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REPORT TO INDUSTRY ON THE 1989 EASTERN BERING SEA CRAB SURVEY

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Northwest and Alaska Fisheries Science Centers
Processed Report 89-18

REPORT TO INDUSTRY ON THE

1989

EASTERN BERING SEA

CRAB SURVEY

by

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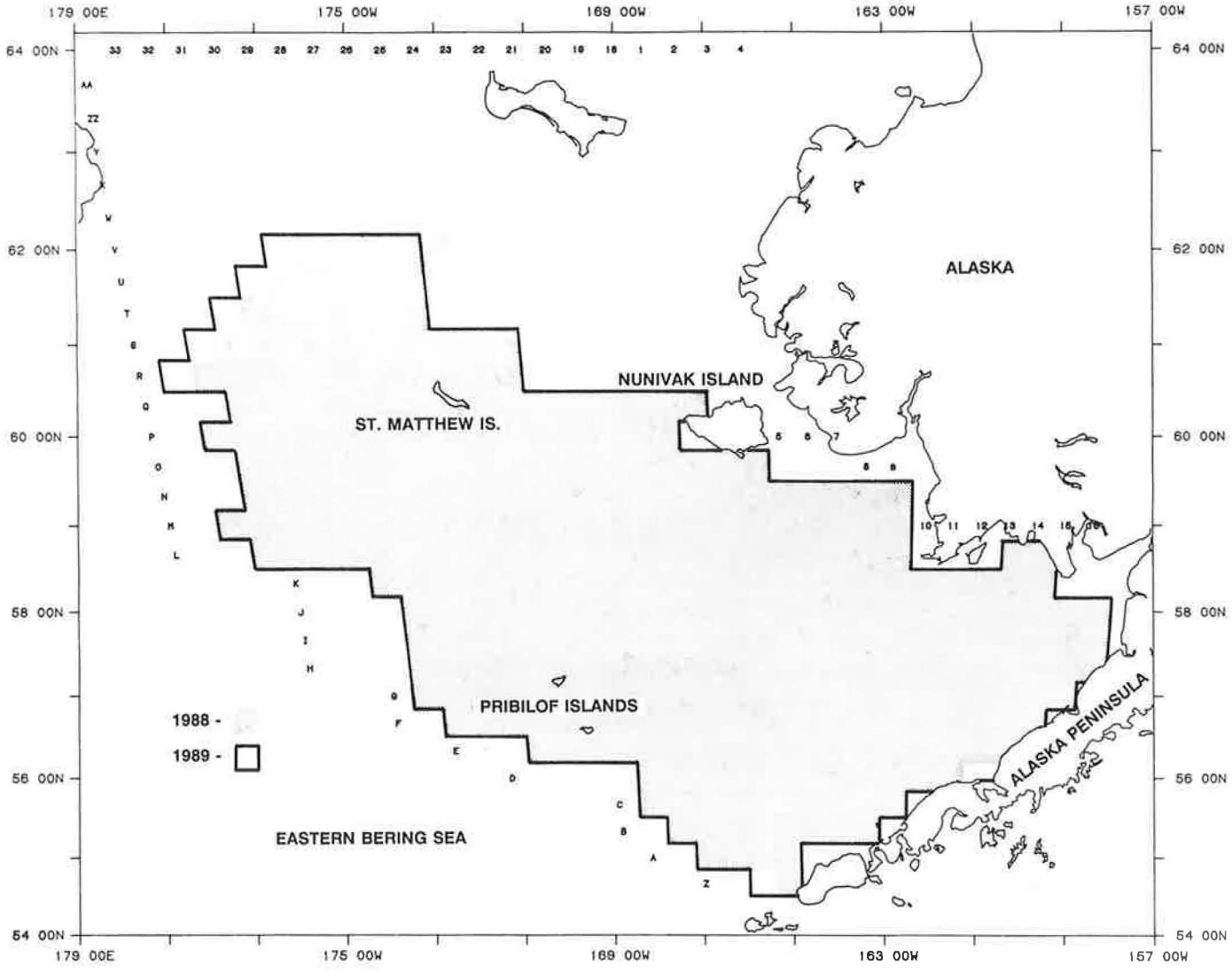


FIGURE 1. NMFS eastern Bering Sea crab survey area in 1988 and 1989.

The 1989 Eastern Bering Sea Survey

An annual trawl survey is conducted in the eastern Bering Sea (EBS) to determine the distribution and abundance of crab and groundfish resources. This report summarizes survey results for commercially important crabs. It is intended to aid 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 1989 Eastern Bering Sea (EBS) crab survey consisted of 439 successful bottom trawl tows and covered an area of approximately 145,000 square nautical miles. The 1989 survey area was similar to that of 1988 (Fig. 1). The survey was conducted aboard two chartered vessels, the FV Ocean Hope 3 and the University of Washington's RV Alaska between June 4 and August 14. The same two vessels were used in 1988. Methodology was identical to that of previous surveys and 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. Trawl gear used was similar to that used last year, except that 5'x 7' doors were used on the Alaska in 1988, whereas 6'x 9' doors were used at all other times and on all other vessels since 1982.

Both vessels fished an eastern otter trawl with an 83 ft headrope and a 112 ft footrope. Measured wing spread on this trawl has ranged from 47 - 58 feet. Since 1987, wing spread measurements have been 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. Note that crab sizes are reported as carapace length (cl) for king and hair crabs, and carapace width (cw) for Tanner crabs. A tracing of the surface to bottom temperature profile was taken at almost all stations.

In addition to the regular survey, additional stations were towed at 10-mile intervals at 4 different locations in water 25-30 fm deep. Twelve extra tows were made inshore along the coast of the Alaska Peninsula between 160° and 162° W. long., to assess the abundance of king crab in shallow inshore waters. Additional tows were also made in shallow water near Togiak (4 tows) and Kuskokwim Bay (4 tows) where high catches of yellowfin sole have recently occurred. A group of 38 additional tows were made at stations C07 and C08 after completion of the regular survey to compare catch rates between 2 different trawls. Crab data from all extra stations are incorporated into population estimates, but special comparisons of catch between depth zones or gear types are not reported here.

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, (lb) pounds, (°C) degrees Celsius, (cl) carapace length, and (cw) carapace width.

Interpreting Tables and Charts

Because of differences in the length of tow between vessels and stations, 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. For this reason, values on the charts may not match exactly the values in Tables 7-11, which are listed by tow. 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 ($\geq$ 6.5 in cw, 135 mm cl) male crabs occurred in Bristol Bay (Area T; Charts 1 and 2, Table 7), and their overall distribution was similar to that of 1988, except that high densities of legal crabs were found closer to the Alaska Peninsula this year. A few red king crabs were also found near the Pribilof Islands and in the Northern District (north of 58° 39' N lat), but their contribution to overall abundance in the EBS was negligible.

The high density region of legal male crabs occurred in a wide band paralleling the Alaska Peninsula. The highest catch of legal crabs occurred at station F07, north of Unimak Island. The estimated abundance of legal male red king crabs in the Bristol Bay District (south of 58°39' N lat and east of 168° W long) and the Pribilof District (south of 58°39', and west of 168° W long) was 11.9 million crabs which represents a significant[1] increase of 86% from 1988 to 1989 (Table 1). A large portion of this increase consisted of post-recruit crab ($\geq$ 150 mm cl), which showed a significant increase of 170% from 1988, perhaps indicating a substantial holdover of legal crab. Pre-recruit crab (110-134 mm cl) increased slightly but non-significantly by 47%, and juveniles showed no significant change. There has apparently been little recruitment of juveniles to this population in several years (Fig. 2).

Legal male crabs were found between 10 and 50 fm (average 37.0 fm) and from 1.0 to 6.3°C (average 2.6°C). The percentages of legal

1. "Significant" is a statistical term implying that the difference between two abundance estimates has a 95% chance or more of being real, rather than simply the result of variance in the data. Generally, stocks or portions which are less abundant or occur at fewer locations such as blue king crab or hair crab, have greater variance, so large differences may appear to be non-significant. Comparisons were made via a two-sample unpaired 't'-test, and values of $t \geq 2.0$ were considered significant.

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

	Males				Females			Grand
Size[1](mm)	<110	110-134	≥135	Total	<90	≥90	Total	Total
Width(in)	<5.2	5.2-6.5	≥6.5		<3.5	≥3.5		
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[3]	50.0	25.9	10.8	86.7	24.8	76.8	101.6	188.3
1974[3]	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	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
1988	8.5	6.4	6.4	21.3	2.7	15.7	18.4	39.7
1989	8.6	9.4	11.9	29.9	4.4	16.9	21.2	51.1
Limits[4]								
Lower	3.2	6.2	8.3	21.3	0.1	8.0	10.0	31.3
Upper	14.0	12.6	15.6	38.5	8.6	25.7	32.4	70.9
±%	63	34	31	29	97	52	53	39

1 Carapace length (mm).
2 Limited survey in 1971, not used for population estimate.
3 1973 and 1974 estimates considered unreliable.
4 Mean ± 2 standard errors for most recent year.

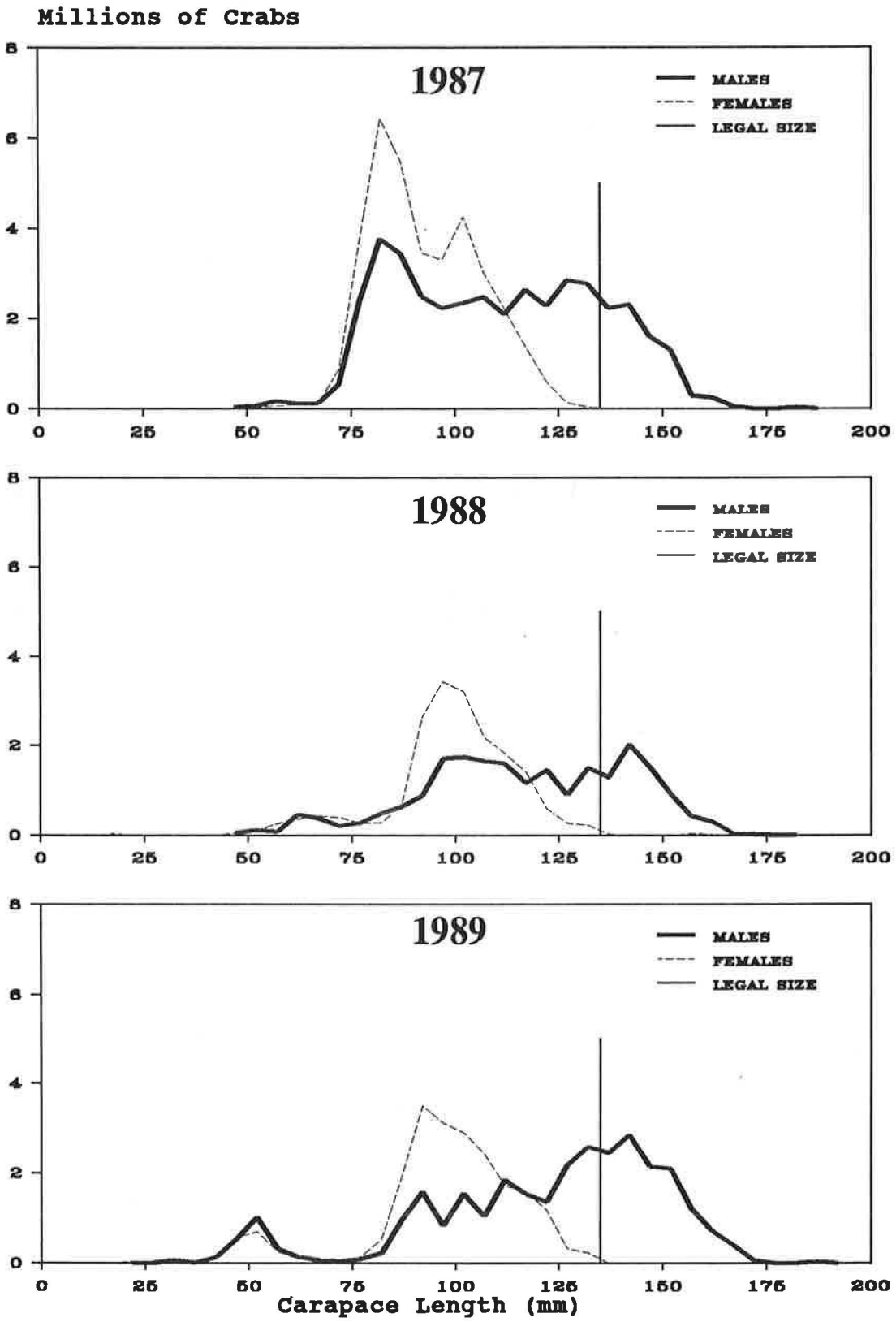


FIGURE 2. Estimates of abundance for red king crab (P. camtschatica) by 5 mm length classes, 1987-1989. Vertical line indicates lower limit of legal size.

Red king crab, Bristol Bay

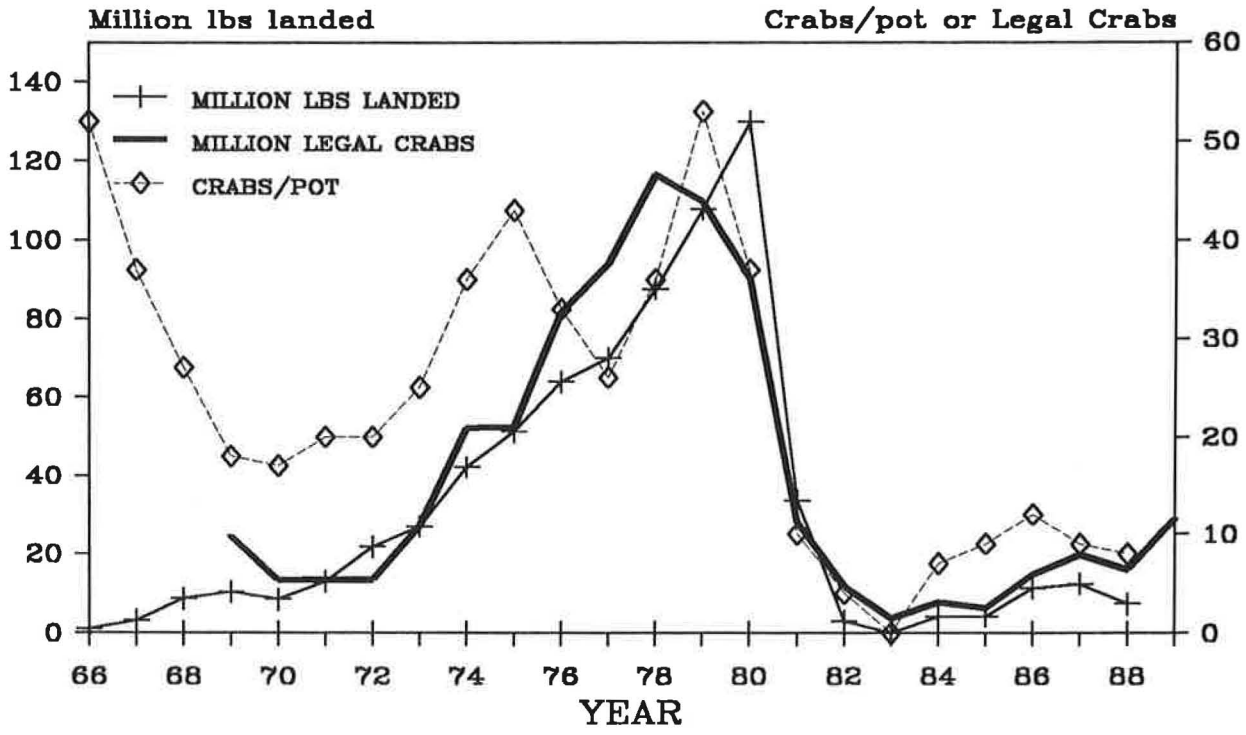


FIGURE 3. U.S. landings in millions of lb, catch-per-unit-of-effort as crabs/pot, and the abundance of legal red king crabs (P. camtschatica) in millions in Bristol Bay, estimated from the NMFS trawl surveys.

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.

In 1989 we found few male crabs in molting or soft-shell condition (1.3% vs 0.4% in 1988), but a relatively high proportion with old (skip-molt) shells (27% vs 8.5% in 1988). Among legal-sized crab, 51.5% were oldshells, reflecting the increased abundance of post-recruit crab. Molting of male crabs appears to have been completed prior to the survey.

The estimated abundance of large[2] ($\geq$ 90 mm cl) females in the Bristol Bay and Pribilof Districts showed no significant change from 1988 to 1989 and now stands at 16.9 million crabs. The estimated abundance of small females showed a non-significant increase of 63%. In June, 41.7% of all females were still molting or soft-shell (vs 12.4% in 1988), including 64.6% of large females. However, 100% of 92 female crabs (and 93.7% of males) caught in 38 comparative tows made in August were new hard-shells. Among large females, the proportion which had molted and extruded new, uneyed eggs was only 51.1% in June, but had increased to 95.6% by August. It appears that in 1989 female molting, mating, and extrusion occurred later than usual, since the proportion of mature females seen with new eggs in June of 1988 and 1987 was 94% and 98% respectively. Fluctuations in the timing of molting, mating, and embryo extrusion may be related to annual variations in water temperature, particularly

2. Throughout this report, the term "large females" refers to those females larger than the median size at maturity, i.e., the size at which 50% are mature. A small number of females above this size may actually be immature, but the majority are mature crabs which should contribute to reproduction of the population.

following the unusually cold winter of 1989.

The fishery was opened on September 25, 1989 with a guideline harvest of 16.5 million pounds relative to an estimated stock of 67.4 ± 21.0 million pounds in Bristol Bay. Catch-per-unit-of-effort (CPUE) in recent years has ranged from 8-12 crabs per pot-lift (Fig. 3). The target exploitation rate was set at 25% of the legal male biomass, as determined according to Board of Fisheries policy. The fishery closed October 6; preliminary statistics indicated that landings would be approximately 10.2 million lbs (Bill Nippes, ADF&G, 211 Mission Rd., Kodiak, AK 99615, pers. commun., October 1989).

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

Legal (≥6.5 in cw, or 135 mm cl) males were found primarily to the north of St. Paul island (Charts 3&4 and Table 8). Legal crab occurred at temperatures between 3.0 and 4.8°C (average 3.5°C), and at depths between 37 and 40 fm (average 37.4 fm). The estimated abundance of legal males was 225,000 crabs (Table 2), representing no significant change from 1988 to 1989. A very small number of pre-recruits were caught. The abundance of juveniles (≤109 mm cl), however, has tripled, although this is not a statistically significant change. Size-frequency data (Fig. 4) show a large spike

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			Grand
Size[1](mm)	<110	110-134	≥135	Total	<90	≥90	Total	Total
Width(in)	<5.2	5.2-6.5	≥6.5		<3.5	≥3.5		
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
1988	1.10	0.0	0.20	1.29	0.77	0.43	1.20	2.49
1989	3.21	0.10	0.22	3.54	2.29	1.28	3.57	7.11
Limits[2]								
Lower	0.0	0.0	0.03	0.00	0.0	0.05	0.00	0.00
Upper	6.88	0.26	0.50	7.48	5.81	2.98	7.48	15.0
±%	114	167	120	112	154	133	109	111

1 Carapace length (mm).
2 Mean ± 2 standard errors for most recent year.
3 Female estimates considered unreliable in 1980.

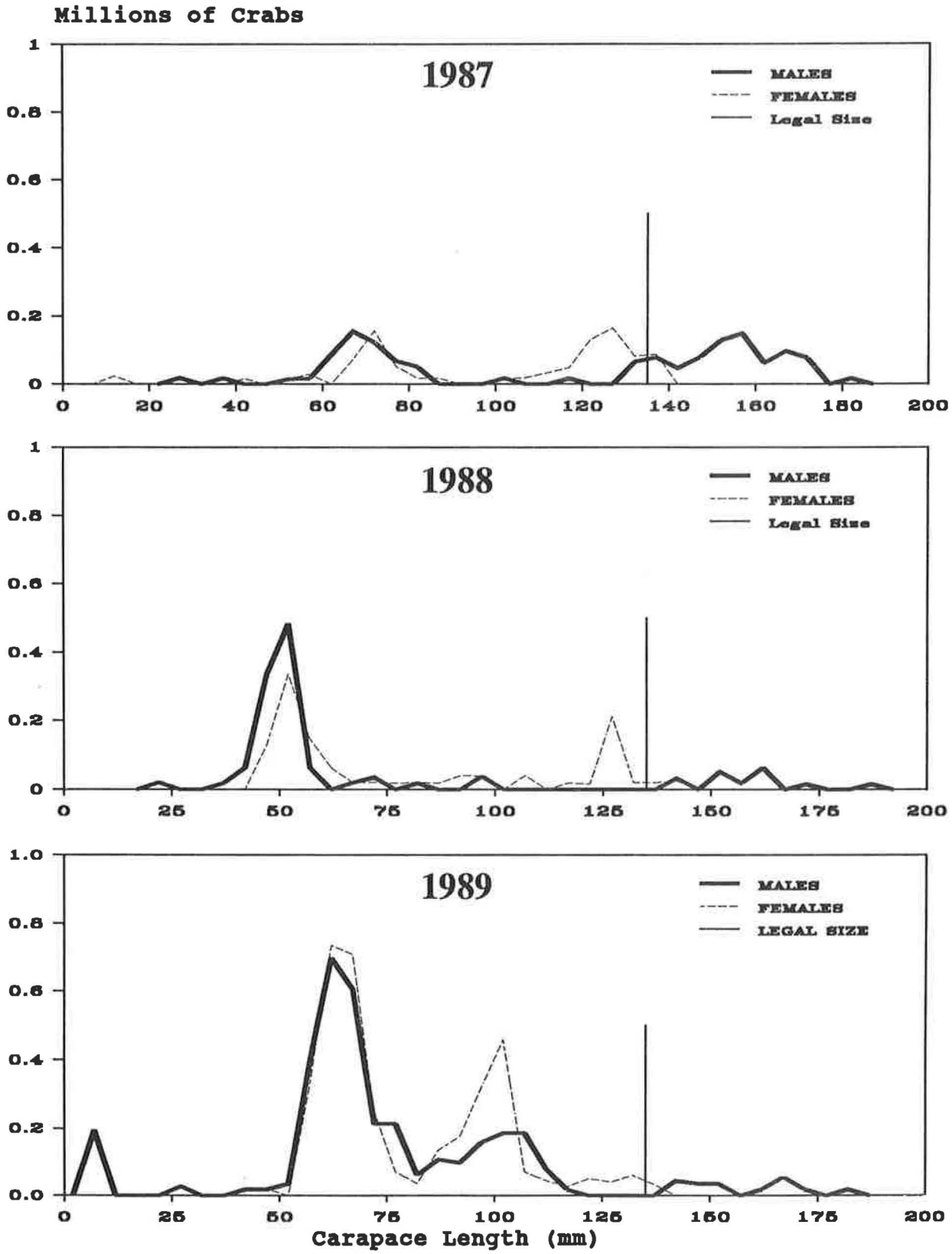


FIGURE 4. Estimates of abundance for Pribilof District blue king crab (P. platypus) by 5 mm length classes, 1987-1989. Vertical line indicates lower limit of legal size.

Blue king crab, Pribilof District

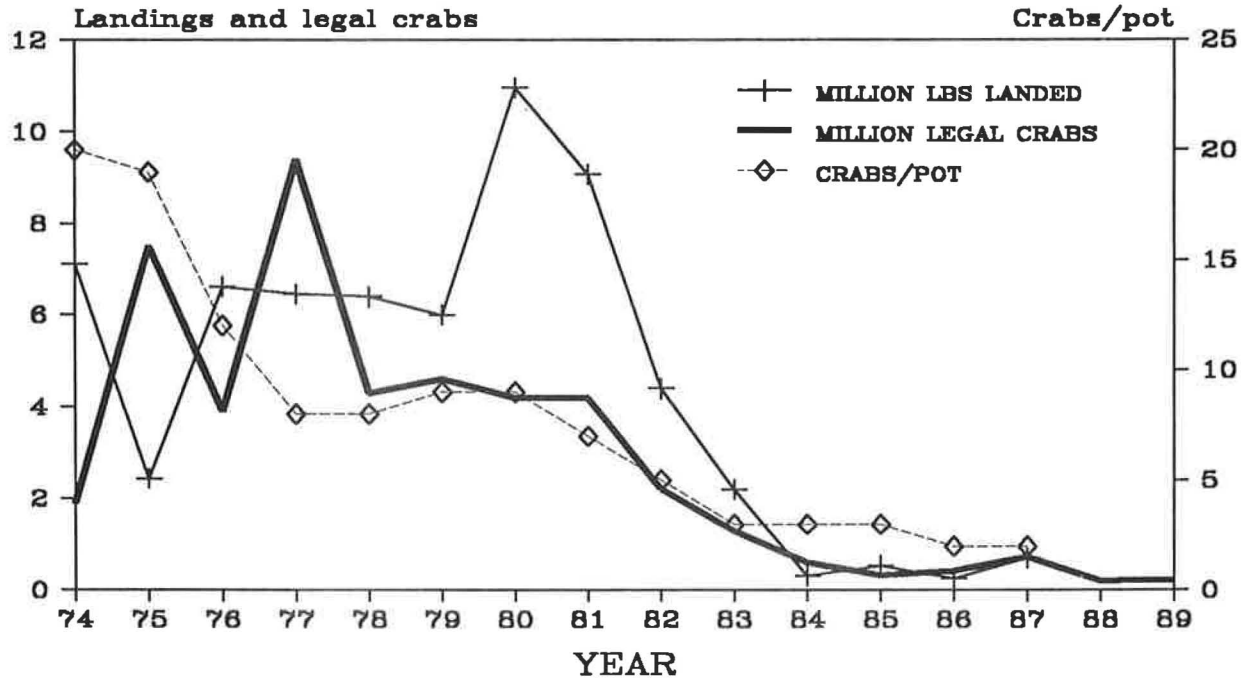


FIGURE 5. U.S. landings in millions of lbs, catch-per-unit-of-effort (CPUE) as abundance of legal blue king crabs (P. platypus) in millions in the Pribilof District, estimated from the NMFS trawl surveys.

of crabs at 60 mm, which occurred in several tows, and continue a trend started in 1988. A smaller peak is apparent at 100 mm but it's origin is unknown. Large males and females are scarce, and the range of legal males has contracted, as they were captured at only 3 stations in this District in each of the last two years. Juvenile recruitment appears to have improved over the past two years, but is still questionable. This population is still extremely depressed (Fig. 5), and the fishery will not be opened in 1989. Over 99% of sublegal males were in new, hardshell condition; only 36.4% of legal males were, the remainder (63.6%) being oldshells.

The estimated abundance of both large (>90 mm cl) and small females showed a threefold but non-significant increase from last years level. Historically, estimates of female abundance have been imprecise due to the preference of females for rocky habitat which is sampled poorly by trawls. Among large females, 84.6% were new hardshells, and 15.4% oldshells; 42.7% were carrying new, uneyed embryos. Blue king crab are predominantly biennial spawners. Only a portion of the female population spawns in a given year, while the remainder are in the non-egg-bearing phase. Less than 1% of females, and no males, were in molting or soft-shell condition indicating that molting was completed for 1989.

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

Legal (≥5.5 in cw, or 120 mm cl) males occurred primarily southwest of the island (Charts 3&4 and Table 8) and were captured at 12 stations in 1989, as opposed to 10 last year. Legal males were found in depths from 22 to 60 fm (average 43.0 fm) and temperatures from 1.4 to 3.5°C (average 2.1°C). The estimated abundance of legal crabs was 1.48 million crabs (Table 3), a non-significant increase of 78% from the previous value. The abundance of pre-recruits showed no significant change,

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	2.53	0.46	0.22	0.68	3.21
1988	1.44	0.65	0.83	2.92	0.90	0.79	1.70	4.62
1989	4.80	0.97	1.48	7.25	1.58	1.68	3.27	10.52
Limits[2]								
Lower	0.67	0.47	0.87	2.49	0.05	0.32	0.56	3.05
Upper	8.93	1.46	2.09	12.01	3.12	3.04	5.97	17.98
±%	86	51	41	66	97	81	83	71

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 most recent year.

whereas the abundance of juvenile males showed a large but uncertain increase. The abundance of large females (≥80 mm cl) showed an increase of 112% but this increase was not significant due to variability in female catches, probably due to habitat preference, as explained above. Size-frequency data (Fig. 6) indicate improving recruitment, continuing a trend from 1988. No softshell or molting crab were found, but 74% of both legal males and large females were new hardshells, and the remainder were oldshells. Only 5% of 85 large females were carrying new uneyed embryo clutches, which is lower than usual for this stock.

The 1989 fishery opened on September 1 with a guideline harvest of 1.7 million pounds out of an estimated stock of 5.8 million lbs. Preliminary ADF&G statistics indicate that about 1.2 million pounds were landed by 68 vessels during a four day opening with an average CPUE of 8 crabs per pot-lift (Fig. 7) (Ken Griffin, ADF&G, P.O. Box 508, Dutch Harbor, AK 99692, pers. comm., September 1989). The target exploitation rate was 30% (by weight). In comparison, during 1988, 46 vessels landed 1.3 million pounds or 302,000 crabs for an esti-

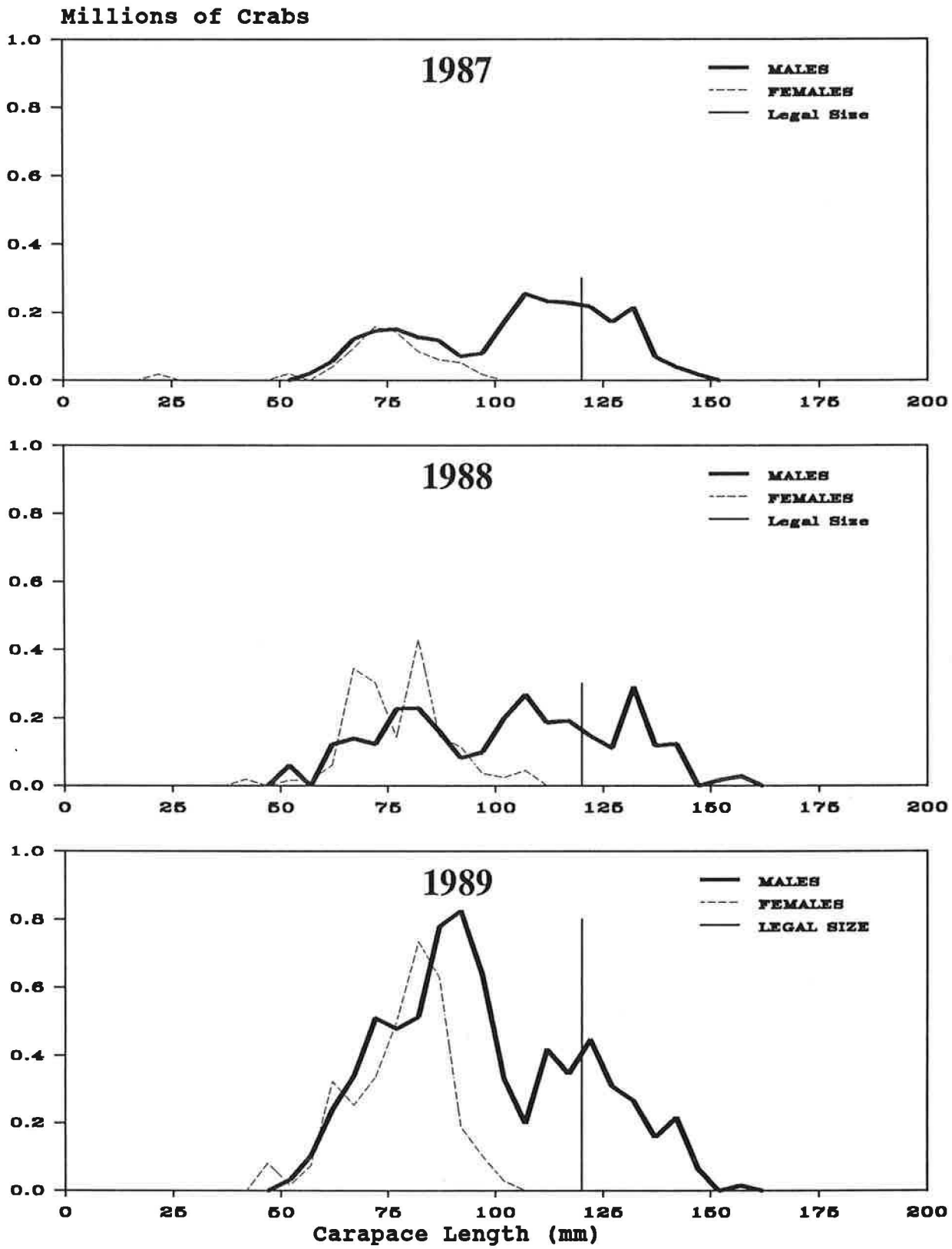


FIGURE 6. Estimates of abundance for St. Matthew Island (northern District) blue king crab (P. platypus) by 5 mm length classes, 1987-1989. Vertical line indicates lower limit of legal size.

Blue king crab, Northern District

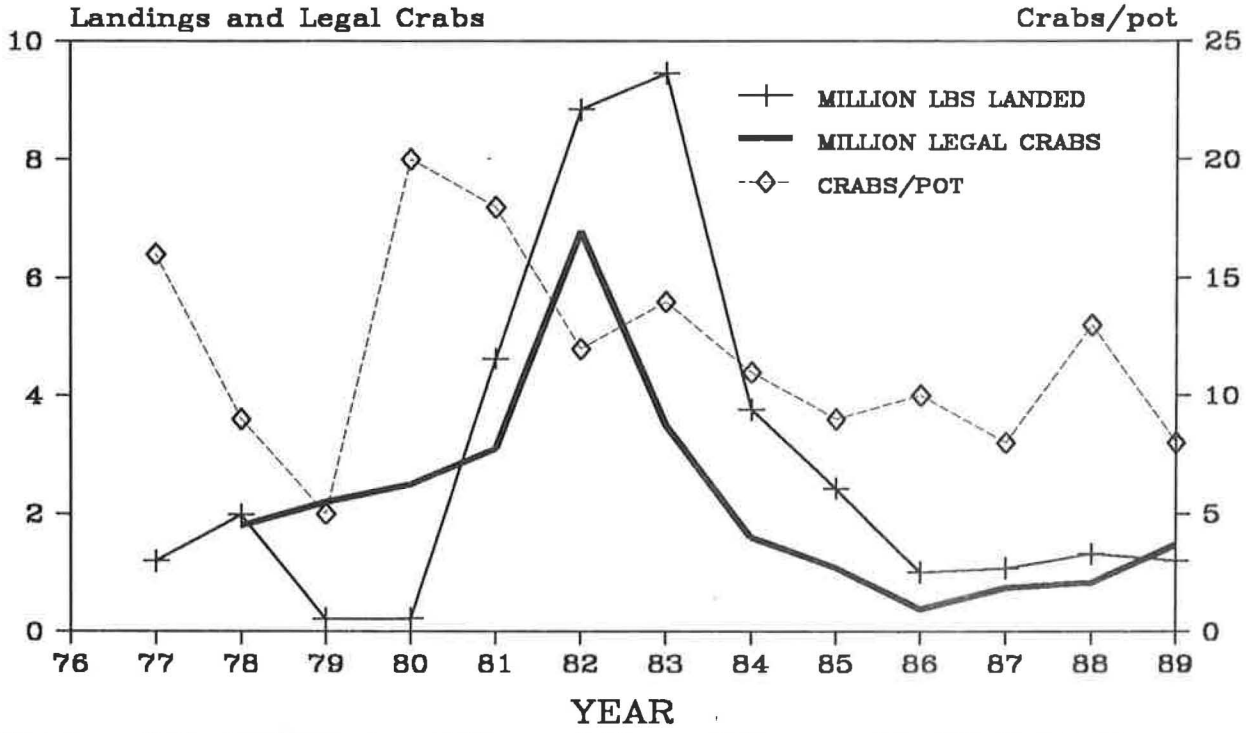


FIGURE 7. U.S. landings in millions of lbs, catch-per-unit-effort (CPUE) as crabs/pot, and the abundance of legal blue king crabs (P. platypus) in millions in the Northern District, estimated from the NMFS trawl surveys.

mated exploitation rate of 39% and an average CPUE of 13 crabs per pot-lift[3].

Distribution and Abundance of Tanner Crabs

C. bairdi

Although the legal minimum size of 5.5 in cw is equivalent to 140 mm cw, legal crabs are defined in this report as ≥138 mm cw because of the difference between scientific measure (between spines) and commercial measure (spine tip to spine tip). The data included in Table 4, however, show large crabs as males ≥135 mm, because this is closer to the lower limit of sizes landed, and has been used for a long-term index since 1976.

Large males were widely distributed in Bristol Bay and continental slope areas with regions of relatively high abundance in mid-Bristol Bay and the Pribilof Islands (Charts 5&6, Table 9). The area of distribution of legal males was much greater than that of 1988. Most legal crab were found at 23 to 87 fm (average 37.3 fm) and at temperatures ranging from 1.0 to 5.7°C with an average temperature of 2.4°C. The estimated abundance of legal (≥138 mm cw) male *C. bairdi* in the Eastern District is 33.6 million crabs (with 42.3 million ≥135 mm cw; Table 4). Because District boundaries were redefined in 1987, the 1989 estimate is calculated for the Eastern District (east of 173° long W.) and includes 99.9% of large males, whereas all previous estimates were for the combined Bristol Bay and Pribilof Districts, which included 98.4% of large males in 1988. The two different definitions enclose essentially the same region of *C. bairdi* distribution. The estimated total

3. Alaska Dept. Fish and Game, 1989. Westward Region shellfish report to the Alaska Board of Fisheries. ADF&G, Div. of Commercial Fisheries, Westward Regional Office, 211 Mission Rd., Kodiak, AK 99615, 325 p.

Table 4. Annual abundance estimates (millions of crabs) for Tanner crabs (C. bairdi) from NMFS surveys. 1989 data for Eastern District; all prior data for Bristol Bay and the Pribilof Districts.

	Males				Females			Grand
Size[1](mm) Width(in)	<110 <4.3	110-134 4.3-5.3	>135 >5.3	Total	<85 <3.4	>85 >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	230.1	19.7	8.3	258.0	193.3	35.5	228.8	486.8
1988	287.3	59.7	17.4	364.4	184.8	81.0	265.8	630.2
1989	403.0	102.1	42.3	547.5	338.6	63.8	402.4	949.9
Limits[2]								
Lower	262.7	80.0	33.7	401.0	196.8	45.4	256.0	657.0
Upper	543.3	124.3	51.0	694.1	480.3	82.3	548.8	1242.9
± %	35	22	20	27	42	29	36	31

1 Carapace width (mm).
2 Mean ± 2 standard errors for most recent year.

abundance of legal crabs increased by a factor of 2.3 from 1988 levels. The estimated abundance of pre-recruits (110-134 mm cw) increased significantly by 71%, and the estimate of small males (<110 mm cw) showed no significant change from 1988. This population has essentially doubled each year since 1986, and all portions of the stock are well above long-term average values, except for large females, which are average in abundance. Size frequency data (Fig. 8) show what appears to be significant recruitment of small males over the past 3 years, and growth of those into pre-recruit and legal sizes. A relatively large proportion (27%) of large males were molting or softshell, while new hardshells (61%) were most abundant, and oldshells least (12%).

The abundance of large (>85 mm cw) females (all districts) showed a slight but non-significant decrease, but the abundance of small (< 85 mm) females showed a significant increase of 77% from last year (+83% in the Eastern District alone). Over 88% of females were new hardshells, 9% oldshells, and <3% molting or softshell. Over 95% of large females were ovigerous, and 95% of those were carrying new, uneyed embryos, suggesting that the period of larval hatching and embryo extrusion

C. bairdi Width Frequency

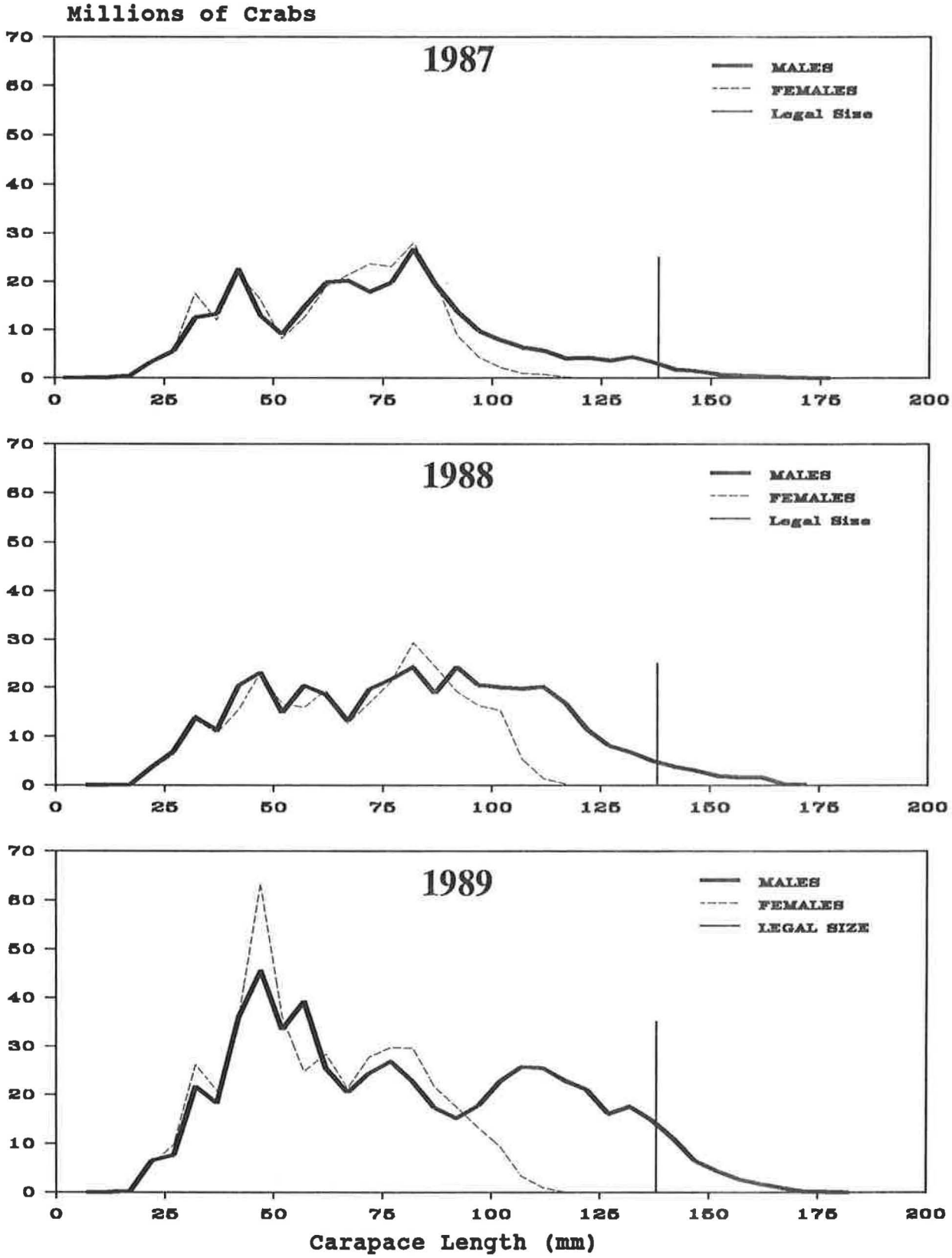


FIGURE 8. Estimates of abundance of C. bairdi in Bristol Bay and the Pribilof District by 5 mm width classes, 1987-1989. Vertical line indicates lower limit of legal size.

C. bairdi, Bristol Bay and Pribilofs

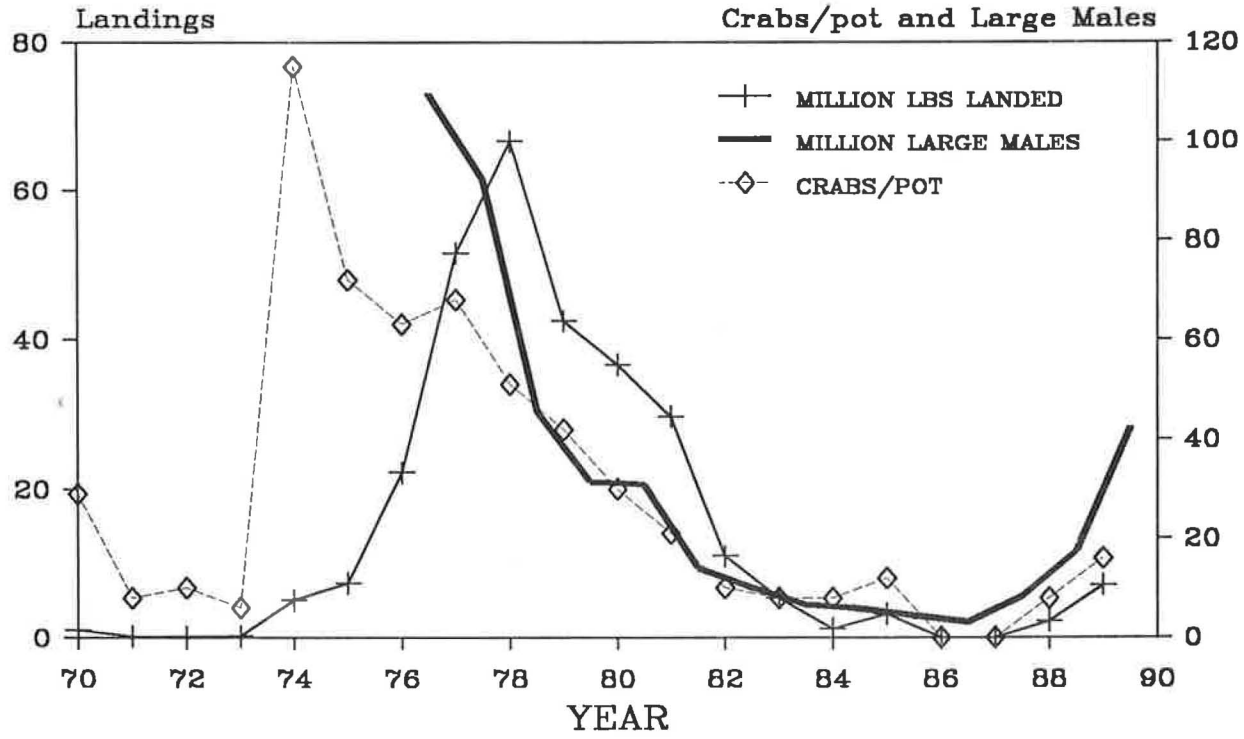


FIGURE 9. U.S. landings in millions of lbs, catch-per-unit-effort (CPUE) as crabs/pot, and the abundance of large male C. bairdi in millions in the Bristol Bay and Pribilof Districts (prior to 1989), or the Eastern District (after 1988), estimated from the NMFS trawl surveys.

was essentially completed by the time of the survey.

Due to low estimated abundance of *C. bairdi* the Bristol Bay fishery was not opened in 1986 or 1987, but was re-opened in 1988. In 1989 about 6.9 million pounds were harvested by 108 vessels, with average CPUE of 16 crabs/pot-lift (Fig. 9) (Ken Griffin, ADF&G, P. O. Box 508, Dutch Harbor, AK 99692, pers. comm., September 1989). Current estimates show that the population of legal males is increasing and is currently estimated at 73.8 $\pm$ 16.0 million lbs, 99.9% of which is located in the Eastern District. Guideline harvests for 1990 have not been determined.

C. opilio

Although the legal minimum size limit for *C. opilio* is 3.1 in cw (78 mm), processors currently prefer a minimum size of 4.0 inches (102 mm). Therefore, the size ranges for male *C. opilio* used in this report are defined as follows: sublegal, <3.1 in (78 mm) cw; small, 3.1-4.0 in cw (78-101 mm); large, $\geq$4.0 in cw (102 mm); and very large $\geq$4.3 in cw (110 mm).

The distribution of large males showed an area of high concentration north and east of the Pribilof Islands (Charts 7&8, Table 10). There were also areas of high abundance in the extreme northwestern portion of the survey area south and west of St. Matthew Island. Crab larger than 4.0 inches were taken at depths from 25 to 121 fm (average 53.8 fm), and temperatures from -0.4 to 5.3°C (average 2.8°C). Percentages of exploitable crab (Chart 8) are difficult to interpret because of the close association between the distributions of large and pre-recruit (<4.0 in) size groups.

Although this species has been surveyed since 1978, the area surveyed prior to 1982 was sufficiently smaller than the currently surveyed area that previous estimates probably underes-

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

	Males				Females			
Size[1](mm) Width(in)	<102 <4.0	≥102 ≥4.0	≥110 ≥4.3	Total	<50 <2.0	≥50 ≥2.0	Total	Grand Total
1982	*	*	21.7	2073.2	402.6	2255.8	2658.4	4731.7
1983	*	*	22.1	1858.1	673.1	1228.4	1912.6	3759.7
1984	1237.4	153.2	73.9	1390.7	610.5	581.7	1192.2	2582.9
1985	547.8	74.9	40.7	622.6	258.2	123.5	381.7	1004.3
1986	1179.0	83.1	45.9	1262.0	790.6	422.0	1212.5	2474.5
1987	4438.9	150.8	70.0	4589.8	2919.3	2929.3	5848.6	10438.4
1988	3467.2	171.0	90.1	3638.2	1235.3	2322.7	3556.0	7194.2
1989	3646.1	187.1	81.2	3833.1	1922.8	3790.7	5713.4	9546.5
East(%)[2]	62.3	62.4	62.3	62.3	25.7	50.6	42.2	50.3
Limits[3]								
Lower	2922.1	161.6	67.8	3104.7	246.9	1711.5	2032.8	5137.5
Upper	4370.0	212.6	94.6	4561.6	3598.6	5869.8	9394.1	13955.7
±%	20	14	16	19	87	55	64	46

1 Carapace width in mm.
2 Proportion of size group in Eastern District.
3 Mean ± 2 standard errors for most recent year.
* Estimates not available at present time

timated the exploitable crab population. However, prior to 1985, there was little fishing north of 58° N, and estimates of abundance (Table 5) probably included that portion of the stock which was subject to fishing. During the early 1980's the high density regions of *C. opilio* distribution have moved in a northwestern direction and split into two centers of abundance. For this reason, new district boundaries were devised in 1987 creating an Eastern and Western District for *C. opilio*, with the dividing line at 173° W long. Because of this change in District definitions and because this species appears to be a single stock, values in Table 5 reflect the entire surveyed population of *C. opilio*. Furthermore, the 4-inch (102 mm) size preference was not in use prior to 1984. For these reasons estimates of abundance of large males are not shown for years prior to 1984 (Table 5; Fig. 11).

The estimated number of large (≥102 mm cw) males (Eastern and Western Districts combined) is 187.1 million crabs, a slight but non-significant increase from last year. Small males (78-101 mm cl) increased significantly by 75% to 822.4 million, and very large males (≥110 mm cl) decreased by 10% (non-significant). Sublegal males (<4.0 in cw) showed no significant change. Overall, total males showed no significant change from the previous level. The estimated abundance of large female (≥50 mm cl) crabs showed a non-significant increase

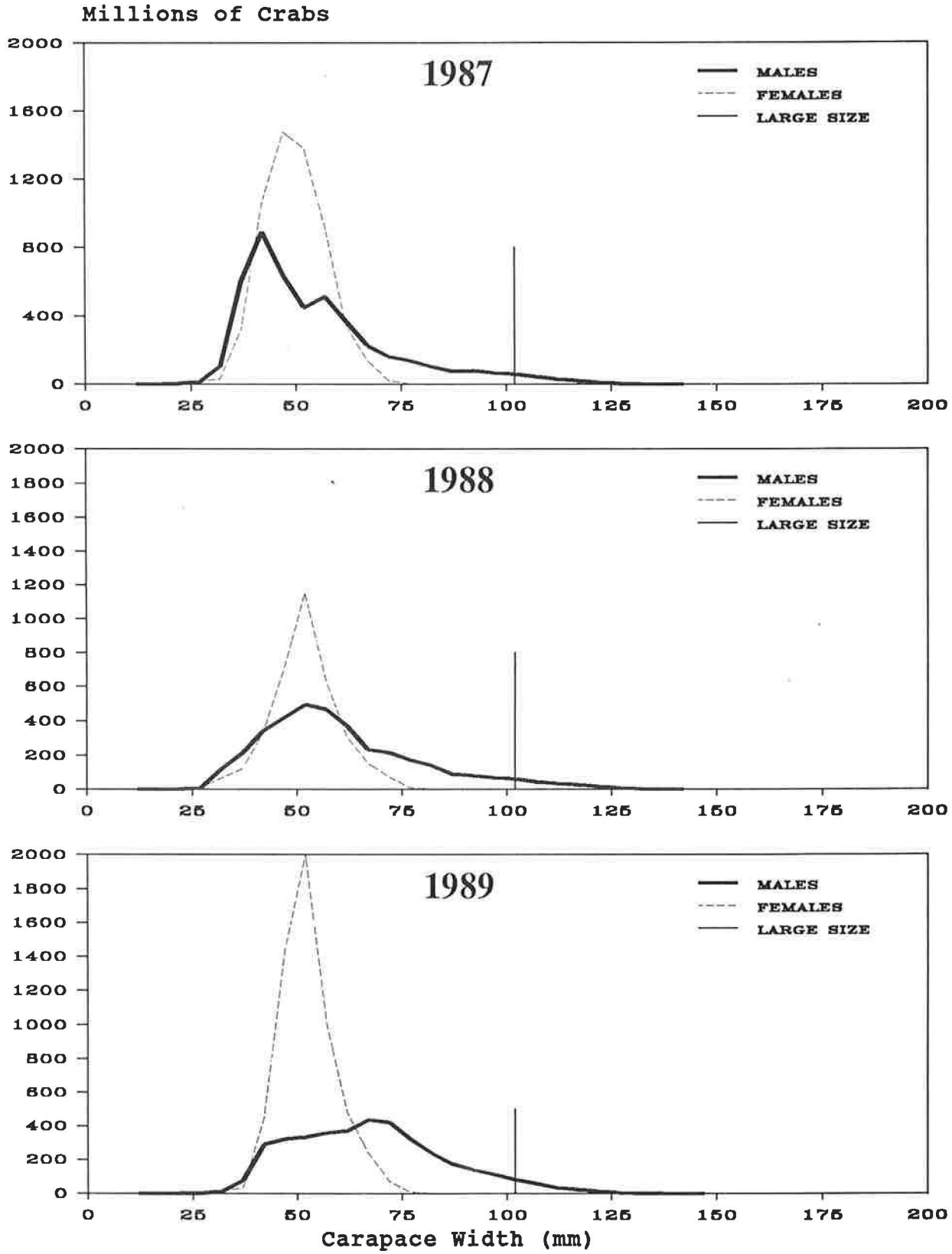


FIGURE 10. Estimates of abundance for C. opilio, all districts combined by 5 mm width classes, 1987-1989. Vertical line indicates minimum size preferred by industry.

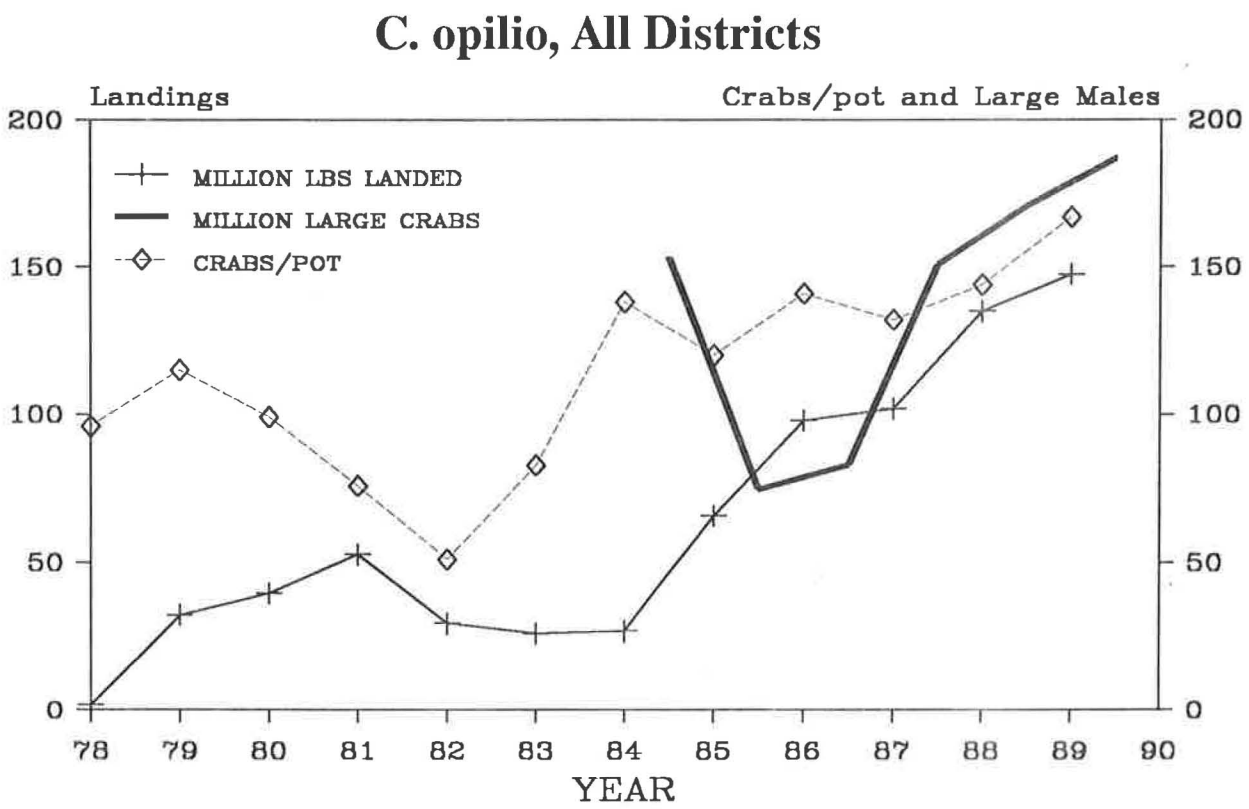


FIGURE 11. U.S. landings in millions of lbs, catch-per-unit-effort (CPUE) as crabs/pot, and the abundance of large male (>102 mm cw) C. opilio in millions (all Districts combined), estimated from NMFS trawl surveys.

of 63%, and small females showed a non-significant increase of 56%. Size frequency data (Fig. 10) indicate that major recruitment of postlarval crab occurred in the mid-1980's, and recruitment to the fishery may continue to improve in the near-term as juveniles mature. However, in the past, large populations of juveniles have been estimated which subsequently failed to recruit (e.g. 1984-1985), so predictions must be viewed cautiously. Recruitment patterns in this stock are not entirely clear since recruitment evidently occurs both through localized production and by immigration from unsurveyed areas, perhaps including Soviet waters. Among male crabs $\geq$ 100 mm cw, i.e., the exploited stock, in the Eastern District, 5.4% were in molting or softshell condition, 80% were newshells indicating a recent molt, 13.1% were oldshells (these may have some scratch marks, and be slightly duller than newshells, but still fairly clean), and 1.6% were very oldshells (dark colored, often with wound marks and/or overgrown with barnacles and other organisms). In the Western District, 2.5% were molting or softshells, 62% were newshells, 19.5% were oldshells, and 15% were very oldshells.

No females were molting or softshell, indicating that the female molting period was completed. The majority (74%) of females were oldshells. Considering only large female crabs, about 84% carried new uneyed embryos (vs 99% last year) indicating that hatching and extrusion were close to completion by the time of the survey.

Preliminary 1989 ADF&G statistics indicate that about 147.5 million lbs were landed (Fig. 11), with average catches of 167 crabs/pot, and average weight of 1.32 lbs (Ken Griffin, ADF&G, P. O. Box 508, Dutch Harbor, AK 99692, pers. comm., September 1989). Currently there are an estimated 241 (± 32.8) million pounds of large males ($\geq$4.0 in cw)

within the survey area of which about 62% by number (63% by weight) exist east of 173° W long. Guideline harvests for 1990 have not been determined.

Distribution and Abundance of Hair Crab

Hair crab are widely scattered across the EBS (Charts 9&10, Table 11). Areas of concentration exist immediately north of the Alaska Peninsula and near the Pribilof Islands. Large hair crab ($\geq$3.5 in or $\geq$90 mm cl) were taken in 22 to 87 fm (average 41.4 fm) and at temperatures of 1.0 to 5.4°C (average 3.3°C). Large males were 100% of the catch in many areas (Chart 10). We have never found many female or small male crab during the survey and hence have little understanding of their distribution.

Because of their patchy distribution and low densities, estimates of abundance of hair crab are imprecise. No changes in population levels (Table 6) from 1988 to 1989 were statistically significant. The estimated abundance of large male hair crabs has been declining since 1981 and is now at a new all-time low; the 1989 estimate of 400,000 shows a decrease of 27% over the past year. In contrast, the estimated abundance of small (< 3.5 in cl) males shows an increase of 210% from 1988, continuing a trend begun in 1987. The estimated abundance of total females shows a non-significant decrease of 65% from last year. Size-frequency data (Fig. 12) show improved recruitment of small male crabs in the past 3 years, and may indicate future improvement in the fishable stocks.

Landings have been largely incidental to Tanner crabbing although there is occasionally some directed effort. Preliminary ADF&G

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	
Size[1] (mm) Length(in)	<90 <3.5	>90 >3.5	Total	Total	Grand 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
1988	3.98	0.55	4.52	0.85	5.37
1989	12.30	0.40	12.72	0.30	13.02
Limits[2]					
Lower	0.00	0.19	0.00	0.13	0.00
Upper	33.9	0.61	34.35	0.47	34.82
±%	175	53	170	57	167

1 Carapace length (mm).
2 Mean ± 2 standard errors for most recent year.

Hair crab, Erimacrus isenbeckii

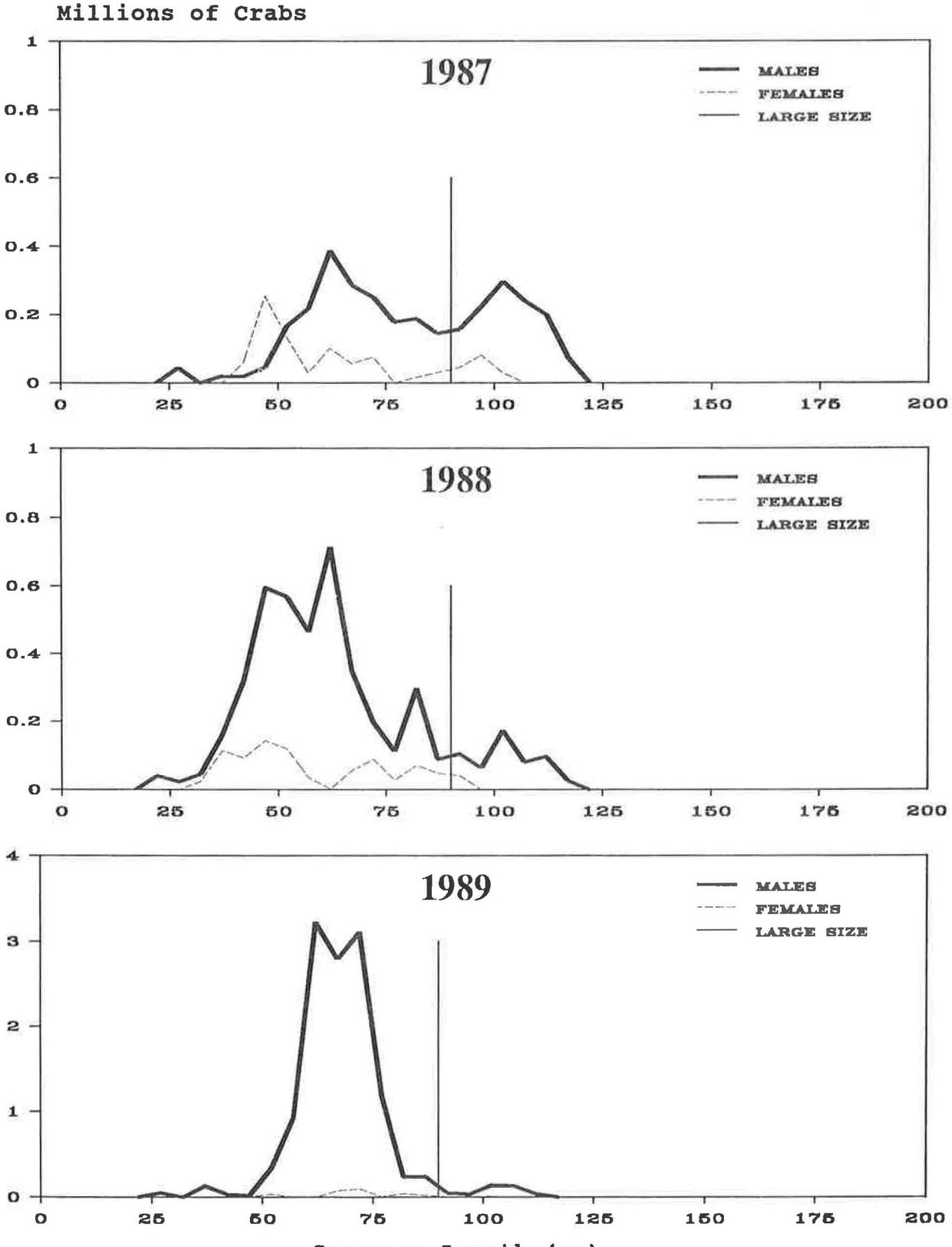


FIGURE 12. Estimates of abundance for hair crab (E. isenbeckii) by 5 mm length classes, 1987-1989. Vertical line indicates lower limt of large size group.

Hair crab, Erimacrus isenbeckii

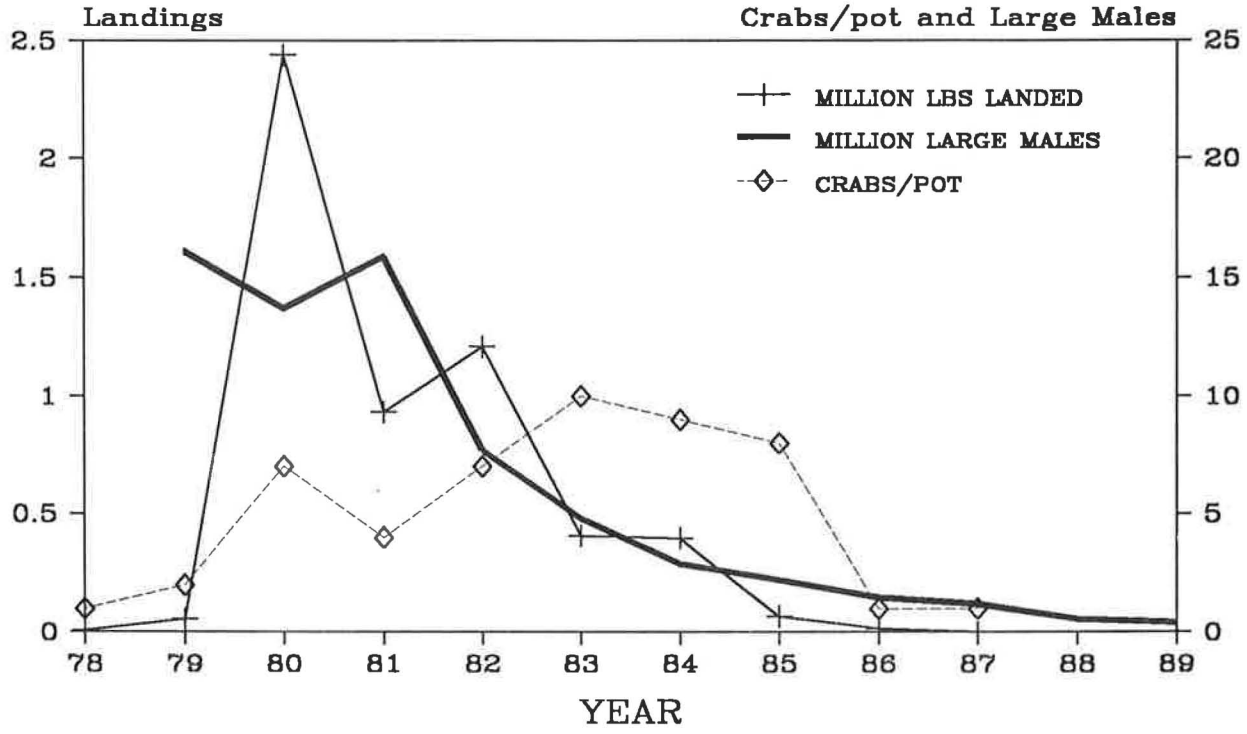


FIGURE 13. U.S. landings in millions of lbs, catch-per-unit-effort (CPUE) as crabs/pot, and the abundance of large male (>90 mm cl) hair crab (E. isenbeckii) in millions (all Districts combined), estimated from the NMFS trawl surveys.

statistics indicate that less than 500 lbs were landed in the last two years. Currently there are an estimated 780,000 pounds (±53%) of large male crabs. The fishery and markets have both been intermittent and probably will remain so during 1989. There are no guideline harvest levels, closed seasons or size limits for hair crab. CPUE has not been predictable due to low effort in recent years (Fig. 13).

Epilogue

It appears that, sometime in the early or mid-1980's, a major recruitment event occurred for both species of Tanner crab, resulting in improved survival of larvae, postlarvae, or juveniles, and these crab have been slowly recruiting to both the survey gear and the exploitable population. Whatever combination of conditions allowed this recruitment event, it may also have affected blue king crabs in the Pribilof and St. Matthew Island regions, as well as hair crab, as all three stocks have shown improved signs of recruitment of small crab; however, lack of knowledge concerning growth rates of those two species leads to uncertainty about the timing of the event. All five stocks may be responding to the same conditions, or to a series of events which occurred over a period of several years. In contrast, red king crab still show no signs of improved recruitment, but the survey has generally been unsuccessful in detecting such crab until they are typically 50-75 mm cl, or 5-8 years of age.

Bottom Temperatures

The average bottom water temperature in 1989 was 3.0°C as compared to 2.2°C in 1988 and 3.3°C in 1987. 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 conti-

Coastal Bottom Temperature Index

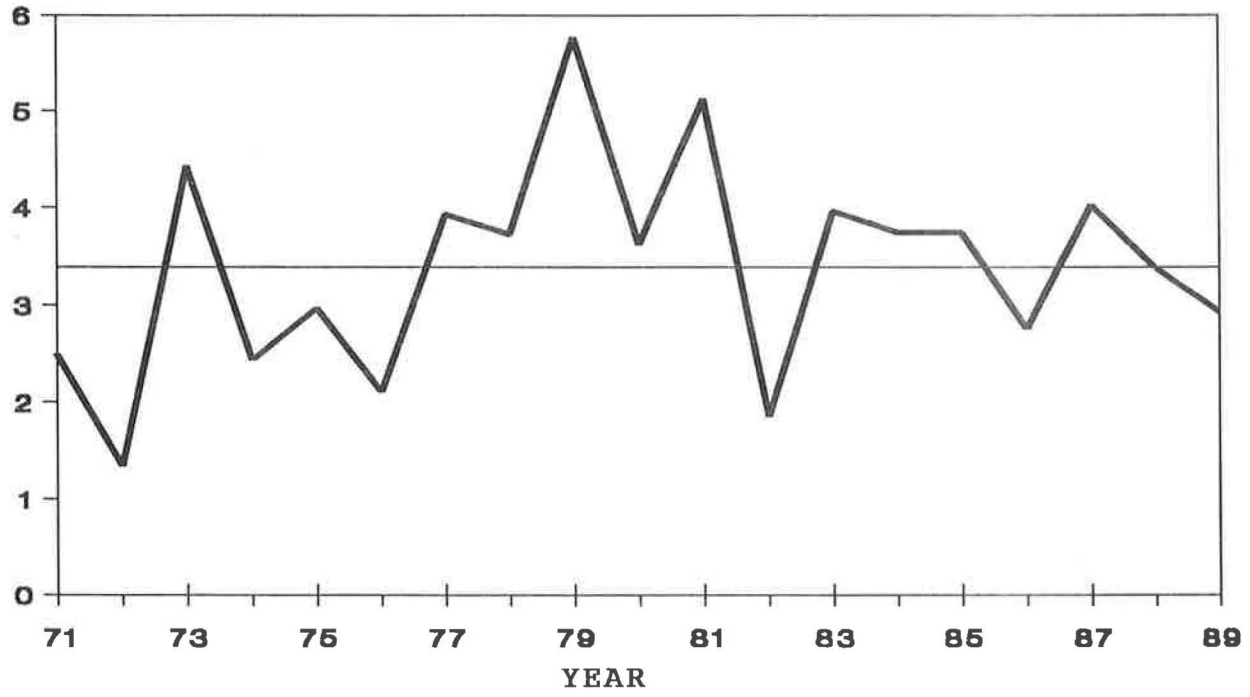


FIGURE 14. Coastal bottom temperature index (mean of 37 survey stations along the Alaska Peninsula) in degress C for 1971-present. Horizontal line is average value over the entire period.

nental 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.

As an index of mean temperature in the area most important to larval and juvenile king crab growth, the average temperature has been determined from the June survey data for 37 stations along the Alaska Peninsula since 1971. This coastal temperature index for 1989 was 2.93°C (Fig. 14), which is slightly below the 1971-1989 average.

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, and several hundred in each successive year, including 490 in 1989. 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 pres ent)
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

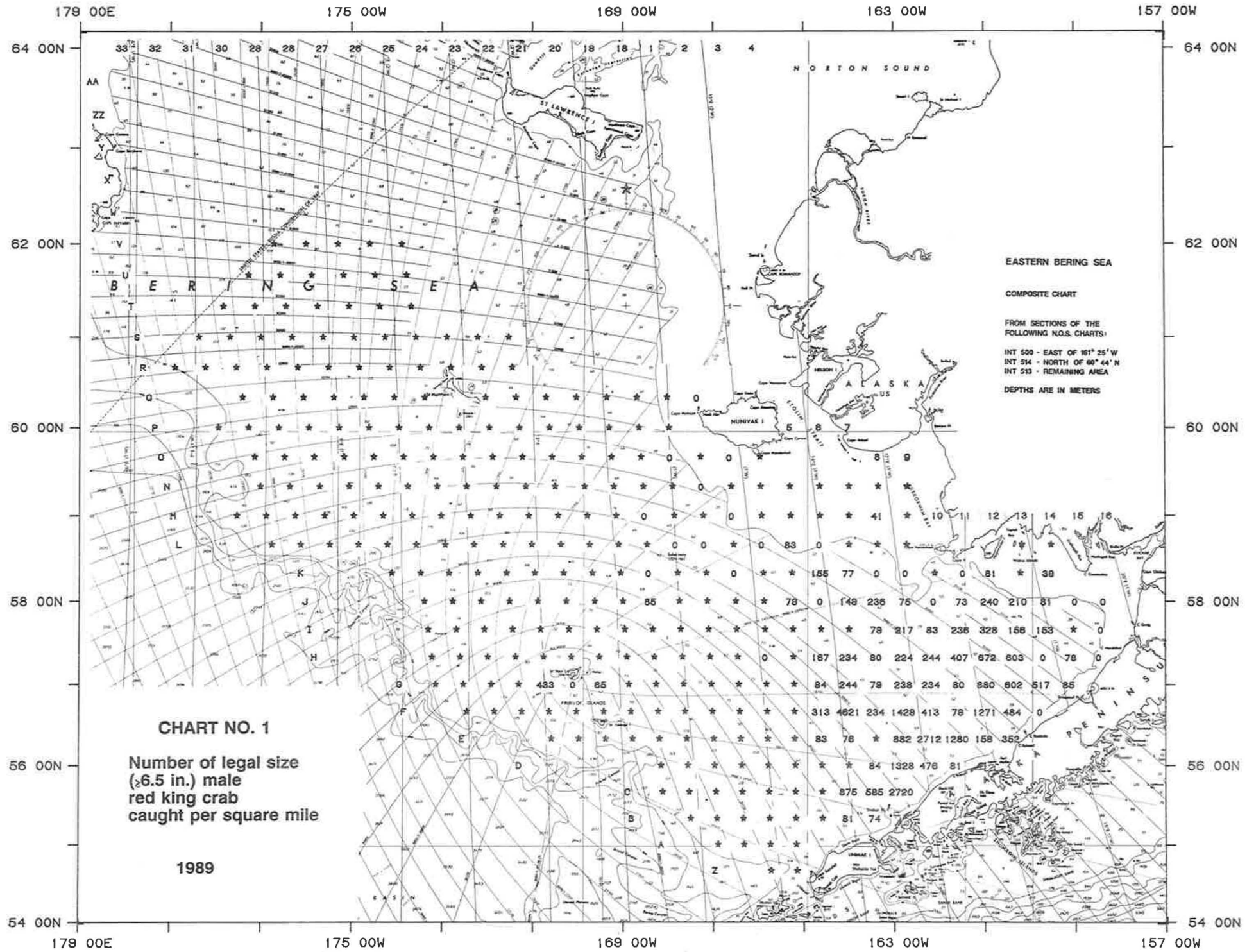
This information will be recorded on stamped data cards and if possible validated by ADF&G biologists before being mailed to the NMFS in Kodiak. The reward will be mailed to the address on the card. Any legal male crab will remain the property of the catcher vessel.

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 Mitch Hull and Alain Tridj (FV Ocean Hope 3), Tom Oswald (RV Alaska), and their crews.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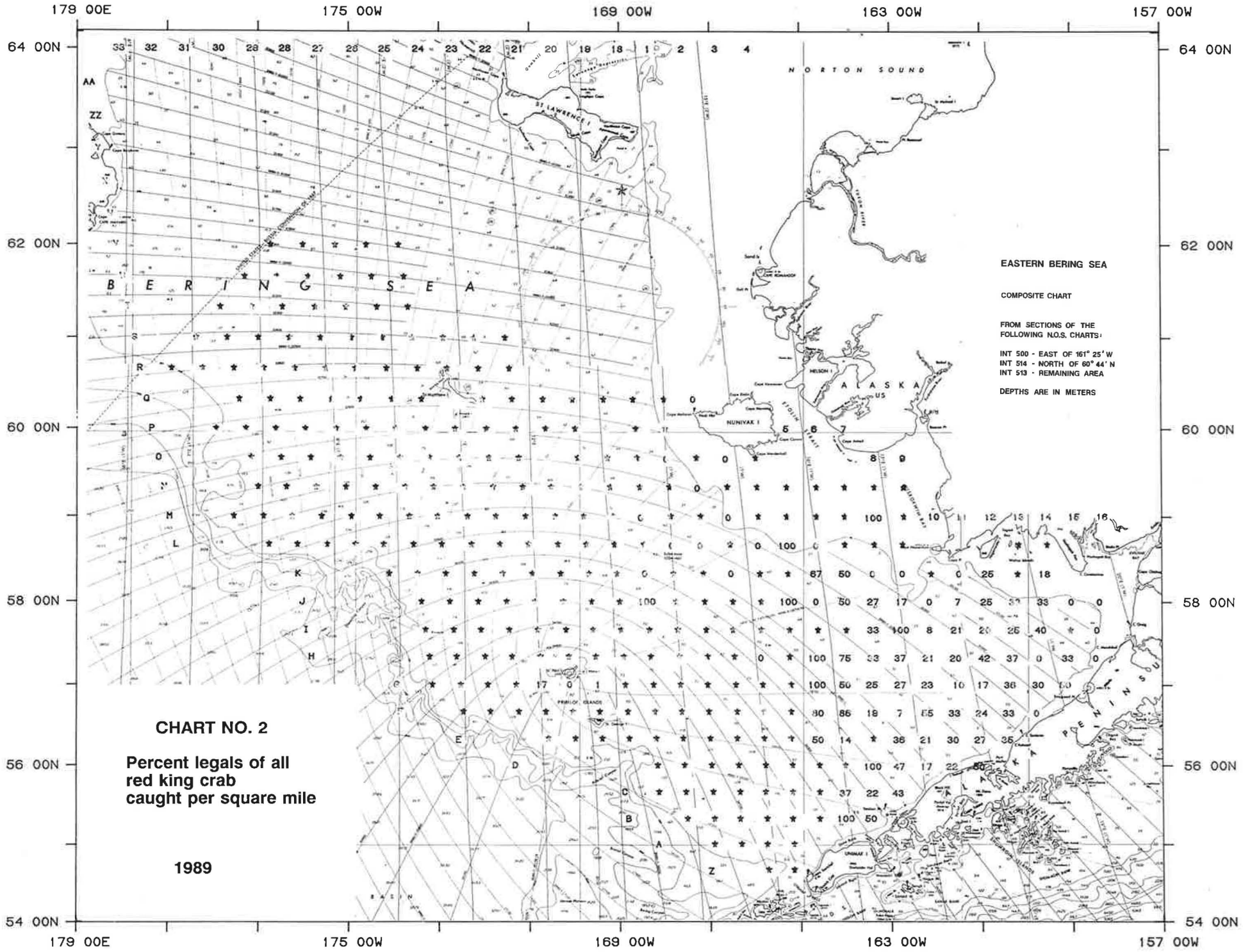
163 00W
157 00W
64 00N
62 00N
60 00N
58 00N
56 00N
54 00N
B E R I N G S E A
N O R T O N S O U N D
ST LAWRENCE I
NUNIVAK I
A L A S K A
EASTERN BERING SEA
COMPOSITE CHART
FROM SECTIONS OF THE FOLLOWING N.O.S. CHARTS:
INT 500 - EAST OF 161° 25' W
INT 514 - NORTH OF 60° 44' N
INT 513 - REMAINING AREA
DEPTHS ARE IN METERS
CHART NO. 1
Number of legal size (≥6.5 in.) male red king crab caught per square mile
1989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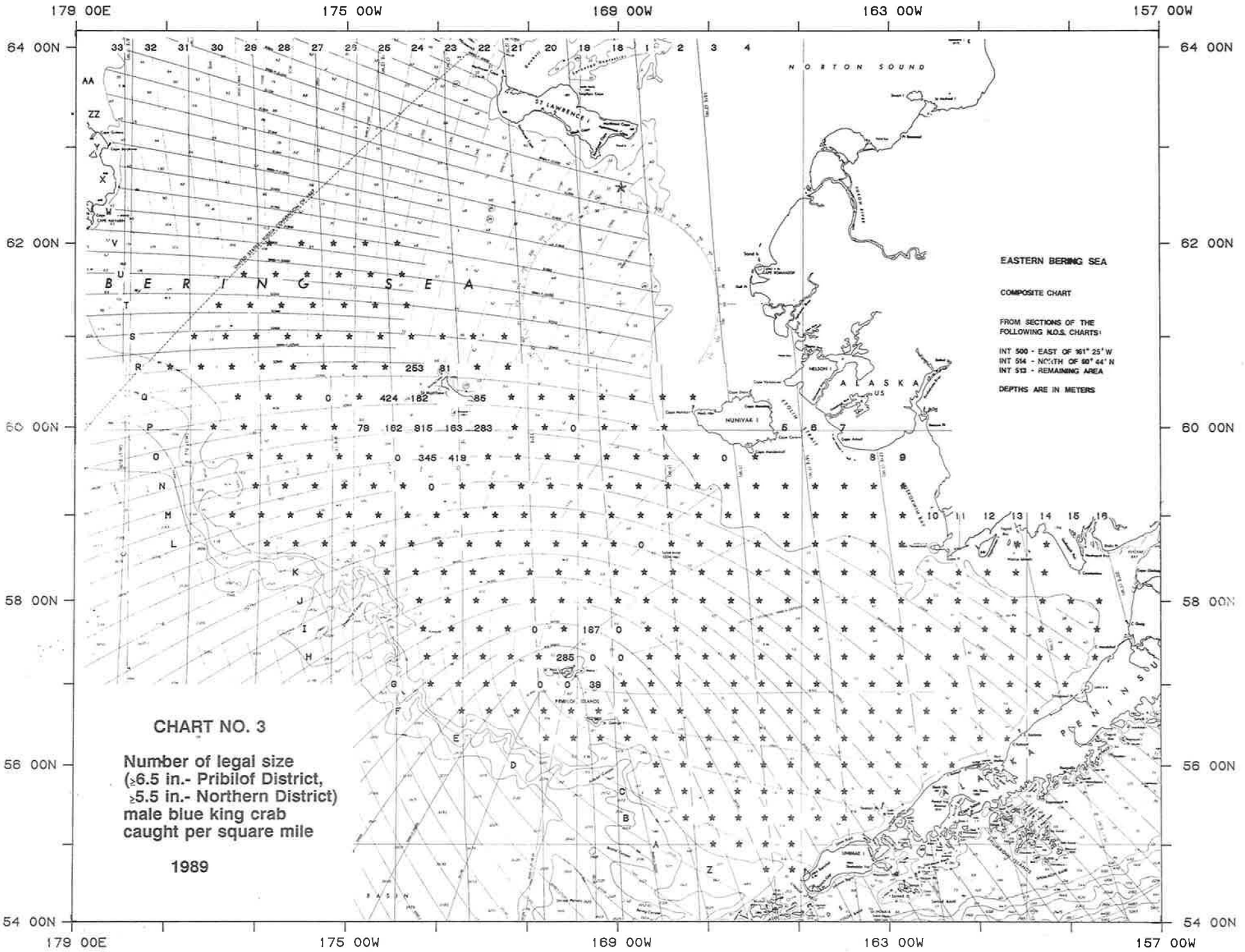
60 00N
58 00N
56 00N
54 00N
B E R I N G S E A
N O R T O N S O U N D
ST LAWRENCE I
NUNIVAK I
A L A S K A
EASTERN BERING SEA
COMPOSITE CHART
FROM SECTIONS OF THE FOLLOWING N.O.S. CHARTS:
INT 500 - EAST OF 161° 25' W
INT 514 - NORTH OF 60° 44' N
INT 513 - REMAINING AREA
DEPTHS ARE IN METERS
CHART NO. 2
Percent legals of all red king crab caught per square mile
1989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163 00W
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64 00N
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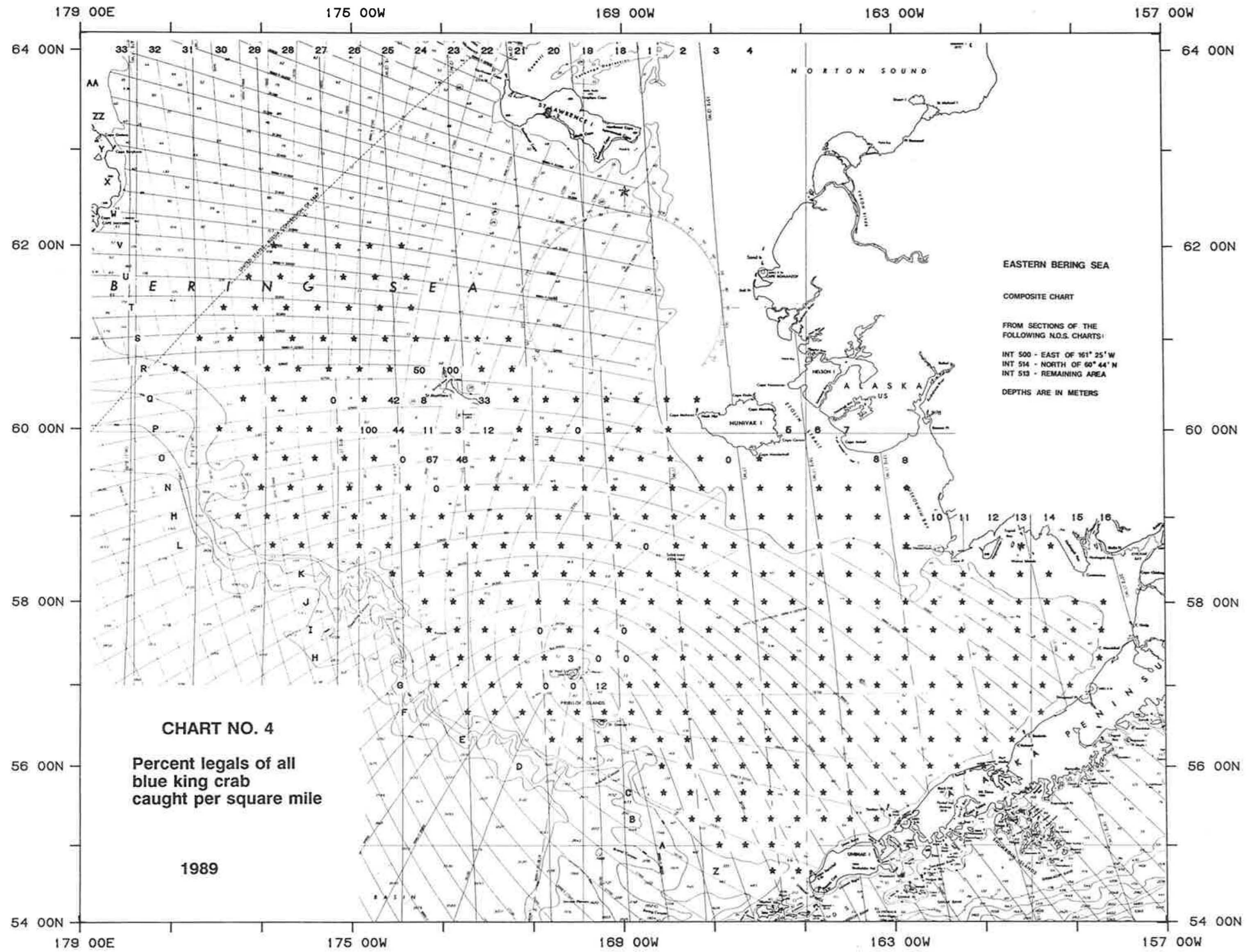
60 00N
58 00N
56 00N
54 00N
NORTON SOUND
ST LAWRENCE I
NUNIVAK I
NELSON I
ALASKA
B E R I N G S E A
PENINSULA
EASTERN BERING SEA
COMPOSITE CHART
FROM SECTIONS OF THE FOLLOWING N.O.S. CHARTS:
INT 500 - EAST OF 161° 25' W
INT 514 - NORTH OF 60° 44' N
INT 513 - REMAINING AREA
DEPTHS ARE IN METERS
CHART NO. 3
Number of legal size (≥6.5 in.- Pribilof District, ≥5.5 in.- Northern District) male blue king crab caught per square mile
1989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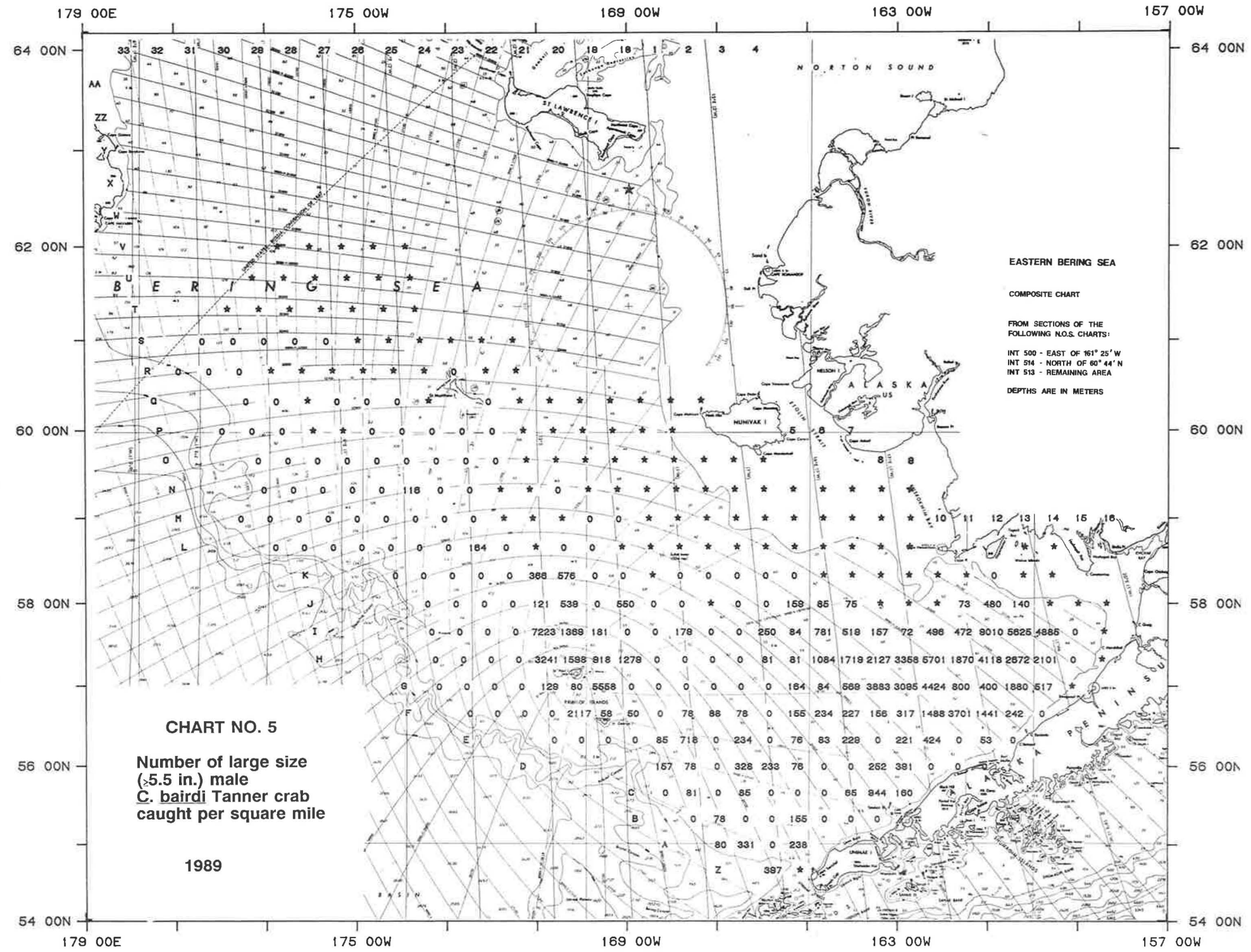
NORTON SOUND
ST LAWRENCE I
NELSON I
HUNIVAK I
A L A S K A
BERING SEA
EASTERN BERING SEA
COMPOSITE CHART
FROM SECTIONS OF THE FOLLOWING N.O.S. CHARTS:
INT 500 - EAST OF 161° 25' W
INT 514 - NORTH OF 60° 44' N
INT 513 - REMAINING AREA
DEPTHS ARE IN METERS
CHART NO. 4
Percent legals of all blue king crab caught per square mile
1989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62 00N
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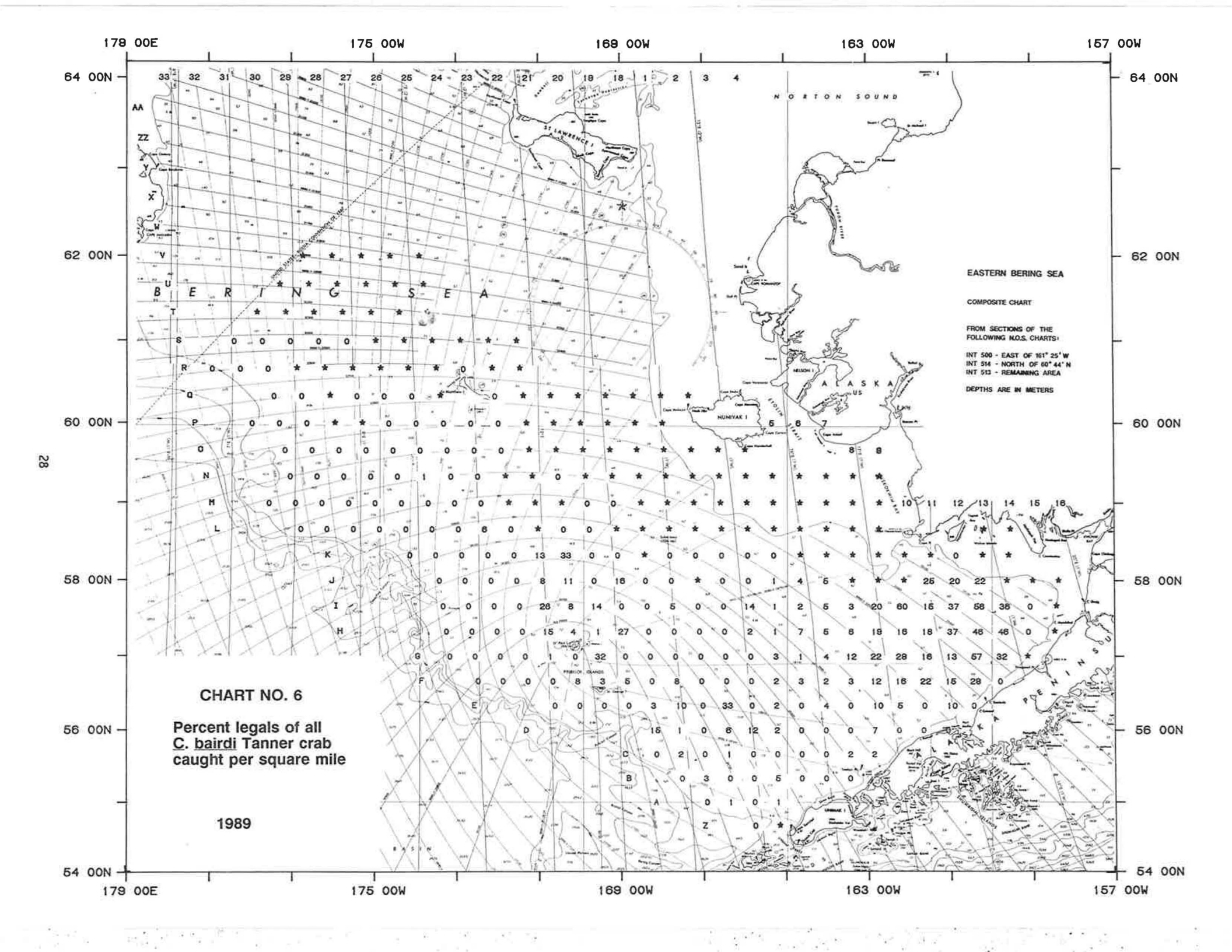
58 00N
56 00N
54 00N
B E R I N G S E A
N O R T O N S O U N D
ST LAWRENCE I
NUNIVAK I
NELSON I
A L A S K A
EASTERN BERING SEA
COMPOSITE CHART
FROM SECTIONS OF THE FOLLOWING N.O.S. CHARTS:
INT 500 - EAST OF 161° 25' W
INT 514 - NORTH OF 60° 44' N
INT 513 - REMAINING AREA
DEPTHS ARE IN METERS
CHART NO. 5
Number of large size (≥5.5 in.) male C. bairdi Tanner crab caught per square mile
1989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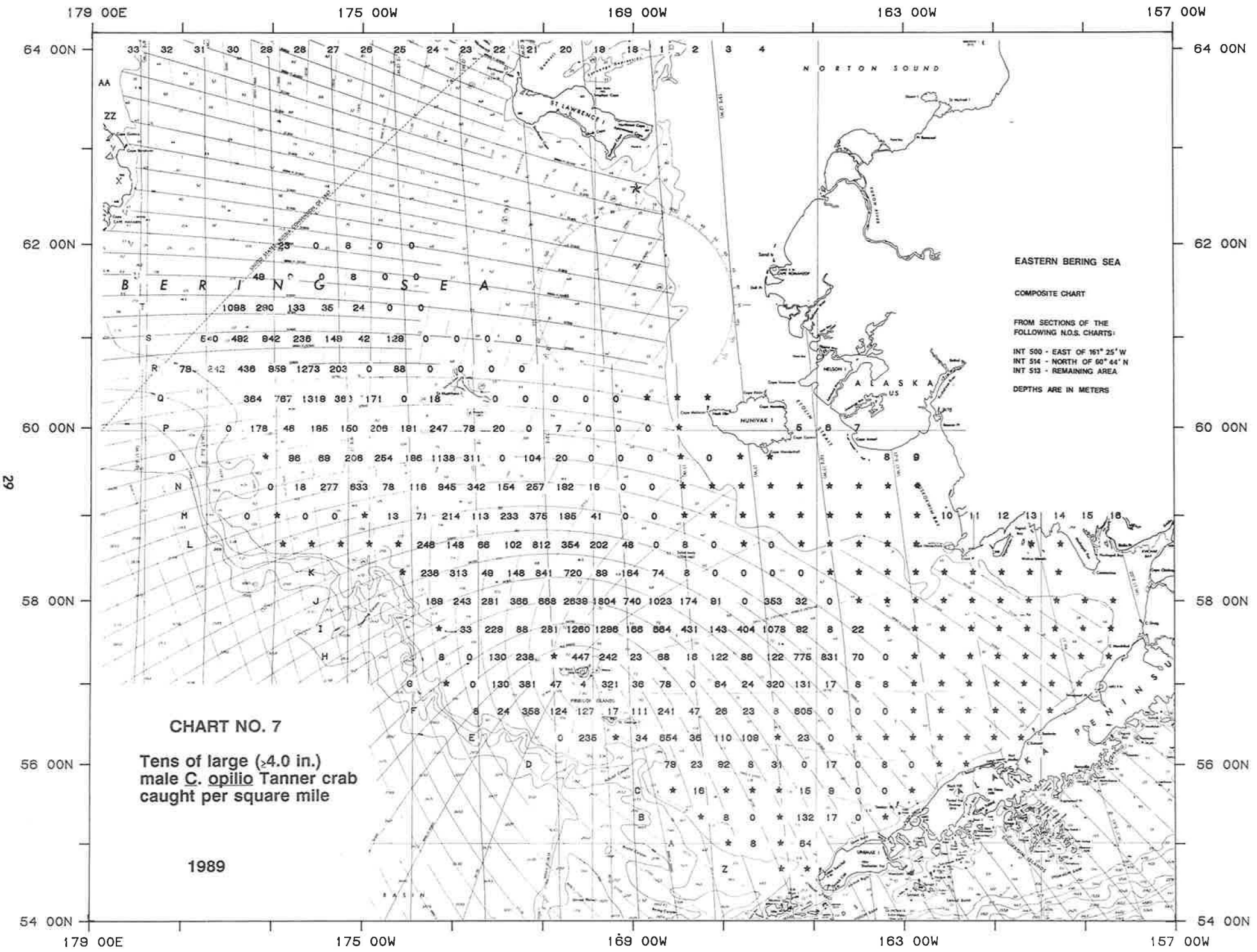
62 00N
60 00N
58 00N
56 00N
54 00N
NORTON SOUND
BERING SEA
ALASKA
ST LAWRENCE I
NUNIVAK I
NELSON I
PRIBILOF ISLANDS
EASTERN BERING SEA
COMPOSITE CHART
FROM SECTIONS OF THE FOLLOWING N.O.S. CHARTS:
INT 500 - EAST OF 161° 25' W
INT 514 - NORTH OF 60° 44' N
INT 513 - REMAINING AREA
DEPTHS ARE IN METERS
CHART NO. 6
Percent legals of all C. bairdi Tanner crab caught per square mile
1989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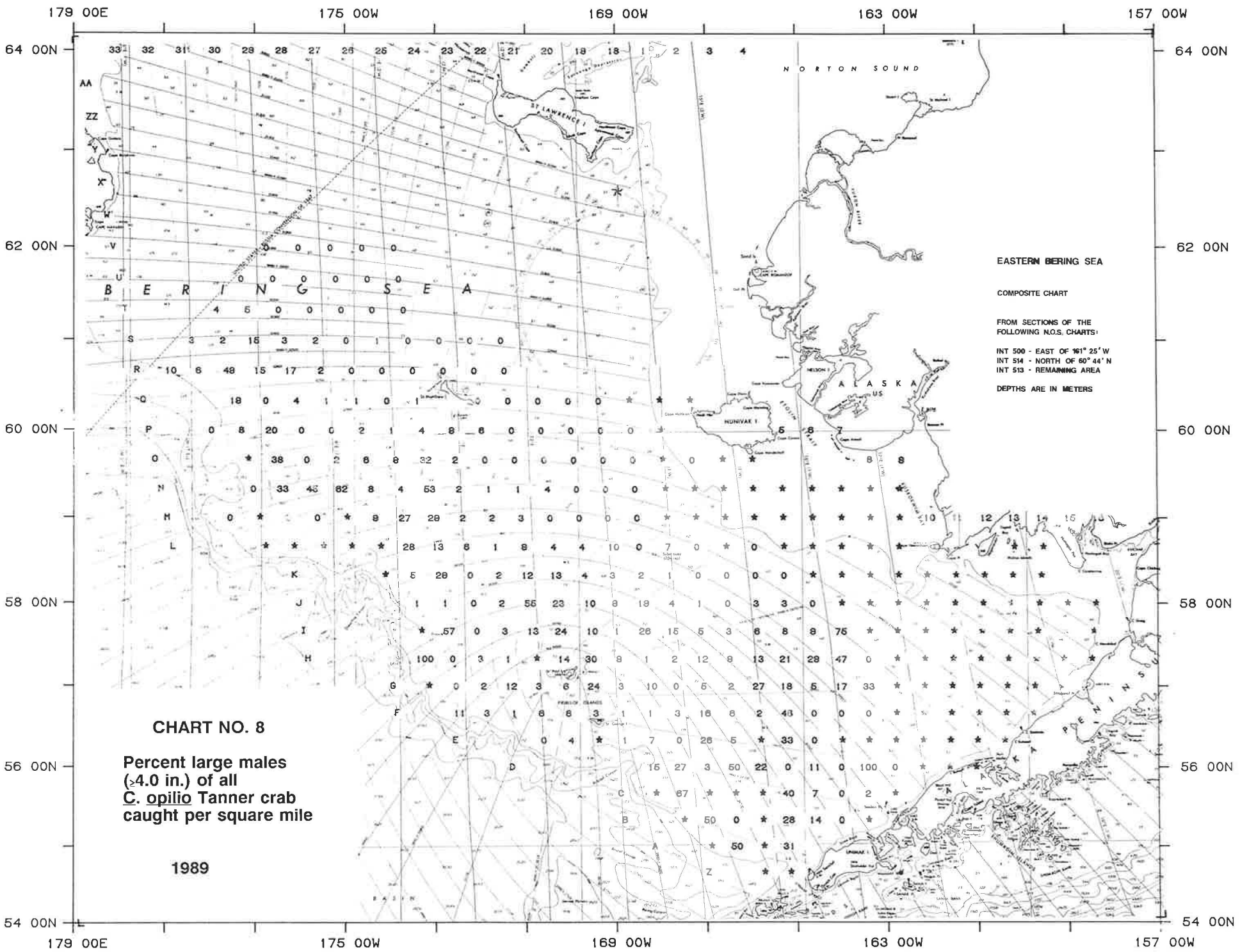
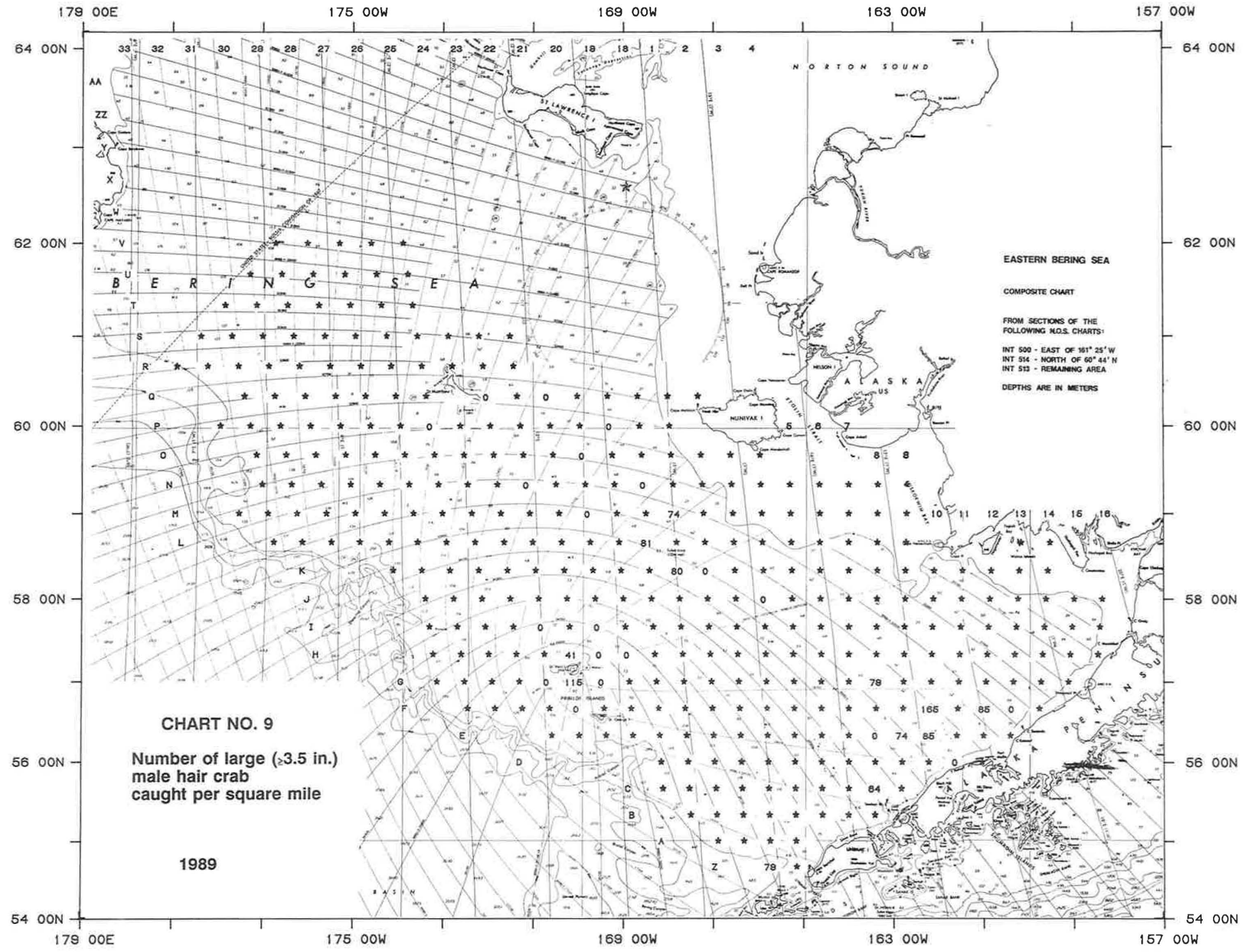
62 00N
60 00N
58 00N
56 00N
54 00N
B E R I N G S E A
N O R T O N S O U N D
ST LAWRENCE I
NUNIVAK I
A L A S K A
U S
EASTERN BERING SEA
COMPOSITE CHART
FROM SECTIONS OF THE FOLLOWING N.O.S. CHARTS:
INT 500 - EAST OF 161° 25' W
INT 514 - NORTH OF 60° 44' N
INT 513 - REMAINING AREA
DEPTHS ARE IN METERS
CHART NO. 7
Tens of large (≥4.0 in.) male C. opilio Tanner crab caught per square mile
1989


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
N O R T O N S O U N D
A L A S K A
ST LAWRENCE I
NUNIVAK 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. 8
Percent large males (≥4.0 in.) of all C. opilio Tanner crab caught per square mile
1989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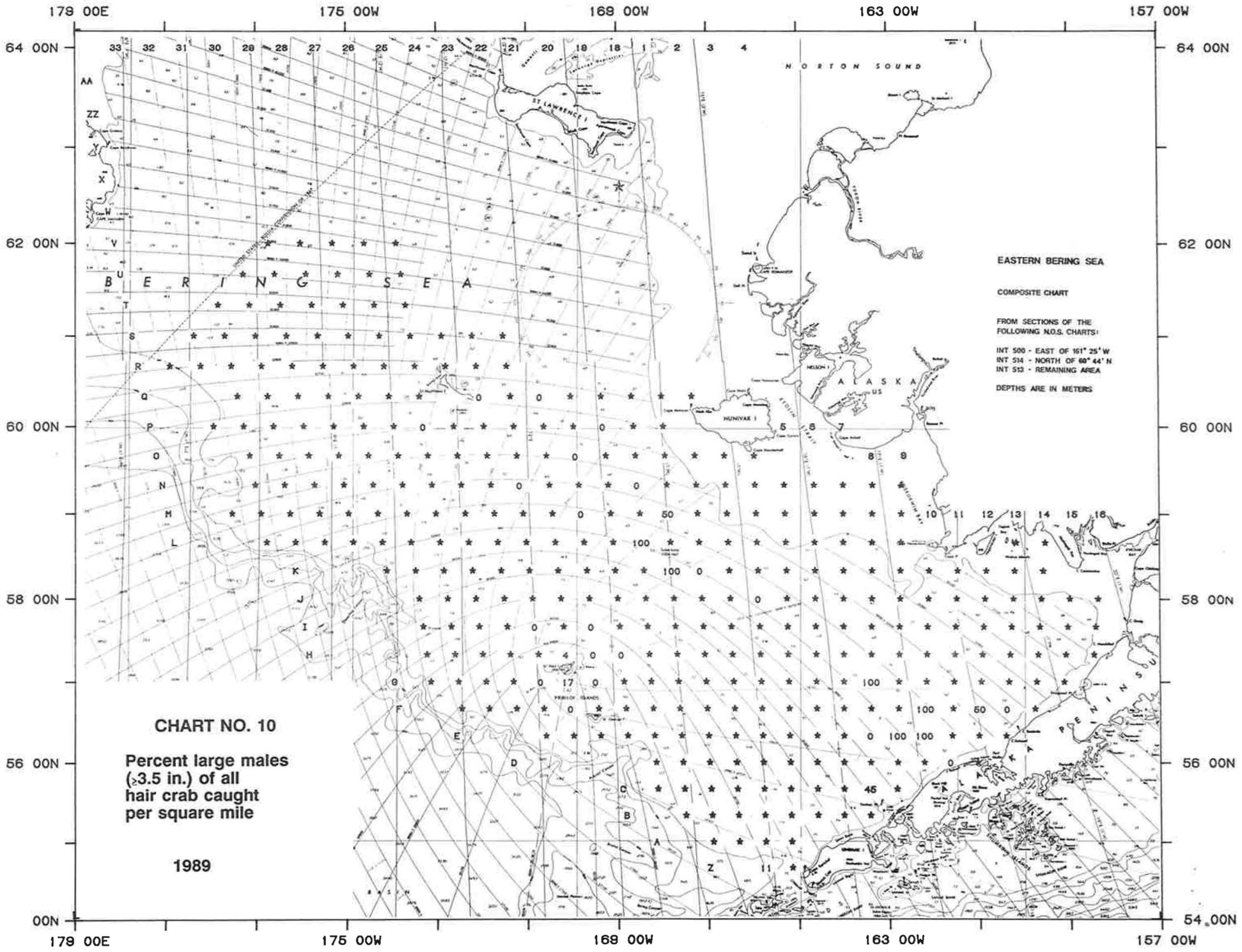
175 00W
169 00W
163 00W
157 00W
64 00N
62 00N
60 00N
58 00N
56 00N
54 00N
B E R I N G S E A
NORTON SOUND
ST LAWRENCE I
NUNIVAK I
NELSON I
A L A S K A
EASTERN BERING SEA
COMPOSITE CHART
FROM SECTIONS OF THE FOLLOWING N.O.S. CHARTS:
INT 500 - EAST OF 161° 25' W
INT 514 - NORTH OF 60° 44' N
INT 513 - REMAINING AREA
DEPTHS ARE IN METERS
CHART NO. 9
Number of large (≥3.5 in.) male hair crab caught per square mile
1989


179 00E
175 00W
168 00W
163 00W
157 00W
64 00N
62 00N
60 00N
58 00N
56 00N
00N
54 00N
NORTON SOUND
ST LAWRENCE I
B E R I N G S E A
A L A S K A
HUNIVAK I
HOLSON 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. 10
Percent large males (≥3.5 in.) of all hair crab caught per square mile
1989

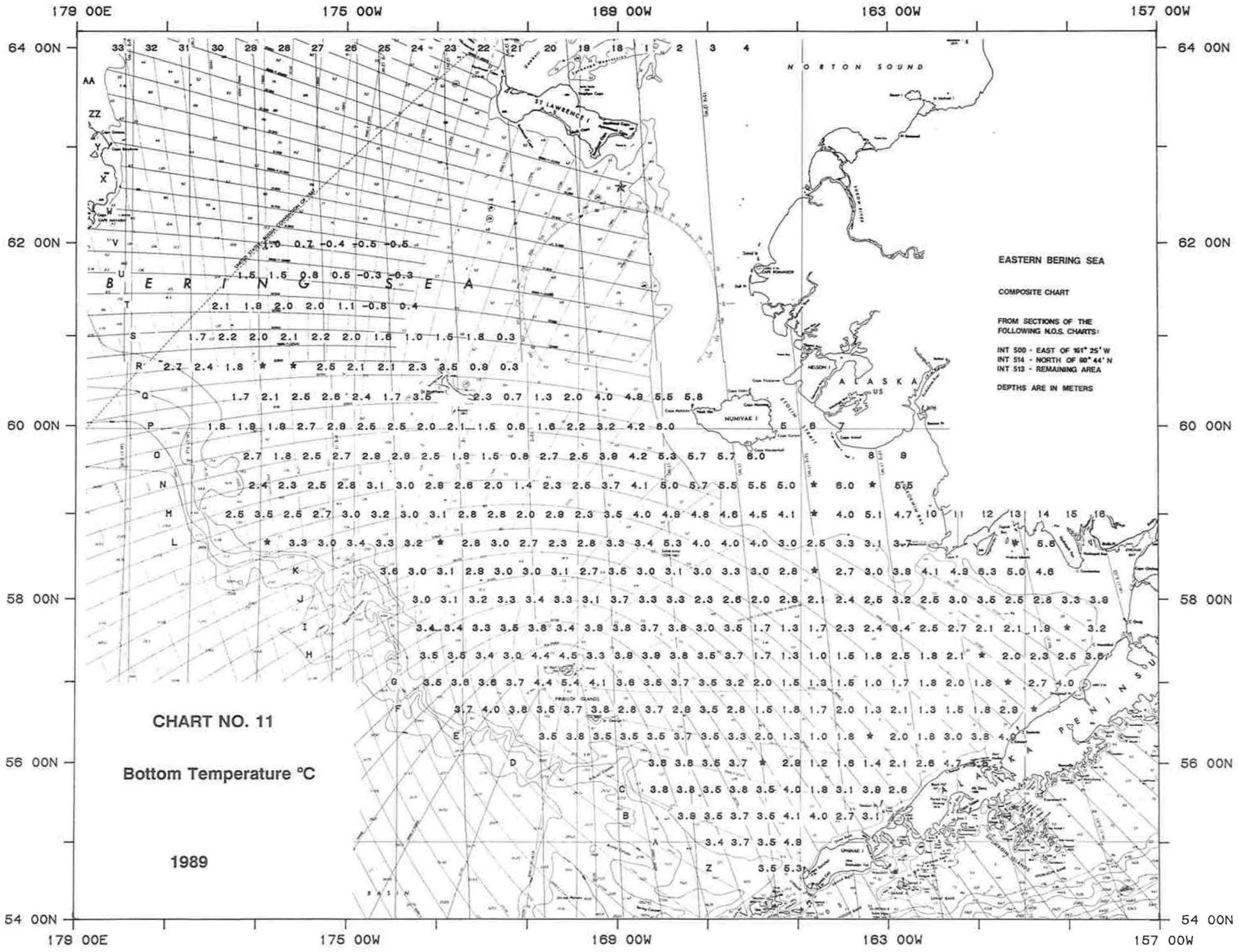

179 00E
175 00W
169 00W
163 00W
157 00W
64 00N
62 00N
60 00N
58 00N
56 00N
54 00N
B E R I N G S E A
N O R T O N S O U N D
ST LAWRENCE I
NUNIVAK I
NELSON I
A L A S K A
EASTERN BERING SEA
COMPOSITE CHART
FROM SECTIONS OF THE FOLLOWING N.O.S. CHARTS:
INT 500 - EAST OF 161° 25' W
INT 514 - NORTH OF 60° 44' N
INT 513 - REMAINING AREA
DEPTHS ARE IN METERS
CHART NO. 11
Bottom Temperature °C
1989

TABLE 7 DATA FROM THE 1989 EASTERN BERING SEA TRAWL SURVEY WHERE RED KING CRAB WERE TAKEN

							NUMBER PER SQUARE MILE					
								MALES (SEE NOTE)				
STA	DATE	LAT.	LONG.	LORAN C	DEPTH FMS	BOT. TEMP	FEMALES	SMALL	PRE-RECRUIT	LEGAL	TOTAL	% LEGAL
B07	6/13	55-21	163-59	Y34330 Z47649	42	2.7	0.0	0.0	0.0	81.0	81.0	100.0
B08	6/13	55-20	163-22	Y34232 Z47410	27		74.0	0.0	0.0	74.0	148.0	50.0
C07	8/14	55-37	163-45	Y34239 Z47570	47	4.4	0.0	0.0	4112.0	2056.0	6169.0	33.3
C07	8/14	55-37	163-45	Y34237 Z47567	49		0.0	114.0	341.0	568.0	1023.0	55.5
C08	8/14	55-38	163-41	Y34223 Z47541	47		0.0	0.0	123.0	247.0	370.0	66.8
C08	8/14	55-38	163-37	Y34212 Z47516	47		0.0	0.0	759.0	253.0	1013.0	25.0
C08	8/14	55-39	163-32	Y34197 Z47485	44		0.0	0.0	330.0	220.0	549.0	40.1
C08	8/14	55-40	163-26	Y34177 Z47446	44		0.0	0.0	319.0	0.0	319.0	0.0
C08	8/14	55-41	163-20	Y34158 Z47411	45		0.0	0.0	206.0	206.0	412.0	50.0
C08	8/13	55-36	163-25	Y34189 Z47439	42		250.0	0.0	500.0	250.0	1000.0	25.0
C08	8/13	55-40	163-26	Y34179 Z47448	45		0.0	0.0	267.0	0.0	267.0	0.0
C08	8/13	55-42	163-26	Y34169 Z47445	46		0.0	132.0	132.0	132.0	395.0	33.4
C08	8/13	55-42	163-25	Y34167 Z47443	46		0.0	0.0	0.0	93.0	93.0	100.0
C08	8/13	55-41	163-24	Y34171 Z47436	45		0.0	0.0	667.0	111.0	778.0	14.3
C08	8/13	55-42	163-22	Y34161 Z47424	46	3.6	0.0	235.0	2118.0	2353.0	4706.0	50.0
C08	8/12	55-39	163-24	Y34176 Z47432	44		0.0	128.0	128.0	128.0	385.0	33.2
C08	8/12	55-42	163-23	Y34162 Z47427	46		0.0	370.0	1481.0	617.0	2469.0	25.0
C08	8/14	55-36	163-25	Y34188 Z47437	42		11688.0	3896.0	30779.0	5065.0	51428.0	9.8
C08	8/13	55-36	163-20	Y34174 Z47404	38		81.0	0.0	81.0	81.0	244.0	33.2
C08	8/14	55-38	163-41	Y34223 Z47542	46		0.0	0.0	704.0	704.0	1408.0	50.0
C08	8/14	55-38	163-37	Y34213 Z47518	45		0.0	295.0	1768.0	1768.0	3831.0	46.1
C08	8/14	55-39	163-32	Y34197 Z47486	43		0.0	623.0	4359.0	1868.0	6850.0	27.3
C08	8/14	55-40	163-26	Y34178 Z47449	44		0.0	0.0	405.0	405.0	811.0	49.9
C08	8/14	55-41	163-21	Y34159 Z47414	44	4.4	0.0	0.0	568.0	795.0	1364.0	58.3
C08	8/13	55-36	163-26	Y34190 Z47444	42		0.0	0.0	120.0	120.0	241.0	49.8
C08	8/13	55-40	163-26	Y34180 Z47449	44		0.0	123.0	0.0	0.0	123.0	0.0
C08	8/13	55-42	163-26	Y34170 Z47447	45		0.0	0.0	0.0	361.0	361.0	100.0
C08	8/13	55-42	163-26	Y34168 Z47445	45		0.0	0.0	0.0	250.0	250.0	100.0
C08	8/13	55-40	163-24	X18539 Z47434	43		0.0	0.0	112.0	0.0	112.0	0.0
C08	8/13	55-41	163-22	X18543 Z47423	44		0.0	941.0	4706.0	2588.0	8235.0	31.4
C08	8/12	55-35	163-18	X18528 Z47396	37		0.0	0.0	270.0	0.0	270.0	0.0
C08	8/12	55-37	163-19	X18532 Z47402	40	5.3	0.0	0.0	0.0	130.0	130.0	100.0
C08	8/12	55-38	163-24	X18534 Z47430	43		0.0	0.0	127.0	127.0	253.0	50.2
C08	8/12	55-41	163-23	X18543 Z47429	44		0.0	0.0	370.0	1111.0	1481.0	75.0
C08	6/13	55-39	163-23	Y34173 Z47429	44		246.0	410.0	656.0	492.0	1803.0	27.3
C09	6/12	55-41	162-49	Y34076 Z47205	28		960.0	80.0	2640.0	2720.0	6400.0	42.5
D08	6/13	55-59	163-24	Y34100 Z47437	47		0.0	0.0	0.0	84.0	84.0	100.0
D09	6/12	56-00	162-47	Y33998 Z47198	42		1016.0	0.0	469.0	1328.0	2813.0	47.2
D10	6/12	56-00	162-13	Y33906 Z46972	35		952.0	79.0	1270.0	476.0	2777.0	17.1
D11	6/04	56-10	161-31	Y33758 Z46691	29		156.0	234.0	469.0	156.0	1015.0	15.4
D11	6/04	56-07	161-33	Y33774 Z46708	27	4.1	0.0	0.0	156.0	0.0	156.0	0.0
D11	6/04	56-05	161-28	Y33771 Z46672	23	5.2	0.0	0.0	163.0	81.0	244.0	33.2
D11	6/04	56-00	161-27	Y33789 Z46669	17	4.8	0.0	0.0	0.0	85.0	85.0	100.0
D12	6/05	56-09	160-57	Y33676 Z46469	17	4.5	81.0	0.0	0.0	81.0	162.0	50.0
E06	6/18	56-20	164-35	Y34211 Z47913	47	1.0	0.0	0.0	83.0	83.0	165.0	50.3
E07	6/13	56-21	164-03	Y34113 Z47697	48	1.8	0.0	76.0	382.0	76.0	534.0	14.2
E09	6/12	56-19	162-47	Y33913 Z47195	45	2.0	956.0	294.0	294.0	882.0	2427.0	36.3
E10	6/12	56-20	162-11	Y33814 Z46954	41		6271.0	1864.0	2373.0	2712.0	13220.0	20.5
E11	6/09	56-20	161-37	Y33728 Z46729	35	3.0	2160.0	320.0	480.0	1280.0	4240.0	30.2
E12	6/05	56-21	161-01	Y33633 Z46486	30		480.0	80.0	160.0	80.0	800.0	10.0
E12	6/09	56-21	160-58	Y33626 Z46469	29		397.0	0.0	159.0	397.0	953.0	41.7
E13	6/06	56-26	160-29	Y33530 Z46273	24	3.6	625.0	78.0	313.0	78.0	1094.0	7.1
E13	6/05	56-20	160-30	Y33562 Z46283	16	4.3	313.0	0.0	0.0	625.0	938.0	66.6
F06	6/18	56-40	164-36	Y34122 Z47918	40	1.7	0.0	0.0	78.0	313.0	391.0	80.1
F07	6/13	56-42	164-00	Y34011 Z47683	41	2.0	76.0	76.0	606.0	4621.0	5379.0	85.9
F08	6/13	56-38	163-22	Y33916 Z47424	41		234.0	156.0	625.0	234.0	1250.0	18.7
F09	6/12	56-38	162-47	Y33824 Z47191	43	2.1	12381.0	4048.0	2063.0	1429.0	19921.0	7.2
F10	6/11	56-39	162-10	Y33721 Z46946	40		165.0	83.0	83.0	413.0	744.0	55.5
F11	6/09	56-40	161-35	Y33625 Z46708	50	1.5	157.0	0.0	0.0	79.0	236.0	33.5
F12	6/09	56-39	160-59	Y33541 Z46466	38		2712.0	593.0	678.0	1271.0	5254.0	24.2
F13	6/09	56-40	160-22	Y33448 Z46224	34	2.8	323.0	0.0	0.0	242.0	565.0	42.8
F13	6/06	56-32	160-29	Y33504 Z46273	29	2.6	887.0	323.0	242.0	645.0	2097.0	30.8
F13	6/06	56-30	160-29	Y33515 Z46273	27	3.2	968.0	0.0	161.0	565.0	1694.0	33.4
F14	6/08	56-41	159-44	Y33358 Z45966	19		0.0	77.0	77.0	0.0	154.0	0.0
G06	6/18	57-00	164-35	Y34013 Z47913	37	1.3	0.0	0.0	0.0	84.0	84.0	100.0
G07	6/14	57-01	164-00	Y33905 Z47672	38	1.5	81.0	0.0	163.0	244.0	488.0	50.0
G08	6/14	57-01	163-22	Y33800 Z47422	35		0.0	0.0	236.0	79.0	315.0	25.1
G09	6/12	56-59	162-46	Y33714 Z47181	34	1.7	0.0	79.0	556.0	238.0	873.0	27.3
G10	6/11	57-00	162-09	Y33610 Z46931	33		547.0	0.0	234.0	234.0	1016.0	23.0
G11	6/09	57-01	161-33	Y33514 Z46692	38	2.0	400.0	240.0	80.0	80.0	800.0	10.0
G12	6/09	56-59	160-57	Y33436 Z46446	35		2720.0	1120.0	320.0	880.0	5040.0	17.5

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

TABLE 7 DATA FROM THE 1989 EASTERN BERING SEA TRAWL SURVEY WHERE RED KING CRAB WERE TAKEN (CONTINUED)

							NUMBER PER SQUARE MILE					
								MALES (SEE NOTE)				
STA	DATE	LAT.	LONG.	LORAN C	DEPTH FMS	BOT. TEMP	FEMALES	SMALL	PRE-RECRUIT	LEGAL	TOTAL	% LEGAL
G13	6/08	56-59	160-20	Y33345 Z46197	36		526.0	451.0	75.0	602.0	1654.0	36.4
G14	6/08	57-00	159-42	Y33255 Z45945	30		862.0	0.0	345.0	517.0	1724.0	30.0
G15	6/06	57-00	159-06	Y33176 Z45704	18	4.0	85.0	0.0	0.0	85.0	170.0	50.0
G20	7/06	56-59	169-33	Y35024 Z49902	32	4.5	8571.0	3506.0	0.0	130.0	12207.0	1.1
G21	7/06	57-08	169-50	Y35050 Z50020	29		80.0	0.0	0.0	0.0	80.0	0.0
G22	7/06	57-07	170-29	X18649 Y35103	28		3664.0	763.0	1985.0	1298.0	7710.0	16.8
H04	6/23	57-18	165-51	X18735 Z48406	37	1.7	0.0	0.0	81.0	0.0	81.0	0.0
H06	6/18	57-20	164-35	Y33896 Z47897	35	1.0	0.0	0.0	0.0	167.0	167.0	100.0
H07	6/14	57-20	163-59	Y33793 Z47659	33	1.5	0.0	0.0	78.0	234.0	313.0	74.8
H08	6/14	57-19	163-22	Y33695 Z47413	28		0.0	160.0	0.0	80.0	240.0	33.3
H09	6/12	57-20	162-46	Y33588 Z47167	27	2.5	75.0	75.0	224.0	224.0	597.0	37.5
H10	6/11	57-20	162-07	Y33489 Z46911	27		81.0	650.0	163.0	244.0	1138.0	21.4
H11	6/10	57-18	161-31	Y33410 Z46671	31	2.1	1057.0	407.0	163.0	407.0	2033.0	20.0
H12	6/09	57-19	160-55	Y33321 Z46427	34		672.0	84.0	168.0	672.0	1596.0	42.1
H13	6/08	57-20	160-17	Y33230 Z46176	34	2.0	690.0	86.0	259.0	603.0	1638.0	36.8
H14	6/08	57-20	159-38	Y33143 Z45914	30		84.0	84.0	0.0	0.0	168.0	0.0
H15	6/07	57-20	159-03	Y33064 Z45680	28	2.5	78.0	78.0	0.0	78.0	233.0	33.5
H16	6/06	57-18	158-28	Y33003 Z45444	17		91.0	0.0	0.0	0.0	91.0	0.0
I08	6/14	57-39	163-22	Y33567 Z47396	24		0.0	79.0	79.0	79.0	236.0	33.5
I09	6/11	57-40	162-46	Y33463 Z47157	24	3.4	0.0	0.0	0.0	217.0	217.0	100.0
I10	6/11	57-39	162-00	Y33354 Z46856	25		331.0	496.0	83.0	83.0	992.0	8.4
I11	6/10	57-40	161-30	Y33280 Z46652	29	2.7	236.0	157.0	472.0	236.0	1102.0	21.4
I12	6/10	57-40	160-52	Y33188 Z46402	30		738.0	246.0	328.0	328.0	1640.0	20.0
I13	6/08	57-39	160-16	Y33112 Z46161	30	2.1	313.0	78.0	78.0	156.0	626.0	24.9
I14	6/08	57-40	159-37	Y33023 Z45901	27		76.0	153.0	0.0	153.0	381.0	40.2
I16	6/06	57-39	158-20	Y32875 Z45395	18		0.0	83.0	0.0	0.0	83.0	0.0
J05	6/17	57-59	165-15	Y33734 Z48111	27	2.9	0.0	0.0	0.0	79.0	79.0	100.0
J06	6/17	58-00	164-37	Y33626 Z47869	23	2.1	0.0	0.0	85.0	0.0	85.0	0.0
J07	6/14	58-00	163-59	Y33520 Z47620	25	2.4	149.0	0.0	0.0	149.0	298.0	50.0
J08	6/14	57-59	163-22	Y33429 Z47378	22		157.0	0.0	472.0	236.0	866.0	27.3
J09	6/11	58-00	162-44	Y33326 Z47128	23	3.2	0.0	75.0	299.0	75.0	448.0	16.7
J10	6/11	57-59	162-04	Y33232 Z46867	19		80.0	0.0	80.0	0.0	160.0	0.0
J11	6/10	58-01	161-29	Y33142 Z46638	29	3.0	365.0	365.0	292.0	73.0	1095.0	6.7
J12	6/10	57-59	160-51	Y33066 Z46392	24		160.0	160.0	400.0	240.0	960.0	25.0
J13	6/08	58-00	160-12	Y32978 Z46136	28	2.5	280.0	70.0	70.0	210.0	630.0	33.3
J14	6/08	58-00	159-34	Y32900 Z45882	22		81.0	0.0	81.0	81.0	244.0	33.2
J15	6/06	57-59	158-57	Y32828 Z45640	21		154.0	77.0	0.0	0.0	231.0	0.0
J16	6/06	57-59	158-18	Y32755 Z45386	17		4400.0	4960.0	0.0	0.0	9360.0	0.0
J18	7/03	58-01	168-26	Y34287 Z49302	37	3.3	0.0	0.0	0.0	85.0	85.0	100.0
K03	6/24	58-20	166-33	Y33780 Z48554	25	3.3	0.0	81.0	0.0	0.0	81.0	0.0
K06	6/17	58-20	164-37	Y33463 Z47836	22		0.0	0.0	78.0	155.0	233.0	66.5
K07	6/14	58-21	163-59	Y33363 Z47594	21	2.7	77.0	0.0	0.0	77.0	154.0	50.0
K08	6/14	58-20	163-22	Y33276 Z47354	18		0.0	0.0	79.0	0.0	79.0	0.0
K09	6/11	58-21	162-43	Y33173 Z47108	17	3.9	0.0	0.0	79.0	0.0	79.0	0.0
K11	6/10	58-14	161-32	Y33142 Z46638	25	4.9	0.0	0.0	380.0	0.0	380.0	0.0
K12	6/10	58-19	160-46	Y32927 Z46352	10		242.0	0.0	0.0	81.0	323.0	25.1
K14	6/07	58-20	159-32	Y32768 Z45877	12		78.0	78.0	78.0	78.0	312.0	25.0
K14	6/07	58-29	159-31	Y32706 Z45876	11		0.0	111.0	0.0	0.0	111.0	0.0
K18	7/03	58-21	168-28	Y34081 Z49222	34	3.0	83.0	0.0	0.0	0.0	83.0	0.0
L01	7/01	58-39	167-52	Y33795 Z48942	25		76.0	0.0	0.0	0.0	76.0	0.0
L02	7/01	58-39	167-12	Y33700 Z48722	23	4.0	84.0	0.0	0.0	0.0	84.0	0.0
L04	6/24	58-39	165-55	Y33504 Z48276	19	4.0	74.0	0.0	0.0	0.0	74.0	0.0
L05	6/17	58-39	165-18	Y33407 Z48049	22	3.0	0.0	0.0	0.0	83.0	83.0	100.0
L06	6/17	58-38	164-35	Y33307 Z47787	20		0.0	0.0	163.0	0.0	163.0	0.0
M03	6/24	59-00	166-34	Y33392 Z48434	18	4.6	0.0	78.0	0.0	0.0	78.0	0.0
M08	6/15	58-59	163-21	Y32956 Z47297	11		0.0	0.0	0.0	83.0	83.0	100.0
M18	7/03	59-00	168-30	Y33631 Z49027	24	4.0	0.0	0.0	81.0	0.0	81.0	0.0
N02	7/01	59-20	167-17	Y33271 Z48584	16	5.7	81.0	0.0	81.0	0.0	162.0	0.0
O01	7/02	59-41	167-56	Y33101 Z48678	18		78.0	0.0	0.0	0.0	78.0	0.0
O03	6/24	59-35	166-36	Y33020 Z48316	16	5.7	79.0	0.0	0.0	0.0	79.0	0.0
Q02	7/02	60-19	167-21	Y32592 Z48354	16	5.8	85.0	0.0	0.0	0.0	85.0	0.0

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

TABLE 8 DATA FROM THE 1989 EASTERN BERING SEA TRAWL SURVEY WHERE BLUE KING CRAB WERE TAKEN

							NUMBER PER SQUARE MILE					
								MALES (SEE NOTE)				
STA	DATE	LAT.	LONG.	LORAN C	DEPTH FMS	BOT. TEMP	FEMALES	SMALL	PRE-RECRUIT	LEGAL	TOTAL	% LEGAL
G20	7/06	56-59	169-33	Y35024 Z49902	32	4.5	260.0	130.0	0.0	0.0	390.0	0.0
G20	7/05	57-08	169-19	Y34926 Z49806	40	3.7	157.0	0.0	0.0	79.0	236.0	33.5
G21	7/06	57-00	170-11	X18691 Z50122	37	5.4	0.0	0.0	76.0	0.0	76.0	0.0
G21	7/06	57-08	169-50	Y35050 Z50020	29		1600.0	2080.0	0.0	0.0	3680.0	0.0
G22	7/06	57-07	170-29	X18649 Y35103	28	5.7	76.0	229.0	0.0	0.0	305.0	0.0
H19	7/04	57-19	168-59	Y34775 Z49658	39	4.1	233.0	0.0	0.0	0.0	233.0	0.0
H20	7/06	57-19	169-38	Y34912 Z49909	33	3.3	163.0	163.0	0.0	0.0	326.0	0.0
H21	7/07	57-29	169-58	Y34862 Z49968	37	3.4	8211.0	7724.0	0.0	569.0	16504.0	3.4
H21	7/07	57-20	170-14	X18705 Y35002	31	5.6	161.0	0.0	0.0	0.0	161.0	0.0
I19	7/04	57-39	169-03	Y34609 Z49613	37	3.9	882.0	882.0	0.0	0.0	1764.0	0.0
I20	7/07	57-40	169-40	Y34699 Z49813	37	3.0	127.0	0.0	0.0	253.0	380.0	66.6
I20	7/04	57-30	169-23	Y34764 Z49772	38	4.8	4096.0	3373.0	361.0	120.0	7951.0	1.5
I22	7/07	57-30	170-34	Y34871 Z50076	41	4.0	137.0	0.0	0.0	0.0	137.0	0.0
I22	7/13	57-40	170-53	X18459 Y34743	46	3.5	101.0	0.0	0.0	0.0	101.0	0.0
L18	7/03	58-40	168-30	Y33863 Z49130	28	3.4	0.0	0.0	81.0	0.0	81.0	0.0
N25	7/16	59-29	173-27	X17508 Y33416	56	2.8	0.0	189.0	377.0	0.0	566.0	0.0
O03	6/24	59-35	166-36	Y33020 Z48316	16	5.7	0.0	79.0	79.0	0.0	159.0	0.0
O24	7/17	59-49	172-52	X17623 Y33212	43	1.5	83.0	579.0	579.0	826.0	2066.0	40.0
O24	7/17	59-39	172-34	X17716 Y33328	45	1.7	0.0	0.0	0.0	119.0	119.0	100.0
O24	7/12	59-48	172-15	X17770 Y33228	42	1.8	81.0	407.0	244.0	732.0	1463.0	50.0
O25	7/16	59-40	173-15	X17546 Y33308	52	2.5	0.0	0,0	172.0	345.0	517.0	66.7
O26	7/20	59-40	173-53	X17380 Y33290	58	2.9	0.0	0.0	179.0	0.0	179.0	0.0
P20	7/10	59-59	169-57	X18175 Y33039	28	2.2	0.0	0.0	79.0	0.0	79.0	0.0
P23	7/11	60-00	171-57	X17806 Y33087	36	1.5	244.0	325.0	81.0	81.0	732.0	11.1
P23	7/11	60-10	172-18	X17711 Y32977	31	3.1	1290.0	1613.0	565.0	484.0	3951.0	12.3
P24	7/17	60-09	172-59	X17562 Y32987	31	2.7	4836.0	4672.0	492.0	0.0	10000.0	0.0
P24	7/17	59-59	172-38	X17659 Y33103	35	1.5	488.0	163.0	488.0	325.0	1464.0	22.2
P25	7/16	59-50	173-31	X17462 Y33196	52	2.1	159.0	159.0	476.0	1429.0	2222.0	64.3
P25	7/17	60-09	173-33	X17428 Y32988	41	2.2	4095.0	10000.0	1524.0	1143.0	16952.0	6.7
P25	7/17	59-59	173-18	X17505 Y33100	42	1.8	3966.0	2845.0	172.0	172.0	7328.0	2.3
P26	7/20	60-01	173-57	X17342 Y33072	52	2.2	0.0	0.0	208.0	104.0	313.0	33.2

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 1989 EASTERN BERING SEA TRAWL SURVEY WHERE BAIRDI TANNER CRAB WERE TAKEN

							NUMBER PER SQUARE MILE					
								MALES (SEE NOTE)				
STA	DATE	LAT.	LONG.	LORAN C	DEPTH FMS	BOT. TEMP	FEMALES	SMALL	PRE-RECRUIT	LEGAL	TOTAL	% LEGAL
A02	6/29	54-59	166-55	X18237 Z48673	85	3.4	18963.0	16336.0	480.0	80.0	35859.0	0.2
A03	6/22	55-01	166-19	Y34735 Z48472	80	3.7	15620.0	14050.0	496.0	331.0	30496.0	1.1
A04	6/22	55-00	165-45	X18321 Z48275	71	3.5	39462.0	30266.0	0.0	0.0	69728.0	0.0
A05	6/21	55-00	165-08	Y34562 Z48053	62	4.9	18889.0	11111.0	714.0	238.0	30952.0	0.8
B01	6/29	55-20	167-32	X18296 Z48932	81		2970.0	2079.0	0.0	0.0	5049.0	0.0
B02	6/29	55-19	166-57	X18335 Z48732	76	3.5	1563.0	1172.0	234.0	78.0	3047.0	2.6
B03	6/22	55-20	166-21	Y34703 Z48521	74	3.7	8976.0	7559.0	866.0	0.0	17401.0	0.0
B04	6/22	55-19	165-46	X18401 Z48311	65	3.5	20503.0	17951.0	246.0	0.0	38700.0	0.0
B05	6/21	55-22	165-12	Y34518 Z48103	61	4.1	1473.0	1240.0	155.0	155.0	3023.0	5.1
B06	6/21	55-19	164-36	Y34432 Z47877	56	4.0	14237.0	7458.0	1017.0	0.0	22712.0	0.0
B07	6/13	55-21	163-59	Y34330 Z47649	42	2.7	5242.0	6452.0	242.0	0.0	11936.0	0.0
B08	6/13	55-20	163-22	Y34232 Z47410	27		74224.0	114171.0	296.0	0.0	188691.0	0.0
C01	6/29	55-40	167-34	X18401 Z48993	75		732.0	2033.0	569.0	81.0	3415.0	2.4
C02	6/29	55-39	166-58	X18428 Z48783	73	3.5	156.0	313.0	156.0	0.0	625.0	0.0
C03	6/22	55-40	166-23	Y34663 Z48569	71	3.8	1610.0	3390.0	763.0	85.0	5847.0	1.5
C04	6/22	55-39	165-47	X18477 Z48345	64	3.5	8000.0	6750.0	0.0	0.0	14750.0	0.0
C05	6/21	55-38	165-10	Y34465 Z48109	60	4.0	1407.0	963.0	222.0	0.0	2592.0	0.0
C06	6/18	55-41	164-33	Y34354 Z47878	52	1.9	72745.0	44522.0	455.0	0.0	117722.0	0.0
C07	8/14	55-37	163-45	Y34237 Z47567	49		8068.0	7614.0	341.0	114.0	16136.0	0.7
C07	6/13	55-40	163-59	Y34264 Z47658	52	1.9	3387.0	2823.0	484.0	81.0	6774.0	1.2
C07	8/14	55-37	163-45	Y34239 Z47570	47	4.4	61686.0	70596.0	685.0	0.0	132968.0	0.0
C08	8/14	55-38	163-41	Y34223 Z47542	46		60196.0	73573.0	4224.0	352.0	138345.0	0.3
C08	8/14	55-38	163-37	Y34213 Z47518	45		23578.0	35662.0	5600.0	589.0	65429.0	0.9
C08	8/14	55-39	163-32	Y34197 Z47486	43		22419.0	37365.0	12455.0	4359.0	76598.0	5.7
C08	8/14	55-40	163-26	Y34178 Z47449	44		67701.0	69322.0	25540.0	6486.0	169049.0	3.8
C08	8/14	55-41	163-21	Y34159 Z47414	44	4.4	41586.0	44008.0	9920.0	451.0	95964.0	0.5
C08	8/13	55-36	163-26	Y34190 Z47444	42		32194.0	58646.0	3633.0	519.0	94992.0	0.5
C08	8/13	55-40	163-26	Y34180 Z47449	44		30566.0	45614.0	17544.0	1053.0	94776.0	1.1
C08	8/13	55-42	163-26	Y34170 Z47447	45		18434.0	15904.0	7470.0	843.0	42651.0	2.0
C08	8/13	55-42	163-26	Y34168 Z47445	45		15500.0	14250.0	2250.0	500.0	32500.0	1.5
C08	8/13	55-40	163-24	X18539 Z47434	43		7753.0	7416.0	787.0	112.0	16068.0	0.7
C08	8/13	55-41	163-22	X18543 Z47423	44		53358.0	42331.0	4097.0	1639.0	101425.0	1.6
C08	8/12	55-35	163-18	X18528 Z47396	37		7432.0	19865.0	811.0	0.0	28108.0	0.0
C08	8/12	55-37	163-19	X18532 Z47402	40	5.3	11688.0	25584.0	1299.0	519.0	39091.0	1.3
C08	8/12	55-38	163-24	X18534 Z47430	43		20753.0	37907.0	7471.0	830.0	66961.0	1.2
C08	8/12	55-41	163-23	X18543 Z47429	44		13951.0	15185.0	3951.0	617.0	33704.0	1.8
C08	8/12	55-36	163-25	X18527 Z47437	41		5278.0	6944.0	417.0	139.0	12778.0	1.1
C08	8/12	55-36	163-20	X18528 Z47405	38	4.8	27250.0	38041.0	2705.0	338.0	68334.0	0.5
C08	8/14	55-38	163-41	Y34223 Z47541	47		21538.0	17937.0	494.0	617.0	40587.0	1.5
C08	8/14	55-38	163-37	Y34212 Z47516	47		11899.0	15190.0	3797.0	2532.0	33418.0	7.6
C08	8/14	55-39	163-32	Y34197 Z47485	44		13846.0	18462.0	5714.0	879.0	38901.0	2.3
C08	8/14	55-40	163-26	Y34177 Z47446	44		21383.0	22340.0	6383.0	1596.0	51702.0	3.1
C08	8/14	55-41	163-20	Y34158 Z47411	45		4227.0	4948.0	1031.0	103.0	10309.0	1.0
C08	8/13	55-36	163-25	Y34189 Z47439	42		27750.0	47625.0	1875.0	750.0	78000.0	1.0
C08	8/13	55-40	163-26	Y34179 Z47448	45		23200.0	24533.0	9067.0	533.0	57333.0	0.9
C08	8/13	55-42	163-26	Y34169 Z47445	46		23158.0	14737.0	5789.0	789.0	44474.0	1.8
C08	8/13	55-42	163-25	Y34167 Z47443	46		13645.0	11776.0	3738.0	374.0	29533.0	1.3
C08	8/13	55-41	163-24	Y34171 Z47436	45		20667.0	22667.0	9667.0	1000.0	54000.0	1.9
C08	6/13	55-39	163-23	Y34173 Z47429	44		31587.0	46136.0	4836.0	820.0	83379.0	1.0
C08	8/13	55-42	163-22	Y34161 Z47424	46	3.6	39059.0	24353.0	3529.0	706.0	67647.0	1.0
C08	8/12	55-36	163-19	Y34173 Z47399	38		1912.0	7353.0	0.0	147.0	9412.0	1.6
C08	8/12	55-39	163-24	Y34176 Z47432	41		22527.0	40563.0	4225.0	423.0	67738.0	0.6
C08	8/12	55-39	163-24	Y34176 Z47432	44		12564.0	28462.0	6923.0	1538.0	49487.0	3.1
C08	8/12	55-42	163-23	Y34162 Z47427	46		9506.0	8148.0	1481.0	247.0	19383.0	1.3
C08	8/14	55-36	163-25	Y34188 Z47437	42		38031.0	92311.0	3752.0	0.0	134094.0	0.0
C08	8/13	55-36	163-20	Y34174 Z47404	38		20068.0	40976.0	3252.0	650.0	64946.0	1.0
C09	6/12	55-41	162-49	Y34076 Z47205	28		400.0	6080.0	1040.0	160.0	7680.0	2.1
C18	8/11	55-40	168-11	X18357 Z49203	74	3.8	976.0	732.0	0.0	0.0	1708.0	0.0
D01	6/29	56-00	167-36	X18496 Z49052	75		7344.0	5703.0	313.0	78.0	13438.0	0.6
D02	6/29	55-59	166-59	X18517 Z48826	74	3.5	84.0	84.0	0.0	0.0	168.0	0.0
D03	6/22	56-00	166-24	Y34610 Z48607	69	3.7	2541.0	1393.0	1557.0	328.0	5820.0	5.6
D04	6/22	56-02	165-50	X18561 Z48389	56		930.0	155.0	698.0	233.0	2015.0	11.6
D05	6/18	55-59	165-11	Y34400 Z48137	54	2.9	1374.0	1298.0	382.0	76.0	3130.0	2.4
D06	6/18	56-00	164-33	Y34288 Z47894	50	1.2	10333.0	9083.0	500.0	0.0	19916.0	0.0
D07	6/13	56-06	164-00	Y34172 Z47677	50	1.6	20909.0	31364.0	455.0	0.0	52727.0	0.0
D08	6/13	55-59	163-24	Y34100 Z47437	47		28164.0	22125.0	1681.0	252.0	52222.0	0.5
D09	6/12	56-00	162-47	Y33998 Z47198	42		1406.0	2266.0	1484.0	391.0	5547.0	7.0
D10	6/12	56-00	162-13	Y33906 Z46972	35		952.0	5238.0	1032.0	0.0	7222.0	0.0
D11	6/04	56-10	161-31	Y33758 Z46691	29		156.0	156.0	0.0	0.0	312.0	0.0
D12	6/05	56-07	160-59	Y33691 Z46483	16	4.6	81.0	161.0	0.0	0.0	242.0	0.0

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

TABLE 9 DATA FROM THE 1989 EASTERN BERING SEA TRAWL SURVEY WHERE BAIRDI TANNER CRAB WERE TAKEN (CONTINUED)

							NUMBER PER SQUARE MILE					
								MALES (SEE NOTE)				
STA	DATE	LAT.	LONG.	LORAN C	DEPTH FMS	BOT. TEMP	FEMALES	SMALL	PRE-RECRUIT	LEGAL	TOTAL	% LEGAL
D18	7/05	56-00	168-13	Y34916 Z49270	82	3.6	472.0	236.0	157.0	157.0	1023.0	15.3
E01	6/29	56-18	167-38	X18580 Z49104	72		2871.0	1794.0	1794.0	718.0	7177.0	10.0
E02	6/29	56-18	167-02	X18593 Z48875	62	3.5	550.0	183.0	92.0	0.0	825.0	0.0
E03	6/22	56-20	166-24	Y34541 Z48627	57	3.3	391.0	78.0	0.0	234.0	704.0	33.2
E04	6/22	56-19	165-47	X18614 Z48387	49	2.0	0.0	76.0	0.0	0.0	76.0	0.0
E05	6/18	56-20	165-11	Y34322 Z48153	49	1.3	1527.0	1603.0	229.0	76.0	3435.0	2.2
E06	6/18	56-20	164-35	Y34211 Z47913	47	1.0	129392.0	89059.0	496.0	83.0	219030.0	0.0
E07	6/13	56-21	164-03	Y34113 Z47697	48	1.8	4046.0	1756.0	305.0	229.0	6336.0	3.6
E08	6/13	56-19	163-24	Y34015 Z47438	46		16868.0	2480.0	720.0	0.0	20068.0	0.0
E09	6/12	56-19	162-47	Y33913 Z47195	45	2.0	956.0	1103.0	0.0	221.0	2280.0	9.7
E10	6/12	56-20	162-11	Y33814 Z46954	41		3559.0	3475.0	593.0	424.0	8051.0	5.3
E11	6/09	56-20	161-37	Y33728 Z46729	35	3.0	400.0	960.0	560.0	0.0	1920.0	0.0
E12	6/05	56-21	161-01	Y33633 Z46486	30		0.0	80.0	0.0	80.0	160.0	50.0
E12	6/05	56-14	160-59	Y33658 Z46476	26	4.1	81.0	0.0	0.0	0.0	81.0	0.0
E12	6/09	56-21	160-58	Y33626 Z46469	29		238.0	1032.0	0.0	79.0	1349.0	5.9
E13	6/05	56-20	160-30	Y33562 Z46283	16	4.3	0.0	78.0	0.0	0.0	78.0	0.0
E13	6/06	56-26	160-29	Y33530 Z46273	24	3.6	0.0	78.0	0.0	0.0	78.0	0.0
E18	7/05	56-20	168-14	Y34881 Z49332	85	3.5	1186.0	847.0	847.0	85.0	2966.0	2.9
E19	7/05	56-21	168-52	X18541 Z49555	70		169.0	169.0	0.0	0.0	338.0	0.0
E20	7/06	56-21	169-32	Y35080 Z49769	78	3.5	1913.0	2174.0	87.0	0.0	4174.0	0.0
E21	7/06	56-20	170-03	X18405 Z49901	61		963.0	2519.0	444.0	0.0	3926.0	0.0
E22	7/14	56-20	170-38	X18275 Y35136	65	3.5	678.0	339.0	0.0	0.0	1017.0	0.0
F01	6/30	56-39	167-39	X18658 Z49135	57		310.0	310.0	233.0	78.0	930.0	8.4
F02	6/30	56-39	167-02	X18662 Z48892	52	3.5	18078.0	17145.0	439.0	88.0	35749.0	0.2
F03	6/23	56-41	166-26	Y34461 Z48655	46	2.8	17813.0	2266.0	1406.0	78.0	21563.0	0.4
F04	6/23	56-40	165-50	X18669 Z48414	42	1.5	26957.0	2846.0	1463.0	0.0	31266.0	0.0
F05	6/18	56-39	165-13	Y34240 Z48168	42	1.8	5116.0	1473.0	1473.0	155.0	8217.0	1.9
F06	6/18	56-40	164-36	Y34122 Z47918	40	1.7	2188.0	4844.0	781.0	234.0	8047.0	2.9
F07	6/13	56-42	164-00	Y34011 Z47683	41	2.0	7121.0	985.0	2045.0	227.0	10379.0	2.2
F08	6/13	56-38	163-22	Y33916 Z47424	41		2188.0	1797.0	469.0	156.0	4610.0	3.4
F09	6/12	56-38	162-47	Y33824 Z47191	43	2.1	1587.0	556.0	238.0	317.0	2698.0	11.7
F10	6/11	56-39	162-10	Y33721 Z46946	40		2810.0	2727.0	2562.0	1488.0	9587.0	15.5
F11	6/09	56-40	161-35	Y33625 Z46708	50	1.5	8740.0	236.0	4173.0	3701.0	16850.0	22.0
F12	6/09	56-39	160-59	Y33541 Z46466	38		3136.0	2542.0	2458.0	1441.0	9577.0	15.0
F13	6/09	56-40	160-22	Y33448 Z46224	34	2.8	645.0	403.0	323.0	726.0	2097.0	34.6
F13	6/06	56-30	160-29	Y33515 Z46273	27	3.2	0.0	81.0	0.0	0.0	81.0	0.0
F13	6/06	56-32	160-29	Y33504 Z46273	29	2.6	0.0	323.0	0.0	0.0	323.0	0.0
F14	6/08	56-41	159-44	Y33358 Z45966	19		77.0	0.0	77.0	0.0	154.0	0.0
F18	7/05	56-39	168-17	Y34832 Z49383	58	3.7	172.0	0.0	172.0	0.0	344.0	0.0
F19	7/05	56-49	168-36	Y34862 Z49519	53	2.5	0.0	123.0	247.0	0.0	370.0	0.0
F19	7/05	56-39	168-54	Y34955 Z49619	55		800.0	300.0	300.0	100.0	1500.0	6.7
F20	7/05	56-49	169-15	Y34993 Z49769	45		2093.0	581.0	349.0	116.0	3140.0	3.7
F20	7/06	56-40	169-29	Y35056 Z49826	43	4.1	380.0	506.0	127.0	0.0	1013.0	0.0
F21	7/06	56-49	169-53	Y35104 Z49987	39	3.7	1220.0	976.0	1220.0	732.0	4147.0	17.7
F21	7/06	56-39	170-06	X18541 Z49999	54		21786.0	19063.0	5447.0	3501.0	49797.0	7.0
F22	7/14	56-39	170-44	X18396 Y35127	61	3.5	3720.0	827.0	0.0	0.0	4547.0	0.0
F23	7/14	56-38	171-20	X18189 Y35073	67		1536.0	0.0	0.0	0.0	1536.0	0.0
F24	7/14	56-39	171-58	X17965 Y34993	70		2677.0	4646.0	0.0	0.0	7323.0	0.0
F25	7/14	56-40	172-33	X17748 Y34913	76		2302.0	2222.0	0.0	0.0	4524.0	0.0
G01	6/30	57-00	167-42	X18715 Z49166	42		1654.0	1278.0	0.0	0.0	2932.0	0.0
G02	6/30	56-59	167-07	Y34502 Z48926	39	3.5	1835.0	1560.0	0.0	0.0	3395.0	0.0
G03	6/23	56-59	166-27	Y34370 Z48664	41	3.2	2677.0	1575.0	0.0	0.0	4252.0	0.0
G04	6/23	56-59	165-51	X18709 Z48419	39	2.0	5145.0	6014.0	435.0	0.0	11594.0	0.0
G05	6/18	56-59	165-13	Y34133 Z48163	39	1.5	2377.0	2951.0	1066.0	164.0	6557.0	2.5
G06	6/18	57-00	164-35	Y34013 Z47913	37	1.3	1765.0	4706.0	3109.0	84.0	9664.0	0.9
G07	6/14	57-01	164-00	Y33905 Z47672	38	1.5	7154.0	4959.0	2276.0	569.0	14959.0	3.8
G08	6/14	57-01	163-22	Y33800 Z47422	35		4882.0	7766.0	16503.0	3883.0	33034.0	11.8
G09	6/12	56-59	162-46	Y33714 Z47181	34	1.7	2302.0	3333.0	5476.0	3095.0	14207.0	21.8
G10	6/11	57-00	162-09	Y33610 Z46931	33		3047.0	670.0	7373.0	4424.0	15514.0	28.5
G11	6/09	57-01	161-33	Y33514 Z46692	38	2.0	2480.0	1200.0	480.0	800.0	4960.0	16.1
G12	6/09	56-59	160-57	Y33436 Z46446	35		880.0	240.0	1520.0	400.0	3040.0	13.2
G13	6/08	56-59	160-20	Y33345 Z46197	36		526.0	376.0	526.0	1880.0	3308.0	56.8
G14	6/08	57-00	159-42	Y33255 Z45945	30		259.0	431.0	431.0	517.0	1638.0	31.6
G18	7/04	57-01	168-21	Y34753 Z49422	43	3.5	261.0	261.0	0.0	0.0	522.0	0.0
G19	7/04	57-10	168-37	Y34754 Z49523	40	3.7	1609.0	1149.0	115.0	0.0	2873.0	0.0
G19	7/05	57-00	168-58	Y34892 Z49667	44		253.0	0.0	253.0	0.0	506.0	0.0
G20	7/05	57-08	169-19	Y34926 Z49806	40		0.0	3311.0	9603.0	10596.0	23511.0	45.1
G20	7/06	56-59	169-33	Y35024 Z49902	32	4.5	6494.0	2857.0	909.0	519.0	10780.0	4.8
G21	7/06	57-08	169-50	Y35050 Z50020	29		4160.0	7920.0	160.0	160.0	12400.0	1.3
G21	7/06	57-00	170-11	X18691 Z50122	37		11298.0	10763.0	1145.0	0.0	23206.0	0.0
G22	7/06	56-50	170-27	X18554 Z50117	55		7500.0	14531.0	469.0	156.0	22656.0	0.7

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

TABLE 9 DATA FROM THE 1989 EASTERN BERING SEA TRAWL SURVEY WHERE BAIRDI TANNER CRAB WERE TAKEN (CONTINUED)

							NUMBER PER SQUARE MILE					
								MALES (SEE NOTE)				
STA	DATE	LAT.	LONG.	LORAN C	DEPTH FMS	BOT. TEMP	FEMALES	SMALL	PRE-RECRUIT	LEGAL	TOTAL	% LEGAL
G22	7/14	56-58	170-46	X18501 Y35098	54	3.5	866.0	1575.0	79.0	79.0	2598.0	3.0
G22	7/06	57-07	170-29	X18649 Y35103	28		8244.0	14351.0	916.0	153.0	23664.0	0.6
G23	7/13	57-00	171-23	X18280 Y34999	60		301.0	75.0	0.0	0.0	376.0	0.0
G23	7/15	56-59	171-22	X18282 Y35005	59		1563.0	625.0	0.0	0.0	2188.0	0.0
G24	7/15	57-00	171-59	X18042 Y34908	63	3.6	2520.0	732.0	0.0	0.0	3252.0	0.0
G25	7/14	56-59	172-38	X17787 Y34819	68		496.0	567.0	0.0	0.0	1063.0	0.0
G26	7/26	57-00	173-14	X17554 Y34728	85	3.5	4146.0	3902.0	0.0	0.0	8048.0	0.0
H01	6/30	57-19	167-44	X18744 Z49159	41		1163.0	1473.0	0.0	0.0	2636.0	0.0
H02	6/30	57-19	167-08	Y34388 Z48921	37	3.5	650.0	1301.0	0.0	0.0	1951.0	0.0
H03	6/23	57-23	166-29	Y34228 Z48654	38	3.7	2422.0	5078.0	156.0	0.0	7656.0	0.0
H04	6/23	57-18	165-51	X18735 Z48406	37	1.7	1057.0	2602.0	732.0	81.0	4472.0	1.8
H05	6/18	57-19	165-15	Y34020 Z48163	35	1.3	161.0	4919.0	323.0	81.0	5484.0	1.5
H06	6/18	57-20	164-35	Y33896 Z47897	35	1.0	1250.0	4987.0	9323.0	1084.0	16645.0	6.5
H07	6/14	57-20	163-59	Y33793 Z47659	33	1.5	4844.0	14219.0	13047.0	1719.0	33828.0	5.1
H08	6/14	57-19	163-22	Y33695 Z47413	28		3280.0	14674.0	14462.0	2127.0	34543.0	6.2
H09	6/12	57-20	162-46	Y33588 Z47167	27	2.5	2463.0	5224.0	6866.0	3358.0	17911.0	18.7
H10	6/11	57-20	162-07	Y33489 Z46911	27		15176.0	7774.0	7774.0	5701.0	36426.0	15.7
H11	6/10	57-18	161-31	Y33410 Z46671	31	2.1	1789.0	2033.0	4797.0	1870.0	10488.0	17.8
H12	6/09	57-19	160-55	Y33321 Z46427	34		840.0	672.0	5378.0	4118.0	11008.0	37.4
H13	6/08	57-20	160-17	Y33230 Z46176	34	2.0	1121.0	603.0	1379.0	2672.0	5776.0	46.3
H14	6/08	57-20	159-38	Y33143 Z45914	30		84.0	840.0	1513.0	2101.0	4538.0	46.3
H15	6/07	57-20	159-03	Y33064 Z45680	28	2.5	388.0	310.0	465.0	0.0	1163.0	0.0
H18	7/04	57-21	168-23	Y34637 Z49419	39	3.9	339.0	339.0	169.0	0.0	847.0	0.0
H19	7/04	57-19	168-59	Y34775 Z49658	39		930.0	1279.0	1163.0	1279.0	4651.0	27.5
H20	7/06	57-19	169-38	Y34912 Z49909	33	3.3	36707.0	91767.0	3671.0	918.0	133063.0	0.7
H21	7/07	57-29	169-58	Y34862 Z49968	37	3.4	33016.0	41536.0	11715.0	3195.0	89462.0	3.6
H21	7/07	57-20	170-14	X18705 Y35002	31		242.0	645.0	81.0	0.0	968.0	0.0
H22	7/13	57-20	170-50	X18522 Y34957	44	4.4	2755.0	6321.0	9400.0	3241.0	21718.0	14.9
H23	7/13	57-20	171-27	X18292 Y34865	56		2378.0	594.0	0.0	0.0	2972.0	0.0
H24	7/15	57-19	172-06	X18037 Y34776	58	3.4	407.0	0.0	0.0	0.0	407.0	0.0
H25	7/15	57-21	172-39	X17829 Y34685	64		6471.0	4034.0	0.0	0.0	10505.0	0.0
H26	7/26	57-24	173-22	X17562 Y34564	74	3.5	2667.0	2417.0	0.0	0.0	5084.0	0.0
I01	6/30	57-40	167-45	Y34348 Z49121	39		179.0	1435.0	1794.0	179.0	3587.0	5.0
I02	6/30	57-39	167-09	Y34247 Z48894	36	3.0	79.0	238.0	159.0	0.0	476.0	0.0
I03	6/23	57-40	166-30	Y34109 Z48633	37	3.5	866.0	1443.0	0.0	0.0	2309.0	0.0
I04	6/23	57-39	165-52	Y34000 Z48389	34	1.7	417.0	1000.0	167.0	250.0	1834.0	13.6
I05	6/18	57-40	165-15	Y33880 Z48141	34	1.3	504.0	5462.0	3277.0	84.0	9328.0	0.9
I06	6/17	57-41	164-36	Y33762 Z47887	28	1.7	5000.0	19252.0	16130.0	781.0	41163.0	1.9
I07	6/14	57-38	164-00	Y33675 Z47648	28	2.3	1481.0	2667.0	4963.0	519.0	9629.0	5.4
I08	6/14	57-39	163-22	Y33567 Z47396	24		630.0	1811.0	1969.0	157.0	4567.0	3.4
I09	6/11	57-40	162-46	Y33463 Z47157	24	3.4	72.0	72.0	145.0	72.0	362.0	19.9
I10	6/11	57-39	162-00	Y33354 Z46856	25		83.0	165.0	83.0	496.0	827.0	60.0
I11	6/10	57-40	161-30	Y33280 Z46652	29	2.7	787.0	1181.0	630.0	472.0	3070.0	15.4
I12	6/10	57-40	160-52	Y33188 Z46402	30		4672.0	2857.0	8131.0	9010.0	24670.0	36.5
I13	6/08	57-39	160-16	Y33112 Z46161	30	2.1	1016.0	469.0	2969.0	5625.0	10079.0	55.8
I14	6/08	57-40	159-37	Y33023 Z45901	27		1298.0	2290.0	5191.0	4885.0	13664.0	35.8
I15	6/07	57-41	158-59	Y32939 Z45652	25		80.0	0.0	0.0	0.0	80.0	0.0
I18	7/04	57-40	168-25	Y34477 Z49373	38	3.7	877.0	0.0	438.0	0.0	1315.0	0.0
I19	7/04	57-30	168-43	Y34631 Z49525	38	3.7	212.0	847.0	0.0	0.0	1059.0	0.0
I19	7/04	57-39	169-03	Y34609 Z49613	37		882.0	0.0	0.0	0.0	882.0	0.0
I20	7/04	57-30	169-23	Y34764 Z49772	38		723.0	843.0	723.0	361.0	2651.0	13.6
I21	7/07	57-48	169-59	Y34636 Z49848	38	3.0	8481.0	3635.0	1817.0	1817.0	15750.0	11.5
I21	7/07	57-39	170-15	X18622 Z49967	40		1227.0	9820.0	4603.0	921.0	16571.0	5.6
I22	7/07	57-30	170-34	Y34871 Z50076	41		665.0	9095.0	8873.0	3549.0	22182.0	16.0
I22	7/13	57-40	170-53	X18459 Y34743	46	3.5	1981.0	6604.0	13868.0	10897.0	33350.0	32.7
I23	7/13	57-40	171-31	X18254 Y34684	55		1094.0	703.0	78.0	0.0	1875.0	0.0
I24	7/15	57-39	172-09	X18030 Y34612	58	3.3	51406.0	73655.0	120.0	0.0	125181.0	0.0
I25	7/15	57-39	172-47	X17802 Y34537	66		18193.0	17676.0	0.0	0.0	35869.0	0.0
I26	7/26	57-40	173-24	X17573 Y34448	81	3.4	3937.0	5354.0	0.0	0.0	9291.0	0.0
J01	7/01	57-59	167-46	Y34188 Z49071	37		0.0	1953.0	0.0	0.0	1953.0	0.0
J03	6/23	58-00	166-30	Y33952 Z48596	33	2.6	1068.0	0.0	0.0	0.0	1068.0	0.0
J04	6/23	57-59	165-54	Y33855 Z48366	29	2.0	500.0	1167.0	167.0	0.0	1833.0	0.0
J05	6/17	57-59	165-15	Y33734 Z48111	27	2.9	4524.0	6111.0	2063.0	159.0	12857.0	1.2
J06	6/17	58-00	164-37	Y33626 Z47869	23	2.1	424.0	1017.0	424.0	85.0	1949.0	4.4
J07	6/14	58-00	163-59	Y33520 Z47620	25	2.4	746.0	597.0	75.0	75.0	1492.0	5.0
J11	6/10	58-01	161-29	Y33142 Z46638	29	3.0	0.0	219.0	0.0	73.0	292.0	25.0
J12	6/10	57-59	160-51	Y33066 Z46392	24		560.0	720.0	640.0	480.0	2400.0	20.0
J13	6/08	58-00	160-12	Y32978 Z46136	28	2.5	0.0	280.0	210.0	140.0	629.0	22.3
J18	7/03	58-01	168-26	Y34287 Z49302	37	3.3	0.0	1432.0	2456.0	0.0	3888.0	0.0
J19	7/04	57-50	168-43	Y34447 Z49450	38	3.5	395.0	1383.0	198.0	198.0	2173.0	9.1
J19	7/04	57-56	169-03	Y34438 Z49533	38		0.0	3161.0	452.0	903.0	4516.0	20.0

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

TABLE 9 DATA FROM THE 1989 EASTERN BERING SEA TRAWL SURVEY WHERE BAIRDI TANNER CRAB WERE TAKEN (CONTINUED)

							NUMBER PER SQUARE MILE					
								MALES (SEE NOTE)				
STA	DATE	LAT.	LONG.	LORAN C	DEPTH FMS	BOT. TEMP	FEMALES	SMALL	PRE-RECRUIT	LEGAL	TOTAL	% LEGAL
J20	7/04	57-50	169-21	Y34547 Z49659	36		1086.0	543.0	1086.0	0.0	2715.0	0.0
J20	7/09	57-59	169-42	X18625 Z49705	37	2.4	748.0	3741.0	2993.0	0.0	7482.0	0.0
J21	7/09	58-00	170-19	X18524 Z49841	41		539.0	539.0	3232.0	539.0	4848.0	11.1
J22	7/07	57-50	170-36	X18501 Z49954	43		494.0	617.0	617.0	123.0	1852.0	6.6
J22	7/13	58-00	170-58	X18379 Y34510	46	3.3	118.0	706.0	235.0	118.0	1177.0	10.0
J23	7/13	58-01	171-36	X18192 Y34462	54		1463.0	1828.0	1097.0	0.0	4388.0	0.0
J24	7/15	58-00	172-12	X18001 Y34418	56	3.2	83.0	165.0	0.0	0.0	248.0	0.0
J25	7/15	57-59	172-51	X17778 Y34359	60		3397.0	5823.0	0.0	0.0	9220.0	0.0
J26	7/26	57-59	173-28	X17561 Y34289	64	3.0	843.0	1446.0	0.0	0.0	2289.0	0.0
K01	7/01	58-19	167-49	Y34002 Z49015	33		0.0	480.0	0.0	0.0	480.0	0.0
K02	7/01	58-20	167-09	Y33886 Z48778	27	3.0	331.0	1570.0	0.0	0.0	1901.0	0.0
K03	6/24	58-20	166-33	Y33780 Z48554	25	3.3	81.0	407.0	0.0	0.0	488.0	0.0
K04	6/24	58-19	165-55	Y33686 Z48324	23	3.0	88.0	0.0	0.0	0.0	88.0	0.0
K05	6/17	58-19	165-18	Y33579 Z48092	25	2.8	0.0	79.0	0.0	0.0	79.0	0.0
K12	6/10	58-19	160-46	Y32927 Z46352	10		0.0	0.0	161.0	0.0	161.0	0.0
K19	7/03	58-20	169-06	Y34164 Z49413	37		1968.0	2952.0	164.0	0.0	5084.0	0.0
K20	7/09	58-21	169-43	X18541 Z49572	37	2.7	976.0	813.0	81.0	0.0	1870.0	0.0
K21	7/09	58-22	170-22	X18434 Z49707	41		0.0	576.0	576.0	576.0	1728.0	33.3
K22	7/13	58-20	171-01	X18300 Y34272	45	3.0	731.0	1462.0	366.0	366.0	2924.0	12.5
K23	7/13	58-18	171-38	X18140 Y34267	53		2213.0	738.0	0.0	0.0	2951.0	0.0
K24	7/16	58-20	172-16	X17952 Y34207	55	2.9	5782.0	244.0	244.0	0.0	6270.0	0.0
K25	7/15	58-19	172-54	X17749 Y34167	60		1625.0	2625.0	0.0	0.0	4250.0	0.0
K26	7/26	58-19	173-33	X17534 Y34109	63	3.0	650.0	407.0	81.0	0.0	1138.0	0.0
K27	7/26	58-18	174-16	X17296 Y34043	84	3.6	0.0	83.0	0.0	0.0	83.0	0.0
L20	7/09	58-38	169-46	X18472 Z49476	35	2.8	0.0	101.0	0.0	0.0	101.0	0.0
L21	7/09	58-39	170-26	X18358 Z49608	41		0.0	709.0	0.0	0.0	709.0	0.0
L23	7/12	58-40	171-42	X18068 Y34013	51		0.0	512.0	0.0	0.0	512.0	0.0
L24	7/16	58-39	172-22	X17885 Y33996	55	2.8	820.0	1803.0	164.0	164.0	2951.0	5.6
L25	7/15	58-39	172-59	X17702 Y33959	62		617.0	1235.0	123.0	0.0	1975.0	0.0
L26	7/27	58-40	173-39	X17498 Y33898	69	3.2	6667.0	3860.0	351.0	0.0	10878.0	0.0
L27	7/26	58-40	174-16	X17302 Y33849	85	3.3	513.0	1282.0	85.0	0.0	1881.0	0.0
L28	8/08	58-41	174-54	X17098 Y33795	103	3.4	2480.0	2400.0	0.0	0.0	4880.0	0.0
L29	8/08	58-39	175-31	X16892 Y33755	73	3.0	2213.0	2213.0	0.0	0.0	4426.0	0.0
L30	8/07	58-40	176-11	X16675 Y33699	76	3.3	219.0	219.0	0.0	0.0	438.0	0.0
L31	8/07	58-41	176-47	X16483 Y33641	73		380.0	633.0	0.0	0.0	1013.0	0.0
M19	7/03	59-01	169-09	Y33691 Z49200	29		80.0	160.0	0.0	0.0	240.0	0.0
M20	7/09	58-59	169-50	X18390 Z49370	34	2.3	4211.0	83.0	0.0	0.0	4294.0	0.0
M24	7/16	58-59	172-27	X17823 Y33774	53	2.8	0.0	161.0	0.0	0.0	161.0	0.0
M25	7/16	59-01	173-04	X17648 Y33725	59		833.0	595.0	238.0	0.0	1666.0	0.0
M26	7/27	58-59	173-42	X17468 Y33714	64	3.0	7294.0	2588.0	353.0	0.0	10235.0	0.0
M27	7/27	59-00	174-21	X17271 Y33661	70	3.2	2667.0	3600.0	400.0	0.0	6667.0	0.0
M28	8/07	59-00	174-59	X17077 Y33616	71	3.0	1395.0	1240.0	78.0	0.0	2713.0	0.0
M29	8/07	59-00	175-43	X16850 Y33572	73	2.7	3256.0	3256.0	0.0	0.0	6512.0	0.0
M30	8/07	58-59	176-17	X16671 Y33533	74	2.5	114.0	227.0	0.0	0.0	341.0	0.0
M31	8/08	58-56	176-45	X16517 Y33528	73	3.5	1008.0	853.0	78.0	0.0	1938.0	0.0
M32	8/08	59-00	177-36	X16258 Y33458	78	2.5	3307.0	6850.0	0.0	0.0	10157.0	0.0
N21	7/10	59-20	170-32	X18200 Z49378	37		175.0	0.0	0.0	0.0	175.0	0.0
N24	7/16	59-19	172-30	X17774 Y33553	47	2.6	180.0	180.0	0.0	0.0	360.0	0.0
N25	7/16	59-29	173-27	X17508 Y33416	56		189.0	566.0	0.0	0.0	755.0	0.0
N25	7/16	59-21	173-10	X17597 Y33515	55		0.0	0.0	196.0	0.0	196.0	0.0
N26	7/27	59-19	173-47	X17428 Y33506	60	3.0	4419.0	3372.0	116.0	116.0	8024.0	1.4
N27	7/27	59-20	174-21	X17264 Y33473	66	3.1	312.0	781.0	312.0	0.0	1406.0	0.0
N28	8/07	59-20	175-08	X17034 Y33431	74	2.8	2479.0	2564.0	256.0	0.0	5300.0	0.0
N29	8/07	59-20	175-45	X16855 Y33397	76	2.5	1176.0	1345.0	84.0	0.0	2605.0	0.0
N30	8/07	59-18	176-30	X16629 Y33362	77	2.3	531.0	885.0	0.0	0.0	1416.0	0.0
N31	8/07	59-15	176-56	X16492 Y33364	81	2.4	568.0	455.0	0.0	0.0	1023.0	0.0
O23	7/12	59-40	171-56	X17860 Y33321	43		0.0	439.0	439.0	0.0	878.0	0.0
O24	7/12	59-48	172-15	X17770 Y33228	42		460.0	460.0	0.0	0.0	920.0	0.0
O24	7/17	59-49	172-52	X17623 Y33212	43	1.5	0.0	4915.0	0.0	0.0	4915.0	0.0
O24	7/17	59-30	172-49	X17670 Y33424	50	2.5	370.0	123.0	0.0	0.0	493.0	0.0
O25	7/16	59-40	173-15	X17546 Y33308	52		345.0	0.0	0.0	0.0	345.0	0.0
O26	7/20	59-40	173-53	X17380 Y33290	58		0.0	179.0	0.0	0.0	179.0	0.0
O27	7/27	59-40	174-26	X17229 Y33269	63	2.9	299.0	299.0	0.0	0.0	598.0	0.0
O28	8/02	59-40	175-07	X17041 Y33245	68	2.7	687.0	0.0	0.0	0.0	687.0	0.0
O29	8/02	59-39	175-53	X16827 Y33214	75	2.5	345.0	690.0	0.0	0.0	1035.0	0.0
O30	8/02	59-39	176-32	X16639 Y33184	74	1.8	560.0	640.0	80.0	0.0	1280.0	0.0
O31	8/02	59-40	177-05	X16483 Y33152	90	2.7	81.0	0.0	0.0	0.0	81.0	0.0
P23	7/11	60-00	171-57	X17806 Y33087	36		81.0	81.0	0.0	0.0	162.0	0.0
P23	7/11	60-10	172-18	X17711 Y32977	31		161.0	242.0	0.0	0.0	403.0	0.0
P24	7/17	59-59	172-38	X17659 Y33103	35	1.5	366.0	183.0	0.0	0.0	549.0	0.0
P25	7/16	59-50	173-31	X17462 Y33196	52		1111.0	1270.0	0.0	0.0	2381.0	0.0

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

TABLE 9 DATA FROM THE 1989 EASTERN BERING SEA TRAWL SURVEY WHERE BAIRDI TANNER CRAB WERE TAKEN (CONTINUED)

							NUMBER PER SQUARE MILE					
								MALES (SEE NOTE)				
STA	DATE	LAT.	LONG.	LORAN C	DEPTH FMS	BOT. TEMP	FEMALES	SMALL	PRE-RECRUIT	LEGAL	TOTAL	% LEGAL
P25	7/17	60-09	173-33	X17428 Y32988	41		0.0	190.0	95.0	0.0	286.0	0.0
P25	7/17	59-59	173-18	X17505 Y33100	42		86.0	1121.0	0.0	0.0	1207.0	0.0
P26	7/20	59-50	174-13	X17283 Y33175	59		204.0	204.0	0.0	0.0	408.0	0.0
P27	7/27	60-00	174-35	X17177 Y33064	60	2.5	0.0	79.0	0.0	0.0	79.0	0.0
P30	8/02	59-59	176-40	X16619 Y33001	79	1.9	0.0	229.0	0.0	0.0	229.0	0.0
P31	8/02	60-00	177-12	X16473 Y32980	76	1.9	775.0	1008.0	0.0	0.0	1783.0	0.0
P32	8/02	60-00	177-54	X16284 Y32949	80	1.8	1984.0	3571.0	0.0	0.0	5555.0	0.0
Q23	7/11	60-20	172-03	X17740 Y32853	37		0.0	134.0	0.0	0.0	134.0	0.0
Q26	7/20	60-20	174-02	X17300 Y32868	48	1.7	1536.0	0.0	0.0	0.0	1536.0	0.0
Q27	7/27	60-18	174-42	X17138 Y32880	57	2.4	0.0	85.0	0.0	0.0	85.0	0.0
Q28	8/01	60-20	175-24	X17961 Y33847	60	2.6	279.0	0.0	0.0	0.0	279.0	0.0
Q30	8/01	60-19	176-42	X16626 Y32823	74	2.1	0.0	767.0	0.0	0.0	767.0	0.0
Q31	8/01	60-19	177-20	X16460 Y32808	81	1.7	169.0	0.0	0.0	0.0	169.0	0.0
R24	7/19	60-39	172-46	X17556 Y32656	22	3.5	81.0	81.0	0.0	0.0	162.0	0.0
R31	8/01	60-39	177-29	X16440 Y32631	82	1.8	403.0	0.0	0.0	0.0	403.0	0.0
R32	8/01	60-39	178-08	X16278 Y32626	89	2.4	76.0	76.0	0.0	0.0	152.0	0.0
R33	8/01	60-35	178-44	X16121 Y32644	121	2.7	351.0	1842.0	0.0	0.0	2193.0	0.0
S28	7/31	60-59	175-35	X16905 Y32463	56	2.2	0.0	81.0	0.0	0.0	81.0	0.0
S29	7/31	61-00	176-18	X16740 Y32463	61	2.1	81.0	0.0	0.0	0.0	81.0	0.0
S30	7/31	60-59	176-57	X16586 Y32463	66	2.0	0.0	81.0	0.0	0.0	81.0	0.0
S31	7/31	60-59	177-39	X16418 Y32458	75	2.2	0.0	0.0	83.0	0.0	83.0	0.0
S32	7/31	61-00	178-15	X16276 Y32448	86	1.7	1148.0	410.0	164.0	0.0	1722.0	0.0
Z04	6/21	54-48	165-45	X18269 Z48255	87	3.5	95337.0	33917.0	476.0	397.0	130127.0	0.3
Z05	6/21	54-42	165-07	Y34597 Z48022	44	5.3	7218.0	9925.0	0.0	75.0	17218.0	0.4

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

TABLE 10 DATA FROM THE 1989 EASTERN BERING SEA TRAWL SURVEY WHERE OPILIO TANNER CRAB WERE TAKEN

								NUMBER PER SQUARE MILE				
								MALES (SEE NOTE)				
STA	DATE	LAT.	LONG.	LORAN C	DEPTH FMS	BOT. TEMP	FEMALES	SMALL	PRE-RECRUIT	LARGE	TOTAL	% LEGAL
A03	6/22	55-01	166-19	Y34735 Z48472	80	3.7	0.0	0.0	83.0	83.0	165.0	50.3
A05	6/21	55-00	165-08	Y34562 Z48053	62	4.9	0.0	556.0	873.0	635.0	2063.0	30.8
B02	6/29	55-19	166-57	X18335 Z48732	76	3.5	0.0	0.0	78.0	78.0	156.0	50.0
B03	6/22	55-20	166-21	Y34703 Z48521	74	3.7	79.0	0.0	0.0	0.0	79.0	0.0
B05	6/21	55-22	165-12	Y34518 Z48103	61	4.1	1628.0	233.0	1473.0	1318.0	4651.0	28.3
B06	6/21	55-19	164-36	Y34432 Z47877	56	4.0	508.0	254.0	254.0	169.0	1186.0	14.2
B07	6/13	55-21	163-59	Y34330 Z47649	42	2.7	0.0	242.0	161.0	0.0	403.0	0.0
C01	6/29	55-40	167-34	X18401 Z48993	75		0.0	0.0	81.0	163.0	244.0	66.8
C05	6/21	55-38	165-10	Y34465 Z48109	60	4.0	0.0	0.0	222.0	148.0	370.0	40.0
C06	6/18	55-41	164-33	Y34354 Z47878	52	1.9	0.0	727.0	545.0	91.0	1364.0	6.7
C07	8/14	55-37	163-45	Y34237 Z47567	49		0.0	227.0	114.0	0.0	341.0	0.0
C07	6/13	55-40	163-59	Y34264 Z47658	52	1.9	0.0	0.0	81.0	0.0	81.0	0.0
C07	8/14	55-37	163-45	Y34239 Z47570	47	4.4	0.0	0.0	685.0	0.0	685.0	0.0
C08	8/14	55-38	163-41	Y34223 Z47542	46		0.0	1760.0	0.0	0.0	1760.0	0.0
C08	8/14	55-38	163-37	Y34213 Z47518	45		0.0	884.0	589.0	0.0	1474.0	0.0
C08	8/14	55-39	163-32	Y34197 Z47486	43		0.0	623.0	0.0	0.0	623.0	0.0
C08	8/14	55-41	163-21	Y34159 Z47414	44	4.4	0.0	0.0	225.0	0.0	225.0	0.0
C08	8/13	55-42	163-26	Y34170 Z47447	45		0.0	361.0	0.0	0.0	361.0	0.0
C08	8/13	55-42	163-26	Y34168 Z47445	45		0.0	250.0	250.0	0.0	500.0	0.0
C08	8/13	55-41	163-22	X18543 Z47423	44		0.0	118.0	118.0	0.0	235.0	0.0
C08	8/12	55-37	163-19	X18532 Z47402	40	5.3	0.0	130.0	0.0	0.0	130.0	0.0
C08	8/12	55-38	163-24	X18534 Z47430	43		0.0	253.0	0.0	0.0	253.0	0.0
C08	8/12	55-41	163-23	X18543 Z47429	44		0.0	247.0	0.0	0.0	247.0	0.0
C08	6/13	55-39	163-23	Y34173 Z47429	44		0.0	82.0	0.0	0.0	82.0	0.0
C08	8/14	55-38	163-41	Y34223 Z47541	47		0.0	123.0	0.0	0.0	123.0	0.0
C08	8/14	55-38	163-37	Y34212 Z47516	47		0.0	380.0	0.0	0.0	380.0	0.0
C08	8/14	55-39	163-32	Y34197 Z47485	44		0.0	220.0	0.0	0.0	220.0	0.0
C08	8/13	55-36	163-25	Y34189 Z47439	42		0.0	0.0	0.0	125.0	125.0	100.0
C08	8/13	55-40	163-26	Y34179 Z47448	45		0.0	267.0	0.0	0.0	267.0	0.0
C08	8/13	55-42	163-26	Y34169 Z47445	46		0.0	263.0	0.0	0.0	263.0	0.0
C08	8/13	55-42	163-25	Y34167 Z47443	46		0.0	93.0	0.0	0.0	93.0	0.0
C08	8/13	55-41	163-24	Y34171 Z47436	45		0.0	222.0	0.0	0.0	222.0	0.0
C08	8/13	55-42	163-22	Y34161 Z47424	46	3.6	0.0	235.0	118.0	0.0	353.0	0.0
C08	8/12	55-39	163-24	Y34176 Z47432	44		0.0	128.0	0.0	0.0	128.0	0.0
C08	8/12	55-42	163-23	Y34162 Z47427	46		0.0	123.0	0.0	0.0	123.0	0.0
C08	8/14	55-36	163-25	Y34188 Z47437	42		0.0	130.0	0.0	0.0	130.0	0.0
D01	6/29	56-00	167-36	X18496 Z49052	75		313.0	78.0	234.0	234.0	860.0	27.2
D02	6/29	55-59	166-59	X18517 Z48826	74	3.5	33093.0	420.0	1008.0	924.0	35446.0	2.6
D03	6/22	56-00	166-24	Y34610 Z48607	69	3.7	0.0	82.0	0.0	82.0	164.0	50.0
D04	6/22	56-02	165-50	X18561 Z48389	56		543.0	233.0	310.0	310.0	1396.0	22.2
D05	6/18	55-59	165-11	Y34400 Z48137	54	2.9	0.0	229.0	382.0	0.0	611.0	0.0
D06	6/18	56-00	164-33	Y34288 Z47894	50	1.2	0.0	750.0	583.0	167.0	1500.0	11.1
D07	6/13	56-06	164-00	Y34172 Z47677	50	1.6	0.0	227.0	0.0	0.0	227.0	0.0
D08	6/13	55-59	163-24	Y34100 Z47437	47		0.0	0.0	0.0	84.0	84.0	100.0
D09	6/12	56-00	162-47	Y33998 Z47198	42		0.0	78.0	0.0	0.0	78.0	0.0
D18	7/05	56-00	168-13	Y34916 Z49270	82	3.6	1811.0	1339.0	1339.0	787.0	5276.0	14.9
E01	6/29	56-18	167-38	X18580 Z49104	72		166538.0	4306.0	2512.0	359.0	173715.0	0.2
E02	6/29	56-18	167-02	X18593 Z48875	62	3.5	917.0	550.0	1743.0	1101.0	4311.0	25.5
E03	6/22	56-20	166-24	Y34541 Z48627	57	3.3	16563.0	1797.0	625.0	1094.0	20079.0	5.4
E05	6/18	56-20	165-11	Y34322 Z48153	49	1.3	0.0	153.0	305.0	229.0	687.0	33.3
E06	6/18	56-20	164-35	Y34211 Z47913	47	1.0	83.0	661.0	413.0	0.0	1157.0	0.0
E18	7/05	56-20	168-14	Y34881 Z49332	85	3.5	48981.0	13609.0	24339.0	6543.0	93472.0	7.0
E19	7/05	56-21	168-52	X18541 Z49555	70		20975.0	3729.0	3220.0	339.0	28263.0	1.2
E21	7/06	56-20	170-03	X18405 Z49901	61		45500.0	2825.0	2118.0	2354.0	52797.0	4.5
E22	7/14	56-20	170-38	X18275 Y35136	65	3.5	1610.0	508.0	254.0	0.0	2373.0	0.0
F01	6/30	56-39	167-39	X18658 Z49135	57		11240.0	3178.0	2016.0	465.0	16899.0	2.8
F02	6/30	56-39	167-02	X18662 Z48892	52	3.5	0.0	439.0	965.0	263.0	1667.0	15.8
F03	6/23	56-41	166-26	Y34461 Z48655	46	2.8	781.0	2500.0	547.0	234.0	4062.0	5.8
F04	6/23	56-40	165-50	X18669 Z48414	42	1.5	81.0	2276.0	813.0	81.0	3252.0	2.5
F05	6/18	56-39	165-13	Y34240 Z48168	42	1.8	465.0	775.0	5736.0	6047.0	13023.0	46.4
F06	6/18	56-40	164-36	Y34122 Z47918	40	1.7	0.0	313.0	78.0	0.0	391.0	0.0
F07	6/13	56-42	164-00	Y34011 Z47683	41	2.0	0.0	152.0	0.0	0.0	152.0	0.0
F08	6/13	56-38	163-22	Y33916 Z47424	41		0.0	0.0	78.0	0.0	78.0	0.0
F18	7/05	56-39	168-17	Y34832 Z49383	58	3.7	142448.0	15000.0	9310.0	2414.0	169172.0	1.4
F19	7/05	56-49	168-36	Y34862 Z49519	53	2.5	125432.0	15556.0	10494.0	1728.0	153210.0	1.1
F19	7/05	56-39	168-54	Y34955 Z49619	55		35700.0	3100.0	2400.0	500.0	41700.0	1.2
F20	7/05	56-49	169-15	Y34993 Z49769	45		6047.0	3605.0	1512.0	349.0	11512.0	3.0
F20	7/06	56-40	169-29	Y35056 Z49826	43	4.1	0.0	253.0	0.0	0.0	253.0	0.0
F21	7/06	56-49	169-53	Y35104 Z49987	39	3.7	244.0	976.0	2683.0	976.0	4878.0	20.0
F21	7/06	56-39	170-06	X18541 Z49999	54		31901.0	3112.0	2334.0	1556.0	38904.0	4.0
F22	7/14	56-39	170-44	X18396 Y35127	61	3.5	14880.0	2480.0	2067.0	1240.0	20667.0	6.0

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

TABLE 10 DATA FROM THE 1989 EASTERN BERING SEA TRAWL SURVEY WHERE OPILIO TANNER CRAB WERE TAKEN (CONTINUED)

							NUMBER PER SQUARE MILE					
								MALES (SEE NOTE)				
STA	DATE	LAT.	LONG.	LORAN C	DEPTH FMS	BOT. TEMP	FEMALES	SMALL	PRE-RECRUIT	LARGE	TOTAL	% LEGAL
F23	7/14	56-38	171-20	X18189 Y35073	67		349090.0	3583.0	7166.0	3583.0	363422.0	1.0
F24	7/14	56-39	171-58	X17965 Y34993	70		6614.0	157.0	472.0	236.0	7480.0	3.2
F25	7/14	56-40	172-33	X17748 Y34913	76		635.0	0.0	0.0	79.0	714.0	11.1
G01	6/30	57-00	167-42	X18715 Z49166	42		602.0	8797.0	1955.0	0.0	11354.0	0.0
G02	6/30	56-59	167-07	Y34502 Z48926	39	3.5	183.0	6972.0	4312.0	642.0	12110.0	5.3
G03	6/23	56-59	166-27	Y34370 Z48664	41	3.2	4331.0	8110.0	2598.0	236.0	15276.0	1.5
G04	6/23	56-59	165-51	X18709 Z48419	39	2.0	1159.0	3440.0	4178.0	3195.0	11972.0	26.7
G05	6/18	56-59	165-13	Y34133 Z48163	39	1.5	410.0	3525.0	1967.0	1311.0	7213.0	18.2
G06	6/18	57-00	164-35	Y34013 Z47913	37	1.3	84.0	2269.0	1092.0	168.0	3613.0	4.6
G07	6/14	57-01	164-00	Y33905 Z47672	38	1.5	81.0	325.0	0.0	81.0	488.0	16.6
G08	6/14	57-01	163-22	Y33800 Z47422	35		0.0	79.0	79.0	79.0	236.0	33.5
G18	7/04	57-01	168-21	Y34753 Z49422	43	3.5	174.0	3826.0	2783.0	783.0	7565.0	10.4
G19	7/04	57-10	168-37	Y34754 Z49523	40	3.7	6092.0	2874.0	1264.0	345.0	10575.0	3.3
G19	7/05	57-00	168-58	Y34892 Z49667	44		10253.0	3291.0	886.0	380.0	14810.0	2.6
G20	7/05	57-08	169-19	Y34926 Z49806	40		0.0	1159.0	2152.0	4470.0	7782.0	57.4
G20	7/06	56-59	169-33	Y35024 Z49902	32	4.5	519.0	8312.0	7922.0	1948.0	18701.0	10.4
G21	7/06	57-08	169-50	Y35050 Z50020	29		0.0	800.0	320.0	80.0	1200.0	6.7
G21	7/06	57-00	170-11	X18691 Z50122	37		0.0	0.0	76.0	0.0	76.0	0.0
G22	7/06	56-50	170-27	X18554 Z50117	55		938.0	781.0	313.0	234.0	2266.0	10.3
G22	7/14	56-58	170-46	X18501 Y35098	54	3.5	38370.0	2835.0	3858.0	1181.0	46244.0	2.6
G23	7/15	56-59	171-22	X18282 Y35005	59		8125.0	1875.0	5313.0	3750.0	19063.0	19.7
G23	7/13	57-00	171-23	X18280 Y34999	60		30373.0	2781.0	6953.0	3863.0	43971.0	8.8
G24	7/15	57-00	171-59	X18042 Y34908	63	3.6	45913.0	4878.0	6260.0	1301.0	58352.0	2.2
G25	7/14	56-59	172-38	X17787 Y34819	68		213.0	0.0	0.0	0.0	213.0	0.0
H01	6/30	57-19	167-44	X18744 Z49159	41		698.0	7674.0	1008.0	155.0	9535.0	1.6
H02	6/30	57-19	167-08	Y34388 Z48921	37	3.5	244.0	5285.0	3659.0	1220.0	10407.0	11.7
H03	6/23	57-23	166-29	Y34228 Z48654	38	3.7	78.0	2500.0	6016.0	859.0	9453.0	9.1
H04	6/23	57-18	165-51	X18735 Z48406	37	1.7	81.0	5772.0	2195.0	1220.0	9268.0	13.2
H05	6/18	57-19	165-15	Y34020 Z48163	35	1.3	0.0	3535.0	26375.0	7749.0	37659.0	20.6
H06	6/18	57-20	164-35	Y33896 Z47897	35	1.0	333.0	2864.0	17185.0	8306.0	28687.0	29.0
H07	6/14	57-20	163-59	Y33793 Z47659	33	1.5	0.0	391.0	391.0	703.0	1484.0	47.4
H08	6/14	57-19	163-22	Y33695 Z47413	28		0.0	80.0	0.0	0.0	80.0	0.0
H18	7/04	57-21	168-23	Y34637 Z49419	39	3.9	103574.0	15763.0	4915.0	678.0	124930.0	0.5
H19	7/04	57-19	168-59	Y34775 Z49658	39		233.0	1512.0	698.0	233.0	2675.0	8.7
H20	7/06	57-19	169-38	Y34912 Z49909	33	3.3	1937.0	1695.0	1937.0	2421.0	7990.0	30.3
H21	7/07	57-29	169-58	Y34862 Z49968	37	3.4	5361.0	24123.0	25909.0	8934.0	64327.0	13.9
H23	7/13	57-20	171-27	X18292 Y34865	56		332972.0	7728.0	13673.0	2378.0	356751.0	0.7
H24	7/15	57-19	172-06	X18037 Y34776	58	3.4	35290.0	2520.0	4878.0	1301.0	43989.0	3.0
H25	7/15	57-21	172-39	X17829 Y34685	64		8151.0	420.0	84.0	0.0	8655.0	0.0
H26	7/26	57-24	173-22	X17562 Y34564	74	3.5	0.0	0.0	0.0	83.0	83.0	100.0
I01	6/30	57-40	167-45	Y34348 Z49121	39		359.0	5740.0	18475.0	4305.0	28879.0	14.9
I02	6/30	57-39	167-09	Y34247 Z48894	36	3.0	1111.0	7778.0	17778.0	1429.0	28095.0	5.1
I03	6/23	57-40	166-30	Y34109 Z48633	37	3.5	289.0	58873.0	76188.0	4040.0	139391.0	2.9
I04	6/23	57-39	165-52	Y34000 Z48389	34	1.7	0.0	10784.0	152513.0	10784.0	174080.0	6.2
I05	6/18	57-40	165-15	Y33880 Z48141	34	1.3	84.0	4034.0	6303.0	924.0	11345.0	8.1
I06	6/17	57-41	164-36	Y33762 Z47887	28	1.7	0.0	667.0	167.0	83.0	917.0	9.1
I07	6/14	57-38	164-00	Y33675 Z47648	28	2.3	0.0	0.0	74.0	222.0	296.0	75.0
I18	7/04	57-40	168-25	Y34477 Z49373	38	3.7	443.0	9744.0	8858.0	6644.0	25689.0	25.9
I19	7/04	57-30	168-43	Y34631 Z49525	38	3.7	444.0	7542.0	6655.0	2440.0	17081.0	14.3
I19	7/04	57-39	169-03	Y34609 Z49613	37		234498.0	211577.0	17631.0	882.0	464588.0	0.2
I20	7/04	57-30	169-23	Y34764 Z49772	38		11205.0	6964.0	12933.0	5969.0	37072.0	16.1
I20	7/07	57-40	169-40	Y34699 Z49813	37	3.0	41019.0	94234.0	70953.0	19955.0	226161.0	8.8
I21	7/07	57-48	169-59	Y34636 Z49848	38	3.0	23613.0	18769.0	15137.0	19375.0	76894.0	25.2
I21	7/07	57-39	170-15	X18622 Z49967	40		307.0	7058.0	16878.0	5831.0	30073.0	19.4
I22	7/07	57-30	170-34	Y34871 Z50076	41		19077.0	5989.0	4880.0	1331.0	31277.0	4.3
I22	7/13	57-40	170-53	X18459 Y34743	46	3.5	0.0	1982.0	6276.0	4294.0	12552.0	34.2
I23	7/13	57-40	171-31	X18254 Y34684	55		21577.0	3980.0	8623.0	884.0	35064.0	2.5
I24	7/15	57-39	172-09	X18030 Y34612	58	3.3	477550.0	3133.0	6265.0	2289.0	489237.0	0.5
I25	7/15	57-39	172-47	X17802 Y34537	66		163.0	0.0	81.0	325.0	570.0	57.0
J01	7/01	57-59	167-46	Y34188 Z49071	37		1519.0	27347.0	16929.0	1736.0	47531.0	3.7
J02	6/30	57-59	167-09	Y34079 Z48844	34	2.3	2740.0	97727.0	52973.0	913.0	154354.0	0.6
J03	6/23	58-00	166-30	Y33952 Z48596	33	2.6	35228.0	236987.0	51240.0	0.0	323455.0	0.0
J04	6/23	57-59	165-54	Y33855 Z48366	29	2.0	583.0	27059.0	72941.0	3529.0	104112.0	3.4
J05	6/17	57-59	165-15	Y33734 Z48111	27	2.9	1111.0	7143.0	1587.0	317.0	10159.0	3.1
J06	6/17	58-00	164-37	Y33626 Z47869	23	2.1	0.0	85.0	0.0	0.0	85.0	0.0
J18	7/03	58-01	168-26	Y34287 Z49302	37	3.3	1432.0	20463.0	21690.0	10231.0	53817.0	19.0
J19	7/04	57-50	168-43	Y34447 Z49450	38	3.5	1383.0	14422.0	23312.0	10273.0	49389.0	20.8
J19	7/04	57-56	169-03	Y34438 Z49533	38		16710.0	48325.0	50583.0	4516.0	120134.0	3.8
J20	7/04	57-50	169-21	Y34547 Z49659	36		24978.0	100998.0	66789.0	11403.0	204168.0	5.6
J20	7/09	57-59	169-42	X18625 Z49705	37	2.4	4487.0	25427.0	96473.0	24679.0	151066.0	16.3
J21	7/09	58-00	170-19	X18524 Z49841	41		5925.0	22085.0	59252.0	26394.0	113657.0	23.2

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

TABLE 10 DATA FROM THE 1989 EASTERN BERING SEA TRAWL SURVEY WHERE OPILIO TANNER CRAB WERE TAKEN (CONTINUED)

								NUMBER PER SQUARE MILE				
									MALES (SEE NOTE)			
STA	DATE	LAT.	LONG.	LORAN C	DEPTH FMS	BOT. TEMP	FEMALES	SMALL	PRE-RECRUIT	LARGE	TOTAL	% LEGAL
J22	7/07	57-50	170-36	X18501 Z49954	43		370.0	1728.0	1975.0	6543.0	10617.0	61.6
J22	7/13	58-00	170-58	X18379 Y34510	46	3.3	706.0	1647.0	4706.0	6824.0	13882.0	49.2
J23	7/13	58-01	171-36	X18192 Y34462	54		174679.0	17217.0	5851.0	3657.0	201404.0	1.8
J24	7/15	58-00	172-12	X18001 Y34418	56	3.2	1293470.0	3306.0	10000.0	2810.0	1309586.0	0.2
J25	7/15	57-59	172-51	X17778 Y34359	60		189154.0	5823.0	5338.0	2426.0	202741.0	1.2
J26	7/26	57-59	173-28	X17561 Y34289	64	3.0	106857.0	2048.0	3012.0	1687.0	113604.0	1.5
K01	7/01	58-19	167-49	Y34002 Z49015	33		560.0	4400.0	960.0	80.0	6000.0	1.3
K02	7/01	58-20	167-09	Y33886 Z48778	27	3.0	3058.0	17508.0	1218.0	0.0	21783.0	0.0
K03	6/24	58-20	166-33	Y33780 Z48554	25	3.3	407.0	6341.0	1301.0	0.0	8049.0	0.0
K04	6/24	58-19	165-55	Y33686 Z48324	23	3.0	0.0	177.0	177.0	0.0	354.0	0.0
K05	6/17	58-19	165-18	Y33579 Z48092	25	2.8	0.0	79.0	0.0	0.0	79.0	0.0
K18	7/03	58-21	168-28	Y34081 Z49222	34	3.0	9238.0	23574.0	2231.0	744.0	35787.0	2.1
K19	7/03	58-20	169-06	Y34164 Z49413	37		12299.0	28713.0	9516.0	1641.0	52169.0	3.1
K20	7/09	58-21	169-43	X18541 Z49572	37	2.7	1789.0	14472.0	6260.0	894.0	23415.0	3.8
K21	7/09	58-22	170-22	X18434 Z49707	41		6049.0	16996.0	24774.0	7202.0	55020.0	13.1
K22	7/13	58-20	171-01	X18300 Y34272	45	3.0	731.0	16084.0	47521.0	8407.0	72743.0	11.6
K23	7/13	58-18	171-38	X18140 Y34267	53		44269.0	22872.0	10329.0	1476.0	78946.0	1.9
K24	7/16	58-20	172-16	X17952 Y34207	55	2.9	459671.0	25689.0	6341.0	488.0	492190.0	0.1
K25	7/15	58-19	172-54	X17749 Y34167	60		5250.0	1125.0	1250.0	3125.0	10750.0	29.1
K26	7/26	58-19	173-33	X17534 Y34109	63	3.0	36110.0	1789.0	3415.0	2358.0	43671.0	5.4
L01	7/01	58-39	167-52	Y33795 Z48942	25		229.0	611.0	153.0	76.0	1069.0	7.1
L02	7/01	58-39	167-12	Y33700 Z48722	23	4.0	756.0	924.0	84.0	0.0	1764.0	0.0
L04	6/24	58-39	165-55	Y33504 Z48276	19	4.0	0.0	74.0	0.0	0.0	74.0	0.0
L18	7/03	58-40	168-30	Y33863 Z49130	28	3.4	323.0	645.0	242.0	0.0	1210.0	0.0
L19	7/03	58-40	169-09	Y33934 Z49314	34		880.0	1760.0	1600.0	480.0	4800.0	10.0
L20	7/09	58-38	169-46	X18472 Z49476	35	2.8	3025.0	23948.0	21679.0	2017.0	50668.0	4.0
L21	7/09	58-39	170-26	X18358 Z49608	41		10278.0	42175.0	31543.0	3544.0	87540.0	4.0
L22	7/13	58-39	171-05	X18223 Y34041	44	2.7	7107.0	36553.0	38583.0	8123.0	90366.0	9.0
L23	7/12	58-40	171-42	X18068 Y34013	51		99062.0	9725.0	4607.0	1024.0	114417.0	0.9
L24	7/16	58-39	172-22	X17885 Y33996	55	2.8	8525.0	1311.0	1148.0	656.0	11640.0	5.6
L25	7/15	58-39	172-59	X17702 Y33959	62		8148.0	370.0	1728.0	1481.0	11728.0	12.6
L26	7/27	58-40	173-39	X17498 Y33898	69	3.2	3860.0	1053.0	1404.0	2456.0	8773.0	28.0
M18	7/03	59-00	168-30	Y33631 Z49027	24	4.0	569.0	244.0	0.0	0.0	813.0	0.0
M19	7/03	59-01	169-09	Y33691 Z49200	29		160.0	80.0	0.0	0.0	240.0	0.0
M20	7/09	58-59	169-50	X18390 Z49370	34	2.3	168430.0	169508.0	6116.0	413.0	344467.0	0.1
M21	7/10	59-01	170-29	X18273 Z49482	39		306667.0	405980.0	37085.0	1952.0	751684.0	0.3
M22	7/12	59-00	171-07	X18148 Y33788	41	2.0	2812.0	57179.0	44993.0	3749.0	108734.0	3.4
M23	7/12	59-00	171-45	X18002 Y33789	48		74620.0	22386.0	20987.0	2332.0	120325.0	1.9
M24	7/16	58-59	172-27	X17823 Y33774	53	2.8	43074.0	1129.0	1935.0	1129.0	47268.0	2.4
M25	7/16	59-01	173-04	X17648 Y33725	59		2143.0	1190.0	1905.0	2143.0	7381.0	29.0
M26	7/27	58-59	173-42	X17468 Y33714	64	3.0	235.0	353.0	1294.0	706.0	2588.0	27.3
M27	7/27	59-00	174-21	X17271 Y33661	70	3.2	533.0	667.0	133.0	133.0	1466.0	9.1
M29	8/07	59-00	175-43	X16850 Y33572	73	2.7	0.0	116.0	0.0	0.0	116.0	0.0
M30	8/07	58-59	176-17	X16671 Y33533	74	2.5	341.0	114.0	0.0	0.0	455.0	0.0
M32	8/08	59-00	177-36	X16258 Y33458	78	2.5	0.0	79.0	79.0	0.0	157.0	0.0
N18	7/03	59-20	168-34	Y33402 Z48942	21	4.1	3644.0	2797.0	0.0	0.0	6441.0	0.0
N19	7/03	59-21	169-13	Y33453 Z49103	27		0.0	156.0	0.0	0.0	156.0	0.0
N20	7/10	59-20	169-52	X18314 Z49253	32	2.5	32405.0	49976.0	1181.0	157.0	83719.0	0.2
N21	7/10	59-20	170-32	X18200 Z49378	37		3494.0	28998.0	14324.0	1922.0	48737.0	3.9
N22	7/12	59-20	171-10	X18078 Y33554	40	1.4	61775.0	203344.0	33462.0	2574.0	301155.0	0.9
N23	7/12	59-20	171-50	X17933 Y33550	44		33837.0	93822.0	38452.0	1538.0	167649.0	0.9
N24	7/16	59-19	172-30	X17774 Y33553	47	2.6	115552.0	23730.0	23371.0	3416.0	166069.0	2.1
N25	7/16	59-21	173-10	X17597 Y33515	55		1373.0	588.0	3529.0	5686.0	11177.0	50.9
N25	7/16	59-29	173-27	X17508 Y33416	56		189.0	566.0	10189.0	13208.0	24151.0	54.7
N26	7/27	59-19	173-47	X17428 Y33506	60	3.0	25969.0	1047.0	698.0	1163.0	28876.0	4.0
N27	7/27	59-20	174-21	X17264 Y33473	66	3.1	7188.0	156.0	1094.0	781.0	9219.0	8.5
N28	8/07	59-20	175-08	X17034 Y33431	74	2.8	342.0	684.0	2906.0	6325.0	10257.0	61.7
N29	8/07	59-20	175-45	X16855 Y33397	76	2.5	420.0	588.0	2353.0	2773.0	6134.0	45.2
N30	8/07	59-18	176-30	X16629 Y33362	77	2.3	354.0	0.0	0.0	177.0	531.0	33.3
N31	8/07	59-15	176-56	X16492 Y33364	81	2.4	114.0	0.0	0.0	0.0	114.0	0.0
O02	7/01	59-38	167-17	Y33064 Z48506	16	5.7	0.0	81.0	0.0	0.0	81.0	0.0
O18	7/02	59-40	168-37	Y33170 Z48857	20	4.2	180.0	0.0	0.0	0.0	180.0	0.0
O19	7/03	59-39	169-15	Y33237 Z49015	26		156.0	234.0	78.0	0.0	469.0	0.0
O20	7/10	59-39	169-54	X18245 Y33280	30	2.5	2502.0	80362.0	859.0	0.0	83724.0	0.0
O21	7/10	59-40	170-34	X18134 Z49274	36		11728.0	37139.0	8210.0	195.0	57273.0	0.3
O22	7/12	59-40	171-15	X18003 Y33309	39	0.8	62240.0	188052.0	47792.0	1039.0	299123.0	0.3
O23	7/12	59-40	171-56	X17860 Y33321	43		55308.0	117200.0	23703.0	0.0	196212.0	0.0
O24	7/12	59-48	172-15	X17770 Y33228	42		18398.0	76813.0	45996.0	2760.0	143967.0	1.9
O24	7/17	59-49	172-52	X17623 Y33212	43	1.5	123766.0	151518.0	22308.0	4708.0	302300.0	1.6
O24	7/17	59-39	172-34	X17716 Y33328	45	1.7	90641.0	37582.0	15295.0	3059.0	146577.0	2.1
O24	7/17	59-30	172-49	X17670 Y33424	50	2.5	9870.0	26362.0	12507.0	1924.0	50663.0	3.8

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

TABLE 10 DATA FROM THE 1989 EASTERN BERING SEA TRAWL SURVEY WHERE OPILIO TANNER CRAB WERE TAKEN (CONTINUED)

							NUMBER PER SQUARE MILE					
								MALES (SEE NOTE)				
STA	DATE	LAT.	LONG.	LORAN C	DEPTH FMS	BOT. TEMP	FEMALES	SMALL	PRE-RECRUIT	LARGE	TOTAL	% LEGAL
O25	7/16	59-40	173-15	X17546 Y33308	52		2241.0	5172.0	16552.0	11379.0	35344.0	32.2
O26	7/20	59-40	173-53	X17380 Y33290	58		1786.0	7500.0	10536.0	1964.0	21786.0	9.0
O27	7/27	59-40	174-26	X17229 Y33269	63	2.9	19770.0	9552.0	9552.0	2537.0	41412.0	6.1
O28	8/02	59-40	175-07	X17041 Y33245	68	2.7	125016.0	2061.0	4121.0	2061.0	133259.0	1.5
O29	8/02	59-39	175-53	X16827 Y33214	75	2.5	206230.0	2762.0	5178.0	690.0	214860.0	0.3
O30	8/02	59-39	176-32	X16639 Y33184	74	1.8	1040.0	160.0	400.0	960.0	2560.0	37.5
P18	7/02	60-00	168-39	Y32931 Z48764	20	4.2	0.0	79.0	0.0	0.0	79.0	0.0
P19	7/02	60-00	169-18	Y32982 Z48915	24		0.0	0.0	0.0	0.0	0.0	0.0
P20	7/10	59-59	169-57	X18175 Y33039	28	2.2	315.0	2520.0	0.0	0.0	2835.0	0.0
P21	7/10	59-59	170-38	X18066 Z49178	36		2357.0	16071.0	1286.0	71.0	19786.0	0.4
P22	7/12	59-59	171-20	X17935 Y33088	37	0.6	109904.0	206281.0	6446.0	0.0	322631.0	0.0
P23	7/11	60-00	171-57	X17806 Y33087	36		81.0	1626.0	1057.0	325.0	3089.0	10.5
P23	7/11	60-10	172-18	X17711 Y32977	31		403.0	2823.0	726.0	81.0	4032.0	2.0
P24	7/17	59-59	172-38	X17659 Y33103	35	1.5	3998.0	7994.0	2954.0	1564.0	16511.0	9.5
P25	7/17	59-59	173-18	X17505 Y33100	42		14124.0	17069.0	1983.0	603.0	33865.0	1.8
P25	7/16	59-50	173-31	X17462 Y33196	52		16349.0	48546.0	23741.0	5670.0	94306.0	6.0
P25	7/17	60-09	173-33	X17428 Y32988	41		3143.0	20670.0	12136.0	1138.0	37087.0	3.1
P26	7/20	59-50	174-13	X17283 Y33175	59		13061.0	41921.0	17691.0	2308.0	75749.0	3.0
P26	7/20	60-09	174-20	X17237 Y32976	56		60044.0	140363.0	26513.0	2339.0	229260.0	1.0
P26	7/20	60-01	173-57	X17342 Y33072	52	2.2	35556.0	82964.0	25859.0	1077.0	145457.0	0.7
P27	7/27	60-00	174-35	X17177 Y33064	60	2.5	1587.0	70691.0	34522.0	2063.0	108864.0	1.9
P28	8/02	60-00	175-14	X17009 Y33045	64	2.9	291429.0	9624.0	5714.0	1504.0	308271.0	0.5
P29	8/02	60-00	175-55	X16823 Y33026	71	2.7	459756.0	4309.0	3496.0	1951.0	469512.0	0.4
P30	8/02	59-59	176-40	X16619 Y33001	79	1.9	305.0	687.0	840.0	458.0	2290.0	20.0
P31	8/02	60-00	177-12	X16473 Y32980	76	1.9	12135.0	6202.0	1085.0	1783.0	21205.0	8.4
P32	8/02	60-00	177-54	X16284 Y32949	80	1.8	476.0	79.0	79.0	0.0	635.0	0.0
Q19	7/02	60-18	169-20	Y32792 Z48828	23		0.0	880.0	80.0	0.0	960.0	0.0
Q20	7/10	60-18	170-00	X18109 Y32805	27	2.0	72705.0	236290.0	0.0	0.0	308995.0	0.0
Q21	7/10	60-20	170-41	X17994 Z49076	35		6031.0	75387.0	6031.0	0.0	87449.0	0.0
Q22	7/11	60-21	171-22	X17873 Y32831	35	0.7	16063.0	97983.0	7228.0	0.0	121274.0	0.0
Q23	7/11	60-20	172-03	X17740 Y32853	37		5507.0	22968.0	6581.0	0.0	35190.0	0.0
Q25	7/17	60-18	173-25	X17447 Y32887	35		2364.0	22909.0	545.0	182.0	26000.0	0.7
Q26	7/20	60-20	174-02	X17300 Y32868	48	1.7	87564.0	86027.0	23043.0	0.0	196634.0	0.0
Q27	7/27	60-18	174-42	X17138 Y32880	57	2.4	36855.0	74189.0	22244.0	1709.0	134998.0	1.3
Q28	8/01	60-20	175-24	X17961 Y33847	60	2.6	309654.0	22900.0	28765.0	3630.0	364949.0	1.0
Q29	8/01	60-20	176-00	X16809 Y32837	66	2.5	340160.0	9750.0	13192.0	13192.0	376294.0	3.5
Q30	8/01	60-19	176-42	X16626 Y32823	74	2.1	4623279.0	18403.0	12269.0	7668.0	4661619.0	0.2
Q31	8/01	60-19	177-20	X16460 Y32808	81	1.7	8305.0	2458.0	5085.0	3644.0	19491.0	18.7
R22	7/11	60-40	171-26	X17812 Y32602	33	0.3	10140.0	49920.0	780.0	0.0	60840.0	0.0
R23	7/11	60-39	172-06	X17687 Y32635	34		101367.0	124146.0	1139.0	0.0	226652.0	0.0
R24	7/19	60-39	172-46	X17556 Y32656	22	3.5	968.0	2016.0	0.0	0.0	2984.0	0.0
R25	7/19	60-40	173-29	X17398 Y32647	37		3671.0	20380.0	1392.0	0.0	25443.0	0.0
R26	7/19	60-39	174-06	X17263 Y32667	48		87648.0	148125.0	6135.0	876.0	242785.0	0.4
R27	7/19	60-38	174-47	X17104 Y32672	54		141403.0	117664.0	2064.0	0.0	261131.0	0.0
R28	8/01	60-40	175-27	X16943 Y32649	58	2.5	61454.0	56624.0	11905.0	2033.0	132016.0	1.5
R29	8/01	60-39	176-14	X16753 Y32651	67		1901.0	11570.0	46860.0	12727.0	73058.0	17.4
R30	8/01	60-40	176-47	X16617 Y32642	72		41043.0	3689.0	8115.0	9590.0	62436.0	15.4
R31	8/01	60-39	177-29	X16440 Y32631	82	1.8	1129.0	645.0	2742.0	4355.0	8871.0	49.1
R32	8/01	60-39	178-08	X16278 Y32626	89	2.4	37172.0	76.0	1591.0	2424.0	41263.0	5.9
R33	8/01	60-35	178-44	X16121 Y32644	121	2.7	6404.0	88.0	351.0	789.0	7632.0	10.3
S22	7/11	60-57	171-29	X17762 Y32400	32	0.3	69964.0	130387.0	0.0	0.0	200351.0	0.0
S23	7/11	60-59	172-10	X17635 Y32408	35		47123.0	119660.0	0.0	0.0	166783.0	0.0
S24	7/19	60-58	172-49	X17510 Y32440	35	1.5	6454.0	25412.0	0.0	0.0	31866.0	0.0
S25	7/19	60-59	173-28	X17375 Y32444	40	1.0	1855.0	8541.0	1035.0	0.0	11431.0	0.0
S26	7/19	60-59	174-08	X17234 Y32452	44	1.6	52708.0	78420.0	7713.0	1286.0	140127.0	0.9
S27	7/28	61-03	174-56	X17055 Y32425	51	2.0	41294.0	52194.0	3925.0	420.0	97833.0	0.4
S28	7/31	60-59	175-35	X16905 Y32463	56	2.2	48723.0	25711.0	10624.0	1487.0	86545.0	1.7
S29	7/31	61-00	176-18	X16740 Y32463	61	2.1	39807.0	31357.0	20189.0	2363.0	93715.0	2.5
S30	7/31	60-59	176-57	X16586 Y32463	66	2.0	12177.0	9747.0	33141.0	9422.0	64488.0	14.6
S31	7/31	60-59	177-39	X16418 Y32458	75	2.2	191728.0	6500.0	5917.0	4917.0	209061.0	2.4
S32	7/31	61-00	178-15	X16276 Y32448	86	1.7	131414.0	8947.0	9410.0	5399.0	155170.0	3.5
T25	7/28	61-19	173-33	X17330 Y32228	40	0.4	23547.0	68611.0	0.0	0.0	92158.0	0.0
T26	7/28	61-20	174-12	X17199 Y32241	42	-0.8	37260.0	86605.0	0.0	0.0	123865.0	0.0
T27	7/28	61-20	175-00	X17028 Y32250	49	1.1	32705.0	105926.0	8871.0	244.0	147746.0	0.2
T28	7/31	61-17	175-47	X16858 Y32298	55	2.0	32752.0	60229.0	4767.0	349.0	98098.0	0.4
T29	7/31	61-19	176-18	X16740 Y32279	59	2.0	235210.0	146533.0	13588.0	1333.0	396664.0	0.3
T30	7/31	61-19	176-59	X16588 Y32283	65	1.9	8703.0	37419.0	14194.0	2903.0	63219.0	4.6
T31	7/31	61-22	177-40	X16434 Y32259	73	2.1	203193.0	16098.0	16829.0	10976.0	247095.0	4.4
U25	7/30	61-40	173-40	X17281 Y32013	38	-0.3	22272.0	71271.0	0.0	0.0	93543.0	0.0
U26	7/28	61-38	174-18	X17157 Y32050	41	-0.3	39599.0	106257.0	0.0	0.0	145856.0	0.0

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

TABLE 10 DATA FROM THE 1989 EASTERN BERING SEA TRAWL SURVEY WHERE OPILIO TANNER CRAB WERE TAKEN (CONTINUED)

							NUMBER PER SQUARE MILE					
								MALES (SEE NOTE)				
STA	DATE	LAT.	LONG.	LORAN C	DEPTH FMS	BOT. TEMP	FEMALES	SMALL	PRE-RECRUIT	LARGE	TOTAL	% LEGAL
U27	7/28	61-39	174-59	X17019 Y32063	47	0.5	49593.0	72943.0	4016.0	81.0	126634.0	0.1
U28	7/30	61-39	175-45	X16860 Y32079	52	0.8	45000.0	172056.0	10829.0	0.0	227885.0	0.0
U29	7/30	61-40	176-25	X16715 Y32092	57	1.5	27519.0	96774.0	8714.0	0.0	133008.0	0.0
U30	7/30	61-40	177-06	X16571 Y32100	62	1.5	8235.0	68582.0	28902.0	490.0	106209.0	0.5
V25	7/30	61-59	173-56	X17206 Y31820	37	-0.5	78872.0	143422.0	0.0	0.0	222294.0	0.0
V26	7/28	61-56	174-36	X17082 Y31883	42	-0.5	64566.0	200581.0	283.0	0.0	265430.0	0.0
V27	7/30	61-59	175-09	X16971 Y31867	45	-0.4	62552.0	163095.0	2632.0	75.0	228354.0	0.0
V28	7/30	62-00	176-01	X16797 Y31896	53	0.7	18148.0	59763.0	5926.0	0.0	83837.0	0.0
V29	7/30	61-59	176-44	X16651 Y31920	57	1.0	14103.0	33231.0	6000.0	231.0	53565.0	0.4
Z05	6/21	54-42	165-07	Y34597 Z48022	44	5.3	75.0	226.0	0.0	0.0	301.0	0.0

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

TABLE 11 DATA FROM THE 1989 EASTERN BERING SEA TRAWL SURVEY WHERE HAIR CRAB WERE TAKEN

							NUMBER PER SQUARE MILE					
								MALES (SEE NOTE)				
STA	DATE	LAT.	LONG.	LORAN C	DEPTH FMS	BOT. TEMP	FEMALES	SMALL	PRE-RECRUIT	LARGE	TOTAL	% LEGAL
C08	8/14	55-38	163-41	Y34223 Z47542	46		352.0	0.0	0.0	0.0	352.0	0.0
C08	8/14	55-38	163-37	Y34213 Z47518	45		295.0	0.0	0.0	0.0	295.0	0.0
C08	8/14	55-40	163-26	Y34178 Z47449	44		0.0	0.0	405.0	811.0	1216.0	66.7
C08	8/14	55-41	163-21	Y34159 Z47414	44	4.4	0.0	0.0	0.0	114.0	114.0	100.0
C08	8/13	55-36	163-26	Y34190 Z47444	42		120.0	0.0	0.0	0.0	120.0	0.0
C08	8/13	55-40	163-26	Y34180 Z47449	44		123.0	0.0	0.0	0.0	123.0	0.0
C08	8/12	55-35	163-18	X18528 Z47396	37		0.0	0.0	135.0	0.0	135.0	0.0
C08	8/12	55-38	163-24	X18534 Z47430	43		0.0	0.0	0.0	127.0	127.0	100.0
C08	8/12	55-36	163-20	X18528 Z47405	38	4.8	0.0	0.0	0.0	79.0	79.0	100.0
C08	8/14	55-38	163-41	Y34223 Z47541	47		123.0	0.0	0.0	0.0	123.0	0.0
C08	8/14	55-39	163-32	Y34197 Z47485	44		220.0	0.0	110.0	110.0	440.0	25.0
C08	8/14	55-40	163-26	Y34177 Z47446	44		0.0	0.0	0.0	213.0	213.0	100.0
C08	8/13	55-40	163-26	Y34179 Z47448	45		0.0	0.0	0.0	133.0	133.0	100.0
C08	8/13	55-41	163-24	Y34171 Z47436	45		0.0	0.0	0.0	222.0	222.0	100.0
C08	8/13	55-42	163-22	Y34161 Z47424	46	3.6	0.0	0.0	118.0	0.0	118.0	0.0
C08	8/12	55-36	163-19	Y34173 Z47399	38		441.0	0.0	147.0	147.0	735.0	20.0
C08	8/12	55-39	163-24	Y34176 Z47432	41		0.0	0.0	0.0	141.0	141.0	100.0
C08	8/12	55-39	163-24	Y34176 Z47432	44		0.0	0.0	0.0	128.0	128.0	100.0
C08	8/13	55-36	163-20	Y34174 Z47404	38		81.0	81.0	0.0	0.0	162.0	0.0
D11	6/04	56-05	161-28	Y33771 Z46672	23	5.2	0.0	0.0	244.0	0.0	244.0	0.0
E08	6/13	56-19	163-24	Y34015 Z47438	46		80.0	0.0	0.0	0.0	80.0	0.0
E09	6/12	56-19	162-47	Y33913 Z47195	45	2.0	0.0	0.0	0.0	74.0	74.0	100.0
E10	6/12	56-20	162-11	Y33814 Z46954	41		0.0	0.0	0.0	85.0	85.0	100.0
F10	6/11	56-39	162-10	Y33721 Z46946	40		0.0	0.0	0.0	165.0	165.0	100.0
F12	6/09	56-39	160-59	Y33541 Z46466	38		0.0	85.0	0.0	85.0	169.0	50.3
F13	6/09	56-40	160-22	Y33448 Z46224	34	2.8	81.0	161.0	81.0	0.0	323.0	0.0
F21	7/06	56-49	169-53	Y35104 Z49987	39	3.7	0.0	244.0	0.0	0.0	244.0	0.0
G08	6/14	57-01	163-22	Y33800 Z47422	35		0.0	0.0	0.0	79.0	79.0	100.0
G20	7/06	56-59	169-33	Y35024 Z49902	32	4.5	0.0	649.0	0.0	0.0	649.0	0.0
G21	7/06	57-08	169-50	Y35050 Z50020	29		0.0	960.0	160.0	0.0	1120.0	0.0
G21	7/06	57-00	170-11	X18691 Z50122	37		0.0	0.0	0.0	229.0	229.0	100.0
G22	7/06	57-07	170-29	X18649 Y35103	28		0.0	76.0	76.0	0.0	153.0	0.0
H19	7/04	57-19	168-59	Y34775 Z49658	39		0.0	233.0	0.0	0.0	233.0	0.0
H20	7/06	57-19	169-38	Y34912 Z49909	33	3.3	0.0	43266.0	5847.0	0.0	49113.0	0.0
H21	7/07	57-29	169-58	Y34862 Z49968	37	3.4	0.0	2033.0	81.0	81.0	2195.0	3.7
I20	7/07	57-40	169-40	Y34699 Z49813	37	3.0	0.0	127.0	0.0	0.0	127.0	0.0
I22	7/07	57-30	170-34	Y34871 Z50076	41		0.0	222.0	0.0	0.0	222.0	0.0
J04	6/23	57-59	165-54	Y33855 Z48366	29	2.0	83.0	0.0	0.0	0.0	83.0	0.0
K01	7/01	58-19	167-49	Y34002 Z49015	33		0.0	0.0	0.0	80.0	80.0	100.0
K02	7/01	58-20	167-09	Y33886 Z48778	27	3.0	0.0	83.0	0.0	0.0	83.0	0.0
L18	7/03	58-40	168-30	Y33863 Z49130	28	3.4	0.0	0.0	0.0	81.0	81.0	100.0
M01	7/01	58-59	167-53	Y33573 Z48854	22		0.0	0.0	74.0	74.0	148.0	50.0

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