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Report to Industry on the 2004 Eastern Bering Sea Crab Survey

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Cover Photo: Icy power block on the FV *Fierce Allegiance* taken in January 2003 during the NMFS seasonal study of Bering Sea snow crab.

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Alaska Fisheries Science Center
Processed Report 2006-10

REPORT TO INDUSTRY ON THE 2004 EASTERN BERING SEA CRAB SURVEY

by
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RESULTS OF THE 2004 NMFS BERING SEA CRAB SURVEY EXECUTIVE SUMMARY

This document summarizes data presented in the Report to Industry on the 2004 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 J. Rugolo, NMFS, 301 Research Court, Kodiak, AK 99615. Phone (907) 481-1700. GHLs (Guideline Harvest Levels) are for the combined open-access and CDQ fisheries. This draft reflects data analysis and management decision making through 25 August, 2005.

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

Legal males:	12.8 million crabs; 4% increase.
Pre-recruits:	10.3 million crabs; 14% increase.
Large females:	31.7 million crabs; 7% decrease.
Outlook:	Abundance of legal males and pre-recruit males was stable. Abundance of mature females decreased slightly but not markedly considering the precision of stock abundance estimates. Almost all new shell females carried new eggs. Reproductive population estimates are above the minimum stock size threshold (MSST), the stock is not considered to be in the overfished level of abundance although it remains far below the peak population levels of the 1970's.
GHL:	15.4 million pounds (7,000 metric tons, t). Fishery opened 15 October, 2004.

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

Legal males:	0.9 million crabs; 34% decrease, low reliability.
Pre-recruits:	0.0 million crabs; 100% decrease, low reliability.
Large females:	0.6 million crabs; 47 % decrease, low reliability.
Outlook:	Crabs are highly concentrated, and indices have very low precision. Reproductive population estimates are above the MSST, the stock is not considered to be in the overfished level of abundance. No future recruitment is apparent. Red king crabs in the Pribilof Islands have been historically harvested along with blue king crabs and are currently the dominant of the two species. There are concerns as to the low reliability of estimates and that unacceptable levels of blue king crab incidental catch could occur in a red king crab fishery.
GHL:	Fishery did not open in 2004.

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

Legal males:	0.0 million crabs; 91 % decrease.
Pre-recruits:	0.1 million crabs; 273 % increase
Large females:	0.1 million crabs; 91% decrease.
Outlook:	Population abundance is low and trends are not easily detectable. Little or no recruitment is apparent. Lowest total population estimates on record. Reproductive population estimate, which fell below the MSST in 2002 and 2003, remains so in 2004. The stock is considered to be in the overfished level of abundance.
GHL:	Fishery did not open in 2004.

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

Legal males:	0.7 million crabs; 11% increase, no real change.
Pre-recruits:	0.2 million crabs; 37% decrease, no real change.
Large females:	0.2 million crabs; 72% decrease. Not well estimated.
Outlook:	Indices are affected by the portion of the stock occupying untrawlable grounds. Population declined steeply in 1999 and fell below the MSST. Reproductive population estimates continued to be below the MSST through 2002, but rose just above MSST in 2003 only to fall below again in 2004. The stock continues to be in the overfished level of abundance. The picture is clouded by large uncertainty in female abundance. The abundance of mature males was below the threshold for opening the fishery.
GHL:	Fishery did not open in 2004.

Tanner crab (*Chionoecetes bairdi*) Eastern District.

Legal males:	5.4 million crabs; 27% decrease.
Pre-recruits:	31.7 million crabs; 28% increase.
Large females:	10.9 million crabs; 28% decrease.
Outlook:	Some population indices increasing but estimates are uncertain. Reproductive population estimate was below the MSST from 1997-2002 and just barely above threshold in 2003, but again fell below MSST in 2004. The mature female biomass is well below the threshold value of 21 million pounds required to open a fishery.
GHL:	Fishery did not open in 2004.

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

Large males:	68.9 million crabs; 6% increase.
Pre-recruits:	106.2 million crabs; 36% decrease.
Large females:	806.4 million crabs; 31% increase.
Outlook:	Large males stable but pre-recruit males continue to decline. Large females increased and apparently there has been some recruitment at the lower end of the size range. Spawning biomass was variable but approximately stable as declines in male abundance were partially offset by the increased female abundance index. Lack of recruitment to female reproductive stock over several years is still evidenced by high frequencies of old shelled crab, especially at the largest sizes and despite the increase in overall abundance. There is some concern as to relatively high frequencies of females without eggs in the old shell group and that high harvest levels in small areas may be leading to lack of reproductive success in nearby concentrations of females. Reproductive population estimates that slightly exceeded MSST in 2001 were well below the MSST in 2002 and 2004. The stock is considered to be in the overfished level of abundance but is above 50% MSST. Under the current rebuilding plan and harvest strategy the fishery would be closed if the stock fell below 50% MSST.
GHL:	20.9 million pounds (9,500 t). Fishery opened 15 January, 2005.

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

Legal males:	0.8 million crabs; 20% decrease.
Large Females:	0.2 million crabs; unchanged. Not well estimated.
Outlook:	The population has been declining for several years. Recruitment trends are unclear due to poor representation of small crabs in the survey.
GHL:	Fishery did not open in 2004.

THE 2004 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 2004 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 2004 EBS crab survey consisted of 381 bottom trawl tows which covered an area of approximately 152,781 square nautical miles (nmi). The survey area (Figure 1) has been standardized since 1990. The survey was conducted aboard two chartered vessels, the FV *Aldebaran* and FV *Arcturus*, between 5 June and 25 July. The same vessels have been used since 1993. Methodology was identical to that of previous surveys, and most tows were made at the centers of squares defined by a 20x20 nmi (37x37 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; average length was 1.49 nmi (2.78 km). 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 females and small crab due to differential crab behavior and gear selectivity.

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 nmi. 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. GHL refers to Guideline

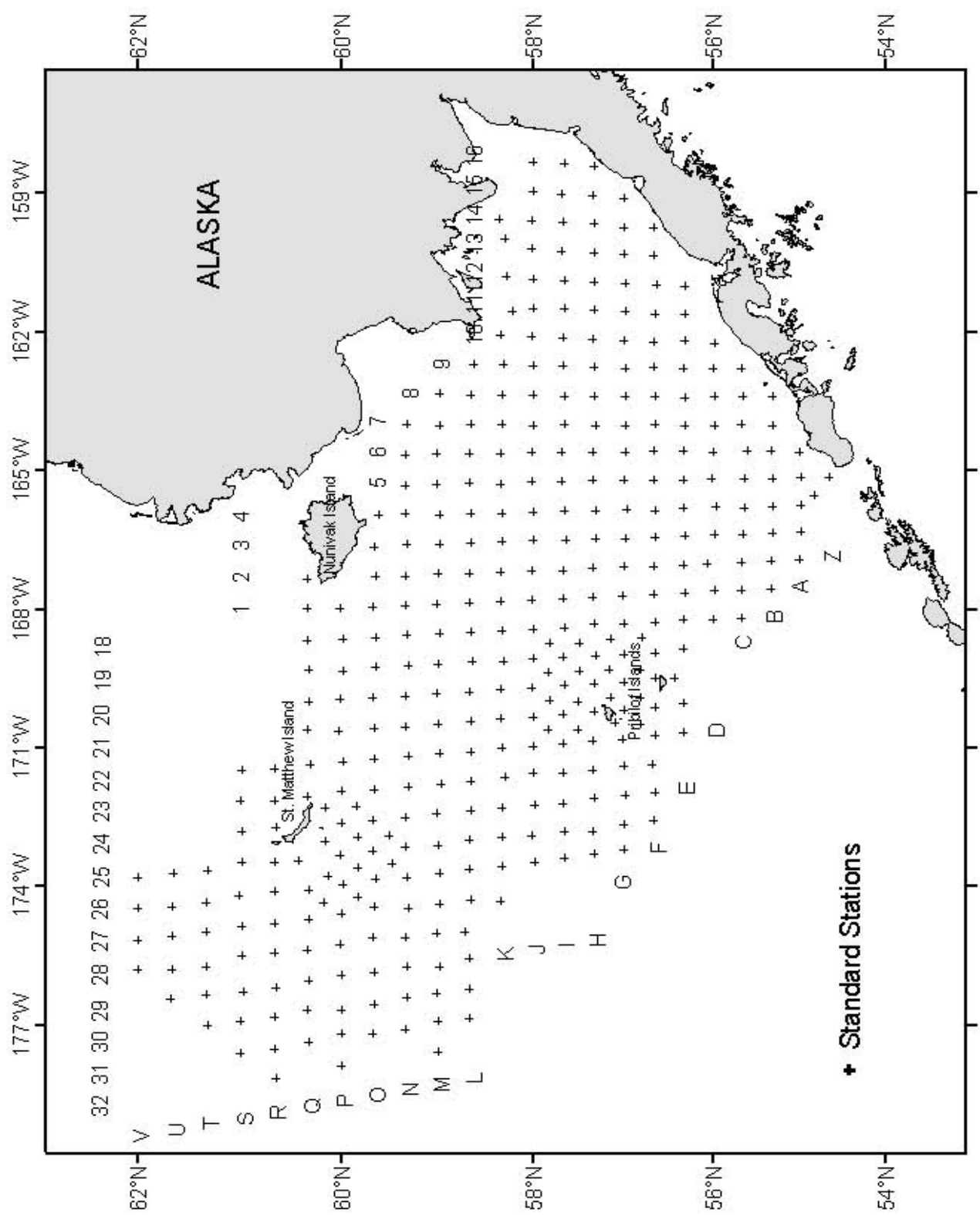

Figure 1. NMFS eastern Bering Sea crab survey area in 2004

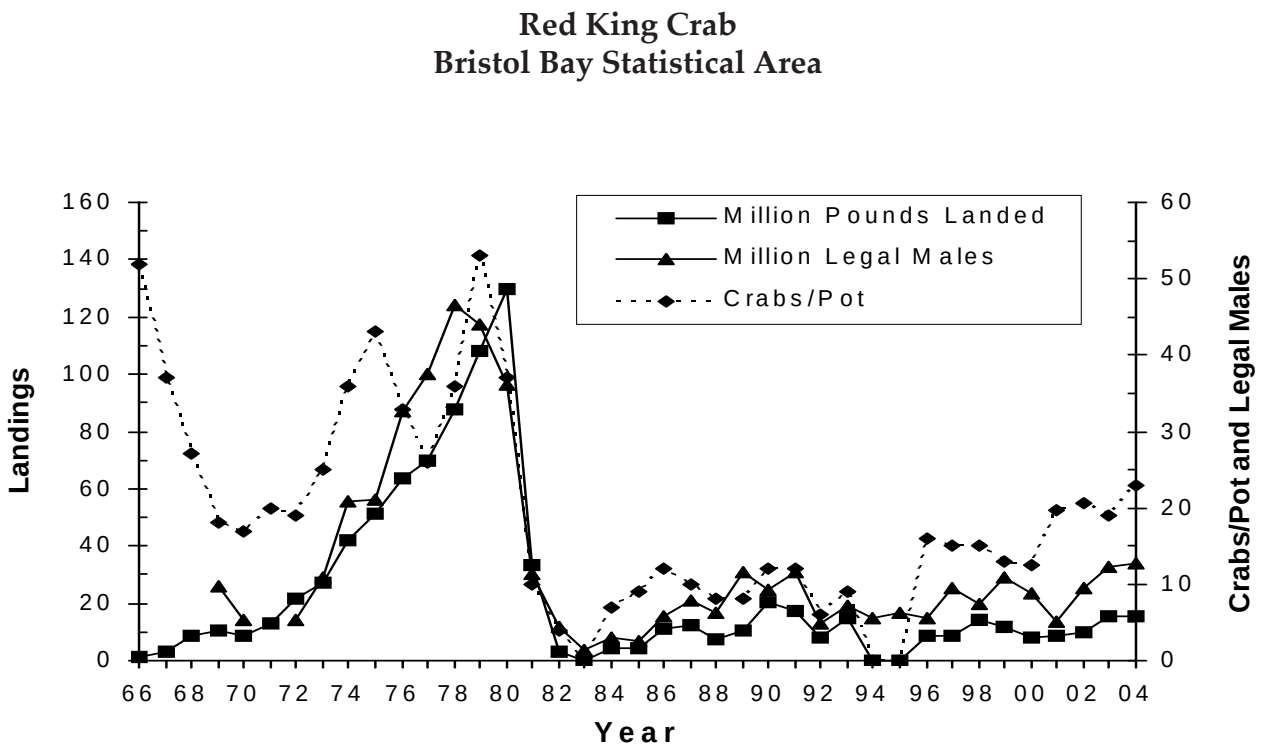

Figure 2. U.S. landings in millions of pounds, CPUE as crabs/pot-lift, and abundance of legal red king crab *(P.camtschaticus)* in millions in Bristol Bay, estimated from NMFS trawl surveys (abundance data include the Pribilof District prior to 1983).

Harvest Levels which are for the combined general and Community Development Quota (CDQ) fisheries. FMP refers to the current (1998) 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. Figures 15 through 17 show stock biomass, yield, and commercial catch histories relative to overfishing definitions for all stocks.

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 which did not 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 12.8 million (Table 1 and Figure 2). This estimate represents a 4% increase from last year and exceeds the average for the previous 20 years (8.6 million). The index (10.3 million) for pre-recruit crabs (110-134 mm cl) increased by 14%. Abundance of small males increased by 80% and is indicated by a strong modal size at 65 mm cl (Figure 3). The 70 mm cl cohort of 2002, which grew to 90 mm cl in 2003, is prominent at 110 mm cl. The cohort with a modal size of about 80 mm cl in 2000 grew to about 100 mm cl in 2001, to 120 mm cl

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
1984	81.8	12.6	3.1	97.6	57.6	17.6	75.1	172.7
1985	13.7	10.1	2.5	26.3	6.9	6.8	13.7	40.0
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
Limits[1]								
Lower	2.6	6.4	8.6	23.8	0.0	17.4	20.1	43.9
Upper	61.9	14.2	17.1	86.9	43.9	46.0	80.2	167.1
±%	92	38	33	57	138	45	60	58
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

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

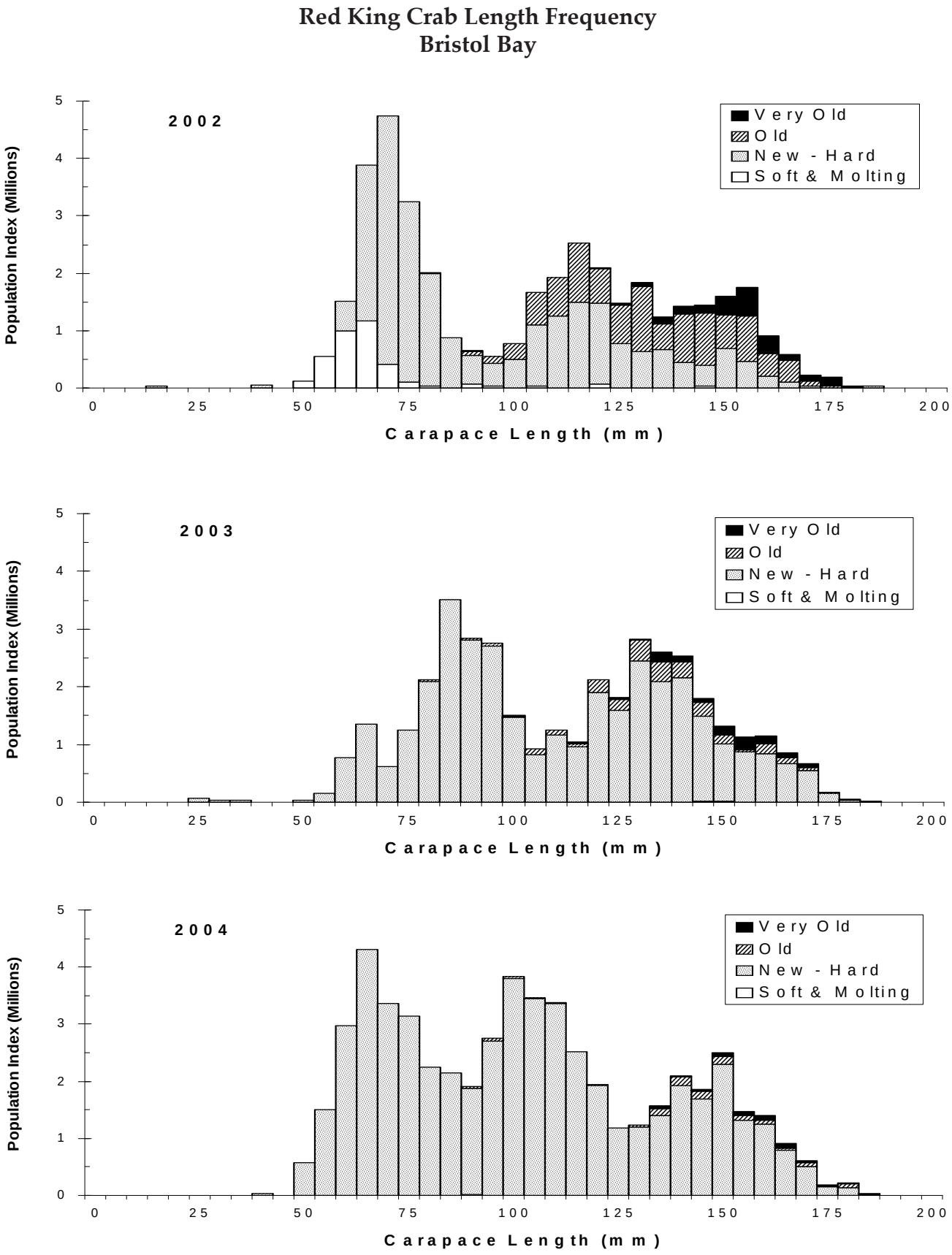

Figure 3. Size-frequency of male red king crab (*P. camtschaticus*) by 5 mm length classes, 2002-2004.

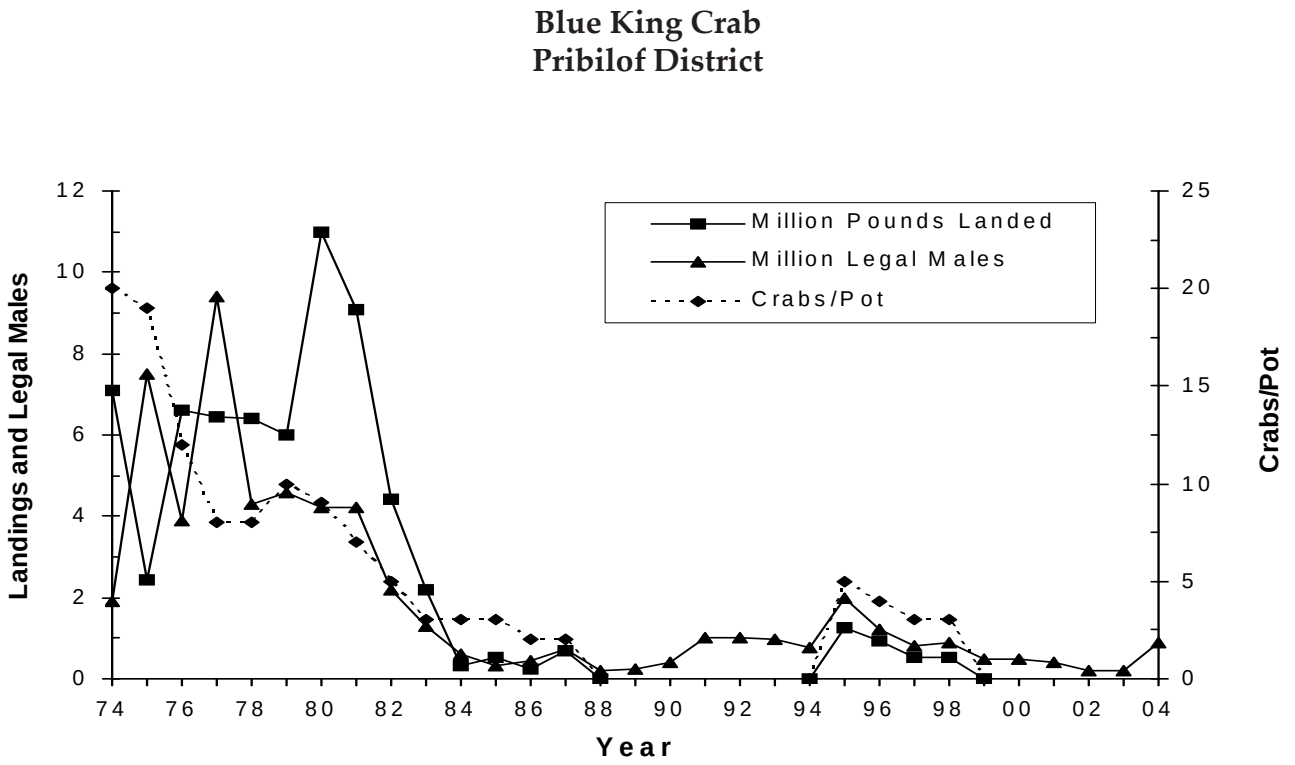

Figure 4. U.S. landings in millions of pounds, CPUE as crabs/pot-lift, and abundance of legal blue king crab *(P. platypus)* in millions in the Pribilof Islands (Pribilof District), estimated from NMFS trawl surveys.

in 2002, to 140 mm cl in 2003 , and is evident in the 150 mm cl mode in 2004. No legal male crab were in molting or softshell condition, 88% were new-hardshell crabs, and the remainder were oldshell and older crabs. The 2004 abundance index (31.7 million crabs) for large (≥ 90 mm cl) females represents a 7% decrease from last year. The large increase seen in 2003 is more likely a reflection of the instability of the estimates rather than any true increase in stock abundance. Among female crabs, 64% were mature, of which 97% had molted and extruded new, uneyed eggs. Fluctuations in the timing of molting, mating, and embryo extrusion may be related to annual variations in water temperature.

ADF&G has developed a length-based assessment (LBA) model, which was fitted to the survey time series data. Resultant estimates of the abundance of mature males and females are used to establish the fishery GHL (ADF&G Regional Information Report 5J99-09).

The LBA estimate of 35.3 million mature females was slightly larger than the survey estimate for large females and equated to 61.9 million pounds of effective spawning biomass. Total mature biomass is above the MSST theshold, allowing a 15% harvest rate under the ADF&G harvest strategy. This resulted in a GHL of 15.4 million lbs (7,000 t), including 1.2 million lbs of CDQ. The total GHL translates into approximately 2.4 million crabs at an average weight of 6.4 lbs.

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 0.9 million (Table 1), down 34% from last year. The index for large females showed a 47% decrease from 2003. From 1996 to 1998, a combined fishery for red and blue king crabs in the Pribilof District opened on 15 September, 2004. However, due

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
1984	0.5	0.3	0.6	1.3	0.3	3.1	3.4	4.7
1985	0.1	0.2	0.3	0.5	0.2	0.5	0.7	1.2
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	0.0
Limits[1]								
Lower	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Upper	0.2	0.1	0.0	0.4	0.2	0.2	0.4	0.8
±%	140	113	200	82	200	103	115	99

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

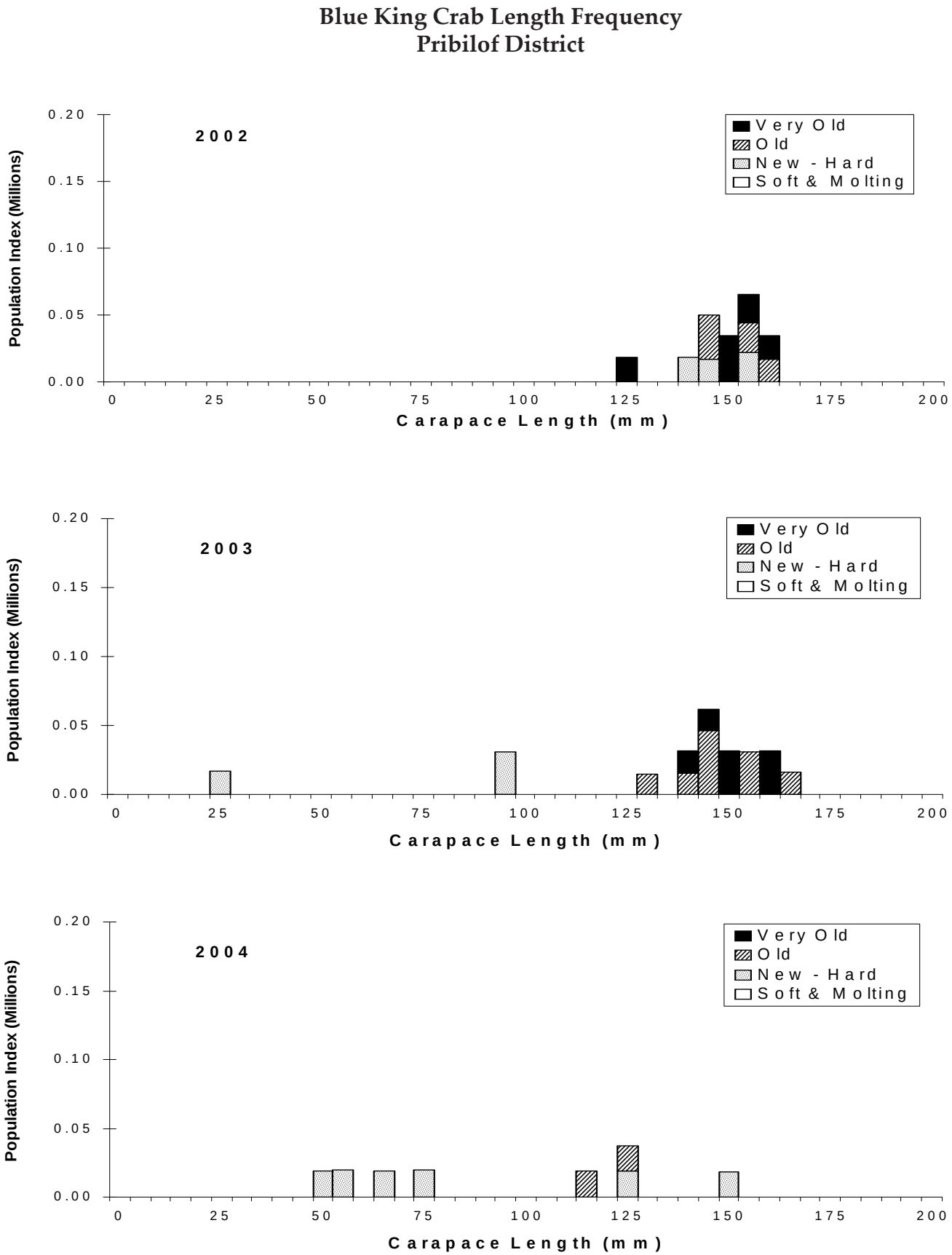

Figure 5. Size-frequency of Pribilof Islands (Pribilof District) male blue king crab (*P. platypus*), by 5 mm length classes, 2002-2004.

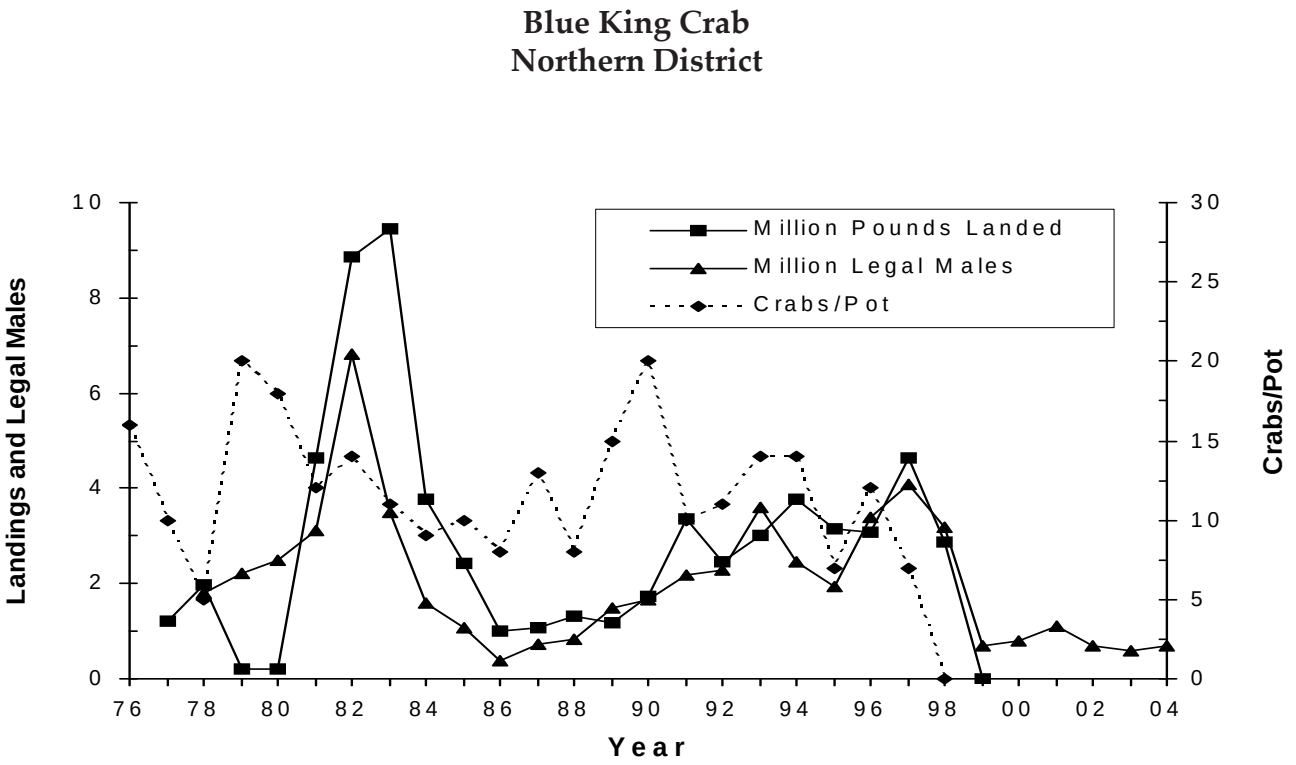

Figure 6. U.S. landings in millions of pounds, CPUE as crabs/pot-lift, and the abundance of legal blue king crabs *(P. platypus)* in millions in the St. Matthew Island (Northern District), estimated from NMFS trawl surveys.

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 will remain closed due to the desire to avoid bycatch of blue king crab that mingle in the same grounds, and due to the extremely low precision of the abundance estimates. 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 for legal males was 0.02 million (Table 2 and Figure 4), a 91% decrease from last year, and well below the average for the previous 20 years (0.6 million). The index (0.056 million crabs) of prerecruits (110-134 mm cl) is up 273% relative to last year. The abundance of small males (< 110 mm cl), is very difficult to determine. Size-frequency data (Figure 5) are very sparse and only 1 legal male was captured.

The abundance index (0.1 million crabs) for large (≥ 90 mm cl) females showed a 91% decrease 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, none were softshell, 75% were new hardshells, of which 100% carried new eggs, and 25% were oldshells, of which 100% carried empty embryo cases. Only

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
1984	1.4	0.6	1.6	3.6	0.2	0.5	0.7	4.3
1985	0.5	0.4	1.1	1.9	0.1	0.1	0.2	2.1
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
Limits[2]								
Lower	0.0	0.0	0.3	0.2	0.0	0.0	0.0	0.1
Upper	2.3	0.5	1.0	3.6	1.1	0.4	1.5	5.1
±%	122	141	54	90	140	100	117	97

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

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

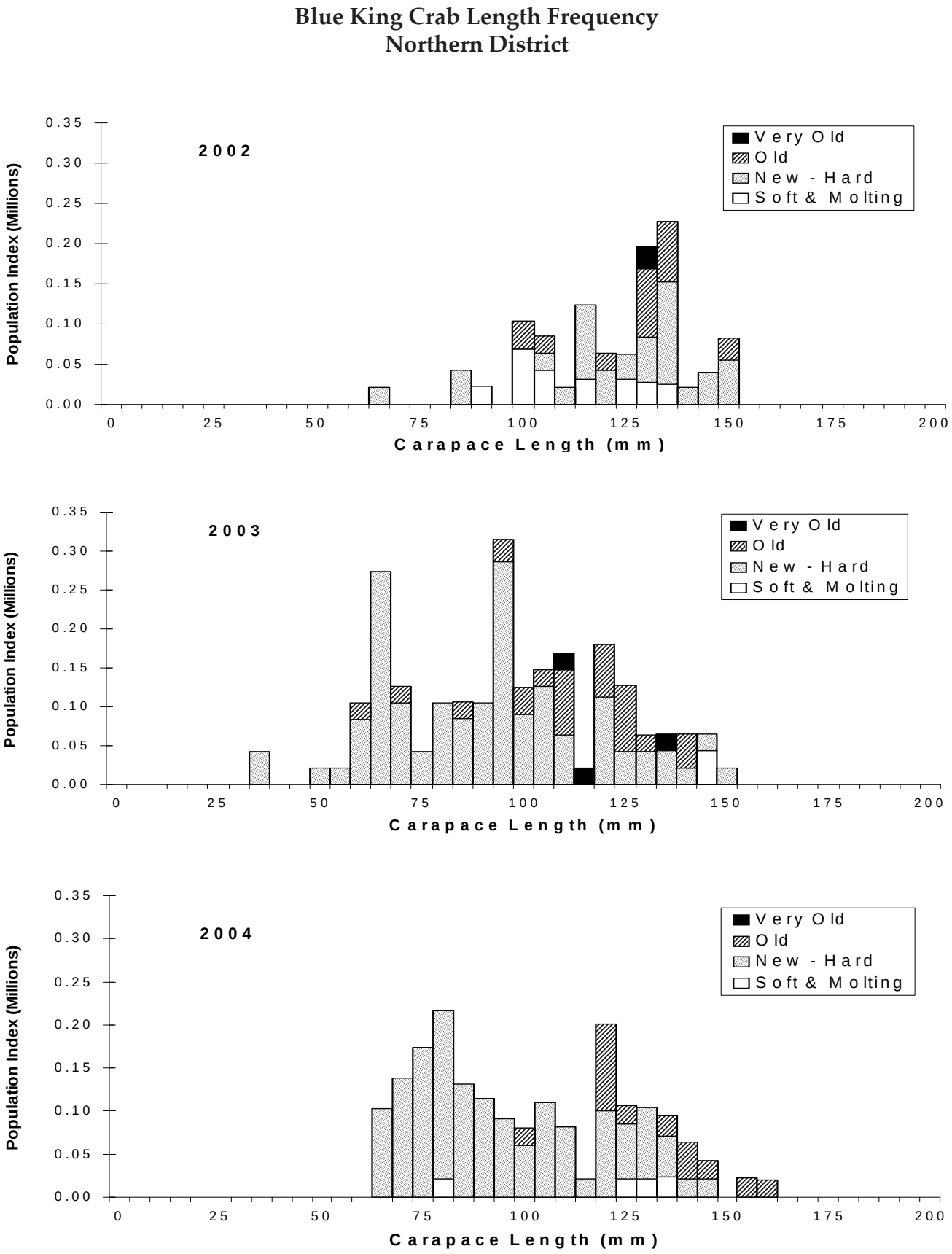

Figure 7. Size-frequency of St. Matthew Island (Northern District) male blue king crab (*P. platypus*), by 5 mm length classes, 2002-2004.

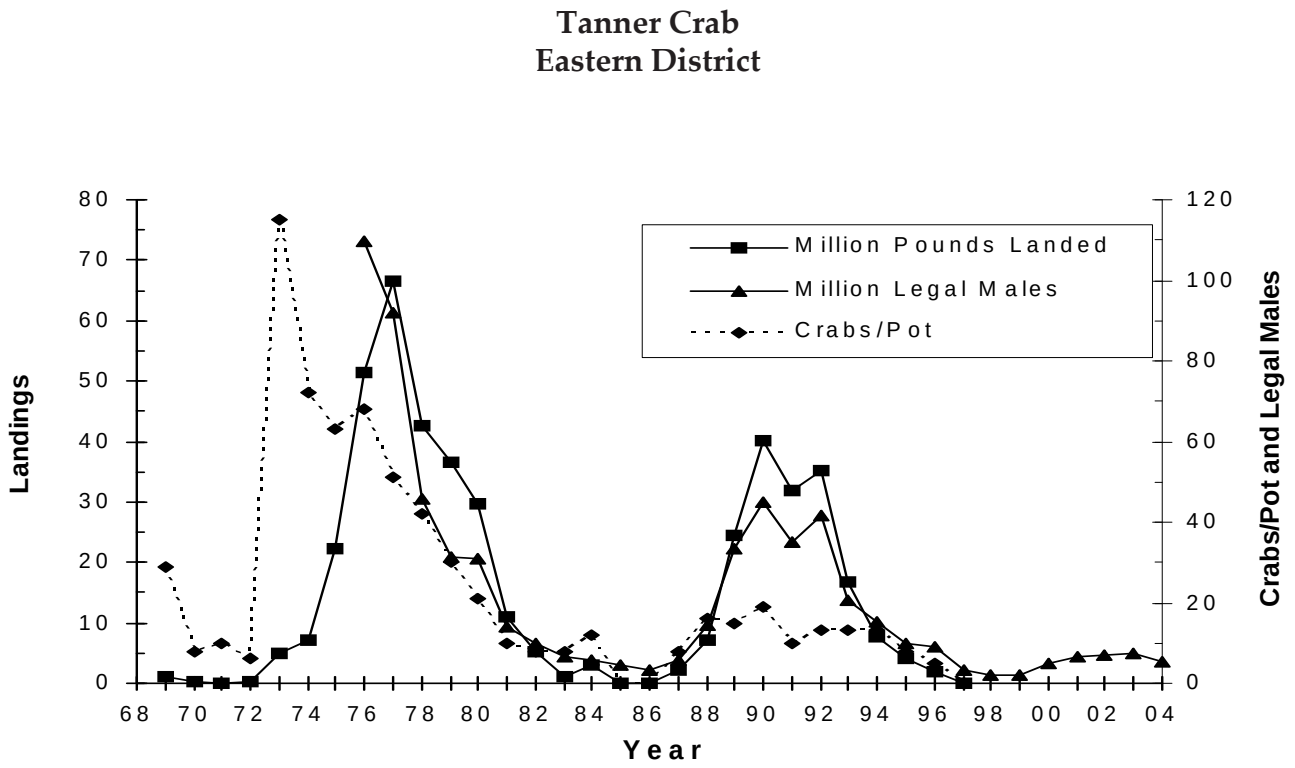

Figure 8. U.S. landings in millions of pounds, CPUE as crabs/pot-lift, and the abundance of legal male Tanner crab *(C. bairdi)* in millions in the Bristol Bay and Pribilof Districts (prior to 1989) or the Eastern District (since 1989), estimated from NMFS trawl surveys.

four mature females were caught. Blue king crab are predominantly 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. 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 has fallen into the overfished category. The fishery remained closed in 2004 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 0.77 million crab level established as a threshold in the ADF&G harvest strategy.

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 0.7 million crabs (Table 3 and Figure 6), increasing 11% from last year. The abundance index (0.2 million) of pre-recruit crabs (105-119 mm cl) decreased 37% 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 11 legal males were captured. The index for large females (≥ 80 mm cl) is poorly determined due to a habitat preference for inshore, rocky and untrawlable grounds. Only 4 large females were captured. Due to low stock abundance, the fishery has not opened since the 1998 opening. This stock is considered overfished

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
1984	82.5	24.9	4.7	112.1	107.0	33.4	140.4	252.5
1985	29.8	11.4	3.9	45.0	24.2	15.6	39.8	84.8
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
Limits[2]								
Lower	158.1	19.9	0.8	188.7	122.2	7.3	131.7	320.4
Upper	257.9	43.4	9.9	301.4	222.0	14.5	234.2	535.6
±%	24	37	85	23	29	33	28	25

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

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

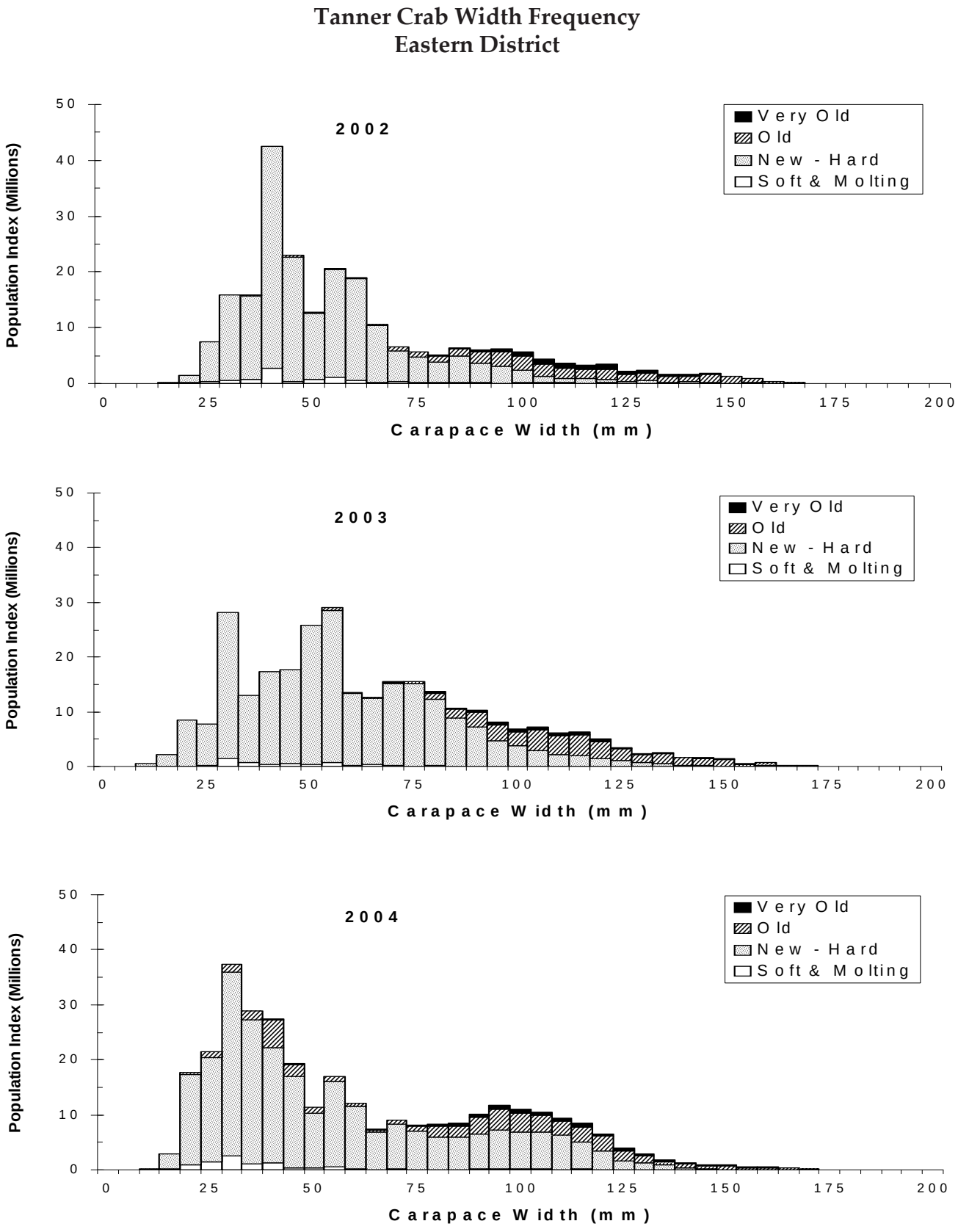

Figure 9. Size-frequency of male Tanner crab (*C. bairdi*) in the Eastern District, by 5 mm width classes, 2002-2004.

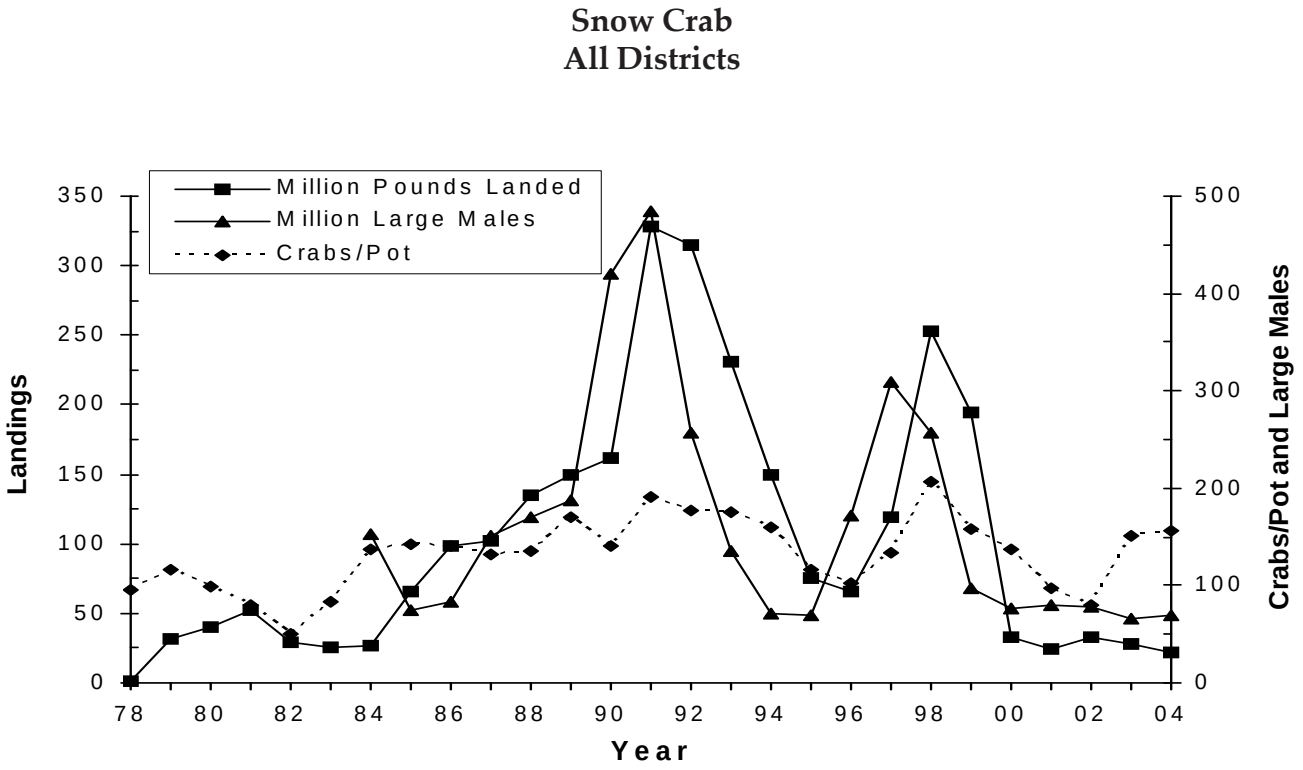

Figure 10. U.S. landings in million of pounds, CPUE as crabs/pot-lift, and the abundance of large male snow crab *(C.opilio)* in millions (all districts combined), estimated from NMFS trawl surveys.

under the provisions of the MSFCMA and rebuilding 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). The abundance index for legal male *C. bairdi* in the Eastern District (east of 173° W) was 5.4 million crabs (Table 4 and Figure 8), a 27% decrease from last year. Virtually all the legal males occurred in the Eastern District. The abundance index (31.7 million) for pre-recruit crabs (110-137 mm cw) showed a 28% increase, and the index of 208 million for small males (< 110 mm cw) showed a 4% decrease. The 2003 male size-frequency reveals a prominent mode in the 50-60 mm cw range (Figure 9), however, persistence of this mode does not continue through 2004. Among legal males, 17% were new-hardshells, and 83% were oldshell and older. Oldshell crab will not molt again during their lifespan. The abundance index (10.9 million crabs) of large (≥ 85 mm cw) females showed a 28% decrease. Among sampled mature females, 3% were softshells; 33% were new-hardshells, of which 98% carried new eggs; and 64% were oldshell and older, of which 98% carried new eggs. The vast majority of mature females sampled had completed hatching by the time of the survey.

The fishery has been closed since 1996 due to low abundance and it will remain closed in 2004. The estimated spawning biomass for this stock has been below the MSST since 1997. The fishery will remain closed this year 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.

Table 5. Annual abundance estimates (millions of crabs) for eastern Bering Sea snow crabs *(C. opilio)* from NMFS surveys (all districts combined).[1]

	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
1984	912.0	325.5	153.2	1390.6	610.5	581.7	1192.2	2582.8
1985	420.2	127.6	74.9	622.6	258.2	123.5	381.7	1004.3
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
East(%)[2]	28.2	42.0	57.9	30.1	17.9	56.8	29.7	29.8
Limits[3]								
Lower	1071.5	82.8	44.1	1240.0	915.9	354.8	1551.8	2791.8
Upper	2225.3	129.5	93.7	2407.0	2822.4	1257.9	3799.3	6206.3
±%	35	22	36	32	51	56	42	38
Northern Area								
2001	432.4	3.1	0.0	435.5	165.6	64.2	229.8	665.3
2004	2922.4	9.1	0.0	2931.5	896.2	152.5	1048.8	3980.3

[1] Values for 1981-1983, and small and pre-recruit males for 1984, are interpolated from 5 mm width classes.

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

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

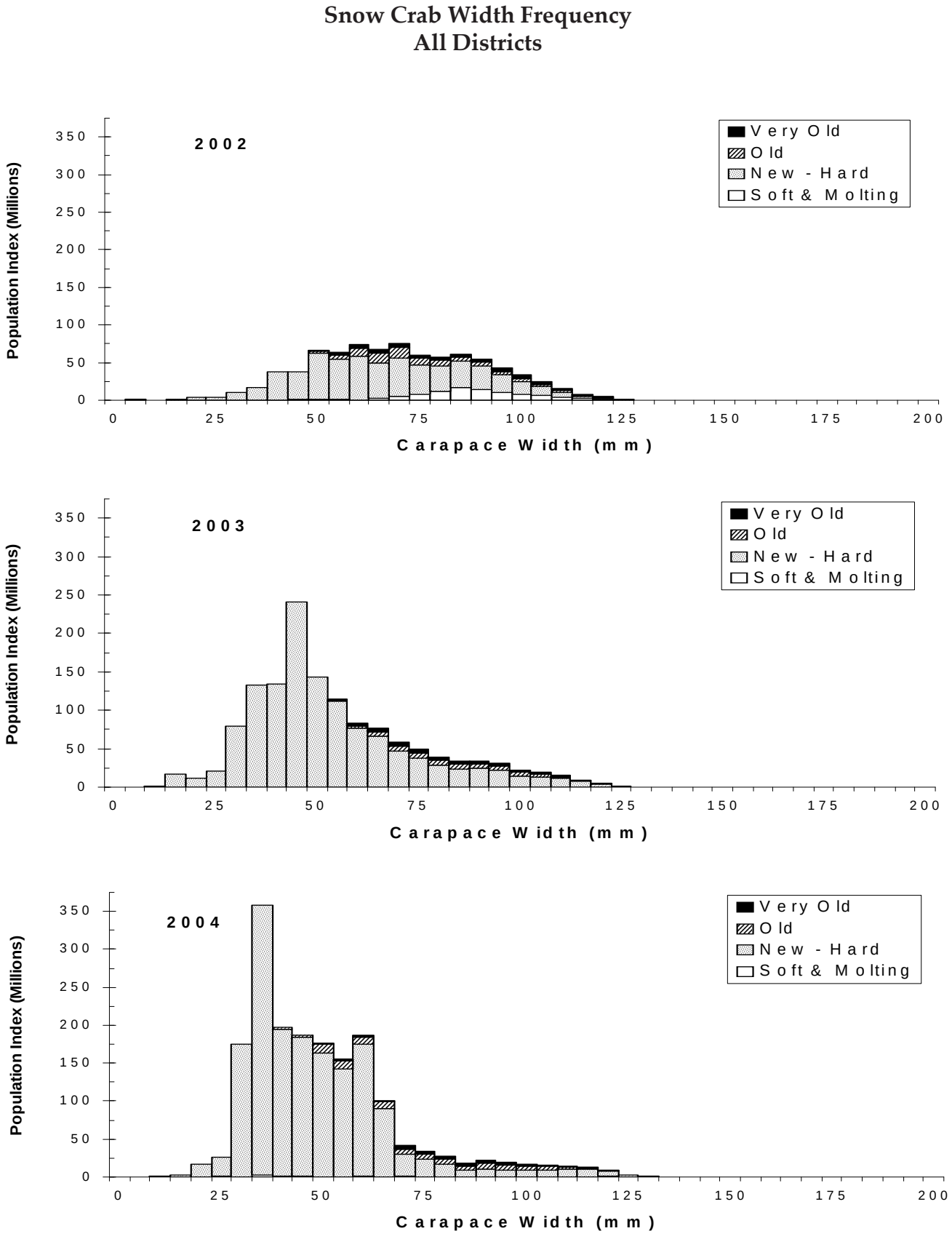

Figure 11. Size-frequency of male snow crab (*C. opilio*), all districts combined, by 5 mm width classes, 2002-2004.

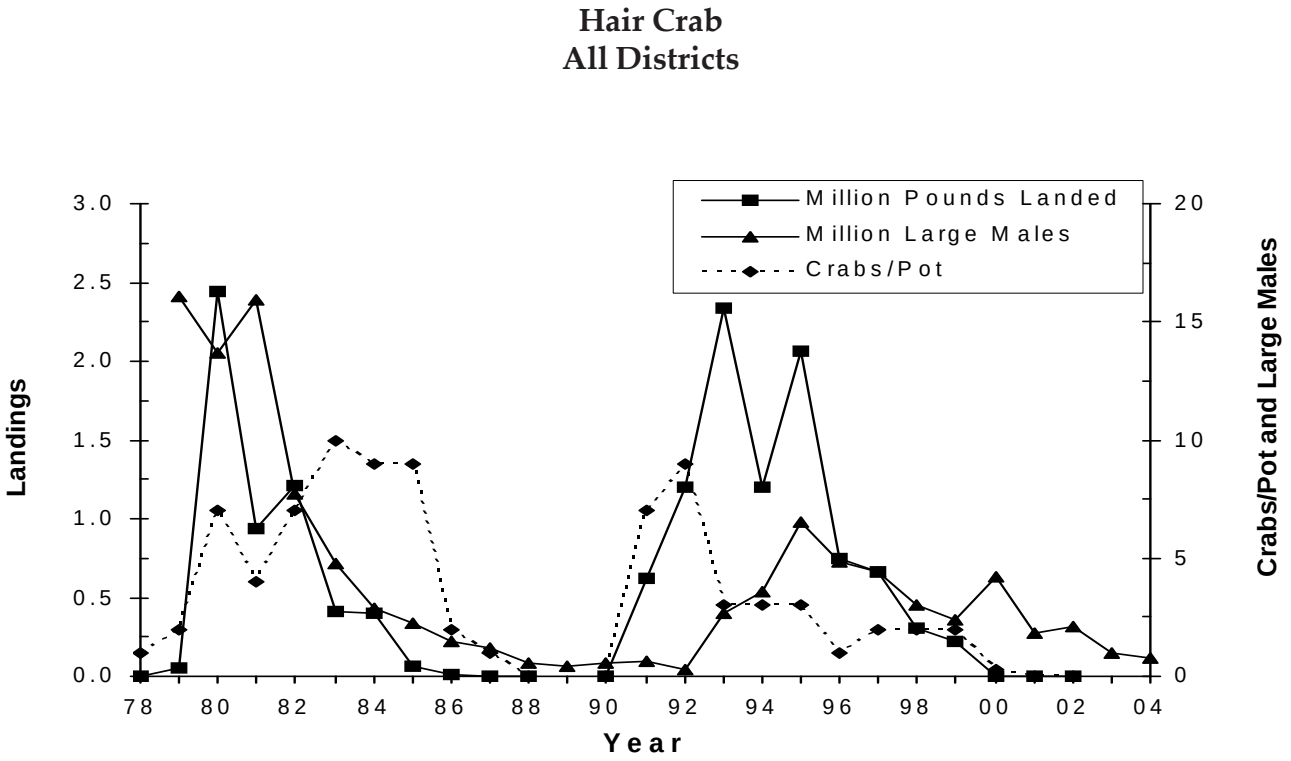

Figure 12. U.S. landings in millions of pounds, CPUE as crabs/pot-lift, and the abundance of large male hair crab *(E.isenbeckii)* in millions (all districts combined), estimated from NMFS trawl surveys.

Snow Crab (*C. opilio*)

Although the legal minimum size limit for *C. opilio* is 3.1 in cw (78 mm cw), 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) is 68.9 million crabs (Table 5 and Figure 10), which represents a 6% increase from last year and is less than one-half of the 20-year average (164.9 million). Approximately 60% of these crab were in the Eastern District as compared to 60% in 2002 and 46% in 2003. Pre-recruit males (78-101 mm cw) showed a 36% decrease in abundance. The abundance index (806.4 million) for large females (≥ 50 mm cw) showed a 31% increase. 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, 4% were in molting or softshell condition, 63% were new-hardshells indicating a recent molt, and 33% were oldshell and older. Among sampled mature females, 56% were new-hardshells, of which more than 85% carried new eggs, and 44% were oldshells and older, of which 67% carried new eggs. The remainder had not produced a new clutch.

The NMFS length-based assessment model fitted to the survey time series data and essential population and fisheries dynamics (Turnock and Rugolo 2005) reveals that, over the last 27 years (1978-2004), recruitment of male

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
1984	0.7	3.3	4.1	0.5	4.6
1985	0.3	2.6	2.9	0.3	3.1
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
Limits[1]					
Lower	0.0	0.4	0.5	0.1	0.6
Upper	1.4	1.2	2.5	0.6	3.1
±%	103.0	48.0	68.0	73.0	69.0

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

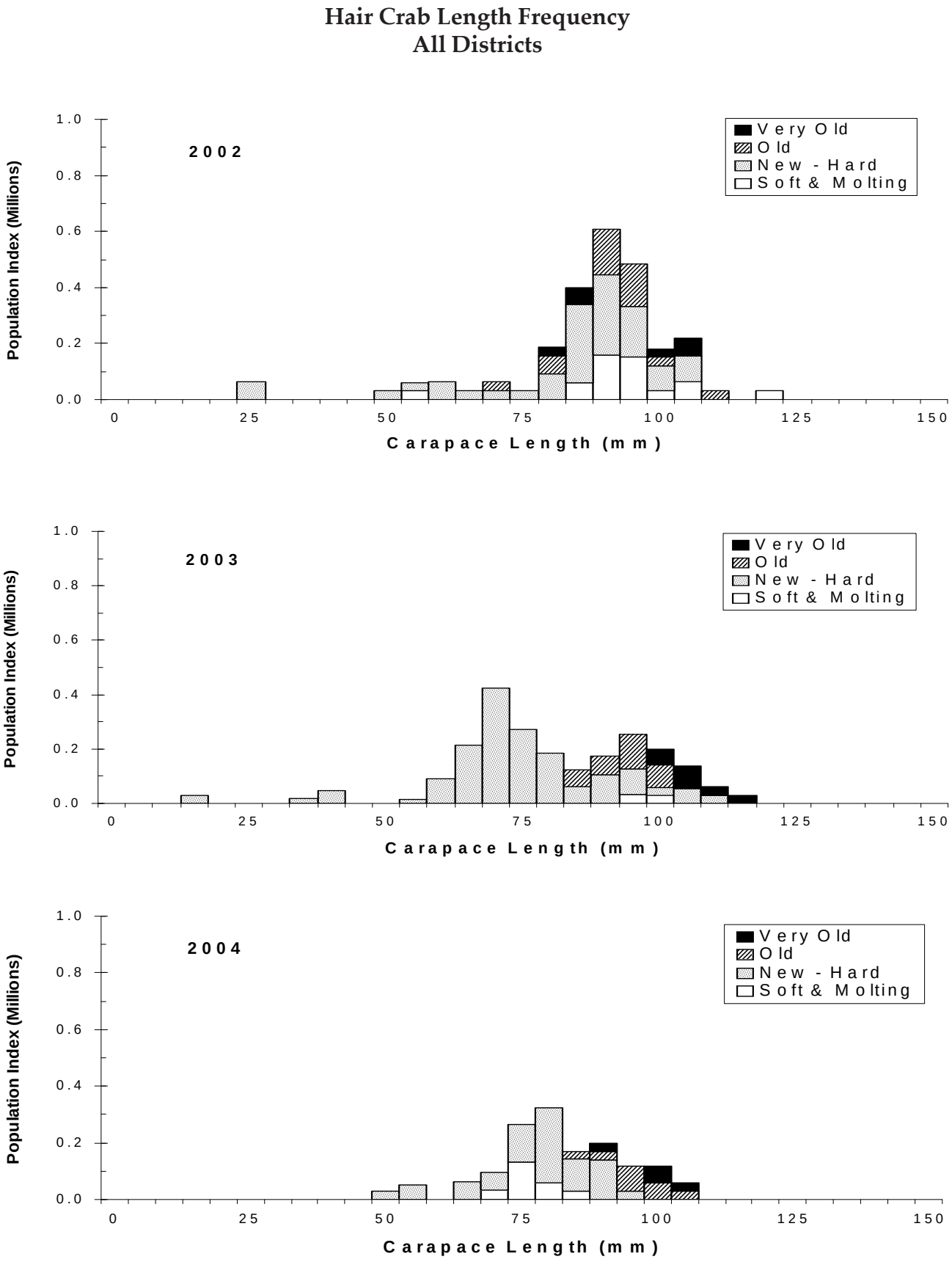

Figure 13. Size-frequency of male hair crab (*E. isenbeckii*), by 5 mm length classes, 2002-2004.

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 decade-long pattern of unprecedented low recruitment of new individuals to the stock.

The 2004 spawning stock biomass (343.7 million lbs) is below the minimum stock size threshold of 460.8 million lbs as defined in the FMP, and represents a 12% increase relative to 2003. Expected recruitment of crabs to mature size groups apparently failed. A very restricted fishery was allowed under the current rebuilding plan for the Bering Sea *C. opilio* stock. The GHL for 2004 has been set at 20.93 million lbs (9,493 t) of large crabs (≥ 4.0 in cw) of which 1.57 million lbs are for CDQ fisheries. The fishery opened on 15 January, 2005. In 2004, the GHL was 20.8 million lbs, landings were 22.47 million lbs and average CPUE for the general and CDQ fisheries was 157 crab/pot-lift.

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 lat. 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 crabs (Table 6 and Figure 12) is 0.8 million, a 20% decrease from last year and less than half of the 20-year average of 2.4 million. Size-frequencies (Figure 13) indicate little recruitment to the stock. The abundance index of total females is usually unreliable. Sixty percent of males and 85% 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 2004, there are an estimated 0.42 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 2004-2005 season.

Snow Crab (*C. opilio*) Northern Area

In 2004, we extended survey transects north of St. Matthew Island for a total of 29 additional stations (Figure 1). This extension was intended to better define the northern distributional boundary of the mature snow crab stock, and particularly the distribution 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 guideline harvest levels or overfishing definitions are derived, they are not included for the purpose of making survey estimates.

The previous most recent year we surveyed this northern area was 2001. In 2001,however, we sampled a common set of 25 stations that have been surveyed intermittently over the historical record. The additional four stations sampled in 2004 were V22, W22, Y24 and Y25 (Figure 1). In comparing 2004 abundance estimates in this area to those of 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 4 stations

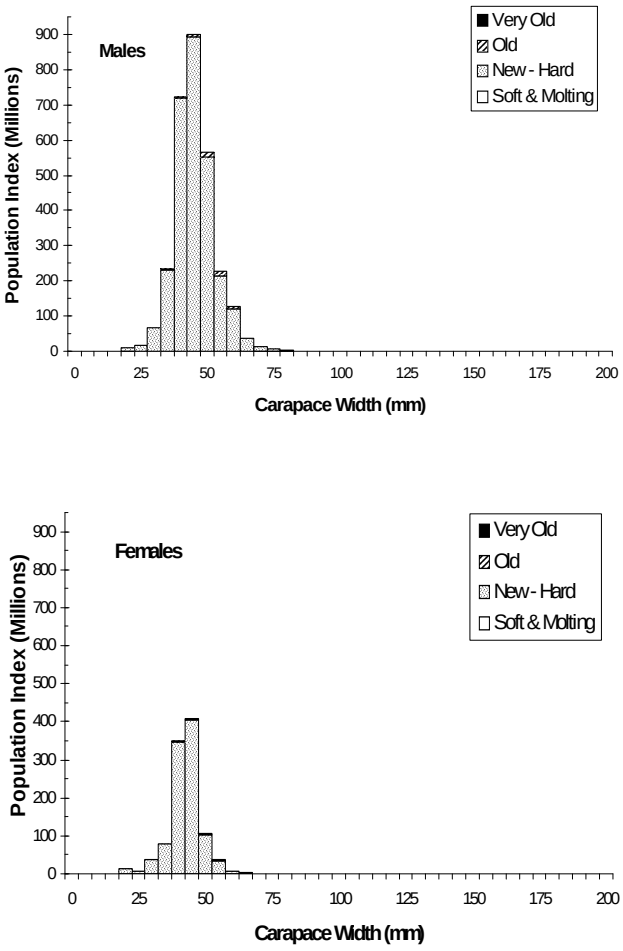

Figure 14. Size-frequency of male and female snow crabs (*C. opilio*) taken in the northern area in 2004, by 5 mm width classes.

approximate that in the remaining 25 stations. Sampling this northern area in 2004 was augmented by the industry vessel FV *Sea Wolf* under a memorandum of understanding between the NMFS and the Bering Sea Fisheries Research Foundation. The FV *Sea Wolf* sampled approximately two-thirds (19 of 29) of these stations while the FV *Arcturus* sampled the remaining ten stations. While the FV *Sea Wolf* followed standard survey sampling protocols and used standard gear, no direct fishing power comparisons were made between this vessel and the NMFS survey vessel FV *Arcturus*. The two vessels did not sample the same stations in this area and, therefore, relative fishing power between vessels cannot be assessed or inferred. Area swept abundance estimates of snow crab in this area are reported for both vessels combined. We caution against too strict an interpretation of trends in, or comparison of, results from these data relative to 2001 absent a complete understanding of the fishing power differences between vessels.

In the northern area, the abundance index of small (<78 mm cw) male snow crab was 2922.4 million (99.7% of total), while pre-recruit male crab (78-101 mm cw) were estimated at 9.1 million (0.3% of total). Only 0.03 million large (≥102 mm cw) males were taken. Male crab comprised 73.8%, and female crab 26.2% of all snow crab sampled in the northern area. The vast majority (98.3%) of male crabs were new-hardshell indicating a recent molt, 0.2% were in molting or softshell condition, and 1.5% were oldshell. The abundance index of small (<50 mm cw) female crab was 896.2 million (85.5% of total), compared to 152.5 million (14.5% of total) for large (≥50 mm cw) females. Among all female crab, 98.7% were new-hardshell, and 13.8% were mature. The abundance indices of the different sex and size groups in 2001 and 2004 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 areas for both sexes although those for the northern area tended to be larger by 10-15 mm on average than for crab in the standard area. 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 (35.6%) than in the north (13.8%). In eastern Canada,

mature female snow crab from cold waters produce an egg clutch every other year, or bienially (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, and at or below this threshold. Therefore, over their reproductive lifespan, females inhabiting this northern realm contribute one-half the egg production relative to annual spawning females inhabiting warmer eastern Bering Sea waters.

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 Rich Horak and Glen Sullivan of the FV *Arcturus* and Norman Bakken and Jeff Boddington of the FV *Aldebaran* and their crews as well as John Gruver and the crew of the FV *Sea Wolf*.

We also wish to thank all of the people who participated in this survey, including P. Cummiskey, E. Munk, C. Armistead, P. Anderson, B. O'Gorman, J. Kuras, J. Brogan, S. Van Sant, S. Persselin, J. Berger and C.Yeung.

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 12 stations southwest of St. Matthew Island and 16 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.

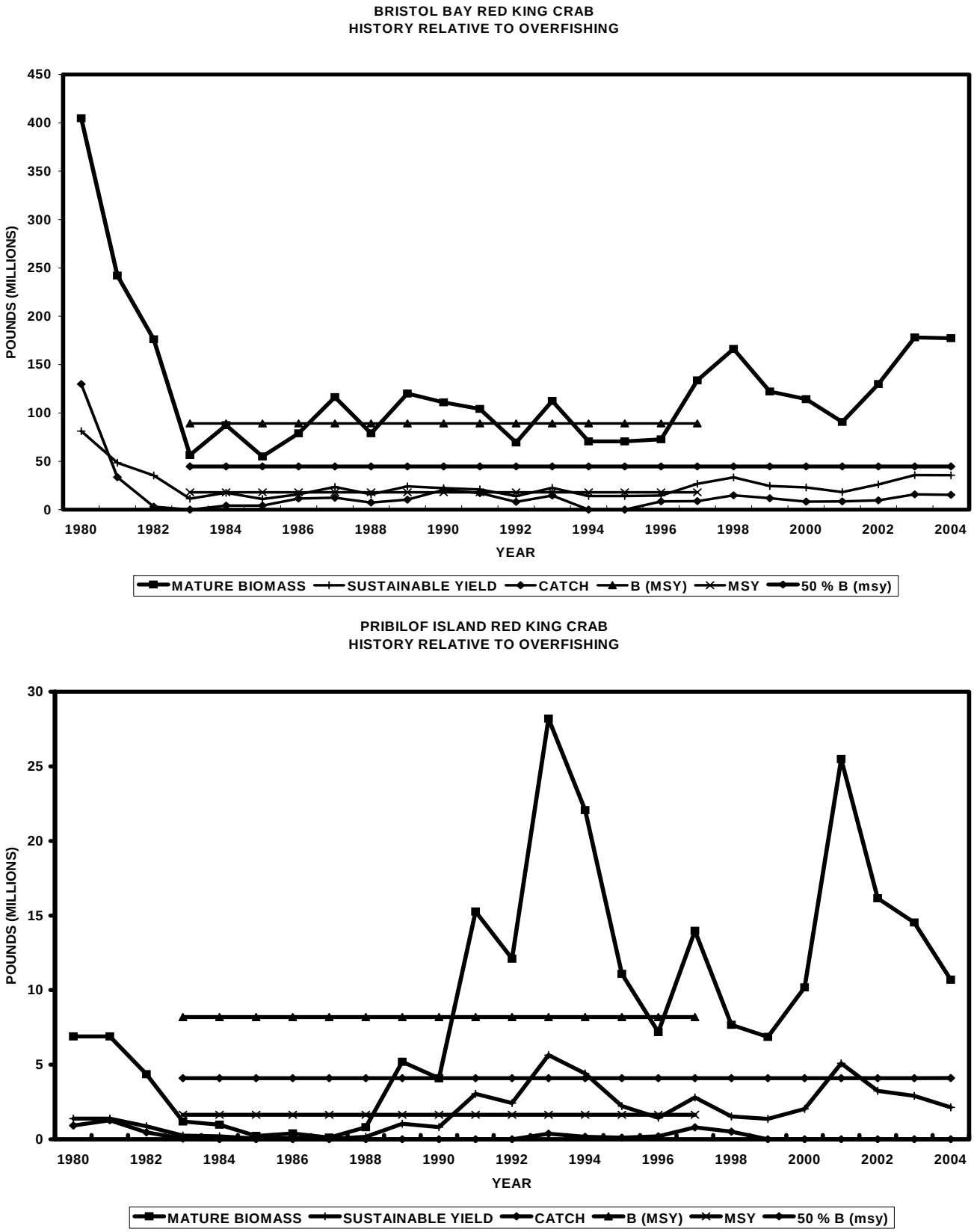
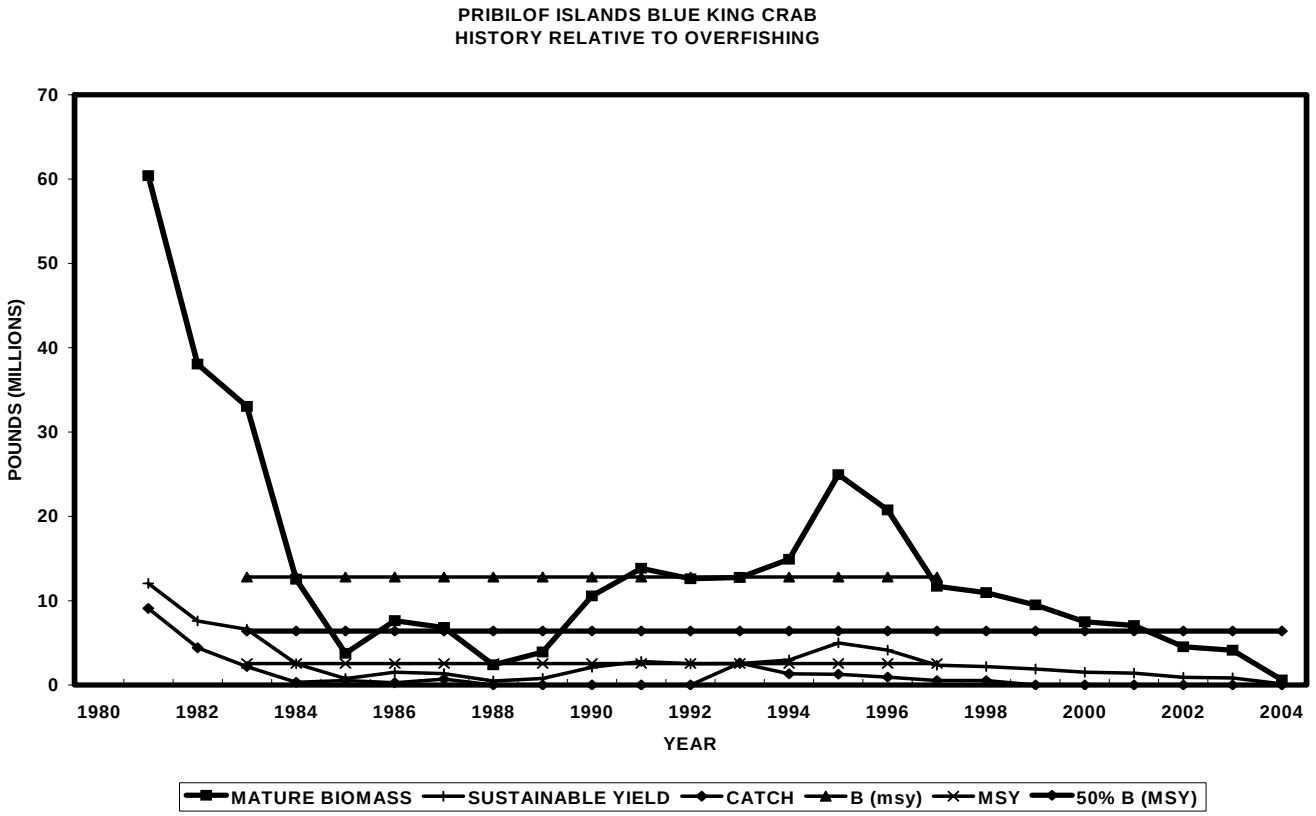


Figure 14. History of Bristol Bay and Pribilof Islands red king crab fisheries relative to overfishing under the Magnuson-Stevens Fishery Conservation and Management Act. Stocks are considered overfished if mature biomass is below 50% MSY.



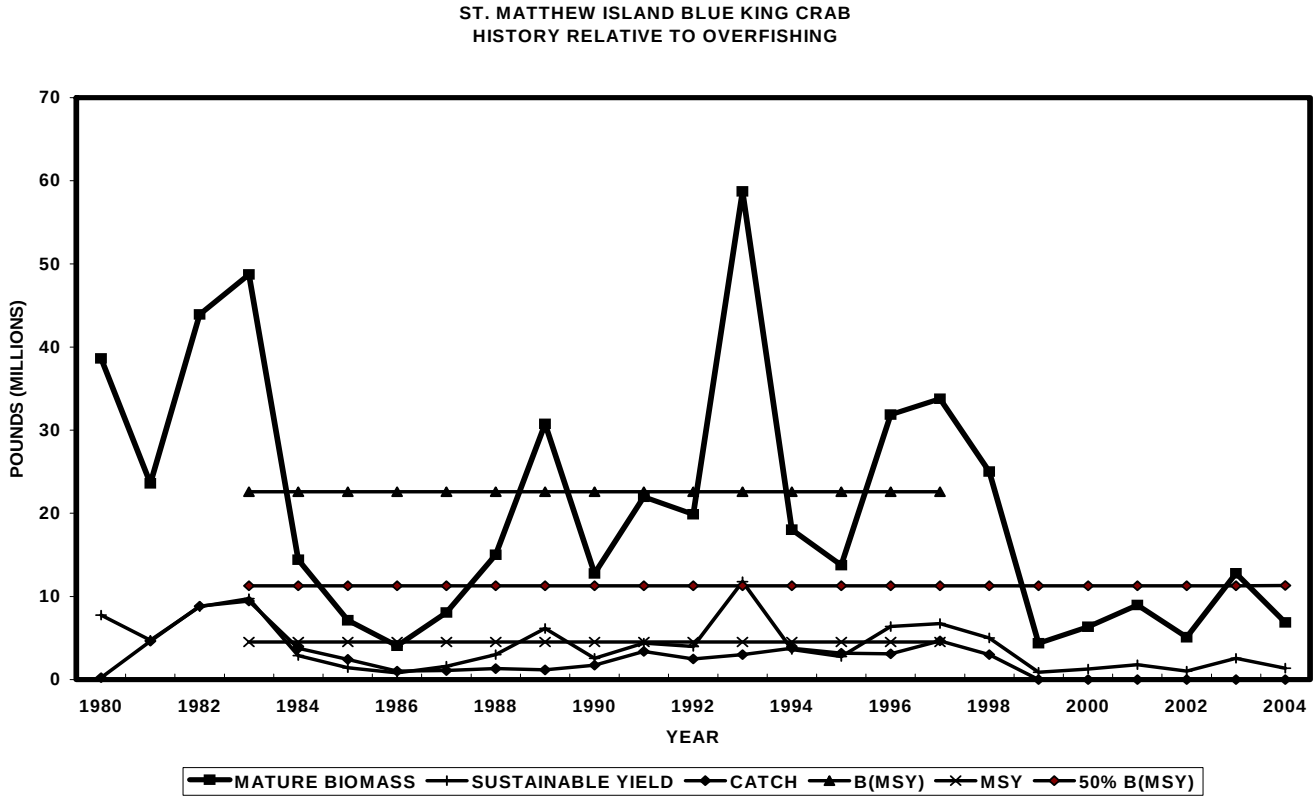
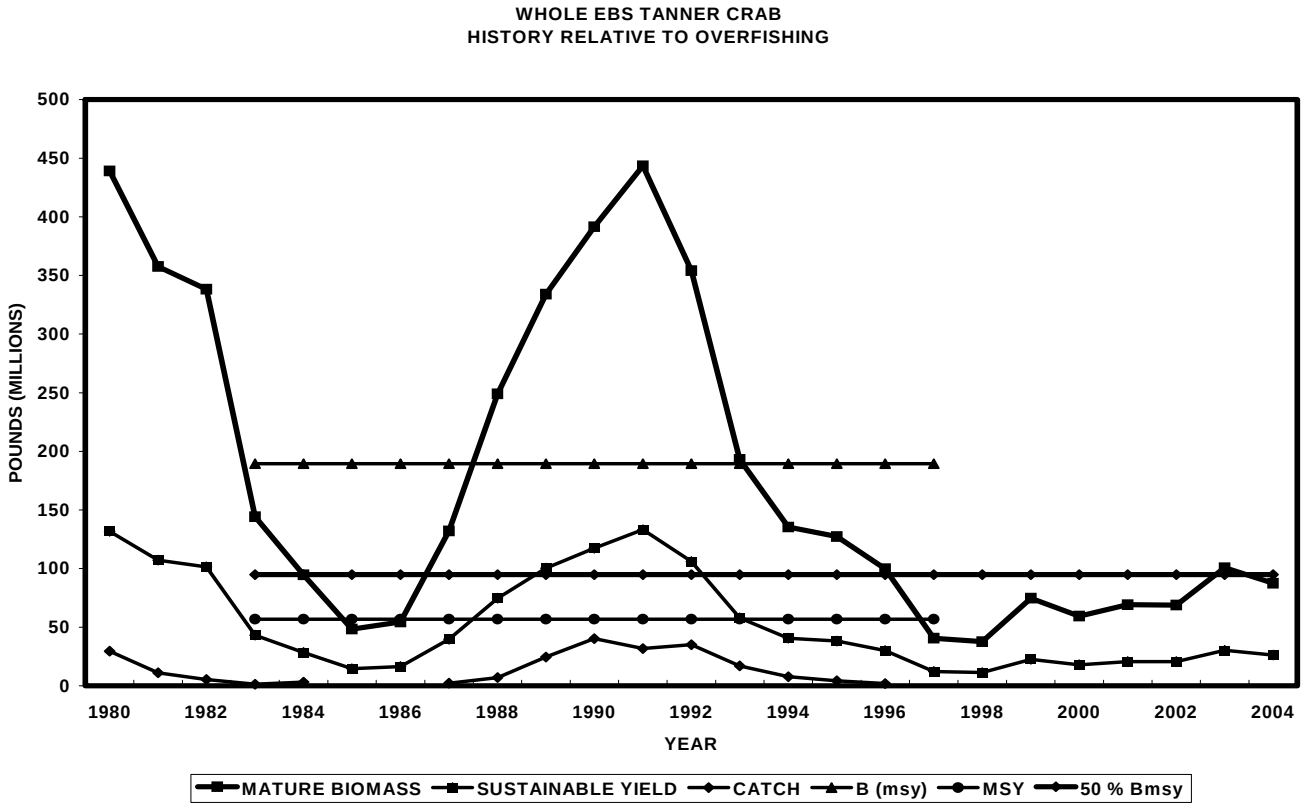


Figure 15. History of Pribilof Islands and St. Matthew Island blue king crab fisheries relative to overfishing under the Magnuson-Stevens Fishery Conservation and Management Act. The St. Matthew Island stock is considered overfished because mature biomass falls below 50% MSY.



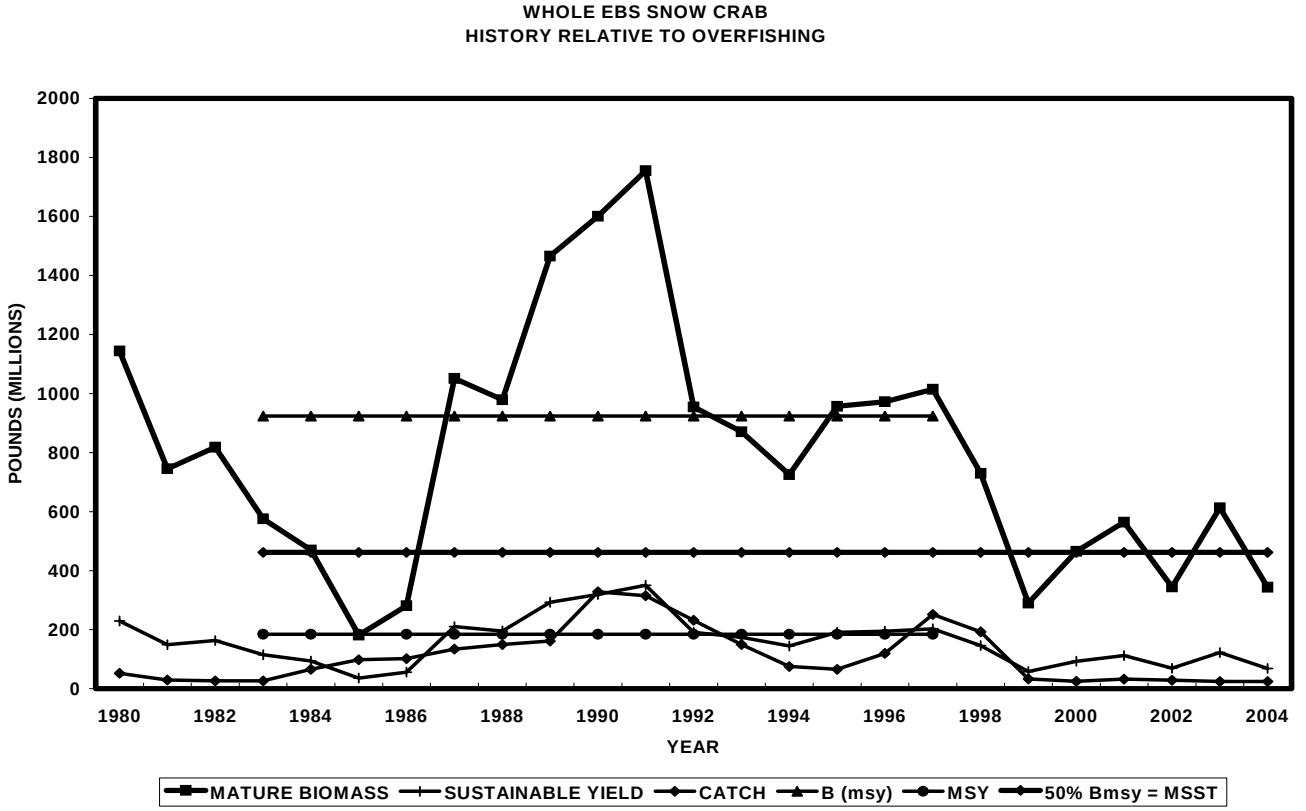
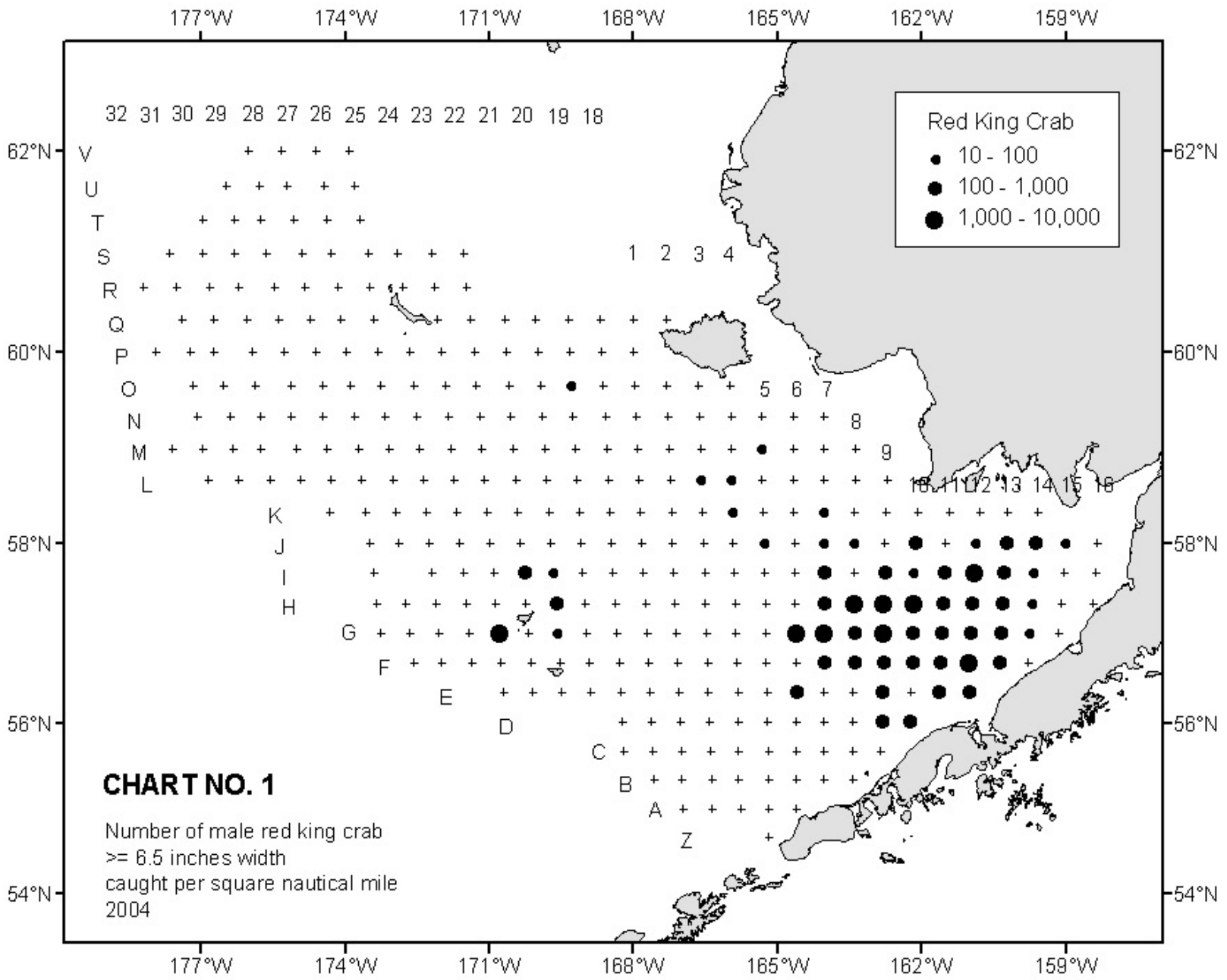
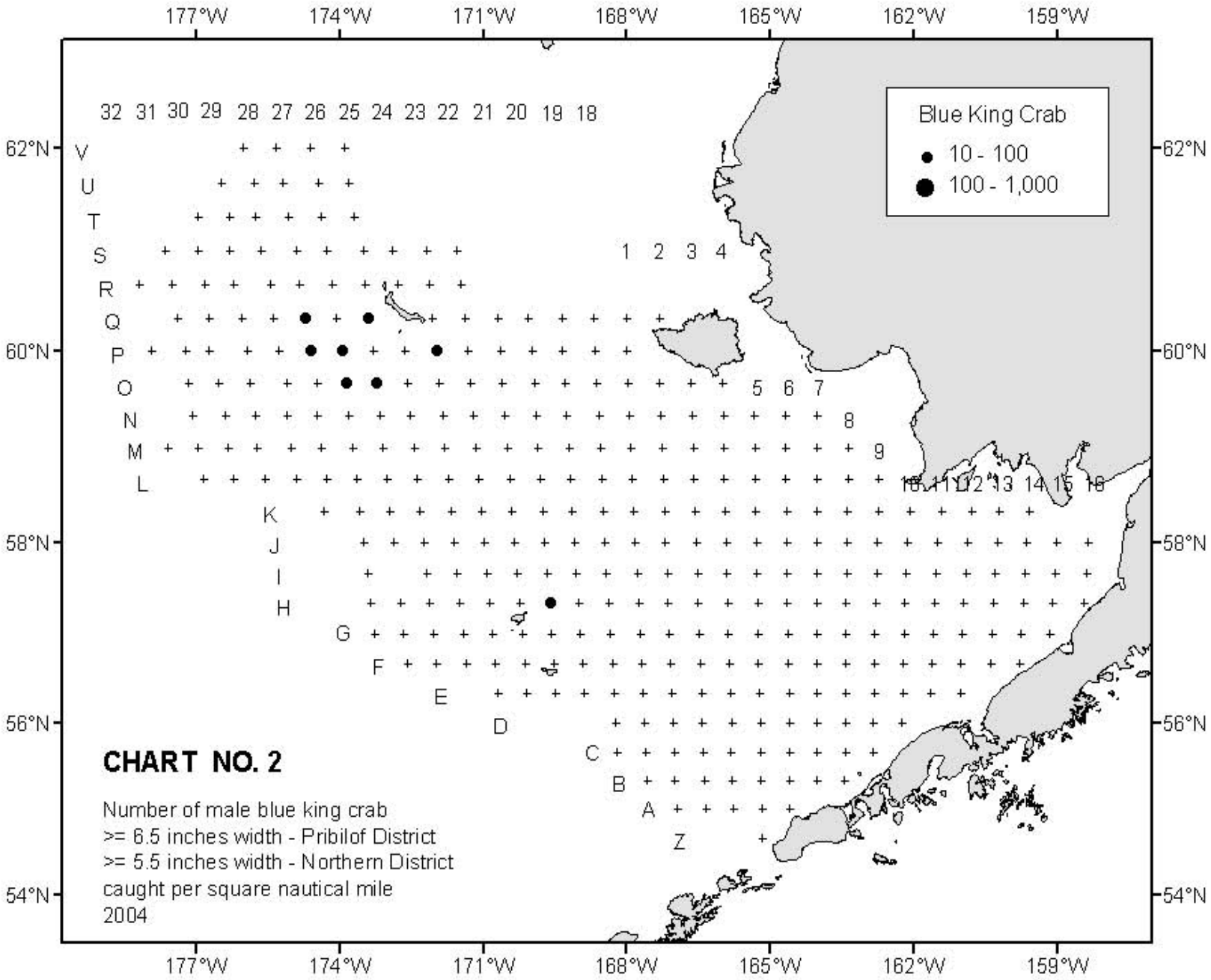
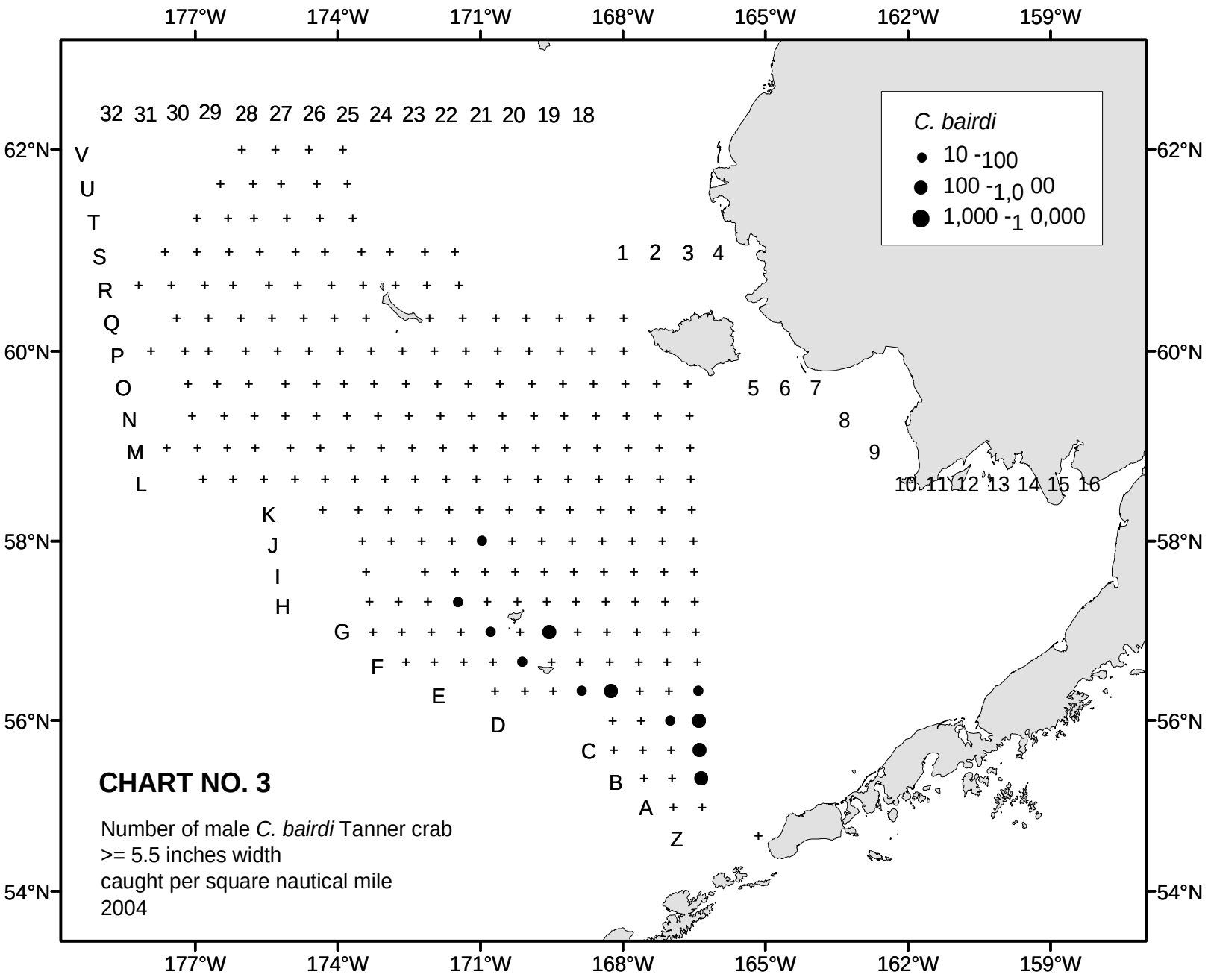
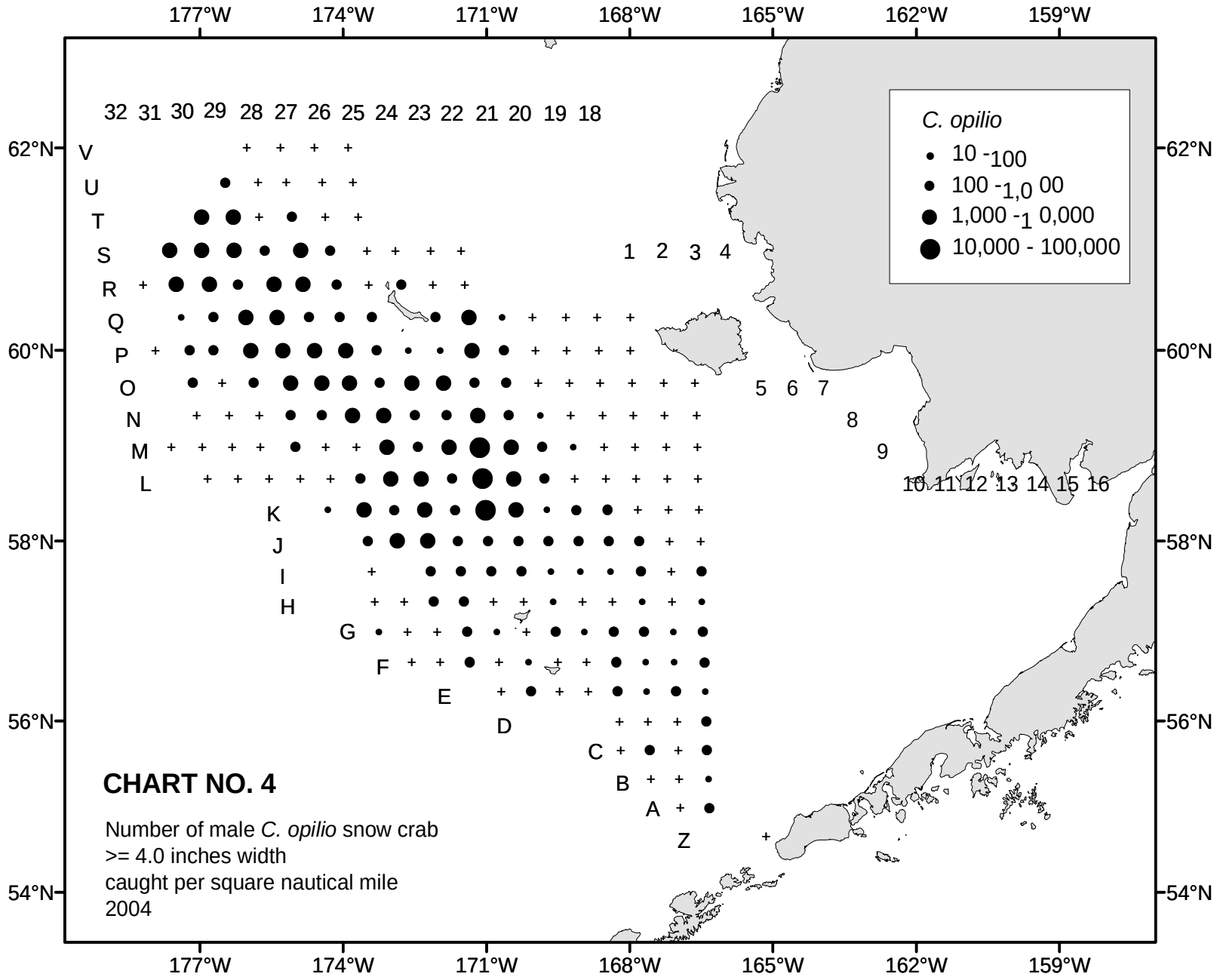


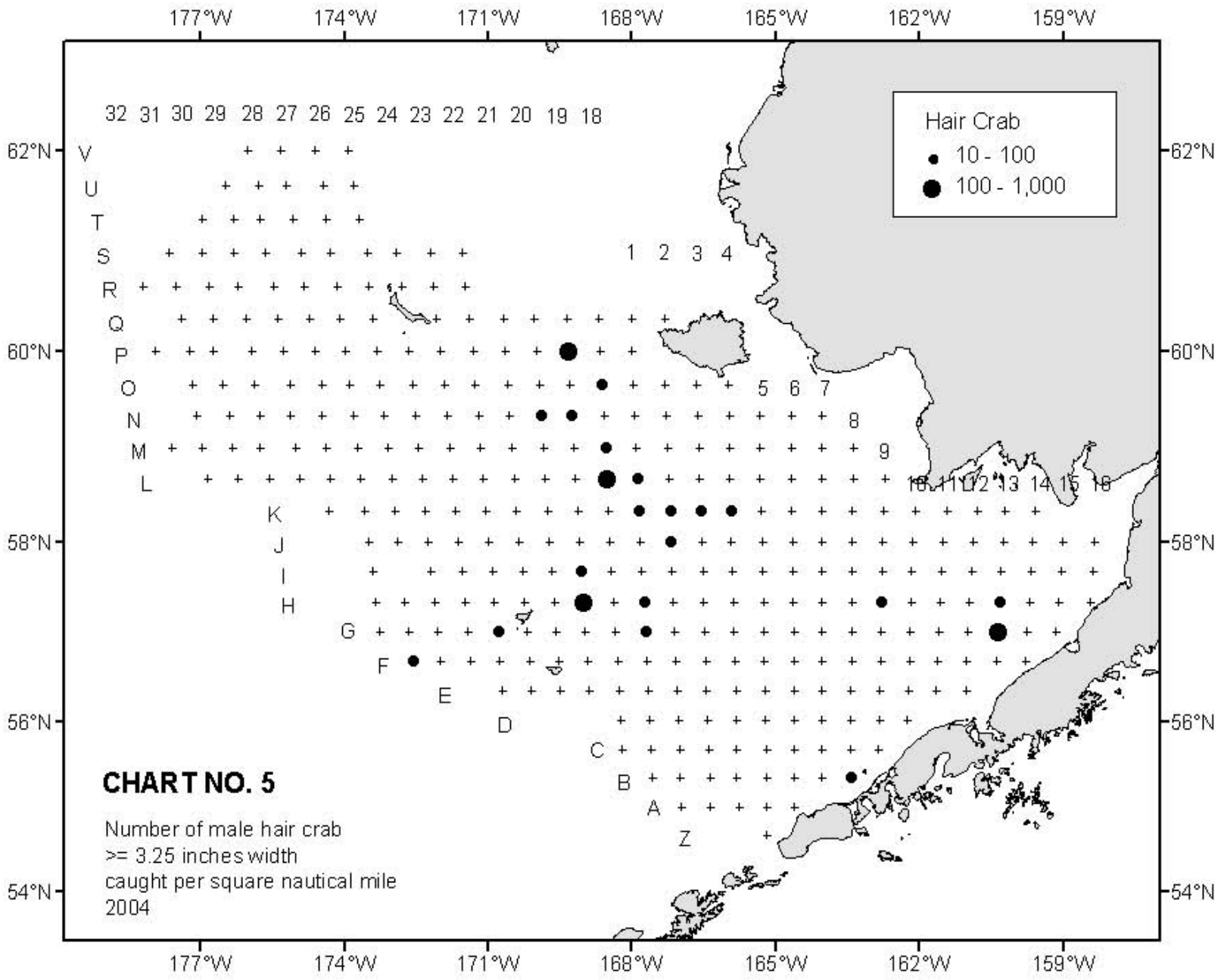
Figure 17. History of eastern Bering Sea Tanner and snow crab fisheries relative to overfishing under the Magnuson-Stevens Fishery Conservation and Management Act. Both stocks are considered overfished because mature biomass is below 50% MSY.


177°W
174°W
171°W
168°W
165°W
162°W
159°W
62°N
60°N
58°N
56°N
54°N
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
2004


177°W
174°W
171°W
168°W
165°W
162°W
159°W
62°N
60°N
58°N
56°N
54°N
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
2004


177°W
174°W
171°W
168°W
165°W
162°W
159°W
62°N
60°N
58°N
56°N
54°N
32 31 30 29 28 27 26 25 24 23 22 21 20 19 18
1 2 3 4
5 6 7
8
9
10 11 12 13 14 15 16
V
U
T
S
R
Q
P
O
N
M
L
K
J
I
H
G
F
E
D
C
B
A
Z
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
2004


177°W
174°W
171°W
168°W
165°W
162°W
159°W
62°N
60°N
58°N
56°N
54°N
32 31 30 29 28 27 26 25 24 23 22 21 20 19 18
1 2 3 4
5 6 7
8
9
10 11 12 13 14 15 16
V
U
T
S
R
Q
P
O
N
M
L
K
J
I
H
G
F
E
D
C
B
A
Z
C. opilio
10 - 100
100 - 1,000
1,000 - 10,000
10,000 - 100,000
CHART NO. 4
Number of male C. opilio snow crab
>= 4.0 inches width
caught per square nautical mile
2004


177°W
174°W
171°W
168°W
165°W
162°W
159°W
62°N
60°N
58°N
56°N
54°N
Hair Crab
10 - 100
100 - 1,000
CHART NO. 5
Number of male hair crab
>= 3.25 inches width
caught per square nautical mile
2004

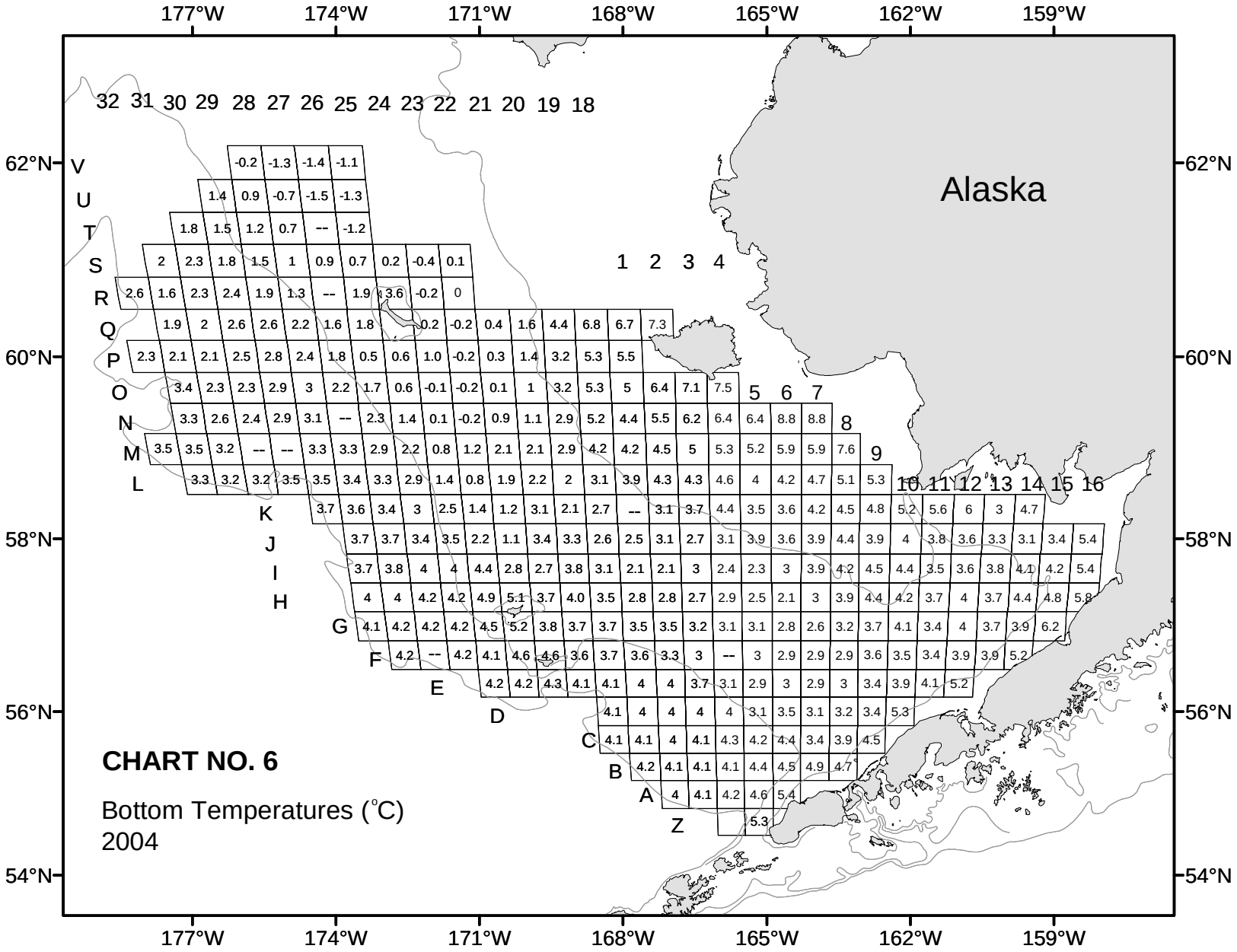

177°W
174°W
171°W
168°W
165°W
162°W
159°W
62°N
60°N
58°N
56°N
54°N
Alaska
CHART NO. 6
Bottom Temperatures (°C)
2004

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	
C09	6/11/04	55 40.4	162 49.8	26	0	80	0	80	80	0	80	161
D09	6/11/04	55 59.8	162 48.8	40	162	162	81	405	0	0	0	405
D10	6/11/04	55 58.9	162 15.7	35	309	1390	540	2239	10220	0	10220	12459
E06	6/18/04	56 19.8	164 34.7	45	247	0	0	247	0	0	0	247
E09	6/11/04	56 20.1	162 47.7	41	338	338	13363	14040	3383	4990	8373	22413
E10	6/11/04	56 19.2	162 11.8	40	0	123	245	368	858	245	1103	1470
E11	6/8/04	56 20.1	161 37.4	33	507	0	929	1436	2365	169	2534	3971
E12	6/8/04	56 19.7	161 0.1	27	322	81	242	645	967	0	967	1612
F07	6/14/04	56 40.0	164 0.7	39	384	0	0	384	77	0	77	461
F08	6/14/04	56 39.7	163 23.1	39	237	0	0	237	0	0	0	237
F09	6/10/04	56 41.3	162 45.7	37	240	320	320	879	640	0	640	1519
F10	6/10/04	56 39.4	162 12.8	38	241	966	2294	3501	5192	241	5433	8935
F11	6/8/04	56 40.0	161 36.5	47	400	160	1121	1681	3603	80	3683	5364
F12	6/8/04	56 39.5	160 59.7	36	1598	1119	799	3515	2796	1039	3835	7350
F13	6/7/04	56 39.6	160 22.2	30	236	473	236	946	1734	79	1812	2758
F14	6/7/04	56 40.1	159 45.2	18	0	82	0	82	0	0	0	82
G06	6/18/04	56 58.8	164 36.9	37	1505	0	0	1505	0	0	0	1505
G07	6/14/04	57 0.1	164 1.3	36	18079	5189	1784	25052	405	0	405	25457
G07	6/14/04	57 5.0	164 1.2	36	315	157	0	472	0	0	0	472
G07	6/14/04	57 0.1	164 10.6	36	8446	3057	241	11744	0	0	0	11744
G07	6/14/04	56 55.3	164 1.1	37	2286	490	0	2775	0	0	0	2775
G07	6/14/04	57 0.0	163 52.3	36	1834	479	160	2472	0	0	0	2472
G08	6/14/04	56 59.7	163 24.3	34	569	975	650	2195	163	0	163	2357
G09	6/10/04	57 0.2	162 47.6	32	1181	2362	1654	5197	2809	0	2809	8006
G10	6/10/04	56 59.8	162 11.4	31	153	612	2141	2905	4510	0	4510	7415
G11	6/8/04	56 60.0	161 33.9	36	503	587	2430	3519	3519	251	3771	7290
G12	6/8/04	57 0.2	160 57.7	33	324	243	1295	1862	1700	81	1781	3643
G13	6/7/04	56 59.7	160 19.7	32	253	84	169	507	591	169	760	1266
G14	6/7/04	57 0.4	159 42.8	30	78	388	155	621	1164	0	1164	1784
G20	6/30/04	56 59.8	169 33.1	31	242	0	0	242	968	0	968	1210
G22	7/2/04	57 7.1	170 28.4	25	1925	0	5929	7854	616	4851	5467	13320
H07	6/14/04	57 19.9	164 0.9	33	235	0	0	235	0	0	0	235
H08	6/14/04	57 20.8	163 23.8	27	1202	641	240	2084	0	0	0	2084

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	
H09	6/10/04	57 19.3	162 46.6	25	11841	15144	21427	48411	21024	1772	22796	71207
H09	6/10/04	57 20.2	162 37.7	25	3054	235	235	3524	313	0	313	3837
H09	6/10/04	57 25.2	162 45.8	25	1404	826	0	2230	83	0	83	2313
H09	6/10/04	57 19.8	162 55.8	26	3732	6491	6166	16389	3570	568	4138	20526
H09	6/10/04	57 15.0	162 45.6	27	10760	8214	6982	25956	7064	411	7475	33430
H10	6/10/04	57 19.7	162 9.2	26	1969	410	246	2626	4102	0	4102	6728
H11	6/8/04	57 20.4	161 31.7	28	718	1276	2153	4146	9407	957	10364	14510
H12	6/8/04	57 20.6	160 56.0	32	474	633	316	1423	1582	0	1582	3005
H13	6/6/04	57 19.5	160 18.4	32	474	316	554	1344	2293	0	2293	3638
H14	6/7/04	57 19.1	159 40.0	29	80	318	159	557	80	0	80	636
H15	6/7/04	57 20.3	159 4.2	25	0	0	0	0	80	0	80	80
H16	6/5/04	57 20.4	158 24.7	16	0	0	74	74	0	0	0	74
H20	7/2/04	57 20.2	169 35.9	32	444	0	0	444	740	0	740	1183
I01	6/27/04	57 40.0	167 45.9	36	0	0	0	0	0	79	79	79
I07	6/15/04	57 39.8	164 0.6	27	319	0	0	319	0	0	0	319
I09	6/10/04	57 39.7	162 44.6	22	635	476	0	1111	317	0	317	1428
I10	6/10/04	57 39.5	162 7.6	24	78	0	78	156	156	0	156	312
I11	6/9/04	57 40.2	161 29.8	27	581	332	332	1245	1992	166	2158	3402
I12	6/8/04	57 40.0	160 52.7	30	1206	829	377	2413	2036	75	2111	4524
I13	6/6/04	57 40.7	160 15.9	27	652	408	326	1386	245	0	245	1630
I14	6/6/04	57 39.7	159 38.1	26	81	0	34109	34190	1047	31187	32235	66424
I15	6/7/04	57 40.1	159 1.0	25	0	0	161	161	0	81	81	242
I20	7/6/04	57 39.9	169 39.2	37	78	0	0	78	0	0	0	78
I21	7/2/04	57 30.4	169 59.4	36	808	0	0	808	162	0	162	969
I21	7/6/04	57 39.7	170 16.0	37	82	0	0	82	0	0	0	82
J03	6/25/04	58 0.4	166 31.1	32	0	0	154	154	231	0	231	384
J05	6/17/04	57 59.8	165 15.3	26	80	0	0	80	0	0	0	80
J06	6/17/04	57 59.9	164 36.8	23	0	0	0	0	77	0	77	77
J07	6/15/04	58 0.3	164 1.2	24	78	0	0	78	78	0	78	156
J08	6/15/04	57 59.9	163 23.0	22	77	0	0	77	77	0	77	154
J10	6/9/04	58 0.2	162 8.0	19	163	244	0	407	81	0	81	489
J11	6/9/04	58 0.3	161 29.8	28	0	241	161	402	1045	161	1206	1608
J12	6/9/04	58 0.7	160 53.1	23	77	461	0	538	615	0	615	1153

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	
J13	6/6/04	57 59.9	160 13.0	26	244	407	163	813	488	81	569	1382
J14	6/6/04	57 59.9	159 35.4	21	380	152	76	607	228	0	228	835
J15	6/5/04	57 59.9	158 57.9	21	77	0	5166	5243	77	5474	5551	10794
J18	7/3/04	58 0.2	168 26.6	36	0	0	76	76	0	0	0	76
K03	6/25/04	58 20.4	166 33.0	24	0	0	0	0	156	78	233	233
K04	6/25/04	58 20.1	165 55.6	22	77	0	0	77	77	77	154	231
K05	6/17/04	58 19.8	165 17.1	24	0	0	0	0	79	0	79	79
K06	6/17/04	58 19.9	164 38.0	22	0	0	0	0	77	0	77	77
K07	6/15/04	58 20.2	164 0.2	21	80	0	0	80	0	0	0	80
K10	6/9/04	58 20.2	162 3.4	24	0	0	75	75	0	0	0	75
L02	6/27/04	58 39.6	167 13.7	22	0	77	0	77	0	0	0	77
L03	6/25/04	58 40.4	166 34.0	21	76	76	76	227	151	0	151	378
L04	6/25/04	58 40.3	165 55.6	19	79	0	79	158	79	0	79	238
L05	6/17/04	58 39.9	165 17.0	20	0	0	162	162	162	0	162	324
L06	6/17/04	58 40.1	164 39.0	19	0	0	81	81	0	0	0	81
M01	6/27/04	59 0.0	167 52.8	21	0	0	159	159	0	0	0	159
M02	6/27/04	58 59.7	167 14.4	20	0	0	0	0	80	0	80	80
M03	6/25/04	59 0.0	166 34.7	17	0	0	77	77	0	77	77	154
M05	6/17/04	58 60.0	165 18.3	14	77	0	77	154	0	0	0	154
N01	6/26/04	59 19.9	167 54.7	20	0	0	80	80	0	80	80	159
N02	6/27/04	59 19.4	167 16.5	16	0	0	78	78	0	0	0	78
N03	6/26/04	59 19.8	166 36.4	14	0	0	0	0	0	76	76	76
N04	6/26/04	59 19.4	165 56.5	12	0	0	151	151	0	76	76	227
O04	6/26/04	59 36.7	165 57.8	13	0	0	0	0	0	76	76	76
O18	7/4/04	59 39.8	168 37.2	20	0	79	0	79	0	0	0	79
O19	7/4/04	59 40.0	169 15.9	24	84	0	0	84	0	0	0	84
O18	7/5/04	60 19.9	168 41.8	18	0	0	0	0	79	0	79	79

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	6/30/04	56 59.8	169 33.1	31	0	0	0	0	161	0	161	161
G20	6/30/04	57 9.7	169 19.1	38	0	0	0	0	78	0	78	78
G22	7/2/04	57 7.1	170 28.4	25	0	0	154	154	0	0	0	154
H20	7/2/04	57 20.2	169 35.9	32	74	0	0	74	0	0	0	74
I01	6/27/04	57 40.0	167 45.9	36	0	0	0	0	0	79	79	79
I19	7/3/04	57 40.7	169 1.7	36	0	0	159	159	80	239	318	477
I19	7/3/04	57 30.4	168 44.4	37	0	78	0	78	78	0	78	156
I20	7/6/04	57 39.9	169 39.2	37	0	78	0	78	0	0	0	78
I22	7/10/04	57 40.0	170 54.1	45	0	75	0	75	0	0	0	75

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	
N26	7/18/04	59 29.9	173 29.9	54	77	0	0	77	0	0	0	77
O03	6/26/04	59 39.9	166 38.7	13	0	0	152	152	0	0	0	152
O24	7/9/04	59 49.4	172 54.1	42	82	0	0	82	0	0	0	82
O25	7/9/04	59 39.7	173 14.3	50	84	0	0	84	0	0	0	84
O26	7/18/04	59 39.8	173 51.3	55	77	0	0	77	0	0	0	77
O26	7/18/04	59 50.0	173 35.1	50	300	0	0	300	0	0	0	300
P01	6/26/04	59 59.9	167 59.2	13	0	0	75	75	0	0	0	75
P23	7/8/04	59 59.7	171 57.9	34	0	0	0	0	92	0	92	92
P23	7/8/04	60 10.0	172 18.9	30	407	81	0	488	81	0	81	569
P24	7/9/04	59 59.2	172 36.3	34	0	78	156	234	0	0	0	234
P25	7/9/04	60 0.0	173 19.1	39	0	0	0	0	0	158	158	158
P26	7/18/04	60 0.1	173 57.2	51	74	0	0	74	0	0	0	74
P26	7/18/04	60 7.5	173 46.5	46	75	0	0	75	0	0	0	75
P27	7/18/04	59 50.5	174 15.0	56	252	0	0	252	0	0	0	252
O23	7/8/04	60 20.0	172 3.8	31	0	0	223	223	0	74	74	297
O25	7/8/04	60 10.6	173 1.4	31	325	81	1866	2272	162	1217	1379	3651
O25	7/19/04	60 26.7	173 27.8	32	334	557	1558	2449	334	334	668	3117
O26	7/18/04	60 20.1	174 3.7	48	88	0	0	88	0	0	0	88
O27	7/18/04	60 10.9	174 21.0	53	160	0	0	160	0	0	0	160
R25	7/19/04	60 40.8	173 28.0	34	78	0	78	156	78	0	78	234

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	6/20/04	54 59.6	166 55.9	84	0	80	9188	9267	0	8817	8817	18084
A03	6/19/04	54 59.9	166 20.1	77	0	851	7379	8230	568	10785	11352	19583
A04	6/13/04	54 50.0	165 30.6	83	0	81	7985	8067	0	8963	8963	17030
A04	6/19/04	55 0.3	165 45.1	69	81	564	9262	9906	81	14703	14783	24690
A05	6/13/04	55 0.1	165 9.6	59	468	234	2342	3045	78	2264	2342	5386
B01	6/20/04	55 20.1	167 33.0	79	0	0	4977	4977	0	3577	3577	8554
B02	6/20/04	55 19.7	166 58.6	74	0	224	970	1194	224	821	1045	2239
B03	6/19/04	55 20.3	166 21.2	71	240	1359	2877	4476	1519	6074	7593	12068
B04	6/19/04	55 20.3	165 47.2	64	162	1213	6530	7905	485	3558	4043	11948
B05	6/13/04	55 19.9	165 10.2	59	406	244	325	974	0	244	244	1218
B06	6/13/04	55 20.8	164 33.1	54	5544	1406	703	7653	234	234	469	8122
B07	6/13/04	55 20.3	164 1.4	42	0	0	464	464	0	309	309	773
B08	6/11/04	55 19.1	163 24.6	27	165	2394	908	3468	0	0	0	3468
C01	6/20/04	55 39.7	167 35.1	72	0	318	9854	10172	238	4768	5007	15179
C02	6/20/04	55 40.6	166 59.4	72	0	162	731	893	0	244	244	1137
C03	6/19/04	55 40.4	166 23.1	67	240	1437	5349	7026	719	2555	3273	10299
C04	6/19/04	55 40.1	165 48.2	62	82	1151	4029	5263	0	3371	3371	8634
C05	6/13/04	55 40.2	165 10.9	57	462	616	539	1618	154	1002	1156	2774
C06	6/13/04	55 37.8	164 34.7	52	237	946	867	2050	79	315	394	2445
C07	6/11/04	55 42.2	163 59.9	50	1000	692	384	2076	231	384	615	2691
C08	6/11/04	55 39.7	163 24.4	42	0	669	836	1505	0	0	0	1505
C09	6/11/04	55 40.4	162 49.8	26	80	1205	2330	3616	321	402	723	4339
C18	6/20/04	55 40.1	168 11.2	72	0	0	2022	2022	0	2103	2103	4124
D01	6/20/04	56 0.2	167 37.2	71	0	850	2086	2936	1236	1777	3013	5949
D02	6/20/04	56 4.0	167 0.4	71	77	772	5015	5864	463	694	1157	7021
D03	6/19/04	56 0.0	166 24.4	66	161	2649	4093	6903	2167	2889	5057	11959
D04	6/19/04	55 59.4	165 46.6	57	554	1187	554	2294	316	1266	1582	3876
D05	6/18/04	56 0.4	165 11.2	50	82	571	735	1388	163	571	735	2122
D06	6/18/04	55 59.4	164 36.7	49	161	242	323	726	81	323	403	1130
D07	6/14/04	55 59.9	164 2.2	48	157	157	236	551	0	0	0	551
D08	6/14/04	56 0.4	163 23.3	47	155	619	2709	3483	697	1703	2399	5882
D09	6/11/04	55 59.8	162 48.8	40	81	567	810	1459	162	81	243	1702
D18	6/20/04	55 59.8	168 13.5	80	0	78	9038	9116	0	19867	19867	28984

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	
E01	6/28/04	56 20.4	167 39.2	69	0	1468	1468	2937	82	734	816	3752
E02	6/20/04	56 19.9	167 1.7	60	0	315	2361	2676	1967	1259	3226	5902
E03	6/19/04	56 20.3	166 25.9	55	81	403	242	726	323	484	807	1533
E04	6/19/04	56 21.1	165 48.6	48	155	311	233	700	544	78	622	1322
E05	6/18/04	56 19.8	165 12.1	45	0	241	1608	1849	482	804	1287	3136
E06	6/18/04	56 19.8	164 34.7	45	0	494	329	823	0	247	247	1069
E07	6/14/04	56 19.9	164 1.4	45	0	807	1211	2018	0	484	484	2502
E08	6/14/04	56 19.9	163 25.2	45	82	411	822	1315	0	82	82	1397
E09	6/11/04	56 20.1	162 47.7	41	169	338	761	1269	169	0	169	1438
E10	6/11/04	56 19.2	162 11.8	40	0	368	368	735	735	0	735	1470
E11	6/8/04	56 20.1	161 37.4	33	84	253	507	845	169	0	169	1014
E12	6/8/04	56 19.7	161 0.1	27	161	242	161	564	81	0	81	645
E18	6/28/04	56 20.4	168 15.2	81	161	3147	30446	33755	242	26683	26925	60679
E19	6/28/04	56 20.0	168 53.2	69	78	3367	6421	9867	0	17503	17503	27370
E20	6/29/04	56 25.9	169 30.3	54	0	0	1194	1194	0	0	0	1194
E21	6/29/04	56 20.2	170 4.2	57	0	161	8464	8625	484	2338	2821	11446
E22	6/29/04	56 20.2	170 40.9	64	0	166	1495	1662	0	914	914	2575
F01	6/28/04	56 40.0	167 40.5	54	0	0	401	401	0	0	0	401
F02	6/28/04	56 40.0	167 3.8	50	0	491	1227	1717	164	0	164	1881
F03	6/24/04	56 39.9	166 25.6	45	0	403	1290	1693	403	323	726	2419
F04	6/24/04	56 40.6	165 51.0	48	0	499	1165	1664	0	333	333	1997
F05	6/18/04	56 39.8	165 13.3	40	0	164	327	491	0	82	82	573
F06	6/18/04	56 40.0	164 35.1	39	0	0	0	0	79	0	79	79
F07	6/14/04	56 40.0	164 0.7	39	0	230	461	691	77	77	154	844
F08	6/14/04	56 39.7	163 23.1	39	0	316	1420	1735	0	158	158	1893
F09	6/10/04	56 41.3	162 45.7	37	160	240	0	400	80	0	80	480
F10	6/10/04	56 39.4	162 12.8	38	0	121	483	604	121	0	121	724
F11	6/8/04	56 40.0	161 36.5	47	80	721	1521	2322	160	0	160	2482
F12	6/8/04	56 39.5	160 59.7	36	479	559	479	1518	80	0	80	1598
F13	6/7/04	56 39.6	160 22.2	30	236	867	0	1103	79	79	158	1261
F18	6/29/04	56 40.4	168 17.6	56	0	1036	33181	34216	373	14930	15303	49520
F19	6/29/04	56 49.1	168 36.9	51	0	158	4587	4745	79	3875	3954	8699
F19	6/29/04	56 40.2	168 55.5	53	0	736	1472	2207	245	491	736	2943

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	
F20	6/30/04	56 40.4	169 30.2	42	0	0	158	158	0	0	0	158
F21	6/30/04	56 39.9	170 7.4	51	0	1050	2100	3151	1131	2262	3393	6543
F21	7/2/04	56 49.9	169 54.3	38	157	2357	2122	4636	0	393	393	5029
F22	6/29/04	56 40.2	170 43.8	61	0	166	5299	5465	0	3975	3975	9440
F22	7/2/04	56 49.7	170 28.8	54	0	880	10637	11517	720	6878	7598	19115
F23	7/10/04	56 40.4	171 21.3	63	0	0	1474	1474	0	1214	1214	2689
F24	7/15/04	56 40.5	171 58.3	66	0	0	430	430	0	143	143	573
F25	7/15/04	56 40.9	172 36.1	71	0	84	8479	8562	0	9318	9318	17881
G01	6/28/04	57 0.1	167 42.2	40	0	0	2385	2385	0	231	231	2616
G02	6/28/04	56 59.6	167 5.2	38	0	0	389	389	0	0	0	389
G03	6/24/04	57 0.0	166 27.9	39	0	155	387	541	0	0	0	541
G04	6/24/04	56 59.1	165 50.8	38	0	155	233	388	0	0	0	388
G05	6/18/04	56 59.8	165 13.7	37	0	155	388	544	0	0	0	544
G06	6/18/04	56 58.8	164 36.9	37	0	79	79	158	0	0	0	158
G07	6/14/04	57 0.1	164 1.3	36	0	81	81	162	81	0	81	243
G07	6/14/04	57 5.0	164 1.2	36	0	79	0	79	0	0	0	79
G07	6/14/04	57 0.1	164 10.6	36	0	80	161	241	80	0	80	322
G07	6/14/04	56 55.3	164 1.1	37	0	163	1633	1796	163	1388	1551	3347
G07	6/14/04	57 0.0	163 52.3	36	0	239	957	1196	80	399	479	1675
G08	6/14/04	56 59.7	163 24.3	34	0	163	81	244	0	0	0	244
G09	6/10/04	57 0.2	162 47.6	32	0	157	157	315	0	0	0	315
G10	6/10/04	56 59.8	162 11.4	31	0	306	459	764	0	0	0	764
G11	6/8/04	56 60.0	161 33.9	36	0	251	0	251	0	0	0	251
G12	6/8/04	57 0.2	160 57.7	33	0	162	81	243	81	0	81	324
G13	6/7/04	56 59.7	160 19.7	32	169	760	84	1013	591	0	591	1604
G14	6/7/04	57 0.4	159 42.8	30	0	465	155	621	155	0	155	776
G18	6/29/04	57 0.1	168 18.3	43	0	151	4388	4539	0	1135	1135	5674
G19	6/29/04	57 0.6	168 57.6	42	0	156	20156	20311	0	7436	7436	27747
G19	6/30/04	57 10.0	168 38.3	39	0	227	4474	4701	0	3336	3336	8038
G20	6/30/04	56 50.2	169 18.4	42	79	316	1343	1739	0	711	711	2450
G20	6/30/04	56 59.8	169 33.1	31	228	20771	21912	42912	2098	3228	5326	48238
G20	6/30/04	57 9.7	169 19.1	38	78	1961	26558	28598	394	19717	20112	48710
G21	7/2/04	56 59.9	170 9.8	37	0	4405	5178	9584	1237	850	2087	11670

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	7/2/04	57 9.8	169 53.9	26	0	0	156	156	0	78	78	234
G22	7/2/04	57 7.1	170 28.4	25	0	4687	37492	42179	652	22658	23310	65489
G22	7/10/04	57 0.6	170 48.1	50	109	1852	9477	11438	1525	3268	4793	16231
G23	7/10/04	57 0.2	171 24.0	57	0	154	8461	8615	308	6000	6307	14922
G24	7/15/04	57 0.5	172 1.5	62	0	0	1264	1264	0	1185	1185	2450
G25	7/15/04	57 1.1	172 39.4	65	0	0	4239	4239	0	4633	4633	8872
G26	7/15/04	57 0.4	173 14.0	74	0	0	1044	1044	0	1044	1044	2089
H01	6/28/04	57 19.8	167 44.3	38	0	153	4516	4670	77	3215	3292	7961
H02	6/28/04	57 19.8	167 7.3	37	0	82	247	329	82	165	247	576
H03	6/24/04	57 19.9	166 28.9	36	0	0	240	240	80	80	160	400
H04	6/24/04	57 20.0	165 52.3	36	0	241	80	321	0	0	0	321
H05	6/18/04	57 20.4	165 13.8	35	0	166	83	249	0	0	0	249
H06	6/18/04	57 20.2	164 36.7	34	0	0	81	81	0	0	0	81
H07	6/14/04	57 19.9	164 0.9	33	78	235	313	626	78	78	157	783
H08	6/14/04	57 20.8	163 23.8	27	0	80	0	80	0	0	0	80
H09	6/10/04	57 19.3	162 46.6	25	161	161	0	322	0	0	0	322
H09	6/10/04	57 20.2	162 37.7	25	0	78	78	157	0	0	0	157
H09	6/10/04	57 25.2	162 45.8	25	0	248	165	413	0	0	0	413
H09	6/10/04	57 19.8	162 55.8	26	0	81	81	162	0	0	0	162
H09	6/10/04	57 15.0	162 45.6	27	0	82	329	411	0	0	0	411
H10	6/10/04	57 19.7	162 9.2	26	0	0	82	82	0	0	0	82
H11	6/8/04	57 20.4	161 31.7	28	0	399	80	478	80	0	80	558
H12	6/8/04	57 20.6	160 56.0	32	0	712	237	949	316	0	316	1265
H13	6/6/04	57 19.5	160 18.4	32	79	474	158	712	0	0	0	712
H14	6/7/04	57 19.1	159 40.0	29	80	159	80	318	0	0	0	318
H15	6/7/04	57 20.3	159 4.2	25	0	0	80	80	0	0	0	80
H18	6/30/04	57 20.1	168 18.9	39	0	239	1595	1834	0	798	798	2632
H19	6/30/04	57 19.6	169 0.6	37	0	0	122	122	0	122	122	243
H20	7/3/04	57 29.9	169 21.7	37	0	239	797	1036	80	956	1036	2071
H20	7/2/04	57 20.2	169 35.9	32	0	444	4512	4955	370	3772	4142	9097
H21	7/2/04	57 20.0	170 14.2	28	0	0	239	239	0	0	0	239
H22	7/10/04	57 20.5	170 51.6	44	0	0	156	156	0	156	156	311
H23	7/10/04	57 19.8	171 27.9	53	82	821	12152	13055	657	7800	8457	21512

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	7/15/04	57 20.5	172 5.8	57	0	74	7662	7735	1031	8104	9135	16870
H25	7/16/04	57 21.5	172 48.5	62	0	0	5958	5958	0	6939	6939	12897
H26	7/16/04	57 19.9	173 18.8	64	0	0	3129	3129	0	5216	5216	8345
I01	6/27/04	57 40.0	167 45.9	36	0	79	1337	1415	79	629	708	2123
I02	6/28/04	57 39.4	167 9.7	36	0	79	634	713	0	396	396	1110
I03	6/25/04	57 39.5	166 30.0	34	0	0	320	320	0	0	0	320
I04	6/25/04	57 40.0	165 52.9	33	0	80	160	240	0	0	0	240
I05	6/17/04	57 40.0	165 15.3	31	0	0	234	234	78	0	78	313
I06	6/17/04	57 40.2	164 37.0	27	0	0	161	161	0	0	0	161
I07	6/15/04	57 39.8	164 0.6	27	0	80	80	160	0	0	0	160
I09	6/10/04	57 39.7	162 44.6	22	0	79	159	238	0	0	0	238
I10	6/10/04	57 39.5	162 7.6	24	0	78	0	78	0	0	0	78
I11	6/9/04	57 40.2	161 29.8	27	0	0	166	166	0	0	0	166
I12	6/8/04	57 40.0	160 52.7	30	0	452	0	452	75	0	75	528
I13	6/6/04	57 40.7	160 15.9	27	0	163	163	326	0	0	0	326
I18	7/3/04	57 40.1	168 23.5	37	0	78	1641	1719	0	703	703	2423
I19	7/3/04	57 40.7	169 1.7	36	0	80	5014	5093	0	7401	7401	12494
I19	7/3/04	57 30.4	168 44.4	37	0	0	3435	3435	156	2264	2420	5855
I19	7/3/04	57 49.7	168 44.0	37	0	0	1423	1423	0	1028	1028	2451
I20	7/6/04	57 39.9	169 39.2	37	0	312	12944	13255	0	18755	18755	32010
I21	7/2/04	57 30.4	169 59.4	36	0	81	23339	23420	242	23785	24027	47447
I21	7/6/04	57 39.7	170 16.0	37	0	82	44324	44407	0	45710	45710	90117
I21	7/7/04	57 49.5	169 59.3	38	0	0	18463	18463	0	19083	19083	37546
I22	7/10/04	57 40.0	170 54.1	45	0	75	905	980	0	226	226	1207
I22	7/10/04	57 30.2	170 36.5	39	0	76	227	303	0	76	76	378
I23	7/10/04	57 39.8	171 32.5	53	0	686	5058	5744	0	1886	1886	7631
I24	7/16/04	57 40.0	172 10.9	57	0	316	6552	6868	395	6157	6552	13420
I26	7/16/04	57 39.5	173 22.9	77	0	0	5005	5005	0	5444	5444	10449
J01	6/27/04	57 60.0	167 48.2	35	0	643	322	965	0	80	80	1046
J02	6/27/04	58 0.0	167 9.9	33	0	156	234	390	0	0	0	390
J03	6/25/04	58 0.4	166 31.1	32	0	0	77	77	0	0	0	77
J04	6/25/04	58 0.3	165 54.3	28	0	0	150	150	0	0	0	150
J08	6/15/04	57 59.9	163 23.0	22	0	0	77	77	0	0	0	77

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	
J18	7/3/04	58 0.2	168 26.6	36	0	152	1144	1296	0	381	381	1677
J19	7/3/04	58 0.1	169 4.7	36	0	325	244	569	0	488	488	1057
J20	7/3/04	57 50.7	169 22.2	34	0	0	28639	28639	0	30214	30214	58853
J20	7/6/04	57 59.9	169 41.8	37	0	0	20408	20408	0	21821	21821	42229
J21	7/6/04	57 59.3	170 19.7	39	0	560	17601	18161	80	32159	32239	50399
J22	7/7/04	57 50.3	170 37.9	41	0	80	3049	3129	0	2648	2648	5777
J22	7/7/04	58 0.1	170 57.6	46	75	450	899	1424	0	600	600	2024
J23	7/7/04	58 0.0	171 34.2	51	0	81	892	974	0	325	325	1298
J24	7/16/04	57 59.7	172 15.6	55	0	451	7139	7590	601	1503	2104	9694
J26	7/16/04	57 59.4	173 29.3	62	0	0	4602	4602	0	6306	6306	10908
K01	6/27/04	58 19.8	167 50.3	29	0	156	311	467	0	0	0	467
K02	6/27/04	58 19.9	167 11.0	27	0	79	1112	1192	0	0	0	1192
K03	6/25/04	58 20.4	166 33.0	24	0	0	389	389	0	0	0	389
K04	6/25/04	58 20.1	165 55.6	22	0	0	0	0	0	77	77	77
K18	7/3/04	58 20.1	168 28.8	34	0	75	975	1050	0	225	225	1275
K19	7/3/04	58 19.7	169 8.0	35	0	0	971	971	0	405	405	1376
K20	7/6/04	58 20.0	169 43.3	37	0	0	1164	1164	0	621	621	1784
K21	7/6/04	58 19.7	170 22.8	39	0	162	4443	4605	0	7663	7663	12267
K22	7/7/04	58 20.2	171 0.8	44	0	621	4040	4661	0	3651	3651	8313
K23	7/7/04	58 18.6	171 38.0	50	0	81	1691	1771	0	2094	2094	3865
K24	7/16/04	58 19.9	172 18.0	55	0	0	78	78	0	0	0	78
K25	7/16/04	58 20.3	172 55.9	57	0	0	904	904	0	822	822	1726
K26	7/17/04	58 19.9	173 34.4	61	0	0	4622	4622	178	7911	8089	12711
K27	7/17/04	58 20.8	174 18.8	89	0	0	499	499	0	333	333	832
L01	6/27/04	58 39.8	167 52.1	24	0	153	689	842	0	0	0	842
L02	6/27/04	58 39.6	167 13.7	22	0	77	0	77	0	0	0	77
L18	7/4/04	58 40.2	168 29.8	27	0	0	311	311	0	0	0	311
L19	7/4/04	58 38.9	169 8.3	33	0	0	321	321	0	0	0	321
L21	7/6/04	58 39.2	170 25.3	38	0	83	1324	1407	0	2566	2566	3973
L22	7/7/04	58 40.6	171 4.6	43	0	77	77	154	0	308	308	463
L23	7/7/04	58 40.2	171 42.9	49	0	0	1168	1168	0	1251	1251	2419
L24	7/17/04	58 40.0	172 22.1	54	0	0	5698	5698	0	3449	3449	9146
L25	7/17/04	58 40.1	173 0.2	60	0	226	3774	4000	75	2113	2189	6189

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	
L26	7/17/04	58 40.0	173 38.5	67	0	0	2171	2171	0	2920	2920	5091
L27	7/17/04	58 40.3	174 16.3	83	0	0	22494	22494	0	25708	25708	48202
L28	7/25/04	58 44.4	174 58.2	78	0	0	8566	8566	0	8141	8141	16708
L29	7/25/04	58 40.1	175 32.6	72	0	0	3112	3112	74	2964	3038	6151
L30	7/25/04	58 40.2	176 11.6	75	0	0	4137	4137	0	6435	6435	10571
L31	7/25/04	58 40.0	176 50.5	73	0	76	2207	2283	0	3121	3121	5404
M01	6/27/04	59 0.0	167 52.8	21	0	0	318	318	0	0	0	318
M02	6/27/04	58 59.7	167 14.4	20	0	0	159	159	0	0	0	159
M18	7/4/04	59 0.1	168 31.7	24	0	0	387	387	0	0	0	387
M19	7/4/04	59 0.6	169 10.5	28	0	0	171	171	0	0	0	171
M21	7/6/04	58 59.3	170 29.8	37	0	0	169	169	0	0	0	169
M22	7/7/04	58 59.9	171 8.1	40	0	0	74	74	0	74	74	149
M23	7/7/04	58 59.4	171 47.3	46	0	0	167	167	0	84	84	251
M24	7/9/04	59 0.2	172 24.6	52	0	0	1141	1141	0	1445	1445	2586
M25	7/17/04	58 60.0	173 5.3	57	0	445	1707	2153	148	1559	1707	3860
M26	7/17/04	59 0.1	173 43.2	62	0	0	6426	6426	459	4437	4896	11322
M27	7/17/04	58 59.4	174 22.2	67	0	666	8826	9492	83	5579	5662	15154
M28	7/20/04	58 60.0	175 1.4	68	0	152	2893	3045	0	1751	1751	4797
M29	7/21/04	58 59.7	175 43.8	71	0	0	3656	3656	76	3656	3732	7388
M30	7/24/04	59 0.4	176 18.8	73	0	0	76	76	0	76	76	152
M31	7/24/04	58 59.9	176 56.9	73	0	0	383	383	0	0	0	383
M32	7/24/04	58 60.0	177 35.5	72	0	0	939	939	0	795	795	1734
N20	7/5/04	59 19.9	169 52.6	31	0	0	79	79	0	0	0	79
N21	7/5/04	59 20.0	170 32.5	35	0	0	168	168	0	0	0	168
N23	7/8/04	59 19.8	171 50.2	42	0	0	1299	1299	81	487	568	1867
N24	7/9/04	59 19.9	172 29.9	46	0	0	76	76	0	0	0	76
N25	7/9/04	59 29.9	172 52.9	49	0	0	479	479	0	80	80	558
N25	7/9/04	59 20.2	173 8.7	53	0	82	2716	2798	0	3703	3703	6501
N26	7/18/04	59 20.2	173 47.4	58	0	81	16350	16431	242	21587	21829	38260
N26	7/18/04	59 29.9	173 29.9	54	0	0	3917	3917	77	4455	4532	8449
N27	7/17/04	59 19.7	174 27.1	64	0	0	7017	7017	257	6247	6504	13521
N28	7/20/04	59 20.0	175 6.0	71	0	0	4402	4402	0	4943	4943	9345
N29	7/21/04	59 20.1	175 44.9	73	0	0	2637	2637	75	2939	3014	5651

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	
N30	7/24/04	59 20.0	176 23.0	73	0	0	1055	1055	0	980	980	2035
N31	7/24/04	59 19.9	177 4.0	80	0	0	888	888	74	518	592	1480
O23	7/8/04	59 40.2	171 53.9	40	0	0	313	313	0	78	78	392
O24	7/9/04	59 49.4	172 54.1	42	0	0	1229	1229	0	1065	1065	2294
O24	7/9/04	59 49.7	172 16.0	39	0	0	0	0	0	1640	1640	1640
O25	7/9/04	59 39.7	173 14.3	50	0	0	6249	6249	0	7031	7031	13280
O26	7/18/04	59 39.8	173 51.3	55	0	0	4547	4547	0	4936	4936	9484
O26	7/18/04	59 50.0	173 35.1	50	0	0	1352	1352	0	1502	1502	2854
O27	7/18/04	59 40.3	174 26.5	61	0	0	351	351	0	0	0	351
O28	7/20/04	59 40.0	175 6.0	67	0	74	591	665	0	443	443	1108
O29	7/21/04	59 40.1	175 51.9	73	0	0	10542	10542	153	6370	6523	17065
O30	7/23/04	59 39.9	176 32.2	72	0	0	455	455	0	152	152	607
O31	7/23/04	59 40.2	177 9.2	93	0	0	0	0	0	94	94	94
P23	7/8/04	59 59.7	171 57.9	34	0	0	92	92	0	0	0	92
P24	7/9/04	59 59.2	172 36.3	34	0	0	234	234	0	0	0	234
P25	7/9/04	60 0.0	173 19.1	39	0	0	475	475	0	791	791	1266
P26	7/18/04	60 0.1	173 57.2	51	0	0	740	740	0	814	814	1554
P26	7/18/04	60 7.5	173 46.5	46	0	0	18909	18909	0	4727	4727	23636
P27	7/18/04	59 50.5	174 15.0	56	0	0	672	672	0	840	840	1512
P27	7/18/04	60 0.2	174 35.8	57	0	0	325	325	0	243	243	568
P28	7/20/04	59 59.9	175 15.9	62	0	77	3395	3472	0	3703	3703	7175
P29	7/21/04	59 59.9	175 55.9	69	0	112	2584	2697	0	2472	2472	5169
P30	7/23/04	59 60.0	176 42.5	75	0	154	1842	1996	0	1075	1075	3070
P32	7/23/04	60 0.2	177 54.9	76	0	0	160	160	0	0	0	160
O26	7/18/04	60 20.1	174 3.7	48	0	0	967	967	0	352	352	1319
O27	7/18/04	60 10.9	174 21.0	53	0	0	80	80	0	160	160	240
O28	7/20/04	60 19.9	175 23.1	59	0	0	2703	2703	0	2163	2163	4866
O29	7/21/04	60 20.1	176 1.7	65	0	0	1628	1628	0	1318	1318	2946
O30	7/22/04	60 20.2	176 42.7	73	0	0	689	689	0	459	459	1149
O31	7/22/04	60 19.8	177 23.0	79	0	0	151	151	0	0	0	151
R26	7/19/04	60 40.1	174 7.9	45	0	0	78	78	0	78	78	155
R27	7/19/04	60 40.1	174 50.0	51	0	75	75	151	0	0	0	151
R28	7/19/04	60 40.2	175 26.9	56	0	0	856	856	0	927	927	1783

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	
R29	7/23/04	60 40.0	176 12.4	63	0	0	1547	1547	0	945	945	2492
R30	7/22/04	60 40.1	176 48.1	69	0	76	759	834	0	531	531	1365
R31	7/22/04	60 40.1	177 29.9	78	0	75	0	75	0	0	0	75
R32	7/22/04	60 40.0	178 10.7	86	0	0	77	77	0	154	154	230
S29	7/23/04	60 59.7	176 17.5	59	0	0	700	700	0	545	545	1245
S30	7/23/04	61 0.4	176 56.9	64	0	0	696	696	0	609	609	1305
T29	7/24/04	61 20.0	176 19.3	56	0	0	85	85	0	0	0	85

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	
A03	6/19/04	54 59.9	166 20.1	77	142	568	0	710	0	0	0	710
A04	6/19/04	55 0.3	165 45.1	69	81	0	81	161	0	0	0	161
A05	6/13/04	55 0.1	165 9.6	59	312	78	234	625	0	0	0	625
B01	6/20/04	55 20.1	167 33.0	79	0	78	0	78	0	0	0	78
B03	6/19/04	55 20.3	166 21.2	71	80	0	160	240	0	0	0	240
B04	6/19/04	55 20.3	165 47.2	64	81	162	162	404	0	0	0	404
B05	6/13/04	55 19.9	165 10.2	59	162	0	0	162	0	0	0	162
B06	6/13/04	55 20.8	164 33.1	54	1171	312	78	1562	0	0	0	1562
C01	6/20/04	55 39.7	167 35.1	72	159	79	0	238	0	0	0	238
C03	6/19/04	55 40.4	166 23.1	67	160	80	0	240	80	0	80	319
C05	6/13/04	55 40.2	165 10.9	57	77	154	0	231	0	0	0	231
C06	6/13/04	55 37.8	164 34.7	52	315	158	0	473	0	0	0	473
C08	6/11/04	55 39.7	163 24.4	42	84	0	0	84	0	0	0	84
D01	6/20/04	56 0.2	167 37.2	71	0	155	77	232	0	0	0	232
D02	6/20/04	56 4.0	167 0.4	71	0	77	231	309	0	0	0	309
D03	6/19/04	56 0.0	166 24.4	66	241	321	80	642	0	0	0	642
D04	6/19/04	55 59.4	165 46.6	57	554	79	0	633	0	0	0	633
D05	6/18/04	56 0.4	165 11.2	50	327	245	163	735	0	0	0	735
D06	6/18/04	55 59.4	164 36.7	49	81	161	0	242	0	0	0	242
D07	6/14/04	55 59.9	164 2.2	48	0	79	79	157	0	0	0	157
E01	6/28/04	56 20.4	167 39.2	69	82	82	0	163	0	0	0	163
E02	6/20/04	56 19.9	167 1.7	60	157	157	157	472	0	0	0	472
E03	6/19/04	56 20.3	166 25.9	55	81	81	0	161	0	0	0	161
E04	6/19/04	56 21.1	165 48.6	48	389	233	0	622	0	0	0	622
E05	6/18/04	56 19.8	165 12.1	45	80	241	0	322	0	0	0	322
E06	6/18/04	56 19.8	164 34.7	45	82	0	0	82	0	0	0	82
E07	6/14/04	56 19.9	164 1.4	45	242	242	0	484	0	0	0	484
E18	6/28/04	56 20.4	168 15.2	81	323	242	0	565	81	0	81	646
E21	6/29/04	56 20.2	170 4.2	57	242	564	564	1370	0	0	0	1370
E22	6/29/04	56 20.2	170 40.9	64	0	83	0	83	0	0	0	83
F01	6/28/04	56 40.0	167 40.5	54	80	80	240	401	0	0	0	401
F02	6/28/04	56 40.0	167 3.8	50	82	0	82	164	82	0	82	245
F03	6/24/04	56 39.9	166 25.6	45	564	161	161	887	81	0	81	968

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	
F04	6/24/04	56 40.6	165 51.0	48	166	83	83	333	0	0	0	333
F05	6/18/04	56 39.8	165 13.3	40	82	0	0	82	0	0	0	82
F06	6/18/04	56 40.0	164 35.1	39	79	237	0	317	0	0	0	317
F07	6/14/04	56 40.0	164 0.7	39	154	307	0	461	0	0	0	461
F08	6/14/04	56 39.7	163 23.1	39	0	394	158	552	0	0	0	552
F10	6/10/04	56 39.4	162 12.8	38	121	0	0	121	0	0	0	121
F11	6/8/04	56 40.0	161 36.5	47	0	80	0	80	0	0	0	80
F18	6/29/04	56 40.4	168 17.6	56	159	319	0	478	0	0	0	478
F19	6/29/04	56 49.1	168 36.9	51	0	158	158	316	0	0	0	316
F19	6/29/04	56 40.2	168 55.5	53	0	164	491	654	0	0	0	654
F21	6/30/04	56 39.9	170 7.4	51	0	565	162	727	0	0	0	727
F21	7/2/04	56 49.9	169 54.3	38	79	0	157	236	0	0	0	236
F22	6/29/04	56 40.2	170 43.8	61	0	166	83	248	0	0	0	248
F22	7/2/04	56 49.7	170 28.8	54	0	880	160	1040	80	80	160	1200
F23	7/10/04	56 40.4	171 21.3	63	173	0	87	260	0	0	0	260
F25	7/15/04	56 40.9	172 36.1	71	0	84	0	84	0	0	0	84
G01	6/28/04	57 0.1	167 42.2	40	154	462	692	1308	0	77	77	1385
G02	6/28/04	56 59.6	167 5.2	38	78	156	78	312	0	0	0	312
G03	6/24/04	57 0.0	166 27.9	39	155	77	155	387	0	0	0	387
G04	6/24/04	56 59.1	165 50.8	38	78	78	78	233	0	0	0	233
G05	6/18/04	56 59.8	165 13.7	37	78	78	0	155	0	0	0	155
G06	6/18/04	56 58.8	164 36.9	37	158	0	0	158	0	0	0	158
G07	6/14/04	57 5.0	164 1.2	36	0	79	0	79	0	0	0	79
G07	6/14/04	57 0.1	164 10.6	36	161	0	80	241	0	0	0	241
G07	6/14/04	56 55.3	164 1.1	37	82	0	82	163	0	0	0	163
G07	6/14/04	57 0.0	163 52.3	36	160	160	80	399	0	0	0	399
G09	6/10/04	57 0.2	162 47.6	32	79	79	0	157	0	0	0	157
G11	6/8/04	56 60.0	161 33.9	36	0	84	0	84	0	0	0	84
G18	6/29/04	57 0.1	168 18.3	43	227	151	303	681	0	0	0	681
G19	6/29/04	57 0.6	168 57.6	42	78	0	700	778	78	311	389	1167
G19	6/30/04	57 10.0	168 38.3	39	76	152	379	607	0	0	0	607
G20	6/30/04	56 50.2	169 18.4	42	79	0	79	158	0	0	0	158
G20	6/30/04	56 59.8	169 33.1	31	484	565	81	1130	0	0	0	1130

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	
G20	6/30/04	57 9.7	169 19.1	38	392	863	863	2118	0	0	0	2118
G21	7/2/04	56 59.9	170 9.8	37	0	77	155	232	0	0	0	232
G22	7/10/04	57 0.6	170 48.1	50	218	1525	871	2614	109	0	109	2723
G23	7/10/04	57 0.2	171 24.0	57	154	462	0	615	0	0	0	615
G24	7/15/04	57 0.5	172 1.5	62	0	0	0	0	79	0	79	79
G25	7/15/04	57 1.1	172 39.4	65	0	296	197	493	0	0	0	493
G26	7/15/04	57 0.4	173 14.0	74	87	87	87	261	0	0	0	261
H01	6/28/04	57 19.8	167 44.3	38	77	77	383	536	0	153	153	689
H02	6/28/04	57 19.8	167 7.3	37	0	165	165	329	0	0	0	329
H03	6/24/04	57 19.9	166 28.9	36	80	320	240	640	0	0	0	640
H04	6/24/04	57 20.0	165 52.3	36	0	80	0	80	0	0	0	80
H05	6/18/04	57 20.4	165 13.8	35	83	166	249	498	0	0	0	498
H06	6/18/04	57 20.2	164 36.7	34	323	0	0	323	0	0	0	323
H07	6/14/04	57 19.9	164 0.9	33	157	157	0	313	0	0	0	313
H10	6/10/04	57 19.7	162 9.2	26	0	82	0	82	0	0	0	82
H18	6/30/04	57 20.1	168 18.9	39	0	80	718	798	0	0	0	798
H19	6/30/04	57 19.6	169 0.6	37	0	122	2917	3038	0	26916	26916	29954
H20	7/3/04	57 29.9	169 21.7	37	80	0	159	239	0	80	80	319
H20	7/2/04	57 20.2	169 35.9	32	0	74	222	296	0	0	0	296
H22	7/10/04	57 20.5	170 51.6	44	0	0	0	0	0	78	78	78
H23	7/10/04	57 19.8	171 27.9	53	164	246	493	903	82	164	246	1150
H24	7/15/04	57 20.5	172 5.8	57	958	368	368	1694	0	74	74	1768
H25	7/16/04	57 21.5	172 48.5	62	0	0	75	75	0	0	0	75
I01	6/27/04	57 40.0	167 45.9	36	472	472	393	1337	79	79	157	1494
I02	6/28/04	57 39.4	167 9.7	36	0	79	317	396	0	79	79	476
I03	6/25/04	57 39.5	166 30.0	34	320	1121	240	1681	0	0	0	1681
I04	6/25/04	57 40.0	165 52.9	33	0	1518	320	1838	0	0	0	1838
I05	6/17/04	57 40.0	165 15.3	31	78	313	78	469	0	0	0	469
I13	6/6/04	57 40.7	160 15.9	27	0	82	0	82	0	0	0	82
I18	7/3/04	57 40.1	168 23.5	37	78	547	313	938	78	78	156	1094
I19	7/3/04	57 40.7	169 1.7	36	80	398	13848	14326	0	28672	28672	42997
I19	7/3/04	57 30.4	168 44.4	37	0	78	390	468	0	0	0	468
I19	7/3/04	57 49.7	168 44.0	37	0	237	395	632	0	79	79	711

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	
I20	7/6/04	57 39.9	169 39.2	37	78	2337	350893	353308	1013	1095159	1096172	1449480
I21	7/2/04	57 30.4	169 59.4	36	81	485	6139	6705	2099	24133	26232	32937
I21	7/6/04	57 39.7	170 16.0	37	0	494	26189	26684	494	76121	76615	103299
I21	7/7/04	57 49.5	169 59.3	38	480	1120	32160	33761	6119	39172	45291	79052
I22	7/10/04	57 40.0	170 54.1	45	75	75	0	151	0	0	0	151
I22	7/10/04	57 30.2	170 36.5	39	151	0	0	151	76	0	76	227
I23	7/10/04	57 39.8	171 32.5	53	171	171	772	1115	86	772	857	1972
I24	7/16/04	57 40.0	172 10.9	57	395	316	316	1026	79	237	316	1342
J01	6/27/04	57 60.0	167 48.2	35	483	885	322	1689	161	80	241	1930
J02	6/27/04	58 0.0	167 9.9	33	0	78	156	234	0	0	0	234
J03	6/25/04	58 0.4	166 31.1	32	0	307	231	538	0	0	0	538
J04	6/25/04	58 0.3	165 54.3	28	0	150	226	376	0	0	0	376
J05	6/17/04	57 59.8	165 15.3	26	0	80	0	80	0	0	0	80
J18	7/3/04	58 0.2	168 26.6	36	305	305	839	1449	76	762	839	2287
J19	7/3/04	58 0.1	169 4.7	36	244	325	1220	1789	81	488	569	2359
J20	7/3/04	57 50.7	169 22.2	34	0	730	171150	171881	893	66795	67688	239569
J20	7/6/04	57 59.9	169 41.8	37	309	1237	338424	339971	232	303088	303320	643291
J21	7/6/04	57 59.3	170 19.7	39	800	2881	520614	524296	2081	1317303	1319384	1843680
J22	7/7/04	57 50.3	170 37.9	41	241	722	802	1765	160	963	1123	2888
J22	7/7/04	58 0.1	170 57.6	46	450	675	75	1199	75	974	1049	2248
J23	7/7/04	58 0.0	171 34.2	51	487	487	81	1055	0	243	243	1298
J24	7/16/04	57 59.7	172 15.6	55	1879	526	0	2405	0	150	150	2555
J25	7/16/04	57 60.0	172 52.7	57	3775	9815	1510	15099	138160	3020	141180	156279
J26	7/16/04	57 59.4	173 29.3	62	170	85	85	341	0	85	85	426
K01	6/27/04	58 19.8	167 50.3	29	0	78	2645	2723	311	3345	3656	6379
K02	6/27/04	58 19.9	167 11.0	27	0	0	79	79	0	0	0	79
K03	6/25/04	58 20.4	166 33.0	24	0	0	0	0	0	78	78	78
K18	7/3/04	58 20.1	168 28.8	34	225	225	1200	1650	225	300	525	2175
K19	7/3/04	58 19.7	169 8.0	35	162	1214	891	2267	81	162	243	2510
K20	7/6/04	58 20.0	169 43.3	37	78	388	853	1319	78	0	78	1396
K21	7/6/04	58 19.7	170 22.8	39	6874	1375	24200	32449	2183	58733	60916	93365
K22	7/7/04	58 20.2	171 0.8	44	11340	4811	3615	19766	1398	7303	8701	28467
K23	7/7/04	58 18.6	171 38.0	50	483	403	161	1047	322	0	322	1369

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	
K24	7/16/04	58 19.9	172 18.0	55	1459	7877	3793	13128	480342	226043	706386	719514
K25	7/16/04	58 20.3	172 55.9	57	740	1643	0	2383	329	247	575	2958
K26	7/17/04	58 19.9	173 34.4	61	1067	1244	800	3111	13866	178	14044	17155
K27	7/17/04	58 20.8	174 18.8	89	83	166	83	333	250	83	333	666
L01	6/27/04	58 39.8	167 52.1	24	0	0	77	77	0	0	0	77
L19	7/4/04	58 38.9	169 8.3	33	0	241	562	803	80	401	482	1284
L20	7/6/04	58 39.9	169 47.0	35	151	1135	1135	2421	378	303	681	3102
L21	7/6/04	58 39.2	170 25.3	38	5380	3808	2732	11919	1159	1655	2814	14734
L22	7/7/04	58 40.6	171 4.6	43	12182	3084	3932	19198	2236	771	3007	22205
L23	7/7/04	58 40.2	171 42.9	49	167	250	83	501	0	167	167	667
L24	7/17/04	58 40.0	172 22.1	54	4848	1515	606	6969	1724	1424	3149	10117
L25	7/17/04	58 40.1	173 0.2	60	1412	4079	784	6275	34633	6621	41254	47529
L26	7/17/04	58 40.0	173 38.5	67	299	1048	674	2021	28724	3683	32407	34428
L27	7/17/04	58 40.3	174 16.3	83	0	0	247	247	0	0	0	247
L28	7/25/04	58 44.4	174 58.2	78	0	0	0	0	0	75	75	75
L29	7/25/04	58 40.1	175 32.6	72	0	74	0	74	0	74	74	148
L30	7/25/04	58 40.2	176 11.6	75	0	0	0	0	0	153	153	153
L31	7/25/04	58 40.0	176 50.5	73	0	0	0	0	0	76	76	76
M18	7/4/04	59 0.1	168 31.7	24	0	0	155	155	0	155	155	310
M19	7/4/04	59 0.6	169 10.5	28	86	0	257	343	0	171	171	514
M20	7/6/04	58 60.0	169 50.5	33	230	1072	1072	2374	459	766	1225	3599
M21	7/6/04	58 59.3	170 29.8	37	1522	2199	94764	98486	2969	111376	114345	212831
M22	7/7/04	58 59.9	171 8.1	40	20974	6903	20709	48586	2377	2228	4605	53191
M23	7/7/04	58 59.4	171 47.3	46	3176	3259	4513	10948	26569	1308	27876	38824
M24	7/9/04	59 0.2	172 24.6	52	456	380	0	837	228	608	837	1673
M25	7/17/04	58 60.0	173 5.3	57	1058	2821	1587	5466	19845	2928	22773	28239
M26	7/17/04	59 0.1	173 43.2	62	0	0	153	153	153	76	229	382
M27	7/17/04	58 59.4	174 22.2	67	0	167	167	333	0	0	0	333
M28	7/20/04	58 60.0	175 1.4	68	152	76	76	305	228	0	228	533
N18	7/4/04	59 20.1	168 33.9	21	0	0	77	77	0	0	0	77
N19	7/4/04	59 19.4	169 13.7	26	0	0	162	162	0	0	0	162
N20	7/5/04	59 19.9	169 52.6	31	79	158	79	315	79	0	79	394
N21	7/5/04	59 20.0	170 32.5	35	588	2518	39327	42433	1915	52491	54406	96838

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	
N22	7/8/04	59 19.9	171 11.0	39	4547	9157	78286	91990	33076	1323	34399	126388
N23	7/8/04	59 19.8	171 50.2	42	568	1948	7954	10470	26112	5319	31431	41900
N24	7/9/04	59 19.9	172 29.9	46	836	456	987	2279	152	456	608	2886
N25	7/9/04	59 29.9	172 52.9	49	2791	798	2472	6061	319	3031	3350	9411
N25	7/9/04	59 20.2	173 8.7	53	247	494	1481	2222	329	3292	3621	5842
N26	7/18/04	59 20.2	173 47.4	58	3410	2131	161	5703	242	1370	1612	7315
N26	7/18/04	59 29.9	173 29.9	54	2416	7593	2416	12425	64429	1263	65693	78117
N27	7/17/04	59 19.7	174 27.1	64	171	86	428	685	0	171	171	856
N28	7/20/04	59 20.0	175 6.0	71	154	154	309	618	386	154	541	1159
N29	7/21/04	59 20.1	175 44.9	73	0	75	226	301	151	452	603	904
N30	7/24/04	59 20.0	176 23.0	73	0	0	151	151	0	151	151	301
O20	7/5/04	59 39.9	169 54.8	29	0	0	0	0	81	0	81	81
O21	7/5/04	59 39.3	170 34.8	34	252	420	3776	4447	923	0	923	5371
O22	7/8/04	59 40.4	171 15.2	38	580	2467	73707	76755	161429	2043	163472	240227
O23	7/8/04	59 40.2	171 53.9	40	1887	7392	36331	45610	89810	2807	92616	138226
O24	7/9/04	59 49.4	172 54.1	42	574	2048	17145	19766	7829	25426	33254	53021
O24	7/9/04	59 49.7	172 16.0	39	1715	5291	50871	57877	63086	12290	75376	133253
O24	7/9/04	59 40.0	172 34.3	44	1062	2881	56272	60215	35067	1631	36698	96913
O25	7/9/04	59 39.7	173 14.3	50	757	925	26974	28656	336	41322	41658	70314
O26	7/18/04	59 39.8	173 51.3	55	4412	2647	1759	8818	1233	3623	4856	13674
O26	7/18/04	59 50.0	173 35.1	50	1749	5248	6418	13416	80024	13370	93394	106810
O27	7/18/04	59 40.3	174 26.5	61	1404	3862	702	5968	31246	23171	54417	60385
O28	7/20/04	59 40.0	175 6.0	67	2540	2309	0	4849	47272	5050	52322	57171
O29	7/21/04	59 40.1	175 51.9	73	306	0	994	1300	153	1836	1989	3289
O30	7/23/04	59 39.9	176 32.2	72	0	0	152	152	76	607	683	834
O31	7/23/04	59 40.2	177 9.2	93	189	0	0	189	0	0	0	189
P21	7/5/04	60 1.3	170 37.6	33	338	507	22075	22920	1015	169	1184	24104
P22	7/8/04	59 59.7	171 17.9	36	1005	1933	98663	101601	47836	1495	49331	150933
P23	7/8/04	59 59.7	171 57.9	34	183	1648	24813	26645	109647	26803	136450	163095
P23	7/8/04	60 10.0	172 18.9	30	0	0	163	163	163	0	163	325
P24	7/9/04	59 59.2	172 36.3	34	78	547	2499	3124	469	2499	2967	6091
P25	7/9/04	60 0.0	173 19.1	39	712	4352	23228	28293	3086	22319	25405	53698
P26	7/18/04	60 0.1	173 57.2	51	2582	4017	2323	8921	2442	1998	4440	13362

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	
P26	7/18/04	60 7.5	173 46.5	46	469	11714	430157	442340	0	463778	463778	906118
P27	7/18/04	59 50.5	174 15.0	56	3527	1931	588	6046	420	336	756	6802
P27	7/18/04	60 0.2	174 35.8	57	812	2759	1461	5032	568	1136	1704	6736
P28	7/20/04	59 59.9	175 15.9	62	1340	2828	3158	7326	2546	849	3395	10721
P29	7/21/04	59 59.9	175 55.9	69	4714	0	112	4826	225	674	899	5725
P30	7/23/04	59 60.0	176 42.5	75	461	77	768	1305	0	1075	1075	2380
P31	7/23/04	60 0.2	177 13.5	73	152	229	305	686	152	152	305	991
P32	7/23/04	60 0.2	177 54.9	76	0	0	0	0	0	160	160	160
O19	7/5/04	60 20.1	169 20.0	22	0	0	150	150	0	0	0	150
O21	7/5/04	60 20.0	170 38.5	32	80	400	56379	56859	5002	5743	10745	67604
O22	7/8/04	60 19.9	171 21.3	34	1158	5789	128521	135468	73356	12608	85964	221432
O23	7/8/04	60 20.0	172 3.8	31	612	12556	51756	64925	1225	306	1531	66456
O25	7/8/04	60 10.6	173 1.4	31	81	0	2272	2353	0	3083	3083	5436
O25	7/19/04	60 26.7	173 27.8	32	223	557	10797	11576	0	8459	8459	20035
O26	7/18/04	60 20.1	174 3.7	48	792	1407	6596	8795	704	6420	7124	15919
O27	7/18/04	60 10.9	174 21.0	53	881	801	160	1843	561	80	641	2484
O27	7/18/04	60 20.0	174 43.0	54	82	329	165	576	0	0	0	576
O28	7/20/04	60 19.9	175 23.1	59	3192	1473	1559	6224	154	1313	1467	7692
O29	7/21/04	60 20.1	176 1.7	65	3170	1811	465	5447	310	620	930	6377
O30	7/22/04	60 20.2	176 42.7	73	766	536	3369	4671	19911	11575	31486	36158
O31	7/22/04	60 19.8	177 23.0	79	76	0	76	151	303	1059	1362	1514
R22	7/19/04	60 39.9	171 26.0	33	0	1225	83305	84530	11807	102889	114696	199227
R23	7/19/04	60 40.1	172 7.0	32	0	6280	73788	80067	30297	46939	77237	157304
R24	7/19/04	60 39.4	172 44.4	22	242	483	967	1692	0	363	363	2055
R25	7/19/04	60 40.8	173 28.0	34	0	78	234	311	0	778	778	1090
R26	7/19/04	60 40.1	174 7.9	45	698	3496	24900	29094	125347	92167	217515	246609
R27	7/19/04	60 40.1	174 50.0	51	4871	5756	443	11070	679	528	1207	12277
R28	7/19/04	60 40.2	175 26.9	56	1997	1284	927	4207	1854	2496	4350	8557
R29	7/23/04	60 40.0	176 12.4	63	430	1203	4383	6015	258	6875	7132	13148
R30	7/22/04	60 40.1	176 48.1	69	1972	759	13457	16188	0	29593	29593	45781
R31	7/22/04	60 40.1	177 29.9	78	3227	525	0	3752	0	0	0	3752
R32	7/22/04	60 40.0	178 10.7	86	0	77	922	999	77	1459	1536	2535
S22	7/19/04	61 0.4	171 29.2	31	0	0	95293	95293	22207	26750	48957	144250

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	
S23	7/19/04	61 0.1	172 10.1	33	0	2313	108734	111048	2698	95527	98224	209272
S24	7/20/04	60 59.9	172 49.8	33	0	3680	107946	111626	27095	53457	80552	192179
S25	7/20/04	60 59.9	173 29.9	39	0	6853	87380	94233	4638	122142	126780	221014
S26	7/22/04	61 0.2	174 11.4	43	326	5219	37513	43059	3588	9786	13374	56433
S27	7/22/04	61 0.0	174 52.7	48	1150	1643	1479	4273	4848	1479	6327	10600
S28	7/24/04	60 59.8	175 30.8	54	174	436	2265	2875	174	1394	1568	4444
S29	7/23/04	60 59.7	176 17.5	59	3502	1634	1712	6848	2802	4825	7626	14475
S30	7/23/04	61 0.4	176 56.9	64	1427	4816	11950	18193	1003	16550	17553	35745
S31	7/23/04	61 0.5	177 37.9	72	1273	1188	255	2716	1103	255	1358	4073
T25	7/20/04	61 19.8	173 36.9	38	0	3614	200602	204216	29029	149609	178638	382854
T26	7/22/04	61 20.1	174 20.6	40	0	778	148149	148927	41762	160623	202386	351313
T27	7/24/04	61 20.5	175 0.5	46	679	6794	69299	76772	43593	65389	108981	185753
T28	7/24/04	61 20.4	175 42.9	51	0	3574	11982	15556	14754	27295	42050	57605
T29	7/24/04	61 20.0	176 19.3	56	2114	1775	1691	5580	0	3889	3889	9469
T30	7/23/04	61 19.8	177 0.1	62	1765	3354	6531	11650	1589	8208	9797	21447
U25	7/20/04	61 40.1	173 41.5	36	0	0	96180	96180	2388	57316	59704	155884
U26	7/22/04	61 40.1	174 25.6	40	0	0	73111	73111	5474	101822	107296	180407
U27	7/22/04	61 40.2	175 4.3	44	0	2302	184859	187161	38850	145686	184536	371697
U28	7/21/04	61 40.0	175 46.9	50	0	8152	136544	144696	14555	163741	178295	322991
U29	7/21/04	61 40.9	176 25.7	55	574	4593	11195	16362	31238	6728	37966	54327
V25	7/20/04	62 0.1	173 46.1	32	0	0	120736	120736	4552	68287	72840	193576
V26	7/21/04	62 0.1	174 30.2	38	0	0	105105	105105	2250	91702	93953	199057
V27	7/21/04	62 0.1	175 11.1	42	0	0	125066	125066	18753	108766	127519	252585
V28	7/21/04	62 0.1	175 49.9	48	0	751	51836	52587	1666	77468	79134	131721

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	
B08	6/11/04	55 19.1	163 24.6	27	83	83	0	165	0	165	165	330
C09	6/11/04	55 40.4	162 49.8	26	0	0	0	0	0	80	80	80
D09	6/11/04	55 59.8	162 48.8	40	0	0	0	0	81	0	81	81
D18	6/20/04	55 59.8	168 13.5	80	0	78	0	78	0	0	0	78
E18	6/28/04	56 20.4	168 15.2	81	0	0	0	0	0	0	0	0
E21	6/29/04	56 20.2	170 4.2	57	0	0	0	0	81	0	81	81
F25	7/15/04	56 40.9	172 36.1	71	84	420	0	504	0	0	0	504
G01	6/28/04	57 0.1	167 42.2	40	77	0	0	77	0	0	0	77
G13	6/7/04	56 59.7	160 19.7	32	338	760	0	1097	0	0	0	1097
G22	7/2/04	57 7.1	170 28.4	25	154	154	0	308	0	77	77	385
H01	6/28/04	57 19.8	167 44.3	38	77	0	0	77	0	0	0	77
H09	6/10/04	57 19.3	162 46.6	25	81	0	0	81	0	0	0	81
H13	6/6/04	57 19.5	160 18.4	32	79	237	0	316	79	0	79	395
H19	6/30/04	57 19.6	169 0.6	37	122	0	0	122	0	0	0	122
H20	7/3/04	57 29.9	169 21.7	37	0	0	0	0	0	80	80	80
I19	7/3/04	57 40.7	169 1.7	36	80	0	0	80	0	0	0	80
I19	7/3/04	57 30.4	168 44.4	37	0	0	0	0	78	0	78	78
J02	6/27/04	58 0.0	167 9.9	33	78	0	0	78	0	0	0	78
K01	6/27/04	58 19.8	167 50.3	29	78	0	0	78	78	0	78	156
K02	6/27/04	58 19.9	167 11.0	27	79	0	0	79	0	0	0	79
K03	6/25/04	58 20.4	166 33.0	24	78	0	0	78	0	0	0	78
K04	6/25/04	58 20.1	165 55.6	22	77	0	0	77	0	0	0	77
L01	6/27/04	58 39.8	167 52.1	24	77	0	0	77	0	0	0	77
L02	6/27/04	58 39.6	167 13.7	22	0	77	0	77	0	0	0	77
L18	7/4/04	58 40.2	168 29.8	27	156	0	0	156	233	0	233	389
M18	7/4/04	59 0.1	168 31.7	24	77	0	0	77	0	0	0	77
N19	7/4/04	59 19.4	169 13.7	26	81	0	0	81	0	0	0	81
N20	7/5/04	59 19.9	169 52.6	31	79	0	0	79	0	0	0	79
O18	7/4/04	59 39.8	168 37.2	20	79	0	0	79	0	0	0	79
P19	7/4/04	59 59.7	169 19.6	23	162	0	0	162	0	0	0	162

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