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REPORT TO INDUSTRY ON THE 1987 EASTERN BERING SEA CRAB SURVEY

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1987

EASTERN BERING SEA

CRAB SURVEY

by

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The 1987 Eastern Bering Sea Survey

An annual trawl survey is conducted in the eastern Bering Sea 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 fishermen and processors 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. Red king crab (Paralithodes camtschatica), blue king crab (P. platypus), hair crab (Erimacrus isenbeckii), and two species of Tanner crab (Chionoecetes bairdi and C. opilio), are of primary interest. Golden king crab were not surveyed. Information on groundfish resources is available from the Northwest and Alaska Fisheries Center, 7600 Sand Point Way NE, BIN C15700, Seattle, Washington 98115.

Survey Area and Methods

The 1987 Eastern Bering Sea crab survey consisted of 380 successful trawl tows and covered an area of approximately 135,900 square nautical miles. The 1987 survey area was similar to that of 1986 (Fig. 1), except that 6 stations NW of the Pribilof Islands were omitted, and 16 stations were added NW of St. Matthew Island.

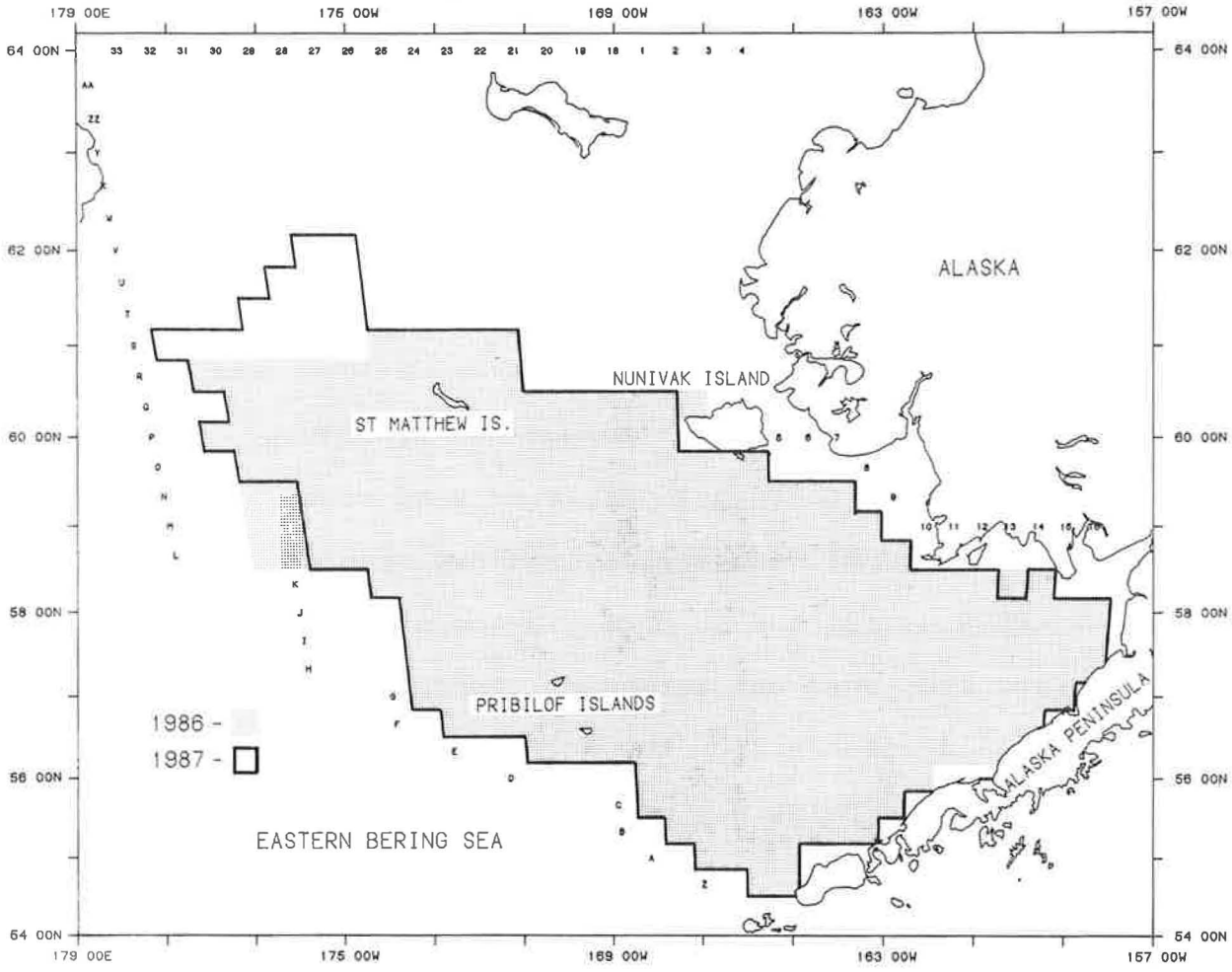


Figure 1. -- NMFS eastern Bering Sea crab survey area in 1986 and 1987.

The survey was conducted aboard two chartered vessels, the F/V Pat San Marie and the University of Washington's R/V Alaska between May 27 and July 30. Both vessels have participated in the survey on numerous previous occasions. Methodology was similar to that of previous surveys in that most tows were made at the centers of squares defined by a 20 x 20 nautical mile grid. Near St. Matthew Island and the Pribilofs, additional tows were made at the corners of squares.

Both vessels fished an eastern otter trawl with an 83 foot headrope and a 112 foot footrope. Measured wing spread on this trawl has ranged from 47 - 58 feet. In 1987 wing spread measurements were made during the majority of survey tows, with trawl mensuration gear. Analysis of these data is not yet complete. An effective width of 50 feet was used, based on previous data analysis. Each tow was of one-half hour duration and most tows were 1.4 to 1.8 nautical miles long. Catches were brought aboard, sorted by species and sex, and then a sample of crabs was measured (to the nearest millimeter) to provide a size frequency distribution. A tracing of the bottom profile was made with a recording echo sounder during each tow. A tracing of the surface to bottom temperature profile was taken with an expendable bathythermograph at almost all stations.

In addition to the regular survey, 12 additional stations were towed at 10-mile intervals in water less than 25 fm deep, along the coast of the Alaska Peninsula between 160° and 162° W. long., to assess the abundance of king crab in inshore waters.

Procedures for estimating abundance were identical to those of previous years. Population estimates (Tables 1-6) were derived from the trawl data using the "area-swept" technique. First, the density of crabs (crabs per square nautical mile) at each trawl station was computed. Average density was then calculated for several sub-regions, then population estimates were calculated by extrapolating the average density of a given size group over the range of the species (or stock).

The following abbreviations are used in the text: (in) inches, (mm) millimeters, (fm) fathoms, (lbs) pounds, (°C) degrees Celsius, (cl) carapace length, and (cw) carapace width.

Interpreting Tables and Charts

Because of differences in the length of tow from vessel to vessel and station to station, catches presented in accompanying charts and tables are standardized to the number of crab caught per square nautical mile (rounded to whole numbers on charts). Note that charts published through 1984 presented crabs per mile towed, so are not directly comparable to this report. However, data presented in those reports can be converted to crabs per square mile (approximately) by multiplying by a factor of 124.

Charts are based on 20 by 20 nautical mile squares. In cases where more than one tow was made in a square (including corner tows), the average crab density is presented. It is advisable to cross-reference charts and tables to obtain more exact information.

Charts and tables showing the percentage of legal crab should be carefully cross-referenced since high percentages of legal crab are often found in areas of low abundance.

Distribution and Abundance of King Crab Stocks

Red King Crab

The majority of the legal (≥6.5 in carapace width, cw, or ≥135 mm carapace length, cl) male crabs occurred in Bristol Bay, and their distribution also extended into the Northern District (North of 58°39', Chart 1). In Bristol Bay, the 1987 distribution extended 20 to 60 miles further west than in 1986, including the area north of Unimak Island, where legal crab have not been encountered by the survey since 1980. A few red king crabs were also found near the Pribilof Islands but their contribution to overall abundance in the eastern Bering Sea is negligible. Crab density at the 12 extra inshore stations was well below average. Legal crabs were caught at only 3 of these stations.

Legal male crabs were found between 12 and 60 fm (average 33.9 fm) and from 2.4 to 5.2°C (average 3.5°C). The percentages of legal crab taken at each station (Chart 2) show that legal crab were occasionally found as solitary individuals at the periphery of the stock's distribution.

Commercial catches in Bristol Bay declined along with abundance estimates, from 130 million pounds in 1980 to 34 million in 1981 and 3 million in 1982. Due to low abundance of males and record low abundance of mature females, the Alaska Department of Fish and Game (ADF&G) issued an emergency order closing Bristol Bay to king crab fishing in 1983. The fishery was re-opened in 1984. In 1986, 11.4 million lbs were landed

with an average catch-per-unit effort (CPUE) of 12 crabs per pot-lift. From 1986 to 1987, the abundance of legal males increased by 34%, and the abundance of large females increased by 236% (Table 1). The 1987 fishery opened on September 25 with a guideline harvest of 8.5 to 17.7 million pounds compared to an estimated legal stock of 42.7 million pounds. The fishery closed October 6; final landings exceeded 12 million lbs, but the statistics were not complete at this writing (Bill Nippes, ADF&G, 211 Mission Rd., Kodiak, AK 99615, pers. commun., October 1987).

Figure 2 shows the relationship between catch rates in the fishery and estimates of abundance derived from annual trawl surveys. A catch rate of 16 to 20 crabs per pot-lift was expected in 1987; preliminary information indicates that the fleet average was about 18 crabs/pot-lift in the first days, then dropped to about 10.

Blue King Crab

This species is found in significant concentrations in the vicinity of the Pribilof Islands and St. Matthew Island (Charts 3 and 4; Table 8). In the Pribilofs area, most crab were found north and east of the islands, as usual. Legal crab (≥6.5 in cw) occurred at temperatures between 2.4 and 6.0°C (average 4.0°C), and at depths between 26 and 46 fm (average 34.5 fm).

The abundance of legal-sized crab (Table 2) in the Pribilof District was stable from 1978 to 1981, but declined about 50% per year through 1985. The estimated abundance of legal males increased from 1986 to 1987, but this increase is not considered

Table 1. --Annual abundance estimates (millions of crabs) for red king crab (P. camtschatica) in the Pribilof and Bristol Bay Districts from NMFS surveys.

	Males				Females			Grand
Size [1] (mm) Width (in)	<110 <5.2	110-134 5.2-6.5	≥135 ≥6.5	Total	<90 <3.5	≥90 ≥3.5	Total	Total
1969	41.0	20.3	9.8	71.1	18.3	28.5	46.8	117.9
1970	9.5	8.4	5.3	23.2	4.9	13.0	17.9	41.1
1972[2]	14.1	8.0	5.4	27.5	7.0	12.1	19.1	46.6
1973	50.0	25.9	10.8	86.7	24.8	76.8	101.6	188.3
1974	59.0	31.2	20.9	111.1	37.7	72.0	109.7	220.8
1975	84.9	31.7	21.0	137.6	70.8	58.9	129.7	267.3
1976	70.2	49.3	32.7	152.2	35.9	71.8	107.7	259.9
1977	80.2	63.9	37.6	181.7	33.5	150.1	183.6	365.3
1978	62.9	47.9	46.6	157.4	38.2	128.4	166.6	324.0
1979	48.1	37.2	43.9	129.2	45.1	110.9	156.0	285.2
1980	56.8	23.9	36.1	116.8	44.8	67.6	112.5	229.3
1981	56.6	18.4	11.3	86.3	36.3	67.3	103.6	189.9
1982	107.2	17.4	4.7	129.3	77.2	54.8	132.0	261.3
1983[3]	43.3	10.4	1.5	55.2	24.3	9.7	34.0	89.2
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	39.9
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
Limits[4]								
Lower	8.0	7.4	4.8	24.1	0.0	7.6	11.4	35.5
Upper	32.2	17.7	11.0	57.1	33.6	29.0	58.7	115.8
± %	60	41	39	41	100	58	67	53

[1] Carapace length (mm).
[2] Limited survey in 1971, not used for population estimate.
[3] 1983 and 1984 data include small numbers of crab from the Northern District.
[4] Mean ± 2 standard errors for 1987.

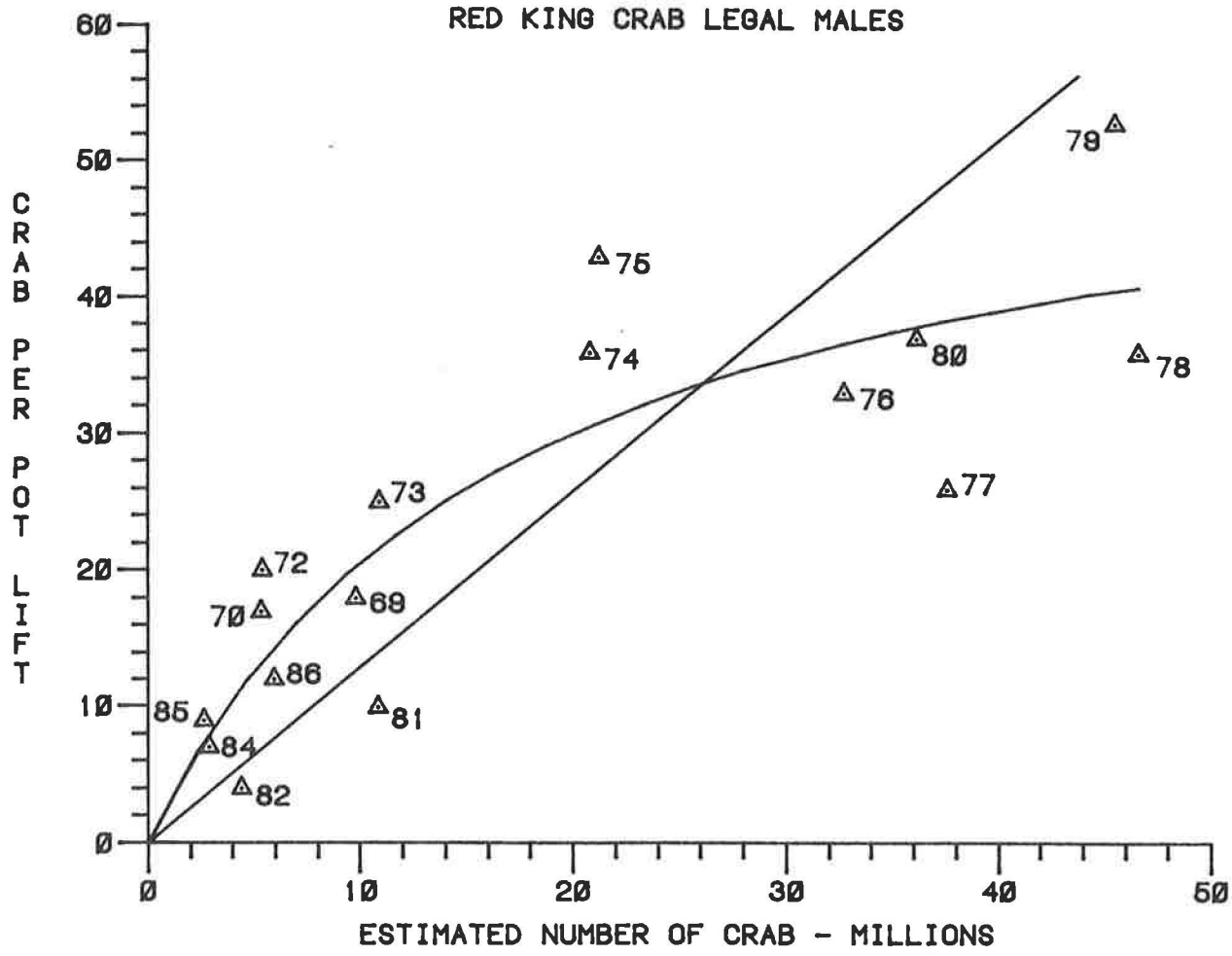


Figure 2. -- Relationship between the average number of red king crab (Paralithodes camtschatica) taken per pot in the U.S. fishery (year shown) and estimates of legal stock size from NMFS trawl surveys in the same year. No fishery occurred in 1983. The curved line implies some limit to the number of crab a pot could catch.

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

	Pribilof District							
	Males				Females			
Size [1] (mm) Width (in)	<110 <5.2	110-134 5.2-6.5	≥135 ≥6.5	Total	<90 <3.5	≥90 ≥3.5	Total	Grand Total
1974	4.4	3.1	1.9	9.4	0.6	10.9	11.5	20.9
1975	4.1	8.0	7.5	19.6	0.0	8.8	8.8	28.4
1976	10.3	2.1	3.9	16.3	0.4	17.7	18.1	34.4
1977	3.2	2.2	9.4	14.8	2.2	17.5	19.7	34.5
1978	1.2	5.8	4.3	11.3	0.3	35.5	35.8	47.1
1979	6.4	1.5	4.6	12.5	5.2	2.9	8.1	20.6
1980	1.9	1.4	4.2	7.5	0.8	101.9	102.7[3]	110.2
1981	4.8	1.4	4.2	10.4	3.4	11.6	15.0	25.4
1982	1.2	0.7	2.2	4.1	0.7	8.6	9.3	13.4
1983	0.6	0.8	1.3	2.8	0.2	9.2	9.4	12.2
1984	0.5	0.3	0.6	1.3	0.3	3.1	3.4	4.8
1985	0.06	0.16	0.32	0.54	0.18	0.52	0.70	1.24
1986	0.02	0.02	0.43	0.47	0.04	1.86	1.90	2.37
1987	0.57	0.08	0.73	1.38	0.39	0.58	0.97	2.35
Limits[2]								
Lower	0.0	0.0	0.24	0.22	0.0	0.0	0.05	0.27
Upper	1.55	0.19	1.22	2.54	0.99	1.25	1.90	4.44
± %	173	129	67	84	151	118	95	88

[1] Carapace length (mm).
[2] Mean ± 2 standard errors for 1987.
[3] Female estimates considered unreliable in 1980.

significant due to the imprecision of both estimates. The overall population, including females, appears stable. The commercial fishery produced about 259,000 pounds in 1986. There is not a clear relationship between the abundance of pre-recruits and later abundance of legals, and the habitat of smaller males is rocky and untrawlable, so no long term forecast can be made.

The 1987 Pribilofs fishery opened September 25 with a guideline harvest of 0.3 to 1.7 million pounds as compared to an estimated 5.0 million pounds of legal stock. Catch and effort data are not yet available. Relationships between estimated abundance and catch rates suggest that the fleet average will be about 4 crabs per pot-lift (Fig. 3).

The abundance of pre-recruit and legal crab in the St. Matthew Island area (Northern District) declined from 1982-1986 (Table 3). Over the past year, abundance of legal (≥5.5 in cw) crab increased by 90%. However, due to the imprecision of these estimates, no predictions can be made concerning the abundance of legal stock in 1988. Legal males were found in depths from 23 to 56 fm (average 41.7 fm) and temperatures from -0.1 to 2.6°C (average 1.5°C).

The 1987 fishery opened on September 1 with a guideline harvest of 0.95 million pounds (range 0.6-1.3). Preliminary ADF&G statistics indicate that about 1.07 million pounds were landed by 63 vessels during a four day opening (Ken Griffin, ADF&G, P.O. Box 508, Dutch Harbor, AK 99692, pers. commun., September 1987). Crabs had an average weight of about 4.6 pounds. The estimated exploitation rate was 39% (by weight) or

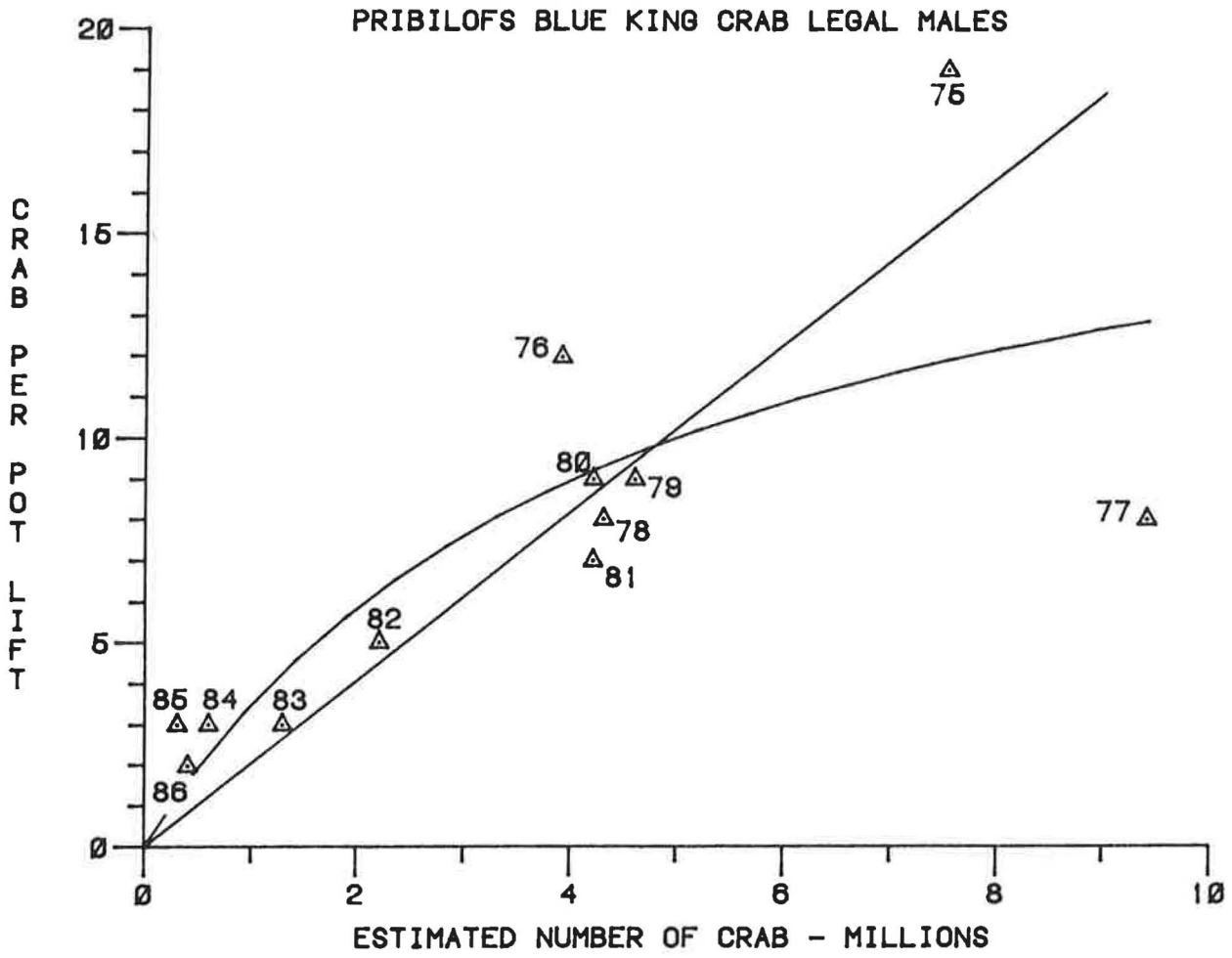


Figure 3. -- Relationship between the average number of Pribilof Island blue king crab (Paralithodes platypus) taken per pot in the U.S. Fishery (year shown) and estimates of legal stock size from NMFS trawl surveys in the same year. The curved line implies some limit to the number of crab a pot could catch.

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

	Northern District							
	Males				Females			
Size [1] (mm) Width (in)	<105 <4.3	105-119 4.3-5.5	≥120 ≥5.5	Total	<80 <3.2	≥80 ≥3.2	Total	Grand Total
1978	5.6	2.4	1.8	9.8	0.8	0.4	1.2	11.0
1979	4.9	2.3	2.2	9.4	1.7	0.9	2.6	12.0
1980	3.4	2.2	2.5	8.1	0.8	2.2	3.0	11.1
1981	1.2	1.8	3.1	6.3	0.0	0.5	0.5	6.8
1982	3.2	2.6	6.8	12.5	0.4	0.7	1.1	13.7
1983	1.8	1.6	3.5	6.9	0.2	2.4	2.7	9.6
1984	1.4	0.6	1.6	3.6	0.2	0.5	0.7	4.3
1985	0.46	0.35	1.08	1.89	0.08	0.13	0.21	2.10
1986	0.56	0.40	0.38	1.34	0.25	0.06	0.31	1.65
1987	1.07	0.73	0.74	2.54	0.47	0.22	0.69	3.23
Limits [2]								
Lower	0.44	0.34	0.47	1.41	0.08	0.08	0.21	1.62
Upper	1.71	1.12	1.01	3.68	0.86	0.35	1.16	4.84
± %	59	54	36	45	83	62	69	50

[1] Carapace length (mm), categories reflect smaller average size in the Northern District; 80 mm is the median size at maturity for females.

[2] Mean ± 2 standard errors for 1987.

about 232,500 crabs out of an estimated legal stock of 732,000. In comparison, during 1986, 38 vessels landed 1.0 million pounds or 220,000 crabs for an estimated exploitation rate of 57% and an average CPUE of 10 crabs per pot-lift. Figure 4 shows that the survey does not predict CPUE very well for this fishery.

Distribution and Abundance of Tanner Crabs

C. bairdi

The distribution of legal C. bairdi showed scattered areas of relatively high abundance along the north side of the Alaska Peninsula and along the continental shelf edge from Unimak Pass to the Pribilof Islands (Table 9, Charts 5 and 6). The highest concentrations of legal crab were found northwest of Port Moller and near the Pribilof Islands, where percentages of legals were also highest. Most legal crab were found at 23 to 85 fm (average 42.5 fm) and at temperatures ranging from 2.6 to 5.2°C with an average temperature of 3.7°C.

The abundance of legal (≥5.5 in cw) male C. bairdi has been generally declining from 1975 onward and reached a new historic low of 3.1 million crab in 1986 (Table 4). Over the past year the abundance of legal crab increased by 164% and pre-recruits increased by 53%. Recruitment trends and more detailed size-frequency data indicate that legal crab abundance may further improve in the next year.

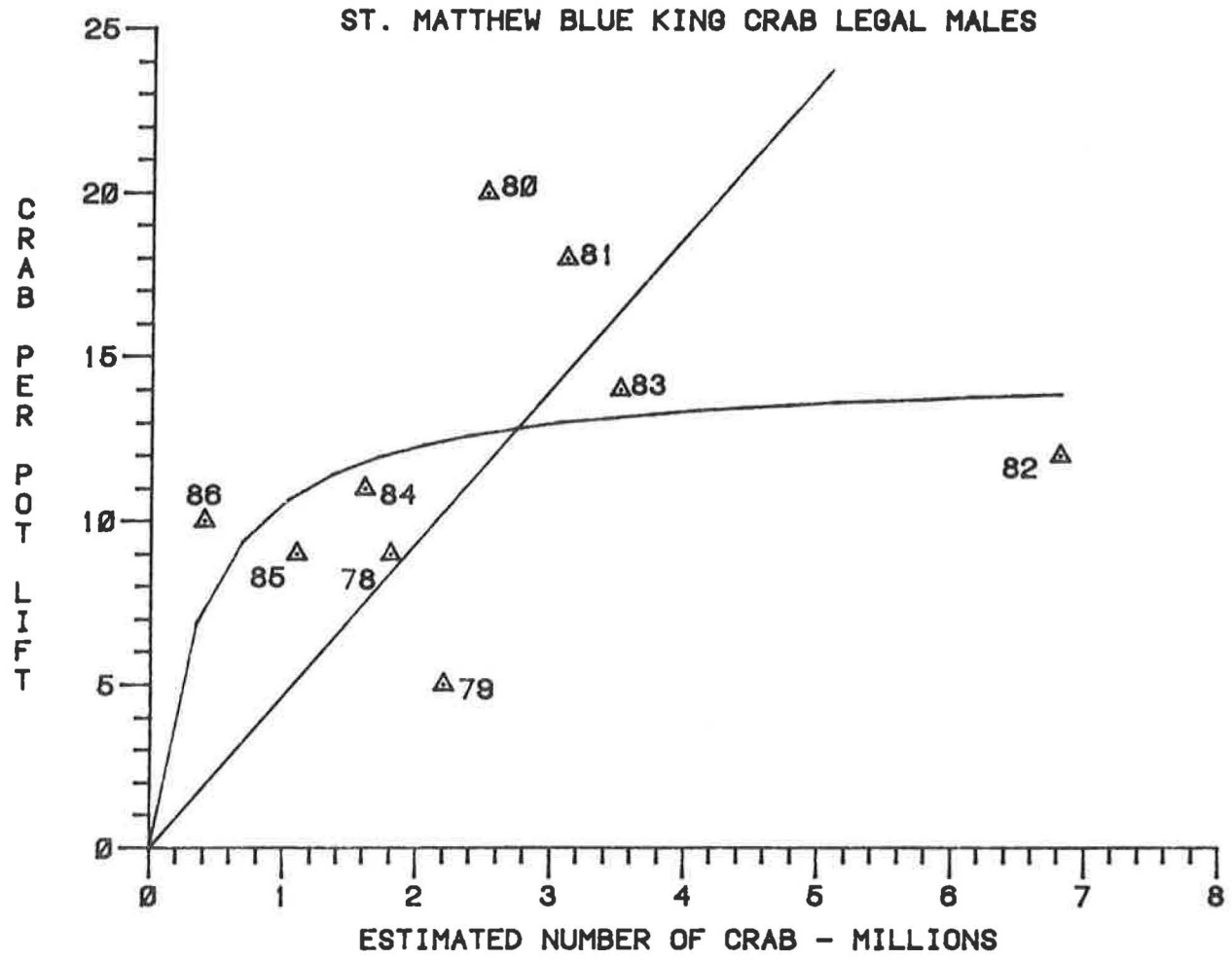


Figure 4. -- Relationship between the average number of St. Matthew Island (Northern District) blue king crab (Paralithodes platypus) taken per pot in the U.S. fishery (year shown) and estimates of legal stock size from NMFS trawl surveys in the same year. The curved line implies some limit to the number of crab a pot could catch.

Table 4 -- Annual abundance estimates (millions of crabs) for Tanner crabs (C. bairdi) in the Pribilof and Bristol Bay Districts from NMFS surveys.

	Males				Females			Grand
Size [1] (mm) Width (in)	<110 <4.3	110-134 4.3-5.5	>134 ≥5.5	Total	<90 <3.4	≥90 ≥3.4	Total	Total
1976	180.2	136.6	109.5	426.3	174.7	220.4	395.1	821.4
1977	255.0	116.3	92.1	463.4	328.4	215.8	544.2	1,007.6
1978	124.2	81.2	45.6	251.0	116.1	73.3	189.4	440.4
1979	133.1	47.7	31.5	212.3	122.6	42.1	164.7	377.0
1980	453.3	65.0	31.0	549.3	326.9	106.8	433.7	983.0
1981	303.8	24.0	14.0	341.8	324.2	79.1	403.3	745.1
1982	88.8	46.9	10.1	145.8	126.4	83.6	210.0	355.8
1983	146.3	32.0	6.7	185.0	180.1	45.4	225.5	410.5
1984	85.1	21.2	5.8	112.1	107.0	33.4	140.4	252.5
1985	31.1	9.4	4.4	44.9	24.2	15.6	39.8	84.7
1986	110.4	12.9	3.1	126.4	68.2	13.7	81.9	208.3
1987	229.7	19.6	8.2	257.6	192.4	35.5	227.8	485.4
Limits [2]								
Lower	151.8	15.1	5.4	178.9	108.1	18.4	134.4	313.3
Upper	307.6	24.1	11.1	336.3	276.6	52.5	321.3	657.6
± %	34	23	35	31	44	48	41	35

[1] Carapace width (mm).
[2] Mean ± 2 standard errors for 1987.

Landings fell from 30 million pounds in 1981 to 1.2 million in 1984, and 3.2 million pounds in 1985. The low abundance of crab in 1985 and 1986 prompted a closure of that fishery in 1986 and 1987. However, the population has experienced good recruitment, and legal crab are now more abundant than at any time since 1982. Relationships between population estimates and catch rates indicate a potential catch-rate of 8-10 crabs per pot (Fig. 5, curved line).

C. opilio

Until June 1982, there was no size limit for C. opilio but most of the catch was greater than 4.3 inches carapace width. A size limit of 3.1 inches was established but the size of crab landed has fluctuated with market conditions. Approximately 95% of the crab landed in 1985 were larger than 3.7 inches. The "small" and "large" size groups used in previous reports referred to size ranges of 3.7-4.3 inches, and ≥4.3 inches, respectively. However, industry preference for a minimum size of 4.0 inches prompted a change to the use of that size as the cutoff between large (≥4.0 inches width) and small (<4.0 inches) in this year's report. Both sizes are given in Table 5 for comparison.

The discussion and charts reflect the distribution of all crab ≥4.0 inches carapace width. The distribution of large males showed an area of high concentration in a broad band north of the Pribilof Islands (Table 10, Charts 7 and 8). There were also areas of high abundance in the extreme northwestern portion of the survey area and there are probably some exploitable crab in

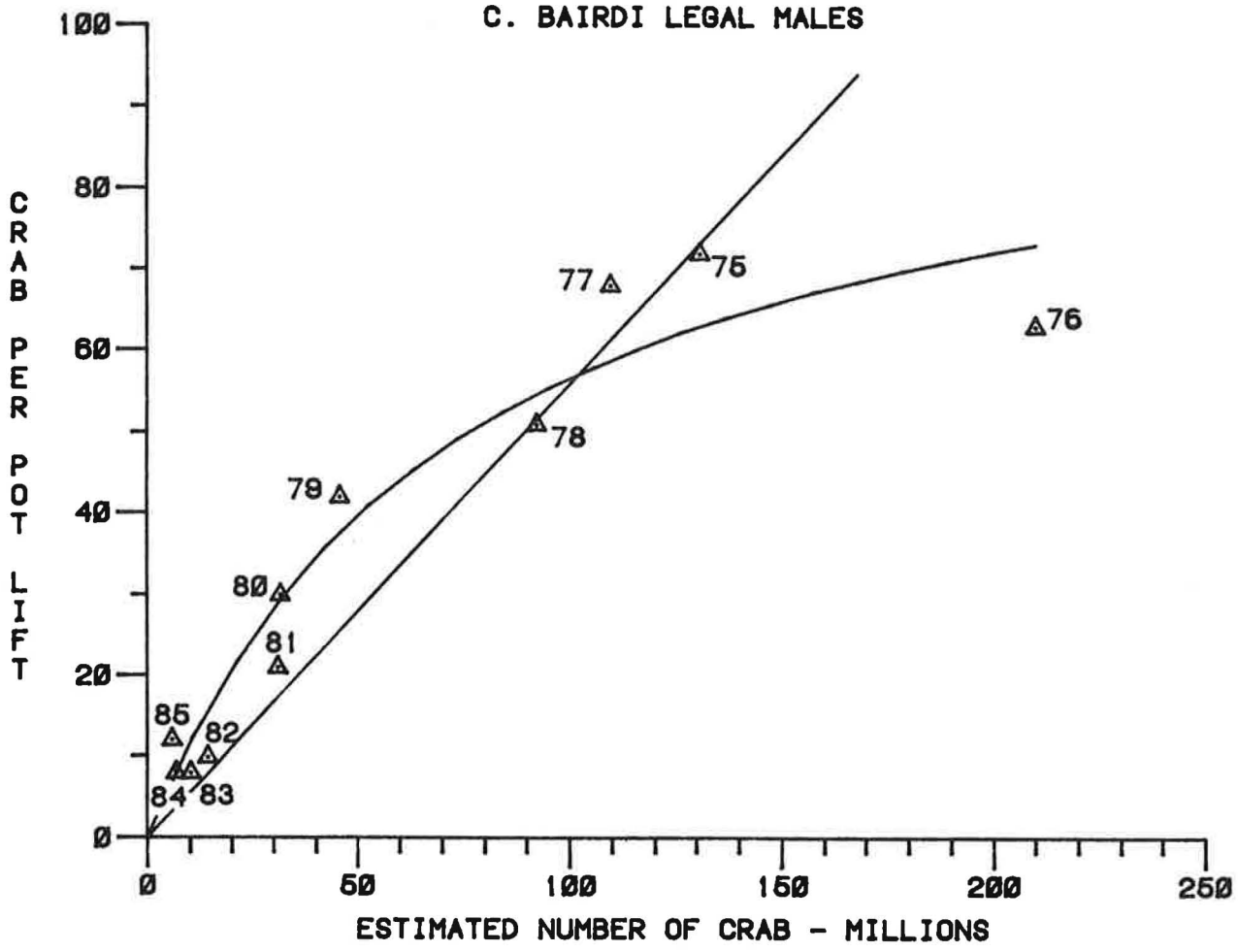


Figure 5. -- Relationship between the average number of Tanner crab (Chionoecetes bairdi) taken per pot in the U.S. fishery (year shown) and estimates of legal stock size from NMFS trawl surveys in the preceding year. In 1974, crab >4.7 in (120 mm) included in stock size estimate; 5.5 in (135 mm) size limit in effect from 1975 to present. The curved line implies some limit to the number of crab a pot could catch.

Table 5. -- Annual abundance estimates for eastern Bering Sea Tanner crabs (C. opilio) from NMFS surveys (millions of crab).

Table 5A. Pribilof and Bristol Bay Districts

	Males					Females			
Size[1](mm) Width(in)	<95 <3.7	95-109 3.7-4.3	≥102 ≥4.0	≥110 ≥4.3	Total	<50 <2.0	≥50 ≥2.0	Total	Grand Total
1976	*	190.4	*	181.6	2402.7	*	*	5564.4	7967.1
1977	*	196.6	*	137.3	1988.2	*	*	6390.5	8378.7
1978	*	171.6	*	78.4	908.6	*	*	1344.5	2253.1
1979	*	146.3	*	105.9	875.8	*	*	2389.1	3264.9
1980	*	99.1	*	53.6	624.0	*	*	2959.6	3583.7
1981	*	62.7	*	15.7	1002.7	*	*	2091.8	3094.5
1982	695.5	63.8	*	10.8	770.1	181.5	1343.8	1525.3	2295.5
1983	470.0	92.1	*	12.9	574.9	118.2	606.5	724.8	1299.7
1984	182.6	104.1	106.5	54.0	340.6	41.5	290.0	331.5	672.2
1985	151.4	36.1	48.2	27.9	215.4	88.0	8.6	96.6	312.0
1986	450.7	37.4	52.2	30.7	518.8	541.1	160.2	701.3	1220.1
1987	988.5	53.1	57.0	28.8	1070.5	660.3	1209.1	1869.4	2939.9
Limits[2]									
Lower	533.5	37.7	41.9	21.1	610.7	149.4	575.0	932.6	1543.3
Upper	1443.5	68.6	72.1	36.6	1530.3	1171.2	1843.3	2806.2	4336.5
± %	46	29	26	27	43	77	52	50	48

[1] Carapace width in mm.
[2] Mean ± 2 standard errors for 1987.

* Data not available at present time.

Table 5. (cont.) -- Annual abundance estimates for eastern Bering Sea Tanner crabs (C. opilio) from NMFS surveys (millions of crab).

Table 5B. Northern District (Excluding Northwest "corner")

	Males					Females			
Size [1](mm) Width(in)	<95 <3.7	95-109 3.7-4.3	≥102 ≥4.0	≥110 ≥4.3	Total	<50 <2.0	≥50 ≥2.0	Total	Grand Total
1978	*	8.2	*	10.5	*	*	*	*	*
1979	*	20.8	*	6.6	*	*	*	*	*
1980	*	30.4	*	4.2	*	*	*	*	*
1981	*	17.1	*	6.5	*	*	*	*	*
1982	1221.8	70.4	*	10.9	1303.1	221.1	912.0	1133.1	2436.2
1983	1224.1	49.8	*	9.2	1283.2	554.9	621.9	1187.8	2460.0
1984	963.7	66.3	46.7	20.0	1050.0	569.0	291.7	860.7	1910.7
1985	363.1	31.3	26.7	12.8	407.2	170.2	114.9	285.1	692.3
1986	693.8	34.2	30.9	15.2	743.2	249.5	261.7	511.2	1254.4
1987	3153.8	104.7	76.0	31.4	3289.8	2087.7	1416.3	3503.9	6793.7
Limits[2]									
Lower	1587.1	80.6	61.8	24.6	1722.6	841.9	947.0	2055.8	3778.4
Upper	4720.4	128.8	90.2	38.1	4857.1	3333.5	1885.5	4952.1	9805.8
± %	50	23	19	21	48	60	33	41	45

[1] Carapace width in mm.
[2] Mean ± 2 standard errors for 1987.

* Data not available at present time.

Table 5 (cont.) -- Annual abundance estimates for eastern Bering Sea Tanner crabs (C. opilio) from NMFS surveys (millions of crab).

Table 5C. Northwest "corner" [1]

	Males					Females			
Size [2] (mm) Width (in)	<95 <3.7	95-109 3.7-4.3	≥102 ≥4.0	≥110 ≥4.3	Total	<50 <2.0	≥50 ≥2.0	Total	Grand Total
1987	271.2	16.4	14.9	7.8	295.4	169.0	178.3	347.3	642.7
Limits [3]									
Upper	139.0	7.1	6.4	3.4	166.8	61.0	60.4	142.0	308.8
Lower	403.4	25.7	23.4	12.3	423.9	276.9	296.2	552.5	976.4
± %	49	57	57	57	44	64	66	59	52

[1] Triangular region bounded by U. S. - Soviet Convention Line on west, 60°50' W. lat. on south, and 174°30' W. long. on east.
[2] Carapace width in mm.
[3] Mean ± 2 standard errors for 1987.

unsurveyed areas. Crab larger than 4.0 inches were taken at depths from 27 to 108 fm (average 54.1 fm), and temperatures from -0.1 to 5.2°C (average 2.8°C). Percentages of exploitable crab (Chart 8) are difficult to interpret because of the close association between the distributions of these and pre-recruit size groups.

Combining districts, the abundance of large males increased by 60% from the 1986 estimate (Table 5). Most of this increase was in the Northern District. The abundance of small crab increased by 260%, but these crab are several years from reaching exploitable sizes and it is not possible to accurately predict their availability so far in advance. However, recruitment trends indicate that abundance of large crab may further increase in 1988. Recruitment patterns in this stock are not entirely clear as recruitment evidently occurs both through localized production and by immigration. Approximately 16% of male crabs ≥4.0 inches width were softshell during the survey period as opposed to 46% at this time in 1986 and only 2% in 1985, indicating that the period of molting is quite variable.

In 1986 the fishery expanded to regions northwest of the area surveyed that year and approximately 33% of the landings came from the Northern District. Landings were a record high of 98 million pounds.

The 1987 fishery was closed on June 22. Approximately 100 million pounds were landed. However, preliminary 1987 ADF&G statistics were not available as of the writing of this report. Currently there is an estimated 186.1 (± 28.2) million pounds of

large males (≥102 mm cw) within the survey area of which about 10.1% exists in the Northwest corner (see Table 5C for description), an area which was not surveyed prior to 1987. Relationships between catch rates and population estimates (for males ≥95 mm, 82 million crabs) indicate the catch rates in 1988 could be over 100 crabs per pot (Fig. 6). However, this relationship does not consider the Northern District, which has a significantly denser crab population. No guideline harvests for 1988 have been determined.

Distribution and Abundance of Hair Crab

Large hair crab (≥3.5 inches carapace length, no legal size) were found in major concentrations to the east and northeast of the Pribilof Islands and in low numbers in a band that extends along the southern edge of Bristol Bay (Charts 9 and 10, and Table 11). Large hair crab were taken in 21 to 48 fm (average 35.2 fm) and at temperatures of 2.4 to 6.0° (average 4.0°C). Large males were 100% of the catch in many areas (Chart 10), however, in areas of high abundance they occurred with pre-recruits, small males and females. We have never found many female or small male crab during the survey and hence have little understanding of their distribution. There was little change in the distribution of pre-recruit and large hair crab from 1986 to 1987 and the majority of the resource remains concentrated in the Pribilof District.

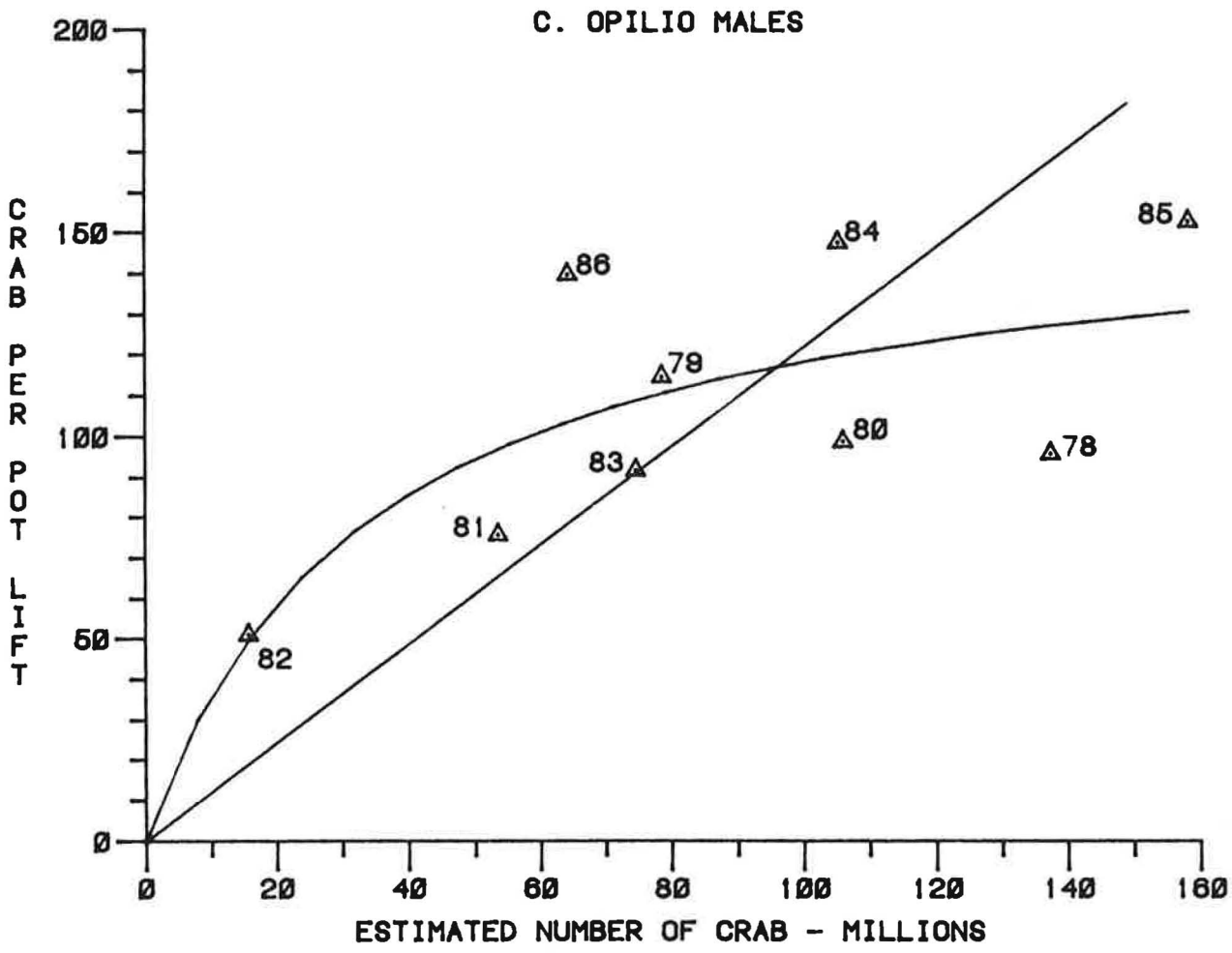


Figure 6. -- Relationship between the average number of Tanner crab (Chionoecetes opilio) taken per pot in the U.S. fishery (year shown) and estimates of stock size from NMFS trawl surveys in the preceding year. Population estimates are for males ≥4.3 in (110 mm) from 1978-1982, ≥3.7 in (95 mm) from 1983 to present, and generally correspond to minimum harvested size. Data are limited to the Bristol Bay and Pribilof Districts only. The curved line implies some limit to the number of crab a pot could catch.

The abundance of hair crab has been declining since 1981 (Table 6). Over the past year abundance of large crab declined by 18%, all districts combined. Size-frequency data provide little information on recruitment trends, but abundance will likely remain low in 1988.

The fishery is largely incidental to Tanner crabbing although there is some directed effort. Currently there are an estimated 1.2 million large crabs (≥3.5 inches wide) or 2.4 (±1.3) million lbs on the grounds. There are no guideline harvest levels, closed seasons or size limits for hair crab. The fishery and markets have both been intermittent and probably will remain so during 1988.

Bottom Temperatures

The average bottom water temperature in 1987 was 3.3°C as compared to 1.8°C in 1986 and 2.3°C in 1985. The coldest waters were encountered around St. Matthew Island (Chart 11). The warmest waters were found in Kuskokwim Bay and inner Bristol Bay. Most year-to-year variation in temperature is associated with relatively shallow areas of the continental shelf and near shore. There is little year-to-year change in the Pribilof Islands and other shelf edge areas where temperatures are moderated by incursions of deep ocean water. The effect of water temperature on changes in the distribution and abundance of crabs in the eastern Bering Sea is poorly known.

Table 6 -- Annual abundance estimates (millions of crabs) for hair crabs (Erimacrus isenbeckii) from NMFS surveys. The size at entry to the U. S. fishery is approximately 90 mm (3.5 in) carapace length.

	Males			Females	Grand
Size [1] (mm) Length (in)	<90 <3.5	≥90 ≥3.5	Total	Total	Total
1979	6.4	16.1	22.5	1.6	24.1
1980	6.0	13.7	19.7	3.1	22.8
1981	6.1	15.9	22.0	0.8	22.8
1982	1.4	7.7	9.1	0.4	9.5
1983	0.9	4.8	5.7	0.9	6.6
1984	1.1	2.9	4.0	0.4	4.4
1985	0.53	2.22	2.75	0.22	2.97
1986	0.71	1.46	2.17	0.37	2.54
1987	1.95	1.19	3.14	0.91	4.05
Limits [2]					
Lower	0.62	0.56	1.65	0.40	2.05
Upper	3.28	1.82	4.63	1.41	6.04
± %	68	53	47	56	49

[1] Carapace length (mm).
[2] Mean ± 2 standard errors for 1987.

A note on Tagging and Tag Returns

Since 1982, NMFS has tagged a number of crabs each year. These include red, blue and golden (brown) king crabs. In Bristol Bay, we tagged about 10,000 red king crabs in 1985, 290 in 1986 and 530 in 1987. The purpose of our tagging program is to gather information on growth, migrations, and the frequency of molting. For this reason, we need fairly complete information with returned tags. Tag returns are not used to monitor or close fisheries. All tagged crabs, regardless of size or sex, may be retained for the purpose of tag data recovery. The following information is requested:

1. Name and mailing address of person to receive reward
2. Tag number (one or both tags if present)
3. Length-width measurements (length - from rear of eye socket to center of rear margin of carapace; width - maximum width including spines)
4. Recovery date
5. Recovery location
6. Depth
7. Vessel ADF&G number

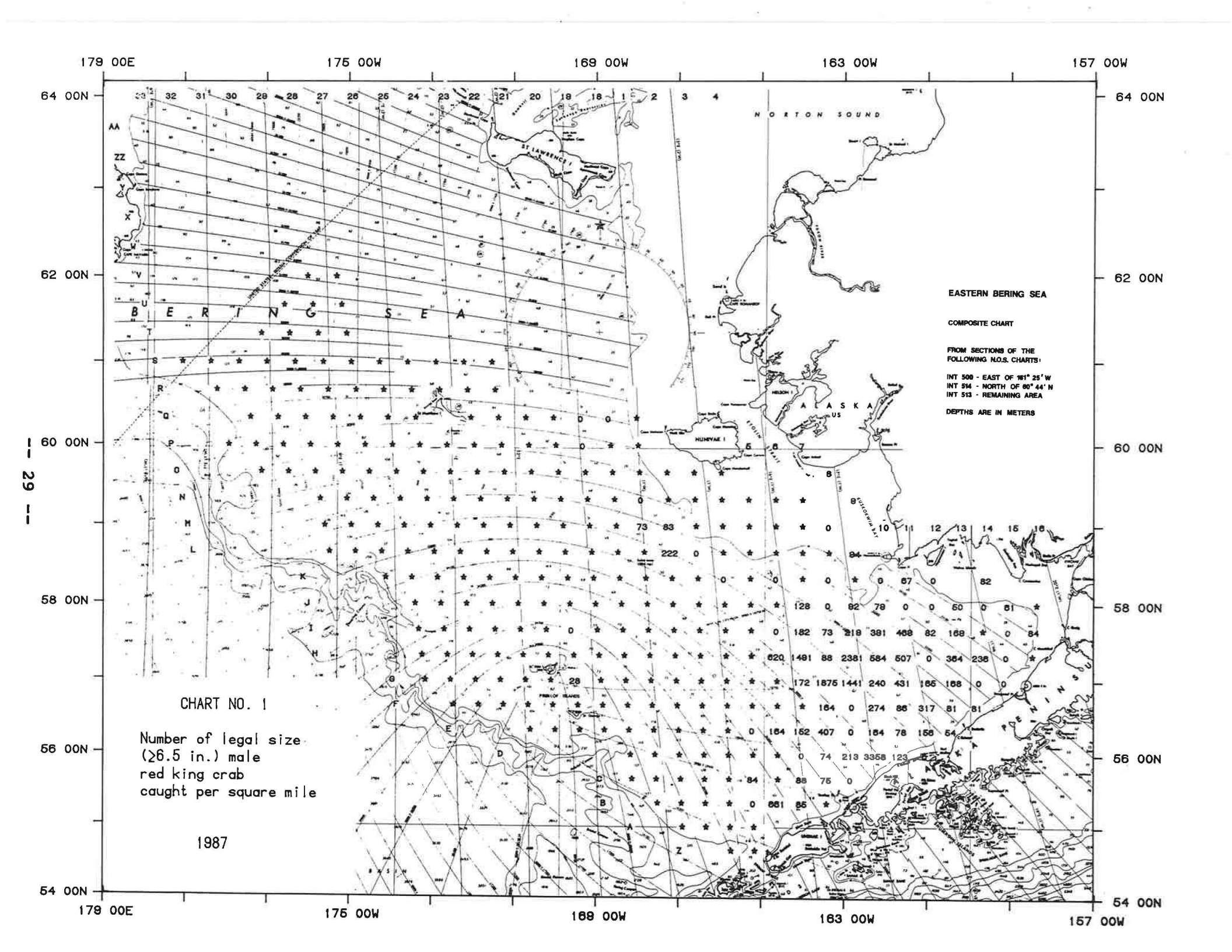
This information will be recorded on stamped data cards and if possible validated by ADF&G biologists before being mailed to the NMFS in Kodiak. The reward will be mailed to the address on the card. The crab will remain the property of the catcher vessel.

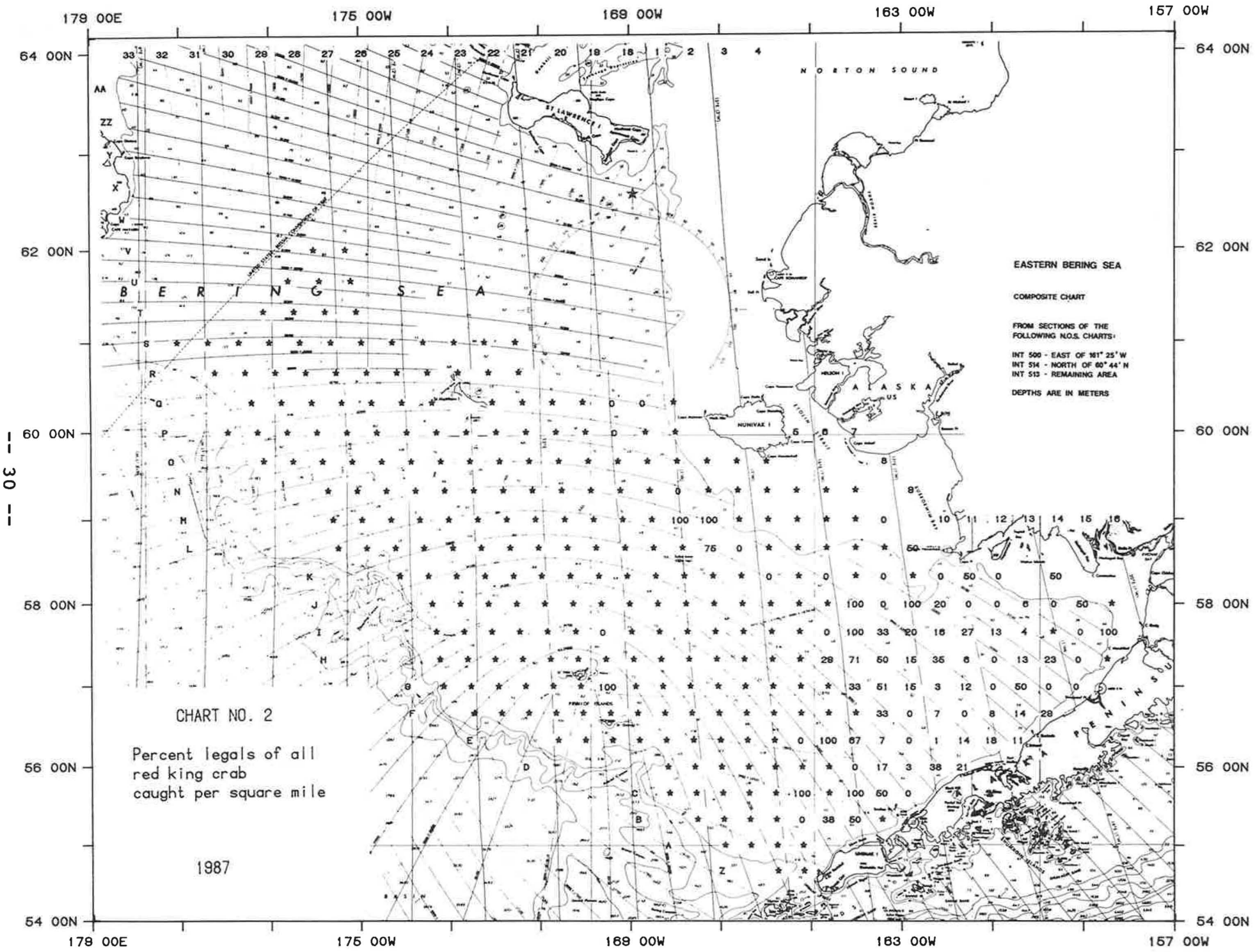
A reward of $10.00 will be paid for all tags returned with complete information with the exception of 70 predetermined numbers. Of these 70 tags, 40 will have a reward value of $25.00, 20 a reward value of $50.00 and 10 a reward value of $100.00. Tags returned without the above information will have a reward value of $1.00.

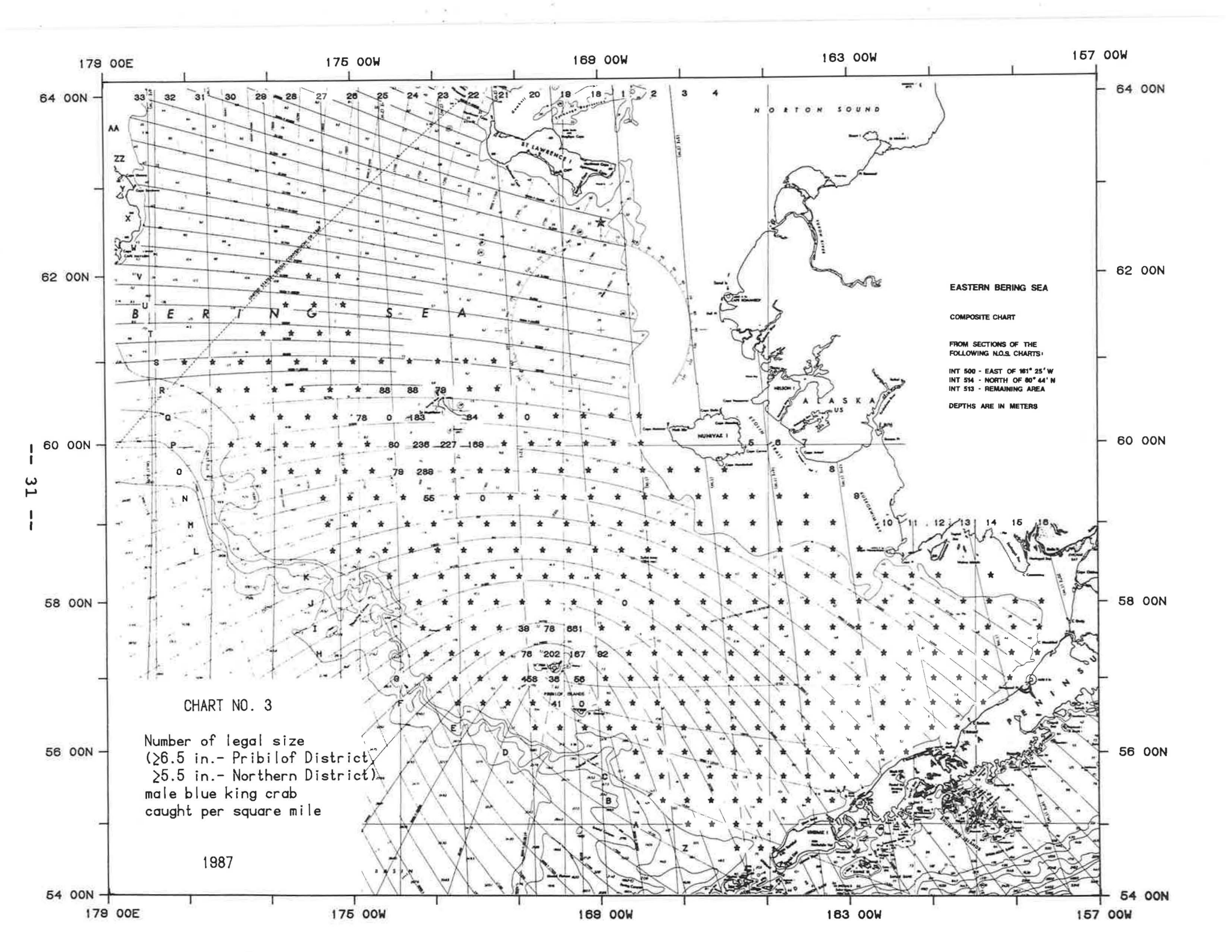
After the fishery is closed and all returns have been checked for completeness and accuracy, six of the returned numbers will be randomly selected by computer. Of these randomly selected numbers, three will have an additional reward value of $200.00 and three will have an additional reward value of $300.00. In each case, the returned tag must be accompanied by all of the above listed information to be eligible. Cooperation is essential to the success of this program.

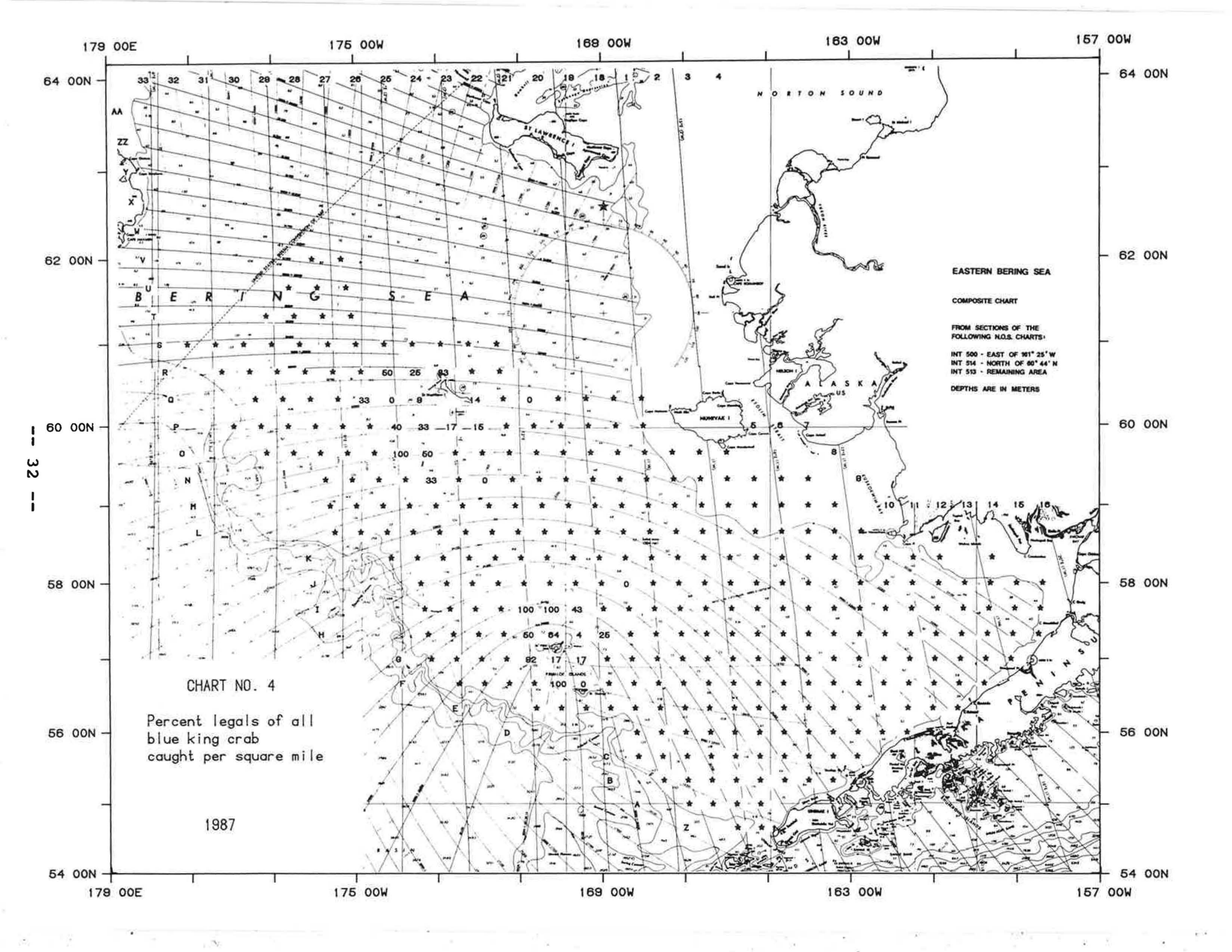
Acknowledgements

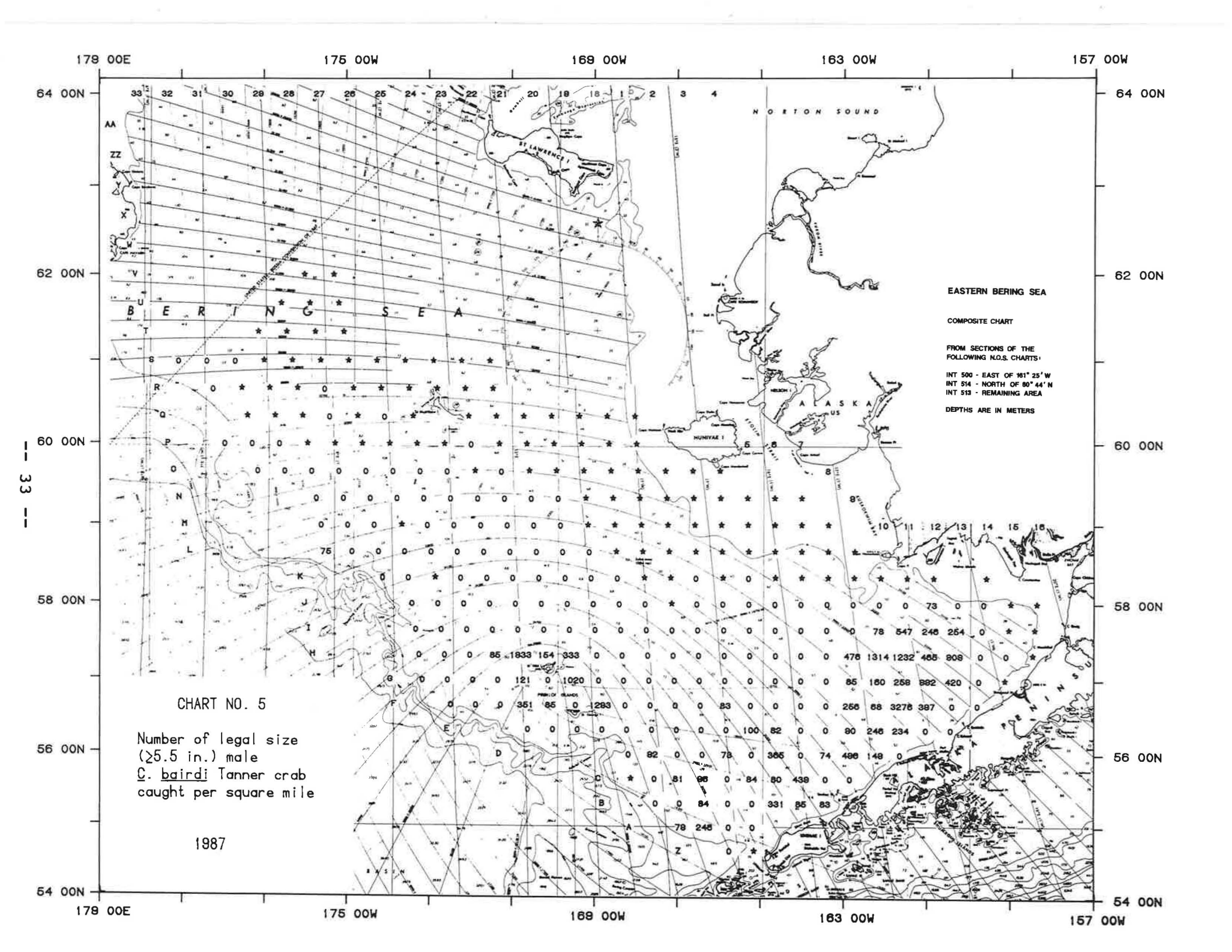
Successful completion of the annual eastern Bering Sea crab-groundfish survey is crucially dependent on the skipper and crews of the participating vessels. We extend special thanks to Bernie Hansen (F/V Pat San Marie), Tom Oswald (R/V Alaska), and their crews.

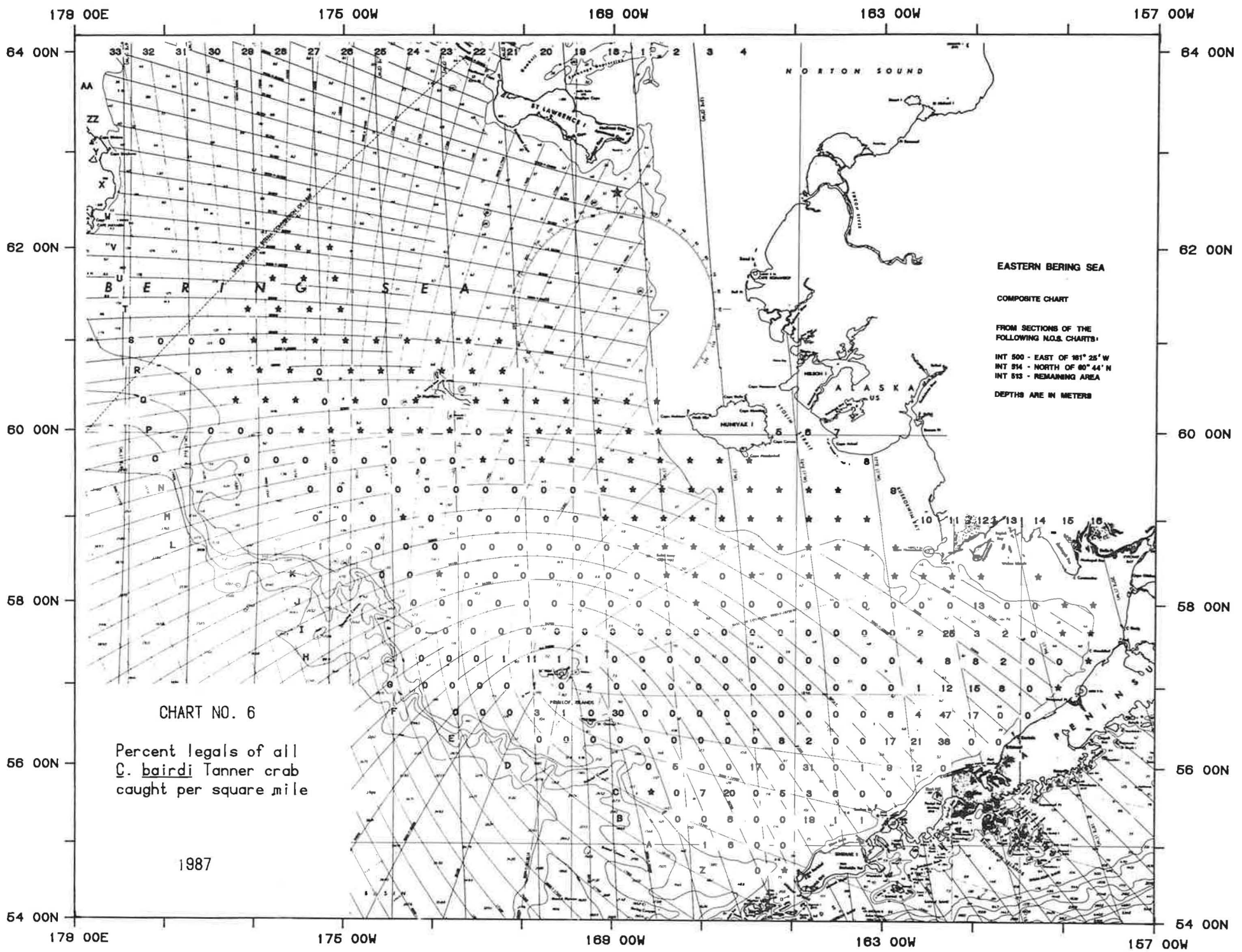

179 00E
175 00W
169 00W
163 00W
157 00W
64 00N
62 00N
60 00N
58 00N
56 00N
54 00N
BERING SEA
NORTON SOUND
ALASKA
EASTERN BERING SEA
COMPOSITE CHART
FROM SECTIONS OF THE FOLLOWING N.O.S. CHARTS:
INT 509 - EAST OF 161° 25' W
INT 514 - NORTH OF 60° 44' N
INT 513 - REMAINING AREA
DEPTHS ARE IN METERS
CHART NO. 1
Number of legal size (≥6.5 in.) male red king crab caught per square mile
1987

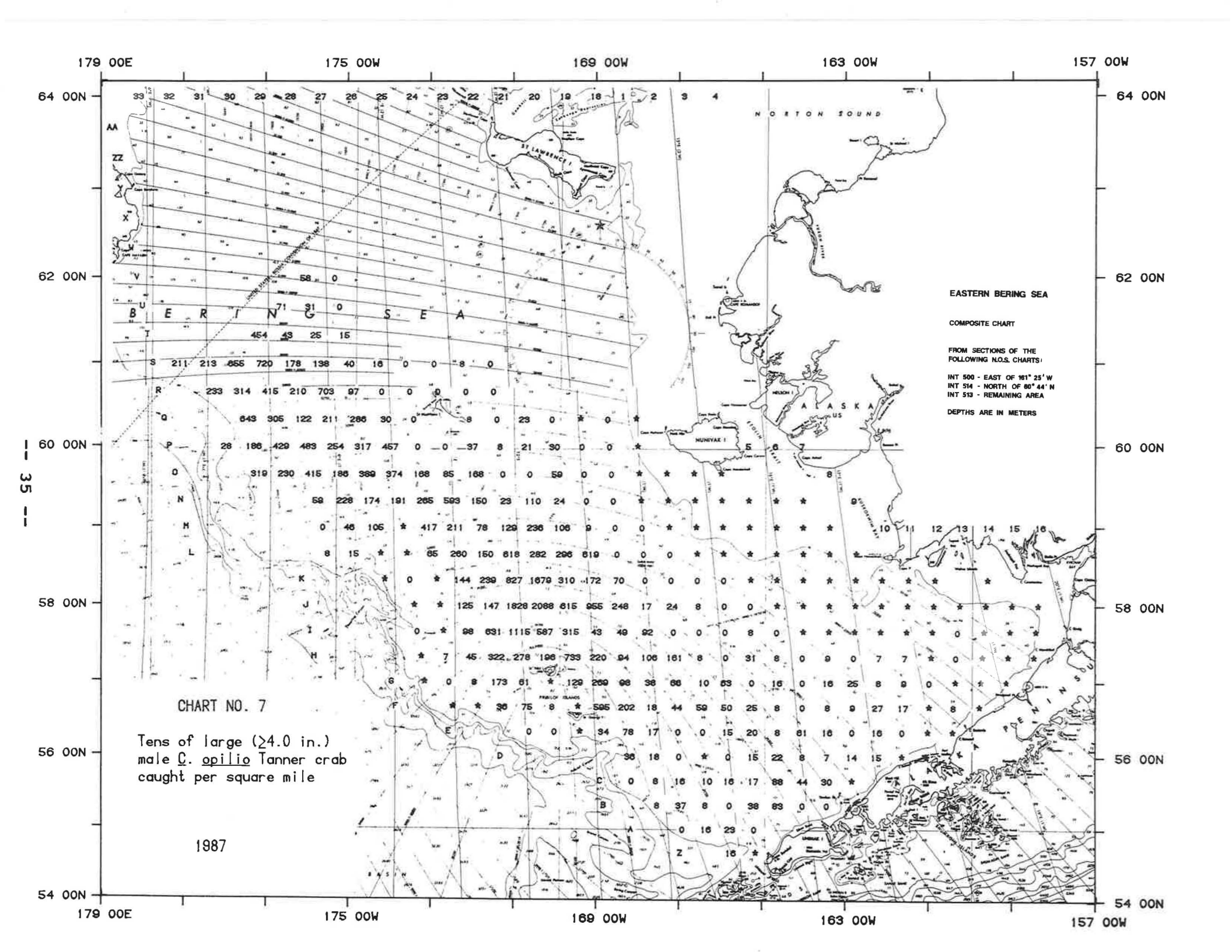

179 00E
175 00W
169 00W
163 00W
157 00W
64 00N
62 00N
60 00N
58 00N
56 00N
54 00N
BERING SEA
NORTON SOUND
ST LAWRENCE I
NUNIVAK I
ALASKA
U.S.
EASTERN BERING SEA
COMPOSITE CHART
FROM SECTIONS OF THE FOLLOWING N.O.S. CHARTS:
INT 500 - EAST OF 161° 25' W
INT 514 - NORTH OF 60° 44' N
INT 513 - REMAINING AREA
DEPTHS ARE IN METERS
CHART NO. 2
Percent legals of all red king crab caught per square mile
1987

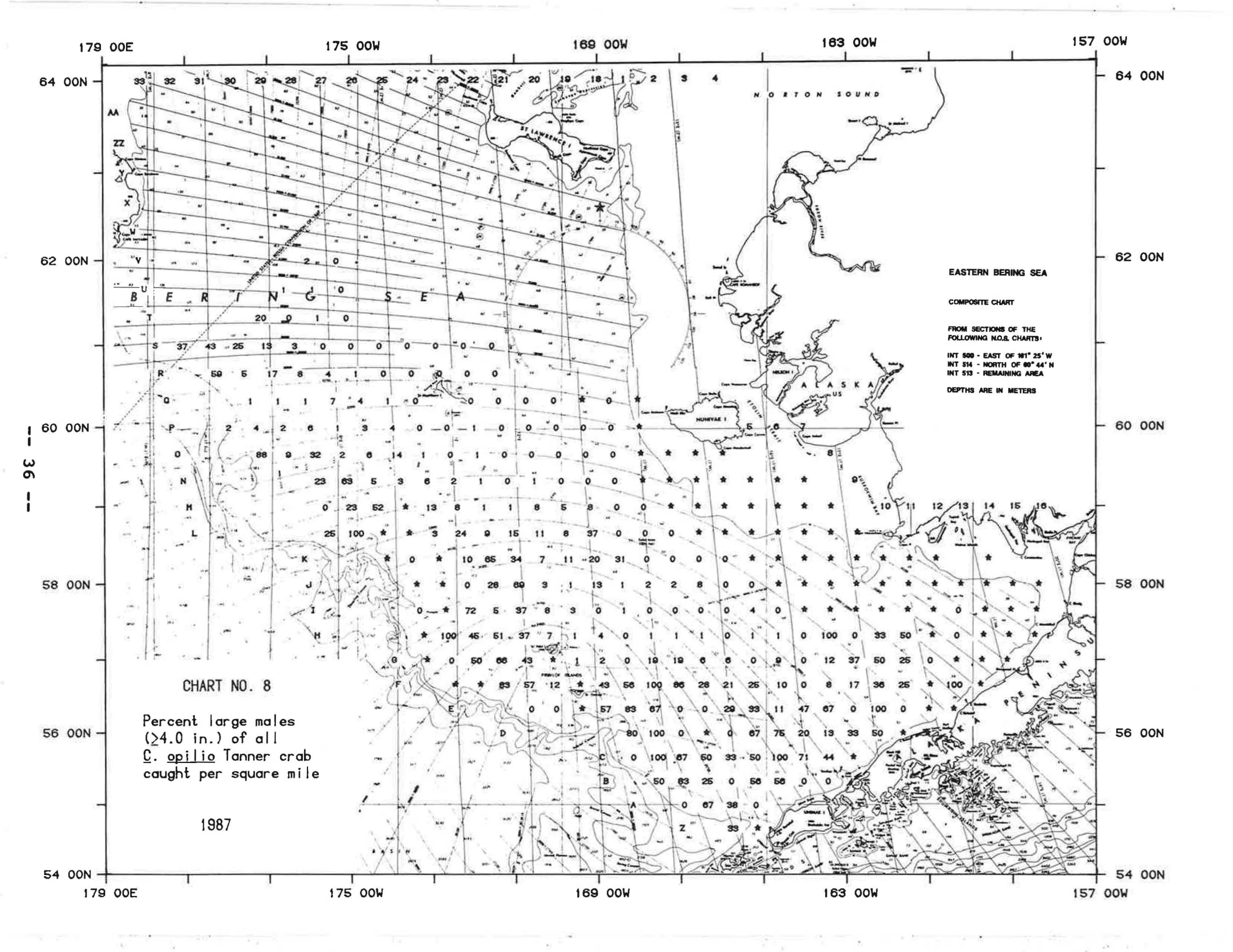

179 00E
175 00W
169 00W
163 00W
157 00W
64 00N
62 00N
60 00N
58 00N
56 00N
54 00N
B E R I N G S E A
NORTON SOUND
ALASKA
ST LAWRENCE I
NUNIVAK I
NELSON I
EASTERN BERING SEA
COMPOSITE CHART
FROM SECTIONS OF THE FOLLOWING N.O.S. CHARTS:
INT 500 - EAST OF 161° 25' W
INT 514 - NORTH OF 60° 44' N
INT 513 - REMAINING AREA
DEPTHS ARE IN METERS
CHART NO. 3
Number of legal size
(≥6.5 in.- Pribilof District,
≥5.5 in.- Northern District)
male blue king crab
caught per square mile
1987

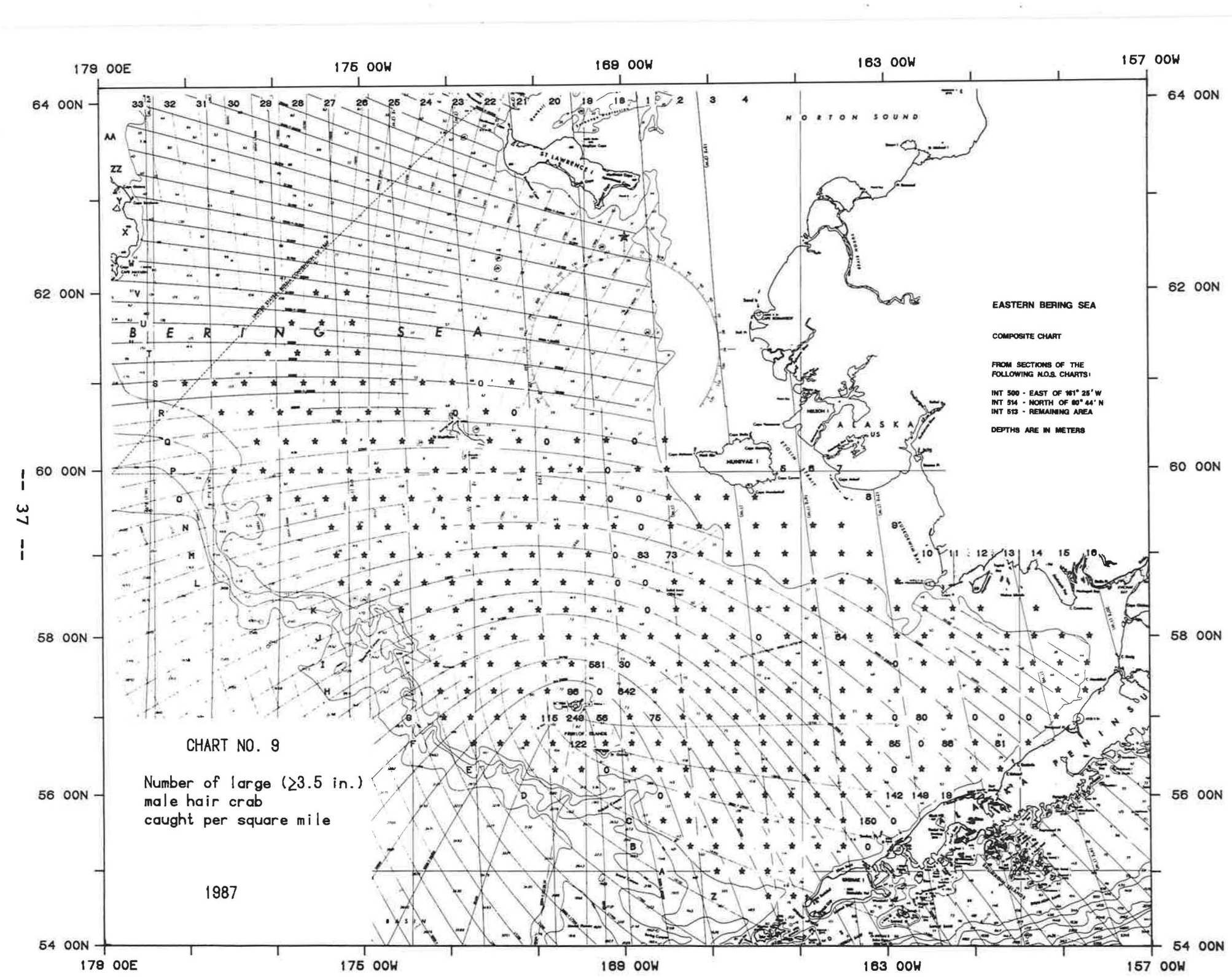

179 00E
175 00W
169 00W
163 00W
157 00W
64 00N
62 00N
60 00N
58 00N
56 00N
54 00N
NORTON SOUND
ST LAWRENCE I
BERING SEA
ALASKA
HOOPER BAY
HUMIVAK I
EASTERN BERING SEA
COMPOSITE CHART
FROM SECTIONS OF THE FOLLOWING N.O.S. CHARTS:
INT 500 - EAST OF 161° 25' W
INT 514 - NORTH OF 60° 44' N
INT 513 - REMAINING AREA
DEPTHS ARE IN METERS
CHART NO. 4
Percent legals of all blue king crab caught per square mile
1987

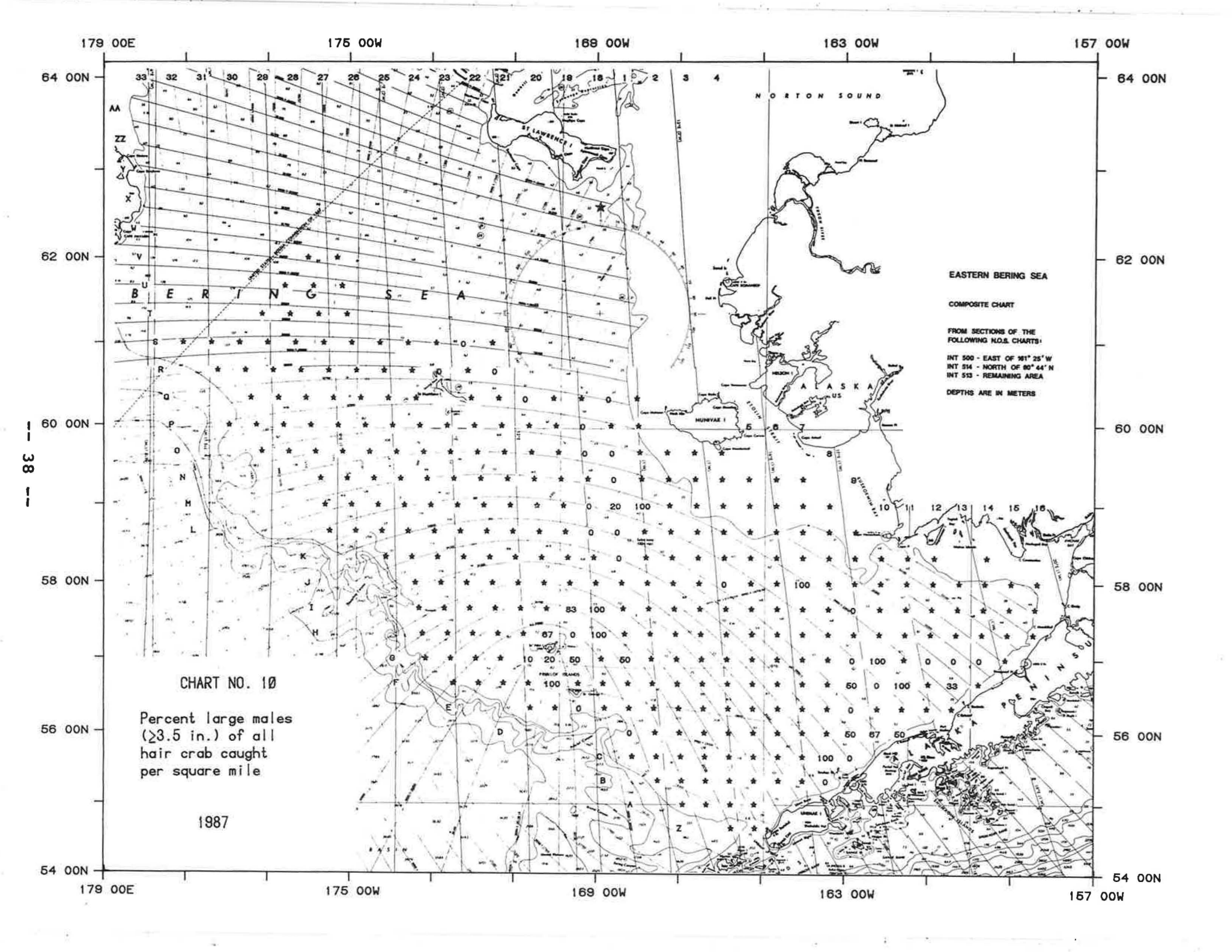

179 00E
175 00W
169 00W
163 00W
157 00W
64 00N
62 00N
60 00N
58 00N
56 00N
54 00N
BERING SEA
NORTON SOUND
ALASKA
EASTERN BERING SEA
COMPOSITE CHART
FROM SECTIONS OF THE FOLLOWING N.O.S. CHARTS:
INT 500 - EAST OF 161° 25' W
INT 514 - NORTH OF 60° 44' N
INT 513 - REMAINING AREA
DEPTHS ARE IN METERS
CHART NO. 5
Number of legal size (≥5.5 in.) male C. bairdi Tanner crab caught per square mile
1987


178 00E
175 00W
169 00W
163 00W
157 00W
64 00N
62 00N
60 00N
58 00N
56 00N
54 00N
NORTON SOUND
ST LAWRENCE I
BERING SEA
ALASKA
HUNIVAK I
NELSON I
PRIBILOF ISLANDS
EASTERN BERING SEA
COMPOSITE CHART
FROM SECTIONS OF THE FOLLOWING N.O.S. CHARTS:
INT 500 - EAST OF 161° 25' W
INT 514 - NORTH OF 60° 44' N
INT 513 - REMAINING AREA
DEPTHS ARE IN METERS
CHART NO. 6
Percent legals of all C. bairdi Tanner crab caught per square mile
1987


179 00E
175 00W
169 00W
163 00W
157 00W
64 00N
62 00N
60 00N
58 00N
56 00N
54 00N
NORTON SOUND
ST LAWRENCE I
NUNIVAK I
HELEN I
ALASKA
U.S.
PRIBILOF ISLANDS
BERING SEA
EASTERN BERING SEA
COMPOSITE CHART
FROM SECTIONS OF THE FOLLOWING N.O.S. CHARTS:
INT 500 - EAST OF 161° 25' W
INT 514 - NORTH OF 60° 44' N
INT 513 - REMAINING AREA
DEPTHS ARE IN METERS
CHART NO. 7
Tens of large (≥4.0 in.) male C. opilio Tanner crab caught per square mile
1987


179 00E
175 00W
169 00W
163 00W
157 00W
64 00N
62 00N
60 00N
58 00N
56 00N
54 00N
NORTON SOUND
ST LAWRENCE I
BERING SEA
ALASKA
HUNIVAK I
NUNIVAK I
PRIBILOF ISLANDS
EASTERN BERING SEA
COMPOSITE CHART
FROM SECTIONS OF THE FOLLOWING N.O.S. CHARTS:
INT 509 - EAST OF 161° 25' W
INT 514 - NORTH OF 60° 44' N
INT 513 - REMAINING AREA
DEPTHS ARE IN METERS
CHART NO. 8
Percent large males (≥4.0 in.) of all C. opilio Tanner crab caught per square mile
1987


179 00E
175 00W
169 00W
163 00W
157 00W
64 00N
62 00N
60 00N
58 00N
56 00N
54 00N
NORTON SOUND
ST LAWRENCE I
B E R I N G S E A
A L A S K A
HUMMAE I
NELSON I
EASTERN BERING SEA
COMPOSITE CHART
FROM SECTIONS OF THE FOLLOWING N.O.S. CHARTS:
INT 500 - EAST OF 161° 25' W
INT 514 - NORTH OF 60° 44' N
INT 513 - REMAINING AREA
DEPTHS ARE IN METERS
CHART NO. 9
Number of large (≥3.5 in.) male hair crab caught per square mile
1987


179 00E
175 00W
169 00W
163 00W
157 00W
64 00N
62 00N
60 00N
58 00N
56 00N
54 00N
NORTON SOUND
ST LAWRENCE I
BERING SEA
ALASKA
HUNIVAK I
EASTERN BERING SEA
COMPOSITE CHART
FROM SECTIONS OF THE FOLLOWING N.O.S. CHARTS:
INT 500 - EAST OF 161° 25' W
INT 514 - NORTH OF 60° 44' N
INT 513 - REMAINING AREA
DEPTHS ARE IN METERS
CHART NO. 10
Percent large males (≥3.5 in.) of all hair crab caught per square mile
1987

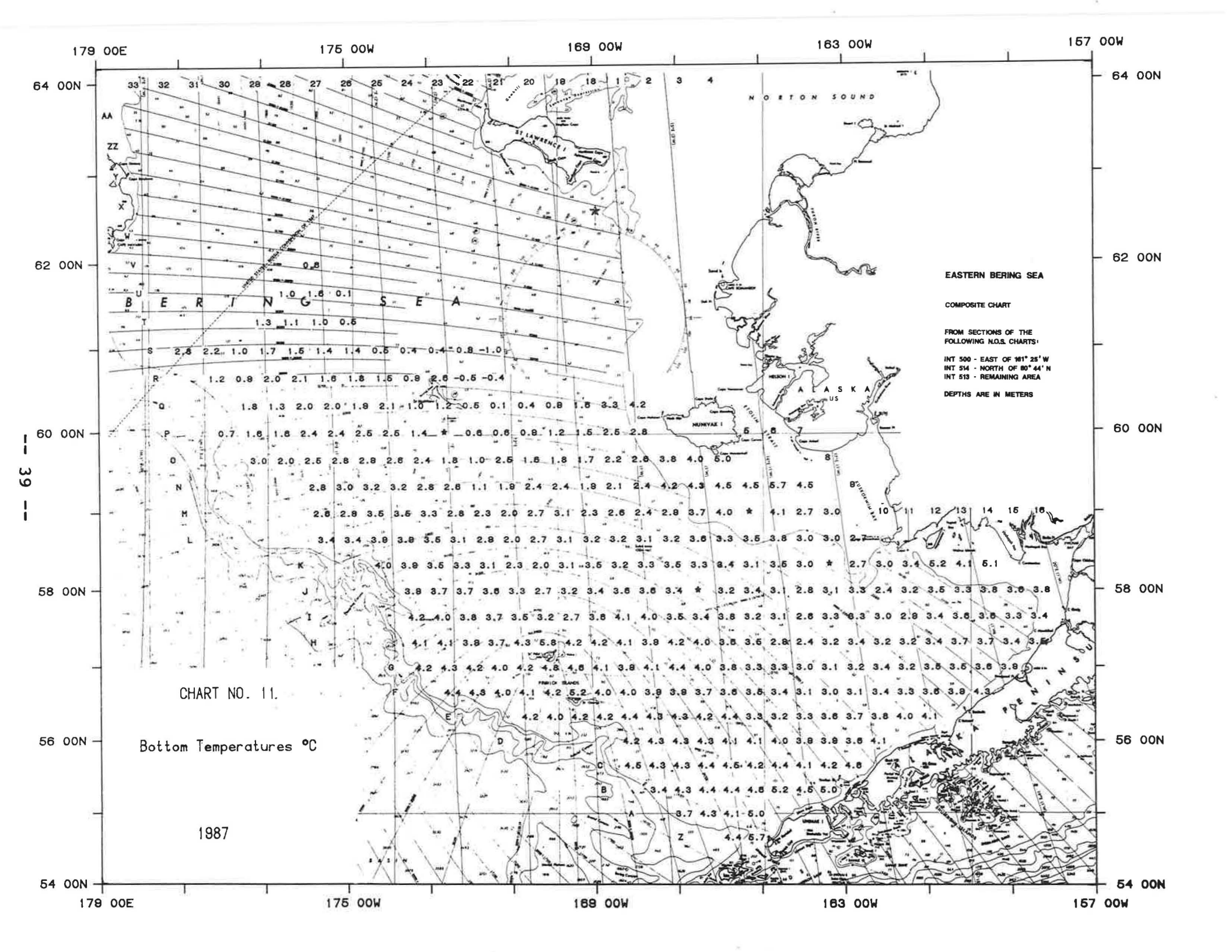

179 00E
175 00W
169 00W
163 00W
157 00W
64 00N
62 00N
60 00N
58 00N
56 00N
54 00N
NORTON SOUND
ST LAWRENCE I
B E R I N G S E A
A L A S K A
EASTERN BERING SEA
COMPOSITE CHART
FROM SECTIONS OF THE FOLLOWING N.O.S. CHARTS:
INT 500 - EAST OF 161° 25' W
INT 514 - NORTH OF 60° 44' N
INT 513 - REMAINING AREA
DEPTHS ARE IN METERS
CHART NO. 11.
Bottom Temperatures °C
1987
-- 39 --

TABLE 7 DATA FROM THE 1987 EASTERN BERING SEA TRAWL SURVEY WHERE RED KING CRAB WERE TAKEN

STATION	DATE	LATITUDE	LONGITUDE	LORAN C	DEPTH FTMS	BOTTOM TEMP	NUMBER PER SQUARE MILE					
								MALES (SEE NOTE)				
							FEMALES	SMALL	PRERECRUIT	LEGAL	TOTAL	PERCENT LEGAL
B05	6/19	55-18	165-10	X18421 Z48087	61	4.6	0.0	0.0	76.0	0.0	76.0	0.0
B06	6/15	55-20	164-33	Y34422 Z47861	55	5.2	83.0	165.0	826.0	661.0	1736.0	38.1
B07	6/15	55-23	163-58	Y34321 Z47645	48	4.5	0.0	85.0	0.0	85.0	169.0	50.3
C05	6/19	55-38	165-09	X18493 Z48107	60	4.2	0.0	0.0	0.0	84.0	84.0	100.0
C07	6/15	55-41	164-01	Y34269 Z47670	52	4.1	0.0	0.0	0.0	88.0	88.0	100.0
C08	6/14	55-40	163-23	Y34169 Z47428	43	4.2	0.0	0.0	75.0	75.0	150.0	50.0
C09	6/07	55-40	162-48	Y34077 Z47198	29	4.6	0.0	97.0	97.0	0.0	194.0	0.0
D07	6/14	56-01	164-00	Y34191 Z47675	49	3.9	81.0	81.0	163.0	0.0	325.0	0.0
D08	6/14	56-00	163-23	Y34093 Z47435	47	3.9	296.0	74.0	0.0	74.0	444.0	16.7
D09	6/08	55-59	162-48	Y34005 Z47204	44	3.6	6950.0	709.0	567.0	213.0	8439.0	2.5
D10	6/07	56-02	162-15	Y33906 Z46987	38	4.1	746.0	299.0	4328.0	3358.0	8731.0	38.5
D11	6/02	56-09	161-34	Y33766 Z46709	30	4.1	656.0	164.0	984.0	492.0	2295.0	21.4
D12	6/02	56-09	161-16	Y33724 Z46596	21	4.2	79.0	0.0	0.0	0.0	79.0	0.0
D13	6/03	56-09	160-36	Y33626 Z46328	13	4.2	0.0	0.0	76.0	0.0	76.0	0.0
E05	6/19	56-18	165-11	Y34327 Z48150	48	3.3	0.0	0.0	100.0	0.0	100.0	0.0
E06	6/19	56-19	164-35	Y34215 Z47909	47	3.2	0.0	0.0	0.0	164.0	164.0	100.0
E07	6/14	56-21	164-00	Y34105 Z47677	46	3.3	0.0	0.0	76.0	152.0	227.0	67.0
E08	6/14	56-20	163-23	Y34007 Z47436	46	3.6	1951.0	1951.0	1463.0	407.0	5772.0	7.1
E09	6/08	56-19	162-47	Y33915 Z47198	43	3.7	3153.0	1081.0	360.0	0.0	4594.0	0.0
E10	6/07	56-22	162-13	Y33811 Z46965	44	3.8	8361.0	4426.0	820.0	164.0	13771.0	1.2
E11	6/07	56-20	161-37	Y33725 Z46726	37	3.9	156.0	0.0	313.0	78.0	547.0	14.3
E12	6/06	56-20	161-00	Y33633 Z46479	28	4.0	313.0	234.0	156.0	156.0	860.0	18.1
E13	6/03	56-29	160-25	Y33509 Z46248	22	4.0	160.0	160.0	0.0	0.0	320.0	0.0
E13	6/03	56-20	160-26	Y33553 Z46254	16	4.5	172.0	0.0	172.0	0.0	344.0	0.0
E13	6/03	56-20	160-35	Y33576 Z46319	20	3.6	244.0	163.0	244.0	163.0	813.0	20.0
E14	6/03	56-29	160-04	Y33458 Z46103	11	4.6	0.0	83.0	83.0	0.0	167.0	0.0
F08	6/14	56-40	163-22	Y33909 Z47424	40	3.0	82.0	0.0	246.0	164.0	492.0	33.3
F09	6/09	56-40	162-44	Y33805 Z47173	39	3.1	0.0	85.0	85.0	0.0	171.0	0.0
F10	6/07	56-39	162-11	Y33722 Z46949	37	3.4	2260.0	890.0	342.0	274.0	3767.0	7.3
F11	6/07	56-41	161-34	Y33617 Z46700	48	3.3	18966.0	3879.0	345.0	86.0	23276.0	0.4
F12	6/06	56-40	160-59	Y33537 Z46469	36	3.6	1746.0	1587.0	317.0	317.0	3968.0	8.0
F13	6/04	56-39	160-22	X18681 Z46220	31	3.7	325.0	81.0	81.0	81.0	569.0	14.2
F14	6/03	56-40	159-45	Y33366 Z45975	18	4.3	0.0	0.0	76.0	0.0	76.0	0.0
F14	6/03	56-39	160-02	Y33406 Z46086	26	3.9	163.0	81.0	81.0	163.0	488.0	33.4
G07	6/14	57-01	163-59	Y33904 Z47667	37	3.0	0.0	86.0	259.0	172.0	517.0	33.3
G08	6/14	57-00	163-22	Y33803 Z47418	35	3.1	313.0	391.0	1094.0	1875.0	3672.0	51.1
G09	6/09	56-58	162-47	Y33718 Z47185	33	3.2	2966.0	2203.0	3136.0	1441.0	9746.0	14.8
G10	6/07	56-59	162-10	Y33615 Z46935	31	3.4	3760.0	3360.0	560.0	240.0	7920.0	3.0
G11	6/06	57-00	161-33	Y33516 Z46687	37	3.2	1207.0	690.0	1293.0	431.0	3621.0	11.9
G12	6/06	57-00	160-54	Y33425 Z46428	39	3.5	24132.0	13058.0	165.0	165.0	38347.0	0.4
G13	6/04	56-58	160-20	X18704 Z46197	33	3.5	0.0	168.0	0.0	168.0	336.0	50.0
G14	6/04	56-59	159-42	Y33261 Z45944	30	3.6	488.0	81.0	81.0	0.0	651.0	0.0
G15	5/28	57-00	159-07	Y33181 Z45713	17	3.9	0.0	0.0	71.0	0.0	71.0	0.0
G20	7/03	56-59	169-35	Y35029 Z49911	33	4.6	0.0	0.0	0.0	84.0	84.0	100.0
H06	6/20	57-19	164-37	Y33906 Z47911	34	2.9	0.0	78.0	1473.0	620.0	2171.0	28.6

NOTE: PRE-RECRUIT = 5.2-6.5 IN. WIDTH; LEGAL = 6.5 IN. OR GREATER IN WIDTH

TABLE 7 DATA FROM THE 1987 EASTERN BERING SEA TRAWL SURVEY WHERE RED KING CRAB WERE TAKEN (CONTINUED)

STATION	DATE	LATITUDE	LONGITUDE	LORAN C	DEPTH FTMS	BOTTOM TEMP	NUMBER PER SQUARE MILE					
								MALES (SEE NOTE)				
							FEMALES	SMALL	PRERECRUIT	LEGAL	TOTAL	PERCENT LEGAL
H07	6/14	57-21	163-59	Y33784 Z47656	33	2.4	0.0	0.0	614.0	1491.0	2105.0	70.8
H08	6/13	57-20	163-23	Y33689 Z47414	27	3.2	0.0	0.0	88.0	88.0	175.0	50.3
H09	6/09	57-20	162-47	Y33592 Z47173	26	3.4	1111.0	6825.0	5238.0	2381.0	15555.0	15.3
H10	6/07	57-19	162-08	Y33499 Z46916	27	3.2	438.0	292.0	365.0	584.0	1679.0	34.8
H11	6/06	57-21	161-31	Y33394 Z46669	30	3.2	4783.0	2029.0	580.0	507.0	7899.0	6.4
H12	6/05	57-20	160-55	Y33315 Z46425	34	3.4	2481.0	1473.0	0.0	0.0	3954.0	0.0
H13	6/04	57-18	160-16	X18724 Z46165	32	3.7	1000.0	818.0	545.0	364.0	2727.0	13.3
H14	6/04	57-19	159-39	Y33148 Z45920	29	3.7	315.0	236.0	236.0	236.0	1024.0	23.0
H15	5/28	57-20	159-02	Y33064 Z45674	25	3.4	157.0	394.0	79.0	0.0	629.0	0.0
I06	6/20	57-39	164-38	Y33778 Z47899	28	3.1	0.0	0.0	78.0	0.0	78.0	0.0
I07	6/13	57-41	164-00	Y33661 Z47650	26	2.6	0.0	0.0	0.0	182.0	182.0	100.0
I08	6/13	57-40	163-22	Y33558 Z47395	24	3.3	0.0	73.0	73.0	73.0	219.0	33.3
I09	6/10	57-39	162-44	Y33467 Z47148	23	3.3	73.0	438.0	365.0	219.0	1095.0	20.0
I10	6/08	57-39	162-07	Y33371 Z46898	25	3.0	313.0	703.0	1094.0	391.0	2501.0	15.6
I11	6/06	57-40	161-29	Y33274 Z46649	28	2.9	234.0	156.0	859.0	469.0	1718.0	27.3
I12	6/05	57-41	160-53	Y33186 Z46404	29	3.4	328.0	164.0	82.0	82.0	656.0	12.5
I13	6/04	57-39	160-15	X18738 Z46154	29	3.6	2542.0	1525.0	424.0	169.0	4661.0	3.6
I15	5/28	57-40	159-01	Y32951 Z45662	24	3.3	224.0	224.0	0.0	0.0	448.0	0.0
I16	5/27	57-42	158-19	Y32857 Z45385	19	3.4	0.0	0.0	0.0	84.0	84.0	100.0
I20	7/01	57-31	169-19	Y34743 Z49747	37	3.2	155.0	0.0	0.0	0.0	155.0	0.0
J07	6/13	58-01	164-00	Y33516 Z47623	24	2.8	0.0	0.0	0.0	128.0	128.0	100.0
J08	6/13	58-00	163-22	Y33421 Z47377	22	3.1	80.0	0.0	0.0	0.0	80.0	0.0
J09	6/10	57-58	162-45	Y33339 Z47135	22	3.3	0.0	0.0	0.0	92.0	92.0	100.0
J10	6/08	57-59	162-06	Y33239 Z46881	19	2.4	79.0	157.0	79.0	79.0	394.0	20.1
J11	6/06	57-58	161-28	Y33156 Z46631	28	3.2	598.0	427.0	85.0	0.0	1111.0	0.0
J12	6/05	58-00	160-49	Y33057 Z46379	23	3.5	219.0	292.0	146.0	0.0	657.0	0.0
J13	6/05	58-09	160-27	X18749 Z46234	21	4.1	300.0	400.0	100.0	100.0	900.0	11.1
J13	6/05	57-58	160-12	X18746 Z46134	27	3.3	219.0	292.0	292.0	0.0	803.0	0.0
J14	6/04	57-59	159-35	Y32909 Z45893	21	3.8	82.0	82.0	0.0	0.0	164.0	0.0
J15	5/28	57-57	158-59	Y32844 Z45655	20	3.6	0.0	0.0	61.0	61.0	121.0	50.4
K04	6/23	58-20	165-53	Y33674 Z48314	23	3.4	0.0	86.0	0.0	0.0	86.0	0.0
K06	6/21	58-19	164-37	Y33471 Z47837	23	3.5	0.0	79.0	79.0	0.0	157.0	0.0
K08	6/13	58-20	163-20	Y33271 Z47346	20		0.0	0.0	85.0	0.0	85.0	0.0
K10	6/08	58-18	162-05	Y33107 Z46863	24	3.0	0.0	0.0	159.0	0.0	159.0	0.0
K11	6/05	58-11	161-30	Y33075 Z46642	26	3.4	0.0	0.0	67.0	67.0	134.0	50.0
K12	6/05	58-12	160-38	Y32954 Z46304	20	5.2	333.0	83.0	167.0	0.0	583.0	0.0
K14	6/04	58-18	159-33	Y32782 Z45880	12	5.1	0.0	0.0	82.0	82.0	164.0	50.0
L02	6/27	58-39	167-13	Y33697 Z48726	22	3.2	74.0	0.0	0.0	222.0	296.0	75.0
L03	6/22	58-40	166-34	X18695 Z48502	22	3.6	99.0	0.0	0.0	0.0	99.0	0.0
L09	6/10	58-41	162-39	Y33011 Z47062	13	2.7	0.0	0.0	94.0	94.0	189.0	49.7
M01	6/27	58-58	167-54	Y33584 Z48862	22	2.4	0.0	0.0	0.0	73.0	73.0	100.0
M02	6/28	59-00	167-14	Y33485 Z48650	20	2.9	0.0	0.0	0.0	83.0	83.0	100.0
M08	6/10	58-58	163-17	Y32955 Z47279	11	3.0	0.0	81.0	0.0	0.0	81.0	0.0
N01	6/28	59-19	167-55	Y33355 Z48773	21	2.4	0.0	83.0	0.0	0.0	83.0	0.0
P19	6/29	60-01	169-19	Y32977 Z48915	24	1.5	84.0	0.0	0.0	0.0	168.0	0.0

NOTE: PRE-RECRUIT = 5.2-6.5 IN. WIDTH; LEGAL = 6.5 IN. OR GREATER IN WIDTH

TABLE 7 DATA FROM THE 1987 EASTERN BERING SEA TRAWL SURVEY WHERE RED KING CRAB WERE TAKEN (CONTINUED)

STATION	DATE	LATITUDE	LONGITUDE	LORAN C	DEPTH FTMS	BOTTOM TEMP	NUMBER PER SQUARE MILE					
								MALES (SEE NOTE)				
							FEMALES	SMALL	PRERECRUIT	LEGAL	TOTAL	PERCENT LEGAL
Q18	6/29	60-15	168-42	Y32754 Z48704	19	3.3	0.0	0.0	81.0	0.0	81.0	0.0
Q19	6/29	60-20	169-17	Y32742 Z48813	22	1.6	0.0	0.0	72.0	0.0	72.0	0.0

NOTE: PRE-RECRUIT = 5.2-6.5 IN. WIDTH; LEGAL = 6.5 IN. OR GREATER IN WIDTH

TABLE 8 DATA FROM THE 1987 EASTERN BERING SEA TRAWL SURVEY WHERE BLUE KING CRAB WERE TAKEN

STATION	DATE	LATITUDE	LONGITUDE	LORAN C	DEPTH FTMS	BOTTOM TEMP	NUMBER PER SQUARE MILE					
								MALES (SEE NOTE)				
							FEMALES	SMALL	PRERECRUIT	LEGAL	TOTAL	PERCENT LEGAL
F20	7/02	56-38	169-29	Y35059 Z49822	39	5.2	109.0	0.0	0.0	0.0	109.0	0.0
F21	7/03	56-49	169-48	Y35092 Z49959	38	4.6	0.0	0.0	0.0	81.0	81.0	100.0
G20	7/03	56-59	169-35	Y35029 Z49911	33	4.6	588.0	0.0	0.0	168.0	756.0	22.2
G20	7/01	57-10	169-17	Y34904 Z49790	40	4.3	88.0	88.0	88.0	0.0	263.0	0.0
G21	7/03	56-59	170-12	X18679 Z50123	38	5.2	207.0	69.0	0.0	0.0	276.0	0.0
G21	7/03	57-09	169-53	Y35052 Z50036	26	5.1	73.0	0.0	0.0	73.0	146.0	50.0
G22	7/05	57-07	170-29	X18652 Y35106	28	5.5	76.0	0.0	0.0	916.0	992.0	92.3
H19	7/01	57-20	169-01	Y34774 Z49666	39	4.1	275.0	0.0	0.0	92.0	367.0	25.1
H20	7/05	57-19	169-38	Y34916 Z49908	33	3.2	1583.0	2333.0	0.0	167.0	4083.0	4.1
H21	7/05	57-28	169-56	X18711 Z49962	37	2.6	0.0	231.0	0.0	308.0	538.0	57.2
H21	7/05	57-19	170-14	X18707 Y35010	29	6.0	0.0	0.0	0.0	96.0	96.0	100.0
H22	7/05	57-29	170-33	X18590 Y34886	40	4.0	76.0	0.0	76.0	76.0	229.0	33.2
H22	7/10	57-20	170-51	X18517 Y34949	44	4.3	0.0	0.0	0.0	76.0	76.0	100.0
I20	7/05	57-39	169-38	Y34706 Z49810	38	2.8	0.0	0.0	0.0	160.0	160.0	100.0
I20	7/01	57-31	169-19	Y34743 Z49747	37	3.2	1550.0	0.0	233.0	1163.0	2945.0	39.5
I21	7/05	57-39	170-18	X18614 Y34769	39	2.4	0.0	0.0	0.0	156.0	156.0	100.0
I22	7/10	57-39	170-52	X18465 Y34747	46	3.5	0.0	0.0	0.0	78.0	78.0	100.0
J18	6/30	58-01	168-25	Y34285 Z49299	37	3.6	80.0	0.0	0.0	0.0	80.0	0.0
N23	7/09	59-21	171-50	X17931 Y33540	44	1.1	93.0	0.0	0.0	0.0	93.0	0.0
N25	7/20	59-28	173-26	X17513 Y33423	56	2.5	0.0	0.0	331.0	165.0	496.0	33.3
O25	7/21	59-39	173-14	X17551 Y33318	53	2.3	0.0	0.0	86.0	172.0	259.0	66.4
O25	7/21	59-48	173-31	X17466 Y33214	51	2.0	0.0	0.0	488.0	407.0	894.0	45.5
O26	7/29	59-39	173-51	X17389 Z49661	56	2.6	0.0	0.0	0.0	157.0	157.0	100.0
P23	7/09	59-50	172-13	X17773 Y33201	40	0.7	76.0	76.0	76.0	76.0	303.0	25.1
P23	7/09	60-00	171-59	X17798 Y33083	36	0.4	189.0	189.0	0.0	94.0	472.0	19.9
P23	7/09	60-10	172-17	X17713 Y32972	31	1.0	1008.0	924.0	336.0	336.0	2605.0	12.9
P24	7/20	60-10	173-00	X17557 Y32984	31	1.2	606.0	985.0	606.0	455.0	2651.0	17.2
P25	7/21	59-59	173-19	X17501 Y33101	41	0.9	236.0	157.0	79.0	236.0	708.0	33.3
P26	7/29	59-59	173-52	X17362 Z49569	52	2.3	0.0	0.0	240.0	80.0	320.0	25.0
P26	7/22	60-10	174-20	X17234 Y32971	54	2.5	0.0	0.0	0.0	81.0	81.0	100.0
Q21	7/07	60-19	170-39	X18005 Y32829	33	0.4	71.0	0.0	0.0	0.0	71.0	0.0
Q23	7/08	60-21	172-04	X17737 Y32845	32	-0.1	0.0	336.0	168.0	84.0	588.0	14.3
Q25	7/21	60-20	173-25	X17445 Y32868	34	1.0	459.0	826.0	642.0	183.0	2110.0	8.7
Q26	7/22	60-19	174-03	X17295 Y32871	49	1.7	0.0	76.0	76.0	0.0	152.0	0.0
Q27	7/22	60-19	174-42	X17136 Y32866	55	1.9	78.0	0.0	78.0	78.0	234.0	33.3
R24	7/21	60-39	172-46	X17553 Y32649	23	2.6	0.0	0.0	157.0	79.0	236.0	33.5
R25	7/21	60-40	173-27	X17408 Y32656	35	0.9	88.0	175.0	0.0	88.0	351.0	25.1
R26	7/22	60-40	174-04	X17268 Y32659	47	1.5	0.0	0.0	88.0	88.0	175.0	50.3

NOTE: PRE-RECRUIT = 5.2-6.5 IN. WIDTH; LEGAL = 6.5 IN. OR GREATER IN WIDTH FOR AREA S. OF 58:39N
PRE-RECRUIT = 4.3-5.5 IN. WIDTH; LEGAL = 5.5 IN. OR GREATER IN WIDTH FOR AREA N. OF 58:39N

TABLE 9 DATA FROM THE 1987 EASTERN BERING SEA TRAWL SURVEY WHERE BAIRDI TANNER CRAB WERE TAKEN

STATION	DATE	LATITUDE	LONGITUDE	LORAN C	DEPTH FTMS	BOTTOM TEMP	NUMBER PER SQUARE MILE					
								MALES (SEE NOTE)				
							FEMALES	SMALL	PRERECRUIT	LEGAL	TOTAL	PERCENT LEGAL
A02	6/25	55-00	166-55	Y34822 Z48673	85	3.7	5669.0	4252.0	236.0	79.0	10236.0	0.8
A03	6/25	55-01	166-19	Y34737 Z48475	79	4.3	2131.0	574.0	1230.0	246.0	4180.0	5.9
A04	6/25	54-59	165-45	Y34656 Z48270	71	4.1	625.0	781.0	0.0	0.0	1406.0	0.0
A05	6/19	54-57	165-12	X18338 Z48071	61	5.0	855.0	1026.0	85.0	0.0	1966.0	0.0
B01	6/25	55-19	167-32	Y34879 Z48925	82	3.4	320.0	240.0	80.0	0.0	640.0	0.0
B02	6/25	55-19	166-57	Y34796 Z48732	76	4.3	1407.0	1556.0	222.0	0.0	3185.0	0.0
B03	6/24	55-21	166-21	Y34702 Z48522	73	4.4	504.0	420.0	336.0	84.0	1344.0	6.3
B04	6/24	55-19	165-46	Y34615 Z48311	66	4.4	323.0	161.0	0.0	0.0	484.0	0.0
B05	6/19	55-18	165-10	X18421 Z48087	61	4.6	455.0	530.0	0.0	0.0	985.0	0.0
B06	6/15	55-20	164-33	Y34422 Z47861	55	5.2	413.0	248.0	744.0	331.0	1735.0	19.1
B07	6/15	55-23	163-58	Y34321 Z47645	48	4.5	5678.0	6102.0	1949.0	85.0	13814.0	0.6
B08	6/15	55-21	163-25	Y34238 Z47433	29	5.0	6860.0	8512.0	248.0	83.0	15703.0	0.5
C01	6/25	55-39	167-35	Y34856 Z48994	74	4.3	236.0	315.0	157.0	0.0	708.0	0.0
C02	6/26	55-40	166-58	Y34759 Z48782	73	4.3	407.0	569.0	163.0	81.0	1220.0	6.6
C03	6/24	55-41	166-23	Y34661 Z48569	69	4.4	96.0	96.0	192.0	96.0	481.0	20.0
C04	6/24	55-40	165-48	Y34568 Z48355	63	4.5	163.0	163.0	0.0	0.0	326.0	0.0
C05	6/19	55-38	165-09	X18493 Z48107	60	4.2	420.0	1261.0	84.0	84.0	1849.0	4.5
C06	6/19	55-39	164-35	Y34368 Z47891	52	4.4	1280.0	880.0	320.0	80.0	2560.0	3.1
C07	6/15	55-41	164-01	Y34269 Z47670	52	4.1	3596.0	2719.0	1053.0	439.0	7807.0	5.6
C08	6/14	55-40	163-23	Y34169 Z47428	43	4.2	4812.0	6466.0	1128.0	0.0	12406.0	0.0
C09	6/07	55-40	162-48	Y34077 Z47198	29	4.6	1165.0	1942.0	0.0	0.0	3107.0	0.0
D01	6/26	55-59	167-38	Y34825 Z49063	73	4.3	183.0	1193.0	275.0	92.0	1743.0	5.3
D02	6/26	56-02	167-00	Y34710 Z48833	72	4.3	211.0	282.0	141.0	0.0	634.0	0.0
D03	6/24	56-01	166-25	Y34609 Z48612	68	4.3	246.0	82.0	82.0	0.0	410.0	0.0
D04	6/24	56-00	165-47	Y34505 Z48373	59	4.1	146.0	146.0	73.0	73.0	438.0	16.7
D05	6/19	55-58	165-10	X18561 Z48130	53	4.1	379.0	530.0	76.0	0.0	985.0	0.0
D06	6/19	55-59	164-34	Y34296 Z47899	50	4.0	146.0	657.0	0.0	365.0	1168.0	31.3
D07	6/14	56-01	164-00	Y34191 Z47675	49	3.9	1626.0	2276.0	0.0	0.0	3902.0	0.0
D08	6/14	56-00	163-23	Y34093 Z47435	47	3.9	4370.0	6074.0	222.0	74.0	10740.0	0.7
D09	6/08	55-59	162-48	Y34005 Z47204	44	3.6	2411.0	2128.0	780.0	496.0	5815.0	8.5
D10	6/07	56-02	162-15	Y33906 Z46987	38	4.1	149.0	597.0	299.0	149.0	1194.0	12.5
D11	6/02	56-09	161-34	Y33766 Z46709	30	4.1	0.0	82.0	0.0	0.0	82.0	0.0
D18	7/17	55-59	168-12	X18463 Z49262	82	4.2	893.0	179.0	0.0	0.0	1072.0	0.0
E01	6/26	56-19	167-38	Y34776 Z49105	72	4.3	1780.0	1271.0	508.0	0.0	3560.0	0.0
E02	6/26	56-19	167-02	Y34661 Z48872	61	4.3	221.0	0.0	74.0	0.0	295.0	0.0
E03	6/24	56-20	166-25	Y34542 Z48636	56	4.2	800.0	320.0	80.0	0.0	1200.0	0.0
E04	6/24	56-20	165-47	Y34429 Z48390	49	4.4	1212.0	2045.0	0.0	0.0	3257.0	0.0
E05	6/19	56-18	165-11	Y34327 Z48150	48	3.3	500.0	600.0	100.0	100.0	1300.0	7.7
E06	6/19	56-19	164-35	Y34215 Z47909	47	3.2	2049.0	2459.0	328.0	82.0	4918.0	1.7
E07	6/14	56-21	164-00	Y34105 Z47677	46	3.3	4621.0	5000.0	0.0	0.0	9621.0	0.0
E08	6/14	56-20	163-23	Y34007 Z47436	46	3.6	732.0	1382.0	0.0	0.0	2114.0	0.0
E09	6/08	56-19	162-47	Y33915 Z47198	43	3.7	90.0	360.0	0.0	90.0	540.0	16.7
E10	6/07	56-22	162-13	Y33811 Z46965	44	3.8	574.0	328.0	0.0	246.0	1148.0	21.4
E11	6/07	56-20	161-37	Y33725 Z46726	37	3.9	156.0	78.0	156.0	234.0	625.0	37.4
E12	6/06	56-20	161-00	Y33633 Z46479	28	4.0	0.0	547.0	313.0	0.0	859.0	0.0

NOTE: PRE-RECRUIT = 4.3-5.5 IN. WIDTH; LEGAL = 5.5 IN. OR GREATER IN WIDTH

TABLE 9 DATA FROM THE 1987 EASTERN BERING SEA TRAWL SURVEY WHERE BAIRDI TANNER CRAB WERE TAKEN (CONTINUED)

STATION	DATE	LATITUDE	LONGITUDE	LORAN C	DEPTH FTMS	BOTTOM TEMP	NUMBER PER SQUARE MILE					
								MALES (SEE NOTE)				
							FEMALES	SMALL	PRERECRUIT	LEGAL	TOTAL	PERCENT LEGAL
E13	6/03	56-20	160-35	Y33576 Z46319	20	3.6	0.0	81.0	0.0	0.0	81.0	0.0
E18	7/02	56-20	168-15	Y34881 Z49333	84	4.4	9457.0	9341.0	233.0	0.0	19031.0	0.0
E19	7/02	56-21	168-52	X18544 Z49557	68	4.2	3077.0	2479.0	85.0	0.0	5641.0	0.0
E20	7/02	56-22	169-27	Y35069 Z49746	73	4.2	1709.0	1111.0	85.0	0.0	2906.0	0.0
E21	7/03	56-20	170-02	X18409 Z49892	60	4.0	800.0	1200.0	0.0	0.0	2000.0	0.0
E22	7/10	56-22	170-39	X18286 Z50017	65	4.2	1186.0	1610.0	0.0	0.0	2796.0	0.0
F01	6/26	56-38	167-40	Y34712 Z49139	58	3.9	351.0	439.0	0.0	0.0	790.0	0.0
F02	6/26	56-39	167-04	Y34590 Z48905	51	3.9	657.0	1022.0	73.0	0.0	1752.0	0.0
F03	6/24	56-40	166-28	Y34472 Z48669	47	3.7	1513.0	924.0	0.0	0.0	2437.0	0.0
F04	6/24	56-39	165-53	Y34364 Z48436	43	3.6	9775.0	7583.0	333.0	83.0	17775.0	0.5
F05	6/20	56-41	165-08	Y34212 Z48132	41	3.5	2397.0	2975.0	83.0	0.0	5455.0	0.0
F06	6/20	56-42	164-32	Y34101 Z47895	40	3.4	492.0	1557.0	0.0	0.0	2049.0	0.0
F07	6/14	56-40	163-59	Y34013 Z47676	41	3.1	1000.0	429.0	500.0	0.0	1929.0	0.0
F08	6/14	56-40	163-22	Y33909 Z47424	40	3.0	1967.0	2049.0	82.0	0.0	4098.0	0.0
F09	6/09	56-40	162-44	Y33805 Z47173	39	3.1	1880.0	1709.0	171.0	256.0	4017.0	6.4
F10	6/07	56-39	162-11	Y33722 Z46949	37	3.4	342.0	822.0	342.0	68.0	1575.0	4.3
F11	6/07	56-41	161-34	Y33617 Z46700	48	3.3	2759.0	86.0	776.0	3276.0	6897.0	47.5
F12	6/06	56-40	160-59	Y33537 Z46469	36	3.6	1111.0	159.0	635.0	397.0	2301.0	17.3
F13	6/04	56-39	160-22	X18681 Z46220	31	3.7	813.0	976.0	407.0	0.0	2195.0	0.0
F14	6/03	56-39	160-02	Y33406 Z46086	26	3.9	0.0	81.0	0.0	0.0	81.0	0.0
F18	7/02	56-40	168-17	Y34831 Z49384	57	4.0	84.0	0.0	0.0	0.0	84.0	0.0
F19	7/02	56-40	168-55	Y34955 Z49626	53	4.0	603.0	603.0	1810.0	1293.0	4310.0	30.0
F20	7/02	56-38	169-29	Y35059 Z49822	39	5.2	217.0	435.0	109.0	0.0	760.0	0.0
F21	7/03	56-49	169-48	Y35092 Z49959	38	4.6	244.0	1057.0	163.0	0.0	1464.0	0.0
F21	7/03	56-38	170-06	X18535 Z49997	54	4.2	10424.0	11441.0	508.0	169.0	22543.0	0.7
F22	7/03	56-49	170-26	X18547 Z50109	54	4.3	9123.0	10175.0	351.0	702.0	20351.0	3.4
F22	7/10	56-39	170-44	X18397 Y35127	61	4.1	3458.0	2523.0	93.0	0.0	6075.0	0.0
F23	7/11	56-41	171-21	X18203 Y35066	64	4.0	786.0	500.0	0.0	0.0	1286.0	0.0
F24	7/11	56-39	171-55	X17983 Z50161	70	4.3	2612.0	3284.0	0.0	0.0	5896.0	0.0
F25	7/19	56-40	172-34	X17741 Z50173	80	4.4	219.0	219.0	0.0	0.0	438.0	0.0
G01	6/26	56-58	167-41	Y34626 Z49159	42	4.1	2652.0	3409.0	0.0	0.0	6061.0	0.0
G02	6/26	57-01	167-05	Y34487 Z48913	39	4.4	8061.0	8870.0	0.0	0.0	16931.0	0.0
G03	6/23	57-01	166-27	Y34360 Z48664	40	4.0	857.0	952.0	0.0	0.0	1809.0	0.0
G04	6/23	57-00	165-51	Y34245 Z48417	38	3.8	0.0	866.0	0.0	0.0	866.0	0.0
G05	6/20	56-58	165-13	Y34139 Z48164	39	3.3	83.0	165.0	0.0	0.0	248.0	0.0
G06	6/20	56-58	164-36	Y34026 Z47920	37	3.3	79.0	236.0	79.0	0.0	394.0	0.0
G07	6/14	57-01	163-59	Y33904 Z47667	37	3.0	3190.0	4310.0	431.0	0.0	7931.0	0.0
G08	6/14	57-00	163-22	Y33803 Z47418	35	3.1	18281.0	14297.0	469.0	0.0	33047.0	0.0
G09	6/09	56-58	162-47	Y33718 Z47185	33	3.2	9576.0	9237.0	508.0	85.0	19407.0	0.4
G10	6/07	56-59	162-10	Y33615 Z46935	31	3.4	8320.0	4960.0	640.0	160.0	14080.0	1.1
G11	6/06	57-00	161-33	Y33516 Z46687	37	3.2	776.0	862.0	259.0	259.0	2155.0	12.0
G12	6/06	57-00	160-54	Y33425 Z46428	39	3.5	4876.0	165.0	992.0	992.0	7190.0	13.8
G13	6/04	56-58	160-20	X18704 Z46197	33	3.5	2353.0	1176.0	1176.0	420.0	5126.0	8.2
G14	6/04	56-59	159-42	Y33261 Z45944	30	3.6	2520.0	2683.0	325.0	0.0	5528.0	0.0
G18	7/01	57-00	168-20	Y34756 Z49421	43	3.9	3534.0	4511.0	0.0	0.0	8045.0	0.0

NOTE: PRE-RECRUIT = 4.3-5.5 IN. WIDTH; LEGAL = 5.5 IN. OR GREATER IN WIDTH

TABLE 9 DATA FROM THE 1987 EASTERN BERING SEA TRAWL SURVEY WHERE BAIRDI TANNER CRAB WERE TAKEN (CONTINUED)

STATION	DATE	LATITUDE	LONGITUDE	LORAN C	DEPTH FTMS	BOTTOM TEMP	NUMBER PER SQUARE MILE					
								MALES (SEE NOTE)				
							FEMALES	SMALL	PRERECRUIT	LEGAL	TOTAL	PERCENT LEGAL
G19	7/02	56-50	168-37	Y34850 Z49523	53	3.9	1545.0	1951.0	0.0	0.0	3496.0	0.0
G19	7/01	57-09	168-37	Y34763 Z49526	41	4.1	469.0	78.0	0.0	0.0	547.0	0.0
G19	7/02	56-58	168-57	Y34898 Z49665	44	3.9	0.0	385.0	0.0	0.0	385.0	0.0
G20	7/02	56-50	169-15	Y34989 Z49768	44	4.0	4286.0	667.0	3048.0	2095.0	10096.0	20.8
G20	7/01	57-10	169-17	Y34904 Z49790	40	4.3	2456.0	2895.0	3070.0	965.0	9386.0	10.3
G20	7/03	56-59	169-35	Y35029 Z49911	33	4.6	27024.0	30504.0	3025.0	0.0	60553.0	0.0
G21	7/03	57-09	169-53	Y35052 Z50036	26	5.1	292.0	511.0	0.0	0.0	803.0	0.0
G21	7/03	56-59	170-12	X18679 Z50123	38	5.2	483.0	1517.0	138.0	0.0	2138.0	0.0
G22	7/05	57-07	170-29	X18652 Y35106	28	5.5	2748.0	3664.0	458.0	0.0	6870.0	0.0
G22	7/10	56-59	170-47	X18502 Y35089	52	4.2	14819.0	14274.0	565.0	242.0	29900.0	0.8
G23	7/11	57-01	171-23	X18277 Y34993	59	4.0	9474.0	8421.0	0.0	0.0	17895.0	0.0
G24	7/11	57-01	172-00	X18036 Y34901	63	4.2	4500.0	3167.0	83.0	0.0	7750.0	0.0
G25	7/19	56-58	172-38	X17781 Y34821	68	4.3	1653.0	744.0	0.0	0.0	2397.0	0.0
G26	7/18	57-01	173-17	X17538 Y34713	79	4.2	3077.0	2462.0	0.0	0.0	5539.0	0.0
H01	6/26	57-18	167-43	Y34511 Z49157	40	3.9	596.0	927.0	66.0	0.0	1589.0	0.0
H02	6/27	57-20	167-06	Y34369 Z48904	38	4.2	0.0	323.0	323.0	0.0	645.0	0.0
H03	6/23	57-21	166-29	Y34243 Z48657	37	4.0	0.0	488.0	0.0	0.0	488.0	0.0
H04	6/23	57-19	165-51	Y34133 Z48407	36	3.6	0.0	1849.0	84.0	0.0	1933.0	0.0
H05	6/20	57-18	165-13	Y34022 Z48156	36	3.5	0.0	758.0	152.0	0.0	909.0	0.0
H06	6/20	57-19	164-37	Y33906 Z47911	34	2.9	11085.0	6279.0	310.0	0.0	17674.0	0.0
H07	6/14	57-21	163-59	Y33784 Z47656	33	2.4	97160.0	73866.0	0.0	0.0	171026.0	0.0
H08	6/13	57-20	163-23	Y33689 Z47414	27	3.2	7719.0	15789.0	0.0	0.0	23508.0	0.0
H09	6/09	57-20	162-47	Y33592 Z47173	26	3.4	55319.0	46667.0	476.0	476.0	102938.0	0.5
H10	6/07	57-19	162-08	Y33499 Z46916	27	3.2	17956.0	17226.0	1752.0	1314.0	39343.0	3.3
H11	6/06	57-21	161-31	Y33394 Z46669	30	3.2	3333.0	8551.0	2826.0	1232.0	15942.0	7.7
H12	6/05	57-20	160-55	Y33315 Z46425	34	3.4	2713.0	1163.0	1318.0	465.0	5659.0	8.2
H13	6/04	57-18	160-16	X18724 Z46165	32	3.7	20091.0	24182.0	2000.0	909.0	47182.0	1.9
H14	6/04	57-19	159-39	Y33148 Z45920	29	3.7	2835.0	2992.0	157.0	0.0	5985.0	0.0
H15	5/28	57-20	159-02	Y33064 Z45674	25	3.4	236.0	551.0	157.0	0.0	945.0	0.0
H18	7/01	57-19	168-22	Y34642 Z49414	40	4.1	0.0	684.0	85.0	0.0	769.0	0.0
H19	7/01	57-20	169-01	Y34774 Z49666	39	4.1	734.0	2569.0	183.0	0.0	3486.0	0.0
H20	7/05	57-19	169-38	Y34916 Z49908	33	3.2	9517.0	12899.0	3000.0	333.0	25749.0	1.3
H21	7/05	57-28	169-56	X18711 Z49962	37	2.6	8013.0	11231.0	923.0	308.0	20475.0	1.5
H21	7/05	57-19	170-14	X18707 Y35010	29	6.0	0.0	96.0	0.0	0.0	96.0	0.0
H22	7/05	57-29	170-33	X18590 Y34886	40	4.0	2519.0	2519.0	153.0	229.0	5420.0	4.2
H22	7/10	57-20	170-51	X18517 Y34949	44	4.3	12000.0	8485.0	6061.0	3636.0	30182.0	12.0
H23	7/11	57-21	171-27	X18289 Y34860	55	3.7	7288.0	5763.0	0.0	85.0	13135.0	0.6
H24	7/11	57-19	172-07	X18036 Y34773	58	3.9	2613.0	1802.0	90.0	0.0	4505.0	0.0
H25	7/19	57-16	172-41	X17805 Y34714	62	4.1	584.0	73.0	73.0	0.0	730.0	0.0
H26	7/18	57-20	173-20	X17568 Y34594	66	4.1	726.0	565.0	0.0	0.0	1291.0	0.0
I01	6/27	57-40	167-45	Y34353 Z49122	37	4.0	83.0	750.0	0.0	0.0	833.0	0.0
I02	6/27	57-39	167-07	Y34236 Z48881	36	3.5	0.0	325.0	0.0	0.0	325.0	0.0
I03	6/23	57-41	166-30	Y34101 Z48632	36	3.4	0.0	522.0	0.0	0.0	522.0	0.0
I04	6/23	57-40	165-54	Y33999 Z48398	34	3.8	76.0	227.0	76.0	0.0	379.0	0.0
I05	6/20	57-38	165-14	Y33890 Z48138	33	3.2	159.0	476.0	0.0	0.0	635.0	0.0

NOTE: PRE-RECRUIT = 4.3-5.5 IN. WIDTH; LEGAL = 5.5 IN. OR GREATER IN WIDTH

TABLE 9 DATA FROM THE 1987 EASTERN BERING SEA TRAWL SURVEY WHERE BAIRDI TANNER CRAB WERE TAKEN (CONTINUED)

STATION	DATE	LATITUDE	LONGITUDE	LORAN C	DEPTH FTMS	BOTTOM TEMP	NUMBER PER SQUARE MILE					
								MALES (SEE NOTE)				
							FEMALES	SMALL	PRERECRUIT	LEGAL	TOTAL	PERCENT LEGAL
I06	6/20	57-39	164-38	Y33778 Z47899	28	3.1	6357.0	7364.0	0.0	0.0	13721.0	0.0
I07	6/13	57-41	164-00	Y33661 Z47650	26	2.6	6727.0	13909.0	182.0	0.0	20818.0	0.0
I08	6/13	57-40	163-22	Y33558 Z47395	24	3.3	657.0	876.0	0.0	0.0	1533.0	0.0
I09	6/10	57-39	162-44	Y33467 Z47148	23	3.3	2263.0	2993.0	0.0	0.0	5256.0	0.0
I10	6/08	57-39	162-07	Y33371 Z46898	25	3.0	938.0	2266.0	313.0	78.0	3594.0	2.2
I11	6/06	57-40	161-29	Y33274 Z46649	28	2.9	156.0	313.0	1172.0	547.0	2187.0	25.0
I12	6/05	57-41	160-53	Y33186 Z46404	29	3.4	2705.0	3934.0	1230.0	246.0	8115.0	3.0
I13	6/04	57-39	160-15	X18738 Z46154	29	3.6	4746.0	8983.0	1525.0	254.0	15509.0	1.6
I14	6/04	57-38	159-39	Y33040 Z45917	26	3.6	76.0	0.0	0.0	0.0	76.0	0.0
I18	6/30	57-40	168-26	Y34487 Z49384	37	3.9	81.0	0.0	0.0	0.0	81.0	0.0
I19	7/01	57-30	168-43	Y34634 Z49525	38	4.0	79.0	476.0	0.0	0.0	555.0	0.0
I19	6/30	57-49	168-45	Y34455 Z49461	38	3.6	0.0	732.0	0.0	0.0	732.0	0.0
I19	6/30	57-40	169-04	Y34600 Z49611	37	4.0	4289.0	6434.0	0.0	0.0	10723.0	0.0
I20	7/01	57-31	169-19	Y34743 Z49747	37	3.2	543.0	1938.0	155.0	0.0	2636.0	0.0
I20	7/05	57-39	169-38	Y34706 Z49810	38	2.8	3120.0	3360.0	80.0	0.0	6560.0	0.0
I21	7/06	57-49	169-57	Y34625 Z49835	38	3.0	2197.0	3409.0	0.0	0.0	5606.0	0.0
I21	7/05	57-39	170-18	X18614 Y34769	39	2.4	5781.0	3984.0	0.0	0.0	9765.0	0.0
I22	7/05	57-49	170-36	X18506 Y34645	42	3.0	1727.0	2818.0	0.0	0.0	4545.0	0.0
I22	7/10	57-39	170-52	X18465 Y34747	46	3.5	2109.0	3125.0	78.0	0.0	5312.0	0.0
I23	7/10	57-41	171-32	X18249 Y34668	54	3.7	360.0	270.0	90.0	0.0	720.0	0.0
I24	7/11	57-38	172-06	X18049 Y34627	57	3.8	1053.0	827.0	0.0	0.0	1880.0	0.0
I25	7/19	57-38	172-47	X17797 Y34538	66	4.0	424.0	254.0	0.0	0.0	678.0	0.0
I26	7/18	57-40	173-23	X17576 Y34450	80	4.2	1148.0	1148.0	246.0	0.0	2541.0	0.0
J01	6/27	57-59	167-47	Y34191 Z49075	36	3.6	250.0	1417.0	0.0	0.0	1667.0	0.0
J03	6/23	58-01	166-31	X18745 Z48599	33		0.0	159.0	0.0	0.0	159.0	0.0
J04	6/23	58-00	165-54	Y33840 Z48360	29	3.2	156.0	0.0	0.0	0.0	156.0	0.0
J05	6/20	57-57	165-14	Y33747 Z48110	27	3.4	252.0	420.0	0.0	0.0	672.0	0.0
J06	6/20	57-59	164-37	Y33630 Z47867	23	3.1	977.0	977.0	0.0	0.0	1954.0	0.0
J07	6/13	58-01	164-00	Y33516 Z47623	24	2.8	192.0	385.0	0.0	0.0	577.0	0.0
J08	6/13	58-00	163-22	Y33421 Z47377	22	3.1	0.0	80.0	0.0	0.0	80.0	0.0
J09	6/10	57-58	162-45	Y33339 Z47135	22	3.3	92.0	0.0	0.0	0.0	92.0	0.0
J10	6/08	57-59	162-06	Y33239 Z46881	19	2.4	79.0	79.0	0.0	0.0	158.0	0.0
J11	6/06	57-58	161-28	Y33156 Z46631	28	3.2	0.0	85.0	85.0	0.0	171.0	0.0
J12	6/05	58-00	160-49	Y33057 Z46379	23	3.5	0.0	146.0	365.0	73.0	584.0	12.5
J13	6/05	57-58	160-12	X18746 Z46134	27	3.3	73.0	292.0	0.0	0.0	365.0	0.0
J14	6/04	57-59	159-35	Y32909 Z45893	21	3.8	0.0	82.0	0.0	0.0	82.0	0.0
J18	6/30	58-01	168-25	Y34285 Z49299	37	3.6	0.0	4000.0	160.0	0.0	4160.0	0.0
J19	6/30	58-01	169-04	Y34382 Z49512	38	3.4	182.0	1636.0	0.0	0.0	1818.0	0.0
J20	6/30	57-51	169-19	Y34531 Z49644	35	3.5	1551.0	7757.0	0.0	0.0	9308.0	0.0
J20	7/06	57-59	169-42	Y34484 Z49707	37	3.3	1600.0	2560.0	0.0	0.0	4160.0	0.0
J21	7/06	57-58	170-21	X18526 Y34532	40	2.3	26667.0	25263.0	175.0	0.0	52106.0	0.0
J22	7/09	58-00	170-59	Y34509 Z49941	46	3.3	78.0	313.0	78.0	0.0	469.0	0.0
J23	7/10	58-00	171-35	X18195 Y34466	53	3.6	2018.0	2110.0	0.0	0.0	4128.0	0.0
J24	7/19	57-59	172-13	X17996 Y34418	57	3.7	2750.0	750.0	83.0	0.0	3583.0	0.0
J25	7/19	57-59	172-51	X17778 Y34358	60	3.7	1193.0	734.0	0.0	0.0	1927.0	0.0

NOTE: PRE-RECRUIT = 4.3-5.5 IN. WIDTH; LEGAL = 5.5 IN. OR GREATER IN WIDTH

TABLE 9 DATA FROM THE 1987 EASTERN BERING SEA TRAWL SURVEY WHERE BAIRDI TANNER CRAB WERE TAKEN (CONTINUED)

STATION	DATE	LATITUDE	LONGITUDE	LORAN C	DEPTH FTMS	BOTTOM TEMP	NUMBER PER SQUARE MILE					
								MALES (SEE NOTE)				
							FEMALES	SMALL	PRERECRUIT	LEGAL	TOTAL	PERCENT LEGAL
J26	7/18	58-00	173-29	X17559 Y34280	64	3.9	1230.0	656.0	246.0	0.0	2132.0	0.0
K03	6/23	58-21	166-32	X18725 Z48550	25	3.3	0.0	93.0	0.0	0.0	93.0	0.0
K05	6/21	58-18	165-16	Y33589 Z48082	24	3.1	83.0	0.0	0.0	0.0	83.0	0.0
K18	6/30	58-20	168-27	Y34084 Z49220	35	3.2	0.0	156.0	0.0	0.0	156.0	0.0
K19	6/30	58-21	169-07	Y34160 Z49415	36	3.5	0.0	82.0	0.0	0.0	82.0	0.0
K20	7/06	58-20	169-44	Y34237 Z49587	37	3.1	310.0	155.0	0.0	0.0	465.0	0.0
K21	7/06	58-20	170-23	X18435 Z49720	40	2.0	2036.0	2545.0	509.0	0.0	5090.0	0.0
K22	7/09	58-20	171-00	X18301 Y34270	45	2.3	157.0	866.0	236.0	0.0	1259.0	0.0
K23	7/10	58-21	171-39	X18128 Y34237	52	3.1	598.0	427.0	0.0	0.0	1025.0	0.0
K24	7/19	58-20	172-18	X17940 Y34209	55	3.3	3788.0	4015.0	0.0	0.0	7803.0	0.0
K26	7/30	58-19	173-35	X17525 Z49993	63	3.9	694.0	278.0	278.0	0.0	1250.0	0.0
K27	7/30	58-18	174-16	X17293 Z50014	82	4.0	1102.0	847.0	254.0	0.0	2204.0	0.0
L19	6/30	58-40	169-06	Y33935 Z49304	33	3.2	0.0	763.0	0.0	0.0	763.0	0.0
L20	7/06	58-39	169-47	Y34005 Z49476	35	3.1	152.0	76.0	0.0	0.0	228.0	0.0
L21	7/06	58-39	170-25	X18362 Z49607	40	2.7	242.0	403.0	0.0	0.0	645.0	0.0
L22	7/09	58-39	171-08	Y34028 Z49707	44	2.0	81.0	569.0	81.0	0.0	731.0	0.0
L23	7/10	58-41	171-42	X18064 Y34010	50	2.9	750.0	833.0	0.0	0.0	1583.0	0.0
L24	7/19	58-39	172-22	X17888 Y33995	55	3.1	1985.0	2061.0	0.0	0.0	4046.0	0.0
L25	7/20	58-38	172-59	X17705 Y33970	61	3.5	3252.0	1789.0	244.0	0.0	5285.0	0.0
L26	7/30	58-39	173-37	X17507 Z49917	68	3.9	4390.0	3008.0	81.0	0.0	7479.0	0.0
L27	7/30	58-40	174-20	X17280 Z49937	87	3.9	200.0	2400.0	0.0	0.0	2600.0	0.0
L28	7/30	58-45	174-56	X17088 Z49936	77	3.4	923.0	2000.0	769.0	0.0	3692.0	0.0
L29	7/30	58-45	175-29	X16912 Z49949	73	3.4	4135.0	1880.0	1955.0	75.0	8045.0	0.9
M20	7/06	58-59	169-49	Y33767 Z49367	33	3.1	0.0	76.0	0.0	0.0	76.0	0.0
M21	7/06	58-58	170-28	X18286 Z49500	39	2.7	0.0	81.0	0.0	0.0	81.0	0.0
M22	7/09	59-00	171-08	Y33787 Z49591	41	2.0	379.0	1894.0	76.0	0.0	2349.0	0.0
M23	7/10	59-00	171-45	X18000 Y33781	47	2.3	261.0	435.0	87.0	0.0	783.0	0.0
M24	7/19	59-03	172-26	X17822 Y33738	53	2.8	1138.0	1138.0	0.0	0.0	2276.0	0.0
M25	7/20	58-59	173-04	X17652 Y33753	58	3.3	783.0	1043.0	87.0	0.0	1913.0	0.0
M27	7/29	59-04	174-23	X17263 Z49844	68	3.5	351.0	351.0	0.0	0.0	702.0	0.0
M28	7/29	59-05	174-52	X17116 Z49860	70	2.9	3308.0	2538.0	0.0	0.0	5846.0	0.0
M29	7/30	59-00	175-35	X16888 Z49902	74	2.6	1273.0	727.0	0.0	0.0	2000.0	0.0
N20	7/07	59-19	169-51	Y33516 Z49254	32	2.4	81.0	0.0	0.0	0.0	81.0	0.0
N21	7/07	59-18	170-31	X18209 Z49386	37	2.4	88.0	175.0	0.0	0.0	263.0	0.0
N22	7/09	59-22	171-11	Y33533 Z49475	40	1.9	0.0	76.0	0.0	0.0	76.0	0.0
N23	7/09	59-21	171-50	X17931 Y33540	44	1.1	93.0	187.0	0.0	0.0	280.0	0.0
N24	7/19	59-19	172-29	X17775 Y33553	47	2.6	254.0	508.0	0.0	0.0	762.0	0.0
N25	7/20	59-19	173-08	X17606 Y33534	55	2.8	500.0	1417.0	0.0	0.0	1917.0	0.0
N25	7/20	59-28	173-26	X17513 Y33423	56	2.5	83.0	413.0	0.0	0.0	496.0	0.0
N26	7/29	59-19	173-47	X17427 Z49749	59	3.2	5795.0	8573.0	0.0	0.0	14368.0	0.0
N27	7/29	59-21	174-27	X17238 Z49778	67	3.2	1009.0	1468.0	0.0	0.0	2477.0	0.0
N28	7/29	59-18	174-59	X17080 Z49814	72	3.0	735.0	588.0	0.0	0.0	1323.0	0.0
N29	7/30	59-18	175-36	X16895 Z49839	76	2.8	1765.0	3445.0	0.0	0.0	5210.0	0.0
O22	7/08	59-40	171-14	Y33310 Z49378	39	2.5	79.0	0.0	0.0	0.0	79.0	0.0
O24	7/20	59-39	172-32	X17722 Y33328	43	1.2	0.0	169.0	85.0	0.0	254.0	0.0

NOTE: PRE-RECRUIT = 4.3-5.5 IN. WIDTH; LEGAL = 5.5 IN. OR GREATER IN WIDTH

TABLE 9 DATA FROM THE 1987 EASTERN BERING SEA TRAWL SURVEY WHERE BAIRDI TANNER CRAB WERE TAKEN (CONTINUED)

STATION	DATE	LATITUDE	LONGITUDE	LORAN C	DEPTH FTMS	BOTTOM TEMP	NUMBER PER SQUARE MILE					
								MALES (SEE NOTE)				
							FEMALES	SMALL	PRERECRUIT	LEGAL	TOTAL	PERCENT LEGAL
O25	7/21	59-39	173-14	X17551 Y33318	53	2.3	0.0	862.0	86.0	0.0	948.0	0.0
O25	7/21	59-48	173-31	X17466 Y33214	51	2.0	0.0	244.0	163.0	0.0	407.0	0.0
O26	7/29	59-39	173-51	X17389 Z49661	56	2.6	0.0	357.0	0.0	0.0	357.0	0.0
O27	7/29	59-37	174-33	X17202 Z49711	64	2.9	1858.0	2301.0	0.0	0.0	4159.0	0.0
O28	7/28	59-40	175-08	X17037 Z49734	69	2.8	2389.0	2655.0	0.0	0.0	5044.0	0.0
O29	7/28	59-40	175-54	X16822 Z49767	75	2.5	0.0	1102.0	0.0	0.0	1102.0	0.0
O30	7/28	59-40	176-35	X16627 Y33177	74	2.0	2143.0	3730.0	79.0	0.0	5953.0	0.0
O31	7/28	59-41	177-10	X16461 Y33137	91	3.0	168.0	420.0	84.0	0.0	672.0	0.0
P23	7/09	59-50	172-13	X17773 Y33201	40	0.7	0.0	303.0	76.0	0.0	379.0	0.0
P30	7/28	59-59	176-40	X16618 Y33001	77	1.6	0.0	84.0	0.0	0.0	84.0	0.0
P31	7/28	59-59	177-11	X16478 Y32982	75	1.6	161.0	1532.0	81.0	0.0	1774.0	0.0
P32	7/28	60-00	177-54	X16281 Y32948	78	0.7	2844.0	3028.0	0.0	0.0	5872.0	0.0
Q26	7/22	60-19	174-03	X17295 Y32871	49	1.7	76.0	0.0	0.0	0.0	76.0	0.0
Q28	7/27	60-19	175-23	X16963 Y32854	60	2.0	0.0	78.0	0.0	0.0	78.0	0.0
R28	7/22	60-39	175-26	X16948 Y32658	59	1.6	0.0	85.0	0.0	0.0	85.0	0.0
R32	7/25	60-39	178-10	X16271 Y32618	88	1.2	86.0	0.0	0.0	0.0	86.0	0.0
S31	7/24	60-59	177-37	X16426 Y32458	73	1.0	81.0	0.0	0.0	0.0	81.0	0.0
S32	7/24	60-59	178-18	X16261 Y32452	87	2.2	147.0	0.0	0.0	0.0	147.0	0.0
S33	7/24	60-59	178-43	X16163 Y32450	108	2.8	526.0	526.0	0.0	0.0	1052.0	0.0
Z04	6/25	54-48	165-45	Y34679 Z48254	105	4.4	35167.0	28676.0	547.0	0.0	64390.0	0.0
Z05	6/15	54-42	165-05	Y34594 Z48008	42	5.7	270.0	135.0	0.0	0.0	405.0	0.0

NOTE: PRE-RECRUIT = 4.3-5.5 IN. WIDTH; LEGAL = 5.5 IN. OR GREATER IN WIDTH

TABLE 10 DATA FROM THE 1987 EASTERN BERING SEA TRAWL SURVEY WHERE OPILIO TANNER CRAB WERE TAKEN

STATION	DATE	LATITUDE	LONGITUDE	LORAN C	DEPTH FTMS	BOTTOM TEMP	NUMBER PER SQUARE MILE					
								MALES (SEE NOTE)				
							FEMALES	SMALL	PRERECRUIT	LARGE	TOTAL	PERCENT LARGE
A02	6/25	55-00	166-55	Y34822 Z48673	85	3.7	0.0	79.0	0.0	0.0	79.0	0.0
A03	6/25	55-01	166-19	Y34737 Z48475	79	4.3	0.0	0.0	82.0	164.0	246.0	66.7
A04	6/25	54-59	165-45	Y34656 Z48270	71	4.1	0.0	234.0	156.0	234.0	625.0	37.4
A05	6/19	54-57	165-12	X18338 Z48071	61	5.0	0.0	256.0	256.0	0.0	513.0	0.0
B01	6/25	55-19	167-32	Y34879 Z48925	82	3.4	0.0	80.0	0.0	80.0	160.0	50.0
B02	6/25	55-19	166-57	Y34796 Z48732	76	4.3	0.0	0.0	74.0	370.0	444.0	83.3
B03	6/24	55-21	166-21	Y34702 Z48522	73	4.4	0.0	84.0	168.0	84.0	336.0	25.0
B04	6/24	55-19	165-46	Y34615 Z48311	66	4.4	0.0	0.0	81.0	0.0	81.0	0.0
B05	6/19	55-18	165-10	X18421 Z48087	61	4.6	0.0	76.0	227.0	379.0	682.0	55.6
B06	6/15	55-20	164-33	Y34422 Z47861	55	5.2	0.0	83.0	579.0	826.0	1488.0	55.5
B07	6/15	55-23	163-58	Y34321 Z47645	48	4.5	0.0	0.0	85.0	0.0	85.0	0.0
B08	6/15	55-21	163-25	Y34238 Z47433	29	5.0	0.0	165.0	83.0	0.0	248.0	0.0
C01	6/25	55-39	167-35	Y34856 Z48994	74	4.3	0.0	0.0	0.0	79.0	79.0	100.0
C02	6/26	55-40	166-58	Y34759 Z48782	73	4.3	0.0	0.0	81.0	163.0	244.0	66.8
C03	6/24	55-41	166-23	Y34661 Z48569	69	4.4	0.0	0.0	96.0	96.0	192.0	50.0
C04	6/24	55-40	165-48	Y34568 Z48355	63	4.5	0.0	244.0	81.0	163.0	488.0	33.4
C05	6/19	55-38	165-09	X18493 Z48107	60	4.2	0.0	0.0	168.0	168.0	336.0	50.0
C06	6/19	55-39	164-35	Y34368 Z47891	52	4.4	0.0	0.0	0.0	880.0	880.0	100.0
C07	6/15	55-41	164-01	Y34269 Z47670	52	4.1	0.0	0.0	175.0	439.0	614.0	71.5
C08	6/14	55-40	163-23	Y34169 Z47428	43	4.2	0.0	301.0	75.0	301.0	677.0	44.5
C18	7/17	55-41	168-09	X18363 Z49195	74	4.5	0.0	84.0	168.0	0.0	252.0	0.0
D01	6/26	55-59	167-38	Y34825 Z49063	73	4.3	0.0	0.0	0.0	183.0	183.0	100.0
D02	6/26	56-02	167-00	Y34710 Z48833	72	4.3	0.0	0.0	70.0	0.0	70.0	0.0
D04	6/24	56-00	165-47	Y34505 Z48373	59	4.1	73.0	0.0	73.0	0.0	146.0	0.0
D05	6/19	55-58	165-10	X18561 Z48130	53	4.1	0.0	76.0	0.0	152.0	227.0	67.0
D06	6/19	55-59	164-34	Y34296 Z47899	50	4.0	0.0	73.0	0.0	219.0	292.0	75.0
D07	6/14	56-01	164-00	Y34191 Z47675	49	3.9	0.0	163.0	163.0	81.0	407.0	19.9
D08	6/14	56-00	163-23	Y34093 Z47435	47	3.9	0.0	148.0	370.0	74.0	593.0	12.5
D09	6/08	55-59	162-48	Y34005 Z47204	44	3.6	0.0	71.0	213.0	142.0	426.0	33.3
D10	6/07	56-02	162-15	Y33906 Z46987	38	4.1	0.0	0.0	149.0	149.0	299.0	49.8
D18	7/17	55-59	168-12	X18463 Z49262	82	4.2	0.0	0.0	89.0	357.0	446.0	80.0
E01	6/26	56-19	167-38	Y34776 Z49105	72	4.3	0.0	0.0	85.0	169.0	254.0	66.5
E02	6/26	56-19	167-02	Y34661 Z48872	61	4.3	0.0	0.0	74.0	0.0	74.0	0.0
E03	6/24	56-20	166-25	Y34542 Z48636	56	4.2	0.0	0.0	320.0	0.0	320.0	0.0
E04	6/24	56-20	165-47	Y34429 Z48390	49	4.4	76.0	152.0	152.0	152.0	531.0	28.6
E05	6/19	56-18	165-11	Y34327 Z48150	48	3.3	0.0	200.0	200.0	200.0	600.0	33.3
E06	6/19	56-19	164-35	Y34215 Z47909	47	3.2	0.0	246.0	410.0	82.0	738.0	11.1
E07	6/14	56-21	164-00	Y34105 Z47677	46	3.3	0.0	379.0	303.0	606.0	1288.0	47.0
E08	6/14	56-20	163-23	Y34007 Z47436	46	3.6	0.0	0.0	81.0	163.0	244.0	66.8
E09	6/08	56-19	162-47	Y33915 Z47198	43	3.7	0.0	0.0	90.0	0.0	90.0	0.0
E10	6/07	56-22	162-13	Y33811 Z46965	44	3.8	0.0	0.0	0.0	164.0	164.0	100.0
E11	6/07	56-20	161-37	Y33725 Z46726	37	3.9	0.0	78.0	0.0	0.0	78.0	0.0
E18	7/02	56-20	168-15	Y34881 Z49333	84	4.4	0.0	0.0	155.0	775.0	930.0	83.3
E19	7/02	56-21	168-52	X18544 Z49557	68	4.2	0.0	0.0	256.0	342.0	598.0	57.2
E21	7/03	56-20	170-02	X18409 Z49892	60	4.0	0.0	0.0	80.0	0.0	80.0	0.0

NOTE: PRE-RECRUIT = 3.1-4.0 IN. WIDTH; LARGE = 4.0 IN. OR GREATER IN WIDTH

TABLE 10 DATA FROM THE 1987 EASTERN BERING SEA TRAWL SURVEY WHERE OPILIO TANNER CRAB WERE TAKEN (CONTINUED)

STATION	DATE	LATITUDE	LONGITUDE	LORAN C	DEPTH FTMS	BOTTOM TEMP	NUMBER PER SQUARE MILE					
								MALES (SEE NOTE)				
							FEMALES	SMALL	PRERECRUIT	LARGE	TOTAL	PERCENT LARGE
E22	7/10	56-22	170-39	X18286 Z50017	65	4.2	0.0	0.0	85.0	0.0	85.0	0.0
F01	6/26	56-38	167-40	Y34712 Z49139	58	3.9	0.0	0.0	0.0	175.0	175.0	100.0
F02	6/26	56-39	167-04	Y34590 Z48905	51	3.9	0.0	0.0	73.0	438.0	511.0	85.7
F03	6/24	56-40	166-28	Y34472 Z48669	47	3.7	336.0	672.0	504.0	588.0	2101.0	28.0
F04	6/24	56-39	165-53	Y34364 Z48436	43	3.6	167.0	1333.0	417.0	500.0	2417.0	20.7
F05	6/20	56-41	165-08	Y34212 Z48132	41	3.5	0.0	165.0	579.0	248.0	992.0	25.0
F06	6/20	56-42	164-32	Y34101 Z47895	40	3.4	246.0	164.0	328.0	82.0	820.0	10.0
F07	6/14	56-40	163-59	Y34013 Z47676	41	3.1	0.0	214.0	214.0	0.0	429.0	0.0
F08	6/14	56-40	163-22	Y33909 Z47424	40	3.0	0.0	492.0	492.0	82.0	1066.0	7.7
F09	6/09	56-40	162-44	Y33805 Z47173	39	3.1	0.0	171.0	256.0	85.0	513.0	16.6
F10	6/07	56-39	162-11	Y33722 Z46949	37	3.4	0.0	137.0	342.0	274.0	753.0	36.4
F11	6/07	56-41	161-34	Y33617 Z46700	48	3.3	0.0	0.0	517.0	172.0	690.0	24.9
F13	6/04	56-39	160-22	X18681 Z46220	31	3.7	0.0	0.0	0.0	81.0	81.0	100.0
F18	7/02	56-40	168-17	Y34831 Z49384	57	4.0	504.0	252.0	840.0	2017.0	3613.0	55.8
F19	7/02	56-40	168-55	Y34955 Z49626	53	4.0	0.0	862.0	7069.0	5948.0	13879.0	42.9
F21	7/03	56-38	170-06	X18535 Z49997	54	4.2	0.0	254.0	254.0	0.0	508.0	0.0
F21	7/03	56-49	169-48	Y35092 Z49959	38	4.6	0.0	244.0	488.0	163.0	894.0	18.2
F22	7/10	56-39	170-44	X18397 Y35127	61	4.1	0.0	0.0	0.0	280.0	280.0	100.0
F22	7/03	56-49	170-26	X18547 Z50109	54	4.3	0.0	88.0	1053.0	1228.0	2368.0	51.9
F23	7/11	56-41	171-21	X18203 Y35066	64	4.0	0.0	0.0	71.0	357.0	429.0	83.2
G01	6/26	56-58	167-41	Y34626 Z49159	42	4.1	0.0	455.0	1212.0	379.0	2045.0	18.5
G02	6/26	57-01	167-05	Y34487 Z48913	39	4.4	146.0	1241.0	1460.0	657.0	3504.0	18.8
G03	6/23	57-01	166-27	Y34360 Z48664	40	4.0	95.0	1048.0	476.0	95.0	1714.0	5.5
G04	6/23	57-00	165-51	Y34245 Z48417	38	3.8	236.0	5748.0	3701.0	630.0	10315.0	6.1
G05	6/20	56-58	165-13	Y34139 Z48164	39	3.3	165.0	413.0	579.0	0.0	1157.0	0.0
G06	6/20	56-58	164-36	Y34026 Z47920	37	3.3	472.0	315.0	866.0	157.0	1811.0	8.7
G07	6/14	57-01	163-59	Y33904 Z47667	37	3.0	0.0	172.0	345.0	0.0	517.0	0.0
G08	6/14	57-00	163-22	Y33803 Z47418	35	3.1	0.0	469.0	625.0	156.0	1250.0	12.5
G09	6/09	56-58	162-47	Y33718 Z47185	33	3.2	0.0	339.0	85.0	254.0	678.0	37.5
G10	6/07	56-59	162-10	Y33615 Z46935	31	3.4	0.0	0.0	80.0	80.0	160.0	50.0
G11	6/06	57-00	161-33	Y33516 Z46687	37	3.2	0.0	0.0	259.0	86.0	345.0	24.9
G12	6/06	57-00	160-54	Y33425 Z46428	39	3.5	0.0	0.0	83.0	0.0	83.0	0.0
G18	7/01	57-00	168-20	Y34756 Z49421	43	3.9	287820.0	52491.0	14746.0	977.0	356034.0	0.3
G19	7/02	56-50	168-37	Y34850 Z49523	53	3.9	31313.0	3740.0	3902.0	3902.0	42858.0	9.1
G19	7/01	57-09	168-37	Y34763 Z49526	41	4.1	194758.0	52307.0	6563.0	1406.0	255033.0	0.6
G19	7/02	56-58	168-57	Y34898 Z49665	44	3.9	58284.0	20000.0	11538.0	2769.0	92592.0	3.0
G20	7/01	57-10	169-17	Y34904 Z49790	40	4.3	266994.0	54774.0	14881.0	1583.0	338232.0	0.5
G20	7/02	56-50	169-15	Y34989 Z49768	44	4.0	667.0	1333.0	3333.0	2286.0	7619.0	30.0
G20	7/03	56-59	169-35	Y35029 Z49911	33	4.6	0.0	0.0	252.0	0.0	252.0	0.0
G22	7/10	56-59	170-47	X18502 Y35089	52	4.2	323.0	323.0	968.0	1210.0	2823.0	42.9
G23	7/11	57-01	171-23	X18277 Y34993	59	4.0	0.0	150.0	752.0	1729.0	2632.0	65.7
G24	7/11	57-01	172-00	X18036 Y34901	63	4.2	0.0	83.0	0.0	83.0	167.0	49.7
G25	7/19	56-58	172-38	X17781 Y34821	68	4.3	0.0	0.0	83.0	0.0	83.0	0.0
H01	6/26	57-18	167-43	Y34511 Z49157	40	3.9	130526.0	63046.0	5828.0	1060.0	200460.0	0.5
H02	6/27	57-20	167-06	Y34369 Z48904	38	4.2	121995.0	108632.0	16005.0	1613.0	248245.0	0.6

NOTE: PRE-RECRUIT = 3.1-4.0 IN. WIDTH; LARGE = 4.0 IN. OR GREATER IN WIDTH

TABLE 10 DATA FROM THE 1987 EASTERN BERING SEA TRAWL SURVEY WHERE OPILIO TANNER CRAB WERE TAKEN (CONTINUED)

STATION	DATE	LATITUDE	LONGITUDE	LORAN C	DEPTH FTMS	BOTTOM TEMP	NUMBER PER SQUARE MILE					PERCENT LARGE
								MALES (SEE NOTE)				
							FEMALES	SMALL	PRERECRUIT	LARGE	TOTAL	
H03	6/23	57-21	166-29	Y34243 Z48657	37	4.0	4309.0	6911.0	488.0	81.0	11789.0	0.7
H04	6/23	57-19	165-51	Y34133 Z48407	36	3.6	11165.0	30924.0	1681.0	0.0	43770.0	0.0
H05	6/20	57-18	165-13	Y34022 Z48156	36	3.5	4015.0	22553.0	8959.0	309.0	35837.0	0.9
H06	6/20	57-19	164-37	Y33906 Z47911	34	2.9	620.0	3488.0	1550.0	78.0	5736.0	1.4
H07	6/14	57-21	163-59	Y33784 Z47656	33	2.4	0.0	1053.0	1316.0	0.0	2368.0	0.0
H08	6/13	57-20	163-23	Y33689 Z47414	27	3.2	0.0	0.0	0.0	88.0	88.0	100.0
H09	6/09	57-20	162-47	Y33592 Z47173	26	3.4	0.0	0.0	0.0	0.0	159.0	0.0
H10	6/07	57-19	162-08	Y33499 Z46916	27	3.2	0.0	0.0	146.0	73.0	219.0	33.3
H11	6/06	57-21	161-31	Y33394 Z46669	30	3.2	0.0	0.0	72.0	72.0	145.0	49.7
H13	6/04	57-18	160-16	X18724 Z46165	32	3.7	0.0	91.0	0.0	0.0	91.0	0.0
H18	7/01	57-19	168-22	Y34642 Z49414	40	4.1	432315.0	114667.0	6496.0	940.0	554418.0	0.2
H19	7/01	57-20	169-01	Y34774 Z49666	39	4.1	7798.0	26055.0	16147.0	2202.0	52202.0	4.2
H20	7/05	57-19	169-38	Y34916 Z49908	33	3.2	759855.0	161831.0	14161.0	7333.0	943180.0	0.8
H21	7/05	57-28	169-56	X18711 Z49962	37	2.6	34949.0	12000.0	6923.0	3923.0	57795.0	6.8
H22	7/10	57-20	170-51	X18517 Y34949	44	4.3	1288.0	606.0	2197.0	2727.0	6818.0	40.0
H22	7/05	57-29	170-33	X18590 Y34886	40	4.0	1527.0	992.0	2977.0	2824.0	8321.0	33.9
H23	7/11	57-21	171-27	X18289 Y34860	55	3.7	508.0	169.0	2458.0	3220.0	6355.0	50.7
H24	7/11	57-19	172-07	X18036 Y34773	58	3.9	0.0	0.0	541.0	450.0	991.0	45.4
H25	7/19	57-16	172-41	X17805 Y34714	62	4.1	0.0	0.0	0.0	73.0	73.0	100.0
I01	6/27	57-40	167-45	Y34353 Z49122	37	4.0	71500.0	119210.0	8253.0	917.0	199880.0	0.5
I02	6/27	57-39	167-07	Y34236 Z48881	36	3.5	141481.0	149514.0	2033.0	0.0	293027.0	0.0
I03	6/23	57-41	166-30	Y34101 Z48632	36	3.4	12537.0	55224.0	2388.0	0.0	70149.0	0.0
I04	6/23	57-40	165-54	Y33999 Z48398	34	3.8	34432.0	142254.0	2914.0	0.0	179600.0	0.0
I05	6/20	57-38	165-14	Y33890 Z48138	33	3.2	159.0	1270.0	317.0	79.0	1826.0	4.3
I06	6/20	57-39	164-38	Y33778 Z47899	28	3.1	0.0	0.0	155.0	0.0	155.0	0.0
I13	6/04	57-39	160-15	X18738 Z46154	29	3.6	0.0	0.0	85.0	0.0	85.0	0.0
I18	6/30	57-40	168-26	Y34487 Z49384	37	3.9	15180.0	17335.0	1138.0	488.0	34141.0	1.4
I19	7/01	57-30	168-43	Y34634 Z49525	38	4.0	267040.0	77172.0	3254.0	397.0	347863.0	0.1
I19	6/30	57-49	168-45	Y34455 Z49461	38	3.6	14751.0	21855.0	3509.0	894.0	41009.0	2.2
I19	6/30	57-40	169-04	Y34600 Z49611	37	4.0	832068.0	416034.0	6434.0	0.0	1254535.0	0.0
I20	7/01	57-31	169-19	Y34743 Z49747	37	3.2	1163.0	1783.0	853.0	543.0	4341.0	12.5
I20	7/05	57-39	169-38	Y34706 Z49810	38	2.8	125349.0	49557.0	8960.0	5760.0	189626.0	3.0
I21	7/06	57-49	169-57	Y34625 Z49835	38	3.0	76151.0	45068.0	6136.0	9091.0	136446.0	6.7
I21	7/05	57-39	170-18	X18614 Y34769	39	2.4	5859.0	3359.0	4922.0	2656.0	16797.0	15.8
I22	7/05	57-49	170-36	X18506 Y34645	42	3.0	15727.0	2364.0	4636.0	10818.0	33545.0	32.2
I22	7/10	57-39	170-52	X18465 Y34747	46	3.5	6693.0	1641.0	6797.0	11484.0	26615.0	43.1
I23	7/10	57-41	171-32	X18249 Y34668	54	3.7	114355.0	3604.0	11351.0	6306.0	135616.0	4.6
I24	7/11	57-38	172-06	X18049 Y34627	57	3.8	0.0	75.0	301.0	977.0	1353.0	72.2
I26	7/18	57-40	173-23	X17576 Y34450	80	4.2	0.0	0.0	82.0	0.0	82.0	0.0
J01	6/27	57-59	167-47	Y34191 Z49075	36	3.6	1083.0	7083.0	1333.0	167.0	9666.0	1.7
J02	6/27	57-59	167-09	Y34074 Z48844	34	3.4	5039.0	8740.0	315.0	236.0	14330.0	1.6
J03	6/23	58-01	166-31	X18745 Z48599	33		159.0	714.0	0.0	79.0	953.0	8.3
J04	6/23	58-00	165-54	Y33840 Z48360	29	3.2	156.0	1094.0	78.0	0.0	1328.0	0.0
J05	6/20	57-57	165-14	Y33747 Z48110	27	3.4	0.0	168.0	0.0	0.0	168.0	0.0
J18	6/30	58-01	168-25	Y34285 Z49299	37	3.6	30425.0	331669.0	23936.0	2480.0	388510.0	0.6

NOTE: PRE-RECRUIT = 3.1-4.0 IN. WIDTH; LARGE = 4.0 IN. OR GREATER IN WIDTH

TABLE 10 DATA FROM THE 1987 EASTERN BERING SEA TRAWL SURVEY WHERE OPILIO TANNER CRAB WERE TAKEN (CONTINUED)

STATION	DATE	LATITUDE	LONGITUDE	LORAN C	DEPTH FTMS	BOTTOM TEMP	NUMBER PER SQUARE MILE					
								MALES (SEE NOTE)				
							FEMALES	SMALL	PRERECRUIT	LARGE	TOTAL	PERCENT LARGE
J19	6/30	58-01	169-04	Y34382 Z49512	38	3.4	28914.0	23182.0	9273.0	9545.0	70914.0	13.5
J20	6/30	57-51	169-19	Y34531 Z49644	35	3.5	322673.0	191587.0	5430.0	776.0	520465.0	0.1
J20	7/06	57-59	169-42	Y34484 Z49707	37	3.3	712939.0	263463.0	9600.0	11520.0	997522.0	1.2
J21	7/06	57-58	170-21	X18526 Y34532	40	2.3	420491.0	163947.0	49123.0	20877.0	654438.0	3.2
J22	7/09	58-00	170-59	Y34509 Z49941	46	3.3	313.0	703.0	7031.0	18281.0	26329.0	69.4
J23	7/10	58-00	171-35	X18195 Y34466	53	3.6	275.0	550.0	3028.0	1468.0	5321.0	27.6
J24	7/19	57-59	172-13	X17996 Y34418	57	3.7	695768.0	667.0	4750.0	1250.0	702435.0	0.2
K01	6/27	58-18	167-49	Y34008 Z49017	33	3.3	615.0	1846.0	77.0	0.0	2538.0	0.0
K02	6/27	58-19	167-11	Y33895 Z48788	27	3.5	379.0	758.0	0.0	0.0	1137.0	0.0
K03	6/23	58-21	166-32	X18725 Z48550	25	3.3	0.0	187.0	0.0	0.0	187.0	0.0
K04	6/23	58-20	165-53	Y33674 Z48314	23	3.4	86.0	0.0	0.0	0.0	86.0	0.0
K18	6/30	58-20	168-27	Y34084 Z49220	35	3.2	391.0	1094.0	78.0	703.0	2266.0	31.0
K19	6/30	58-21	169-07	Y34160 Z49415	36	3.5	738.0	2787.0	3197.0	1721.0	8525.0	20.2
K20	7/06	58-20	169-44	Y34237 Z49587	37	3.1	9002.0	10106.0	6334.0	3101.0	28543.0	10.9
K21	7/06	58-20	170-23	X18435 Z49720	40	2.0	125704.0	28500.0	62598.0	16794.0	233596.0	7.2
K22	7/09	58-20	171-00	X18301 Y34270	45	2.3	551.0	1417.0	13937.0	8268.0	24173.0	34.2
K23	7/10	58-21	171-39	X18128 Y34237	52	3.1	256.0	342.0	684.0	2393.0	3675.0	65.1
K24	7/19	58-20	172-18	X17940 Y34209	55	3.3	8712.0	1061.0	3864.0	1439.0	15076.0	9.5
K26	7/30	58-19	173-35	X17525 Z49993	63	3.9	0.0	139.0	0.0	0.0	139.0	0.0
L01	6/27	58-39	167-52	Y33792 Z48941	25	3.1	152.0	152.0	0.0	0.0	304.0	0.0
L02	6/27	58-39	167-13	Y33697 Z48726	22	3.2	0.0	222.0	0.0	0.0	222.0	0.0
L18	6/30	58-39	168-29	Y33877 Z49133	28	3.2	2339.0	2581.0	0.0	0.0	4920.0	0.0
L19	6/30	58-40	169-06	Y33935 Z49304	33	3.2	254.0	1186.0	8898.0	6186.0	16525.0	37.4
L20	7/06	58-39	169-47	Y34005 Z49476	35	3.1	2576.0	9545.0	20909.0	2955.0	35985.0	8.2
L21	7/06	58-39	170-25	X18362 Z49607	40	2.7	806.0	8468.0	13548.0	2823.0	25645.0	11.0
L22	7/09	58-39	171-08	Y34028 Z49707	44	2.0	5754.0	5203.0	25366.0	6179.0	42502.0	14.5
L23	7/10	58-41	171-42	X18064 Y34010	50	2.9	4333.0	3250.0	6750.0	1500.0	15833.0	9.5
L24	7/19	58-39	172-22	X17888 Y33995	55	3.1	2748.0	1679.0	3588.0	2595.0	10611.0	24.5
L25	7/20	58-38	172-59	X17705 Y33970	61	3.5	13824.0	1301.0	3496.0	650.0	19271.0	3.4
L28	7/30	58-45	174-56	X17088 Z49936	77	3.4	0.0	0.0	0.0	154.0	154.0	100.0
L29	7/30	58-45	175-29	X16912 Z49949	73	3.4	0.0	75.0	150.0	75.0	301.0	24.9
M01	6/27	58-58	167-54	Y33584 Z48862	22	2.4	0.0	73.0	0.0	0.0	73.0	0.0
M18	6/29	59-00	168-32	Y33637 Z49037	24	2.6	333.0	417.0	0.0	0.0	750.0	0.0
M19	6/29	59-01	169-11	Y33692 Z49206	29	2.3	357.0	625.0	0.0	89.0	1071.0	8.3
M20	7/06	58-59	169-49	Y33767 Z49367	33	3.1	2273.0	6212.0	11212.0	1061.0	20758.0	5.1
M21	7/06	58-58	170-28	X18286 Z49500	39	2.7	2683.0	9512.0	13984.0	2358.0	28537.0	8.3
M22	7/09	59-00	171-08	Y33787 Z49591	41	2.0	222287.0	19853.0	8026.0	1288.0	251455.0	0.5
M23	7/10	59-00	171-45	X18000 Y33781	47	2.3	61802.0	3565.0	5826.0	783.0	71976.0	1.1
M24	7/19	59-03	172-26	X17822 Y33738	53	2.8	7073.0	9268.0	7561.0	2114.0	26016.0	8.1
M25	7/20	58-59	173-04	X17652 Y33753	58	3.3	16174.0	8348.0	4174.0	4174.0	32870.0	12.7
M27	7/29	59-04	174-23	X17263 Z49844	68	3.5	614.0	263.0	88.0	1053.0	2018.0	52.2
M28	7/29	59-05	174-52	X17116 Z49860	70	2.9	615.0	385.0	538.0	462.0	2000.0	23.1
M29	7/30	59-00	175-35	X16888 Z49902	74	2.6	182.0	91.0	364.0	0.0	637.0	0.0
N18	6/29	59-20	168-33	Y33402 Z48941	22	2.1	244.0	650.0	81.0	0.0	976.0	0.0
N19	6/29	59-20	169-14	Y33463 Z49113	27	1.9	165.0	83.0	0.0	0.0	248.0	0.0

NOTE: PRE-RECRUIT = 3.1-4.0 IN. WIDTH; LARGE = 4.0 IN. OR GREATER IN WIDTH

TABLE 10 DATA FROM THE 1987 EASTERN BERING SEA TRAWL SURVEY WHERE OPILIO TANNER CRAB WERE TAKEN (CONTINUED)

STATION	DATE	LATITUDE	LONGITUDE	LORAN C	DEPTH FTMS	BOTTOM TEMP	NUMBER PER SQUARE MILE					
								MALES (SEE NOTE)				
							FEMALES	SMALL	PRERECRUIT	LARGE	TOTAL	PERCENT LARGE
N20	7/07	59-19	169-51	Y33516 Z49254	32	2.4	25407.0	28430.0	4472.0	244.0	58552.0	0.4
N21	7/07	59-18	170-31	X18209 Z49386	37	2.4	7544.0	68672.0	13220.0	1102.0	90538.0	1.2
N22	7/09	59-22	171-11	Y33533 Z49475	40	1.9	68558.0	75346.0	19320.0	229.0	163454.0	0.1
N23	7/09	59-21	171-50	X17931 Y33540	44	1.1	116967.0	5514.0	5888.0	1495.0	129864.0	1.2
N24	7/19	59-19	172-29	X17775 Y33553	47	2.6	134847.0	81458.0	16949.0	5932.0	239186.0	2.5
N25	7/20	59-29	172-52	X17657 Y33429	51	2.4	50340.0	39808.0	19835.0	3967.0	113950.0	3.5
N25	7/20	59-19	173-08	X17606 Y33534	55	2.8	500.0	1333.0	2333.0	1500.0	5667.0	26.5
N25	7/20	59-28	173-26	X17513 Y33423	56	2.5	2479.0	1901.0	1901.0	2479.0	8760.0	28.3
N26	7/29	59-19	173-47	X17427 Z49749	59	3.2	54132.0	6721.0	3053.0	1908.0	65815.0	2.9
N27	7/29	59-21	174-27	X17238 Z49778	67	3.2	27880.0	2385.0	2110.0	1743.0	34119.0	5.1
N28	7/29	59-18	174-59	X17080 Z49814	72	3.0	74.0	147.0	1103.0	2279.0	3603.0	63.3
N29	7/30	59-18	175-36	X16895 Z49839	76	2.8	924.0	672.0	420.0	588.0	2605.0	22.6
O18	6/29	59-40	168-36	Y33170 Z48854	20	2.2	313.0	78.0	0.0	0.0	391.0	0.0
O19	6/29	59-41	169-18	Y33216 Z49016	25	1.7	1897.0	2069.0	0.0	0.0	3966.0	0.0
O20	7/07	59-38	169-55	Y33284 Z49158	29	1.8	541661.0	1250159.0	5085.0	593.0	1797498.0	0.0
O21	7/07	59-38	170-34	X18138 Y33315	36	1.6	44395.0	81132.0	2763.0	0.0	128290.0	0.0
O22	7/08	59-40	171-14	Y33310 Z49378	39	2.5	236812.0	86870.0	16368.0	0.0	340050.0	0.0
O23	7/09	59-40	171-56	X17860 Y33317	42	1.0	34039.0	60771.0	23780.0	1681.0	120271.0	1.4
O24	7/20	59-39	172-32	X17722 Y33328	43	1.2	199365.0	127991.0	21017.0	847.0	349220.0	0.2
O25	7/21	59-39	173-14	X17551 Y33318	53	2.3	4569.0	4655.0	4310.0	1724.0	15259.0	11.3
O25	7/21	59-48	173-31	X17466 Y33214	51	2.0	139589.0	82156.0	4959.0	1626.0	228330.0	0.7
O26	7/29	59-39	173-51	X17389 Z49661	56	2.6	4980.0	5920.0	5827.0	4567.0	21294.0	21.4
O26	7/29	59-49	174-12	X17289 Z49637	58	2.7	11152.0	5395.0	14384.0	2903.0	33834.0	8.6
O27	7/29	59-37	174-33	X17202 Z49711	64	2.9	32535.0	18407.0	7257.0	3894.0	62093.0	6.3
O28	7/28	59-40	175-08	X17037 Z49734	69	2.8	92233.0	4425.0	2920.0	1858.0	101437.0	1.8
O29	7/28	59-40	175-54	X16822 Z49767	75	2.5	4992.0	1102.0	2542.0	4153.0	12789.0	32.5
O30	7/28	59-40	176-35	X16627 Y33177	74	2.0	15021.0	6807.0	1587.0	2302.0	25716.0	9.0
O31	7/28	59-41	177-10	X16461 Y33137	91	3.0	84.0	168.0	168.0	3193.0	3613.0	88.4
P18	6/29	60-00	168-39	Y32929 Z48765	20	2.5	154.0	77.0	0.0	0.0	231.0	0.0
P19	6/29	60-01	169-19	Y32977 Z48915	24	1.5	33444.0	72896.0	430.0	0.0	106770.0	0.0
P20	7/07	59-59	169-59	Y33040 Z49061	28	1.2	60799.0	128771.0	2761.0	299.0	192629.0	0.2
P21	7/07	59-58	170-37	X18068 Y33077	35	0.9	73161.0	67779.0	5036.0	210.0	146187.0	0.1
P22	7/08	60-00	171-18	Y33077 Z49279	37	0.6	297005.0	301286.0	16229.0	76.0	614596.0	0.0
P23	7/09	59-50	172-13	X17773 Y33201	40	0.7	5227.0	32152.0	14009.0	919.0	52307.0	1.8
P23	7/09	60-00	171-59	X17798 Y33083	36	0.4	4340.0	16226.0	1792.0	189.0	22548.0	0.8
P23	7/09	60-10	172-17	X17713 Y32972	31	1.0	2857.0	4454.0	252.0	0.0	7563.0	0.0
P24	7/20	60-10	173-00	X17557 Y32984	31	1.2	1136.0	10076.0	1288.0	0.0	12500.0	0.0
P24	7/20	60-00	172-38	X17660 Y33091	35		196.0	2157.0	196.0	0.0	2549.0	0.0
P25	7/21	59-59	173-19	X17501 Y33101	41	0.9	630.0	1102.0	472.0	0.0	2205.0	0.0
P26	7/22	60-10	174-20	X17234 Y32971	54	2.5	78226.0	54572.0	23457.0	5694.0	161949.0	3.5
P26	7/29	59-59	173-52	X17362 Z49569	52	2.3	21113.0	1600.0	5840.0	3440.0	31993.0	10.8
P27	7/29	59-59	174-34	X17181 Z49619	59	2.5	34667.0	20802.0	36312.0	3168.0	94949.0	3.3
P28	7/28	59-59	175-15	X17003 Z49658	63	2.4	232414.0	27058.0	8390.0	2542.0	270404.0	0.9
P29	7/28	59-58	175-54	X16830 Z49695	70	2.4	51861.0	15732.0	7365.0	4825.0	79784.0	6.0
P30	7/28	59-59	176-40	X16618 Y33001	77	1.6	142647.0	30042.0	3361.0	4286.0	180336.0	2.4

NOTE: PRE-RECRUIT = 3.1-4.0 IN. WIDTH; LARGE = 4.0 IN. OR GREATER IN WIDTH

TABLE 10 DATA FROM THE 1987 EASTERN BERING SEA TRAWL SURVEY WHERE OPILIO TANNER CRAB WERE TAKEN (CONTINUED)

STATION	DATE	LATITUDE	LONGITUDE	LORAN C	DEPTH FTMS	BOTTOM TEMP	NUMBER PER SQUARE MILE					PERCENT LARGE
								MALES (SEE NOTE)				
							FEMALES	SMALL	PRERECRUIT	LARGE	TOTAL	
P31	7/28	59-59	177-11	X16478 Y32982	75	1.6	24323.0	13151.0	3306.0	1855.0	42635.0	4.4
P32	7/28	60-00	177-54	X16281 Y32948	78	0.7	7288.0	4689.0	642.0	275.0	12895.0	2.1
Q18	6/29	60-15	168-42	Y32754 Z48704	19	3.3	81.0	0.0	0.0	0.0	81.0	0.0
Q20	7/07	60-19	170-04	Y32795 Z48971	27	0.9	238801.0	250395.0	543.0	0.0	489738.0	0.0
Q21	7/07	60-19	170-39	X18005 Y32829	33	0.4	63466.0	92315.0	6924.0	231.0	162935.0	0.1
Q22	7/08	60-21	171-22	Y32834 Z49181	35	0.1	165029.0	171418.0	23590.0	0.0	360037.0	0.0
Q23	7/08	60-21	172-04	X17737 Y32845	32	-0.1	32683.0	34247.0	2616.0	84.0	69630.0	0.1
Q25	7/21	60-20	173-25	X17445 Y32868	34	1.0	367.0	459.0	367.0	0.0	1193.0	0.0
Q26	7/22	60-19	174-03	X17295 Y32871	49	1.7	14053.0	23939.0	4242.0	303.0	42538.0	0.7
Q27	7/22	60-19	174-42	X17136 Y32866	55	1.9	25313.0	20882.0	17518.0	2862.0	66576.0	4.3
Q28	7/27	60-19	175-23	X16963 Y32854	60	2.0	13770.0	3594.0	12031.0	2109.0	31504.0	6.7
Q29	7/27	60-19	176-03	X16795 Y32840	66	2.0	205809.0	3511.0	3740.0	1221.0	214282.0	0.6
Q30	7/27	60-19	176-43	X16618 Y32823	75	1.3	339250.0	1250.0	3047.0	3047.0	346594.0	0.9
Q31	7/28	60-18	177-22	X16449 Y32813	81	1.8	363533.0	50589.0	9468.0	6431.0	430021.0	1.5
R22	7/08	60-41	171-25	Y32599 Z49086	33	-0.4	286154.0	356986.0	20573.0	0.0	663713.0	0.0
R23	7/08	60-41	172-07	X17684 Y32617	33	-0.5	592051.0	523262.0	3994.0	0.0	1119307.0	0.0
R24	7/21	60-39	172-46	X17553 Y32649	23	2.6	11976.0	20066.0	945.0	0.0	32987.0	0.0
R25	7/21	60-40	173-27	X17408 Y32656	35	0.9	299826.0	313027.0	6521.0	0.0	619375.0	0.0
R26	7/22	60-40	174-04	X17268 Y32659	47	1.5	25207.0	97920.0	6140.0	0.0	129267.0	0.0
R27	7/22	60-39	174-49	X17096 Y32663	53	1.8	64481.0	66541.0	12751.0	973.0	144745.0	0.7
R28	7/22	60-39	175-26	X16948 Y32658	59	1.6	84378.0	22299.0	54068.0	7026.0	167770.0	4.2
R29	7/27	60-39	176-10	X16767 Y32655	65	2.1	2521.0	4370.0	11008.0	1429.0	19328.0	7.4
R30	7/27	60-40	176-46	X16619 Y32641	71	2.0	3252.0	3252.0	13821.0	4146.0	24472.0	16.9
R31	7/25	60-40	177-29	X16440 Y32630	80	0.9	54034.0	4381.0	3238.0	3143.0	64796.0	4.9
R32	7/25	60-39	178-10	X16271 Y32618	88	1.2	1121.0	86.0	431.0	2328.0	3966.0	58.7
S22	7/08	60-59	171-27	Y32379 Z48997	32	-1.0	863445.0	511145.0	7517.0	0.0	1382106.0	0.0
S23	7/08	60-58	172-08	X17642 Y32415	35	0.9	1141671.0	1169675.0	0.0	81.0	2311427.0	0.0
S24	7/21	60-59	172-48	X17511 Y32427	35	0.4	305763.0	261962.0	313.0	0.0	568038.0	0.0
S25	7/21	60-59	173-29	X17371 Y32440	40	0.4	146563.0	131328.0	1563.0	0.0	279454.0	0.0
S26	7/22	60-58	174-11	X17225 Y32471	45	0.5	48815.0	43374.0	2195.0	163.0	94546.0	0.2
S27	7/22	60-59	174-48	X17086 Y32463	50	1.4	45748.0	31092.0	11446.0	404.0	88689.0	0.5
S28	7/23	60-59	175-33	X16915 Y32465	56	1.4	174782.0	93262.0	10642.0	1376.0	280063.0	0.5
S29	7/24	61-00	176-16	X16746 Y32462	61	1.5	29414.0	12634.0	13644.0	1780.0	57472.0	3.1
S30	7/24	60-59	176-57	X16585 Y32462	66	1.7	24475.0	9345.0	0.0	0.0	33820.0	0.0
S31	7/24	60-59	177-37	X16426 Y32458	73	1.0	3290.0	2573.0	13394.0	6548.0	25805.0	25.4
S32	7/24	60-59	178-18	X16261 Y32452	87	2.2	1103.0	1103.0	588.0	2132.0	4927.0	43.3
S33	7/24	60-59	178-43	X16163 Y32450	108	2.8	1404.0	1491.0	702.0	2105.0	5702.0	36.9
T27	7/23	61-18	174-54	X17051 Y32268	47	0.5	68806.0	80638.0	2935.0	147.0	152526.0	0.1
T28	7/23	61-19	175-34	X16905 Y32270	52	1.0	11314.0	19669.0	2314.0	248.0	33545.0	0.7
T29	7/23	61-20	176-17	X16743 Y32274	58	1.1	198769.0	16916.0	3761.0	427.0	219873.0	0.2
T30	7/24	61-13	177-23	X16492 Y32342	70	1.0	3421.0	3684.0	9474.0	4211.0	20789.0	20.3
T30	7/24	61-21	176-55	X16602 Y32271	63	1.5	2906.0	8718.0	7179.0	4872.0	23675.0	20.6
U27	7/23	61-37	174-58	X17022 Y32088	46	0.1	56306.0	93866.0	941.0	0.0	151113.0	0.0
U28	7/23	61-39	175-47	X16851 Y32082	51	1.6	10573.0	16797.0	1328.0	313.0	29011.0	1.1
U29	7/23	61-39	176-27	X16709 Y32095	58	0.9	50114.0	29485.0	2045.0	303.0	81947.0	0.4

NOTE: PRE-RECRUIT = 3.1-4.0 IN. WIDTH; LARGE = 4.0 IN. OR GREATER IN WIDTH

TABLE 10 DATA FROM THE 1987 EASTERN BERING SEA TRAWL SURVEY WHERE OPILIO TANNER CRAB WERE TAKEN (CONTINUED)

STATION	DATE	LATITUDE	LONGITUDE	LORAN C	DEPTH FTMS	BOTTOM TEMP	NUMBER PER SQUARE MILE					PERCENT LARGE
								MALES (SEE NOTE)				
							FEMALES	SMALL	PRERECRUIT	LARGE	TOTAL	
U29	7/24	61-35	176-49	X16629 Y32141	61	1.1	19929.0	20187.0	5981.0	1121.0	47219.0	2.4
V27	7/23	61-50	175-02	X17000 Y31956	44	0.0	127015.0	131416.0	453.0	0.0	258884.0	0.0
V28	7/23	61-51	175-55	X16822 Y31975	52	0.5	20505.0	16264.0	455.0	303.0	37527.0	0.8
V28	7/23	61-51	176-15	X16753 Y31984	54	0.6	16115.0	8651.0	703.0	859.0	26329.0	3.3
Z04	6/25	54-48	165-45	Y34679 Z48254	105	4.4	0.0	156.0	156.0	156.0	469.0	33.3

NOTE: PRE-RECRUIT = 3.1-4.0 IN. WIDTH; LARGE = 4.0 IN. OR GREATER IN WIDTH

TABLE 11 DATA FROM THE 1987 EASTERN BERING SEA TRAWL SURVEY WHERE HAIR CRAB WERE TAKEN

STATION	DATE	LATITUDE	LONGITUDE	LORAN C	DEPTH FTMS	BOTTOM TEMP	NUMBER PER SQUARE MILE					
								MALES (SEE NOTE)				
							FEMALES	SMALL	PRERECRUIT	LARGE	TOTAL	PERCENT LARGE
B08	6/15	55-21	163-25	Y34238 Z47433	29	5.0	83.0	0.0	0.0	0.0	83.0	0.0
C08	6/14	55-40	163-23	Y34169 Z47428	43	4.2	0.0	0.0	0.0	150.0	150.0	100.0
C09	6/07	55-40	162-48	Y34077 Z47198	29	4.6	0.0	97.0	0.0	0.0	97.0	0.0
D09	6/08	55-59	162-48	Y34005 Z47204	44	3.6	71.0	0.0	71.0	142.0	284.0	50.0
D10	6/07	56-02	162-15	Y33906 Z46987	38	4.1	0.0	75.0	0.0	149.0	224.0	66.5
D11	6/02	56-00	161-49	Y33843 Z46811	21	4.4	0.0	0.0	76.0	76.0	153.0	49.7
D18	7/17	55-59	168-12	X18463 Z49262	82	4.2	89.0	0.0	0.0	0.0	89.0	0.0
E09	6/08	56-19	162-47	Y33915 Z47198	43	3.7	0.0	0.0	90.0	0.0	90.0	0.0
E20	7/02	56-22	169-27	Y35069 Z49746	73	4.2	85.0	0.0	0.0	0.0	85.0	0.0
F09	6/09	56-40	162-44	Y33805 Z47173	39	3.1	85.0	0.0	0.0	85.0	170.0	50.0
F10	6/07	56-39	162-11	Y33722 Z46949	37	3.4	68.0	0.0	0.0	0.0	68.0	0.0
F11	6/07	56-41	161-34	Y33617 Z46700	48	3.3	0.0	0.0	0.0	86.0	86.0	100.0
F13	6/04	56-39	160-22	X18681 Z46220	31	3.7	0.0	163.0	0.0	81.0	244.0	33.2
F21	7/03	56-49	169-48	Y35092 Z49959	38	4.6	0.0	0.0	0.0	244.0	244.0	100.0
G09	6/09	56-58	162-47	Y33718 Z47185	33	3.2	85.0	0.0	0.0	0.0	85.0	0.0
G10	6/07	56-59	162-10	Y33615 Z46935	31	3.4	0.0	0.0	0.0	80.0	80.0	100.0
G12	6/06	57-00	160-54	Y33425 Z46428	39	3.5	165.0	0.0	0.0	0.0	165.0	0.0
G13	6/04	56-58	160-20	X18704 Z46197	33	3.5	0.0	84.0	0.0	0.0	84.0	0.0
G14	6/04	56-59	159-42	Y33261 Z45944	30	3.6	0.0	81.0	0.0	0.0	81.0	0.0
G18	7/01	57-00	168-20	Y34756 Z49421	43	3.9	0.0	75.0	0.0	75.0	150.0	50.0
G20	7/03	56-59	169-35	Y35029 Z49911	33	4.6	84.0	84.0	0.0	168.0	336.0	50.0
G21	7/03	57-09	169-53	Y35052 Z50036	26	5.1	438.0	1533.0	73.0	292.0	2336.0	12.5
G21	7/03	56-59	170-12	X18679 Z50123	38	5.2	0.0	0.0	0.0	207.0	207.0	100.0
G22	7/05	57-07	170-29	X18652 Y35106	28	5.5	229.0	1145.0	611.0	229.0	2214.0	10.3
H19	7/01	57-20	169-01	Y34774 Z49666	39	4.1	0.0	0.0	0.0	642.0	642.0	100.0
H20	7/05	57-19	169-38	Y34916 Z49908	33	3.2	583.0	917.0	0.0	0.0	1500.0	0.0
H21	7/05	57-19	170-14	X18707 Y35010	29	6.0	0.0	0.0	96.0	192.0	288.0	66.7
I09	6/10	57-39	162-44	Y33467 Z47148	23	3.3	0.0	73.0	0.0	0.0	73.0	0.0
I19	6/30	57-40	169-04	Y34600 Z49611	37	4.0	0.0	0.0.	0.0	90.0	90.0	100.0
I20	7/01	57-31	169-19	Y34743 Z49747	37	3.2	155.0	78.0	0.0	1163.0	1395.0	83.4
J04	6/23	58-00	165-54	Y33840 Z48360	29	3.2	0.0	0.0	78.0	0.0	78.0	0.0
J07	6/13	58-01	164-00	Y33516 Z47623	24	2.8	0.0	0.0	0.0	64.0	64.0	100.0
K18	6/30	58-20	168-27	Y34084 Z49220	35	3.2	78.0	0.0	0.0	0.0	78.0	0.0
L18	6/30	58-39	168-29	Y33877 Z49133	28	3.2	161.0	0.0	161.0	0.0	322.0	0.0
L19	6/30	58-40	169-06	Y33935 Z49304	33	3.2	85.0	0.0	0.0	0.0	85.0	0.0
M01	6/27	58-58	167-54	Y33584 Z48862	22	2.4	0.0	0.0	0.0	73.0	73.0	100.0
M18	6/29	59-00	168-32	Y33637 Z49037	24	2.6	167.0	83.0	83.0	83.0	417.0	19.9
M19	6/29	59-01	169-11	Y33692 Z49206	29	2.3	89.0	0.0	89.0	0.0	178.0	0.0
N18	6/29	59-20	168-33	Y33402 Z48941	22	2.1	81.0	81.0	81.0	0.0	244.0	0.0
O18	6/29	59-40	168-36	Y33170 Z48854	20	2.2	78.0	78.0	0.0	0.0	156.0	0.0
O19	6/29	59-41	169-18	Y33216 Z49016	25	1.7	0.0	0.0	86.0	0.0	86.0	0.0
P19	6/29	60-01	169-19	Y32977 Z48915	24	1.5	0.0	84.0	0.0	0.0	84.0	0.0
Q18	6/29	60-15	168-42	Y32754 Z48704	19	3.3	0.0	0.0	81.0	0.0	81.0	0.0
Q21	7/07	60-19	170-39	X18005 Y32829	33	0.4	0.0	0.0	71.0	0.0	71.0	0.0
R22	7/08	60-41	171-25	Y32599 Z49086	33	-0.4	0.0	77.0	0.0	0.0	77.0	0.0

NOTE: PRE-RECRUIT = 3.0-3.5 IN. WIDTH; LARGE = 3.5 IN. OR GREATER IN WIDTH

TABLE 11 DATA FROM THE 1987 EASTERN BERING SEA TRAWL SURVEY WHERE HAIR CRAB WERE TAKEN (CONTINUED)

STATION	DATE	LATITUDE	LONGITUDE	LORAN C	DEPTH FTMS	BOTTOM TEMP	NUMBER PER SQUARE MILE					
								MALES (SEE NOTE)				
							FEMALES	SMALL	PRERECRUIT	LARGE	TOTAL	PERCENT LARGE
R24	7/21	60-39	172-46	X17553 Y32649	23	2.6	0.0	79.0	0.0	0.0	79.0	0.0
S23	7/08	60-58	172-08	X17642 Y32415	35	0.9	0.0	81.0	0.0	0.0	81.0	0.0

NOTE: PRE-RECRUIT = 3.0-3.5 IN. WIDTH; LARGE = 3.5 IN. OR GREATER IN WIDTH