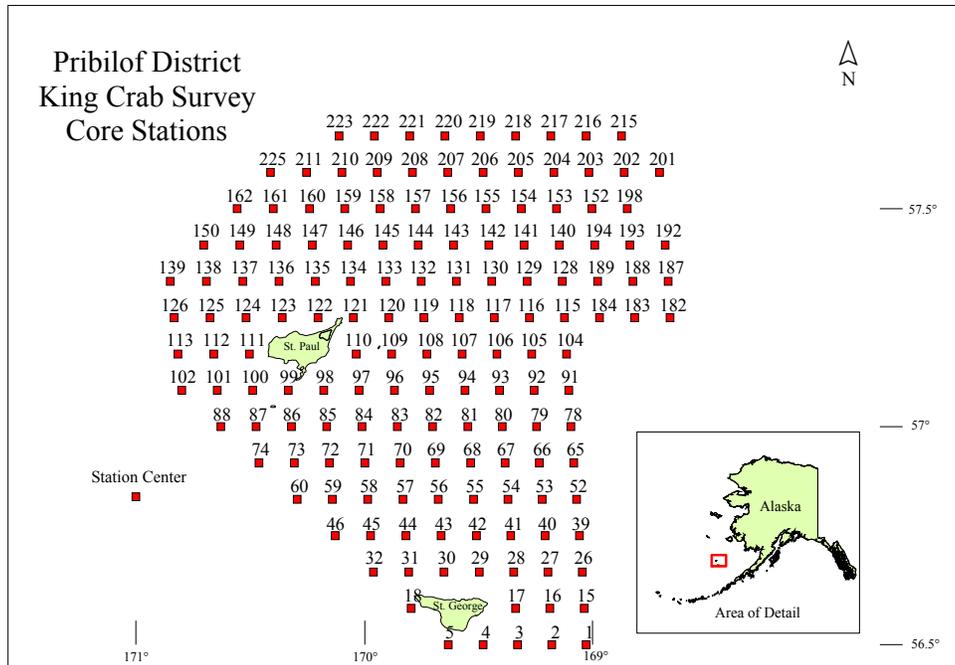


Figure 27.—Core stations fished during the 2003, 2005 and 2008 Pribilof District king crab surveys.

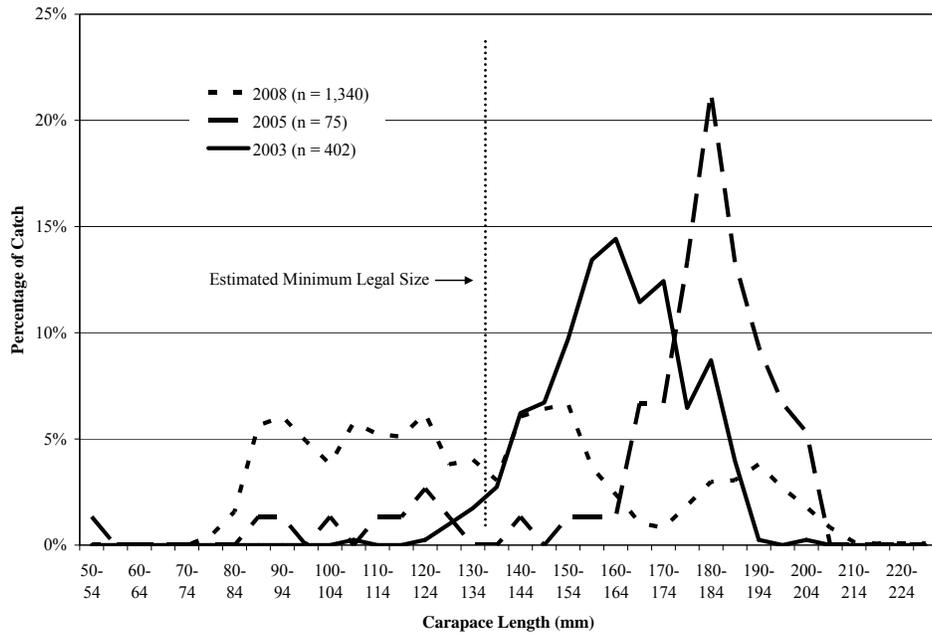


Figure 28.—Carapace length comparison for male red king crabs from core stations captured during the 2003, 2005 and 2008 Pribilof District surveys.

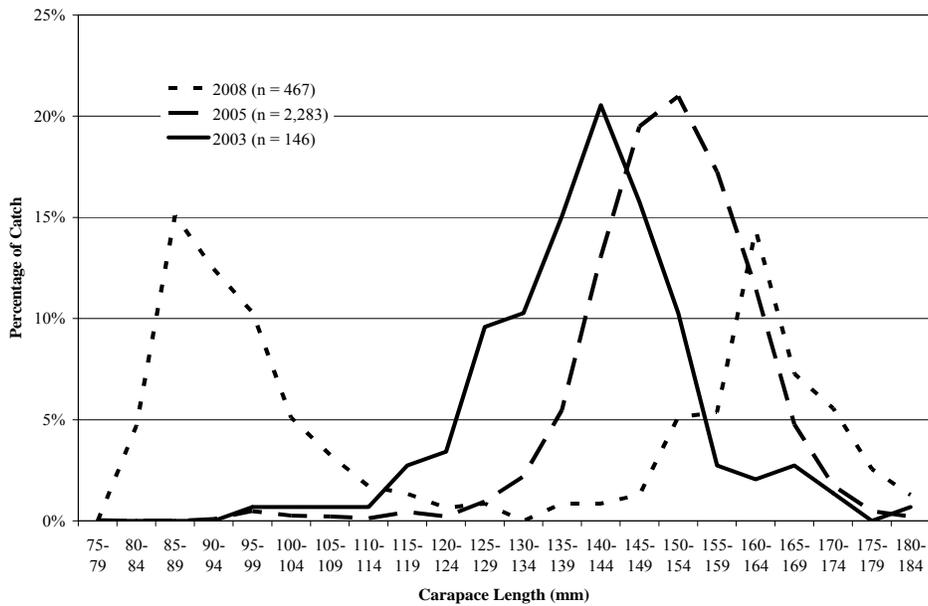


Figure 29.—Carapace length comparison for female red king crabs from core stations captured during the 2003, 2005 and 2008 Pribilof District surveys.

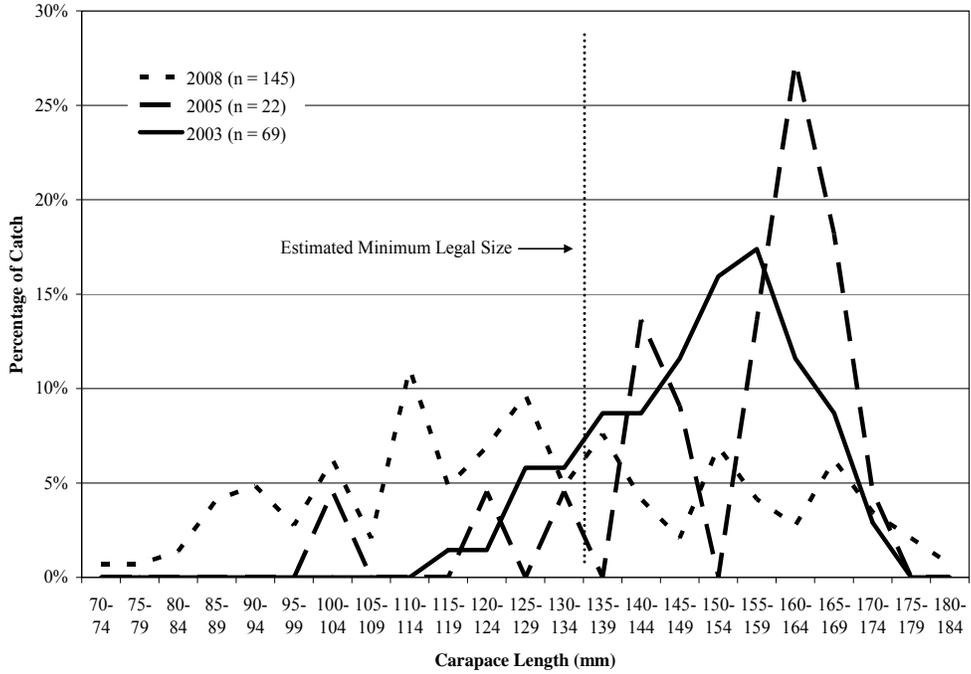


Figure 30.—Carapace length comparison for male blue king crabs from core stations captured during the 2003, 2005 and 2008 Pribilof District surveys.

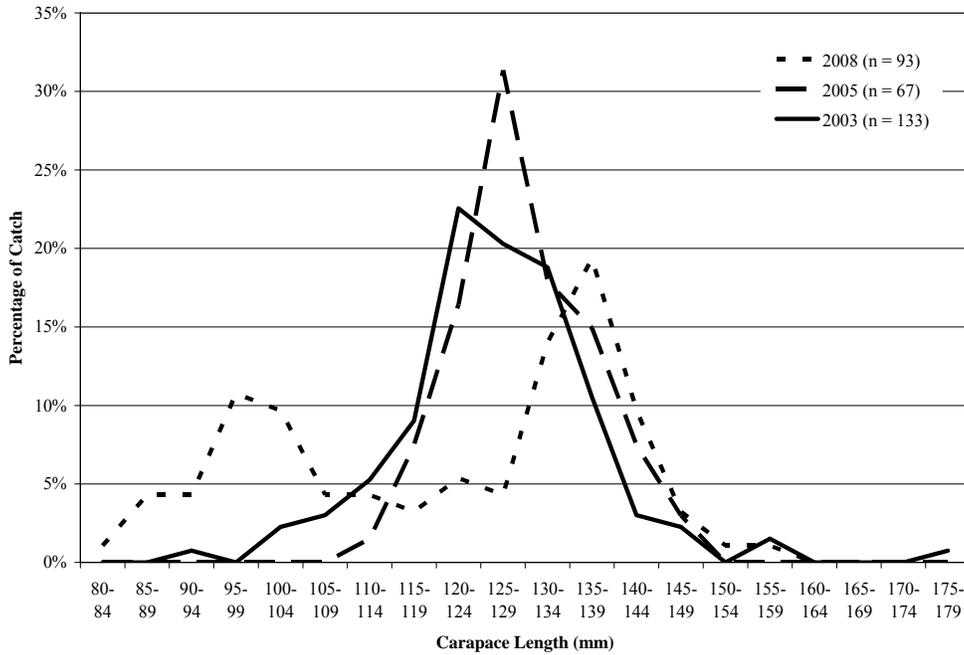


Figure 31.—Carapace length comparison for female blue king crabs from core stations captured during the 2003, 2005 and 2008 Pribilof District surveys.

APPENDIX A. CRAB CATCH DATA

Appendix A1.–Catch by station (4 pots per station) of red king crabs, blue king crabs, Tanner crabs, and snow crabs during the 2008 Pribilof District king crab survey.

Station	Date	Depth (fm)	Latitude		Longitude		Red King Crab			Blue King Crab			Tanner Crab		Snow Crab			
			Degrees	Minutes	Degrees	Minutes	Males	Females	Legal	Sublegal	Males	Females	Legal	Sublegal	Males	Females	Large ^a	Small ^a
1	9/9	55.0	56	29.97	169	02.00	0	0	0	0	0	0	1	11	6	0	0	0
2	9/9	53.0	56	29.73	169	11.00	0	0	0	0	0	0	0	15	10	0	0	0
3	9/9	49.8	56	29.91	169	20.09	0	0	0	0	0	0	0	7	0	1	1	0
4	10/7	43.3	56	30.10	169	29.02	0	0	0	0	0	0	0	0	0	0	0	0
5	10/7	46.5	56	30.51	169	38.02	0	0	0	0	0	0	0	0	0	0	0	0
6	10/7	47.0	56	30.01	169	47.13	0	0	0	0	0	0	1	2	0	0	0	0
15	9/9	41.0	56	35.00	169	02.53	0	0	0	0	0	0	0	0	0	0	0	0
16	9/9	38.3	56	34.96	169	11.52	0	0	0	0	0	0	0	0	0	0	0	0
17	9/9	27.8	56	35.01	169	20.50	0	0	0	0	0	0	0	0	0	0	0	0
18	10/7	40.0	56	34.87	169	47.85	0	0	0	0	0	0	0	0	0	0	0	0
26	9/9	49.8	56	40.00	169	02.99	0	0	0	0	0	0	9	89	4	414	502	0
27	9/9	37.0	56	39.98	169	12.01	0	0	0	0	0	0	0	0	0	0	0	0
28	9/9	36.8	56	40.05	169	21.00	0	0	0	0	0	0	0	6	0	147	36	0
29	10/7	43.0	56	39.90	169	29.89	0	0	0	0	0	0	0	4	0	12	6	0
30	10/7	41.8	56	40.07	169	39.20	0	0	0	0	0	0	0	2	0	0	0	0
31	10/7	42.5	56	39.91	169	48.48	0	0	0	0	0	0	0	0	0	0	0	0
32	10/7	49.5	56	39.96	169	57.41	0	0	0	0	0	0	0	10	3	0	0	0
33	10/6	52.8	56	39.95	170	06.97	0	0	0	0	0	0	2	27	4	4	2	0
39	9/10	48.0	56	45.03	169	03.75	0	0	0	0	0	0	5	29	101	161	2,031	0
40	9/10	46.5	56	44.97	169	12.74	0	0	0	0	0	0	0	8	0	168	1,113	0
41	9/10	43.0	56	45.07	169	21.74	0	0	0	0	0	0	3	12	0	167	1,280	0
42	9/18	41.5	56	45.15	169	30.76	0	0	0	0	0	0	20	111	72	31	12	0
43	9/18	40.8	56	45.20	169	39.96	0	0	0	0	0	1	0	9	3	0	0	0
44	9/18	41.8	56	45.04	169	49.19	0	0	0	0	0	0	0	4	7	0	0	0

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Station	Date	Depth (fm)	Latitude		Longitude		Red King Crab			Blue King Crab			Tanner Crab		Snow Crab			
			Degrees	Minutes	Degrees	Minutes	Males	Females	Legal	Sublegal	Males	Females	Legal	Sublegal	Males	Females	Large ^a	Small ^a
45	9/20	44.3	56	45.26	169	58.55	0	0	0	0	0	0	8	60	30	0	0	0
46	9/20	50.5	56	44.95	170	07.79	0	0	0	0	0	0	26	85	1	13	10	0
47	9/20	55.0	56	45.03	170	17.00	0	0	0	0	0	0	0	0	0	6	4	0
52	9/10	45.0	56	49.98	169	04.50	0	0	0	0	0	0	2	52	58	162	756	20
53	9/10	44.5	56	49.91	169	13.51	0	0	0	0	0	0	0	10	2	164	672	0
54	9/10	41.0	56	50.24	169	22.49	0	0	0	0	0	0	1	11	0	162	756	0
55	9/18	38.0	56	49.93	169	31.50	1	0	0	2	0	3	5	38	48	9	2	0
56	9/18	37.0	56	50.08	169	40.52	0	0	0	1	0	0	0	4	3	9	2	0
57	9/18	38.8	56	50.02	169	49.99	3	0	0	1	0	0	5	191	3	52	21	0
58	9/20	39.3	56	50.13	169	59.36	0	0	0	0	0	0	16	101	1	19	4	0
59	9/20	46.5	56	50.04	170	08.65	0	0	0	0	0	0	20	84	3	7	2	0
60	9/21	51.8	56	50.16	170	17.87	0	0	0	0	0	0	18	79	0	15	6	0
61	9/21	55.0	56	50.00	170	26.99	0	0	0	0	0	0	11	55	1	11	4	0
65	9/10	44.0	56	54.92	169	05.28	0	0	0	0	0	0	3	42	4	129	1,435	0
66	9/10	42.0	56	54.92	169	14.24	0	0	0	0	1	0	3	21	0	169	737	0
67	9/10	40.0	56	55.01	169	23.24	0	0	0	0	0	0	16	103	3	153	426	0
68	9/18	36.0	56	54.92	169	33.20	2	0	0	0	0	2	4	41	36	40	10	0
69	9/18	36.5	56	54.96	169	41.37	2	0	0	1	2	1	5	86	48	2	3	0
70	9/18	36.5	56	55.02	169	50.74	1	0	0	0	0	0	18	100	228	15	2	0
71	9/20	39.0	56	55.19	170	00.05	6	0	0	0	0	0	27	221	325	10	12	0
72	9/20	43.8	56	55.02	170	09.25	9	0	0	0	0	0	31	152	6	10	3	0
73	9/21	47.3	56	55.05	170	18.52	21	0	0	0	0	0	14	31	0	19	13	0
74	9/21	51.0	56	55.06	170	27.76	0	0	0	0	0	0	13	80	3	22	16	0
75	9/21	54.0	56	54.98	170	36.98	0	0	0	0	0	0	0	36	3	28	17	0
78	9/11	42.8	57	0.12	169	06.00	0	0	0	0	0	0	1	128	5	135	795	2

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Station	Date	Depth (fm)	Latitude		Longitude		Red King Crab			Blue King Crab			Tanner Crab		Snow Crab			
			Degrees	Minutes	Degrees	Minutes	Males	Females	Legal	Sublegal	Males	Females	Legal	Sublegal	Males	Females	Large ^a	Small ^a
79	9/11	41.0	57	0.03	169	14.99	0	0	0	0	0	0	2	21	2	163	496	0
80	9/11	38.8	57	0.01	169	24.00	0	0	0	0	0	0	4	20	3	140	237	0
81	9/16	32.3	57	0.06	169	33.14	0	0	0	1	4	0	3	15	17	7	0	0
82	9/16	33.5	57	0.00	169	42.26	20	0	0	0	0	2	38	53	1	1	0	0
83	9/16	34.0	56	59.99	169	51.40	14	2	1	0	0	5	33	102	7	2	0	0
84	9/20	36.3	56	59.93	170	00.69	6	0	0	0	0	0	49	97	0	3	1	0
85	9/20	37.8	56	59.93	170	09.93	4	1	0	0	0	0	30	131	4	1	1	0
86	9/21	34.5	57	0.04	170	19.19	13	0	0	0	0	0	3	38	0	1	0	0
87	9/21	43.0	56	59.99	170	28.45	2	0	0	0	0	0	10	18	0	8	1	0
88	9/21	48.0	56	59.99	170	37.70	1	0	0	0	0	0	50	154	30	17	2	0
89	9/21	52.0	56	59.99	170	46.90	0	0	0	0	0	0	3	18	0	189	115	0
91	9/11	41.0	57	5.04	169	06.56	0	0	0	0	0	0	0	12	3	129	724	0
92	9/11	40.0	57	5.04	169	15.60	0	0	0	1	0	1	0	12	2	118	739	0
93	9/11	38.3	57	4.93	169	24.69	0	0	0	0	0	3	10	96	1	153	158	0
94	9/16	33.3	57	4.89	169	33.65	1	0	0	0	0	0	3	33	23	0	0	0
95	9/16	30.5	57	5.04	169	43.06	3	0	0	0	2	0	52	81	4	0	0	0
96	9/16	33.0	57	4.99	169	52.15	35	6	6	0	0	1	12	55	27	0	0	0
97	9/19	33.0	57	5.08	170	01.50	46	93	7	0	0	0	2	55	3	0	0	0
98	9/19	21.0	57	4.92	170	10.58	0	0	3	0	0	0	0	0	0	0	0	0
99	9/19	18.3	57	4.95	170	20.45	0	0	0	0	0	0	0	0	0	0	0	0
100	9/19	30.8	57	4.99	170	29.33	3	0	0	0	0	0	0	0	0	0	0	0
101	9/22	41.8	57	5.02	170	38.60	1	0	0	0	0	0	2	19	1	10	5	0
102	9/22	48.0	57	4.96	170	48.02	0	0	0	0	0	0	33	174	7	96	75	0
103	9/22	52.0	57	4.92	170	57.22	0	0	0	0	0	0	0	10	0	69	303	0
104	9/11	41.0	57	10.07	169	07.10	0	0	0	0	0	1	0	45	1	139	223	1

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Station	Date	Depth (fm)	Latitude		Longitude		Red King Crab			Blue King Crab			Tanner Crab		Snow Crab			
			Degrees	Minutes	Degrees	Minutes	Males	Females	Legal	Sublegal	Males	Females	Legal	Sublegal	Males	Females	Large ^a	Small ^a
105	9/11	39.8	57	9.95	169	16.25	0	0	0	1	1	0	0	55	1	114	565	0
106	9/11	38.0	57	9.95	169	25.43	2	0	0	0	1	1	1	54	3	134	363	0
107	9/16	30.5	57	9.93	169	34.47	3	0	0	0	1	4	5	38	22	0	0	0
108	9/16	24.0	57	9.96	169	43.69	46	547	256	0	0	0	4	19	0	0	0	0
109	9/16	28.5	57	8.83	169	51.49	1	0	4	0	0	12	0	9	0	0	1	0
110	9/19	20.8	57	10.12	170	02.44	0	0	27	0	0	0	17	123	124	0	0	0
111	9/19	32.0	57	9.95	170	30.23	0	0	0	0	0	0	0	1	0	0	0	0
112	9/22	38.5	57	9.87	170	39.61	0	0	0	0	0	0	0	0	0	0	0	0
113	9/22	45.0	57	9.97	170	49.06	0	0	0	0	0	0	0	14	0	98	16	0
114	9/22	50.0	57	10.12	170	58.24	0	0	0	0	0	0	5	17	1	87	170	0
115	9/12	40.0	57	15.11	169	07.71	1	0	0	0	0	0	0	125	38	63	266	14
116	9/12	40.0	57	15.04	169	16.85	2	0	0	0	0	0	0	21	6	79	701	0
117	9/12	37.0	57	15.03	169	26.04	9	1	0	0	1	1	0	14	0	106	295	0
118	9/15	32.8	57	15.16	169	35.19	1	0	0	0	21	7	8	28	2	0	1	0
119	9/15	24.0	57	15.00	169	44.56	5	1	155	0	2	7	0	2	0	0	0	0
120	9/15	22.0	57	15.03	169	53.69	8	2	1	0	0	0	0	1	0	0	0	0
121	9/19	17.0	57	15.02	170	02.75	0	0	0	0	0	0	0	0	0	0	0	0
122	9/19	13.8	57	15.07	170	12.23	0	0	0	0	0	0	0	0	0	0	0	0
123	9/19	13.8	57	15.18	170	21.79	0	0	0	0	0	0	0	0	0	0	0	0
124	9/19	34.8	57	15.09	170	31.19	0	0	0	0	0	0	0	1	1	0	0	0
125	9/22	41.0	57	14.88	170	40.46	0	0	0	0	0	0	0	3	0	0	0	0
126	9/22	45.0	57	14.89	170	49.81	0	0	0	0	0	0	1	14	0	26	1	0
127	9/22	48.8	57	14.96	170	59.12	0	0	0	0	0	0	0	12	0	116	13	0
128	9/12	39.5	57	20.10	169	08.30	0	0	0	0	0	2	1	23	25	85	240	0
129	9/12	40.0	57	20.05	169	17.48	1	0	0	1	1	4	2	124	10	95	706	0

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Station	Date	Depth (fm)	Latitude		Longitude		Red King Crab			Blue King Crab			Tanner Crab		Snow Crab			
			Degrees	Minutes	Degrees	Minutes	Males	Females	Legal	Sublegal	Males	Females	Legal	Sublegal	Males	Females	Large ^a	Small ^a
130	9/12	38.3	57	20.07	169	26.73	5	0	0	0	2	0	0	46	3	91	192	0
131	9/15	34.0	57	19.91	169	35.87	3	0	0	1	4	2	0	14	0	80	22	0
132	9/15	32.3	57	20.00	169	45.23	4	0	1	1	3	2	2	36	5	0	2	0
133	9/15	32.0	57	20.00	169	54.43	49	1	0	20	16	3	0	3	0	0	0	0
134	9/25	27.0	57	19.95	170	03.73	215	52	2	0	0	0	0	0	0	0	0	0
135	9/25	29.3	57	20.03	170	13.06	3	2	2	0	0	0	0	1	0	0	0	0
136	9/23	36.0	57	20.04	170	22.57	0	0	0	0	0	0	0	0	0	0	0	0
137	9/23	36.0	57	20.44	170	31.82	0	0	0	0	0	1	0	0	0	90	128	0
138	9/23	41.5	57	20.01	170	41.61	0	0	0	0	0	1	1	13	1	45	10	0
139	9/23	45.0	57	19.91	170	49.09	0	0	0	0	0	0	2	15	0	6	2	0
140	9/12	37.0	57	25.02	169	08.99	0	0	0	0	0	1	0	1	1	47	487	7
141	9/12	39.0	57	25.02	169	18.26	0	0	0	1	0	0	0	11	2	93	272	0
142	9/12	40.0	57	24.97	169	27.77	0	0	0	0	2	3	0	4	0	77	604	0
143	9/15	37.3	57	24.98	169	36.64	1	0	0	1	1	1	1	20	1	98	813	0
144	9/15	35.5	57	24.87	169	45.89	1	0	0	2	0	0	1	12	0	123	137	0
145	9/15	33.5	57	24.87	169	55.24	7	1	1	2	6	2	1	73	2	2	2	0
146	9/25	32.5	57	24.85	170	04.51	18	8	1	0	0	0	0	77	2	0	0	0
147	9/25	34.8	57	24.98	170	13.49	6	0	0	0	1	0	0	7	0	1	0	0
148	9/23	37.0	57	25.07	170	23.34	0	0	0	0	0	0	1	37	5	27	16	0
149	9/23	39.0	57	25.02	170	32.76	0	0	0	0	0	0	8	74	7	0	1	0
150	9/23	42.0	57	24.90	170	42.22	0	0	0	1	0	0	9	81	2	6	2	0
152	10/3	38.0	57	29.92	169	00.61	0	0	0	1	0	2	0	5	2	55	90	1
153	9/13	38.0	57	30.06	169	09.87	0	0	0	0	0	1	0	4	0	50	330	3
154	9/13	37.5	57	30.14	169	19.06	0	0	0	0	1	0	0	16	2	35	27	0
155	9/13	38.0	57	30.21	169	28.32	0	0	0	2	1	0	0	17	1	100	549	0

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Station	Date	Depth (fm)	Latitude		Longitude		Red King Crab			Blue King Crab			Tanner Crab		Snow Crab			
			Degrees	Minutes	Degrees	Minutes	Males	Females	Legal	Sublegal	Males	Females	Legal	Sublegal	Males	Females	Large ^a	Small ^a
							Legal	Sublegal			Legal	Sublegal			Legal	Sublegal		
156	9/14	38.3	57	30.08	169	37.66	0	0	0	1	0	0	0	10	0	97	631	10
157	9/14	38.0	57	30.00	169	46.70	5	0	0	1	0	0	1	4	1	97	484	0
158	9/14	37.0	57	30.05	169	56.09	7	0	0	0	0	0	0	10	0	119	122	0
159	9/25	37.0	57	29.97	170	05.03	8	1	0	0	1	0	1	50	3	44	303	0
160	9/25	38.0	57	29.97	170	14.56	10	0	0	0	0	0	2	37	2	75	185	0
161	9/23	38.0	57	29.92	170	24.22	0	0	0	0	0	0	2	18	4	66	285	0
162	9/23	39.8	57	29.92	170	33.46	0	0	0	0	0	0	3	72	5	63	333	0
168	10/6	44.0	57	0.24	168	47.75	0	0	0	0	0	0	1	43	89	53	186	0
169	10/6	43.5	57	0.06	168	57.00	0	0	0	0	0	0	1	20	4	68	288	0
172	10/6	43.0	57	4.99	168	38.96	0	0	0	0	0	0	0	35	6	36	377	1
173	10/6	42.0	57	4.99	168	48.24	0	0	0	0	0	0	0	45	10	39	235	13
174	10/6	42.3	57	5.01	168	57.31	0	0	0	0	0	0	2	19	4	72	198	3
176	10/4	41.0	57	9.98	168	30.28	0	0	0	0	0	0	1	24	43	41	418	2
177	10/6	41.8	57	9.97	168	39.39	0	0	0	0	0	0	0	47	8	30	424	18
178	10/6	41.5	57	9.93	168	48.78	0	0	0	0	0	0	1	50	14	48	245	7
179	10/6	41.3	57	9.98	168	57.73	0	0	0	0	0	0	0	30	12	107	81	1
180	10/4	40.8	57	15.06	168	21.60	0	0	0	0	2	0	0	37	2	67	115	8
181	10/4	40.8	57	14.99	168	31.29	0	0	0	0	0	0	0	22	4	52	351	86
182	10/5	40.3	57	15.16	168	39.98	0	0	0	0	4	1	0	35	71	47	258	0
183	10/5	41.0	57	14.99	168	49.58	0	0	0	1	4	2	0	63	11	58	81	0
184	10/5	40.0	57	14.99	168	58.58	0	0	0	1	0	0	0	19	0	95	39	0
185	10/4	40.0	57	20.03	168	22.05	0	0	0	0	0	0	0	34	7	66	207	3
186	10/4	40.0	57	19.93	168	31.25	0	0	0	0	2	1	1	65	9	54	292	3
187	10/5	40.0	57	20.01	168	40.57	0	0	0	1	1	1	0	16	4	20	529	4
188	10/5	40.0	57	20.22	168	49.77	0	0	0	0	1	0	0	2	6	16	584	79

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Station	Date	Depth (fm)	Latitude		Longitude		Red King Crab			Blue King Crab			Tanner Crab		Snow Crab			
			Degrees	Minutes	Degrees	Minutes	Males	Females	Legal	Sublegal	Males	Females	Legal	Sublegal	Males	Females	Large ^a	Small ^a
							Legal	Sublegal			Legal	Sublegal			Legal	Sublegal		
189	10/5	38.0	57	20.02	168	58.96	0	0	0	0	3	3	0	31	1	3	2	0
190	10/4	39.0	57	25.09	168	22.80	0	0	0	0	2	0	0	36	14	37	217	13
191	10/4	39.3	57	25.07	168	32.02	0	0	0	0	0	0	0	89	31	10	512	1
192	10/5	39.8	57	25.01	168	41.29	0	0	0	0	1	0	0	10	6	29	473	9
193	10/5	39.0	57	24.97	168	50.43	0	0	0	0	0	0	1	5	2	16	302	41
194	10/5	39.0	57	24.99	168	59.78	0	0	0	0	1	6	0	21	7	37	63	1
195	10/4	39.0	57	30.73	168	23.54	0	0	0	0	1	0	0	20	23	32	138	8
196	10/4	39.0	57	30.48	168	32.67	0	0	0	0	0	0	0	8	3	9	342	2
197	10/3	39.0	57	30.07	168	42.11	1	0	0	0	0	0	0	7	4	47	303	3
198	10/3	38.0	57	29.92	168	51.45	1	0	0	0	0	0	0	5	1	9	522	41
199	10/2	38.3	57	34.96	168	24.46	0	0	0	0	0	0	0	16	2	46	315	8
200	10/2	38.0	57	35.12	168	33.56	0	0	0	0	0	0	0	8	3	6	908	6
201	10/3	38.3	57	34.90	168	42.66	0	0	0	0	0	0	0	0	0	60	191	1
202	10/3	37.8	57	34.96	168	52.26	0	0	0	0	0	0	0	7	0	65	165	2
203	10/3	37.0	57	34.94	169	00.99	0	0	0	0	0	0	0	4	0	60	92	1
204	9/13	38.0	57	35.23	169	10.52	0	0	0	0	0	0	0	1	0	41	213	0
205	9/13	37.3	57	34.92	169	19.60	0	1	0	1	0	1	0	12	0	53	48	0
206	9/13	38.8	57	35.05	169	28.93	1	0	0	0	0	0	0	7	1	93	402	8
207	9/14	38.5	57	35.05	169	38.27	0	0	0	0	0	0	0	3	0	120	323	0
208	9/14	39.0	57	35.06	169	47.40	0	0	0	0	0	0	0	15	0	73	231	0
209	9/14	39.0	57	35.04	169	56.83	2	0	0	0	0	0	0	4	0	76	73	2
210	9/25	39.0	57	34.98	170	05.98	1	0	0	0	0	0	0	10	0	39	476	5
211	9/25	39.0	57	34.90	170	15.12	0	0	0	0	0	0	0	5	1	53	370	1
212	10/2	38.0	57	39.90	168	24.99	0	0	0	0	0	0	0	12	2	17	386	9
213	10/2	38.0	57	40.06	168	34.30	0	0	0	0	0	0	0	3	1	7	512	1

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Station	Date	Depth (fm)	Latitude		Longitude		Red King Crab			Blue King Crab			Tanner Crab		Snow Crab			
			Degrees	Minutes	Degrees	Minutes	Males	Females	Legal	Sublegal	Males	Females	Legal	Sublegal	Males	Females	Large ^a	Small ^a
							Legal	Sublegal			Legal	Sublegal			Legal	Sublegal		
214	10/3	38.0	57	39.91	168	43.61	0	0	0	0	0	0	0	2	0	23	318	5
215	10/3	37.3	57	39.90	168	52.95	0	0	0	0	0	0	0	8	1	61	131	0
216	10/3	37.0	57	39.91	169	01.78	0	0	0	0	0	1	0	4	0	46	69	1
217	9/13	37.0	57	40.05	169	11.33	0	0	0	1	0	1	0	13	0	42	156	0
218	9/13	38.0	57	39.97	169	20.91	0	0	0	0	0	0	0	3	0	96	179	0
219	9/13	38.0	57	40.06	169	29.75	0	0	0	0	0	0	0	2	0	114	152	1
220	9/14	38.0	57	39.92	169	38.89	0	0	0	1	0	0	0	4	0	81	267	0
221	9/14	39.0	57	39.94	169	48.18	0	0	0	0	0	0	0	4	0	80	220	0
222	9/14	38.3	57	40.11	169	57.19	0	0	0	0	0	0	0	7	0	104	130	0
223	9/29	39.0	57	39.95	170	06.94	1	0	0	0	0	0	0	5	0	33	527	6
224	9/29	39.0	57	40.54	170	16.01	0	0	0	0	0	0	0	7	0	32	592	12
225	9/25	39.0	57	34.97	170	24.72	0	0	0	0	0	0	0	6	0	59	351	0
226	10/2	38.5	57	44.90	168	25.62	0	0	0	0	0	0	0	14	2	51	239	1
227	10/2	38.0	57	44.84	168	35.03	0	0	0	0	0	0	0	8	1	28	498	0
228	10/2	38.0	57	45.04	168	43.88	0	0	0	0	0	0	0	5	0	33	214	3
229	10/1	37.3	57	45.04	168	53.06	0	0	0	0	0	0	0	10	2	45	205	3
230	10/1	35.8	57	44.97	169	02.25	0	0	0	0	0	0	0	3	1	63	120	0
231	10/1	35.5	57	45.02	169	11.70	0	0	0	0	0	0	0	1	0	75	126	1
232	9/30	37.0	57	45.03	169	21.28	0	0	0	0	0	0	0	8	0	47	542	3
233	9/30	36.5	57	44.97	169	30.02	0	0	0	0	0	0	0	15	1	18	767	0
234	9/30	38.0	57	45.00	169	39.55	0	0	0	0	0	0	0	3	0	25	807	73
235	9/29	38.0	57	44.99	169	49.09	0	0	0	0	0	0	0	4	0	40	426	15
236	9/29	38.0	57	45.02	169	57.98	0	0	0	0	0	0	1	6	0	39	353	5
237	9/29	39.0	57	45.07	170	07.61	0	0	0	0	1	0	0	3	0	23	693	3
241	10/2	38.0	57	50.01	168	35.28	0	0	0	0	0	0	0	12	0	22	274	0

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Station	Date	Depth (fm)	Latitude		Longitude		Red King Crab			Blue King Crab			Tanner Crab		Snow Crab			
			Degrees	Minutes	Degrees	Minutes	Males	Females	Legal	Sublegal	Males	Females	Legal	Sublegal	Males	Females	Large ^a	Small ^a
242	10/2	38.0	57	50.01	168	44.79	0	0	0	0	0	0	0	3	0	37	193	7
243	10/1	38.3	57	50.01	168	53.49	0	0	0	0	0	0	0	5	2	60	246	5
244	10/1	35.5	57	50.07	169	02.83	0	0	0	0	0	0	0	1	0	90	159	1
245	10/1	34.0	57	49.95	169	12.22	0	0	0	0	0	0	0	4	0	43	110	7
246	9/30	36.0	57	49.95	169	21.81	0	0	0	0	0	0	0	5	1	68	344	10
247	9/30	37.0	57	50.05	169	30.66	0	0	0	0	0	0	0	5	0	36	497	8
248	9/30	38.0	57	49.91	169	40.65	0	0	0	0	0	0	0	3	0	21	690	15
249	9/29	38.8	57	49.93	169	49.84	0	0	0	0	0	0	0	1	0	31	756	10
250	9/29	39.0	57	50.02	169	58.59	0	0	0	0	0	0	0	5	1	27	531	0
255	10/1	38.3	57	54.98	168	45.18	0	0	0	0	0	0	0	31	4	44	108	0
256	10/1	38.3	57	54.91	168	54.47	0	0	0	0	0	0	0	4	1	77	280	3
257	10/1	37.0	57	54.82	169	03.41	0	0	0	0	0	0	0	3	0	93	97	2
258	9/30	36.0	57	54.92	169	13.10	0	0	0	0	0	0	0	3	0	50	253	4
259	9/30	36.3	57	54.93	169	22.57	0	0	0	0	0	0	0	3	0	18	558	3
260	9/30	37.0	57	54.95	169	31.44	0	0	0	0	0	0	0	2	0	48	440	13
261	9/29	38.0	57	55.00	169	41.14	0	0	0	0	0	0	0	3	0	34	530	2
262	9/29	38.5	57	54.92	169	50.53	0	0	0	0	0	0	0	5	0	43	542	3
282	10/6	44.8	56	54.99	168	56.44	0	0	0	0	0	0	4	23	7	50	418	98
Totals							<u>622</u>	<u>719</u>	<u>467</u>	<u>49</u>	<u>98</u>	<u>94</u>	<u>719</u>	<u>6,093</u>	<u>1,871</u>	<u>10,459</u>	<u>50,733</u>	<u>772</u>
							1,808				241		8,684 ^b		61,964			

^a Small snow crab defined as <102-mm CW, large snow crab defined as ≥102-mm CW (industry preferred size).

^b Total includes one hermaphrodite Tanner crab.

Appendix A2.—Catch by pot of red and blue king crabs during niche fishing in the Pribilof District, 2008.

SPN	Date	Depth (fm)	Latitude		Longitude		Red King Crab			Blue King Crab		
			Degrees	Minutes	Degrees	Minutes	Males Legal	Females Sublegal		Males Legal	Females Sublegal	
129	9/12	39.0	57	21.00	169	15.69	1	0	0	2	1	1
130	9/12	39.0	57	21.02	169	15.45	0	0	0	0	0	0
131	9/12	39.0	57	21.03	169	15.30	0	0	0	0	0	0
132	9/12	40.0	57	21.58	169	15.99	2	0	0	6	1	1
133	9/12	40.0	57	21.70	169	16.23	0	0	0	3	0	1
406	9/22	26.0	57	06.54	170	28.83	7	3	1	0	0	0
407	9/22	26.0	57	06.72	170	28.82	5	3	1	0	0	0
408	9/22	26.0	57	06.87	170	28.82	12	16	1	0	0	0
409	9/22	27.0	57	07.03	170	28.82	31	25	1	0	0	0
518	9/24	29.0	57	07.90	170	30.42	9	13	0	0	0	0
519	9/24	28.0	57	07.83	170	30.26	50	103	3	0	0	0
520	9/24	29.0	57	07.70	170	30.05	57	74	0	0	0	0
521	9/24	29.0	57	07.58	170	29.86	52	32	2	0	0	0
522	9/24	28.0	57	07.43	170	29.63	28	31	0	0	0	0
523	9/24	28.0	57	07.30	170	29.42	16	7	0	0	0	0
524	9/24	27.0	57	07.19	170	29.24	2	7	0	0	0	0
525	9/24	27.0	57	07.06	170	29.03	6	0	0	0	0	0
526	9/24	26.0	57	06.92	170	28.83	1	0	0	0	0	0
527	9/24	26.0	57	06.80	170	28.62	2	2	0	0	0	0
528	9/24	25.0	57	06.66	170	28.40	5	2	3	0	0	0
529	9/24	25.0	57	06.53	170	28.17	11	7	1	0	0	0
530	9/24	26.0	57	06.53	170	27.05	18	43	4	0	0	0
531	9/24	26.0	57	06.64	170	27.17	20	31	2	0	0	0
532	9/24	26.0	57	06.76	170	27.38	33	40	0	0	0	0
533	9/24	27.0	57	06.89	170	27.61	30	53	0	0	0	0
534	9/24	27.0	57	07.02	170	27.84	38	64	3	0	0	0
535	9/24	27.0	57	07.13	170	28.06	14	38	0	0	0	0
536	9/24	27.0	57	07.26	170	28.29	5	1	0	0	0	0
537	9/24	27.0	57	07.40	170	28.55	14	8	0	0	0	0
538	9/24	27.0	57	07.52	170	28.79	33	33	4	0	0	0
539	9/24	28.0	57	07.66	170	29.03	36	42	3	0	0	0
540	9/24	28.0	57	07.79	170	29.25	40	89	15	0	0	0
541	9/24	ND	57	07.95	170	29.51	21	145	3	0	0	0
542	9/24	29.0	57	08.52	170	29.43	0	0	0	0	0	0
543	9/24	29.0	57	08.39	170	29.24	0	0	0	0	0	0
544	9/24	29.0	57	08.25	170	29.02	6	23	1	0	0	0
545	9/24	29.0	57	08.09	170	28.78	33	122	8	0	0	0
546	9/24	28.0	57	07.94	170	28.56	28	108	11	0	0	0
547	9/24	29.0	57	07.81	170	28.36	19	149	48	0	0	0
548	9/24	28.0	57	07.67	170	28.16	14	174	105	0	0	0

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SPN	Date	Depth (fm)	Latitude		Longitude		Red King Crab			Blue King Crab		
			Degrees	Minutes	Degrees	Minutes	Males	Females	Legal	Sublegal	Males	Females
549	9/24	28.0	57	07.52	170	27.93	16	130	57	0	0	0
550	9/24	28.0	57	07.38	170	27.72	13	258	107	0	0	1
551	9/24	28.0	57	07.25	170	27.51	21	112	54	0	0	0
552	9/24	28.0	57	07.09	170	27.27	33	64	6	0	0	0
553	9/24	28.0	57	06.95	170	27.03	18	37	8	0	0	0
590	9/26	ND	57	08.05	170	31.49	0	0	0	0	0	0
591	9/26	31.0	57	07.88	170	31.23	4	0	0	0	0	0
592	9/26	30.0	57	07.72	170	31.01	2	0	0	0	0	0
593	9/26	30.0	57	07.56	170	30.76	64	44	0	0	0	0
594	9/26	30.0	57	07.40	170	30.53	40	43	0	0	0	0
595	9/26	29.0	57	07.24	170	30.26	30	50	1	0	0	0
596	9/26	29.0	57	07.08	170	30.03	7	5	1	0	0	0
597	9/26	27.0	57	06.93	170	29.78	2	1	0	0	0	0
598	9/26	27.0	57	06.76	170	29.54	0	0	2	0	0	0
599	9/26	27.0	57	06.61	170	29.31	0	0	0	0	0	0
600	9/26	26.0	57	06.45	170	29.06	1	0	0	0	0	0
601	9/26	26.0	57	06.29	170	28.80	2	0	1	0	0	0
602	9/26	25.0	57	04.86	170	27.40	0	0	0	0	0	0
603	9/26	24.0	57	05.07	170	27.41	46	37	6	0	0	0
604	9/26	28.0	57	05.29	170	27.41	26	18	1	0	0	0
605	9/26	24.0	57	05.50	170	27.40	9	4	6	0	0	0
606	9/26	ND	57	05.70	170	27.39	8	3	1	0	0	0
607	9/26	24.0	57	05.92	170	27.39	5	18	0	0	0	0
608	9/26	24.0	57	06.12	170	27.40	11	15	1	0	0	0
609	9/26	25.0	57	06.32	170	27.41	10	26	6	0	0	0
610	9/26	25.0	57	06.55	170	27.41	11	20	2	0	0	0
611	9/26	26.0	57	06.77	170	27.42	14	28	8	0	0	0
612	9/26	27.0	57	07.01	170	27.42	15	216	131	0	0	0
613	9/26	27.0	57	07.25	170	27.41	30	110	35	0	0	0
614	9/26	31.0	57	07.87	170	27.37	0	0	0	0	0	0
615	9/26	29.0	57	07.87	170	27.76	1	0	0	0	0	0
616	9/26	30.0	57	07.87	170	28.15	32	45	3	0	0	0
617	9/26	29.0	57	07.88	170	28.55	34	80	4	0	0	0
618	9/26	28.0	57	07.84	170	28.95	39	140	12	0	0	0
619	9/26	28.0	57	07.81	170	29.38	50	159	4	0	0	0
620	9/26	28.0	57	07.78	170	29.80	17	83	5	0	0	0
621	9/26	ND	57	07.75	170	30.25	46	77	0	0	0	0
622	9/26	29.0	57	07.73	170	30.61	23	14	0	0	0	0
623	9/26	30.0	57	07.72	170	30.92	9	3	1	0	0	0
624	9/26	31.0	57	07.70	170	31.38	7	0	0	0	0	0

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SPN	Date	Depth (fm)	Latitude		Longitude		Red King Crab			Blue King Crab			
			Degrees	Minutes	Degrees	Minutes	Males	Females	Legal	Sublegal	Males	Females	Legal
625	9/26	33.0	57	07.68	170	31.75	2	0	0	0	0	0	0
626	9/27	31.0	57	21.24	170	02.46	0	0	0	0	0	0	0
627	9/27	30.0	57	21.01	170	02.45	2	0	0	0	0	0	0
628	9/27	30.0	57	20.75	170	02.43	0	0	0	0	0	0	0
629	9/27	30.0	57	20.51	170	02.41	2	0	0	0	0	0	0
630	9/27	28.0	57	20.24	170	02.42	16	1	0	0	0	0	0
631	9/27	27.0	57	20.00	170	02.42	25	0	1	0	0	0	0
632	9/27	26.0	57	19.73	170	02.43	5	0	0	0	0	0	0
633	9/27	25.0	57	19.51	170	02.43	3	0	2	0	0	0	0
634	9/27	25.0	57	19.28	170	02.43	0	0	0	0	0	0	0
635	9/27	24.0	57	19.04	170	02.44	0	0	0	0	0	0	0
636	9/27	24.0	57	18.78	170	02.45	0	0	0	0	0	0	0
637	9/27	28.0	57	18.76	170	03.83	1	0	0	0	0	0	0
638	9/27	28.0	57	19.02	170	03.83	0	0	0	0	0	0	0
639	9/27	28.0	57	19.26	170	03.83	9	0	0	0	0	0	0
640	9/27	28.0	57	19.49	170	03.84	49	10	0	0	0	0	0
641	9/27	27.0	57	19.76	170	03.84	71	17	0	0	0	0	0
642	9/27	27.0	57	20.00	170	03.84	33	8	0	0	0	0	0
643	9/27	28.0	57	20.26	170	03.84	29	5	0	0	0	0	0
644	9/27	30.0	57	20.51	170	03.83	37	12	1	0	0	0	0
645	9/27	30.0	57	20.77	170	03.83	44	7	0	0	0	0	0
646	9/27	31.0	57	21.00	170	03.82	83	5	0	0	0	0	0
647	9/27	31.0	57	20.27	170	03.82	28	1	0	0	1	0	0
648	9/27	31.0	57	20.50	170	03.81	2	0	0	0	0	0	0
649	9/27	32.0	57	20.77	170	03.83	2	0	0	0	0	0	0
650	9/27	31.0	57	21.93	170	04.92	4	1	1	0	0	0	0
651	9/27	30.0	57	21.75	170	04.93	2	0	0	0	0	0	0
652	9/27	31.0	57	21.51	170	04.93	11	1	1	0	0	0	0
653	9/27	31.0	57	21.24	170	04.94	34	4	0	0	0	0	0
654	9/27	30.0	57	21.00	170	04.93	26	5	0	0	0	0	0
655	9/27	30.0	57	20.77	170	04.93	37	18	2	0	0	0	0
656	9/27	30.0	57	20.50	170	04.91	49	25	2	0	0	0	0
657	9/27	29.0	57	20.24	170	04.92	29	20	0	0	0	0	0
658	9/27	28.0	57	20.00	170	04.93	49	24	0	0	0	0	0
659	9/27	27.0	57	19.75	170	04.94	42	23	0	0	0	0	0
660	9/27	27.0	57	19.50	170	04.93	12	4	0	0	0	0	0
661	9/27	29.0	57	19.23	170	04.92	8	0	0	0	0	0	0
662	9/28	26.0	57	15.27	169	58.09	0	0	0	0	0	0	0
663	9/28	26.0	57	15.51	169	58.08	0	0	0	0	0	0	0
664	9/28	27.0	57	15.76	169	58.07	0	0	0	0	0	0	0

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SPN	Date	Depth (fm)	Latitude		Longitude		Red King Crab			Blue King Crab		
			Degrees	Minutes	Degrees	Minutes	Males Legal	Females Sublegal		Males Legal	Females Sublegal	
665	9/28	27.0	57	16.01	169	58.06	0	0	0	0	0	0
666	9/28	27.0	57	16.26	169	58.06	0	0	0	0	0	0
667	9/28	27.0	57	16.51	169	58.05	0	0	0	0	0	0
668	9/28	26.0	57	16.77	169	58.04	0	0	0	0	0	0
669	9/28	26.0	57	17.00	169	58.02	0	0	0	0	0	0
670	9/28	24.0	57	17.26	169	58.01	0	0	0	0	0	0
671	9/28	29.0	57	17.49	169	54.05	4	0	0	0	0	0
672	9/28	30.0	57	17.75	169	54.05	1	0	0	0	0	0
673	9/28	30.0	57	18.00	169	54.04	2	0	0	0	0	1
674	9/28	30.0	57	18.24	169	54.04	2	0	0	0	0	0
675	9/28	30.0	57	18.50	169	54.01	0	0	0	0	0	0
676	9/28	30.0	57	18.75	169	53.97	24	0	0	0	0	0
677	9/28	31.0	57	19.00	169	53.98	6	0	0	0	0	0
678	9/28	31.0	57	19.28	169	53.98	2	0	0	0	0	0
679	9/28	31.0	57	18.50	169	53.99	11	0	0	2	1	0
680	9/28	26.0	57	18.50	169	56.17	49	33	3	0	0	0
681	9/28	ND	57	18.76	169	56.15	30	4	0	0	0	0
682	9/28	30.0	57	18.99	169	56.14	0	0	0	0	0	0
683	9/28	31.0	57	19.27	169	56.18	2	0	0	1	0	0
684	9/28	31.0	57	19.50	169	56.10	3	0	0	0	0	0
685	9/28	30.0	57	19.76	169	56.10	1	0	0	0	0	0
686	9/28	32.0	57	20.00	169	56.10	0	0	0	0	0	0
687	9/28	32.0	57	20.25	169	56.11	0	0	0	0	0	0
688	9/28	33.0	57	20.50	169	56.11	0	0	0	0	0	0
689	9/28	32.0	57	20.05	169	57.50	0	0	0	0	0	0
690	9/28	33.0	57	20.24	169	57.50	0	0	0	0	0	0
691	9/28	35.0	57	20.47	169	57.51	0	0	0	0	0	0
692	9/28	34.0	57	20.75	169	57.51	0	0	0	0	0	0
693	9/28	35.0	57	20.98	169	57.51	0	0	0	0	0	0
694	9/28	34.0	57	21.26	169	57.51	3	0	0	0	0	0
695	9/28	34.0	57	21.50	169	57.51	2	0	0	0	0	0
696	9/28	34.0	57	21.75	169	57.51	1	0	0	0	0	0
697	9/28	33.0	57	21.97	169	57.51	1	0	0	0	0	0
Totals							2,285	3,556	696	14	4	5
							6,537			23		

Appendix A3.—Catch by station of red king crabs and blue king crabs at core stations during the 2003, 2005 and 2008 Pribilof District king crab surveys (4 pots per station, except in 2005 when stations 80, 119, 120, 145, and 203 had three pots).

Station	2008						2005						2003						
	Red King Crab			Blue King Crab			Red King Crab			Blue King Crab			Red King Crab			Blue King Crab			
	Legal	Sublegal	Female	Legal	Sublegal	Female	Legal	Sublegal	Female	Legal	Sublegal	Female	Legal	Sublegal	Female	Legal	Sublegal	Female	
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	1	0	4	
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	14	
41	0	0	0	0	0	0	1	0	0	1	0	4	0	0	0	0	0	3	
42	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
43	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0

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Station	2008						2005						2003						
	Red King Crab			Blue King Crab			Red King Crab			Blue King Crab			Red King Crab			Blue King Crab			
	Legal	Sublegal	Female	Legal	Sublegal	Female	Legal	Sublegal	Female	Legal	Sublegal	Female	Legal	Sublegal	Female	Legal	Sublegal	Female	
54	0	0	0	0	0	0	1	0	1	1	0	5	0	0	0	0	0	2	
55	1	0	0	2	0	3	0	0	0	0	0	0	0	0	0	0	1	0	1
56	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	3	0	0	1	0	0	1	0	0	0	0	0	23	0	1	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0
66	0	0	0	0	1	0	0	0	0	0	0	0	2	0	2	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
68	2	0	0	0	0	2	2	0	57	0	0	0	0	0	0	0	0	0	0
69	2	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0
70	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
72	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
78	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0
79	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	1
80	0	0	0	0	0	0	0	0	2	0	0	0	157	13	7	0	0	0	0
81	0	0	0	1	4	0	0	0	332	0	0	0	6	0	2	0	0	0	0
82	20	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0
83	14	2	1	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
84	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
85	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
86	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
87	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Station	2008						2005						2003					
	Red King Crab			Blue King Crab			Red King Crab			Blue King Crab			Red King Crab			Blue King Crab		
	Legal	Sublegal	Female	Legal	Sublegal	Female	Legal	Sublegal	Female	Legal	Sublegal	Female	Legal	Sublegal	Female	Legal	Sublegal	Female
88	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
91	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0
92	0	0	0	1	0	1	0	0	0	0	0	1	4	0	0	0	0	2
93	0	0	0	0	0	3	0	0	3	0	0	0	1	0	1	0	0	2
94	1	0	0	0	0	0	0	1	612	0	0	0	2	0	17	1	0	0
95	3	0	0	0	2	0	0	0	5	0	0	0	0	0	1	0	0	0
96	35	6	6	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
97	46	93	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
98	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
101	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
104	0	0	0	0	0	1	5	0	0	0	0	2	0	0	0	1	0	1
105	0	0	0	1	1	0	2	0	2	0	0	8	1	0	0	1	0	17
106	2	0	0	0	1	1	0	0	4	0	0	8	1	0	3	0	1	1
107	3	0	0	0	1	4	0	0	492	0	0	0	0	0	18	0	0	0
108	46	547	256	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
109	1	0	4	0	0	12	0	1	0	0	0	0	0	0	0	0	0	0
110	0	0	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
113	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0
115	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
116	2	0	0	0	0	0	1	0	0	0	0	0	19	0	0	1	0	0
117	9	1	0	0	1	1	0	0	1	1	0	0	15	0	3	1	0	1
118	1	0	0	0	21	7	0	1	141	0	0	0	0	0	3	0	0	0

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Station	2008						2005						2003					
	Red King Crab			Blue King Crab			Red King Crab			Blue King Crab			Red King Crab			Blue King Crab		
	Legal	Sublegal	Female	Legal	Sublegal	Female	Legal	Sublegal	Female	Legal	Sublegal	Female	Legal	Sublegal	Female	Legal	Sublegal	Female
119	5	1	155	0	2	7	0	0	0	0	0	0	0	0	0	0	0	0
120	8	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
121	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
122	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
123	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
124	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	5
129	1	0	0	1	1	4	1	0	3	0	0	2	2	0	0	0	0	0
130	5	0	0	0	2	0	0	0	2	0	0	0	2	0	0	0	0	2
131	3	0	0	1	4	2	0	0	4	0	0	0	1	0	2	0	0	0
132	4	0	1	1	3	2	0	0	4	0	0	0	0	0	50	0	0	0
133	49	1	0	20	16	3	0	0	0	0	0	0	0	0	0	0	0	0
134	215	52	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	3	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
136	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
137	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
138	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
139	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	1	1	0	0	2	1	3	3	0	0	0	0	2
141	0	0	0	1	0	0	0	0	0	0	0	0	29	0	0	0	0	0
142	0	0	0	0	2	3	0	0	0	0	0	0	6	0	0	1	0	0
143	1	0	0	1	1	1	0	0	1	1	1	1	0	0	0	1	0	1
144	1	0	0	2	0	0	1	0	46	1	0	0	0	0	1	0	0	0
145	7	1	1	2	6	2	0	0	18	0	0	0	0	0	3	0	0	0
146	18	8	1	0	0	0	0	0	164	0	0	0	0	0	16	0	0	0

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Station	2008						2005						2003					
	Red King Crab			Blue King Crab			Red King Crab			Blue King Crab			Red King Crab			Blue King Crab		
	Legal	Sublegal	Female	Legal	Sublegal	Female	Legal	Sublegal	Female	Legal	Sublegal	Female	Legal	Sublegal	Female	Legal	Sublegal	Female
147	6	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
148	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
149	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
152	0	0	0	1	0	2	2	1	0	1	0	2	2	0	1	5	1	11
153	0	0	0	0	0	1	1	0	0	0	0	1	2	0	0	1	0	1
154	0	0	0	0	1	0	0	0	0	5	1	1	1	0	0	0	2	6
155	0	0	0	2	1	0	7	0	0	0	0	1	6	0	0	3	0	0
156	0	0	0	1	0	0	0	0	2	0	0	0	3	1	1	3	3	4
157	5	0	0	1	0	0	0	3	16	0	0	0	0	1	0	1	0	0
158	7	0	0	0	1	0	0	0	21	0	0	0	1	0	0	2	0	0
159	8	1	0	0	0	0	1	0	278	0	0	0	1	0	0	0	0	0
160	10	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0
161	0	0	0	0	0	0	1	0	4	0	0	0	0	0	0	0	0	0
162	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
182	0	0	0	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0
183	0	0	0	1	4	2	0	0	1	0	0	1	1	0	0	0	1	2
184	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0
187	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0
188	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3	0	0
189	0	0	0	0	3	3	0	0	0	0	0	13	0	0	0	5	1	29
192	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	1
193	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	1	5
194	0	0	0	0	1	6	0	0	0	2	0	5	1	0	0	1	0	4
198	1	0	0	0	1	0	1	0	0	0	0	2	0	0	0	1	0	0
201	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
202	0	0	0	0	0	0	0	0	0	0	0	1	2	0	1	0	0	2

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Station	2008						2005						2003					
	Red King Crab			Blue King Crab			Red King Crab			Blue King Crab			Red King Crab			Blue King Crab		
	Legal	Sublegal	Female	Legal	Sublegal	Female	Legal	Sublegal	Female	Legal	Sublegal	Female	Legal	Sublegal	Female	Legal	Sublegal	Female
203	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1
204	0	0	0	0	0	1	0	0	0	0	0	0	7	0	0	1	2	5
205	0	1	0	1	0	0	3	0	0	1	0	1	4	0	0	2	1	0
206	1	0	0	0	0	0	18	0	1	0	0	0	28	0	0	1	1	0
207	0	0	0	0	0	0	2	0	1	0	0	0	1	0	0	0	0	0
208	0	0	0	0	0	0	2	0	0	0	0	0	5	0	0	3	0	0
209	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	1	0
210	1	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
211	0	0	0	0	0	0	0	0	46	0	0	0	0	0	0	0	0	0
215	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
216	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0
217	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	1
218	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
219	0	0	0	0	0	0	1	0	1	0	0	0	3	0	0	1	0	0
220	0	0	0	1	0	0	4	1	1	0	0	0	1	0	0	1	0	0
221	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0
222	0	0	0	0	0	0	1	0	0	0	0	0	7	0	0	1	0	0
223	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
225	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
Totals	621	719	467	49	91	92	66	9	2,283	18	4	67	386	16	146	53	16	133
			1,807			232			2,358			89			548			202

APPENDIX B. OCEANOGRAPHIC DATA

Appendix B1.—Oceanographic data obtained by station (except where noted) during the 2008 Pribilof king crab survey and niche fishing, ND represents no data available for that parameter.

Station Number	Latitude		Longitude		Number of Observations	Deployed		Retrieved		Temperature °C			Depth (fm)	Salinity (PSU)
	Degrees	Minutes	Degrees	Minutes		Date	Time	Date	Time	Max	Min	Mean		
1	56	29.97	169	02.00	201	8-Sep	6:05	9-Sep	15:36	3.1	2.4	2.7	55.0	ND
2	56	29.73	169	11.00	193	8-Sep	8:11	9-Sep	16:32	3.5	2.2	2.8	53.0	ND
3	56	29.91	169	20.09	195	8-Sep	8:55	9-Sep	17:31	3.1	2.4	2.7	49.8	ND
4	56	30.10	169	29.02	191	5-Oct	21:05	7-Oct	4:55	4.4	3.4	3.7	43.3	ND
5	56	30.51	169	38.02	191	5-Oct	21:46	7-Oct	5:35	5.4	3.6	4.1	46.5	ND
6	56	30.01	169	47.13	192	5-Oct	22:24	7-Oct	6:30	4.2	3.8	4.0	47.0	32.56
15	56	35.00	169	02.53	191	8-Sep	6:52	9-Sep	14:42	2.8	1.6	2.3	41.0	ND
16	56	34.96	169	11.52	213	8-Sep	7:38	9-Sep	19:20	3.6	1.6	2.1	38.3	ND
17	56	35.01	169	20.50	197	8-Sep	9:37	9-Sep	18:30	4.5	2.7	3.7	27.8	ND
18	56	34.87	169	47.85	194	5-Oct	23:06	7-Oct	7:30	5.1	4.2	4.4	40.0	ND
26	56	40.00	169	02.99	154	8-Sep	11:44	9-Sep	13:30	2.5	1.9	2.1	50.0	32.36
27	56	39.98	169	12.01	200	8-Sep	10:58	9-Sep	20:15	3.5	2.0	2.9	37.0	ND
28	56	40.05	169	21.00	211	8-Sep	10:13	9-Sep	21:17	4.5	3.1	3.9	36.8	33.14
30	56	40.07	169	39.20	186	5-Oct	19:20	7-Oct	2:22	5.1	4.5	4.7	41.8	ND
31	56	39.91	169	48.48	154	5-Oct	23:40	7-Oct	1:23	4.8	4.1	4.2	42.5	ND
32	56	39.96	169	57.41	144	6-Oct	0:20	7-Oct	0:30	4.4	4.3	4.2	49.5	ND
33	56	39.95	170	06.97	135	6-Oct	1:05	6-Oct	23:35	4.1	4.0	4.0	52.8	32.82
39	56	45.03	169	03.75	159	9-Sep	12:03	10-Sep	14:38	2.5	1.5	1.5	48.0	ND
41	56	45.07	169	21.74	200	9-Sep	7:15	10-Sep	16:35	3.9	3.1	3.4	43.0	ND
42	56	45.15	169	30.76	290	16-Sep	6:05	18-Sep	6:32	4.2	3.6	3.8	41.5	ND
43	56	45.20	169	39.96	304	16-Sep	9:11	18-Sep	11:49	4.0	3.6	3.8	40.8	33.26
44	56	45.04	169	49.19	306	16-Sep	9:46	18-Sep	12:49	3.6	3.3	3.4	41.8	ND
45	56	45.26	169	58.55	233	18-Sep	17:40	20-Sep	8:35	4.0	3.4	3.6	44.3	33.01
46	56	44.95	170	07.79	224	18-Sep	18:16	20-Sep	7:37	3.9	2.9	3.2	50.5	ND
47	56	45.03	170	17.00	212	18-Sep	19:00	20-Sep	6:30	3.0	2.6	2.7	55.0	ND
52	56	49.98	169	04.50	153	9-Sep	11:27	10-Sep	12:53	1.7	1.4	1.5	45.0	ND

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Station Number	Latitude		Longitude		Number of Observations	Deployed		Retrieved		Temperature °C			Depth (fm)	Salinity (PSU)
	Degrees	Minutes	Degrees	Minutes		Date	Time	Date	Time	Max	Min	Mean		
53	56	49.91	169	13.51	203	9-Sep	8:44	10-Sep	18:32	1.6	1.4	1.5	44.5	ND
54	56	50.24	169	22.49	209	9-Sep	6:38	10-Sep	17:33	1.9	1.4	1.6	41.4	32.06
55	56	49.93	169	31.50	295	16-Sep	6:42	18-Sep	7:52	4.3	3.1	3.6	38.4	32.04
56	56	50.08	169	40.52	302	16-Sep	8:34	18-Sep	10:56	4.4	3.7	4.2	37.0	ND
57	56	50.02	169	49.99	617	16-Sep	10:23	18-Sep	13:55	4.0	3.1	3.2	38.8	ND
58	56	50.13	169	59.36	242	18-Sep	17:06	20-Sep	9:31	4.2	3.3	3.4	39.3	ND
59	56	50.04	170	08.65	231	18-Sep	19:46	20-Sep	10:22	3.8	3.1	3.4	46.5	ND
60	56	50.16	170	17.87	241	19-Sep	17:04	21-Sep	9:17	3.8	2.6	3.1	51.8	ND
65	56	54.92	169	05.28	149	9-Sep	10:50	10-Sep	11:45	1.6	1.5	1.5	44.0	32.12
66	56	54.92	169	14.24	202	9-Sep	9:40	10-Sep	19:26	1.5	1.3	1.4	42.0	ND
67	56	55.01	169	23.24	230	9-Sep	6:02	10-Sep	20:22	1.8	1.3	1.4	40.0	ND
68	56	54.92	169	33.20	298	16-Sep	7:16	18-Sep	8:55	4.1	2.6	3.1	36.0	ND
69	56	54.96	169	41.37	300	16-Sep	7:50	18-Sep	9:55	4.3	3.5	3.8	36.5	ND
71	56	55.19	170	00.05	260	18-Sep	16:31	20-Sep	11:58	3.6	3.1	3.2	39.0	ND
72	56	55.02	170	09.25	232	18-Sep	20:23	20-Sep	11:11	3.4	3.0	3.2	43.8	32.25
73	56	55.05	170	18.52	251	19-Sep	16:26	21-Sep	10:12	3.4	2.8	3.1	47.3	ND
74	56	55.06	170	27.76	223	19-Sep	18:15	21-Sep	7:32	3.2	2.7	2.7	51.0	ND
78	57	00.12	169	06.00	159	10-Sep	11:07	11-Sep	13:40	1.5	1.4	1.4	42.8	32.06
80	57	00.01	169	24.00	193	10-Sep	7:19	11-Sep	15:41	2.0	1.4	1.7	38.8	ND
81	57	00.06	169	33.14	189	15-Sep	9:34	16-Sep	17:08	3.8	2.9	3.2	32.3	ND
82	57	00.00	169	42.26	188	15-Sep	8:56	16-Sep	16:15	4.3	3.5	3.8	33.5	32.14
84	56	59.93	170	00.69	269	18-Sep	16:03	20-Sep	12:59	4.8	3.7	4.2	36.3	ND
85	56	59.93	170	09.93	245	18-Sep	20:57	20-Sep	13:48	4.8	3.5	4.2	37.8	ND
86	57	00.04	170	19.19	259	19-Sep	15:57	21-Sep	11:01	4.9	3.7	4.2	34.5	ND
87	56	59.99	170	28.45	234	19-Sep	20:57	21-Sep	12:00	3.6	3.0	3.2	43.0	33.25
88	56	59.99	170	37.70	241	19-Sep	20:20	21-Sep	12:39	3.1	2.9	3.0	48.0	ND
89	56	59.99	170	46.90	251	19-Sep	19:42	21-Sep	13:38	3.0	2.6	2.8	52.0	ND

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Station Number	Latitude		Longitude		Number of Observations	Deployed		Retrieved		Temperature °C			Depth (fm)	Salinity (PSU)
	Degrees	Minutes	Degrees	Minutes		Date	Time	Date	Time	Max	Min	Mean		
91	57	05.04	169	06.56	157	10-Sep	10:32	11-Sep	12:47	1.5	1.4	1.5	41.0	ND
92	57	05.04	169	15.60	198	10-Sep	8:35	11-Sep	17:38	2.1	1.3	1.6	40.0	ND
93	57	04.93	169	24.69	203	10-Sep	6:43	11-Sep	16:34	3.0	1.6	2.0	38.3	33.11
94	57	04.89	169	33.65	190	15-Sep	10:11	16-Sep	17:57	4.0	3.4	3.7	33.3	ND
95	57	05.04	169	43.06	187	15-Sep	8:17	16-Sep	15:31	4.3	3.6	4.0	30.5	ND
96	57	04.99	169	52.15	180	15-Sep	6:38	16-Sep	12:35	5.4	4.6	4.8	33.0	ND
97	57	05.08	170	01.50	326	17-Sep	7:32	19-Sep	13:56	7.4	5.1	6.2	33.0	ND
98	57	04.92	170	10.58	329	17-Sep	8:16	19-Sep	14:59	7.7	7.1	7.3	21.0	ND
100	57	04.99	170	29.33	275	17-Sep	9:47	19-Sep	7:30	6.6	3.6	4.8	30.8	32.11
101	57	05.02	170	38.60	237	20-Sep	16:05	22-Sep	7:37	3.8	3.1	3.3	41.8	ND
103	57	04.92	170	57.22	672	20-Sep	1:14	22-Sep	9:24	2.7	2.6	2.7	52.0	ND
104	57	10.07	169	07.10	156	10-Sep	9:56	11-Sep	11:59	1.7	1.1	1.2	41.0	ND
105	57	09.95	169	16.25	199	10-Sep	9:15	11-Sep	18:23	2.0	1.1	1.3	39.8	ND
106	57	09.95	169	25.43	211	10-Sep	6:08	11-Sep	17:27	2.9	2.5	2.7	38.0	ND
108	57	09.96	169	43.69	181	15-Sep	7:45	16-Sep	13:52	5.5	4.5	4.8	24.0	31.98
109	57	08.83	169	51.49	181	15-Sep	7:06	16-Sep	13:10	5.8	4.7	5.0	28.5	33.06
111	57	09.95	170	30.23	276	17-Sep	10:22	19-Sep	8:31	6.8	5.2	6.1	32.0	ND
112	57	09.87	170	39.61	271	20-Sep	16:40	22-Sep	14:01	5.2	2.8	3.5	38.5	32.87
114	57	10.12	170	58.24	234	20-Sep	19:17	22-Sep	10:21	2.8	2.7	2.7	50.0	33.60
116	57	15.11	169	07.71	194	11-Sep	7:48	12-Sep	16:05	2.7	2.1	2.2	40.0	ND
117	57	15.03	169	26.04	204	11-Sep	7:05	12-Sep	17:07	2.5	2.0	2.3	37.0	33.12
118	57	15.16	169	35.19	176	14-Sep	6:15	15-Sep	11:41	3.3	2.3	2.7	32.8	ND
119	57	15.00	169	44.56	183	14-Sep	9:45	15-Sep	16:15	5.2	4.3	4.6	24.0	ND
120	57	15.03	169	53.69	182	14-Sep	10:32	15-Sep	17:00	6.7	5.4	6.0	22.0	ND
122	57	15.07	170	12.23	222	17-Sep	22:10	19-Sep	11:17	7.6	7.2	7.4	13.8	ND
124	57	15.09	170	31.19	219	17-Sep	20:55	19-Sep	9:23	6.0	5.0	5.3	34.8	ND
125	57	14.88	170	40.46	262	20-Sep	17:19	22-Sep	13:04	4.6	3.2	3.7	41.0	ND

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Station Number	Latitude		Longitude		Number of Observations	Deployed		Retrieved		Temperature °C			Depth (fm)	Salinity (PSU)
	Degrees	Minutes	Degrees	Minutes		Date	Time	Date	Time	Max	Min	Mean		
126	57	14.89	170	49.81	254	20-Sep	18:00	22-Sep	12:18	3.1	2.8	2.8	45.0	32.45
127	57	14.96	170	59.12	243	20-Sep	18:41	22-Sep	11:18	3.2	2.6	2.7	48.8	ND
128	57	20.10	169	08.30	160	11-Sep	10:42	12-Sep	13:18	1.8	1.2	1.6	39.5	31.94
129	57	20.05	169	17.48	208	11-Sep	8:24	12-Sep	19:08	2.4	1.7	2.1	40.0	ND
130	57	20.07	169	26.73	213	11-Sep	6:31	12-Sep	18:07	2.7	2.0	2.4	38.3	ND
131	57	19.91	169	35.87	177	14-Sep	7:02	15-Sep	12:34	2.5	2.0	2.3	34.0	ND
132	57	20.00	169	45.23	179	14-Sep	9:10	15-Sep	15:09	4.7	2.7	3.3	32.3	ND
133	57	20.00	169	54.43	184	14-Sep	11:17	15-Sep	17:44	3.9	2.9	3.1	32.0	32.07
134	57	20.04	170	22.57	276	23-Sep	15:30	25-Sep	13:37	6.5	4.8	5.6	36.0	ND
136	57	20.44	170	31.82	205	21-Sep	20:21	23-Sep	6:38	6.0	5.1	5.6	36.0	ND
138	57	20.01	170	41.61	263	21-Sep	16:46	23-Sep	12:34	5.0	3.7	4.4	41.5	ND
139	57	19.91	170	49.09	262	21-Sep	16:07	23-Sep	11:45	3.8	2.9	3.2	45.0	ND
141	57	25.02	169	18.26	213	11-Sep	9:20	12-Sep	20:57	2.1	1.3	1.5	39.0	ND
142	57	24.97	169	27.77	239	11-Sep	5:56	12-Sep	21:51	2.3	1.8	2.0	40.0	ND
143	57	24.98	169	36.64	177	14-Sep	7:50	15-Sep	13:31	2.8	2.1	2.3	37.3	ND
144	57	24.87	169	45.89	177	14-Sep	8:38	15-Sep	14:09	2.9	2.4	2.6	35.5	33.27
145	57	24.87	169	55.24	187	14-Sep	12:00	15-Sep	19:14	3.2	3.0	3.1	33.5	ND
146	57	24.85	170	04.51	269	23-Sep	16:05	25-Sep	12:53	4.3	3.1	3.6	32.5	ND
147	57	24.98	170	13.49	232	23-Sep	16:45	25-Sep	7:28	4.4	3.5	3.9	34.8	ND
149	57	25.02	170	32.76	239	21-Sep	18:01	23-Sep	9:53	4.7	4.0	4.4	39.0	ND
150	57	24.90	170	42.22	249	21-Sep	17:18	23-Sep	10:54	4.1	3.5	3.9	42.0	33.14
152	57	29.92	169	00.61	267	1-Oct	17:55	3-Oct	14:28	2.5	1.5	2.2	38.0	ND
153	57	30.06	169	09.87	188	12-Sep	11:36	13-Sep	18:58	1.8	1.1	1.3	38.0	ND
154	57	30.14	169	19.06	197	12-Sep	10:53	13-Sep	19:47	1.9	1.2	1.6	37.5	ND
155	57	30.21	169	28.32	165	12-Sep	10:03	13-Sep	13:39	2.2	1.7	1.9	38.0	ND
157	57	30.00	169	46.70	206	13-Sep	8:58	14-Sep	19:24	2.8	2.1	2.3	38.0	ND
158	57	30.05	169	56.09	351	13-Sep	7:56	14-Sep	13:11	2.9	2.3	2.5	37.0	ND

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Station Number	Latitude		Longitude		Number of Observations	Deployed		Retrieved		Temperature °C			Depth (fm)	Salinity (PSU)
	Degrees	Minutes	Degrees	Minutes		Date	Time	Date	Time	Max	Min	Mean		
159	57	29.97	170	05.03	253	23-Sep	17:56	25-Sep	12:05	3.4	2.7	3.1	37.0	ND
160	57	29.97	170	14.56	232	23-Sep	5:16	25-Sep	8:18	4.0	2.9	3.2	37.5	32.21
161	57	29.92	170	24.22	221	21-Sep	19:15	23-Sep	8:09	4.4	3.2	3.7	38.0	ND
162	57	29.92	170	33.46	231	21-Sep	18:34	23-Sep	9:03	4.2	3.0	3.4	39.8	ND
169	57	00.24	168	47.75	258	4-Oct	18:32	6-Oct	13:39	2.0	1.6	1.8	44.0	ND
174	57	05.01	168	57.31	255	4-Oct	18:00	6-Oct	12:25	1.8	1.6	1.6	42.3	33.29
176	57	09.98	168	30.28	271	2-Oct	17:30	4-Oct	14:52	2.0	1.7	1.9	41.0	ND
177	57	09.97	168	39.39	250	4-Oct	15:59	6-Oct	9:48	1.9	1.6	1.7	41.8	ND
178	57	09.93	168	48.78	240	4-Oct	16:40	6-Oct	8:49	2.1	1.5	1.6	41.5	ND
179	57	09.98	168	57.73	465	4-Oct	17:09	6-Oct	7:56	1.7	1.6	1.6	41.3	ND
180	57	15.06	168	21.60	266	2-Oct	16:45	4-Oct	13:08	2.1	1.7	1.9	40.8	ND
181	57	14.99	168	31.29	526	2-Oct	18:10	4-Oct	14:08	2.0	1.6	1.7	40.8	ND
182	57	15.16	168	39.98	240	3-Oct	20:25	5-Oct	12:29	1.6	1.4	1.5	40.3	ND
185	57	20.03	168	22.05	263	2-Oct	16:13	4-Oct	12:10	2.1	1.7	1.8	40.0	ND
186	57	19.93	168	31.25	242	2-Oct	18:45	4-Oct	11:11	1.7	1.5	1.6	40.0	33.24
188	57	20.22	168	49.77	243	3-Oct	17:49	5-Oct	10:28	1.9	1.4	1.7	40.1	32.11
189	57	20.02	168	58.96	250	3-Oct	15:52	5-Oct	9:30	2.4	1.7	2.0	37.8	32.97
190	57	25.09	168	22.80	250	2-Oct	15:41	4-Oct	9:26	1.7	1.4	1.6	39.0	32.01
191	57	25.07	168	32.02	234	2-Oct	19:25	4-Oct	10:30	1.8	1.4	1.5	39.3	ND
192	57	25.01	168	41.29	212	3-Oct	19:17	5-Oct	6:35	1.6	1.4	1.5	39.8	31.99
196	57	30.48	168	32.67	213	2-Oct	20:03	4-Oct	7:35	1.5	1.3	1.4	39.0	ND
198	57	29.92	168	51.45	237	1-Oct	18:38	3-Oct	10:11	1.9	1.3	1.4	38.0	ND
200	57	35.12	168	33.56	224	30-Sep	17:39	2-Oct	7:11	1.3	1.1	1.2	38.0	ND
201	57	34.90	168	42.66	218	1-Oct	19:44	3-Oct	8:10	1.6	1.2	1.4	38.3	ND
202	57	34.96	168	52.26	253	1-Oct	16:41	3-Oct	10:59	1.8	1.5	1.7	37.8	ND
203	57	34.94	169	00.99	265	1-Oct	17:20	3-Oct	13:36	2.3	1.8	2.2	37.0	33.02
204	57	35.23	169	10.52	205	12-Sep	8:00	13-Sep	18:02	1.5	1.1	1.2	38.0	33.09

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Station Number	Latitude		Longitude		Number of Observations	Deployed		Retrieved		Temperature °C			Depth (fm)	Salinity (PSU)
	Degrees	Minutes	Degrees	Minutes		Date	Time	Date	Time	Max	Min	Mean		
205	57	34.92	169	19.60	216	12-Sep	8:43	13-Sep	20:45	2.0	1.3	1.4	37.3	ND
206	57	35.05	169	28.93	174	12-Sep	9:30	13-Sep	14:30	2.1	1.4	1.7	38.8	32.09
207	57	35.05	169	38.27	175	13-Sep	12:09	14-Sep	17:24	1.9	1.5	1.7	38.5	32.16
208	57	35.06	169	47.40	196	13-Sep	9:56	14-Sep	18:30	2.3	1.6	1.9	39.0	33.18
210	57	34.98	170	05.98	243	23-Sep	18:36	25-Sep	11:07	3.4	2.6	2.7	39.0	ND
212	57	39.90	168	24.99	256	30-Sep	18:47	2-Oct	13:30	1.2	1.1	1.2	38.0	ND
213	57	40.06	168	34.30	234	30-Sep	17:04	2-Oct	8:11	2.1	1.2	1.2	38.0	ND
214	57	39.91	168	43.61	208	1-Oct	20:20	3-Oct	7:05	1.4	1.3	1.3	38.0	ND
216	57	39.91	169	01.78	273	1-Oct	15:19	3-Oct	12:52	2.0	1.7	1.8	37.0	ND
217	57	40.05	169	11.33	203	12-Sep	7:25	13-Sep	17:18	1.1	1.0	1.0	37.0	ND
218	57	39.97	169	20.91	202	12-Sep	6:45	13-Sep	16:27	1.8	1.0	1.3	38.0	ND
219	57	40.06	169	29.75	201	12-Sep	5:54	13-Sep	15:27	2.2	1.3	1.5	38.0	ND
220	57	39.92	169	38.89	175	13-Sep	11:30	14-Sep	16:49	1.5	1.3	1.4	38.0	ND
221	57	39.94	169	48.18	174	13-Sep	10:50	14-Sep	15:55	1.9	1.6	1.8	39.0	ND
222	57	40.11	169	57.19	193	13-Sep	6:43	14-Sep	14:55	2.3	1.9	2.1	38.3	ND
223	57	39.95	170	06.94	249	27-Sep	14:08	29-Sep	7:25	2.6	2.3	2.4	39.0	33.18
224	57	40.54	170	16.01	250	27-Sep	13:10	29-Sep	6:52	2.9	2.3	2.6	39.0	ND
225	57	34.97	170	24.72	224	23-Sep	19:52	25-Sep	9:18	3.6	2.7	2.8	39.0	ND
226	57	44.90	168	25.62	248	30-Sep	19:22	2-Oct	12:38	1.3	1.1	1.2	38.5	31.89
227	57	44.84	168	35.03	244	30-Sep	16:33	2-Oct	8:58	1.4	1.1	1.2	38.0	31.87
228	57	45.04	168	43.88	252	30-Sep	15:55	2-Oct	9:48	1.4	1.2	1.3	38.0	33.06
229	57	45.04	168	53.06	268	29-Sep	17:40	1-Oct	14:26	1.4	1.2	1.4	37.3	ND
230	57	44.97	169	02.25	240	29-Sep	16:57	1-Oct	8:56	1.5	1.3	1.4	35.8	ND
231	57	45.02	169	11.70	238	29-Sep	16:20	1-Oct	8:04	1.5	1.3	1.4	35.5	ND
233	57	44.97	169	30.02	214	28-Sep	20:33	30-Sep	8:15	1.6	1.4	1.5	36.5	ND
236	57	45.02	169	57.98	253	27-Sep	15:18	29-Sep	9:30	2.3	2.0	2.1	38.0	ND
241	57	50.01	168	35.28	471	30-Sep	20:12	2-Oct	11:35	1.3	1.1	1.1	38.0	ND

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Station Number	Latitude		Longitude		Number of Observations	Deployed		Retrieved		Temperature °C			Depth (fm)	Salinity (PSU)
	Degrees	Minutes	Degrees	Minutes		Date	Time	Date	Time	Max	Min	Mean		
242	57	50.01	168	44.79	260	30-Sep	15:21	2-Oct	10:45	1.3	1.0	1.1	38.0	ND
244	57	50.07	169	02.83	234	29-Sep	18:55	1-Oct	9:54	1.3	1.1	1.2	35.5	ND
245	57	49.95	169	12.22	236	29-Sep	15:40	1-Oct	7:10	1.3	1.2	1.2	34.0	ND
246	57	49.95	169	21.81	232	28-Sep	19:17	30-Sep	9:54	1.6	1.2	1.3	36.0	ND
247	57	50.05	169	30.66	240	28-Sep	18:42	30-Sep	10:47	1.9	1.2	1.3	37.0	ND
248	57	49.91	169	40.65	393	28-Sep	21:47	30-Sep	6:39	1.8	1.2	1.2	38.0	ND
249	57	49.93	169	49.84	255	27-Sep	16:30	29-Sep	11:10	1.3	1.1	1.2	38.8	ND
250	57	50.02	169	58.59	257	27-Sep	17:08	29-Sep	12:01	1.8	1.4	1.6	39.0	ND
255	57	54.98	168	45.18	237	29-Sep	20:40	1-Oct	12:18	1.1	1.0	1.1	38.0	ND
256	57	54.91	168	54.47	238	29-Sep	19:57	1-Oct	11:40	1.1	1.0	1.1	38.3	32.83
258	57	54.92	169	13.10	266	28-Sep	16:48	30-Sep	13:06	1.2	1.0	1.1	36.0	33.06
259	57	54.93	169	22.57	258	28-Sep	17:27	30-Sep	12:25	1.4	1.2	1.2	36.3	ND
260	57	54.95	169	31.44	248	28-Sep	18:06	30-Sep	11:33	1.4	1.1	1.2	37.0	32.01
261	57	55.00	169	41.14	260	27-Sep	18:22	29-Sep	13:49	1.1	1.0	1.1	38.0	ND
262	57	54.92	169	50.53	258	27-Sep	17:48	29-Sep	12:52	1.1	0.9	1.0	38.5	33.45
282	56	54.99	168	56.44	266	4-Oct	19:11	6-Oct	15:38	2.4	1.9	2.1	44.8	ND

Appendix B2.–Oceanographic data obtained by pot (listed by sequential pot number) during the 2008 Pribilof king crab niche fishing. ND represents no data available for that parameter.

SPN	Latitude		Longitude		Number of Observations	Deployed		Retrieved		Temperature °C			Depth (fm)	Salinity (PSU)
	Degrees	Minutes	Degrees	Minutes		Date	Time	Date	Time	Max	Min	Mean		
132	57	21.58	169	15.99	211	11-Sep	8:47	12-Sep	19:55	2.2	1.4	1.8	40.2	ND
408	57	06.87	170	28.82	423	19-Sep	8:02	22-Sep	6:39	6.8	4.6	5.6	26.7	31.99
522	57	07.43	170	29.63	236	22-Sep	16:11	24-Sep	7:37	7.1	5.9	6.4	28.1	ND
527	57	06.80	170	28.62	233	22-Sep	16:20	24-Sep	7:16	7.1	5.7	6.5	26.6	ND
530	57	06.53	170	27.05	237	22-Sep	16:28	24-Sep	8:05	7.3	6.2	6.7	26.0	31.91
535	57	07.13	170	28.06	252	22-Sep	16:36	24-Sep	10:40	7.3	6.0	6.6	27.3	ND
540	57	07.79	170	29.25	248	22-Sep	16:43	24-Sep	10:02	7.2	5.9	6.5	28.9	ND
546	57	07.94	170	28.56	256	22-Sep	16:57	24-Sep	11:32	7.4	6.0	6.6	28.4	ND
548	57	07.67	170	28.16	257	22-Sep	17:00	24-Sep	11:56	7.4	6.0	6.6	28.5	ND
550	57	07.38	170	27.72	259	22-Sep	17:03	24-Sep	12:20	7.4	6.1	6.7	28.0	ND
593	57	07.56	170	30.76	258	24-Sep	13:48	26-Sep	8:48	7.3	5.5	6.4	30.5	ND
595	57	07.24	170	30.26	256	24-Sep	13:52	26-Sep	8:35	7.1	5.6	6.5	29.1	ND
597	57	06.93	170	29.78	255	24-Sep	13:55	26-Sep	8:27	7.1	5.6	6.5	27.0	ND
602	57	04.86	170	27.40	242	24-Sep	14:12	26-Sep	6:35	7.2	6.0	6.8	24.5	33.06
603	57	05.07	170	27.41	242	24-Sep	14:15	26-Sep	6:40	7.1	6.1	6.8	24.3	ND
607	57	05.92	170	27.39	244	24-Sep	14:23	26-Sep	7:02	7.2	6.6	6.9	24.7	ND
613	57	07.25	170	27.37	247	24-Sep	14:43	26-Sep	7:42	7.3	6.7	6.9	27.0	31.90
618	57	07.84	170	28.95	262	24-Sep	14:50	26-Sep	10:37	7.2	6.2	6.8	28.6	ND
623	57	07.72	170	30.92	257	24-Sep	15:02	26-Sep	9:59	7.0	5.5	6.5	30.1	ND
629	57	20.51	170	02.41	243	25-Sep	14:18	27-Sep	7:00	4.9	4.0	4.4	30.9	ND
632	57	19.73	170	02.43	245	25-Sep	14:25	27-Sep	7:16	6.5	4.4	5.1	26.8	ND
635	57	19.04	170	02.44	245	25-Sep	14:29	27-Sep	7:32	7.3	4.6	5.4	24.6	ND
640	57	19.49	170	03.84	248	25-Sep	14:43	27-Sep	8:08	6.5	4.6	5.2	28.7	ND
648	57	21.49	170	03.81	252	25-Sep	14:55	27-Sep	8:57	4.5	3.7	4.0	31.4	ND
651	57	21.75	170	04.93	262	25-Sep	15:03	27-Sep	10:44	4.7	3.7	4.1	30.6	32.12
657	57	20.24	170	04.92	258	25-Sep	15:15	27-Sep	10:17	5.9	4.3	5.0	29.3	33.06

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Appendix B2.–Page 2 of 2.

SPN	Latitude		Longitude		Number of Observations	Deployed		Retrieved		Temperature °C			Depth (fm)	Salinity (PSU)
	Degrees	Minutes	Degrees	Minutes		Date	Time	Date	Time	Max	Min	Mean		
670	57	17.26	169	58.01	215	26-Sep	20:28	28-Sep	8:30	7.1	4.3	5.7	24.3	ND
676	57	18.75	169	53.97	209	26-Sep	20:54	28-Sep	7:46	4.7	3.8	4.1	30.6	ND
678	57	19.28	169	53.98	207	26-Sep	20:58	28-Sep	7:36	4.5	3.7	4.0	31.4	ND
680	57	18.50	169	56.17	223	26-Sep	21:10	28-Sep	10:26	6.0	3.9	4.7	26.5	ND
684	57	19.50	169	56.10	224	26-Sep	21:21	28-Sep	10:45	5.2	3.7	4.1	31.1	ND
686	57	20.00	169	56.10	225	26-Sep	21:26	28-Sep	10:53	4.4	3.6	3.8	32.0	32.07
692	57	20.75	169	57.51	225	26-Sep	21:43	28-Sep	11:20	3.9	3.6	3.7	34.9	ND
696	57	21.75	169	57.51	226	26-Sep	21:52	28-Sep	11:33	3.9	3.4	3.6	34.6	ND
697	57	21.97	169	57.51	227	26-Sep	21:55	28-Sep	11:37	3.7	3.4	3.6	33.4	33.24
R ¹	57	00.02	169	28.58	4,056	8-Sep	16:10	6-Oct	20:00	6.5	3.0	4.6	36.3	ND
R ¹	57	12.15	169	33.21	4,058	8-Sep	14:50	6-Oct	18:50	4.8	1.4	3.4	39.7	ND

¹R = Survey reference temperature pot.