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U.S DEPARTMENT OF COMMERCE

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Report to Industry on the 2006 Eastern Bering Sea Crab Survey

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Cover Photo: A crabber moored in St. Herman Harbor in Kodiak, Alaska. October 2006. Photographer: R. A. MacIntosh.

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Alaska Fisheries Science Center
Processed Report 2006-17

REPORT TO INDUSTRY ON THE 2006 EASTERN BERING SEA CRAB SURVEY

by
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2006

RESULTS OF THE 2006 NMFS BERING SEA CRAB SURVEY EXECUTIVE SUMMARY

This document summarizes data to be presented in the Report to Industry on the 2006 Eastern Bering Sea Trawl Survey. Numbers presented are trawl survey indices of population level and do not necessarily represent absolute abundance.

For further information, contact Dr. Louis Rugolo, NMFS, 301 Research Court, Kodiak, AK 99615. Phone (907) 481-1715. TACs (Total Allowable Catch) are for the combined open-access and CDQ fisheries.

Red king crab *(Paralithodes camtschaticus)* Bristol Bay.

Legal males:	12.5 million crabs; 26% increase.
Pre-recruits:	7.4 million crabs; 28% decrease.
Large females:	29.7 million crabs; 30% decrease.
Status:	Abundance of legal males increased and that of pre-recruit males declined in 2006. The 2006 abundance of mature females decreased substantially. Except for the legal male category, all sex-specific size categories declined in abundance relative to 2005. The overall population abundance declined by 26%; total males declined by 20% and that for females by 41%. Almost all new-shell females carried new eggs. The 2006 survey found poor representation of small male and female crabs in the population. Legal males in 2006 are represented by a large (80%) proportion of new-shell individuals. Estimated total mature biomass is above the minimum stock size threshold (MSST) in 2006. The stock is not considered to be in the overfished level of abundance although it remains far below the peak population levels of the 1970s.
TAC:	15.5 million pounds (7,029.5 metric tons(t)). Fishery opened 15 October 2006.

Red king crab *(P. camtschaticus)* Pribilof District.

Legal males:	1.3 million crabs; 369% increase.
Pre-recruits:	0.3 million crabs; 1,242% increase.
Large females:	0.9 million crabs; 33% decrease.
Status:	Crabs are highly concentrated, and indices of abundance of all categories are characterized by very poor precision. Pre-recruit and legal male abundance increased sharply relative to 2005 although that for small males declined by 51%. The 2006 male abundance estimates are highly influenced by the results of a limited number of survey tows. Total female abundance declined also 33% in 2006. Estimated total mature biomass is above the MSST; the stock is not considered to be in the overfished level of abundance. Future recruitment is difficult to discern. Red king crabs in the Pribilof Islands have been historically harvested with blue king crabs and are currently the dominant of the two species in this area. There are concerns as to the low reliability of estimates and that unacceptable levels of blue king crab incidental catch could occur in a directed Pribilof Islands red king crab fishery.
TAC:	Fishery did not open in 2006.

Pribilof Islands blue king crab *(P. platypus)* Pribilof District.

Legal males:	0.04 million crabs; 63% decrease.
Pre-recruits:	0.04 million crabs; no change.
Large females:	0.5 million crabs; 51% increase.
Status:	The population is extremely low and trends in abundance are not easily detectable. Indices of abundance are characterized by very poor precision. Except for the large female category, all sex-specific size categories declined substantially in abundance relative to 2005; the overall population declined by 86%. Total males declined by 92%; that for females declined by 80%. Little or no recruitment to the stock is apparent, thus giving little indication of future stock recovery. The current assessment represents the lowest total population estimates on record. Estimated total mature biomass fell below the MSST in 2002 and has remained below threshold for the 5th consecutive year. The stock is considered to be in the overfished level of abundance.
TAC:	Fishery did not open in 2006.

St. Matthew blue king crab *(P. platypus)* Northern District.

Legal males:	1.4 million crabs; 151% increase.
Pre-recruits:	0.7 million crabs; 141% increase.
Large females:	0.3 million crabs; 26% increase.
Status:	Indices of abundance are affected by the portion of the stock occupying inshore rocky untrawlable grounds. Overall male abundance increased by 131% relative to 2005; that for females increased by 7%. This population declined steeply in 1999 and estimated total mature biomass fell below the MSST. The size distribution of the male stock improved in 2006 relative to 1999-2005 although it remains in poor condition compared to pre-1999 levels. Total mature biomass has remained below the MSST since 1999 with the exception of 2002 where it was slightly above threshold. In 2006, total mature biomass is slightly below the MSST. The stock continues to be in the overfished level of abundance. Assessment of this stock is clouded by large uncertainty in female abundance. The 2006 estimate of male biomass is above the harvest strategy threshold for opening the fishery although the computed TAC is below the minimum fishery management threshold.
TAC:	Fishery did not open in 2006.

Tanner crab *(Chionoecetes bairdi)* Eastern District.

Legal males:	14.6 million crabs; 28% increase.
Pre-recruits:	73.3 million crabs; 41% increase.
Large females:	43.4 million crabs; 49% increase.
Status:	Indices of abundance continue to increase and the population is demonstrating encouraging signs of recovery. With the exception of the small female category, all sex-specific size categories increased relative to 2005. Total male abundance increased by 32%; that for females declined by 5% due to the influence of the decline in small-sized females. The 2006 legal male abundance index is evidenced by extremely poor precision. Legal-sized males represent only a small portion of mature male abundance in 2006.

Future recruitment to the mature stock is uncertain due to poor representation of small males in the population. A notable proportion of old to very old shell crab are observed in the male size distribution at 80 mm carapace width and above implying that these males will not molt to legal size in the future. Total mature biomass fell below the MSST in 1997-2002, rose slightly above threshold in 2003, fell slightly below in 2004 and rose above the MSST in 2005. In 2006, total mature biomass rose above the level (BMSY) indicative of a restored stock. It will be considered rebuilt under the current plan if it remains above BMSY in 2007.

TAC: 1.875 million pounds (850.3 t) east of 166°W longitude.
1.094 million pounds (496.2 t) west of 166°W longitude.
Both fisheries opened 15 October 2006.

Snow crab *(C. opilio)* All districts combined.

Large males: 143.9 million crabs; 100% increase.

Pre-recruits: 288.4 million crabs; 1.5% increase.

Large females: 1,045.5 million crabs; 36% decrease.

Status: The abundance index of large males doubled relative to that in 2005 although it is marked by extremely poor precision. This increase in legal males was not expected given the abundance of pre-recruit males in previous years, and it resulted largely from the contribution of a single survey tow. Pre-recruit male abundance was unchanged in 2006. Large female abundance decreased relative to 2005, and apparent recruitment to the reproductive stock is seen at the lower end of the mature size range. Except for the large and pre-recruit male categories, all sex-specific size categories declined in abundance relative to 2005; total males declined by 32%, that for females by 43%, and for the overall population by 38%. The female reproductive stock is evidenced by high frequencies of old and very old shell crab which is of concern in terms of expected reproductive output. There is apparent recruitment failure in the small male and female size categories; the recruitment trend since 1994 is dramatically low and future outlook of stock health is uncertain. Total mature biomass fell below the MSST in 1999, rose slightly above threshold in 2000 and 2001, fell below threshold in 2002-2004, and it rose slightly above in 2005. Total mature biomass declined in 2006 relative to 2005 but it remains above the MSST. The stock is considered to be in the overfished level of abundance.

TAC: 36.566 million pounds (16,583.2 t). Fishery opened 15 October 2006.

Hair crab *(Erimacrus isenbeckii)* All districts combined.

Legal males: 1.1 million crabs; 270% increase.

Large females: 3.8 million crabs; 341% increase.

Status: The population had been declining for several years through 2006. The abundance indices of all sex-specific size categories increased in abundance relative to 2005. Recruitment trends in this stock are unclear due to poor representation of small crabs in the survey and the extremely poor precision of the abundance estimates. Current stock status is not well estimated.

TAC: Fishery did not open in 2006.

THE 2006 EASTERN BERING SEA SURVEY

The National Marine Fisheries Service (NMFS) conducts an annual trawl survey in the eastern Bering Sea (EBS) to determine the distribution and abundance of crab and groundfish resources. This report summarizes survey results for commercially important crabs. It is intended to aid the fishing industry in locating productive grounds and judging overall availability of various species. Survey-derived data are also used as part of the basis for management decisions. Results are presented for red king crab (*Paralithodes camtschaticus*), blue king crab (*P. platypus*), hair crab (*Erimacrus isenbeckii*), Tanner crab (*Chionoecetes bairdi*) and snow crab (*C. opilio*).

Information on groundfish resources is available from the Alaska Fisheries Science Center, 7600 Sand Point Way NE, Seattle, Washington 98115.

Landing statistics for 2006 are preliminary data obtained from the Alaska Department of Fish and Game (F. Bowers, ADF&G, Dutch Harbor, personal communication). Those needing final statistics should contact ADF&G directly.

Survey Area and Methods

The 2006 EBS crab survey consisted of 439 bottom trawl tows over an area of approximately 151,578 square nautical miles (nmi). The survey area (Figure 1) has been standardized since 1990. The survey was conducted aboard two chartered vessels, the FV *Arcturus* and FV *Northwest Explorer*, between 30 May and 25 July. Methodology was identical to that of previous surveys, and most tows were made at the centers of squares defined by a 20 x 20 nmi (37 x 37 km) grid. Near St. Matthew Island and the Pribilof Islands, additional tows were made at the corners of squares. Average bottom water temperatures are shown in Chart 6 for each grid square.

Both vessels fished an eastern otter trawl with an 83 ft (25.3 m) headrope and a 112 ft (34.1 m) footrope. This has been the standard trawl since 1982. Each tow was one-half hour in duration, an average length of 1.54 nmi (2.86 km), and conducted in strict compliance with established NOAA groundfish bottom trawl protocols (Stauffer 2004). Crabs were sorted by species and sex, and then a sample of crabs was measured (to the nearest millimeter) to provide a size-frequency distribution. Crab sizes are reported as carapace width (cw) for Tanner, snow and hair crabs, and carapace length (cl) for all others. Procedures for estimating abundance were similar to previous years (see Appendix A). Note that population estimates are indexes and are most precise for large crabs; they may not represent absolute abundance and are least precise for small crab due to gear selectivity, and for females of some stocks due to differential crab behavior.

Because of variations in tow length, catches presented in accompanying charts and tables are standardized to the nearest whole number of crab caught per square nautical mile. Where more than one tow was made in a square (including corner tows), charts indicate average crab density for all tows in that square. Tables 7-11 present data for all tows where a species was caught, without averaging. It is advisable to cross-reference charts and tables.

The following abbreviations are used in the text: (in) inches, (m) meters, (km) kilometers, (mm) millimeters, (fm) fathoms, (lbs) pounds, (t) metric tons, (°C) degrees Celsius, (nmi) nautical miles, (cl) carapace length, (cw) carapace width, (MSST) minimum stock size threshold, (NPFMC) North Pacific Fishery Management Council, and (MSFCMA) Magnuson-Stevens Fishery Conservation and Management Act. TAC refers to Total Allowable Catch which is for the combined general and Community Development Quota (CDQ) fisheries. FMP refers to the current (1998)

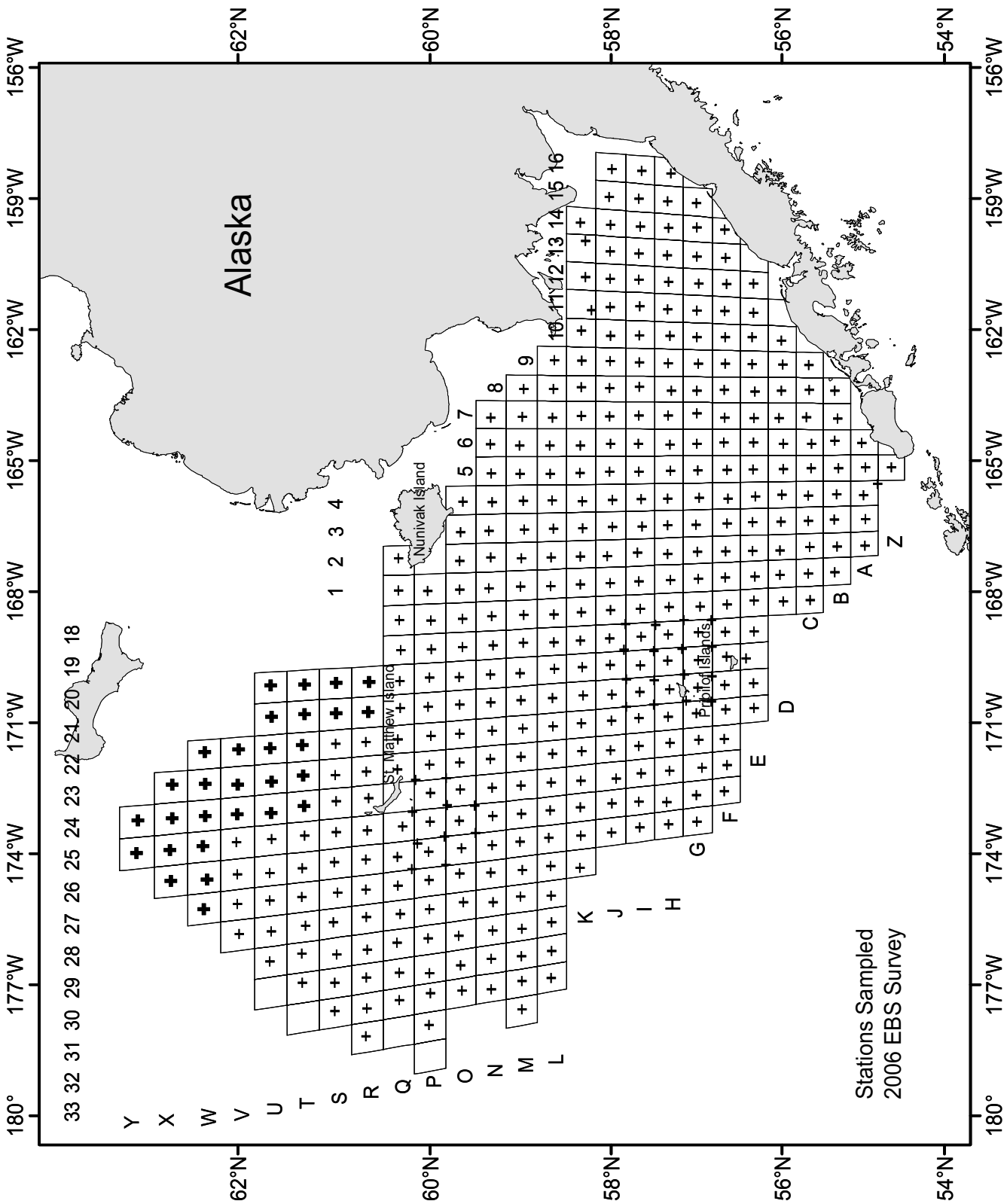

Figure 1. NMFS eastern Bering Sea crab survey area in 2006. Bold symbols represent the additional northern area snow crab stations surveyed in 2006.

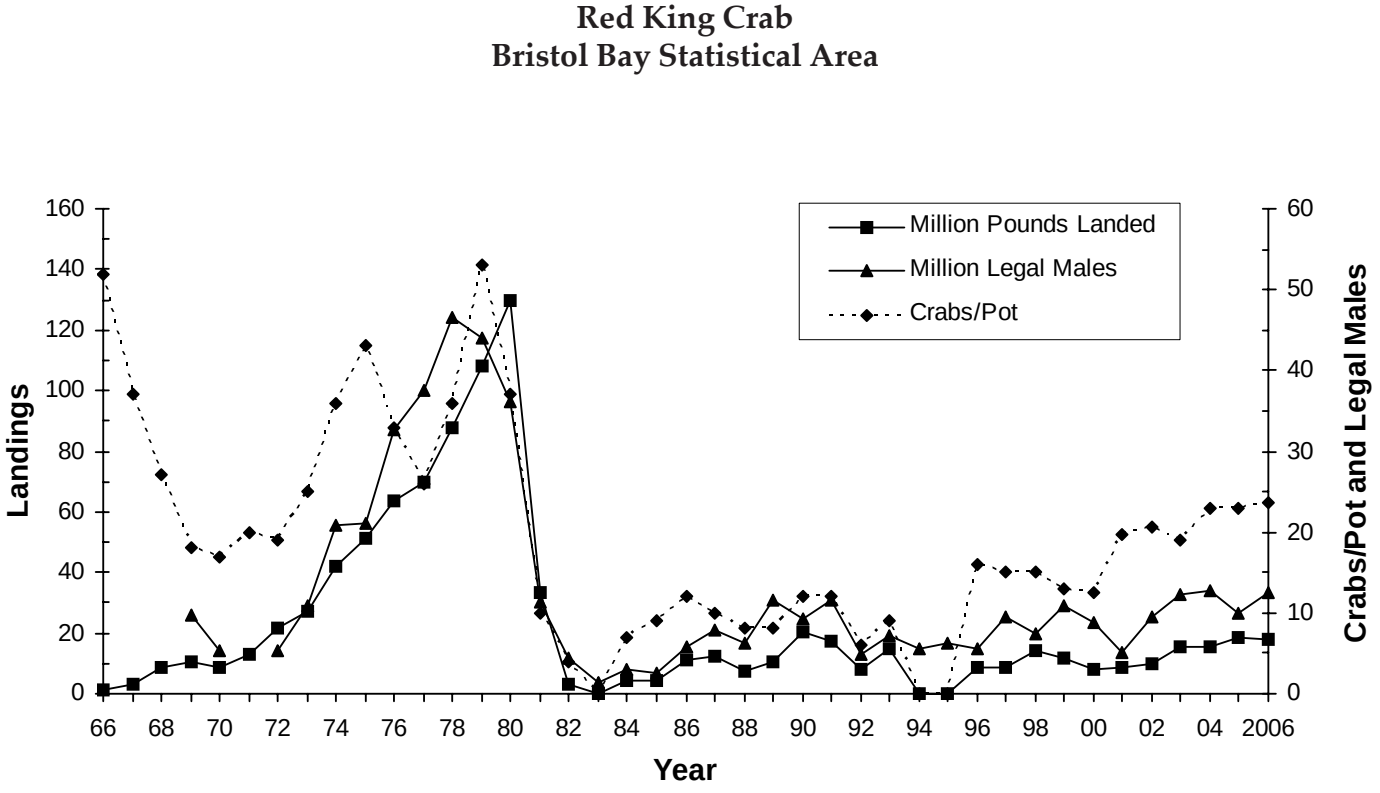

Figure 2. U.S. landings in millions of pounds, CPUE as crabs/pot-lift, and abundance of legal red king crab *(P. camtschaticus)* in millions in Bristol Bay, estimated from NMFS trawl surveys (abundance data include the Pribilof District prior to 1983).

version of the Fishery Management Plan for Bering Sea/Aleutian Islands King and Tanner Crabs. Terminology for shell condition categories is explained in Appendix B.

In this report, the 1997-2002 abundance estimates for all species have changed relative to those previously published. The changes are relatively minor, and comprise an approximate 1-5% increase in abundance compared to previous values. These resulted from recent corrections in the files containing the haul statistics for each survey year to properly categorize poor performance hauls prior to abundance estimation.

Distribution and Abundance of Crab Stocks

Bristol Bay Red King Crab (*P. camtschaticus*)

Legal-sized (≥ 6.5 in cw or 135 mm cl) male crabs were concentrated in central Bristol Bay (Chart 1 and Table 7). The abundance index of legal male red king crab in the Bristol Bay Registration Area (south of 58°39'N and east of 168°W) was 12.5 million (Table 1 and Figure 2). This estimate represents a 26% increase from last year, and it exceeds the average for the previous 20 years (8.5 million). The index (7.4 million) for pre-recruit crab (110-134 mm cl) decreased by 28%. Abundance of small males decreased by 33%. The 65 mm cl cohort of 2004 appears in 2005 at approximately 70 mm cl (Figure 3). The 70 mm cl cohort of 2002, which grew to 90 mm cl in 2003, 110 mm cl in 2004, and 120 mm cl in 2005, is evident at 135 mm cl at declining levels of abundance and aging as seen by increasing old and older shell condition classes. The cohort with a modal size of 80 mm cl in 2000 that we've followed to a modal size of 150 mm cl in 2004 and 160 mm cl in 2006 is disappearing and aging rapidly (Figure 3). A small portion (0.2%) of legal male crabs were in molt-

Table 1. Annual abundance estimates (millions of crabs) for red king crab (*P. camtschaticus*) from NMFS surveys. Bristol Bay and Pribilof Districts are combined except where noted with a (B) or (P).

	Males				Females			
	Small	Pre-recruit	Legal		Small	Large		
Carapace Length(mm)	<110	110-134	≥135		<90	≥90		Grand
Width(in)	<5.2	5.2-6.4	≥6.5	Total	<4.3	≥4.3	Total	Total
1986	11.8	12.3	5.9	30.1	4.5	5.4	9.8	39.9
1987	20.1	12.6	7.9	40.6	16.8	18.3	35.1	75.7
1988	8.5	6.4	6.4	21.3	2.7	15.7	18.4	39.7
1989	8.6	9.4	11.9	29.9	4.4	16.9	21.2	51.1
1990	8.2	10.2	9.2	27.6	7.2	17.5	24.7	52.2
1991	8.1	6.4	12.0	26.5	4.7	12.6	17.4	43.9
1992	7.0	5.5	5.8	18.3	2.2	13.4	15.6	33.9
1993	5.7	10.2	9.8	25.7	2.5	19.2	21.7	47.4
1994	6.2	6.7	7.5	20.4	3.4	10.1	13.5	33.9
1995	9.7	6.0	8.9	24.6	4.9	10.4	15.3	33.9
1996	17.2	3.5	6.0	26.7	13.7	12.9	26.6	53.3
1997	28.1	9.8	10.6	48.5	1.8	26.5	28.3	76.8
1998(B)	11.1	16.7	7.5	35.3	5.6	35.8	41.4	76.7
1999(B)	8.4	7.4	11.5	27.3	6.4	15.1	21.6	48.9
2000(B)	11.4	7.3	8.9	27.6	5.7	17.4	23.1	50.7
2001(B)	10.2	4.4	5.3	19.9	3.9	21.8	25.7	45.5
2002(B)	20.7	9.9	9.5	40.0	18.9	19.4	38.3	78.3
2003(B)	17.9	9.0	12.3	39.3	10.8	34.0	44.8	84.1
2004(B)	32.3	10.3	12.8	55.4	18.4	31.7	50.1	105.5
2005(B)	29.2	10.4	10.0	49.6	19.6	42.6	62.2	111.8
2006(B)	19.5	7.4	12.5	39.5	13.5	29.7	43.2	82.7
Limits[1]								
Lower	14.8	6.6	6.5	34.9	8.5	24.7	37.6	72.5
Upper	49.7	14.0	19.1	75.9	28.4	38.7	62.7	138.5
±%	54	36	49	37	54	22	25	31
1998(P)	0.2	0.6	0.4	1.2	0.0	1.0	1.1	2.2
1999(P)	6.5	0.6	1.1	8.2	6.3	3.1	9.4	17.6
2000(P)	0.0	0.4	1.2	1.5	0.0	0.6	0.6	2.2
2001(P)	1.4	2.5	1.8	5.6	0.0	4.0	4.0	9.6
2002(P)	0.0	0.0	1.8	1.8	0.0	0.4	0.4	2.3
2003(P)	0.0	0.1	1.3	1.4	0.0	1.1	1.2	2.6
2004(P)	1.4	0.0	0.8	2.2	1.1	0.6	1.6	3.8
2005(P)	0.0	0.0	0.3	0.3	0.0	1.4	1.4	1.7
2006(P)	0.0	0.3	1.3	1.5	0.0	0.9	0.9	2.5

[1] Mean ± 2 standard errors for most recent year; Bristol Bay only.

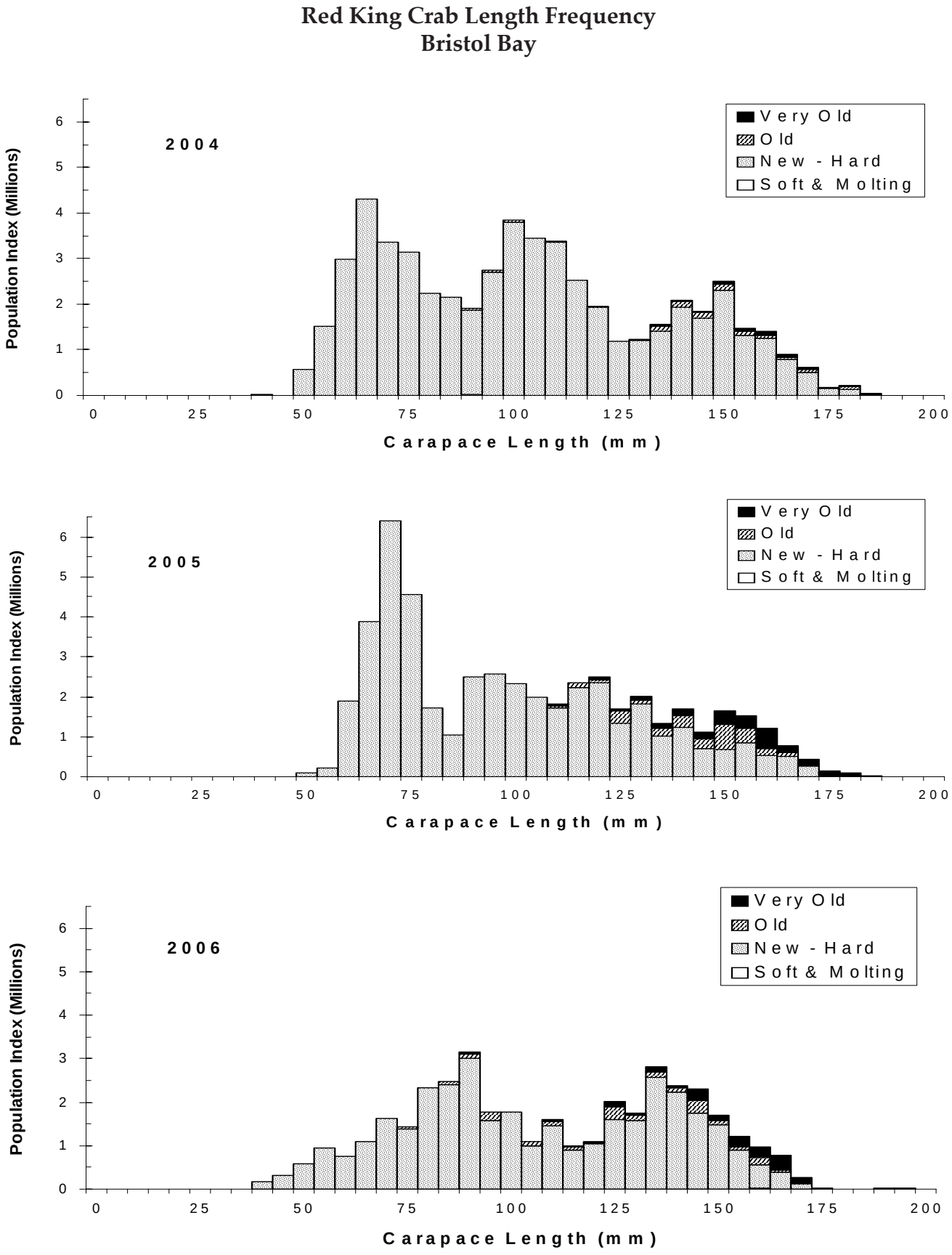

Figure 3. Size-frequency of male red king crab (*P. camtschaticus*) by 5 mm length classes, 2004-2006.

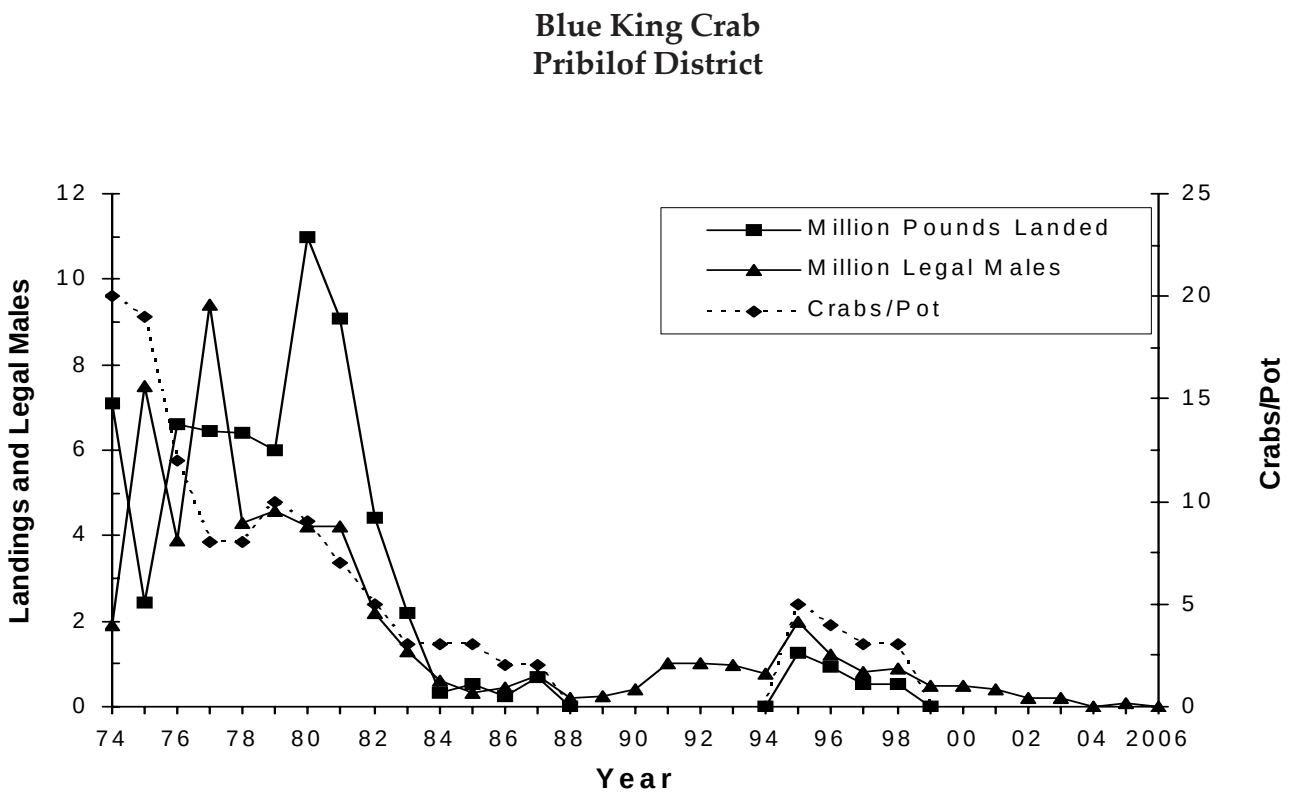

Figure 4. U.S. landings in millions of pounds, CPUE as crabs/pot-lift, and abundance of legal blue king crab *(P. platypus)* in millions in the Pribilof Islands (Pribilof District), estimated from NMFS trawl surveys.

ing or softshell condition, 89% were new-hardshell crabs, and the remainder were oldshell and older crabs. The 2006 abundance index (29.7 million crabs) for large (≥ 90 mm cl) females represents a 30% decrease from last year. In 2006, we observed unusually cold bottom water temperatures at the start of the survey which persisted through Bristol Bay. The average bottom water temperature over the first survey leg (02-17 June) was 2.6°C. Among female crab sampled during the first leg, 64% were mature, of which only 59% had molted and extruded a new clutch of uneyed eggs. This latter percentage was low and of concern regarding the reproductive condition of the stock. Since the timing of molting, mating and embryo extrusion is understood to be related to ambient water temperature, we resurveyed a select group of 30 Bristol Bay stations from 19-24 July after the completion of the standard survey to assess stock status. By comparison, the average bottom water temperature observed in the re-sampled 30 stations was 4.9°C as compared to 2.2°C in these stations observed in the first survey leg. Among resurveyed female crab, 68% were found to be mature, and 99% of these had completed the molt-mate cycle and extruded new, uneyed eggs. Therefore, for the purpose of characterizing the status of the reproductive stock, we employed the reproductive condition, as well as the shell-class and size-frequency distributions of females observed in the 30 resurveyed stations, and abundance estimates for the standard plus resurveyed stations combined.

ADF&G has developed a length-based assessment (LBA) model, which was fitted to the survey time series data. The LBA estimate of 40.5 million mature females was larger than the survey estimate for large females (29.7 million) and equated to 67.2 million pounds of effective spawning biomass. The total mature biomass is above the MSST threshold, allowing a 15% harvest rate under the ADF&G har-

Table 2. Annual abundance estimates (millions of crabs) for blue king crab (*P. platypus*) in the Pribilof Islands (Pribilof District) from NMFS surveys.

Pribilof District

	Males				Females			
	Small	Pre-recruit	Legal		Small	Large		
Carapace Length(mm)	<110	110-134	≥135		<90	≥90		Grand
Width(in)	<5.2	5.2-6.4	≥6.5	Total	<4.3	≥4.3	Total	Total
1986	<0.1	<0.1	0.4	0.5	<0.1	1.9	1.9	2.4
1987	0.6	0.1	0.7	1.4	0.4	0.6	1.0	2.4
1988	1.1	0.0	0.2	1.3	0.8	0.4	1.2	2.5
1989	3.2	0.1	0.2	3.5	2.3	1.3	3.6	7.1
1990	1.8	1.2	0.4	3.5	1.8	2.7	4.5	8.0
1991	1.3	1.0	1.0	3.4	0.6	2.8	3.4	6.7
1992	1.6	1.2	1.0	3.8	1.3	2.1	3.4	7.1
1993	1.0	0.8	1.0	2.8	0.3	2.2	2.5	5.3
1994	0.3	0.5	0.8	1.6	0.1	4.3	4.3	5.9
1995	0.8	1.2	2.0	3.9	0.4	4.0	4.5	8.4
1996	0.3	0.7	1.2	2.3	0.1	4.6	4.7	7.0
1997	0.3	0.4	0.8	1.5	0.1	2.5	2.6	4.1
1998	0.8	0.4	0.9	2.1	0.3	2.1	2.3	4.4
1999	0.1	0.2	0.5	0.8	0.0	2.5	2.5	3.3
2000	0.1	0.2	0.5	0.9	0.0	1.4	1.4	2.3
2001	0.0	0.1	0.4	0.6	0.0	1.6	1.6	2.2
2002	0.0	0.0	0.2	0.2	0.0	1.2	1.3	1.5
2003	0.0	0.0	0.2	0.3	0.0	1.1	1.2	1.4
2004	0.1	0.1	0.0	0.2	0.1	0.1	0.2	0.3
2005	2.1	0.0	0.1	2.1	2.3	0.3	2.6	4.8
2006	0.1	0.0	0.0	0.2	0.1	0.5	0.5	0.7
Limits[1]								
Lower	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Upper	0.2	0.2	0.0	0.3	0.1	0.2	0.3	0.6
±%	119	200	140	93	119	135	119	106

[1] Mean ± 2 standard errors for most recent year.

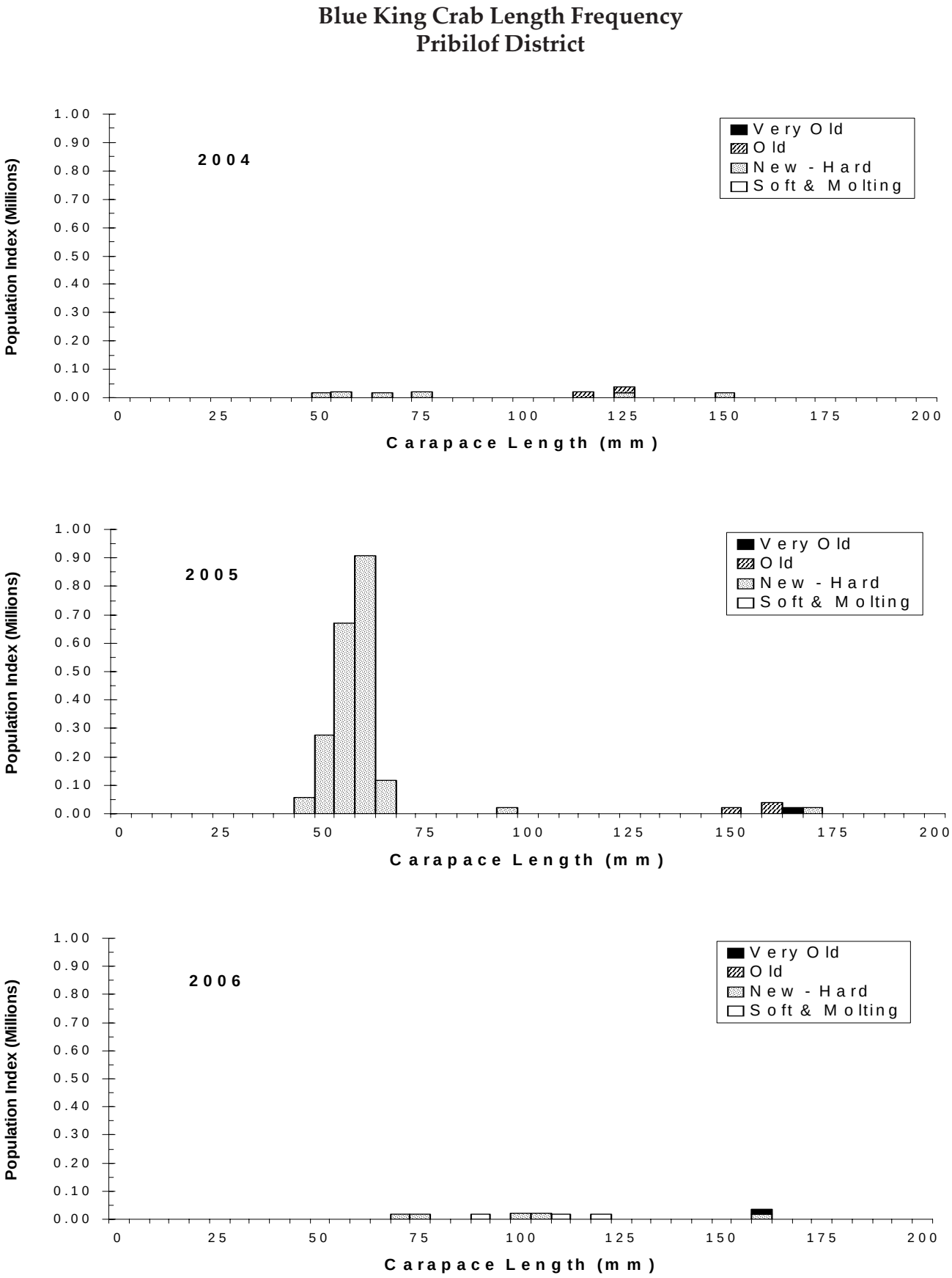

Figure 5. Size-frequency of Pribilof Islands (Pribilof District) male blue king crab (*P. platypus*), by 5 mm length classes, 2004-2006.

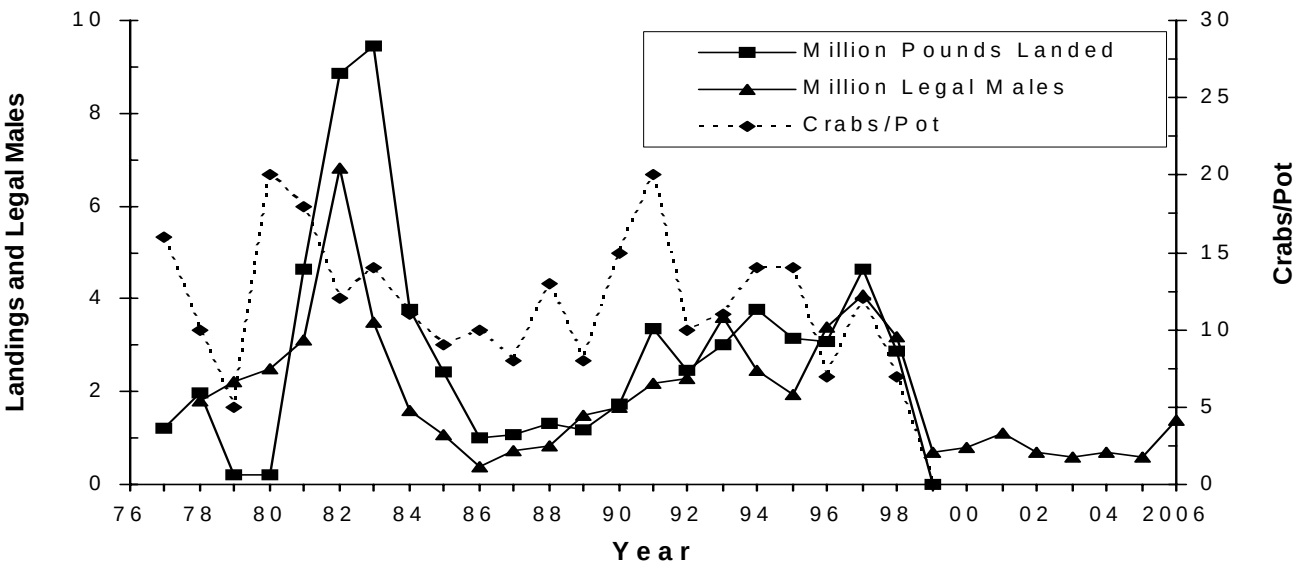

Figure 6. U.S. landings in millions of pounds, CPUE as crabs/pot-lift, and the abundance of legal blue king crabs *(P. platypus)* in millions in the St. Matthew Island (Northern District), estimated from NMFS trawl surveys.

vest strategy. This resulted in a TAC of 15.5 million lbs (7,029.5 t), including 1.6 million lbs of CDQ. The total TAC translates into approximately 2.48 million crabs at an average weight of 6.25 lbs per legal male.

Pribilof Islands Red King Crab
(P. camtschaticus)

In the Pribilof District (south of 58°39′N and west of 168°W), the abundance index for legal male red king crab was 1.3 million (Table 1), up 369% from last year. The index for large females showed a 33% decrease from 2005. These indices of abundance are characterized by very poor precision. From 1996 to 1998, a combined fishery for red and blue king crabs in the Pribilof District opened on 15 September. However, due to low abundance of blue king crab, the combined fishery has not opened since 1998. Historically, red king crab have not been abundant in the Pribilof Islands and landings were taken incidentally during the blue king crab fishery. Although this stock is not considered overfished under provisions of the MSFCMA, the fishery remained closed due to the desire to avoid bycatch of blue king crab that occur in the same grounds. In the absence of a St. Matthew fishery, effort levels were also feared to be excessive.

Pribilof Islands Blue King Crab (*P. platypus*)

Legal (≥ 6.5 in cw or 135 mm cl) males were found primarily east of St. Paul Island (Chart 2 and Table 8A). The abundance index (0.04 million crabs) for legal males (Table 2 and Figure 4) was well below the average for the previous 20 years (0.6 million). The index of pre-recruits (110-134 mm cl) male crabs was also 0.04. The abundance of small males (< 110 mm cl) was very difficult to determine. Size-frequency data (Figure 5) are very sparse and only two legal males were captured.

The abundance index (0.5 million crabs) for large (≥ 90 mm cl) females showed

Table 3. Annual abundance estimates (millions of crabs) for blue king crab (*P. platypus*) in the St. Matthew Island (Northern District) from NMFS surveys.

Northern District

	Males				Females			
	Small	Pre-recruit	Legal		Small	Large		
Carapace Length(mm)	<105	105-119	≥120		<80	≥80		Grand
Width(in)	<4.3	4.3-5.4	≥5.5	Total	<3.8	≥3.8	Total	Total
1986	0.6	0.4	0.4	1.4	0.3	0.1	0.3	1.7
1987	1.1	0.7	0.7	2.5	0.5	0.2	0.7	3.2
1988	1.4	0.7	0.8	2.9	0.9	0.8	1.7	4.6
1989	4.8	1.0	1.5	7.3	1.6	1.7	3.3	10.5
1990	1.4	0.8	1.7	3.9	0.4	0.2	0.6	4.5
1991	2.9	1.5	2.2	6.6	0.8	0.7	1.5	8.1
1992	2.3	1.5	2.3	6.0	0.9	0.4	1.3	7.4
1993	4.6	2.0	3.6	10.2	1.4	3.0	4.4	14.6
1994	1.5	1.4	2.5	5.4	0.1	0.4	0.5	5.9
1995	1.9	1.1	1.9	4.9	0.6	0.1[1]	0.7	5.6
1996	2.6	2.0	3.4	8.0	1.1	0.9	2.0	10.0
1997	2.5	2.3	4.1	8.8	0.6	0.9	1.5	10.3
1998	2.4	1.8	3.2	7.4	0.6	0.5	1.2	8.6
1999	0.6	0.2	0.7	1.5	0.3	0.0[1]	0.3	1.8
2000	0.6	0.3	0.8	1.7	0.1	0.1	0.2	1.9
2001	0.8	0.6	1.1	2.5	0.3	0.2	0.5	2.9
2002	0.2	0.2	0.7	1.1	0.0	0.1[1]	0.1	1.2
2003	1.4	0.3	0.6	2.3	0.3	0.8	1.0	3.3
2004	1.0	0.2	0.7	1.9	0.5	0.2	0.7	2.6
2005	0.9	0.3	0.6	1.8	0.2	0.2	0.4	2.2
2006	2.0	0.7	1.4	4.2	0.1	0.3	0.4	4.5
Limits[2]								
Lower	0.0	0.0	0.2	0.6	0.0	0.0	0.0	0.5
Upper	2.1	0.5	1.1	3.3	1.2	0.4	1.4	4.7
±%	97	114	64	71	143	92	101	79

[1] These estimates have low precision since few crabs were caught.

[2] Mean ± 2 standard errors for most recent year.

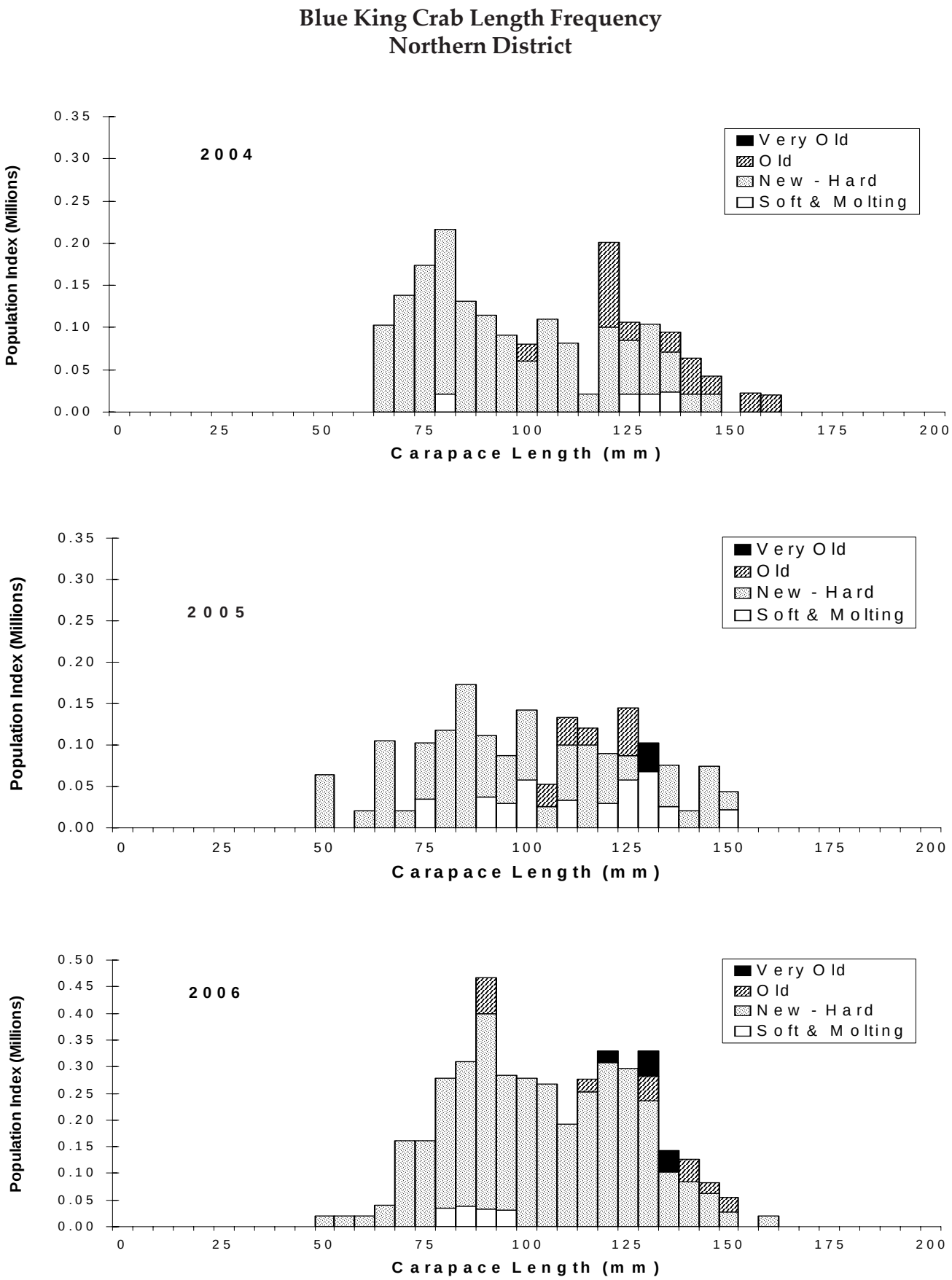

Figure 7. Size-frequency of St. Matthew Island (Northern District) male blue king crab (*P. platypus*), by 5 mm length classes, 2004-2006.

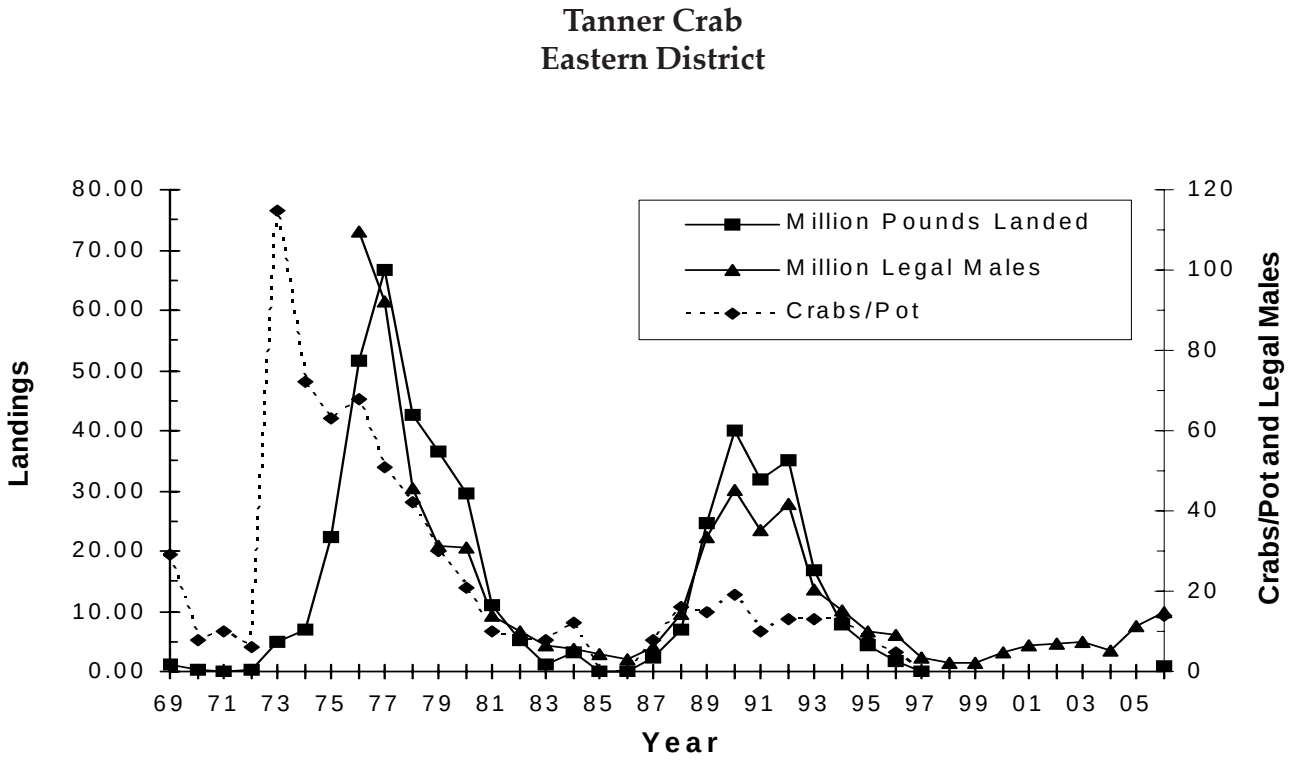

Figure 8. U.S. landings in millions of pounds, CPUE as crabs/pot-lift, and the abundance of legal male Tanner crab *(C. bairdi)* in millions in the Bristol Bay and Pribilof Districts (prior to 1989) or the Eastern District (since 1989), estimated from NMFS trawl surveys.

a 51% increase from last year. However, estimates of female abundance are usually very imprecise due to the preference of these crab for rocky habitat which is not well sampled by trawls. Among sampled mature females, 9% were softshell, 48% were new hardshells, of which 100% carried new eggs, and 53% were oldshells, of which 100% carried new, uneyed embryos. Twenty-three mature females were caught. Blue king crab are predominatly biennial spawners. Only a portion of the female population spawns in a given year, while the remainder is in a non-embryo-bearing phase. This fishery was closed from 1988 through 1994 due to low stock abundance, then re-opened from 1995-1998. It has remained closed since 1999. This stock was declared overfished in 2002 and remained classified as overfished through 2005. The population is at an extremely low historical abundance (Figure 4), and trends are not easily detectable. Total mature biomass is below MSST and the stock remains in overfished condition in 2006. The fishery remained closed in 2006 because of low stock abundance since both ADF&G catch-survey analysis and the NMFS survey estimates of mature male abundance are well below the threshold level of 13.2 million pounds which would need to be met in two consecutive years to declare the stock rebuilt.

St. Matthew Island Blue King Crab (*P. platypus*)

Legal (≥ 5.5 in cw or 120 mm cl) males were captured primarily southwest of St. Matthew Island (Chart 2 and Table 8B). The abundance index for legal males was 1.4 million crabs (Table 3 and Figure 6), increasing 151% from last year. The abundance index (0.7 million crabs) of pre-recruit crabs (105-119 mm cl) increased 141% from last year. Legal and pre-recruit male abundance indices are still well below their averages for the previous 20 years (1.7 and 1.0 million, respectively). Size-frequency is shown in Figure 7. Only 20 legal males were captured. The index (0.3 million crabs) for large females (≥ 80 mm cl) is poorly

Table 4. Annual abundance estimates (millions of crabs) for Tanner crabs (*C. bairdi*) from NMFS surveys. Data since 1988 are for Eastern District; all prior data for Bristol Bay and the Pribilof Districts; both areas contain virtually all legal males.

	Males				Females			
	Small	Pre-recruit	Legal		Small	Large		
Carapace Width(mm)	<110	110-137[1]	≥138[1]		<85	≥85		Grand
Width(in)	<4.3	4.3-5.4	≥5.5	Total	<3.4	≥3.4	Total	Total
1986	109.0	14.7	2.6	126.4	68.2	13.7	81.9	208.3
1987	229.9	22.0	5.9	257.8	192.4	35.5	227.8	485.6
1988	287.3	62.8	14.3	364.4	184.8	81.0	265.8	630.2
1989	403.0	110.9	33.6	547.5	338.6	63.8	402.4	949.9
1990	286.1	87.4	45.1	418.6	266.5	97.4	363.9	782.5
1991	267.2	115.8	35.1	418.1	232.1	116.8	348.9	767.0
1992	121.0	112.7	41.8	275.5	98.9	63.9	162.8	438.3
1993	76.6	70.5	20.6	167.7	57.6	29.6	87.2	254.9
1994	47.9	43.2	15.4	106.6	57.9	27.5	85.4	192.0
1995	40.4	35.7	10.0	86.1	66.6	37.2	103.8	189.9
1996	52.6	26.7	9.2	88.5	59.3	27.7	87.1	175.6
1997	66.5	10.0	3.4	80.0	71.1	10.1	81.2	161.2
1998	75.3	12.3	2.2	89.7	62.4	6.6	69.0	158.7
1999	202.4	15.1	2.1	219.5	128.7	17.2	145.9	365.4
2000	104.1	18.2	5.0	127.3	80.6	13.7	94.3	221.6
2001	290.1	17.7	6.5	314.3	284.0	13.5	297.5	611.7
2002	204.6	15.2	7.0	226.8	200.4	10.5	210.9	437.6
2003	217.5	24.7	7.4	249.6	184.1	15.1	199.2	448.8
2004	208.0	31.7	5.4	245.0	172.1	10.9	183.0	428.0
2005	325.9	52.0	11.4	389.3	338.5	29.0	367.6	756.9
2006	427.3	73.3	14.6	515.2	307.7	43.4	351.1	866.3
Limits[2]								
Lower	145.6	22.2	1.9	178.9	122.2	6.4	131.7	310.6
Upper	270.4	41.1	8.8	311.2	222.0	15.4	234.2	545.4
±%	30	30	64	27	29	41	28	27

[1] Values prior to 1987 are interpolated from 5 mm width classes.

[2] Mean ± 2 standard errors for most recent year.

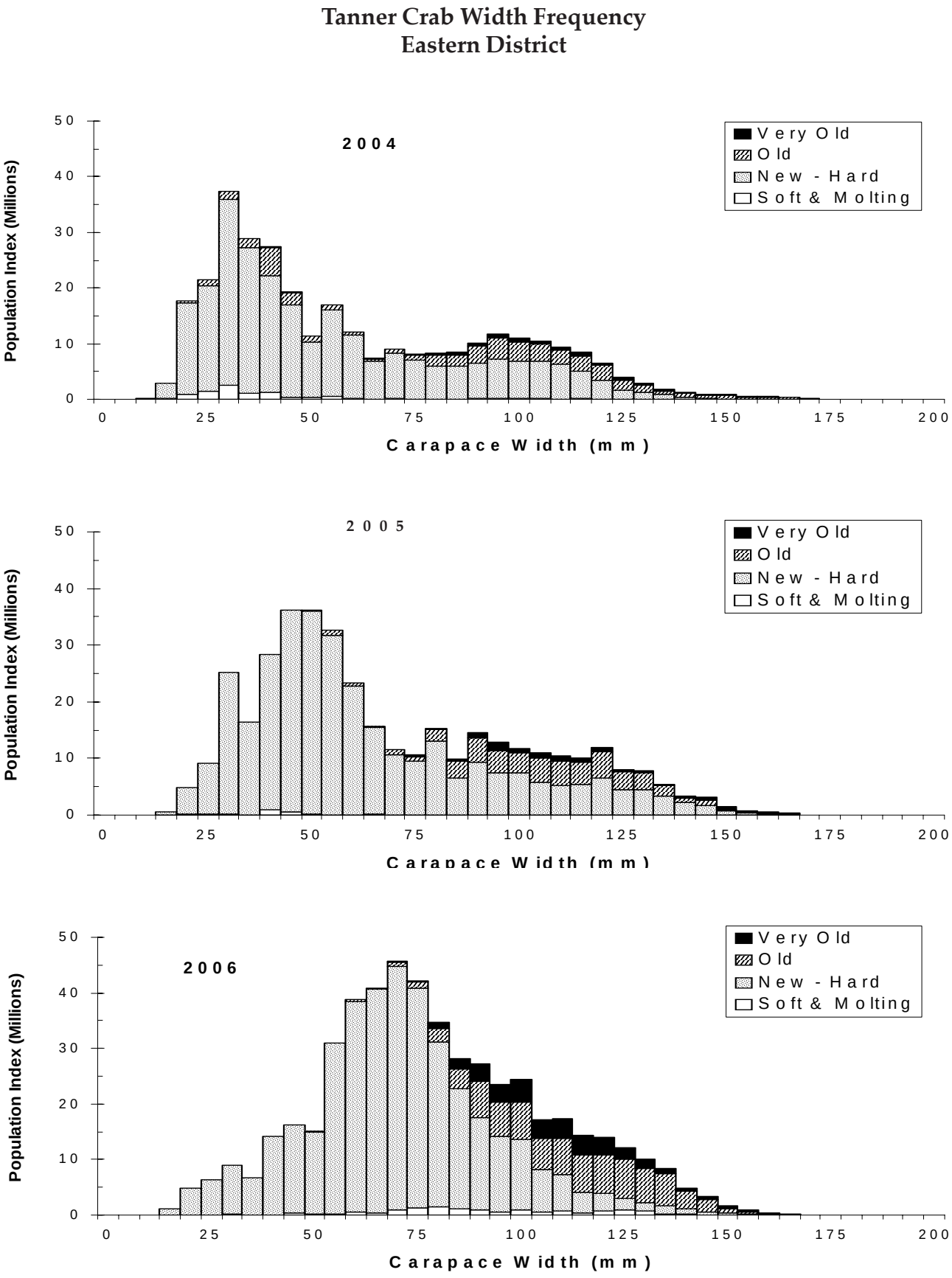

Figure 9. Size-frequency of male Tanner crab (*C. bairdi*) in the Eastern District, by 5 mm width classes, 2004-2006.

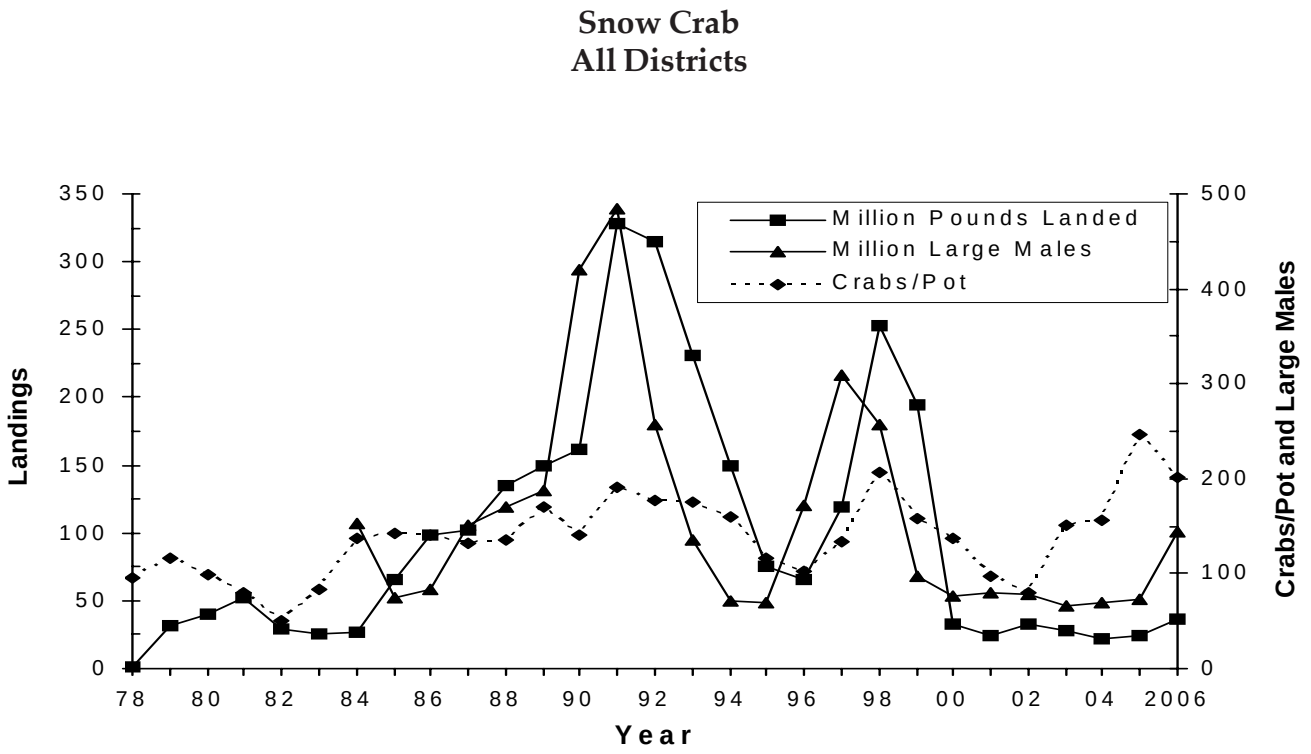

Figure 10. U.S. landings in million of pounds, CPUE as crabs/pot-lift, and the abundance of large male snow crab *(C. opilio)* in millions (all districts combined), estimated from NMFS trawl surveys.

determined due to a habitat preference for inshore, rocky and untrawlable grounds. Only one large female was captured. Due to low stock abundance, the fishery has not opened since the 1998 opening. This stock is considered overfished under the provisions of the MSFCMA and re-building plan.

Tanner Crab (*C. bairdi*)

The legal minimum size of 5.5 in cw (spine tip to spine tip) is equivalent to 138 mm cw measured between the spines (scientific measure). Legal males were sparsely distributed with regions of highest abundance in southwest Bristol Bay (Chart 3 and Table 9). In 2005, the ADF&G stratified the management of the Bering Sea Tanner crab stock into two subareas, east and west of 166°W longitude. The abundance index for legal male *C. bairdi* for both Eastern and Western Districts combined was 14.6 million crabs (Table 4 and Figure 8), a 28% increase over last year. This abundance was distributed between Eastern and Western Districts (39.1% and 60.9%, respectively). The abundance index (73.3 million crabs) for pre-recruit male crabs (110-137 mm cw) showed a 41% increase, and the index of 427.3 million for small males (< 110 mm cw) showed a 31% increase for all areas combined. The 2004 male size-frequency revealed a prominent mode in the 30 mm cw range, which persisted through 2005 in the 45-50 mm cw modal range and the 65-75 mm cw mode in 2006 (Figure 9). Among legal males, only 18.3% were new-hardshells, and 79.5% were oldshell and older. Oldshell crab will not molt again during their lifespan. Legal-sized males represent only a small portion (3.6%) of total male abundance in 2006. The combined Eastern and Western Districts abundance index (43.4 million crabs) of large females (≥ 85 mm cw) showed a 49% increase over 2005. Among sampled mature females, 5% were softshells; 37% were new-hardshells, of which 98% carried new eggs; and 58% were oldshell and older, of which 91% carried new eggs. The vast majority of mature females sampled had completed hatching by the time of the survey.

Table 5. Annual abundance estimates (millions of crabs) for eastern Bering Sea snow crabs *(C. opilio*) from NMFS surveys (all districts combined).

	Males				Females			
	Small	Pre-recruit	Large		Small	Large		
Carapace Width(mm)	<78	78-101	≥102		<50	≥50		Grand
Width(in)	<3.1	3.1-3.9	≥4.0	Total	<2.0	≥2.0	Total	Total
1986	1039.8	139.2	83.1	1262.0	790.6	422.0	1212.6	2474.6
1987	4070.5	405.2	144.4	4620.0	2903.0	2795.0	5698.0	10318.0
1988	2996.3	470.9	171.0	3638.2	1235.3	2322.7	3558.0	7196.2
1989	2823.7	822.4	187.1	3833.1	1922.8	3790.7	5713.5	9546.6
1990	1834.5	1025.9	420.3	3280.7	1463.3	2798.1	4261.4	7542.1
1991	3277.4	693.8	484.1	4455.3	3289.0	3575.0	6863.9	11319.2
1992	2827.0	331.4	256.4	3414.8	2433.9	1914.3	4348.2	7763.0
1993	5345.9	250.7	135.0	5731.5	3989.8	1982.6	5972.4	11703.9
1994	4027.6	254.9	71.6	4354.0	3417.6	1674.3	5091.8	9445.8
1995	3607.7	479.0	68.8	4155.5	2090.3	2409.4	4499.7	8655.2
1996	1815.2	884.9	171.6	2871.7	1189.0	1364.2	2553.2	5424.9
1997	800.5	722.4	309.0	1831.9	955.6	1428.3	2383.9	4215.8
1998	666.3	359.7	257.3	1283.3	813.5	1174.4	1988.0	3271.3
1999	396.8	127.4	96.6	620.8	320.7	484.3	805.0	1425.7
2000	916.5	133.3	77.0	1126.9	657.1	1511.7	2168.8	3295.7
2001	1550.2	287.7	79.3	1917.2	480.9	1564.6	2045.5	3962.7
2002	496.1	253.1	77.5	826.7	180.5	510.5	691.0	1517.7
2003	1145.2	166.5	65.2	1376.9	640.0	614.0	1253.9	2630.8
2004	1648.4	106.2	68.9	1823.5	1869.2	806.4	2675.5	4499.0
2005	1911.2	284.1	72.1	2267.4	1381.5	1630.8	3012.3	5279.7
2006	1106.9	288.4	143.9	1539.2	669.8	1045.5	1715.3	3254.5
East(%)[1]	58.8	60.9	79.6	61.1	50.8	41.6	45.2	52.7
Limits[2]								
Lower	1071.5	65.8	16.5	1203.5	972.0	532.2	1819.4	3022.9
Upper	2225.3	146.5	121.3	2443.5	2766.4	1080.5	3531.7	5975.2
±%	35	38	76	34	48	34	32	33
Northern stations								
2001	432.4	3.1	0.0	435.5	165.5	64.2	229.8	665.3
2004	2922.4	9.1	0.0	2931.5	896.2	152.5	1048.8	3980.3
2005	1771.7	12.4	0.2	1784.2	760.5	268.1	1028.6	2812.8
2006	950.6	4.0	0.0	954.5	676.6	137.5	814.2	1768.7

[1] Percent of size group in Eastern District (east of 173°).

[2] Mean ± 2 standard errors for most recent year.

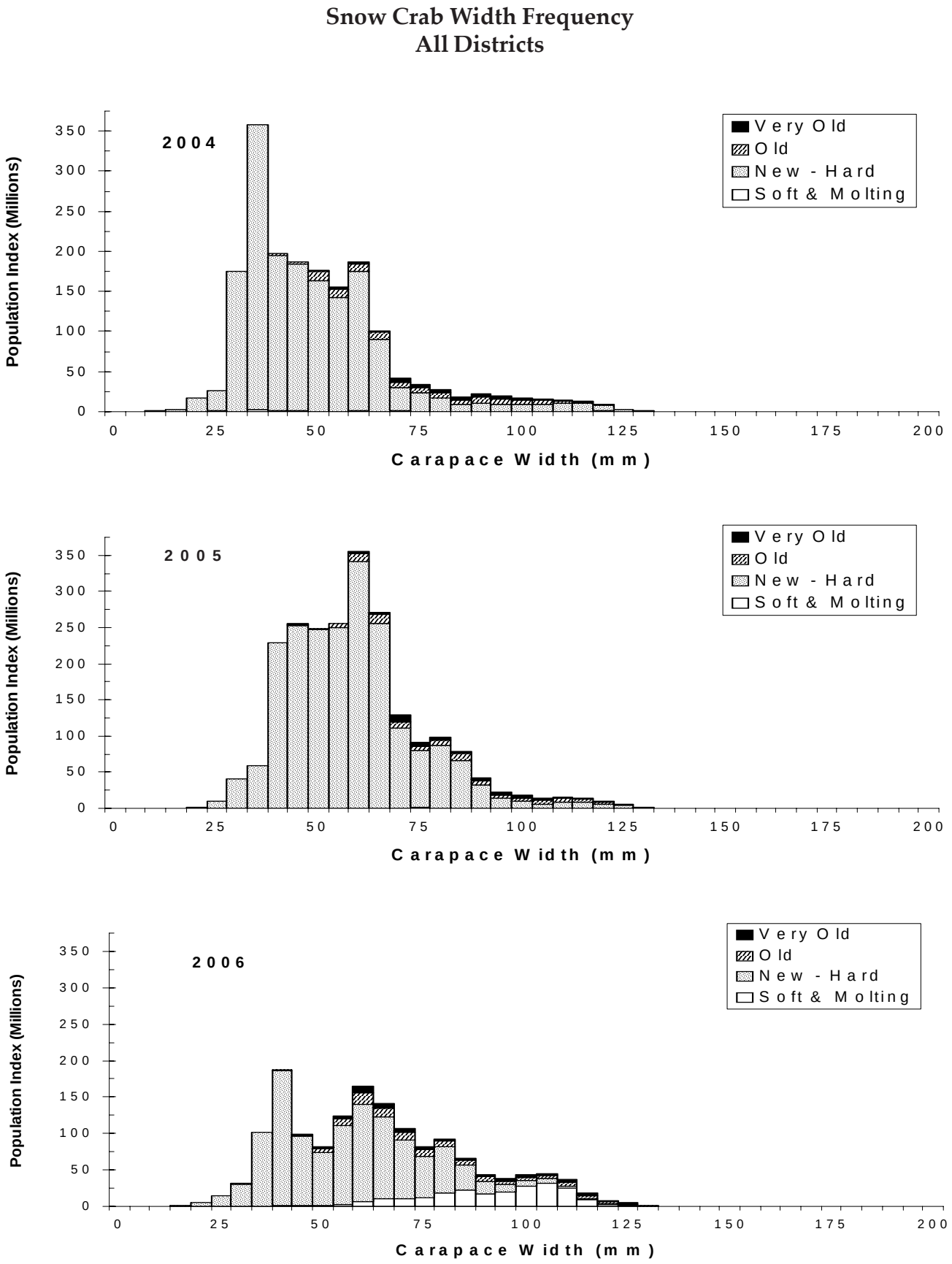

Figure 11. Size-frequency of male snow crab (*C. opilio*), all districts combined, by 5 mm width classes, 2004-2006.

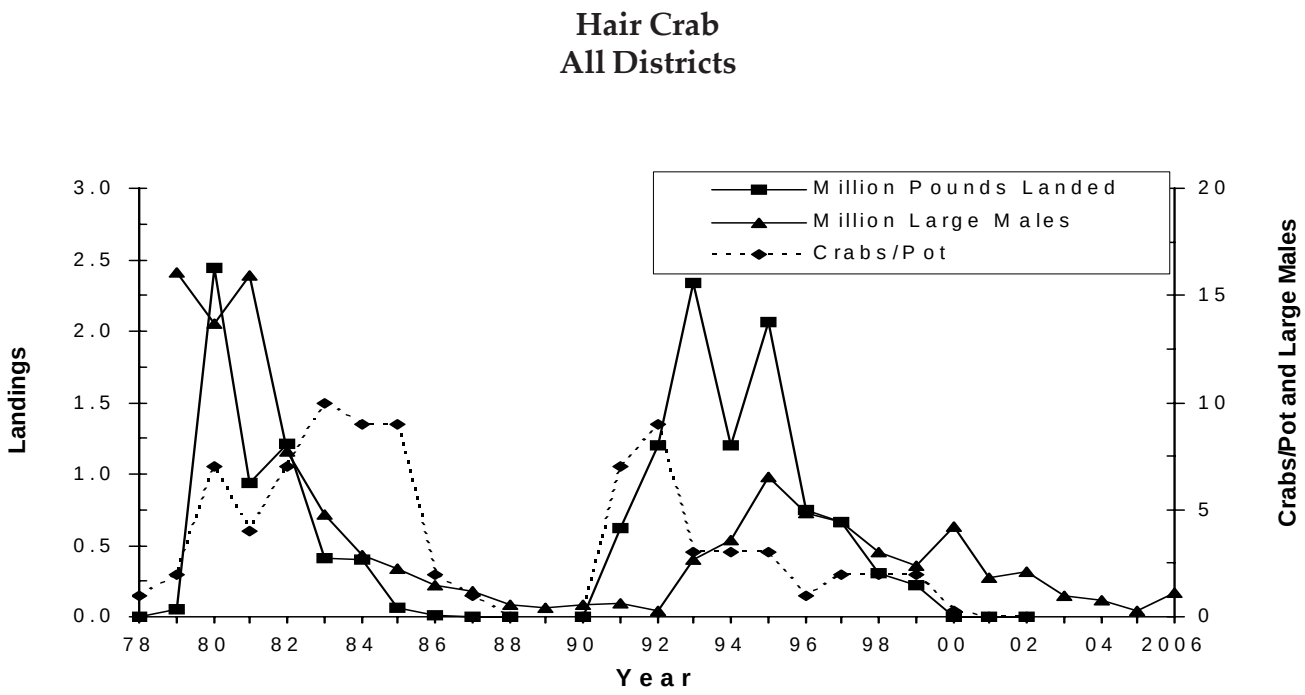

Figure 12. U.S. landings in millions of pounds, CPUE as crabs/pot-lift, and the abundance of large male hair crab *(E. isenbeckii)* in millions (all districts combined), estimated from NMFS trawl surveys.

The reproductive population estimate of total mature biomass was below the MSST management threshold of 94.8 million pounds from 1997-2002, just barely above and below threshold in 2003 and 2004, respectively, but it rose above MSST in 2005 to 162.0 million pounds. In 2006, estimated total mature biomass (253.3 million pounds) was above the MSST, and above the MSY biomass (189.6 million pounds) indicative of a rebuilt stock. The Tanner crab stock is currently considered overfished and under the rebuilding plan for the Bering Sea *C. bairdi* stock that has been approved by the Alaska Board of Fisheries and the North Pacific Fishery Management Council. The stock will be considered rebuilt from overfished condition if total mature biomass is above MSY biomass for two consecutive years. Both threshold status and minimum total allowable catch (TAC) criteria were met for the Eastern and Western Districts. In 2006, a small fishery (1.875 million pounds, 850 t) will occur east of 166°W longitude, and at 1.094 million pounds (496 t) in the Western District. These TACs translate to approximately 0.823 and 0.535 million crab to be taken from the Eastern and Western Districts, respectively, based on respective average weights of 2.3 and 2.0 lbs per crab.

Snow Crab (*C. opilio*)

Although the legal minimum size limit for *C. opilio* is 3.1 in cw (78 mm), processors currently prefer a minimum size of 4.0 in cw (102 mm). The size ranges for male snow crab used in this report are defined as follows: small, < 3.1 in cw (78 mm); pre-recruits, 3.1-3.9 in cw (78-101 mm); and large, ≥ 4.0 in cw (102 mm).

Large (≥ 102 mm cw) males were discontinuously distributed east of the Pribilof Islands (Chart 4 and Table 10). The abundance index for large (≥ 102 mm cw) males (Eastern and Western Districts combined) at 143.9 million crabs (Table 5 and Figure 10), which represents a 100% increase from last year, is marked by extremely poor precision. This increase in legal males was not expected given the abundance of pre-recruit males in previous years, and it resulted largely from the con-

Table 6. Annual abundance estimates (millions of crabs) for hair crab (*E. isenbeckii*) from NMFS surveys.

	Males			Females	
	Small	Large			
Carapace Length(mm)	<83	≥83			Grand
Width (in)	<3.25	≥3.25	Total	Total	Total
1986	0.7	1.8	2.5	0.4	2.9
1987	1.6	1.3	2.9	0.9	3.8
1988	3.0	0.9	3.9	0.9	4.7
1989	11.4	1.5	12.8	0.7	13.5
1990	13.0	1.1	14.1	0.9	15.0
1991	4.5	1.3	5.7	1.2	6.9
1992	2.5	1.2	3.6	0.5	4.2
1993	9.1	2.6	11.8	1.5	13.3
1994	4.7	3.6	8.2	1.3	9.5
1995	4.6	6.5	11.1	0.7	11.8
1996	3.6	4.9	8.4	1.1	9.5
1997	1.6	4.4	6.0	0.3	6.3
1998	0.5	3.0	3.5	1.4	4.9
1999	1.5	2.4	3.9	2.0	5.8
2000	0.5	4.2	4.7	1.3	6.0
2001	0.5	1.8	2.3	2.2	4.5
2002	0.4	2.1	2.5	0.6	3.1
2003	1.3	1.0	2.3	0.5	2.8
2004	0.7	0.8	1.5	0.4	1.8
2005	1.1	0.3	1.3	0.9	2.2
2006	1.3	1.1	2.3	3.8	6.1
Limits[1]					
Lower	0.2	0.2	0.5	0.0	0.3
Upper	1.2	1.4	2.5	0.8	3.4
±%	72	73	69	132	81.3

[1] Mean ± 2 standard errors for most recent year.

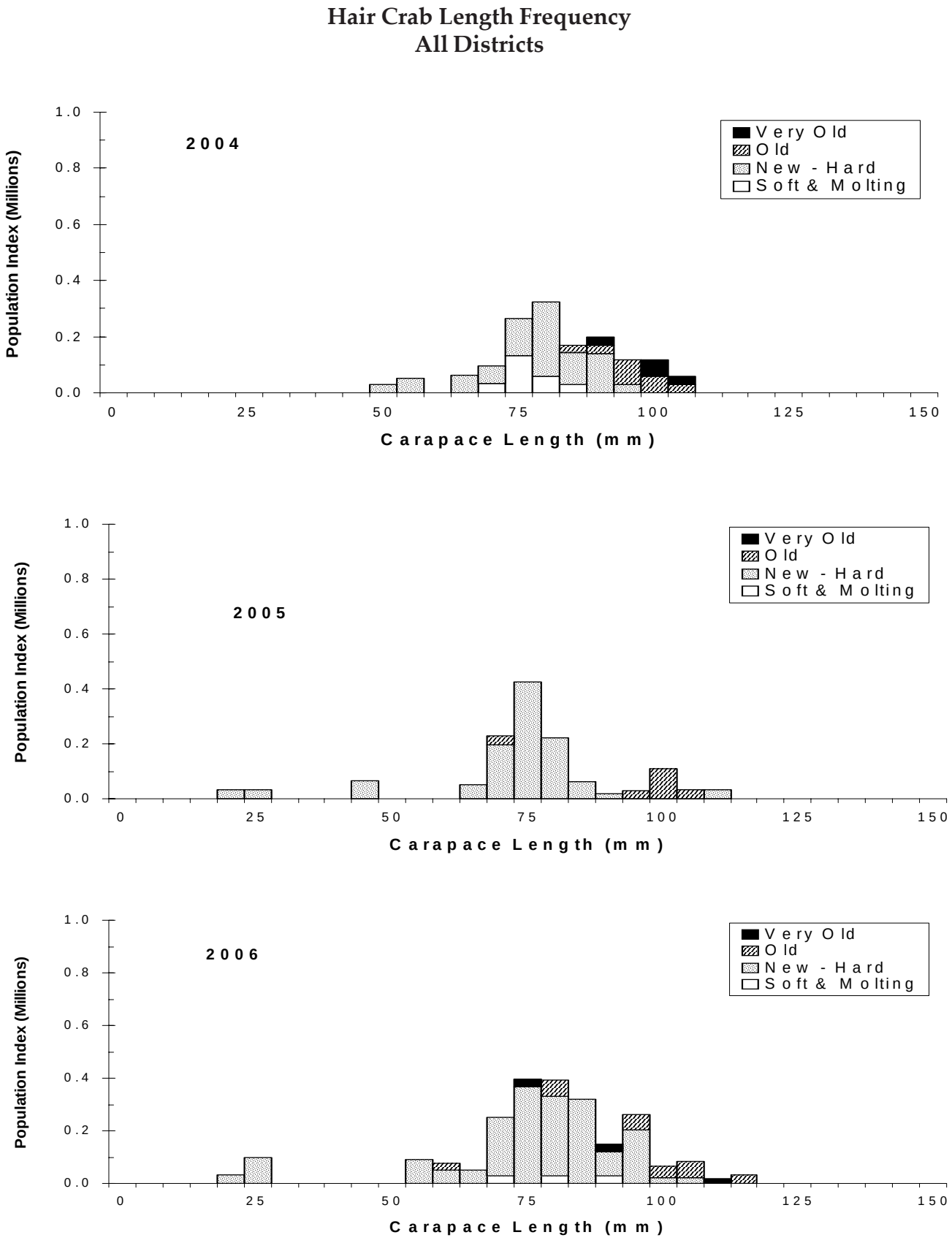

Figure 13. Size-frequency of male hair crab (*E. isenbeckii*), by 5 mm length classes, 2004-2006.

tribution (35%) of a single survey tow, and 55% from the top three survey tows. Approximately 80% of these crab were in the Eastern District as compared to 46% in 2003, 58% in 2004, and 42% in 2005. Pre-recruit male crabs (78-101 mm cw) showed a 1.5% increase in abundance. The abundance index (1,045.5 million) for large females (≥ 50 mm cw) showed a 36% decrease. It can be difficult to track size-frequency modes of small and pre-recruit crabs from one year to the next (Figure 11). Among large male crabs, 60% were in molting or softshell condition, 13% were new-hardshells indicating a recent molt, and 27% were oldshell and older. Among sampled mature females, 50% were new-hardshells, of which 98% carried new eggs, and 48% were oldshells and older, of which 94% carried new eggs. The remainder had not produced a new clutch.

Results from the NMFS length-based stock assessment model of eastern Bering Sea snow crab (Turnock and Rugolo 2006) reveal that, over the last 29 years (1978-2006), recruitment of male and female crab 25 mm to 50 mm cw fell to a dramatic and historical low in 1994 and has since remained depressed. The future outlook of this stock is poor in light of this 13 year pattern of unprecedented low recruitment of new individuals to the stock.

The 2006 total mature biomass index (547.6 million lbs) decreased 10% from 2005, and is above the minimum stock size threshold of 460.8 million lbs as defined in the FMP. A fishery will be allowed under the current rebuilding plan for the Bering Sea *C. opilio* stock. The TAC for the 2006 fishery was set at 36.81 million lbs (16,696 t) of large crabs (≥ 4.0 in cw) of which 1.55 million lbs are for CDQ fisheries. This translates to approximately 29.22 million crabs based on an average weight of 1.26 lbs per legal crab. The fishery opened on 15 October 2006.

Hair Crab *(Erimacrus isenbeckii)*

Historically, hair crab have been concentrated just north of the Alaska Peninsula and near the Pribilof Islands. In recent years, however, abundance of hair crab north of 58°N latitude has been increasing (Chart 5 and Table 11). Female and small male crabs are infrequently encountered in this survey, therefore, these data provide little understanding of their distribution.

The abundance index for large (≥ 3.25 in cw or ≥ 83 mm cw) male hair crab (Table 6 and Figure 12) is 1.1 million, representing a 270% increase from last year and approximates one-half of the 20-year average of 2.3 million. Size-frequencies (Figure 13) indicate little recruitment to the stock. The abundance index of total females is usually unreliable. Seventy-nine percent of males and 91% of females were new-hardshell crabs.

Changes in abundance indexes of hair crab are difficult to interpret due to patchy distribution, burying habits, in-shore distribution, and suspected variability in catchability between years. Further, changes in fishery practices and management over the time series decreases the usefulness of correlations between fishery and survey data (Figure 12).

The directed fishery for hair crab in the Pribilof Islands has no statutory minimum legal size regulation, so we have defined large crabs as those larger than a minimum size of 3.25 in (83 mm cw) that has been specified as a condition of permits during recent years. There are also no regulatory districts defined, but management is based on districts defined for red king crab (e.g., Bristol Bay, Pribilofs, and Northern districts). In 2006, there are an estimated 0.23 million lbs of large male (≥ 83 mm cw) crabs in the Northern District. No fishery has occurred since 2000, and the fishery did not open in the 2006 season.

2006 Snow Crab (*C. opilio*) - Northern Area

In 2006, we extended survey transects north of St. Matthew Island for a total of 29 additional stations (Figure 1, bolded stations). This extension was intended to better define the northern distributional boundary of the

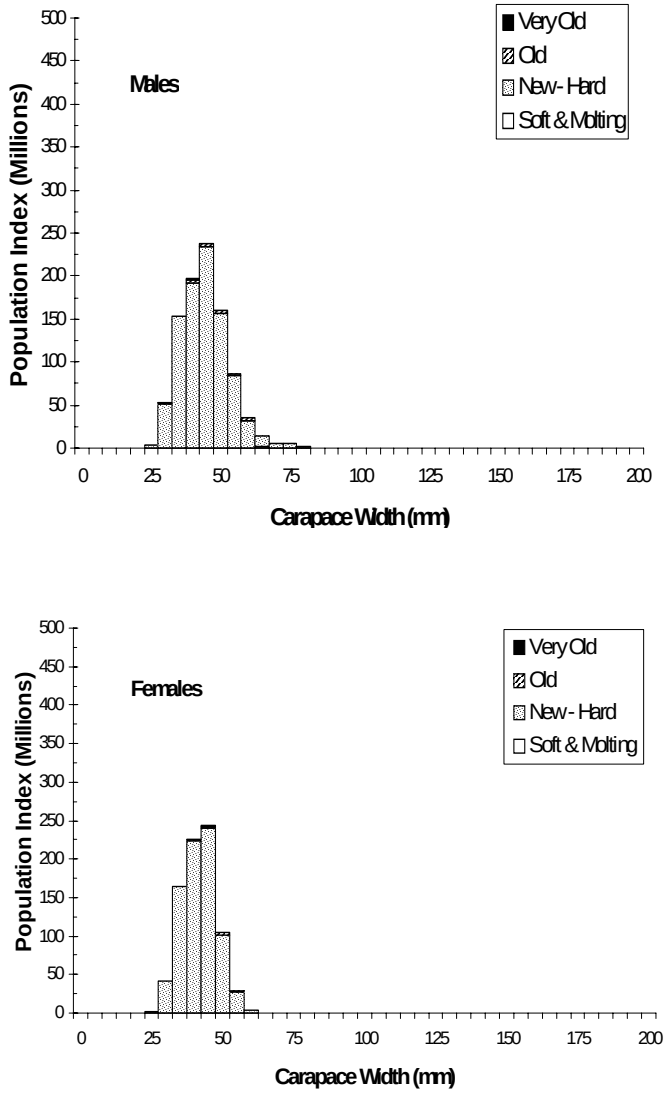

Figure 14. Size-frequency of male and female snow crabs (*C. opilio*) taken in the northern area in 2006, by 5 mm width classes.

mature snow crab stock, particularly that of mature females. The distribution of juvenile snow crab in this area was also of interest in terms of insight into subsequent patterns of recruitment to the adult stock. Since these stations have not been part of the survey data time series from which total allowable catch levels or overfishing definitions are derived, they are not included in survey estimates of eastern Bering Sea snow crab abundance in this report.

The previous most recent years we surveyed this northern area were 2005, 2004, and 2001. In 2001, we sampled a common set of 25 stations surveyed intermittently over the historical record. In 2004, 2005, and 2006, an additional four stations (V22, W22, Y24 and Y25) were sampled (Figure 1). In comparing 2004 through 2006 abundance estimates of snow crab in this area to 2001, the estimates are expected to be 16% larger on average based on a corresponding increase in area swept if the density of crab in the additional four stations approximate that in the remaining 25 stations. Sampling this northern area in 2006 was done by the FVs *Northwest Explorer* and *Arcturus* chartered for the NMFS Bering Sea survey. With the exception of 2004, sampling this northern area was accomplished by a different pair of chartered survey vessels. Since all vessels chartered for the NMFS Bering Sea survey follow standard sampling protocols and use standard gear, and direct comparisons are sometimes made, fishing power differences between vessels are assumed to be negligible. In 2004, 19 of the 29 northern stations were sampled by a non-charter industry vessel, the FV *Seawolf*, operating under a memorandum of understanding between the NMFS and the Bering Sea Fisheries Research Foundation, while one of the two chartered vessels, the FV *Arcturus*, sampled the remaining 10 stations. No direct fishing power comparisons were made between the FV *Seawolf* and the FV *Arcturus*, and since the two vessels did not sample any of the same stations in this area, relative fishing power between these vessels cannot be assessed or inferred. Area swept abundance estimates of snow crab in the northern area for 2004 are reported for both vessels combined. We caution against too strict an interpretation of trends in abundance, or comparison of 2004 results relative to 2001, 2005, or 2006 absent more complete understanding fishing power differences between the FV *Seawolf* and the FVs *Arcturus* and *Northwest Explorer* chartered for the survey.

In the northern area, the abundance index of small (< 78 mm cw) male snow crab was 950.6 million (99.6% of total), while pre-recruit male crab (78-101 mm cw) was estimated at 4.0 million (0.4% of total), representing respective declines in abundance relative to 2005 of 46.4% and 67.7%. No large (≥ 102 mm cw) males were taken. Male crab comprised 54.0%, and female crab 46.0% of all snow crab sampled in the northern area. The vast majority (97.4%) of male crabs were new-hardshell indicating a recent molt, 0.6% were in molting or softshell condition, and 2.0% were oldshell. The abundance index of small (< 50 mm cw) female crab was 347.6 million (83.1% of total), compared to 137.5 million (16.9% of total) for large (≥ 50 mm cw) females. These represent a 54.3% decrease and a 48.7% decrease, respectively, in abundance relative to 2005. Among all female crab, 98.1% were new-hardshell, and 14.3% were mature. The abundance indices of the different sex and size groups in 2001 and 2004 through 2006 relative to those in the standard survey area, are shown in Table 5.

In general, both males and females were considerably smaller in the northern area (Figure 14) than their counterparts to the south in the standard area (Figure 11). The modal length of the smaller size modes were similar in both northern and southern areas, ranging between 40 to 50 mm cw for both sexes. The absence of larger size modes in the north is consistent with the idea that snow crab move south and west as they grow and mature. Mature female crab are a component of the stock in both areas, however they represented a larger fraction of total females in the standard area (52.2%) than in the north (14.3%). In eastern Canada, mature female snow crab from cold waters produce an egg clutch every other year (Sainte-Marie 1993). Rugolo et al. (2005) revealed that eastern Bering Sea female snow crab exhibit both annual and biennial reproductive cycles and that the expression of biennial reproduction is coincident with females inhabiting waters at temperatures of 1.5°C and colder. The waters of this northern area are persistently cold, at or below this threshold.

Acknowledgments

Successful completion of the annual EBS crab and groundfish survey is crucially dependent on the skippers and crews of the participating vessels. We wish to extend a special thanks to Glenn Sullivan and Jeff Boddington of the FV *Arcturus* and Shawn O'Brien of the FV *Northwest Explorer* and their crews.

We also wish to thank all of the people who participated in this survey; C. Armistead, D. Benjamin, E. Chilton, P. Cummiskey, J. Haaga, M. Litzow, E. Munk, S.van Sant, J. Brogan, and A. Vijgen as well as the extra support provided by the IPHC biologists.

Citations

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APPENDIX A

Methods of Estimating Crab Population Size

Population abundance indices are determined by the 'area-swept' method, using a stratified systematic sampling design. Distance traveled by the trawl was determined from positions recorded at the beginning and ending of each tow. Area fished (area swept by the trawl) was calculated by multiplying the distance traveled by the effective width of the trawl. Wingspread on this trawl ranges from 47-58 ft. For consistency with previous reports an effective width of 50 ft (15.2 m) was assumed.

All stations (grid squares) within a district or management area were used for estimating the abundance of each species. Stations where multiple (corner or repeat) tows were made were grouped into strata; these include a block of twenty-five stations southwest of St. Matthew Island and eighteen stations around St. Paul Island.

The catch-per-unit-effort (CPUE) was calculated for each station as number of crabs per square nautical mile. Average CPUE was calculated within each multiple tow block and each management district. Abundance indices were calculated by extrapolating the average CPUE of each size/sex group over the geographic area of each district. Variance and standard error (SE) of the index were calculated arithmetically. Confidence intervals were calculated by adding or subtracting 2 SEs to the population estimate. Note that, since the data are usually not normally distributed, variance estimates and confidence intervals are approximate. Nevertheless, they are provided in order to indicate the range of the data relative to previous years' estimates.

Threshold levels have been established for certain crab stocks by the Crab Plan Team of The North Pacific Fishery Management Council. In accordance with Alaska Board of Fisheries policy, and the Alaska Department of Fish and Game's Management Plan for Westward Region Crab stocks, such fisheries will be closed if the abundance index falls below the threshold level.

APPENDIX B

Crab Shell Condition

All crabs measured in the NMFS eastern Bering Sea trawl survey are coded as to shell condition. Shell condition incorporates several factors including exoskeleton discoloration, scratching and wear, and fouling by encrusting organisms, and can be used to estimate the time since a crab has last molted. The shell condition categories used in this report and the estimated times since last molting that they imply are given below:

Molting[1]: Joints swollen and/or well developed second exoskeleton present. Crab is actively molting or will molt within days.

Softshell[1]: Carapace is still soft and pliable from recent molt. Crab has molted within weeks.

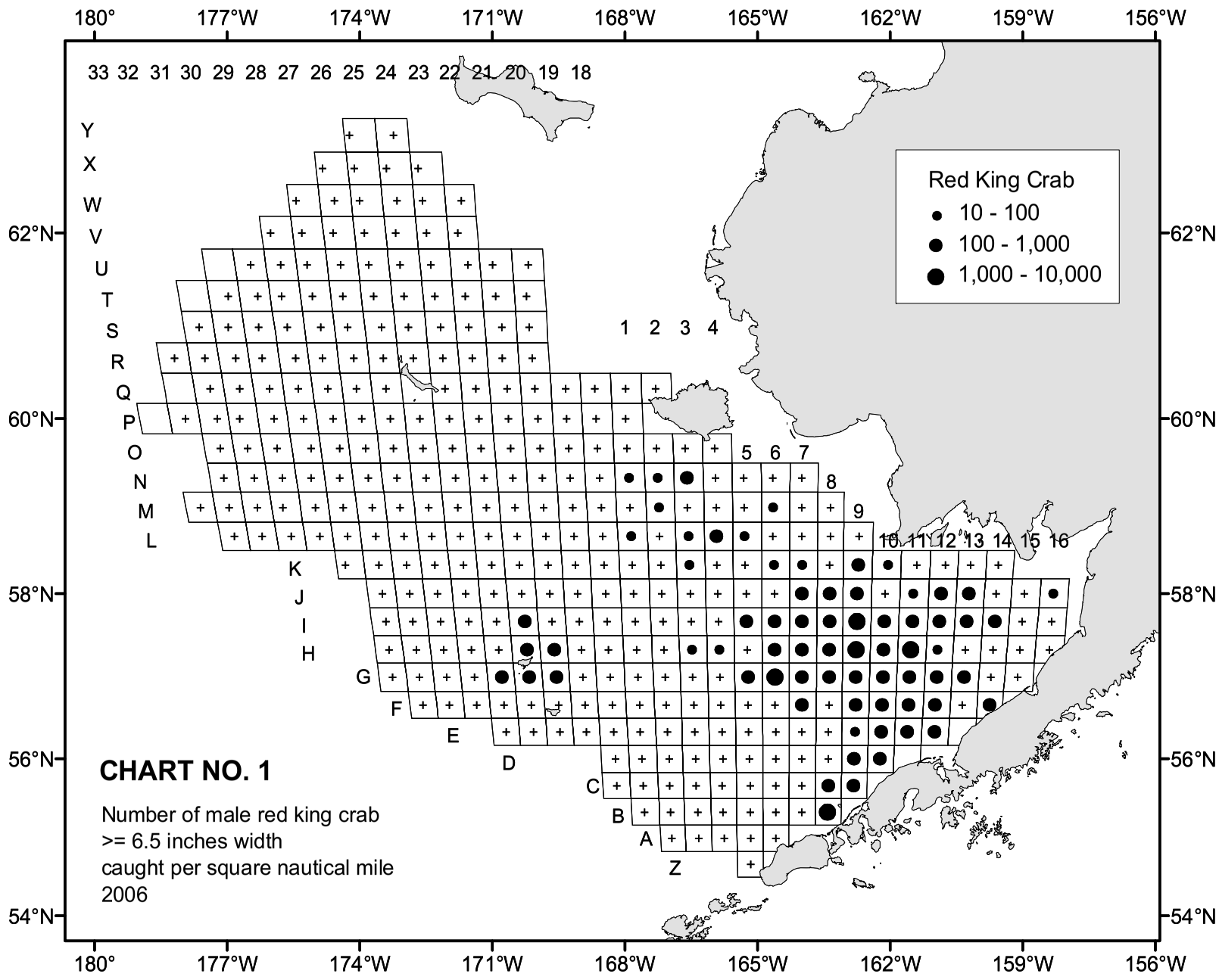
New-hardshell: Carapace firm to hard and lacking scratches, wear, discoloration, and encrusting organisms. Crab has probably molted within the last year.

Oldshell: Usually has at least some scratching, spine wear. Crab may have darker coloration, and encrusting organisms are frequently present. Crab has probably not molted within the last year.

Very oldshell: Undersides of legs yellowed; abundant scratches and stains; spines and claws very worn; encrusting organisms almost always present and often abundant. Time since the last molting is almost certainly greater than one year but not definitely known.

Very, very oldshell: Shells extensively stained and usually with extensive cover of encrusting organisims. Time since the last molting not definitely known.

[1] Note that in the report, Molting and Softshell categories are frequently combined. The time span over which these conditions occur in a crab is only a matter of weeks. A high percentage of molting and softshell crabs in a survey population indicates that the molting season is not yet over.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171°W
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1 2 3 4
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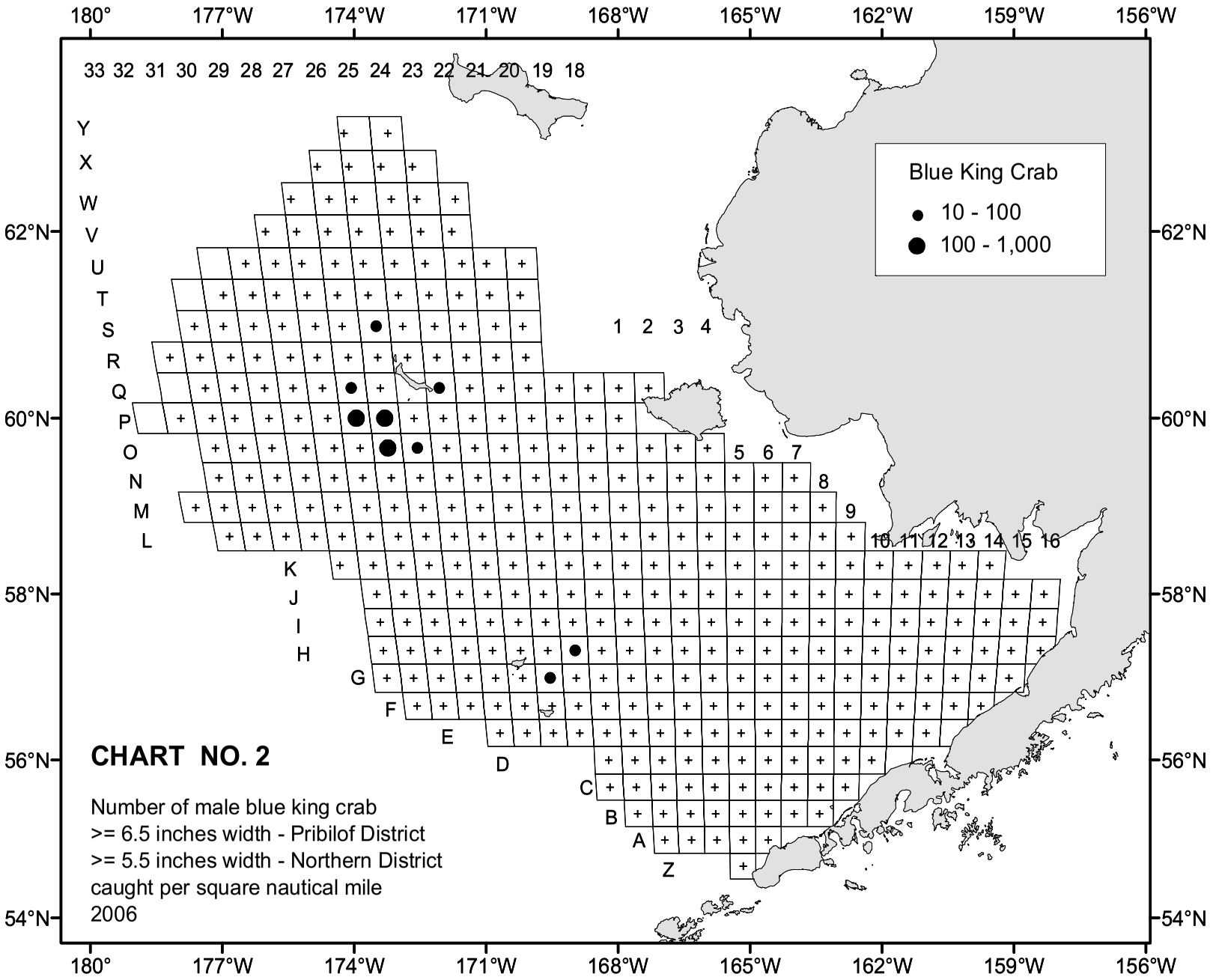
10 11 12 13 14 15 16
Red King Crab
10 - 100
100 - 1,000
1,000 - 10,000
CHART NO. 1
Number of male red king crab
>= 6.5 inches width
caught per square nautical mile
2006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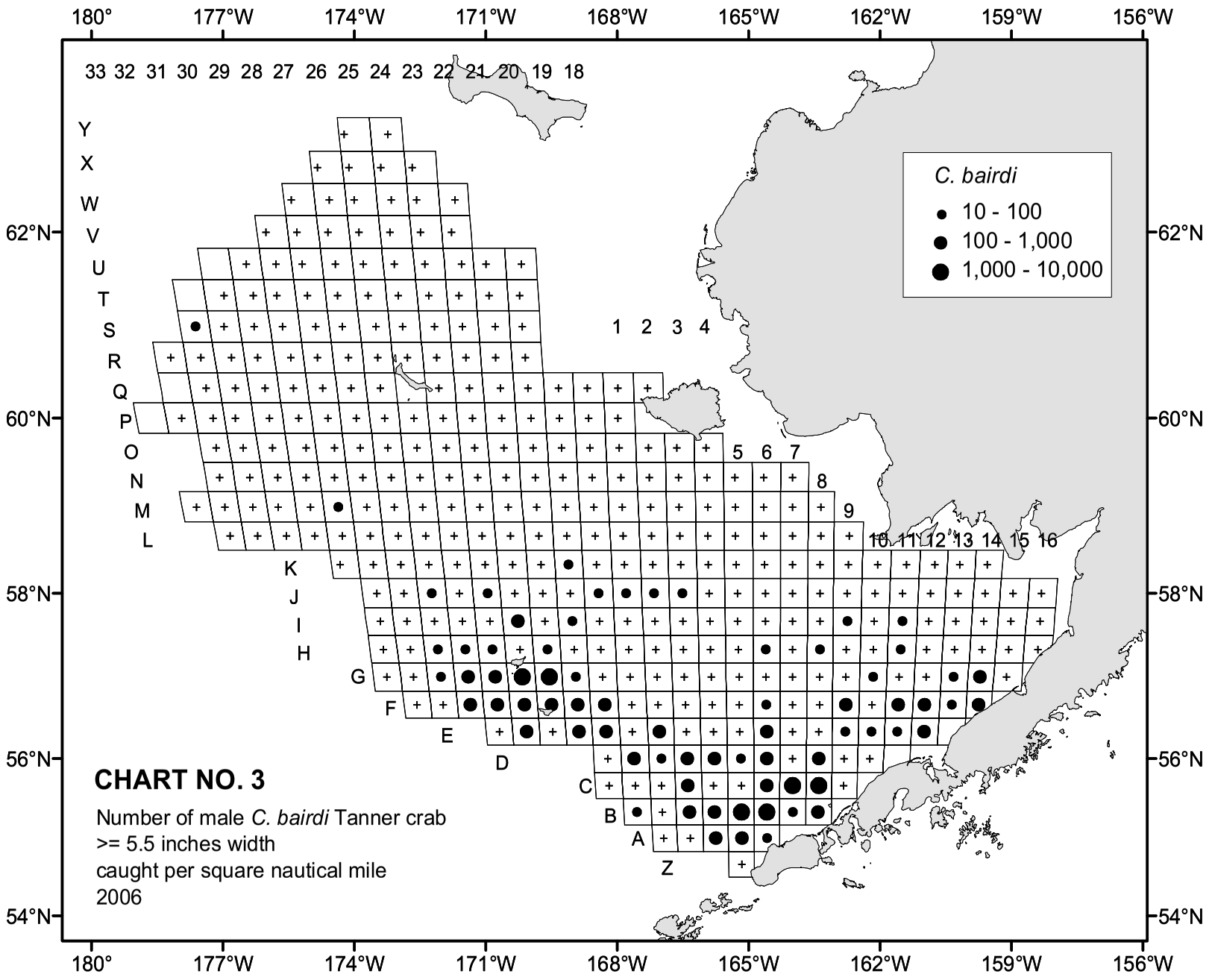
10 11 12 13 14 15 16
Blue King Crab
10 - 100
100 - 1,000
CHART NO. 2
Number of male blue king crab
>= 6.5 inches width - Pribilof District
>= 5.5 inches width - Northern District
caught per square nautical mile
2006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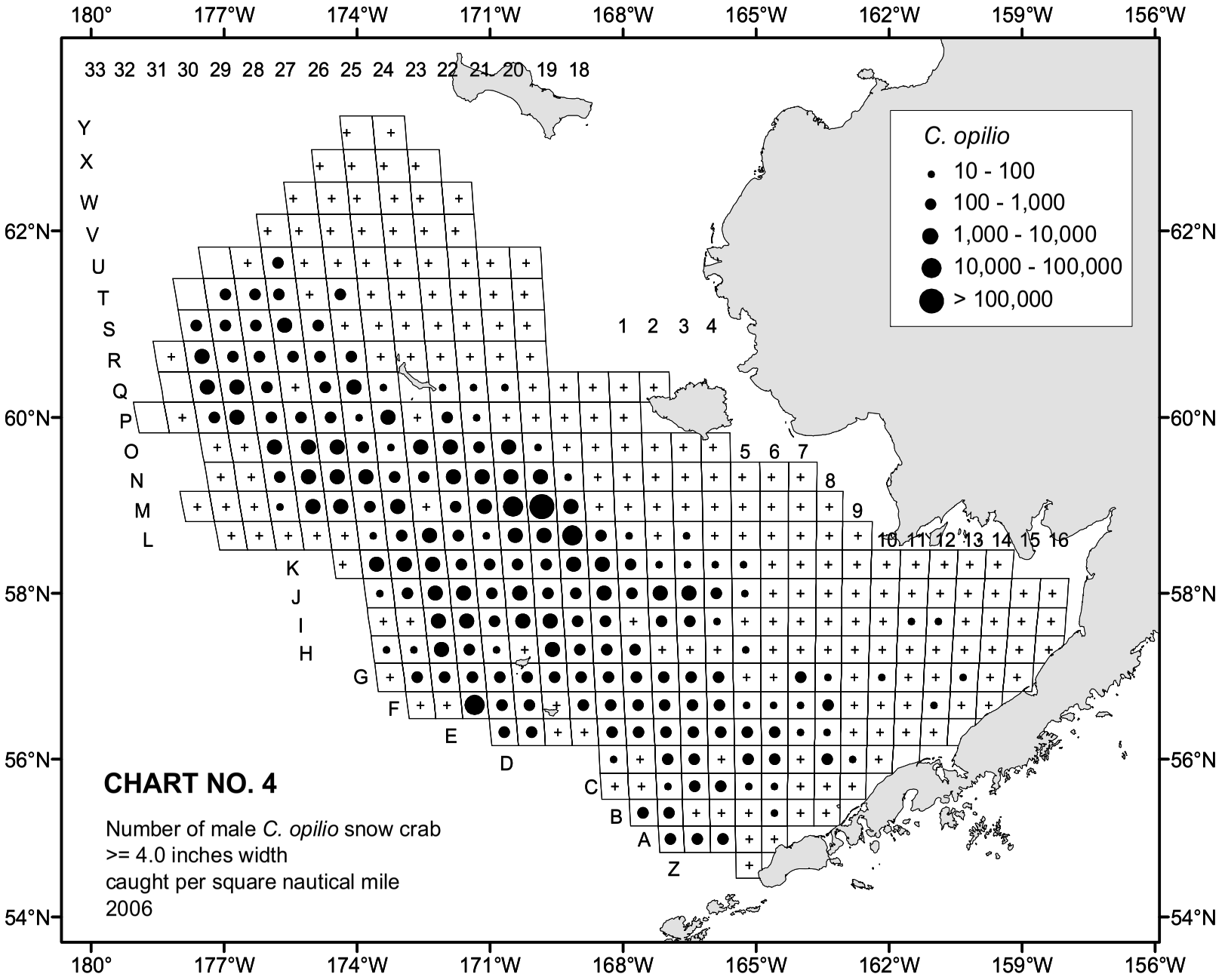
C. bairdi
10 - 100
100 - 1,000
1,000 - 10,000
CHART NO. 3
Number of male C. bairdi Tanner crab
>= 5.5 inches width
caught per square nautical mile
2006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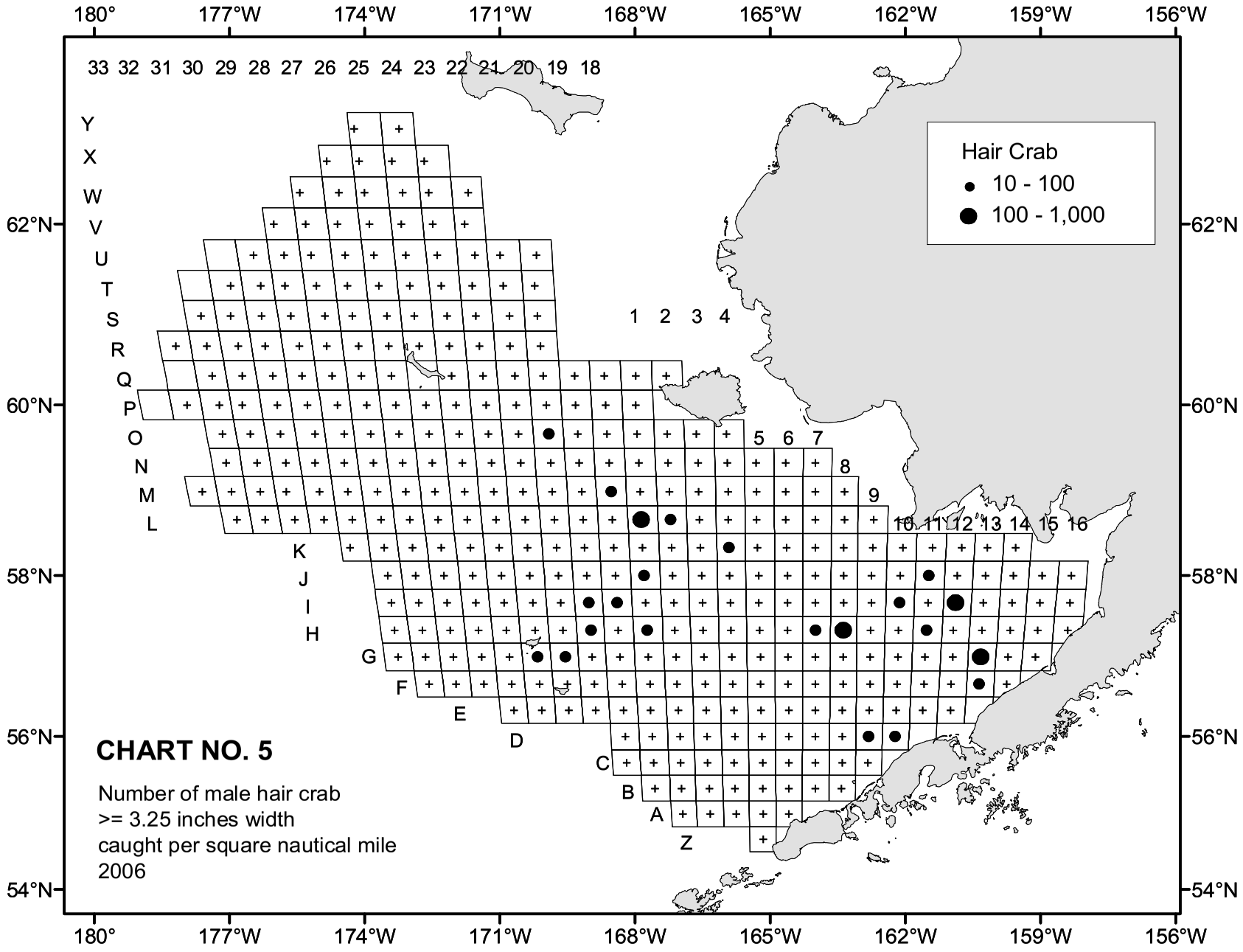
5 6 7
8
9
10 11 12 13 14 15 16
C. opilio
10 - 100
100 - 1,000
1,000 - 10,000
10,000 - 100,000
> 100,000
CHART NO. 4
Number of male C. opilio snow crab
>= 4.0 inches width
caught per square nautical mile
2006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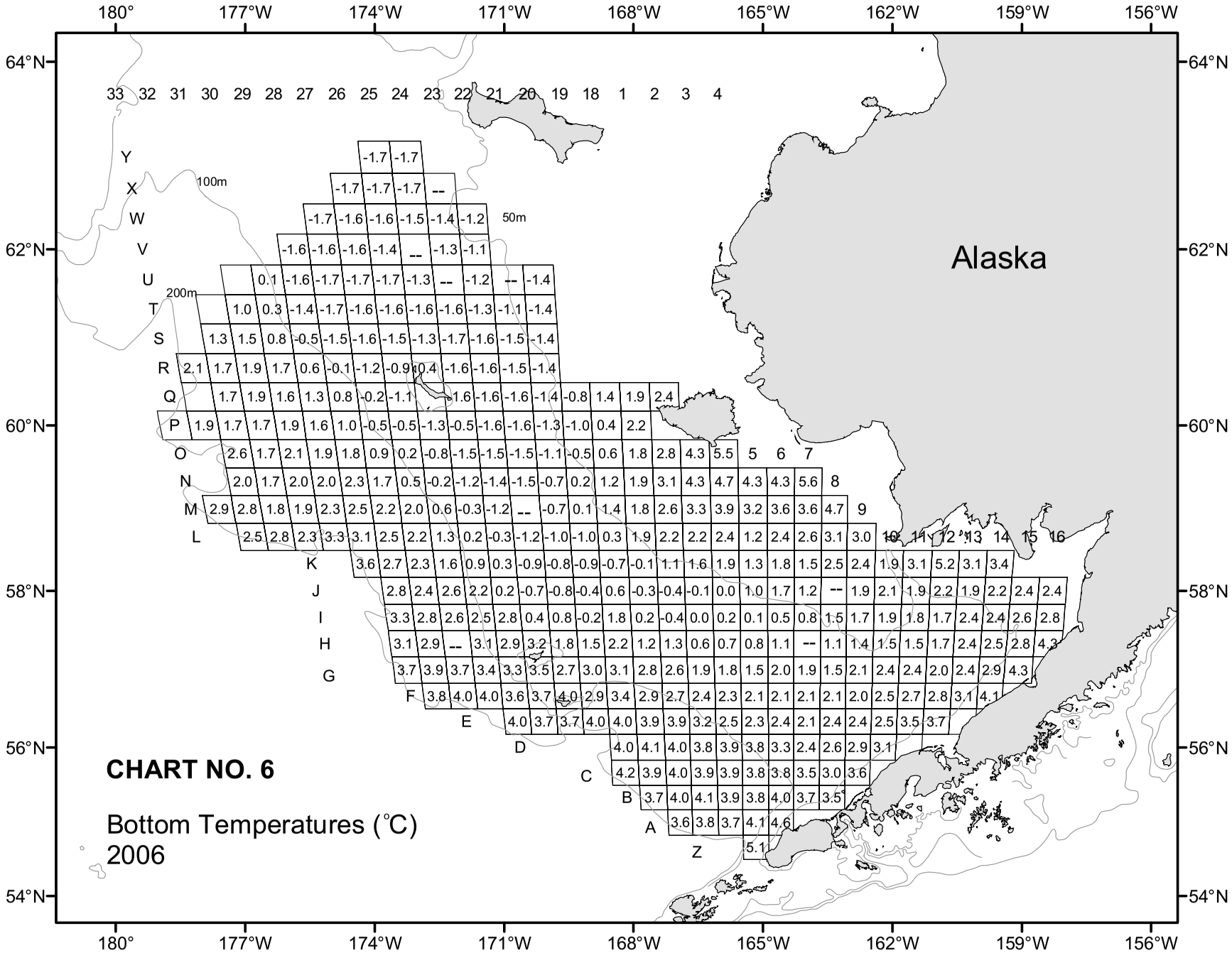
10 11 12 13 14 15 16
Hair Crab
10 - 100
100 - 1,000
CHART NO. 5
Number of male hair crab
>= 3.25 inches width
caught per square nautical mile
2006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165°W
162°W
159°W
156°W
64°N
62°N
60°N
58°N
56°N
54°N
Alaska
100m
50m
200m
CHART NO. 6
Bottom Temperatures (°C)
2006

Table 7. Summary of crab density by tow (# per square nmi) for Red King Crab. *(Paralithodes camtschaticus)*

Station	Date	N. Lat.	W. Long	Fathoms	Males				Females			GRAND TOTAL
					Large	Medium	Small	Total	Large	Small	Total	
B08	06/07/06	55 21.0	163 24.3	28	6698	867	79	7644	630	0	630	8274
C08	06/07/06	55 40.4	163 24.1	43	316	0	0	316	0	0	0	316
C09	06/07/06	55 40.3	162 49.9	25	554	316	79	949	158	0	158	1107
D09	06/07/06	55 59.5	162 49.3	42	454	530	151	1136	0	0	0	1136
D10	06/07/06	56 0.3	162 16.4	39	462	154	1310	1926	4777	770	5548	7474
E08	06/08/06	56 20.1	163 25.1	45	0	79	0	79	0	0	0	79
E09	06/07/06	56 20.5	162 47.8	41	75	450	450	976	375	0	375	1351
E10	06/06/06	56 20.5	162 11.0	41	237	0	5066	5304	4671	3800	8470	13774
E11	06/04/06	56 19.6	161 37.0	33	603	377	528	1508	3619	75	3694	5202
E12	06/04/06	56 20.2	160 58.3	28	788	394	236	1418	2837	0	2837	4255
F07	06/08/06	56 40.1	164 0.7	39	561	0	80	641	0	0	0	641
F08	06/08/06	56 40.4	163 22.9	39	0	0	0	0	76	0	76	76
F09	06/06/06	56 39.7	162 46.5	38	698	310	78	1086	310	0	310	1396
F10	06/06/06	56 39.9	162 10.3	37	161	483	1449	2093	2656	644	3300	5393
F11	06/04/06	56 40.1	161 34.7	46	789	237	158	1184	474	0	474	1658
F12	06/04/06	56 39.8	160 58.9	36	396	476	951	1823	713	1268	1982	3805
F13	06/04/06	56 39.5	160 22.8	31	0	77	1084	1162	774	774	1549	2711
F14	06/04/06	56 40.3	159 44.0	19	161	161	0	323	404	0	404	727
G05	06/11/06	57 0.5	165 13.3	37	156	0	0	156	0	0	0	156
G06	06/11/06	56 59.8	164 36.5	37	2001	1201	80	3281	80	0	80	3361
G07	06/08/06	57 0.2	163 56.5	35	626	626	1017	2268	547	0	547	2815
G08	06/08/06	56 59.8	163 24.5	34	696	309	77	1082	1391	0	1391	2473
G09	06/06/06	57 0.1	162 46.8	31	835	1139	1063	3036	1063	152	1214	4251
G10	06/06/06	56 59.8	162 11.1	31	710	710	947	2367	947	158	1105	3472
G11	06/04/06	56 59.5	161 33.9	36	386	154	848	1388	1003	231	1234	2622
G12	06/04/06	56 59.9	160 57.1	34	561	80	882	1523	2486	160	2646	4169
G13	06/03/06	56 59.8	160 20.0	32	613	230	1073	1916	3373	1073	4446	6362
G14	06/03/06	56 59.8	159 40.0	28	0	82	327	408	245	408	653	1062
G15	06/02/06	57 0.1	159 7.0	18	0	80	0	80	0	0	0	80
G20	06/29/06	57 0.0	169 33.5	32	378	0	0	378	756	0	756	1134
G20	06/29/06	56 50.0	169 45.1	37	160	0	0	160	0	0	0	160
G20	07/10/06	57 10.0	169 19.3	38	79	0	0	79	0	0	0	79
G21	06/29/06	56 55.0	169 53.9	36	235	0	0	235	0	0	0	235

Table 7. Summary of crab density by tow (# per square nmi) for Red King Crab. *(Paralithodes camtschaticus)*

Station	Date	N. Lat.	W. Long	Fathoms	Males				Females			GRAND TOTAL
					Large	Medium	Small	Total	Large	Small	Total	
G21	06/29/06	57 0.0	170 10.2	36	936	0	0	936	0	0	0	936
G21	06/29/06	56 50.2	169 54.5	38	475	0	0	475	0	0	0	475
G22	06/29/06	57 7.2	170 28.5	26	1224	489	0	1713	2202	0	2202	3915
H03	06/14/06	57 20.1	166 28.8	36	77	0	0	77	0	0	0	77
H04	06/14/06	57 20.0	165 51.9	36	76	0	0	76	0	0	0	76
H06	06/11/06	57 19.9	164 38.3	34	233	78	78	388	0	0	0	388
H07	06/08/06	57 20.2	163 59.6	31	312	156	0	468	78	0	78	546
H08	06/08/06	57 18.8	163 25.0	28	618	618	309	1546	1855	0	1855	3401
H09	06/06/06	57 19.8	162 46.0	25	1157	926	772	2855	694	0	694	3549
H10	06/06/06	57 20.1	162 9.1	26	400	320	2798	3518	3438	1279	4717	8235
H11	06/04/06	57 20.0	161 32.0	28	2616	1823	4360	8799	7055	396	7452	16251
H12	06/04/06	57 19.3	160 54.2	34	80	320	2561	2961	3842	560	4402	7363
H13	06/03/06	57 20.3	160 18.1	32	0	295	0	295	295	0	295	590
H14	06/03/06	57 19.4	159 40.1	29	0	158	237	396	396	317	712	1108
H15	06/02/06	57 20.2	159 4.1	25	0	0	90	90	0	0	0	90
H20	06/27/06	57 29.9	169 22.3	37	78	0	0	78	78	0	78	157
H20	07/01/06	57 20.2	169 34.8	34	235	78	0	313	235	0	235	548
H21	06/29/06	57 10.1	169 53.2	26	464	0	0	464	0	0	0	464
H21	07/01/06	57 20.2	170 13.0	28	0	82	0	82	0	0	0	82
I05	06/11/06	57 39.9	165 14.7	32	226	150	0	376	0	0	0	376
I06	06/11/06	57 40.2	164 37.1	27	234	0	0	234	0	0	0	234
I07	06/08/06	57 40.2	163 59.3	26	610	76	0	686	76	0	76	762
I08	06/08/06	57 40.2	163 19.9	24	539	77	0	616	693	0	693	1310
I09	06/06/06	57 39.8	162 45.0	22	1037	798	160	1994	878	0	878	2872
I10	06/06/06	57 39.7	162 7.8	24	548	548	313	1410	940	0	940	2349
I11	06/05/06	57 40.0	161 29.4	27	628	157	9423	10209	1728	10523	12250	22459
I12	06/05/06	57 40.0	160 51.3	30	246	1066	1640	2952	1230	164	1394	4345
I13	06/03/06	57 40.1	160 16.1	28	235	78	471	785	863	78	942	1726
I14	06/03/06	57 39.1	159 38.9	26	324	0	728	1052	324	566	890	1942
I19	06/27/06	57 49.4	168 44.2	37	0	172	86	258	0	0	0	258
I20	07/01/06	57 40.0	169 39.7	37	0	0	0	0	78	0	78	78
I21	07/01/06	57 30.2	170 0.3	36	1436	179	0	1615	628	0	628	2243
J07	06/09/06	58 0.1	163 59.7	24	237	79	79	396	158	0	158	554

Table 7. Summary of crab density by tow (# per square nmi) for Red King Crab. *(Paralithodes camtschaticus)*

Station	Date	N. Lat.	W. Long	Fathoms	Males				Females			GRAND TOTAL
					Large	Medium	Small	Total	Large	Small	Total	
J08	06/09/06	58 0.6	163 21.8	21	156	156	0	312	156	0	156	468
J09	06/06/06	58 0.1	162 44.7	21	237	79	0	317	317	0	317	633
J10	06/05/06	58 0.0	162 7.1	19	0	79	79	157	79	0	79	236
J11	06/05/06	57 59.6	161 29.1	28	78	78	781	938	547	860	1407	2344
J12	06/05/06	57 59.7	160 49.9	24	318	476	318	1112	635	0	635	1747
J13	06/03/06	57 59.8	160 13.0	26	156	0	312	469	547	312	859	1328
J14	06/03/06	57 59.5	159 36.1	21	0	80	0	80	0	0	0	80
J16	06/02/06	58 0.1	158 19.7	16	82	0	5232	5314	82	5477	5559	10873
J20	06/28/06	57 60.0	169 41.7	37	0	0	0	0	77	0	77	77
K03	06/19/06	58 19.8	166 33.0	24	75	0	0	75	0	0	0	75
K05	06/10/06	58 20.1	165 16.9	22	0	82	0	82	82	0	82	164
K06	06/11/06	58 20.1	164 38.3	22	78	78	0	155	78	0	78	233
K07	06/09/06	58 19.7	164 0.1	21	79	79	0	157	79	0	79	236
K09	06/05/06	58 20.3	162 43.5	15	229	0	0	229	0	0	0	229
K10	06/05/06	58 20.1	162 3.1	24	77	0	77	155	309	0	309	464
K11	06/05/06	58 12.5	161 33.3	19	0	242	121	363	121	0	121	485
K18	06/27/06	58 19.3	168 27.4	34	0	79	0	79	79	0	79	158
L01	06/21/06	58 39.9	167 52.1	24	76	0	0	76	76	0	76	152
L02	06/21/06	58 39.5	167 13.6	22	0	0	154	154	0	0	0	154
L03	06/19/06	58 39.5	166 33.6	21	79	0	0	79	0	0	0	79
L04	06/19/06	58 40.5	165 55.6	19	155	0	78	233	155	0	155	388
L05	06/10/06	58 40.3	165 17.8	20	80	0	0	80	0	0	0	80
L07	06/09/06	58 40.0	163 59.5	17	0	0	0	0	76	0	76	76
M01	06/21/06	59 0.1	167 53.0	21	0	79	158	237	79	0	79	316
M02	06/21/06	58 59.6	167 13.3	20	78	0	78	156	78	0	78	233
M03	06/19/06	58 59.1	166 34.7	18	0	0	0	0	152	0	152	152
M04	06/19/06	58 59.7	165 55.1	15	0	0	79	79	0	0	0	79
M06	06/10/06	59 0.6	164 38.8	14	80	0	0	80	80	0	80	159
M18	06/22/06	58 59.4	168 31.9	24	0	0	0	0	78	0	78	78
N01	06/21/06	59 20.8	167 55.0	20	79	79	157	315	236	0	236	551
N02	06/20/06	59 20.3	167 14.4	16	76	76	0	153	76	0	76	229
N03	06/20/06	59 21.0	166 35.9	14	155	0	0	155	155	0	155	310
N04	06/20/06	59 20.4	165 56.9	12	0	77	0	77	77	0	77	153

Table 7. Summary of crab density by tow (# per square nmi) for Red King Crab. *(Paralithodes camtschaticus)*

Station	Date	N. Lat.	W. Long	Fathoms	Males				Females			GRAND TOTAL
					Large	Medium	Small	Total	Large	Small	Total	
N18	06/22/06	59 20.4	168 33.3	21	0	243	0	243	81	0	81	324
O01	06/20/06	59 39.9	167 56.9	18	0	78	0	78	0	0	0	78
O18	06/22/06	59 39.7	168 37.4	20	0	0	0	0	77	0	77	77
P01	06/20/06	60 0.6	167 59.0	12	0	74	0	74	74	0	74	148
Q02	06/20/06	60 20.1	167 15.5	15	0	0	76	76	0	0	0	76
Q18	06/22/06	60 20.2	168 39.6	18	0	0	0	0	76	0	76	76
Q19	06/22/06	60 19.5	169 20.0	22	0	0	0	0	80	0	80	80

NOTE: Minimum carapace sizes used are: Large Males > 6.5 in; Medium Males = 5.2 to 6.5 in; Large Females > 4.3 in.

Table 8A. Summary of crab density by tow (# per square nmi) for Pribilofs Blue Kings. *(Paralithodes platypus)*

Station	Date	N. Lat.	W. Long	Fathoms	Males				Females			GRAND TOTAL
					Large	Medium	Small	Total	Large	Small	Total	
G20	06/29/06	57 0.0	169 33.5	32	0	0	151	151	76	151	227	378
G20	06/29/06	56 50.0	169 45.1	37	0	0	0	0	160	0	160	160
G20	07/10/06	57 10.0	169 19.3	38	79	0	0	79	238	0	238	317
H19	07/10/06	57 19.8	168 58.8	36	85	0	0	85	1365	0	1365	1450
H20	06/27/06	57 29.9	169 22.3	37	0	157	78	235	235	78	313	548
I21	07/01/06	57 40.1	170 16.0	38	0	0	0	0	0	79	79	79
I21	07/01/06	57 30.2	170 0.3	36	0	0	179	179	0	0	0	179
J01	06/21/06	57 59.7	167 48.0	35	0	0	77	77	0	77	77	154

NOTE: Minimum carapace sizes used are: Large Males > 6.5 in; Medium Males = 5.2 to 6.5 in; Large Females > 4.3 in.

Table 8B. Summary of crab density by tow (# per square nmi) for St. Matt. Blue Kings. *(Paralithodes platypus)*

Station	Date	N. Lat.	W. Long	Fathoms	Males				Females			GRAND TOTAL
					Large	Medium	Small	Total	Large	Small	Total	
O23	07/02/06	59 40.0	171 53.4	41	74	0	0	74	0	0	0	74
O24	07/12/06	59 40.3	172 32.5	44	130	0	0	130	0	0	0	130
O24	07/12/06	59 49.5	172 54.1	42	0	79	79	157	0	0	0	157
O25	07/12/06	59 40.3	173 14.4	50	451	75	0	527	0	0	0	527
O25	07/02/06	59 30.4	172 52.6	50	152	0	0	152	0	0	0	152
O26	07/03/06	59 50.0	174 13.4	57	80	0	0	80	0	0	0	80
O26	07/03/06	59 40.2	173 53.2	56	78	0	0	78	0	0	0	78
O29	07/18/06	59 40.6	175 52.1	73	0	77	0	77	0	0	0	77
P23	07/02/06	59 59.6	171 57.6	34	0	0	153	153	0	0	0	153
P23	07/02/06	59 50.2	172 15.2	39	0	0	149	149	0	0	0	149
P23	07/12/06	60 9.7	172 19.6	30	71	71	214	356	71	0	71	428
P25	07/12/06	59 59.9	173 16.6	39	154	154	769	1077	154	0	154	1231
P26	07/12/06	59 50.3	173 34.9	50	1459	1536	461	3457	0	0	0	3457
P26	07/12/06	60 7.2	173 45.8	46	236	157	79	472	79	0	79	550
P26	07/16/06	59 60.0	173 56.8	51	546	312	78	935	0	0	0	935
Q22	06/24/06	60 19.9	171 22.6	34	0	0	77	77	0	0	0	77
Q23	06/24/06	60 19.9	172 3.9	31	76	0	0	76	0	0	0	76
Q25	07/13/06	60 17.8	173 22.7	33	555	370	3517	4442	370	185	555	4997
Q25	07/12/06	60 10.7	173 1.1	31	231	0	1231	1461	154	308	462	1923
Q26	07/16/06	60 20.2	174 4.3	48	257	0	171	428	0	0	0	428
Q27	07/16/06	60 10.8	174 21.0	53	156	0	78	234	0	0	0	234
Q27	07/17/06	60 19.9	174 43.0	54	0	0	80	80	0	0	0	80
R24	07/13/06	60 39.6	172 44.5	23	0	0	231	231	0	0	0	231
R25	07/13/06	60 40.5	173 28.1	34	314	0	79	393	79	0	79	471
S25	07/13/06	61 0.3	173 30.1	39	77	0	0	77	0	0	0	77
W27	07/15/06	62 19.8	175 17.3	42	0	0	74	74	0	0	0	74

NOTE: Minimum carapace sizes used are: Large Males > 5.5 in; Medium Males = 4.3 to 5.5 in; Large Females > 3.8 in.

Table 9. Summary of crab density by tow (# per square nmi) for Tanner Crab. *(Chionoecetes bairdi)*

Station	Date	N. Lat.	W. Long	Fathoms	Males				Females			GRAND TOTAL
					Large	Medium	Small	Total	Large	Small	Total	
A02	06/18/06	55 0.3	166 56.3	83	0	719	25850	26569	559	19334	19893	46462
A03	06/13/06	54 59.8	166 20.4	77	0	3619	14011	17630	5639	29977	35616	53246
A04	06/13/06	54 50.7	165 30.9	80	76	229	25540	25846	76	34446	34523	60369
A04	06/13/06	55 0.3	165 45.9	70	446	2156	10558	13160	297	11376	11673	24833
A05	06/12/06	54 59.9	165 9.3	59	238	238	2139	2614	238	871	1109	3723
A06	06/13/06	55 2.5	164 35.0	34	79	79	79	238	0	79	79	317
B01	06/18/06	55 20.8	167 32.7	78	79	1822	38668	40570	0	32886	32886	73456
B02	06/18/06	55 20.7	166 58.1	74	0	1074	9048	10122	307	4371	4678	14799
B03	06/13/06	55 21.1	166 20.8	71	274	2828	14416	17518	6648	25559	32208	49725
B04	06/14/06	55 21.1	165 46.6	64	160	2240	41741	44141	5663	23462	29125	73266
B05	06/12/06	55 19.7	165 10.1	59	2274	1255	1176	4705	1019	2353	3372	8077
B06	06/13/06	55 20.9	164 33.7	54	2961	1870	4130	8962	935	2104	3039	12001
B07	06/07/06	55 20.3	164 1.5	42	76	151	302	529	76	0	76	605
B08	06/07/06	55 21.0	163 24.3	28	552	9326	81924	91802	14086	14086	28171	119973
C01	06/18/06	55 40.2	167 35.0	72	0	1214	2807	4020	152	2200	2351	6372
C02	06/18/06	55 40.7	166 58.9	72	0	231	462	692	0	538	538	1231
C03	06/13/06	55 40.2	166 22.8	67	111	5231	17140	22482	6113	22560	28673	51154
C04	06/14/06	55 41.7	165 48.0	63	0	1425	9727	11152	168	4444	4612	15764
C05	06/12/06	55 39.7	165 10.2	57	0	479	1037	1516	160	1197	1356	2872
C06	06/12/06	55 39.2	164 37.5	51	615	1306	2382	4303	154	1306	1460	5763
C07	06/07/06	55 41.7	163 59.7	50	1574	2229	15342	19145	6859	10507	17366	36512
C08	06/07/06	55 40.4	163 24.1	43	1895	2448	4501	8844	316	790	1106	9950
C09	06/07/06	55 40.3	162 49.9	25	0	316	554	870	0	0	0	870
C18	07/09/06	55 40.4	168 11.3	72	0	333	6502	6835	0	8169	8169	15004
D01	06/18/06	56 0.6	167 36.9	71	225	1123	4416	5763	1198	7185	8383	14146
D02	06/15/06	56 0.6	167 2.9	72	78	2332	3654	6064	855	2565	3421	9484
D03	06/13/06	56 0.1	166 23.6	66	155	2944	5268	8367	2789	4958	7747	16114
D04	06/14/06	56 0.8	165 46.9	57	299	2165	1717	4182	672	4704	5376	9558
D05	06/12/06	55 59.8	165 11.4	51	76	685	2359	3119	152	1293	1446	4565
D06	06/12/06	55 59.9	164 37.0	49	305	534	2824	3663	229	2747	2976	6640
D07	06/07/06	56 1.4	164 1.6	48	0	786	1180	1966	0	708	708	2674
D08	06/07/06	55 59.5	163 23.6	46	156	235	1564	1955	235	1720	1955	3910
D09	06/07/06	55 59.5	162 49.3	42	0	379	1665	2044	606	454	1060	3104

Table 9. Summary of crab density by tow (# per square nmi) for Tanner Crab. *(Chionoecetes bairdi)*

Station	Date	N. Lat.	W. Long	Fathoms	Males				Females			GRAND TOTAL
					Large	Medium	Small	Total	Large	Small	Total	
D10	06/07/06	56 0.3	162 16.4	39	0	77	308	385	385	0	385	770
D18	07/09/06	55 59.7	168 13.9	80	0	1326	4447	5773	0	6163	6163	11936
E01	06/15/06	56 20.2	167 39.2	68	0	699	1553	2251	311	1863	2174	4425
E02	06/15/06	56 20.4	167 3.6	60	158	946	946	2049	1497	630	2128	4177
E03	06/13/06	56 20.1	166 24.6	55	0	770	3236	4007	770	2389	3159	7166
E04	06/14/06	56 19.8	165 48.5	49	0	1252	1096	2348	704	1487	2191	4539
E05	06/12/06	56 20.1	165 12.2	46	0	546	2962	3508	546	2027	2573	6081
E06	06/12/06	56 19.7	164 35.3	46	391	1331	2583	4305	1018	3131	4149	8454
E07	06/08/06	56 20.3	164 0.4	45	0	1019	1646	2665	627	1097	1725	4390
E08	06/08/06	56 20.1	163 25.1	45	0	630	2125	2755	394	787	1181	3936
E09	06/07/06	56 20.5	162 47.8	41	75	450	1276	1802	225	225	450	2252
E10	06/06/06	56 20.5	162 11.0	41	79	396	712	1187	158	0	158	1346
E11	06/04/06	56 19.6	161 37.0	33	75	528	226	829	0	0	0	829
E12	06/04/06	56 20.2	160 58.3	28	236	473	709	1418	79	0	79	1497
E18	07/09/06	56 20.4	168 13.4	80	701	6485	12094	19280	0	24165	24165	43445
E19	07/09/06	56 20.1	168 53.2	69	451	2482	5341	8274	151	17024	17174	25448
E20	07/10/06	56 25.6	169 30.9	55	0	560	6043	6603	0	3693	3693	10296
E21	07/10/06	56 20.4	170 4.4	58	394	2523	6306	9223	5663	9781	15443	24667
E22	07/10/06	56 20.0	170 41.1	64	0	312	3125	3437	78	2500	2578	6015
F01	06/15/06	56 39.7	167 40.1	54	0	613	1762	2375	230	996	1226	3600
F02	06/15/06	56 39.4	167 4.7	51	0	868	1026	1893	0	237	237	2130
F03	06/14/06	56 39.9	166 26.4	45	0	921	2532	3453	460	460	921	4374
F04	06/14/06	56 39.3	165 52.2	41	0	701	4515	5216	1012	3815	4827	10042
F05	06/11/06	56 40.1	165 12.9	39	0	477	1668	2145	477	953	1430	3575
F06	06/12/06	56 40.7	164 35.0	39	79	237	1974	2290	237	474	711	3001
F07	06/08/06	56 40.1	164 0.7	39	0	481	641	1122	401	160	561	1684
F08	06/08/06	56 40.4	163 22.9	39	0	303	303	606	151	0	151	757
F09	06/06/06	56 39.7	162 46.5	38	155	388	1164	1707	233	155	388	2095
F10	06/06/06	56 39.9	162 10.3	37	0	644	402	1046	80	80	161	1207
F11	06/04/06	56 40.1	161 34.7	46	474	789	395	1658	632	0	632	2289
F12	06/04/06	56 39.8	160 58.9	36	159	793	0	951	79	0	79	1031
F13	06/04/06	56 39.5	160 22.8	31	77	387	155	620	77	0	77	697
F14	06/04/06	56 40.3	159 44.0	19	161	0	81	242	0	0	0	242

Table 9. Summary of crab density by tow (# per square nmi) for Tanner Crab. *(Chionoecetes bairdi)*

Station	Date	N. Lat.	W. Long	Fathoms	Males				Females			GRAND TOTAL
					Large	Medium	Small	Total	Large	Small	Total	
F18	07/09/06	56 40.1	168 17.9	57	155	1471	1317	2943	77	852	929	3872
F19	07/09/06	56 39.9	168 54.3	53	535	2598	2445	5579	229	917	1146	6725
F20	06/29/06	56 40.0	169 29.8	42	113	339	1470	1923	0	226	226	2149
F21	06/29/06	56 49.1	170 3.3	40	704	6569	2424	9697	0	626	626	10322
F21	06/29/06	56 44.9	169 54.6	42	0	0	155	155	0	0	0	155
F21	06/30/06	56 40.2	170 7.4	51	235	3124	64165	67524	4543	4622	9165	76690
F22	06/30/06	56 40.1	170 43.3	60	298	1042	4095	5435	3871	6998	10870	16304
F23	07/10/06	56 40.4	171 21.5	63	335	2460	3690	6485	1242	5384	6626	13111
F24	07/11/06	56 39.7	171 58.0	68	0	280	1818	2098	0	1259	1259	3357
F25	07/04/06	56 40.4	172 34.1	72	0	0	2221	2221	0	1992	1992	4213
G01	06/15/06	57 0.1	167 42.3	41	0	974	1648	2622	0	749	749	3371
G02	06/15/06	57 0.9	167 5.2	39	0	377	2414	2791	75	377	453	3243
G03	06/14/06	57 0.3	166 27.9	39	0	311	1635	1946	78	467	545	2491
G04	06/14/06	56 59.6	165 51.0	38	0	555	634	1188	0	396	396	1584
G05	06/11/06	57 0.5	165 13.3	37	0	547	235	782	156	0	156	938
G06	06/11/06	56 59.8	164 36.5	37	0	320	80	400	160	0	160	560
G07	06/08/06	57 0.2	163 56.5	35	0	235	547	782	78	0	78	860
G08	06/08/06	56 59.8	163 24.5	34	0	309	464	773	464	0	464	1237
G09	06/06/06	57 0.1	162 46.8	31	0	228	0	228	76	0	76	304
G10	06/06/06	56 59.8	162 11.1	31	79	158	158	395	0	0	0	395
G11	06/04/06	56 59.5	161 33.9	36	0	386	231	617	231	0	231	848
G12	06/04/06	56 59.9	160 57.1	34	0	802	80	882	321	0	321	1203
G13	06/03/06	56 59.8	160 20.0	32	77	613	0	690	153	0	153	843
G14	06/03/06	56 59.8	159 40.0	28	163	163	0	327	0	0	0	327
G18	07/10/06	56 58.9	168 20.4	44	0	415	3238	3653	1992	8800	10792	14445
G19	07/09/06	56 50.1	168 37.5	51	0	372	2009	2381	0	818	818	3199
G19	07/09/06	56 60.0	168 56.8	42	76	1294	913	2283	0	76	76	2359
G20	06/29/06	57 0.0	169 33.5	32	227	4988	4308	9522	76	907	982	10505
G20	06/29/06	56 50.0	169 45.1	37	2647	10667	6015	19330	642	1043	1684	21014
G20	07/09/06	56 50.0	169 17.1	42	543	3101	853	4497	0	0	0	4497
G20	07/10/06	57 10.0	169 19.3	38	2459	4680	555	7695	0	0	0	7695
G21	06/29/06	56 55.0	169 53.9	36	2035	3834	2817	8686	11356	10631	21987	30673
G21	06/29/06	57 0.0	170 10.2	36	961	14122	23701	38783	936	1171	2107	40890

Table 9. Summary of crab density by tow (# per square nmi) for Tanner Crab. *(Chionoecetes bairdi)*

Station	Date	N. Lat.	W. Long	Fathoms	Males				Females			GRAND TOTAL
					Large	Medium	Small	Total	Large	Small	Total	
G21	06/29/06	56 50.2	169 54.5	38	18986	33779	3322	56087	79	316	396	56482
G22	06/29/06	57 7.2	170 28.5	26	1355	18386	41224	60965	4487	3752	8239	69204
G22	06/30/06	56 60.0	170 46.8	50	386	2473	12907	15767	232	3169	3401	19167
G22	06/30/06	56 50.0	170 29.6	54	155	2251	12262	14668	1707	2871	4579	19246
G23	07/10/06	56 59.8	171 23.3	59	238	1747	8894	10880	1429	4765	6194	17074
G24	07/11/06	56 57.7	172 1.6	62	80	241	1609	1931	80	966	1046	2977
G25	07/04/06	56 60.0	172 39.2	65	0	77	843	920	0	767	767	1686
G26	07/04/06	56 59.7	173 15.4	77	0	0	9480	9480	0	16826	16826	26306
H01	06/15/06	57 19.7	167 44.1	39	0	471	5736	6208	0	2750	2750	8958
H02	06/15/06	57 20.1	167 7.9	37	0	158	1585	1743	79	238	317	2060
H03	06/14/06	57 20.1	166 28.8	36	0	77	1229	1306	0	154	154	1459
H04	06/14/06	57 20.0	165 51.9	36	0	76	303	378	0	0	0	378
H05	06/11/06	57 19.7	165 14.2	34	0	76	152	228	0	0	0	228
H06	06/11/06	57 19.9	164 38.3	34	78	78	78	233	0	78	78	310
H07	06/08/06	57 20.2	163 59.6	31	0	78	78	156	0	0	0	156
H08	06/08/06	57 18.8	163 25.0	28	77	155	232	464	77	0	77	541
H09	06/06/06	57 19.8	162 46.0	25	0	154	0	154	0	0	0	154
H10	06/06/06	57 20.1	162 9.1	26	0	0	320	320	0	0	0	320
H11	06/04/06	57 20.0	161 32.0	28	79	396	79	555	0	0	0	555
H12	06/04/06	57 19.3	160 54.2	34	0	480	160	640	0	0	0	640
H14	06/03/06	57 19.4	159 40.1	29	0	396	0	396	0	0	0	396
H15	06/02/06	57 20.2	159 4.1	25	0	270	0	270	90	0	90	360
H18	07/10/06	57 20.0	168 22.6	38	0	358	1576	1934	72	358	430	2364
H19	06/27/06	57 30.0	168 45.3	37	0	237	1106	1342	158	316	474	1816
H19	07/10/06	57 10.0	168 38.4	40	0	319	1115	1433	0	319	319	1752
H19	07/10/06	57 19.8	168 58.8	36	0	1792	2645	4436	0	0	0	4436
H20	06/27/06	57 29.9	169 22.3	37	0	783	1956	2739	78	939	1017	3756
H20	07/01/06	57 20.2	169 34.8	34	78	157	861	1096	78	313	391	1487
H21	06/29/06	57 10.1	169 53.2	26	0	77	77	155	0	155	155	309
H21	07/01/06	57 20.2	170 13.0	28	0	164	655	819	0	82	82	901
H22	07/11/06	57 29.7	170 35.0	39	80	559	1119	1758	400	559	959	2717
H22	06/30/06	57 19.6	170 51.7	44	0	877	1276	2153	159	239	399	2551
H23	07/11/06	57 19.9	171 27.8	54	77	618	4249	4945	309	2241	2550	7494

Table 9. Summary of crab density by tow (# per square nmi) for Tanner Crab. *(Chionoecetes bairdi)*

Station	Date	N. Lat.	W. Long	Fathoms	Males				Females			GRAND TOTAL
					Large	Medium	Small	Total	Large	Small	Total	
H24	07/11/06	57 20.5	172 5.7	55	77	230	689	996	153	230	383	1379
H25	07/04/06	57 20.7	172 48.8	62	0	0	913	913	0	304	304	1217
H26	07/04/06	57 19.6	173 18.5	65	0	0	2306	2306	0	769	769	3075
I01	06/15/06	57 40.1	167 45.8	36	0	311	6528	6839	155	3730	3886	10725
I02	06/21/06	57 40.9	167 6.4	36	0	155	6510	6665	0	1317	1317	7982
I03	06/19/06	57 39.4	166 30.4	35	0	230	690	920	153	230	383	1303
I04	06/19/06	57 39.8	165 52.7	33	0	78	312	390	0	0	0	390
I05	06/11/06	57 39.9	165 14.7	32	0	0	226	226	0	0	0	226
I06	06/11/06	57 40.2	164 37.1	27	0	156	469	625	0	0	0	625
I07	06/08/06	57 40.2	163 59.3	26	0	381	457	838	76	76	152	990
I08	06/08/06	57 40.2	163 19.9	24	0	77	77	154	0	0	0	154
I09	06/06/06	57 39.8	162 45.0	22	80	0	160	239	0	0	0	239
I11	06/05/06	57 40.0	161 29.4	27	79	157	79	314	0	0	0	314
I12	06/05/06	57 40.0	160 51.3	30	0	246	0	246	164	0	164	410
I13	06/03/06	57 40.1	160 16.1	28	0	0	157	157	0	0	0	157
I14	06/03/06	57 39.1	159 38.9	26	0	81	0	81	0	0	0	81
I18	06/27/06	57 39.9	168 24.9	37	0	378	2874	3252	0	151	151	3403
I19	06/27/06	57 40.0	169 1.9	36	78	312	1792	2182	0	546	546	2728
I19	06/27/06	57 49.4	168 44.2	37	0	172	1632	1804	0	172	172	1976
I20	07/01/06	57 40.0	169 39.7	37	0	310	1396	1707	0	776	776	2483
I21	06/28/06	57 49.8	169 59.6	38	79	393	3298	3769	79	3220	3298	7067
I21	07/01/06	57 40.1	170 16.0	38	79	554	3005	3638	79	2214	2293	5931
I21	07/01/06	57 30.2	170 0.3	36	538	6371	7269	14178	269	4218	4487	18665
I22	07/11/06	57 40.0	170 53.5	44	0	1249	3905	5154	312	1249	1562	6716
I23	07/11/06	57 40.0	171 31.9	53	0	462	616	1079	154	616	770	1849
I24	07/11/06	57 40.0	172 9.7	57	0	1020	11091	12112	802	13584	14385	26497
I25	07/04/06	57 40.0	172 47.9	63	0	0	926	926	0	617	617	1543
I26	07/04/06	57 39.4	173 22.7	78	0	0	1756	1756	0	1527	1527	3283
J01	06/21/06	57 59.7	167 48.0	35	77	694	15556	16327	189	14719	14908	31235
J02	06/21/06	58 1.6	167 11.3	33	78	156	8214	8449	0	704	704	9153
J03	06/19/06	57 59.8	166 31.2	32	76	606	1212	1893	0	151	151	2045
J04	06/19/06	57 59.7	165 54.2	29	0	78	700	778	0	0	0	778
J05	06/10/06	58 0.0	165 14.9	26	0	78	0	78	0	0	0	78

Table 9. Summary of crab density by tow (# per square nmi) for Tanner Crab. *(Chionoecetes bairdi)*

Station	Date	N. Lat.	W. Long	Fathoms	Males				Females			GRAND TOTAL
					Large	Medium	Small	Total	Large	Small	Total	
J10	06/05/06	58 0.0	162 7.1	19	0	0	79	79	0	0	0	79
J12	06/05/06	57 59.7	160 49.9	24	0	0	79	79	0	0	0	79
J18	06/27/06	57 59.5	168 25.9	37	81	1780	12054	13915	81	1375	1456	15371
J19	06/27/06	58 0.2	169 3.9	37	0	236	1418	1655	0	1024	1024	2679
J20	06/27/06	57 50.3	169 21.0	34	0	152	987	1139	0	304	304	1443
J20	06/28/06	57 60.0	169 41.7	37	0	77	1993	2070	77	1686	1763	3833
J21	06/28/06	57 59.9	170 20.3	39	0	79	1264	1343	79	1501	1580	2924
J22	06/28/06	57 50.0	170 37.0	41	0	304	683	987	0	228	228	1214
J22	06/30/06	57 60.0	170 58.4	46	78	468	1874	2420	0	1717	1717	4137
J23	06/30/06	58 0.1	171 36.4	52	0	230	460	690	0	460	460	1151
J24	07/11/06	57 57.0	172 16.3	56	80	1517	3912	5509	798	2954	3752	9261
J25	07/04/06	57 59.8	172 51.9	58	0	306	4440	4746	306	6124	6430	11176
J26	07/04/06	57 58.9	173 30.3	63	0	476	10864	11340	793	8565	9358	20698
K01	06/21/06	58 19.9	167 49.8	31	0	377	17332	17709	0	2160	2160	19869
K02	06/21/06	58 19.9	167 12.2	26	0	156	7868	8024	0	623	623	8647
K03	06/19/06	58 19.8	166 33.0	24	0	224	747	971	75	0	75	1045
K04	06/19/06	58 20.3	165 55.5	22	0	0	0	0	74	0	74	74
K18	06/27/06	58 19.3	168 27.4	34	0	474	44219	44692	0	32059	32059	76751
K19	06/27/06	58 20.0	169 6.9	36	77	465	31652	32194	271	13526	13797	45991
K20	06/26/06	58 20.2	169 43.9	36	0	233	2251	2484	0	621	621	3105
K21	06/26/06	58 19.4	170 22.8	39	0	0	769	769	0	923	923	1692
K22	06/30/06	58 20.0	171 2.2	44	0	0	384	384	0	460	460	844
K23	06/30/06	58 20.6	171 39.1	51	0	0	394	394	0	315	315	708
K24	07/02/06	58 20.0	172 18.0	55	0	0	950	950	0	1346	1346	2296
K25	07/03/06	58 20.1	172 56.0	58	0	396	712	1108	158	870	1029	2137
K26	07/04/06	58 19.7	173 34.5	62	0	78	1726	1804	0	3059	3059	4864
K27	07/25/06	58 20.1	174 19.1	93	0	0	7098	7098	0	6949	6949	14048
L02	06/21/06	58 39.5	167 13.6	22	0	0	77	77	0	77	77	154
L03	06/19/06	58 39.5	166 33.6	21	0	0	79	79	0	0	0	79
L18	06/26/06	58 39.3	168 32.0	28	0	0	3494	3494	0	1381	1381	4875
L19	06/26/06	58 39.2	169 10.0	33	0	0	45584	45584	0	26304	26304	71888
L20	06/26/06	58 39.0	169 46.7	35	0	0	87696	87696	0	71040	71040	158736
L21	06/25/06	58 40.1	170 25.9	38	0	0	7175	7175	79	3621	3700	10874

Table 9. Summary of crab density by tow (# per square nmi) for Tanner Crab. *(Chionoecetes bairdi)*

Station	Date	N. Lat.	W. Long	Fathoms	Males				Females			GRAND TOTAL
					Large	Medium	Small	Total	Large	Small	Total	
L22	07/01/06	58 39.9	171 5.1	44	0	0	389	389	0	466	466	855
L23	06/30/06	58 40.2	171 42.9	49	0	75	301	376	0	751	751	1127
L24	07/02/06	58 41.0	172 21.9	54	0	157	470	627	0	470	470	1097
L25	07/03/06	58 40.0	173 0.0	60	0	227	529	755	0	0	0	755
L26	07/03/06	58 41.1	173 38.1	67	0	79	632	711	0	395	395	1106
L27	07/25/06	58 39.8	174 16.2	84	0	0	18113	18113	0	10966	10966	29079
L28	07/24/06	58 40.4	174 55.9	112	0	0	773	773	0	1237	1237	2011
L29	07/24/06	58 40.0	175 32.4	72	0	0	2570	2570	0	2872	2872	5441
L30	07/24/06	58 40.0	176 11.8	75	0	0	2942	2942	0	4181	4181	7123
L31	07/24/06	58 40.2	176 48.8	72	0	0	2231	2231	0	3048	3048	5279
M18	06/22/06	58 59.4	168 31.9	24	0	0	78	78	0	78	78	156
M19	06/22/06	58 59.7	169 10.7	28	0	0	19428	19428	0	9354	9354	28782
M20	06/25/06	59 0.4	169 52.9	33	0	0	24741	24741	176	23231	23407	48148
M21	06/25/06	58 59.7	170 29.2	35	0	0	4344	4344	0	233	233	4578
M22	07/01/06	58 60.0	171 7.9	41	0	0	152	152	76	152	228	380
M23	07/02/06	58 59.6	171 47.0	46	0	0	232	232	0	775	775	1007
M24	07/02/06	59 0.1	172 25.2	53	0	0	389	389	0	467	467	856
M25	07/03/06	58 59.5	173 4.8	57	0	157	787	944	0	1416	1416	2361
M26	07/03/06	59 0.5	173 43.0	62	0	0	541	541	0	155	155	696
M27	07/17/06	58 58.9	174 21.9	68	74	1117	2393	3584	5169	25847	31017	34601
M28	07/17/06	59 0.9	175 0.3	69	0	0	3808	3808	146	2270	2417	6225
M29	07/17/06	58 60.0	175 44.8	71	0	0	734	734	0	441	441	1175
M30	07/23/06	59 0.1	176 19.3	72	0	0	302	302	75	226	302	604
M31	07/23/06	58 60.0	176 56.3	73	0	0	148	148	0	148	148	296
M32	07/23/06	58 60.0	177 35.3	72	0	0	323	323	0	162	162	485
N19	06/22/06	59 19.6	169 14.0	26	0	0	0	0	0	78	78	78
N20	06/25/06	59 20.1	169 53.0	32	0	0	872	872	0	158	158	1030
N21	06/25/06	59 19.7	170 31.9	36	0	0	157	157	0	78	78	235
N22	07/01/06	59 20.3	171 10.9	39	0	0	650	650	0	81	81	731
N23	07/02/06	59 19.9	171 49.9	42	0	385	770	1156	0	385	385	1541
N24	07/02/06	59 20.1	172 29.5	46	0	0	1802	1802	0	1311	1311	3113
N25	07/03/06	59 19.8	173 9.3	53	0	0	7116	7116	313	6725	7038	14154
N26	07/03/06	59 20.1	173 48.5	59	0	0	447	447	74	0	74	521

Table 9. Summary of crab density by tow (# per square nmi) for Tanner Crab. *(Chionoecetes bairdi)*

Station	Date	N. Lat.	W. Long	Fathoms	Males				Females			GRAND TOTAL
					Large	Medium	Small	Total	Large	Small	Total	
N27	07/17/06	59 19.7	174 26.0	64	0	79	158	237	0	0	0	237
N28	07/17/06	59 19.7	175 6.2	71	0	379	6296	6675	531	1062	1593	8268
N29	07/18/06	59 20.0	175 45.5	73	0	76	9792	9868	1670	9944	11614	21481
N30	07/23/06	59 20.0	176 22.4	72	0	0	6447	6447	164	6385	6549	12996
N31	07/23/06	59 20.0	177 4.2	80	0	77	3087	3164	77	1235	1312	4476
O21	06/25/06	59 39.9	170 34.9	35	0	0	77	77	0	0	0	77
O22	07/01/06	59 40.1	171 14.7	38	0	0	79	79	0	0	0	79
O23	07/02/06	59 40.0	171 53.4	41	0	74	148	222	0	222	222	445
O24	07/12/06	59 40.3	172 32.5	44	0	260	1429	1689	0	130	130	1819
O24	07/12/06	59 49.5	172 54.1	42	0	0	1179	1179	0	314	314	1494
O25	07/12/06	59 40.3	173 14.4	50	0	0	1354	1354	75	1129	1204	2558
O25	07/02/06	59 30.4	172 52.6	50	0	0	761	761	76	685	761	1523
O26	07/03/06	59 30.1	173 30.1	54	0	0	1388	1388	231	1774	2005	3394
O26	07/03/06	59 50.0	174 13.4	57	0	0	319	319	0	240	240	559
O26	07/03/06	59 40.2	173 53.2	56	0	0	861	861	0	470	470	1331
O28	07/17/06	59 39.2	175 6.6	67	0	0	155	155	78	0	78	233
O29	07/18/06	59 40.6	175 52.1	73	0	77	3940	4018	309	3090	3399	7417
O30	07/22/06	59 39.7	176 32.0	73	0	0	304	304	0	533	533	837
O31	07/22/06	59 39.8	177 8.2	93	0	242	1049	1291	323	646	968	2259
P23	07/02/06	59 50.2	172 15.2	39	0	0	297	297	0	149	149	446
P24	07/12/06	59 59.3	172 34.9	34	0	0	92	92	0	183	183	275
P25	07/12/06	59 59.9	173 16.6	39	0	0	1800	1800	0	0	0	1800
P26	07/12/06	59 50.3	173 34.9	50	0	0	313	313	307	0	307	620
P26	07/12/06	60 7.2	173 45.8	46	0	0	2315	2315	0	4629	4629	6944
P27	07/17/06	59 59.8	174 36.2	57	0	0	77	77	0	154	154	231
P28	07/16/06	59 59.5	175 15.8	62	0	0	448	448	0	1196	1196	1644
P29	07/18/06	60 0.4	175 55.8	69	0	151	1590	1741	76	2725	2801	4542
P30	07/22/06	59 59.7	176 42.5	75	0	78	157	235	0	157	157	392
P32	07/22/06	60 0.4	177 53.7	76	0	0	161	161	0	81	81	242
Q25	07/13/06	60 17.8	173 22.7	33	0	0	2807	2807	0	2809	2809	5616
Q26	07/16/06	60 20.2	174 4.3	48	0	0	856	856	0	2484	2484	3340
Q27	07/16/06	60 10.8	174 21.0	53	0	0	156	156	0	156	156	312
Q27	07/17/06	60 19.9	174 43.0	54	0	0	642	642	161	722	883	1525

Table 9. Summary of crab density by tow (# per square nmi) for Tanner Crab. *(Chionoecetes bairdi)*

Station	Date	N. Lat.	W. Long	Fathoms	Males				Females			GRAND TOTAL
					Large	Medium	Small	Total	Large	Small	Total	
Q28	07/16/06	60 19.7	175 23.1	59	0	0	4200	4200	150	3375	3525	7724
Q29	07/18/06	60 20.2	176 2.1	65	0	79	1507	1586	0	1110	1110	2696
Q30	07/21/06	60 20.3	176 43.1	73	0	0	307	307	0	3577	3577	3884
Q31	07/21/06	60 19.5	177 22.3	79	0	0	76	76	0	228	228	304
R23	06/24/06	60 39.6	172 7.1	32	0	0	78	78	0	78	78	156
R24	07/13/06	60 39.6	172 44.5	23	0	0	0	0	0	77	77	77
R27	07/16/06	60 40.0	174 49.2	52	0	0	541	541	0	309	309	851
R28	07/16/06	60 39.8	175 27.1	57	0	0	1177	1177	157	1883	2040	3216
R29	07/18/06	60 40.5	176 12.2	63	0	0	384	384	0	690	690	1074
R30	07/21/06	60 40.2	176 48.5	69	0	0	1530	1530	0	918	918	2449
R32	07/21/06	60 39.9	178 11.0	86	0	0	1842	1842	0	1458	1458	3301
S29	07/19/06	60 59.8	176 17.9	60	0	75	451	526	0	676	676	1202
S30	07/20/06	60 59.8	176 58.3	65	0	0	0	0	0	311	311	311
S31	07/20/06	60 59.9	177 37.8	72	76	0	0	76	0	0	0	76
T28	07/19/06	61 17.8	175 38.9	51	0	0	151	151	75	0	75	226
T29	07/20/06	61 20.1	176 17.9	56	0	0	0	0	0	311	311	311
T30	07/20/06	61 20.1	176 58.5	62	0	0	149	149	0	0	0	149
Z05	06/13/06	54 40.5	165 8.3	43	0	77	155	232	0	77	77	309

NOTE: Minimum carapace sizes used are: Large Males > 5.5 in; Medium Males = 4.3 to 5.5 in; Large Females > 3.4 in.

Table 10. Summary of crab density by tow (# per square nmi) for Snow Crab. *(Chionoecetes opilio)*

Station	Date	N. Lat.	W. Long	Fathoms	Males				Females			GRAND TOTAL
					Large	Medium	Small	Total	Large	Small	Total	
A02	06/18/06	55 0.3	166 56.3	83	240	0	0	240	0	0	0	240
A03	06/13/06	54 59.8	166 20.4	77	155	78	389	622	155	0	155	777
A04	06/13/06	54 50.7	165 30.9	80	0	0	382	382	0	0	0	382
A04	06/13/06	55 0.3	165 45.9	70	223	149	297	669	0	0	0	669
A05	06/12/06	54 59.9	165 9.3	59	0	79	0	79	0	0	0	79
B01	06/18/06	55 20.8	167 32.7	78	396	158	79	634	0	0	0	634
B02	06/18/06	55 20.7	166 58.1	74	153	77	153	383	0	0	0	383
B03	06/13/06	55 21.1	166 20.8	71	0	151	151	302	75	0	75	377
B05	06/12/06	55 19.7	165 10.1	59	0	0	157	157	0	0	0	157
B06	06/13/06	55 20.9	164 33.7	54	78	78	234	390	0	0	0	390
B08	06/07/06	55 21.0	163 24.3	28	0	0	158	158	0	0	0	158
C01	06/18/06	55 40.2	167 35.0	72	0	76	0	76	0	0	0	76
C02	06/18/06	55 40.7	166 58.9	72	77	77	77	231	0	0	0	231
C03	06/13/06	55 40.2	166 22.8	67	157	314	471	943	0	0	0	943
C04	06/14/06	55 41.7	165 48.0	63	168	168	168	503	0	0	0	503
C05	06/12/06	55 39.7	165 10.2	57	80	80	160	319	0	0	0	319
C06	06/12/06	55 39.2	164 37.5	51	77	154	154	384	0	0	0	384
C07	06/07/06	55 41.7	163 59.7	50	0	0	150	150	0	0	0	150
C18	07/09/06	55 40.4	168 11.3	72	0	83	0	83	0	0	0	83
D02	06/15/06	56 0.6	167 2.9	72	155	0	78	233	0	0	0	233
D03	06/13/06	56 0.1	166 23.6	66	232	232	310	775	0	0	0	775
D05	06/12/06	55 59.8	165 11.4	51	228	76	228	533	0	0	0	533
D06	06/12/06	55 59.9	164 37.0	49	153	76	229	458	0	0	0	458
D07	06/07/06	56 1.4	164 1.6	48	0	0	79	79	0	0	0	79
D08	06/07/06	55 59.5	163 23.6	46	235	0	78	313	0	0	0	313
D09	06/07/06	55 59.5	162 49.3	42	76	76	0	151	0	0	0	151
D10	06/07/06	56 0.3	162 16.4	39	0	77	0	77	0	0	0	77
D18	07/09/06	55 59.7	168 13.9	80	78	156	0	234	0	0	0	234
E01	06/15/06	56 20.2	167 39.2	68	311	78	233	621	0	78	78	699
E02	06/15/06	56 20.4	167 3.6	60	158	0	79	236	0	0	0	236
E03	06/13/06	56 20.1	166 24.6	55	231	308	616	1156	77	154	231	1387
E04	06/14/06	56 19.8	165 48.5	49	235	313	235	783	0	0	0	783
E05	06/12/06	56 20.1	165 12.2	46	624	156	468	1247	0	0	0	1247

Table 10. Summary of crab density by tow (# per square nmi) for Snow Crab. *(Chionoecetes opilio)*

Station	Date	N. Lat.	W. Long	Fathoms	Males				Females			GRAND TOTAL
					Large	Medium	Small	Total	Large	Small	Total	
E06	06/12/06	56 19.7	164 35.3	46	235	78	939	1253	0	0	0	1253
E07	06/08/06	56 20.3	164 0.4	45	78	157	157	392	78	0	78	470
E08	06/08/06	56 20.1	163 25.1	45	79	79	79	236	0	0	0	236
E18	07/09/06	56 20.4	168 13.4	80	556	79	79	715	0	0	0	715
E21	07/10/06	56 20.4	170 4.4	58	473	631	552	1655	2759	0	2759	4414
E22	07/10/06	56 20.0	170 41.1	64	312	78	78	469	78	0	78	547
F01	06/15/06	56 39.7	167 40.1	54	230	77	306	613	77	0	77	689
F02	06/15/06	56 39.4	167 4.7	51	158	158	79	394	0	0	0	394
F03	06/14/06	56 39.9	166 26.4	45	153	230	153	537	0	0	0	537
F04	06/14/06	56 39.3	165 52.2	41	156	389	234	778	0	0	0	778
F05	06/11/06	56 40.1	165 12.9	39	79	238	397	715	0	0	0	715
F06	06/12/06	56 40.7	164 35.0	39	79	158	948	1185	0	0	0	1185
F07	06/08/06	56 40.1	164 0.7	39	80	80	241	401	0	0	0	401
F08	06/08/06	56 40.4	163 22.9	39	151	151	76	379	0	0	0	379
F09	06/06/06	56 39.7	162 46.5	38	0	0	78	78	0	0	0	78
F11	06/04/06	56 40.1	161 34.7	46	0	0	79	79	0	0	0	79
F12	06/04/06	56 39.8	160 58.9	36	79	0	0	79	0	0	0	79
F18	07/09/06	56 40.1	168 17.9	57	387	387	232	1007	0	0	0	1007
F19	07/09/06	56 39.9	168 54.3	53	688	382	153	1223	0	0	0	1223
F21	06/29/06	56 49.1	170 3.3	40	235	0	78	313	0	0	0	313
F21	06/30/06	56 40.2	170 7.4	51	313	392	705	1410	78	0	78	1488
F22	06/30/06	56 40.1	170 43.3	60	223	223	744	1191	0	0	0	1191
F23	07/10/06	56 40.4	171 21.5	63	10753	1344	504	12602	0	0	0	12602
F24	07/11/06	56 39.7	171 58.0	68	0	0	140	140	0	0	0	140
F25	07/04/06	56 40.4	172 34.1	72	0	0	153	153	77	0	77	230
G01	06/15/06	57 0.1	167 42.3	41	524	524	824	1873	0	0	0	1873
G02	06/15/06	57 0.9	167 5.2	39	302	151	302	754	0	0	0	754
G03	06/14/06	57 0.3	166 27.9	39	545	1012	389	1946	0	0	0	1946
G04	06/14/06	56 59.6	165 51.0	38	317	475	396	1188	0	0	0	1188
G05	06/11/06	57 0.5	165 13.3	37	0	156	0	156	0	0	0	156
G06	06/11/06	56 59.8	164 36.5	37	0	80	0	80	0	0	0	80
G07	06/08/06	57 0.2	163 56.5	35	156	78	78	313	0	0	0	313
G08	06/08/06	56 59.8	163 24.5	34	77	0	77	155	0	0	0	155

Table 10. Summary of crab density by tow (# per square nmi) for Snow Crab. *(Chionoecetes opilio)*

Station	Date	N. Lat.	W. Long	Fathoms	Males				Females			GRAND TOTAL
					Large	Medium	Small	Total	Large	Small	Total	
G09	06/06/06	57 0.1	162 46.8	31	0	0	76	76	0	0	0	76
G10	06/06/06	56 59.8	162 11.1	31	79	0	0	79	0	0	0	79
G13	06/03/06	56 59.8	160 20.0	32	77	0	0	77	0	0	0	77
G18	07/10/06	56 58.9	168 20.4	44	166	747	830	1743	166	0	166	1909
G19	07/09/06	56 50.1	168 37.5	51	1414	1116	521	3050	0	0	0	3050
G19	07/09/06	56 60.0	168 56.8	42	228	304	457	989	0	0	0	989
G20	06/29/06	57 0.0	169 33.5	32	680	529	529	1738	76	0	76	1814
G20	06/29/06	56 50.0	169 45.1	37	160	241	80	481	0	0	0	481
G20	07/09/06	56 50.0	169 17.1	42	310	465	78	853	0	0	0	853
G20	07/10/06	57 10.0	169 19.3	38	1111	793	238	2142	0	0	0	2142
G21	06/29/06	56 55.0	169 53.9	36	235	548	313	1096	0	0	0	1096
G21	06/29/06	57 0.0	170 10.2	36	702	780	0	1483	0	0	0	1483
G21	06/29/06	56 50.2	169 54.5	38	791	396	0	1187	0	0	0	1187
G22	06/29/06	57 7.2	170 28.5	26	0	0	82	82	0	0	0	82
G22	06/30/06	56 60.0	170 46.8	50	464	309	232	1005	77	0	77	1082
G22	06/30/06	56 50.0	170 29.6	54	233	155	466	854	155	0	155	1009
G23	07/10/06	56 59.8	171 23.3	59	715	318	318	1350	0	0	0	1350
G24	07/11/06	56 57.7	172 1.6	62	161	402	241	805	0	0	0	805
G25	07/04/06	56 60.0	172 39.2	65	153	307	77	537	0	0	0	537
G26	07/04/06	56 59.7	173 15.4	77	0	0	79	79	79	0	79	158
H01	06/15/06	57 19.7	167 44.1	39	393	1336	5501	7230	3379	157	3536	10766
H02	06/15/06	57 20.1	167 7.9	37	0	317	158	475	0	0	0	475
H03	06/14/06	57 20.1	166 28.8	36	0	230	0	230	0	0	0	230
H05	06/11/06	57 19.7	165 14.2	34	76	0	0	76	0	0	0	76
H08	06/08/06	57 18.8	163 25.0	28	0	0	77	77	0	0	0	77
H09	06/06/06	57 19.8	162 46.0	25	0	0	0	0	77	0	77	77
H18	07/10/06	57 20.0	168 22.6	38	215	573	1934	2722	72	0	72	2794
H19	06/27/06	57 30.0	168 45.3	37	237	790	2211	3238	79	0	79	3317
H19	07/10/06	57 10.0	168 38.4	40	159	398	478	1035	0	0	0	1035
H19	07/10/06	57 19.8	168 58.8	36	85	0	0	85	0	0	0	85
H20	06/27/06	57 29.9	169 22.3	37	1409	3834	2661	7904	626	0	626	8530
H20	07/01/06	57 20.2	169 34.8	34	783	1566	1331	3679	1957	0	1957	5636
H22	07/11/06	57 29.7	170 35.0	39	80	0	0	80	0	0	0	80

Table 10. Summary of crab density by tow (# per square nmi) for Snow Crab. *(Chionoecetes opilio)*

Station	Date	N. Lat.	W. Long	Fathoms	Males				Females			GRAND TOTAL
					Large	Medium	Small	Total	Large	Small	Total	
H23	07/11/06	57 19.9	171 27.8	54	386	232	77	695	0	0	0	695
H24	07/11/06	57 20.5	172 5.7	55	1379	843	230	2451	0	0	0	2451
H25	07/04/06	57 20.7	172 48.8	62	76	0	0	76	0	0	0	76
H26	07/04/06	57 19.6	173 18.5	65	85	171	0	256	0	0	0	256
I01	06/15/06	57 40.1	167 45.8	36	0	699	3575	4274	855	0	855	5129
I02	06/21/06	57 40.9	167 6.4	36	310	982	35681	36973	10385	1782	12167	49140
I03	06/19/06	57 39.4	166 30.4	35	153	153	307	613	0	0	0	613
I04	06/19/06	57 39.8	165 52.7	33	78	0	546	623	0	156	156	779
I05	06/11/06	57 39.9	165 14.7	32	0	0	75	75	0	0	0	75
I06	06/11/06	57 40.2	164 37.1	27	0	78	0	78	0	0	0	78
I11	06/05/06	57 40.0	161 29.4	27	79	0	0	79	0	0	0	79
I12	06/05/06	57 40.0	160 51.3	30	82	164	0	246	0	0	0	246
I18	06/27/06	57 39.9	168 24.9	37	227	1210	2647	4084	0	0	0	4084
I19	06/27/06	57 40.0	169 1.9	36	234	779	2572	3585	3819	0	3819	7403
I19	06/27/06	57 49.4	168 44.2	37	172	945	3350	4467	1031	0	1031	5498
I20	07/01/06	57 40.0	169 39.7	37	1862	7814	46153	55829	146416	0	146416	202245
I21	06/28/06	57 49.8	169 59.6	38	1256	2670	7303	11229	74700	0	74700	85930
I21	07/01/06	57 40.1	170 16.0	38	554	1740	3242	5536	1898	0	1898	7433
I21	07/01/06	57 30.2	170 0.3	36	1346	359	718	2423	628	0	628	3051
I22	07/11/06	57 40.0	170 53.5	44	547	390	156	1093	0	0	0	1093
I23	07/11/06	57 40.0	171 31.9	53	2003	770	385	3159	9269	0	9269	12428
I24	07/11/06	57 40.0	172 9.7	57	2551	219	0	2770	0	0	0	2770
I25	07/04/06	57 40.0	172 47.9	63	0	77	0	77	0	0	0	77
J01	06/21/06	57 59.7	167 48.0	35	694	1169	26046	27909	2083	540	2623	30532
J02	06/21/06	58 1.6	167 11.3	33	2092	881	20807	23779	391	235	626	24405
J03	06/19/06	57 59.8	166 31.2	32	1666	1212	6134	9011	303	757	1060	10072
J04	06/19/06	57 59.7	165 54.2	29	544	0	156	700	0	78	78	778
J05	06/10/06	58 0.0	165 14.9	26	78	0	0	78	0	0	0	78
J07	06/09/06	58 0.1	163 59.7	24	0	79	0	79	0	0	0	79
J18	06/27/06	57 59.5	168 25.9	37	2562	2937	16521	22019	81	728	809	22828
J19	06/27/06	58 0.2	169 3.9	37	236	2206	13712	16154	2364	158	2522	18676
J20	06/27/06	57 50.3	169 21.0	34	152	2278	8276	10706	25891	773	26664	37370
J20	06/28/06	57 60.0	169 41.7	37	230	2453	10425	13108	45593	0	45593	58701

Table 10. Summary of crab density by tow (# per square nmi) for Snow Crab. *(Chionoecetes opilio)*

Station	Date	N. Lat.	W. Long	Fathoms	Males				Females			GRAND TOTAL
					Large	Medium	Small	Total	Large	Small	Total	
J21	06/28/06	57 59.9	170 20.3	39	1106	2134	5927	9167	215008	0	215008	224175
J22	06/28/06	57 50.0	170 37.0	41	759	835	1139	2733	683	0	683	3416
J22	06/30/06	57 60.0	170 58.4	46	781	1171	546	2498	1327	0	1327	3825
J23	06/30/06	58 0.1	171 36.4	52	1074	3452	3068	7594	164352	10957	175309	182903
J24	07/11/06	57 57.0	172 16.3	56	1996	160	80	2235	0	0	0	2235
J25	07/04/06	57 59.8	172 51.9	58	536	306	0	842	306	0	306	1148
J26	07/04/06	57 58.9	173 30.3	63	79	79	0	159	0	0	0	159
K01	06/21/06	58 19.9	167 49.8	31	885	15151	84544	100580	6263	16198	22462	123042
K02	06/21/06	58 19.9	167 12.2	26	78	156	779	1013	78	0	78	1091
K03	06/19/06	58 19.8	166 33.0	24	75	75	523	672	0	75	75	747
K04	06/19/06	58 20.3	165 55.5	22	74	74	74	223	0	0	0	223
K05	06/10/06	58 20.1	165 16.9	22	82	0	0	82	0	0	0	82
K18	06/27/06	58 19.3	168 27.4	34	3396	2642	154051	160089	22015	166335	188350	348439
K19	06/27/06	58 20.0	169 6.9	36	1162	5529	73195	79886	4311	50294	54605	134491
K20	06/26/06	58 20.2	169 43.9	36	155	3804	9704	13663	4425	311	4736	18399
K21	06/26/06	58 19.4	170 22.8	39	154	1923	3307	5384	29627	0	29627	35011
K22	06/30/06	58 20.0	171 2.2	44	230	920	1227	2378	384	77	460	2838
K23	06/30/06	58 20.6	171 39.1	51	236	1496	551	2283	708	0	708	2991
K24	07/02/06	58 20.0	172 18.0	55	3958	5937	4750	14645	138802	23319	162120	176766
K25	07/03/06	58 20.1	172 56.0	58	1108	2137	791	4036	0	79	79	4115
K26	07/04/06	58 19.7	173 34.5	62	1726	784	78	2589	235	0	235	2824
L01	06/21/06	58 39.9	167 52.1	24	76	0	152	227	0	0	0	227
L02	06/21/06	58 39.5	167 13.6	22	0	0	77	77	0	0	0	77
L03	06/19/06	58 39.5	166 33.6	21	79	0	0	79	0	0	0	79
L18	06/26/06	58 39.3	168 32.0	28	569	487	4387	5444	650	325	975	6419
L19	06/26/06	58 39.2	169 10.0	33	28879	17427	169590	215897	17109	76619	93728	309625
L20	06/26/06	58 39.0	169 46.7	35	2357	9588	117219	129164	38424	63703	102127	231290
L21	06/25/06	58 40.1	170 25.9	38	5605	11676	31759	49040	159636	42887	202523	251562
L22	07/01/06	58 39.9	171 5.1	44	78	4896	3730	8704	1554	155	1710	10414
L23	06/30/06	58 40.2	171 42.9	49	301	2029	2254	4584	5486	1052	6538	11121
L24	07/02/06	58 41.0	172 21.9	54	1253	2898	2428	6580	42967	15581	58548	65128
L25	07/03/06	58 40.0	173 0.0	60	604	1133	755	2493	1284	453	1738	4231
L26	07/03/06	58 41.1	173 38.1	67	79	79	0	158	0	0	0	158

Table 10. Summary of crab density by tow (# per square nmi) for Snow Crab. *(Chionoecetes opilio)*

Station	Date	N. Lat.	W. Long	Fathoms	Males				Females			GRAND TOTAL
					Large	Medium	Small	Total	Large	Small	Total	
M01	06/21/06	59 0.1	167 53.0	21	0	0	158	158	0	0	0	158
M03	06/19/06	58 59.1	166 34.7	18	0	0	76	76	0	0	0	76
M18	06/22/06	58 59.4	168 31.9	24	0	0	778	778	233	156	389	1167
M19	06/22/06	58 59.7	169 10.7	28	1178	1389	79484	82051	8875	18469	27344	109395
M20	06/25/06	59 0.4	169 52.9	33	125714	61608	236891	424213	118980	147921	266900	691113
M21	06/25/06	58 59.7	170 29.2	35	43994	38917	34969	117880	81138	7490	88628	206508
M22	07/01/06	58 60.0	171 7.9	41	1514	22708	8651	32872	23407	0	23407	56279
M23	07/02/06	58 59.6	171 47.0	46	155	5346	3564	9064	3331	542	3874	12938
M24	07/02/06	59 0.1	172 25.2	53	0	701	234	934	389	78	467	1401
M25	07/03/06	58 59.5	173 4.8	57	1574	1574	3069	6217	31417	5236	36654	42870
M26	07/03/06	59 0.5	173 43.0	62	927	1237	386	2550	155	0	155	2705
M27	07/17/06	58 58.9	174 21.9	68	2755	1638	4595	8988	62034	574	62608	71596
M28	07/17/06	59 0.9	175 0.3	69	3296	293	73	3662	0	0	0	3662
M29	07/17/06	58 60.0	175 44.8	71	73	0	0	73	0	0	0	73
N18	06/22/06	59 20.4	168 33.3	21	0	0	486	486	0	243	243	730
N19	06/22/06	59 19.6	169 14.0	26	78	0	2565	2643	0	1011	1011	3654
N20	06/25/06	59 20.1	169 53.0	32	2298	5074	43582	50955	7449	2298	9747	60702
N21	06/25/06	59 19.7	170 31.9	36	3233	15973	19585	38790	33004	971	33974	72765
N22	07/01/06	59 20.3	171 10.9	39	7386	60393	23462	91241	20214	0	20214	111455
N23	07/02/06	59 19.9	171 49.9	42	9156	59734	10464	79354	5856	539	6395	85749
N24	07/02/06	59 20.1	172 29.5	46	164	901	2130	3195	1393	819	2212	5407
N25	07/03/06	59 19.8	173 9.3	53	313	313	704	1329	78	156	235	1564
N26	07/03/06	59 20.1	173 48.5	59	3352	2011	149	5513	5438	74	5513	11026
N27	07/17/06	59 19.7	174 26.0	64	4500	4736	1263	10499	947	158	1105	11604
N28	07/17/06	59 19.7	175 6.2	71	6448	1669	0	8116	531	0	531	8647
N29	07/18/06	59 20.0	175 45.5	73	152	76	0	228	76	0	76	304
O19	06/22/06	59 39.6	169 16.2	24	0	0	153	153	0	0	0	153
O20	06/25/06	59 40.2	169 57.1	30	76	680	8392	9148	1134	2646	3780	12927
O21	06/25/06	59 39.9	170 34.9	35	1083	13536	15341	29960	13419	959	14378	44338
O22	07/01/06	59 40.1	171 14.7	38	908	13847	14868	29623	2915	158	3072	32695
O23	07/02/06	59 40.0	171 53.4	41	2378	17834	20409	40621	33041	0	33041	73661
O24	07/12/06	59 40.3	172 32.5	44	6273	21327	56454	84053	143016	0	143016	227069
O24	07/12/06	59 49.5	172 54.1	42	1010	15149	53527	69687	127253	39388	166641	236328

Table 10. Summary of crab density by tow (# per square nmi) for Snow Crab. *(Chionoecetes opilio)*

Station	Date	N. Lat.	W. Long	Fathoms	Males				Females			GRAND TOTAL
					Large	Medium	Small	Total	Large	Small	Total	
O25	07/12/06	59 40.3	173 14.4	50	75	2483	451	3010	301	301	602	3612
O25	07/02/06	59 30.4	172 52.6	50	76	533	457	1066	228	381	609	1675
O26	07/03/06	59 30.1	173 30.1	54	77	694	540	1311	77	386	463	1774
O26	07/03/06	59 50.0	174 13.4	57	479	2954	2156	5589	2315	1677	3992	9580
O26	07/03/06	59 40.2	173 53.2	56	235	235	157	626	0	78	78	705
O27	07/17/06	59 39.9	174 26.7	61	2615	4279	3883	10777	78112	8891	87003	97780
O28	07/17/06	59 39.2	175 6.6	67	2021	2953	2875	7849	92707	6867	99574	107423
O29	07/18/06	59 40.6	175 52.1	73	1545	0	0	1545	0	0	0	1545
O30	07/22/06	59 39.7	176 32.0	73	0	0	0	0	76	76	152	152
O31	07/22/06	59 39.8	177 8.2	93	0	0	0	0	81	0	81	81
P19	06/22/06	59 59.9	169 19.3	23	0	0	150	150	75	150	224	374
P20	06/25/06	59 59.5	169 58.0	28	0	3672	150085	153758	30121	78314	108434	262192
P21	06/25/06	60 0.4	170 37.9	34	0	3712	7966	11678	1933	77	2011	13689
P22	07/01/06	60 0.1	171 18.0	36	78	4344	9620	14042	8568	459	9027	23069
P23	07/02/06	59 59.6	171 57.6	34	229	1987	72012	74229	1258	117001	118259	192488
P23	07/02/06	59 50.2	172 15.2	39	1338	4465	59678	65481	45249	67874	113123	178604
P23	07/12/06	60 9.7	172 19.6	30	0	0	23082	23082	167	21251	21419	44501
P24	07/12/06	59 59.3	172 34.9	34	0	567	22979	23547	1980	39104	41084	64631
P25	07/12/06	59 59.9	173 16.6	39	1802	7206	296716	305724	67519	395466	462985	768709
P26	07/12/06	59 50.3	173 34.9	50	0	55608	17974	73582	20487	0	20487	94070
P26	07/12/06	60 7.2	173 45.8	46	0	60182	101846	162028	108790	4629	113419	275447
P26	07/16/06	59 60.0	173 56.8	51	156	1325	1559	3040	312	156	468	3508
P27	07/17/06	59 59.8	174 36.2	57	999	922	461	2383	2075	538	2613	4996
P28	07/16/06	59 59.5	175 15.8	62	224	149	672	1046	2466	747	3213	4259
P29	07/18/06	60 0.4	175 55.8	69	681	984	1363	3028	57159	1844	59003	62031
P30	07/22/06	59 59.7	176 42.5	75	1256	235	0	1491	235	78	314	1805
P31	07/22/06	59 59.7	177 12.5	73	353	0	0	353	0	0	0	353
Q19	06/22/06	60 19.5	169 20.0	22	0	80	882	962	401	160	561	1524
Q20	06/23/06	60 20.0	170 1.9	27	0	1532	10402	11934	2016	2742	4758	16692
Q21	06/23/06	60 19.7	170 39.6	32	76	2348	11283	13707	1439	76	1515	15221
Q22	06/24/06	60 19.9	171 22.6	34	77	6968	114215	121260	26278	101825	128103	249363
Q23	06/24/06	60 19.9	172 3.9	31	76	379	152	607	0	76	76	683
Q25	07/13/06	60 17.8	173 22.7	33	185	1481	139548	141214	5613	131895	137508	278722

Table 10. Summary of crab density by tow (# per square nmi) for Snow Crab. *(Chionoecetes opilio)*

Station	Date	N. Lat.	W. Long	Fathoms	Males				Females			GRAND TOTAL
					Large	Medium	Small	Total	Large	Small	Total	
Q25	07/12/06	60 10.7	173 1.1	31	0	512	63477	63989	5631	26622	32253	96242
Q26	07/16/06	60 20.2	174 4.3	48	5719	62904	79345	147968	117231	3574	120805	268772
Q27	07/16/06	60 10.8	174 21.0	53	78	3279	3591	6948	859	78	937	7884
Q27	07/17/06	60 19.9	174 43.0	54	482	3612	2167	6261	482	80	562	6822
Q28	07/16/06	60 19.7	175 23.1	59	0	150	525	675	150	225	375	1050
Q29	07/18/06	60 20.2	176 2.1	65	238	238	634	1110	1745	397	2141	3251
Q30	07/21/06	60 20.3	176 43.1	73	2762	2302	4681	9745	161468	25495	186963	196708
Q31	07/21/06	60 19.5	177 22.3	79	2125	0	76	2201	683	76	759	2959
R20	06/23/06	60 39.5	170 4.3	26	0	1716	6521	8237	944	86	1030	9267
R21	06/23/06	60 40.0	170 45.2	31	0	1147	18862	20009	5449	373	5822	25831
R22	06/24/06	60 39.9	171 26.6	33	0	692	4458	5150	6457	538	6995	12145
R23	06/24/06	60 39.6	172 7.1	32	0	78	2263	2341	1873	780	2653	4994
R24	07/13/06	60 39.6	172 44.5	23	0	154	538	692	154	0	154	846
R25	07/13/06	60 40.5	173 28.1	34	0	786	5029	5815	550	2750	3300	9116
R26	07/16/06	60 40.1	174 8.2	46	161	6117	12396	18674	4186	885	5071	23746
R27	07/16/06	60 40.0	174 49.2	52	696	773	1701	3171	1779	1701	3480	6651
R28	07/16/06	60 39.8	175 27.1	57	157	392	392	941	157	78	235	1177
R29	07/18/06	60 40.5	176 12.2	63	384	460	230	1074	307	77	384	1457
R30	07/21/06	60 40.2	176 48.5	69	459	689	153	1301	306	153	459	1760
R31	07/21/06	60 40.1	177 30.8	78	1197	1836	3033	6065	121993	53558	175551	181616
R32	07/21/06	60 39.9	178 11.0	86	0	0	691	691	77	384	461	1151
S20	06/23/06	61 0.3	170 5.2	25	0	226	7464	7690	4599	302	4901	12591
S21	06/23/06	61 0.3	170 47.4	27	0	310	6209	6519	1940	155	2095	8614
S22	06/24/06	60 59.4	171 27.1	31	0	0	1686	1686	1979	660	2639	4325
S23	06/24/06	60 60.0	172 10.3	33	0	77	14713	14789	8293	4423	12716	27505
S24	07/13/06	61 0.1	172 48.7	34	0	152	8445	8598	5098	2815	7913	16510
S25	07/13/06	61 0.3	173 30.1	39	0	2773	16639	19412	14212	5546	19759	39170
S26	07/16/06	60 59.8	174 11.1	44	0	5880	26063	31943	7720	1575	9295	41238
S27	07/16/06	60 59.5	174 53.1	49	223	8023	16493	24739	11180	3230	14409	39148
S28	07/19/06	61 0.3	175 33.3	54	1670	3341	456	5467	152	152	304	5771
S29	07/19/06	60 59.8	176 17.9	60	375	225	225	826	75	75	150	976
S30	07/20/06	60 59.8	176 58.3	65	466	233	78	777	78	0	78	855
S31	07/20/06	60 59.9	177 37.8	72	379	76	152	606	303	76	379	985

Table 10. Summary of crab density by tow (# per square nmi) for Snow Crab. *(Chionoecetes opilio)*

Station	Date	N. Lat.	W. Long	Fathoms	Males				Females			GRAND TOTAL
					Large	Medium	Small	Total	Large	Small	Total	
T20	06/23/06	61 19.8	170 7.3	24	0	268	33019	33287	11347	9782	21129	54416
T21	06/23/06	61 19.8	170 48.3	25	0	2166	54159	56326	41379	15862	57241	113567
T22	06/24/06	61 20.4	171 29.0	28	0	1290	33789	35079	25571	23069	48640	83719
T23	06/24/06	61 20.0	172 10.8	33	0	238	29705	29943	18571	14252	32823	62766
T24	07/13/06	61 20.2	172 55.0	36	0	456	18022	18478	11142	6898	18040	36519
T25	07/13/06	61 19.9	173 34.9	38	0	971	18120	19091	11973	4207	16180	35271
T26	07/15/06	61 19.7	174 20.4	41	117	3398	22967	26483	24695	1764	26459	52941
T27	07/15/06	61 20.0	175 0.1	46	0	852	7543	8395	6925	1640	8566	16960
T28	07/19/06	61 17.8	175 38.9	51	535	9369	12313	22217	2941	453	3394	25611
T29	07/20/06	61 20.1	176 17.9	56	934	1479	545	2958	78	78	156	3114
T30	07/20/06	61 20.1	176 58.5	62	448	523	2987	3958	3808	1493	5302	9259
U20	06/23/06	61 40.5	170 9.8	24	0	0	199977	199977	47113	80530	127643	327620
U21	06/23/06	61 40.2	170 52.0	23	0	587	105658	106245	30830	29249	60078	166323
U22	06/24/06	61 40.1	171 33.0	29	0	635	57431	58066	12140	42301	54441	112507
U23	06/24/06	61 39.8	172 19.3	30	0	0	41843	41843	11122	10328	21450	63294
U24	07/13/06	61 40.1	173 4.9	34	0	429	48094	48524	24047	60546	84593	133116
U25	07/13/06	61 39.9	173 40.1	37	0	0	43663	43663	12008	21286	33294	76957
U26	07/15/06	61 39.7	174 26.5	40	0	147	16270	16417	8761	4933	13694	30111
U27	07/15/06	61 39.8	175 5.5	45	0	393	6873	7266	6877	2947	9825	17091
U28	07/19/06	61 40.4	175 46.9	50	223	2897	23907	27026	19571	1864	21435	48461
U29	07/20/06	61 39.7	176 27.9	56	0	2885	8835	11721	7671	4155	11827	23547
V22	07/14/06	61 59.9	171 37.4	27	0	0	202336	202336	6323	239008	245331	447667
V23	07/14/06	61 59.8	172 23.4	28	0	0	277760	277760	17146	238326	255472	533232
V24	07/13/06	62 0.2	173 4.2	29	0	316	36610	36925	7259	30930	38190	75115
V25	07/15/06	62 0.5	173 45.4	32	0	0	49872	49872	10449	36098	46548	96420
V26	07/15/06	61 59.7	174 29.8	39	0	0	20970	20970	11838	32132	43971	64941
V27	07/15/06	61 59.9	175 10.5	43	0	231	24119	24349	9430	18231	27661	52010
V28	07/19/06	61 60.0	175 49.8	49	0	366	14733	15099	8438	3516	11954	27052
W22	07/14/06	62 19.8	171 41.7	24	0	0	98372	98372	0	69166	69166	167538
W23	07/14/06	62 19.9	172 25.2	28	0	0	220456	220456	3801	231861	235662	456119
W24	07/14/06	62 20.2	173 8.1	31	0	0	166583	166583	23495	172299	195795	362378
W25	07/15/06	62 20.3	173 50.6	33	0	0	84798	84798	10250	84796	95046	179845
W26	07/15/06	62 19.1	174 35.0	37	0	0	38992	38992	3545	27472	31017	70009

Table 10. Summary of crab density by tow (# per square nmi) for Snow Crab. *(Chionoecetes opilio)*

Station	Date	N. Lat.	W. Long	Fathoms	Males				Females			GRAND TOTAL
					Large	Medium	Small	Total	Large	Small	Total	
W27	07/15/06	62 19.8	175 17.3	42	0	74	9627	9701	1954	4959	6913	16614
X23	07/14/06	62 40.0	172 24.8	26	0	0	234712	234712	1689	140155	141843	376555
X24	07/14/06	62 39.9	173 10.8	33	0	0	176473	176473	9974	81785	91758	268232
X25	07/14/06	62 39.6	173 54.3	36	0	0	46893	46893	823	31262	32084	78978
X26	07/14/06	62 40.0	174 38.8	38	0	0	29593	29593	2960	14206	17166	46759
Y24	07/14/06	62 60.0	173 14.1	36	0	0	72686	72686	6193	23224	29417	102104
Y25	07/14/06	63 0.1	174 0.8	39	0	0	13840	13840	1384	4152	5536	19376

NOTE: Minimum carapace sizes used are: Large Males > 4.0 in; Medium Males = 3.1 to 4.0 in; Large Females > 2.0 in.

Table 11. Summary of crab density by tow (# per square nmi) for Hair Crab. *(Erimacrus isenbeckii)*

Station	Date	N. Lat.	W. Long	Fathoms	Males				Females			GRAND TOTAL
					Large	Medium	Small	Total	Large	Small	Total	
C09	06/07/06	55 40.3	162 49.9	25	0	79	0	79	0	0	0	79
D08	06/07/06	55 59.5	163 23.6	46	0	0	78	78	0	0	0	78
D09	06/07/06	55 59.5	162 49.3	42	76	0	0	76	76	0	76	151
D10	06/07/06	56 0.3	162 16.4	39	77	231	0	308	0	231	231	539
D18	07/09/06	55 59.7	168 13.9	80	0	0	0	0	0	78	78	78
E12	06/04/06	56 20.2	160 58.3	28	0	79	0	79	0	0	0	79
F13	06/04/06	56 39.5	160 22.8	31	77	0	0	77	0	0	0	77
F25	07/04/06	56 40.4	172 34.1	72	0	0	0	0	230	77	306	306
G10	06/06/06	56 59.8	162 11.1	31	0	0	0	0	158	0	158	158
G12	06/04/06	56 59.9	160 57.1	34	0	80	0	80	0	0	0	80
G13	06/03/06	56 59.8	160 20.0	32	153	0	0	153	0	0	0	153
G20	06/29/06	57 0.0	169 33.5	32	0	151	0	151	0	0	0	151
G20	06/29/06	56 50.0	169 45.1	37	80	0	0	80	0	0	0	80
G21	06/29/06	57 0.0	170 10.2	36	0	0	0	0	78	0	78	78
G21	06/29/06	56 50.2	169 54.5	38	79	237	0	316	0	0	0	316
G22	06/29/06	57 7.2	170 28.5	26	0	245	0	245	0	0	0	245
H01	06/15/06	57 19.7	167 44.1	39	79	0	0	79	157	0	157	236
H07	06/08/06	57 20.2	163 59.6	31	78	0	0	78	0	0	0	78
H08	06/08/06	57 18.8	163 25.0	28	155	0	0	155	77	0	77	232
H11	06/04/06	57 20.0	161 32.0	28	79	0	0	79	0	0	0	79
H12	06/04/06	57 19.3	160 54.2	34	0	0	0	0	80	0	80	80
H19	06/27/06	57 30.0	168 45.3	37	79	0	0	79	158	79	237	316
H19	07/10/06	57 19.8	168 58.8	36	171	0	0	171	0	0	0	171
I06	06/11/06	57 40.2	164 37.1	27	0	78	0	78	0	0	0	78
I10	06/06/06	57 39.7	162 7.8	24	78	235	0	313	0	0	0	313
I12	06/05/06	57 40.0	160 51.3	30	902	738	246	1886	4837	1394	6231	8117
I18	06/27/06	57 39.9	168 24.9	37	76	0	0	76	0	0	0	76
I19	06/27/06	57 40.0	169 1.9	36	78	0	0	78	156	0	156	234
J01	06/21/06	57 59.7	167 48.0	35	77	0	0	77	77	0	77	154
J02	06/21/06	58 1.6	167 11.3	33	0	0	0	0	78	0	78	78
J04	06/19/06	57 59.7	165 54.2	29	0	0	0	0	78	0	78	78
J11	06/05/06	57 59.6	161 29.1	28	78	0	0	78	0	0	0	78
J20	06/27/06	57 50.3	169 21.0	34	0	0	0	0	76	0	76	76

Table 11. Summary of crab density by tow (# per square nmi) for Hair Crab. *(Erimacrus isenbeckii)*

Station	Date	N. Lat.	W. Long	Fathoms	Males				Females			GRAND TOTAL
					Large	Medium	Small	Total	Large	Small	Total	
K04	06/19/06	58 20.3	165 55.5	22	74	0	0	74	0	0	0	74
K19	06/27/06	58 20.0	169 6.9	36	0	0	0	0	77	0	77	77
L01	06/21/06	58 39.9	167 52.1	24	152	76	0	227	76	0	76	303
L02	06/21/06	58 39.5	167 13.6	22	77	0	0	77	0	0	0	77
M01	06/21/06	59 0.1	167 53.0	21	0	79	0	79	0	0	0	79
M18	06/22/06	58 59.4	168 31.9	24	78	0	0	78	156	0	156	233
M19	06/22/06	58 59.7	169 10.7	28	0	0	0	0	157	0	157	157
N18	06/22/06	59 20.4	168 33.3	21	0	324	0	324	243	0	243	568
N20	06/25/06	59 20.1	169 53.0	32	0	0	0	0	79	0	79	79
O18	06/22/06	59 39.7	168 37.4	20	0	154	0	154	0	0	0	154
O19	06/22/06	59 39.6	169 16.2	24	0	77	0	77	153	0	153	230
O20	06/25/06	59 40.2	169 57.1	30	76	0	0	76	76	0	76	151
P18	06/22/06	60 0.2	168 39.8	19	0	0	0	0	0	78	78	78
P20	06/25/06	59 59.5	169 58.0	28	0	0	0	0	82	0	82	82
Q19	06/22/06	60 19.5	169 20.0	22	0	241	0	241	160	80	241	481
Q25	07/13/06	60 17.8	173 22.7	33	0	0	0	0	185	0	185	185
R24	07/13/06	60 39.6	172 44.5	23	0	77	0	77	0	0	0	77

NOTE: Minimum carapace sizes used are: Large Males > 3.25 in; Medium Males = 2.0 to 3.25 in; Large Females > 2.6 in.