

Norton Sound Summer Commercial Red King Crab Fishery
Observer Project Summary Report, 1995

By

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INTRODUCTION

The Norton Sound Section of the Northern Bering Sea District consists of all waters in statistical area Q that are north of the latitude of Cape Romanzof, east of 168 west longitude, and south of the latitude of Cape Prince of Wales (Figures 1 and 2). A large vessel summer commercial red king crab (*Paralithodes camtschatica*) fishery existed in the Norton Sound Section from 1977 through 1992 (Appendix Table 2). No summer commercial fishery occurred in 1991 due to a lack of staff necessary to manage the fishery. The budget had been cut the previous winter. In 1992 the large vessel summer commercial fishery resumed. Regulation changes adopted during the March 1993 Board of Fisheries meeting changed the character of the fishing fleet to that of a small boat fleet. A superexclusive designation went into effect for the Norton Sound commercial crab fishery June 27, 1994. A vessel registered for the Norton Sound crab fishery may not be used to take king crab in any other registration area during that registration year.

The National Marine Fisheries Service conducted a trawl survey to examine the abundance of Norton Sound red king crab in late August 1991 (Appendix Table 5). The results of that survey as compared to the 6 previous trawl surveys show a gradual trend of increasing abundance since the low recorded in 1982. The most recent survey found 3.4 million pounds of legal king crab in the commercial fishing district in 1991. NMFS has not made a survey of Norton Sound since 1991. The quota for the Norton Sound Section for the 1995 season was therefore set at 340,000 pounds, representing an exploitation rate of approximately 10%.

A pre-season pot survey was initiated this year to survey the abundance of legal and sublegal king crab in the Eastern Norton Sound area. This cooperative survey, conducted by private industry and the Department, was also useful in determining where the closed water boundary would be placed.

The 1995 summer commercial red king crab fishery opened at 12 noon, July 1 in the Norton Sound Section. An emergency order relaxed the closure line northward to 64°20' north latitude and eastward to 161°15' west longitude effective 12:00 noon July 1. A pot survey completed June 26 through June 28 in the Nome area indicated the center of abundance of the red king crab stock in the deep water from Cape Nome east, five to ten miles offshore. Therefore the closure line was moved northward and set along the outer edge of that concentration. Residents in eastern Norton Sound requested that commercial fishing be allowed in areas accessible to their villages. Another emergency order relaxed the closure line eastward to 166°30' west longitude, and no closer than three miles to mean high water effective 12:00 noon, July 15. An interest was expressed by processors and fishermen to fish the northwestern portion of the Norton Sound Section. This portion of the section has never had a summer commercial fishing effort and there has been no survey of the area to assess the crab resource. The Department required all fishermen intending to fish in this area to complete a catch reporting log. The fishery was extended by emergency order due to poor weather and closed 12 noon, September 5, 1995.

A total of 53 catcher vessels were registered for the summer commercial crab season. Forty-eight vessels actually made deliveries and 81 permits were fished. There were two land based processors that took part in the fishery. There was no floating crab processors or catcher processors operating in Norton Sound during the 1995 summer fishery, therefore no independent observer was placed on board commercial vessels. One ADF&G employee was stationed in Nome to monitor the fishery, act as onboard observer/sampler on catcher vessels and sample legal crab on vessels that delivered to buyers in Nome. This was the only means of collecting essential biological and management data. This data is necessary in determining the magnitude and location of the commercial harvest and the status of the stock. The observer also provides means to enforce size and sex restriction regulations that protect the resource. Catcher vessels are not required to have observers onboard, but may choose to allow an ADF&G observer onboard to collect data essential to the management of the fishery.

Objectives and Tasks

The specific objectives and tasks of the ADF&G monitor/observer during the commercial season are to:

1. Report the number of pots pulled and number of legal crab harvested for each statistical area fished by the vessel on which the observer is placed and by any vessel sampled for legal catch at delivery stations.
2. Obtain and record on a daily basis (when on board catcher vessel) at least 100 length frequency samples of harvested legal male red king crab (carapace width > 4-3/4 inches), 100 length frequency samples of incidentally caught sublegal male red king crab, and at least 20 length frequency samples of incidentally caught female red king crab.
3. Determine the carapace age of sampled crab.
4. Determine the percentage of recruits in the commercial harvest sampled (new shell legal crab with carapace length < 115 mm).
5. Determine the degree of ovigerity of sampled female crab.
6. Develop a relative abundance index for legal male, sublegal male and female king crab by recording the catch of as many pot lifts as is required to obtain a sample size of 300 or more crab per day.
7. Document bycatch species by number if possible (optional).
8. Monitor commercial harvest of red king crab on a daily basis.

METHODS

Pre-season Pot Survey

On June 26, pots were set in a series of 15 transects evenly spaced between the longitudes of 166°13' and 164°28' (Figure 9). Pots were set in these transects beginning at the 64°10' latitude line and ran north. Pots were dropped at an interval of approximately one nautical mile. An ADF&G observer was placed on board each vessel participating in the pre-season pot survey on June 28. Species, sex, biological length, legal size, shell age, and ovigerity of all king crab in each pot pulled was recorded.

Commercial Fishery

The methods used during the 1995 commercial crab season for catch monitoring and reporting, sampling crab, skipper interviews, and collecting information from tagged crab are presented in the ADF&G Norton Sound King Crab Operational Plan. The identity of vessels from which observer data was collected have been omitted from this report to maintain confidentiality.

RESULTS

Pre-season Pot Survey

There were a total of 1185 legal red king crab, 722 sublegal male red king crab, and 24 female red king crab captured in all pot pulls during the pre-season survey (Table 6, 7, 8). The length frequency distribution of all male crab captured was: 38% prerecruit crab, 20% recruit crab, and 42% postrecruit (Table 9, Figure 8). Only 2 female blue king crab were captured in all pots pulled.

Legal Male Red King Crab

Legal male crab with new shell carapace made up 86% of the legal crab sampled, and old shell crab made up 14% (Table 6). Recruit king crab made up 32% of the sample. The mean carapace length for all legal male crab sampled was 120.1 mm. The greatest concentrations of legal crab were found between the longitudes of 165°03' and 164°28' (Figure 9).

Sublegal Male Red King Crab

Ninty-seven percent of the sublegal male crab measured had a new shell carapace (Table 7). The mean carapace length for sublegal male crab measured was 86.6 mm. The greatest concentrations of sublegal crab were found between the longitudes of 165°03' and 164°28' (Figure 10).

Female Red King Crab

Ten juvenile and 14 adult female crab were captured during the pot survey (Table 8). Juvenile crab had carapace lengths that ranged from 47 mm to 71 mm. Mean juvenile carapace length was 61.7 mm. Adult crab had carapace lengths ranging from 67 mm to 96 mm. Mean adult carapace length was 79.9 mm. Twenty-nine percent of the adult female crab captured had an ovigerity percent of 90-100%, and 71% of the adult female crab had an ovigerity of 60-89%.

Harvest Summary

Catch reporting logs were kept by buyers and by skippers of catcher vessels for each statistical area fished. Buyers verbal reports were relayed daily by 9:00 a.m. to the ADF&G office in Nome. Fish tickets were due in to the ADF&G office at the end of each week. Vessel reports from fishermen and Catcher/Seller fish tickets were required every Monday for the duration of the fishery. Compliance with reporting requirements was good. Daily catch statistics can be found in Table 1 and Figure 3.

Fish ticket reports document that 13 statistical areas were fished (Table 2). A total of 18,782 pot lifts occurred during the fishery. Thirty-eight percent of all pot lifts occurred in stat area 646401, 24% in area 646402, 17% in area 656402, 12% in area 656401, 3% in area 656330, 2% in area 636401 and 626401. Less than 2% of all pot pulls occurred in areas 666431, 666330, 646330, 646301, 636402, and 616401.

The total commercial catch was 105,967 crab. A total of 322,676 pounds were harvested. Thirty-three percent of the harvest was captured in stat area 646401, 21% in area 646402, 14% in area 656402, 10% in area 656401, 7% in area 636401, 6% in area 656330 and 626401. The remaining 3% of the harvest was caught in areas 666431, 666330, 646330, 646301, 636402, and 616401. Total harvest for individual stat areas can be found in Table 2.

The overall CPUE for the 1995 fishery was 5.6 crab/pot. Stat area 626401 had the greatest CPUE with 23.2 crab/pot (Table 2). The CPUE for area 646301 was 19.3 crab/pot, 17.8 crab/pot for area 636401, 17.5 crab/pot for area 636402, 11 crab/pot for area 656330, 8.7 crab/pot for area 666431, and 5.3 crab/pot for area 666330. The CPUE in stat areas 646402, 646401, 646330, 656401, 656402, 616401 were all less than 5 crab/pot.

Legal Male King Crab

Carapace length measurement and age were collected from 1,174 legal male red king crab throughout the duration of the 1995 summer fishery. Carapace age was classified as new (11 months old) or old (at least 23 months old) (Table 3, Figure 4). Overall mean carapace length of the legal male red king crab sampled was 118.2 mm (Table 3). Male crab with new shell carapaces made up 79% of the total legal male king crab sampled, while old shell crab made up 21% of the sample (Table 3, Figure 4).

Recruit crab made up 36% of all legal male crab sampled (Table 3). Post recruit crab made up 64% of the legal crab sampled. The overall observed catch of legal crab was 2.5 crab/pot (Table 11).

Sublegal (prerecruit) Male King Crab

Carapace length measurement and shell age were collected from 117 sublegal male red king crab (Table 4, Figure 5). Data was collected from two statistical areas. The overall mean carapace length of the sublegal crab sampled was 83.0 mm (Table 4). New shell crab made up 97% of the sublegal crab sampled and old shell crab made up 3% (Table 4). The overall observed catch of sublegal male crab was 1.2 crab/pot (Table 11).

Female King Crab

Carapace length measurement and percent ovigerity was collected from a total of 42 female red king crab during the commercial fishery (Table 5, Figure 6). Mature female king crab made up 98% of all females sampled. One immature female crab was sampled during the fishery. Ninety percent of the mature female crab sampled were considered to have a high degree of ovigerity (> 60% full clutch). Egg color was observed to be purple at the beginning of the fishery. Some female crab were observed with brown eggs by the middle of August.

The mean carapace length of adult female crab was 83 mm (Table 5). The lone juvenile female crab had a carapace length of 68 mm. The overall observed catch of female crab was 0.4 crab/pot (Table 11).

Bycatch

No bycatch information was collected during the 1995 commercial fishery.

Tags

Twenty-three crab with tags were turned into the ADF&G office during the 1995 commercial fishery (Table 10). Eight of the recovered tags were returned without information useful in determining mean growth per molt. Twenty of the tagged crab recovered had been tagged in the 1995 winter crab pot study. Therefore no molt information could be obtained. Only one of the crab returned has sufficient information to calculate mean growth per molt. This crab was tagged in 1991 and had a carapace length of 91 mm. It was recovered July 11, 1995 and had a carapace length of 121 mm. Original date of tagging and carapace length are compared to carapace length of recovered crab in Table 10.

DISCUSSION

Pre-season Pot Survey

The legal and sublegal crab catch was standardized to 24 hours and plotted by pot pull (Figures 9, 10). The percent of legal vs. sublegal crab captured per station was also plotted (Figure 11). The greatest concentrations of both legal and sublegal crab were found between the longitudes of 165°03' and 164°28'.

Figures 7 and 8 show recruit, prerecruit and postrecruit crab from the 1995 winter crab project (Brennan and LaFlame, 1995) and the summer pot survey. The length frequency distribution of crab captured in both studies are comparable.

Results from sampling legal crab during the pot survey and the commercial fishery showed similar trends. Recruit crab made up 32% of the legal crab sampled throughout the pot survey. Recruit crab made up 36% of the legal crab sampled during the commercial fishery. New shell to old shell ratios were also alike: 86% new shell to 14% old shell for the pot survey and 79% new shell to 21% old shell for the commercial fishery. Mean carapace length of legal male crab was 120.1 mm for the pot survey and 118.2 mm for the commercial fishery.

Sublegal crab sampled in both studies indicated 97% of crab sampled were new shell and 3% old shell. Mean carapace length of sublegal male crab was 86.6 mm for the pot survey and 83.0 mm for the commercial fishery. Only 117 sublegal crab were sampled during the commercial fishery, which may account for the difference in mean carapace length.

Female crab sampled during the pot survey and commercial fishery showed greater discrepancies. Only one juvenile female king crab was sampled during the commercial fishery, therefore no comparisons was made. Adult female crab sampled during the pre-season survey indicated 28.5% had "full" egg clutches and 71.4% had "high" egg clutches (Table 8). During the commercial fishery, 58.5% of female crab sampled had "full egg clutches, 31.7% had "high", 7.3% were "medium", and 2.4% were considered "low" (Table 5). Mean carapace length for adult female crab sampled was 79.9 mm for the pot survey and 83.1 mm for the commercial fishery. Fourteen adult female crab were sampled during the pot survey compared to 41 adult female crab sampled during the commercial fishery.

Harvest Summary

A total of 48 catcher vessels took part in the 1995 summer commercial red king crab fishery in the Norton Sound Section. The total number of crab caught was 105,967 and the total number of pots pulled was 18,782. The CPUE was 5.6 crab/pot. Total harvest was 322,676 pounds of king crab. The harvest goal was 340,000 pounds.

Fish ticket records show that this seasons largest fishing effort and harvest occurred in statistical area 646401 (Table 2). Area 646402 also saw a significant harvest level and effort. Prior to the 1993 commercial season, this area had remained closed to fishing for a number of years. On July 1, 1995 the closure line was relaxed to 64°20"N, allowing fishing in a portion of the previously closed area. The closed line was relaxed to allow an efficient harvest of crab. During the 1994 summer commercial fishery, 44% of the harvest was from area 646402, and 43% of the pots pulled were from area 656402. In the 1993 summer commercial fishery 58% of the harvest and 55% of all pots pulled occurred in area 656402 (Brennan, 1993). In the 1992 summer commercial fishery, area 656401 accounted for 47% of all pot pulls and 73% of the total harvest (Brennan, 1992). In the 1990 summer commercial fishery area 666401 accounted for 88% of all pot pulls and 91% of the total harvest (Gebhard, 1990). Comparisons of the annual summer commercial harvest of crab by statistical area can be found in Appendix Table 1.

Fifteen percent of the harvest occurred just south of Golovin in stat areas 626401, 636401, and 636402 (Table 2). This area accounted for less than 5% of all pot lifts and only four vessel fished there. The CPUE in the waters offshore of Golovin were over three times greater than the average. Fishing in this area occurred only near the end of the season. Therefore a larger percent of the harvest may have occurred there if fishermen had moved to the area sooner.

The ADF&G observer was able to monitor pot lifts on three different occasions in 2 statistical areas. Legal male crab made up 72% of the observed catch in area 656402, and 55% of the observed catch in area 646402 (Table 11).

Based on fish ticket data, statistical area 626401 had the greatest CPUE of 23.2 crab/pot (Table 2). Overall CPUE for the 1995 season was 5.6 crab/pot. Appendix Tables 2 and 3 equate previous commercial crab harvest, effort, CPUE and value to the 1995 season. During the 1995 fishery, there were approximately 1,900 pots on the fishing grounds. Therefore, the CPUE in years with a similar number of pots deployed on the grounds are compared to the overall CPUE in 1995: 9.3 crab/pot in 1994; 4.3 crab/pot in 1992; 19 crab/pot in 1990; 10 crab/pot in 1987; 11 crab/pot in 1985; and 14 crab/pot in 1984 (Appendix Tables 2 and 3).

Statistical areas 666330 and 636402 had the greatest average weight per crab of 3.46 pounds, according to fish ticket data (Table 2). Overall average weight for the 1995 season was 3.1 pounds. This compares to an average weight of 3.0 pounds in 1994 (Brennan, 1994), 2.9 pounds in the 1993 season (Brennan, 1993), 3.0 pounds in the 1992 season (Brennan, 1992), 3.9 pounds in 1990 (Gebhard, 1990), 3.1 pounds in 1989 (Gebhard and Lean, 1989), and 3.2 pounds in 1988 (Gebhard and Lean, 1988).

Legal Male King Crab

The sample size of 1,174 legal crab was an improvement over the number of legal crab sampled during the 1994 fishery, and similar to sample sizes from previous fisheries. The overall mean carapace length of sampled legal male king crab during the 1995 season was 118.2 mm (Table

3). Carapace size seems similar to data from previous years. Mean carapace length was 118.8 mm in 1994 (Brennan, 1994), 119.1 mm in 1993 (Brennan, 1993), 119.7 mm in 1992 (Brennan, 1992), 121.1 mm in 1990 (Gebhard, 1990), 119.8 mm in 1989 (Gebhard, 1989), and 119.0 mm in 1988 (Gebhard and Lean, 1988).

The 1995 season's legal male new shell/old shell ratio was 79% new shell to 21% old shell (Table 3). This is very different from the ratio of 29% new shell and 71% old shell in 1994 (Brennan, 1994). In 1993, the legal male new shell/old shell ratio was 90% new shell and 10% old shell (Brennan, 1993). In 1992 legal male new shell/old shell ratio was 71% new shell and 29% old shell (Brennan, 1992). Legal male new shell/old shell ratio in 1990 was 83% new shell and 17% old shell (Gebhard, 1990). In 1989 this ratio was 71% new shell and 29% old shell (Gebhard, 1989). In 1988 the ratio was 74% new shell and 26% old shell.

Recruit king crab made up 36% of the harvested stock sampled during the 1995 commercial season (Table 3). Total post recruits made up 64% of the harvested stock sampled. The 1995 commercial crab fishery showed a great improvement in recruitment compared to the 1994 season (Appendix Table 4) and the highest recruitment since the 1986 summer fishery.

Legal male crab composed 60% of the catch from observed pot lifts during the 1995 season (Table 11). This compares to 70% in 1992, 78% in 1990, 68% in 1989, and 81% in 1988 (Appendix Table 6). Overall catch observed legal crab during the 1995 fishery was 2.5 crab/pot. This compares to 7.7 crab/pot in 1994, 1.9 in 1992, 13.6 in 1990, 13.7 in 1989, and 35.4 in 1988.

Sublegal (prerecruit) Male King Crab

The sample size for sublegal male king crab was 117 crab and represents a much lower sample size from previous years. The overall mean length of the sampled sublegal male king crab was 83.0 mm (Table 4). This is lower than the trend in mean lengths from previous years: 88.5 mm in 1994 (Brennan, 1994); 87.4 mm in 1992 (Brennan, 1992); 87.1 mm in 1990 (Gebhard, 1990); 88.4 mm in 1989 (Gebhard, 1989); and 96.7 mm in 1988 (Gebhard and Lean, 1988). The mean length for the 1993 commercial fishery was 97.3 mm, but the sample size was only 29 crab, therefore no comparison to previous commercial seasons was made.

New shell crab made up 97% of the total sublegal sample (Table 4). This is a change from the 1994 fishery when only 41% of sublegal crab had new shells. Past data indicated 91% new shell crab in 1992 (Brennan, 1992), 88% in 1990 (Gebhard, 1990), 75% in 1989 (Gebhard, 1989), and 82% in 1988 (Gebhard and Lean, 1988).

Sublegal male crab composed 29% of the catch from observed pot lifts (Table 11). In 1994, sublegal crab made up 34% of the observed catch, 23% in 1992, 21% in 1990, 15% in 1989, and 17% in 1988 (Appendix Table 6). Overall catch of sublegal male crab during observed pot lifts was 1.2 sublegal crab/pot. This compares to 4.3 sublegal crab/pot observed in 1994, 0.6 in 1992, 3.7 in 1990, 3.1 in 1989, and 7.4 in 1988.

Female King Crab

The sample size for female king crab was 42. The overall mean carapace length was 83.1 mm for mature female crab (Table 5). This is similar to mean lengths in previous years for mature female crab. Mean carapace length for adult female crab was 82.0 mm in 1994, 93.5 mm in 1992, 81.2 mm in 1990, 80.1 mm in 1989, and 82.5 mm in 1988. No female king crab were sampled in 1993.

Ninety percent of the mature female crab that were sampled were considered to have a high degree of ovigerity (> 60% full clutch). This is compared to past years; 98% in 1994, 73% in 1992, 75% in 1990, 78% in 1989, and 89% in 1989.

Female crab composed 10% of the catch from observed pot lifts (Table 11). This compares to 5.2% in 1994, 7% in 1993, 1% in 1990, 16% in 1989, and 1% in 1988 (Appendix Table 6). Overall catch of female crab during observed pot lifts was 0.4 female crab/pot. Observed female crab per pot lift was 0.7 crab/pot in 1994, 0.2 crab/pot in 1992 and 1990, 3.2 in 1989, and 0.6 in 1988.

COMMENTS ON SAMPLING EFFORTS

There has been a change in the character of the summer commercial fishery since 1993 due to regulation changes affecting pot limits, opening dates and a regulation making Norton Sound a superexclusive registration area. The quality and quantity of data collected since the 1993 summer crab fishery has differed greatly from previous years due to the nature of the small boat fishery. No floating processor or catcher processor took part in the 1995 fishery, therefore no independent observers were onboard commercial vessels. The catcher fleet was made up of small vessels measuring 40 foot or less. There was one vessel in the 80 foot range. Two shore-based processors operated in Nome throughout the duration of the fishery and some fishermen acted as catcher sellers. This was the second time in the history of the fishery that most of the king crab harvest was processed in Nome. All this contributed to some problems in the sampling effort.

One ADF&G observer was placed on board small catcher vessels only 3 times during the 1995 fishery to collect information on observed pot lifts, sublegal male and female length frequencies, and catch rates of legal and sublegal crab. Some sample sizes were still far less than previous years due to logistics, time of deliveries, and the fact that there was only one port sampler for 53 boats. This observer was also responsible for sampling the legal catch of vessels delivering to buying stations in Nome. The amount of commercial sampling done was improved from the 1994 fishery. Commercial sampling is important in ensuring size limits are being enforced, and to assist management biologists in determining recruitment and health of the crab population.

ENFORCEMENT

The Fish and Wildlife Protection officer was able to patrol using a chartered vessel 3 times throughout the fishery. Fishermen and buyers were cited for violations including possession of undersize crab (3), fishing in closed waters (5), improperly marked gear (3), and failure to report (2).

SUMMARY

The 1995 summer commercial king crab fishery harvested 322,676 pounds of crab. The allowable quota was 340,000 pounds of crab. This season's greatest fishing effort was concentrated in statistical areas 646401 and 646402. In past years area 646402 was usually closed when the season opened August 1. The closure line was relaxed during the 1995 fishery to increase efficiency of the crab harvest, with the thought that the summer migration had not progressed as far by July 1. This had been the case for the 1993 and 1994 summer commercial fisheries. The 1995 commercial season got off to a much slower start than the 1994 fishery. In 1994, the fishery was closed on July 31 when the quota was anticipated to be caught. This year, just over half of the quota was harvested by July 31. An effort to harvest crab in the vicinity of their villages was made by eastern Norton Sound residents. However, relatively few reports were made due to small catches.

A total of 105,967 crab were harvested and 18,782 pots were pulled. The overall CPUE for the season was 5.6 crab/pot. The catch rate improved slowly throughout the duration of the fishery as less productive boats left the fishing grounds and fishermen located large schools of harvestable crab. During the later part of the fishery, a large concentration of crab was found south of the Golovin area and 30 to 40 miles offshore of Nome. This is reflected in the large CPUE values seen in the harvest from these stat areas.

Overall average weight was 3.05 pounds. The overall mean carapace length of sampled legal male crab during the 1995 season was 118.2 mm. The legal male new shell/old shell ratio was 79% new shell to 21% old shell. Recruit king crab made up 36% of the harvested stock sampled and post recruits made up 67% of the harvested stock. This represents an increase in recruitment from the past 7 summer commercial seasons. The problem with recruitment and old shell crab noticed in the 1994 fishery was not evident.

During the 1995 fishery, 99 pot lifts were observed. The observed harvest was composed of 61% legal male crab, 29% sublegal male crab and 10% female crab. This represents a decrease of legal male composition and an increase in sublegal male composition from previous years. In the 1995 fishery 41% of all pot pulls occurred in areas 636402, 646402, and 656402. These areas had been closed to commercial fishing between 1985 and 1992 and were thought to be areas where smaller male crab and female crab were distributed. The closure line has been relaxed during the 1993, 1994 and 1995 summer crab fishery to allow commercial fishing in a portion of previously closed areas. In 1993, 55% of the total number of pots pulled during the

fishery were pulled in area 656402. During the 1994 fishery, approximately 74% of all pots pulled during the season were in area 646402 and 656402. It is important to continue to monitor the ratio of legal to sublegal crab in future fisheries when the closure line is relaxed. Adjustments to the closure line can be made to minimize the handling of sublegal crab and the associated mortality.

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Table 1. Daily catch (using fish ticket data) for the commercial king crab harvest, Norton Sound Section, Eastern Bering Sea, July 1 - September 5, 1995.

Date	Permits	Landings	Number of Crab	Lbs of Crab Harvested	Cumulative Total (lbs)	No. of Pots Pulled	Average Weight	CPUE
1-Jul	0	0	0	0	0	0	0	0
2-Jul	2	2	93	266	266	20	2.86	4.7
3-Jul	12	14	1,258	3,622	3,888	451	2.88	2.8
4-Jul	23	28	3,429	10,031	13,919	717	2.93	4.8
5-Jul	20	21	2,262	6,674	20,593	590	2.95	3.2
6-Jul	23	24	2,565	7,808	28,401	688	3.04	3.7
7-Jul	13	14	1,323	3,813	32,214	403	2.88	3.3
8-Jul	4	5	612	1,920	34,134	146	3.14	4.2
9-Jul	20	24	3,810	11,677	45,811	719	3.06	5.3
10-Jul	14	14	1,859	5,635	51,446	359	3.03	5.2
11-Jul	12	15	2,434	7,166	58,612	403	2.94	6.0
12-Jul	19	21	3,347	10,143	68,755	630	3.03	5.3
13-Jul	20	21	3,840	11,862	80,617	676	3.09	5.7
14-Jul	25	27	4,354	13,185	93,302	791	3.03	5.5
15-Jul	12	12	2,149	6,639	100,441	369	3.09	5.8
16-Jul	8	10	1,901	5,657	106,098	271	2.98	7.0
17-Jul	34	37	7,585	21,943	128,041	1,159	2.89	6.5
18-Jul	8	8	1,161	3,511	131,552	236	3.02	4.9
19-Jul	6	6	613	1,831	133,383	132	2.99	4.6
20-Jul	27	28	5,242	17,334	150,717	965	3.31	5.4
21-Jul	13	13	1,773	5,509	156,226	420	3.11	4.2
22-Jul	9	12	1,015	2,964	159,190	260	2.92	3.9
23-Jul	5	6	420	1,188	160,378	135	2.83	3.1
24-Jul	19	21	3,484	10,552	170,930	518	3.03	6.7
25-Jul	8	8	704	2,203	173,133	237	3.13	3.0
26-Jul	20	21	2,001	5,889	179,022	587	2.94	3.4
27-Jul	10	12	775	2,351	181,373	217	3.03	3.6
28-Jul	18	20	2,356	7,210	188,583	637	3.06	3.7
29-Jul	15	15	1,418	4,414	192,997	499	3.11	2.8
30-Jul	8	3	1,349	4,272	197,269	161	3.17	8.4
31-Jul	17	17	2,212	6,793	204,062	582	3.07	3.8
1-Aug	10	10	2,260	6,799	210,861	289	3.01	7.8
2-Aug	6	6	758	2,444	213,305	106	3.22	7.2
3-Aug	8	8	1,195	3,660	216,965	260	3.06	4.6
4-Aug	4	4	2,588	7,897	224,862	160	3.05	16.2
5-Aug	3	3	401	1,290	226,152	104	3.22	3.9
6-Aug	5	6	402	1,183	227,335	141	2.94	2.9
7-Aug	6	6	2,783	8,284	235,619	243	2.98	11.5
8-Aug	10	13	1,158	3,646	239,265	444	3.15	2.6
9-Aug	8	8	1,674	5,322	244,587	292	3.18	5.7
10-Aug	5	6	662	2,003	246,590	125	3.03	5.3
11-Aug	3	4	1,006	3,277	249,867	90	3.26	11.2
12-Aug	3	3	228	713	250,580	40	3.13	5.7
13-Aug	2	2	86	258	250,838	57	3.00	1.5
14-Aug	9	12	1,632	5,207	256,045	248	3.19	6.6
15-Aug	3	5	600	1,869	257,914	90	3.12	6.7
16-Aug	9	11	2,112	6,697	264,611	268	3.17	7.9
17-Aug	5	5	1,067	3,645	268,256	179	3.42	6.0
18-Aug	1	1	30	90	268,346	20	3.00	1.5
19-Aug	3	3	818	2,456	270,802	98	3.00	8.3
20-Aug	6	7	1,923	6,204	277,006	171	3.23	11.2
21-Aug	4	4	328	996	278,002	73	3.04	4.5
22-Aug	4	5	982	3,064	281,066	120	3.12	8.2
23-Aug	9	11	2,218	6,464	287,530	232	2.91	9.6
24-Aug	5	6	1,952	6,349	293,879	122	3.25	16.0
25-Aug	2	2	135	365	294,264	57	2.85	2.4
26-Aug	4	4	349	1,118	295,382	118	3.20	3.0
27-Aug	3	3	2,070	5,815	301,200	81	2.81	29.6
28-Aug	5	6	775	2,389	303,597	126	3.08	6.2
29-Aug	3	3	2,144	5,922	309,519	64	2.76	33.5
30-Aug	2	2	181	628	310,147	49	3.47	3.7
31-Aug	0	0	0	0	310,147	0		
1-Sep	3	3	435	1,435	311,582	83	3.30	5.2
2-Sep	2	2	578	1,950	313,532	63	3.37	9.2
3-Sep	1	1	94	315	313,847	5	3.35	19.3
4-Sep	4	4	682	2,072	315,919	91	3.04	7.5
5-Sep	3	4	2,317	6,757	322,676	95	2.92	24.4
Totals:	81	665	105,957	322,676		18,782	3.05	5.6

Table 2. Red king crab summer commercial catch total (from fish ticket reports) by statistical area for Norton Sound Section, Eastern Bering Sea, July 1 - September 5, 1995.

Statistical Area	Number	Pounds	Pots Pulled	CPUE	Average Weight (Lbs.)	Percent of Pots Pulled in Stat. Area (%)	Percent Harvest in Stat. Area (%)
616401	11	35	43	0.3	3.18	0.2	0.0
626401	6,593	18,971	284	23.2	2.88	1.5	5.9
636401	8,060	24,329	454	17.8	3.02	2.4	7.5
636402	995	3,466	57	17.5	3.48	0.3	1.1
646301	1,542	4,628	80	19.3	3.00	0.4	1.4
646330	441	1,493	100	4.4	3.39	0.5	0.5
646401	34,798	105,045	7,164	4.9	3.02	38.1	32.6
646402	22,157	66,821	4,562	4.9	3.02	24.3	20.7
656330	6,012	19,745	545	11.0	3.28	2.9	6.1
656401	10,312	32,289	2,294	4.5	3.13	12.2	10.0
656402	14,488	44,000	3,119	4.6	3.04	16.6	13.6
666330	210	730	40	5.3	3.48	0.2	0.2
666431	348	1,124	40	8.7	3.23	0.2	0.3
Total:	105,967	322,676	18,782	5.6	3.05		

Table 3. Carapace length measurement summary of sampled legal male red king crab captured during the commercial king crab harvest, Norton Sound Section, Eastern Bering Sea, July 1 - September 5, 1995.

Carapace Length (mm)	New shell			Old shell			Total		
	No.	Ave Length Calc.	%	No.	Ave Length Calc.	%	No.	Ave Length Calc.	%
95		0.00	0.0%		0.00	0.0%	0	0.00	0.0%
96		0.00	0.0%		0.00	0.0%	0	0.00	0.0%
97		0.00	0.0%		0.00	0.0%	0	0.00	0.0%
98		0.00	0.0%		0.00	0.0%	0	0.00	0.0%
99	2	0.21	0.2%	1	0.41	0.4%	3	0.25	0.3%
100	1	0.11	0.1%		0.00	0.0%	1	0.09	0.1%
101	10	1.08	1.1%	3	1.25	1.2%	13	1.12	1.1%
102	14	1.53	1.5%	3	1.26	1.2%	17	1.48	1.4%
103	19	2.10	2.0%	2	0.85	0.8%	21	1.84	1.8%
104	12	1.34	1.3%	2	0.86	0.8%	14	1.24	1.2%
105	19	2.14	2.0%	5	2.16	2.1%	24	2.15	2.0%
106	28	3.19	3.0%	5	2.18	2.1%	33	2.98	2.8%
107	31	3.56	3.3%	6	2.64	2.5%	37	3.37	3.2%
108	21	2.44	2.3%	6	2.67	2.5%	27	2.48	2.3%
109	38	4.46	4.1%	6	2.69	2.5%	44	4.09	3.7%
110	43	5.08	4.8%	5	2.26	2.1%	48	4.50	4.1%
111	37	4.41	4.0%	7	3.20	2.9%	44	4.16	3.7%
112	49	5.89	5.3%	11	5.07	4.6%	60	5.72	5.1%
113	29	3.52	3.1%	4	1.86	1.6%	33	3.18	2.8%
114	32	3.92	3.4%	10	4.69	4.1%	42	4.08	3.6%
115	37	4.57	4.0%	6	2.84	2.5%	43	4.21	3.7%
116	40	4.98	4.3%	10	4.77	4.1%	50	4.94	4.3%
117	40	5.03	4.3%	7	3.37	2.9%	47	4.68	4.0%
118	26	3.17	2.7%	3	1.46	1.2%	28	2.81	2.4%
119	31	3.96	3.3%	9	4.41	3.7%	40	4.05	3.4%
120	41	5.28	4.4%	11	5.43	4.6%	52	5.32	4.4%
121	27	3.51	2.9%	11	5.48	4.5%	38	3.92	3.2%
122	37	4.86	4.0%	15	7.53	6.2%	52	5.40	4.4%
123	26	3.30	2.7%	5	2.63	2.1%	30	3.14	2.6%
124	28	3.73	3.0%	9	4.59	3.7%	37	3.91	3.2%
125	21	2.82	2.3%	7	3.60	2.9%	28	2.98	2.4%
126	23	3.11	2.5%	8	4.15	3.3%	31	3.33	2.6%
127	18	2.46	1.9%	13	5.75	4.6%	31	3.35	2.6%
128	15	2.06	1.6%	5	2.63	2.1%	20	2.18	1.7%
129	14	1.94	1.5%	9	4.78	3.7%	23	2.63	2.0%
130	17	2.37	1.8%	8	4.28	3.3%	25	2.77	2.1%
131	14	1.97	1.5%	6	3.23	2.5%	20	2.23	1.7%
132	15	2.13	1.6%	4	2.17	1.6%	19	2.14	1.6%
133	11	1.57	1.2%	6	3.28	2.5%	17	1.93	1.4%
134	10	1.44	1.1%	3	1.66	1.2%	13	1.48	1.1%
135	12	1.74	1.3%	3	1.67	1.2%	15	1.72	1.3%
138	4	0.58	0.4%	4	2.24	1.6%	8	0.93	0.7%
137	5	0.74	0.5%		0.00	0.0%	5	0.58	0.4%
138	8	1.19	0.9%	1	0.57	0.4%	9	1.06	0.8%
139	7	1.05	0.8%	1	0.57	0.4%	8	0.95	0.7%
140	7	1.05	0.8%		0.00	0.0%	7	0.83	0.6%
141	7	1.06	0.8%		0.00	0.0%	7	0.84	0.6%
142	2	0.31	0.2%	2	1.17	0.8%	4	0.48	0.3%
143	1	0.15	0.1%		0.00	0.0%	1	0.12	0.1%
144	1	0.15	0.1%		0.00	0.0%	1	0.12	0.1%
145	2	0.31	0.2%		0.00	0.0%	2	0.25	0.2%
146		0.00	0.0%	1	0.80	0.4%	1	0.12	0.1%
147		0.00	0.0%		0.00	0.0%	0	0.00	0.0%
148		0.00	0.0%		0.00	0.0%	0	0.00	0.0%
149		0.00	0.0%		0.00	0.0%	0	0.00	0.0%
150	1	0.16	0.1%		0.00	0.0%	1	0.13	0.1%
151		0.00	0.0%		0.00	0.0%	0	0.00	0.0%
152		0.00	0.0%		0.00	0.0%	0	0.00	0.0%
153		0.00	0.0%		0.00	0.0%	0	0.00	0.0%
154		0.00	0.0%		0.00	0.0%	0	0.00	0.0%
155		0.00	0.0%		0.00	0.0%	0	0.00	0.0%
Total No.	931		79.3%	243		20.7%	1,174		100.0%
Mean		117.7			119.8			118.2	
Total legal			1,174						
Total Recruits			422						
Percent			35.9%						
Total Post Recruits			752						
Percent			64.1%						

Table 4. Carapace length measurement summary of sampled sublegal male red king crab captured during the commercial king crab harvest, Norton Sound Section, Eastern Bering Sea, July 1 - September 5, 1995.

Carapace Length (mm)	New Shell		Old Shell		Total				
	No.	Ave Length Calc	%	No.	Ave Length Calc	%			
50		0.00	0.0%		0.00	0.0%			
51	1	0.45	0.9%		0.00	0.0%			
52		0.00	0.0%		0.00	0.0%			
53		0.00	0.0%		0.00	0.0%			
54		0.00	0.0%		0.00	0.0%			
55		0.00	0.0%		0.00	0.0%			
56		0.00	0.0%		0.00	0.0%			
57		0.00	0.0%		0.00	0.0%			
58	1	0.51	0.9%		0.50	0.9%			
59	3	1.57	2.7%		1.51	2.6%			
60	2	1.06	1.8%		1.03	1.7%			
61		0.00	0.0%		0.00	0.0%			
62	1	0.55	0.9%		0.53	0.9%			
63	1	0.56	0.9%		0.54	0.9%			
64	1	0.57	0.9%		0.55	0.9%			
65		0.00	0.0%		0.00	0.0%			
66		0.00	0.0%		0.00	0.0%			
67		0.00	0.0%		0.00	0.0%			
68	2	1.20	1.8%		1.16	1.7%			
69	6	3.66	5.3%		3.54	5.1%			
70		0.00	0.0%		0.00	0.0%			
71	1	0.63	0.9%		0.61	0.9%			
72	5	3.19	4.4%		3.08	4.3%			
73	2	1.29	1.8%		1.25	1.7%			
74	6	3.93	5.3%		3.79	5.1%			
75	3	1.99	2.7%		1.92	2.6%			
76	3	2.02	2.7%		1.95	2.6%			
77		0.00	0.0%		0.00	0.0%			
78	1	0.69	0.9%		0.67	0.9%			
79	4	2.80	3.5%		2.70	3.4%			
80	7	4.96	6.2%		4.79	6.0%			
81	4	2.87	3.5%		2.77	3.4%			
82	4	2.90	3.5%		3.50	4.3%			
83	2	1.47	1.8%		1.42	1.7%			
84	1	0.74	0.9%		0.72	0.9%			
85	3	2.26	2.7%		2.18	2.6%			
86	3	2.28	2.7%		2.21	2.6%			
87	4	3.08	3.5%		2.97	3.4%			
88	2	1.56	1.8%		1.50	1.7%			
89	3	2.36	2.7%		2.28	2.6%			
90	5	3.98	4.4%		3.85	4.3%			
91		0.00	0.0%		0.00	0.0%			
92	5	4.07	4.4%		3.93	4.3%			
93	2	1.65	1.8%	1	23.25	0.3%			
94	3	2.50	2.7%	1	23.50	0.3%			
95	5	4.20	4.4%	1	23.75	0.3%			
96		0.00	0.0%		0.00	0.0%			
97	2	1.72	1.8%		1.66	1.7%			
98	3	2.60	2.7%		2.51	2.6%			
99	4	3.50	3.5%		3.38	3.4%			
100	1	0.88	0.9%		0.85	0.9%			
101	1	0.89	0.9%		0.86	0.9%			
102	1	0.90	0.9%		0.87	0.9%			
103		0.00	0.0%		0.00	0.0%			
104		0.00	0.0%		0.00	0.0%			
105	4	3.72	3.5%		3.59	3.4%			
106	1	0.94	0.9%		0.91	0.9%			
107		0.00	0.0%		0.00	0.0%			
108		0.00	0.0%		0.00	0.0%			
109		0.00	0.0%		0.00	0.0%			
110		0.00	0.0%		0.00	0.0%			
111		0.00	0.0%		0.00	0.0%			
112		0.00	0.0%		0.00	0.0%			
113		0.00	0.0%		0.00	0.0%			
114		0.00	0.0%		0.00	0.0%			
115		0.00	0.0%		0.00	0.0%			
sum	113		96.6%	4		3.4%	117		100.0%
Mean		82.7			91.0			83.0	
Total sublegals		117							

Table 5. Carapace length measurement and percent ovigerity summary of sampled female red king crab captured during the commercial king crab harvest, Norton Sound Section, Eastern Bering Sea, July 1 - September 5, 1995.

JUVENILE		ADULT SIZE PER % OVIGERITY						ADULT SIZE PER % OVIGERITY							
mm	no.	mm	Full	Hi	Med	Low	0	Sum	mm	Full	Hi	Med	Low	0	Sum
50		60						0	91		1				1
51		61						0	92						0
52		62						0	93						0
53		63						0	94						0
54		64						0	95						0
55		65						0	96						0
56		66						0	97						0
57		67						0	98						0
58		68						0	99	2					2
59		69	1					1	100						0
60		70						0	101	1					1
61		71						0	102						0
62		72		1		1		2	103			1			1
63		73						0	104						0
64		74	3					3	105						0
65		75		2	1			3	106						0
66		76	1					1	107						0
67		77		1				1	108						0
68	1	78						0	109			1			1
69		79		2				2	110						0
70		80	2	1				3	111						0
71		81	1	1				2	112						0
72		82	4	2				6	113						0
73		83	1	1				2	114						0
74		84	1					1	115						0
75		85	3	1				4	116						0
76		86	2					2	117						0
77		87						0	118						0
78		88						0	119						0
79		89						0	120						0
83		90	2					2	127						0
									128						0
	1		21	12	1	1	0	35		3	1	2	0	0	6
			TOTAL ADULTS/OVIGERITY						--	24	13	3	1	0	41
			% ADULTS/OVIGERITY						--	58.5	31.7	7.3	2.4	0.0	
			Adult Mean Length =							83.1					
			Juvenile Mean Length =							68.0					

Full = 90-100%, Hi = 60-89%, Med = 30-59%, Lo = 1-29%

Table 8. Carapace length measurement summary of legal male red king crab captured during the 1995 Norton Sound summer king crab pot study, June 26 - June 28, 1995.

Carapace Length (mm)	New shell		Old shell			Total			
	No.	Ave Length Calc.	%	No.	Ave Length Calc.	%	No.	Ave Length Calc.	%
95		0.00	0.0%		0.00	0.0%	0	0.00	0.0%
96		0.00	0.0%		0.00	0.0%	0	0.00	0.0%
97		0.00	0.0%		0.00	0.0%	0	0.00	0.0%
98		0.00	0.0%		0.00	0.0%	0	0.00	0.0%
99		0.00	0.0%	1	0.60	0.6%	1	0.08	0.1%
100	2	0.20	0.2%		0.00	0.0%	2	0.17	0.2%
101	3	0.30	0.3%	1	0.62	0.6%	4	0.34	0.3%
102	6	0.60	0.6%		0.00	0.0%	6	0.52	0.5%
103	8	0.81	0.8%	1	0.63	0.6%	9	0.78	0.8%
104	14	1.43	1.4%	3	1.90	1.8%	17	1.49	1.4%
105	16	1.65	1.6%		0.00	0.0%	16	1.42	1.4%
106	17	1.78	1.7%	1	0.65	0.6%	18	1.61	1.5%
107	14	1.47	1.4%	2	1.30	1.2%	16	1.44	1.4%
108	30	3.17	2.9%	4	2.63	2.4%	34	3.10	2.9%
109	24	2.56	2.4%	3	1.99	1.8%	27	2.48	2.3%
110	36	3.98	3.5%	4	2.68	2.4%	40	3.71	3.4%
111	27	2.94	2.6%	4	2.71	2.4%	31	2.90	2.6%
112	59	6.47	5.8%	6	4.10	3.7%	65	6.14	5.5%
113	25	2.77	2.4%	3	2.07	1.8%	28	2.67	2.4%
114	49	5.47	4.8%	3	2.09	1.8%	52	5.00	4.4%
115	52	5.67	5.1%	7	4.91	4.3%	59	5.73	5.0%
116	38	4.69	3.5%	7	4.95	4.3%	43	4.21	3.6%
117	28	3.21	2.7%	6	4.28	3.7%	34	3.36	2.9%
118	57	6.59	5.6%	10	7.20	6.1%	67	6.67	5.7%
119	27	3.15	2.6%	3	2.18	1.8%	30	3.01	2.5%
120	44	5.17	4.3%	10	7.32	6.1%	54	5.47	4.6%
121	52	6.16	5.1%	4	2.95	2.4%	56	5.72	4.7%
122	46	5.50	4.5%	7	5.21	4.3%	53	5.46	4.5%
123	23	2.77	2.3%	9	6.75	5.5%	32	3.32	2.7%
124	25	3.04	2.4%	2	1.51	1.2%	27	2.83	2.3%
125	49	6.00	4.8%	5	3.81	3.0%	54	5.70	4.6%
126	25	3.09	2.4%	3	2.30	1.8%	28	2.98	2.4%
127	33	4.10	3.2%	5	3.87	3.0%	38	4.07	3.2%
128	17	2.13	1.7%	7	5.46	4.3%	24	2.59	2.0%
129	10	1.26	1.0%	3	2.36	1.8%	13	1.42	1.1%
130	28	3.57	2.7%	3	2.38	1.8%	31	3.40	2.6%
131	20	2.57	2.0%	3	2.40	1.8%	23	2.54	1.9%
132	22	2.51	2.2%	3	2.41	1.8%	25	2.78	2.1%
133	11	1.43	1.1%	2	1.62	1.2%	13	1.46	1.1%
134	9	1.18	0.9%	6	4.90	3.7%	15	1.70	1.3%
135	7	0.93	0.7%	5	4.12	3.0%	12	1.37	1.0%
136	10	1.33	1.0%	4	3.32	2.4%	14	1.61	1.2%
137	10	1.34	1.0%	1	0.84	0.6%	11	1.27	0.9%
138	11	1.49	1.1%	3	2.52	1.8%	14	1.63	1.2%
139	3	0.41	0.3%		0.00	0.0%	3	0.35	0.3%
140	7	0.96	0.7%	4	3.41	2.4%	11	1.30	0.9%
141	6	0.83	0.6%		0.00	0.0%	6	0.71	0.5%
142	4	0.58	0.4%		0.00	0.0%	4	0.48	0.3%
143	1	0.14	0.1%	1	0.87	0.6%	2	0.24	0.2%
144	1	0.14	0.1%		0.00	0.0%	1	0.12	0.1%
145	2	0.28	0.2%	1	0.88	0.6%	3	0.37	0.3%
146	3	0.43	0.3%		0.00	0.0%	3	0.37	0.3%
147	3	0.43	0.3%		0.00	0.0%	3	0.37	0.3%
148	2	0.29	0.2%	1	0.90	0.6%	3	0.37	0.3%
149	1	0.15	0.1%		0.00	0.0%	1	0.13	0.1%
150	2	0.29	0.2%	2	1.83	1.2%	4	0.51	0.3%
151		0.00	0.0%		0.00	0.0%	0	0.00	0.0%
152	1	0.15	0.1%		0.00	0.0%	1	0.13	0.1%
153	1	0.15	0.1%		0.00	0.0%	1	0.13	0.1%
154		0.00	0.0%	1	0.94	0.6%	1	0.13	0.1%
155	1	0.15	0.1%		0.00	0.0%	1	0.13	0.1%
156		0.00	0.0%		0.00	0.0%	0	0.00	0.0%
157		0.00	0.0%		0.00	0.0%	0	0.00	0.0%
158		0.00	0.0%		0.00	0.0%	0	0.00	0.0%
159		0.00	0.0%		0.00	0.0%	0	0.00	0.0%
160	1	0.16	0.1%		0.00	0.0%	1	0.14	0.1%
161		0.00	0.0%		0.00	0.0%	0	0.00	0.0%
162		0.00	0.0%		0.00	0.0%	0	0.00	0.0%
163		0.00	0.0%		0.00	0.0%	0	0.00	0.0%
164		0.00	0.0%		0.00	0.0%	0	0.00	0.0%
165		0.00	0.0%		0.00	0.0%	0	0.00	0.0%
Total No.	1021		86.2%	164		13.3%	1185		100.0%
Mean		119.8			122.4			120.1	
Total legal									1185
Total Recruits									382
Percent									32.2%
Total Post Recruits									303
Percent									67.5%

Table 7. Carapace length measurement summary of sublegal male red king crab captured during the Norton Sound summer king crab pot study, June 26 - June 28, 1995.

Carapace Length (mm)	New Shell			Old Shell			Total		
	No.	Ave Length Calc	%	No.	Ave Length Calc	%	No.	Ave Length Calc	%
55	1	0.08	0.1%		0.00	0.0%	1	0.08	0.1%
56	4	0.32	0.6%		0.00	0.0%	4	0.31	0.6%
57	2	0.16	0.3%		0.00	0.0%	2	0.16	0.3%
58		0.00	0.0%		0.00	0.0%	0	0.00	0.0%
59	2	0.17	0.3%		0.00	0.0%	2	0.16	0.3%
60	2	0.17	0.3%		0.00	0.0%	2	0.17	0.3%
61	1	0.09	0.1%		0.00	0.0%	1	0.08	0.1%
62	7	0.62	1.0%	2	5.64	9.1%	9	0.77	1.2%
63	4	0.36	0.6%		0.00	0.0%	4	0.35	0.6%
64	4	0.37	0.6%		0.00	0.0%	4	0.35	0.6%
65	5	0.46	0.7%		0.00	0.0%	5	0.45	0.7%
66	5	0.47	0.7%		0.00	0.0%	5	0.46	0.7%
67	9	0.86	1.3%	1	3.05	4.5%	10	0.93	1.4%
68	3	0.29	0.4%		0.00	0.0%	3	0.28	0.4%
69	13	1.28	1.9%	1	3.14	4.5%	14	1.34	1.9%
70	11	1.10	1.6%		0.00	0.0%	11	1.07	1.5%
71	17	1.72	2.4%		0.00	0.0%	17	1.67	2.4%
72	23	2.37	3.3%		0.00	0.0%	23	2.29	3.2%
73	7	0.73	1.0%		0.00	0.0%	7	0.71	1.0%
74	19	2.01	2.7%	1	3.36	4.5%	20	2.05	2.8%
75	18	1.93	2.6%	1	3.41	4.5%	19	1.97	2.6%
76	14	1.52	2.0%	1	3.45	4.5%	15	1.58	2.1%
77	11	1.21	1.6%		0.00	0.0%	11	1.17	1.5%
78	16	1.78	2.3%		0.00	0.0%	16	1.73	2.2%
79	16	1.81	2.3%		0.00	0.0%	16	1.75	2.2%
80	20	2.29	2.9%		0.00	0.0%	20	2.22	2.8%
81	18	2.08	2.6%		0.00	0.0%	18	2.02	2.5%
82	24	2.81	3.4%		0.00	0.0%	24	2.73	3.3%
83	16	1.90	2.3%	1	3.77	4.5%	17	1.95	2.4%
84	20	2.40	2.9%		0.00	0.0%	20	2.33	2.8%
85	27	3.28	3.9%	2	7.73	9.1%	29	3.41	4.0%
86	9	1.11	1.3%		0.00	0.0%	9	1.07	1.2%
87	16	1.99	2.3%		0.00	0.0%	16	1.93	2.2%
88	13	1.63	1.9%		0.00	0.0%	13	1.58	1.8%
89	12	1.53	1.7%		0.00	0.0%	12	1.48	1.7%
90	25	3.21	3.6%	2	8.18	9.1%	27	3.37	3.7%
91	29	3.77	4.1%	1	4.14	4.5%	30	3.78	4.2%
92	13	1.71	1.9%		0.00	0.0%	13	1.66	1.8%
93	12	1.59	1.7%		0.00	0.0%	12	1.55	1.7%
94	12	1.61	1.7%	1	4.27	4.5%	13	1.69	1.8%
95	14	1.90	2.0%	1	4.32	4.5%	15	1.97	2.1%
96	12	1.65	1.7%	1	4.36	4.5%	13	1.73	1.8%
97	18	2.49	2.6%	2	8.82	9.1%	20	2.69	2.8%
98	13	1.82	1.9%		0.00	0.0%	13	1.76	1.8%
99	26	3.58	3.7%	1	4.50	4.5%	27	3.70	3.7%
100	23	3.29	3.3%	2	9.09	9.1%	25	3.46	3.5%
101	13	1.88	1.9%		0.00	0.0%	13	1.82	1.8%
102	22	3.21	3.1%		0.00	0.0%	22	3.11	3.0%
103	20	2.94	2.9%		0.00	0.0%	20	2.85	2.8%
104	14	2.08	2.0%	1	4.73	4.5%	15	2.16	2.1%
105	12	1.80	1.7%		0.00	0.0%	12	1.75	1.7%
106	6	0.91	0.9%		0.00	0.0%	6	0.88	0.8%
107	3	0.46	0.4%		0.00	0.0%	3	0.44	0.4%
108	11	1.70	1.6%		0.00	0.0%	11	1.65	1.5%
109	3	0.47	0.4%		0.00	0.0%	3	0.45	0.4%
110	10	1.57	1.4%		0.00	0.0%	10	1.52	1.4%
111		0.00	0.0%		0.00	0.0%	0	0.00	0.0%
112		0.00	0.0%		0.00	0.0%	0	0.00	0.0%
113		0.00	0.0%		0.00	0.0%	0	0.00	0.0%
sum	700		97.0%	22		3.0%	722		100.0%
Mean		86.6			86.0			86.6	
Total sublegals		722							

Table 8. Carapace length measurement and percent ovigerity summary of sampled female red king crab captured during the Norton Sound summer king crab pot study, June 26 - June 28, 1995.

JUVENILE		ADULT SIZE PER % OVIGERITY							ADULT SIZE PER % OVIGERITY																							
mm	no.	mm	Full	Hi	Med	Low	0	Sum	mm	Full	Hi	Med	Low	0	Sum																	
47	1																															
48																																
49																																
50		60						0	91						0																	
51		61						0	92	1					1																	
52		62						0	93						0																	
53	1	63						0	94		1				1																	
54		64						0	95						0																	
55		65						0	96		1				1																	
56		66						0	97						0																	
57		67		1				1	98						0																	
58	1	68						0	99						0																	
59		69		1				1	100						0																	
60	2	70						0	101						0																	
61	1	71		1				1	102						0																	
62		72						0	103						0																	
63		73						0	104						0																	
64	1	74						0	105						0																	
65	1	75		1				1	106						0																	
66		76		1				1	107						0																	
67		77		1				1	108						0																	
68		78	1					1	109						0																	
69		79	1					1	110						0																	
70	2	80	1					1	111						0																	
71	1	81						0	112						0																	
72		82		1				1	113						0																	
73		83		1				1	114						0																	
74		84						0	115						0																	
75		85						0	116						0																	
76		86						0	117						0																	
77		87						0	118						0																	
78		88						0	119						0																	
79		89						0	120						0																	
83		90						0	127						0																	
									128						0																	
	11		3		8		0		0		0		0		0	11		1		2		0		0		0		0		0		3
TOTAL ADULTS/OVIGERITY										4	10	0	0	0	0	14																
% ADULTS/OVIGERITY										28.6	71.4	0	0	0	0																	
Mean Adult Length = 79.9																																
Mean Juvenile Length = 61.7																																

Full = 90-100%, Hi = 60-89%, Med = 30-59%, Lo = 1-29%

Table 3. Length frequency distribution of male crab captured at all fishing stations during the Norton Sound summer king crab pot study, June 26 - 28, 1995.

CARAPACE LENGTH (mm)	PRE-RECRUIT (Sublegal)		RECRUIT		POST-RECRUIT		TOTALS	
	No.	%	No.	%	No.	%	No.	%
50		0.00%		0.00%		0.00%	0	0.00%
51		0.00%		0.00%		0.00%	0	0.00%
52		0.00%		0.00%		0.00%	0	0.00%
53		0.00%		0.00%		0.00%	0	0.00%
54		0.00%		0.00%		0.00%	0	0.00%
55	1	0.05%		0.00%		0.00%	1	0.05%
56	4	0.21%		0.00%		0.00%	4	0.21%
57	2	0.10%		0.00%		0.00%	2	0.10%
58		0.00%		0.00%		0.00%	0	0.00%
59	2	0.10%		0.00%		0.00%	2	0.10%
60	2	0.10%		0.00%		0.00%	2	0.10%
61	1	0.05%		0.00%		0.00%	1	0.05%
62	9	0.47%		0.00%		0.00%	9	0.47%
63	4	0.21%		0.00%		0.00%	4	0.21%
64	4	0.21%		0.00%		0.00%	4	0.21%
65	5	0.26%		0.00%		0.00%	5	0.26%
66	5	0.26%		0.00%		0.00%	5	0.26%
67	10	0.52%		0.00%		0.00%	10	0.52%
68	3	0.16%		0.00%		0.00%	3	0.16%
69	14	0.73%		0.00%		0.00%	14	0.73%
70	11	0.58%		0.00%		0.00%	11	0.58%
71	17	0.89%		0.00%		0.00%	17	0.89%
72	23	1.21%		0.00%		0.00%	23	1.21%
73	7	0.37%		0.00%		0.00%	7	0.37%
74	20	1.05%		0.00%		0.00%	20	1.05%
75	19	1.00%		0.00%		0.00%	19	1.00%
76	15	0.79%		0.00%		0.00%	15	0.79%
77	11	0.58%		0.00%		0.00%	11	0.58%
78	16	0.84%		0.00%		0.00%	16	0.84%
79	16	0.84%		0.00%		0.00%	16	0.84%
80	20	1.05%		0.00%		0.00%	20	1.05%
81	18	0.94%		0.00%		0.00%	18	0.94%
82	24	1.26%		0.00%		0.00%	24	1.26%
83	17	0.89%		0.00%		0.00%	17	0.89%
84	20	1.05%		0.00%		0.00%	20	1.05%
85	29	1.52%		0.00%		0.00%	29	1.52%
86	9	0.47%		0.00%		0.00%	9	0.47%
87	16	0.84%		0.00%		0.00%	16	0.84%
88	13	0.68%		0.00%		0.00%	13	0.68%
89	12	0.63%		0.00%		0.00%	12	0.63%
90	27	1.42%		0.00%		0.00%	27	1.42%
91	30	1.57%		0.00%		0.00%	30	1.57%
92	13	0.68%		0.00%		0.00%	13	0.68%
93	12	0.63%		0.00%		0.00%	12	0.63%
94	13	0.68%		0.00%		0.00%	13	0.68%
95	15	0.79%		0.00%		0.00%	15	0.79%
96	13	0.68%		0.00%		0.00%	13	0.68%
97	20	1.05%		0.00%		0.00%	20	1.05%
98	13	0.68%		0.00%		0.00%	13	0.68%
99	27	1.42%		0.00%		0.00%	27	1.42%
100	25	1.31%	2	0.10%		0.00%	27	1.42%
101	13	0.68%	3	0.16%	1	0.05%	17	0.89%
102	22	1.15%	6	0.31%		0.00%	28	1.47%
103	20	1.05%	8	0.42%	1	0.05%	29	1.52%
104	15	0.79%	14	0.73%	3	0.16%	32	1.66%
105	12	0.63%	16	0.84%		0.00%	28	1.47%
106	6	0.31%	17	0.89%	1	0.05%	24	1.26%
107	3	0.16%	14	0.73%	2	0.10%	19	1.00%
108	11	0.58%	30	1.57%	4	0.21%	45	2.36%
109	3	0.16%	24	1.26%	3	0.16%	30	1.57%
110	10	0.52%	35	1.89%	4	0.21%	50	2.62%
111		0.00%	27	1.42%	4	0.21%	31	1.63%
112		0.00%	59	3.09%	6	0.31%	65	3.41%
113		0.00%	25	1.31%	3	0.16%	28	1.47%
114		0.00%	49	2.57%	3	0.16%	52	2.73%
115		0.00%	52	2.73%	7	0.37%	59	3.09%
116		0.00%		0.00%	43	2.25%	43	2.25%
117		0.00%		0.00%	34	1.78%	34	1.78%
118		0.00%		0.00%	67	3.51%	67	3.51%
119		0.00%		0.00%	30	1.57%	30	1.57%
120		0.00%		0.00%	54	2.83%	54	2.83%
121		0.00%		0.00%	56	2.94%	56	2.94%
122		0.00%		0.00%	53	2.78%	53	2.78%
123		0.00%		0.00%	32	1.68%	32	1.68%
124		0.00%		0.00%	27	1.42%	27	1.42%
125		0.00%		0.00%	54	2.83%	54	2.83%
126		0.00%		0.00%	29	1.47%	29	1.47%
127		0.00%		0.00%	38	1.99%	38	1.99%
128		0.00%		0.00%	24	1.26%	24	1.26%
129		0.00%		0.00%	13	0.68%	13	0.68%
130		0.00%		0.00%	31	1.63%	31	1.63%
131		0.00%		0.00%	23	1.21%	23	1.21%
132		0.00%		0.00%	25	1.31%	25	1.31%
133		0.00%		0.00%	13	0.68%	13	0.68%
134		0.00%		0.00%	15	0.79%	15	0.79%
135		0.00%		0.00%	12	0.63%	12	0.63%
136		0.00%		0.00%	14	0.73%	14	0.73%
137		0.00%		0.00%	11	0.58%	11	0.58%
138		0.00%		0.00%	14	0.73%	14	0.73%
139		0.00%		0.00%	3	0.16%	3	0.16%
140		0.00%		0.00%	11	0.58%	11	0.58%
141		0.00%		0.00%	6	0.31%	6	0.31%
142		0.00%		0.00%	4	0.21%	4	0.21%
143		0.00%		0.00%	2	0.10%	2	0.10%
144		0.00%		0.00%	1	0.05%	1	0.05%
145		0.00%		0.00%	3	0.16%	3	0.16%
146		0.00%		0.00%	3	0.16%	3	0.16%
147		0.00%		0.00%	3	0.16%	3	0.16%
148		0.00%		0.00%	3	0.16%	3	0.16%
149		0.00%		0.00%	1	0.05%	1	0.05%
150		0.00%		0.00%	4	0.21%	4	0.21%
151		0.00%		0.00%	1	0.05%	0	0.00%
152		0.00%		0.00%	1	0.05%	1	0.05%
153		0.00%		0.00%	1	0.05%	1	0.05%
154		0.00%		0.00%	1	0.05%	1	0.05%
155		0.00%		0.00%	1	0.05%	1	0.05%
156		0.00%		0.00%	0	0.00%	0	0.00%
157		0.00%		0.00%	0	0.00%	0	0.00%
158		0.00%		0.00%	0	0.00%	0	0.00%
159		0.00%		0.00%	0	0.00%	0	0.00%
160		0.00%		0.00%	1	0.05%	1	0.05%
Total No.	722	37.96%	387	20.03%	803	42.11%	1907	100.00%

Table 10. Red king crab tag information recovered during the commercial king crab harvest, Norton Sound Section, Eastern Bering Sea, July 1 - September 5, 1995.

Tag Number	Capture Date	Stat. Area of Capture	Carapace Length (mm)	Shell Age	Tagging Date	Carapace Length (mm)	Growth (mm)	Molts ^c	Skip Molts	Mean Growth per Molt (mm)
NX02876	7/4/95	656402	110	New	3/6/95	106				
NX03124	7/6/95 ^a				3/27/95	123				
NX03056	7/9/95	656402	102	New	3/13/95	103				
NX02630	7/11/95	646401	121	New	4/8/91	91	30	2	2	15
NX03133	7/11/95	646401	116	New	3/14/95	116				
NX03497	7/9/95 ^a				3/27/95	111				
NX03062	7/9/95 ^a				3/13/95	120				
NX02861	7/13/95	646402	108	New	3/6/95	111				
NX02393	7/14/95 ^a				3/12/91	97				
NX03097	7/17/95	646402	112	New	3/13/95	112				
NX02831	7/17/95	646402	113	New	3/3/95	109				
NX03318	7/17/95	646402	115	New	4/5/95	107				
NX02819	7/17/95 ^a				3/3/95	106				
NX02812	7/18/95 ^a				3/3/95	112				
NX03118	7/18/96 ^a				3/27/95	119				
NX03006	7/19/95	646402	111	New	3/9/95	109				
NX03311	7/20/95	^b	110	New	4/3/95	112				
NX03131	7/24/95	656402	111	New	3/14/95	111				
NX03162	7/24/95	^b	105	New	3/14/95	105				
NX02918	7/31/95	646401	110	New	3/24/95	116				
NX02976	7/31/95	656402	^a	^a	3/7/95	117				
NX02977	8/2/95	656402	^a	^a	3/7/95	116				
NX02514	8/2/95	^b	^a	Old	4/2/91	102				

^a No information available.

^b Stat. area of capture not known.

^c Crab growth of 12 mm (+/- 5mm) per year is thought to be the average growth in one molting period.

Table 11. Observer crab catch summary: number of observed pot lifts, number of legal male, sublegal male, and female crab, and corresponding number of crab per observed pot lift, Norton Sound Section, Eastern Bering Sea, July 1 - September 5, 1995.

Stat. Area	# Pots Observed	Legal Male Crab			Sublegal Male Crab			Female Crab		
		Number	%	Crab per Pot	Number	%	Crab per Pot	Number	%	Crab per Pot
656402	60	93	72.1%	1.6	29	22.5%	0.5	7	5.4%	0.1
646402	39	151	55.1%	3.9	88	32.1%	2.3	35	12.8%	0.9
Total:	99	244		2.5	117		1.2	42		0.4
Percent of observed catch:			60.5%			29.0%			10.5%	
Total crab observed:		403								

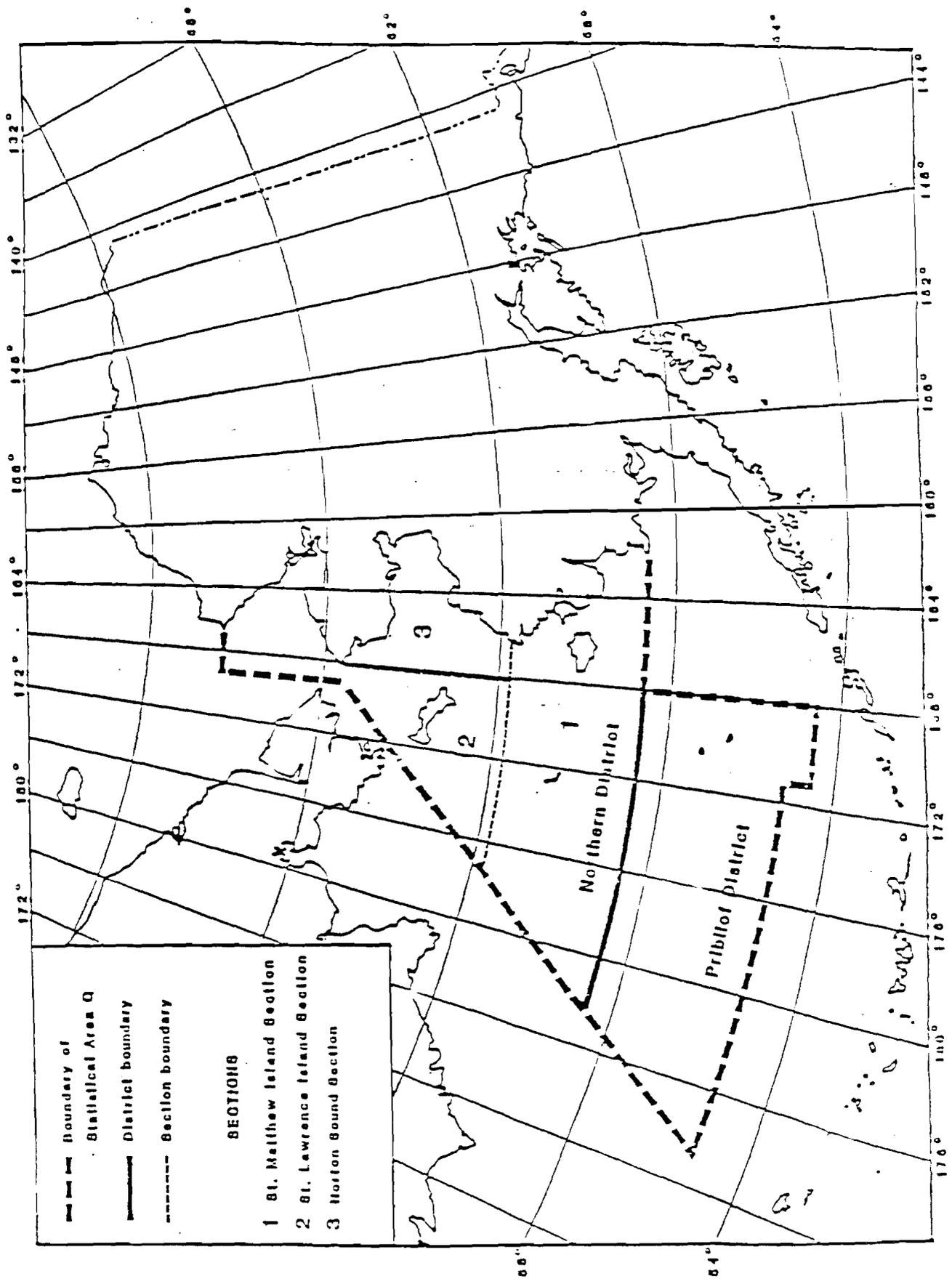


Figure 1. King crab fishing districts and sections of Statistical Area Q

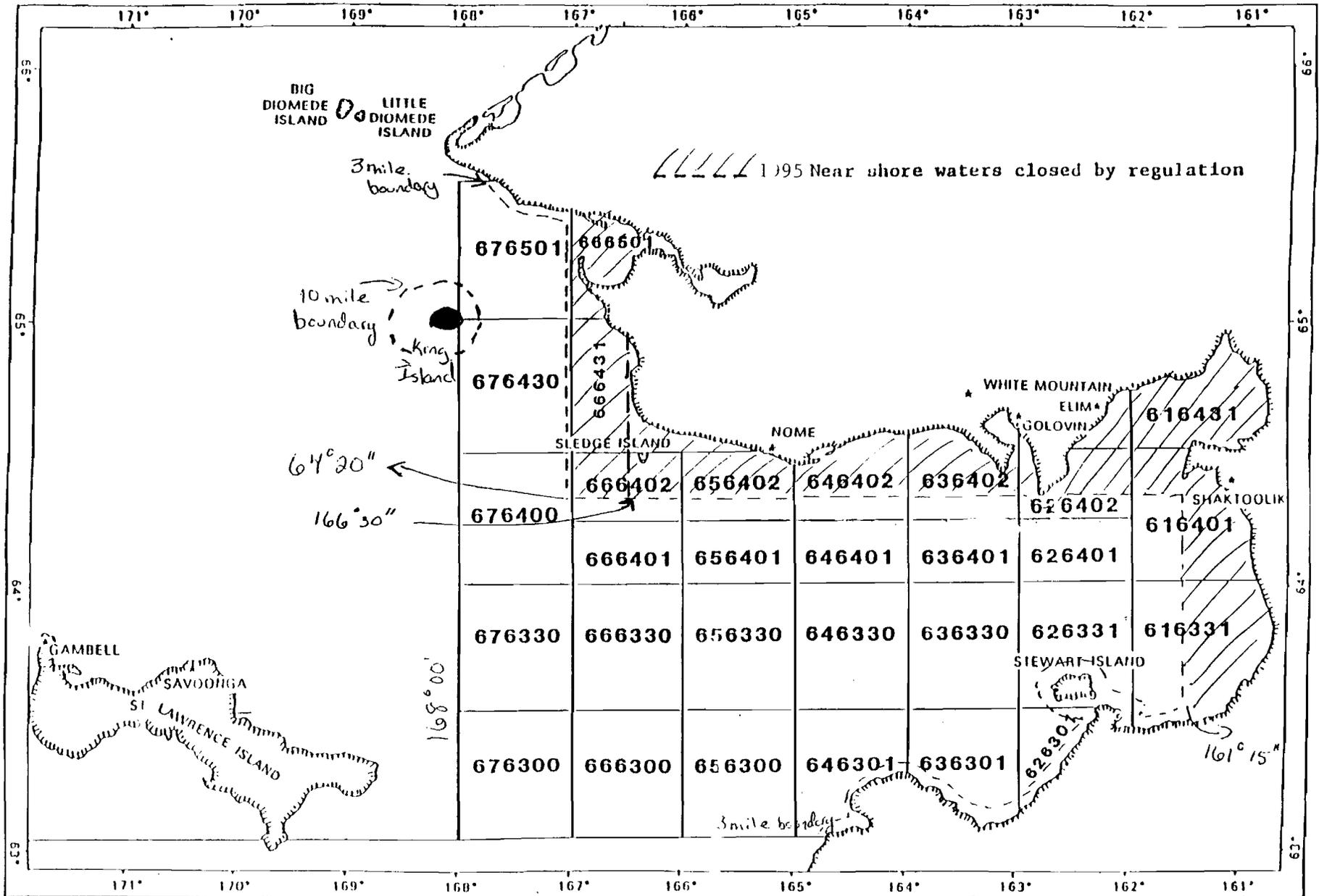


Figure 2. Statistical areas for the Norton Sound red king crab fishery.

1995 Norton Sound Red King Crab

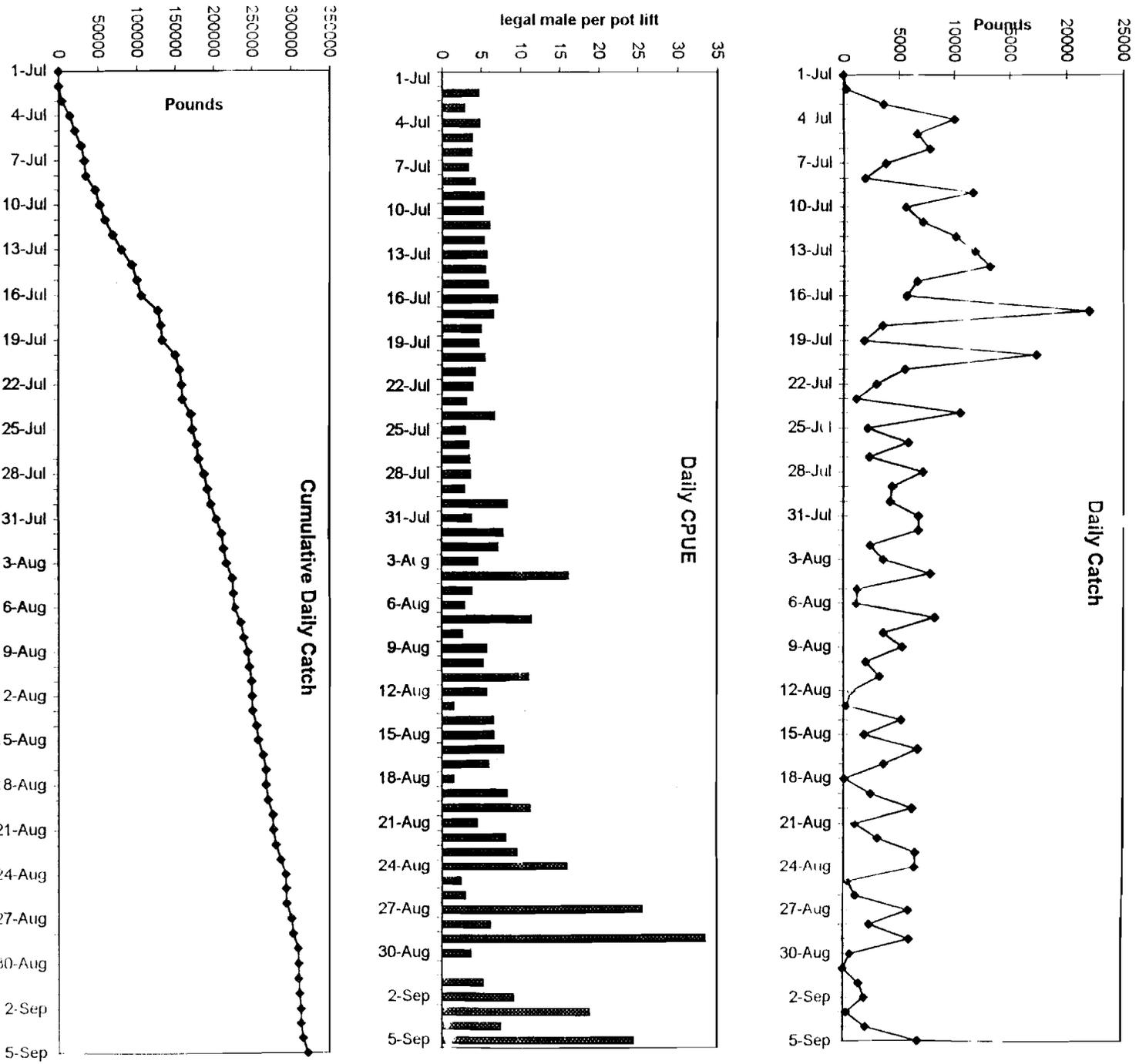


Figure 3. Daily catch, daily CPUE, and cumulative daily catch, Norton Sound summer commercial red king crab fishery, July 1 - September 5, 1995.

Legal Male Red King Crab

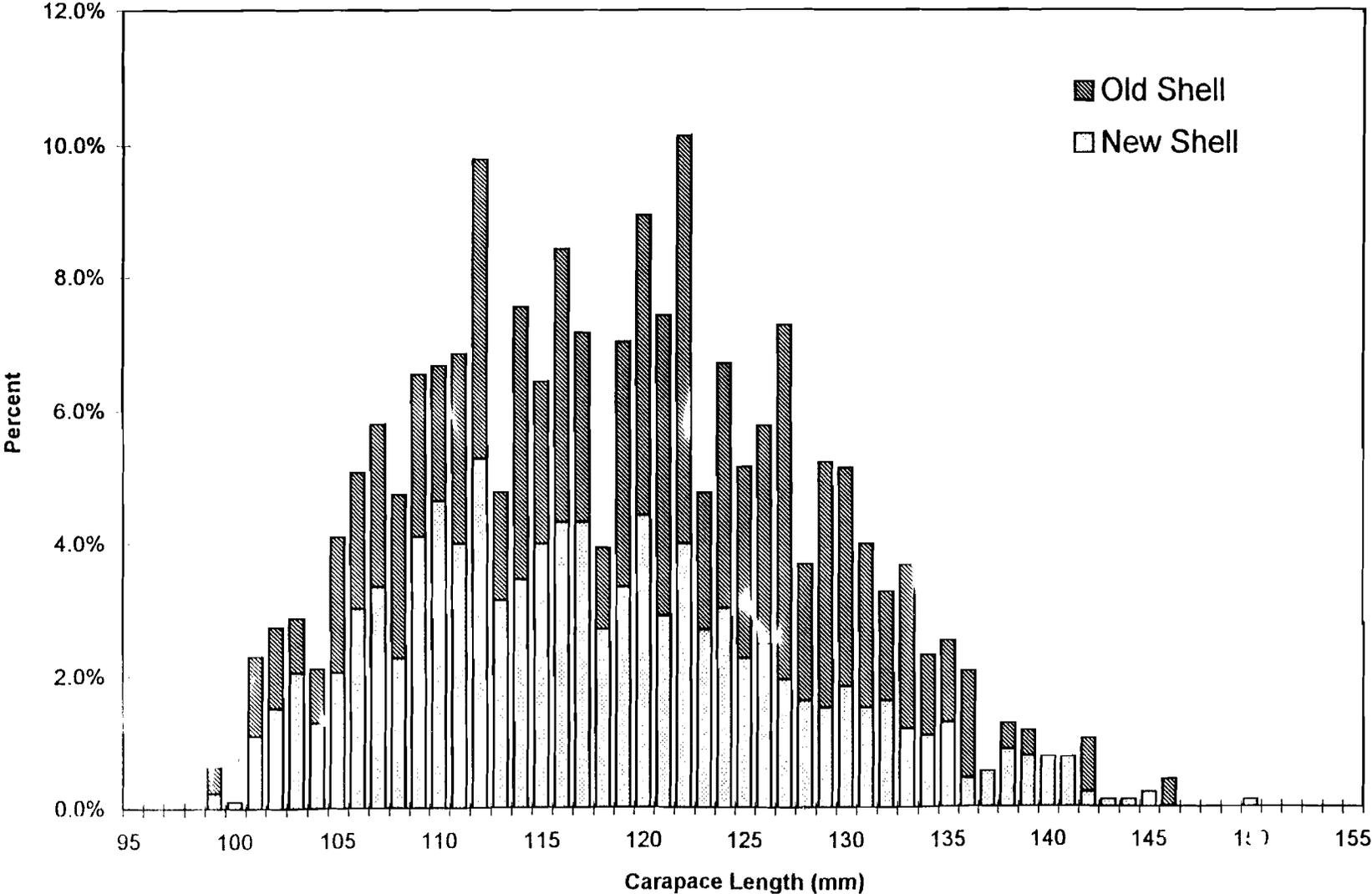


Figure 4. Length frequency distribution of new and old carapace age condition of legal male red king crab, Norton Sound Section, Eastern Bering Sea, July 1 - September 5, 1995.

Sublegal (prerecruit) Red King Crab

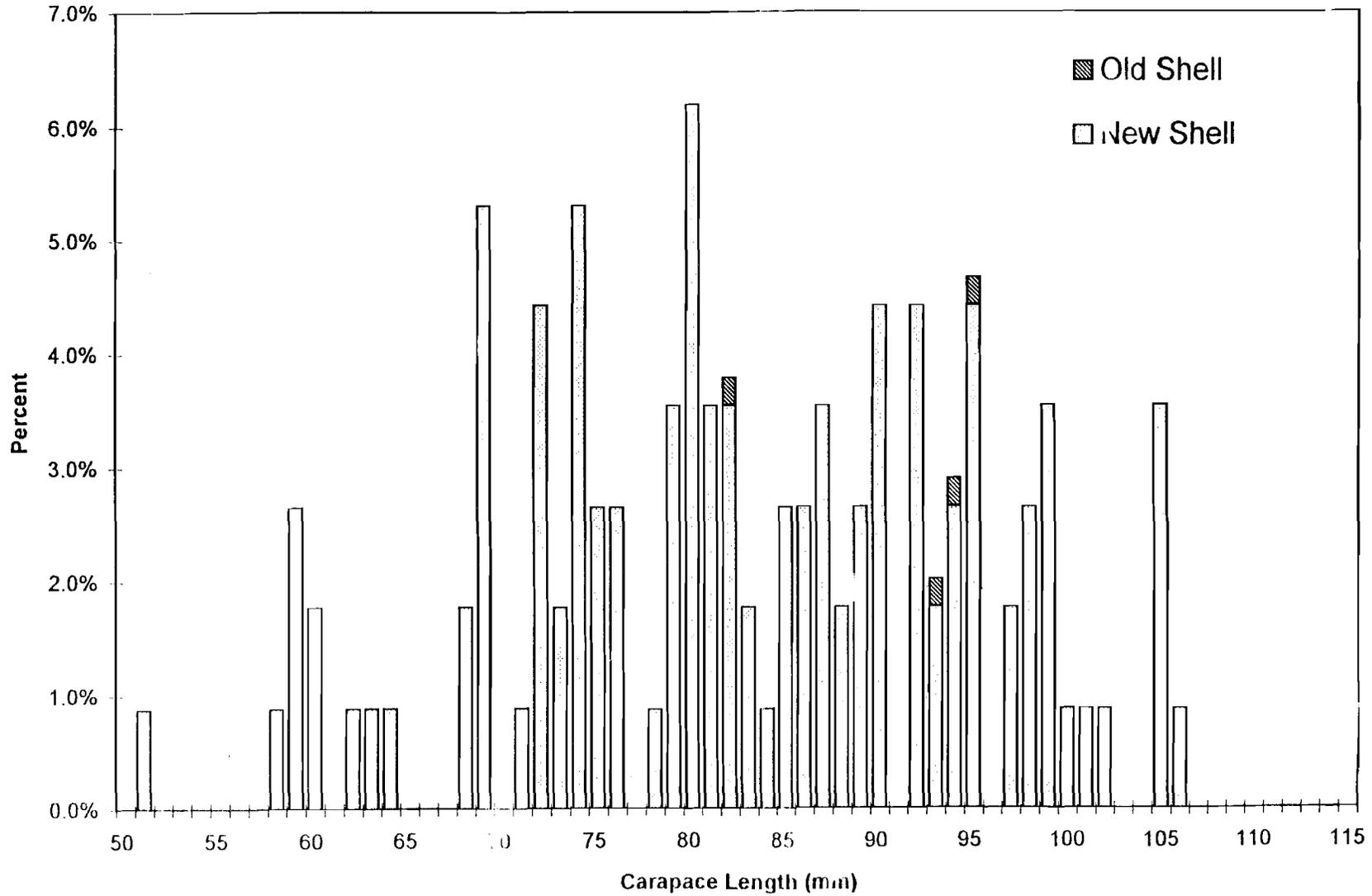


Figure 5. Length frequency distribution of new and old carapace age condition of sublegal (prerecruit) male red king crab, Norton Sound section, Eastern Bering Sea, July 1 - September 5, 1995.

Female Red King Crab

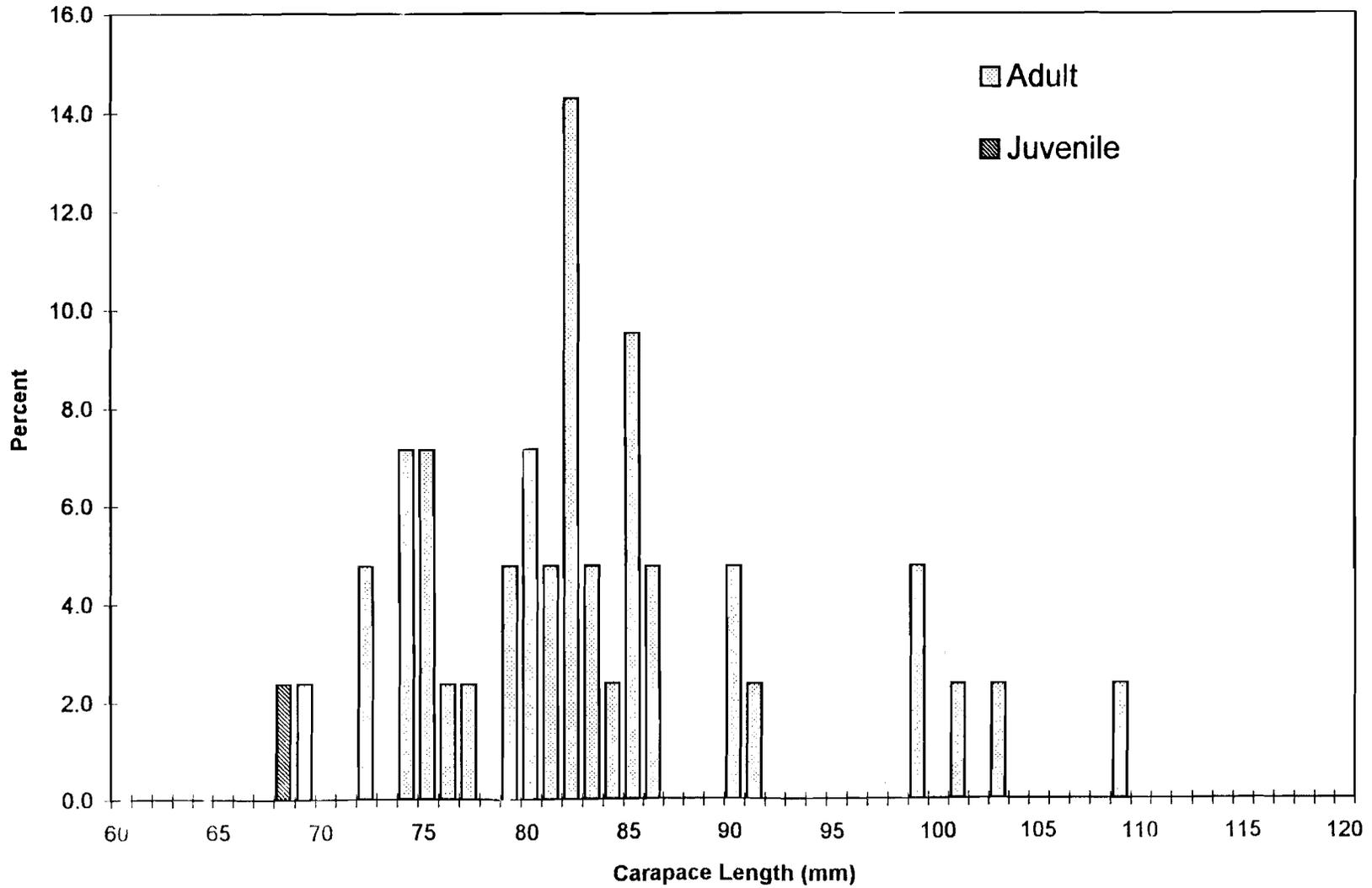


Figure 6. Length frequency distribution of female red king crab, juveniles and adults, Norton Sound Section, Eastern Bering Sea, July 1 - September 5, 1995.

Winter 1995

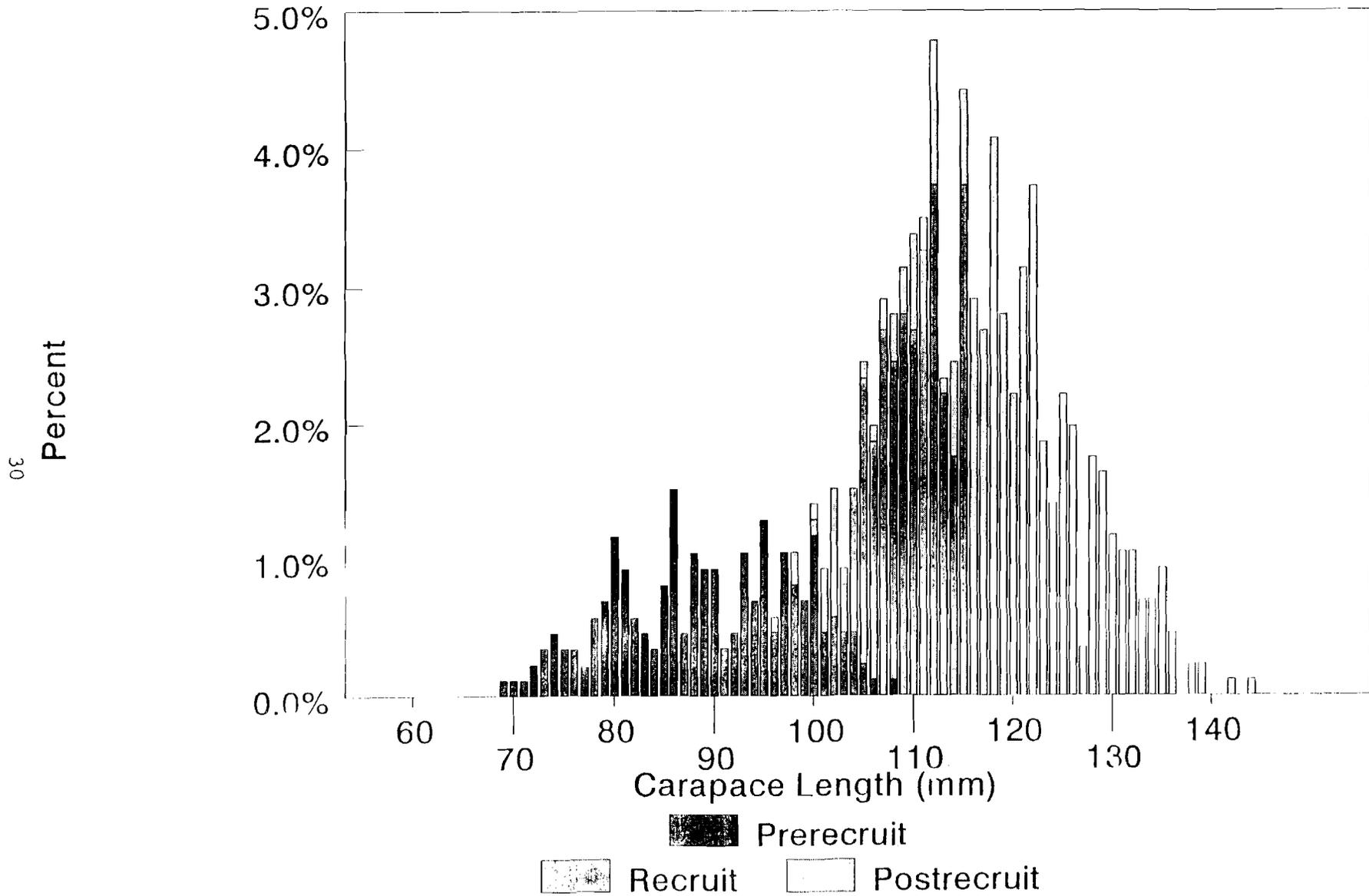


Figure 7. Length frequency distribution of prerecruit, recruit, and postrecruit male king crab captured during the winter pot survey, 1995.

Red King Crab

1995 Norton Sound Summer Pot Survey

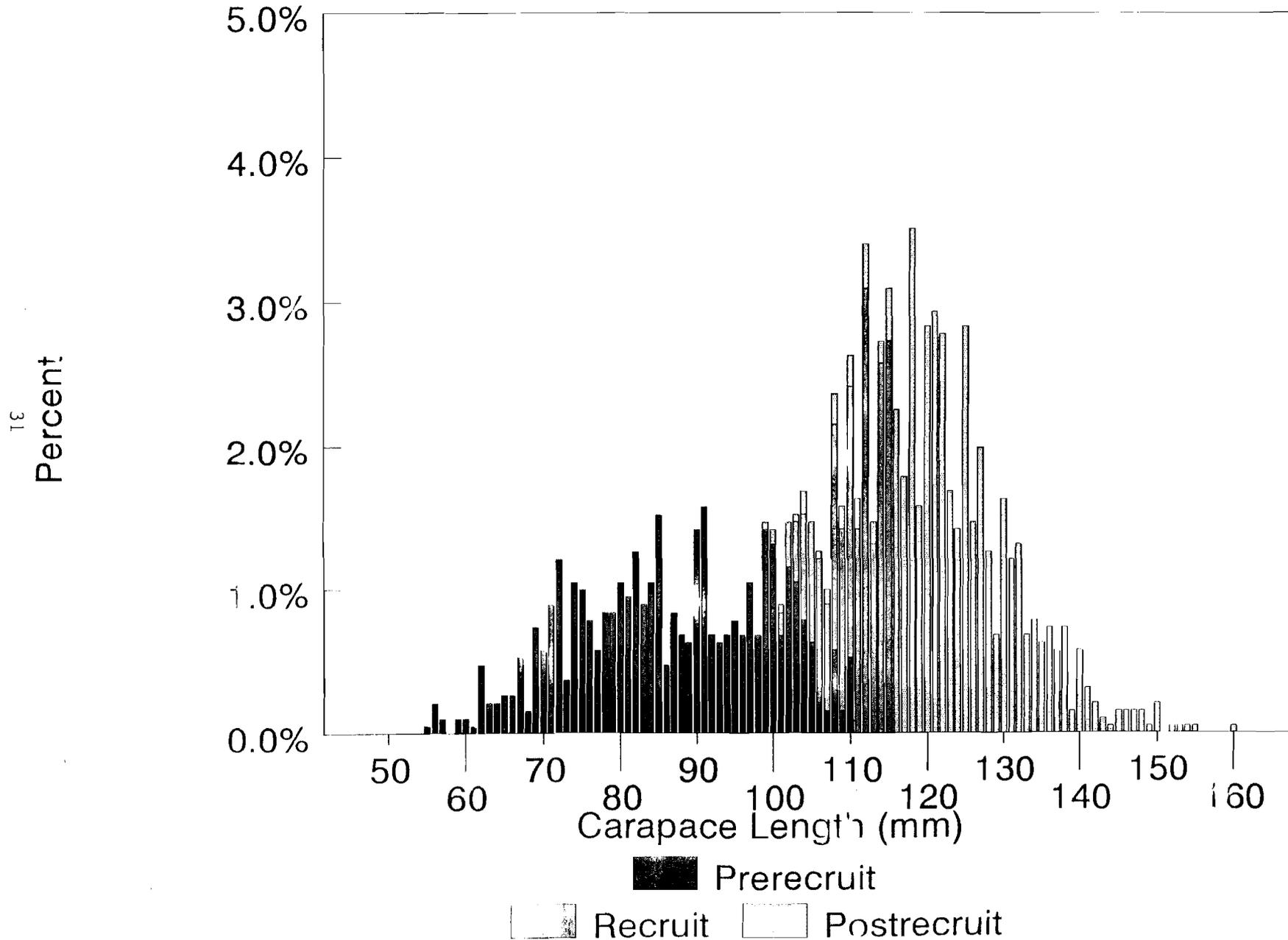


Figure 8. Length frequency distribution of prerecruit, recruit, and postrecruit, male king crab, captured during the Norton Sound summer king crab pot survey, June 26 - June 28, 1995.

RED CRAB (LEGAL) CATCH PER DAY

Catch Per Day

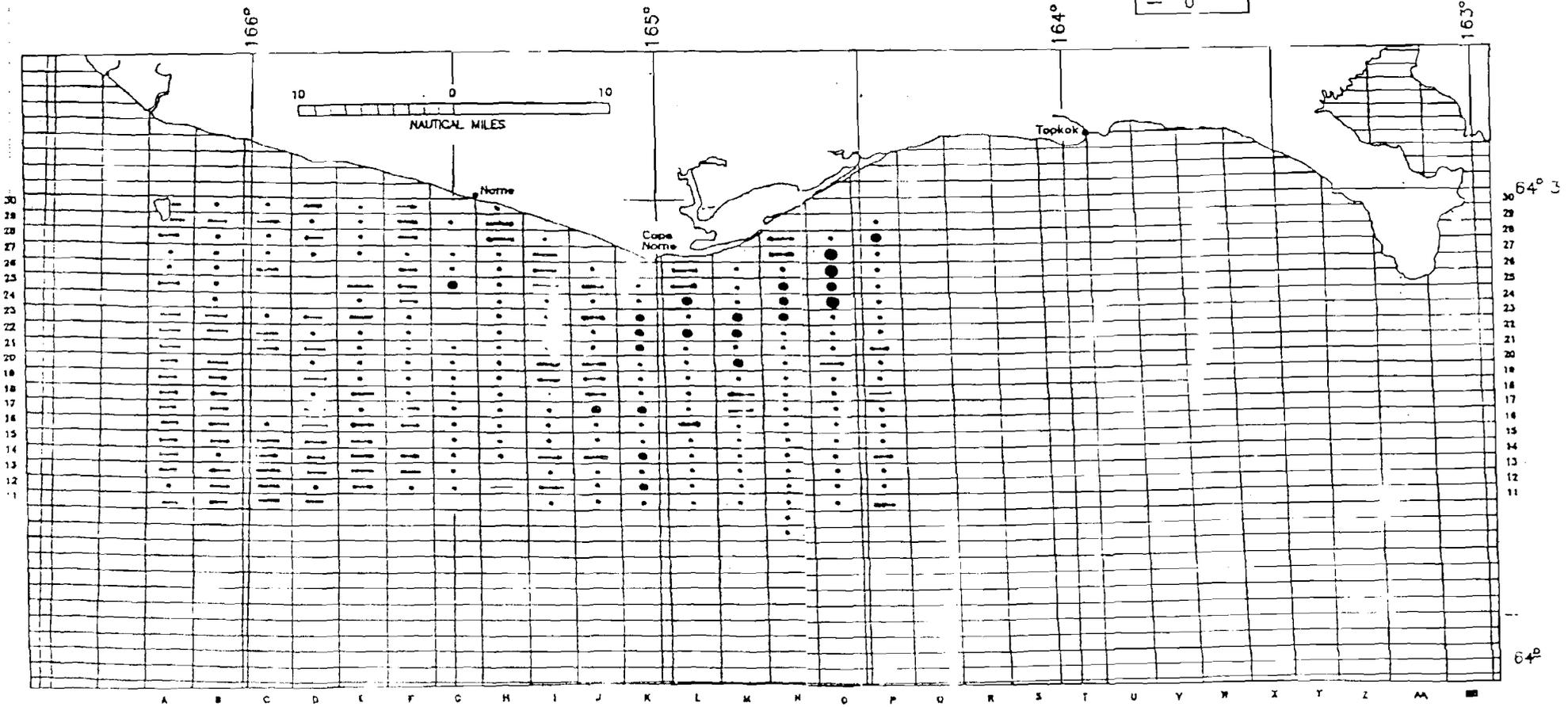
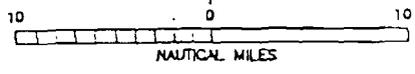
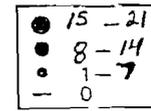


Figure 9. 1995 Norton Sound summer king crab pot survey, legal catch per day.

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RED CRAB (SUBLEGAL) CATCH PER DAY

Catch Per Day

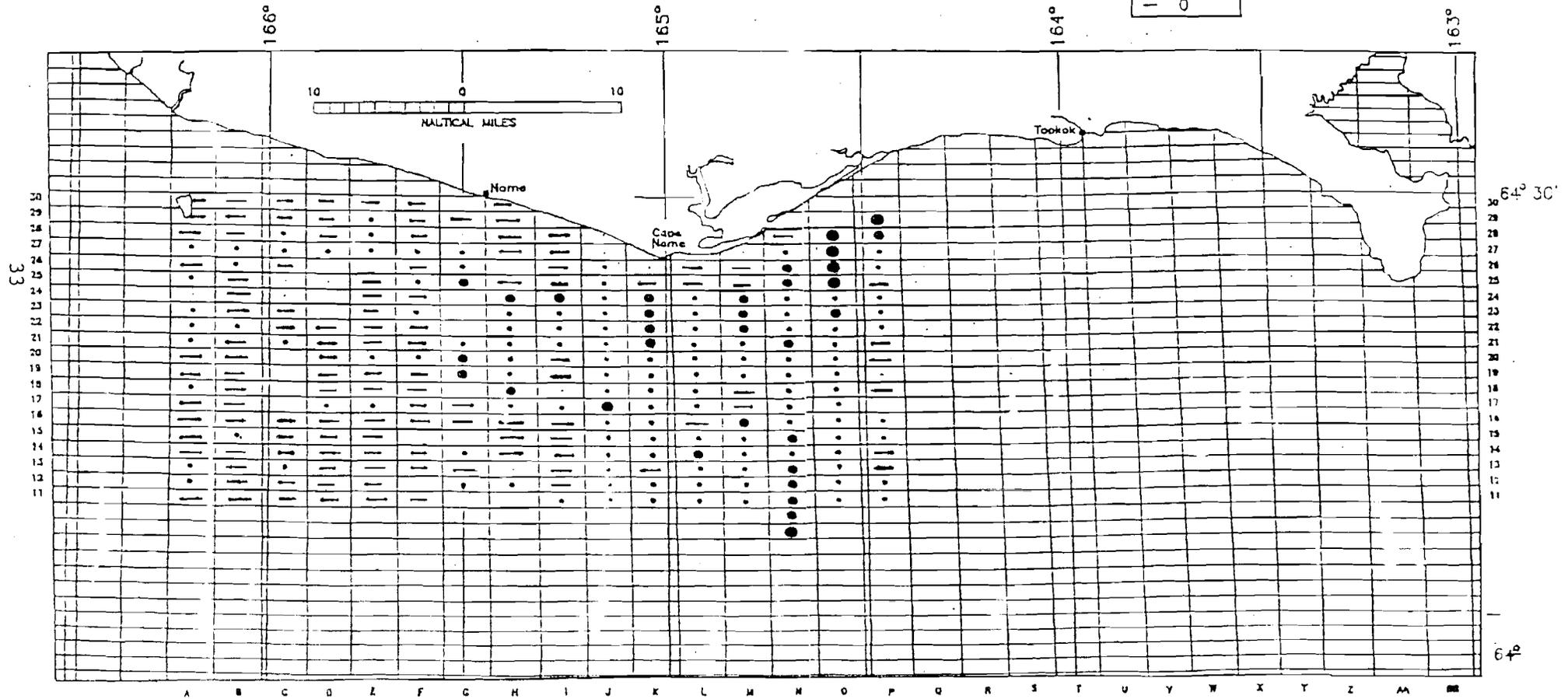
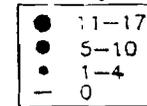


Figure 10. 1995 Norton Sound summer king crab pot survey, sublegal catch per day.

1995 NORTON SOUND PRE-SEASON POT SURVEY

● Legal Crab
○ Sub-Legal Crab

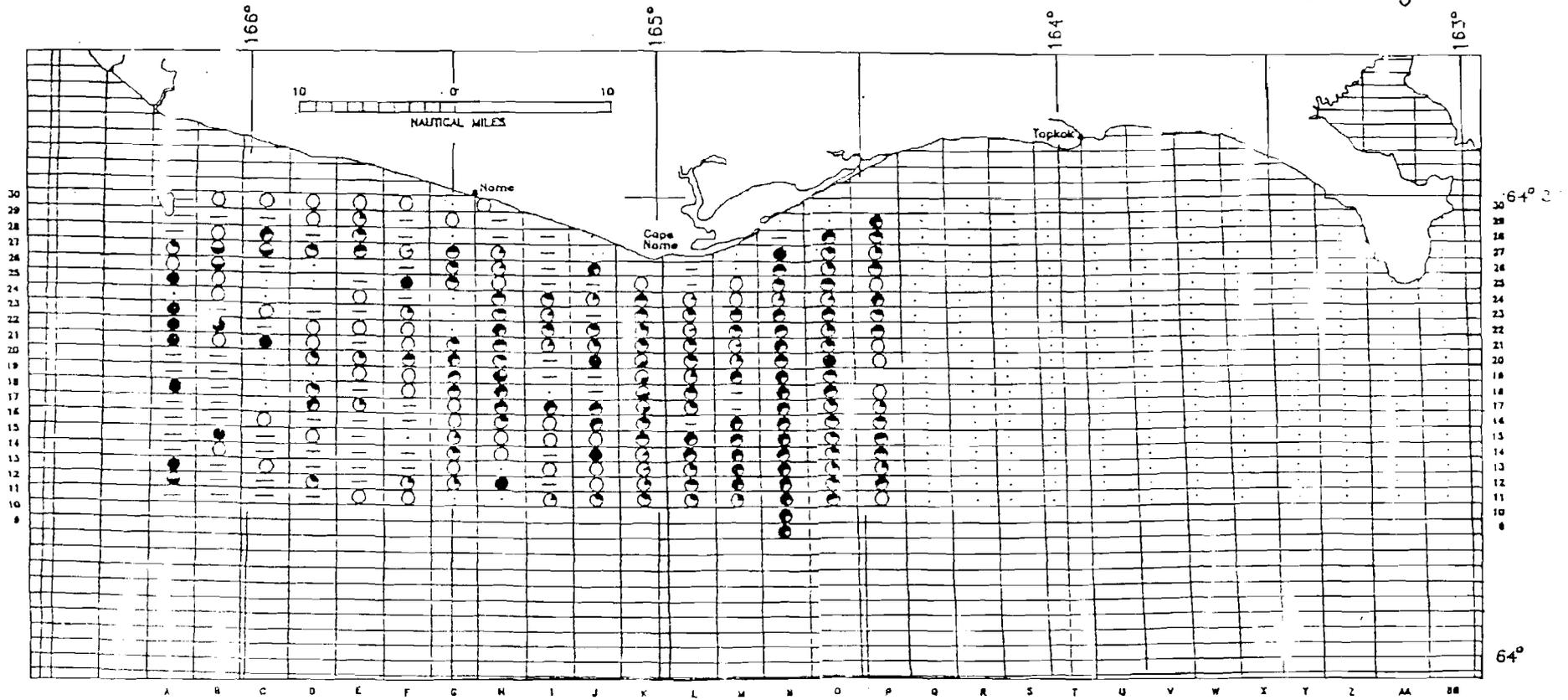


Figure 11. 1995 Norton Sound summer king crab pot survey, percent legal crab vs. percent sublegal crab.

Appendix Table 1. Comparison of annual summer commercial harvest of red king crab from Norton Sound Section, Eastern Bering Sea, by statistical areas, 1977-1986 (catch in pounds).^a

Statistical Area	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1992	1993	1994	1995	Totals
616331	7,893																48		7,941
616401																		35	36
626331	40,020					22													40,042
626401	31,572			4,830	399														66,772
626402	38,995																	18,971	38,995
636401				12,398	61,823	32,246	5,880	41	891				22,030		1,159	1,373	8,087	24,329	170,267
636402																	1,754	3,468	5,220
646301																		4,828	4,828
646330					4,718								5,212					1,493	11,421
646401			155,971		1,319	17,532										1,983	37,222	105,045	319,053
646402	80,969					748										730	143,511	68,821	292,779
656300			181,889		15,174														178,873
656330			323,518	72,735	395,662	3,983	24,246	83,479	7,832		79,008	36,129	1,167		4,811	285		19,745	1,052,971
656401			138,011	121,147	253,387	80,480	11,422	183,119	248,200		184,408	165,844	100,958	171	53,111	105,341	29,568	32,289	1,895,280
656402	308,302	90,187	288,869	918	3,098	2,832										185,078	108,053	44,000	1,167,701
666230		55,490			77														55,607
666300		162,795	80,816	84,874	9,167	95		4,534											322,281
666330		353,016	505,050	367,448	141,513	8,980	1,192		389	70,615	2,963	13,020	1,275	27,185	4,305	31,758		730	1,529,447
666401		179,212	486,947	205,400	381,510	79,580	325,045	116,254	5,341	408,848	50,744	21,895	115,257	162,263	10,632	746	398		2,550,070
666402	12,038	515,778	534,938	183,581		17,585				32,992						536	1,221		1,298,668
666431			146,028															1,124	147,153
676300		13,238		126,231															139,469
676330		51,304	81,788	8,762	18,734														159,598
676400		667,130	33,856	274	92,026	1,315	247		32					3,212					798,092
676430		3,811	12,309	-0-	373	3,513			1,171										21,177
676501					36														36
686330			1,860																1,860
Totals	517,787	2,081,961	2,931,672	1,186,596	1,379,014	228,921	368,032	387,427	427,011	479,463	327,121	236,688	246,487	192,831	74,028	335,790	327,858	322,678	11,738,688

Appendix Table 2. Historic summer commercial red king crab harvest, Norton Sound Section, Bering Sea, 1977 - 1995.

Year	Number of Vessels	Number of Permits	Number of Landings	Number of Crab	Harvest (lbs) ^{a,b}	Number of Pot Lifts	CPUE	Percent Old Shell	Average Weight (lbs)	Avg. Legal Mean Length (mm)
1977	7	7	13	195,877	0.52	5,457	36	d	2.7	113.4
1978	8	8	54	660,829	2.09	10,817	64	d	3.0	118.9
1979	34	34	76	970,962	2.93	34,773	28	d	3.0	119.8
1980	9	9	50	329,778	1.19	11,199	29	d	3.6	125.8
1981	36	36	108	376,313	1.38	33,745	11	d	3.7	128.5
1982	11	11	33	63,949	0.23	11,230	6	d	3.6	125.4
1983	23	23	26	132,205	0.37	11,195	12	d	2.8	115.2
1984	8	8	21	139,759	0.39	9,706	14	d	2.8	112.5
1985	6	6	72	146,669	0.43	13,209	11	d	2.9	115.8
1986	3	3	d	162,438	0.48	4,284	38	d	2.9	115.9
1987	9	9	d	103,338	0.33	10,258	10	13	3.2	121.7
1988	2	2	d	76,148	0.24	2,350	32	26	3.1	119.0
1989	10	10	d	79,116	0.25	5,149	15	29	3.1	119.8
1990	4	4	d	59,132	0.19	3,172	19	17	3.1	121.1
1991 ^c										
1992	27	27	d	24,902	0.07	5,746	4	29	3.0	119.7
1993	14	20	208	115,913	0.33	7,063	16	10	2.9	119.1
1994	34	52	407	108,824	0.32	11,729	9	71	3.0	118.8
1995	48	81	665	105,967	0.32	18,782	5.6	21	3.0	118.2

^a Deadloss included in total.

^b Millions of pounds.

^c No summer commercial fishery.

^d Information not available.

Appendix Table 3. Historic summer commercial red king economic performance, Norton Sound Section, Bering Sea, 1977 - 1995.

Year	Guideline Harvest Level (lbs) ^b	Legal Male Pop. Est.(lbs) ^b	Commercial Harvest (lbs) ^{a,b}	Number of			Number of Permits		Exvessel Price/lb	Fishery Value (millions \$)	Season Length	
				Vessels	Permits	Landings	Registered	Permits			Days	Dates
1977	^d	10.0	0.52	7	7	13	^d	5,457	0.75	0.229	60	^d
1978	3.00	11.0	2.09	8	8	54	^d	10,817	0.95	1.897	60	6/7-8/15
1979	3.00	5.4	2.93	34	34	76	^d	34,773	0.75	1.878	16	7/15-7/31
1980	1.00	6.6	1.19	9	9	50	^d	11,199	0.75	0.890	16	7/15-7/31
1981	2.50	4.7	1.38	36	36	108	^d	33,745	0.85	1.172	38	7/15-8/22
1982	0.50	1.3	0.23	11	11	33	^d	11,230	2.00	0.405	23	8/9-9/1
1983	0.30	2.1	0.37	23	23	26	3,583	11,195	1.50	0.537	3.8	8/1-8/5
1984	0.40	2.7	0.39	8	8	21	1,245	9,706	1.02	0.395	13.6	8/1-8/15
1985	0.45	2.4	0.43	6	6	72	1,116	13,209	1.00	0.427	21.7	8/1-8/23
1986	0.42	2.8	0.48	3	3	^d	578	4,284	1.25	0.600	13	8/1-8/25 ^e
1987	0.40	2.2	0.33	9	9	^d	1,430	10,258	1.50	0.491	11	8/1-8/12
1988	0.20	3.2	0.24	2	2	^d	360	2,350	^d	^d	9.9	8/1-8/11
1989	0.20	3.2	0.25	10	10	^d	2,555	5,149	3.00	0.739	3	8/1-8/4
1990	0.20	3.2	0.19	4	4	^d	1,388	3,172	^d	^d	1	8/1-8/5
1991 ^c	0.34	3.4										
1992	0.34	3.4	0.07	27	27	^d	2,635	5,746	1.75	0.130	2	8/1-8/3
1993	0.34	3.4	0.33	14	20	208	560	7,063	1.26	0.430	52	7/1-8/28 ^f
1994	0.34	3.4	0.32	34	52	407	1,360	11,729	2.02	0.646	31	7/1-7/31
1995	0.34	3.4	0.32	48	81	665	1,900	18,782	2.87	0.926	67	7/1-9/5

^a Deadloss included in total.

^b Millions of pounds.

^c No summer commercial fishery.

^d Information not available.

^e Fishing actually began 8/12.

^f Fishing actually began 7/8.

Appendix Table 4. Comparison of percent recruit and postrecruit king crab sampled from summer commercial fisheries Norton Sound Section, Eastern Bering Sea, 1983 - 1995.

Year	Summer Commercial	
	Recruits (%)	Postrecruits (%)
1983	55	45
1984	59	41
1985	45	55
1986	48	52
1987	22	78
1988	25	75
1989	23	77
1990	21	79
1991 ^a		
1992	28	72
1993	31	69
1994	14	86
1995	36	64

^a No data collected in summer 1991 due to closed fishery.

Appendix Table 5. Results of the population assessment surveys conducted for red king crab in Norton Sound since 1976.

Year	Date	Research Agency	Vessel	Gear Effort	Number of Red King Crab Captured ^a			Population Estimates of Legal Male Crab ^c	
					Sublegal Males	Legal ^b Males	Females	Numbers	Pounds
1976	9/02 - 9/05	NMFS	Miller-Freeman	Trawl	768	555	180	3,119,800	8,111,480
	9/16 -10/07			158 tows					
1979	7/26 - 8/05	NMFS	Miller-Freeman	Trawl	46	194	40	837,241	2,511,723
				71 tows					
1980	7/04 - 7/14	ADF&G	Altair	Pots	443	3,290	158	1,900,000	6,600,000 ^d
				397 lifts					
1981	6/28 - 7/14	ADF&G	Altair	Pots	4,097	3,415	1,933	1,285,195	4,755,221
				718 lifts					
1982	7/06 - 7/20	ADF&G	Aleutian #1	Pots	5,019	2,001	424	353,273	1,271,783
				689 lifts					
1982	9/05 - 9/11	NMFS	Miller-Freeman	Trawl	322	107	265	970,646	2,620,744
				50 tows					
1985	7/01 - 7/14	ADF&G	Arctic Sea	Pots	6,086	4,645	181	907,579	2,414,644
				642 lifts					
1985	9/16 -10/01	NMFS	Argosy	Trawl	266	163	151	1,203,000	3,369,000
				78 tows					
1988	8/16 - 8/30	NMFS	Miller-Freeman	Trawl	258	141	218	1,037,000	3,038,000
				82 tows					
1991	8/22 - 8/30	NMFS	Ocean Hope	Trawl	202	178	105	1,384,000	4,009,000
				53 tows					

^a Number of crab captured on ADF&G surveys represent data standardized for a 24 hour soak.

^b Legal male red king crab were defined as at least 106mm in carapace length for the 1976 NMFS survey; 105mm for the 1979 and 1985 NMFS survey; and at least 121mm in carapace width for all ADF&G surveys.

^c Population est. are valid for the date of the survey, ie either before or after the summer commercial fishery.

^d The 1980 estimate has been revised from the original estimate of 13.4 million pounds. The original estimate was thought inaccurate due to under-reporting of recovered tagged crab.

Appendix Table 6.

Observer crab catch summary: number of observed pot lifts, percent of catch by legal male, sublegal male and female crab; and average crab per pot; Norton Sound summer commercial fishery, 1988 - 1995.

Year	# Pots Observed	Legal Male Crab		Sublegal Male Crab		Female Crab	
		%	Crab per Pot	%	Crab per Pot	%	Crab per Pot
1988	1673	81.6	35.4	17.1	7.4	1.3	0.6
1989	909	68.5	13.7	15.4	3.1	16.1	3.2
1990	168	77.8	13.6	21.0	3.7	1.2	0.2
1992	733	70.1	1.9	22.7	0.6	7.3	0.2
1994	199	60.7	7.7	34.1	4.3	5.2	0.7
1995	99	60.5	2.5	29.0	1.2	10.5	0.4