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ANNUAL MANAGEMENT REPORT FOR THE SHELLFISH FISHERIES
OF THE WESTWARD REGION, 1994

By

Westward Region Shellfish Management Staff

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OVERVIEW

The Alaska Department of Fish and Game (ADF&G) Westward Region includes the Gulf of Alaska south of Cape Douglas (58°52' N. lat.) on the Alaska Peninsula, the Kodiak Island and Aleutian Islands group and the Bering Sea northeast from the U.S.-Russian convention line of 1867 to Norton Sound (Figure 1). Encompassed is 525,000 square miles of the most productive shellfish habitat in the world. The major commercial shellfish fisheries are king crab (three species), Tanner crab (two species), Dungeness crab and scallops. Minor fisheries occur for Korean hair crab, *C. tanneri* Tanner crab, snails, shrimp, clams, octopus, sea cucumbers and sea urchins.

The regional ADF&G office is in Kodiak with a field office in Dutch Harbor. This report documents shellfish activities in the Region which are in progress year around. ADF&G fishery biologists are charged with state management and research programs associated with all commercially utilized stocks of shellfish. The full-time management staff consists of eight biologists, one secretary and one field office assistant. Approximately 12 seasonal personnel are hired for shellfish assessment cruises, logbook programs, shipboard observations, interviews, dockside sampling, data entry, secretarial assistance and overseeing the floating processor observer program.

In 1994, approximately 500 catcher vessels, 33 catcher processors, 22 shorebased processors and 18 floating processors engaged in harvesting and processing shellfish resources (Table 1). The 1994 Westward Region crab landings of 171 million pounds were worth \$277 million, exvessel value (Table 2). Although the pounds landed were reduced by 113 million in 1994, the total value remained at 90% of the previous year. The leading fishery was Tanner crab with landings of 158 million pounds worth \$224 million. King crab was the second most valuable fishery worth \$53 million.

There was not any regional trawl shrimp harvest in 1994 (Table 3). Poor production in recent years discouraged fishermen and processors from participating in 1994. The results of a 1992 shrimp survey, which was conducted in historically important areas indicated that shrimp stocks were extremely depressed. A slight improvement over recent years was noted on deep grounds over 90 fathoms but overall levels are still far below those experienced a decade or two ago.

The 1994 king crab harvest was approximately 12.6 million pounds (Table 4). The red king crab seasons were closed once again in Kodiak, Alaska Peninsula and Dutch Harbor. These areas have been closed continuously since 1983. The Department has surveyed these areas to assess the populations which continue to show little or no recruitment. In addition, the Bristol Bay was closed to king crab fishing in 1994. This area has supported the largest king crab fishery in the state, but concerns for the reproductive capacity of the stock led to this year's closure. Adak brown king crab became the highest value king crab fishery with a catch of 5.5 million pounds and exvessel value of \$22 million.

The 1994 Tanner crab fisheries produced 158 million pounds, (Table 5) which was 38% reduction from the previous season. The value however, increased slightly to \$224 million. The catch was comprised of 95% *Chionoecetes opilio* Tanner crab. The outlook for *C. opilio*

stocks indicates a high population, but recruitment to the fishery remains in doubt. A strong cohort is present in the north and west extremes of the Bering Sea but little is known about growth rates and the size of maturity in that region. *C. bairdi* stocks are small in a historic sense and population is comprised of old shelled animals. Much of the mature portion of the survey information does not indicate a quick rebuilding of that stock in the near future. Fisheries for deepwater Tanner crabs, *C. tanneri*, have been developing in recent years. Landings remain minor but have occurred in all districts of the region.

The 1994 Dungeness crab harvest was 1.2 million pounds. (Table 6) This was the lowest harvest since 1986. The Kodiak district produced the majority of the catch.

In September 1988 the Alaska Board of Fisheries adopted the mandatory observer requirement for vessels processing king and *C. bairdi* crabs. The Board adopted the same requirements for *C. opilio* processing vessels in September 1990. The regulations required industry to fund the observers which are provided by a third party contractor and certified by the Department of Fish and Game. The observer program has been active for over five years with observers participating in nine fisheries annually. Data indicate that observer presence onboard has deterred the taking of undersized crab on catcher processors. Details of the program are discussed later in this report.

KODIAK AREA

Introduction

The Kodiak shellfish management area includes Pacific Ocean waters south of the latitude of Cape Douglas (58°52' N. lat.) on the Alaska Peninsula, east of the longitude of Cape Kumlik (157°27' W. long.), and west of 148°50' W. longitude. The management unit varies slightly for shrimp, where it extends from the latitude of Cape Douglas to the longitude of Kilokak Rocks on the Alaska Peninsula (156°19'25" W. long.). This report reviews the 1994 shellfish fisheries within the area and provides a synopsis of all landings within the Kodiak area.

Tanner crab, Dungeness crab, sea cucumber and weathervane scallop were the principal commercial shellfish species fished. A small harvest of octopus, sea urchins, shrimp and deep water Tanner crab also occurred. Historically, the Kodiak area has supported substantial red king crab and trawl pink shrimp fisheries. Current red king crab population levels are depressed to a level that disallows commercial harvests. Pink shrimp populations are similarly depressed; however, some areas remain open to exploratory shrimp fishing though effort has been minimal.

Catches are reported by fishermen from individual statistical areas (Figure 2) and summarized by districts or sections (Figures 3 and 4). At the port of Kodiak, 3.6 million pounds of shellfish were landed during 1994, a reduction from 6.5 million pounds landed the previous year. The 1994 exvessel value of shellfish to the port of Kodiak equaled \$9.5 million (Table 7). This included shellfish harvested from other management areas, principally the Bering Sea, and

landed in Kodiak. The single most valuable shellfish species delivered was *bairdi* Tanner crab worth \$4.9 million.

A discussion of each shellfishery appears in individual sections of this report. Vessels fishing for shellfish in the Kodiak area during 1994 ranged in size from less than 30 feet to over 120 feet in keel length (Table 8). During 1994 a total of nine emergency orders were issued for the king crab, Tanner crab, scallop and sea cucumber fisheries in the Kodiak management area (Table 9). Over 25,000 pots were utilized last year for Tanner and Dungeness crab fishing (Table 10).

TANNER CRAB

The Westward registration area for Tanner *Chionoecetes bairdi* crab encompasses the waters of the Pacific Ocean south of the latitude of Cape Douglas and west of the longitude of Cape Fairfield and all Bering Sea and Pacific Ocean waters east of the U.S./Russian Convention Line of 1867.

Within this registration area, the Tanner crab stocks are managed by districts. The six districts are Kodiak, Chignik, South Peninsula, Eastern Aleutian, Western Aleutian and Bering Sea. Three districts are managed by the shellfish staff stationed at the Kodiak office. The Kodiak District includes the Pacific Ocean waters south of the latitude of Cape Douglas and east of the longitude of Cape Kumlik. The Chignik District includes all Pacific Ocean waters west of the longitude of Cape Kumlik and east of a line from Kupreanof Point to Castle Rock and east of a line extending 135° from Castle Rock. The South Peninsula District includes the Pacific Ocean waters west of Kupreanof Point and east of the longitude of Scotch Cap Light. The remaining three districts are managed from the Dutch Harbor office.

Historic Background

The domestic Tanner crab fishery for Kodiak and waters south of the Alaska Peninsula began in 1967 when less than the 200,000 pounds were landed. As king crab stocks declined in the late 60's interest increased in the Tanner crab fishery. During this period, fishermen were experimenting with crab pots to increase catches of Tanner crab and decrease incidental catch of king crab. This was accomplished by placing wooden slats in the tunnel eye of the pot to reduce the height of the opening to 4 inches or less and not allowing the larger king crab to enter the pot. A newly developed top entry pot had a round fiberglass tunnel opening and was reported to be selective for Tanner crab. While resembling the pot fished by the Japanese in the Bering Sea, this pot was larger and heavier and was not fished with a groundline. A hinged base allows crab to be dropped directly into vessel live tanks.

Considering the abundance of Tanner crab and availability of fishing gear, the commercial fishery was slow to develop. Four factors attributed to this slow development:

1. Relatively low consumer acceptance of Tanner crab;
2. competition on the U.S. market from imported Tanner crab meat;
3. a black encrustment on crab shell now known as black mat syndrome;
4. uneconomical extraction of meat from the shell. Extraction of meat from Tanner crab legs using equipment and methods designed for the larger king crab required a high amount of labor per yield. Shell fragments in shoulder meat required considerable hand labor for removal.

By the 1972/73 season market conditions had improved and Tanner crab had established itself as a dominant winter and spring fishery. In 1973 the department initiated an experimental survey program which used king crab pots as the means of capture. Although the program was designed to assess red king crab populations, Tanner crab work was included due to the fact that they would readily enter king crab pots. The primary goals of these surveys were to estimate the annual relative abundance of crab and predict recruitment trends two to four years in advance of crab attaining commercial size. These estimates would allow the department to establish annual harvest levels.

During 1974 and 1975 the Alaska Board of Fisheries (BOF) set the first harvest levels on Tanner crab of 35 to 55 million pounds for Kodiak, Chignik and South Peninsula. Also in 1975, the Board adopted an April 30th closure to protect crab at the onset of mating. In 1976 the Board established a 5½ inch minimum size limit. This would allow males at least one full breeding season before becoming available for commercial harvest. The commercial fishery peaked during the 1977/78 season when over 45 million pounds were harvested. In 1978 the Federal Government entered into joint management responsibilities with the State of Alaska on the domestic Tanner crab fishery.

Beginning December 6, 1978, the Tanner crab fishery in the Exclusive Economic Zone off Alaska was managed under a Fishery Management Plan (FMP). The commercial catch began to decline in the late 70's and early 80's. In 1980 the BOF adopted into regulation a 250 pot limit for Kodiak, as the Board was attempting to reduce effort in the fishery. ADF&G began to develop alternative methods of assessing Tanner crab populations. Nine years of pot surveys had been completed by 1980.

It was evident from catch variations in areas between surveys that numbers of crab captured were not necessarily comparable. More importantly, small Tanner crabs (≤ 114 mm CW) did not enter pots in predictable numbers from survey to survey; thus, little could be determined regarding future recruitment trends. Due to problems in acquiring data on Tanner crab necessary to meet the management objectives from the pot survey, interest was generated in the use of trawls to survey the Tanner crab resource in the Gulf of Alaska as has been done by the National Marine Fisheries Service in the Bering Sea. An experimental program to test this possibility began in 1980. This trawl survey was done in conjunction with the traditional pot survey for red king crabs.

The demand for Tanner crab increased as the price per pound of live crab went from 65 cents per pound to \$1.65 per pound. Vessel participation increased as the Tanner crab fishery became very profitable. In 1983, the BOF adopted regulations to designate the South Peninsula and Chignik District as a super-exclusive area. This meant that vessels fishing this area for Tanner

crab could not fish Tanner crab elsewhere in the state for that registration year. Additionally, the Board reduced the pot limit in the Kodiak District from 250 pots to 200 pots per vessel.

On February 8th, 1984 a federal judge issued a restraining order restricting the State of Alaska from enforcing the super-exclusive areas in the Chignik and South Peninsula Districts and the 200 pot limit in Kodiak outside of three miles. In order to make state and federal regulations consistent, on February 9 the BOF issued an emergency regulation rescinding the pot limit for Kodiak and super-exclusive registration for Chignik and South Peninsula.

The joint Fishery Management Plan (FMP) was still in effect although there was considerable confusion over the enforcement and effective dates of regulations. The FMP was amended nine times in six years. To achieve conservation and objectives and to effectively coordinate management with the State, the FMP adopted many of the management measures employed by the State. However, the FMP did not provide for management based on the best available scientific information or provide for timely coordination of management with the State. At its March 1986 meeting, the North Pacific Fishery Management Council (NPFMC) voted to suspend the implementation of regulations for the Tanner crab FMP. The FMP was repealed at the request of the Council, effective April 1987. Once again, the State of Alaska had sole responsibility for the Tanner crab fishery in the Gulf of Alaska.

In 1990 the BOF adopted a new pot limit for Kodiak. This pot limit was a sliding scale limit that decreased with decreasing harvest projections. The limit ranged from 150 to 75 pots per vessel. As crab stocks decreased these pot limits reduced the amount of gear on the fishing grounds and made inseason management less complicated. By the 1993 season a pot limit of 75 pots per vessel regardless of the survey estimate was established.

ADF&G has continued to conduct surveys in these areas and has most recently relied on trawl surveys to assess both king and Tanner crab populations. Legal crab populations are low or depressed in most areas, and recruitment to legal size animals for the next two years is not expected to increase. The Department has observed and recorded conditions of female egg clutches since the existence of the survey with no abnormalities observed. Successful reproduction is further substantiated by the high incidence of one and two year old crab captured in the trawl survey. The Department suspects that fish predation on small crab and competition for food from other groundfish may be a major factor limiting Tanner crab from recruitment. The latest published survey information can be found in the ADF&G Regional Information Report 93-29.

1993/94 Fishery

The Alaska Department of Fish and Game conducted a summer trawl survey in 1993 to assess the Kodiak area Tanner crab populations. Guidelines for commercial fishery harvests were derived from population estimates as determined by the survey. On October 7, 1993, the department issued a news release detailing the harvest projections for the Kodiak Management District and fishing sections within the district.

A guideline harvest level of 1.3 million pounds of Tanner crab was projected for Kodiak District. The Northeast and Southwest sections were opened for 300,000 pounds each, while the Eastside and North Mainland Sections were opened for 500,000 and 200,000 pounds, respectively. The remaining sections were closed due to the low abundance of legal-size crab and anticipated poor recruitment for the following year.

The 1993/94 Tanner season opened by regulation on January 15, 1994 (Table 11). Most fishermen did not set baited pots until January 20th, due to price negotiations. Tank inspections began on January 14th at 12:00 noon at Kodiak, Port Lions and Old Harbor.

One hundred and twenty-nine (129) vessels fished for Tanner crab during the 13 day season that closed at 12:00 noon February 2, 1994. A total of 8,770 pots were utilized based on buoy sticker sales. This compares to 9,700 pots registered the previous season.

In the Northeast section was fished by 63 vessels landing 238,076 pounds. The catch rates started at 15 crabs per pot and declined to 7 crabs per pot by January 25th. This is a reduction from the previous season when catch rates started at 23 crabs per pot. Many fishermen began switching to the cod fishery prior to the January 28th closure announcement.

The fishery in the Eastside section had 38 vessels that landed 395,062 pounds of Tanner crab. Catch rates started at 20 crabs per pot and declined to less than 10 by the time of the closure.

The Southwest section produced 279,077 pounds taken by 18 boats. Catch rates started at 30 crabs per pot and declined to near 15 by January 24th. Vessels were not required to deliver crab to ADF&G observed tenders as during the previous season. Tanner crab blood smears taken from the 1993 summer trawl survey indicated a high level of Bitter Crab Syndrome but this had fallen to less than 2% by December when ADF&G resampled Alitak Bay. There was very little bitter crab syndrome in the observed catch.

The North Mainland Section opened during the 93/94 season for the first time since the 90/91 season. Fourteen (14) vessels fished the section landing 340,127 pounds. The catch per pot for the entire season was the highest of the district at 19 crabs.

The total harvest for the Kodiak District during the 1993/94 season was 1,252,342 pounds taken by 129 vessels (Table 12). Crabs averaged 2.5 pounds each with 80% of the catch comprised of crabs newly recruited to the fishery (Figure 5). At the exvessel value of \$2.25 per pound, the Kodiak Tanner crab fishery was worth approximately \$2.8 million to the fishermen. Landings were recorded from 4 sections and 22 statistical areas within the district (Tables 13 and 14).

Stock Status

The Department of Fish and Game conducted a summer trawl survey in 1994 to assess both red king and Tanner crab populations. Two hundred tows were successful in sampling crab habitat. Of 7,270 male Tanner crab captured, 998 were legal-sized animals.

The 1994 population of legal-size Tanner crab is estimated to be 1.1 million crabs for the area surveyed (Figure 6).

This was a 39% decline from the 1.8 million legal-size crab estimated the previous summer. The population estimate of all sizes and both sexes totaled only 19.3 million crabs. This level is 61% lower than observed during 1993 and is the lowest estimate in the eight year history of the trawl survey.

Threshold levels of crab abundance below which fisheries will not be conducted have not been established for Kodiak Tanner crab. However the Department of Fish and Game is extremely concerned with the precipitous decline observed between the 1993 and 1994 surveys and did not allow a commercial fishery for the 1994/95 season. Complete information on trawl survey results are available in the ADF&G regional information report series.

DUNGENESS CRAB

Historic Background

The first commercial Dungeness crab *Cancer magister* landings in the Kodiak District were in 1962 with a catch of 1.9 million pounds (Table 15). As a result of favorable market conditions and unexploited stocks, commercial harvest increased to a peak in the four year period from 1967 through 1970 with an average annual harvest of 6.3 million pounds. In 1969 the south end of Kodiak Island was closed from April 1 to June 15 due to the high incidence of female king crab in shallow water. During the early 1970s the fishery declined due to biological factors accompanied sometimes by adverse marketing conditions. In the mid 1970s, weak markets and other more lucrative fisheries kept Dungeness production at a low level. In 1977 the season dates were changed from year around to May 1 through December 31 for the northern portion of the island and June 15 through December 31 for the southern portion (Figure 7). During the closure period, crab pots must be removed from the water in an effort to reduce the amount of "derelict" gear. Declines in other fisheries and favorable market conditions during the late 1970s encouraged Dungeness fishing.

The 1981/82 harvest of 5.6 million pounds was the largest harvest for the Kodiak area since 1970. Increased effort resulted in the removal of the major portion of postrecruit animals from the stock. As a result production declined to less than 1 million pounds in 1986 for the first time since 1977. The 1987 fishery experienced a modest increase in recruitment as the catch rose with fewer vessels participating. The production again peaked in 1989 with a large portion of the catch composed of animals newly recruited to the fishery. The average catch per pot in 1989 was the highest since 1981. Although the number of vessels participating since that time has remained steady, the harvest declined to levels experienced during the mid-80s with a similar decline in catch per effort.

In 1992, the Department of Environmental Conservation (DEC) discovered the toxin causing paralytic shellfish poisoning (PSP) in the viscera of Dungeness crab. A drop in ex-vessel value

was attributed to restrictions by DEC against the sale of whole cooked crabs. This condition persisted through the 1994 season. Live and whole cooked sales were allowed for Kodiak's Mainland Sections after testing revealed low PSP levels in those sections.

1994 Fishery

The regulatory opening of the commercial Dungeness crab fishing season was May 1 for the north end of the district and June 15 for the south end. Both areas remained open until January 1, 1995. A total of 31 vessels made landings harvesting 948,461 pounds of Dungeness crab (Table 15). Catch by statistical area is shown in Table 16.

This was the lowest harvest since 1977 when there were less than 3 vessels participating. The number of vessels involved in the 1994 fishery was the lowest since 1980. The season catch was worth \$1.1 million in ex-vessel value to the fishermen at the average price of \$1.20 per pound.

The Southeast Section continued to produce the majority of the harvest (67%) with the 1994 catch at 0.6 million pounds (Table 17). Production from all sections was lower by section than the previous 7 years with the exception of the Westside section, which had a greater harvest than both the 1990 and 1991 fisheries.

The 1994 season was marked by the continued presence of the toxin causing PSP in the viscera of Dungeness crab. Whole-cook markets were restricted and consumers were warned of the danger of eating crab "butter". The Department of Environmental Conservation continued to use the action levels established in 1993 to regulate Dungeness crab processing in Alaska. When levels of PSP were found to be greater than 70 micrograms per 100 grams, restrictions against whole cooked crabs and live sales were enacted. Most areas around Kodiak were restricted for the entire 1994 season except for the North and South Mainland Sections where PSP levels were found to be lower than 70 micrograms per 100 grams. Some live sales from crabs caught in these areas did occur.

Stock Status

No assessment of Kodiak Dungeness stocks is conducted independent of the commercial fishery. Animals newly recruited to the fishery at the minimum carapace width of 165 mm continue to provide the bulk of the harvest. Crab sampled during the 1994 season were 86.8% recruits with a mean carapace width of 182 mm (Figure 8).

KING CRAB

Introduction

This report will cover the commercial king crab fishery for Kodiak and the Alaska Peninsula. The Kodiak Management Area has its northern boundary at the latitude of Cape Douglas and a western boundary at the longitude of Cape Kumlik. Although this discussion will focus on the development of the commercial fishery and regulatory process in the Kodiak Management Area, the management strategies for the Alaska Peninsula and as other areas of the state were tailored after those developed for the Kodiak Area.

Historic Background

The Kodiak king crab fishery was pioneered by salmon fishermen. Beginning in 1936 small amounts of red king crab *Paralithodes camtschaticus* were landed, but catches were not officially recorded until 1950. This period in the history of the fishery was exploratory in nature. Fishermen were locating crab, determining abundance and testing gear types. Once the resource was determined abundant enough to support fishermen, markets had to be developed to sell the product.

During the exploratory period, the Bureau of Commercial Fisheries (now National Marine Fisheries Service) was the management agency. Regulations in effect during this period provided for retaining only males with a minimum carapce width (cw) of 5½ inches. In 1949 the size limit was increased to 6½ inches cw.

In 1950, 60,000 pounds of king crab were landed, and the fishery was on its way to becoming a major force in the economy of the Alaska fishermen. From 1950 to 1959 the catch increased from 60,000 to 21 million pounds. During this period, a pot limit of 15 pots for Cook Inlet and area registration were instituted. Also in 1959 pots and ring nets were classified as the only legal gear and a pot limit of 30 pots per vessel was established for Kodiak. As Alaska gained statehood, management authority was transferred to the Alaska Department of Fish and Game.

In 1960 the king crab season was opened year around. Eight processors bought 21 million pounds of king crab at 8 cents per pound from 143 vessels (Table 18). The months of January and February accounted for approximately 50 percent of the harvest. In 1961 the Department recommended that more research was needed to determine the stock parameters, breeding habits, age, and size of maturity before more regulations were instituted. In 1963 the size limit was increased to 7 inches based on Kodiak area growth rate studies and to allow male king crab to breed at least one year before being available to the fishery. During the early 60s, the fishery continued to grow until 1964 when the Good Friday earthquake slowed production. Even with the earthquake, the 1964 harvest equalled the 37 million pound harvest of 1963.

In 1965 the 30 pot limit was no longer in the regulations. A newshell crab closure went into effect from May 1 to June 30 (Table 19). There were 19 shellfish processors in Kodiak paying 10 cents per pound. The Department had completed king crab tagging studies and had defined four major separate stocks of crab. Also in 1965, the staff report to the Fish and Game Board stated that the stocks could not continue to support the large harvests that were occurring. The staff recommended the implementation of a quota system to curtail the harvest; however, no guidance was provided by the staff and no action was taken by the Board.

The development period which began in 1950 peaked in 1966, when 177 vessels delivered 90 million pounds to 32 processors in a ten-month fishing season. Catches in January and February accounted for 40% of the harvest. From 1965 to 1966, vessel effort and average vessel length increased along with a 37% increase in processors. All these factors combined to produce the peak harvest. In 1966 the Department issued the first emergency order to protect newshell and breeding crab and added its first shellfish management position. After examining 12,000 female king crabs, of which only three to five percent were barren, the Department stated that Kodiak king crab stocks were biologically sound. It appeared that a sufficient number of males were present to mate most of the females.

From 1967 to 1970 the king crab fishery expanded to offshore areas in an attempt to maintain the catch levels of previous years. In 1967 the Department started a test fishing program to locate concentrations of prerecruit crab and to estimate future production. The first catch projections predicted a continuing decline in future catches. The 1967/1968 season catch dropped to 43 million pounds, 30 million pounds less than the prior year. Also in 1968, females examined from eight different areas showed that 16% were not carrying eggs.

During the 1968/1969 season the catch dropped to 18 million pounds, and the fishery was closed by emergency order on February 28. The Department determined that in areas with an intensive commercial harvest, there was a higher incidence of barren females. In some areas 25% of the females were barren, with a higher proportion of large females barren than small females. The fishery was still dependent on a weak recruit class.

In July 1970, the Alaska Board of Fish and Game instituted a pot limit of 60 pots per vessel and established a catch quota system. The Department was directed to institute surveys for abundance estimates. The goals of the policy were twofold:

1. To develop and establish a stable fishery, with the objective of eliminating fluctuating harvests characteristic of the fishery.
2. To develop and maintain a broad base of various age classes in order to insure breeding success.

ADF&G was to present estimates of abundance to the Board, which set the quotas. Quotas were not to be increased unless the Board was notified two weeks in advance. The quotas set by the Board were intended not only to arrest the decline of the king crab fishery but also to return a degree of economic stability and cost effectiveness. Sometimes these quotas resulted in lower fishing mortalities of 20 to 30 percent, resulting in the carry over of large numbers of harvestable crabs in the following years. This stock-pile effect caused extremely short, fast-paced seasons. Many areas that had been fished later in the year were left unharvested. In 1971

the Board increased the pot limit to 75 pots per vessel. By 1972 the decline had been reversed and harvests started increasing. The 1973 fishery lasted 10 days under a fixed quota system and the Southern District was reopened for an additional eight day fishery.

In 1974 the Board adopted an 8 inch minimum size limit for a second season, as proposed by the Kodiak Advisory Committee. The purpose of the 8 inch season was to provide a harvest opportunity later in the season for areas that had produced larger crab but had not been fished in recent years. Also, the harvests during the 7 inch season were composed of a larger percentage of postrecruit crab because of the restrictive quotas. It was believed that many of the crab that were not caught during the 7 inch season would be lost through natural mortality. Since it was indicated that an increase in harvest could be made, the Board took a cautious approach and decided to increase exploitation on the older postrecruit crab. The Board also adopted a flexible system of harvest guidelines rather than fixed quotas. The Board directed the Department to continue to manage the fishery using a multi-age-class management strategy based on analysis of crab stocks.

The harvest guideline system provided a more liberal approach to the harvest strategy. During the 1975/76 fishery the Department tried to maximize the harvest within each district by dividing districts into schools and closing each school when a 33% fishing mortality was reached (based on in-season tag recoveries).

In 1976 the Board adopted a fixed opening date of December 1 for the 8 inch season. The December 1 opening date provided an opportunity for all size vessels to participate in the second season. The additional season allowed a second opportunity to fish, provided an extra stimulus to the local economy, and became an important economic opportunity for a large portion of the fleet.

In 1978 the Board lowered the minimum size limit of the second season from 8 inches to 7½ inches. The Department proposed the change because of the large amount of postrecruit crab available between 7½ and 8 inches that year. The 1978/79 second season recorded a harvest of 1.7 million pounds, similar to the 1.8 million pounds landed in previous years. The lowered size limit increased recruit harvest during the second season from less than one percent under an 8 inch size limit to 15 percent the first year it was in effect. In 1979 the Board of Fisheries increased the pot limit to 100 pots per vessel. The Board adopted a management plan for Kodiak in 1981. The plan's direction was threefold:

1. individual stocks of crabs are to be managed as a single unit, and small closures that leave a portion of a stock open should be avoided;
2. utilization of stocks should be based on overall stock size while considering recruit and postrecruit population levels;
3. a second season for 7½-inch crab will be provided for with an opening between November 15 and December 15.

Also in 1981 the Board increased the pot limit to 150 pots per vessel. The 1981/82 season harvest was the highest of the previous 14 years at 24.2 million pounds. The 1982/83 season harvest declined to 8.7 million pounds, the lowest in 24 years. However, the value of the

fishery was the second highest, worth \$32.7 million. The effort level for this fishery is also the highest on record with 309 vessels participating.

In 1983 the traditional red king crab fishery was not opened by the Department of Fish and Game due to poor stock condition. This was a result of poor recruitment to legal-sized animals for the previous two years combined with continued low recruitment forecast for the next three years. The population of adult male crab was the lowest recorded in 13 years of annual population assessments. The department established threshold levels of legal males needed prior to considering any further fishery. The threshold of 10.3 million pounds of legal crabs was nearly twofold the 5.5 million pound estimate of the 1983 survey. Additionally in 1983 the Alaska Board of Fisheries lowered the pot limit to 100 pots per vessel.

In 1984 and 1985 the estimate of legal males on the pot survey remained below the 10.3 million pound threshold level established for Kodiak Island. However, in 1985 the estimate of legal males in the Southwest District was 4.9 million pounds. This was above the threshold value of 3.4 million pounds of legal crab established for the district. The department proposed a 450,000 harvest and presented this proposal to the Kodiak Advisory Committee (KAC). After review of both department and industry views, the KAC voted unanimously to oppose a fishery in the Southwest District. Their concerns were that a small area open with a large effort level would be destructive to the reproductive potential of the stock. The Commissioner of Fish and Game acknowledged the KAC concerns, and the Kodiak king crab fishery was closed during 1985.

From 1986 the fishery again remained closed as the estimate of legal males was below threshold values. The department revised the management plan from a threshold of legal males needed for a fishery to a number of fertilized females needed to maintain maximum reproductive potential of the stocks when populations are depressed. This threshold value for the Kodiak Management Area is 5.1 million fertilized female red king crab.

In 1987 a trawl survey was conducted throughout the management area for the first time to assess both red king and Tanner crab stocks. Previous ADF&G trawl surveys had been limited to Tanner crab assessment in the Shelikof and portions of the Northeast and Eastside Sections of Kodiak Island. Offshore areas of Chignik and Pavlof Bay in the South Peninsula had also been surveyed. This trawl survey estimated a population of 310,000 adult female red king crab around Kodiak of which 47% were not carrying egg clutches. Additionally the estimate of legal males was 177,000 crabs, the lowest estimate in the history of the survey. The 1987 survey results indicated a continuation of the decline in red king crab abundance that had been noted the past five years and the commercial fishery again remained closed.

From 1988 to 1994, the department conducted trawl surveys to assess king and Tanner crab populations with the study areas expanded to encompass the Alaska Peninsula and eastern Aleutian Management Areas. Population estimates were derived for the main commercial fishing districts by sex and size categories. The Kodiak Management Area continued to remain closed because the abundance estimates of females was well below threshold levels. Complete information on the Westward Region trawl survey catches can be obtained from the department in a series of Regional Information Reports.

The pot limit for commercial king crab fishing in the Kodiak area was reduced in 1993. A sliding scale of 25-75 pots per vessel was selected based on the projected harvest guideline. Although a fishery had not occurred in the prior 10 years, this public proposal was aimed at reducing effort when the fishery did reopen.

Stock Status

The Kodiak red king crab population remains at historically low population levels, and the fishing seasons for this species have remained closed since 1983. During the 1994 Kodiak trawl survey the department sampled crab habitat with 200 hauls. The red king crab population was estimated to be 114,000 animals of which 30,000 were legal-size males (Table 20, Figure 9). The mature female red king crab population was estimated to be approximately 39,000 crabs (Table 21). Forty-three percent of the mature female crab sampled had an estimated ovigerity of 80% or greater. Nearshore habitat was not well sampled due to survey design and conflicts with commercial Dungeness crab pots so population estimates should be viewed cautiously, especially in regard to smaller animals.

Brown king crab, *Lithodes aquespina*

Interest in harvesting brown king crab grew with the collapse of the red king crab stocks. Although brown kings were occasionally landed with red king crab in prior years, the first recorded landings occurred in 1983. In that year, 12 vessels explored around the island finding limited resources. The catch totaled 111,398 pounds from 36 landings (Table 22). The largest harvest from this fishery was 146,478 pounds taken in 1986. The minimum size for brown king crab in Kodiak was reduced by the Alaska Board of Fisheries from 7 inch carapace width to 6 1/2 inches in 1985.

Since 1988, there has been either just 1 or 2 boats with confidential landings or no activity at all.

SHRIMP

Trawl Fishery Historic Background

The Kodiak shrimp fishery began in 1958 with a harvest of 31,886 pounds. The fishery grew rapidly to an annual catch of 10 to 12 million pounds in the early 1960s. The fishery slowed when shore plants and the fishing fleet were badly damaged by the 1964 earthquake and tidal wave, but then grew rapidly to a peak of 82.2 million pounds in 1971 (Table 23). As Kodiak shrimp catches declined in the 1970s, much of the vessel effort shifted into the Chignik and South Peninsula areas until those areas demonstrated similar declines in the late 1970s.

Vessels that have participated in the Kodiak fishery are of three types: vessels that fish with beam trawls, vessels that fish a single otter trawl, and vessels that fish two otter trawls simultaneously. The single otter trawl vessels have participated in the fishery since 1958. Beam trawl vessels started fishing in 1970 (F/V *Taurus*, F/V *Sue*). The double rigged otter trawl vessels first fished Kodiak in 1969 (F/V *Pacific Challenger*), followed by more efficient stern ramp double otter trawls in 1970 (F/V *Dawn*). These double rigged vessels increased efficiency. Double rigged vessels have hold capacities of up to 200,000 pounds, while single rigged otter trawls are typically hold less than 120,000 pounds. Beam trawlers typically pack less than 20,000 pounds. The efficiency and ability to deliver larger loads enabled the double rigged otter trawlers to range over a much larger area than was customary. Along with the other innovations to the fishery, double rigged vessels also introduced Gulf of Mexico style nets, which were more efficient than the West Coast manufactured nets used previously. These new style nets were quickly adopted by the single rigged vessels. Gear continued to change as new materials and ideas were tried: wider nets, higher opening nets, different mesh size, longer nets and roller gear. Along with the increase in gear technology in the 1970s, electronics became more sophisticated and reliable as a tool to locate shrimp.

No regulatory measures were promulgated in the Kodiak shrimp fishery until 1970 when the Alaska Board of Fish and Game (later known as Alaska Board of Fisheries) adopted an egg hatch closure during March and April for some bays and nearshore areas. In 1971 a quarterly quota system was adopted to provide harvest throughout the year while not allowing unrestricted harvest. The allowable harvest for various fishing sections was divided into four periods. In 1972 the Board adopted a total egg hatch closure for the Kodiak Area during March and April. In the late 1970s, the quarterly quota system was reduced to a single opening for certain areas and staggered opening dates for many of the fishing sections, while others retained two fishing periods - fall and winter (September 1 - December 31 and January 1 - February 28). Beginning in 1979, the opening date was changed from May 1 to June 1. Most of the adjustments to season dates was due to industry's desire to spread harvest out over a longer time period while trying to prevent conflicts with vessels and processing in other fisheries. Also, during the late 1970s, stocks in some areas were not large enough to support fisheries, and these areas were opened and closed by emergency order.

The Department of Fish and Game conducted a voluntary logbook program beginning in 1967. This database, plus trawl surveys conducted by the department since the early 1970s, provided means for establishing harvest levels by the late 1970s. This database and harvest adjustment system was quite flexible during its developing stage. By 1981 industry demanded this flexible management scheme be defined. This led to the *Westward Region Shrimp Management Plan* which was presented to the Board of Fisheries in April 1982. This plan was reviewed by the Board, and amendments in certain areas were made at the Board's request. The objectives of this management plan are to maintain shrimp stocks at a level termed "representative biomass index" (RBI) determined by survey trawls, while allowing a fishery during rebuilding periods. Exploitation rates increase as the population level approaches or exceeds RBI and decline if the survey index is less than the RBI level. Additionally, a minimum level at which any harvest would occur was established. This "minimum acceptable biomass index" (MABI) is 40 percent of the representative index level.

Concurrent with adoption of the *Westward Region Shrimp Management Plan*, the BOF also enacted an alternative management strategy as an "economic alternative" known as the *Mainland Shrimp Management Plan*. This alternative management strategy allowed shrimp fishing in some bays on the Alaska Peninsula irregardless of survey results. Specifics can be found in the commercial shellfish regulations under 5 AAC 31.530.

Since both of these management plans have been in effect, stocks have continued to decline. Under the *Westward Region Shrimp Management Plan* few areas have been open the past eight years. The Mainland fishery, while open, has steadily declined in both production and area fished.

1994/95 Trawl Fishery

The trawl fishery opened in the Kodiak District on June 15, 1994 and closed February 28, 1995. Areas specified in the *Mainland Shrimp Management Plan*, undefined areas, and North Afognak were open to shrimp trawl fishing (Figure 10). During the 1994/95 season there were no vessels registered to fish shrimp and no landings occurred.

Stock Status

During 1992 the Department conducted a trawl survey for shrimp in the Westward Region. Population estimates for each section in Kodiak are listed in Table 24. All sections remained below the level required by the Westward Region Shrimp Management Plan to warrant an opening.

Stocks in the Kodiak District remain at depressed levels. There appears to be little if any improvement in stock conditions overall. Areas under the *Mainland Shrimp Management Plan*, while remaining open, continue to have little or no production. The next shrimp survey is planned for September 1995.

Pot Shrimp Fishery

Currently, no assessment of stock size or condition is conducted by the Department other than information from the fleet. A small harvest (confidential) taken by one vessel occurred during 1994 (Table 25).

KODIAK SCALLOP FISHERY

Introduction

The Kodiak Registration Area includes the waters of the Pacific Ocean south of the latitude of Cape Douglas and east of the longitude of Cape Spencer (Figure 11).

The Kodiak scallop fishery began in 1967 when 2 vessels explored the east and northeast parts of Kodiak Island, harvesting 778 pounds of scallop meats. During 1968, the first full year of fishing, 8 vessels harvested 734,084 pounds of scallop meats in the Kodiak Registration Area. The Kodiak scallop fishery peaked in 1970 when 7 vessels landed over 1.4 million pounds of scallop meats. Catches declined in the 1970's to no harvest in 1977 and 1978. Since 1980 landings have fluctuated from a low of 46,971 pounds to a high of 689,402 pounds of scallop meats (Table 26).

In the early 1970's the department closed the south end of Kodiak Island and Marmot Bay to scallop fishing due to the observed high bycatch of king crab in these areas. The regulatory season ending date was also changed to March 31 to protect molting king crab. In 1990, the Board of Fisheries closed areas to scallop fishing that had previously been closed to non-pelagic trawls in order to protect depressed king and Tanner crab populations. This included Kodiak's Westside bays.

In May of 1993 the commissioner declared the Alaska scallop fishery a "High Impact Emerging Fishery". An interim scallop management plan including 100% observer coverage and crab bycatch caps was implemented.

In March 1994 the Board of Fisheries reviewed and adopted the ADF&G scallop management plan. A regulatory year of July 1 to February 15 was set to avoid scallop spawning and king and Tanner crab molting periods. The Alaska Board of Fisheries adopted the same percentages for bycatch of crabs in the scallop fishery as were already established for the groundfish fisheries around Kodiak. Bycatch caps are based on crab population estimates derived from trawl surveys. Bycatch rates of one percent (1%) and one half of one percent (.5%) of the total population estimate of crabs are used to calculate the number of crabs allowed as bycatch. A one percent bycatch cap was applied in areas where a directed commercial crab fishery was open. If an area did not open to a directed commercial crab fishery a cap of one half of one percent was applied.

The 1994 Fishery

The 1994 fishery started January 1. A total of 7 vessels landed 27,350 pounds of scallop meats prior to the February 11 emergency order closing the Semidi area of scallop registration Area K, Kodiak Island. The closure was based on high bycatch rates and low fishery performance.

The Kodiak fishery reopened on July 1 with most of the effort occurring in Shelikof Strait. Observers reported the vessel's scallop harvest, crab bycatch and statistical areas fished three times per week. The information was collected and compiled by the scallop observer coordinator in Kodiak. An emergency order effective October 1, 1994 closed the Shelikof area to scallop fishing based on low catch per unit effort. Approximately 313,000 pounds of scallop meats were landed from the Shelikof area. Based on observer radio reports bycatch of Tanner and king crab was approximately 65,983 and 31 individuals respectively.

After the Shelikof area closed, fishing effort shifted to the Northeast area. A preseason bycatch cap was established at 143,000 Tanners and 123 king crab based on the 1993 crab trawl survey population estimates. As a result of the 1994 crab trawl survey an inseason adjustment was made decreasing the allowable Tanner crab bycatch from 143,000 to 92,500 and increasing the king crab bycatch limit from 123 to 256 crabs. Due to low catch rates the fleet discontinued fishing efforts in the Northeast area by mid-November. The Northeast area closed by regulation on February 15, 1995. Approximately 35,000 pounds of scallop meats were harvested from the Northeast area. According to observer radio reports 2,271 Tanners and 72 king crabs were taken as bycatch.

Catch and effort information for the Semidi area after the July 1 season opening date is confidential due to the few vessels participating.

During 1994 a total of 11 vessels made 36 landings, harvesting 381,850 pounds of shucked meats.

Stock Status

The ADF&G does not conduct assessment surveys for weathervane scallops in the Kodiak registration area. However, the newly created scallop observer program will provide information necessary to assess the scallop resource. Currently the 1994 scallop observer data is being compiled and fishing locations, scallop shell heights and dredging effort will provide insight of the population structure. The department is currently in the process of ageing observer collected scallop shells to determine growth rates and age structure of the scallop population.

SEA CUCUMBERS

Historic Background

Sea cucumbers were not harvested commercially in the Kodiak area until 1991. In 1991 and 1992 small numbers of the red sea cucumber *Parastichopus californicus* were taken to test marketability. In spring 1993, several processors recruited divers to commercially pick sea cucumbers in the Kodiak and Chignik areas. The fishery was allowed to develop under the

terms of a permit authorized by 5 AAC 38.062. The department specified dive gear as the only legal gear and required dive logs to be submitted with fish tickets. Harvests were monitored to determine abundance and distribution as the department does not have a stock assessment program. Landing weights were recorded as the eviscerated weight, with the 1993 catch totaling 564,516 pounds taken by 50 divers (Table 27). Management areas for sea cucumbers in the Westward Region area shown in Figure 12.

1994 Fishery

A news release dated February 28, 1994 announced a sea cucumber fishing period for the Kodiak District from April 1 - 30. In addition, all areas in the Westward Region would close from May 1 through September 30. This closure period was established to protect aggregated sea cucumber populations during the spawning portion of their life cycle. Diver reports and logbook information indicated that spawning activity takes place from June to August in the Kodiak area. This is similar to the time frame found in Southeast Alaska and elsewhere on the Pacific Coast.

The February news release also described the guideline harvest levels (GHL) that were set for the Kodiak and Chignik Districts. A total of 200,000 pounds was announced for Kodiak with the Chignik GHL set at 50,000 pounds. Other districts within the Westward Region would remain open for exploration until April 30 without guideline harvest levels established. Registration permit provisions included a weekly fishing period of 5 days and daily logbooks submitted by divers with their fish tickets. There were 80 divers registered to fish during the April opening.

Preseason GHLs were attained or exceeded in the Northeast, Eastside, Southeast, and Westside Sections by the close of the first 5 day fishing period. The Southwest section was allowed to reopen for an additional 3 day period.

Some exploratory effort occurred in the South Peninsula district after production areas closed. Little evidence of marketable quantities of sea cucumbers was found. All remaining areas closed to commercial fishing on April 30 to protect sea cucumbers during the spawning aggregation period.

The Department issued an August 18, 1994 news release that detailed guideline harvest levels for the 1994/95 season. The fishery was scheduled to open on October 1, 1994 with weekly fishing periods of 3 days. Guideline harvest levels for the Kodiak and Chignik Districts totaled 225,000 pounds. Twenty-five divers were registered to fish at the start of the fishery, with most divers fishing in the Southeast Section. The Southeast section closed after the first three day fishing period with a harvest of 44,943 pounds (Table 28). The Southwest Section closed on October 17, 1994 while the Eastside Section closed on October 22, 1994. By mid-November inclement weather had stifled any further fishing activity for the year although there were harvest areas left open. The number of active divers had dwindled to about six and they shifted into sea urchin production.

The October 1994 fishery had only two active processors so catch reports will be combined with the April 1994 harvest. The next fishery is scheduled for October 1995.

SEA URCHINS

Historic Background

The green urchin *Strongylocentrotus droebachiensis* was not harvested commercially in the Kodiak Area until 1980 when a small amount was taken to test marketability. There was little further interest in urchins until 1985 when a small harvest occurred. In 1986 the harvest increased with more divers participating (Table 29).

Sea urchins are harvested for their roe content and seem to be prime for harvest in the Kodiak area between October and December. However, it appears some urchin beds have commercial quality roe as late as mid-February. All urchins are harvested by the use of scuba and hookah diving gear.

In interviewing buyers of the raw product, there appears to be a variation in the quality of the product. Taste, texture, and color of green urchin roe appears to vary with water depth, diet and freshwater influence. Urchin size has an effect on quality and marketability of roe. Kodiak buyers were encouraging divers not to retain urchins less than 2" in test (exoskeleton) diameter.

All urchins harvested in the Kodiak area were placed in shipping boxes live and air freighted to Japan via Anchorage. Roe was then extracted and prepared for market.

1994 Fishery

Interest in harvesting sea urchins waned during 1994. Fifteen divers were registered, but the majority did not make any landings. There was little activity in the fishery until late November and December. The dive fishermen targeted sea cucumbers prior to that time. Catches remain confidential as less than three buyers participated.

Some fishing continued through January and February 1995. Overripe and spawning urchins were observed and reported throughout the month of February around Kodiak. All fishermen registrations expired February 28, 1995. The department did not renew those registrations due to the onset of the spawning cycle for sea urchins. The next open harvest period will be October 1, 1995.

Stock Status

No assessment work is currently being done on sea urchins in the Kodiak area. Recent fishery information indicates the resource biomass is not large when compared to other areas on the Pacific Coast.

OCTOPUS

The giant Pacific octopus *Octopus dofleini* exists throughout Alaskan waters and is quite abundant in the Kodiak District. Most recorded catches have been incidental to other commercial fishing activities such as crabbing and bottomfishing. The harvest increased through the years to a peak of over 19,000 pounds in 1980 (Table 30). Reduced catches after 1980 were the result of shortened Tanner crab seasons.

Interest in the fishery has been increasing due to the demand by longline fishermen for bait octopus. The octopus fishery experienced a dramatic increase in 1990. Caught incidentally in the rapidly expanding pot fishing for Pacific cod, the harvest increased to 138,333 pounds in 1993. The harvest during 1994 was reduced to 10,449 pounds primarily due to low market interest by processors.

Stock Status

Although the octopus is thought to be numerous, no estimate of abundance is available. The Department currently has no directed study concerning octopus.

RAZOR CLAMS

Historic Background

Razor clams *Siliqua sp.* have been harvested in the Kodiak Management Area since the early 1920s (Table 31). Though many Kodiak Island beaches were explored with some success, the principal commercial harvest occurred about 70 miles northwest of Kodiak in the Kukak Bay, Hallo Bay, Big River, and Swikshak Beach regions. Digging continued on a somewhat regular basis until the early 1960s when a combination of increasing federal and state regulations in processing the product, poor market conditions, and the 1964 earthquake precipitated a decline in harvests. Commercial harvesting of clams for human consumption has never become re-established and the fishery has been strictly hand-digging for use as bait in the Dungeness crab fishery. The certification program ended in July 1980. In 1990, there were no clam beaches in

the Kodiak Area certified as safe for human consumption by the Alaska Department of Environmental Conservation.

Many of the principal harvest areas along the Alaska Peninsula are adjacent to the Katmai National Monument which includes all the land above mean high water from Cape Douglas to Cape Kubugakli. Commercial activity within the monument is restricted by the current policy of the U.S. Park Service which dictates a ban on camping in the monument in support of a business enterprise.

In 1986 the Alaska Board of Fisheries adopted a regulation prohibiting hydraulic mechanical dredges from harvesting clams in the Kodiak Area east of Kilokak Rocks.

Stock Status

The potential for a razor clam harvest in the Kodiak Management Area has been established by historic catch records and studies conducted by the Department. These studies, however, were conducted in the mid 70s and are of little benefit in judging stock status at this time due to environmental changes that have occurred. Based on success by diggers the past few years, it appears the clam populations have drastically declined in the Swikshak - Big River Area, which historically produced a large portion of the razor clam harvest.

1994 Fishery

There were no landings of clams from the Kodiak Area during 1994.

ANNUAL MANAGEMENT REPORT FOR THE
SHELLFISH FISHERIES OF THE ALASKA PENINSULA AREA, 1994

By

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ALASKA PENINSULA

Introduction

The Alaska Peninsula Management Area includes those waters of the Pacific Ocean west of the longitude of Cape Kumlik and east of the longitude of Scotch Cap Light (Figure 13).

Commercial shellfish fisheries have traditionally occurred in the Alaska Peninsula on king crab, Tanner crab, Dungeness crab, shrimp, scallops and octopus. Shellfish stocks are considered depressed and no commercial fishery has occurred since 1982 for king crab and shrimp and since 1989 for Tanner crab. Limited effort has occurred on Dungeness crab, scallops, sea cucumbers and octopus. This management area includes within it the communities of Chignik Lake, Chignik Lagoon, Anchorage Bay, Perryville, Ivanoff, Sand Point, King Cove, Cold Bay and False Pass.

KING CRAB

Introduction

The red king crab fishery in the Alaska Peninsula Registration Area M began in 1947, when 141,000 pounds were landed. The historic high catch of 22.6 million pounds occurred in 1966 (Table 32).

Of the three Area M king crab districts, the major portion of the harvest in the last ten years of fishing came from the Central District with Pavlof Bay being the major producer. The annual catch in the Unimak Bight District during the same period averaged less than half the Central District annual harvest. Catches in the Chignik District during this period varied depending on effort but did not exceed 386,000 pounds.

During the 1980/81 season the Area M harvest reached just over five million pounds, the highest catch since the 1968/69 season (Table 32). The catch was the result of strong recruitment from 1978 through 1980. Recruitment has declined severely since that time. The fishery was closed for the first time during the 83/84 season and has remained closed since.

1994/95 Season Summary

As has been the case since 1983/84, the 1994/95 commercial fishery in Area M was not opened. The closure was announced by Emergency Order 4-S-15-94 on September 14, 1994.

Stock Status

The Alaska Department of Fish and Game conducts annual surveys of the Alaska Peninsula crab stocks. In 1994, a survey was conducted with the R/V Resolution during August and early September covering king crab habitat throughout the registration area.

Data from the 1994 survey indicates the red king crab population remains at a very low level. A total of 96 red king crabs were captured in the 155 trawl hauls sampled. Only 3 red kings were legal size males (Table 33). One haul in Cold Bay accounted for 90 of the total crab captured. The king crab stocks in the Alaska Peninsula remain severely depressed and no commercial fishing is anticipated in the near future.

Brown King Crab

Occasionally fishermen express an interest in exploring Area M for brown king crab *Lithodes aequispina*. In 1983 five vessels registered but no catch was recorded. Presently, male brown king crab 6-inches or greater in shell width may be taken from January 1 through December 31 under a permit issued by the Commissioner. No vessels registered to fish for brown king crab in Area M during 1994. Stock status is unknown, and no commercial quantities have been located to date.

CHIGNIK TANNER CRAB

Historic Background

The Chignik District of area J consists of the waters south of the Alaska Peninsula from Cape Kumlik west to Kupreanof Point (Figure 14).

The Chignik Tanner crab fishery began in 1968 when 21,000 pounds of crab were caught (Table 34). During the next four years, the market was uncertain and harvests were erratic. Other than a 14 day closure before each king crab season and limiting gear to pots or ring nets, few regulations governed the early fishery.

In 1973, market conditions improved, and 15 vessels produced nearly 750,000 pounds. There were 25 vessels the next year, and the catch grew to 4 million pounds. In 1975/76, 35 vessels landed the peak harvest of 7 million pounds. By 1976, the rapid growth of the fishery caused the BOF to adopt several protective regulations. A system to register and inspect vessels was adopted and the harvest was restricted to male crabs with carapace widths 5.5 inches or more. The seasons were set to open November 1 and to close in May or June to protect crabs during the mating and molting period. In addition, guideline harvest levels were established. Concern over lost pots led to the adoption of a regulation requiring that: "After July 1, 1978, each Tanner

crab pot shall contain a mechanism that will destroy its fish catching and holding ability if lost or abandoned." For the next five seasons, the harvest was less variable, and catches ranged from 2.5 to 5.6 million pounds.

Three other points characterized the first 14 years of the Chignik District fishery. First, the productive grounds included nearly all waters of the District, with most of the production coming from the offshore waters between Mitrofanina Island, Lighthouse Rocks, and the Semidi Islands. Second, most of the fishing began in late March after the Kodiak and South Peninsula District fisheries closed. Third, no abundance surveys were conducted during this period. The 5-10 million pound guideline was based on the historical harvests from 1974 to 1976/77. Even with the relatively liberal seasons, the guideline was rarely attained.

Since 1981, there have been several changes in the fishery. The Department conducted trawl surveys each summer from 1981 to 1984. The surveys predicted poor recruitment after the 1983 fishing season. Harvest projections were drastically reduced for the 1984 and 1985 fisheries.

As predicted, commercial harvests dropped sharply each season from 1984 to 1986. Following a minor increase in 1987, the 1988 catch declined to 183,000 pounds; the lowest harvest in 16 years. The catch did not decline uniformly over the grounds, but fell off first and most rapidly in the popular offshore waters. Production from offshore waters decreased steadily until production was limited for Chignik Bay and a few other near shore areas in 1988.

Concurrent with dwindling catches, fleet size decreased from 48 vessels in 1983 to 6 vessels in 1988 when four locally-owned seine vessels, one boat from Sand Point, and one 65 foot vessel from Kodiak participated in the fishery.

Beginning with the 1981 season, the fleet commenced fishing on November 2, the opening date of the season and continued fishing until the District was closed. However, as the fishery changed several changes to the opening date of the fishery were made: in 1981/82 the date was moved to December 15; subsequently, the date was set to February 10 for the 1983 and 1984 seasons. In part, the new dates were established to harvest the crab at peak quality. Further, some fishermen hoped the new dates would find the large vessels busy fishing in the Bering Sea thus reducing competition in the Chignik and South Peninsula Districts. However, in the adjoining South Peninsula District, seasons opening in February were found to extend into the crab molting period. Therefore, beginning in 1985, the opening date has been January 15. In 1988, the BOF adopted a March 31 closure date because molting was occurring before the former May 15 closure. Since 1990 the Chignik Tanner crab fishery has remained closed due to the low abundance of Tanner crab in the area.

In 1993 the BOF adopted pot limits for the Chignik District. This pot limit, effective for the combined Chignik and South Peninsula Districts, is 40 pots when the guideline harvest level is less than 600,000 pounds and 75 pots when the guideline harvest is 600,000 pounds or more.

1994 Fishery

The 1994 Tanner crab fishery in the Chignik District did not open. Emergency Order 4-S-02-94 was issued closing the Chignik District to Tanner crab fishing.

Stock Status

The department has conducted trawl surveys in the Chignik District for the past five years. Population estimates of legal crabs have declined in 1989 from 497,000 legal males to 236,000 in 1991, and down to a record low of 46,500 in 1992. Legal male Tanner crab estimates increased to 115,000 in 1993 but declined in 1994 to 78,000 crabs. Over all, the population of crabs is well below the levels of the late 1980s when the commercial fishery closed. Based on continuing low levels of prerecruits the department expects no significant increase in legal crab abundance in the near future. The commercial fishery remained closed during 1994.

SOUTH PENINSULA TANNER CRAB

Introduction

The South Peninsula District of Area J includes all waters south of the Alaska Peninsula from Kupreanof Point to Scotch Cap Light on Unimak Island (Figure 15). The first harvest of Tanner crab from the area occurred in 1967 when 3,100 pounds were landed. The fishery grew quickly, and by 1973 harvests exceeded five million pounds (Table 35). In 1974 guideline harvest levels were established, and in 1975 seasons were imposed to protect adult crab during the mating and molting period. In 1976, the minimum size limit of 5.5 inches across the carapace was established. During the six seasons from 1974 through 1978/79, harvests ranged from 5 to 9 million pounds. The fishery peaked in 1978/79 when 9 million pounds of crab were caught. From 1979/80 to 1984 the harvest and CPUE declined in response to low recruitment to legal size into the population. The population declined in 1984 and the fleet only landed 2 million pounds. Recruitment improved in the years 1985 through 1988 and the harvest ranged from 2 million pounds to 4 million pounds. In 1989 the harvest decreased to 1 million pounds and recruitment also declined. The fishery has been closed since 1990 due to the low abundance of legal crab and the lack of recruitment. In 1993 the BOF established a pot limit of 75 pots when the guideline harvest is 600,000 pounds or greater. When the guideline harvest is less than 600,000 pounds the pot limit is 40 pots per vessel.

1994 Fishery

The 1994 Tanner crab fishery in the South Peninsula District did not open (Table 36). Emergency Order 4-S-02-94 was issued closing the South Peninsula District to Tanner crab fishing.

Stock Status

In 1994 the department conducted a trawl survey in the South Peninsula District to assess king and Tanner crab populations. Total estimated legal crab in the South Peninsula for 1994 was 185,000 crabs, down from the 1993 estimate of 267,000 crabs. Due to the low abundance of legal male Tanner crab and anticipated low recruitment, the 1995 Tanner crab fishery will not open.

ALASKA PENINSULA DUNGENESS CRAB

Introduction

The Alaska Peninsula District is described as all waters of Statistical Area J west of the longitude of Cape Kumlik (157° 27' W. long.) and east of the longitude of Scotch Cap Light (164° 44' W. long.) (Figure 16).

Historically, Dungeness catches from the District have been sporadic with the highest catch recorded in 1968 when 1.26 million pounds were landed (Table 37). Subsequent effort and catches remained low for many years due to low prices and better prospects in other fisheries. During the early 1980's, the decline in king crab stocks and a stronger market for Dungeness generated a renewed interest in the fishery. Local fishermen became concerned with overexploitation of the Dungeness stock along with an increase in effort. In 1983 the Alaska Board of Fisheries made the Alaska Peninsula District a superexclusive registration area. The superexclusive regulation has reduced effort in the district and poor catches of the last few seasons also discouraged participation in the fishery.

Management of the Alaska Peninsula District Dungeness fishery has been by sex, size and season. Only males greater than 6.5 inches in carapace width may be harvested from May 1 until January 1 or February 1 (the exact closing date has varied over the years). No research, including abundance surveys, has been conducted on the Dungeness of the area. Management

1994 Fishery

The Alaska Peninsula crab season opened May 1st. Four vessels landed 277,639 pounds of Dungeness crab in the Alaska Peninsula District during 1994

Stock Status

Information collected from the Alaska Peninsula Dungeness crab fishery has been limited to a few skipper interviews and sporadic catch samples. This sampling indicated that the catch has been predominantly recruit crab. Recruits are new-shelled legal males less than 194mm in carapace width

Since the department does not survey the Dungeness Crab population there is no way to predict harvests or recruitment for the 1995 fishery. Dramatic cycles of low and high abundance have been observed in other Dungeness fisheries. The department has observed abnormally higher catches of small Dungeness crab during the summer trawl survey in the Chignik area. If these crab survive and recruit into commercial sized animals, the commercial catch should increase in the near future.

ALASKA PENINSULA SHRIMP

Introduction

The Alaska Peninsula is divided into the Chignik and South Peninsula Districts, with districts subdivided into sections that are managed according to the *Westward Region Shrimp Survey Management Plan* (Figure 17). Shrimp fishing in the Alaska Peninsula began in 1968 when 5.9 million pounds were landed (Table 38). Catch levels remained relatively low until the 1972/73 season when 19.6 million pounds were harvested. The historic high catch was reached in the 1977/78 season with a harvest of 71.5 million pounds. Catches declined rapidly until all South Peninsula Sections were closed in 1980. Although the Sutwik Island Section and all offshore waters of the Chignik District remained open in 1981/82, only 70,948 pounds of shrimp were landed from the area.

Since that time all the inshore waters have remained closed and no fishing actively has occurred in the open area offshore. No vessels registered and no deliveries were made from the offshore sections that were open to fishing during the 1994/95 season.

Stock Status

During 1992 ADF&G conducted a trawl survey in a portion of the Chignik District. A total of 13 shrimp tows were made and the catch of shrimp in the Chignik District averaged 246 pounds per nautical mile towed. The Chignik Bay section population estimate was 2.0 million pounds. The minimum acceptable biomass index to warrant a fishery in Chignik is 4.55 million pounds. Although Chignik did not open to commercial fishing the population appears to be rebuilding.

The National Marine Fisheries Service conducted a shrimp survey in Pavlof Bay during 1994. The catch of shrimp in the Pavlof section averaged 2.5 pounds per nautical mile, the lowest estimate in the 23-year history of the survey. Shrimp populations in the Pavlof Bay section are severely depressed; no significant recovery is anticipated in the near-term. The department intends to survey shrimp stocks in the Chignik District in the fall of 1995 using trawl gear.

ALASKA PENINSULA SCALLOPS

Introduction

The Alaska Peninsula Registration Area includes the waters of the Pacific Ocean west of the longitude of Cape Kumlik and east of the longitude of Scotch Cap Light, excluding the Bering Sea. (Figure 18).

Historic fishing effort for scallops around the Alaska Peninsula has been sporadic. Most catch and effort information is confidential due to less than three vessels participating. However in 1982, six vessels landed 205,691 pounds of scallop meats. In 1993, six vessels landed 135,487 pounds of scallop meats. (Table 39)

Closed areas include waters within three miles of shore and the offshore waters of Unimak Bight and around Mitrofanina Island. The Unimak closure was adopted in the early 1970's to protect king crab habitat. The Mitrofanina Island closure was adopted in the mid-1980's to protect Tanner crab populations.

In May of 1993 the commissioner declared the Alaska scallop fishery a "High Impact Emerging Fishery". An interim scallop management plan including 100% observer coverage and crab bycatch caps was implemented.

In March 1994 the Board of Fisheries reviewed and adopted the ADF&G scallop management plan. A fishing season of July 1 to February 15 was set to avoid scallop spawning and king and Tanner crab molting periods. The Alaska Board of Fisheries adopted the same percentages for bycatch of crabs in the scallop fishery as were previously established by the State for the groundfish fisheries around Kodiak. Bycatch caps are based on crab population estimates derived from trawl surveys. Bycatch rates of one percent (1%) and one half of one percent (.5%) of the total population estimate of crabs are used to calculate the number of crabs allowed

as bycatch. A one percent bycatch cap is applied in areas where a directed commercial crab fishery occurred the previous season. If an area did not open to a directed commercial crab fishery a cap of one half of one percent is applied.

The 1994 Fishery

The 1994 fishery opened by regulation on July 1. Observers reported the scallop harvest, crab bycatch, and statistical areas fished from each vessel three times per week. This information was collected and compiled by the scallop observer coordinator in Kodiak.

A preseason bycatch cap was established at 44,000 Tanner and 119 king crab based on the 1993 trawl survey population estimates. The 1994 trawl survey conducted in September, approximately two months after the fishery opened, showed a decline in the Tanner crab population. Based on the new survey data the bycatch cap was reduced to 22,500 Tanner crabs. At that time the bycatch of Tanner was already approximately 26,000 crabs. The department responded by issuing an emergency order closing the Alaska Peninsula registration area the following day, September 22, 1994. According to observer reports approximately 26,379 Tanner crabs were taken as bycatch.

During 1994 a total of 7 vessels made 12 landings, harvesting 66,412 pounds of scallop meats.

Stock Status

The ADF&G does not conduct assessment surveys for weathervane scallops in the Alaska Peninsula registration area. Historic fishing effort in the Alaska Peninsula area has been low and sporadic. However, the newly created scallop observer program will provide information necessary to assess the scallop resource. Currently the 1994 scallop observer data is being compiled and evaluated. Data collected by the observers such as catch rates, fishing locations, scallop shell heights and dredging effort will provide insight of the population structure. The department is currently in the process of aging observer collected scallop shells to determine growth rates and age structure of the scallop population.

ALASKA PENINSULA MISCELLANEOUS SHELLFISH

Octopus

Octopus have frequently been harvested in the Alaska Peninsula District. Most of the harvest has occurred as incidental catch in other fisheries. Until 1988 octopus were usually taken incidentally during the Tanner crab fishery. Since then, octopus has been landed by trawl and

pot fishermen targeting codfish. The 1994 commercial harvest of octopus was 78,790 pounds landed by 26 vessels (Table 40). This has been the highest harvest recorded to date.

Sea Cucumbers

The Alaska Peninsula was initially explored for sea cucumbers in 1993. There were 93,701 pounds of eviscerated product landed by 13 divers primarily in November and December activity was sporadic throughout the winter but interest increased in March. The fishery remained open until April 8, 1994 when closed by emergency order after achieving guideline harvest levels. Those levels were published in a February 28, 1994 news release.

The Alaska Peninsula reopened to sea cucumber fishing on October 1, 1994 when the entire Westward Region reopened for the 1994/95 season from October 1 through April 30, 1995. A 50,000 pound guideline harvest level was established. Effort was minimal for the remainder of 1994 with only 3 divers registered.

ANNUAL MANAGEMENT REPORT FOR THE SHELLFISH FISHERIES OF THE
EASTERN ALEUTIAN AREA

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DUTCH HARBOR RED KING CRAB

Introduction

The Dutch Harbor area, or Statistical Area O, has as its northern boundary the latitude of Cape Sarichef, its eastern boundary the longitude of Scotch Cap Light on Unimak Island, its western boundary 171° West longitude (Figure 19). Area O is further broken down into five fishing districts (Figure 20). Declining red king crab stocks in the early 1980's resulted in a closure of the fishery in 1983; no red king crab fishing has occurred since that year. Although red king crab was the primary target species, a brown king crab fishery has developed since the closure of the red king crab fishery and is now the focal point of the Dutch Harbor area king crab fishery.

Historic Background

The Area O red king crab fishery began in 1961 and rapidly became one of the State's major production areas. During the development years of the fishery, the catch peaked at an all time high of 32.9 million pounds during the 1966/67 season.

Since 1966/67 the fishery has fluctuated widely. A sharp decline characterized the fishery between 1967 and 1970 (Table 41). After the low 1969/70 catch of 8.9 million pounds, the fishery gradually rebuilt to a peak of 15.9 million pounds during the 1975/76 season. The increase appeared to be largely a result of improved catches in the Egg Island District, and expansion into new grounds in the Western District.

For the second time in the history of the fishery, a sharp decline followed several years of increasing harvests, and the 1977/78 season marked a new low in the Area O fishery. The decline was area wide, and all districts suffered poor catches.

By 1980/81 catches had reached the highest level in 13 years, and although populations had rebuilt somewhat in several of the districts, the bulk of the increase was due to the exploitation of previously unfished populations in the Unalaska and Western Districts. During this fishery nearly 39 percent of the catch came from areas only lightly fished during the previous seasons.

1994/95 Fishery

There was no fishery for the 1994/95 season due to the low abundance of red king crab.

Stock Status

The Alaska Department of Fish and Game conducted a survey of the Dutch Harbor area in 1994; the previous survey having been done in 1991 with an emphasis on areas where historically significant fisheries had occurred. The 1991 survey indicated that no significant improvement in these stocks had occurred. The results of the 1994 survey indicated a further reduction in the stocks, a total of two red king crab were caught. Based on these results no recovery is expected in the near future.

DUTCH HARBOR BROWN KING CRAB

Introduction

Dutch Harbor Statistical Area O has as its northern boundary the latitude of Cape Sarichef (54° 36' North latitude), as its eastern boundary the longitude of Scotch Cap Light (164°44' West longitude), and as its western boundary 171° West longitude.

Historic Background

Historically, Dutch Harbor brown king crab have been taken incidental to the red king crab fishery. Incidental catches of brown king crab were small and landings of red king crab included some brown king crab prior to the 1981/82 season. The poundage was not recorded separately.

During the 1981/82 season, six vessels landed over 115,000 pounds during the red king crab season. Only one landing occurred during January 1982 (Table 42). The season closed along with the area red king crab season on January 15 (Table 43).

Interest in the fishery grew and during the 1982/83 season 49 vessels landed over 1.1 million pounds in the area's first directed brown king crab fishery. As red king crab stocks declined, effort and interest in brown king crab continued into the 1983/84 season, when 1.8 million pounds were landed by 47 vessels.

In 1984 the Board of Fisheries adopted staff proposals to lower the brown king crab size limit from 6.5 inches to 6.0 inches (Table 44), and established the area as a permit fishery to allow the fishery to expand into other areas outside the historical fishing grounds. During the 1984 permit season, prices and effort dropped. Thirteen (13) vessels landed 1.5 million pounds of brown king crab. Since implementation of the permit system the catch has averaged over 1.6 million pounds per year. All landings were taken from historical grounds developed during the 1982/83 season.

During the 1988 Spring shellfish meetings the Board of Fisheries adopted a staff proposal removing the permit fishery designation and set a season opening date of September 1.

1994/95 Fishery

The Dutch Harbor brown king crab fishery opened on September 1, 1994 with over three times the effort of the 1993/94 season. The 15 registered vessels was similar to the nine seasons prior to 1993. The lower effort level in the previous season was presumably due to vessels fishing king crab in the Pribilof and St. Matthew areas. They had higher than normal harvest guidelines for the 1993 king crab fisheries which begin in mid-September. All but one registered vessel participated making 45 deliveries for a total harvest of 1,750,267 pounds. Catch rate for the 1994/95 fishery was six crab per pot, the lowest on record. By comparison, last year's CPUE was 10 crab per pot which was consistent with recent years.

Average weight for this season was 4.6 pounds, higher than the average for the last five years, but below the historic high of 5.5 pounds recorded for the 1983/84 fishery. A record 67,537 pots were pulled during the 1994/95 fishery, which accounts for the rapid exploitation and the earliest recorded closure on October 28 (Table 45). The majority of this season's catch was harvested in September from the western half of the Management Area (Tables 45 and 46).

Ex-vessel value this season was \$4.00 per pound, almost twice the \$2.15 paid last season and the highest on record. Total value of the 1994/95 Dutch Harbor brown crab fishery was in excess of \$6.8 million, up from the \$1.9 million estimated value of last season's fishery. High ex-vessel prices paid for Dutch Harbor brown king crab likely resulted from anticipated reductions in king crab availability. This was due to the absence of a Bristol Bay red king crab fishery for the 1994/95 season.

Stock Status

The brown or golden king crab *Lithodes aequispinus* fishery in the Aleutian Islands is the fourth largest shellfish fishery in Alaska. The federal Fishery Management Plan for the Aleutian golden king crab fishery requires that recruitment overfishing not occur and that fishing mortality not exceed 0.3 (a 25% exploitation rate) annually. However, prior to 1991, no systematic survey of brown king crabs had been conducted in Alaska. The results from a study of a brown king crab survey initiated in 1991 was published in October 1994; Regional Information Report No. 4K94-35, FINDINGS FROM THE 1991 GOLDEN KING CRAB SURVEY IN THE DUTCH HARBOR AND ADAK MANAGEMENT AREAS INCLUDING ANALYSIS OF RECOVERED TAGGED CRABS. This report is available to the public from the Commercial Fisheries Management and Development Division, 211 Mission Road, Kodiak, AK 99615.

At this time the fleet is made up almost exclusively of catcher only vessels. They are not required to carry onboard fisheries observers. As a result, no current information on the size and species composition of the none-retained catch is available through the commercial fishery.

EASTERN ALEUTIAN DISTRICT TANNER CRAB

Introduction

The Eastern Aleutian District encompasses all waters of Statistical Area J between the longitude of Scotch Cap Light and 172° West longitude, and south of 54°36' North latitude. The Eastern Aleutian District is marginal habitat for Tanner crab *Chionoecetes bairdi*, as evidenced by the presence of commercial quantities in only a few major bays and inlets. The fishery has been rather small, and although the 1977/78 season produced a record catch of 2.4 million pounds, seasonal catches have remained significantly less than one million pounds (Table 47). The fishery began in Akutan and Unalaska Bays but has since expanded to include all areas known to contain Tanner crab.

1994 Fishery

The 1994 fishery opened at 12:00 noon January 15, 1994. Ten vessels registered to fish. This is an increase from the past two years which had seven and six vessels respectively.

Eight vessels made a total of 120 landings during the 1994 season. The total harvest for the Eastern Aleutian District was 166,545 pounds for 71,962 crab. This is an over 40 percent increase from the 1993 season (Table 47). Thirty-one percent of the season harvest came from the Beaver Inlet area.

The average weight has remained fairly consistent through this fisheries' history. Average weight has ranged from 2.2 pounds up to 2.5 pounds. In 1993 the average weight was 2.3 pounds and 1994 was similar. Catch per unit of effort (CPUE) has also been fairly consistent since 1987, between 10 and 15 crab per pot. The CPUE was similar in 1994 at 11 crab per pot.

Stock Status

Previous surveys of the Eastern Aleutian District in 1990 and 1991 indicated a population level that could support a harvest in the 100,000 pound range. The Department conducted another survey of the district this year (1994). This survey showed a significant decline in the population of *C. bairdi* Tanner crab by an approximate 75 percent. This dramatic decline in the population prompted an emergency closure for the 1995 season.

ALEUTIAN DISTRICT DUNGENESS CRAB

Introduction

The Aleutian District includes all waters of Statistical Area J west of the longitude of Scotch Cap Light and south of the latitude of Cape Sarichef and encompasses all the Aleutian Islands.

Islands in the Aleutian chain are separated from each other by deep passes with swift currents. They are closely bordered on the north and south by the Aleutian Basin and Trench respectively. Red and brown king crab are found in the deep waters adjacent to the "Chain", but Dungeness crab prefer shallower

Historic Background

The Aleutian District Dungeness fishery is primarily a small vessel, summer fishery occurring in the vicinity of Unalaska Island, within Unalaska Bay. Some larger vessel effort has occurred in other bays on the island. Effort in these areas has been sporadic throughout the history of the fishery.

Interest and activity in this fishery has been erratic from year to year, with the first reliable reports made in 1970. Since 1974 deliveries have ranged from zero in 1976, 1977, 1980, 1981, and 1994 to over 91,000 pounds in 1984/85 (Table 48).

1994/95 Fishery

The Aleutian District Dungeness fishery opened by regulation at 12:00 noon on May 1. No vessels participated in this fishery during the 1994/95 season. The fishery closed by regulation at 12:00 noon on January 1.

DUTCH HARBOR SCALLOPS

Introduction

The Dutch Harbor Scallop Management Area includes the waters within the boundaries of 164° 44' West longitude, 54° 36' North latitude, and 171° West longitude. The southern boundary extends 200 miles seaward from the territorial sea baseline (Figure 21).

Historic Background

Scallop fishing in Alaskan waters dates back to the late 1960's when scallops were primarily harvested in the Kodiak and Yakutat areas. Alaska Department of Fish and Game records indicate the first harvest of Weathervane scallops from the Dutch Harbor area took place in 1982 when 5 vessels landed 62,105 pounds of shucked meats (Table 49).

From 1983 to 1992, with the exception of 1986, fewer than three vessels fished for scallops in this area. As a result catch and effort data are confidential or was not reported. In 1986 five vessels landed 406,642 pounds of shucked meats. The average annual catch from 1985 through 1992 was 250,000 pounds.

Through the 1992 season the Dutch Harbor Management Area was open year around to scallop dredging, with only specific embayments closed to fishing as a protective measure for crab nursery areas.

In May of 1993 the Commissioner of Fish and Game declared the state's scallop fisheries a "High Impact Emerging Fishery" and established new regulations concerning crab bycatch limits, fishing seasons and observer requirements.

1994 Fishery

The Dutch Harbor Area opened to scallop fishing on July 1 with the new Fisheries Management Plan (FMP) developed in 1993 which required 100% observer coverage. The 1994 scallop guideline harvest was established at 170,000 pounds with revised bycatch caps of 6,000 Tanner crab and 9 king crab. The original bycatch caps of 87,000 Tanner and 47 king crab were revised due to low stock abundance indicated by a survey conducted during the summer of 1994.

Fewer than three vessels reported landing scallops from the Dutch Harbor Management Area during any given month in 1994, consequently monthly catch and effort information is confidential. During 1994 three vessels harvested a total of 1,931 pounds of shucked scallops from the Dutch Harbor Management Area (Table 49). The preliminary bycatch estimate based on observer reports was 792 Tanner crab (all *C. bairdi*) and 6 king crab. While the total harvest was well below the 170,000 pound harvest guideline, the fishery was closed on February 15, 1995 by regulation. No fishing occurred after August 22. Fishing effort was concentrated off the northwest shore of Umnak Island and east of Unalaska Island.

ALEUTIAN DISTRICT SHRIMP

Introduction

The Aleutian District of Area J for shrimp includes all Bering Sea and Pacific Ocean waters west of the longitude of Cape Sarichef, at 54°36' North latitude and 164°55' West longitude. The Aleutian District includes four identified sections: Unalaska Bay, Makushin Bay, Usof Bay and Beaver Inlet.

Historic Background

The shrimp fishery in the Aleutian District began in 1972 and has been predominately a trawl fishery. Catch and effort increased in the following years and peaked in 1977/78 at a harvest of 6.8 million pounds. Sharp declines in catches since 1978 prompted a reduction in season length. Between the years 1983 and 1992 no fishing occurred. However, in 1992 four vessels, all catcher processors, prospected in the Aleutian District during the closed pollock season. They were looking for an alternate fishery to supplement their main pollock trawling fishery. Low concentrations of shrimp were located and all four vessels quit after making a total of six landings for 72,133 pounds (Table 50).

1994 Trawl Fishery

No vessels registered to trawl for shrimp in the Aleutian District during the 1994 season.

1994 Pot Fishery

Only one vessel participated in the fishery, therefore the catch information is confidential.

ALEUTIAN ISLANDS MISCELLANEOUS SPECIES

Octopus

No vessels registered to harvest octopus from the Aleutian Islands District during the 1994 season.

Urchins

No vessels registered to harvest urchins from the Aleutian Islands District during the 1994 season.

Snails

No vessels registered to harvest snails from the Aleutian Islands District during the 1994 season.

Hair Crab

One vessel registered to harvest hair crab from the Aleutian Islands District during the 1994 season, compared to eight vessels the previous year. Because only one vessel participated in this fishery, the catch information is confidential.

ANNUAL MANAGEMENT REPORT FOR THE SHELLFISH FISHERIES OF THE
WESTERN ALEUTIAN AREA

By

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ADAK BROWN KING CRAB

Introduction

Adak, Area R, has as its eastern boundary 171° West longitude, as its western boundary the U.S.-Russian Convention Line of 1867, and as its northern boundary 55°30' North latitude (Figure 22).

Historic Background

The Adak brown king crab fishery began during the 1975/76 season when one vessel made one delivery containing this species. Occurring incidentally to the red king crab fishery, catches of brown crab were low during the 1975/76 to 1980/81 seasons (Table 51).

Fishermen began to target on brown king crab for the first time during the 1981/82 season when 14 vessels made 76 landings totaling 1.2 million pounds (Table 51). When this fishery began, most of the catch came from the North Amlia and Petrel Bank Districts. Recently the Western Aleutian District has become a significant producer as well (Figure 23). The other three districts in Area R produce much lower catches. This is due to the lack of large inter-island passes where brown king crab are most numerous. In July 1985, the minimum legal size was reduced from 6.5 to 6.0 inches across the carapace (Table 52).

1993/94 Fishery

The brown king crab fishery in the Adak Management Area (R) opened on November 1, concurrently with the Bristol Bay red king, Adak red king, Western Aleutian and Bering Sea Tanner crab seasons. A total of two catcher only vessels and one catcher processor were given tank inspections prior to the start of the 1993/94 season. As in previous years, the concurrent opening of other fisheries contributed to the low effort levels at the beginning of the season.

A total of 21 vessels registered to fish Adak brown king crab during the 1993/94 season, similar to the 18 vessels registered for the prior year's fishery. A total of 147 landings were made in 1993/94 for a total harvest of 4.6 million pounds. This compares to 130 landings and a harvest of 4.9 million pounds recorded during the 1992/93 fishery. The 1993/94 season harvest of 4.6 million pounds is the lowest on record since the 1984/85 fishery (Table 51).

Average weight of crab harvested during the 1993/94 season was 4.2 pounds. This is similar to the 4.1 pound average seen in the 1992/93 fishery. A significant increase occurred in the number of pots pulled during the 1993/94 fishery (212,164 compared 165,503 the prior season). However, lower overall catch of legal crab per pot, five in 1993/94 compared to seven in 1992/93, resulted in a lower total harvest for the 1993/94 season (Table 51). The average price

paid for Adak brown king crab for the 1993/94 season was \$2.50 per pound. This is higher than the \$2.05 average price paid during the 1992/93 season. Total fishery value for the 1993/94 season was 11.2 million, approximately \$1.1 million greater than the prior year (Table 53).

Although effort occurred throughout the entire registration area during the 1993/94 fishery (Table 54), the majority of the catch came from the Amukta and Seguam Pass areas in the eastern portion of the registration area. Additional harvest was reported from the western portion of the registration area in the Petrel Banks area around Semisopchnoi Island and areas between Kiska and Attu Islands.

The majority of effort for the 1993/94 season took place during April through August 15 (Table 55). This is typical for this fishery, and results as additional vessels move into this fishery as other fisheries close for the season.

1994/95 Fishery

The 1994/95 Adak brown king crab fishery opened on November 1, concurrent to red king and Tanner crab fisheries in that area. As outlined in the section on Adak red king crab, pre-season registration for the Area R brown king crab fishery was required for the 1994/95 season due to anticipated high levels of participation.

A total of 88 vessels pre-registered to fish for Adak brown king crab. Of those, 29 (including two catcher processors) received tank inspections and entered the fishery on November 1. Twenty two of the 29 vessels receiving tank inspections for Adak brown crab were also registered to participate in the Adak red king crab fishery. One floating processor registered and processed both red and brown crab on the grounds during the season.

The regulatory season for this fishery is from November 1 through August 15, and is on-going at this time. Preliminary information from weekly processor reports indicate through February 12 a total of 30 vessels have made 65 landings for a total harvest of 1.5 million pounds (Table 51). Additional vessels entered this fishery after the November 21 closure of the Bering Sea *C. bairdi* Tanner crab season. For comparison, last season through February 20 a total of 11 vessels had made 15 deliveries totaling 584,434 pounds.

The current exvessel price for Adak brown king crab is reported to be \$4.00 per pound, up from the \$2.50 per pound paid during the 1993/94 season (Table 53).

Additional vessels are expected to begin participation in the Adak brown crab fishery with the conclusion of the Bering Sea *C. opilio* Tanner crab fishery on February 17. Historically that period April through August is when the predominance of the catch occurs in this fishery.

Status of Stocks

The Adak brown king crab stocks were surveyed in a small portion of this area in 1991. No population estimates are available for this area as a result of stock assessment surveys. As a result, the fishery continues to be managed based on size, sex and season. No harvest guideline is in effect for this fishery at this time.

Limited additional information is being collected through onboard fisheries observers, required on all processing vessels in this area since 1988. However, the number of catcher processors participating in this fishery has steadily declined (Table 53). Currently the majority of the fleet is made up of catcher only vessels not required to carry observers. It is not known if bycatch information collected by observers aboard catcher processors is representative of that being captured by the catcher only portion of the fleet.

ADAK RED KING CRAB

Introduction

Adak, Area R, is comprised of all continental shelf waters west of 171° West longitude, south of 55° 30' North latitude and east of the U.S. - Russian Convention Line of 1867.

Historic Background

The Adak red king crab fishery began in 1961 when four vessels harvested two million pounds. As the fleet exploited previously unfished areas, catches increased rapidly to a peak of 21 million pounds by the 1964/65 season (Table 56). For a short time the expanding Dutch Harbor king crab fishery diverted effort, and Area R catches dropped to 6 million pounds by the 1966/67 season.

From 1967/68 to the 1972/73 seasons, catches were relatively stable at 14 million to 19 million pounds (Table 56). The large catches were maintained by several years of strong recruitment and by the exploitation of populations discovered east of Adak Island. In addition to the eastward exploration, some vessels moved into the waters of the Petrel Banks, Amchitka Islands and other westward islands creating the separate Western Aleutians, Area S, fishery in 1967/68. The catch in Area S was not large, and in 1978 management was simplified by eliminating Area S to form the Petrel Bank and Western Aleutian Districts of Area R.

The harvest declined sharply after the 1972/73 season. At the Alaska Board of Fisheries recommendation the department closed the fishery prior to the 1976/77 season. Since that time indications of recovery have been slight. ADF&G surveys conducted in 1975, 1976, and 1977 concluded that several years of poor recruitment to legal size was the cause of the decline. A

shell disease and an unusually high natural mortality in the North Amlia District was also blamed for the decreased populations.

The harvest guideline for this fishery was set after the 1976/77 season at 1.0 to 1.5 million pounds. By regulation the season extends to February 15 unless closed earlier by emergency order. Three of the past 10 seasons have been closed prior to the February 15 regulatory closure (Table 57).

Historically the character of this fishery has been one of intermittent participation of low intensity. The majority of participants move into this fishery for short periods, normally prior to or following other major fisheries such as Bristol Bay red king crab or Bering Sea Tanner crab.

Onboard fisheries observers are currently only required on processing vessels (catcher processors and floating processors). Since imposition of these requirements in 1988 the number of processing vessels participating in this fishery have dropped from 11 vessels in 1988/89 to one vessel in the 1993/94 fishery (Table 58). As a result, very little information is available on fishery bycatch or inseason catch reports from the fishing grounds.

1994/95 Fishery

The Adak Area R red king crab fishery opened on November 1. The Adak brown king crab, Western Aleutians *C. bairdi* Tanner crab and the Bering Sea *C. bairdi* Tanner crab fisheries opened on November 1 also. The red king crab fishery in Bristol Bay, which normally opens on November 1, remained closed for the 1994 season due to insufficient female crab abundance. In the absence of a red king crab fishery in Bristol Bay and reductions in the amount of *C. bairdi* Tanner crab available for harvest in the Bering Sea, effort in the Adak king crab fisheries was expected to increase dramatically for the 1994/95 season.

As a result of this anticipated increase in effort, vessels intending to fish in the Adak king crab (red or brown) fishery were required to pre-register with the Alaska Department of Fish and Game, no later than 4:30 p.m. October 14, 1994.

A total 93 vessels pre-registered to participate in the Adak red king crab fishery. Of these, 70 also pre-registered for the Adak brown king crab fishery. Pre-registration was required for all vessels intending to participate at anytime throughout the course of either the red or brown king crab fishery. Consequently, many vessels which did not intended to fish for king crab in the Adak area until after the Bering Sea *C. bairdi* fishery, also pre-registered.

A total of 29 vessels, including two catcher processors, received tank inspections for the red king crab fishery beginning 72 hours prior to the November 1 start of the fishery. Of these, 22 were also registered to harvest brown king crab. As in past years, tank inspections were available in Dutch Harbor only.

The department solicited volunteers for daily catch reporting in order to track in season harvest. This seasons fishery was expected to progress quickly due to the relatively large number of

participates. A total of 20 catcher vessels volunteered to report via single sideband radio or marine satellite (MARSAT) telex on a daily basis. In addition the observers aboard the two catcher processors were required to report daily.

Fishery performance for the first two weeks of the 1994/95 season averaged less than 1 crab per pot. This compares to an average catch in excess of 16 crab per pot for the first two weeks of the 1992/93 and 1993/94 seasons. Based on continued poor fishery performance, the fishery was closed after less than four weeks on November 28. At 27 days the 1994/95 season was the shortest on record.

Total harvest for the 1994/95 season was 196,967 pounds, a dramatic decrease from the 698,077 pounds harvested during the 1993/94 season and well below the 1.5 million pound harvest guideline. A total of 20 vessels made 31 landings during this year's fishery, an increase over the 21 landings made by the 12 vessels which participated in the 1993/94 fishery (Table 56).

Daily observer radio reports indicated performance of this year's fishery at critically low levels. However, due to limited and inconsistent daily catch reporting on the part of volunteer catcher vessels (less than 25% of volunteer vessels reported daily), information sufficient to fully assess the performance of the fishery was not available until the third week of the season. This information was obtained from onboard observers, who reported daily, and processor's weekly catch reports.

The ex-vessel price of this year's fishery was \$5.50 per pound, up from last year's \$3.87 per pound and the highest ex-vessel price on record for Adak red king crab. Total ex-vessel value for the 1994/95 fishery was 1.1 million dollars, approximately 41% of the value of the 1993/94 fishery (Table 57). This year's high ex-vessel price is largely attributed to the absence of a red king crab fishery in Bristol Bay for the 1994/95 season.

Catches once again came exclusively from the Petrel Bank District around Semisopochnoi Island. Average weight of this year's crab were 6.5 pounds, considerable higher than last season's average of 5.8 pounds. This season's average weight is the highest average weight since the 1984/85 season and may reflect a relative decline in recruit crab abundance (Table 58).

Stock Status

Adak king crab stocks have not been surveyed since 1977. However, 100 percent onboard observer coverage on all processing vessels on the fishing grounds since 1988 has provided some biological information on these stocks. As mentioned earlier however, the number of observers onboard catcher processors has declined since 1988 (Table 59). Consequently, the majority of the fleet at this time is made up of catcher only vessels, not required to carry fisheries observers. It is unknown if information on bycatch from catcher processor is comparable to that of the catcher only fleet.

Compared to historic levels, the population appears to be severely depressed. For the past several years the catch has come almost exclusively from the area around Semisopochnoi Island in the Petrel Banks District (Table 60).

WESTERN ALEUTIAN DISTRICT TANNER CRAB

Introduction

The Western Aleutian District of Statistical Area J includes all waters west of 172° West longitude and south of 54° 36' North latitude.

Historic Background

Tanner crab (*C. bairdi*) from the Western Aleutians have generally been harvested incidental to Adak red king crab. Since the late 1970's, the harvest has ranged from a high of over 800,000 pounds in 1981/82 down to the catch in 1992/93, which is confidential because fewer than three vessels participated. (Table 61).

1993/94 Fishery

The fishery opened concurrent with the red and brown king crab fisheries in the Adak king crab management Area R, on November 1, 1993. A total of eight vessels registered for Western Aleutian Tanner crab, none of which made deliveries of Tanner crab. All except for one vessel were registered for the red king crab fishery also. The Tanner crab season closed by regulation on March 31, 1994.

1994/95 Fishery

Once again the Western Aleutian Tanner crab fishery opened concurrent with the red and brown king crab fisheries on November 1. There were a total of ten vessels registered for the Tanner fishery, all ten were also registered for red king crab as well. None of the vessels have made Tanner crab deliveries. The season remains open, however at this time there are no validly registered vessels fishing. The season will close by regulation on March 31, 1995.

WESTERN ALEUTIANS CHIONOECETES TANNERI

Historic Background

First reported landings of *Chionoecetes tanneri* Tanner crab occurred in the late 1970s incidental to the developing brown king crab fishery in the Adak Management Area. In the early 1980s *C. tanneri* were also occasionally landed incidental to the developing brown crab fishery in the Dutch Harbor Management Area. Until 1993 however, no market existed for *C. tanneri* and few, if any, were sold commercially.

During 1993 commercial interest in *C. tanneri* increased and commercial landings were made from the Bering Sea and the Eastern Aleutian Islands Management Areas. To collect biological information on *C. tanneri* crab the department implemented 100% observer coverage in 1994, as allowed by the permit provisions provided in 5 AAC 35.082. Also in 1993 the department restricted the harvest to males 5 inches or greater in carapace width.

Current pot limits in effect for Tanner crab apply to vessels fishing for *C. tanneri* and *C. angulatus* in the Bering Sea, as implied in 5 AAC 35.525 (j). Review and clarification of pot limits in the Bering Sea, with respect to *C. tanneri* and *C. angulatus*, is the subject of an agenda change request to the Board of Fisheries. The proposal was submitted by ADF&G and is to be reviewed at the March 1995 meeting in Anchorage.

1993/94 Fishery

A commercial harvest of *C. tanneri* did occur during 1994 in this area, however fewer than 3 vessels participated, consequently information is confidential. There was no reported commercial harvest from this area during 1993.

Status of Stocks

No stock assessment surveys are conducted for *C. tanneri* Tanner crab, consequently no population estimates are available. Onboard observers have been required on all vessels targeting *C. tanneri*, beginning in 1994. This program has yielded the beginnings of information on the size, sex and species composition of the non-retained catch, necessary to manage these stocks.

ADAK SCARLET KING CRAB

Introduction

Adak, Area R, is comprised of all continental shelf waters west of 171° West longitude, south of 55° 30' North latitude and east of the U.S. - Russian Convention Line of 1867.

Historic Background

Scarlet king crab, *Lithodes couesi*, in the Adak Management Area has been landed mainly as bycatch in the brown king crab fishery. Information regarding vessel effort and the number of landings prior to this year were below the minimum to allow public dissemination.

1994 Fishery

A total of 12 vessels registered for *L. couesi* during the 1994 season. Six vessels made 10 landings for a total of 21,308 pounds, unfortunately 10,829 pounds was deadloss. The average weight was 3.2 pounds; the catch rate was less than one crab per pot pull.

ANNUAL MANAGEMENT REPORT FOR THE SHELLFISH FISHERIES OF THE
BERING SEA AREA 1994

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BERING SEA DISTRICT TANNER CRAB

Introduction

The Bering Sea District of Statistical Area J includes all waters of the Bering Sea north of the latitude of Cape Sarichef and east of the U.S.-Russian Convention Line of 1867. This district is divided into the Eastern and Western Subdistricts, east and west of 173° West Longitude, respectively (Figure 24). The Eastern Subdistrict is further divided into the Norton Sound and General Sections. Two Tanner crab species, *Chionoecetes bairdi* and *C. opilio*, are commercially harvested in the Bering Sea District.

Historic Background

The first reported Tanner crab catches were made in 1968 incidental to the king crab fishery. In 1974 a directed *C. bairdi* crab fishery began. In the 1977/78 season, an incidental catch of *C. opilio* was reported. During the fall Board of Fisheries meeting in 1978, the National Marine Fisheries Service (NMFS) estimated as much as a 50% decline in *C. bairdi* stocks could be expected during the 1978/79 fishing season, and that the stock would continue to decline for several years. As predicted, the *C. bairdi* stocks showed a sharp decline. Catches decreased from 29.7 million pounds 1981, to 5.3 million pounds in 1983, to a total closure of the *C. bairdi* fishery in 1986 (Table 62). Concurrent with the decline of the *C. bairdi* fishery, effort and catch has increased in the *C. opilio* fishery (Table 63).

Although prices have remained high for *C. bairdi*, fishing effort has decreased as the stock abundance decreased. With the decline in the *C. bairdi* stocks, which were primarily harvested from the Southeastern Subdistrict (now the Eastern Subdistrict), industry has turned to the smaller and more abundant, but less valuable, *C. opilio* stocks to market fill demands for Tanner crab. Historic *C. bairdi* catch by subdistrict and season is depicted in Table 64.

During their Spring 1992 meeting the Alaska Board of Fisheries passed regulations which set a 250 pot limit on all vessels fishing king and Tanner crab in the Bering Sea. The pot limits, which were to be applied through a buoy sticker program, were implemented to assist inseason management of the fisheries and to reduce the potential for pot loss.

On November 10, 1992 buoy sticker requirements were suspended due to a high failure rate of the stickers adhering properly to buoys. Despite suspension of the buoy sticker requirement, the 250 pot limit remained in effect until repealed by the National Marine Fisheries Service (NMFS) on November 30. This action by NMFS was due to perceived inconsistencies with provisions of the Bering Sea/Aleutian Island king and Tanner crab Federal Management Plan (FMP) which mandated application of pot limits in a nondiscriminatory manner.

During the Spring 1992 Board of Fisheries meeting regulations were adopted which opens and closes that portion of the Bering Sea east of 168° West longitude to fishing for *C. bairdi*

Tanner crab concurrent to the regulatory opening and emergency order closure of Area T red king crab. The Board of Fisheries also mandated a reopening of the Bering Sea between 163° and 173° West longitude for the *C. Bairdi* fishery 10 days following the closure of Area T king crab. In an attempt to reduce the number of pots, thereby slowing the harvest rate to allow sufficient time for inseason management, the board also passed regulations which set pot limits on all vessels fishing king and Tanner crab in the Bering Sea based on vessel overall length. Vessels in excess of 125 feet are limited to 250 pots and vessels 125 feet or less are limited to 200 pots.

1993/94 C. bairdi Tanner Crab Fishery

The Bering Sea *C. Bairdi* Tanner crab fishery east of 168° West longitude opened at 12:00 noon, November 1, concurrent with the Bristol Bay red king crab fishery. Tank inspections began on October 31, in Dutch Harbor, Akutan, King Cove, and St. Paul. A total of 293 vessels registered, 17 of which were catcher-processors. An additional 7 floating processors also registered for on-the-grounds processing. All but one vessel registered for both Tanner and king crab. One catcher-only vessel registered exclusively for red king crab.

A total of 283 vessels made 347 landings for a harvest of 4.1 million pounds of *C. bairdi*. This was incidental to 14.2 million pounds of red king crab harvested during the 10 day fishery which closed by emergency order at noon on November 10 (Table 63). The harvest of Tanner crab, which occurred during the directed red king crab fishery was well below the of 10.7 million pounds of *C. bairdi* crab available for harvest east of 163° West longitude. Average weight of *C. bairdi* Tanner crab harvested in this fishery was 2.4 pounds. Average CPUE was 7 Tanner crab per pot which brought fishermen \$1.90 per pound (Table 63). The low CPUE during this portion of the Tanner crab season was due to the concentrated effort in fishing red king crab with Tanner retained primarily as bycatch.

As stipulated by regulation, only that portion of the Eastern subdistrict between 163° and 173° West longitude was allowed to open to a directed *C. bairdi* fishery 10 days following the closure of the Bristol Bay red king crab fishery. This action by the Board of Fisheries was based on observer bycatch data and historic harvest patterns which indicated the majority of female king crab bycatch in the Bering Sea king and Tanner crab fisheries came from waters east of 163° West longitude. Due to the limited harvest of *C. bairdi* east of 163° during the directed fishery on red king crab a strategy was adopted to harvest the remaining 16.1 million pounds of *C. bairdi* surplus from the area west of 163° West longitude.

The directed *C. bairdi* fishery reopened at 12:00 noon on November 20, ten days following the closure of the Bristol Bay red king crab fishery. A total of 261 vessels, including catcher-processors, re-entered the fishery and harvested an additional 12.8 million pounds prior to the closure on January 1, 1994. Fishermen averaged 17 crab per pot in the directed fishery, up from a CPUE of 7 *C. bairdi* per pot in the directed red king crab fishery. Crab averaged 2.3 pounds each (Table 66), and the ex-vessel price remained at \$1.90 per pound. The total Bering Sea *C. bairdi* catch east and west of 163° West longitude combined, totaled 16.9 million pounds for

the 1993/94 season. Overall CPUE was 13 crab per pot. Crab averaged 2.3 pounds and the fishery generated an estimated exvessel value of \$28.5 million. (Tables 64, 65).

Daily inseason catch reports received from 29 volunteer catcher vessels and all 17 catcher processors indicated fishery performance in the directed fishery on *C. bairdi* steadily declined from 27 crab per pot on November 22 to 8 crab per pot on December 4. By December 10th almost 75 percent of the fleet had departed the fishing grounds. Based on the reduced number of vessels which continued to fish through the holidays, the overall fishery performance which had declined to 8 crab per pot, and to provide for a fair start in the January 15 opening of the *C. opilio* fishery in the Bering Sea, an emergency order was issued closing all waters of the Bering Sea to the taking of *C. bairdi* Tanner crab effective 12:00 noon, January 1, 1994.

***1994 C. bairdi* Tanner Crab Fishery**

Due to the closure of the 1994 Area T Bristol Bay red king crab fishery, the area east of 163° West longitude remained closed to *C. bairdi* Tanner crab fishing for the 1994/95 season. The directed *C. bairdi* fishery opened between 163° and 173° West longitude on November 1, with a guideline harvest of 7.5 million pounds. Beginning at noon on October 31, ADF&G personnel conducted tank checks in Dutch Harbor, Akutan, King Cove, and St. Paul. A total of 186 vessels registered, including 9 catcher processors. This compares to 296 vessels registered for the 1993/94 fishery which opened concurrent to the Bristol Bay red king crab season on November 1.

A total of 183 vessels, including 9 catcher-processors, made 349 deliveries for a harvest of 7.8 million pounds. Average weight was 2.3 pounds and CPUE was 12.6 crab per pot, down from 17 crab per pot in last year's directed fishery. This year's exvessel price was \$3.75 per pound, for a total fishery value in excess of \$28 million, similar to the exvessel value of last year's fishery. (Tables 62, 64, 65).

Daily inseason catch reports transmitted over single side band and telex were received from 49 vessels, including all 9 catcher-processors. Inseason data indicated that the CPUE dropped from 21 to 9 through the course of the fishery (Table 66). Based on catch projections made from the inseason information, the fishery was closed by emergency order at noon, November 21. The 1994/95 season lasted 21 days and was the shortest season on record with the exception of the 1986 and 1987 seasons which were closed because of an alarming decline in the entire stock (Table 63).

***C. bairdi* Stock Status**

The 1994 NMFS survey indicated the estimated total abundance of large *C. bairdi* crabs declined significantly from the prior year. According to NMFS this decrease is expected to continue and is a result of senescence of the crabs which constituted strong year classes hatched in 1983 and 1984.

1994 *C. opilio* Fishery

The preseason harvest guideline for the 1994 *C. Opilio* fishery was set at 105.8 million pounds. The guideline harvest, based on crab 4 inches carapace width (CW) and larger, was divided between the Eastern and Western Subdistricts; 51.6 and 54.2 million pounds, respectively.

Tank inspections were conducted beginning at noon on January 14 at St Paul, King Cove, Akutan, and Dutch Harbor. A total of 24 catcher-processors and 249 catcher-only vessels were registered and given tank checks. An additional 17 floating processor vessels were also registered for on-the-grounds processing.

Although the fishery officially opened at noon on January 15, the majority of the crab fleet did not begin setting gear until midnight on January 21 in a show of solidarity in their strike for higher prices.

A total of 273 vessels made 1293 deliveries for a harvest of 149.8 million pounds that exceeded the preseason GHL by 42% (Table 67). Both the Eastern and Western Subdistricts were closed by emergency order on March 1, two weeks earlier than the 1993 season (Tables 67, 68 and 69).

Catch per unit effort in the 1994 fishery averaged 149 crab per pot in the Eastern Subdistrict and 173 crab per pot in the Western Subdistrict. The overall CPUE for the entire Bering Sea District was 160 crab per pot. This compares to an overall average of 175 crab per pot in 1993. Crabs averaged 1.3 pounds in this year's fishery compared to 1.4 pounds in 1993 (Tables 70 and 71).

Despite a smaller harvest in 1994 the exvessel value of the 1994 fishery was \$192.4 million, an increase from the 1993 fishery valued at \$171.9 million. This was due to a higher average price paid to fishermen in 1994, \$1.30 per pound compared to \$0.75 per pound in 1993 (Table 69). This was the first season for imposed pot limits for *C. opilio* Tanner crab in the Bering Sea. During the February 1993 meeting of the Board of Fisheries, differential pot limit regulations were established. Vessels less than or equal to 125 feet were allowed to fish a maximum of 200 pots while vessels in excess of 125 feet were allowed to fish up to 250 pots.

Catches from the Eastern Subdistrict, which peaked in February, totaled 72.0 million pounds. The catches came predominantly from the southwest portion of the subdistrict in areas immediately east of St. George Island and areas west of St. Paul Island (Table 72).

Catches from the Western Subdistrict, which also peaked in February, totaled 77.8 million pounds. These catches were distributed throughout the subdistrict in waters less than 100 fathoms, and extended to an area southwest of St. Matthew Island. Fishing activities were limited in the northern portion of the Western Subdistrict toward the end of the season because of ice. Favorable ice conditions early in the 1994 season allowed many vessels to fish the northwestern portion of the subdistrict which resulted in higher catches to the north than in 1993 (Table 72 and Table 73).

C. opilio Stock Status

Data from the 1994 NMFS Bering Sea trawl survey indicated that the total abundance of large males (over 4 inches CW) was 71.6 million crabs, a 47% decrease from the 1993 assessment survey. Forty-five percent of the large males were located in the Eastern Subdistrict. According to survey results, sublegal males had decreased by 25% since 1993. However, abundance of juvenile males was similar to 1993 estimates. No significant change in abundance of large and small females was apparent. With the large number of small male crab in the population, increased abundance of legal-sized crab is expected in 1996 or 1997; however, a decline in legal males is expected after these year classes have moved through the fishery.

KING CRAB REGISTRATION AREA T

BRISTOL BAY

Introduction

The Bristol Bay king crab Area T includes all waters north of Cape Sarichef, east of 168° West longitude and south of the latitude of Cape Newenham and includes all waters of Bristol Bay (Figure 25).

Historic Background

Commercial king crab fishing in the Bering Sea began with the Japanese in 1930 and continued until 1940. They returned to the fishery in 1953 and remained until 1974. The Russian king crab fleet operated in the eastern Bering Sea from 1959 through 1971. United States fishermen entered the eastern Bering Sea fishery with trawl gear in 1947. Effort and catches declined in the 1950's with no catch being reported in 1959. A period of fluctuating low catches followed through 1966 before expanding to the full scale fishery of the mid to late 1970's. As in other areas of the state, the stocks crashed in the early 1980's and are currently assessed as low.

With the decline of king crab stocks in other areas of the state in 1968, U. S. effort continued to increase in the eastern Bering Sea with a record catch of 129.9 million pounds landed during the 1980 season (Table 74). The eastern Bering Sea king crab fishery traditionally harvested red king crab from the Bering Sea and Bristol Bay waters north of Unimak Island and the Alaska Peninsula from Cape Sarichef to Port Heiden.

In 1980 the Board of Fisheries made the Southeastern District of the Bering Sea (the major red king crab grounds) an exclusive registration area. It was named Bristol Bay, Registration Area T. Vessels registering for and fishing in this area are prohibited from fishing in any other

exclusive registration area leaving only the Bering Sea (Area Q) and Adak (Area R) as alternative fishing areas.

As a result of the NMFS trawl survey, Area T remained closed during the 1983 season due to the lowest number of recorded legal males as well as the lowest total king crab population ever recorded. Small females carrying fewer eggs and high predator abundance also contributed to the closure decision.

Since the reopening of the fishery in 1984, catches have slowly increased to over 20.3 million pounds harvested during the 1990 season. Due to the large number of catcher-processors and floating processors in the fishery and the inability of the Department to monitor these catches, an observer program was initiated in 1988. Fishing effort has increased dramatically from 89 vessels in 1984 to over 300 vessels in 1991. With the increase in fishing effort, the amount of pots being used by the fleet has also increased, with over 90,000 registered in 1991.

In 1992, the Board of Fisheries established a 250 pot limit for the Bristol Bay red king crab fishery. This measure was to assist the manager's ability to monitor the fishery and control the harvest. These pot limits, which were to be applied through a buoy sticker program, were designed to assist inseason management of the fisheries and reduce the potential for pot loss.

Immediately following the 1992 Bristol Bay red king crab fishery, buoy sticker requirements were suspended due to a high failure rate of the stickers adhering properly to buoys. Despite suspension of the buoy sticker requirement, the 250 pot limit remained in effect until repealed by the National Marine Fisheries Service (NMFS) on November 30. This action by NMFS was due to perceived inconsistencies with provisions of the Bering Sea/Aleutian Island king and Tanner crab Federal Management Plan (FMP) which mandated application of pot limits in a nondiscriminatory manner.

In the spring of 1993 the Alaska Board of Fisheries passed new regulations which set pot limits on all vessels fishing king and Tanner crab in the Bering Sea based on overall vessel length. For the king crab Area T fishery, vessels in excess of 125 feet in overall length were limited to 250 pots and vessels less than 125 feet in length overall were allowed 200 pots total. These pot limits were to be applied through a buoy tag program from the Dutch Harbor and Kodiak ADF&G offices.

Harvest shortfalls in both the St. Matthew blue king and Pribilof Islands red king crab fisheries in mid-September 1993 prompted a meeting in Seattle between fishermen, industry representatives and staff from ADF&G and NMFS to discuss methods to improve inseason data collection and management. At that meeting, a sales representative from MCI Communications Incorporated presented information about satellite communications software currently available for confidential communication between ADF&G and vessels at sea, which could be used for daily inseason catch reporting. As a result of this meeting, ADF&G purchased the necessary computer hardware and software for retrieval of daily satellite transmitted catch messages from vessels at sea. Historic fishery data is summarized in Tables 74, 75 and 76.

1994/95 Fishery

The Bristol Bay red king crab fishery did not open for the 1994/95 season.

Status of stocks

The 1994 NMFS trawl survey indicated a 25% decline in the abundance index of large male red king crab from 1993. The abundance index for males is at an all-time low of 17.4 million crab; 5.5 million large males and 11.9 million juveniles and pre-recruits. The abundance index for female red king crab, in Bristol Bay was estimated at 7.5 million crabs; a significant reduction from 1993. Female abundance was below the established threshold value of 8.4 million female crab necessary to allow a commercial fishery. Overall abundance of male and female crabs including adults and juveniles is at the lowest level recorded for this stock; declines in abundance are expected to continue.

KING CRAB STATISTICAL AREA Q

BERING SEA

Description

The Bering Sea king crab registration area, Statistical Area Q, includes all waters north of Cape Sarichef, south of Point Hope, and east of the U.S.-Russian Convention Line of 1867; it excludes those waters of Bristol Bay, and south of 55°30' North Latitude and west of 171° West Longitude. Area Q is separated into the Pribilof and Northern Districts. The Pribilof District includes the waters south of Cape Newenham. The Northern District incorporates all of the waters north of Cape Newenham, and is further divided into three sections. The Saint Matthew Island Section includes the waters north of Cape Newenham and south of Cape Romanzof. Norton Sound Section includes all waters north of Cape Romanzof, south of Cape Prince of Wales, and east of 168° West Longitude. The Saint Lawrence Island Section encompasses all remaining waters of the district (Figure 26).

Historic Background

The blue king crab fishery in the Pribilof Islands started in 1973 when vessels targeted on blue king crab stocks between St. George and St. Paul Islands during the summer months. The first reported catch was 1.2 million pounds taken by eight vessels between July and October. Crab averaged 7.3 pounds, and catch per unit effort (CPUE) was 26 crabs per pot. Average weight

remained relatively constant through to the 1987/88 season. The CPUE of 26 crabs per pot has never again been attained by the fleet; an average of 17 crabs per pot for the following three seasons dropped to less than eight crabs per pot for the 1977/78 through 1982/83 seasons. Three crabs or less per pot were observed for the 1983/84 season and the five subsequent seasons (Table 77). Due to low population estimates in this district, the red and blue king crab fishery was closed beginning with the 1988/89 season.

At the Spring 1993 meeting the Alaska Board of Fisheries adopted regulations that changed the opening date of the St. Matthew king crab fishery from September 1 to September 15, concurrent with the king crab fishery in the Pribilof District. This action was taken to improve fleet distribution between the Pribilof and St. Matthew fisheries, thereby reducing the number of vessels participating in each fishery. Also at this meeting the Board of Fisheries passed regulations which set pot limits on all vessels fishing king crab in the Bering Sea based on vessel overall length. In the St. Matthew Island district, vessels over 125 feet are limited to 75 pots and those equal to or less than 125 feet are allowed a maximum of 60 pots. The Pribilof district pot limits are established at 50 and 45 for vessels greater than 125 feet and less than 125 feet in length overall respectively.

1994 Fishery - Pribilof District

The 1994 NMFS trawl survey of Pribilof District king crab stocks indicated that the abundance index of male blue king crabs was 56% lower than in 1993, and female blue king crabs were estimated to have declined by 97%. However, confidence in the estimates of juvenile and female abundance was low due to the known inability of the trawl survey to accurately assess the rocky habitat preferred by these crabs. As a result of the decline in male crabs, the Pribilof District blue king crab fishery did not open in 1994 and has remained closed since 1987.

Survey results for red king crab, however, indicated that a harvestable surplus of 3.6 million pounds. Once again, confidence was low because the majority of the male crab were caught at one station. This prompted the department to adjust the harvest guideline downward to 2.0 million pounds for the area. The guideline harvest was established as the maximum harvest level and was managed on a not-to-exceed basis.

The 1994 Pribilof red king crab fishery opened concurrently with the St. Matthew blue king crab fishery on September 15 at 1200 noon. Concurrent fishery openings were designed to distribute the fleet between the Pribilof and St. Matthew areas, effectively reducing the number of vessels participating in each fishery.

A total of 113 vessels purchased buoy tags for the 1994 Pribilof fishery. Of these only 106 received tank inspections by ADF&G personnel stationed in Dutch Harbor, St. Paul, and King Cove. Tank inspections began at 12:00 noon on September 14. Due to poor weather conditions and flight scheduling, the department was unable to send an inspector to Akutan until the morning of September 15.

The 1994 fishery was similar in many ways to the 1993 fishery. A total of 4,800 pots were registered in 1994 with a total of 28,976 pot lifts, which compares to 4,860 pots registered and a total of 35,942 pot lifts during 1993. During the six day season in 1994, 121 deliveries were made from 104 vessels. This is similar to the six day season in 1993 in which 135 deliveries were made from 112 vessels.

Management of the 1994 fishery was based on 1993 fishery performance and extrapolated to the effort in 1994. One extra day was added to the projected season length due to poor weather, which prevented 30% of the fleet from reaching the fishing grounds for the opening.

Total harvest for the 1994 fishery was 1.3 million pounds, well below the not-to-exceed harvest level of 2.0 million pounds. Average catch per unit of effort (CPUE) was six crabs per pot. This compares to the 1993 CPUE of 11 crabs per pot. Price per pound reached \$6.00 in 1994, with an overall exvessel value of \$8.0 million dollars. While the fishery value was higher last year (\$13 million) the price per pound was lower (\$4.98) (Tables 77 and 78).

As in previous years, the majority of the 1994 harvest came from areas surrounding the Pribilof Islands (Table 79). Shore-based processors in the St. Paul and Dutch Harbor areas processed most of the harvest. Two floating processors registered and participated in the fishery as well.

Stock Status

Blue king crab stocks in the Pribilof District appear to be above the established threshold and stable. However, the population estimate of legal male crabs has decreased from one million crabs in 1992 and 1993, to 0.8 million crab in the 1994 survey. Red king crab stocks currently have no established threshold in the Pribilof District but have shown a decline in the abundance index in the past year. The confidence interval in the population estimate is very wide and is attributable to a large number of the legal crabs caught at a single station.

1994 Fishery - St. Matthew Island District

The 1994 NMFS summer trawl survey of the Bering Sea indicated a 30% decline in legal males since 1993. The mature male population estimate was 3.9 million crabs. From the 1994 abundance estimate a guideline harvest level (GHL) for St. Matthew blue king crab was set at 3.0 million pounds (Table 80). Management of 1994 fishery was based on last season's fishery performance applied to the number of vessels registered for the 1994 fishery.

The 1994 fishery opened at 12:00 noon on September 15, concurrent to Pribilof district red king crab fishery. A total of 133 landings were made for a harvest of 3.8 pounds. The average weight of crabs was 4.6 pounds, down from the 1993 average of 4.8 pounds. The 1994 catch per unit of effort (CPUE) was in excess of 13 crabs per pot compared to 11, 10, and 20 crab per pot averages during the 1991, 1992, and 1993 fisheries, respectively (Tables 81, 82, and 83). The fishery was closed after 7 days of fishing at 12:00 noon on September 22. The 1994

harvest of 3.8 million pounds exceeded the 3.0 million pound preseason harvest guideline (Table 84).

A total of 88 vessels, including three catcher-processors, purchased buoy tags from the ADF&G offices in Dutch Harbor and Kodiak. Eighty-seven vessels received tank inspections by ADF&G personnel stationed at Akutan, Dutch Harbor and St. Paul compared with 92 vessels registered in 1993 fishery. The number of vessels registered for the last two seasons was well below the 174 vessels that registered for the 1992 fishery. This was a direct result of the concurrent opening of the red king crab fishery in the Pribilof Islands. A total of 5,880 pots were registered for the 1994 St. Matthew fishery compared to 5,685 pots in 1993 and 17,400 pots registered in 1992 (Table 80). In addition to the eight shore based processors, seven floating processors and one live crab buyer also purchased crab from the 1994 St. Matthew fishery.

This year's catch, which resulted from over 60,500 pot lifts, came predominately from two statistical areas south of St. Matthew Island, similar to the location of the 1992 and 1993 harvests (Table 83). Catch per unit of effort for both catcher-only vessels and catcher-processors was 14 crabs per pot compared to previous years where the catcher-processors consistently out performed the catcher-only portion of the fleet by 20 to 40 percent, with the exception of 1990 when both vessel groups averaged 15 crab per pot (Table 85).

Average weight of crabs captured in the 1994 fishery was 4.6 pounds, slightly less than the average weight of 4.8 pounds for the 1993 season. The 1994 ex-vessel price was \$4.00 per pound, up from 1993 when the ex-vessel price per pound was 3.23. The value of the 1994 fishery was \$15 million, almost double the value of the 1993 fishery (\$9.7 million) (Table 80).

Stock Status

Blue king crab stocks in St. Matthew appear to be above established thresholds. Based on the 1994 survey, legal male abundance decreased from 3.6 million in 1993 to 2.5 million in 1994. This stock remains below historic levels and must be managed as a depressed fishery.

BERING SEA BROWN KING CRAB

1994 Permit Fishery - Pribilof and Northern Districts

Three vessels registered for and participated in the permit fishery for the Pribilof District in 1994. Five landings were made for a total catch of 88,985 pounds (Table 86). While overall effort was down from last year, the catch per unit effort was significantly higher than last year. The 1994 harvest represented the second year of increased effort and poundage over the preceding eight years, but was well below the record established during the 1983/84 season when the legal size was reduced to 5.5 inches. The catch rate has decreased in recent years to

one crab per pot, but increased to 12 crab per pot this year. Average weight of landed brown king crab was 4.1 pounds.

One vessel registered for the Northern District in 1994, and one landing was made. The catch data for this delivery is confidential (Table 87).

Stock Status

There are no population estimates made for Bering Sea brown king crab stocks. High catches in the early years of the fishery disappeared as the virgin stock was exploited and recruitment has been unable to sustain the fishery.

BERING SEA KOREAN HAIR CRAB

Introduction

The Bering Sea hair crab registration district, includes all waters north of 54° 36' North latitude, south of 58° 39' North latitude, and east of the U.S.-Russian Convention Line of 1867 (Figure 27). This region is divided into the Pribilof Islands Area (west of 168° West longitude), and the Bristol Bay Area (east of 168° West longitude).

Historic Background

Korean hair crab, *Erimacrus isenbeckii*, sold commercially as "kegani" by the Japanese, were fished commercially for the first time by the U.S. fleet in 1978/79. Most fishing effort has been concentrated in waters adjacent to the Pribilof Islands. When interest in hair crab was first expressed by fishermen and processors the season was opened by emergency order and ran concurrently with the Bering Sea Tanner crab fishery. During the 1980 Board of Fisheries meeting, a year long season was established under the terms of a permit issued by the Alaska Department of Fish and Game. Between 1979 and 1991, the majority of hair crab landed were reported as incidental catch in the Bering Sea Tanner crab fisheries.

1993/94 Fishery

Results of the 1993 NMFS summer trawl survey of the Bering Sea indicated a harvestable surplus of approximately 3 million pounds of hair crab: 0.5 million and 2.5 million pounds east and west of 168° West longitude, respectively. In an attempt to reduce bycatch handling mortality, the department announced hair crab bycatch retention would be allowed in the Bristol

Bay red king and Bering Sea *C. bairdi* fisheries under the terms of a special hair crab bycatch permit. This was consistent with the "keep what you catch" philosophy stressed by the Board of Fisheries when that body ruled to allow *C. bairdi* retention during the red king crab fishery in Bristol Bay.

After the Tanner crab fishery reopened west of 163° West longitude, traditional Tanner pots were allowed in the directed hair crab fishery. The larger gear was limited to the legal aggregate of pots allowed for the Tanner crab fishery, and could not be longlined. Longlining of the smaller hair crab pots was allowed. No pot limits were placed on smaller pots being fished in the directed hair crab fishery west of 168° West longitude.

Six vessels elected to forgo fishing red king crab in Bristol Bay and entered the directed hair crab fishery on November 1. Following the closure of the Bristol Bay red king crab fishery, five vessels obtained observers and permits, and entered the hair crab fishery. During the month of December one vessel using traditional Tanner crab pots, entered the directed hair crab fishery, bringing the total number of vessels participating in this fishery to 12. An additional seven vessels delivered hair crab incidental to *C. bairdi* Tanner crab.

Current regulations prevent vessels which operate pot gear in the Bering Sea during the 14 days prior to the January 15 commercial *C. opilio* Tanner crab fishery from participating in that fishery. As a result, all but one hair crab vessel ceased participation in the directed hair crab fishery by January 1, 1994. At that time a total of 88 landings, including nine incidental to other fisheries, were made for a harvest of 1.5 million pounds; the average catch rate was four hair crab per pot.

With the close of the *C. opilio* fishery on March 1, nine vessels reentered the hair crab fishery, which was concentrated in the area around St. Paul Island. There were 41 landings during the 1994 portion of the fishery for a total of 794,608 pounds. The catch rate averaged three crabs per pot and the average weight was 1.2 pounds.

By the first week of April the percentage of soft-shell crab in the catch was increasing. Daily radio reports were initiated with observers to obtain more information regarding shell condition. By April 15 the percentage of soft-shell crab in the catch increased to 20.7 percent, and a fishery closure was announced for April 20.

A total of 129 landings were made by 19 vessels during the 1993/94 fishery. Catch information indicates a total of 1.9 million crabs and 2.3 million pounds for a 1.2 pound average weight. The CPUE was three legal hair crab per pot (Table 88). One vessel illegally retained and landed 129 pounds of hair crab during the Pribilof red king crab fishery.

1994/95 Fishery

Analysis of the 1994 NMFS summer trawl survey of the Bering Sea indicated a guideline harvest level of 1.1 million pounds of hair crab in the Pribilof Islands Area. This conservative harvest level was based on a 30% decrease in abundance of male Korean hair crab. Very few

harvestable hair crab were observed in survey tows in the Bristol Bay Area east of 168° West longitude. Consequently, no permits to harvest hair crab in that area were issued for the 1994/95 season.

The Korean hair crab fishery was allowed by a special permit delegated by the commissioner of ADF&G. Provisions of the permit included observer coverage, and size, sex, area, and time restrictions. Observer coverage was required on all vessels because of concerns over potential bycatch of red and blue king crab around the Pribilof Islands. In the Spring 1994 meeting in Anchorage, the Board of Fish defined hair crab pots as a pot with a rigid tunnel opening located in the top of the pot, with a tunnel perimeter not to exceed 26 inches, and a base that does not exceed 48 inches in any one direction.

The 1994/95 Korean hair crab fishery in the Pribilof Island Area of the Bering Sea District of Area J opened November 1 at noon. Nine vessels participated in the fishery from the beginning, and one additional vessel entered the fishery at the close of the Bering Sea *C. bairdi* Tanner crab fishery on November 21.

There were 55 deliveries made by 10 vessels during the 1994/95 fishery. A total of 897,070 crabs were caught and 1.2 million pounds were landed. Average weight was 1.3 pounds and the CPUE was three legal hair crab per pot (Table 89). This is less than the 1993/94 fishery, but is similar to the 1992/93 season when 10 vessels made 47 deliveries for a harvest of 1.2 million pounds. Average CPUE in the 1992/93 season was nine crab per pot pull.

No catch of hair crab incidental to other fisheries occurred during the 1994/95 season. Korean hair crab require different handling procedures; therefore, bycatch was not allowed because of concerns regarding the possibility of increased mortality. Also, legal retention of Korean hair crab is permitted only from the newly defined hair crab pots.

The predominance of the harvest came from the region surrounding the Pribilof Islands. The majority of this catch came from the area to the east of St. Paul Island. This is consistent with the harvest recorded for previous Korean hair crab fisheries in the Bering Sea District.

The 1994 guideline harvest was obtained and the fishery closed by Emergency Order on December 12, after a 41 day season. For comparison, the 1993/94 fishery extended for 170 days (68 days with only one vessel fishing), and 31 days for the 1992/93 season.

BERING SEA / ALEUTIAN ISLANDS SCALLOPS

Introduction

The Bering Sea/Aleutian Islands Scallop Management Area includes all Bering Sea and Pacific Ocean waters east of the U.S.-Russian Convention Line of 1867, except waters south of 54°36' North latitude and east of 171° West longitude. This area corresponds to king crab registration areas R,T, and Q (Figure 28).

Historic Background

Department of Fish and Game commercial catch records indicate scallops were first harvested from the Bering Sea/Aleutian Islands Management Area in 1987, and then again in 1991. During those two years fewer than three vessels participated, consequently catch and effort information are confidential. No additional landings were made from this area until 1993 (Table 89).

In May of 1993 the Commissioner of Fish and Game declared the state's scallop fisheries a "High Impact Emerging Fishery" and established new regulations concerning crab bycatch limits, fishing seasons and observer requirements.

No harvest guideline for scallops has been established for the Bering Sea/Aleutian Islands registration area. Crab bycatch cap limits have been established by the Department of Fish and Game, and were reviewed by the Board of Fisheries in March 1994. For the 1994/1995 season, a bycatch cap of 260,000 Tanner crab and 17,000 king crab was established. These cap limits were similar to the one's imposed in the 1993 fishery.

1994 Fishery

The Weathervane scallop fishery in the Bering Sea/Aleutian Islands registration area began at one minute after 12:00 midnight on July 1. From the outset of this fishery high bycatch of Tanner crab was recorded. As a result, at 12:00 noon on August 14 that portion of the registration area east of 165°02' was closed by Emergency Order to scallop fishing. The remainder of the registration area closed by Emergency Order at 12:00 noon September 7 as catch projections indicated the Tanner crab bycatch limit for this area would be harvested by that time. For the 69 day fishery, 9 vessels made 29 deliveries for a total harvest of 505,439 pounds of shucked meat (Table 89).

One hundred percent observer coverage was required on all vessels dredging for scallops. Observers reported at least twice weekly on amount of scallops harvested and crab bycatch.

During July a total of 193,640 pounds of shucked scallops were harvested along with 108,029 Tanner crab. In August 262,211 pounds of shucked scallops were harvested along with 139,806 Tanner crab. After discussions with several Bering Sea scallop vessels and analysis of observer data, which indicated a high bycatch of Tanner crab, the department closed the fishery east of 165°02' West longitude at 12:00 noon on August 14. When the season closed in September due to high Tanner crab bycatch a total of 262,503 Tanner and 55 king crab had been taken as bycatch (Table 90).

For the entire 1994 season fishing effort was concentrated in five statistical areas northwest of Unimak Island as indicated in Figure 29.

**BERING SEA KING AND TANNER CRAB
BUOY IDENTIFICATION TAGS
ANNUAL REPORT**

Introduction and Background

The Alaska Board of Fisheries 1992 Spring meeting discussed gear limitations for Bering Sea/Aleutian Islands king and Tanner crab fisheries. The Board had generated an agenda change request on March 20, 1991 to hear this issue out of cycle and in response to a request submitted by the industry. This request was supported with preliminary Alaska Department of Fish and Game data that indicated the high levels of gear deployed in these fisheries were creating conservation and management difficulties.

During this shellfish meeting, the Board limited the number of pots that a vessel may use when harvesting king and Tanner crab in the Bering Sea fisheries. The new regulations became effective on August 1, 1992. According to State statute the entire program is to be self supporting through buoy identification sales.

On November 10, 1992 a temporary suspension of Buoy ID sticker requirements was issued due to the high failure rate of the stickers in adhering to buoys after extended exposure to water and weather. Pot limits, however, remained in effect for the Bering Sea Tanner crab fisheries.

On November 30, 1992 National Marine Fisheries Service officially repealed the Bering Sea pot limits due to inconsistencies with the Bering Sea/Aleutian Island king and Tanner crab Federal Management Plan.

At their February 1993 meeting the Board of Fisheries passed differential pot limit regulations which are dependent upon overall vessel length. According to new regulations, vessels in excess of 125 feet in length overall are entitled to the maximum number of pots allowed for a fishery, while vessels 125 feet and under in length overall are allowed 80% of the number allowed for the larger vessels size class. The actual number of pots allowed is different for each fishery, (Table 91).

Implementation

According to **AS 16.05.050 POWERS AND DUTIES OF THE COMMISSIONER.**

The commissioner has, . . . The following powers and duties: (16) . . . to establish and charge fees equal to the cost of services provided by the department . . .

and **AS 16.05.632 IDENTIFICATION OF SHELLFISH POTS OR BUOYS, OR BOTH, USED IN THE TAKING OF KING CRAB AND REQUIREMENTS FOR BUOYS.**

(a) Registration tags for the identification of shellfish pots or buoys, or both, used in the taking of king crab are required in areas in which the board has regulations limiting the total amount of shellfish pots allowed per vessel. Registration tags shall (6) be issued and renewed for a fee equal to the cost of obtaining the registration tags plus reasonable administrative costs, under procedures determined to be appropriate by the Department of Fish and Game.

Beginning with the 1992/1993 Bristol Bay and Bering Sea crab season the Department leased additional office space and employed a Fish and Wildlife Technician III to administer the buoy identification sales program.

In May 1993 the decision was made to use a heavy duty nylon zip tie tag. The tags are manufactured in a different color series for each fishery with an imposed pot limit. All tags has a 1.5 inch by 4 inch flag printed with a unique number, the year, and fishery code (Figure 31).

Replacement Tags

The Board considered non-replacement of lost pots and double tag requirements and found that the hardship to the industry, by not providing some replacement program, would be unnecessarily burdensome. The Division of Fish and Wildlife Protection anticipated difficulty proving cases if replacement pots were allowed. Special conditions regarding replacement were included in the regulations to accommodate the concerns of Fish and Wildlife Protection, but the Board rejected a double sticker requirement.

The replacement of lost tags is permitted by **5 AAC 34.825. (f)**, **5 AAC 34.925. (j)**, and **5 AAC 35.525. (i)**

(4) . . . replacement of lost identification tags is permitted if the vessel operator and three crewmembers, in person, submit to the ADF&G office in Dutch Harbor, a sworn statement or affidavit, describing how the tags were lost and listing the numbers of the lost tags.

An official AFFIDAVIT TO OBTAIN REPLACEMENT BUOY IDENTIFICATION STICKERS has been reviewed and approved by Fish and Wildlife Protection. The affidavit is available in the Dutch Harbor office.

During the interim between the 1994 Bristol Bay red king crab and Bering Sea *C. bairdi* fisheries and again prior to the 1995 *C. opilio* season numerous complaints were received in the Dutch Harbor office regarding problems vessels delivering to remote areas such as King Cove and St. Paul would have in replacing tags under the current regulations. Most fishermen felt the cost in time and/or money used to transport the permit holder and three crew members to Dutch Harbor to fill out the required affidavit and purchase replacement tags was prohibitive. Some expressed feelings that the present requirement would force them to fish illegally rather than conform to the regulations. To compound problems, after the New Year, many vessels were operated by alternate skippers who inherited the arduous task of determining which tags and

how many were missing before they could apply for replacements. Issuing a set of tags coded and colored specifically for the *C. opilio* season was a common suggestion since tags, other than those purchased as replacements, can be obtained through the mail or by an agent. Consequently separate tag sets were manufactured for the 1995 *C. opilio* season. A total of 88 replacement tags were issued during all the 1994/95 Bering Sea crab fisheries. In contrast, a total of 3,510 replacement tags were issued during the 1993/94 Bering Sea Tanner crab fisheries. Following the 1994 *C. bairdi* season numerous complaints came in from fishermen regarding the breakage of tags toward the end of the 20 day fishery and felt they would not hold up if also used for the 1995 *C. opilio* season. Reissuing tags for the January *C. opilio* season averted a repeat of last year's tag replacement problems.

Vessel Length Verification

All vessels in excess of 125 feet in length overall wishing to obtain the maximum number of buoy identification tags for crab fisheries with imposed pot limits must present an original or notarized copy of valid documentation from the U.S. Coast Guard or certified marine surveyor showing the vessel to be in excess of 125 feet overall. Overall length is defined as the horizontal distance, rounded to the nearest foot, between the foremost part of the stem and the aftermost part of the stern, excluding bowsprits, rudders, outboard motor brackets and similar fittings or attachments. This definition of length overall is found in the U.S. Code of Federal Regulations, Shipping, 46 CFR 69.9 and Fishery Conservation and Management, 50 CFR 672.2.

The vessel operator/permit holder is required to show documentation of vessel length the first time buoy tags are purchased and any time a change to the vessel's overall length occurs. The Department's Dutch Harbor office has established a qualifying list of vessels whose length is documented in excess of 125 feet. A total of 105 vessels are presently on the Department's qualifying list.

Administration of the Buoy Identification Program

Bering Sea buoy identification tags are issued from ADF&G office in Dutch Harbor and in limited amounts out from the ADF&G office in Kodiak. An administrative fee of \$2.00 per tag is currently charged. Tags are issued only if a valid permit card for the specified fishery has been issued to the person purchasing tags. Uniquely numbered tag sets are assigned to vessel ADF&G numbers which guarantee that only one set of tags is issued per vessel.

The Department will, when requested, send, from the Dutch Harbor office only, buoy tags through the U.S. Mail, priority, insured with a return receipt. Two weeks prior to each season the department discontinues tag mailings because of the potential logistical problems that can be caused by delayed mail service.

1994/95 Tag Sales

St. Matthew blue king crab tag sales totaled 88 sets and Pribilof red king crab tag sales totaled 112 sets (Table 92). Nineteen of these sales were through the U.S. mail. Included in the total number of tag sales are the Kodiak Department sales of 15 tag sets for St. Matthew's, and 22 sets for the Pribilof fishery.

Bering Sea *C. Bairdi* tag sales totaled 185 sets (Table 92). Twenty-four of these sales were processed through mail order. Included in the total number of tag sales are the Kodiak Department sales of 30 tag sets.

Bering Sea *C. Opilio* tag sales totaled 255 sets (Table 92). Thirty-three of these sales were processed through mail order. Included in the total number of tag sales are the Kodiak Department sales of 44 tag sets.

STATE OF ALASKA
MANDATORY SHELLFISH OBSERVER PROGRAM

BY

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INTRODUCTION

In April 1988 the Alaska Board of Fisheries (BOF) adopted regulations requiring onboard observers on all vessels which processed king crab and *Chionoecetes bairdi* Tanner crab within Alaskan waters. The observer requirement was prompted by Alaska Department of Fish and Game (ADF&G) reports which suggested that illegal processing of undersized and female crabs by at sea processors was occurring. The reports showed consistently higher production rates by catcher processors compared to catcher only vessels. These regulations resulted in creation of the Mandatory Shellfish Observer Program (SOP), which first deployed observers in the September 1988 Bristol Bay red king crab fishery. Primary goals of the program were to determine the legality of retained crab, collect catch composition data from sampled crab pots, and to collect shell size, age, and condition information from delivered product.

Although SOP regulations apply statewide, activities have focused on the Bering Sea and Aleutian Islands crab fisheries, where all at sea processing of crab occurs. The policy of ADF&G was for all observer activity for a fishery be handled by the management office responsible for that fishery, consequently most observer activity has been handled by the SOP staff in Dutch Harbor.

In the spring of 1990 the BOF adopted regulations which broadened mandatory observer coverage to include vessels processing *Chionoecetes opilio*. This change was made due to reports of undersized *C. bairdi* being processed as *C. opilio*. The BOF also defined observer qualification standards, observer and contractor conflict of interest guidelines, and observer duties and responsibilities. In the fall of 1991 the BOF adopted new regulations concerning observer certification and decertification.

During the spring 1993 BOF meeting the scallop fishery was designated a high-impact emerging fishery which the BOF developed a fishery management plan for. One regulation adopted mandated ADF&G to institute an observer program for the scallop fishery. The primary goals of the Scallop Observer Program are scallop population dynamics and documenting the impact on other fisheries and the environment through analysis of data from scallop dredge samples. The scallop observer program was implemented on June 27, 1993.

SHELLFISH OBSERVER PROGRAM GUIDELINES

Shellfish Observer Program guidelines were originally defined by the BOF in 1988 and remain in regulation. The guidelines define the responsibilities of each interest group (ADF&G, contractors, observers, & vessels) involved in the SOP.

ADF&G: The Alaska Department of Fish and Game is responsible for establishing observer qualifications, conflict of interest standards, and sampling procedures. ADF&G is also charged with review and approval of observer training programs, observer testing, certification, decertification, briefing, debriefing, analysis of observer data and program progress reports.

Contractors: Contractors are required to hire, train, and deploy observers. Contractors also provide all observer logistical support including food, accommodations, sampling equipment, and transportation. Contractors secure contracts directly with vessel owners/operators.

Observers: Observer qualifications include a minimum of a Bachelor of Science degree in the Natural Sciences, a valid National Marine Fisheries Service observer certification, or previous employment history demonstrating the ability, once trained, to effectively perform the duties of a shellfish observer.

Observer candidates are required to undergo ADF&G approved training and pass a written and practical certification exam administered by SOP staff in Dutch Harbor. Observers may not have a financial interest in the fishery or vessel to which they are assigned. They are limited to no more than 90 days of duty on a specific vessel during any 12 month period. Observers who are inactive for 12 consecutive months lose their certification. To regain their certification they must be retrained and tested.

Vessels: Regulations require the cost of observers to be borne by the shellfish industry.

Vessel owners/operators are required to procure and pay for observers through a qualified contractor and provide food and accommodations for the observer equal to the vessel's crew.

The vessel must also provide the observer a safe work area, necessary gear, and the opportunity to adequately sample the catch according to ADG&G requirements. Daily fishing information and access to communication equipment must also be provided by the vessel.

OBSERVER DUTIES

Observers assigned to catcher processors are required to conduct numerous sampling duties. To monitor legal compliance they collect random legal tally samples of 600 crabs collected throughout the day, record fishing location from the vessel's navigation equipment, and monitor fishing activities. Observers also have daily biological sampling duties which include measuring 100 crabs for size and shell age and weighing an assigned number of crabs to determine average weight. Observers also obtain daily catch records and report production to ADF&G. Additionally, observers sample a specified number of pots to identify pot contents and document the incidence of non-target animals.

Observers assigned to floating processors are required to conduct the following duties on each vessel delivering to their assigned processor. From the catch, observers conduct random legal tally sampling of 600 crabs, and measure 100 crabs for size and shell age. Observers also conduct skipper interviews and conduct counts from three brailers to determine average weight of the crabs.

In addition to their normal duties observers are often assigned special projects such as specimen collection or genetic sampling.

If a legal problem is encountered, observers are instructed in the proper evidence collection and handling methods. They will be interviewed by a Fish and Wildlife Protection Trooper and may make a written statement. Observers are also expected to testify in court when necessary.

FISHERIES REVIEW

Fishing year: Tracking of observer and vessel activity for all shellfish fisheries, except scallops, begins with the onset of the Dutch Harbor brown king crab fishery on September first; continuing through the Adak brown king crab fishery the following August. As a result, observer and vessel activity is reported by fishing year. For example, a fishing year which begins in September 1993 and ends in August 1994 would be designated as the 1993/94 fishing year or season. For scallop fisheries, the fishing year corresponds to the calendar year, beginning January first.

Observer deployment is determined by the number of observer days on board a vessel and then converted to observer months. One observer month is equivalent to 30 observer days.

Vessel Effort and Observer Coverage: Observer activity increased dramatically during the 1990/91 season over levels observed the first two years of the SOP. This increase was due mainly to the BOF mandate for observer coverage of the Bering Sea *C. opilio* fishery. An increase in the number of at sea processing vessels also contributed to the increased demand for observers. During the 1992/93 season this expanding trend reversed as quotas in Bering Sea Tanner crab fisheries declined and seasons shortened. Furthermore, fewer catcher processors participated in the Adak and Dutch Harbor king crab fisheries. This decrease in observer activity was partially offset by the requirement that all vessels fishing Bering Sea hair crab must carry an observer as a condition of their fishing permit. A similar observer requirement was instituted in 1994 for vessels fishing *C. tanneri*. The number of at sea processors participating declined during 1993/94 to 42 after ranging between 48 and 51 for the three previous seasons. Many catcher processors now avoid some U.S. fisheries, targeting instead on Russian fisheries. Also, some catcher processors and one floating processor have been sold to the Russians.

During the 1993/94 season shellfish observers (not including scallop observers) made 149 trips and logged 172 observer months at sea (Table 93). This is a decrease in deployments compared to previous years and continues a trend started following the 1991/92 season (Table 94-99). This decrease in activity has been partially offset by commencement of the Scallop Observer Program (Tables 100 & 101). A summary of vessel and observer activity, by fishery, for the 1988/89 through 1993/94 seasons is presented in Tables 95 through 102.

The following reports of individual fisheries are generally divided into the 1993/94 and 1994/95 fishing seasons. Some 1994/95 fisheries are not complete and therefore have not been included.

Dutch Harbor Brown King Crab: 1993/94 Fishery: No observers were deployed in this fishery as no at sea processors participated. Some catcher processors were fishing in Russia at this time. Also, the low ex-vessel price of \$2.10 per pound caused some vessels that traditionally fish for Dutch Harbor brown king crab to participate in the Bering Sea red or blue king crab fisheries instead.

1994/95 Fishery: One observer was deployed on a floating processor for two trips lasting 1.6 months during this fishery. The catcher processor segment of the fleet that were interested in fishing at this time were in Russia or participated in the more lucrative Saint Matthew blue king crab fishery.

Saint Matthew Blue King Crab: The BOF, in February 1993, delayed the opening date of the Saint Matthew king crab fishery from September 1 to September 15 to coincide with the start of the Pribilof king crab fishery.

1993/94 Fishery: A quota of 4.4 million pounds was established and the fishery ran for seven days, closing on September 21. Observers were deployed on three catcher processors and four floating processors spending a total of 3.5 months at sea.

1994/95 Fishery: A quota of 3.0 million pounds was established and the fishery ran for eight days, closing on September 22. Observers were deployed on six catcher processors and one floating processor spending a total of 3.8 months at sea.

Pribilof Red King Crab Fishery: The Alaska Board of Fisheries, in February 1993, advanced the opening date of the Pribilof king crab fishery from September 25 to September 15 to coincide with the start of the Saint Matthew king crab fishery. This fishery opened for the first time in six years during the 1993/94 season.

1993/94 Fishery: A quota of 3.4 million pounds was established and the fishery lasted seven days, closing September 21. Observers were deployed on two catcher processors and two floating processors spending a total of 1.8 months at sea.

1994/95 Fishery: A quota of 2.0 million pounds was established and the fishery lasted seven days, closing September 21. Observers were deployed on four floating processors spending a total of 2.3 months at sea.

Bering Sea Hair Crab: 1993/94 Fishery: This fishery opened on November 1 with a quota of 2.5 million pounds. Observer coverage was required for all participating vessels. Twenty-three observers made 26 trips on 12 vessels (1 catcher processor & 11 catcher vessels) logging 33.4 months at sea.

1994/95 Fishery: This fishery opened on November 1 with a quota of 1.1 million pounds. The fishery closed on December 2 with a harvest of 1.2 million pounds. Twelve observers were deployed on ten catcher vessels logging 16.6 months at sea.

Adak King Crab: Both red and brown king crab are fished in the Adak fishery which opens on November 1. The red king crab season closes by regulation on February 15 and the brown king crab season closes on August 15. However, either fishery may be closed earlier by emergency order.

1993/94 Fishery: Six observers were deployed for 11.8 months on one catcher processor and one floating processor throughout the season. Many of the catcher processors that in previous years participated in this fishery have been sold to the Russians or are targeting on Bering Sea Tanner crab. The low ex-vessel price of \$2.10 per pound for brown king crab was a major factor in the reduced vessel effort.

Bristol Bay Red King Crab: 1993/94 Fishery: This fishery opened November 1 with a quota of 16.8 million pounds. Observers were deployed on seventeen catcher processors and seven floating processors, spending 13.8 months at sea during this 10 day fishery.

1994/95 Fishery: This fishery did not open due to the low abundance of mature females. Their abundance was estimated at 7.5 million crabs; below the threshold of 8.4 million mature females required to permit a fishery.

Bering Sea C. bairdi Tanner Crab: At the February 1993 BOF meeting the opening date for the C. bairdi fishery, in the Bristol Bay area only, was advanced to open simultaneously with the Bristol Bay red king crab fishery. The eastern subdistrict of the Bering Sea, west of 163° west longitude, opens to C. bairdi fishing ten days after the Bristol Bay king crab fishery closes.

1993/94 Fishery: During the ten day red king crab fishery no catcher processors targeted on C. bairdi. With the reopening on November 20, twenty-two catcher processors and ten floating processors entered the fishery carrying observers. A quota of 19.8 million pounds was set and the fishery remained open until January 1, 1994. Observers spent a total of 63.0 months at sea.

1994/95 Fishery: The eastern subdistrict of the Bering Sea west of 163° west longitude opened to C. bairdi fishing on November 1. Seventeen catcher processors and four floating processors entered the fishery carrying observers. A quota of 7.5 million pounds was set and the fishery remained open until November 21. Observers spent a total of 15.1 months at sea.

Bering Sea C. opilio Tanner Crab: 1993/94 Fishery: This fishery opened on January 15 with a quota of 105.8 million pounds. It closed on March 1. Forty-three observers made 47 trips on 24 catcher processors and 17 floating processors spending 76.6 months at sea.

C. tanneri Tanner Crab: The C. tanneri fishery is developing interest from an increasing number of vessels. Commercial quantities exist from southeast Alaska to the Bering Sea. These are deep water crabs fished at depths of 300 to 500 fathoms. The preferred method of fishing is to longline pots, however longlining is permitted only in the Adak, Bering Sea, and Dutch Harbor areas. This limits interest in the other registration areas. These are permit

fisheries open year around and if necessary closed by emergency order. A condition of the permit is mandatory observer coverage of all vessels.

Bering Sea C. tanneri Tanner Crab: 1993/94 Fishery: Four observers were deployed on four catcher vessels participating in this fishery. They logged 4.9 months at sea.

Dutch Harbor C. tanneri Tanner Crab: 1993/94 fishery: Five observers were deployed on three catcher vessels participating in this fishery. They logged 6.4 months at sea.

Adak C. tanneri Tanner Crab: 1993/94 Fishery: One observer was deployed on one catcher vessel participating in this fishery. He logged 0.6 months at sea.

Kodiak C. tanneri Tanner Crab: 1993/94 Fishery: One observer was deployed on one catcher processor participating in this fishery. He logged 0.6 months at sea.

Alaska Peninsula C. tanneri Tanner Crab: 1993/94 Fishery: Two observers were deployed on two catcher processors participating in this fishery. They logged 1.3 months at sea.

Bering Sea Scallops: 1994 Fishery: Eight observers were deployed on eight scallop vessels during this fishery spending 12.6 months at sea. This represents 29.0 percent of observer time and 11.9 percent of observer trips in the Alaskan scallop fisheries for the year.

Dutch Harbor Scallops: 1994 Fishery: Four observers were deployed on three scallop vessels during this fishery spending 0.6 months at sea. This represents 1.4 percent of observer time and 5.9 percent of observer trips in the Alaskan scallop fisheries for the year.

Kodiak Scallops: 1994 Fishery: Nineteen observers were deployed for 26 trips on eleven scallop vessels during this fishery spending 18.7 months at sea. This represents 43.1 percent of observer time and 38.8 percent of observer trips in the Alaskan scallop fisheries for the year.

Prince William Sound Scallops: 1994 Fishery: No observers were deployed in this fishery.

Southeastern Scallops: 1993 Fishery: No observers were deployed in this fishery.

Alaska Peninsula Scallops: 1994 Fishery: Eight observers made twelve trips on seven scallop vessels during this fishery spending 4.9 months at sea. This represents 11.3 percent of observer time and 17.9 percent of observer trips in the Alaskan scallop fisheries for the year.

Yakutat Scallops: 1994 Fishery: There are two separate scallop seasons for this fishery, one in January and the other in July.

During the January season ten observers were deployed on ten scallop vessels spending 3.6 months at sea. This represents 8.3 percent of observer time and 15.0 percent of observer trips in the Alaskan scallop fisheries for the year.

During the July season five observers were deployed on five scallop vessels spending 2.7 months at sea. This represents 6.2 percent of observer time and 7.5 percent of observer trips in the Alaskan scallop fisheries for the year.

SHELLFISH OBSERVER PROGRAM ACTIVITY

Observer Briefing and Debriefing Activity: During the 1993/94 fishing year SOP staff in Dutch Harbor conducted 369 shellfish observer briefings or debriefings and 46 scallop observer briefings or debriefings (includes mid-trip debriefings)(Table 102).

During the first four years of the SOP, briefing and debriefing activity was high during the fall, winter, and spring months corresponding to commercial crab fishing seasons in the Bering Sea and Aleutian Islands areas. In the past two years observer activity has increased substantially during the summer months due to the developing scallop fisheries. The number of briefings and debriefings by month for the 1993/94 fishing year is presented in Table 102. A monthly summary of observer briefing and debriefing sessions for September 1990 through August 31, 1994 is also presented.

Observer Exams, Certification and Decertification: Sixteen certification exams have been held since inception of the SOP, attended by 336 candidates of which 282 passed (84%). Through the end of 1994 there were 62 observers remaining in the SOP, the other 220 having been decertified for various reasons, mainly inactivity.

One shellfish observer certification exam was held in Dutch Harbor during 1994. Six candidates participated, all of whom passed and were issued trainee shellfish observer permits. One observer subsequently received full certification by the end of 1994, the rest remain in trainee status. Certification data by year since inception of the SOP is presented in Table 103.

In 1994, three observers were placed on suspension for violation of conflict of interest standards, one was demoted to trainee status for unacceptable performance, and one was decertified for poor judgement and unprofessional behavior.

The North Pacific Fisheries Observer Training Center in Anchorage conducted five scallop observer training courses during 1994. Three of these courses were two day sessions designed for certified shellfish observers and two courses were eight day sessions for new candidates. Six observers attended and passed the short courses and eleven candidates attended and passed the long courses.

Evidence Collection: Evidence pertaining to illegal activities was collected by observers on 13 percent of trips conducted during the 1993/94 fisheries. Evidence collection by observers for the fishing years 1991/92 through 1993/94 is summarized in Table 104 .

Fisheries where most evidence was collected were the Bering Sea Tanner crab fisheries. Sixty-five percent, 71 percent and 65 percent respectively, of evidence collected during the 1991/92 through 1993/94 seasons came from these fisheries.

Data Analysis: Data collected by shellfish observers were summarized by the Assistant Research Biologist for the Bering Sea and Aleutian Islands. Analysis of this data is available in report form. The latest published report is titled "1993 Shellfish Observer Program Database Summary Report". This report includes all fisheries with shellfish observer coverage in 1993.

PROBLEMS WITH THE OBSERVER PROGRAM

Many problems that arose during the early years of the SOP have been resolved through tightening of regulations and better cooperation between industry, observer contractors, observers, and ADF&G. However, some problems continue to plague the program. The structure of the SOP can result in pressure being exerted on contractors and observers by vessel owners and operators to circumvent program regulations.

Contractors are required to make all observer assignments. Requests from vessels for or against specific observers are not permitted and must be reported to ADF&G by the contractor. However, in the interest of maintaining contracts, contractor's decisions regarding observer assignments may be influenced by demands of the contracting vessels or companies. This violation of regulations can give vessels indirect control over observer placement.

The SOP structure places the observer in a position of potential compromise between ADF&G requirements (which includes documenting illegal activities and collecting evidence) and possible pressure from the vessel and contractor to ignore violations. Overlooked violations can be beneficial to the contractor, observer, and vessel in the form of increased business for the contractor, a reduced workload, possible payoffs, and future deployments or employment for the observer, and increased profits for the vessel.

Additional problems can occur when observers, immediately after debriefing, go to work as a crewman on vessels other than the assigned vessel. In this case, it is questionable whether a recently debriefed observer, exposed to confidential fishing information (catch rates and exact fishing locations etc.), should be allowed to work as a crew member on another vessel where such confidential information could be dispensed. Observers that participate in such activities are immediately suspended from the SOP for 12 months. This suspension is in effect decertification since observers are decertified after 12 months of inactivity.

SUMMARY

Dutch Harbor was again the focal point of the SOP during 1994. All observer deployments in the crab fisheries were managed through the Dutch Harbor ADF&G office. Scallop fisheries occurred in all shellfish registration areas of the state, except Prince William Sound, during 1994. Observers deployed in these fisheries are supervised by staff from the local ADF&G area office that manages each fishery.

During 1994 one shellfish observer certification exam was given. All 6 candidates passed and were given trainee shellfish observer certificates. One observer eventually obtained full certification, the rest remain in trainee status. Also in 1994, there were 29 observers decertified, one demoted to trainee status, and three suspended. At year's end 62 observers remained in the program.

Observers collected evidence on 13 percent of all shellfish observer trips during the 1993/94 fishing year, down substantially from the 25 percent of observer trips in the 1992/93 fishing year. The largest portion of evidence (65%) was collected by observers deployed in the Bering Sea Tanner crab fisheries.

Problems with the SOP continue to center around the third party contractor system of obtaining and deploying observers. Many of the problems dealing with observer placement could be minimized if observer deployment was controlled by ADF&G and contractors were not forced to rely on payment for observer services directly from vessel owners.

Table 1. Shellfish processors operating in the Westward Region during the 1994 fishing seasons.

Location	Company	*Products	Superintendent
Kodiak	Alaska Fresh Seafoods	KTMD	Dave Woodruff
	All Alaskan Seafoods	KTMD	Gary Taylor
	Alaska Pacific Seafoods	TMD	John Sevier
	Cook Inlet Processing	KTMD	Tim Blott
	East Point Seafoods	KTMDS	Jim Major
	Emerald Island Seafoods	KMTD	Chris Schopen
	Evergreen Int'l Foodstuffs	M	John Lo
	Great Northern Sea Prod. Inc.	M	Larry Nelson
	King Crab Inc.	KTMD	Mike Robinson
	Tyson Seafoods	D	Gary Taylor
	Western Alaska Fisheries	KTMD	Ken Allread
Sand Point	Trident Seafoods	TD	Paul Pagette
King Cove	Peter Pan Seafoods	KT	Mark Hanson
Akutan	Trident	KTM	Brett Joines
Dutch Harbor	Alyeska Seafoods	KTM	Frank Kelty
	Westward	KT	Rick Petre
	Royal Aleutian Processors	KTMD	Mike Newkirk
	East Point Seafoods	KT	Ken Doris
	Unisea, Incorporated	KTM	Steve Stubbe
	Bering Star	T	Amy Duz
	Trident Seafoods	KTM	John Oaksmith
St. Paul	Unisea Barge	KTM	Al Mendoza

FLOATER PROCESSORS

Alaskan I	T
All Alaskan	KT
Alaska Packer	KT
Aleutian Falcon	T
Blue Wave	KT
Coastal Star	KT
Galaxy	KT
Independence	T
Midas	KT
Mr. B	T
Northland	T
Ocean Pride	T
Omni Sea	T
Sea Alaska	KT
Snopac	T
Steller Sea	KT
Tempest	KT
Yard Arm Knot	KT

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Table 1. (page 2 of 2)

Location	Company	*Products	Superintendent
<u>CATCHER PROCESSORS</u>			
	Alaskan Enterprise	KT	
	Atka Enterprise	KT	
	Baranof	KT	
	Bountiful	KT	
	Carolina Boy	M	
	Carolina Girl II	M	
	Courageous	KT	
	Deep Sea Harvester	KT	
	Evening Star	T	
	Fortune Hunter	M	
	Glacier Enterprise	KT	
	Golden Pisces	DT	
	Gulf Wind	KT	
	Karla Faye	KT	
	Kiska Enterprise	KT	
	Lorraine Carol	M	
	Mr. Big	M	
	Northern Enterprise	T	
	Olympic	KT	
	Pacific Wind	KT	
	Patricia Lee	K	
	Pavlof	KT	
	Pro Surveyor	T	
	Provider	M	
	Pursuit	M	
	Royal Enterprise	KT	
	Seawind	KT	
	Sjovind	KT	
	Southern Wind	KT	
	Tradewind	M	
	Western Enterprise	T	
	Westward Wind	KT	
	Yukon Queen	M	

* K = King Crab T = Tanner Crab S = Shrimp

D = Dungeness M = Scallops, Clams, Haircrab, Octopus, Urchins, Snails

Table 2. Westward Region king crab, shrimp, Tanner crab and Dungeness crab pounds, price per pound and value to the fishermen, 1950-1994.

Year	SHRIMP			KING CRAB			TANNER CRAB ^a			DUNGENESS CRAB			TOTAL	
	# ^b	Price ^c	Value ^d	# ^b	Price ^c	Value ^d	# ^b	Price ^c	Value ^d	# ^b	Price ^c	Value ^d	# ^b	Value ^d
1950														
1951				2.1										
1952				0.8										
1953				0.7										
1954				3.3										
1955				6.6										
1956				5.5										
1957				10.9										
1958				12.3										
1959				12.4										
1960				16.4										
1961	3.4	0.039	0.13	30.4	0.085	2.58							33.9	2.71
1962	11.0	0.040	0.44	38.6	0.095	3.66							49.6	4.1
1963	12.6	0.040	0.5	49.5	0.1	4.95				1.9	0.09	0.17	64	5.62
1964	10.1	0.043	0.43	66.8	0.1	6.68				2.4	0.09	0.21	79.3	7.32
1965	3.9	0.040	0.15	91.8	0.1	9.18				4.2	0.09	0.38	99.9	9.71
1966	13.8	0.040	0.55	138.2	0.128	17.68				3.3	0.12	0.4	155.3	18.63
1967	24.1	0.045	1.08	136.2	0.11	14.9				1.2	0.13	0.16	161.5	16.14
1968	39.6	0.045	1.78	103.4	0.26	26.88				6.6	0.13	0.86	149.7	29.53
1969	39.7	0.040	1.58	69	0.26	17.94	0.1	0.07	0.007	8	0.14	1.12	119.4	20.91
1970	45.0	0.055	2.48	54.7	0.28	15.32	2.7	0.1	0.27	3.8	0.16	1.08	115	19.82
1971	68.2	0.040	2.73	49.9	0.3	14.97	8.5	0.11	0.64	5.7	0.14	0.8	135.1	19.74
1972	88.6	0.040	3.54	52.8	0.39	20.59	11.3	0.11	1.24	1.4	0.18	0.25	152.6	25.45
1973	78.0	0.040	3.12	70.4	0.55	38.72	9.8	0.11	1.07	2.1	0.4	0.84	166.1	44.71
1974	117.8	0.080	9.42	69.3	0.45	31.18	15.6	0.13	2.03	2.2	0.5	1.1	247.1	48.16
1975	104.0	0.080	8.32	94.3	0.45	42.43	38	0.17	6.46	0.8	0.47	0.38	242.5	59.81
1976	92.1	0.080	7.37	96.7	0.66	63.82	43.4	0.2	8.68	0.6	0.61	0.37	222.6	77.2
1976	119.3	0.100	11.93	101.4	1.37	138.91	64.8	0.2	12.96	0.08	0.15	0.01	285.6	168.81

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Table 2. (page 2 of 3)

Year	SHRIMP			KING CRAB			TANNER CRAB ^a			DUNGENESS CRAB			TOTAL	
	# ^b	Price ^c	Value ^d	# ^b	Price ^c	Value ^d	# ^b	Price ^c	Value ^d	# ^b	Price ^c	Value ^d	# ^b	Value ^d
1977	110.6	0.130	14.38	94.6	1.34	126.76	86.4	0.33	28.51	0.1	0.3	0.03	291.7	169.68
1978	64.2	0.165	10.59	119.9	1.6	191.8	114.3	0.43	49.15	1.3	0.75	0.98	301.4	253.16
1979	44.6	0.225	10.03	151.6	0.95	144.02	84.2	0.55	46.3	1.4	0.75	1.05	314	211.06
1980	43.1	0.290	12.49	189.6	1.05	199.08	32.2	0.3	9.66	2	0.45	0.9	338.2	255.97
1981	21.5	0.270	5.81	85.3	2	170.6	39.5	0.21	8.3	5.6	0.7	3.92	214.4	226.08
1982	11.2	0.270	3.02	38.5	3.75	144.48	52.7	0.26	13.7	5.3	0.75	3.98	118.5	229.19
1983	2.8	0.350	0.98	25	3	75	29.3	0.73	21.38	5.9	1.05	6.2	91.3	130.6
1984	2.9	0.330	0.95	17.1	2.75	47.02	26.2	0.35	9.17	6	1.4	8.4	70.8	86.22
1985	1.2	0.200	0.24	20.4	2.5	51	18.4	1.5	27.6	4.6	1.2	5.52	109.1	103.71
1986	0.5	0.250	0.13	17.3	3.5	60.5	64.5	0.3	19.35	1.2	1.15	1.38	128.7	144.99
1987	0.0	0.000	0	27.3	3.5	95.46	96.5	0.6	57.9	1.7	1.25	2.07	138.5	189.98
1988		Confidential		20	3.98	79.37	101.9	0.75	76.43	2.3	1.06	2.44	167.6	209.86
1989	0.0	0.000	0	22.7	4.02	91.07	135.4	0.77	104.25	3.1	1.1	3.4	189.3	247.74
1990	0.0	0.000	0	34.7	4.21	145.93	149.5	0.75	112.1	3	1.51	4.55	227.6	307.74
							28.2	1.91	53.86					
							161.7	0.64	103.4					

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Table 2. (page 3 of 3)

Year	SHRIMP			KING CRAB			TANNER CRAB ^a			DUNGENESS CRAB			TOTAL	
	# ^b	Price ^c	Value ^d	# ^b	Price ^c	Value ^d	# ^b	Price ^c	Value ^d	# ^b	Price ^c	Value ^d	# ^b	Value ^d
1991	0.0	0.0	0	28.3	2.94	83.25	42	1.14	48.02	1.5	1.5	2.04	400.4	297.64
1992		Confidential		19.1	3.79	72.56	328.6	0.5	164.3	1.7	0.86	1.43	370.4	284.85
1993		Confidential		26.6	3.47	92.30	315.3	0.5	157.65	1.7	0.92	1.56	284.4	309.71
1994	0.0	0.0	0	12.6	4.21	53.00	230.8	0.75	173.1	1.2	1.2	1.44	171.4	278.44
							149.8	1.30	194.74					

^a*C. bairdi* and *C. opilio*

^bMillions of pounds

^cDollars

^dMillions of dollars

Table 3. Historic domestic trawl shrimp catch, Alaska Westward Region, 1960-1994.

Calendar Year	Kodiak	Chignik	South Peninsula	Aleutians	Total
1960	3,379,000				3,379,000
1961	11,083,500				11,083,500
1962	12,654,300				12,654,300
1963	10,118,500				10,118,500
1964	3,946,900				3,946,900
1965	13,810,500				13,810,500
1966	24,097,100				24,097,100
1967	38,722,100	879,900			39,602,000
1968	34,468,700	1,153,700	4,137,400		39,759,800
1969	41,243,600	419,900	3,365,600		45,029,100
1970	62,369,300	1,226,800	4,634,700		68,230,800
1971	82,153,724	987,900	5,532,400		88,674,024
1972	58,352,319	4,829,800	14,740,800	94,627	78,017,546
1973	70,511,477	26,884,200	20,022,000	456,179	117,873,858
1974	48,771,375	23,392,400	26,145,900	5,749,407	104,059,082
1975	46,806,799	24,435,400	20,044,400	893,567	92,180,166
1976	51,400,472	27,059,700	37,170,300	3,670,609	119,301,081
1977	31,801,573	27,797,739	46,454,376	4,599,858	110,653,546
1978	22,820,135	22,976,720	11,812,795	6,618,263	64,227,913
1979	14,540,901	23,722,330	3,134,367	3,236,721	44,634,319
1980	27,783,437	12,843,270	C L O S E D	2,479,350	43,106,057
1981	19,030,341	70,948	C L O S E D	2,398,458	21,499,747
1982	10,884,059	0 ^a	0 ^a	341,551	11,225,610
1983	2,779,030	0 ^a	0 ^a	5,600	2,784,630
1984	3,023,438	0 ^a	0 ^a	0 ^a	3,023,438
1985	1,159,912	0 ^a	0 ^a	0 ^a	1,159,912
1986	453,468	0 ^a	0 ^a	0 ^a	453,468
1987	0 ^a	0 ^a	0 ^a	0 ^a	0 ^a
1988	Confidential ^b	0 ^a	0 ^a	0 ^a	Confidential ^b
1989	0 ^a	0 ^a	0 ^a	0 ^a	0 ^a
1990	0 ^a	0 ^a	0 ^a	0 ^a	0 ^a
1991	0 ^a	0 ^a	0 ^a	0 ^a	0 ^a
1992	0 ^a	0 ^a	0 ^a	Confidential ^b	Confidential ^b
1993	1,704	0 ^a	0 ^a	Confidential ^b	Confidential ^b
1994	0 ^a	0 ^a	0 ^a	0 ^a	0 ^a
AVERAGE (Years Fished)	26,720,606	14,128,629	15,236,533	2,377,888	41,963,058

^a Season Open - No Catch Reported

^b Catches by less than three vessels remain confidential.

Table 4. Historic king crab catch by registration area for Alaska's Westward Region (in thousands of pounds), 1950-1994.

Year	K		M		O		R		Q		T		Total	
	Kodiak	Peninsula	Alaska	Dutch Harbor	Adak	Bering Sea	Bristol Bay	Westward Region	Foreign	Total				
1950	60.0	2,124.0		0	0	0	0	2,184.0	0	2,184.0				
1951	200.0	599.0		0	0	0	0	799.0	0	799.0				
1952	400.0	298.0		0	0	0	0	698.0	0	698.0				
1953	900.0	380.0		0	0	0	2,000.0	3,280.0	11,356.0	14,636.0				
1954	4,000.0	317.0		0	0	0	2,329.0	6,646.0	8,086.0	14,732.0				
1955	2,000.0	1,641.0		0	0	0	1,878.0	5,519.0	8,693.0	14,212.0				
1956	4,800.0	4,221.0		0	0	0	1,896.0	10,917.0	8,308.0	19,225.0				
1957	5,000.0	6,687.0		0	0	0	588.0	12,275.0	8,548.0	20,823.0				
1958	5,200.0	7,246.0		0	0	0	7.0	12,453.0	8,136.0	20,589.0				
1959	10,200.0	6,167.0		0	0	0	0	16,367.0	11,602.0	27,969.0				
1960/61	21,064.0	6,700.0		0	2,093.7	0	598.0	30,456.5	24,611.0	55,067.5				
1961/62	28,962.9	3,900.0	533.0		4,776.0	0	459.0	38,630.9	40,404.0	79,034.0				
1962/63	37,626.7	2,273.0	1,536.0		8,006.5	0	74.0	49,543.2	49,516.2	102,782.2				
1963/64	37,716.2	6,539.0	3,893.0		17,903.7	0	747.0	66,798.9	56,671.0	123,469.9				
1964/65	41,596.5	14,354.0	13,761.0		21,193.0	0	910.0	91,815.0	63,076.0	154,891.3				
1965/66	94,431.0	14,713.0	19,196.0		8,040.0	0	1,762.0	138,142.4	41,405.0	179,547.4				
1966/67	73,817.8	22,577.0	32,852.0		5,883.1	0	997.0	136,126.9	43,998.0	180,124.9				
1967/68	43,448.5	17,252.0	22,709.0		16,948.9	0	3,102.0	103,460.4	32,528.0	135,988.4				
1968/69	18,211.4	10,944.0	11,300.0		19,874.8	0	8,687.0	69,017.2	27,681.0	96,698.2				
1969/70	12,200.5	4,137.0	8,950.0		19,055.4	0	10,403.0	54,745.9	14,113.0	68,858.9				
1970/71	11,719.9	3,425.7	9,652.0		16,057.0	NF	8,559.2	49,913.6	12,930.0	62,843.6				
1971/72	10,884.1	4,123.1	9,391.6		15,475.9	NF	12,995.8	52,869.7	6,188.0	59,057.7				
1972/73	15,479.9	4,069.3	10,450.4		18,724.1	NF	21,744.9	70,490.7	4,721.0	75,211.7				
1973/74	14,397.3	4,260.6	12,722.7		9,741.5	1,276.6	26,913.6	69,331.8	1,279.0	70,610.8				
1974/75	23,582.7	4,572.1	13,991.1		2,775.0	7,107.3	42,266.3	94,274.0	2,618.0	96,892.0				
1975/76	24,061.6	2,605.3	15,906.6		437.1	2,433.7	51,326.2	96,747.4	0	96,747.4				
1976/77	17,966.8	958.8	10,198.4		2.3	8,356.1	63,919.7	101,399.8	0	101,399.8				
1977/78	13,503.6	726.3	3,684.4		953.0	8,201.8 ^a	69,967.8	94,567.9	0	94,567.9				
1978/79	12,021.8	3,093.8	6,824.1		807.2	10,387.7 ^a	87,618.3	119,933.7	0	119,933.7				

-Continued-

Table 4. (page 2 of 2)

Year	K		M		O		R		Q		T		Total	
	Kodiak	Alaska Peninsula	Dutch Harbor	Adak	Bering Sea	Bristol Bay	Westward Region	Foreign	Total					
1979/80	14,608.9	4,453.5	15,010.9	490.7	9,230.3 ^a	107,828.0	151,647.4	0	151,647.4					
1980/81	20,448.6	5,080.6	19,053.6	1,478.4	11,543.8	129,948.5	89,668.8	0	189,423.3					
1981/82	24,237.6	3,147.5	5,231.1	2,843.0	13,772.5	33,591.4	85,291.4	0	85,291.4					
1982/83	8,729.2	1,627.7	1,616.2	9,708.1	13,447.3	3,001.2	38,497.8	0	38,497.8					
1983/84	111.4 ^b	CLOSED	1,810.0	10,109.6	11,701.9	CLOSED	25,463.1	0	25,463.1					
1984/85	22.2	CLOSED	1,521.1	5,508.7	4,701.3	4,182.4	17,115.2	0	17,115.2					
1985/86	63.6 ^b	CLOSED	1,968.2	11,931.0	2,959.8	4,174.9	20,405.4	0	20,405.4					
1986/87	146.5 ^b	CLOSED	1,869.2	13,510.2	1,262.1	11,393.9	17,308.5	0	17,308.5					
1987/88	67.2 ^b	CLOSED	1,383.2	3,190.0 ^c	2,200.9	12,289.1	19,130.4	0	19,130.4					
1988/89	2.8 ^b	CLOSED	1,545.1	9,571.1 ^d	1,488.3	7,387.8	19,955.1	0	19,955.1					
1989/90	^a	CLOSED	1,852.2	9,251.9 ^d	1,428.2	10,264.8	22,657.8	0	22,657.8					
1990/91	^a	CLOSED	1,718.8	9,606.3	1,725.3	20,362.3	33,412.7	0	33,412.7					
1991/92	0	CLOSED	1,447.7	6,128.7 ^d	3,372.1	17,177.9	28,126.4	0	28,126.4					
1992/93	^a	CLOSED	1,357.0	7,248.1 ^d	2,474.0	8,043.0	19,122.1	0	19,122.1					
1993/94	^a	CLOSED	915.5	5,368.4 ^d	5,675.0	14,628.6	26,587.5	0	26,587.5					
1994/95	^a	CLOSED	1,750.3	5,647.2	5,205.5	CLOSED	2,603.0	0	12,603.0					

*Confidential catch

^a Fishing year - July 1 through June 30

^b Brown crab, red king closed since 1982/83

^c Through January 31

^d Calendar year

Table 5. Westward Region historic Tanner crab *C. bairdi* and *C. opilio* catch (in pounds) for Alaska, 1965-1994.

Year ^a	Kodiak	Chignik ^b	South Peninsula		Eastern Aleutians		Western Aleutians		Bering Sea <i>C. opilio</i>		Bering Sea <i>C. bairdi</i>		Total US Harvest		Total Foreign Harvest	
1965	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,936,000	0
1966	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7,290,000	0
1967	110,961	0	5,000	0	0	0	0	0	0	0	0	0	115,961	0	24,000,000	0
1968	2,560,687	0	131,700	0	0	0	0	0	0	0	17,900	0	2,710,287	0	30,940,000	0
1969	6,796,477	0	644,400	0	0	0	0	0	0	0	1,008,900	0	8,449,777	0	47,668,000	0
1970	7,749,859	0	2,022,427	0	0	0	0	0	0	0	1,014,700	0	11,259,447	0	47,828,000	0
1971	7,436,414	152,256	2,140,755	0	0	0	0	0	0	0	166,100	0	9,875,888	0	39,886,000	0
1972	11,898,054	23,343	3,618,883	0	0	0	0	0	0	0	107,761	0	15,662,354	0	31,186,000	0
1973	31,113,459	747,788	5,615,563	62,128	498,836	168,354	0	0	0	0	231,668	0	38,008,640	0	27,886,000	0
1974	25,479,717	4,202,671	9,503,366	498,836	77,164	71,887	0	0	0	0	5,044,197	0	43,409,968	0	27,912,000	0
1975	17,535,844	3,649,444	5,195,800	77,164	3,350	3,350	0	0	0	0	7,284,378	0	33,225,873	0	18,456,000	0
1976	23,446,245	6,926,161	11,201,941	534,295	62,180	62,180	0	0	0	0	22,341,475	0	64,818,920	0	19,286,000	0
1977	20,720,079	5,672,919	6,773,838	1,301,654	0	0	0	0	0	0	51,455,221	0	86,405,326	0	21,520,173	0
1978	33,271,472	4,693,830	7,446,270	2,624,016	237,512	237,512	0	0	0	1,716,124	66,648,954	0	116,014,238	0	33,057,796	0
1979	29,173,807	2,536,105	8,684,408	1,092,311	197,244	197,244	0	0	0	31,102,832	42,547,174	0	116,411,771	0	32,914,536	0
1980	18,623,875	3,517,920	3,961,251	879,807	337,297	337,297	0	0	0	39,344,323	29,732,086	0	103,507,133	0	15,636,125	0
1981	11,748,629	3,653,723	3,294,106	654,514	220,716	220,716	0	0	0	50,483,055	29,732,086	0	102,056,808	0	0	0
1982	13,756,159	3,240,526	4,589,042	739,694	838,627	838,627	0	0	0	29,351,474	11,008,779	0	63,542,301	0	0	0
1983	18,927,061	3,497,370	2,863,798	547,830	448,399	448,399	0	0	0	26,128,410	5,273,881	0	57,686,749	0	0	0
1984	14,789,903	659,043	1,789,883	239,395	191,954	191,954	0	0	0	26,813,074	1,208,223	0	45,691,225	0	0	0
1985	12,024,553	385,838	2,561,868	165,529	66,549	66,549	0	0	0	65,998,875	3,151,498	0	82,900,497	0	0	0
1986	8,974,520	184,907	3,763,761	166,939	72,441	72,441	0	0	0	97,984,539	0	0	109,674,455	0	0	0
1987	4,833,473	195,060	2,400,784	160,292	42,761	42,761	0	0	0	101,903,388	0	0	109,535,758	0	0	0
1988	3,888,906	183,111	3,328,809	309,918	169,289	169,289	0	0	0	134,060,185	2,210,394	0	144,150,612	0	0	0
1989	5,208,999	323,120	1,055,082	328,696	53,181	53,181	0	0	0	149,455,340	7,012,965	0	163,437,891	0	0	0
1990	3,456,314	0	0	171,785	48,746	48,746	0	0	0	161,742,748	24,549,299	0	189,968,822	0	0	0
1991	1,917,713	0	0	50,038	14,779	14,779	0	0	0	328,647,269	40,081,555	0	370,711,294	0	0	0
1992	2,400,213	0	0	98,703	7,825	7,825	0	0	0	315,302,034	31,796,381	0	349,605,156	0	0	0
1993	1,318,446	0	0	118,609	2,293	2,293	0	0	0	230,787,000	23,908,272	0	256,134,620	0	0	0
1994	0	0	0	0	0	0	0	0	0	149,775,765	7,766,886	0	157,542,651	0	0	0

^aCalendar year

^bChignik and South Peninsula catches combined 1967 through 1970.

Table 6. Alaska Westward Region historic Dungeness crab catch (in pounds) by district, 1962-1994.

Calendar Year	Kodiak	Alaska Peninsula	Aleutian and North Peninsula	Total
1962	1,904,567	0	0	1,904,567
1963	2,487,512	0	0	2,487,512
1964	4,162,182	0	0	4,162,182
1965	3,311,571	0	0	3,311,571
1966	1,148,600	0	0	1,148,600
1967	6,663,668	0	0	6,663,668
1968	6,829,061	1,259,000	0	8,088,061
1969	5,834,628	1,056,000	0	6,890,628
1970	5,741,438	13,000	0	5,754,438
1971	1,445,864	11,000	0	1,456,864
1972	2,059,536	65,000	0	2,124,536
1973	2,000,526	194,500	0	2,195,026
1974	750,057	0	60,517	810,574
1975	639,813	0	4,408	644,221
1976	87,110	0	0	87,110
1977	113,026	0	0	113,026
1978	1,362,306	0	0	1,362,306
1979	1,313,650	102,320	1,101	1,417,071
1980	2,011,736	0	0	2,011,736
1981	5,566,463	42,296	0	5,608,759
1982	4,546,311	779,600	36,034	5,361,945
1983	4,752,148	1,200,978	8,975	5,962,101
1984	5,304,921	647,497	91,736	6,044,154
1985	4,153,877	462,258	16,750	4,632,885
1986	965,095	179,367	10,897	1,155,359
1987	1,450,983	182,706	26,627	1,660,316
1988	2,125,032	179,022	22,634	2,326,688
1989	3,077,937	^a	11,124	3,089,061 ^b
1990	2,879,955	65,806	17,365	2,963,126
1991	1,414,499	80,248	7,412	1,502,159
1992	1,656,793	^a	5,649	1,662,442 ^b
1993	1,369,889	273,811	7,531	1,651,231
1994	948,461	277,639	^a	1,226,100 ^b

^a Catch confidential

^b Total does not include confidential catch.

Table 7. Landings and values of fisheries to the port of Kodiak, 1994.

Species	Pounds ^a	Exvessel Value ^b
Tanner		
<i>C. bairdi</i>	1,695,058	4,915,000
Dungeness	1,004,004	1,205,000
King Crab	121,391	637,000
Scallops	381,850	2,211,000
Sea Cucumbers	413,576	496,000
Miscellaneous Shellfish ^c	28,079	25,000
Groundfish	233,839,000	29,623,000
Halibut	9,103,000	17,295,700
Salmon ^d	53,830,140	25,241,305
Herring ^d	13,128,000	4,968,400
Sac Roe/Food/Bait		
Total	313,544,098	86,617,405

^a Represents pounds of product landed at the port of Kodiak including harvests outside the Kodiak management area.

^b Dollar value to fishermen in season and does not reflect postseason settlements.

^c Includes octopus, shrimp and sea urchins.

^d Represents pounds of product harvested in the Kodiak management area.

Table 8. Keel length frequencies of Kodiak District shellfish vessels that made landings during the 1994 Tanner and Dungeness crab fishing seasons.

Vessel Keel Length (feet)	1993/94 Tanner Crab	1994 Dungeness Crab
<20	0	0
20-29	1	2
30-39	36	4
40-49	53	14
50-59	25	3
60-69	5	5
70-79	5	2
80-89	3	1
90-99	0	0
100-109	0	0
110-119	0	0
120-129	1	0
130-139	0	0
140-149	0	0
>150	0	0
VESSELS:	129	31

Table 9. Shellfish emergency orders issued for the Kodiak Management Area, 1994.

Emergency Order	Effective Date	Explanation
<u>Tanner Crab</u>		
4-S-3-94	January 15, 1994	Closed the Southeast, Westside, and Semidi Sections at 12:00 noon on January 15, 1994.
4-S-4-94	January 31, 1994	Closed the Southwest Section at 12:00 noon on January 31, 1994
	February 2, 1994	Closed the remainder of the Kodiak District at 12:00 noon on February 2, 1994.
<u>Scallop</u>		
4-S-5-94	February 11, 1994	Closed the Semidi Island area on February 11, 1994
4-S-10-94	July 1, 1994	Opened the Northeast portion of Kodiak area on July 1, 1994.
4-S-19-94	October 1, 1994	Closed Shelikof portion at 12:00 noon on October 1, 1994
<u>Sea Cucumber</u>		
4-S-8-94	April 7, 1994	Closed the Northeast, Eastside, Southeast, & Westside Sections on April 7, 1994.
	April 8, 1994	Closed the Chignik District on April 8, 1994.
	April 10, 1994	Closed the Southwest Section on April 10, 1994
	April 12, 1994	Closed the remainder of the Kodiak District on April 12, 1994
4-S-20-94	October 3, 1994	Closed the Southeast Section at 12:00 noon on October 3, 1994.
4-S-23-94	October 17, 1994	Closed the Southwest Section on October 22, 1994
	October 17, 1994.	Closed the Eastside Section on October 22, 1994.
<u>King Crab</u>		
4-S-16-94	September 25, 1994	Closed Kodiak Area to red and blue king crab fishing for 1994/95 season.

Table 10. Vessel and gear effort, by fishery and registration year for the Kodiak Management Area, 1989/90-1993/94.

	1989/90	1990/91	1991/92	1992/93	1993/94
Tanner Crab					
Average pots per vessel	113	70	69	69	68
Total vessels	233	137	143	140	129
Total pots registered	26,229	9,560	9,883	9,660	8,770
Dungeness Crab					
Average pots per vessel	478	449	439	513	549
Total vessels	62	62	46	42	31
Total pots registered	29,625	27,825	20,228	21,533	17,007

Table 11. History of Kodiak District Tanner crab opening and closing dates, 1977-1994.

Year	Opened	Closed
1977	Jan 1	Apr 30
1978	Jan 1	May 15
1979	Jan 5	May 15
1980	Jan 5	May 15
1981	Jan 22	May 15
1982	Feb 10	Apr 13
1983	Feb 10	Mar 14
1984	Feb 10	Apr 1
1985	Jan 15	Feb 18
1986	Jan 15	May 15
1987	Jan 15	Feb 28
1988	Jan 15	Mar 10
1989	Jan 15	Mar 31
1990	Jan 15	Feb 21
1991	Jan 15	Mar 31
1992	Jan 15	Jan 30
1993	Jan 15	Feb 8
1994	Jan 15	Feb 2

Table 12. Commercial catch and effort for the Tanner crab *Chionoecetes bairdi*, Kodiak Management District, 1967-1994^a.

Year	Vssls	Lndngs	Number of crabs ^a	Number of lbs. ^a	Pots Lifted	CPUE	Avg. Wt.	Price Per #
1967	-	83	-	110,961	-	-	-	\$.07
1968	-	817	-	2,560,687	-	-	-	.10
1969	85	955	-	6,827,312	72,748	43	-	.11
1969/70	67	833	3,237,244	8,416,782	78,266	42	2.6	.11
1970/71	82	453	2,686,067	6,744,163	60,967	44	2.5	.11
1971/72	46	505	3,878,618	9,475,902	65,907	59	2.4	.13
1972/73	105	1,466	13,609,688	30,699,777	188,158	67	2.3	.17
1973/74	123	1,741	11,857,573	29,820,899	217,523	59	2.5	.20
1974/75	74	471	5,459,940	13,649,966	73,826	83	2.5	.17
1975/76	104	1,168	10,748,958	27,336,909	199,304	64	2.5	.20
1976/77	102	998	7,830,727	20,720,079	164,213	48	2.6	.33
1977/78	148	1,483	12,401,243	33,281,472	251,621	49	2.6	.43
1978/79	218	1,225	10,702,829	29,173,807	275,455	38	2.7	.55
1979/80	211	1,385	6,813,128	18,623,875	282,946	24	2.7	.55
1980/81	188	771	4,398,631	11,748,629	174,351	25	2.7	.65
1981/82	221	950	5,413,467	13,756,159	230,403	24	2.5	1.65
1982/83	348	1,439	7,744,812	18,927,061	377,562	21	2.4	1.25
1983/84	303	1,229	5,891,968	14,478,066	303,764	10	2.5	1.20
1984/85	214	710	4,567,037	12,024,553	176,830	26	2.6	1.50
1985/86	233	601	3,457,930	8,996,151	160,808	21	2.6	1.90
1986/87	189	503	1,830,365	4,833,473	110,963	16	2.6	2.62
1987/88	176	557	1,614,874	3,888,906	101,488	16	2.4	2.40
1988/89	171	567	2,106,320	5,208,999	86,556	24	2.5	3.05
1989/90	233	548	1,435,477	3,456,314	97,333	15	2.4	2.40
1990/91	137	448	764,107	1,917,713	54,110	14	2.5	1.59
1991/92	143	434	982,391	2,400,213	47,384	20	2.4	2.22
1992/93	140	353	518,982	1,318,446	43,528	12	2.5	2.10
1993/94	129	378	510,681	1,252,342	41,527	12	2.5	2.25
TOTAL	-	-	130,463,057	341,469,616	3,937,541	-	-	-
AVERAGE	162	827	5,218,522	12,195,343	140,626	31	2.6	-

^a Data Source: Alaska Department of Fish and Game annual Board of Fish and Game Reports and annual Kodiak area Management Report.

Table 13. Tanner crab *Chionoecetes bairdi* catch in pounds by fishing section for the Kodiak Management District, 1989/90 - 1993/94.

Section	1989/90	1990/91	1991/92	1992/93	1993/94
Northeast	499,341	473,591	381,512	264,913	238,076
Eastside	1,049,868	756,848	2,018,701	728,191	395,062
Southeast	484,514	450,455	Closed	Closed	Closed
Southwest	307,427	Closed	Closed	325,342	279,077
Semidi Is.	^a	^a	Closed	Closed	Closed
North Mainland	824,106	157,072	Closed	Closed	340,127
South Mainland	^a	0	Closed	Closed	0
Westside	291,058	79,747	Closed	Closed	Closed
Total	3,456,314	1,917,713	2,400,213	1,318,446	1,252,342

^a North Mainland catch includes South Mainland and Semidi Island to protect vessel confidentiality.

Table 14. Tanner crab *Chionoectes bairdi* catch, landings, vessel effort and catch per pot (CPUE) by statistical subarea for the Kodiak District, 1993/94. Average catch per pot unstandardized for soak period and gear type.

Stat Area	Vessels	Landings	Pounds Harvested	Average Weight	CPUE
525630	4	6	132,929	2.3	23
525701	19	45	110,348	2.4	8
525703	13	43	76,824	2.3	11
525731	5	16	10,971	2.4	6
525733	49	175	190,520	2.4	8
525805	5	14	5,092	2.3	5
535807	4	7	20,993	2.4	13
535702	7	10	55,194	2.5	14
535707	13	18	70,361	2.4	11
535802	3	4	122,571	2.3	32
545631	3	3	6,038	2.4	11
545632	8	10	132,924	2.4	15
545704	7	20	84,921	2.5	11
545802	11	12	196,507	2.8	17
***** ^a	10	12	36,149	2.5	8
TOTAL	129	378	1,252,342	2.5	12

^a Where number of vessels were less than 3, statistical area totals have been combined to protect vessel confidentiality.

Table 15. Dungeness crab commercial catch and effort by fishing year for the Kodiak Management District, 1962-1994.

Year	Lndgs	Vssls	-----Commercial Catch-----		Pots Lifted	Avg Lbs Per Lndg	CPUE	Avg Price Per Lb	Exvessel Dollars
			No. Crab	No. Pounds					
1962 ^a	149	-	-	1,904,567	-	12,782	-	\$.09	171,000
1963	354	-	-	2,487,512	-	7,026	-	.09	224,000
1964	395	29	-	4,254,565	-	10,537	-	.09	375,000
1965	351	25	-	3,311,571	-	9,434	-	.12	397,000
1966	144	12	-	1,416,174	-	7,976	-	.13	149,000
1967	439	18	-	6,663,668	-	15,179	-	.13	866,000
1968	536	43	-	6,829,061	-	12,741	-	.14	956,000
1969	455	29	-	5,834,628	190,967	12,823	12	.16	934,000
1970	318	33	-	5,741,438	249,800	18,005	9	.14	804,000
1971	173	24	515,653	1,445,864	90,913	8,358	6	.18	260,000
1972	316	34	766,960	2,059,536	140,921	6,517	6	.40	824,000
1973	487	42	879,484	2,000,526	251,467	4,108	3	.50	1,000,000
1974	172	23	337,839	750,057	104,062	4,361	3	.47	353,000
1975	154	15	307,272	639,813	76,411	4,154	4	.61	390,000
1976	6	4	38,072	87,110	4,410	14,518	9	.15	13,000
1977 ^b									
1978	173	20	618,357	1,362,306	93,633	7,875	6	.75	1,022,000
1979	237	28	595,850	1,311,275	137,951	5,543	4	.75	943,000
1980	197	21	968,829	2,011,736	107,261	10,212	9	.45	905,000
1981/82 ^c	466	50	2,614,545	5,566,463	295,138	11,945	9	.70	3,897,000
1982/83 ^d	991	111	2,004,075	4,546,311	481,542	4,588	4	.75	3,410,000
1983/84	1,079	103	2,044,505	4,752,148	503,464	4,408	4	1.05	4,989,000
1984/85 ^e	1,163	106	2,393,974	5,303,052	627,441	4,564	4	1.45	7,689,000
1985 ^f	1,243	125	1,791,446	4,160,435	599,291	3,347	3	1.20	4,992,522
1986	577	81	439,738	967,423	199,881	1,667	2	1.15	1,112,500
1987	379	45	747,117	1,450,983	150,067	3,828	5	1.26	1,828,000
1988	363	50	1,064,387	2,125,114	203,217	5,854	5	1.06	2,253,000
1989	359	47	1,428,973	3,077,937	185,242	8,574	8	1.10	3,385,730
1990	519	62	1,294,241	2,937,306	296,168	5,660	4	1.54	4,435,000
1991	732	62	695,470	1,414,499	279,872	1,932	2	1.37	1,938,000
1992	501	46	805,215	1,656,793	218,602	3,306	4	.86	1,425,000
1993	263	42	647,736	1,369,889	180,534	5,209	4	.92	1,260,000
1994	162	31	426,848	948,461	151,888	5,855	3	1.20	1,138,000
Average	420	45		2,734,659	223,891	7,554	4	.65	1,649,843

^aSeason open year round 1962 - 1976

^bOpen May 1 through December 31, 1977 - 1980

^cOpen February 27, 1981 through February 1, 1982

^dOpen May 1, 1982 through February 1, 1983

^eOpen May 1, 1985 through December 31, 1985

Table 16. Kodiak Dungeness crab catch statistics for the Kodiak District, 1994. Average catch per pot unstandardized for soak period and gear type.

Stat Area	No. Vessls	No. Lndgs	Pounds Harvested	Avg. Wt.	CPUE	May	June	July	August	September	October	November	December
525701	5	25	54,675	2.1	2.0	5,915	8,044	19,277	13,694	3,825	3,908	0	0
525733	6	20	6,170	2.2	1.0	0	1,505	1,955	786	910	562	0	452
535703	3	9	14,237	2.3	2.0	0	647	6,428	4,007	0	3,155	0	0
535732	3	5	5,274	2.1	1.0	688	2,285	0	0	1,055	0	0	1,246
545601	11	47	615,199	2.3	4.0	0	106,926	308,275	119,936	43,515	24,469	12,078	0
545802	3	13	15,003	2.3	2.0	0	2,343	4,781	6,273	1,006	600	0	0
a	24	72	237,903	2.1	2.6	18,605	38,063	41,663	39,453	38,527	49,280	4,796	7,516
TOTAL	31	162	948,461	2.2	3.0	25,208	159,813	382,379	184,149	87,783	83,029	16,874	9,214

^aStat area totals have been combined to protect vessel confidentiality.

Table 17. Dungeness crab commercial harvest (in pounds) by fishing section, Kodiak Management District, 1987-1994.

Section	1987	1988	1989	1990	1991	1992	1993	1994
Northeast	102,997	149,992	113,211	65,703	226,187	201,984	34,080	7,725
Eastside	173,438	177,523	193,200	170,081	141,053	270,370	115,421	75,740
Southeast	751,793	1,126,298	2,323,771	2,479,534	805,459	859,492	776,258	637,338
Southwest	84,352	190,280	165,401	101,376	50,183	89,342	95,128	34,038
N Mainland	106,449	97,924 ^a	^b	18,723	36,831	36,202	68,325	19,987
S Mainland	9,990	^b	0	0	^b	0	^a	^d
Westside	221,964	383,097	282,354 ^c	101,889	114,786	199,403	280,677	173,633
Semidi Is	0	0	0	0	0	0	0	0
Total	1,450,983	2,125,114	3,077,937	2,937,306	1,414,499	2,937,306	1,369,889	948,461

^a North Mainland and South Mainland catches combined to protect vessel confidentiality.

^b Confidential

^c North Mainland and Westside Section catches combined to protect vessel confidentiality.

^d Southwest and South Mainland catches combined to protect vessel confidentiality.

Table 18. Historic commercial red king crab catch and effort for the Kodiak Registration Area 'K', 1960/61-1994/95.

Fishing Year ^a	Vessels	Landings	No. of Crab	No. of Pounds	Pots Lifted	CPUE	Average	
							Wt. Per Crab	Price Per #
1960/61	143	-	2,116,375	21,064,871	-	-	-	\$.085
1961/62	148	-	3,181,554	28,962,900	-	-	-	.95
1962/63	195	-	4,146,143	37,626,703	-	-	-	.10
1963/64	181	-	4,158,988	37,716,223	-	-	-	.10
1964/65	189	-	4,923,309	41,596,518	95,951	51	-	.10
1965/66	175	-	11,061,709	94,431,026	173,083	64	-	.128
1966/67 ^b	213	-	8,476,299	73,817,779	223,174	38	-	.11
1967/68	227	3,847	5,147,321	43,448,492	207,392	25	-	.26
1968/69	178	1,839	2,348,950	18,211,485	119,146	20	-	.26
1969/70 ^c	136	978	1,606,181	12,200,571	96,841	17	-	.28
1970/71	100	830	1,561,318	11,719,970	119,192	13	-	.30
1971/72	89	507	1,539,157	10,884,152	66,166	23	-	.39
1972/73	88	683	2,029,670	15,479,916	70,806	29	-	.55
1973/74	129	837	1,847,679	14,397,287	77,826	24	-	.45
1974/75	158	1,195	2,910,201	23,582,720	110,297	26	-	.45
1975/76	169	1,569	2,976,909	24,061,651	113,795	26	8.1	.66
1976/77	195	1,165	2,177,956	17,966,846	130,777	17	8.2	1.37
1977/78	179	1,186	1,590,477	13,503,666	145,867	11	8.5	1.34
1978/79	194	1,077	1,464,021	12,021,850	177,261	8	8.2	1.60
1979/80	247	1,346	1,979,394	14,608,900	207,991	9	7.3	.95
1980/81	164	1,175	2,787,199	20,448,654	201,531	14	7.3	1.05
1981/82	246	2,214	3,035,674	24,237,601	388,751	8	8.0	2.00
1982/83	309	1,373	1,011,109	8,729,761	283,795	4	8.6	3.75
1983/84				NO FISHERY - SEASON CLOSED				
1984/85				NO FISHERY - SEASON CLOSED				
1985/86				NO FISHERY - SEASON CLOSED				
1986/87				NO FISHERY - SEASON CLOSED				
1987/88				NO FISHERY - SEASON CLOSED				
1988/89				NO FISHERY - SEASON CLOSED				
1989/90				NO FISHERY - SEASON CLOSED				
1990/91				NO FISHERY - SEASON CLOSED				
1991/92				NO FISHERY - SEASON CLOSED				
1992/93				NO FISHERY - SEASON CLOSED				
1993/94				NO FISHERY - SEASON CLOSED				
1994/95				NO FISHERY - SEASON CLOSED				
AVERAGE ^d	174	1,359	2,963,898	24,834,120	143,813	21	-	-

^a Fishing year defined as May 1 - April 30.

^b July 1 - April 30 season established.

^c August 15-January 15 season established.

^d Average includes only years with open fishing season.

Table 19. Kodiak red king crab harvest composition and seasons, 1960-1994/95.

Season	Open	Closed	Catch Million Pounds	Percent Recruits ^a	Percent Post- Recruits	Size Limit
1960/61	Jul 1	Jun 30	18.9	8	92	6½"
1961/62	Jul 1	Jun 30	29.0	36	64	6½"
1962/63	Jul 1	Jun 30	37.6	26	74	6½"
1963/64	Jul 1	Jun 30	35.0	33	67	7"
1964/65	Jul 1	Jun 30	41.6	48	52	7"
1965/66	Jul 1	Apr 30	94.4	35	65	7"
1966/67	Jul 1	Apr 30	73.8	28	72	7"
1967/68	Jul 1	Apr 30	43.4	27	73	7"
1968/69	Jun 15	Mar 31	18.2	61	39	7"
1969/70	Aug 15	Jan 15	12.2	59	41	7"
1970/71	Aug 15	Jan 15	11.7	38	62	7"
1971/72	Aug 15	Oct 29	10.9	75	25	7"
1972/73	Aug 15	Oct 13	15.5	47	53	7"
1973/74	Aug 15	Oct 25	14.4	49	51	7"
1974/75	Aug 15	Sep 21	20.9	52	48	7"
	Oct 15	Jan 15	2.2	3	97	8"
1975/76	Aug 15	Oct 20	21.6	48	52	7"
	Oct 20	Dec 1	2.5	3	97	8" ^b
1976/77	Sep 1	Oct 16	14.6	33	67	7"
	Dec 1	Jan 15	3.1	.5	99.5	8"
1977/78	Sep 15	Nov 30	11.7	37	63	7"
	Dec 1	Jan 15	1.8	.7	99.3	8"
1978/79	Sep 10	Nov 30	10.3	44	56	7"
	Dec 1	Jan 15	1.7	15	85	7½"
1979/80	Sep 10	Nov 30	13.4	70	30	7"
	Dec 1	Jan 15	1.2	30	70	7½"
1980/81	Sep 15	Nov 30	18.4	69	31	7"
	Dec 1	Jan 15	2.1	22	78	7½" ^c
1981/82	Sep 15	Dec 15	20.3	61	39	7"
	Dec 15	Jan 15	3.9	7	93	7½"
1982/83	Sep 1	Dec 10	7.5	46	54	7"
	Dec 10	Dec 19	1.2	19	81	7½"
1983/84			FISHERY CLOSED			
1984/85 ^d			FISHERY CLOSED			
1985/86			FISHERY CLOSED			
1986/87 ^e			FISHERY CLOSED			
1987/88			FISHERY CLOSED			
1988/89			FISHERY CLOSED			
1989/90			FISHERY CLOSED			
1990/91			FISHERY CLOSED			
1991/92			FISHERY CLOSED			
1992/93			FISHERY CLOSED			
1993/94			FISHERY CLOSED			
1994/95			FISHERY CLOSED			

^a Recruitment after 1963 based on 7" size limit.

^b Marmot Bay, Chiniak Bay and Kupreanof Strait did not open for 8" crab.

^c Uganik Bay, Kupreanof Strait, Marmot Bay, Chiniak Bay, Ugak Bay, South Sitkalidak Strait, Kiliuda Bay and Alitak Bay did not open for 7½" crab.

^d Harvest of crab by test fishery - 33,743 pounds.

^e Harvest of crab by test fishery - 13,393 pounds.

Table 20. Legal male red king crab abundance estimates for the Kodiak area, 1973-1994.

Year	No. of Animals X 10 ⁶
1973	4.874
1974	8.716
1975	7.622
1976	5.191
1977	3.764
1978	2.874
1979	5.629
1980	5.978
1981	5.873
1982	1.883
1983	0.400
1984	0.397
1985	0.418
1986	0.330
1987 ^a	0.177
1988	0.110
1989	0.240
1990	0.119
1991	0.064
1992	0.060
1993	0.072
1994	0.030

^aTrawl survey since 1987.

Table 21. Adult female red king crab *Paralithodes camtschaticus* fishery thresholds and 1994 estimates by district for the Kodiak area (millions of animals).

	Threshold	1994 Trawl Estimate
District 1 (Northeast)	1.93	.013
District 2 (Southeast)	0.72	.000
District 3 (Southwest)	2.28	.011
District 4 (Shelikof)	0.19	.0015
TOTAL	5.12	.039

Table 22. Historic commercial brown king crab *Lithodes aequispina* catch and effort for the Kodiak Registration Area 'K', 1983-1994.

Fishing Year	Landings	Vessels	No. of Crabs	No. of Pounds	Pots Lifted	Average			Exvessel Value (Millions)
						Crab Per Pot	Wt. Per Crab	Price Per Pound	
1983	36	12	16,349	111,398	8,490	2	6.8	3.00	.3
1984	8	6	3,513	22,066	1,950	2	6.3	2.50	.1
1985	19	4	10,005	63,641	2,693	4	6.4	1.95	.1
1986	31	4	21,862	146,478	5,463	4	6.7	3.00	.4
1987	38	5	9,484	67,191	3,187	3	7.1	3.44	.2
1988				----- Confidential -----					
1989				----- Confidential -----					
1990	6	3	1,214	7,314	1,090	1	6.02	3.00	.02
1991	0	0	0	0	0				
1992				----- Confidential -----					
1993				----- Confidential -----					
1994	0	0	0	0	0				

Table 23. Historic commercial trawl shrimp catch and effort for the Kodiak District of Westward Statistical Area `J', 1958-1994.

Calendar Year	Vessels Fishing	Commercial Landings	Harvest Pounds	Year Price
1958	-	-	31,886	\$.035
1959	-	-	2,861,900	.035
1960	11	94	3,197,985	.039
1961	12	203	11,083,500	.04
1962	11	204	12,654,027	.04
1963	-	-	10,118,472	.043
1964	6	-	4,339,114	.04
1965	11	320	13,823,061	.04
1966	17	551	24,097,141	.045
1967	23	-	38,267,856	.045
1968	16	-	34,468,713	.04
1969	26	935	41,353,461	.055
1970	18	1,024	62,181,204	.04
1971	49	1,746	82,153,724	.04
1972	63	1,398	58,352,319	.04
1973	50	1,283	70,511,477	.055
1973/74	63	1,029	56,203,992	.08
1974/75	75	1,100	58,235,982	.08
1975/76	58	884	49,086,591	.08
1976/77	62	762	46,712,083	.10
1977/78	58	653	26,409,366	.13
1978/79	50	328	20,506,021	.165
1979/80	37	242	12,863,536	.225
1980/81	67	462	27,101,218	.29
1981/82	55	298	19,112,367	.27
1982/83	40	224	10,391,207	.27
1983/84	14	63	2,779,030	.35
1984/85	13	59	2,942,922	.33
1985/86	5	26	1,145,980	.20
1986/87		Confidential		
1987/88		Confidential		
1988/89	0	0	0	.00
1989/90	0	0	0	.00
1990/91	0	0	0	.00
1991/92	0	0	0	.00
1992/93	0	0	0	.00
1993/94	3	3	1,704	N.A
1994/95	0	0	0	.00
Fishing Year Averages ^a	33	556	25,917,820	\$.12

^aAverage calculated from years 1960-1985.

Table 24. Shrimp population indices from surveyed Westward Region fishing sections, 1992.

FISHING SECTION	AVERAGE LBS/NM	1992 SURVEY INDEX (MILLION OF POUNDS)
Marmot Bay	180	1.11
Chiniak Bay	182	.38
Kiliuda Bay	35	.32
Twoheaded Gully	159	1.16
Alitak Bay	24	.21
Uyak Bay	30	.16
Uganik Bay	123	.48
Wide Bay	660	.92
Chignik Bay	246	2.01
Kuiukta Bay	227	.69

Table 25. Pot shrimp catch statistics, Kodiak District of Statistical Area 'J', 1969-1994.

Year	Vessels	Landings	Pounds
1969		C o n f i d e n t i a l	
1970	-	20	12,302
1971	a	a	a
1972		C o n f i d e n t i a l	
1973		C o n f i d e n t i a l	
1974	6	73	10,336
1975	7	77	12,782
1976		C o n f i d e n t i a l	
1977	3	26	2,565
1978		C o n f i d e n t i a l	
1979		C o n f i d e n t i a l	
1980	4	25	4,700
1981	4	6	2,511
1982	6	18	9,754
1983	12	31	18,686
1984	6	21	4,361
1985		C o n f i d e n t i a l	
1986		C o n f i d e n t i a l	
1987	a	a	a
1988		C o n f i d e n t i a l	
1989		C o n f i d e n t i a l	
1990		C o n f i d e n t i a l	
1991	a	a	a
1992	a	a	a
1993	a	a	a
1994		C o n f i d e n t i a l	

^aNo commercial landings recorded for 1971, 1987, 1991, 1992 or 1993.

Table 26. Historic commercial catch, effort, and value of weathervane scallops Kodiak Management District, 1967 through 1994.

Year	No. Vssls	No Lndgs	Commercial Catch (pounds)	Average Landing (pounds)	Average Price/Lb.	Est. Value Ex-Vessel (dollars)
1967	2	6	7,718 ^a	1,298	.07	500
1968	8	89 ^b	872,803 ^c	8,983	.85	618,000
1969	11	86	1,012,860	11,777	.85	861,000
1970	7	102	1,417,612	13,898	1.00	1,500,000
1971	5	48	841,211	17,525	1.05	883,000
1972	5	68	1,038,793	15,276	1.15	1,200,000
1973	4	42	935,705	22,279	1.20	1,123,000
1974	3	14	147,945	10,568	1.30	192,000
1975	3	29	294,142	10,143	1.40	412,000
1976	1	6	75,245	12,541	1.59	119,000
1977	0	0	0	0	.00	0
1978	0	0	0	0	.00	0
1979	1	4	24,826	6,206	2.78	69,000
1980	7	33 ^d	371,018 ^e	11,045	3.60	1,275,000
1981	15	60	424,394	7,073	4.00	1,698,000
1982	8	62	435,645	7,026	3.25	1,416,000
1983	4	24	147,747	6,424	5.00	739,000
1984	7	37	309,502	8,365	4.00	1,238,000
1985	3	10	46,971	4,697	4.00	188,000
1986	5	21	180,600	8,600	4.25	767,550
1987	3	23	253,451	11,019	3.45	874,406
1988	3	21	197,731	9,416	3.68	727,650
1989	5	29	242,557	8,364	3.87	938,696
1990	7	73	689,402	9,444	3.43	2,364,649
1991	5	60	514,412	8,574	3.82	1,965,054
1992	3	43	389,854	9,066	3.96	1,543,822
1993	10	62	401,793	6,481	5.15	2,069,234
1994	11	36	381,850	10,607	5.79	2,210,911

^a Shucked scallops - 80 landings; 9 landings unshucked. Average lbs/landing based on shucked weight and landings.

^b Shucked scallops - 718,671 pounds; unshucked - 154,132.

^c Shucked scallops - 32 landings; unshucked - 1 landing. Average lbs/landing based on shucked weight and landings.

^d Shucked scallops - 353,443 pounds; unshucked scallops - 17,575 pounds.

^e Total and average, shucked scallops only, 1968 through 1985.

Table 27. Historic harvest of sea cucumbers in the Kodiak and Chignik Districts, 1991-1994.

Year	Number of Permits	Number of Landings	Pounds Harvested	Average Price Per Pound
1991		Confidential		
1992		Confidential		
1993	50	487	564,516	93
1994	86	269	413,576	1.20

Table 28. Sea cucumber commercial harvest by area, Kodiak and Chignik Districts, 1994.

Area	Pounds
Chignik District Total	78,078
Kodiak District	
Northeast Section	4,958
Eastside Section	118,617
Southeast Section	44,943
Southwest Section	50,577
Westside Section	106,514
North Mainland Section	9,889
Kodiak District Total	335,498

Table 29. Historic harvest of sea urchins in the Kodiak area, 1980-1994.

Year	No. of Permits	No. of Landings	Pounds Harvested (Live Weight)	Average Price Per/Lb.
1980		Confidential		
1985		Confidential		
1986		Confidential		
1987	12	78	104,139	.69
1988	28	260	190,509	.80
1989	29	81	44,862	.82
1990	25	83	84,004	.84
1991	6	24	29,947	.92
1992		Confidential		
1993		Confidential		
1994		Confidential		

Table 30. Commercial catch, effort, and value for octopus in the Kodiak Management Area, 1977-1994.

Year	Number of Vessels	Number of Landings	Commercial Catch (Pounds)	Per Avg. Price Pound	Est. Value Exvessel (dollar)
1977	5	9	1,000	.71	1,136
1978	11	21	3,336	.75	2,502
1979	20	43	6,978	.74	5,164
1980	27	61	19,342	.75	14,506
1981	21	46	5,872	.70	4,110
1982	12	29	3,854	.70	2,697
1983	12	20	3,764	.70	2,634
1984	17	43	6,487	.70	4,341
1985	10	12	4,812	.78	3,753
1986	5	8	643	.70	450
1987	8	15	14,151	1.08	15,300
1988	4	4	1,949	1.08	2,105
1989			Confidential		
1990	31	131	69,607	1.08	80,000
1991	70	342	129,355	1.07	138,410
1992	105	---	132,212	1.07	141,466
1993	58	---	138,333	1.00	138,333
1994	29	---	10,449	.59	6,000

Table 31. Historic commercial razor clam catch effort and value for Kodiak Management Area, 1960-1994.

Year	No. of Registered Diggers ^a	No. of Lndgs.	Commercial Catch (Pounds)	Avg. Catch Per Lndg. (Pounds)	Average Price Per #	Est. Price Exvessel (Dollars)
1960	76		420,636		\$.105	44,000
1961	95		381,971		.105	40,000
1962	66		297,516		.105	31,000
1963	39		323,757		.11	35,600
1964	2		0		.00	-
1965	4		20,000		.25	5,000
1966	29		15,429		.38	6,000
1967	9		2,155		.40	900
1968	19		6,384		.40	2,600
1969	5	6	12,029	2,005	.40	4,812
1970	6	32	132,261	4,133	.40	53,000
1971	73	82	190,394	2,322	.30	57,000
1972	95	128	152,116	1,188	.35	53,000
1973	64	140	165,282	1,181	.40	66,000
1974	58	74	198,381	2,681	.50	99,000
1975	18	5	6,188	1,238	.50	3,000
1976	9	0	0	0	.00	-
1977			Confidential			
1978			Confidential			
1979	-	0	0	0	.00	-
1980	-	8	8,006	1,001	.79	6,325
1981	-	5	8,186 ^b	1,637	1.00	8,186
1982	-	11	11,608 ^c	1,055	1.00	11,608
1983	-	7	7,920	1,131	1.00	7,920
1984	-	21	33,972	1,613	1.00	33,972
1985	-	11	16,945 ^d	1,540	1.00	16,945
1986	-	4	3,993	998	1.00	3,993
1987	-	-	-	-	-	-
1988	-	-	-	-	-	-
1989	-	-	-	-	-	-
1990	-	-	-	-	-	-
1991	-	-	-	-	-	-
1992	-	-	-	-	-	-
1993	-	-	-	-	-	-
1994	-	-	-	-	-	-

^a Represents registered diggers not actual diggers - no data available after 1977 due to statewide issuance of Interim Use Permits.

^b Additional 985 pounds of hardshell clams harvested.

^c Additional 1,506 pounds of hardshell clams harvested.

^d Additional 1,496 pounds of hardshell clams harvested.

Table 32. Commercial catch and effort statistics for red king crab in the Alaska Peninsula Area M, 1947-1994/95.

Year	No. Vssls	No. Lnds	No. Crab	No. Pounds	Pots Lifted	CPUE	Avg. Wt.	Price Per Lb
1947	NA	NA	18,800	141,000	NA	NA	7.5	NA
1948	NA	NA	518,500	3,363,000	NA	NA	6.5	NA
1949	NA	NA	205,500	3,476,000	NA	NA	12.0	NA
1950	NA	NA	270,000	2,124,000	NA	NA	7.9	NA
1951	NA	NA	86,500	599,000	NA	NA	6.9	NA
1952	NA	NA	32,400	298,000	NA	NA	7.6	NA
1953	NA	NA	38,400	380,000	NA	NA	10.0	NA
1954	NA	NA	31,666	316,660	NA	NA	10.0	NA
1955	NA	NA	164,069	1,640,688	NA	NA	10.0	NA
1956	NA	NA	421,651	4,221,496	NA	NA	10.0	NA
1957	NA	NA	668,709	6,687,092	NA	NA	10.0	NA
1958	NA	NA	724,595	7,245,947	NA	NA	10.0	NA
1959	NA	NA	568,303	6,166,974	NA	NA	10.0	NA
1960	NA	1,496	677,100	6,700,000	NA	NA	9.9	NA
1961	NA	959	419,354	3,900,000	NA	NA	9.3	NA
1962	NA	657	287,624	2,273,013	NA	NA	7.9	NA
1963	27	1,037	970,739	6,539,129	NA	NA	6.7	.09
1964	40	1,297	1,906,018	14,354,060	NA	NA	7.5	.10
1965	36	1,081	1,813,728	14,713,501	NA	NA	8.1	.10
1966	37	1,255	2,494,949	22,577,587	NA	NA	9.0	.10
1967	39	1,062	1,943,463	17,252,307	NA	NA	8.9	.19
1968/69	34	885	1,273,567	10,944,472	NA	NA	8.6	.34
1969/70	33	415	558,800	4,137,000	51,300	11	7.7	.25
1970/71	25	339	446,042	3,425,760	38,995	11	7.7	.25
1971/72	26	364	597,394	4,123,130	41,759	14	6.9	.28
1972/73	29	301	610,300	4,069,362	34,408	18	6.7	NA
1973/74	36	389	658,632	4,260,674	53,642	12	6.9	.72
1974/75	36	318	644,054	4,572,101	44,951	14	7.1	.43
1975/76	37	248	367,221	2,605,310	35,104	11	7.2	.41
1976/77	26	122	125,778	958,069 ^a	17,748	7	7.7	.61
1977/78	15	73	119,641	726,382	10,551	11	6.1	1.00
1978/79	33	226	520,168	3,093,859	31,142	17	5.9	1.27
1979/80	68	288	738,859	4,453,557	41,753	18	6.0	.92
1980/81	51	358	821,071	5,080,632 ^a	54,114	15	6.2	.96
1981/82	56	341	515,882	3,168,689	51,776	10	6.1	1.40
1982/83	63	157	271,237	1,683,654	30,894	9	6.2	3.20
1983/84				NO FISHERY				
1984/85				NO FISHERY				
1985/86				NO FISHERY				
1986/87				NO FISHERY				
1987/88				NO FISHERY				
1988/89				NO FISHERY				
1989/90				NO FISHERY				
1990/91				NO FISHERY				
1991/92				NO FISHERY				
1992/93				NO FISHERY				
1993/94				NO FISHERY				
1994/95				NO FISHERY				

NA = Not Available

^a Combined 6 1/2 inch and 7 1/2 inch seasons.

Table 33. Male red king crab abundance data from annual Alaska Peninsula (Area M) surveys, 1975-1994.

Year	Stations Fished	Pots Lifted	Legals		Sublegals	
			Number	CPUE ^a	Number	CPUE
1975	110	610	815	1.4	4,776	7.8
1976	129	801	874	1.1	8,006	10.0
1977	75	354	3,610	10.2	16,986	48.0
1978	62	355	7,259	20.4	10,960	30.9
1979	69	330	4,411	13.4	7,141	21.6
1980	120	700	8,110	11.6	7,263	10.4
1981	127	750	4,545	6.1	2,538	3.4
1982	113	630	1,197	1.9	805	1.3
1983	77	307	317	1.0	216	0.7
1984	218	498	324	0.6	25	0.0
1985	138	410	36	0.1	18	0.0
1986	129	400	65	0.2	52	0.1
1987	145	434	11	0.1	17	0.0
1988 ^b	106		45		27	
1989	167		19		215	
1990	157		4		16	
1991	146		5		53	
1992	143		9		7	
1993	146		9		11	
1994	155		3		42	

^aCatch per pot lift.

^bTrawl survey introduced in 1988. Catches and population estimates not directly comparable to pot survey results.

Table 34. Chignik District Tanner crab catch and effort statistics, 1968-1994.

Year	Number		No. Crab ^a	No. Pounds ^a	Pots Lifted	Avg. Wt.	CPUE	Price Pound ^b	Percent Recruits ^c
	Vssls	Lndgs							
1968	-	-	-	21,100	-	-	-	-	-
1969	-	-	-	38,100	-	-	-	-	-
1970	-	-	-	2,800	-	-	-	-	-
1971	-	-	-	152,300	-	-	-	-	-
1972	-	-	-	Harvest Confidential	-	-	-	-	-
1973	15	56	297,363	747,788	8,080	2.5	51	-	-
1974	25	115	1,586,560	4,054,873	28,083	2.6	57	-	-
1974/75	25	91	1,438,508	3,649,444	22,675	2.5	63	-	-
1975/76	35	288	2,724,509	6,926,161	52,381	2.5	52	-	-
1976/77	21	141	2,098,226	5,672,919	40,604	2.7	52	-	-
1977/78	32	140	1,725,042	4,693,830	38,414	2.8	45	-	-
1978/79	39	126	926,253	2,536,105	28,378	2.7	33	-	-
1979/80	42	155	2,340,004	3,517,920	54,627	2.6	25	-	-
1980/81	24	112	1,534,847	3,653,723	44,022	2.4	35	-	65.6
1981/82	45	174	1,343,500	3,240,576	47,830	2.4	28	1.21	64.7
1983	48	136	1,432,029	3,497,370	60,210	2.4	24	1.12	65.1
1984	17	41	269,724	659,043	14,665	2.4	18	1.09	33.5
1985	15	27	162,448	375,476	15,708	2.3	10	1.42	51.2
1986	6	12	85,697	188,162	7,435	2.2	12	1.97	85.3
1987	10	20	89,329	195,060	7,052	2.2	13	2.28	90.1
1988	6	11	87,148	183,111	6,544	2.1	13	2.33	91.3
1989	6	34	142,470	323,120	9,845	2.3	15	3.05	95.0
1990	-	-	-	NO OPEN SEASON	-	-	-	-	-
1991	-	-	-	NO OPEN SEASON	-	-	-	-	-
1992	-	-	-	NO OPEN SEASON	-	-	-	-	-
1993	-	-	-	NO OPEN SEASON	-	-	-	-	-
1994	-	-	-	NO OPEN SEASON	-	-	-	-	-

^aIncludes deadloss

^bComputed only for live poundage where price information was available

^cRecruits = newshell male crab from 137 to 163 mm carapace width

Table 35. Tanner crab catch and effort statistics for South Peninsula District, 1967-1994.

Year	Number		Lndgs	Pots		Avg. No. Pounds ^a	Price Lifted	Percent Wt.	CPUE	Pound ^b	Recruits
	Vssls.	Lndgs		No. Crab ^a	Pots						
1967						3,100					
1968		155		36,835		110,610		3.0			
1969		173		221,946		606,178		2.7			
1970						2,093,600					
1971	17	242		813,610		2,140,585		2.6	.10		
1972						3,618,900					
1973	36	390		2,213,006		5,615,563	53,573	2.5	41		
1974	44	386		3,504,668		8,300,578	58,444	2.4	60		
1974/75	44	131		2,053,530		5,195,800	38,153	2.5	54	.14	
1975/76	36	288		2,724,509		6,926,161	52,381	2.5	52	.20	
1976/77	28	389		2,524,565		6,773,838	63,143	2.7	40	.32	
1977/78	36	374		2,847,948		7,446,270	70,587	2.6	40	.40	
1978/79	48	332		3,267,122		8,684,408	82,374	2.7	40	.51	65.8
1979/80	61	363		2,581,544		6,961,251	96,989	2.7	27	.54	39.5
1980/81	43	268		1,274,539		3,294,106	59,560	2.6	21	.58	34.7
1981/82	72	365		1,815,060		4,589,042	81,008	2.5	22	1.05	50.2
1983	82	230		1,144,096		2,863,798	70,524	2.5	16	1.20	55.4
1984	61	207		775,472		1,789,883	50,726	2.3	15	1.04	29.6
1985	52	184		1,097,182		2,549,686	47,465	2.3	23	1.42	73.0
1986	74	187		1,589,759		3,781,950	65,078	2.4	24	1.72	72.9
1987	54	106		950,300		2,400,784	37,511	2.5	25	2.03	56.1
1988	73	148		1,359,371		3,328,809	52,516	2.4	26	2.20	78.6
1989	65 ^c	87		433,112		1,055,082	27,958	2.4	15	2.70	52.9
1990							NO FISHERY				
1991							NO FISHERY				
1992							NO FISHERY				
1993							NO FISHERY				
1994							NO FISHERY				

^aIncludes deadloss

^bComputed for live crab only

^cOne additional vessel was registered but did not fish in the District

Table 36. Tanner crab commercial fishing periods in the South Peninsula District, 1974-1994.

Year	Open	Closed
1974/75	August 15	June 15
1975/76	November 1	June 30
1976/77	November 1	May 15
1977/78	November 1	May 15
1978/79	November 1	May 15
1979/80	November 1	May 15
1980/81	November 1	May 15
1981/82	December 1	March 13
1982/83	December 15	March 17
1984	February 10	March 10
1985	February 10	March 20
1986	January 15	March 10
1987	January 15	February 5
1988	January 15	January 26
1989	January 15	January 22
1990	Closed	
1991	Closed	
1992	Closed	
1993	Closed	
1994	Closed	

Table 37. Dungeness crab harvest statistics, Alaska Peninsula District, 1968-1994.

Year	Vssls	Lndgs	No. of Crab ^a	No. of Pounds ^a	Pots Lifted	CPUE	Avg. Wt.	Price Per #
1968	NA	NA	434,142	1,259,013	NA	NA	2.9	NA
1969	NA	NA	411,000	1,056,000	NA	NA	NA	NA
1970	NA	NA	4,200	13,000	NA	NA	NA	NA
1971	NA	NA	3,900	11,000	NA	NA	NA	NA
1972	NA	NA	29,400	65,000	NA	NA	NA	NA
1973				Confidential				
1974				NO EFFORT				
1975				NO EFFORT				
1976				NO EFFORT				
1977				NO EFFORT				
1978				NO EFFORT				
1979				Confidential				
1980				NO EFFORT				
1981/82				Confidential				
1982/83	16	79	357,955	779,600	59,265	6	2.2	\$.7
1983/84	18	132	565,430	1,207,128	113,061	5	2.1	\$.97
1984/85	13	99	294,191	647,497	106,056	3	2.1	\$ 1.38
1985/86	7	31	239,202	488,107	52,117	5	2.0	\$ 1.26
1986/87	6	28	87,925	180,261	30,280	3	2.0	\$ 1.05
1987/88	6	21	88,744	182,706	22,588	4	2.1	\$ 1.11
1988				Confidential				
1989				Confidential				
1990	4	10	31,074	65,806	5,225	6	2.1	\$ 1.53
1991	7	18	39,069	80,248	12,813	3	2.1	\$ 1.24
1992				Confidential				
1993	3	15	127,979	273,811	15,675	8	2.1	\$.79
1994	4	24	134,429	277,639	27,950	5	2.1	\$ 1.01

NA = Not Available

^aIncludes deadloss

Table 38. Historic South Peninsula and Chignik District shrimp harvest statistics, 1968-1994.

Year.	SOUTH PENINSULA			CHIGNIK			Price/Lb.
	Vssls	Lndgs.	No. Pounds	Vssls.	Lndgs.	No. Pounds	
1968			Confidential			Confidential	
1969			Confidential			Confidential	
1970	4	173	4,398,800			890,705	.04
1971			Confidential			Confidential	
1972/73			14,740,801			4,829,117	.07
1973/74	12	347	19,987,246	33	277	51,673,788	.07
1974/75	22	387	26,145,720	37	323	23,392,352	.08
1975/76	24	326	20,044,112	50	334	24,435,480	.09
1976/77	19	424	37,148,932	48	303	27,232,630	.09
1977/78	48	409	45,003,794	50	271	26,512,791	.13
1978/79	23	108	9,418,276	40	201	23,257,869	.16
1979/80	10	41	3,134,367	35	195	23,722,330	.21
1980/81			CLOSED	54	148	12,843,270	
1981/82			CLOSED	4	4	70,948	
1982/83			NO ACTIVITY			NO ACTIVITY	
1983/84			NO ACTIVITY			NO ACTIVITY	
1984/85			NO ACTIVITY			NO ACTIVITY	
1985/86			NO ACTIVITY			NO ACTIVITY	
1986/87			NO ACTIVITY			NO ACTIVITY	
1987/88			NO ACTIVITY			NO ACTIVITY	
1988/89			NO ACTIVITY			NO ACTIVITY	
1989/90			NO ACTIVITY			NO ACTIVITY	
1990/91			NO ACTIVITY			NO ACTIVITY	
1991/92			NO ACTIVITY			NO ACTIVITY	
1992/93			NO ACTIVITY			NO ACTIVITY	
1993/94			NO ACTIVITY			NO ACTIVITY	
1994/95			NO ACTIVITY			NO ACTIVITY	

Table 39. Historic commercial catch, effort and value of Weathervane scallops, Alaska Peninsula Management Area, 1975-1994.

Year	No. Vssls	No. Lndgs	Commercial Catch (pounds)	Average Landings (pounds) ^a	Average Price/Lb	Est. Value Ex.-Vessel (dollars)
1975			CONFIDENTIAL			
1976			NO FISHING			
1977			NO FISHING			
1978			NO FISHING			
1979			NO FISHING			
1980			NO FISHING			
1981			NO FISHING			
1982	6	20	205,691	10,284	3.35	689,064
1983			CONFIDENTIAL			
1984			NO FISHING			
1985			CONFIDENTIAL			
1986			NO FISHING			
1987			CONFIDENTIAL			
1988			CONFIDENTIAL			
1989			NO FISHING			
1990			CONFIDENTIAL			
1991			CONFIDENTIAL			
1992			NO FISHING			
1993	6	9	135,487	15,054	4.15	562,271
1994	7	12	66,412	5,534	5.79	384,525

Table 40. Historic deliveries of octopus in the Alaska Peninsula District, 1980-1994.

Year	Vessels	Landings	Pounds	Average Price
1980			Confidential	
1981			Confidential	
1982			Confidential	
1983			Confidential	
1984			Confidential	
1985			Confidential	
1986			NO FISHING	
1987			NO FISHING	
1988	30	185	43,332	\$.92
1989	27	122	14,890	\$1.00
1990	20	83	11,504	\$1.00
1991	30	106	21,812	\$1.00
1992	94	---	61,943	\$1.00
1993	48	---	24,417	\$1.00
1994	26	---	78,789	\$.59

Table 41. Dutch Harbor, Area O, historic red king crab catch, 1968/69-1994/95.

Season	Date		Vessels	Number of		Harvest ^{ab}	Pots Pulled	Average Weight ^b	CPUJ ^c	Size ^d	Price/ Pound
	Opened	Closed		Landings	Crab ^a						
1968/69	01/01 ^e	03/15	NA	NA	NA	11,300,000	NA	NA	NA	7.0	NA
1969/70	09/15	02/15	41	375	NA	8,950,000	72,683	NA	NA	7.0	NA
1970/71	09/15	01/10	32	268	NA	9,652,000	56,198	NA	NA	7.0	NA
1971/72	09/15	10/23	32	210	1,447,692	9,391,615	31,531	6.5	46	6.5	NA
1973/74	11/01	11/24	56	290	1,780,673	12,722,696	41,840	7.1	43	6.5	\$0.65
1974/75	11/01	01/14	87	372	1,812,647	13,991,129	71,821	7.7	25	6.5	\$0.37
1975/76	11/01	01/10	79	369	2,147,350	15,906,666	86,874	7.4	25	6.5	\$0.42
1976/77	11/01	12/07	72	226	1,273,298	9,367,965	65,796	7.4	10	6.5	\$0.64
	12/13	01/13	38	61	86,619	830,458	17,298	9.6	5	8.0	\$0.79
1977/78	09/15	12/08	33	227	539,656	3,658,860	46,617	6.8	12	6.5	\$0.99
	12/08	01/05	6	7	3,096	25,557	812	8.3	4	7.5	\$1.35
1978/79	09/10	11/20	60	300	1,233,758	6,824,793	51,783	5.5	24	6.5	\$1.35
1979/80	09/10	01/10	104	542	2,551,116	15,010,874	120,554	5.9	21	6.5	\$0.90
1980/81	11/01	01/12	114	830	2,772,287	17,660,642	231,607	6.4	12	6.5	\$1.02
	01/15	02/15	54	120	182,349	1,392,923	30,000	7.6	6	7.5	\$1.03
1981/82	11/01	02/15	92	683	741,966	5,155,345	220,087	6.9	3	6.5	\$2.30
1982/83	11/01	01/15	81	278	64,380	431,179	72,924	6.7	1	6.5	\$3.43
1983/84					C L O S E D						
1984/85					C L O S E D						
1985/86					C L O S E D						
1986/87					C L O S E D						
1987/88					C L O S E D						
1988/89					C L O S E D						
1989/90					C L O S E D						
1990/91					C L O S E D						
1991/92					C L O S E D						
1992/93					C L O S E D						
1993/94					C L O S E D						
1994/95					C L O S E D						

^aIncludes deadloss

^bIn pounds.

^cDefined as catch per pot pull.

^dMinimum legal size in inches.

^ePrior to 1968/69 fishery was open 12 months/year. 1968/69 season ran 1-1-68 to 3-15-69.

Table 42. Historic Dutch Harbor, Area O, brown king crab catch, 1981/82-1994/95.

Season	Number of			Crab ^a	Harvest ^{a,b}	Pots Pulled	CPUE ^c	Percent Oldshell	Average		
	Vessels	Landings	Landings						Weight ^b	Length ^d	Deadloss ^b
1981/82	6	16	22,666	115,715	2,906	8	3.8	5.1	158.1	8,752	
1982/83	49	136	227,471	1,184,971	29,369	8	3.9	5.2	58.1	47,479	
1983/84	47	132	328,353	1,810,973	29,595	11	NA	5.5	NA	45,268	
1984 ^e	13	67	327,440	1,521,142	24,044	14	NA	4.6	161.2	70,362	
1985	13	67	410,977	1,968,213	34,287	12	16.0	4.7	155.7	38,663	
1986	17	71	400,389	1,869,180	37,585	11	-	4.7	NA	9,510	
1987	22	77	299,734	1,383,198	43,017	7	25.0	4.6	149.6	24,210	
1988 ^f	21	57	323,695	1,545,113	40,869	8	23.0	4.8	154.3	22,960	
1989/90	13	70	424,067	1,852,249	43,345	10	30.0	4.4	150.9	17,421	
1990/91	16	68	395,502	1,718,848	54,618	7	3.0	4.3	147.5	42,800	
1991/92	11	50	335,647	1,447,732	40,604	8	4.0	4.3	147.9	45,100	
1992/93	10	44	330,159	1,357,048	37,718	9	4.0	4.3	147.8	37,200	
1993/94	4	14	217,788	915,460	22,490	10	NA	4.2	NA	7,324	
1994/95	14	45	384,353	1,750,267	67,537	6	NA	4.6	NA	29,908	

^aDeadloss included.

^bIn pounds.

^cDefined as catch per pot pull.

^dIn millimeters.

^eSix inch permit season opened July 1.

^fSeptember 1 established as season opening date.

Table 43. Historic Dutch Harbor brown king crab economic performance, 1981/82-1994/95.

Year	GHL ^a	Season Total ^b	Number of		Registered	Number of Pots Pulled	Value		Season Length	
			Vessels	Landings			Exvessel	Total ^c	Days	Dates
1981/82	N/A	0.1	6	16	- ^d	2,906	\$ 2.05	\$ 0.2	75	11/01-1/15
1982/83	N/A	1.1	49	136	- ^d	29,369	\$ 3.00	\$ 3.3	105	11/1-2/15
1983/84	N/A	1.8	47	132	4,514	29,595	\$ 3.05	\$ 5.5	105	11/01-2/15
1984/85	N/A	1.5	13	67	1,394	24,044	\$ 1.35	\$ 2.0	229	07/01-2/15
1985/86	N/A	1.9	13	67	1,479	34,287	\$ 2.00	\$ 3.8	121	07/1-10/31
1986/87	N/A	1.8	17	71	1,575	37,585	\$ 2.85	\$ 5.1	182	07/1-12/31
1987/88	N/A	1.4	22	77	3,591	43,017	\$ 2.85	\$ 4.0	62	07/01-9/02
1988/89	N/A	1.5	21	57	4,215	40,869	\$ 3.00	\$ 4.5	93	09/01-12/4
1989/90	N/A	1.8	13	70	5,635	43,345	\$ 3.50	\$ 6.3	104	09/1-12/15
1990/91	N/A	1.7	16	68	5,225	54,618	\$ 3.00	\$ 5.1	68	9/01-11/09
1991/92	N/A	1.4	11	50	3,760	40,604	\$ 2.00	\$ 2.8	74	9/01-11/15
1992/93	N/A	1.3	10	44	4,222	37,718	\$ 2.50	\$ 3.3	76	9/01-11/17
1993/94	N/A	.9	5	14	2,334	22,490	\$ 2.15	\$ 1.9	212	09/1-03/31
1994/95	N/A	1.8	14	45	7,378	67,537	\$ 4.00	\$ 6.9	57	09/1-10/28

^aGuideline Harvest Levels based on historic catches.

^bMillions of pounds, deadloss not included.

^cMillions of dollars.

^dIncidental catches to red king crab fishery.

Table 44. Brown king crab harvest composition, Area O, Dutch Harbor, 1981/82-1994/95.

Season	Season		Harvest ^{a,b}	Size Limit ^c	Price Per Pound
	Opened	Closed			
1981/82	11/01	01/15	115,715	6½	\$ 2.05
1982/83	11/01	02/15	1,184,971	6½	\$ 3.00
1983/84	11/01	02/15	1,810,973	6½	\$ 3.05
1984 ^d	07/01	12/31	1,521,142	6	\$ 1.35
1985	01/01	02/15	177,995	6	\$ 1.70
	07/01	10/31	1,977,615	6	\$ 2.00
1986 ^d	07/01	12/31	1,869,180	6	\$ 2.85
1987	07/01	09/02	1,383,198	6	\$ 2.85
1988	09/01	12/04	1,545,113	6	\$ 3.00
1989/90	09/01	02/15	1,852,249	6	\$ 3.50
1990/91	09/01	11/09	1,718,848	6	\$ 3.00
1991/92	09/01	11/15	1,447,732	6	\$ 2.00
1992/93	09/01	11/17	1,375,048	6	\$ 2.50
1993/94	09/01	03/31	915,460	6	\$ 2.15
1994/95	09/01	10/28	1,750,267	6	\$ 4.00

^aDeadloss included.

^bIn pounds.

^cCarapace width in inches.

^dPartial closure 9/27 West of 169° 30'.

Table 45. Dutch Harbor brown king crab catch by month, 1994/95.

Month	Number of		Crab ^a	Harvest ^{a,b}	Pots Lifted	Average Weight ^b	CPUE ^c	Deadloss ^b
	Vessels	Landings						
Sept.	12	19	241,269	1,114,418	36,640	4.6	6	12,685
Oct.	13	26	143,084	635,849	30,897	4.4	5	17,223
Season Total	14	45	384,353	1,750,267	67,537	4.5	6	2,908

^aDeadloss included.

^bIn pounds.

^cDefined as catch per unit effort.

Table 46. Dutch Harbor brown king crab by statistical area, 1994/95.

Stat. Area	Number of		Harvest ^{a,b}	Pots Pulled	Average Weight ^b	CPUE ^c	Dead- loss ^b
	Landings	Crab ^a					
685304	15	34,494	158,199	7,043	4.3	5	1,979
695200	7	37,067	173,608	7,837	4.7	5	1,719
695232	11	35,217	159,407	7,275	4.5	5	5,701
695301	20	92,388	415,446	19,634	4.5	5	7,397
695302	8	21,207	95,387	3,150	4.5	7	1,308
705200	11	52,757	240,902	9,236	4.6	6	2,161
705232	11	54,531	248,887	6,341	4.6	9	2,609
705300	10	51,167	233,415	4,734	4.6	11	2,610
Others	3	5,525	25,016	2,287	4.5	2	4,424
TOTAL	45	384,353	1,750,267	67,537	4.6	6	29,908

^aDeadloss included.

^bIn Pounds.

^cDefined as catch per pot pull.

Table 47. Eastern Aleutian District historic *Chionoecetes bairdi* fishery statistics^a, 1973/74-1994.

Season	Date		Number of		Vessels	Landings	Crab ^b	Harvest ^{b,c}	Pots Pulled	Average Weight ^c	CPUE ^d	Price per Pound
	Opened	Closed										
1973/74	10/1	7/31	6	14		210,539	498,836	NR ^e	2.4	60	\$.NR	
1974/75	1/18	10/15					Confidential					
1975/76	1/20	10/15	8	13		219,166	534,295	4,646	2.4	47	\$0.20	
1976/77	11/7	6/15	12	35		544,755	1,239,569	9,640	2.3	57	\$0.30	
1977/78	11/1	6/15	15	198		1,104,631	2,494,631	29,855	2.3	37	\$0.38	
1978/79	11/1	6/15	20	174		542,081	1,280,115	18,618	2.4	20	\$0.52	
1979/80	11/1	6/15	18	107		352,819	886,487	18,040	2.4	20	\$0.52	
1981	1/15	6/15	29	119		264,238	654,514	21,771	2.4	12	\$0.58	
1982	2/15	6/15	31	138		332,260	739,694	30,109	2.2	11	\$1.25	
1983	2/15	6/15	23	107		250,774	547,830	22,168	2.1	11	\$1.20	
1984	2/15	6/15	16	91		104,761	239,585	11,069	2.3	9	\$0.98	
1985	1/15	6/15	6	56		71,918	165,529	5,620	2.3	13	\$1.30	
1986	1/15	6/15	9	37		73,187	167,339	10,244	2.3	7	\$1.50	
1987	1/15	6/15	7	63		71,338	160,292	5,294	2.2	13	\$2.00	
1988	1/15	4/10	19	130		129,468	309,918	11,011	2.4	12	\$2.10	
1989	1/15	5/07	12	109		144,746	326,396	14,685	2.2	10	\$2.90	
1990	1/15	4/09	10	75		73,269	171,785	6,858	2.3	11	\$1.85	
1991	1/15	3/31	5	27		21,511	50,038	1,849	2.3	12	\$1.25	
1992	1/15	3/31	6	29		42,096	98,703	2,963	2.3	14	\$1.75	
1993	1/15	3/31	7	34		51,441	118,609	3,530	2.3	15	\$1.70	
1994	1/15	3/31	8	120		71,962	166,545	6,323	2.3	11	\$2.35	

^a5½ inch minimum carapace width.

^bDeadloss included beginning 1980.

^cIn pounds.

^dDefined as catch per pot pull.

^eNo Record.

Table 48. Aleutian District historic Dungeness crab catch statistics, 1974-1994.

Year	Season Dates	Number of		Crab ^a	Harvest ^{a,b}	Pots Pulled	Average Weight ^b	CPUE ^c	Price Per Pound
		Vessels	Landings						
1974	1-1/12-31				Confidential				
1975	1-1/12-31				Confidential				
1976	5-1/12-31				N O C A T C H				
1977	5-1/12-31				N O C A T C H				
1978	5-1/12-31				Confidential				
1979	5-1/12-31								
1980	5-1/12-31				N O C A T C H				
1981	5-1/ 2-1				N O C A T C H				
1982/83	5-1/ 2-1				Confidential				
1983/84	5-1/ 2-1				Confidential				
1984/85	5-1/ 2-1	4	50	40,128	91,739	13,555	2.3	3	\$1.15 to \$1.50
1985	5-1/ 2-1				Confidential				
1986	5-1/12-31	2	9	4,851	10,897	1,095	2.2	4	\$0.90
1987	5-1/12-31	5	43	13,247	26,627	2,987	2.0	4	\$0.95
1988	5-1/12-31	6	45	10,814	22,634	2,581	2.1	4	\$0.90
1989	5-1/12-31	4	31	5,165	11,124	2,078	2.1	2	\$0.90
1990	5-1/12-31	3	11	8,379	17,365	1,345	2.1	6	\$0.90
1991	5-1/12-31	4	14	3,654	7,412	732	2.0	5	\$1.25
1992	5-1/12-31	4	13	2,854	5,649	555	2.0	5	\$0.80
1993	5-1/12-31	5	12	3,448	7,531	797	2.2	4	\$0.78
1994					NO REPORTED CATCH				

^aDeadloss included.

^bIn pounds.

^cDefined as catch per pot pull.

Table 49. Commercial harvest of weathervane scallops from the Dutch Harbor Scallop Management Area, 1982-1994.

Season	Number of			Pounds of Scallops ^a	Average	
	Vessels	Landings	Drags		Pounds/Drag	Price/Pound
1982	5	8	NA	62,105	NA	\$ 3.11
1983			NO REPORTED CATCH			
1984			NO REPORTED CATCH			
1985			CONFIDENTIAL			
1986	5	37	8,752	406,642	46	\$ 3.50
1987			CONFIDENTIAL			
1988			CONFIDENTIAL			
1989			CONFIDENTIAL			
1990			CONFIDENTIAL			
1991			CONFIDENTIAL			
1992			CONFIDENTIAL			
1993	3	6	572	39,346	69	NA
1994	3	3	52	1,931	37	NA

^aShucked meats.

Table 50. Aleutian District historical trawl shrimp fishery statistics, 1972-1994.

Season ^a	Date		Number of			Harvest ^b	Price Pound
	Opened	Closed	Vessels	Landings	Tows		
1972	1/72	12/72				CONFIDENTIAL	
1973	1/73	12/73				CONFIDENTIAL	
1974	1/74	12/74	7	88	721	5,749,407	NR
1975	1/75	12/75				CONFIDENTIAL	
1976	1/76	12/76	8	66	689	3,670,609	\$.07
1977/78	2/77	3/78	7	93	1,372	6,800,393	\$.12
1978/79	4/78	3/79	7	74	1,007	4,946,350	\$.15
1979/80	4/79	2/80	7	68	799	3,292,049	\$.20
1980	3/80	12/80	4	60	711	2,454,829	\$.23
1981	3/81	12/81	6	45	551	2,185,326	\$.22
1982/83 ^c	5/82	6/83				CONFIDENTIAL	
1983						NO FISHING	
1984						NO FISHING	
1985						NO FISHING	
1986						NO FISHING	
1987						NO FISHING	
1988						NO FISHING	
1989						NO FISHING	
1990						NO FISHING	
1991						NO FISHING	
1992	1/92	12/92	4	6	94	72,133	NR
1993						NO FISHING	
1994						NO REPORTED CATCH	

^a Season years: 1972 to 1976 by calendar year, 1977/78 ran February 1977 to March 1978, 1978/79 and 1979/80 April to March, and 1980/81 hence March to February.

^b In pounds.

^c Catch occurred May and June 1982.

Table 51. Adak, Area R, historic brown king crab catch statistics, 1975/76-1993/94.

Season	Number of		Crab ^a	Harvest ^{a,b}	Pots Pulled	Average Weight ^b	CPUJE ^c	Deadloss ^b
	Vessels	Landings						
1975/76				CONFIDENTIAL				
1976/77				CONFIDENTIAL				
1977/78				CONFIDENTIAL				
1978/79				NO REPORTED CATCH				
1979/80				CONFIDENTIAL				
1980/81	4	4	11,523	58,914	700	5.1	17	5,000
1981/82	14	76	217,700	1,194,046	24,627	5.5	9	22,064
1982/83	99	501	1,509,001	8,006,274	150,103	5.3	10	220,743
1983/84	157	1,002	1,534,909	8,128,029	226,798	5.3	7	171,021
1984/85	38	85	643,597	3,180,095	64,777	4.9	10	125,073
1985/86 ^d	49	386	2,052,048	11,124,759	202,401	4.5	12	5,304
1986/87	62	525	2,923,947	12,798,004	392,185	4.4	7	276,736
1987/88	46	386	1,908,989	8,001,177	267,705	4.2	7	165,415
1988/89	74	455	2,165,508	9,080,196	280,732	4.2	8	122,251
1989/90	64	505	2,520,786	10,162,400	324,153	4.0	8	100,724
1990/91 ^e	13	167	1,312,116	5,250,687	160,960	4.0	8	176,583
1991/92	16	206	1,511,751	6,254,409	192,949	4.1	8	96,848
1992/93	18	130	1,198,169	4,916,149	165,503	4.1	7	104,215
1993/94	21	147	1,393,742	4,635,683	212,164	3.3	6	165,358

^aDeadloss included.

^bIn pounds.

^cDefined as catch per pot pull.

^dSize limit reduced from 6.5 to 6 inches.

^ePartial closure August 7.

Table 52. Adak brown king crab harvest composition by fishing seasons, 1975/76-1993/94.

Season	Season		Harvest ^{a,b}	Percent New Shell	Average Length ^c	Minimum Size ^d
	Opened	Closed				
1975/76	11/01	12/18	25,490	NA	NA	6.5
1976/77	01/07	04/15	2,285	NA	NA	6.5
1977/78	02/20	03/20	47,445	NA	NA	6.5
1978/79	02/21	10/01	0	NA	NA	6.5
1979/80	01/15	04/01	23,485	NA	NA	6.5
1980/81	01/15	03/28	58,914	97.6	158.4	6.5
1981/82	11/01	06/15	1,194,046	90.5	159.6	6.5
1982/83	11/01	04/15	8,006,274	92.4	158.2	6.5
1983/84	11/10	04/15	8,128,029	87.8	NA	6.5
1984/85	11/10	07/08	3,180,095	87.5	156.7	6.5
1985/86	11/01	08/15	11,124,759	86.3	151.3	6.0
1986/87	11/01	08/15	12,798,004	69.1	149.5	6.0
1987/88	11/01	08/15	8,001,177	91.7	146.9	6.0
1988/89	11/01	08/15	9,080,196	91.2	149.1	6.0
1989/90	11/01	08/15	10,162,400	95.3	148.5	6.0
1990/91 ^e	11/01	08/15	5,250,687	91.5	144.5	6.0
1991/92	11/01	08/15	6,254,409	94.4	144.7	6.0
1992/93	11/01	08/15	4,916,149	93.5	147.0	6.0
1993/94	11/01	08/15	4,635,683	95.4	147.8	6.0

^aDeadloss included.

^bIn pounds.

^cIn millimeters.

^dCarapace width in inches.

^ePartial closure August 7.

Table 53. Historic Adak brown king crab economic performance, 1980/81-1993/94.

Year	Season		Number of			Number of Pots		Value		Season Length	
	Total ^a	Vessels ^b	CP's	Landings	Registered ^c	Pulled	Exvessel	Total ^d	Days	Dates	
1980/81	0.05	4	N/A	4	581	700	\$ 0.90	\$ 0.05	72	01/15-3/28	
1981/82	1.2	14	N/A	76	2,647	24,627	\$ 2.06	\$ 2.5	227	11/0-16/15	
1982/83	7.8	99	N/A	501	13,111	150,103	\$ 3.01	\$23.5	166	11/01-4/15	
1983/84	8.0	157	N/A	1,002	17,406	226,798	\$ 2.92	\$23.4	157	11/10-4/15	
1984/85	3.1	38	N/A	85	5,270	64,777	\$ 2.00	\$ 6.2	240	11/10-7/08	
1985/86	11.1	49	N/A	386	7,057	202,401	\$ 2.50	\$27.8	288	11/01-8/15	
1986/87	12.5	62	N/A	325	12,958	392,185	\$ 3.00	\$37.5	288	11/01-8/15	
1987/88	7.8	46	N/A	386	10,687	267,705	\$ 3.00	\$23.4	289	11/01-8/15	
1988/89	9.0	74	13	455	23,627	280,732	\$ 3.20	\$28.8	288	11/01-8/15	
1989/90	10.1	64	15	505	14,724	324,153	\$ 3.00	\$30.3	288	11/01-8/15	
1990/91	5.3	13	6	167	7,380	160,960	\$ 3.00	\$15.9	288	11/01-8/15	
1991/92	6.1	16	7	206	7,635 ^e	192,949	\$ 2.50	\$15.2	289	11/01-8/15	
1992/93	4.9	18	4	130	8,236 ^e	165,503	\$ 2.05	\$10.1	288	11/01-8/15	
1993/94	4.6	21	1	147	11,970 ^e	212,164	\$ 2.50	\$11.2	288	11/01-8/15	

^aMillions of pounds, deadloss not included.

^bIncludes catcher-processors.

^cNo separate registration from red king crab.

^dMillions of dollars.

^eGear directed fishing on brown king crab.

Table 54. Adak brown king crab catch by statistical area, 1993/94.

Stat Area	Number of		Harvest ^{a,b}	Pots Pulled	Average		Dead- loss ^b
	Landings	Crab ^a			Weight ^b	CPUE ^c	
715202	24	144,661	592,672	12,383	4.1	12	12,593
715231	20	167,957	673,642	21,896	4.0	8	19,674
725201	21	92,290	384,105	13,980	4.2	7	6,049
725203	4	19,834	81,767	3,046	4.1	7	3,880
725230	13	65,455	278,673	11,123	4.3	6	5,198
735130	4	13,449	55,500	1,080	4.1	13	528
735201	9	32,314	139,606	13,575	4.3	2	12,318
735230	12	22,410	98,414	5,280	4.4	4	456
745131	4	13,449	55,499	1,080	4.1	13	528
775133	7	13,312	56,271	7,103	4.2	2	891
785131	14	34,142	145,918	10,638	4.3	3	4,845
785135	3	12,102	51,625	2,517	4.3	5	6,067
795132	3	18,664	80,359	2,460	4.3	8	2,025
795200	20	18,031	81,863	4,649	5.0	4	125
795230	9	13,184	56,441	1,965	4.3	7	25
795430	3	25,432	107,943	14,100	4.2	2	24,348
805103	17	16,412	71,282	1,755	4.3	9	0
805131	4	1,764	7,890	195	4.5	9	29
805132	23	59,187	258,349	6,178	4.4	10	100
805201	20	20,386	88,220	2,238	4.3	9	48
805230	3	1,714	7,396	231	4.3	7	0
815131	8	7,222	31,289	793	4.3	9	0
825201	3	7,763	33,818	1,924	4.4	4	1,984
835200	10	61,246	266,340	11,693	4.4	5	10,690
845130	8	49,863	209,749	9,025	4.2	6	13,788
845202	14	72,240	294,585	13,343	4.1	5	22,538
855232	4	18,846	77,079	5,835	4.1	3	8,717
Others ^d	37	79,212	349,388	32,079	4.4	3	7,914
TOTAL	147	1,102,541	4,635,683	212,164	4.0	5	165,358

^aDeadloss included.

^bIn Pounds.

^cDefined as catch per pot pull.

^dTotal of 24 statistical areas.

Table 55. Adak brown king crab catch statistics by month, 1993/94.

Month	Number of		Crab ^a	Harvest ^{a,b}	Pots Pulled	Average Weight ^b	CPUE ^c	Dead-loss
	Vessels	Landings						
Nov			C O N F I D E N T I A L					
Dec	6	9	69,309	287,305	7,775	4.2	9	11,152
Jan	3	4	62,038	318,927	5,454	4.1	11	12,100
Feb			C O N F I D E N T I A L					
Mar	4	6	91,331	379,104	6,960	4.2	13	7,939
Apr	9	20	376,730	686,018	20,381	4.2	8	10,689
May	14	25	124,659	538,499	23,058	4.3	5	3,063
Jun	17	28	227,716	949,194	55,213	4.2	4	17,351
Jul	17	34	270,829	954,669	60,451	4.3	3	53,814
Aug	15	19	142,732	472,396	29,047	4.2	4	46,125
Total	21	147	1,393,742	4,635,683	212,164	4.2	5	165,358

^aDeadloss included.

^bIn pounds.

^cDefined as catch per pot pull.

Table 56. Adak, Area R, historic red king crab catch statistics, 1960/61-1993/94.

Season	Number of			Pots			Percent			Average		
	Vessels	Landings		Crab ^a	Harvest ^{a,b}	Pulled	CPUE ^c	Recruits	Weight ^b	Length ^d	Deadloss ^b	
1960/61	4	41	NA	2,074,000	NA	9	NA	NA	NA	NA	NA	
1961/62	8	218	NA	6,114,000	NA	NA	NA	NA	NA	NA	NA	
1962/63	9	248	NA	8,006,000	NA	NA	NA	NA	NA	NA	NA	
1963/64	11	527	NA	17,904,000	NA	NA	NA	NA	NA	NA	NA	
1964/65	18	442	NA	21,193,000	NA	NA	NA	NA	NA	NA	NA	
1965/66	10	431	NA	12,915,000	NA	NA	NA	NA	NA	NA	NA	
1966/67	10	90	NA	5,883,000	NA	NA	NA	NA	NA	NA	NA	
1967/68	22	505	NA	14,131,000	NA	NA	NA	NA	NA	NA	NA	
1968/69	30	NA	NA	16,100,000	NA	NA	NA	NA	NA	NA	NA	
1969/70	33	435	NA	18,016,000	115,929	NA	NA	NA	6.5	NA	NA	
1970/71	35	378	NA	16,057,000	124,235	NA	NA	NA	NA	NA	NA	
1971/72	40	166	NA	15,475,924	46,011	NA	NA	NA	NA	NA	NA	
1972/73	43	313	3,461,025	18,724,144	81,133	43	50.9	5.4	NA	NA	NA	
1973/74	41	239	1,844,974	9,741,464	70,059	26	48.5	5.3	148.6	NA	NA	
1974/75	36	97	532,298	2,774,963	32,620	16	48.6	5.2	148.6	NA	NA	
1975/76	20	25	79,977	411,583	8,331	10	67.5	5.2	147.2	NA	NA	
1976/77							Closed					
1977/78	12	18	160,343	905,527	7,269	22	43.9	5.7	152.2	NA	NA	
1978/79	13	27	149,491	807,195	13,948	11	56.7	5.4	NA	1,170	NA	
1979/80	18	23	82,250	467,229	9,757	8	42.8	5.7	152.0	24,850	NA	
1980/81	17	52	254,390	1,419,513	20,914	12	65.2	5.6	149.0	54,360	NA	

-Continued-

Table 56. (page 2 of 2)

Season	Number of		Harvest ^{ab}	Pots Pulled	CPUE ^c	Percent Recruits	Average		Deadloss ^b
	Vessels	Landings					Crab ^a	Weight ^b	
1981/82	46	106	291,311	40,697	7	55.5	5.7	148.3	8,759
1982/83	72	191	284,787	66,893	4	49.9	6.0	150.8	7,855
1983/84	106	248	298,948	60,840	5	30.4	6.6	157.3	3,833
1984/85	64	113	206,751	50,685	4	31.4	6.6	155.1	0
1985/86	35	89	162,271	32,478	5	40.0	5.6	152.2	6,120
1986/87	33	69	126,146	29,189	4	NA	5.6	NA	500
1987/88	71	109	211,712	43,433	5	65.3	5.7	148.5	6,900
1988/89	73	156	266,053	64,374	4	39.0	5.9	153.1	557
1989/90	56	123	196,070	54,513	4	NA	5.7	NA	759
1990/91	7	34	146,903	10,674	14	NA	5.6	NA	0
1991/92	10	35	165,356	16,636	10	NA	5.7	NA	0
1992/93	12	30	218,049	16,129	13	NA	6.0	NA	5,000
1993/94	12	21	119,330	13,575	9	NA	5.8	NA	7,402

^aIncludes deadloss.

^bIn pounds.

^cDefined as catch per pot pull.

^dIn millimeters.

Table 57. Historic Adak red king crab economic performance, 1980/81-1993/94.

Year	Season		Number of			Number of Pots		Value		Season	Length
	Total ^a	Vessels ^b	CPS	Landings	Registered	Pulled	Exvessel	Total ^c	Days	Dates	
1980/81	1.4	17	N/A	52	2,471	20,914	\$ 0.92	\$ 1.3	72	01/15-3/28	
1981/82	1.6	46	N/A	106	8,698	40,697	\$ 2.01	\$ 3.2	107	11/01-2/15	
1982/83	1.7	72	N/A	191	13,111	66,893	\$ 3.44	\$ 5.9	76	11/01-1/15	
1983/84	2.0	106	N/A	248	19,407	60,840	\$ 3.42	\$ 6.9	340	01/10-2/16	
1984/85	1.4	64	N/A	113	8,876	50,685	\$ 2.10	\$ 2.9	97	11/10-2/15	
1985/86	.9	35	N/A	89	8,274	32,478	\$ 2.15	\$ 1.9	107	11/01-2/15	
1986/87	.7	33	N/A	69	12,958	29,189	\$ 3.85	\$ 2.7	107	11/01-2/15	
1987/88	1.2	71	N/A	109	17,720	43,433	\$ 4.00	\$ 4.8	107	11/01-2/15	
1988/89	1.6	73	11	156	23,927	64,374	\$ 5.00	\$ 8.0	34	11/01-2/04	
1989/90	1.1	56	10	123	19,363	54,513	\$ 4.20	\$ 4.6	107	11/01-2/15	
1990/91	.7	7	4	34	8,500	10,674	\$ 4.00	\$ 2.8	107	11/01-2/15	
1991/92	.9	10	3	35	2,305	16,636	\$ 3.00	\$ 2.9	107	11/01-2/15	
1992/93	1.3	12	2	30	2,716 ^d	16,129	\$ 5.05	\$ 6.5	76	11/01-1/15	
1993/94	.7	12	1	21	3,948	13,575	\$ 3.87	\$ 2.7	107	11/01-2/15	

^aMillions of pounds, deadloss not included.

^bIncludes catcher-processors.

^cMillions of dollars.

^dIncludes gear of vessels landing both red and brown king crab.

Table 58. Adak red king crab catch by statistical area, 1994/95.

Stat Area	Number of		Harvest ^{a,b}	Pots Pulled	Average Weight ^b	CPUE ^c	Dead- loss ^b
	Landings	Crab ^a					
795200	19	11,985	79,831	6,489	6.7	2	442
805131	6	4,257	28,042	1,067	6.6	4	121
805132	4	1,727	11,288	330	6.5	5	71
805201	24	10,133	63,571	7,711	6.3	1	727
815131	3	607	4,158	232	6.9	3	6
815202	3	168	1,138	200	6.8	1	6
Other	14	1,460	8,939	2,117	6.1	1	57
Total	31	30,337	196,967	18,146	6.5	2	1,430

^aDeadloss included.

^bIn pounds.

^cDefined as catch per pot pull.

Table 60. Adak Area 'R' red king crab harvest composition by fishing season^a, 1960/61-1994/95.

Season	Season		Harvest In. Pounds ^b	Size Limit	Price Per Lb
	Opened	Closed			
1960/61	01/01	12/31	2,074,000	-	N/A
1961/62	01/01	12/31	6,114,000	-	N/A
1962/63	01/01	12/31	8,006,000	-	N/A
1963/64	01/01	12/31	17,904,000	-	N/A
1964/65	01/01	12/31	21,193,000	-	N/A
1965/66	01/01	12/31	12,915,000	6.5"	N/A
1966/67	01/01	12/31	5,883,000	6.5"	N/A
1967/68 ^c	01/01	12/31	14,131,000	6.5"	N/A
1968/69		03/15	16,100,000	7.0"	N/A
1969/70	09/15	01/15	18,016,000	7.0"	N/A
1970/71	11/01	03/31	6,057,000	7.0"	N/A
1971/72	11/01	12/16	15,475,924	6.5"	N/A
1972/73 ^d	11/01	02/17	18,724,144	6.5"	N/A
1973/74	11/01	02/26	9,741,464	6.5"	N/A
1974/75	01/10	03/05	2,774,963	6.5"	.35
1975/76	11/01	12/18	411,583	6.5"	.38
1976/77		-----CLOSED-----			
1977/78	02/20	03/20	905,527	6.5"	1.36
1978/79 ^e	02/21	03/29	807,195	6.5"	1.23
1979/80	01/15	04/01	467,229	6.5"	.68
1980/81	01/15	03/28	1,419,513	6.5"	.92
1981/82	11/01	02/15	1,648,926	6.5"	2.01
1982/83	11/01	01/15	1,701,818	6.5"	3.44
1983/84	11/10	12/16	1,981,579	6.5"	3.43
1984/85	11/10	02/15	1,367,672	6.5"	2.10
1985/86	11/01	02/15	906,293	6.5"	2.15
1986/87	11/01	02/15	712,243	6.5"	3.85
1987/88	11/01	02/15	1,213,933	6.5"	4.00
1988/89	11/01	12/04	1,567,314	6.5"	5.00
1989/90	11/01	02/15	1,118,566	6.5"	4.20
1990/91	11/01	02/15	828,105	6.5"	4.00
1991/92	11/01	02/15	951,278	6.5"	3.00
1992/93	11/01	01/15	1,286,424	6.5"	5.05
1993/94	11/01	02/15	698,077	6.5"	NA
1994/95	11/01	11/28	196,965	6.5"	5.50

^aIncludes catch from former Area 'S' - now Western Aleutians District Area 'R'.

^bIncludes deadloss.

^cArea 'S' fishery began.

^dArea 'S' continued until June.

^eArea 'S' eliminated - added to Area 'R'.

Table 61. Western Aleutians District historic *C. bairdi* Tanner crab catch statistics, 1973/74-1993/94.

Year	Date		Number of		Pots	Average	Price/ Pound				
	Opened	Closed	Vessels	Landings				Crab ^a	Harvest ^{ab}	Pulled	Weight ^b
1973/74	11/01	10/15	7	12	31,079	71,887	2,390	2	13	-	N/A
1974/75	11/01	10/15				Confidential					
1975/76	11/01	10/15				Confidential					
1976/77	11/01	10/15				Confidential					
1977/78	11/01	06/15	6	7	103,190	237,512	2,700	2.3	38	5.5	\$ 0.38
1978/79	11/01	06/15	6	9	84,129	197,244	4,730	2.3	18	5.5	\$ 0.53
1979/80	11/01	06/15	10	12	147,843	337,297	5,952	2.3	25	5.5	\$ 0.52
1980/81	01/15	06/15	9	23	95,102	220,716	7,327	2.3	13	5.5	\$ 0.54
1981/82	01/15	06/15	17	43	364,164	838,697	21,910	2.3	17	5.5	\$ 1.30
1982/83	11/01	06/15	61	125	225,491	488,399	40,450	2.2	6	5.5	\$ 1.27
1983/84	11/10	06/15	31	86	171,576	384,146	20,739	2.2	8	5.5	\$ 0.95
1984/85	11/10	06/15	31	41	75,009	163,460	13,416	2.2	6	5.5	\$ 1.30
1985/86	11/01	06/15	15	30	98,089	206,814	7,999	2.1	12	5.5	\$ 1.40
1986/87	11/01	06/15	8	24	19,874	42,761	10,878	2.1	2	5.5	\$ 1.50
1987/88	11/01	04/20	15	37	63,545	141,390	7,453	2.2	8	5.5	\$ 2.10
1988/89	11/01	05/07	36	77	69,280	148,997	18,906	2.1	4	5.5	\$ 1.00
1989/90	11/01	04/09	12	30	22,937	48,746	6,204	2.1	4	5.5	\$ 1.00
1990/91	11/01	03/25	5	21	6,901	14,779	1,309	2.1	5	5.5	\$ 1.25
1991/92	11/01	03/31	8	8	3,483	7,825	986	2.2	4	5.5	\$ 1.00
1992/93	11/01	03/31				Confidential					
1993/94	11/01	03/31				NO REPORTED CATCH					

^aDeadloss included

^bIn pounds.

^cDefined as catch per pot pull.

^dMinimum carapace width in inches.

^eFishery in progress.

Table 62. Historic Bering Sea *C. bairdi* catch statistics by season, 1968-1994.

Year	Number of		Harvest ^{a,b}	Pots Pulled	CPUE ^c	Average Weight ^b	Width ^d	% New Shell	Deadloss ^b
	Vessels	Landings							
1968	NA	7	6,400	1,400	5	2.8	-	-	NA
1969	NA	131	353,300	29,800	12	2.9	-	-	NA
1970	NA	66	482,300	16,400	29	2.1	-	-	NA
1971	NA	22	61,300	7,300	8	2.7	-	-	NA
1972	NA	14	42,061	4,260	10	2.6	-	-	NA
1973	NA	44	93,595	15,730	6	2.5	-	-	NA
1974	NA	69	2,531,825	22,014	115	2.0	-	-	NA
1974/75	28	80	2,773,770	38,462	72	2.5	-	-	NA
1975/76	66	304	8,956,036	141,206	63	2.5	-	-	NA
1976/77	83	541	20,251,508	297,471	68	2.5	-	-	NA
1977/78	120	861	26,350,688	516,350	51	2.5	152.8	88.0	218,099
1978/79	144	817	16,726,518	402,697	42	2.5	152.7	95.0	76,000
1979/80	152	804	14,685,611	488,434	30	2.5	151.4	90.0	56,446
1981	165	761	11,845,958	559,626	21	2.5	149.4	86.6	101,594
1982	125	791	4,830,980	490,099	10	2.3	148.8	85.4	138,159
1983	108	448	2,286,756	282,006	8	2.3	148.8	70.5	60,029
1984	41	134	516,877	61,357	8	2.3	146.5	40.0	5,025
1985	44	166	1,283,474	104,707	12	2.4	150.0	65.0	14,096
1986									
1987									
1988	98	248	897,059	112,334	8	2.5	143.5	70.2	10,724
1989	109	359	2,907,021	184,892	16	2.4	149.4	80.8	34,664
1990	179	1,032	10,717,924	711,137	15	2.3	148.1	96.5	87,475
1990/91	255	1,756	16,608,625	883,391	19	2.4	149.7	95.3	210,769
1991/92	285	2,339	12,924,034	1,244,633	10	2.5	150.4	93.2	279,741
1992/93	294	2,084	15,265,880	1,200,885	13	2.3	148.0	90.5	343,955
1993/94	296	862	7,235,498	576,464	13	2.3	150.7	93.9	258,389
1994	183	349	3,351,639	249,536	13	2.3	150.0	92.5	132,780

^a Deadloss included.

^b In Pounds.

^c Defined as catch per pot pull.

^d Carapace width in millimeters.

Table 63. Historic Bering Sea *C. bairdi* Tanner crab seasons, 1968-1994.

Season	Date		Number of		Average Weight ^b	CPUE ^c	Price/Pound
	Opened	Closed	Vessels	Harvest ^{a,b}			
1968 ^d			NA	17.9	2.8	5	NA
1969 ^d			NA	1,008.9	2.9	12	NA
1970 ^d			NA	1,014.7	2.1	29	NA
1971 ^d			NA	166.1	2.7	8	NA
1972 ^d			NA	108.8	2.6	10	NA
1973 ^d			NA	231.7	2.5	6	NA
1974 ^d			NA	5,044.2	2.0	115	NA
1974/75	07-29	06-15	28	7,027.4	2.5	72	\$ 0.20
1975/76	08-01	07-15	66	22,358.1	2.5	63	\$ 0.19
1976/77	08-01	07-07	83	51,455.2	2.5	68	\$ 0.30
1977/78	09-15	06-15	120	66,649.0	2.5	51	\$ 0.38
1978/79	11-10	05-24	144	42,547.2	2.5	42	\$ 0.52
1979/80	11-10	05-11	152	36,614.3	2.5	30	\$ 0.52
1981	01-15	04-15	165	29,630.5	2.5	21	\$ 0.58
1982	02-15	06-15	125	11,008.8	2.3	10	\$ 1.06
1983 ^e	02-15	05-22	108	5,273.9	2.3	8	\$ 1.20
		06-15					
1984	02-15	06-15	41	1,208.2	2.3	8	\$ 0.95
1985	01-15	06-15	44	3,151.5	2.4	12	\$ 1.40
1986			SEASON CLOSED				
1987			SEASON CLOSED				
1988	01-15	04-20	98	2,210.4	2.5	8	\$ 2.17
1989	01-15	05-07	109	7,013.0	2.4	16	\$ 2.90
1990	01-15	04-09 ^f					
		04-24 ^g	179	24,549.3	2.3	15	\$ 1.85
1990/91	11-20	03-25	255	40,081.6	2.4	19	\$ 1.12
1991/92	11-15	03-31	285	31,796.4	2.5	10	\$ 1.50
1992/93	11-15	03-31	294	35,130.9	2.3	13	\$ 1.69
1993/94	11-01	11-10 ^h	283	4,114.9	2.4	7	\$ 1.90
	11-20	01-01 ⁱ	261	12,776.4	2.3	17	\$ 1.90
1994	11-01	11-21 ⁱ	183	7,766.9	2.3	13	\$ 3.75

^aFigures given in thousands - deadloss included.

^bIn pounds.

^cDefined as catch per pot pull.

^dIncidental to the king crab fishery.

^ePartial Bering Sea closure.

^fEast of 165° West longitude.

^gWest of 165° West longitude.

^hEast of 168° West longitude.

ⁱ163° -173° West longitude.

Table 64. Historic Bering Sea *C. bairdi* catch by subdistrict, 1974/75-1994.

Season	Subdistrict	Number of		Harvest ^{a,b}	Pots Pulled	Average Weight ^b	CPUE ^c	Deadloss ^b
		Vessels	Landings					
1974/75	Southeastern Pribilofs	72	2,526,687	6,504,984	32,275	2.6	78	0
		8	247,083	523,394	3,923	2.1	63	0
	TOTAL	28	2,773,770	7,028,378	38,462	2.5	72	0
1975/76	Southeastern Pribilofs	230	6,682,232	16,643,194	106,445	2.5	63	0
		74	2,273,804	5,714,913	34,761	2.5	65	0
	TOTAL	66	8,956,036	22,358,107	141,206	2.5	63	0
1976/77	Southeastern Pribilofs	437	16,089,057	41,007,736	233,667	2.6	69	0
		104	4,162,451	10,447,485	63,804	2.5	65	0
	TOTAL	83	20,251,508	51,455,221	297,471	2.5	68	0
1977/78	Southeastern Pribilofs	706	21,055,527	53,278,012	408,437	2.5	52	0
		155	5,210,170	13,152,843	107,913	2.5	48	0
	TOTAL	120	26,350,688	66,648,954	516,350	2.5	51	218,099
1978/79	Southeastern Pribilofs	758	15,601,891	39,694,205	356,594	2.5	44	75,400
		59	1,124,627	2,852,969	46,103	2.5	24	600
	TOTAL	144	16,726,518	42,547,174	402,697	2.5	42	76,000

-Continued-

Table 64. (page 2 of 4)

Season	Subdistrict	Number of			Harvest ^{a,b}	Pots Pulled	Average Weight ^b	CPUE ^c	Deadloss ^b
		Vessels	Landings	Crab ^a					
1979/80	Southeastern Pribilofs		789	14,329,889	35,724,003	476,410	2.5	30	56,446
			15	355,722	890,312	12,024	2.5	30	0
	TOTAL	152	804	14,685,611	36,614,315	488,434	2.5	30	56,446
1981	Southeastern Pribilofs		674	10,532,007	26,684,956	496,751	2.5	21	97,398
			87	1,313,951	2,945,536	62,875	2.5	21	4,196
	TOTAL	165	761	11,845,958	29,630,492	559,626	2.5	21	101,594
1982	Southeastern Pribilofs		539	3,825,433	8,812,302	322,634	2.3	12	69,829
			252	1,005,547	2,196,477	167,465	2.2	6	68,330
	TOTAL	125	791	4,830,980	11,008,779	490,099	2.3	10	138,159
1983	Northern Southeastern Pribilofs		10	29,478	48,454	5,950	1.7	5	167
			287	1,984,673	4,633,354	192,538	2.3	10	52,879
			151	272,505	592,073	83,528	2.2	3	6,983
TOTAL	108	448	2,286,756	5,273,881	282,006	2.3	8	60,029	
1984	Southeastern Pribilofs		91	470,181	1,099,142	44,546	2.3	11	4,688
			43	46,759	109,081	16,811	2.3	3	337
	TOTAL	41	134	516,877	1,208,223	61,357	2.3	8	5,025

-Continued-

Table 64. (page 3 of 4)

Season	Subdistrict	Number of		Crab ^a	Harvest ^{ab}	Pots Pulled	Average Weight ^b	CPUE ^c	Deadloss ^b
		Vessels	Landings						
1985	Southeastern	38	143	1,278,109	3,139,041	96,976	2.4	13	14,096
	Pribilofs	15	23	5,365	12,457	7,731	2.3	1	0
	TOTAL	44	166	1,283,474	3,151,3498	104,707	2.4	12	14,096
1986									
					SEASON CLOSED				
1987									
					SEASON CLOSED				
1988	Eastern	98	248	897,059	2,210,394	112,334	2.5	8	10,724
	Western	0	0	0	0	0	0	0	0
	TOTAL	98	248	897,059	2,210,394	112,334	2.5	8	10,724
1989	Eastern	109	359	2,907,021	7,012,965	184,892	2.4	16	34,664
	Western	0	0	0	0	0	0	0	0
	TOTAL	109	359	2,907,021	7,012,965	184,892	2.4	16	34,664
1990	Eastern		1,105	10,708,996	24,529,165	701,924	2.3	15	87,475
	Western		17	8,928	20,134	9,213	2.3	<1	0
	TOTAL	179	1,032	10,717,924	24,549,299	711,137	2.3	15	87,475

-Continued-

Table 64. (page 4 of 4)

Season	Subdistrict	Number of			Crab ^a	Harvest ^{ab}	Pots Pulled	Average Weight ^b	CPUE ^c	Deadloss ^b
		Vessels	Landings	Crab ^a						
1990/91	Eastern	255	1,756	16,608,625	40,081,555	883,391	2.4	19	210,769	
	Western	0	0	0	0	0	0	0	0	
	TOTAL	255	1,756	16,608,625	40,081,555	883,391	2.4	19	210,769	
1991/92	Eastern	285	2,339	12,924,034	31,796,381	1,244,633	2.5	10	279,741	
1992/93	Eastern	293	2,011	15,074,084	34,821,043	1,150,834	2.3	13	340,955	
	Western	70	96	191,796	309,823	50,051	1.6	4	3,000	
	TOTAL	294	2,084	15,265,880	35,130,866	1,200,885	2.3	13	343,955	
1993/94	East of 168 ^{od}	283	347	1,696,430	4,114,949	250,501	2.4	7	103,715	
	163° to 173 ^{oe}	261	515	5,539,068	12,776,371	325,963	2.3	17	154,674	
	TOTAL	296	862	7,235,498	16,891,320	576,464	2.3	13	258,389	
1994	163° to 173°	183	349	3,351,639	7,766,886	249,536	2.3	13	132,780	

^aDeadloss included.

^bIn pounds.

^cDefined as catch per pot pull.

^dNovember 1 - November 10, 1993.

^eNovember 20, 1993 - January 1, 1994.

Table 65. Historic Bering Sea *C. bairdi* Tanner crab economic performance, 1979/80-1994.

Year	Season		Number of		Number of Pots		Value		Season Length	
	GHL ^{ab}	Total ^b	Vessels	Landings	Registered	Pulled	Exvessel	Total ^c	(Days)	Dates
1979/80	28-36	36.5	152	804	40,273	488,434	\$ 0.52	\$ 19.0	(189)	11/01-05/14
1981	28-36	29.6	165	761	42,910	559,626	\$ 0.58	\$ 17.2	(88)	01/15-04/18
1982	12-16	10.9	125	791	36,396	490,099	\$ 1.06	\$ 11.5	(118)	02/15-06/15
1983	5.6	5.2	108	448	15,255	282,006	\$ 1.20	\$ 6.2	(118)	02/15-06/15
1984	7.1	1.2	41	134	9,851	61,357	\$ 0.95	\$ 1.1	(118)	02/15-06/15
1985	3.0	3.1	44	166	15,325	104,707	\$ 1.40	\$ 4.3	(149)	01/15-06/15
1986					NO COMMERCIAL FISHERY					
1987					NO COMMERCIAL FISHERY					
1988	5.6	2.2	98	248	38,765	112,334	\$ 2.17	\$ 4.8	(93)	01/15-04/20
1989	13.5	7.0	109	359	43,607	184,892	\$ 2.90	\$ 20.3	(110)	01/15-05/07
1990 ^d	29.5	24.5	179	1,032	46,440	711,137	\$ 1.85	\$ 45.3	(89)	01/15-04/24
1990/91	42.8	39.7	255	1,756	75,356	883,391	\$ 1.12	\$ 44.5	(126)	11/20-03/25
1991/92	32.8	31.5	285	2,339	85,401	1,244,633	\$ 1.50	\$ 47.3	(137)	11/15-03/31
1992/93	39.2	35.1	294	2,084	71,481	1,200,885	\$ 1.69	\$ 58.8	(137)	11/15-03/31
1993 ^e	10.7	4.1	283	347	62,302	250,501	\$ 1.90	\$ 7.6	(10)	11/01-11/10
1993/94 ^f	9.1	12.8	261	515	53,737	325,963	\$ 1.90	\$ 24.0	(42)	11/20-01/01
1994 ^f	7.5	7.6	183	349	38,670	249,536	\$ 3.75	\$ 28.5	(20)	11/01-11/21

^aGuideline Harvest Level

^bMillions of pounds, deadloss not included.

^cMillions of dollars.

^dWinter fishery.

^eEast of 168° West longitude.

^f163° -173° West longitude.

Table 66. Bering Sea *C. bairdi* Tanner crab catch by statistical area, 1994.

Area	Number of		Harvest ^{a,b}	Pots Pulled	Average Weight ^b	CPUE ^c	Deadloss ^b
	Landings	Crab ^a					
635504	8	77,114	173,528	3,647	2.3	21	3,944
635530	76	503,666	1,177,078	35,080	2.3	14	11,363
635600	84	696,244	1,632,733	50,446	2.4	14	23,590
635630	83	542,588	1,957,196	56,491	2.3	15	24,631
635700	4	19,375	44,418	1,470	2.3	13	544
645501	26	159,176	369,616	15,473	2.3	10	4,491
645530	34	175,992	407,268	16,583	2.3	11	12,434
645600	44	239,465	550,755	21,895263	2.3	11	12,624
645630	26	155,959	362,132	12,183	2.3	13	3,187
655500	10	44,080	102,484	4,274	2.3	10	1,868
655530	6	13,802	30,958	1,699	2.2	8	348
655600	15	72,958	162,937	5,976	2.3	12	13,249
655630	3	12,578	28,808	1,346	2.3	9	17
665500	3	2,116	4,958	381	2.3	6	7
695631	3	8,334	19,150	728	2.3	11	1,752
705630	23	213,860	483,221	13,440	2.3	16	8,155
705701	4	40,177	90,707	2,652	2.3	15	2,647
OTHER	15	74,155	168,939	6,404	2.3	12	7,929
TOTAL	349	3,351,639	7,766,886	249,536	2.3	13	132,780

^aDeadloss included.

^bIn pounds.

^cDefined as catch per pot pull.

Table 67. Historic Bering Sea *C. opilio* catch statistics by season, 1977/78-1994.

Year	Number of		Harvest ^{a,b}	Pots		CPUE ^c	% New Shell	Average Weight ^e	Width ^d	Deadloss ^b
	Vessels	Landings		Crab ^a	Pulled					
1977/78	15	38	1,267,546	13,247	1,716,124	96	NA	1.4	NA	0
1978/79	102	490	22,118,498	190,746	32,187,039	116	83.0	1.5	113.1	759,137
1979/80	134	597	25,286,777	255,102	39,572,668	99	90.0	1.6	118.1	228,345
1981	153	867	34,415,322	435,742	52,750,034	79	79.2	1.5	117.0	2,269,979
1982	122	803	24,089,562	469,091	29,355,374	51	78.0	1.2	109.4	1,092,655
1983	109	461	23,853,647	287,127	26,128,410	83	NA	1.1	NA	1,324,466
1984 ^e	52	367	24,009,935	173,591	26,813,074	138	78.0	1.1	105.4	798,795
1985 ^f	75	718	52,903,246	372,045	65,998,875	142	80.0	1.3	108.0	1,064,184
1986 ^g	88	992	76,499,123	543,744	97,984,539	141	73.7	1.3	109.5	1,378,533
1987	103	1,038	81,307,659	616,113	101,903,388	132	84.0	1.2	108.9	978,449
1988	171	1,285	105,716,337	776,907	134,030,185	136	71.2 ^h	1.3	109.5	3,260,020
1989	168	1,341	112,618,881	663,442	149,455,848	170	85.2 ^h	1.3	111.2	1,844,682
1990	189	1,565	128,977,638	911,613	161,821,350	141	97.4 ^h	1.3	109.1	1,796,664
1991	220	2,788	265,123,960	1,391,583	328,647,269	191	95.1	1.2	110.2	3,464,036
1992	250	2,763	227,376,582	1,281,796	315,302,034	177	97.6	1.4	111.7	2,325,852
1993	254	1,836	169,558,842	971,046	230,787,000	175	92.5	1.4	111.6	1,573,952
1994	273	1,293	114,779,014	716,524	149,775,765	160	92.5	1.3	111.6	1,799,323

^aDeadloss included.

^bIn pounds.

^cDefined as catch per pot pull.

^dCarapace width in millimeters.

^eNorth of 58° reopened until 12/31.

^fWest of 164° opened through 12/31.

^gOpen only west of 164° West longitude.

^hEastern and Western Districts combined.

Table 68. Historic Bering Sea *C. opilio* Tanner crab seasons, 1977/78-1994.

Season	Date		Number of Vessels	Harvest ^{ab}	Average Weight ^b	CPUE ^c	Price/ Pound
	Opened	Closed					
1977/78	09-15-77	09-23-78	15	1,716,124	1.4	96	\$ 0.38
1978/79	11-01-78	09-03-79	102	32,187,039	1.5	116	\$ 0.30
1979/80	11-01-79	08-15-80 09-03-80 ^d	134	39,572,668	1.6	99	\$ 0.21
1981	01-15-81	08-01-81 09-01-81 ^d	153	52,750,034	1.5	79	\$ 0.26
1982	02-15-82	08-01-82	122	29,355,374	1.2	51	\$ 0.73
1983	02-15-83	05-22-83 06-15-83 ^e	109	26,128,410	1.1	83	\$ 0.35
1984	02-15-84	08-01-84 08-01-84 12-31-84 ^f	52	23,940,984 2,872,090	1.1 1.1	147 125	\$ 0.30
1985	01-15-85	09-22-85 10-09-85 12-31-85 ^g	75	57,446,554 8,552,321	1.3	142	\$ 0.30
1986	01-15-86	09-24-86 ^h	88	97,984,539	1.3	141	\$ 0.60
1987	01-15-87	06-22-87	103	101,903,388	1.2	132	\$ 0.75
1988	01-15-88 05-15-88	03-29-88 06-30-88	162 151 171	75,781,258 58,278,927 134,060,185	1.3 1.3 1.3	139 <u>137</u> 136	\$ 0.75 \$ 0.80 \$ 0.77
1989	01-15-89	03-26-89 05-07-89	168	149,455,848	1.3	170	\$ 0.75
1990	01-15-90	04-24-90 ^h 06-12-90	177 152 189	94,831,897 66,989,453 161,821,350	1.2 1.3 1.3	148 130 141	\$ 0.64
1991	01-15-91	05-05-91 06-23-91	218 <u>186</u> 220	240,090,666 <u>88,556,603</u> 328,647,269	1.3 1.2 1.2	206 <u>153</u> 191	\$ 0.50
1992	01-15-92	04-22-92	250	315,302,034	1.4	177	\$ 0.50
1993	01-15-93	03-15-93	254	230,787,000	1.4	175	\$ 0.75
1994	01-15-94	03-1-94	273	149,775,765	1.3	160	\$ 1.30

^aDeadloss included.

^bIn pounds.

^cDefined as catch per pot pull.

^dVaried according to size.

^ePartial Bering Sea closure.

^fNorth of 58° only.

^gWest of 164° opened through 12-31-85.

^hOpen only west of 164° West longitude.

Table 69. Historic Bering Sea *C. opilio* Tanner crab economic performance, 1979/80-1994.

Year	Season		Number of		Number of Pots		Value		Season
	GHL ^a	Total ^a	Vessels	Landings	Registered ^b	Pulled	Exvessel	Total ^c	Length ^d
1979/80	N/A	39.3	134	597	35,503	255,022	\$ 0.21	\$ 83.0	307
1981	39.5-91.0	50.5	153	867	39,789	435,742	\$ 0.26	\$ 13.1	229
1982	16.0-22.0	28.3	112	803	35,522	469,091	\$ 0.73	\$ 20.7	167
1983	15.8	24.8	109	462	15,39	287,127	\$ 0.35	\$ 8.7	120
1984 ^e	49.0	26.0	52	367	12,493	173,591	\$ 0.30	\$ 7.8	320
1985 ^e	98.0	64.9	75	718	15,325	372,045	\$ 0.30	\$ 19.5	333
1986 ^e	57.0	96.6	88	992	13,750	543,744	\$ 0.60	\$ 60.0	252
1987	56.4	100.9	103	1,038	19,386	616,113	\$ 0.75	\$ 75.7	158
1988	110.7	130.8	171	1,285	38,765	776,907	\$ 0.77	\$ 100.7	120
1989	132.0	147.6	168	1,341	43,607	663,442	\$ 0.75	\$ 110.7	112
1990	139.8	160.0	189	1,565	46,440	911,613	\$ 0.64	\$ 102.3	148
1991	315.0	325.2	220	2,788	76,056	1,391,583	\$ 0.50	\$ 162.6	159
1992	333.0	313.0	250	2,763	77,858 ^f	1,281,796	\$ 0.50	\$ 156.5	97
1993	207.2	229.2	254	1,836	65,081	971,046	\$ 0.75	\$ 171.9	59
1994	105.8	148.0	273	1,293	54,837	716,524	\$ 1.30	\$ 192.4	45

^aMillions of pounds, deadloss not included.

^bSame gear as *C. bairdi* fishery.

^cMillions of dollars.

^dIn days.

^ePartial closures only.

^fGear of *C. opilio* vessels only.

Table 70. Historic Bering Sea *C. opilio* catch by subdistrict, 1974/75-1994.

Season	Subdistrict	Number of			Harvest ^{ab}	Pots Pulled	Average Weight ^b	CPUE ^c	Deadloss ^b
		Vessels	Landings	Crab ^a					
1977/78	Southwestern Pribilofs	33	1,063,872	1,439,959	11,560	1.4	0	0	
		5	203,674	276,165	1,687	1.4	121		
	TOTAL	15	1,267,546	1,716,124	13,247	1.4	96	0	
1978/79	Southwestern Pribilofs	101	21,279,794	31,102,832	184,491	1.5	115	659,137	
		10	838,704	1,084,039	6,225	1.5	135	100,000	
	TOTAL	102	22,118,498	32,187,039	190,746	1.5	116	759,137	
1979/80	Southwestern Pribilofs	133	23,199,446	36,406,391	237,375	1.6	98	187,945	
		19	2,087,331	3,166,777	17,727	1.5	118	40,400	
	TOTAL	134	25,286,777	39,572,668	255,102	1.6	99	228,345	
1981	Southwestern Pribilofs	624	24,498,642	37,866,229	309,304	1.6	79	1,475,078	
		243	9,916,617	14,886,705	126,438	1.5	78	794,901	
	TOTAL	153	34,415,322	52,750,034	435,742	1.5	79	2,269,979	
1982	Southwestern Pribilofs	468	10,207,174	13,079,583	257,193	1.3	40	422,979	
		335	13,882,388	16,276,421	211,898	1.2	66	669,676	
	TOTAL	122	24,089,562	29,355,374	469,091	1.2	51	76,000	

-Continued-

Table 70. (page 2 of 4)

Season	Subdistrict	Number of			Harvest ^{a,b}	Pots Pulled	Average Weight ^b	CPUJ ^c	Deadloss ^b
		Vessels	Landings	Crab ^a					
1983	Southeastern		153	3,553,281	4,197,304	94,470	1.2	38	165,298
	Pribilofs		239	19,076,553	20,514,000	153,458	1.0	124	1,078,643
	Northern		69	1,223,813	1,417,106	39,199	1.1	31	80,525
	TOTAL	109	461	22,853,647	26,128,410	487,127	1.1	83	1,324,466
1984	Southeastern		76	3,534,370	3,990,621	33,091	1.1	107	54,678
	Pribilofs		230	17,909,096	19,727,493	112,078	1.1	160	708,706
	Northern		61	2,566,469	3,094,960	28,422	1.2	90	35,411
	TOTAL	52	367	24,009,935	26,813,074	173,591	1.1	138	798,795
1985	Southeastern		301	21,963,882	27,373,232	158,819	1.4	138	461,001
	Pribilofs		301	24,089,526	29,804,093	142,937	1.2	168	505,146
	Northern		116	6,849,838	8,821,550	70,289	1.3	97	98,037
	TOTAL	75	718	52,903,246	65,998,875	372,045	1.3	142	1,064,184
1986	Southeastern		112	8,491,694	10,957,578	63,889	1.3	133	44,755
	Pribilofs		508	39,851,767	50,525,150	281,337	1.3	142	472,342
	Northern		372	28,155,662	36,501,811	198,518	1.3	142	61,436
	TOTAL	88	992	76,499,123	97,984,539	543,744	1.3	141	1,378,533

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Table 70. (page 3 of 4)

Season	Subdistrict	Number of			Harvest ^{ab}	Pots Pulled	Average Weight ^b	CPUE ^c	Deadloss ^b
		Vessels	Landings	Crab ^a					
1987	Southeastern	28	64	4,116,778	5,106,473	24,619	1.2	167	24,619
	Pribilofs	94	458	38,604,802	47,676,734	261,337	1.2	148	261,337
	Northern	99	516	38,586,079	49,120,181	330,157	1.2	117	330,157
	TOTAL	103	1,038	81,307,659	101,903,338	616,113	1.2	132	978,449
1988	Eastern	162	770	59,811,702	75,781,258	431,310	1.3	139	775,104
	Western	151	515	45,904,635	58,278,927	335,597	1.3	137	2,484,916
	TOTAL	171	1,285	105,716,337	134,060,185	776,907	1.3	136	3,260,020
	Eastern	163	871	77,698,698	104,399,693	391,451	1.3	198	1,128,971
1989	Western	127	470	34,920,183	45,056,155	271,991	1.3	128	715,711
	TOTAL	168	1,341	112,618,881	149,455,848	663,442	1.3	170	1,844,682
	Eastern	177	956	76,331,829	94,831,897	512,259	1.2	149	1,010,755
	Western	152	659	52,645,809	66,989,453	399,354	1.3	132	785,909
1990	TOTAL	189	1,565	128,977,638	161,821,350	911,613	1.3	141	1,796,664
	Eastern	218	2,013	190,139,612	240,090,666	912,751	1.3	208	1,593,021
	Western	186	867	74,984,348	88,556,603	478,832	1.2	157	1,871,015
	TOTAL	220	2,788	265,123,960	328,647,269	1,391,583	1.2	191	3,464,036

-Continued-

Table 70. (page 4 of 4)

Season	Subdistrict	Number of			Harvest ^{a,b}	Pots Pulled	Average Weight ^b	CPUUE ^c	Deadloss ^b
		Vessels	Landings	Crab ^a					
1992	Eastern	250	N/A	217,375,564	302,363,005	1,228,280	1.4	177	2,268,467
	Western	55	N/A	10,000,018	12,939,029	53,516	1.3	187	57,385
	TOTAL	250	2,763	227,376,582	315,302,034	1,281,796	1.4	177	2,325,852
1993	Eastern	250	1,384	110,760,099	151,328,721	675,996	1.4	164	1,108,520
	Western	185	633	58,798,743	79,458,279	295,050	1.4	197	465,432
	TOTAL	254	1,836	169,558,842	230,787,000	971,046	1.4	175	1,573,952
1994	Eastern	220	820	56,012,017	72,008,424	375,928	1.3	149	901,674
	Western	171	586	58,766,997	77,767,341	340,596	1.3	173	897,649
	TOTAL	273	1,293	114,779,014	149,775,765	716,524	1.3	160	1,799,323

^aDeadloss included.

^bIn pounds.

^cDefined as catch per pot pull.

^dNovember 1 - November 10, 1993.

^eNovember 20, 1993 - January 1, 1994.

Table 71. Bering Sea *C. opilio* catch statistics by month, 1993/94.

Month	Number of		Crab ^a	Harvest ^{ab}	Pots Pulled	Average Weight ^b	CPUE ^c	Dead- loss ^b
	Vessels	Landings						
Jan	154	196	17,810,927	24,131,408	94,766	1.4	186	206,141
Feb	269	845	79,409,010	103,466,315	485,967	1.3	162	1,184,489
Mar	240	252	17,559,077	22,178,042	135,791	1.3	127	408,693
TOTAL	273	1,293	114,779,014	149,775,765	716,524	1.3	160	1,799,323

^aDeadloss included.

^bIn pounds.

^cDefined as catch per pot pull.

Table 72. Bering Sea *C. opilio* catch by subdistrict and month, 1994.

Subdistrict	Number of		Crab ^a	Harvest ^{a,b}	Pots Pulled	Average Weight ^b	CPUE ^c	Deadloss ^b
	Vessels	Landings						
January								
Eastern	105	128	8,199,534	10,895,674	47,670	1.3	171	76,070
Western	65	377	9,611,393	13,235,734	47,096	1.4	202	130,071
Total	154	196	17,810,927	24,131,408	94,766	1.3	158	206,141
February								
Eastern	201	549	40,423,887	51,922,208	264,347	1.3	151	637,430
Western	164	377	38,985,123	51,544,107	221,620	1.3	174	547,059
Total	269	845	79,409,010	103,466,315	485,967	1.3	162	1,184,489
March								
Eastern	136	143	7,388,596	9,190,542	63,911	1.3	113	188,174
Western	171	586	10,170,481	12,987,500	71,880	1.3	139	220,519
Total	240	252	17,559,077	22,178,042	135,791	1.3	127	408,693
Subdistrict Total								
Eastern	220	820	56,012,017	72,008,424	375,928	1.3	147	901,674
Western	171	586	58,766,997	77,767,341	340,596	1.3	171	897,649
Season Total	273	1,293	114,779,014	149,775,765	716,524	1.3	160	1,799,323

^aDeadloss included.

^bIn pounds.

^cDefined as catch per pot pull.

Table 73. Bering Sea *C. opilio* catch by statistical area, 1993/94.

Area	Number of Average			Pots		CPUE ^c	Deadloss ^b
	Landings	Crab ^a	Harvest ^{a,b}	Pulled	Weight ^b		
665600	7	420,030	559,199	3,266	1.3	129	1,674
675500	5	250,708	316,878	1,700	1.3	148	900
675530	28	1,140,669	1,528,128	8,636	1.4	132	39,743
675600	62	4,067,533	5,360,198	26,038	1.3	156	81,054
675630	7	255,647	318,863	2,215	1.3	115	13,208
685600	52	2,152,907	2,795,064	16,666	1.3	129	30,482
685630	21	671,331	848,234	7,496	1.3	90	9,124
705600	24	994,408	1,292,524	5,609	1.3	177	8,697
705630	7	114,643	152,412	1,336	1.3	86	690
705701	26	788,120	1,047,841	6,150	1.3	128	23,808
715600	13	746,007	929,214	4,049	1.3	184	16,441
715630	99	6,824,957	8,651,604	44,251	1.3	154	71,032
715700	133	7,717,979	9,861,296	47,530	1.3	162	149,705
715730	58	3,035,798	3,849,219	23,781	1.3	128	65,314
715800	21	831,297	1,066,190	7,079	1.3	117	6,679
725600	6	236,454	282,829	1,324	1.2	179	338
725630	81	4,838,864	6,122,075	36,733	1.3	132	49,435
725700	108	5,773,294	7,292,394	38,434	1.3	150	116,927
725730	88	5,499,778	7,099,292	35,112	1.3	157	101,648
725800	83	5,837,636	7,652,435	35,426	1.3	165	65,718
725830	35	2,404,862	3,208,664	14,078	1.3	171	33,015
725900	10	294,104	374,203	1,790	1.3	164	6,806
735700	42	2,075,073	2,598,403	12,819	1.3	162	26,976
735730	77	4,443,950	5,895,698	27,915	1.3	159	83,206
735800	125	9,139,202	12,273,877	55,478	1.3	165	114,798
735830	90	6,263,922	8,283,856	35,342	1.3	177	91,502
735900	36	2,245,080	3,070,391	15,193	1.4	148	40,470
745800	41	2,084,107	2,763,207	11,941	1.3	175	27,361
745830	93	6,865,290	9,099,846	34,867	1.3	197	74,418
745900	58	4,022,329	5,142,263	23,849	1.3	169	54,696
745930	8	695,271	843,688	5,193	1.2	134	7,630
755800	3	389,636	502,957	2,366	1.3	163	2,475
755830	71	5,285,048	7,296,323	29,008	1.4	182	95,155
755900	61	5,070,154	6,590,601	28,559	1.3	178	52,690
755930	12	675,287	875,576	5,079	1.3	133	9,034
75600	5	138,859	174,035	951	1.3	146	3,376
765830	24	2,083,535	2,790,470	10,797	1.3	193	18,299
765900	13	1,063,980	1,421,761	8,371	1.3	127	82,854
765930	3	85,558	109,731	412	1.3	208	2,893
766000	9	708,936	831,880	4,893	1.2	145	20,659
775900	3	118,019	160,739	760	1.4	155	1,338
775930	30	2,352,021	3,142,877	11,162	1.3	211	60,418
776000	3	190,629	211,265	561	1.1	340	2,654
785930	16	1,107,059	1,493,870	6,391	1.4	173	8,277
786000	7	417,421	548,878	1,931	1.3	216	2,419
786030	5	237,288	336,035	882	1.4	269	516
795930	3	431,044	575,137	2,800	1.3	154	4,572
Other	31	2,896,290	2,133,645	10,705	1.3	157	18,492
TOTAL	1,293	114,779,014	149,775,765	716,524	1.3	160	1,799,323

^aDeadloss included.

^bIn pounds.

^cDefined as catch per pot pull.

Table 74. Bristol Bay, Area T of the Bering Sea, historic red king crab catch statistics, 1966-1994.

Year	Number of		Crab ^a	Harvest ^{a,b}	Pots Pulled	Average		CPUE ^d	% Old Shell	Deadloss ^e
	Vessels	Landings				Weight ^b	Length ^c			
1966	9	15	140,554	997,321	2,720	7.1	52			
1967	20	61	397,307	3,102,443	10,621	7.8	37			
1968	59	261	1,278,592	8,686,546	47,496	6.8	27			
1969	65	377	1,749,022	10,403,283	98,426	5.9	18			
1970	51	309	1,682,591	8,559,178	96,658	5.1	17			
1971	52	394	2,404,681	12,955,776	118,522	5.4	20			
1972	64	611	3,994,356	21,744,924	205,045	5.4	20			
1973	67	441	4,825,963	26,913,636	194,095	5.6	25			
1974	104	605	7,710,317	42,266,274	212,915	5.5	36		N/A	
1975	102	592	8,745,294	51,326,259	205,096	5.7	43		N/A	
1976	141	984	10,603,367	63,919,728	321,010	6.0	33	27.4	1,639,483	
1977	130	1,020	11,733,101	69,967,868	451,273	5.9	26	13.0	875,327	
1978	162	926	14,745,709	87,618,320	406,165	5.8	36	6.9	730,279	
1979	236	889	16,808,605	107,828,057	315,226	6.4	53	10.4	1,273,037	
1980	236	1,251	20,845,350	129,948,463	567,292	6.2	37	11.0	3,555,891	
1981	177	1,026	5,307,947	33,591,368	542,250	6.3	10	47.4	1,858,668	
1982	90	255	541,006	3,001,210	141,656	5.6	4	24.6	711,289	
1983				N O C O M M E R C I A L		F I S H E R Y			95,834	
1984	89	137	794,040	4,182,406	112,556	5.2	7	26.5	35,601	
1985	128	130	796,181	4,174,953	85,003	5.5	9	25.8	6,436	
1986	159	230	2,099,576	11,393,934	178,370	5.4	12	25.5	284,127	
1987	236	311	2,122,402	12,289,067	220,871	5.8	9	19.0	120,388	
1988	200	201	1,236,131	7,387,795	153,004	6.0	8	15.1	23,537	
1989	211	287	1,684,706	10,264,791	208,684	6.1	8	17.7	81,334	
1990	240	331	3,120,326	20,362,342	262,131	6.5	12	14.7	116,527	
1991 ^e	302	324	2,630,446	17,177,894	227,555	6.5	12	12.1	119,670	
1992 ^e	281	289	1,196,958	8,043,018	205,940	6.7	6	22.3	9,000	
1993 ^e	292	361	2,261,287	14,628,639	253,794	6.5	9	15.2	133,442	
1994				N O C O M M E R C I A L		F I S H E R Y				

^aDeadloss included.

^bIn Pounds.

^cIn millimeters.

^dDefined as catch per pot pull.

^eIncludes Test Fishery.

Table 75. Historic Bristol Bay red king crab economic performance, 1980-1994.

Year	GHL ^a	Season		Number of			Number of Pots		Value		Season Length	
		Total ^b	Vessels	Landings	Registered	Pulled	Exvessel	Total ^c	Days	Dates		
1980	70 - 120	128.1	236	1,251	78,352	567,292	\$ 0.90	\$115.3	(40)	09/10-10/20		
1981	70 - 100	33.6	177	1,026	75,756	542,250	\$ 1.50	\$ 49.3	(91)	09/10-12/15		
1982	10 - 20 ^e	2.9	90	255	36,166	141,656	\$ 3.05	\$ 8.8	(30)	09/10-10/10		
1983				N O C O M M E R C I A L F I S H E R Y								
1984	2.5 - 6.0	4.1	89	137	21,762	112,556	\$ 2.60	\$ 10.8	(15)	10/01-10/16		
1985	3.0 - 5.0	4.2	128	130	30,117	85,003	\$ 2.90	\$ 12.1	(8)	09/25-10/02		
1986	6.0-13.0	11.1	159	230	32,468	178,370	\$ 4.05	\$ 45.0	(13)	09/25-10/07		
1987	8.5-17.7	12.2	236	311	63,000	220,871	\$ 4.00	\$ 48.7	(12)	09/25-10/06		
1988	7.5	7.4	200	201	50,099	153,004	\$ 5.10	\$ 37.6	(8)	09/25-10/02		
1989	16.5	10.2	211	287	55,000	208,684	\$ 5.00	\$ 50.9	(12)	09/25-10/06		
1990	17.1	20.2	240	331	69,906	262,131	\$ 5.00	\$101.2	(12)	11/01-11/13		
1991	18.0	17.1 ^e	302	324	89,068	227,555	\$ 3.00	\$ 51.2	(7)	11/01-11-08		
1992	10.3	8.0 ^e	281	289	68,189	205,940	\$ 5.00	\$ 40.0	(7)	11/01-11/08		
1993	16.8	14.6 ^e	292	361	58,881	253,794	\$ 3.80	\$ 55.1	(9)	11/01-11/10		
1994				N O C O M M E R C I A L F I S H E R Y								

^aGuideline Harvest Level (millions of pounds).

^bMillions of pounds, deadloss not included.

^cMillions of dollars.

^dInseason revision to 4.7 million pounds.

^eIncludes test fishery.

Table 76. Bristol Bay red king crab harvest composition by fishing season, 1973-1994.

Season	Date Opened-Closed	Harvest ^a	Percent Recruit ^b	Percent Postrecruit ^b	Size Limit ^c	Price Per Pound
1973	06/15-09/09	26.9	63	37	6½	\$0.84
1974	07/29-10/12	42.2	60	40	6½	\$0.38
1975	08/01-11/16	51.3	21	79	6½ ^d	\$0.38
1976	08/15-12/07	63.9	56	44	6½	\$0.58
1977	09/15-12/08	70.0	67	33	6½	\$1.11
1978	09/10-10/23	87.6	75	25	6½	\$1.23
1979	09/15-10/14	107.8	47	53	6½	\$1.01
1980	09/10-10/20	129.9	44	56	6½	\$0.90
1981	09/10-10/20	33.6	-	-	6½	-
	10/25-12/15	1.5	14	86	7	\$1.50
1982	09/10-10/10	3.0	68	32	6½	\$3.05
1983		N O	C O M M E R C I A L	F I S H E R Y		
1984	10/01-10/16	4.2	59	41	6½	\$2.60
1985	09/25-10/02	4.2	66	34	6½	\$2.90
1986	09/25-10/07	11.4	65	35	6½	\$4.05
1987	09/25-10/06	12.3	77	23	6½	\$4.00
1988	09/25-10/02	7.4	59	41	6½	\$5.10
1989	09/25-10/06	10.3	58	42	6½	\$5.00
1990	11/01-11/13	20.4	49	51	6½	\$5.00
1991	11/01-11/08	17.2	44	56	6½	\$3.00
1992	11/01-11/08	8.0	33	67	6½	\$5.00
1993	11/01-11/10	14.6	33	67	6½	\$3.80
1994		N O	C O M M E R C I A L	F I S H E R Y		

^aDeadloss included, millions of pounds.

^bRecruits figured at 149 mm - all previous years, 155 mm.

^cMinimum carapace width in inches.

^d6½ inches after 11/01.

Table 77. Bering Sea, Area Q, Pribilof District historic king crab catch statistics, 1973/74-1994.

Year ^a	Number of			Harvest ^{b,c}	Pots		Average			DeadLoss ^c
	Vessels	Landings	Crab ^b		Pulled	CPUE ^d	Weight ^e	Length ^f		
1973/74	8	13	174,420	1,276,533	6,814	26	7.3	N/A	0	
1974/75	70	101	908,072	7,107,294	45,518	20	7.8	157.8	0	
1975/76	20	54	314,931	2,433,714	16,297	19	7.7	159.1	0	
1976/77	47	113	855,505	6,611,084	71,738	12	7.7	158.1	0	
1977/78	34	104	807,092	6,456,738	106,983	8	7.9	158.9	159,269	
1978/79	58	154	797,364	6,395,512	101,117	8	8.1	159.3	63,140	
1979/80	46	115	815,557	5,995,231	83,527	9	7.7	155.9	284,555	
1980/81	110	258	1,497,101	10,970,346	167,684	9	7.3	155.7	287,285	
1981/82	99	312	1,202,499	9,080,729	176,168	7	7.6	158.2	250,699	
1982/83	122	281	587,908	4,405,353	127,728	5	7.5	159.8	51,703	
1983/84	126	221	276,364	2,193,395	86,428	3	7.9	159.9	4,562	
1984/85	16	25	40,427	306,699	15,147	3	7.6	155.5	0	
1985/86	26	49	77,607	532,735	23,483	3	6.9	146.5	7,500	
1986/87	16	25	36,988	258,939	15,800	2	7.0	N/A	5,450	
1987/88	38	68	95,131	701,337	40,507	2	7.4	152.7	9,910	
1988/89				S E A S O N	C L O S E D					
1989/90				S E A S O N	C L O S E D					
1990/91				S E A S O N	C L O S E D					
1991/92 ¹				S E A S O N	C L O S E D					
1992/93				S E A S O N	C L O S E D					
1993 ^g	112	135	380,217	2,607,634	35,942	11	6.9	154.4	0	
1994 ^g	104	121	167,520	1,338,953	28,976	6	8.0	162.1	2,929	

^aBlue king crab, 1973 - 1988.

^bDeadloss included.

^cIn pounds.

^dDefined as catch per pot pull.

^eIn millimeters.

^f10,869 pounds illegal red king crab.

^gRed king crab.

Table 78. Historic Bering Sea, Pribilof District king crab economic performance, 1980/81-1994.

Year ^a	Season		Number of		Number of Pots		Value		Season Length	
	GHL ^b	Total ^c	Vessels	Landings	Registered	Pulled	Exvessel	Total ^d	(Days)	Dates
1980/81	5.0-8.0	10.7	110	258	31,636	167,684	\$.90	\$ 9.6	(60)	9/15-11/15
1981/82	5.0-8.0	9.1	99	312	25,408	176,168	\$ 1.50	\$13.6	(47)	9/10-10/28
1982/83	5.0-8.0	4.4	122	281	34,429	127,728	\$ 3.05	\$13.4	(15)	9/10-09/25
1983/84	4.0 ^e	2.2	126	221	36,439	86,428	\$ 3.00	\$ 6.6	(10)	9/01-09/11
1984/85	0.5-1.0	0.3	16	25	3,122	15,147	\$ 2.50	\$ 0.1	(15)	9/01-09/16
1985/86	0.3-0.8	0.5	26	49	6,038	23,483	\$ 2.90	\$ 1.4	(26)	9/25-10/21
1986/87	0.3-0.8	0.3	16	25	4,376	15,800	\$ 4.05	\$ 1.2	(55)	9/25-11/20
1987/88	0.3-1.7	0.7	38	68	9,594	40,507	\$ 4.00	\$ 2.8	(86)	9/25-12/20
1988/89										
1989/90										
1990/91										
1991/92										
1992/93										
1993 ^f	3.4	2.6	112	135	4,860	35,942	\$ 4.98	\$13.0	(6)	9/15-09/21
1994 ^g	2.0 ^e	1.3	104	121	4,675	28,976	\$ 6.00	\$ 8.0	(6)	9/15-09/21

^aBlue king crab, 1980 - 1988.

^bGuideline Harvest Level.

^cMillions of pounds, deadloss not included.

^dMillions of dollars.

^eSet not to exceed.

^fRed king crab.

^gRed and blue king crab combined.

^hBlue king crab.

Table 79. Pribilof District red king crab catch by statistical area, 1994.

Stat. Area	Number of		Harvest ^{a,b}	Pots Pulled	Average Weight ^b	CPUE ^c	Dead- loss ^c
	Landings	Crab ^a					
695600	3	2,501	21,788	260	8.7	5	9
695631	27	35,113	272,320	4,396	7.8	8	580
695700	68	83,168	668,004	14,049	8.0	6	1,043
705600	3	1,801	15,526	295	8.6	6	17
705630	14	12,440	102,924	2,388	8.3	5	607
705701	31	25,156	200,244	5,864	8.0	4	288
705702	8	7,341	58,147	1,424	7.9	5	385
Total	121	167,520	1,338,953	28,976	8.0	6	2,929

^aDeadloss included.

^bIn pounds.

^cDefined as catch per pot pull.

Table 80. Historic Bering Sea, Northern District (St. Matthew Island Section) blue king crab economic performance, 1981-1994.

Year	Season		Number of			Number of Pots		Value		Season Length	
	GHU ^{a,b}	Total ^b	Vessels	Landings	Registered	Pulled	Exvessel	Total ^c	(Days)	Dates	
1981	1.5-3.0	4.6	31	119	2,960	58,550	\$ 0.90	\$ 4.1	(38)	7/15-8/21	
1982	5.6	8.7	96	269	21,894	165,618	\$ 2.00	\$ 17.4	(15)	8/01-8/16	
1983	8.0	8.6	164	235	38,000	133,944	\$ 3.00	\$ 25.8	(17)	8/20-9/06	
1984	2.0-4.0	3.7	90	169	14,800	73,320	\$ 1.75	\$ 6.5	(7)	9/01-9/08	
1985	0.9-1.9	2.4	79	103	13,000	51,606	\$ 1.60	\$ 3.8	(5)	9/01-9/06	
1986	0.2-0.5	1.0	38	43	5,600	22,093	\$ 3.20	\$ 3.2	(5)	9/01-9/06	
1987	0.6-1.3	1.1	61	62	9,370	28,440	\$ 2.85	\$ 3.1	(4)	9/01-9/05	
1988	0.7-1.5	1.3	46	46	7,780	10,160	\$ 3.10	\$ 4.0	(4)	9/01-9/05	
1989	1.7	1.2	69	69	11,983	30,853	\$ 2.90	\$ 3.5	(3) ^d	9/01-9/04	
1990	1.9	1.7	31	38	6,000	26,264	\$ 3.35	\$ 5.7	(6)	9/01-9/07	
1991	3.2	3.2	68	69	13,100	37,104	\$ 2.80	\$ 9.0	(4)	9/16-9/20	
1992	3.1	2.5	174	179	17,400	56,630	\$ 3.00	\$ 7.4	(3) ^d	9/04-9/07	
1993	4.4	3.0	92	136	5,895	58,647	\$ 3.23	\$ 9.7	(6)	9/15-9/21	
1994	3.0	3.7	87	133	5,685	60,860	\$ 4.00	\$ 15.0	(7)	9/15-9/22	

^aGuideline Harvest Level.

^bMillions of pounds, deadloss not included.

^cMillions of dollars.

^dActual length - 60 hours.

Table 81. Historic blue king crab catch in the Northern District of statistical Area Q (St. Matthew and St. Lawrence Islands), 1977-1994.

Season	Number of		Crab ^a	Harvest ^{a,b}	Pulled	CPUE ^c	Percent Recruits	Average		Deadloss ^b
	Vessels	Landings						Weight ^b	Length ^d	
1977	10	24	281,665	1,202,066	17,370	16	7.0	4.3	130.4	129,148
1978	22	70	436,126	1,984,251	43,754	9	N/A	4.5	132.2	116,037
1979	18	25	52,966	210,819	9,877	5	80.8	4.0	128.8	56,147
1980					Confidential					
1981	31	119	1,045,619	4,627,761	58,550	18	N/A	4.4	N/A	53,355
1982	96	269	1,935,886	8,844,789	165,618	12	19.6	4.6	135.1	142,973
1983 ^e	164	235	1,931,990	9,454,323	133,944	14	26.7	4.8	137.2	828,994
1983 ^f	13	13	11,264	52,557	3,975	3	-	4.7	-	3,500
1984 ^g	90	169	841,017	3,764,592	73,320	11	34.0	4.5	135.5	31,983
1984 ^h			No	Reported	Reported	Landings				
1985 ⁱ	79	103	484,836	2,427,110	51,606	9	9.0	5.0	139.0	2,613
1985 ^j			No	Reported	Reported	Landings				
1986 ^k	38	43	219,548	1,003,162	22,093	10	10.0	4.6	134.3	32,560
1986 ^l			No	Reported	Reported	Landings				
1987 ^m	61	62	234,521	1,075,179	28,440	8	5.0	4.6	134.13	400
1987 ⁿ			No	Reported	Reported	Landings				
1988 ^o	46	46	302,053	1,325,185	10,160	13	65.0	4.4	133.29	22,358
1988 ^p			No	Reported	Reported	Landings				
1989 ^q	69	69	247,641	1,166,258	30,853	8	9.0	4.7	134.55	3,754
1989 ^r	5	9	1,652	4,518	2,402	-	-	-	-	0

-Continued-

Table 81. (page 2 of 2)

Season	Number of		Crab ^a	Harvest ^{a,b}	Pots Pulled	CPUE ^c	Percent Recruits	Average		Deadloss ^d
	Vessels	Landings						Weight ^e	Length ^d	
1990 ^e	31	38	391,405	1,725,349	26,264	15	4.0	4.4	134.28	17,416
1990 ^f			No	Reported		Landings				
1991 ^e	68	69	726,519	3,372,066	37,104	20	12.0	4.6	134.1	216,459
1991 ^f			No	Reported		Landings				
1992 ^e	174	179	544,956	2,474,080	56,630	10	9.0	4.6	134.1	0
1992 ^f			No	Reported		Landings				
1993 ^e	92	136	629,874	2,999,921	58,647	11	6.0	4.8	135.4	0
1993 ^f			No	Reported		Landings				
1994 ^e	87	133	827,015	3,764,262	60,860	14	60.0	4.6	133.3	46,699
1994 ^f			No	Reported		Landings				

^aDeadloss included.

^bIn pounds.

^cDefined as catch per pot pull.

^dIn millimeters.

^eSt. Matthew.

^fSt. Lawrence - red and blue.

Table 82. Northern District, Area Q, king crab harvest composition by fishing season, 1977-1994.

Season	Date		Species	Harvest ^a	Minimum Size ^b	Price per Pound
	Opened	Closed				
1977	June 7	Aug. 16	Blue	1,202,066	5 1/2	\$ 1.00
			Red	543,041	5	
1978	July 15	Sept. 3	Blue	1,984,251	5 1/2	\$ 0.95
	July 15	Aug. 16	Red	2,007,910	4 3/4	
1979	July 15	Aug. 24	Blue	210,819	5 1/2	\$ 0.70
	July 15	Aug. 16	Red	3,024,228	4 3/4	
1980	July 15	Sept. 3	Blue	353,683	4 3/4	\$ 0.75
	July 15	July 31	Red ^c			
1981	July 15	Aug. 21	Blue	4,627,761	5 1/2	\$ 0.90
	July 15	Sept. 3	Red ^c	63,983	4 3/4	
1982	Aug. 1	Aug. 16	Blue	8,844,789	5 1/2	\$ 2.00
	Aug. 1	Aug. 16	Red ^c	3,690	4 3/4	\$ 2.00
1983 ^d	May 1	Aug. 1	Brown	193,507	5 1/2	\$ 2.00
	Aug. 20	Sept. 6	Blue	9,506,880 ^e	5 1/2	\$ 3.00
	Aug. 20	Sept. 6	Red	1,635	4 3/4	\$ 2.50
	May 1	Aug. 1	Brown		5 1/2	-
1984	Aug. 1	Sept. 8	Blue	3,764,592	5 1/2	\$ 1.75
	Aug. 1	Sept. 8	Red ^c	-	4 3/4	-
	May 1	Dec. 31	Brown ^d	-	5 1/2	-
1985	Sept. 1	Sept. 6	Blue	2,427,110	5 1/2	\$ 1.60
	Aug. 1	Sept. 6	NO CATCH REPORTED		4 3/4	-
	Jan. 1	Dec. 31	NO CATCH REPORTED		5 1/2	-
1986	Sept. 1	Sept. 6	Blue	1,003,162	5 1/2	\$ 3.20
	Aug. 1	Sept. 6	NO CATCH REPORTED		4 3/4	-
	Jan. 1	Dec. 31	NO CATCH REPORTED		5 1/2	-
1987	Sept. 1	Sept. 5	Blue	1,075,179	5 1/2	\$ 2.85
	Aug. 1	Sept. 5	NO CATCH REPORTED		4 3/4	-
	Jan. 1	Dec. 31	Brown	424,394	5 1/2	\$ 2.60
1988	Sept. 1	Sept. 5	Blue	1,325,185	5 1/2	\$ 3.10
	Aug. 1	Sept. 5	NO CATCH REPORTED		4 3/4	-
	Jan. 1	Dec. 31	Brown	160,441	5 1/2	\$ 3.10
1989	Sept. 1	Sept. 4	Blue	1,166,258	5 1/2	\$ 2.90
	Aug. 1	Sept. 4	Blue ^{0†}		5 1/2	NA
	Jan. 1	Dec. 31	Red ^c	4,518	4 3/4	NA
			Brown	4,407	5 1/2	NA

- Continued -

Table 82. (page 2 of 2)

Season	Date		Species	Harvest ^a	Minimum Size ^b	Price per Pound
	Opened	Closed				
1990	Sept. 1	Sept. 7	Blue	1,725,349	5 1/2	\$ 3.35
1991	Sept. 16	Sept. 20	Blue	3,372,066	5 1/2	\$ 2.80
1992	Sept. 4	Sept. 7	Blue	2,474,080	5 1/2	\$ 3.00
1993	Sept. 15	Sept. 21	Blue	2,999,921	5 1/2	\$ 3.23
1994	Sept. 15	Sept. 22	Blue	3,764,262	5 1/2	\$ 4.00

^aIn pounds, deadloss included.

^bCarapace width in inches.

^cDoes not include Norton Sound.

^dSome of Northern District open until September 20.

^eSt. Lawrence Island harvest included, 1977 - 1983.

^fCombined with red king crab to total 4,518 pounds.

Table 83. Bering Sea (Northern District) blue king crab catch by statistical area, for St. Matthew Island, 1994.

Stat Area	Number of		Harvest ^{a,b}	Pots Pulled	Average		
	Landings	Crab ^a			Weight ^b	CPUE ^c	Deadloss ^a
726001	91	462,124	2,134,469	33,360	4.6	14	25,960
726002	7	60,509	273,176	3,995	4.5	15	11,285
736001	58	287,360	1,280,356	22,170	4.5	13	6,999
Other	4	17,022	76,261	1,335	4.4	14	2,455
TOTAL	133	827,015	3,764,262	60,860	4.6	14	46,699

^aDeadloss included.

^bIn Pounds.

^cDefined as catch per pot pull.

Table 84. St. Matthew comparative mid-point and emergency order projections and actual harvests, 1983-1994.

Year	Guideline Harvest Levels ^a	GHL Mid-Point ^a	Actual Harvest	Projected Harvest
1983	8.0	-	9.5	8.0
1984	2.0 - 4.0	3.00	3.8	4.0
1985	0.9 - 1.9	1.40	2.4	2.0
1986	0.2 - 0.5	0.30	1.0	1.0
1987	0.6 - 1.3	.95	1.1	1.3
1988	0.7 - 1.5	-	1.3	1.5
1989	1.7	-	1.2	1.7
1990	1.9	-	1.7	1.9
1991	3.2	-	3.4	3.2
1992	3.1	-	2.5	3.1
1993	4.4	-	3.0	4.4
1994	3.0	-	3.8	3.0

^aMillions of pounds.

^bDeadloss included.

Table 85. St. Matthew Blue King crab comparative average catches of catcher-processor vs. catcher-only vessels, 1990-1994.

	SEASON				
	1990	1991	1992	1993	1994
Number of Catcher-Processor Vessels	7	9	8	3	6
Number of Catcher-Only Vessels	24	59	166	89	87
Pounds of Catcher-Processor Harvest	447,320	740,687	191,801	165,625	352,069
Percent of Catcher-Processor Harvest	25.9	22.0	7.7	5.5	10.7
Average Catcher-Processor Harvest	63,903	82,298	23,975	55,208	58,678
Average Catcher-Only Harvest	53,251	44,600	13,749	31,846	39,221
Catcher-Processor Average CPUE	15	26	16	14	14
Catcher-Only Average CPUE	15	18	9	11	14
Total Harvest	1,725,349	3,372,066	2,474,080	2,999,921	3,764,262
Average # Pots Pulled Catcher-Processor	983	682	327	811	926
Average # Pots Pulled Catcher-Only	807	525	325	632	636
Catcher-Processor Harvest Range	27,403-111,507	41,812-129,038	5,573-51,943	45,060-63,914	37,947-104,451

Table 86. Historic brown king crab catch in the Pribilof District of the Bering Sea, Area Q, 1981/82-1994.

Year	Number of		Crab ^a	Harvest ^{a,b}	Pots Pulled	CPUE ^c	Average		Deadloss ^b
	Vessels	Landings					Weight ^b	Length ^d	
1981/82									
1982/83 ^e	10	19	15,330	69,970	5,252	3	4.6	151.0	570
1983/84 ^f	50	115	253,162	856,475	26,035	10	3.4	127.0	20,041
1984 ^g									
1985									
1986									
1987									
1988									
1989									
1990									
1991									
1992									
1993	5	15	17,643	67,458	15,395	1	3.8	N/A	0
1994	3	5	21,477	88,985	1,845	12	4.1	N/A	730

^aDeadloss included

^bIn pounds.

^cDefined as catch per pot pull.

^dIn millimeters.

^eSix and one-half inch season.

^fFive and one-half inch season.

^gPermit fishery July through December.

Table 87. Historic brown king crab catch in the Northern District of the Bering Sea, Area Q, 1982/83-1994.

Year	Number of		Crab ^a	Harvest ^{a,b}	Pots Pulled	CPUE ^c	Average		Deadloss ^b
	Vessels	Landings					Weight ^b	Length ^d	
1982/83	22	30	51,714	193,507	7,825	6	3.7	138.0	95
1983/84			NO	REPORTED	LANDINGS				
1985			NO	REPORTED	LANDINGS				
1986			NO	REPORTED	LANDINGS				
1987	11	29	101,618	424,394	14,525	7	4.2	142.0	11,750
1988	11	23	36,270	160,441	11,672	3	4.4	150.0	14,000
1989				Confidential					
1990			NO	REPORTED	LANDINGS				
1991			NO	REPORTED	LANDINGS				
1992				Confidential					
1993			NO	REPORTED	LANDINGS				
1994				Confidential					

^aDeadloss included.

^bIn pounds.

^cDefined as catch per pot pull.

^dIn millimeters.

Table 88. Historic Korean hair crab catch statistics, by season, for the Bering Sea, 1978/79-1994.

Year	Number of		Crab ^a	Harvest ^{a,b}	Pots Pulled	CPUE ^c	Average		Deadloss ^b
	Vessels	Landings					Weight ^b	Length	
1978/79	11	16	2,457	5,213	9,908	1	2.1	111.8	0
1979/80	9	17	25,417	53,914	14,506	2	2.1	114.5	0
1980/81	67	192	1,127,309	2,439,483	172,695	7	2.2	104.8	265,369
1981/82	48	159	466,560	932,584	117,518	4	2.0	103.1	29,749
1982/83	52	161	575,453	1,211,420	84,346	7	2.1	103.2	122,456
1983/84	19	48	200,670	406,538	20,414	10	2.0	-	28,062
1984 ^e	7	26	197,209	396,630	22,392	9	2.0	-	19,436
1985 ^e	3	9	34,410	66,042	3,905	8	2.0	-	593
1986 ^e	3	7	7,289	14,835	4,720	1	2.0	-	500
1987 ^e				C O N F I D E N T I A L					
1988 ^e				N O F I S H I N G					
1989 ^e				N O F I S H I N G					
1990 ^e				N O F I S H I N G					
1991 ^e	7	42	441,533	377,708	44,444	10	0.9	-	0
1992 ^{e,t}	9	20	203,758	240,767	38,808	5	1.2	-	11,495
1992 ^{e,g}	10	47	1,127,948	1,198,590	125,943	9	1.1	83.1	65,674
1993 ^{e,t}	4	5	2,347	3,038	9,345	0.25	1.3	84.4	0
1993/94 ^{e,g,h,k}	19	129	1,936,795	2,331,686	585,913	3	1.2	88.0	124,596
1994 ^{e,g}	10	55	897,070	1,199,246	287,954	3	1.3	91.0	49,275

^aDeadloss included.

^bDefined as catch per pot pull.

^cIn pounds.

^dIn millimeters.

^ePermit fishery.

^fSpring fishery.

^gFall fishery.

^hFishery opened Nov. 1, 1993 and closed April 20, 1994.

^kIncludes 7 vessels which landed hair crab incidental to *C. bairdi*

Table 89. Commercial harvest of weathervane scallops from the Bering Sea/Aleutian Islands Scallop Management Area by year, 1987-1994.

Season	Number of			Pounds	
	Vessels	Landings	Drags	Scallops	per Drag
1987	CONFIDENTIAL				
1988	NO REPORTED CATCH				
1989	NO REPORTED CATCH				
1990	NO REPORTED CATCH				
1991	NO REPORTED CATCH				
1992	NO REPORTED CATCH				
1993	10	38	7,289	605,953	83
1994	9	29	6,619	505,439	76

Table 90. Commercial harvest of weathervane scallops and bycatch of king and *C. bairdi* Tanner crab from the Bering Sea/Aleutian Islands Scallop Management Area by month, 1994.

Month	Number of		Pounds		Number of	
	Vessels	Landings	of Scallops	per Drag	Kings	Tanner
July	6	8	193,640	82	N/A	108,029
Aug	7	17	262,211	78	N/A	139,806
Sep & Oct	4	4	50,453	58	N/A	14,668
TOTAL	9	29	505,439	76	55	262,503

Table 91. Pot limits for the Bering Sea fisheries with imposed pot limits, 1994/95.

Pot Limits Fishery	<=125 Feet	>125 Feet
St. Matthew King Crab	60	75
Norton Sound King Crab	40	50
St. Lawrence King Crab	40	50
Pribilof Red King Crab	40	50
Bristol Bay King Crab	200	250
Bering Sea C. Tanner	200	250

Table 92. Number of buoy tags printed and issued by tag type, 1994/95.

Fishery, Pot Limits, and Tag Code	Number of Tags Printed		Color	Number of Tags Sets Issued		Number of Tag Issued	
	<or=125 ^a	>125 ^a		<or=125 ^a	>125 ^a	<or=125 ^a	>125 ^a
St. Matthew King Crab 60/75 KQ2	6,000	6,000	Grey	56	32	4,020	1,875
Pribilof King Crab 40/50 KQ1	None ^b	7,500	Black	90	22	3,560	1,300
Bering Sea Bairdi Tanner Crab 200/250 KTBQ	46,000	30,000	Purple	131	54	25,190	13,280
Bering Sea Opilio Tanner Crab 200/250 OQ	46,000	30,000	Green	168	87	32,467	21,240
Totals	98,000	73,500		445	195	65,237	37,695
Totals for Vessels of Both Size Categories	171,500			640		102,932	

^aVessel length in feet.

^bFor vessels less than 125 feet, 40 tags were sold out of sets of 50 and the 10 remaining tags were voided.

Table 93. Summary of vessels, vessel registrations, observer trips, observer months, number of active observers and contractors, and number of briefings and debriefings from program inception (first briefing September 20, 1988) through August 31, 1994; excluding the scallop fisheries.

Fishing Year ^a	Vessels ^b		Registrations ^c		Observer Trips	Active Observers	Observer Months	Active Contractors	Total			
	C/P	F/P	C/P	F/V					Brief ^d	Debrief ^e		
1988/89	22	8	0	61	20	0	106	56	123.7	8	112	89
1989/90	24	16	0	68	34	0	127	59	151.7	7	112	128
1990/91	30	18	0	88	46	0	264	90	331.7	5	269	339
1991/92	33	18	0	114	46	0	246	88	297.3	7	259	333
1992/93	29	22	7	86	46	9	170	75	213.8	6	162	209
1993/94	24	18	19	67	35	22	149	61	171.5	8	166	203

^aSeptember 1 through August 31.

^bUnique vessels requiring observer coverage.

C/P = Catcher Processor, F/P = Floating Processor, and F/V = Fishing Vessel.

^cCummulative vessel registrations of all vessels requiring observer coverage.

^dIncludes some briefings for the next fishing year.

^eIncludes mid-trip debriefings.

Table 94. Summary of registered vessels, observer trips and observer months at sea, by fishery, for the fishing year^a 1988/89.

Fishery	Registered Vessels		Observer Trips	% of Total		Obs. Months	% of Total Obs. Months
	C/P	F/P		Obs. Trips	Months		
Dutch Harbor Brown King	1	0	1	0.9	2.4	1.9	
Bristol Bay Red King	19	5	25	23.6	9.5	7.7	
Adak Brown King	16	6	42	39.6	70.2	56.7	
Norton Sound Red King	7	0	7	6.6	1.6	1.3	
Bering Sea Brown King	2	0	2	1.9	1.5	1.2	
Bering Sea Bairdi	9	9	22	20.8	35.5	28.7	
South Peninsula Bairdi	2	0	2	1.9	0.7	0.6	
Chukchi Sea Experimental	5	0	5	4.7	2.3	1.9	
Totals	61	20	106	100	123.7	100	

^aSeptember 1, 1988 through August 31, 1989.

Table 95. Summary of registered vessels, observer trips and observer months at sea, by fishery, for the fishing year^a 1989/90.

Fishery	Registered Vessels		Observer Trips	% of Total Obs. Trips	Obs. Months	% of Total Obs. Months
	C/P	F/P				
St. Matthew Blue King	15	6	21	16.5	8.8	5.8
Dutch Harbor Brown King	4	2	9	7.1	8.7	5.7
Bristol Bay Red King	18	12	30	23.6	16.6	10.9
Adak Brown King	18	5	41	32.3	81.6	53.8
Bering Sea Bairdi	9	9	22	17.3	35.5	23.4
Norton Sound Red King	4	0	4	3.2	0.5	0.4
Totals	68	34	127	100	151.7	100

^aSeptember 1, 1989 through August 31, 1990.

Table 96. Summary of registered vessels, observer trips and observer months at sea, by fishery, for the fishing year^a 1990/91.

Fishery	Registered Vessels		Observer Trips	% of Total Obs. Trips	Obs. Months	% of Total Obs. Months
	C/P	F/P				
St. Matthew Blue King	7	3	10	3.8	4.2	1.3
Dutch Harbor Brown King	5	1	6	2.3	7.4	2.2
Bristol Bay Red King	20	15	35	13.3	19.6	6.0
Adak King	8	0	19	7.2	28.2	8.5
Bering Sea Bairdi	21	10	41	15.5	50.9	15.3
Bering Sea Opilio	26	17	149	56.4	216.8	65.4
Scallops ^b	1	0	4	1.5	4.6	1.4
Totals	88	46	264	100	331.7	100

^aSeptember 1, 1990 through August 31, 1991

^bWestward region scallop fishery.

Table 97. Summary of registered vessels, observer trips and observer months at sea, by fishery, for the fishing year^a 1991/92.

Fishery	Registered Vessels		Observer Trips	% of Total Obs. Trips	Obs Months	% of Total Obs. Months
	C/P	F/P				
St. Matthew Blue King	9	2	11	4.5	5.3	1.8
Dutch Harbor Brown King	4	0	4	1.6	7.3	2.5
Bristol Bay Red King	25	14	39	15.9	19.8	6.7
Adak King	10	0	25	10.2	38.8	13.0
Bering Sea Bairdi	27	12	51	20.7	64.5	21.7
Bering Sea Opilio	31	18	107	43.5	158.8	53.4
Miscellaneous ^b	9	0	9	3.7	2.8	0.9
Totals	114	46	246	100	297.3	100

^aSeptember 1, 1991 through August 31, 1992.

^bWestward Region Scallops, St. Lawrence Blue King, Bering Sea Brown King, Norton Sound Red King.

Table 98. Summary of registered vessels, observer trips and observer months at sea, by fishery, for the fishing year^a 1992/93, excluding the scallop fisheries.

Fishery	Registered Vessels			Observer Trips	% of Total		Obs. Months	% of Total Obs. Months
	C/P	F/P	F/V ^b		Obs. Trips	Months		
St. Matthew Blue King	8	7	0	15	8.8	5.8	2.7	
Dutch Harbor Brown King	5	0	0	6	3.5	7.2	3.4	
Bristol Bay Red King	17	6	0	23	13.5	10.6	4.9	
Adak King	6	1	0	13	7.6	20.3	9.5	
Bering Sea Bairdi	22	10	0	41	24.1	63.0	29.4	
Bering Sea Opilio	25	21	0	56	33.0	94.7	44.1	
Bering Sea Hair Crab	1	0	7	10	5.9	4.5	2.1	
Bering Sea Snails	1	0	2	4	2.4	4.8	2.6	
Adak Hair Crab	1	0	0	1	0.6	.9	0.4	
Norton Sound Red King	0	1	0	1	0.6	2.0	0.9	
Totals	86	46	9	170	100	213.8	100	

^aSeptember 1, 1992 through August 31, 1993.

^bFishing vessels required to carry observers.

Table 99. Summary of registered vessels, observer trips and observer months at sea, by fishery, for completed fisheries, for the fishing year^a 1993/94.

Fishery	Registered Vessels			Observer Trips	% of Total Obs. Trips ^a	Obs Months	% of Total Obs. Months ^a
	C/P	F/P	F/V ^b				
St. Matthew Blue King	3	4	0	7	4.7	3.5	2.1
Pribilof Red King	2	2	0	4	2.7	1.8	1.0
Bristol Bay Red King	16	7	0	23	15.4	13.6	7.9
Bering Sea Bairdi Crab	17	4	0	21	14.1	15.1	8.8
Adak Brown King	1	1	0	5	3.4	10.7	6.2
Adak Red King	1	0	0	1	0.7	1.1	.6
Bering Sea Hair Crab	0	0	12	26	17.4	33.4	19.5
Bering Sea Opilio Crab	24	17	0	47	31.5	76.6	44.8
Bering Sea Tanneri	0	0	4	4	2.7	4.9	2.9
Dutch Harbor Tanneri	0	0	3	5	3.4	6.4	3.7
Adak Tanneri	0	0	1	1	0.7	.6	.3
Kodiak Tanneri	1	0	0	1	0.7	.7	.4
South Peninsula Tanneri	2	0	0	2	1.3	1.4	.8
Miscellaneous ^c	0	0	2	2	1.3	1.7	1.0
Totals	67	35	22	149	100	171.5	100

^aSeptember 1, 1993 through August 31, 1994.

^bFishing vessels required to carry observers.

^cBering Sea snail and surf clam trips.

Table 100. Summary of registered vessels, observer trips and observer months at sea, for the Alaskan scallop fisheries during 1994.

Fishery	Registrations		Observer Trips	% of Total		Obs. Months	% of Total Obs. Months
	Vessel			Obs. Trips	Months		
Dutch Harbor Scallops	3	3	4.5	0.6	1.4		
Bering Sea Scallops	9	10	14.9	12.6	29.0		
Kodiak Scallops	11	26	38.8	18.7	43.1		
Cook Inlet Scallops	4	2	3.0	0.3	0.7		
Yakutat Scallops - January	10	10	14.9	3.6	8.3		
- July	5	5	7.5	2.7	6.2		
South Peninsula Scallops	7	11	16.4	4.9	11.3		
Totals	49	67	100	43.4	100		

Table 101. Summary of scallop vessels requiring observer coverage, observer trips and observer months at sea, for the Alaskan scallop fisheries during 1993 and 1994.

Fishery	Vessel Registrations		Observer Trips		Observer Months	
	1993	1994	1993	1994	1993	1994
Dutch Harbor Scallops	5	3	6	4	2.0	0.6
Bering Sea Scallops	9	8	12	8	9.7	12.6
Southeast Scallops	1	0	1	0	0.3	0
Yakutat Scallops	7	10	0	10	0	3.6
January July		5	7	5	3.1	2.7
Prince William Sound Scallops	7	0	7	0	2.1	0
Cook Inlet Scallops	0	2	0	2	0	0.3
Kodiak Scallops	9	11	30	26	15.5	18.7
South Peninsula Scallops	7	7	9	12	3.5	4.9
Totals	45	46	72	67	36.2	43.4

Table 102. Number of briefing, debriefing and mid trip debriefing sessions by month and by fishing year^a, from September, 1990 through August, 1994.

	BRIEFINGS				DEBRIEFINGS				MID TRIPS			
	90/91	91/92	92/93	93/94	90/91	91/92	92/93	93/94	90/91	91/92	92/93	93/94
SEP	9	12	5	19	11	11	17	22	0	1	0	1
OCT	36	38	23	32	5	3	5	3	2	2	0	0
NOV	38	46	32	30	41	46	27	26	1	4	3	6
DEC	14	14	12	1	19	24	15	27	8	16	17	8
JAN	45	52	44	42	29	31	18	7	0	18	9	0
FEB	18	19	7	2	23	21	9	2	15	20	8	0
MAR	34	11	25	25	28	11	49	54	32	19	1	2
APR	31	33	3	6	28	73	10	13	9	5	2	6
MAY	27	3	1	1	30	5	1	3	6	0	2	4
JUN	9	5	6	3	37	5	5	3	3	0	3	1
JUL	5	9	7	14	18	3	5	8	1	1	2	6
AUG	3	17	6	10	4	13	8	15	0	1	6	13
Totals	269	259	171	185	273	246	169	183	77	87	53	

^aSeptember 1 through August 31.

Table 103. Mandatory Shellfish Observer Program candidates by exam, including number passed, number of active certified observers and decertified observers^a.

Year	Number of Exams	Number of Candidates	Number Passed	Number Currently Certified	Number Decertified	
					Inactivity ^b	Other ^c
1988	3	105	84	4	67	13
1989	1	54	44	4	36	4
1990	3	47	29	3	25	1
1991	4	64	61	11	48	2
1992	2	41	39	21	18	0
1993	2	19	19	13	5	1
1994	1	6	6	6	-	-
Totals	16	336	282	62	199	21

^aNumbers in this table have been revised from previous reports due to corrected records.

^bDecertified due to 12 month shellfish observer employment inactivity or trainee permit expiration after 180 days.

^cDecertified for non-compliance with Shellfish Observer Program standards.

Table 104. Number of observer trips and observer trips where evidence was collected in the crab fisheries.

Fishery	Fishing Season	Observer Trips	Trips Evidence Collected	Percent of Each Fishery ^a	Percent of Total Evidence ^b
St. Matt./Prib.	91/92	11	0	0	0
Red and Blue King	92/93	15	1	6.7	2.6
	93/94	11	1	9.1	5.0
Dutch Harbor	91/92	4	1	25.0	2.2
Brown King	92/93	6	1	16.7	2.6
	93/94	2	1	50.0	5.0
Bristol Bay	91/92	39	8	20.5	17.4
Red King	92/93	24	8	33.3	21.1
	93/94	25	3	12.0	15.0
Adak	91/92	25	7	28.0	15.2
Red and Brown King	92/93	3	1	33.3	2.6
	93/94	1	1	100.0	5.0
Bering Sea	91/92	51	12	23.5	26.1
Bairdi	92/93	31	8	25.8	21.1
	93/94	21	5	9.5	25.0
Bering Sea	91/92	107	18	16.8	39.1
Opilio	92/93	64	19	29.7	50.0
	93/94	55	8	14.5	40.0
Bering Sea	92/93	10	0	0	0
Hair Crab	93/94	27	0	0	0
Combined Tanneri	93/94	13	1	7.7	5.0
Miscellaneous Fisheries	91/92	9	0	0	0
	92/93	5	0	0	0
	93/94	2	0	0	0
SUMMARY	91/92	246	46	18.7	
	92/93	158	38	24.8	
	93/94	157	20	12.7	

^a Percentage of trips evidence collected by fishery.

^b Percentage of total evidence collected for the fishing year.

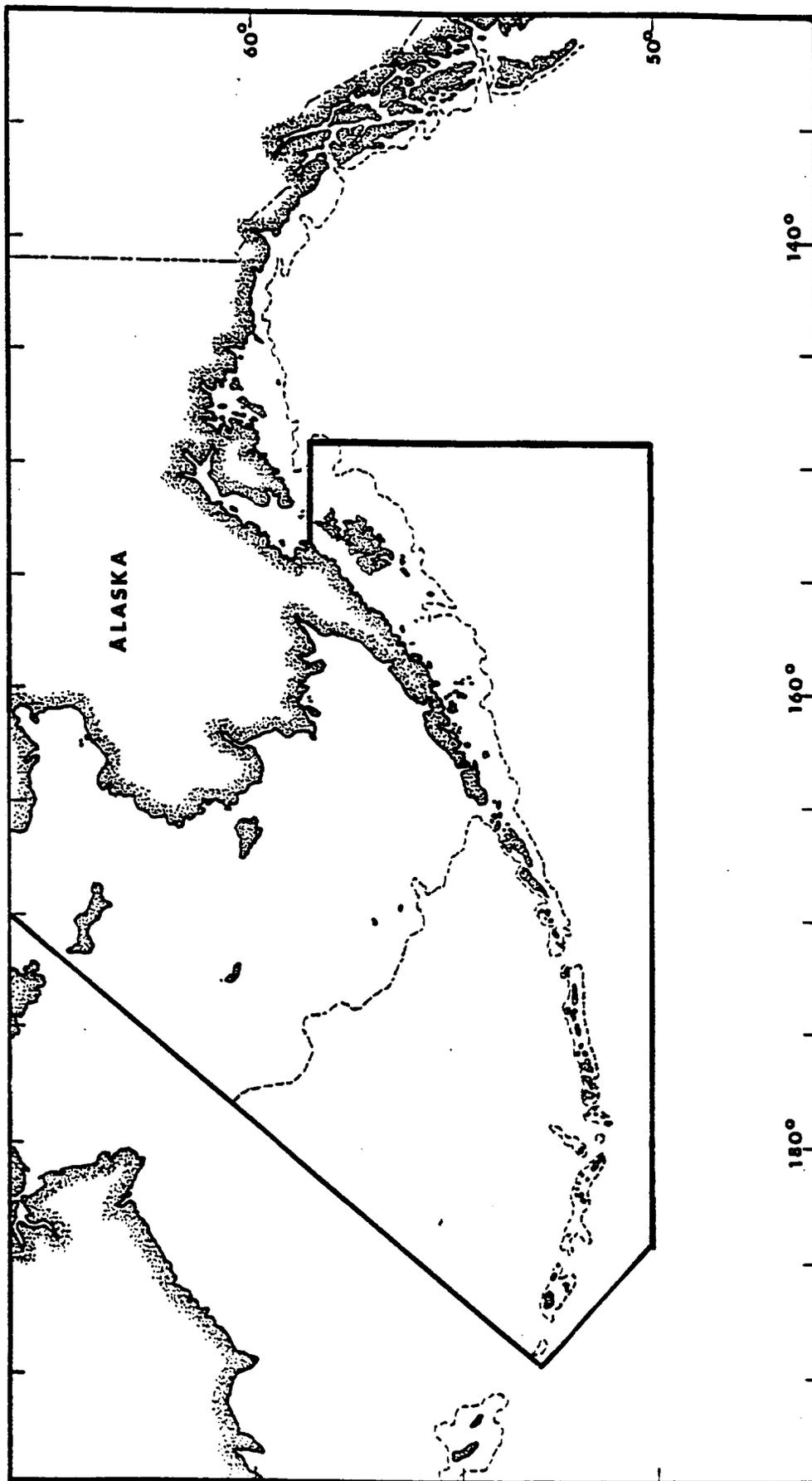


Figure 1. Alaska Department of Fish and Game Westward Region.

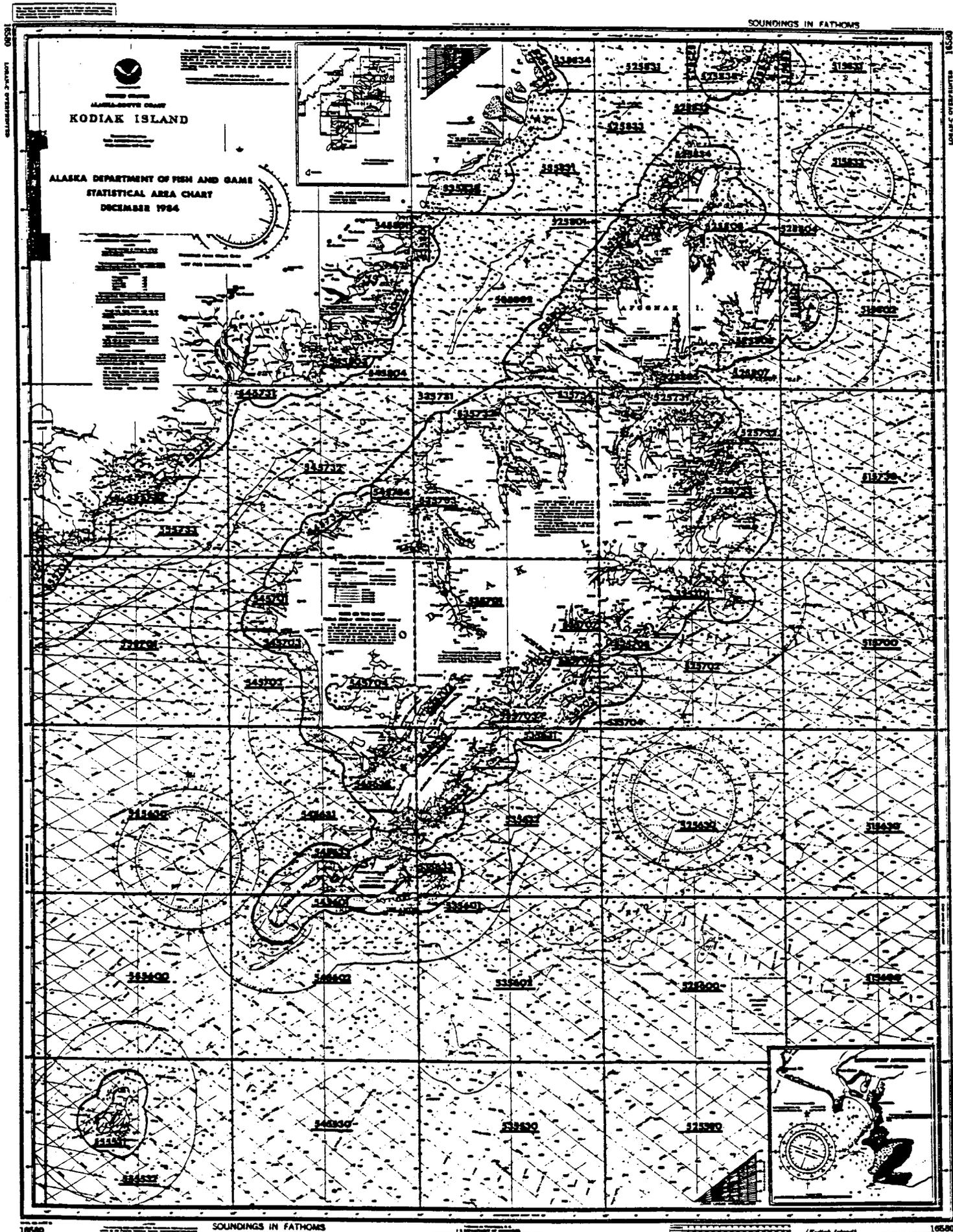


Figure 2. Kodiak Statistical Areas.

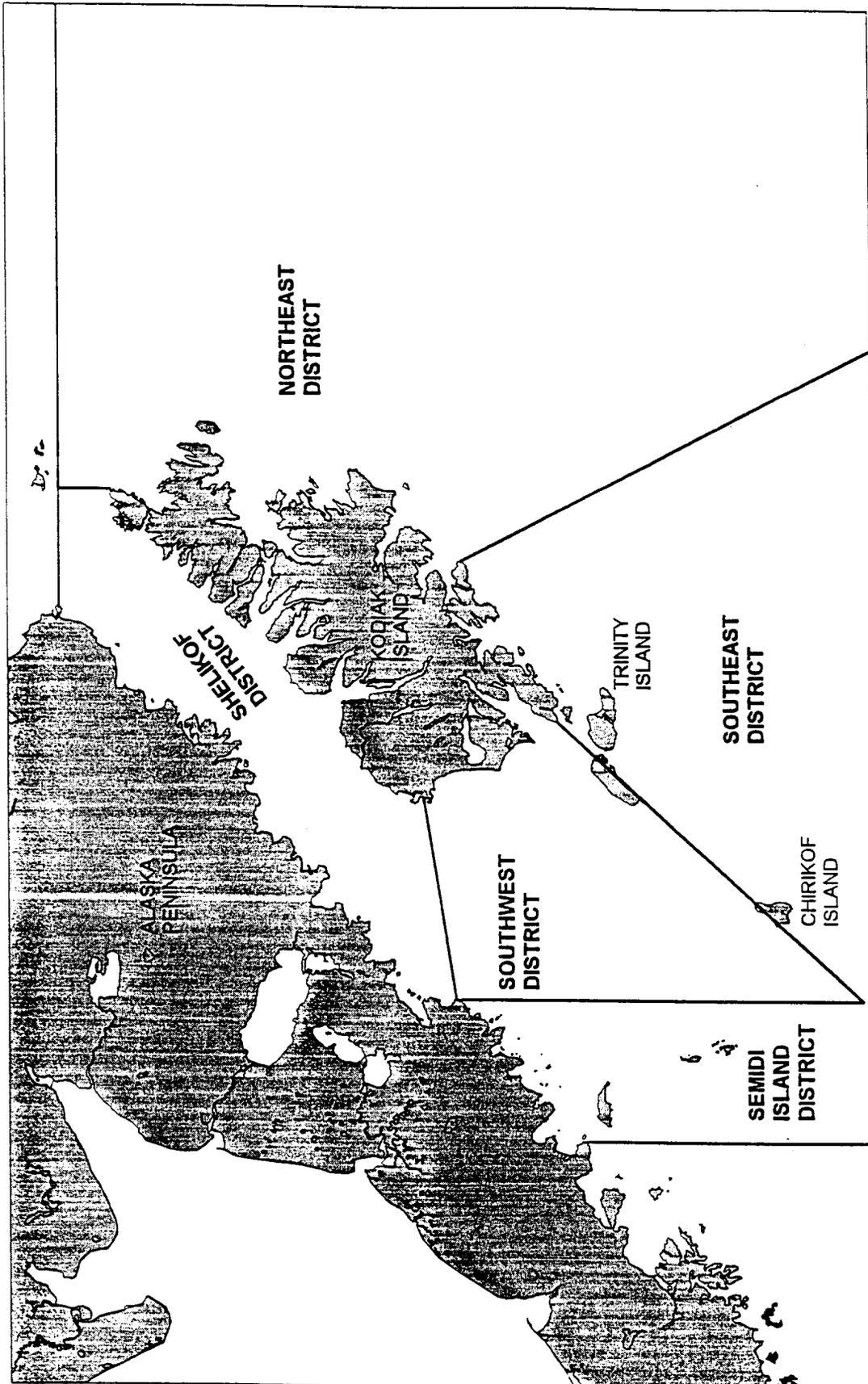


Figure 3. Kodiak (Area K) king crab districts.

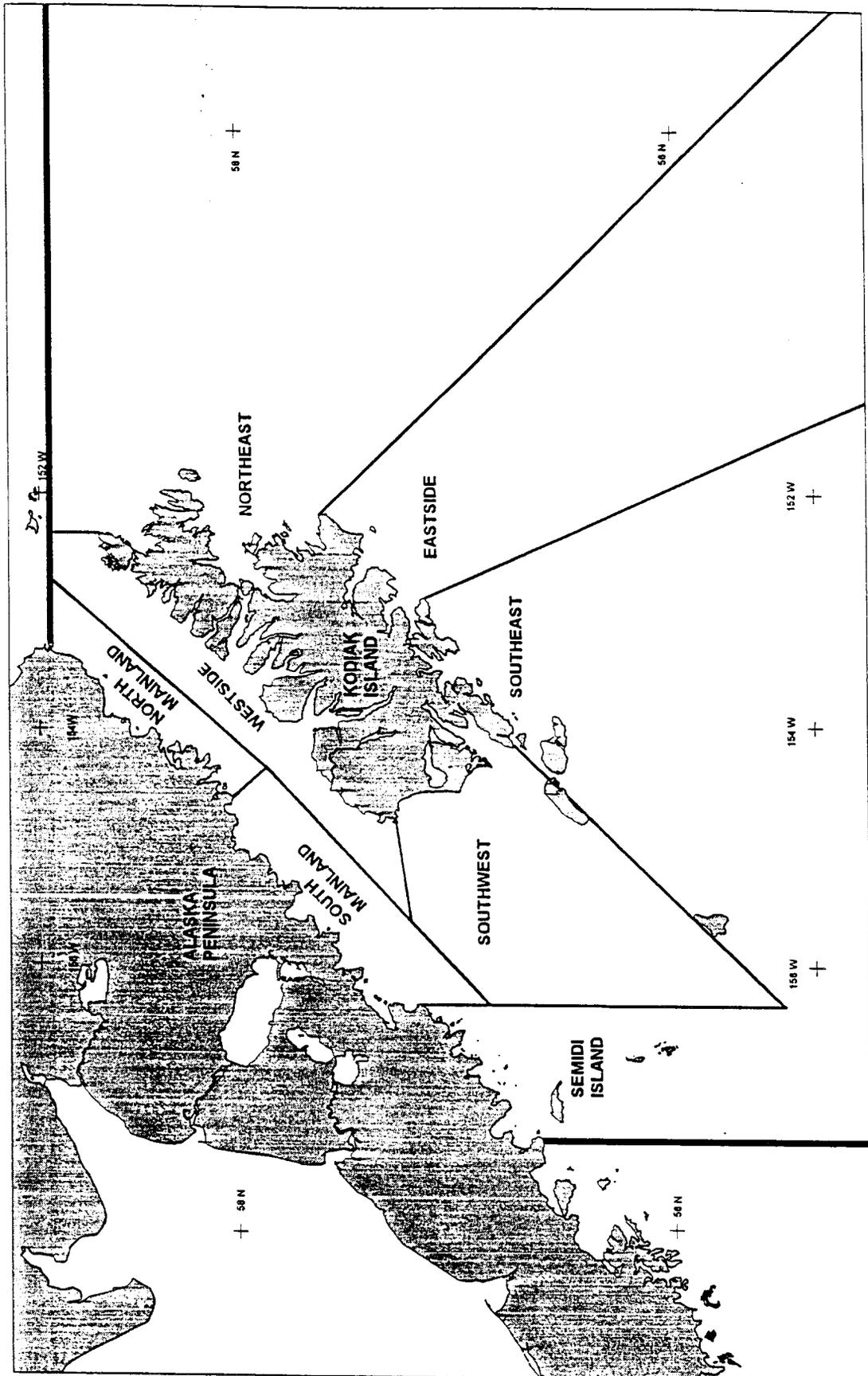


Figure 4. Kodiak District Tanner crab fishing sections.

KODIAK DISTRICT TANNER CRAB

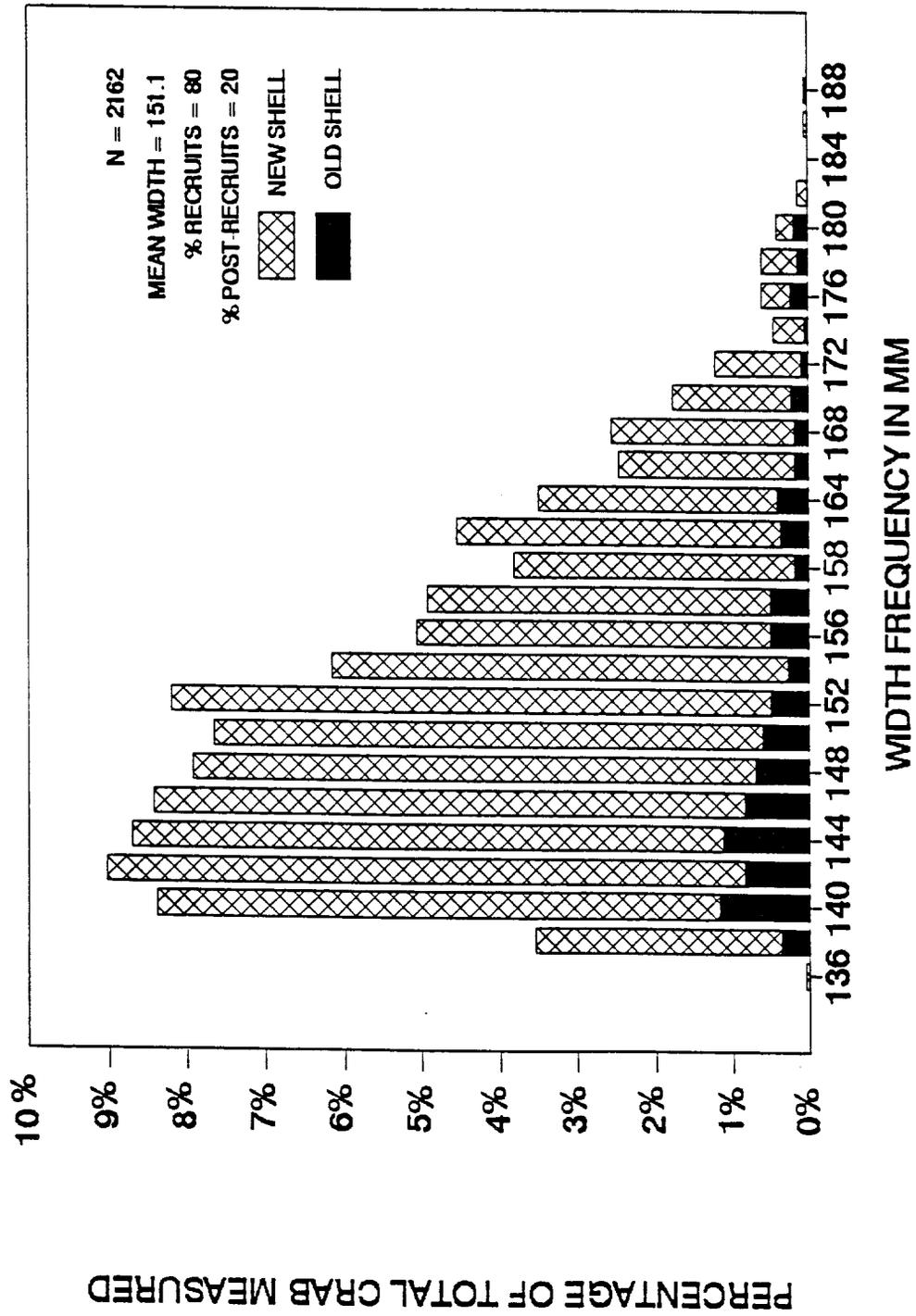


Figure 5. Tanner crab width frequencies from commercial fishery, 1993/94 fishing season.

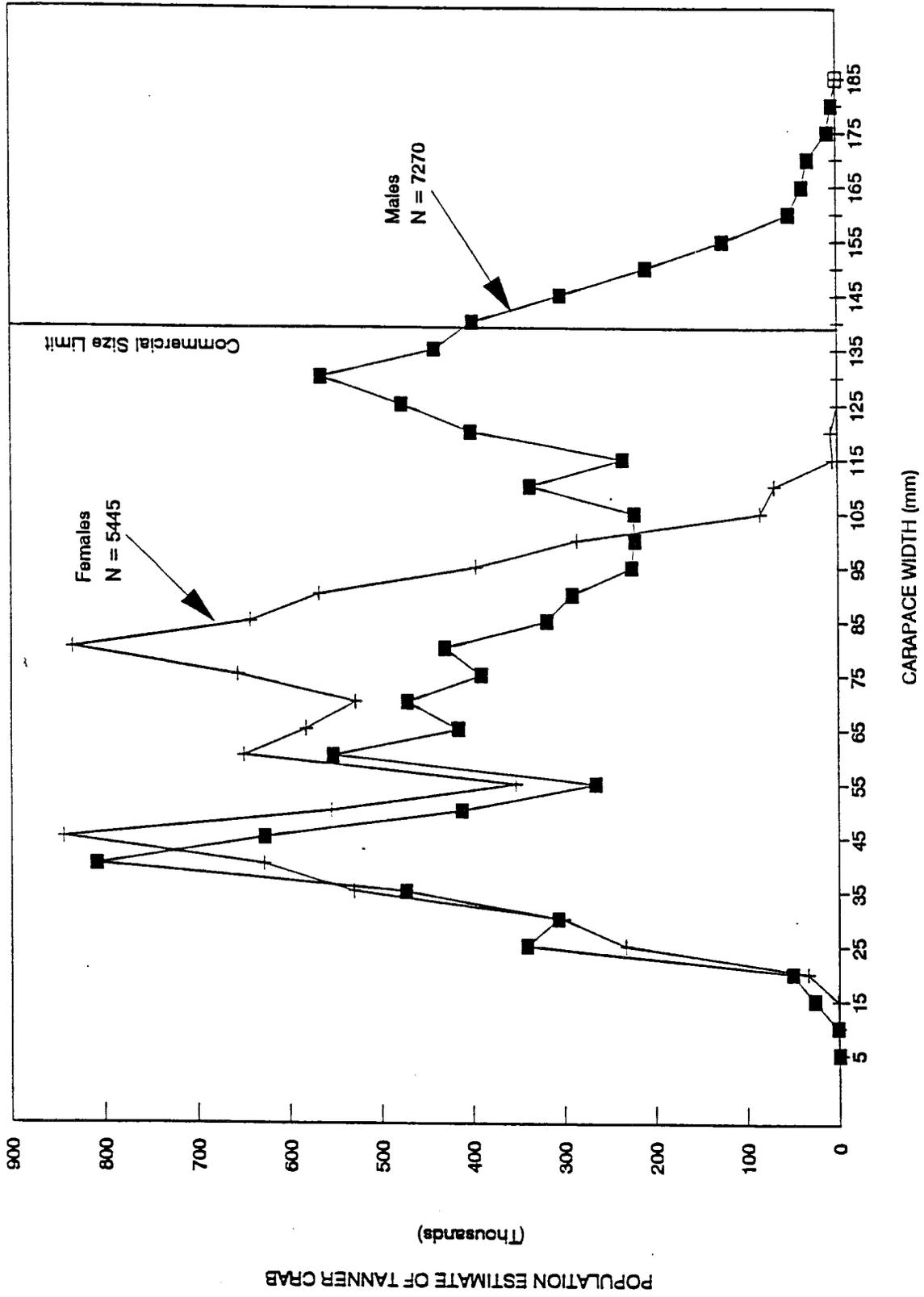


Figure 6: Carapace width frequency of male and female Tanner crab captured the Kodiak trawl survey, 1994.

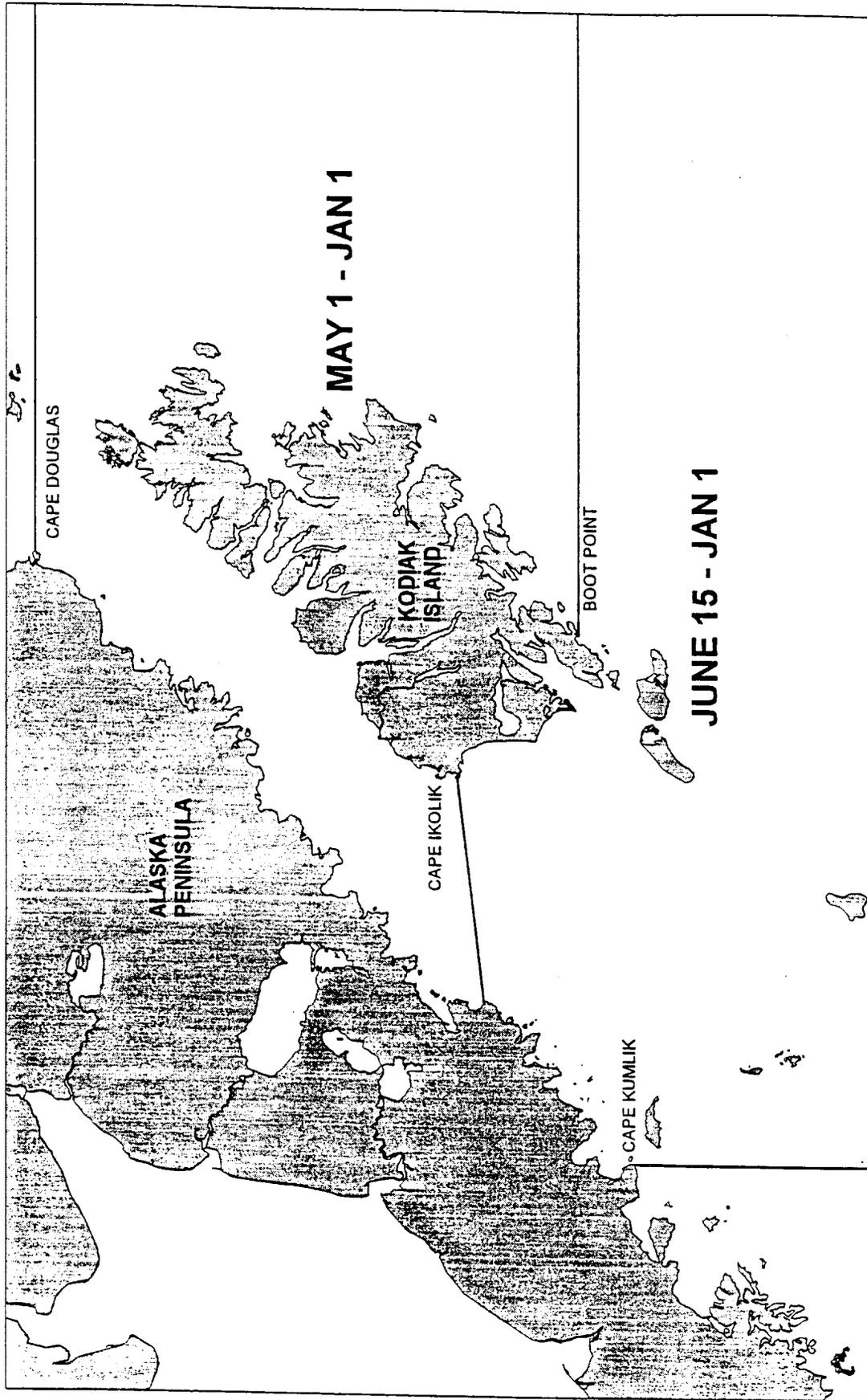


FIGURE 7. KODIAK DISTRICT COMMERCIAL DUNGENESS CRAB FISHING SEASONS.

KODIAK DISTRICT DUNGGENESS CRAB

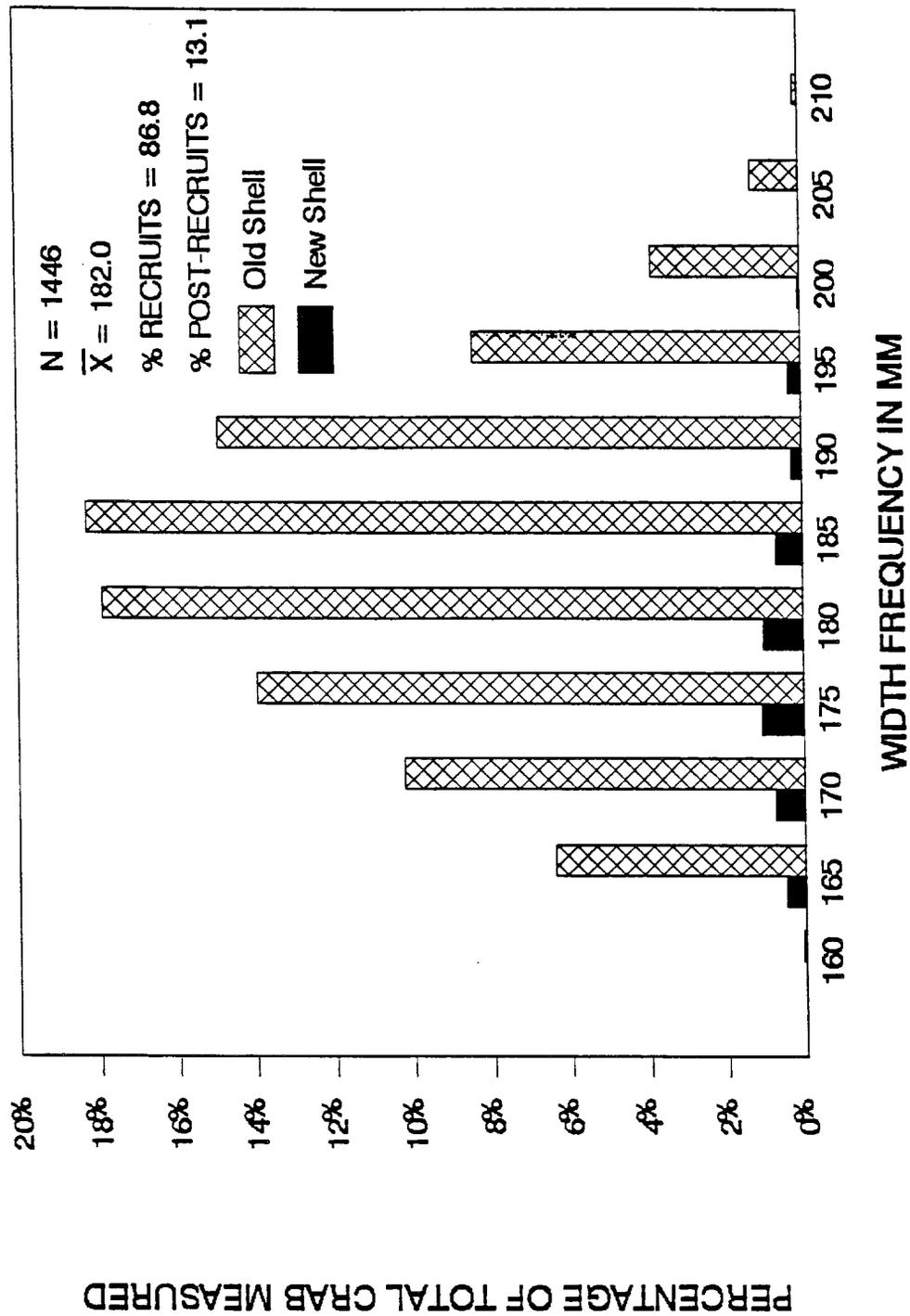


Figure 8. Kodiak District commercial Dungeness crab width frequencies, 1994.

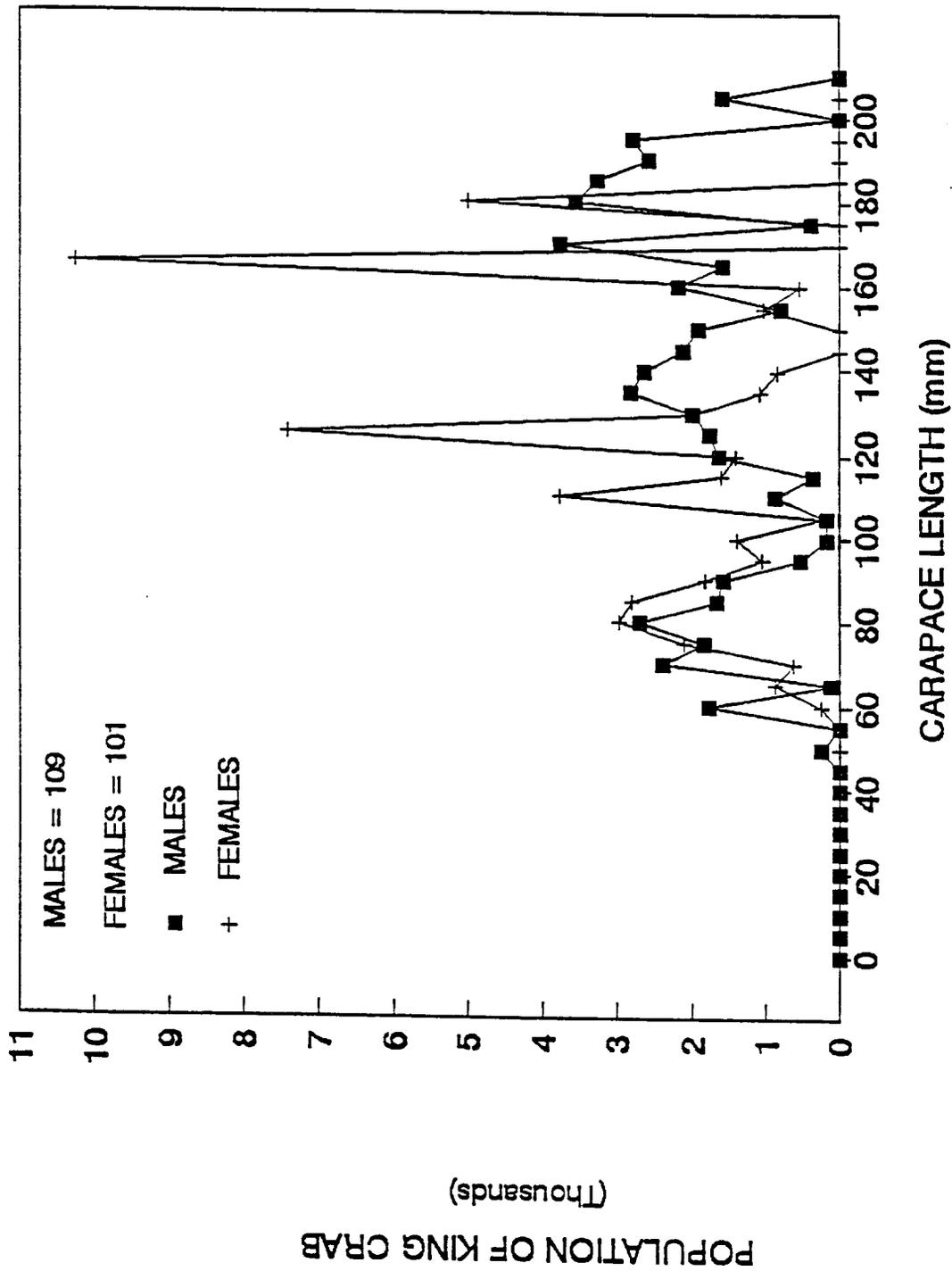


Figure 9. Carapace length frequency of male and female king crab *Paralithodes camtschaticus*, captured during the Kodiak trawl survey, 1994.

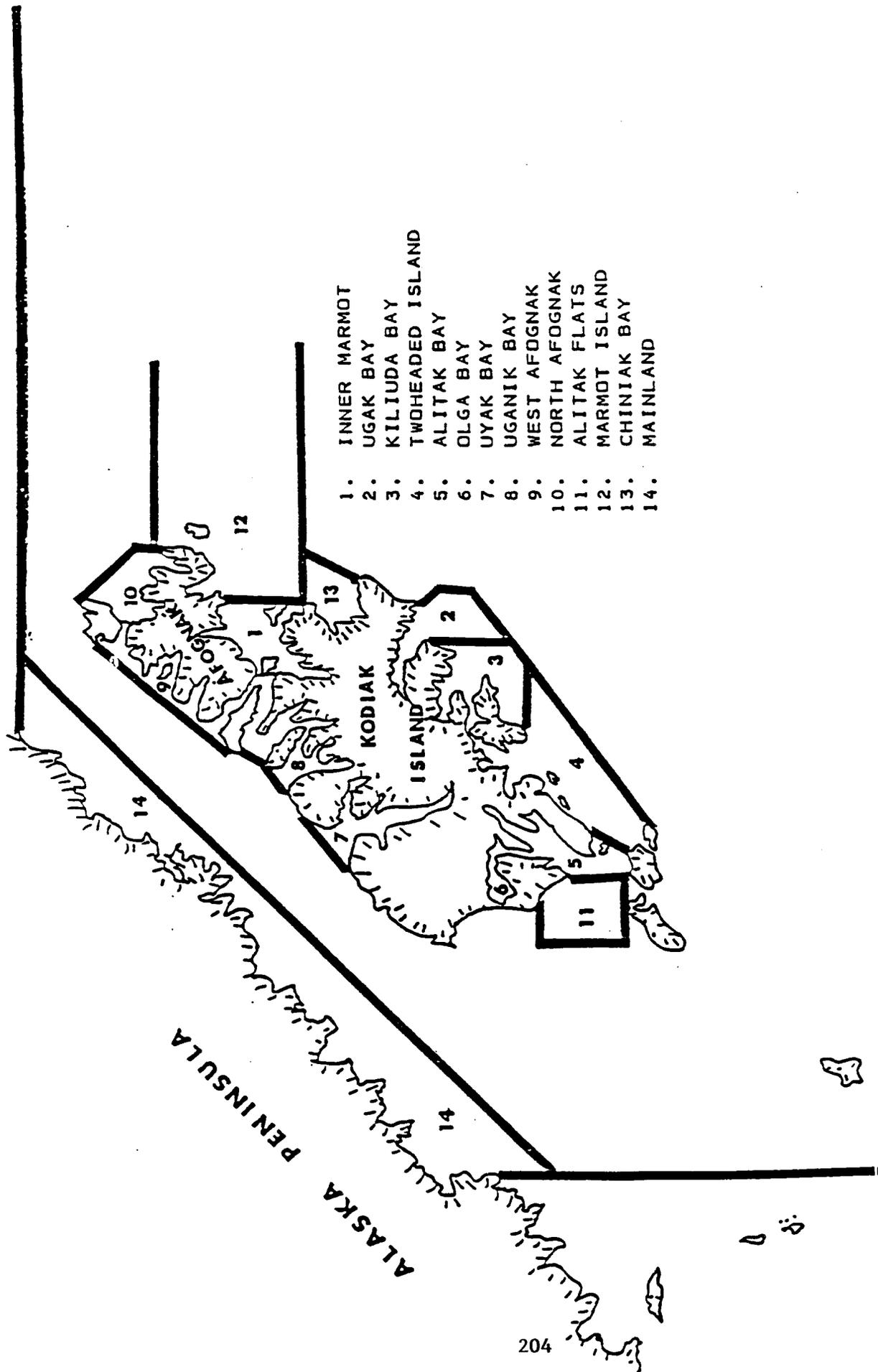


Figure 10. Kodiak District trawl shrimp fishing sections.

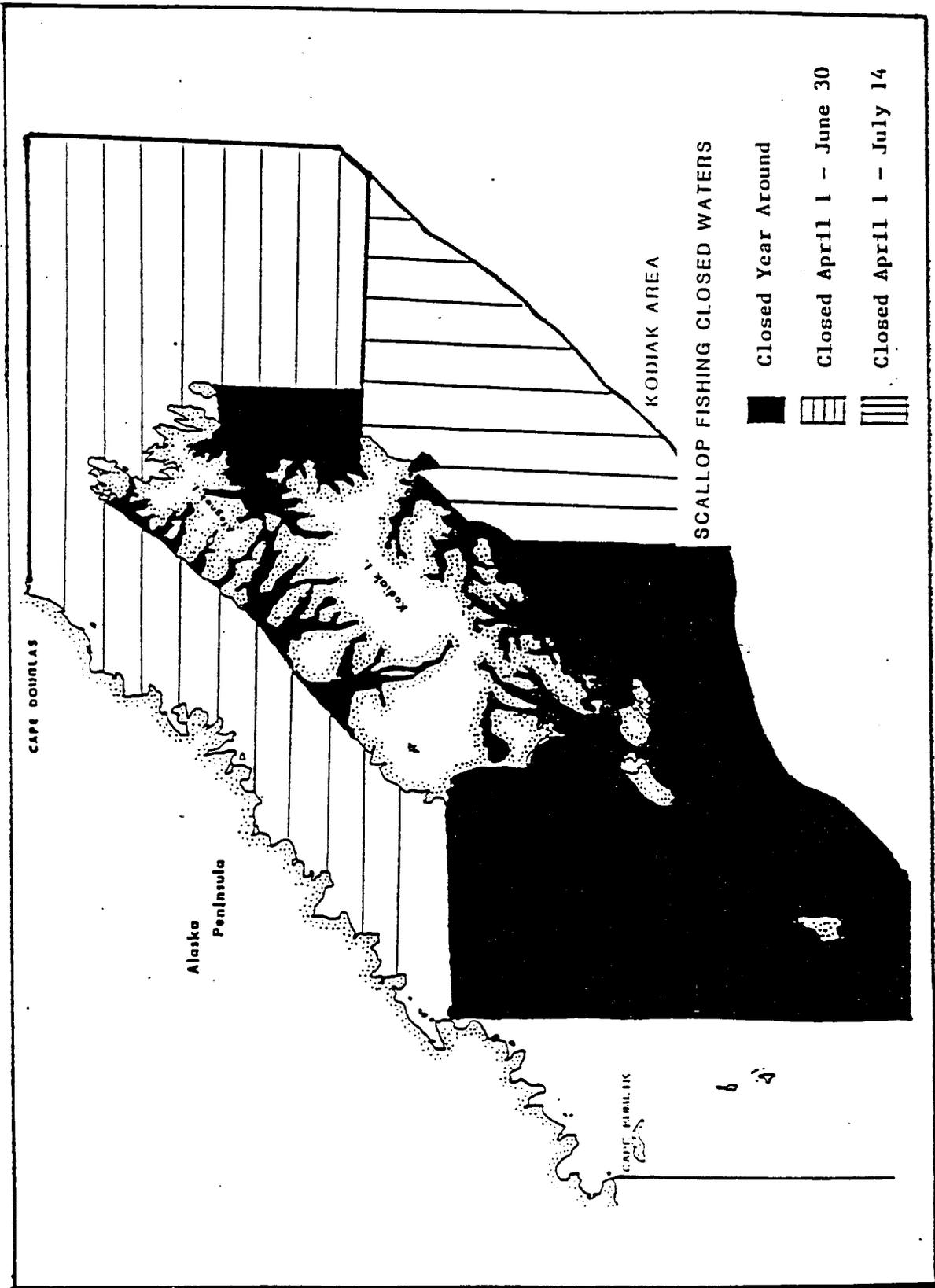


Figure 11. Kodiak Registration Area and closed waters for scallops.

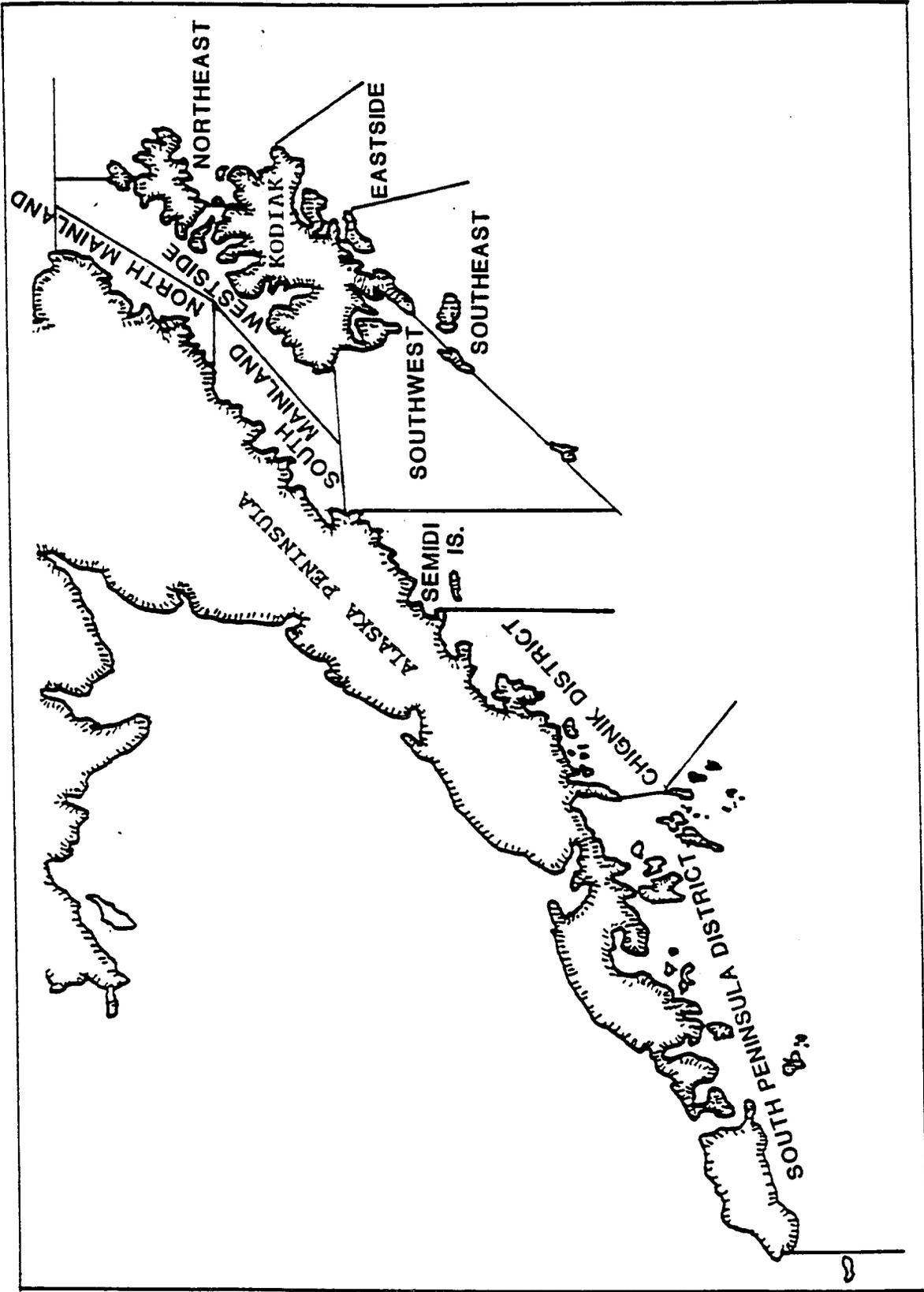


Figure 12 Commercial sea cucumber management areas,

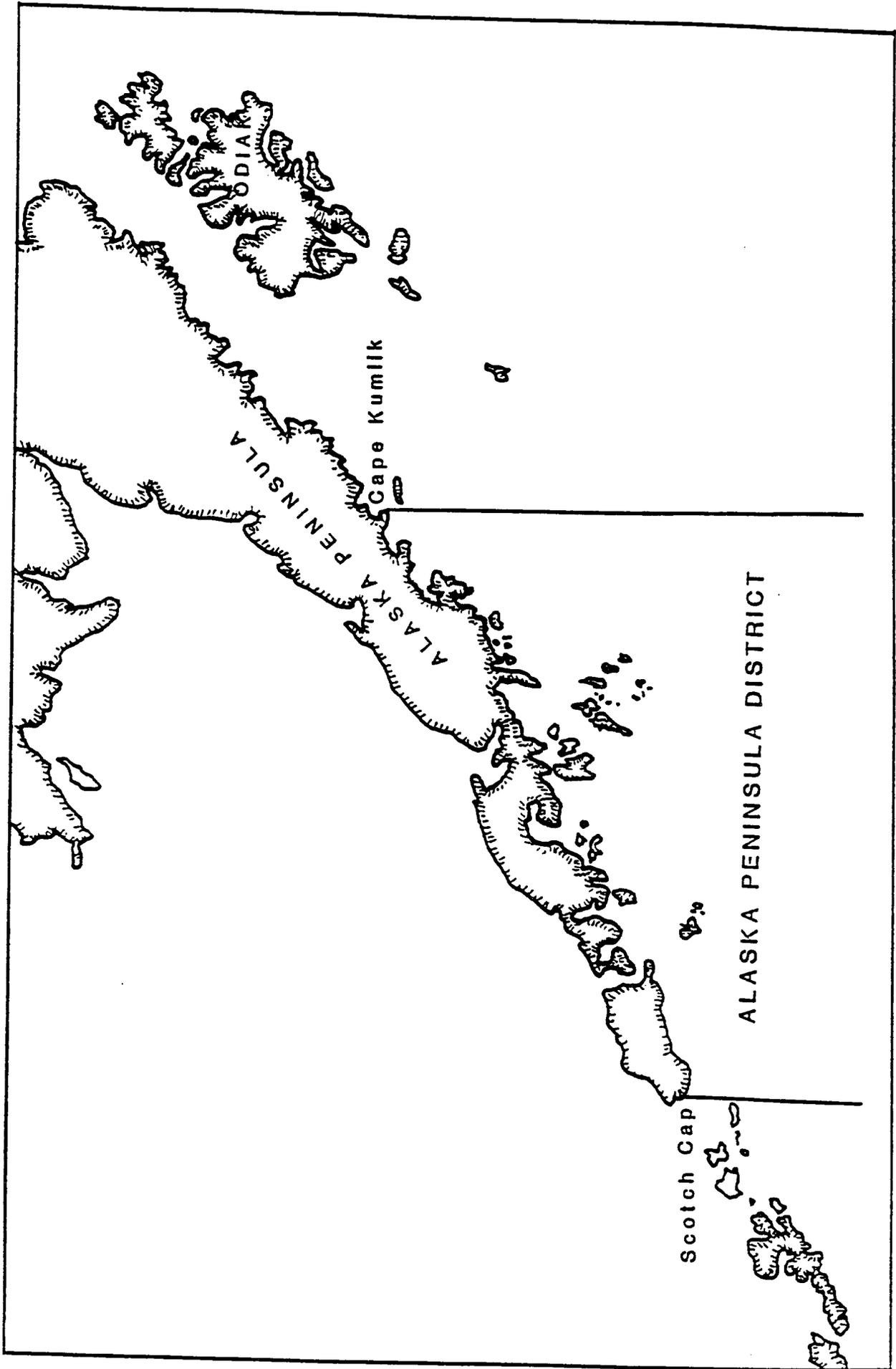


Figure 13. Alaska Peninsula shellfish management area.

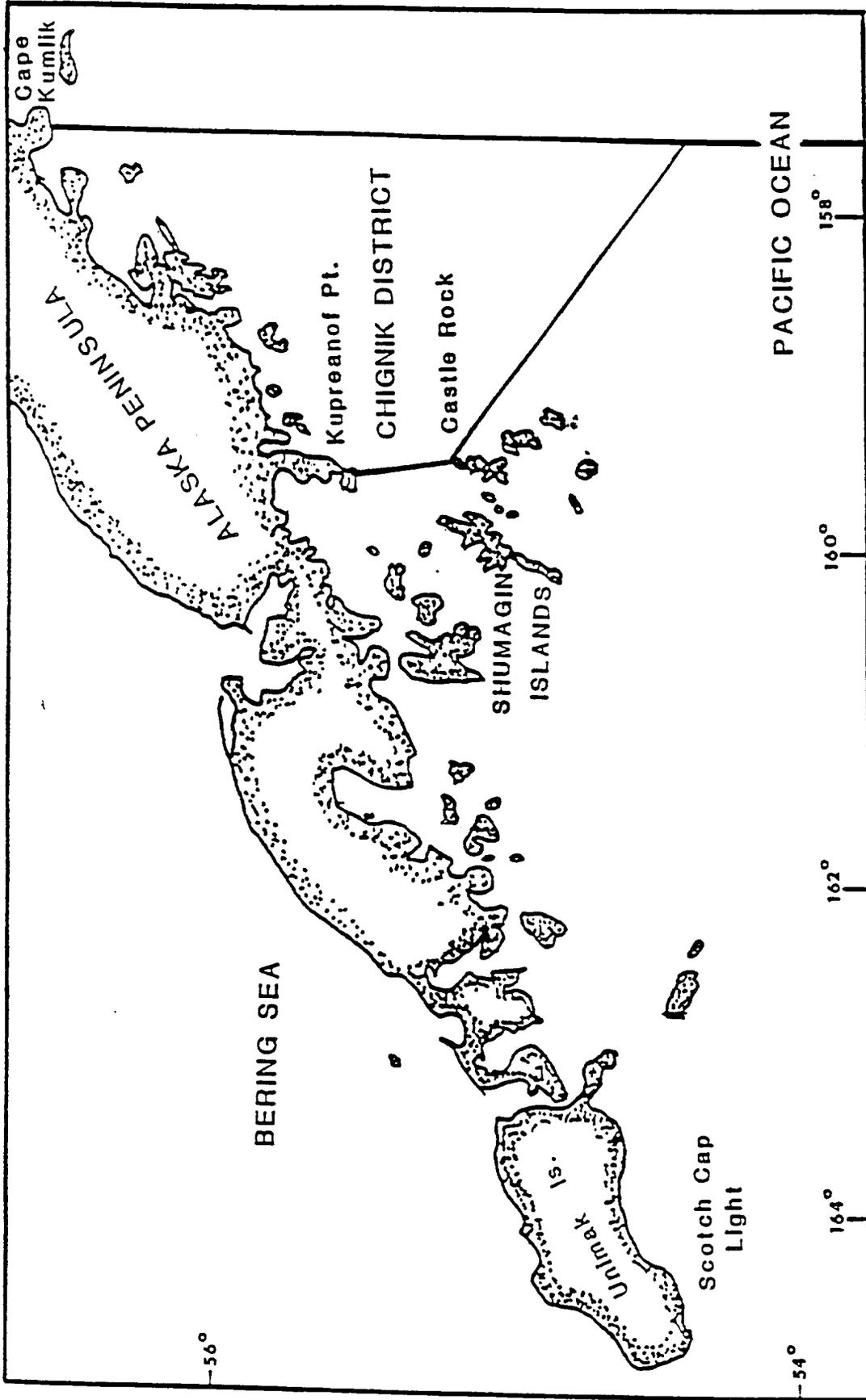


Figure 14. Chignik Tanner crab district.

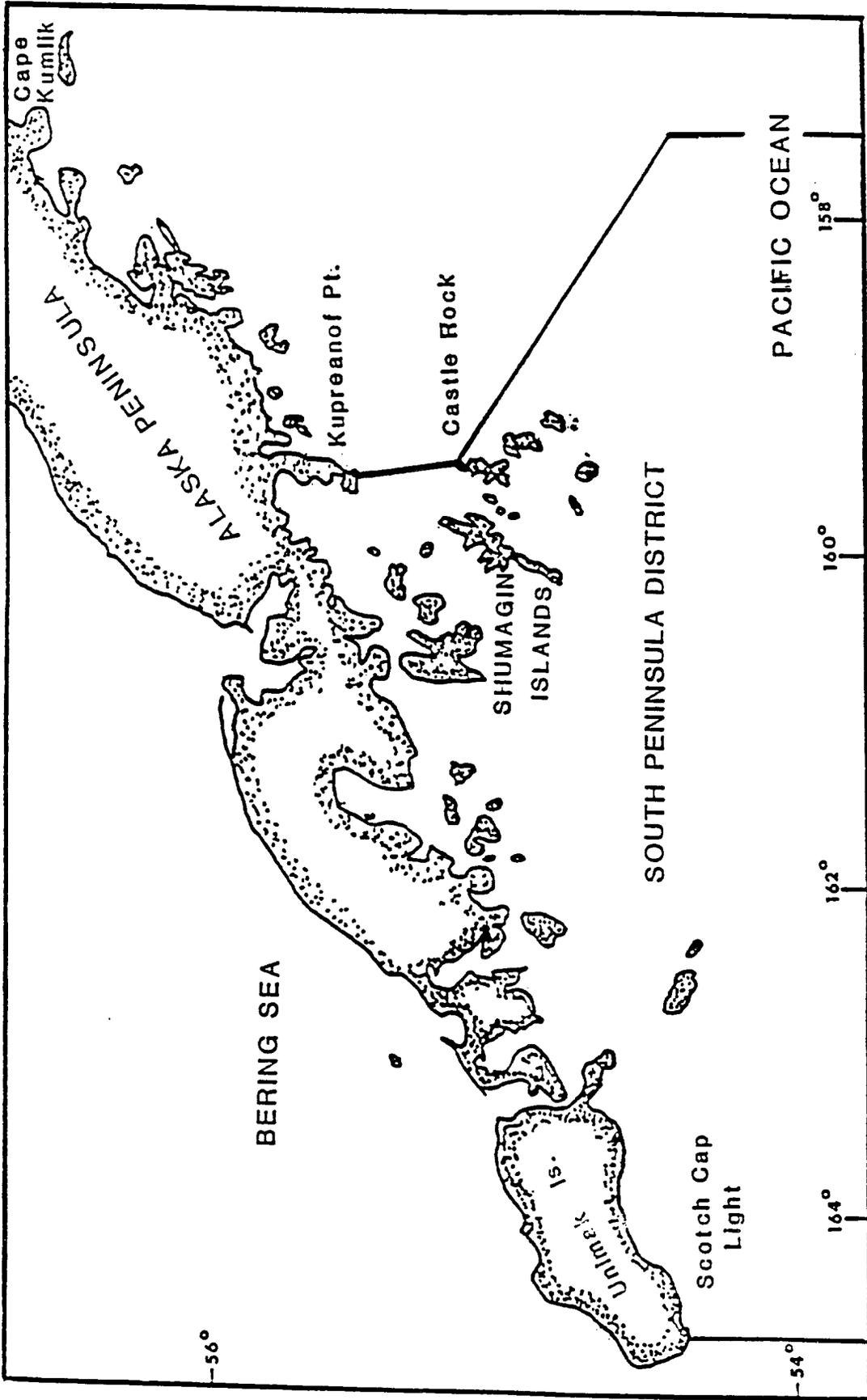


Figure 15. South Peninsula Tanner crab district.

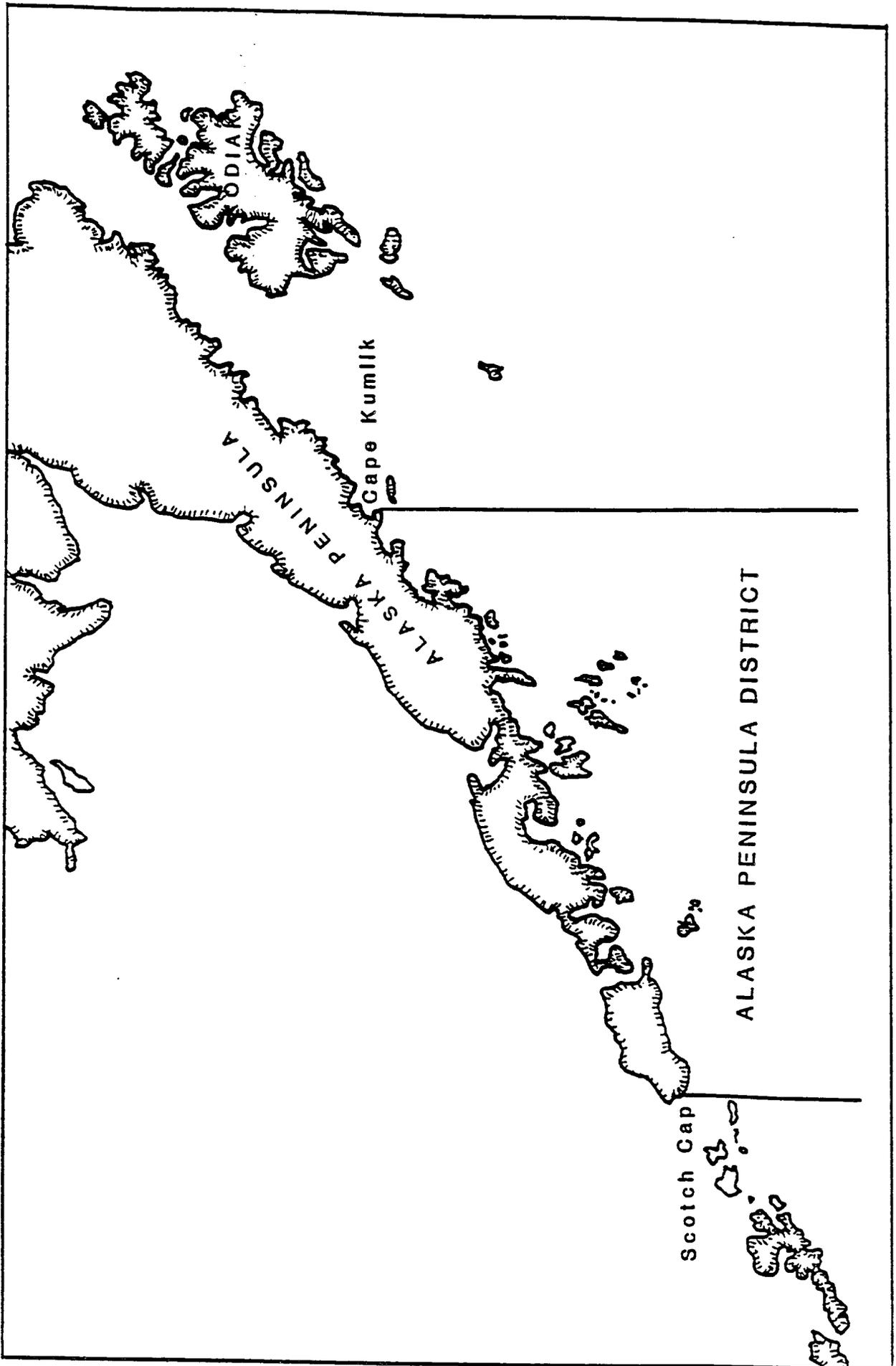


Figure 16. Alaska Peninsula Dungeness crab fishing district.

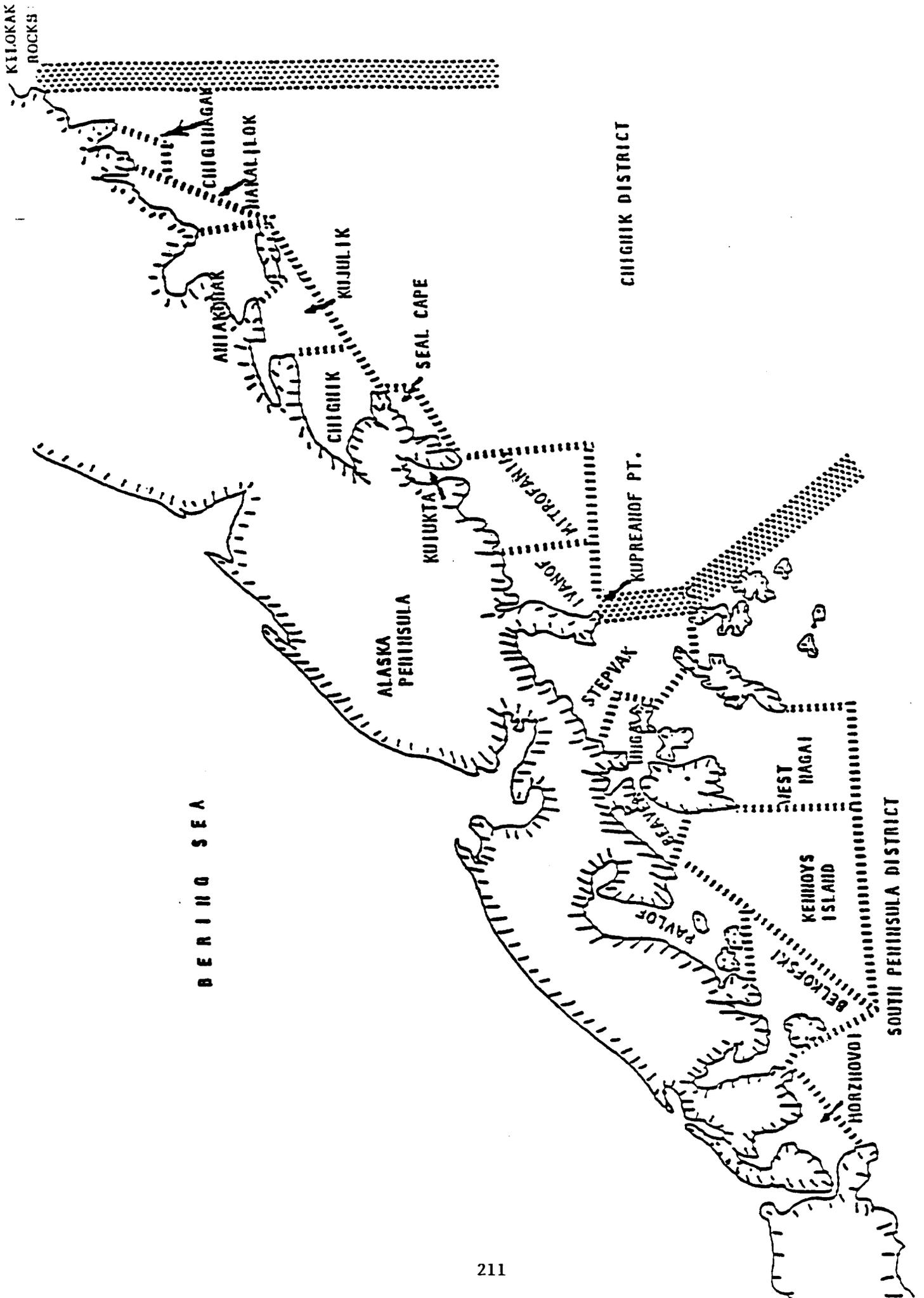


Figure 17. South Peninsula and Chignik shrimp fishing districts.

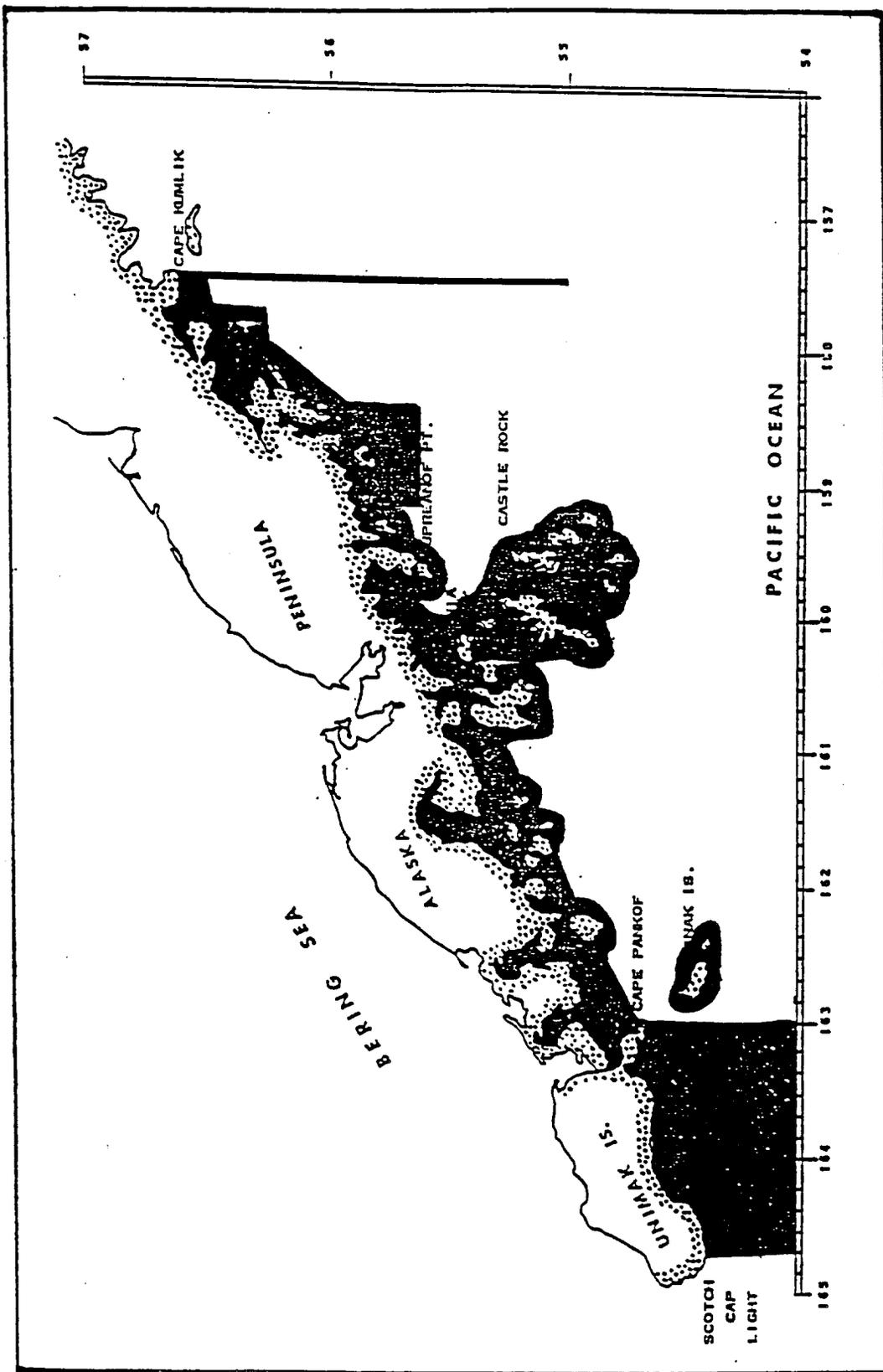


Figure 18. Alaska Peninsula Registration Area and closed waters (shaded).

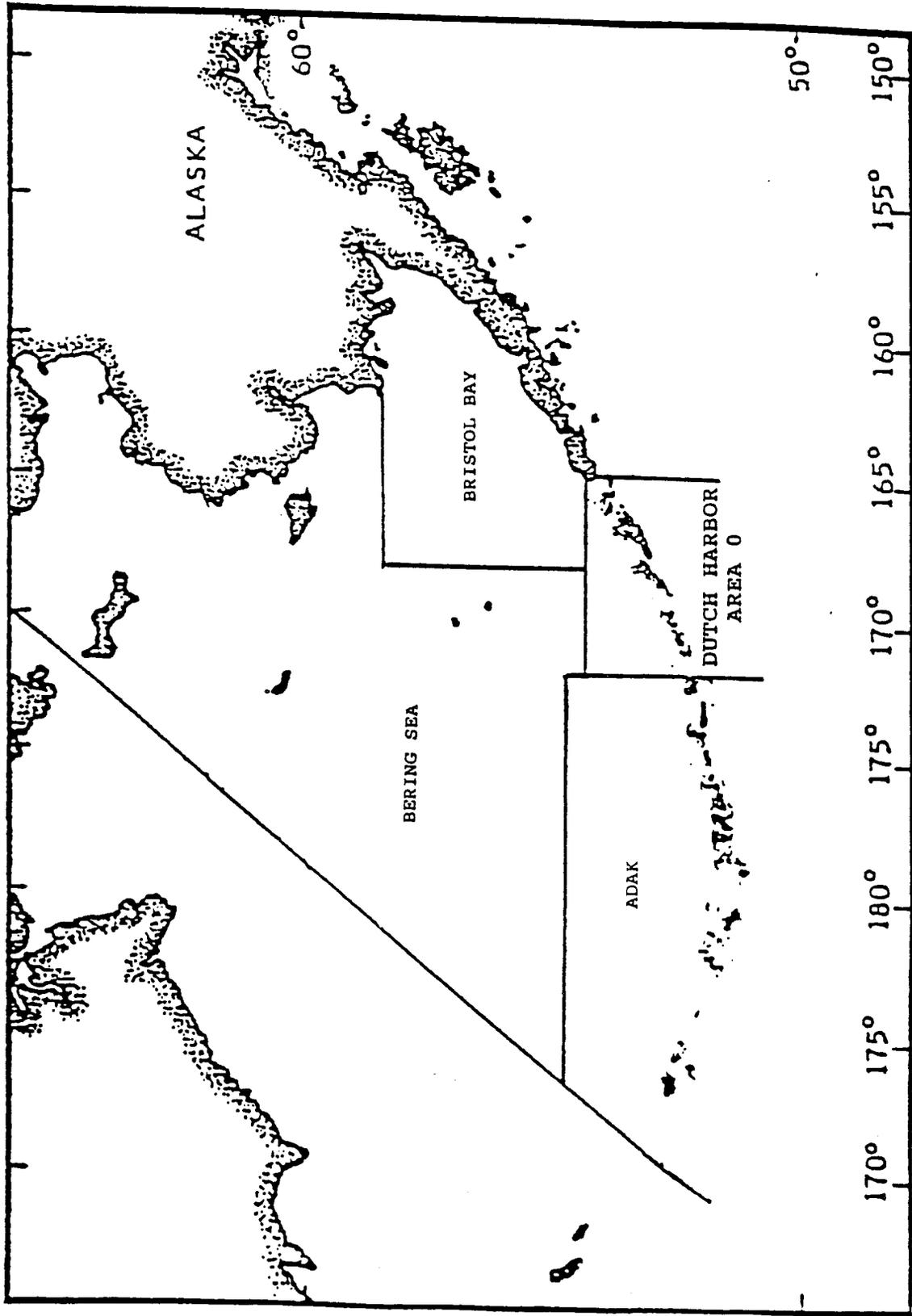


Figure 19. Dutch Harbor, Area 0, king crab area.

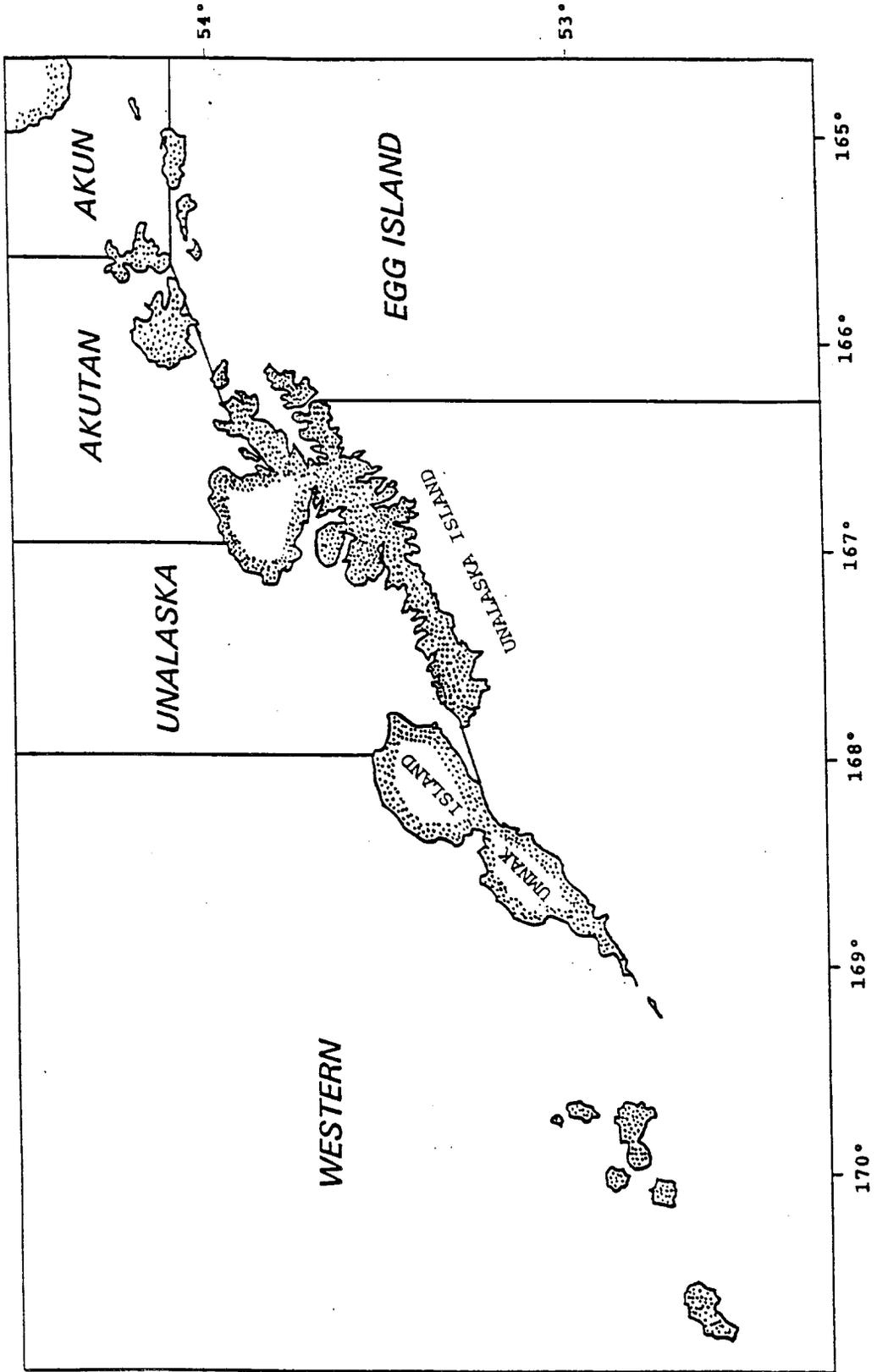


Figure 20. Dutch Harbor, Area O, king crab districts.

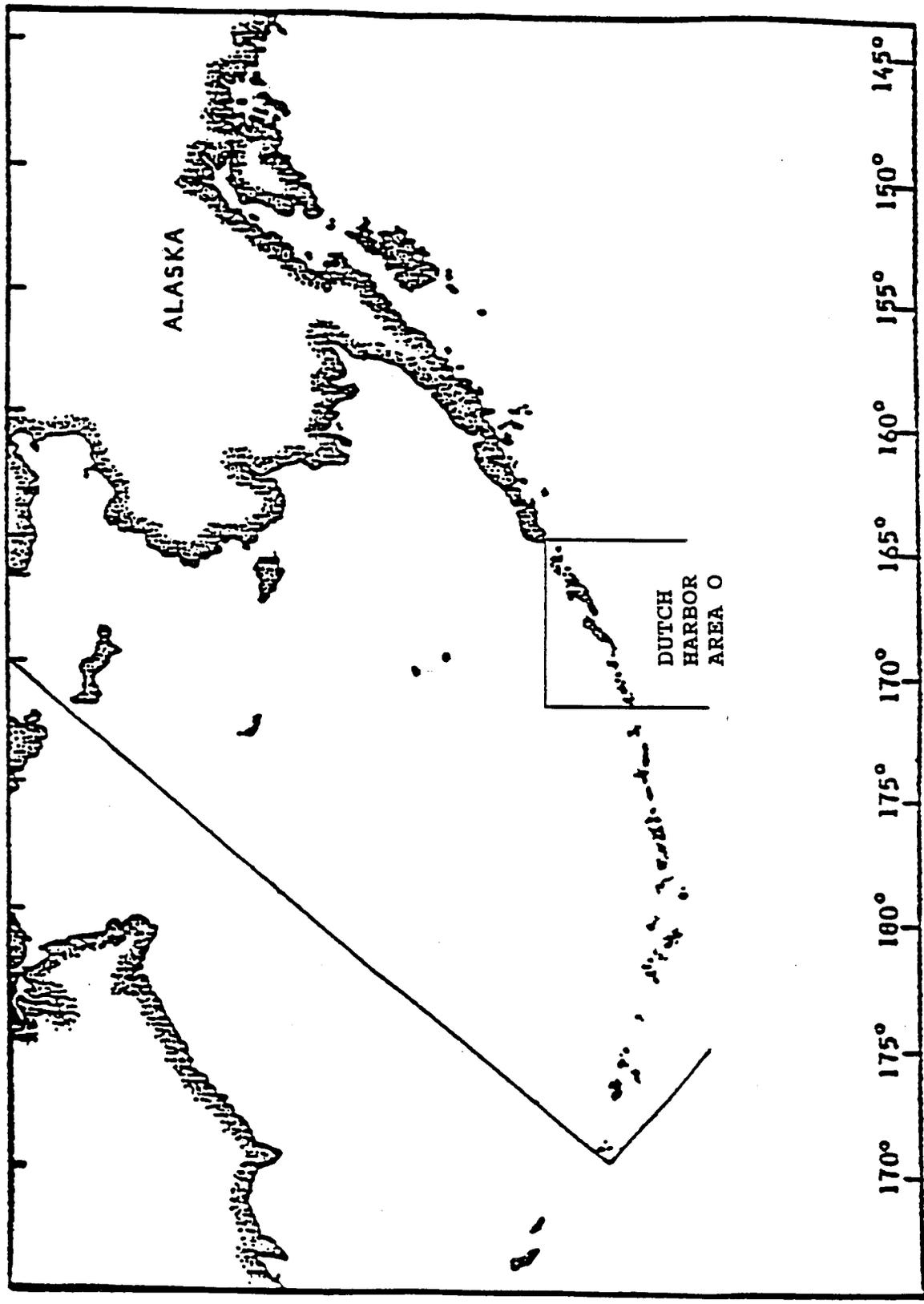


Figure 21. Dutch Harbor, Area O, scallop registration area.

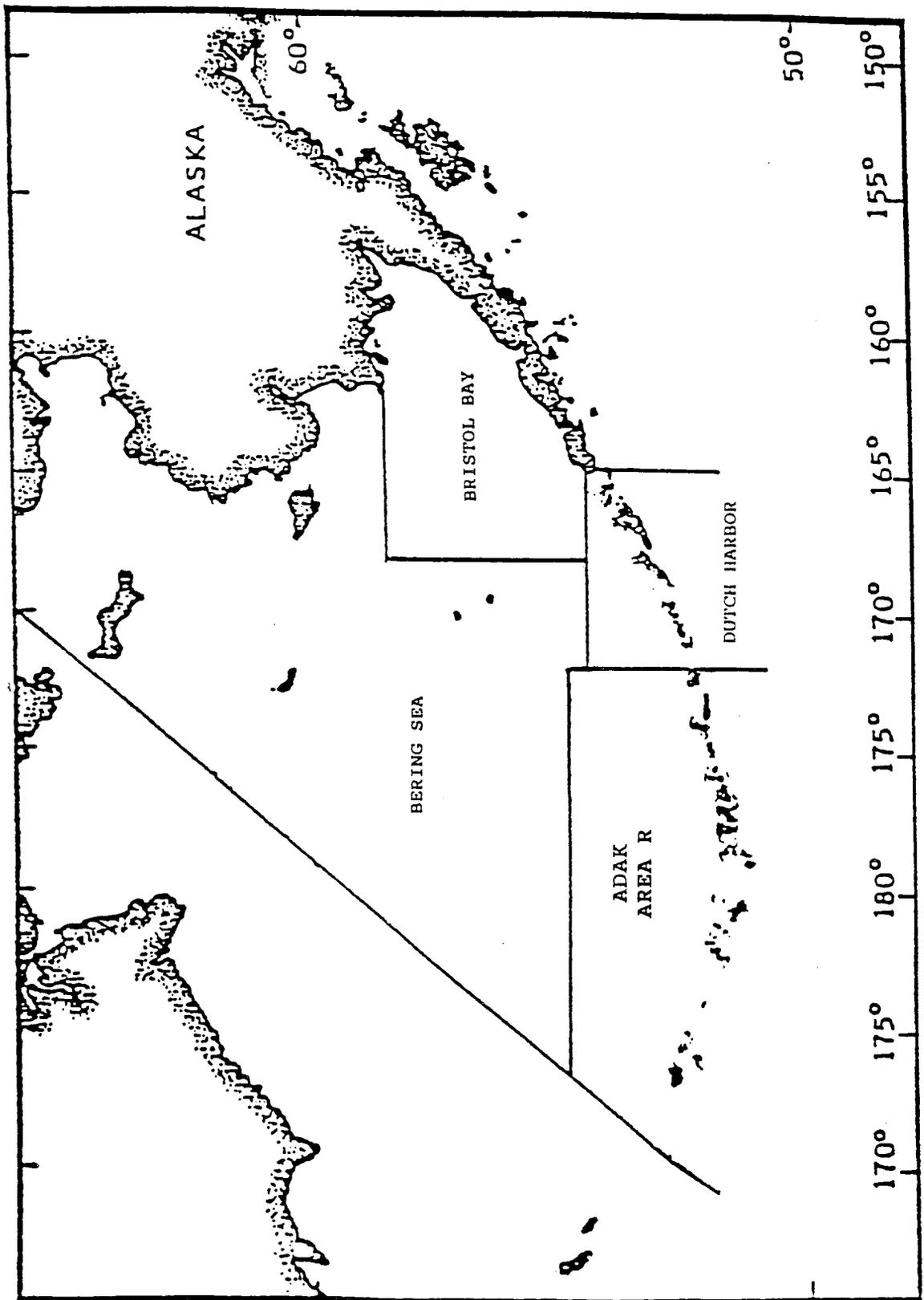


Figure 22. Adak, Area R, king crab area.

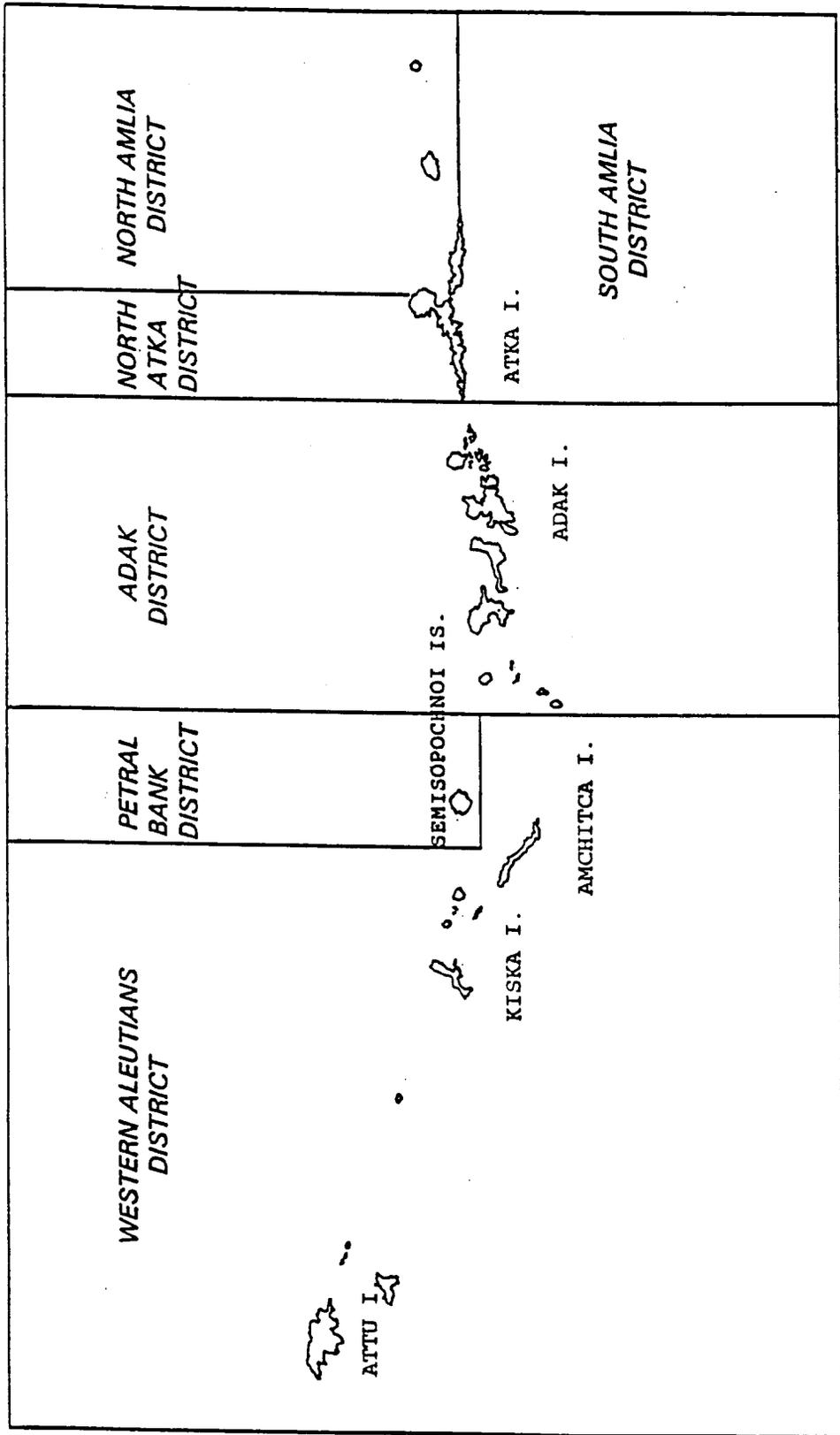


Figure 23. Adak, Area R, king crab districts.

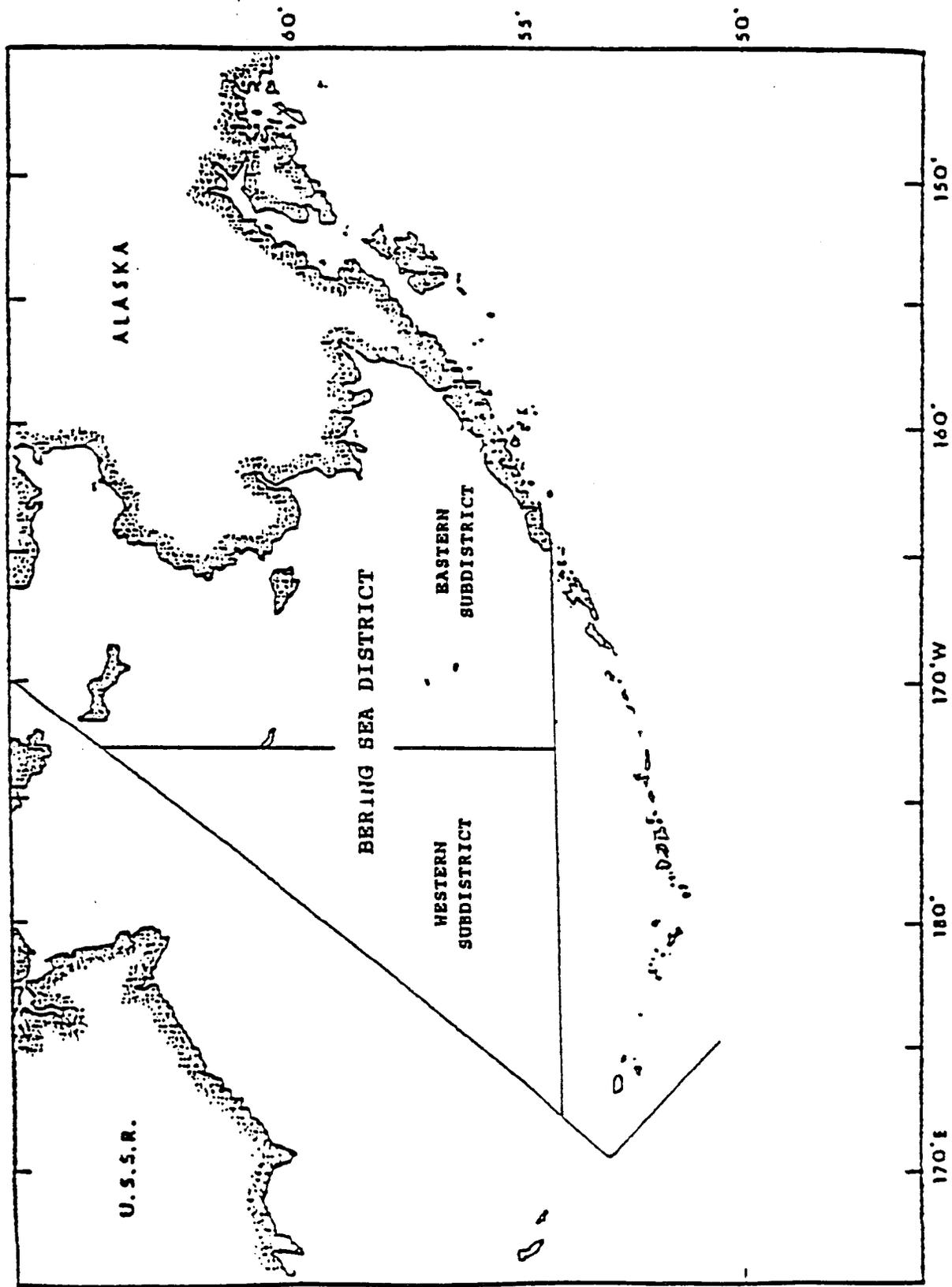


Figure 24. Bering Sea Tanner crab district and subdistricts.

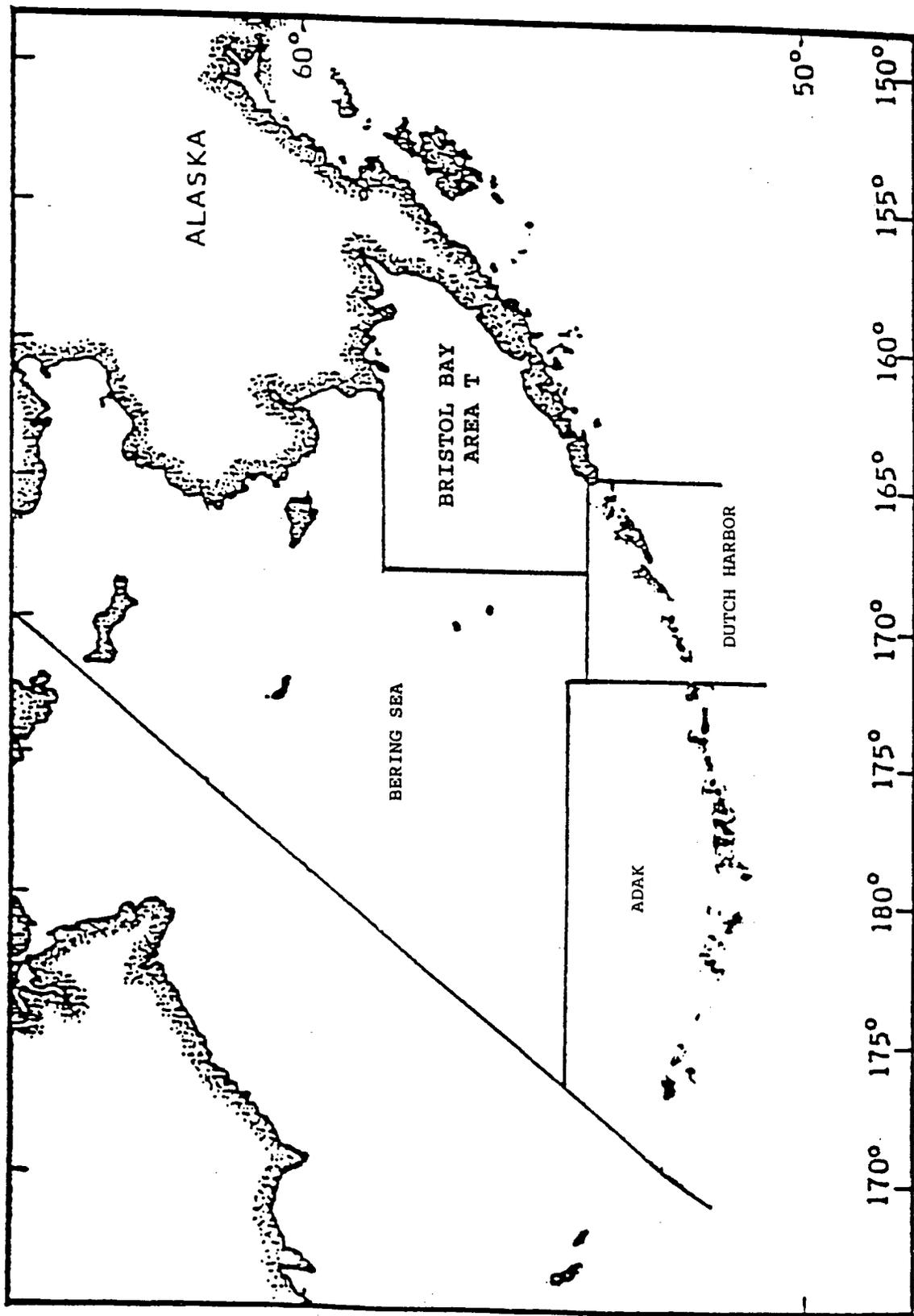


Figure 25. Bristol Bay, Area T, king crab area.

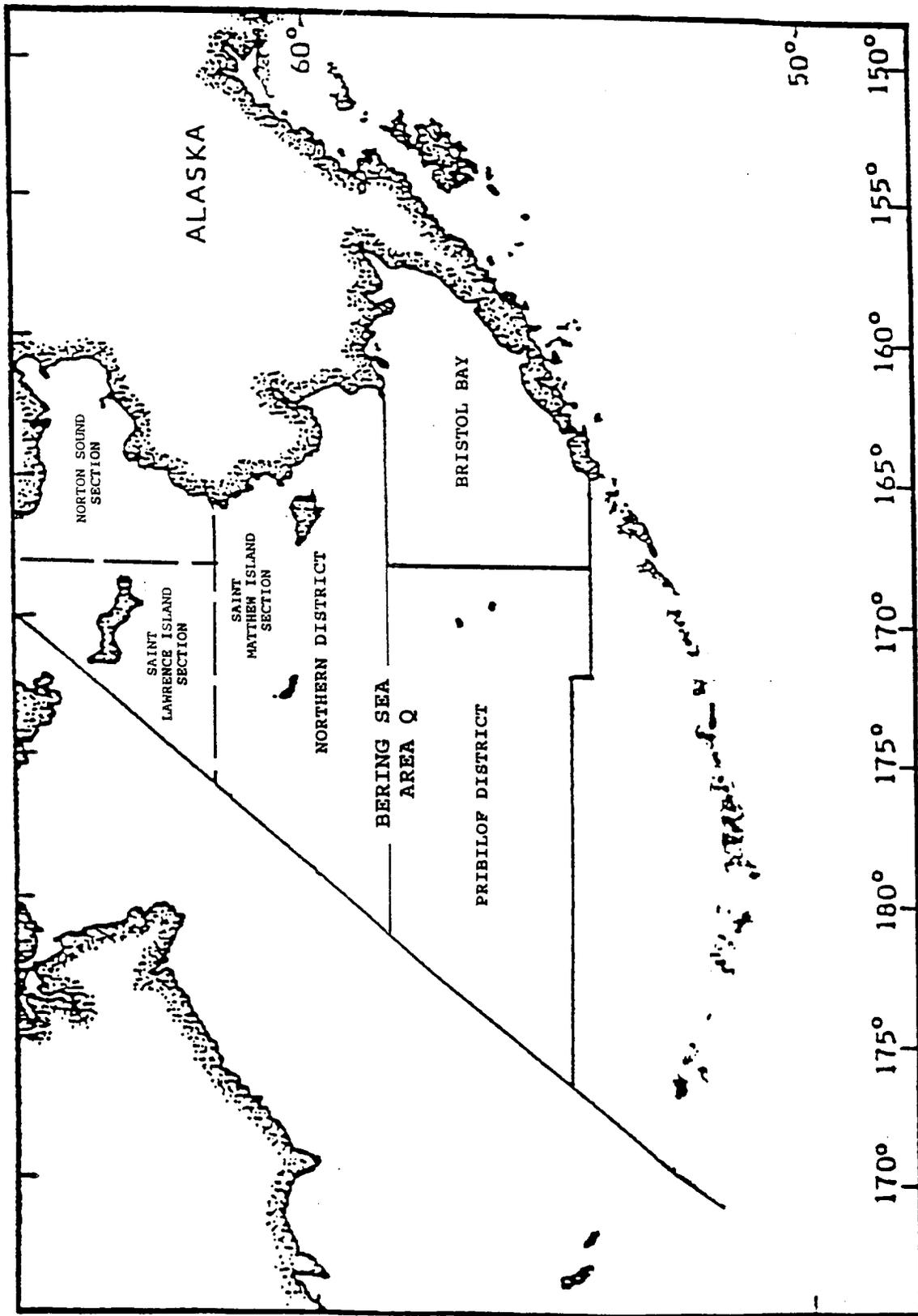


Figure 26. Bering Sea, Area Q, king crab registration area, with districts and sections.

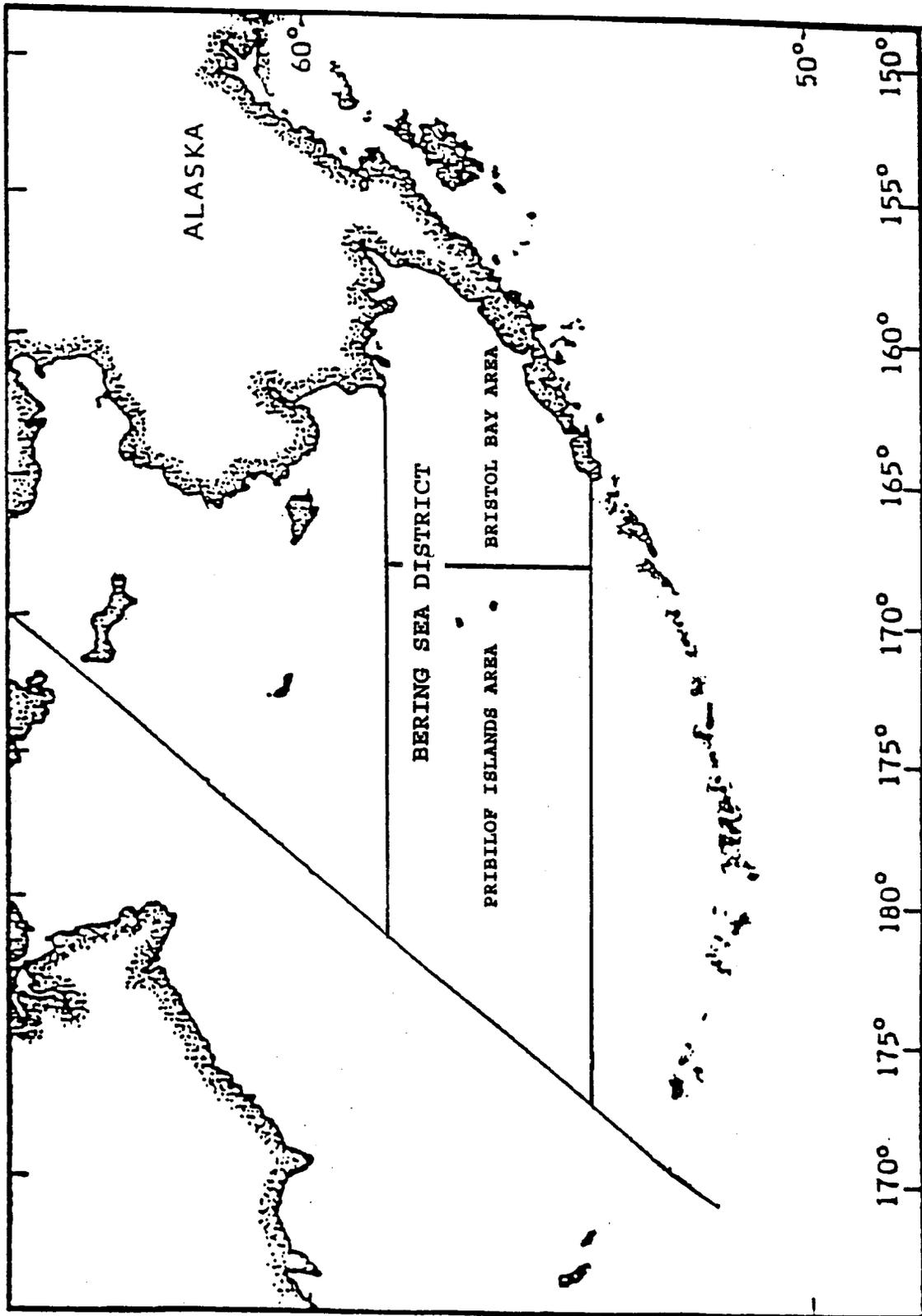


Figure 27. Bering Sea Korean hair crab district and areas.

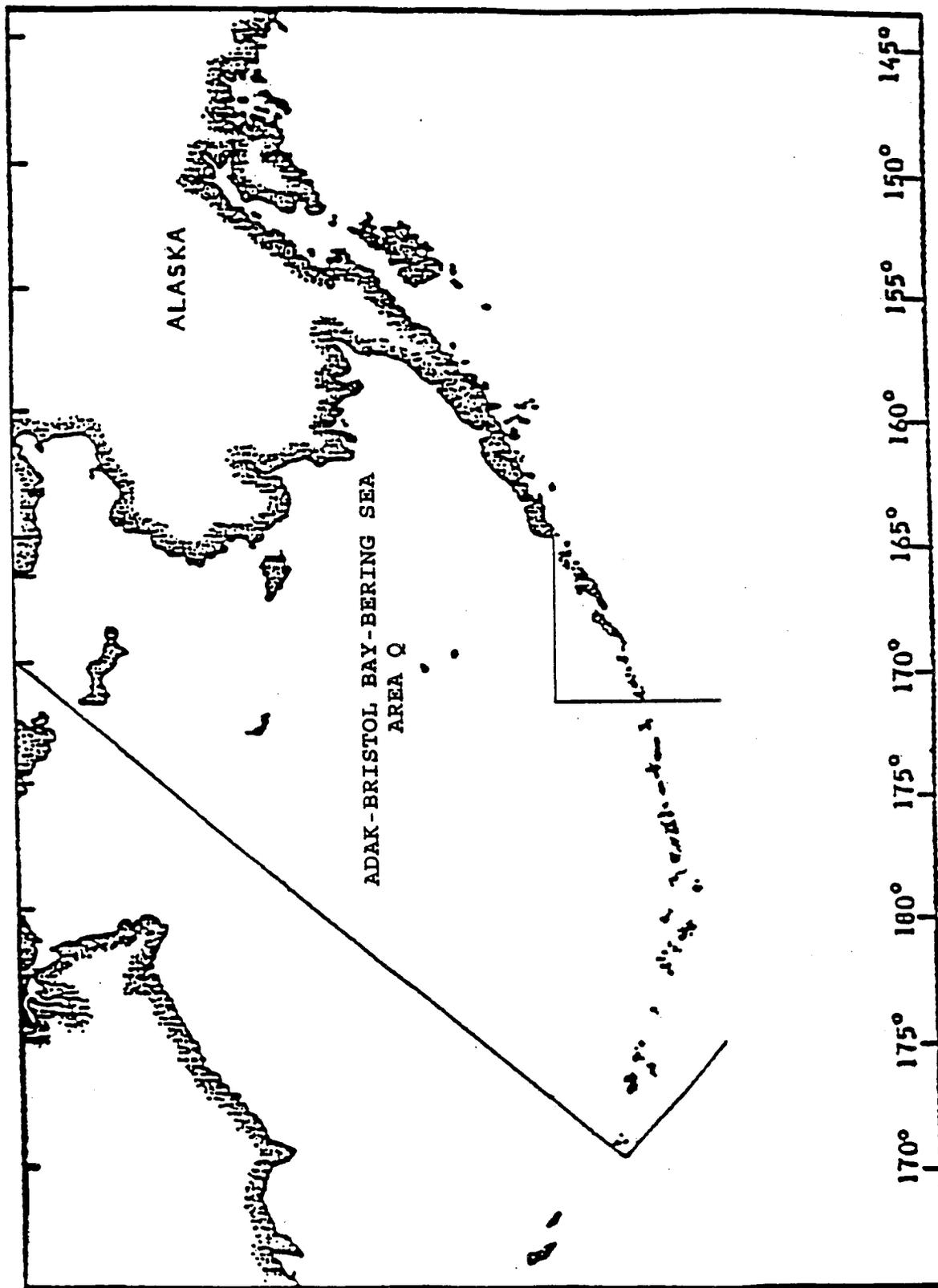


Figure 28. Adak-Bristol Bay-Bering Sea, Area Q, scallop registration area.

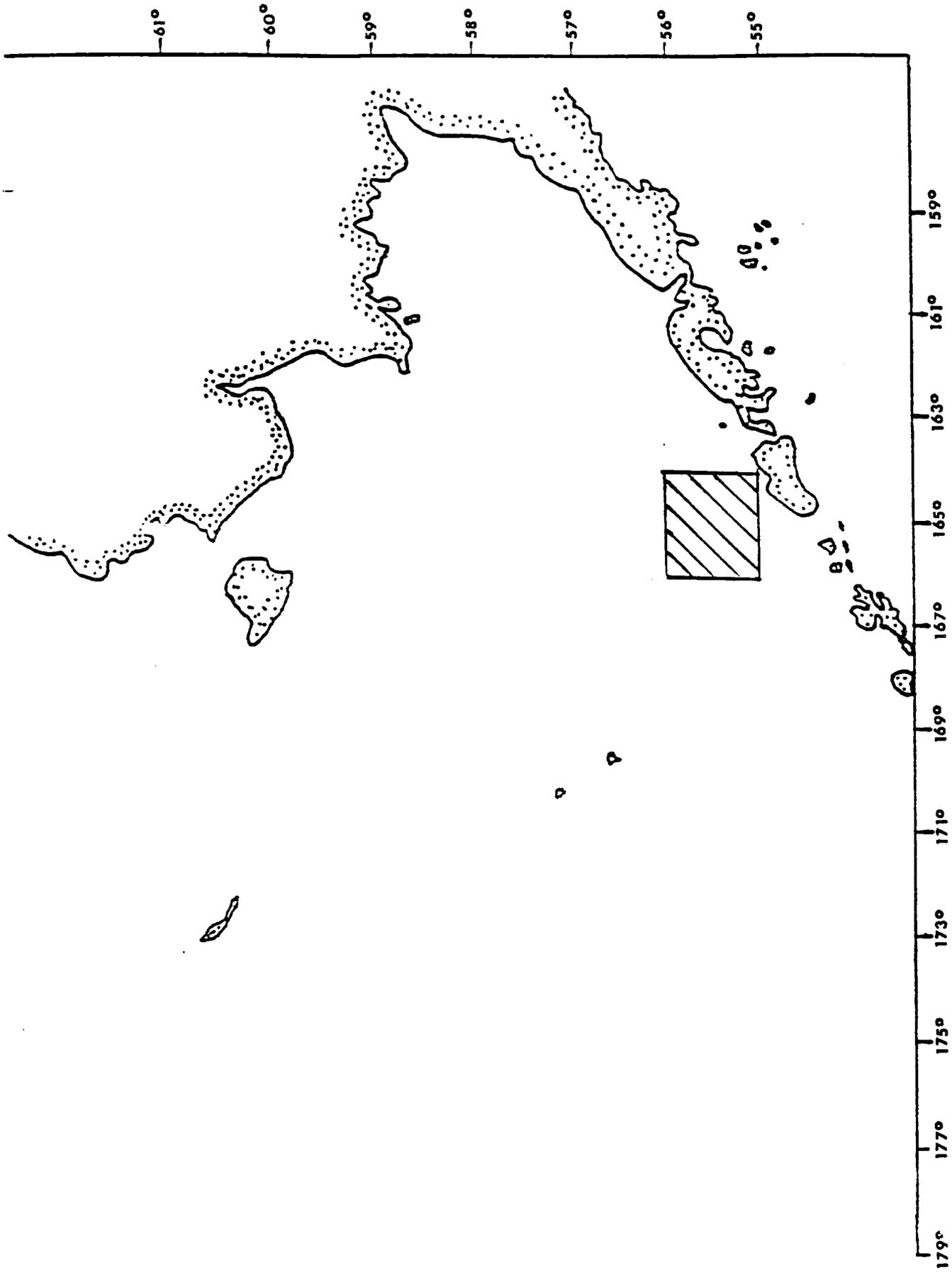


Figure 29. Bering Sea scallop fishing grounds, 1994.

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