

ANNUAL MANAGEMENT REPORT FOR THE SHELLFISH FISHERIES OF THE
KODIAK, CHIGNIK AND ALASKA PENINSULA AREAS, 2002



By

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ABSTRACT

This annual management report summarizes shellfish fisheries, excluding weathervane scallops *Patinopecten caurinus*, for the Kodiak, Chignik, and South Peninsula Areas during 2002. Commercial fisheries occurred for Tanner crab *Chionoecetes bairdi*, Dungeness crab *Cancer magister*, golden king crab *Lithodes aequispinus*, giant Pacific octopus *Octopus dofleini*, red sea cucumber *Parastichopus californicus*, and various Pandalid shrimp species. Historically, these management areas have supported large red king crab *Paralithodes camtschaticus*, and shrimp fisheries.

Summaries, by species, of active and historic shellfish fisheries within these areas are provided. These summaries provide descriptions of the management area, a brief overview of the regulations, historic backgrounds, harvest strategies, management practices, summaries of the 2002 fishery, and status of stocks.

INTRODUCTION

This report covers shellfish fisheries in all Pacific Ocean waters from the latitude of Cape Douglas (58° 51.10' N lat.), and west of the longitude of Cape Fairfield (148° 50.25' W long.), and east of Scotch Cap Light (164° 44' W long.). Depending upon species, management occurs in specified areas, districts or sections. The three primary management divisions within this report are Kodiak, Chignik, and the Alaska Peninsula (Figure 1).

During the 2002 fisheries, 232 catcher vessels, five catcher processors, 12 shorebased processors, two floating processors, one exporter, and four catcher-sellers were involved in harvesting approximately 1.6 million pounds of shellfish from the Kodiak, Chignik, and South Peninsula Areas worth an estimated exvessel value of approximately \$3.1 million.

Kodiak Area

The Kodiak area includes the Pacific Ocean waters south of the latitude of Cape Douglas (58° 51.10' N lat.) on the Alaska Peninsula, east of the longitude of Cape Kumlik (157° 27' W long.), and west of 148° 50.25' W long. The Kodiak area encompasses both the waters of the territorial sea (0 – 3 nm) and waters of the Exclusive Economic Zone (EEZ), (3 – 200 nm). The management area varies slightly for Dungeness crab and shrimp, where it extends from the latitude of Cape Douglas to the longitude of Kilokak Rocks on the Alaska Peninsula (156° 19' W long.). Management area definitions vary by species. Management may occur at the area, district, or section level depending upon the target species. The specific divisions are detailed in each fishery description that follows.

Historically, the Kodiak area supported large red king crab and trawl-caught shrimp fisheries. King crab stocks are currently depressed and no fishing has occurred since the early 1980s for red king crab. A small harvest of trawl-caught shrimp, *Pandalus sp.*, occurred in 2002. Various clam species, primarily razor clams, were once harvested in large quantities. Minor harvests of green sea urchins *Strongylocentrotus droebachiensis* and grooved Tanner crabs *Chionoecetes tanneri* have also occurred sporadically.

Tanner crab, Dungeness crab, giant Pacific octopus, golden king crab, and red sea cucumber were the principal commercial shellfish species harvested from the Kodiak area in 2002. Tanner crabs were the single most valuable shellfish species harvested from the Kodiak area, worth approximately \$733,000 to the fleet. Bering Sea harvests of snow crabs worth approximately \$945,000 and Bristol Bay red king crabs worth \$4.7 million were landed at the Port of Kodiak. Approximately 2.5 million pounds of shellfish were landed at the Port of Kodiak during 2002, with an exvessel value of approximately \$ 7.2 million (Table 1). These landings include harvest from the Kodiak area and other management areas.

A discussion of each fishery that was active during 2002 is provided. The Kodiak area weathervane scallop fishery will be summarized in a separate regional information report.

ADF&G issues emergency orders (EOs) to enact regulatory actions for time and area changes to commercial fisheries. These changes effect commercial fishery openings, closures, and modifications of fishing periods, or fishing areas. Seven EOs were issued during 2002 for shellfish fisheries in the Kodiak area (Table 2).

Alaska Peninsula Area

In some fisheries, the Alaska Peninsula area includes waters of the Pacific Ocean west of Kilokak Rocks (156° 19' W long.), and east of Scotch Cap Light (164° 44' W long.). In other fisheries the eastern boundary is located at the longitude of Cape Kumlik (157° 27' W long.). Depending on the fishery in question, the Alaska Peninsula area is sometimes divided into two separate districts. The principal divisions occur in two ways: an area that encompasses the waters adjacent to the village of Chignik and an area adjacent to the villages of Sand Point, King Cove, Cold Bay, and False Pass. The specific divisions are detailed in each fishery description that follows.

Commercial shellfish fisheries have historically occurred in the Alaska Peninsula area for red king crab, Tanner crab, grooved Tanner crab, Dungeness crab, various pandalid shrimp, red sea cucumbers, and giant Pacific octopus. Shellfish stocks are considered depressed for most species within the management area. No commercial fishery for king crab or shrimp has occurred since 1982. Effort occurred in 2002 for Dungeness crab and octopus, however that harvest information is confidential. There were three emergency orders issued in 2002 that pertained to shellfish fisheries in the Alaska Peninsula area (Table 3).

TANNER CRAB

Introduction

The Tanner crab fisheries that occur in the Kodiak, Chignik, and South Peninsula Districts are part of Registration Area J. Tanner crab fisheries open by regulation within each of the three districts on January 15 if the provisions of 5 AAC 35.507 KODIAK, CHIGNIK, AND SOUTH PENINSULA DISTRICTS *C. BAIRDI* TANNER CRAB HARVEST STRATEGIES are met. This harvest strategy contains a threshold of mature male abundance as well as additional criteria that must be met for each district or section to open for commercial fishing. Mature male abundance is determined annually by a trawl survey conducted by ADF&G on the *R/V Resolution*. The survey data are also used to determine an annual guideline harvest level (GHL). Commercial fisheries remain open until this harvest level is attained or biological considerations occur that warrant closure to protect the long-term health of the stocks. Fishery participants must hold a valid interim use permit card from the Commercial Fishery Entry Commission (CFEC), purchase buoy tags, and obtain a registration. Additionally, participants must receive a tank inspection if using circulating seawater tanks of any kind for live crab storage onboard the vessel. Vessel operators using dry tanked vessels for crab storage do not need a tank inspection.

Kodiak District

Description of the Area

The Kodiak District for Tanner crab is described as the Pacific Ocean waters of Registration Area J south of the latitude of Cape Douglas (58° 51.10' N lat.), west of the longitude of Cape Fairfield (148° 50.25' W long.), and east of the longitude of Cape Kumlik (157° 27' W long.). The district is further subdivided into eight sections: Northeast, Eastside, Southeast, Southwest, Semidi Island, Westside, North Mainland, and South Mainland (Figure 2).

Overview of Fishery Regulations

The Kodiak District is a nonexclusive registration area for Tanner crab fishing. Criteria within the harvest strategy specify that at least two sections in the district must be above the mature male threshold. The district GHL must be at least 400,000 pounds, with each section having a GHL of 100,000 pounds. The Kodiak District has a sliding scale pot limit based on the district GHL that ranges from 30 to 60 pots per vessel. Gear may only be set or retrieved during daily fishing periods from 8:00 AM to 7:59 PM.

Several regulations were adopted by the BOF in the 2001/02 cycle, and will become effective in 2003. Designation of the district as superexclusive for Tanner crab, allowing for baited gear to remain on the grounds when less than six hours notice of a fishery closure is announced, requiring section registration prior to the fishery, implement a mechanism to delay the start of the fishery for severe weather, reduced pot limits, and shortened daily fishing periods from 8:00 AM to 5:59 PM. These new regulations will be further explained in the 2003 Kodiak Tanner crab Annual Management Report (AMR).

Historic Background

The domestic Tanner crab fishery in the Kodiak District began in 1967 when approximately 111,000 pounds were landed (Table 4). Compared to king crab fisheries, the Tanner crab fishery was slower to develop. Consumers did not accept Tanner crab as readily and processing facilities had yet to develop effective meat extraction techniques for canning.

By the 1969/70 fishery, over eight million pounds were harvested. The fishery quickly became a major fishery in the North Pacific. In 1973, ADF&G initiated a pot survey to estimate relative abundance, predict recruitment trends, and develop annual harvest levels. The fishery continued to grow with harvests increasing to 30 million pounds in the mid-1970s. ADF&G implemented an April 30 season closure date in 1975 to protect crab at the onset of the mating and molting season. The minimum carapace width (CW) of 5.5 inches was established in 1976. The commercial fishery peaked in 1977/78 when over 33 million pounds were harvested.

The State of Alaska together with the federal government managed Tanner crab resources around Kodiak beginning in 1978. The state managed the waters from shore to three nautical miles (nm) offshore while the federal government managed from three to 200 nm offshore under a fishery management plan (FMP). This joint-jurisdiction would last until 1987, when the state again

assumed full management authority for Tanner crab in the Kodiak District for all waters out to 200 nm offshore.

In the early 1980s, Tanner stocks and commercial harvest began to decline. Concerns about the ability of the pot survey to predict recruitment from animals smaller than 114 mm CW prompted ADF&G to test trawl gear as a viable survey tool. In 1988, trawl surveys replaced pots for crab stock assessment because they are faster and sample a wider range of crab sizes (Jackson 1990).

Tanner crab stocks continued to decline in the Kodiak District and by the early 1990s, annual harvests averaged less than two million pounds. In 1994/95, the commercial fishery was closed due to the progressive decline in the harvestable surplus of Tanner crabs in the Kodiak District. The commercial fisheries remained closed until the 2000/01 season. During the six-year closure period, a BOF approved harvest strategy was developed and adopted in 1999.

2001/02 Kodiak District Tanner Crab Fishery

Overview

The Northeast and Eastside sections of the Kodiak District met criteria specified in the harvest strategy for a commercial fishery opening in 2002. This was the second year of fishing under the harvest strategy; the same two sections had opened in 2001 with a combined GHL of 500,000 pounds (Table 5). GHLs were developed for each section. The Northeast Section GHL was set at 300,000 pounds while the Eastside Section was set at 200,000 pounds (Table 6).

A public petition to limit entry into the fishery had been submitted to the Commercial Fishery Entry Commission (CFEC) several months prior to the season. CFEC determined that limiting entry to the Kodiak Tanner crab fishery was not warranted, therefore the 2002 fishery remained an 'open access' fishery in which any person could participate. Interest in the fishery was strong. Many vessel operators felt it important to make a landing to ensure documented harvest history in case limitation were to occur in future years.

Two hundred eleven permit holders recorded landings on 181 unique vessels during the 2002 fishery. The total harvest was 361,166 pounds from 279 landings. The exvessel fishery value as indicated by the price per pound on fish tickets was \$733,047. Personal communications with several fishers indicated that a retroactive payment in the \$0.21 per pound range was given after the season. This increased the fishery value to approximately \$800,000.

The Eastside Section remained open for two fishing periods for a total of 14 hours. Eighty-eight vessels harvested 233,348 pounds from 112 landings. The Eastside Section fishery averaged 20 legal crabs per pot lift (CPUE).

Inshore portions of the Northeast Section's Chiniak and Marmot Bays were closed after five daily fishing periods. The remainder of the Northeast Section offshore waters remained open for an additional 25 days. The total section harvest was 127,818 pounds from 168 landings by 104 vessels. CPUE was 10 crabs. Eleven vessels were used in both sections during the 2002 fishery.

Vessels 40 to 59 feet in overall length took the majority of the 2002 harvest (Table 7). Vessels in the 60-69 foot category had the highest average harvest for the 2002 fishery at slightly over 4,400 pounds per vessel.

Eastside Section Fishery

Based on the 2001 trawl survey estimates of abundance, the population of mature male Tanner was 2,466,610 crabs, well above the regulatory threshold of 1,552,000 crabs for opening the fishery. The regulatory harvest strategy prescribed a 10% exploitation rate on molting mature abundance when the stock is rebuilding resulting in a GHL of 200,000 pounds for the 2002/03 fishery. Because the harvest rate is applied to molting mature male abundance and the majority of mature crabs were old shelled, the harvest rate on legal-size animals was 5%. The Eastside Section GHL in 2002 was 75,000 pounds lower than the 2001 section GHL.

The principal areas of legal abundance in the Eastside Section changed from the previous year. The majority of the legal male population was found in Ugak Bay in the 2000 survey and during the 2001/02 fishery. However, the 2001 survey showed higher concentrations of legal males outside of the Eastside bays. Based on the previous season's fishery performance and given the anticipated short duration of the Eastside Section fishery, most vessel operators set gear inside Ugak and other bays to ensure that inclement weather would not hinder their operations should the fishery be prosecuted very quickly. The fishery had closed after two days of fishing periods in 2001 (Table 8). It was expected that the 2002 fishery would also be prosecuted quickly.

The Eastside Section opened at noon on January 15, 2002, concurrent with the Northeast Section (Table 9). Fishers were not required to register for a specific section in the Kodiak District, but all operators were asked at registration or tank inspection which section they intended to fish. This resulted in an estimate of 93 vessels fishing 2,576 pots in the Eastside Section. Data from fishtickets indicated 88 vessels made landings from the Eastside Section in 2002. Weather at the fishery opening was slightly better than forecast with winds in the 20-25 knot range from the southwest.

Inseason catch reports from 24 vessels in the Eastside Section (27% of the vessels in that section) indicated an average of 24 pots per vessel were lifted in the first fishing period. The CPUE ranged from five to 34, averaging 20 crabs per pot. ADF&G estimated 2,550 pots had been lifted in the operating period, resulting in approximately 132,000 pounds harvested. Both the CPUE and total harvest from the first 2002 fishing period were lower than 2001.

In anticipation of strong fishery performance in the second fishing period, a closure was announced for 2:00 PM on January 16. This would allow vessel operators the opportunity for at least one more pick of the gear and sufficient time to unbait gear prior to the closure. Fishers were required to deliver all Eastside Section crabs within 24 hours of the closure. Gear could be legally stored in waters deeper than 25 fathoms for 72 hours after the closure.

The Eastside Section harvest tallied 233,348 pounds taken by 88 vessels with 112 landings. The harvest exceeded the preseason GHL by approximately 33,000 pounds (17%). The Eastside Section had been open to fishing for a total of 14 hours split in two fishing periods; one 8-hour period and a second 6-hour period preceded by a 12-hour soak. The majority of the harvest (87%) came from

inside Ugak Bay. Some vessels fished Kiliuda Bay and North Sitkilidak Strait, but had lower catches and CPUE than those from Ugak Bay. No significant effort occurred in the offshore portion of the section where, as previously mentioned, higher densities of legal animals were found in the 2001 ADF&G trawl survey. One vessel operator was not able to unbait gear at the time of the closure because his vessel ran aground during the course of the two-day fishery. No other vessels reported distress or expressed difficulty in meeting the regulatory landing or gear storage requirements. Fish and Wildlife Protection (F&WP) had the *P/V Wolstad* on the fishing grounds in the Eastside Section for the duration of the fishery and performed several overflights of the area in fixed-wing aircraft.

Northeast Section Fishery

Based on the 2001 trawl survey estimate of abundance, the population of mature male Tanner crab was 2,439,855 crabs, well above the regulatory threshold of 1,123,000 crabs for opening the fishery. The regulatory harvest strategy prescribed a 20% exploitation rate on molting mature male abundance because the population estimate exceeded the long-term average of mature male abundance. However, the harvest strategy also limits the removal of legal-size crabs to no more than 30%. This resulted in a 30% exploitation rate on legal-size crabs and a GHL of 300,000 pounds. This was an increase in the harvest level from the 2001 fishery when the section GHL was 225,000 pounds.

Principal areas of legal-crab abundance in the Northeast Section shifted from the previous year. Fewer legal males were found in Chiniak, Kizhuyak, and Danger Bays. These bays were the principal areas of harvest in the 2001 fishery. The majority of legal crabs were found further offshore in the following summer survey. As was the case in the Eastside Section, most fishers began operations in nearshore, protected waters to ensure a greater probability of being able to work in all weather conditions.

The Northeast Section opened at noon on January 15, 2002. Information gathered at the time of registration indicated that 89 vessels fishing 2,199 pots would participate in the Northeast Section. Data from fishtickets showed landings from 104 vessels. Eleven vessel operators entered the Northeast Section fishery after the Eastside Section closure.

ADF&G managed the Northeast Section fishery inseason using voluntary reports from fishers. The level of participation in the inseason reporting ranged from 20 to 30% over the course of the inshore portion of the fishery. CPUE ranged widely from three to 20 crabs per pot. There was a wider range of vessel sizes and number of pots per vessel in the Northeast Section compared to the Eastside Section. Some vessels participating in close proximity to the City of Kodiak fished very few pots or were small, open skiffs.

Operators that had participated in the Eastside Section began moving to the Northeast Section in increasing numbers after the Eastside closure. Dockside sampling interviews and reports from the *R/V K-Hi-C* indicated that vessels were concentrated in nearshore areas and bays within the Northeast section. Localized areas within the section, such as Kalsin and Izhut Bays, had individual vessel reports with CPUEs of three or less crabs by the third fishing period. Vessel operators had been given sufficient time and opportunity to explore much of the inshore areas of the section

known from the trawl survey to contain aggregations of legal crabs. As reports indicated a decline of legal crabs in the area fished, a closure of the inshore portion of the Northeast Section was announced for 2:00 PM on January 19. The closure encompassed all waters west of a line from Cape Izhut on Afognak Island to Cape Chiniak on Kodiak Island. This closed Inner Marmot, Izhut, Chiniak, Kalsin, Middle, and Women's Bays for the remainder of the year.

Fishticket data for landings that occurred prior to the partial section closure on January 19 indicated that 99 vessels landed approximately 60,000 pounds. The department had estimated a larger harvest based on inseason reports. Many of the non-reporting vessels appear to have fished very few pots and also had very low CPUE when compared to other vessels that had reported catches inseason. Therefore, estimates from inseason reports were high. The CPUE for the area fished prior to the partial closure was just under six crabs per pot.

A large portion of the legal crabs found in the 2001 ADF&G trawl survey occurred in waters to the east (offshore) of the closure line. The department viewed continued commercial fishing in this offshore area as an opportunity to further validate survey estimates and to gain relative abundance data from areas not included in the trawl survey area. However, very few vessels continued to participate in the remaining open waters of the Northeast Section after the inshore closure on January 19.

Six vessel operators continued to work after the partial closure of the Northeast Section in the remaining open waters. These vessel operators worked closely with the department to provide updated catch, fishery performance, and harvest location data. ADF&G issued updates so that the remaining fleet and potential participants could stay informed as to the number of fishing days before the next update or closure announcement was released. During this time, the fleet exhibited a similar pattern of retrieving gear when weather would permit and continually moving gear to look for improved catches. By the end of January, crab densities exceeded 30 crabs per pot.

Vessel operators continued to explore offshore areas until the first week of February. All the remaining vessels then returned to areas previously fished. CPUE continued at over 20 crabs per pot for some vessels. ADF&G was satisfied that remaining fishers would not continue to explore other offshore areas. An announcement was made on February 6 for a closure of the remaining Northeast Section waters effective at noon on February 13. This closure was necessary to prevent excessive harvest from a very localized area.

The outside waters portion of the Northeast Section was open for approximately 30 fishing periods. No effort occurred in offshore waters of the section until after the inside waters closure on January 19. This inshore/offshore closure extended the Northeast Section fishery for nearly a month longer than the fishery in 2001. The total harvest from the outside portion of the section was approximately 70,000 pounds landed by six vessels. In general, vessel operators explored most of the areas in the offshore station grids of the ADF&G trawl survey. Little to no fishing occurred in areas not covered by the ADF&G trawl survey. Fishery performance, as reflected by the catch data from these sections, closely followed the abundance information from the trawl survey. More legal males were found offshore in the Northeast Section than were found inside the capes and in bays. The final harvest for all portions of the Northeast Section was 127,818 pounds from 168 landings by 104 vessels. This harvest was 43% of the 300,000 pound GHL.

One vessel sank during the course of the Northeast Section fishery. United States Coast Guard (USCG) information listed northwest winds of 15 knots during the incident and did not cite weather as a contributing factor to the sinking. The entire crew of the vessel was recovered without incident. No other vessels reported distress or expressed difficulty in meeting the landing or gear storage requirements. F&WP had a trooper onboard the *R/V K-Hi-C* on the fishing grounds in the Northeast Section for the duration of the inside waters portion of the fishery. F&WP also performed several overflights of the area in fixed-wing aircraft.

Dockside Sampling

Tanner crabs were sampled at dockside from deliveries during the course of the season. Listed in priority order, samplers obtained the following information: confidential interviews with vessel captains, average weight, and carapace width/shell age data. During confidential interviews, samplers obtained detailed information regarding effort, location, fishery performance, and bycatch. Eighty-six vessels were contacted for confidential interviews during the fishery. This represents 42% of the deliveries in the 2002 fishery. Average weights were obtained from 83 vessels including two tenders. Approximately 21% of the crab delivered in the 2002 season were accounted for in the average weight sampling. Crabs from the Northeast Section averaged 2.3 pounds. Crabs from the Eastside Section averaged 2.7 pounds. Approximately 2% of the crabs delivered were sampled for carapace width data. Within that data, 12.2% of the animals measured were new shelled, 61.4% were old shelled, and 26.4% were very old shelled. The average carapace width for the 2002 fishery was 152 mm (Figure 3).

Status of Kodiak District Tanner Crab Stocks

The 2002 trawl survey completed 226 tows in the Kodiak District. The Kodiak District estimate of 106.8 million crabs of all sizes and sex was a decrease from the 175.9 million crabs estimated in 2001. The number of legal crabs also declined from 2.5 million crabs in 2001 to 2.1 million in 2002. Prerecruit males between 70-91mm CW comprised 35% of the total male population estimate. The highest densities of crabs were found in the Eastside Section (Figure 4); this is similar to the results of recent year's surveys.

Egg clutches of 4,505 mature female Tanner crabs were examined during the survey. Sixty one percent were primiparous. This was an increase from the 57% in 2001 (Spalinger 2003). Eighty percent of the mature females examined had a clutch fullness of 80% or higher. This is also an increase from the previous year's survey.

The Northeast and Eastside Sections satisfied the criteria of the harvest strategy for a commercial opening in 2002/03. The GHs will be 170,000 pounds for the Northeast and 340,000 pounds for the Eastside Section. The remaining sections of the Kodiak District remain below the established mature male abundance thresholds for a commercial fishery opening. The Southeast and the Westside Sections were the two sections closest to the opening thresholds. All other sections are currently far below the established mark for a commercial fishery opening. Complete information on trawl survey results is available in the ADF&G Regional Information Report series.

Chignik District

Description of the Area

The Chignik District for Tanner crab includes Pacific Ocean waters of Registration Area J west of the longitude of Cape Kumlik (157° 27' W long.) and east of a line from the southernmost tip of Kupreanof Point (55° 34' N lat., 159° 36' W long.) to the easternmost point of Castle Rock, and east of a line extending 135° from the easternmost point of Castle Rock (Figure 5). The Chignik District is not subdivided into sections for Tanner crab.

Overview of Fishery Regulations

The Chignik District is a superexclusive registration area for Tanner crab. Vessels larger than 58 feet in overall length may not take Tanner crab in the Chignik District. Criteria within the harvest strategy specify that the district GHL must be at least 200,000 pounds for a commercial fishery to occur. Additionally, the South Peninsula District must also open before a commercial fishery in the Chignik District can occur. The Chignik District has a fixed pot limit regardless of the district GHL. No more than 30 pots per vessel may be used.

Several regulations were adopted by the BOF in the 2001/02 cycle; these regulations will become effective in 2003. Designation of the district as superexclusive for Tanner crab, allowing for baited gear to remain on the grounds when less than six hours notice of a fishery closure is announced, and establish daily fishing periods from 8:00 AM to 5:59 PM. These new regulations will be further explained in the 2003 Kodiak Tanner crab Annual Management Report (AMR).

Historic Background

The Chignik District Tanner crab fishery began in 1968 when 21,100 pounds were harvested (Table 10). The fishery peaked in 1975/76 when 35 vessels harvested approximately 11.0 million pounds. Annual harvest declined in the late 1970s. Recruitment failures in the early 1980s led to consecutively smaller harvest until 1989, when a small increase in harvest occurred. Historically, much of the effort in the Chignik District occurred in late March following the closure of the Kodiak and South Peninsula Districts. Many of the most productive areas were offshore between Mitrofanina Island, Lighthouse Rocks, and the Semidi Islands.

ADF&G did not survey the Chignik District until 1981. Surveys in the early 1980s predicted poor recruitment in the near future. As expected, the recruitment was low, and subsequent fisheries had lower harvests. Catches declined first in the productive offshore areas, then later in near-shore bays. The district was closed to commercial fishing in 1990 and has remained closed.

2001/02 Chignik District Tanner Crab Fishery

The 2001 trawl survey indicated the Chignik District was slightly below the established threshold for a commercial fishery opening in 2002. The established threshold is 973,000 mature males; the survey indicated 954,135 mature males in the district. Therefore, the abundance of

mature males did not satisfy the threshold criteria of the harvest strategy and the fishery remained closed.

Status of Chignik District Tanner Crab Stocks

The 2002 trawl survey completed 47 tows in the Chignik District. The overall crab abundance in the Chignik District declined from 12.7 million in 2001 to 10.8 million in 2002 (Spalinger 2003). The number of prerecruit males from 115-139 mm CW showed the strongest increase from the previous year's survey, increasing from 0.6 million in 2001 to 1.1 million in 2002. The number of legal animals increased from 0.4 million in 2001 to 0.5 million in 2002 (Figure 6). Egg clutches of 962 mature female Tanner crabs were examined during the survey. Thirty one percent of the mature females examined had a clutch fullness of 80% or higher.

The Chignik District was below the mature male threshold in 2001 but above in 2002. This requires the potential 2001/02 GHF to be halved as a precautionary measure; the available GHF was below the established minimum of 200,000 pounds. Therefore, the Chignik District did not open for the 2001/02 season. Complete information on trawl survey results is available in the ADF&G Regional Information Report series.

South Peninsula District

Description of the Area

The South Peninsula District for Tanner crab includes Pacific Ocean waters of Registration Area J east of a line extending south from Scotch Cap Light (164° 44' W long.) and west of a line from the southernmost tip of Kupreanof Point (55° 34' N lat., 159° 36' W long.) to the easternmost point of Castle Rock, and west of a line extending 135° from the easternmost point of Castle Rock (Figure 5). The South Peninsula District is not subdivided into sections for Tanner crab.

Overview of Fishery Regulations

The South Peninsula District is a superexclusive registration area for Tanner crab. Vessels over 58 feet in overall length may not take Tanner crab in the South Peninsula District. Additional criteria within the harvest strategy specify that the district GHF must be at least 200,000 pounds. The pot limit ranges from 30 to 75 pots per vessel depending on the district GHF.

Several regulations were adopted by the BOF in the 2001/02 cycle; these regulations will become effective in 2003. Allow for baited gear to remain on the grounds when less than six hours notice of a fishery closure is announced, and establish daily fishing periods from 8:00 AM to 5:59 PM. These new regulations will be further explained in the 2003 Kodiak Tanner crab Annual Management Report (AMR).

Historic Background

The first harvest of Tanner crab in the South Peninsula District occurred in 1967 when 3,100 pounds were landed (Table 11). The fishery grew quickly and, by 1973, the harvest exceeded five million pounds. GHs were established in 1974, in 1975 seasons were imposed to protect adult crab during the mating and molting period. In 1976, the minimum size limit of 5.5" CW was established. During the six fishing seasons from 1974 through 1978/79, harvests ranged from five to nine million pounds. The fishery peaked in 1978/79 when slightly less than nine million pounds of crab were caught. From 1979 to 1984, harvest and CPUE declined as a result of low recruitment and in the 1984 season the fleet only landed two million pounds. Recruitment improved in the years 1985 through 1988 and the harvest ranged from two million to four million pounds. The harvest decreased to one million pounds in 1989 and indications from the ADF&G trawl survey predicted a decline in recruitment for future years. The fishery was closed from 1990 to 2000 due to the low abundance of legal-sized crab and the lack of recruitment

In 1999, ADF&G presented the BOF with a comprehensive harvest strategy for Tanner crab in the South Peninsula District. The criteria in the harvest strategy were met for a commercial fishery opening in 2001. The South Peninsula District opened for the first time since 1989 with a 375,000 pound GH. Fifty-six vessels harvested 258,631 pounds from 91 landings. The fishery lasted for four fishing periods (44 hours total fishing time).

2001/02 South Peninsula District Tanner Crab Fishery

The South Peninsula District was slightly below the established threshold for a commercial fishery opening in 2002. The established threshold is 1,375,000 mature males; the 2001 survey indicated 1,213,611 mature males in the district. Therefore, the abundance of mature males did not satisfy the threshold criteria of the harvest strategy and the fishery remained closed.

Status of South Peninsula District Tanner Crab Stocks

The 2002 trawl survey completed 95 tows in the South Peninsula District. The abundance estimate for the South Peninsula District increased from 14.3 million animals of all sizes and sexes in 2001 to 20.7 million in 2002 (Figure 6). The number of prerecruit males measuring 115-139 mm in shell width increased from the previous year's survey, from 0.7 million in 2001 to 1.1 million in 2002 (Spalinger 2003). The number of legal animals remained steady at 0.5 million crabs. Egg clutches of 80% or higher were found in only 30% of the 1,378 mature females examined.

The South Peninsula District was below threshold in 2001 but above in 2002. This requires the potential 2001/02 GH to be halved as a precautionary measure; this brings the available GH below the 200,000 minimum required. Therefore, the South Peninsula District did not open for the 2001/02 season. Complete information on trawl survey results is available in the ADF&G Regional Information Report series.

DUNGENESS CRAB

Introduction

The Dungeness crab fisheries that occur in the Kodiak, Chignik, and Alaska Peninsula Districts are part of Registration Area J. There is no established GHL for Dungeness crab. Management is achieved by '3-S' management wherein the sex, size, and season are regulated. Only male crabs 6.5" CW may be retained during the open fishing season. There are no pot limits established for any of the Dungeness crab fishing districts. Participants must hold a valid CFEC interim use permit card, obtain a registration from ADF&G, and have any circulating seawater tanks inspected to participate in the fishery.

Kodiak District

Description of the Area

The Kodiak District for Dungeness crab includes the waters of Registration Area J south of the latitude of Cape Douglas (58° 51.85' N lat.), west of the longitude of Cape Fairfield (148° 50.25' W long.) and east of the longitude of Kilokak Rocks (156° 19' W long.) (Figure 7).

Overview of Fishery Regulations

The Kodiak District is a nonexclusive registration area for Dungeness crab fishing. In most waters of the Kodiak District, male Dungeness crab 6.5" in CW or greater may be taken from May 1 through January 1. In the waters south of the latitude of the southernmost tip of Boot Point and south of the latitude of the southernmost tip of Cape Ikolik, male Dungeness crab may be taken only from June 15 through January 1.

Historic Background

Dungeness crabs were first harvested commercially in 1962 when 1.9 million pounds were harvested (Table 12). Minor increases in recruitment led to slight production increases in harvest during the late 1970s.

Prior to 1977, the Dungeness crab fishery was open year round. Closures were first implemented by the BOF from January 1 to April 30 when fishers were unable to operate effectively in the winter due to storms. This season change was aimed at reducing the amount of gear left fishing with extremely long soak times. Some gear had been left fishing all winter without being checked or maintained. The June 15 opening date was set for the south end of Kodiak to avoid high incidences of female red king crab bycatch in Dungeness gear.

During the early 1980s, declines in abundance of other commercially harvested Alaskan shellfish occurred and created a void in markets that still demanded crab (Jackson 1997). This led to an increase in both effort and harvest of Dungeness crabs in the Kodiak District. A harvest of 5.6

million pounds occurred in the 1981/82 Kodiak fishery. Effort peaked in 1985 when 125 vessels participated in the fishery.

The Kodiak District fishery has been prosecuted primarily on crabs newly recruited to legal size in recent years (Figure 8). The fishery has experienced years of low harvest that correspond to fluctuations in recruitment. Reduced effort may also contribute to decreased fishery production. Participation decreased from 62 vessels in 1990 to only 21 or less since 1996.

Another factor limiting interest and effort in the Kodiak District Dungeness crab fishery during the 1990s was a lower market value. The toxin causing paralytic shellfish poisoning (PSP) was documented in the viscera of Dungeness crabs. The Alaska Department of Environmental Conservation (DEC) placed restrictions on the sale of live and whole cooked crabs beginning in 1992. Prices paid for Kodiak Dungeness crabs dropped from \$1.37 per pound in 1991 to \$0.86 per pound in 1992 after the DEC restrictions took effect. DEC restrictions have remained in place since their initial implementation in the early 1990s. Prices have fluctuated widely and reached a high of \$2.04 in 1997. Kodiak fishers have often received lower than average exvessel value when compared to other areas in Alaska or the West Coast of the lower 48 states.

2002 Kodiak District Dungeness Crab Fishery

The 2002 fishery opened on May 1 in all areas except Kodiak's south end, which opened on June 15. Eighteen vessels harvested 355,943 pounds from 74 landings (Table 12). Only vessels less than 70 feet overall length participated in the 2002 fishery (Table 13).

Harvest peaked in August, but the number of participating vessels peaked in September (Figure 9). As in 2001, the majority of harvest during 2002 came from statistical area 545601, south of Sitkinak and Tugidak Islands. (Table 14). Statistical area 525701 encompassing Ugak Bay had produced the largest harvests during 2000.

An average of 2.6 legal crabs per pot were landed for the 2002 fishery; very similar to the CPUE of 2.4 crabs in 2001. The CPUE remained almost constant over the course of the commercial fishery. CPUE has historically been highest in the late summer months, presumably as crabs molt to legal size and are then available to the commercial fishery under '3-S' management.

Price paid per pound in 2002 averaged \$1.46, down from \$1.95 in 2001 and \$1.65 in 2000. Because there were more Dungeness crab harvested in 2002 than the previous two years, the exvessel fishery value of \$520,000 was higher than that in 2000 or 2001 (Table 12).

Dungeness crabs harvested in the Kodiak District had a mean CW of 174 mm in 2002. This was slightly smaller than the 175 mm CW for the 2001 season (Figure 8). The percentage of post-recruit crabs taken in the commercial harvest increased from 12% in 2001 to 23% in 2002. CPUE has remained relatively constant over the last three years.

Chignik District

Description of the Area

The Chignik District for Dungeness crab includes waters of Registration Area J that are west of the longitude of Kilokak Rocks (156° 19' W long.), and east of a line extending 135° southeast from Kupreanof Point (55° 33.98' N lat., 159° 35.88' W long.)(Figure 10).

Overview of Fishery Regulations

The Chignik District is a superexclusive registration area for Dungeness crab fishing. Male Dungeness crab 6.5" in CW or larger may be taken from May 1 to January 1.

2002 Chignik District Dungeness Crab Fishery

Only two vessels registered for the Chignik District in 2002, therefore harvest data is confidential (Table 15). Since the creation of the Chignik District, less than three vessels or processors have participated annually. Therefore, all harvest information remains confidential.

Alaska Peninsula District

Description of the Area

The Alaska Peninsula District for Dungeness crab (Figure 10) includes all waters of Registration Area J west of a line extending 135° southeast from Kupreanof Point (55° 33.98' N lat., 159° 35.88' W long.), and east of the longitude of Scotch Cap Light (164° 44' W long.).

Overview of Fishery Regulations

The Alaska Peninsula District is a superexclusive registration area for Dungeness crab fishing. Male Dungeness crab 6.5" in CW or larger may be taken from May 1 to January 1.

Historic Background

Prior to 2001, the Alaska Peninsula District also included the Chignik District. Historically, Dungeness crab catches from the district have been sporadic, with the highest catch recorded in 1968 when 1.26 million pounds were landed (Table 15). Subsequent effort and harvest remained low for many years presumably due to low prices and better prospects in other crab fisheries. During the early 1980s, the decline in king crab stocks and a stronger market for Dungeness crabs generated renewed interest in the fishery. The BOF specified the Alaska Peninsula District as a superexclusive registration area in 1983. Since then effort in the district has declined and recent catches have been small.

2002 Alaska Peninsula District Dungeness Crab Fishery

The 2002 Alaska Peninsula Dungeness crab season opened May 1. Three vessels were registered to fish; however only two vessels participated in the fishery. Therefore, harvest information remains confidential.

Status of Kodiak, Alaska Peninsula, and Chignik Districts Dungeness Crab Stocks

No stock assessments have been conducted for Dungeness crab in the Kodiak, Chignik, or Alaska Peninsula Districts. ADF&G activity has been limited to monitoring commercial fishery deliveries, and conducting vessel operator interviews.

KING CRAB

General Red King Crab Information

Historically, major red king crab fisheries have occurred in the Kodiak and Alaska Peninsula Areas. Red king crab populations in the Kodiak and Alaska Peninsula Areas are determined annually by a trawl survey conducted aboard the *R/V Resolution*. Red king crab fisheries in the Kodiak Area open by regulation on September 25 if biomass estimates meet or exceed threshold levels contained in the Harvest Strategy for Kodiak and Bristol Bay Red King Crab and Saint Matthew Island and Pribilof Blue King Crab, Special Publication Number 7 (Pengilly and Schmidt, 1995). In the Kodiak Area, a threshold of 5.12 million fertilized females was established in this harvest strategy. The female threshold is further broken down by individual Kodiak management sections. Additional harvest strategy criteria restrict harvest to only 20% of the mature males and caps harvest on legal-sized males at 60% of the estimated legal-sized population.

Trawl surveys indicate red king crab population levels remain low in the Alaska Peninsula Area. If stock status of red king crabs were healthy enough to allow for a commercial fishery, GHLS would be established utilizing similar criteria for other Westward Region king crab districts. Red king crab fisheries in the Kodiak and Alaska Peninsula Areas would be managed inseason until the GHLS was attained or biological considerations occurred that warranted closure of the fishery to protect the long-term health of the stocks.

General Golden King Crab Information

Minor harvest of golden king crabs has occurred in the Kodiak Area. Currently, ADF&G does not have a management plan or harvest strategy for golden king crab. The Alaska Peninsula Area has not been explored for golden king crabs. In the Kodiak and Alaska Peninsula Areas golden king crabs may be harvested from January 1 to December 31 under conditions of a commissioner's permit. Conditions of the commissioner's permit for golden king crabs states that (1) a valid CFEC permit card is required, (2) tank inspection is required, (3) gear must comply with 5 AAC 34.425

LAWFUL GEAR FOR REGISTRATION AREA K, (4) only male golden king crab 6-1/2" carapace width or greater may be retained, (5) pots may not be longlined, (6) a 75 pot limit is in effect, and buoy tags supplied by ADF&G are required, (7) logbooks are required, (8) ADF&G must be notified of all deliveries, (9) pots must be fished 125 fathoms or deeper in all areas except Shelikof Strait and the Southeast and Eastside Districts of the Kodiak Area where they may be fished up to 100 fathoms, (10) retention of cod for sale is not permitted, nor is simultaneous participation in the state managed cod fishery, (11) weekly radio schedule updates may be required, and (12) the department reserves the right to deploy ADF&G personnel on board the vessel as an onboard observer with cost borne by the department. No GHL is established for the golden king crab fisheries.

Kodiak Area

Description of the Area

The Kodiak King Crab Management Area has its northern boundary the latitude of Cape Douglas (58° 51.10' N lat.), and its western boundary the longitude of Cape Kumlik (157° 27' W long.). The Kodiak Area is further subdivided into five districts for king crab management, which include the Northeast, Southeast, Southwest, Semidi Island, and Shelikof Districts (Figure 11).

Red King Crab

Overview of Fishery Regulations

The Kodiak Area is an exclusive registration area for red king crab. The Kodiak Area has a sliding scale pot limit based on the GHL that ranges from 25 to 75 pots per vessel.

Historic Background

Beginning in 1936, small amounts of red king crab were landed in Kodiak, but catches were not officially recorded until 1950. This period in the history of the fishery was exploratory in nature with fishers developing gear, locating commercially harvestable quantities of crab and developing markets for product. In 1960, the king crab season was open year round and 21 million pounds were landed (Table 16).

The development period peaked in 1966, when over 90 million pounds of crab were landed during a ten-month fishing season. From the peak in 1966, catches dropped to 12 million pounds by the 1969/1970 season. By 1972, the decline had been reversed and harvests started increasing. The 1973 fishery lasted 10 days under a fixed quota system. One district was reopened for an additional eight-day fishery when it was determined that the initial harvest fell almost three million pounds short of the district quota.

During the 1970s, several fishing seasons for crabs with minimum sizes ranging from 7.5 to 8 inches occurred (Table 17). Often, second fishing seasons occurred that targeted larger, older crabs.

Harvest ranged from 10.9 million pounds in 1971/72 to 24.0 million pounds in 1975/76. Harvest declined in the late 1970s and by the 1978/79 season, harvest totaled 12.0 million pounds. The 1981/82 season harvest was the highest of the previous 13 years at 24.2 million pounds. The 1982/83 season total harvest declined to 8.7 million pounds, the lowest in 24 years. However, effort was the highest on record.

ADF&G did not open the red king crab fishery in 1983 due to poor stock condition. The population of adult male crabs was the lowest recorded in 13 years of annual population assessments. ADF&G established threshold levels of legal males needed before considering any future fishery openings. The threshold of 10.3 million pounds of legal crabs was nearly twofold the 5.5 million pound estimate of the 1983 survey. The king crab season has not opened since the 1982/83 season.

From 1988 to 2002, ADF&G conducted trawl surveys to assess king and Tanner crab populations around Kodiak Island, along the Alaska Peninsula, and around the eastern Aleutian Islands. The Kodiak Area continued to remain closed because the abundance estimates of females were well below threshold levels. Complete information on the Westward Region trawl survey catches can be obtained from ADF&G in the Regional Information Report series.

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.

Status of Kodiak Area Red King Crab Stocks

The Kodiak red king crab population remains at historically low levels, and fishing seasons for red king crabs have remained closed since 1983. During the 2002 Kodiak trawl survey, ADF&G completed 226 hauls in known king crab habitat. The red king crab population was estimated to be 155,333 animals, of which 22,440 were legal-sized males. As seen in Figure 12, the majority of king crabs were found in the Southwest Section (Spalinger 2003). The mature red king crab female population was estimated to be 7,082 animals, well below the 5.1 million threshold required for a fishery opening. Seventy percent of the mature female crab sampled had an estimated ovigerity of 80% or greater. In 2001, 37% of the mature female crab sampled had an estimated ovigerity of 80% or greater.

Golden King Crab

Overview of Fishery Regulations

The Kodiak Area is a nonexclusive registration area for golden king crab. Pot limits are stated in the commissioner's permit.

Historic Background

Interest in harvesting golden king crab increased after the collapse of the red king crab stocks. Although golden king crab were occasionally landed with red king crab in prior years, the first recorded landings occurred in 1983. In that year, 12 vessels explored around Kodiak Island with limited success. The catch totaled 111,398 pounds from 36 landings (Table 18). The largest harvest from this fishery totaled 146,478 pounds which was taken in 1986.

Since 1988, most of the effort consisted of no more than two vessels annually, resulting in confidential catch information. During most years, there has been no activity.

2002 Kodiak Area Golden King Crab Fishery

Three vessels registered to fish golden king crab in the Kodiak Area during 2002; however harvest information remains confidential since less than three processors purchased crab.

Status of Kodiak Area Golden King Crab Stocks

ADF&G does not assess golden king crab stocks in the Kodiak Area. Given the relative low interest in the commercial fishery, the population is believed to be small when compared to populations in the Bering Sea, Aleutian Islands, and inside waters of Southeast Alaska. Detailed logbook data are collected, and this information may yield better insight to golden king crab distribution and stock size in the Kodiak Area.

Alaska Peninsula Area

Description of the Area

The Alaska Peninsula King Crab Management Area has as its eastern boundary the longitude of Cape Kumlik (157° 27' W long.), and as its western boundary the longitude of Scotch Cap Light (164° 44' W long.). The Alaska Peninsula is further divided into the Unimak Bight, Central, and West Chignik Districts (Figure 13).

Red King Crab

Overview of Fishery Regulations

The Alaska Peninsula Area is a superexclusive registration area for red king crab. The area has a sliding scale pot limit based on the GHL that ranges from 40 to 75 pots per vessel.

Historic Background

The red king crab fishery in the Alaska Peninsula Area began in 1947, when 141,000 pounds were landed. The largest historic catch of 22.6 million pounds occurred in 1966 (Table 19). Throughout the 1970s and early 1980s, most of the harvest occurred in the Central District with Pavlof Bay being the most productive area. The annual catch in the Unimak Bight District during the same period averaged less than half the annual harvest taken from the Central District. Catches in the West Chignik District during this period varied depending on effort, but annually did not exceed 386,000 pounds.

During the 1980/81 season, the Alaska Peninsula Area harvest totaled just over five million pounds, the highest catch since the 1968/69 season. The catch was the result of strong recruitment from 1978 through 1980. Recruitment of young crabs to legal size has declined severely since that time, resulting in a closure of the fishery since the 1983/84 season.

Status of Alaska Peninsula Area Red King Crab Stocks

ADF&G has annually conducted a trawl survey of the Alaska Peninsula crab stocks since 1988 with the *R/V Resolution*. The 2002 survey consisted of 142 tows in king crab habitat throughout the registration area (Figure 12). Data from the survey indicate the red king crab population remains at very low levels; however the population estimate increased from the 2001 survey. The estimated population from the 2002 survey was 185,072 crabs, an increase from the estimated 54,723 crabs from the 2001 survey (Spalinger 2003). Because the stock is at a very low level with patchy distribution, population estimates can vary widely each year. As has been the case with previous surveys in the Alaska Peninsula Area, wide ranges in sizes of both sexes were captured.

Golden King Crab

Overview of Fishery Regulations

The Alaska Peninsula Area is a superexclusive registration area for golden king crab. An aggregate of no more than 75 pots may be operated to harvest golden king crab.

Historic Background

On occasion, fishers have expressed an interest in exploring the Alaska Peninsula Area for golden king crab. Little to no effort has occurred within the area. In 1983, five vessels registered but no catch was landed. Presently, male golden king crab six inches or greater in shell width may be taken from January 1 through December 31 under a permit issued by the commissioner.

2002 Alaska Peninsula Area Golden King Crab Fishery

No vessels registered to fish for golden king crab in the Alaska Peninsula Area during 2002.

Status of Alaska Peninsula Area Golden King Crab Stocks

ADF&G does not assess golden king crab stocks in the Alaska Peninsula Area. Exploratory efforts by commercial fishers have yet to locate quantities sufficient to sustain a commercial fishery in this area.

SHRIMP

Shrimp Trawl Fishery Introduction

The trawl shrimp fisheries that occur in the Kodiak, Chignik, and South Peninsula Districts are part of shrimp Registration Area J. All of Registration Area J is a nonexclusive registration area for shrimp. The majority of historically productive, inshore sections have established thresholds for commercial fishery openings, called Minimum Acceptable Biomass Indices (MABI). These thresholds and their derivation are explained in the Westward Region Shrimp Fishery Management Plan (ADF&G 1982). Sections with MABI thresholds open and close by EO. An EO can be issued between June 15 and February 28 in the Kodiak District, and May 15 through February 14 in the Chignik and South Peninsula Districts. The remaining general section or undescribed waters within these districts open by established seasons, without threshold criteria, or established GHs. Shrimp abundance estimates are determined by trawl surveys conducted aboard the *R/V Resolution*.

Shrimp Pot Fishery Introduction

The pot shrimp fisheries that occur in the Kodiak, Chignik, and South Peninsula Districts are part of shrimp Registration Area J. All of Registration Area J is a nonexclusive registration area for shrimp. Fishing for shrimp with pots is open year round in all but six sections of the Kodiak, Chignik, and South Peninsula Districts. There are no pot limits, established thresholds for opening, or GHs in the pot shrimp fisheries.

Kodiak District

Description of the Area

The Kodiak District for shrimp includes waters of shrimp Registration Area J that are east of the longitude of Kilokak Rocks. The Kodiak District is further divided into fifteen sections: Inner Marmot Bay, Ugak Bay, Kiliuda Bay, Two Headed Island, Alitak Bay, Olga Bay, Uyak Bay, Uganik Bay, West Afognak, North Afognak, Mainland, Marmot Island, Chiniak Bay, Alitak Flats, and General Sections (Figure 14).

Overview of Fishery Regulations

To participate in commercial shrimp fishing with any gear type in the Kodiak District, a vessel operator is required to obtain a shellfish registration from ADF&G and an interim use permit card from CFEC.

In the Kodiak District, shrimp may be taken with trawl gear in the General Section from June 15 through February 28. The remaining sections of the Kodiak District are only opened by EO. Currently, there is no closed season in shrimp fishing with pot gear in the Kodiak District with the exception of three sections of the Kodiak District which are closed under 5 AAC 31.590 WESTWARD AREA SHRIMP FISHERIES MANAGEMENT PLAN.

Historic Trawl Fishery Background

The Kodiak shrimp fishery began with a harvest of 31,886 pounds in 1958 (Jackson and Ruccio 2003). The fishery grew rapidly to an annual catch of 11.0 million pounds in 1961. The fishery slowed when shore plants and the fishing fleet were badly damaged by the 1964 earthquake and tsunami, but then quickly surged to a peak Kodiak District harvest of 82.2 million pounds in 1971 (Table 20). As Kodiak shrimp catches declined in the 1970s, much of the vessel effort shifted into the Chignik and South Peninsula Districts (Jackson and Ruccio 2003). The Westward Region harvest peaked in 1976 at 120 million pounds. Stock abundance and fisheries declined sharply thereafter. The northern pink shrimp *Pandalus borealis* has been the most prevalent species in the harvest contributing over 95% by weight. Other species landed included sidestriped *Pandalopsis dispar*, coonstriped *Pandalus hypsinotus*, spot *Pandalus platyceros* and humpy *Pandalus goniurus* shrimps.

ADF&G initiated a voluntary logbook program in 1967. The resulting database, plus data from trawl surveys conducted by ADF&G since the early 1970s, provided a means for establishing harvest levels. The system was flexible during its development stage, but in 1981, the industry requested this management scheme be defined and adopted into regulation. This led to the WESTWARD REGION SHRIMP MANAGEMENT PLAN, which was approved by the BOF in 1982. The objectives of this management plan were to maintain shrimp stocks at a level termed "representative biomass index" (RBI) determined by survey trawls, while allowing a fishery during rebuilding periods. A minimum level at which any harvest would occur was established and termed the "minimum acceptable biomass index" (MABI) (Table 21).

Concurrent with approval of the WESTWARD REGION SHRIMP MANAGEMENT PLAN, the BOF also enacted an additional management strategy as an "economic alternative" known as the MAINLAND SHRIMP MANAGEMENT PLAN. This alternative strategy allowed shrimp fishing in some bays on the Alaska Peninsula and around Afognak Island regardless of survey results. In September of 1997, the BOF repealed the MAINLAND SHRIMP MANAGEMENT PLAN due to concerns about the lack of information needed for the sustainability of the fishery. This left only the General Section comprising offshore areas open annually from June 15 through February 28. Much of the state waters within the General Section are closed to non-pelagic trawls, including otter and beam shrimp trawl nets.

ADF&G requires vessels registering in the General Section to provide logbooks for fishery management and research. There has been little commercial harvest effort in the General Section in the past decade. The highest harvest in that time has been 11,905 pounds, landed in 1997/98 by four vessels.

Historic Pot Fishery Background

Pot fishing for shrimp has never been a large fishery in Kodiak and is virtually nonexistent in the rest of the region. The West and North Afognak Sections, along with the Mainland Section, were closed to pots and trawls by the 1997 BOF action contained in 5 AAC 31.590 WESTWARD AREA SHRIMP FISHERIES MANAGEMENT PLAN. In all other areas, shrimp may be taken year round with pots. ADF&G requests a logbook to be submitted with fishtickets from all landings of pot caught shrimp. The largest landing of product was less than 19,000 pounds of spot shrimp tails in 1983 (Table 22).

2002 Kodiak District Shrimp Pot and Trawl Fishery

Seven vessels registered to pot fish for shrimp during the 2002 season; however no landings were reported. Three vessels were registered to trawl fish for shrimp during the 2002 season, however harvest information is confidential since less than three processors were involved.

Status of Kodiak District Shrimp Stocks

ADF&G conducts trawl surveys to assess shrimp biomass. In recent years, surveys have been conducted every three years in the Kodiak District. Most of the General Section is not surveyed; nor is there any established MABI in the General Section.

In the Kodiak District, the highest catch of shrimp per mile towed was found in Marmot and Wide Bays; however only Wide Bay estimates were above MABI (Jackson 2003). Wide Bay is part of the territorial waters closed to non-pelagic trawl gear, including shrimp beam and otter trawls. Therefore, no commercial trawl fishery will occur in Wide Bay in 2003. Table 21 contains the population estimates and MABIs established for the Kodiak District Sections surveyed in 2002. Most sections remain well below historic population levels, but have shown some increases in recent years.

Trawl gear does not adequately sample the rocky habitat typically associated with shrimps taken by pot gear. Therefore, no inferences about spot and coonstriped shrimps are drawn from the trawl survey. It is reasonable to expect, based on the general population trends exhibited by pink shrimp through the trawl survey, that all shrimp populations remain stable at lower than historic levels.

South Peninsula and Chignik Districts

Description of the Areas

The Chignik District for shrimp includes all waters west of a line extending south from Kilokak Rocks and east of a line from Kupreanof Point to the easternmost point of Castle Rock, and east of a line extending 135° southeast from the easternmost point of Castle Rock. The Chignik District is further divided into nine sections: Kujulik Bay, Chignik Bay, Kuiukta Bay, Mitrofanina Island, Ivanof Bay, Chiginagak Bay, Seal Cape, Nakalilok Bay, and Aniakchak Bay Sections (Figure 15). The offshore waters in the Chignik District are not assigned sections.

The South Peninsula District for shrimp includes all waters west of a line from Kupreanof Point to the easternmost point of Castle Rock, and west of a line extending 135° southeast from the easternmost point of Castle Rock and Pacific Ocean waters east of the longitude of Cape Sarichef. The South Peninsula District is further divided into eight sections: Stepovak Bay, Unga Straits, West Nagai, Beaver Bay, Kenoys Island, Pavlof Bay, Belkofski Bay, and Morzhovoi Bay Sections (Figure 16). The offshore waters in the South Peninsula District are not assigned sections.

Overview of Fishery Regulations

The shrimp fisheries that occur in the Chignik and South Peninsula Districts are part of Registration Area J. All of Registration Area J is a nonexclusive registration area for shrimp fishing. To participate in commercial shrimp fishing with any gear type in Area J, a vessel operator is required to obtain an interim use permit card from CFEC and a shellfish registration from ADF&G.

In the Chignik and South Peninsula Districts, shrimp may be taken with trawl gear from May 15 through February 14 provided that estimated shrimp populations are above established thresholds. The majority of the sections in these two districts are open and closed by EO when abundance thresholds are met or exceeded. The remaining waters of the Chignik and South Peninsula Districts, similar to the General Section of the Kodiak District, have no established MABI and are open annually during the established season.

During 2002, there was no closed season for shrimp fishing with pot gear in the Chignik District with the exception of Chiginagak, Nakalilak, and Aniakchak Sections. There are no closed sections in the South Peninsula District for vessels using pot gear.

Historic Background

Shrimp fishing in the South Peninsula and Chignik Districts began in 1968, but catch levels remained relatively low until the 1972/73 season when 19.6 million pounds were harvested (Table 23). The historic high catch of 71.5 million pounds was reached in the 1977/78 season from the two districts. Catches declined rapidly until all South Peninsula sections were closed in 1980/81. 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 those areas. Since that time, all the inshore waters have remained closed and no fishing has occurred in the offshore areas.

2001/02 South Peninsula and Chignik Districts Shrimp Pot and Trawl Fishery

There were no vessels registered to pot or trawl fish for shrimp during the 2001/02 season.

Status of South Peninsula and Chignik Districts Shrimp Stocks

In 2002, ADF&G conducted a trawl survey in the South Peninsula and Chignik Districts for the first time since 1995. Shrimp abundance indices from the 2002 survey were below MABI levels in all South Peninsula and Chignik District sections that were surveyed (Table 21). Shrimp densities within the South Peninsula and Chignik Districts were similar to those found during a 1995 survey (Jackson and Ruccio 2003).

RED SEA CUCUMBER

Introduction

The red sea cucumber fishery that occurs in the Kodiak, Chignik, and South Peninsula Districts is part of miscellaneous shellfish Registration Area J. The sea cucumber dive fisheries are nonexclusive and open access. The districts and sections in use for Tanner crab management are used to delineate sea cucumber management districts and sections. Sea cucumber fisheries open by regulation from October 1 through April 30 under the authority of a commissioner's permit. GHs are established annually and fisheries remain open until section GHs are attained or the biological season closure occurs. Weekly fishing periods are announced annually and established by EO. Fishing periods begin on or about October 1 and continue until the established GHs are attained or the regulatory closure date of April 31. In recent years, most sections that have received fishing activity have been open from one to three days per fishing period. Historically, dive gear has been the only method used to harvest sea cucumbers in the Kodiak, Chignik, and South Peninsula Districts. The use of mixed gasses in the dive fishery is not prohibited in these districts. Dive logs are required to be submitted at the time of landing with the ADF&G copy of the fish ticket. Each diver is required to have a CFEC permit card and register with ADF&G prior to participating in the fishery.

Kodiak and Chignik Districts

Description of the Area

The Kodiak District for sea cucumbers includes Pacific Ocean waters of miscellaneous shellfish Registration Area J south of the latitude of (58° 51.10' N lat.), west of the longitude of Cape Fairfield (148° 50.25' W long.), and east of the longitude of Cape Kumlik (157° 27' W long.). The district is further subdivided into eight sections: Northeast, Eastside, Southeast, Southwest, Semidi Island, Westside, North Mainland, and South Mainland (Figures 2).

The Chignik District for sea cucumbers includes the Pacific Ocean waters of Registration Area J west of the longitude of Cape Kumlik (157° 27' W long.) and east of a line from the southern most tip of Kupreanof Point (55° 34' N lat., 159° 36' W long.) to the easternmost point of Castle Rock, and east of a line extending 135° from the easternmost point of Castle Rock (Figure 5). The Chignik District is not subdivided into sections for sea cucumber management.

Historic Background

Red sea cucumbers were not harvested commercially in the Westward Region until 1991. In 1991 and 1992, processors recruited divers to gather small numbers of red sea cucumbers in the Kodiak and Chignik areas to test marketability. In the spring of 1993, several processors gathered divers to prosecute a commercial fishery for red sea cucumbers in those same areas. The 1993 harvest of 564,516 pounds was taken by 50 dive permit holders (Table 24).

In February of 1994, ADF&G announced several management measures intended to prevent overharvest of the red sea cucumber resource. A seasonal closure from May 1 through September 30 was established to protect spawning aggregates of red sea cucumbers. In addition, GHLS were established for the Kodiak and Chignik Districts. Management areas based on the Tanner crab fishing sections were utilized in Kodiak in an attempt to spread the effort and harvest around the island and prevent localized depletion (Figure 2). A GHL was set for each of the individual sections based on historic production and fisheries performance. Registration permit provisions included a weekly fishing period of five days and daily dive logs submitted by the divers with fish tickets. The fishery was reopened April 1, 1994 and closed on April 30.

Following the May 1 to September 30 closure in 1994, ADF&G again opened the Kodiak and Chignik Districts to red sea cucumber fishing. GHLS for the Kodiak and Chignik Districts combined during the 1994/95 season totaled 225,000 pounds with three day weekly fishing periods. The shortened fishing periods were set to allow ADF&G a better opportunity to assess inseason fishery performance. GHLS were quickly reached in the sections surrounding Kodiak Island.

The 1995/96 sea cucumber fishing season opened on October 1, 1995. Evaluation of another year of fishery performance resulted in a decreased GHL. The GHL for the Kodiak District was 135,000 pounds, and the Chignik District GHL was set at 25,000 pounds. Effort again concentrated on the Eastside, Southeast, Southwest, and Westside Sections of Kodiak. Although outlying areas along the Alaska Peninsula have historically remained open for the duration of the regulatory season, divers were reluctant to cross Shelikof Strait due to stormy weather and the expectation of marginal returns. From 1998-2001, the fishery in the Kodiak District has followed a similar pattern of approximately five fishing periods of varying length occurring before the areas around Kodiak Island obtained their respective GHLS and were closed for the season. The development of sea cucumber dive fisheries in both Kodiak and Chignik are very closely related. Therefore, the Chignik District information will continue to be reported in the Kodiak section of this Area Management Report.

2002/03 Kodiak and Chignik Districts Red Sea Cucumber Fishery

The Kodiak and Chignik red sea cucumber fishery opened October 3, 2002. In previous years, the fishery opened on October 1, however the 2002 opening was delayed to allow the opening to occur Thursday, Friday, and Saturday. This schedule allowed management decisions to be made during the work week, and allowed for better interaction with the dive fleet.

The 2002 GHL for the Kodiak Area totaled 135,000 pounds of eviscerated product. Twenty-three divers harvested 175,382 pounds from the Kodiak Area. The Eastside, Southeast, Southwest, and Westside Sections of the Kodiak Area were closed when their GHLS were attained. Minor harvests occurred in the Northeast and South Mainland Sections and the Chignik District.

First Fishing Period, October 3 to October 5

The majority of effort occurred in the Eastside Section where 19 divers took 59,256 pounds (Table 25). The 2002/03 GHL for the Eastside Section was set at 40,000 pounds; the harvest exceeded the GHL by 48%. Historically, divers tend to target the Eastside Section during the first fishing period. The 2002 level of harvest for a three-day opening was unprecedented.

It is unclear if a summer dive and video survey conducted by ADF&G in the Eastside Section influenced the divers. Several of the divers that participated in the survey also participated in the dive fisheries. Several individuals commented that sea cucumbers were very large and occurring in good densities. This may also explain the uncharacteristically large first fishing period harvest in the Eastside Section.

Three divers made landings from the Southeast Section in the first period, harvesting 7,800 pounds. In previous seasons, more effort occurred in the Southeast Section in the first period. During the past two seasons, 10 divers participated in the Southeast Section in this opening effectively reducing the ability of the fleet to exceed any one section GHL in the first fishing period.

Based on the harvest from the first period, the Eastside Section was closed for the rest of the 2002/03 season. The Southeast Section was scheduled to open for 1.5 days in the second fishing period and all other sections were to open for three full days.

Second Fishing Period, October 10 to October 12

During the second fishing period, all effort occurred in the Westside Section. Historically divers were dispersed in the Southeast, Southwest, and Westside Sections during the second opening. Twenty divers harvested 58,107 pounds in the Westside Section, exceeding the 30,000 pound GHL by 90%. It was apparent that the harvest power of the divers was higher than previous fisheries. Several divers are capable of very high pounds harvested per dive minute and experienced divers are able to locate dense aggregations of sea cucumbers. Many divers have participated in the Kodiak District fishery for several seasons. In addition, almost all of the 2002/03 divers participated in the same section if not in the same bay, cove, or harvest area.

Because of the harvest capability of the divers, the Southwest Section was scheduled to open for two days (October 17 and 18) in the third fishing period. This was done to constrain the fleet within the 20,000 pound GHL for that section. The Southeast Section was opened for one day on October 19. The non-concurrent openings were designed to give the fleet ample time to harvest the GHLS in both sections. Some discussion occurred amongst staff to have a concurrent opening of these two sections. It was felt that the fleet should ‘split up’ between the two sections because potential for exceeding the GHLS was too great. This was the first time a non-concurrent opening of major harvest sections was attempted in the Kodiak District sea cucumber fishery.

All other sections not previously closed were open for the full three days in the second fishing period.

Third Fishing Period, October 17 to October 19

Seventeen divers harvested 47,295 pounds from the Southwest and Southeast Sections in the third period. No additional harvest occurred in any of the Kodiak Sections.

All seventeen divers participated in the Southwest Section. 30,949 pounds were harvested, exceeding the GHL by 36%. Seventeen divers harvested 16,346 pounds from the Southeast Section. The cumulative harvest in that section was 24,146 pounds. This was approximately 80% of the preseason GHL. Both the Southwest and Southeast Sections were closed for the remainder of the season.

Additional Fishing Periods Established by Permit Terms

As the major harvest producing sections closed for the season, the three day fishing period was rescinded by EO and sections were opened by commissioner’s permit. This has become the standard practice after the closure of the major fishing areas.

Four divers obtained permits for the Northeast Section. Three of the divers had a permit issued for three days with harvest reports required daily. These divers quit for the season following their three-day permit.

Three other divers obtained a permit for the Mainland Sections. Based on a report taken on the second day, the permit was extended for an additional day, as little harvest had occurred in the first day and a half of fishing. Three divers harvested 3,326 pounds from the North Mainland Section. This was the first commercial dive effort in the North Mainland Section.

As has been the case in previous seasons, the sole buyer of sea cucumbers stopped purchasing on November 1. Four divers registered to fish cucumbers in the spring of 2003 in the Chignik Area, but not all made deliveries. The catch remains confidential. Final harvest data, by section or district, for the 2002/03 sea cucumber fishery is shown in Table 25. The exvessel price for sea cucumbers from the 2002/03 Kodiak Area fishery was \$1.25 per pound of eviscerated animal. The estimated exvessel fishery value was \$219,228.

Dockside Sampling

Over the course of the fishery, dockside samplers conducted interviews with the vessel operators at each delivery, and obtained average weights of sea cucumbers. Logbook data supplied by divers was much improved from previous seasons; most logbooks contained latitude and longitude data as opposed to broader geographic locations.

Status of Kodiak and Chignik Districts Red Sea Cucumber Stocks

There are no population estimates for red sea cucumbers in the Westward Region. Following the establishment of GHLs in 1995, catch rates estimated from diver logbook data in the commercial fishery have remained stable in recent years. Biomass levels, especially at depths unavailable to divers, are unknown. Funding from a federal grant has been utilized for preliminary dive and video assessment of red sea cucumber populations in the Eastside Section of Kodiak. Results of this pilot study have not been completed.

South Peninsula District

Description of the Area

The South Peninsula District for red sea cucumbers includes all Pacific Ocean waters west of a line from the southernmost tip of Kupreanof Point to the easternmost tip of Castle Rock, west of a line extending southeast 135° from the easternmost tip of Castle Rock, and east of a line extending south from Scotch Cap Light (Figure 5).

Historic Background

The waters adjacent to the south side of the Alaska Peninsula were initially explored for red sea cucumber in 1993. Very little effort has historically occurred in the South Peninsula District for red sea cucumbers. Effort occurred in the 1994 season with three divers. The catch during this season remains confidential as only two divers made landings. There was no effort during the 1995/96 season in the Alaska Peninsula area. In 1996/97, one diver participated, and the harvest remains confidential. During the 1997/98 season four divers landed 13,427 pounds. There have been no divers in the Alaska Peninsula since the 1997/98 season.

2002/03 South Peninsula District Red Sea Cucumber Fishery

No fishing occurred in the South Peninsula District during the 2002/03 sea cucumber fishery. The season was open from October 1 through April 30 with a GHL of 5,000 pounds for exploratory fishing.

Status of South Peninsula District Red Sea Cucumber Stocks

Biomass assessment is not conducted on red sea cucumbers in the South Peninsula District. Little commercial harvest has occurred within the Alaska Peninsula District. Actual population levels are unknown. In addition, the extent of the westward range of red sea cucumbers is not well documented; however, ADF&G trawl surveys have captured red sea cucumbers as far west as Pavlof Bay.

GREEN SEA URCHINS

Introduction

Fishers participate in the green sea urchin fishery under the terms of a miscellaneous shellfish permit as authorized in 5 AAC 38.062. Commercial fishing regulations set the season at October 1 to January 31. Dive and handpicking are the only legal means to harvest sea urchins. The use of 4-foot rakes is also allowed. A valid CFEC interim use permit card and registration are required. Logbooks are mandatory and must be submitted with completed fishtickets. There are currently no size limits for green sea urchins in regulation. However, buyers have only purchased green sea urchins that are approximately 2 or 2¼ inches or greater in test diameter.

Historic Background

The green sea urchin was not harvested commercially in the Westward Region until 1980 when a small amount was taken in the Kodiak Area to test marketability. There was little further interest in green sea urchins in Kodiak until 1985 when several thousand pounds were harvested. In 1986, the harvest increased with more divers participating. Peak harvest occurred in 1988 at 190,509 pounds (Table 26). Kodiak green sea urchins are usually shipped live to Japan for processing.

Red sea urchins *Strongylocentrotus franciscanus* are widely harvested in Southeast Alaska and along the west coast of Canada and the lower 48 states. Red sea urchins are found in small quantities in the Kodiak Area, however their abundance is insufficient to support a commercial fishery.

In 2000, ADF&G worked to develop conservative GHLS for the green sea urchin fisheries based on historic harvest information. The sections utilized for Tanner crab and red sea cucumber management were adopted for green sea urchin management. Sections that lacked historic harvest data were assigned a 5,000 pound GHL. Sections that had been previously explored and had some prior harvest were assigned a 10,000 pound GHL to prevent local depletion. ADF&G will work closely with fishery participants to collect baseline biological data from the green sea urchin fishery and may adjust GHLS.

2002/03 Green Sea Urchin Fishery

No vessels registered for the 2002/03 green sea urchin fishery in the Kodiak area.

Status of Green Sea Urchin Stocks

No stock assessment work is currently being done on green sea urchin populations in the Kodiak and Alaska Peninsula Areas. Given the low effort levels in the fishery, data from logbooks on CPUE varies widely and does not lend itself to inferences on stock status. Fishery information indicates the biomass is not large when compared to other areas on the Pacific Coast and when compared to an annual worldwide sea urchin harvest estimated at 100 million pounds (Lourie and Sanders 2000).

OCTOPUS

Introduction

Harvest of the giant Pacific octopus occurs in the Kodiak, Chignik, and South Peninsula Districts of miscellaneous shellfish Registration Area J. There is no closed season for directed fisheries for octopus; however fisheries may only occur under the authority of a commissioner's permit. To target octopus, a valid octopus permit card for the gear type to be used must be obtained from CFEC. A registration is also required from ADF&G. While in possession of an octopus registration, vessel operators may not participate in other fisheries such as the state-waters Pacific cod fishery. Vessel operators may retain octopus bycatch up to 20% of their target species weight with any valid CFEC permit card in any fishery. Vessel operators registered for an octopus fishery may only retain permissible bycatch levels of other species. Voluntary logbooks are requested from individuals targeting octopus. No GHs are established for octopus fisheries.

In 2001, ADF&G adopted a revised product recovery rate for octopus designated as "gutted" on fish tickets. The revision has changed historic data within the department's fish ticket database from 1995 to present; therefore, this report may contain data that is different from previously published reports on octopus harvest.

Historic Background

Octopus is considered a groundfish species by National Marine Fisheries Service (NMFS) and a shellfish species under ADF&G management classification. Before 1985, no distinction between state and federal waters was made regarding octopus harvest. In the period from 1977 to 1984, the highest recorded harvest was 19,342 pounds in 1980 from the Kodiak Area in (Table 27). During this period, much of the octopus harvested was used as bait or kept for personal consumption and was not reported on fishtickets. Harvests were likely higher than indicated.

The octopus fishery experienced a dramatic increase in the 1990s. The decline of many crab stocks in the Gulf of Alaska resulted in reduced harvest opportunity or fishery closures for many of the crab fisheries that had been prosecuted from late fall to early spring with pot gear. To fill the void, many pot-gear fishers turned to Pacific cod *Gadus macrocephalus* in those months. In turn, octopus retention increased during Pacific cod fisheries. ADF&G worked with industry to ensure that all octopus harvest, particularly harvests that were not sold but retained as bait, was documented on fishtickets. ADF&G also began requiring vessels to specify, at the time of registration for groundfish fisheries, their intent to retain octopus as bycatch. Octopus has long been sought as bait in the Pacific halibut *Hippoglossus stenolepis* longline fisheries and in the Pacific cod pot fisheries. Periodic episodes of favorable market conditions also resulted in large amounts of octopus sold to processors. In some years, such as 1990, the average exvessel price was \$1.08 per pound.

The majority of octopus harvest since 1985 has occurred within state waters (Table 28). In 1991, there were 107,030 pounds of octopus harvested from state waters in the Kodiak Area. In that same year, 27,936 pounds of octopus were harvested from federal waters in the Kodiak Area. Octopus harvest decreased substantially in the mid-1990s, only to increase sharply with the advent of the state-waters Pacific cod fisheries in 1997. In 1997, a total of 238,954 pounds of octopus were harvested in state and federal waters, with approximately 80% from state waters in the Alaska Peninsula area (Table 29). Harvest reached a record high in 1998 with a combined state and federal harvest of 331,935 pounds.

2002 Kodiak District Octopus Fishery

Two fishers registered to target octopus in 2002. To maintain confidentiality, their harvest is reported with all incidental harvest for the year. Thirty-three vessels made 234 landings for a total harvest of 206,938 pounds from state waters. Thirty-six vessels harvested 40,698 pounds of octopus from 120 landings from federal waters of the Kodiak Area. Many of the fish tickets submitted indicated octopus were retained for use as bait. Additionally, few fish tickets had a value associated with octopus landings. Tickets with price information listed an average of \$0.48 per pound for an estimated exvessel fishery value of \$100,914 for the state and federal water harvest combined.

2002 Alaska Peninsula and Chignik Districts Octopus Fisheries

No vessels registered for directed fishing of octopus in the Alaska Peninsula Area in 2002. The 2002 incidental harvest of octopus in the Alaska Peninsula Area totaled 16,585 pounds from state and federal waters. Six vessels harvested 3,132 pounds from 15 landings in state waters. A total of 13,454 pounds were harvested from federal waters by nineteen vessels making 50 landings. None of the fish tickets for 2002 had price per pound recorded for the octopus harvest; it was used as bait, retained for personal use, or had no price recorded by the processing facility issuing the fish ticket.

Status of Kodiak, Chignik, and Alaska Peninsula Districts Octopus Stocks

No stock assessment is currently conducted on octopus in the Westward Region; the population status is unknown.

RAZOR CLAMS

The commercial razor clam fishery in the Kodiak, Chignik and South Peninsula Districts are part of miscellaneous shellfish Registration Area J. The Alaska razor clam *Siliqua alta* and the Pacific razor clam *Siliqua patula* may be harvested only under the authority of a commissioner's permit. There are no established GHGs for clam fishing.

Historic Background

Razor clams have been harvested in the Kodiak Management Area from the early 1920s through 1986. 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 of the Alaska Peninsula. Digging continued on a somewhat regular basis until the early 1960s when a combination of increasing federal and state clam processing regulations, poor market conditions, and the 1964 earthquake precipitated a decline in harvests. Commercial harvesting of clams for human consumption has not been re-established and the fishery has been strictly hand digging for use as bait in the Dungeness crab fishery. The certification program conducted by the DEC ended in July 1980. Currently, there are no clam beaches in the Kodiak Area commercially certified as safe for human consumption.

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 that dictates a ban on camping in the monument in support of a business enterprise. In 1986, the BOF adopted a regulation prohibiting hydraulic mechanical dredges from harvesting clams in the Kodiak District east of Kilokak Rocks.

Status of Kodiak, Chignik, and Alaska Peninsula Districts Razor Clam Stocks

The potential for a razor clam harvest in the Kodiak District has been established by historic catch records and studies conducted by ADF&G. These studies, however, were conducted in the mid-1970s and are of little benefit in judging stock status at this time. No commercial activity has occurred in this area since 1986. (Table 30).

OTHER MISCELLANEOUS SHELLFISH FISHERIES

Periodic interest has arisen in harvesting other miscellaneous shellfish in the Kodiak, Chignik, and South Peninsula Areas. Request for fishing permits for snails, intertidal mollusks, crabs, and mussels have occurred. Information on any undescribed shellfish species is best obtained by contacting ADF&G directly. Regulations governing other miscellaneous shellfish can be found in chapter 38 of the shellfish regulations (5 AAC 38.001-38.403).

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Table 1. Landings and value of shellfish fisheries to the Port of Kodiak, 2002.

Species	Pounds ^a	Exvessel Value
<i>Kodiak Area Harvest</i>		
Shrimp ^b	Confidential	
Golden king crab	Confidential	
Tanner crab	361,166	\$733,047
Dungeness crab	355,787	\$500,306
Red Sea Cucumbers	177,597	\$221,996
Octopus	207,844	\$99,495
<i>Delivered to Port of Kodiak</i>		
Bering Sea snow crab	655,193	\$944,749
Bristol Bay red king crab	783,399	\$4,706,366
TOTAL^c	2,540,986	\$7,205,959

^a Represents pounds of product landed at the Port of Kodiak including harvest outside the Kodiak Management Area (shore based processors only).

^b All species, primarily pink and sidestriped shrimp.

^c Total does not include confidential data. Confidential = Less than three vessels made landings or less than three processors purchasing product.

Source: Alaska Department of Fish and Game fishticket database, May 2002.

Table 2. Shellfish emergency orders for the Kodiak area, 2002.

Emergency Order	Effective Date	Explanation
<u>Tanner Crab</u>		
4-S-01-02	January 16, 2002	Closed Eastside Section of the Kodiak District to Tanner crab fishing for remainder of 2001/2002 season.
4-S-04-02	January 19, 2002	Closed Northeast Section of the Kodiak District to Tanner crab fishing west of a line originating on Cape Izhut on Afognak Island, extending to Cape Chiniak on Kodiak Island for remainder of 2001/2002 season.
4-S-05-02	February 13, 2002	Closed Northeast Section of the Kodiak District to Tanner crab fishing for remainder of 2001/2002 season.
<u>Sea Cucumber</u>		
4-S-10-02	October 10, 2002	Closed Eastside Section of the Kodiak District to sea cucumber dive fishing for remainder of 2002/2003 season.
4-S-12-02	October 17, 2002	Closed Westside Section of the Kodiak District to sea cucumber dive fishing for remainder of 2002/2003 season.
4-S-14-02	October 21, 2002	Closed Southeast and Southwest Sections of the Kodiak District to sea cucumber dive fishing for remainder of 2002/2003 season.
<u>King Crab</u>		
4-S-11-02	September 25, 2002	Closed Registration Areas 'K' and 'M' to red and blue king crab fishing for the 2002/2003 season.

Table 3. Shellfish emergency orders issued for the Alaska Peninsula area, 2002.

Emergency Order	Effective Date	Explanation
<u>Tanner Crab</u>		
4-S-02-02	January 16, 2002	Closed Chignik and South Alaska Peninsula Districts to Tanner crab fishing for 2002.
<u>Sea Cucumber</u>		
4-S-14-02	October 21, 2002	All sections in the Kodiak and Chignik Districts not previously closed for the 2002/03 to sea cucumber fishing opened with permit duration and reporting requirements specified in revised commissioner's permits.
<u>King Crab</u>		
4-S-11-02	September 25, 2002	Closed Registration Areas 'K' and 'M' to red and blue king crab fishing for the 2002/2003 season.

Table 4. Tanner crab commercial catch, effort, and value for the Kodiak District, 1967- 2001/02.

Year/Season	Number				Pots	CPUE	Average	Price Per
	Vessels	Landings	Crabs	Pounds	Lifted		Weight	Pound
1967	NA	83	NA	110,961	NA	NA	NA	\$0.07
1968	NA	817	NA	2,560,687	NA	NA	NA	\$0.10
1969	85	955	NA	6,827,312	72,748	43	NA	\$0.11
1969/70	67	833	3,237,244	8,416,782	78,266	42	2.6	\$0.11
1970/71	82	453	2,686,067	6,744,163	60,967	44	2.5	\$0.11
1971/72	46	505	3,878,618	9,475,902	65,907	59	2.4	\$0.13
1972/73	105	1,466	13,609,688	30,699,777	188,158	72	2.3	\$0.17
1973/74	123	1,741	11,857,573	29,820,899	217,523	55	2.5	\$0.20
1974/75	74	471	5,459,940	13,649,966	73,826	74	2.5	\$0.17
1975/76	104	1,168	10,748,958	27,336,909	199,304	54	2.5	\$0.20
1976/77	102	998	7,830,727	20,720,079	164,213	48	2.6	\$0.33
1977/78	148	1,483	12,401,243	33,281,472	251,621	49	2.6	\$0.43
1978/79	218	1,225	10,702,829	29,173,807	275,455	38	2.7	\$0.55
1979/80	211	1,385	6,813,128	18,623,875	282,946	24	2.7	\$0.55
1980/81	188	771	4,398,631	11,748,629	174,351	25	2.7	\$0.65
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	19	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
1994/95 to 1999/00				NO COMMERCIAL FISHERY				
2000/01	144	219	193,138	510,407	7,233	27	2.6	\$2.30
2001/02	181	279	146,655	361,166	10,446	14	2.5	\$2.03
TOTAL	NA	NA	130,463,057	341,649,616	3,937,541	NA	NA	NA

NA = not available

Table 5. Tanner crab guideline harvest level, effort, and harvest by section for the Kodiak District, 2000/01.

Section	GHL	Vessels	Permits	Harvest	Pots Lifted	CPUE
Northeast	225,000	62	65	130,644	3,226	17
Eastside	275,000	84	92	379,763	4,007	34
<i>Total</i>	500,000	144 ^a	155	510,407	7,233	27

^aTotal unique vessels; several vessels participated in both sections.

Table 6. Tanner crab guideline harvest level, effort, and harvest by section for the Kodiak District, 2001/02.

Section	GHL	Vessels	Permits	Harvest	Pots Lifted	CPUE
Northeast	300,000	104	118	127,818	6,005	10
Eastside	200,000	88	103	233,348	4,441	20
<i>Total</i>	500,000	181 ^a	211	361,166	10,446	14

^aTotal unique vessels; several vessels participated in both sections.

Table 7. Kodiak District Tanner crab fishery vessel size, 2002.

Vessel Length	Vessels per size class		Harvest per size class		Average harvest per size class
	Number	Percent	Pounds	Percent	
<29'	7	3.9%	1,440	0.4%	206
30-39'	36	19.9%	30,132	8.3%	837
40-49'	51	28.2%	146,474	40.6%	2,872
50-59'	48	26.5%	101,749	28.2%	2,120
60-69'	8	4.4%	35,510	9.8%	4,439
70-79'	12	6.6%	21,103	5.8%	1,759
80-89'	12	6.6%	10,002	2.8%	834
90-99'	4	2.2%	14,387	4.0%	3,597
>100'	3	1.7%	369	0.1%	123
Total	181	100.0%	361,166	100.0%	1,995

Table 8. Kodiak, Chignik, and South Peninsula Districts Tanner crab guideline harvest levels (GHLs), season dates, fishing periods, and total fishery time, 2000/01.

District/Section	GHL (pounds)	Opening date/ time	Closure date/ time	No. of 12-hour fishing periods	Total fishery time (hours)
Kodiak					
Northeast ^a	225,000	Jan. 15/ Noon	Jan. 19/ 7:59 PM	4.6	56
Eastside	275,000	Jan. 15/ Noon	Jan. 17/ 7:59 PM	1.6	20
Southeast			No commercial fishery		
Southwest			No commercial fishery		
Westside			No commercial fishery		
North Mainland			No commercial fishery		
South Mainland			No commercial fishery		
Semidi Islands			No commercial fishery		
Chignik			No commercial fishery		
South Peninsula	375,000	1/15 Noon	1/18 7:59 PM	3.6	44

^aKazakof Bay in the Northeast Section closed on 1/19 at 2:00 PM.

Table 9. Kodiak, Chignik, and South Peninsula Districts Tanner crab guideline harvest levels (GHLs), season dates, fishing periods, and total fishery time, 2001/02.

District/Section	GHL (pounds)	Opening date/ time	Closure date/ time	No. of 12-hour fishing periods	Total fishery time (hours)
Kodiak					
Northeast ^a	300,000	Jan. 15/ Noon	Jan. 19/ 2:00PM	4.3	52
Northeast ^b	-----	Jan. 15/ Noon	Feb. 13/ 8:00 PM	29.6	356
Eastside	200,000	Jan. 15/ Noon	Jan. 16/ 2:00 PM	1.2	16
Southeast			No commercial fishery		
Southwest			No commercial fishery		
Westside			No commercial fishery		
North Mainland			No commercial fishery		
South Mainland			No commercial fishery		
Semidi Islands			No commercial fishery		
Chignik			No commercial fishery		
South Peninsula			No commercial fishery		

^aRemaining waters of the Northeast Section closed.

^bPartial closure of the Northeast Section (Chiniak, Middle, Kalsin, Izhut, inner Marmot Bays).

Table 10. Tanner crab commercial catch, effort, and value from the Chignik District, 1968-2001/02.

Year/Season	Number				Pots	CPUE	Average	Price Per
	Vessels	Landings	Crabs	Pounds	Lifted		Weight	Pound
1968	NA	NA	NA	21,100	NA	NA	NA	NA
1969	NA	NA	NA	38,100	NA	NA	NA	NA
1969/70	NA	NA	NA	2,800	NA	NA	NA	NA
1970/71	NA	NA	NA	152,300	NA	NA	NA	NA
1971/72	CONFIDENTIAL HARVEST							
1972/73	15	56	297,363	747,788	8,080	51	2.5	\$0.16
1973/74	25	115	1,585,560	4,054,873	28,083	57	2.6	\$0.20
1974/75	25	91	1,438,508	3,649,444	22,675	63	2.5	\$0.14
1975/76	35	288	2,724,509	11,201,900	52,381	52	2.5	\$0.19
1976/77	21	141	2,098,226	5,672,919	40,604	52	2.7	\$0.33
1977/78	32	140	1,725,042	4,693,830	38,414	45	2.8	\$0.42
1978/79	39	126	926,253	2,536,105	28,378	33	2.7	\$0.55
1979/80	42	155	2,340,004	3,517,920	54,627	25	2.6	\$0.54
1980/81	24	112	1,534,847	3,653,723	44,022	35	2.4	\$0.64
1981/82	45	174	1,343,500	3,240,476	47,830	28	2.4	\$1.21
1982/83	48	136	1,432,029	3,497,370	60,210	24	2.4	\$1.12
1983/84	17	41	269,724	659,043	14,665	18	2.4	\$1.09
1984/85	15	27	162,448	375,476	15,708	10	2.3	\$1.42
1985/86	6	12	85,697	188,162	7,435	12	2.2	\$1.97
1986/87	10	20	89,329	195,060	7,052	13	2.2	\$2.28
1987/88	6	11	87,148	183,111	6,544	13	2.1	\$2.33
1988/89	6	34	142,470	323,120	9,845	15	2.3	\$3.05
1989/90 to 2001/02	NO COMMERCIAL FISHERY							
TOTAL	NA	NA	18,282,657	48,604,620	486,553	NA	NA	NA

NA = not available

Table 11. Tanner crab commercial catch, effort, and value for the South Peninsula District, 1968-2001/02.

Year/Season	Number				Pots	CPUE	Average	Price Per
	Vessels	Landings	Crabs	Pounds	Lifted		Weight	Pound
1967	NA	NA	NA	3,100	NA	NA	NA	NA
1968	NA	155	36,835	110,610	NA	NA	3	NA
1969	NA	173	221,946	606,178	NA	NA	2.7	NA
1969/70	NA	NA	NA	2,093,600	NA	NA	NA	NA
1970/71	17	242	813,610	2,140,585	NA	NA	2.6	\$0.10
1971/72	NA	NA	NA	3618900	NA	NA	NA	NA
1972/73	36	390	2,213,006	5,615,563	53,573	41	2.5	NA
1973/74	44	386	3,504,668	8,300,578	58,444	60	2.4	NA
1974/75	44	131	2,053,530	5,195,800	38,153	54	2.5	\$0.14
1975/76	36	288	2,724,509	6,926,161	52,381	52	2.5	\$0.20
1976/77	28	289	2,524,565	6,773,838	63,143	40	2.7	\$0.32
1977/78	36	374	2,847,948	7,446,270	70,587	40	2.6	\$0.40
1978/79	48	332	3,267,122	8,684,408	82,374	40	2.7	\$0.51
1979/80	61	363	2,581,544	6,961,251	96,989	27	2.7	\$0.54
1980/81	43	268	1,274,539	3,294,106	59,560	21	2.6	\$0.58
1981/82	72	365	1,815,060	4,589,042	81,008	22	2.5	\$1.05
1982/83	82	230	1,144,096	2,863,798	70,524	16	2.5	\$1.20
1983/84	61	207	775,472	1,789,883	50,726	15	2.3	\$1.04
1984/85	52	184	1,097,182	2,549,686	47,465	23	2.3	\$1.42
1985/86	74	187	1,589,759	3,781,950	65,078	24	2.4	\$1.72
1986/87	54	106	950,300	2,400,784	37,511	25	2.5	\$2.03
1987/88	73	148	1,359,371	3,328,809	52,516	26	2.4	\$2.20
1988/89	65	87	433,112	1,055,082	27,958	15	2.4	\$2.70
1989/90 to 1999/00				NO COMMERCIAL FISHERY				
2000/01	55	67	107,653	258,631	4,426	24	2.4	\$1.24
2001/02				NO COMMERCIAL FISHERY				
TOTAL	NA	NA	33,077,046	90,385,513	1,012,416	NA	NA	NA

NA = not available

Table 12. Dungeness crab commercial catch, effort, and value for the Kodiak District, 1962-2002.

Year/Season	Number				Pots Lifted	Average Lbs Per Landing	CPUE	Average Price Per Pound	Exvessel Value
	Vessels	Landings	Crab	Pounds ^a					
1962	NA	149	NA	1,904,567	NA	12,782	NA	\$0.09	\$171,000
1963	NA	354	NA	2,487,512	NA	7,026	NA	\$0.09	\$224,000
1964	29	395	NA	4,254,565	NA	10,537	NA	\$0.09	\$375,000
1965	25	351	NA	3,311,571	NA	9,434	NA	\$0.12	\$397,000
1966	12	144	NA	1,416,174	NA	7,976	NA	\$0.13	\$149,000
1967	18	439	NA	6,663,668	NA	15,179	NA	\$0.13	\$866,000
1968	43	536	NA	6,829,061	NA	12,741	NA	\$0.14	\$956,000
1969	29	455	NA	5,834,628	190,967	12,823	12	\$0.16	\$934,000
1970	33	318	-	5,741,438	249,800	18,005	9	\$0.14	\$804,000
1971	24	173	515,653	1,445,864	90,913	8,358	6	\$0.18	\$260,000
1972	34	316	766,960	2,059,536	140,921	6,517	6	\$0.40	\$824,000
1973	42	487	879,484	2,000,526	251,467	4,108	3	\$0.50	\$1,000,000
1974	23	172	337,839	750,057	104,062	4,361	3	\$0.47	\$353,000
1975	15	154	307,272	639,813	76,411	4,154	4	\$0.61	\$390,000
1976	4	6	38,072	87,110	4,410	14,518	9	\$0.15	\$13,000
1977					C o n f i d e n t i a l				
1978	20	173	618,357	1,362,306	93,633	7,875	6	\$0.75	\$1,022,000
1979	28	237	595,850	1,311,275	137,951	5,543	4	\$0.75	\$943,000
1980	21	197	968,829	2,011,736	107,261	10,212	9	\$0.45	\$905,000
1981/82	50	466	2,614,545	5,566,463	295,138	11,945	9	\$0.70	\$3,897,000
1982/83	111	991	2,004,075	4,546,311	481,542	4,588	4	\$0.75	\$3,410,000
1983/84	103	1,079	2,044,505	4,752,148	503,464	4,408	4	\$1.05	\$4,989,000
1984/85	106	1,163	2,393,974	5,303,052	627,441	4,564	4	\$1.45	\$7,689,000
1985	125	1,243	1,791,446	4,160,435	599,291	3,347	3	\$1.20	\$4,992,522
1986	81	577	439,738	967,423	199,881	1,667	2	\$1.15	\$1,112,500
1987	45	379	747,117	1,450,983	150,067	3,828	5	\$1.26	\$1,828,000

-Continued-

Table 12. (page 2 of 2)

Year	Number				Pots Lifted	Average Lbs Per Landing	CPUE	Average Price/Pound	Exvessel Value
	Vessels	Landings	Crab	Pounds					
1988	50	363	1,064,387	2,125,114	203,217	5,854	5	\$1.06	\$2,253,000
1989	47	359	1,428,973	3,077,937	185,242	8,574	8	\$1.10	\$3,385,730
1990	62	519	1,301,465	2,937,433	296,168	5,660	4	\$1.54	\$4,435,000
1991	62	732	695,470	1,414,499	279,872	1,932	1	\$1.37	\$1,938,000
1992	46	501	805,215	1,656,793	218,602	3,306	3	\$0.86	\$1,425,000
1993	42	263	647,736	1,369,889	180,534	5,209	5	\$0.92	\$1,260,000
1994	31	162	426,848	948,461	151,888	5,855	5	\$1.20	\$1,138,000
1995	24	106	257,677	527,434	107,506	4,976	4	\$1.72	\$907,000
1996	21	113	334,237	668,772	88,682	4,223	4	\$1.01	\$675,460
1997	21	123	257,697	529,550	95,066	4,305	3	\$2.04	\$1,080,282
1998	12	60	185,249	371,241	63,926	6,187	3	\$1.45	\$538,299
1999	13	72	269,277	551,183	65,721	7,655	4	\$1.57	\$849,555
2000	12	69	114,038	238,955	57,037	3,463	2	\$1.65	\$394,276
2001 ^b	21	57	101,371	208,265	41,760	3,653	2	\$1.95	\$392,080
2002	18	74	181,698	355,943	71,096	4,810	3	\$1.46	\$520,493

^aIncludes deadloss.

^bThe western boundary of the Kodiak District for Dungeness crab fishing is the longitude at Kilokak Rocks (156° 19' W long.). Prior to 2001, the western boundary was located at the longitude at Cape Kumlik (157° 27' W long.).

Table 13. Kodiak Dungeness crab fishery vessel size, 2002.

Vessel Keel Length (feet)	Number of Vessels
<20-29	0
30-39	3
40-49	9
50-59	1
60-69	5
70-79	0
80-89	0
≥ 90	0
TOTAL VESSELS:	18

Table 14. Harvest, vessels, and landings by statistical area from the Kodiak District Dungeness crab fisheries, 2000-2002.

Statistical Area	2000			2001			2002		
	Pounds	Vessels	Landings	Pounds	Vessels	Landings	Pounds	Vessels	Landings
525701	75,140	6	30	53,543	10	26	82,850	8	30
525703	24,557	4	16	confidential			17,350	6	14
525733	9,717	3	7	3,640	5	10	5,773	4	6
535705	12,712	4	10	confidential			11,963	5	8
545601	37,532	5	11	113,371	5	13	164,712	5	21
545602	0	0	0	0	0	0	10,596	3	4
545632	19,645	3	11	confidential			confidential		
Other	57,867 ^a	4	23	37,721 ^b	8	44	62,699 ^c	7	42
Total	237,170			208,265			355,943		

^aTotal of 7 statistical areas.

^bTotal of 12 statistical areas.

^cTotal of 16 statistical areas.

Table 15. Dungeness crab commercial catch, effort, and value for the Alaska Peninsula and Chignik Districts, 1968-2002.

Year	Number			Pounds ^a	Pots	CPUE	Average	Price per
	Vessels	Landings	Crab ^a		Lifted		Weight	Pound
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 Commercial Fishing Effort				
1975				No Commercial Fishing Effort				
1976				No Commercial Fishing Effort				
1977				No Commercial Fishing Effort				
1978				No Commercial Fishing Effort				
1979				Confidential				
1980				No Commercial Fishing Effort				
1981/82				Confidential				
1982/83	16	79	357,955	779,600	59,265	6	2.2	\$0.75
1983/84	18	132	565,430	1,207,128	113,061	5	2.1	\$0.97
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
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	\$0.79
1994	4	24	134,429	277,639	27,950	5	2.1	\$1.01
1995				Confidential				
1996	4	9	52,694	112,438	16,557	3	2.1	\$1.01
1997	8	18	121,085	240,427	43,103	3	2.0	\$2.06
1998	3	8	60,049	116,757	19,800	3	2.0	\$1.50
1999				Confidential				
2000				Confidential				
2001 ^{bc}				Confidential				
2002 ^c				Confidential				

^a Includes deadloss.

^b Part of the Alaska Peninsula District was subdivided to create the Chignik District. The eastern boundary of the Chignik District is the longitude at Kilokak Rocks (156° 19' W long.). Prior to 2001, the eastern boundary of the Alaska Peninsula District was located at the longitude at Cape Kumlik (157° 27' W long.).

^c Some harvest occurred in the Chignik District, however harvest is confidential.

NA = not available.

Table 16. Red king crab commercial catch, effort, and value for the Kodiak Area, 1960-2002.

Fishing Year ^a	Vessels	Landings	Number of Crab	Number of Pounds	Pots Lifted	Average		
						CPUE	Weight Per Crab	Price Per Pound
1960/61	143	NA ^b	2,116,375	21,064,871	NA	NA	NA	\$ 0.09
1961/62	148	NA	3,181,554	28,962,900	NA	NA	NA	\$0.10
1962/63	195	NA	4,146,143	37,626,703	NA	NA	NA	\$0.10
1963/64	181	NA	4,158,988	37,716,223	NA	NA	NA	\$0.10
1964/65	189	NA	4,923,309	41,596,518	95,951	51	NA	\$0.10
1965/66	175	NA	11,061,709	94,431,026	173,083	64	NA	\$0.13
1966/67 ^c	213	NA	8,476,299	73,817,779	223,174	38	NA	\$0.11
1967/68	227	3,847	5,147,321	43,448,492	207,392	25	NA	\$0.26
1968/69	178	1,839	2,348,950	18,211,485	119,146	20	NA	\$0.26
1969/70 ^d	136	978	1,606,181	12,200,571	96,841	17	NA	\$0.28
1970/71	100	830	1,561,318	11,719,970	119,192	13	NA	\$0.30
1971/72	89	507	1,539,157	10,884,152	66,166	23	NA	\$0.39
1972/73	88	683	2,029,670	15,479,916	70,806	29	NA	\$0.55
1973/74	129	837	1,847,679	14,397,287	77,826	24	NA	\$0.45
1974/75	158	1,195	2,910,201	23,582,720	110,297	26	NA	\$0.45
1975/76	169	1,569	2,976,909	24,061,651	113,795	26	8.1	\$0.66
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	\$0.95
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

No commercial fishery has occurred since the 1982/83 season.

AVERAGE ^e	174	1,359	2,963,898	24,834,120	143,813	21		
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^a Fishing year defined as May 1 – April 30.

^b Not available.

^c July 1 – April 30 season established.

^d August 15 – January 15 season established.

^e Average includes only years with open fishing season.

Table 17. Kodiak red king crab harvest composition and seasons, 1960-2002.

Season	Open	Closed	Catch Million Pounds	Percent Recruits ^a	Percent Post -Recruits	Size Limit (Inches)
1960/61	1-Jul	30-Jun	18.9	8	92	6.5
1961/62	1-Jul	30-Jun	29.0	36	64	6.5
1962/63	1-Jul	30-Jun	37.6	26	74	6.5
1963/64	1-Jul	30-Jun	35.0	33	67	7.0
1964/65	1-Jul	30-Jun	41.6	48	52	7.0
1965/66	1-Jul	30-Apr	94.4	35	65	7.0
1966/67	1-Jul	30-Apr	73.8	28	72	7.0
1967/68	1-Jul	30-Apr	43.4	27	73	7.0
1968/69	15-Jun	31-Mar	18.2	61	39	7.0
1969/70	15-Aug	15-Jan	12.2	59	41	7.0
1970/71	15-Aug	15-Jan	11.7	38	62	7.0
1971/72	15-Aug	29-Oct	10.9	75	25	7.0
1972/73	15-Aug	13-Oct	15.5	47	53	7.0
1973/74	15-Aug	25-Oct	14.4	49	51	7.0
1974/75	15-Aug	21-Sep	20.9	52	48	7.0
	15-Oct	15-Jan	2.2	3	97	8.0
1975/76	15-Aug	20-Oct	21.6	48	52	7.0
	20-Oct	1-Dec	2.5	3	97	8.0
1976/77	1-Sep	16-Oct	14.6	33	67	7.0
	1-Dec	15-Jan	3.1	1	100	8.0
1977/78	15-Sep	30-Nov	11.7	37	63	7.0
	1-Dec	15-Jan	1.8	1	99	8.0
1978/79	10-Sep	30-Nov	10.3	44	56	7.0
	1-Dec	15-Jan	1.7	15	85	7.5
1979/80	10-Sep	30-Nov	13.4	70	30	7.0
	1-Dec	15-Jan	1.2	30	70	7.5
1980/81	15-Sep	30-Nov	18.4	69	31	7.0
	1-Dec	15-Jan	2.1	22	78	7.5
1981/82	15-Sep	15-Dec	20.3	61	39	7.0
	15-Dec	15-Jan	3.9	7	93	7.5
1982/83	1-Sep	10-Dec	7.5	46	54	7.0
	10-Dec	19-Dec	1.2	19	81	7.5

No commercial fishery has occurred since the 1982/83 season.

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

Table 18. Golden king crab commercial catch, effort, and value for the Kodiak Area, 1983-2002.

Year	Landings	Vessels	No. of Crabs ^a	No. of Pounds ^a	Pots Lifted	Average			Exvessel Value (Millions)
						CPUE	Weight of Crab	Price Per Pound	
1983	36	12	16,349	111,398	8,490	2.0	6.8	\$3.00	\$0.3
1984	8	6	3,513	22,066	1,950	2.0	6.3	\$2.50	\$0.1
1985	19	4	10,005	63,641	2,693	4.0	6.4	\$1.95	\$0.1
1986	31	4	21,862	146,478	5,463	4.0	6.7	\$3.00	\$0.4
1987	38	5	9,484	67,191	3,187	3.0	7.1	\$3.44	\$0.2
1988	Confidential								
1989	Confidential								
1990	6	3	1,214	7,314	1,090	1.0	6.0	\$3.00	\$0.2
1991	0	0	0	0	0	NA	NA	NA	NA
1992	Confidential								
1993	Confidential								
1994	0	0	0	0	0	NA	NA	NA	NA
1995	Confidential								
1996	0	0	0	0	0	NA	NA	NA	NA
1997	0	0	0	0	0	NA	NA	NA	NA
1998	0	0	0	0	0	NA	NA	NA	NA
1999	0	0	0	0	0	NA	NA	NA	NA
2000	Confidential								
2001	Confidential								
2002	Confidential								

^aIncludes deadloss.

Table 19. Red king crab commercial catch, effort, and value for the Alaska Peninsula Area, 1947-2002.

Year	Number			Pounds	Pots Lifted	CPUE	Average Weight	Price Per Pound
	Vessels	Landings	Crab					
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	\$0.09
1964	40	1,297	1,906,018	14,354,060	NA	NA	7.5	\$0.10
1965	36	1,081	1,813,728	14,713,501	NA	NA	8.1	\$0.10
1966	37	1,255	2,494,949	22,577,587	NA	NA	9.0	\$0.10
1967	39	1,062	1,943,463	17,252,307	NA	NA	8.9	\$0.19
1968/69	34	885	1,273,567	10,944,472	NA	NA	8.6	\$0.34
1969/70	33	415	558,800	4,137,000	51,300	11	7.7	\$0.25
1970/71	25	339	446,042	3,425,760	38,995	11	7.7	\$0.25
1971/72	26	364	597,394	4,123,130	41,759	14	6.9	\$0.28
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	\$0.72
1974/75	36	318	644,054	4,572,101	44,951	14	7.1	\$0.43
1975/76	37	248	367,221	2,605,310	35,104	11	7.2	\$0.41
1976/77	26	122	125,778	958,069 ^a	17,748	7	7.7	\$0.61
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	\$0.92
1980/81 ^z	51	358	821,071	5,080,632	54,114	15	6.2	\$0.96
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
1983-2002	NO FISHERY							

NA = Not Available

^aCombined 6 ½ inch and 7 ½ inch seasons.

Table 20. Shrimp trawl fishery catch, effort, and value for the Kodiak District, 1958-2002.

Year/Season	Vessels	Landings	Harvest in Pounds	Price Per Pound
1958	NA	NA	31,886	\$0.04
1959	NA	NA	2,861,900	\$0.04
1960	11	94	3,197,985	\$0.04
1961	12	203	11,083,500	\$0.04
1962	11	204	12,654,027	\$0.04
1963	NA	NA	10,118,472	\$0.04
1964	6	NA	4,339,114	\$0.04
1965	11	320	13,823,061	\$0.04
1966	17	551	24,097,141	\$0.05
1967	23	NA	38,267,856	\$0.05
1968	16	NA	34,468,713	\$0.04
1969	26	935	41,353,461	\$0.06
1970	18	1,024	62,181,204	\$0.04
1971	49	1,746	82,153,724	\$0.04
1972	63	1,398	58,352,319	\$0.04
1973	50	1,283	70,511,477	\$0.06
1973/74	63	1,029	56,203,992	\$0.08
1974/75	75	1,100	58,235,982	\$0.08
1975/76	58	884	49,086,591	\$0.08
1976/77	62	762	46,712,083	\$0.10
1977/78	58	653	26,409,366	\$0.13
1978/79	50	328	20,506,021	\$0.17
1979/80	37	242	12,863,536	\$0.23
1980/81	67	462	27,101,218	\$0.29
1981/82	55	298	19,112,367	\$0.27
1982/83	40	224	10,391,207	\$0.27
1983/84	14	63	2,779,030	\$0.35
1984/85	13	59	2,942,922	\$0.33
1985/86	5	26	1,145,980	\$0.20
1986/87			Confidential	
1987/88			Confidential	
1988/89	0	0	0	0
1989/90	0	0	0	0

-Continued-

Table 20. (page 2 of 2)

Year	Vessels	Landings	Harvest in Pounds	Price Per Pound
1990/91	0	0	0	0
1991/92	0	0	0	0
1992/93	0	0	0	0
1993/94	3	3	1,704	NA
1994/95	0	0	0	0
1995/96	0	0	0	0
1996/97			Confidential	
1997/98	4	7	11,905	\$0.22
1998 to 2002 ^a	4	24	35,259	NA
Average ^b	33	556	25,917,820	\$0.12

^a Harvest combined to protect vessel confidentiality.

^b Average calculated from years 1960-1985.

Confidential = Less than three vessels made landings or less than three processors purchased product.

Table 21. Shrimp minimum acceptable biomass indices (MABI) and population estimates in millions of pounds from surveyed districts and sections, 1992-2002.

District	Section	MABI ^a	2002	2001	1998	1995	1992
Kodiak	Inner Marmot Bay	3.64	1.34	4.36	0.47	1.14	1.10
	Marmot Island	25.60	3.64	1.39	0.49	NS	NS
	Chiniak Bay	1.45	.12	0.63	0.10	0.18	0.38
	Ugak Bay	4.00	-	0.09	NS	NS	NS
	Kiliuda Bay	5.0	.45	0.12	0.16	0.12	0.31
	Two Headed Island	7.30	-	0.12	0.14	0.12	1.11
	Alitak Bay	4.28	-	0.51	0.25	0.02	0.18
	Uyak Bay	3.19	-	0.76	0.34	0.43	0.15
	Uganik Bay	2.59	-	1.57	0.28	1.07	0.47
	Kukak Bay ^b	NA	-	0.41	0.10	0.03	-
	Wide Bay ^b	1.05	2.06	2.00	-	0.07	0.91
	Puale Bay ^b	1.19	-	0.11	-	-	-
Shelikof Strait	NA	-	0.05	-	-	-	
Chignik	Kujulik Bay	3.75	.02	-	-	-	-
	Chignik Bay	4.55	1.09	-	-	1.00	2.01
	Kuiukta Bay	1.90	.37	-	-	0.36	0.69
	Mitrofanina Island	5.16	.22	-	-	-	-
	Ivanof Bay	5.70	.01	-	-	-	-
South Peninsula	Stepovak Bay	23.20	.43	-	-	-	-
Peninsula	Unga Straits	7.52	.26	-	-	-	-
	Beaver Bay	4.36	.02	-	-	-	-
	Pavlof Bay	18.12	.09	-	-	-	-

^a Minimum acceptable biomass index.

^b Kukak, Wide, and Puale Bays are part of the Mainland Section; MABIs are established for each bay.

NA = no MABI established from survey area.

- = Not surveyed.

Bold indicates population estimate above established MABI.

Table 22. Shrimp pot fishery catch and effort for the Kodiak District, 1969-2002.

Year	Vessels	Landings	Pounds ^a
1969		Confidential	
1970	NA ^b	20	12,302
1971	0	0	0
1972		Confidential	
1973		Confidential	
1974	6	73	10,336
1975	7	77	12,782
1976		Confidential	
1977	3	26	2,565
1978		Confidential	
1979		Confidential	
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		Confidential	
1986		Confidential	
1987	0	0	0
1988		Confidential	
1989		Confidential	
1990		Confidential	
1991	0	0	0
1992	0	0	0
1993	0	0	0
1994		Confidential	
1995	0	0	0
1996	0	0	0
1997		Confidential	
1998		Confidential	
1999		Confidential	
2000	0	0	0
2001		Confidential	
2002	0	0	0
Total			96,327

^a Pounds are weight of shrimp tails.

^b Not available.

Table 23. Trawl shrimp fishery catch, effort, and value for the South Peninsula and Chignik Districts, 1968-2002.

Year	SOUTH PENINSULA				CHIGNIK			
	Number			Price per	Number			Price per
	Vessels	Landings	Pounds	Pound	Vessels	Landings	Pounds	Pound
1968			Confidential				Confidential	
1969			Confidential				Confidential	
1970	4	173	4,398,800	\$0.04			890,705	
1971			Confidential				Confidential	
1972/73			14,740,801	\$0.07			4,829,117	
1973/74	12	347	19,987,246	\$0.07	33	277	51,673,788	\$0.08
1974/75	22	387	26,145,720	\$0.08	37	323	23,392,352	\$0.08
1975/76	24	326	20,044,112	\$0.09	50	334	24,435,480	\$0.08
1976/77	19	424	37,148,932	\$0.09	48	303	27,232,630	\$0.10
1977/78	48	409	45,003,794	\$0.13	50	271	26,512,791	\$0.13
1978/79	23	108	9,418,276	\$0.16	40	201	23,257,869	\$0.17
1979/80	10	41	3,134,367	\$0.21	35	195	23,722,330	\$0.23
1980/81			0		54	148	12,843,270	\$0.29
1981/82			0		3	4	70,948	\$0.27

No commercial fishing activity has occurred in these districts after 1981/82.

Table 24. Red sea cucumber commercial catch, effort, and value for the Kodiak and Chignik Districts, 1991-2002.

Year	Number of		Pounds Harvested	Average Price Per Pound
	Dive Permits	Landings		
1991			Confidential	
1992			Confidential	
1993	50	487	564,516	\$0.93
1994	86	269	413,576	\$1.20
1995	21	60	145,092	\$1.25
1996	31	93	162,451	\$1.25
1997	26	65	132,337	\$1.16
1998	16	55	142,313	\$1.20
1999	19	36	116,134	\$1.20
2000	20	56	116,152	\$1.50
2001	18	67	152,613	\$1.25
2002	24	102	177,597	\$1.25

Table 25. Red sea cucumber commercial harvest by section in the Kodiak and Chignik Districts, 2002.

Area	Guideline Harvest Level	Pounds Harvested
Chignik District Total	25,000	Confidential
Kodiak District		
Northeast Section	5,000	1,819
Eastside Section	40,000	59,256
Southeast Section	30,000	24,254
Southwest Section	20,000	30,838
Westside Section	30,000	58,104
North Mainland Section	5,000	3,326
South Mainland Section	5,000	0
Totals ^a	160,000	177,597

^a Total does not include confidential harvest.

Table 26. Green sea urchin commercial catch, effort, and value for the Kodiak District, 1980-2002/03.

Year	Number		Pounds Harvested (Live Weight)	Average Price Per Pound
	Permits	Landings		
1980		Confidential		
1985-1986 ^a	NA	26	45,560	\$0.35
1987	12	78	104,139	\$0.69
1988	28	260	190,509	\$0.80
1989	29	81	44 862	\$0.82
1990	25	83	84,004	\$0.84
1991	6	24	29,947	\$0.92
1992-1994 ^a	22	95	73,399	\$1.15
1995	8	50	38,437	\$1.34
1996	7	31	36,147	\$1.10
1997-2000 ^a	11	21	22,850	\$1.00
2001/02			Confidential	
2002/03	0	0	0	0

^a Years combined because less than three processors or divers participated.

Table 27. Octopus commercial catch, effort, and value for the Kodiak District, state and federal waters combined, 1977-1984.

Year	Number		Pounds	Average Price per Pound	Fishery Value
	Vessels	Landings			
1977	5	9	1,600	\$0.71	\$1,136
1978	11	21	3,336	\$0.75	\$2,502
1979	20	43	6,978	\$0.74	\$5,164
1980	27	61	19,342	\$0.75	\$14,507
1981	21	46	5,872	\$0.70	\$4,110
1982	12	29	3,854	\$0.70	\$2,698
1983	12	20	4,010	\$0.70	\$2,807
1984	17	43	6,487	\$0.70	\$4,541

Table 28. Octopus commercial catch, effort, and value for the Kodiak District, 1985-2002.

Year	State Waters			Federal Waters			Combined			Ave. Price per Pound	Fishery Value
	Vessels	Landings	Pounds	Vessels	Landings	Pounds	Vessels ^a	Landings	Pounds		
1985	6	6	2,229	4	4	2,583	9	10	4,812	\$0.78	\$3,753
1986			Confidential			Confidential	5	7	643	\$0.70	\$450
1987			Confidential			Confidential	7	15	14,151	\$1.08	\$15,283
1988			Confidential			Confidential	4	4	1,949	\$1.08	\$2,105
1989			Confidential			Confidential			Confidential		
1990	25	95	55,246	6	45	19,570	22	140	74,816	\$1.08	\$80,801
1991	57	264	107,030	17	90	27,936	59	354	134,966	\$1.07	\$144,414
1992	71	227	93,550	26	264	51,343	73	491	144,893	\$1.07	\$155,036
1993	21	80	92,784	28	69	10,843	41	149	103,627	\$1.00	\$103,627
1994	15	45	9,129	4	15	1,320	15	60	10,449	\$0.59	\$6,165
1995	48	361	86,933	16	77	6,031	45	438	92,964	\$0.58	\$53,919
1996	40	218	63,117	8	90	29,140	27	308	92,257	\$0.55	\$50,741
1997	66	538	198,014	35	153	40,940	65	691	238,954	\$0.55	\$131,425
1998	56	427	216,640	46	290	115,295	66	717	331,935	\$0.45	\$149,371
1999	51	336	172,869	39	178	58,091	77	514	230,960	\$0.40	\$92,384
2000	55	298	115,295	55	257	66,698	57	460	181,993	\$0.50	\$90,997
2001	28	258	99,671	38	156	14,606	31	414	114,277	\$0.38	\$43,425
2002	33	234	206,938	36	120	40,698	55	335	247,636	\$0.48	\$100,914

^a Several vessels made landings from both state and federal waters.

Table 29. Octopus commercial catch, effort, and value for the Chignik and Alaska Peninsula Districts, 1980-2002.

Year	State waters			Federal waters			Combined			Ave. Price per Pound	Fishery Value
	Vessels	Landings	Pounds	Vessels	Landings	Pounds	Vessels ^a	Landings	Pounds		
1980-1985			Confidential			Confidential					
1986-1987			No fishing			No fishing					
1988	22	58	9,946	16	132	34,622	31	190	44,568	\$0.92	\$41,003
1989	12	41	5,309	15	82	9,581	23	123	14,890	\$1.00	\$14,890
1990	7	45	6,746	14	33	2,393	19	78	9,139	\$1.00	\$9,139
1991	18	72	15,103	14	36	4,392	29	108	19,495	\$1.00	\$19,495
1992	38	183	38,651	39	100	6,579	72	283	45,230	\$1.00	\$45,230
1993	9	23	9,017	28	59	3,007	35	82	12,024	\$1.00	\$12,024
1994	16	36	15,621	8	14	1,171	23	50	16,792	\$0.59	\$9,907
1995	15	49	5,939	15	18	2,140	24	67	8,079	\$0.45	\$3,636
1996	20	52	11,258	18	22	4,667	26	74	15,925	\$0.49	\$7,803
1997	27	143	48,286	15	20	3,826	34	163	52,112	\$0.49	\$25,535
1998	13	15	4,554	13	22	4,638	15	37	9,192	\$0.53	\$4,872
1999	9	10	2,051	10	19	1,710	18	29	3,761	\$0.50	\$1,881
2000	18	17	1,507	19	19	5,235	30	36	6,742	NA	NA
2001	3	5	345	7	17	2,221	7	22	2,566	NA	NA
2002	6	15	3,132	19	50	13,454	20	65	16,586	NA	NA

^a Some vessels made landings in both state and federal waters.

NA = Not available.

Table 30. Razor clam commercial catch, effort, and value for the Kodiak District, 1960-2002.

Year	Number		Pounds		Ave. Price	Est. Fishery
	Registered Diggers ^a	Landings	Ave. per landing	Total	Per Pound	Value
1960	76	NA	NA	420,636	\$0.11	\$44,000
1961	95	NA	NA	381,971	\$0.11	\$40,000
1962	66	NA	NA	297,516	\$0.11	\$31,000
1963	39	NA	NA	323,757	\$0.11	\$35,600
1964	2	NA	NA	0	\$0.00	\$0
1965	4	NA	NA	20,000	\$0.25	\$5,000
1966	29	NA	NA	15,429	\$0.38	\$6,000
1967	9	NA	NA	2,155	\$0.40	\$900
1968	19	NA	NA	6,384	\$0.40	\$2,600
1969	5	6	2,005	12,029	\$0.40	\$4,812
1970	6	32	4,133	132,261	\$0.40	\$53,000
1971	73	82	2,322	190,394	\$0.30	\$57,000
1972	95	128	1,188	152,116	\$0.35	\$53,000
1973	64	140	1,181	165,282	\$0.40	\$66,000
1974	58	74	2,681	198,381	\$0.50	\$99,000
1975	18	5	1,238	6,188	\$0.50	\$3,000
1976	9	0	0	0	\$0.00	\$0
1977				Confidential		
1978				Confidential		
1979	0	0	0	0	\$0.00	\$0
1980	NA	8	1,001	8,006	\$0.79	\$6,325
1981	NA	5	1,637	8,186 ^b	\$1.00	\$8,186
1982	NA	11	1,055	11,608 ^c	\$1.00	\$11,608
1983	NA	7	1,131	7,920	\$1.00	\$7,920
1984	NA	21	1,613	33,972	\$1.00	\$33,972
1985	NA	11	1,540	16,945 ^d	\$1.00	\$16,945
1986	NA	4	998	3,993	\$1.00	\$3,993

No commercial harvest has occurred from 1986 - 2002.

^aRepresents registered diggers not actual diggers. No data available after 1977 due to statewide issuance of Interim Use Permits.

^bIncludes 1,985 pounds of hardshell clams.

^cIncludes 1,506 pounds of hardshell clams.

^dIncludes 1,496 pounds of hardshell clams.

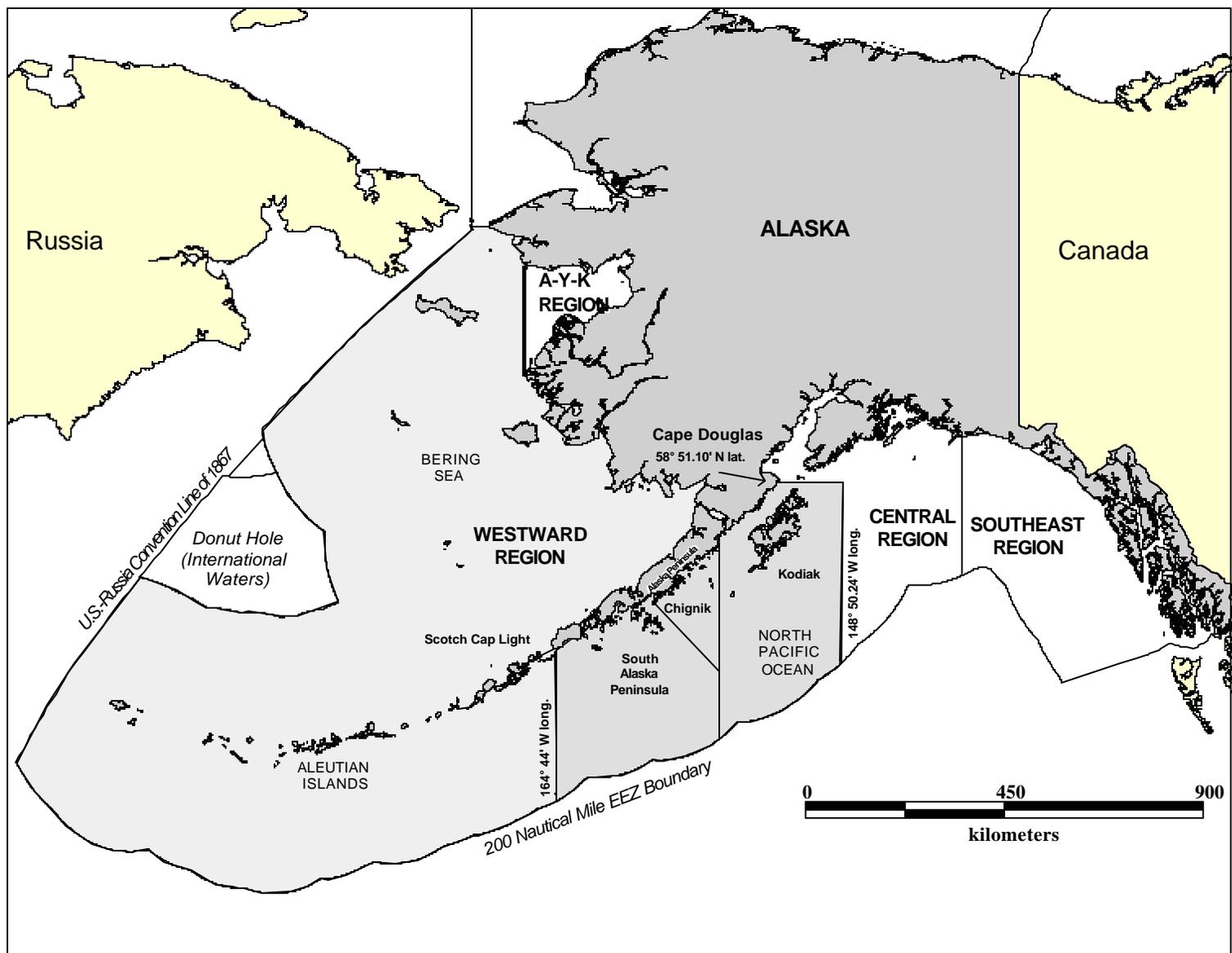


Figure 1. Alaska Department of Fish and Game shellfish management regions, 2002.

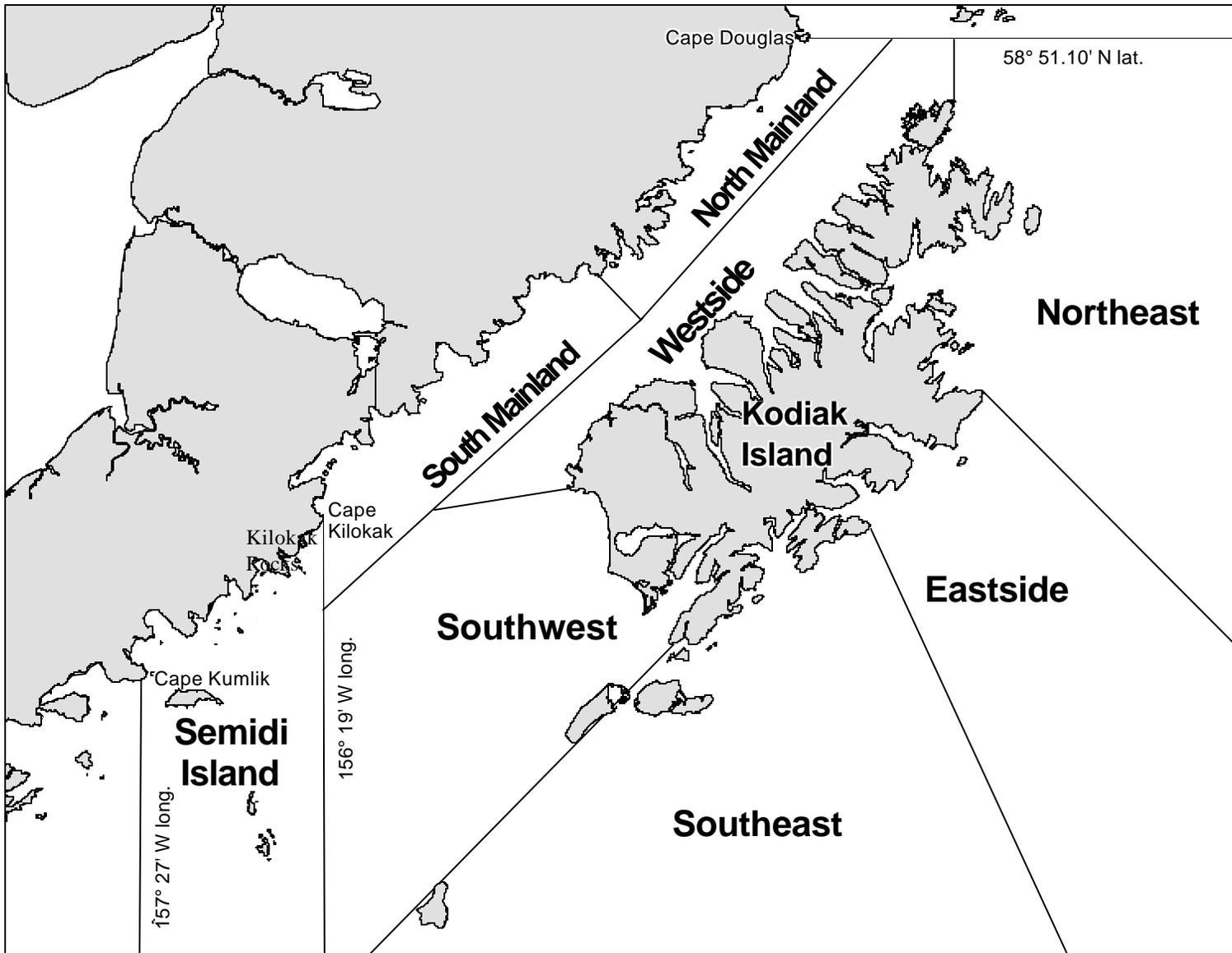


Figure 2. Kodiak District and sections for Tanner crab and sea cucumber fishery management, 2002.

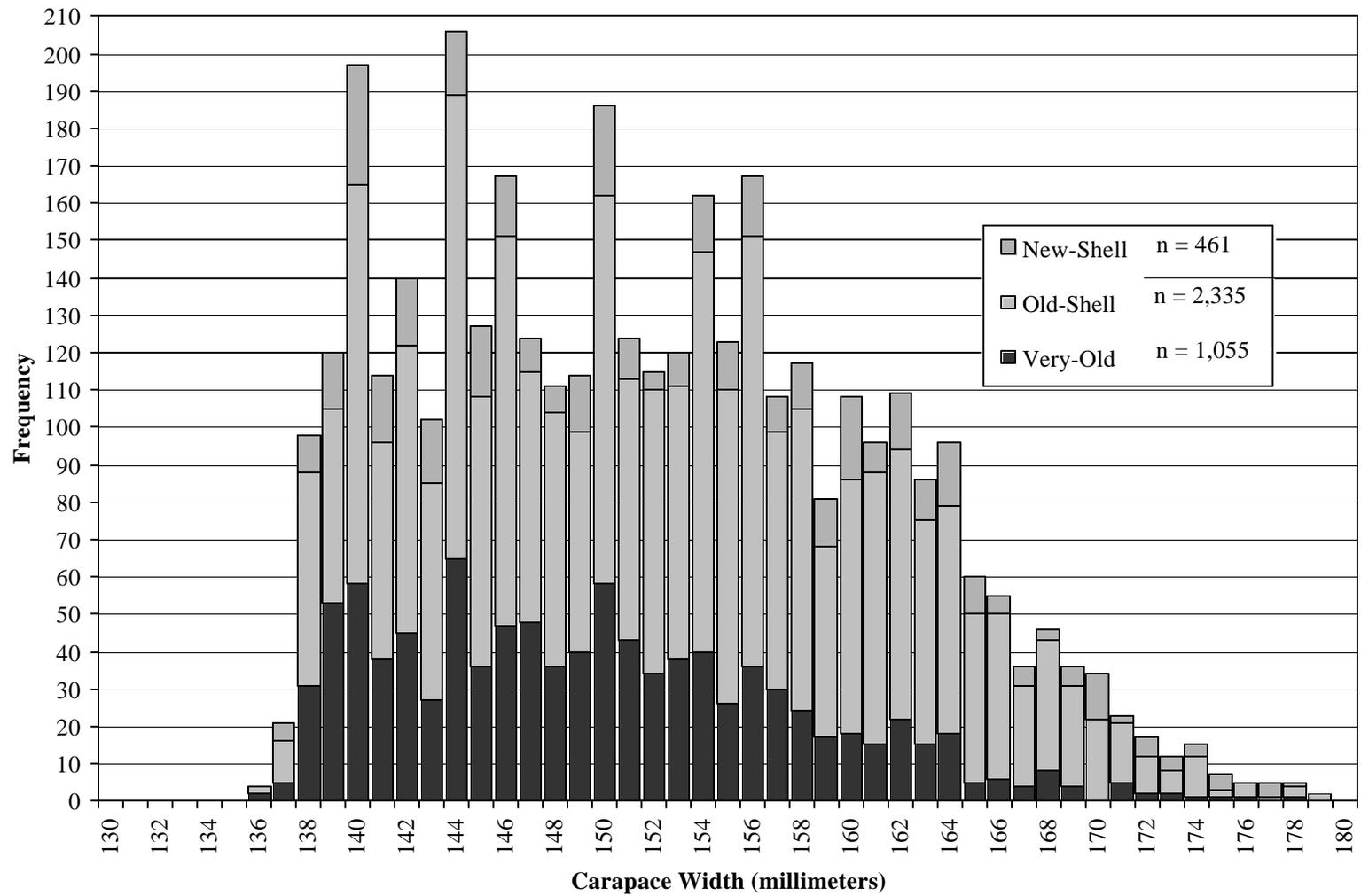


Figure 3. Carapace width and shell condition from the Kodiak District Tanner crab fisheries, 2002.

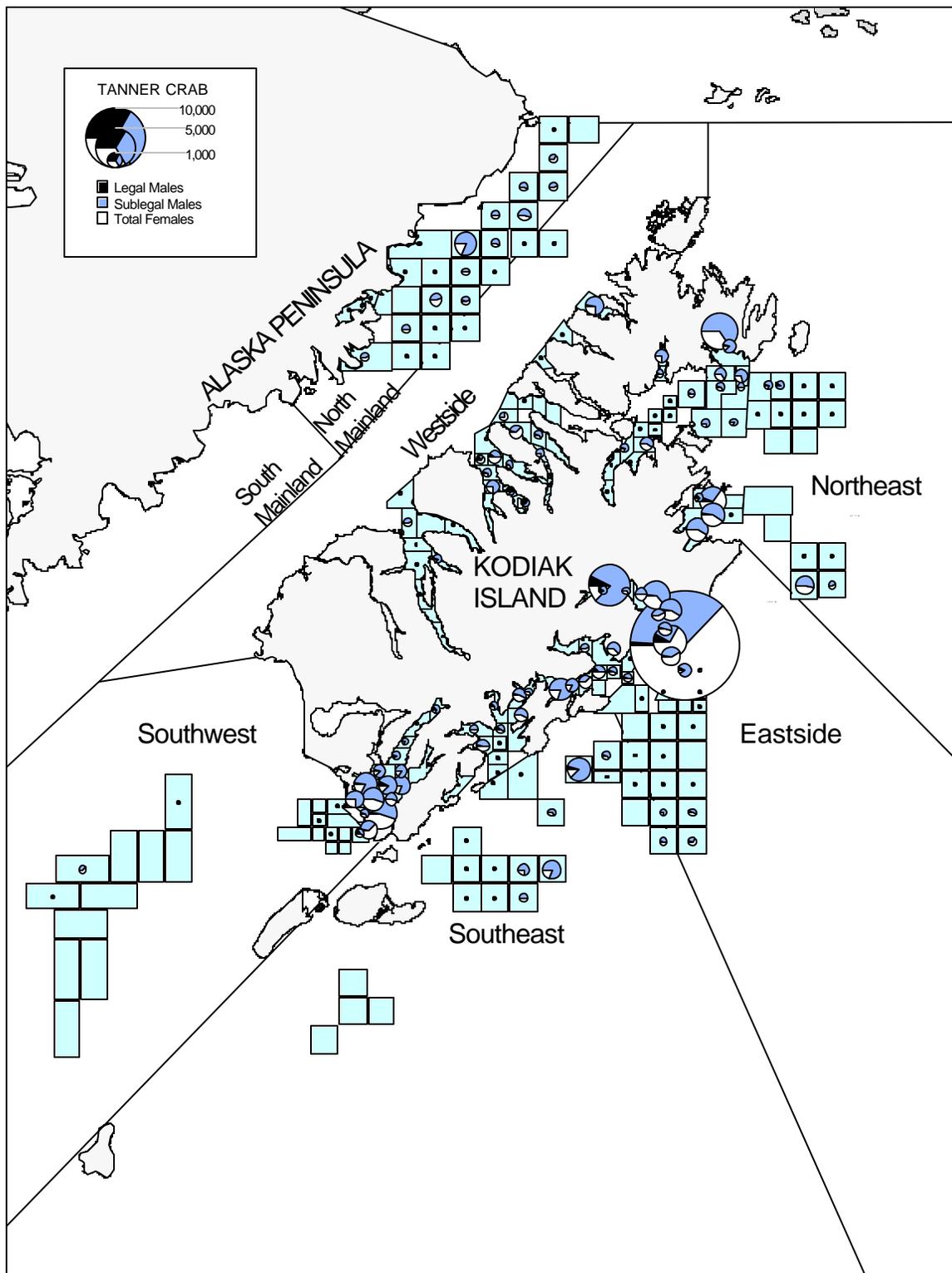


Figure 4. Number of Tanner crabs per kilometer towed in the 2002 Kodiak District trawl survey.

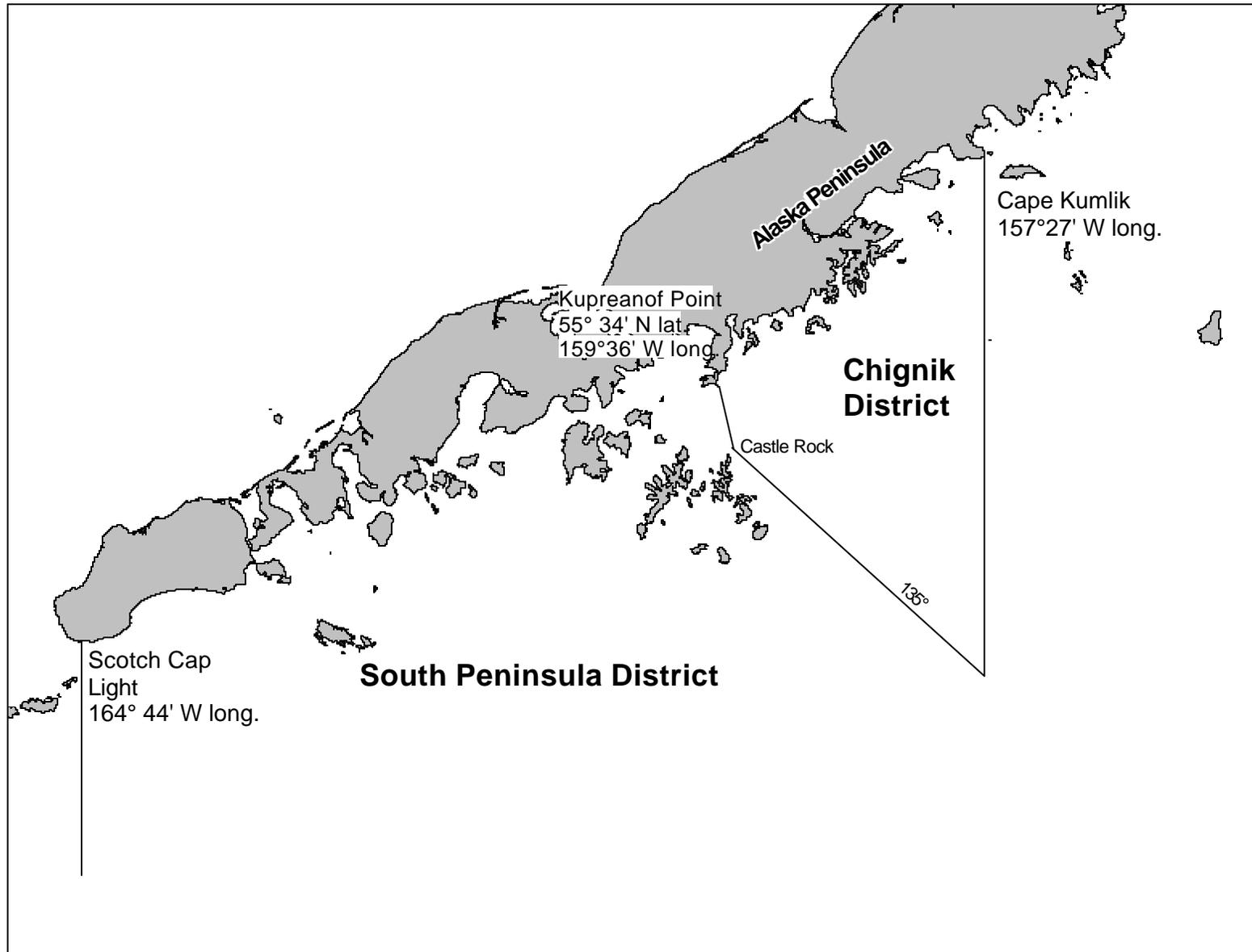


Figure 5. Chignik and South Peninsula Districts for Tanner crab and sea cucumber fishery management, 2002.

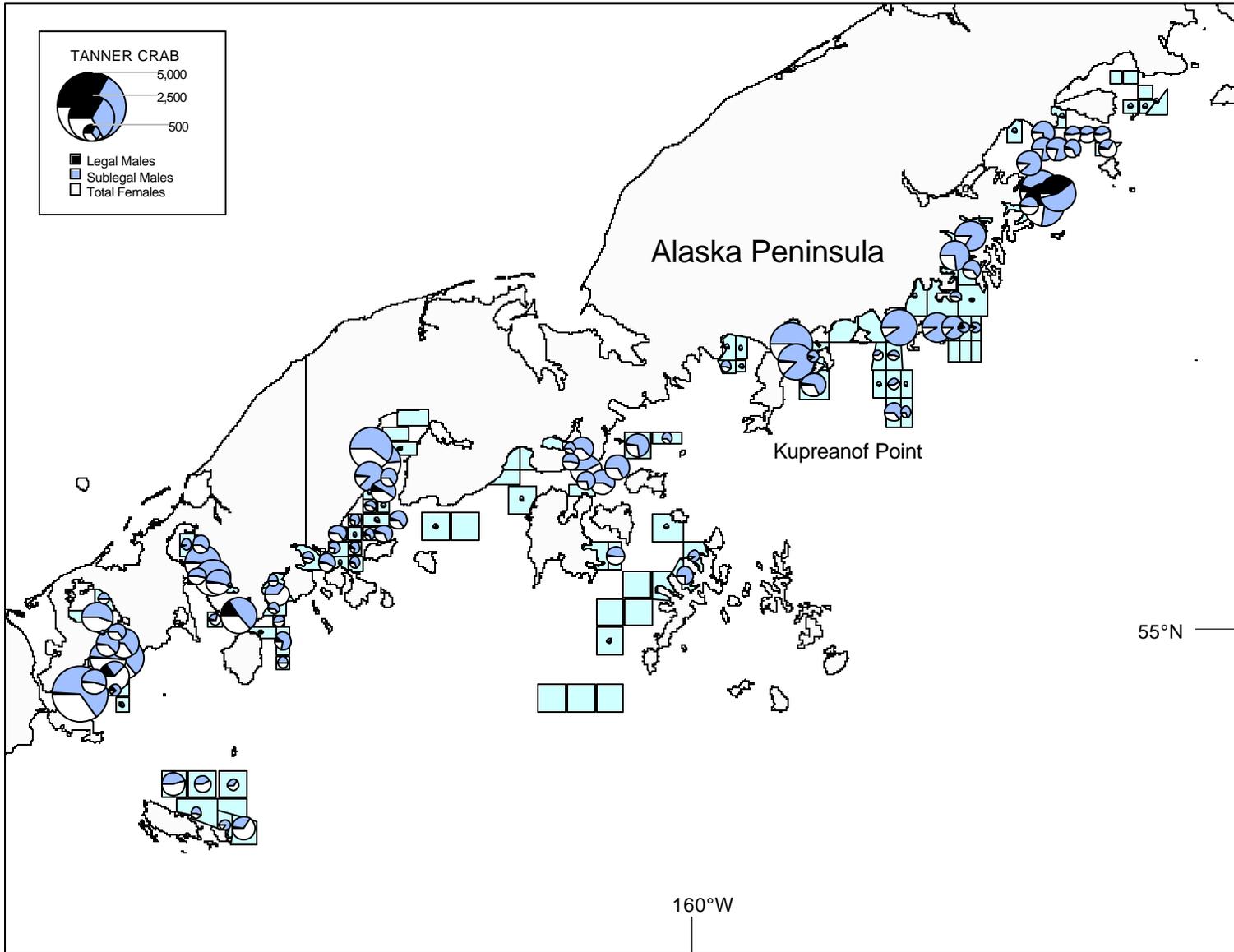


Figure 6. Number of Tanner crabs per kilometer towed in the 2002 Chignik and South Peninsula Districts trawl survey.

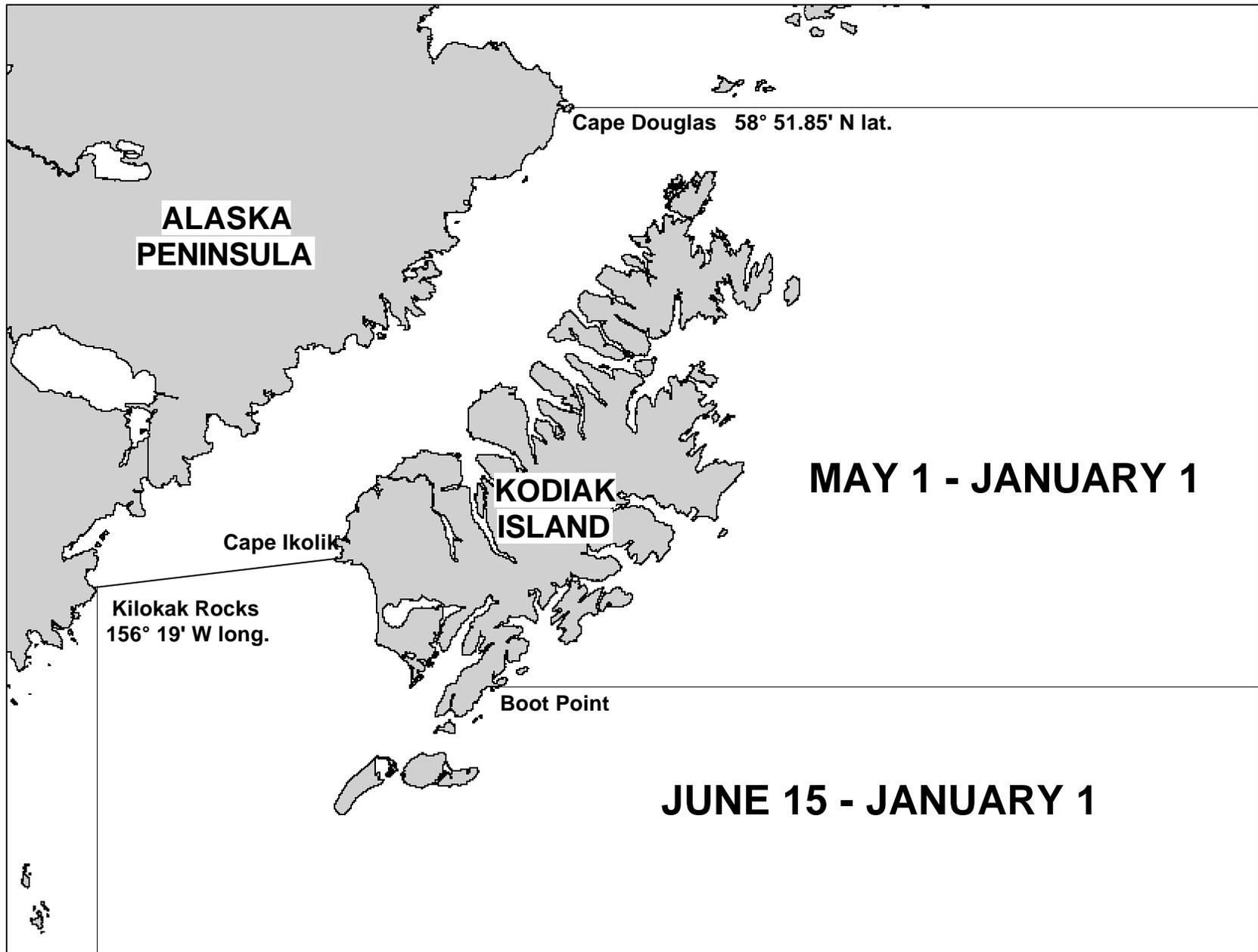


Figure 7. Kodiak District for the Dungeness crab fishery and fishing seasons, 2002.

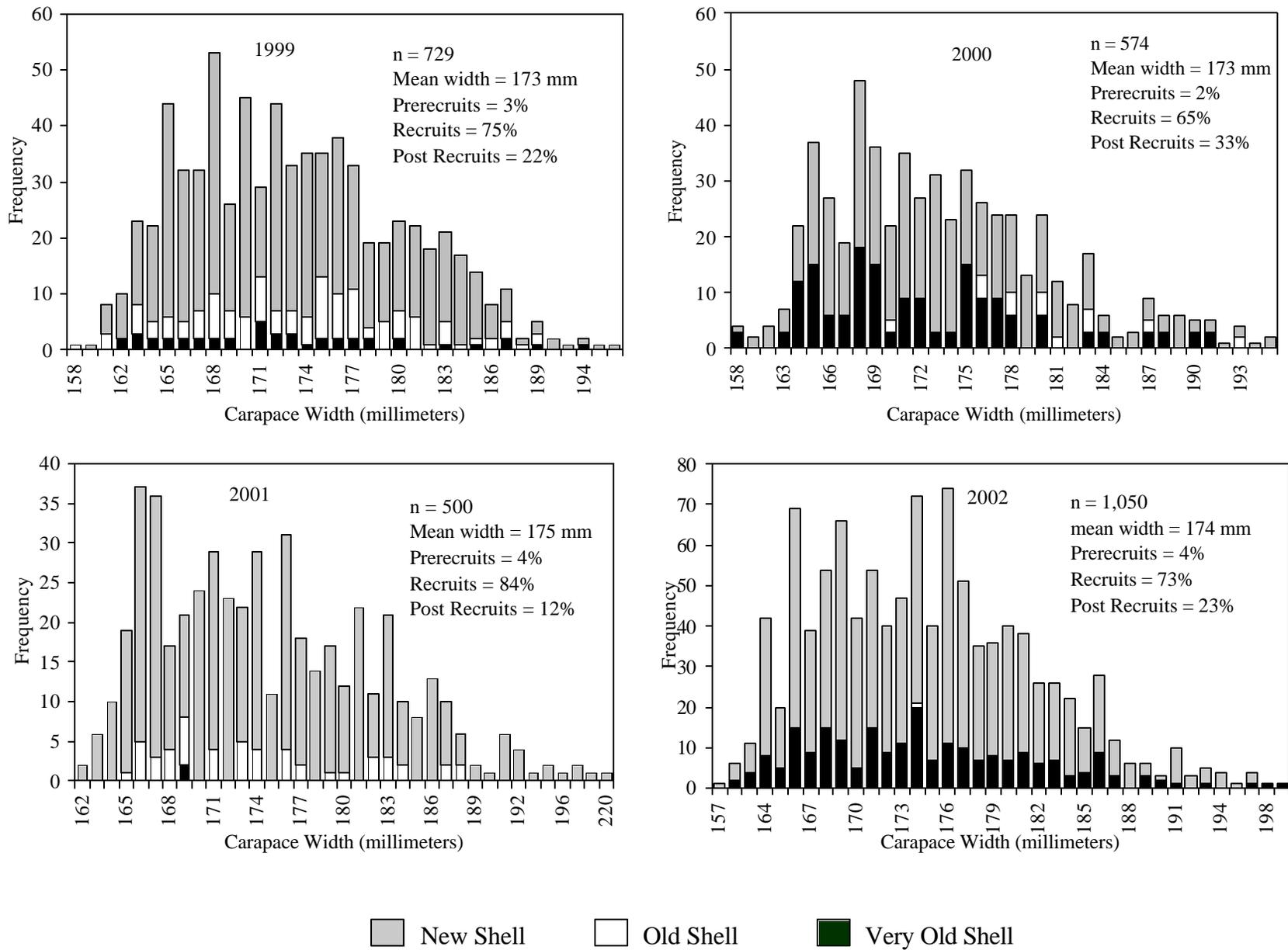


Figure 8. Kodiak District Dungeness crab carapace width frequencies and shell conditions from dockside samples, 1999-2002.

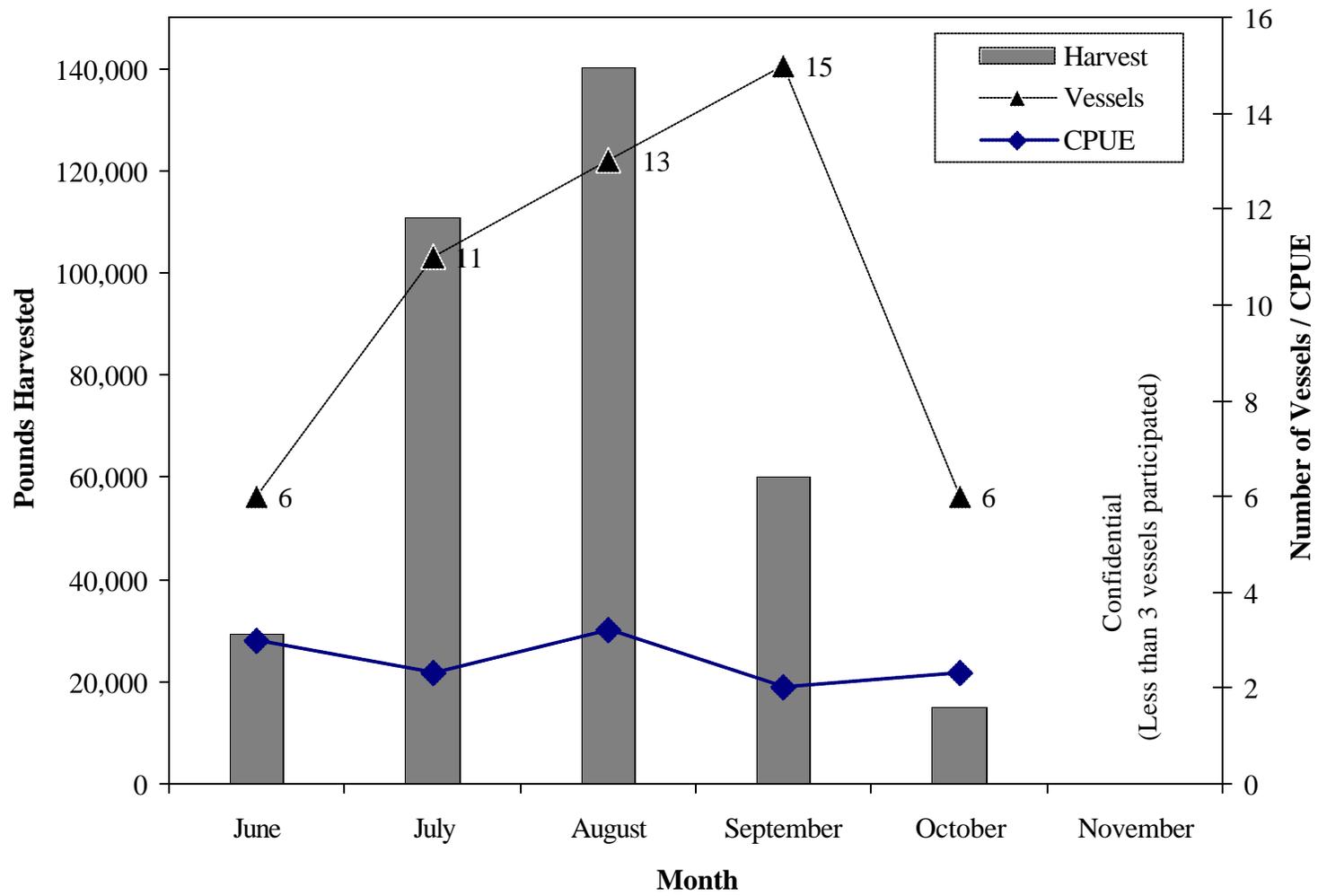


Figure 9. Kodiak District Dungeness crab harvest, CPUE, and vessels participating by month for the 2022 fishery.

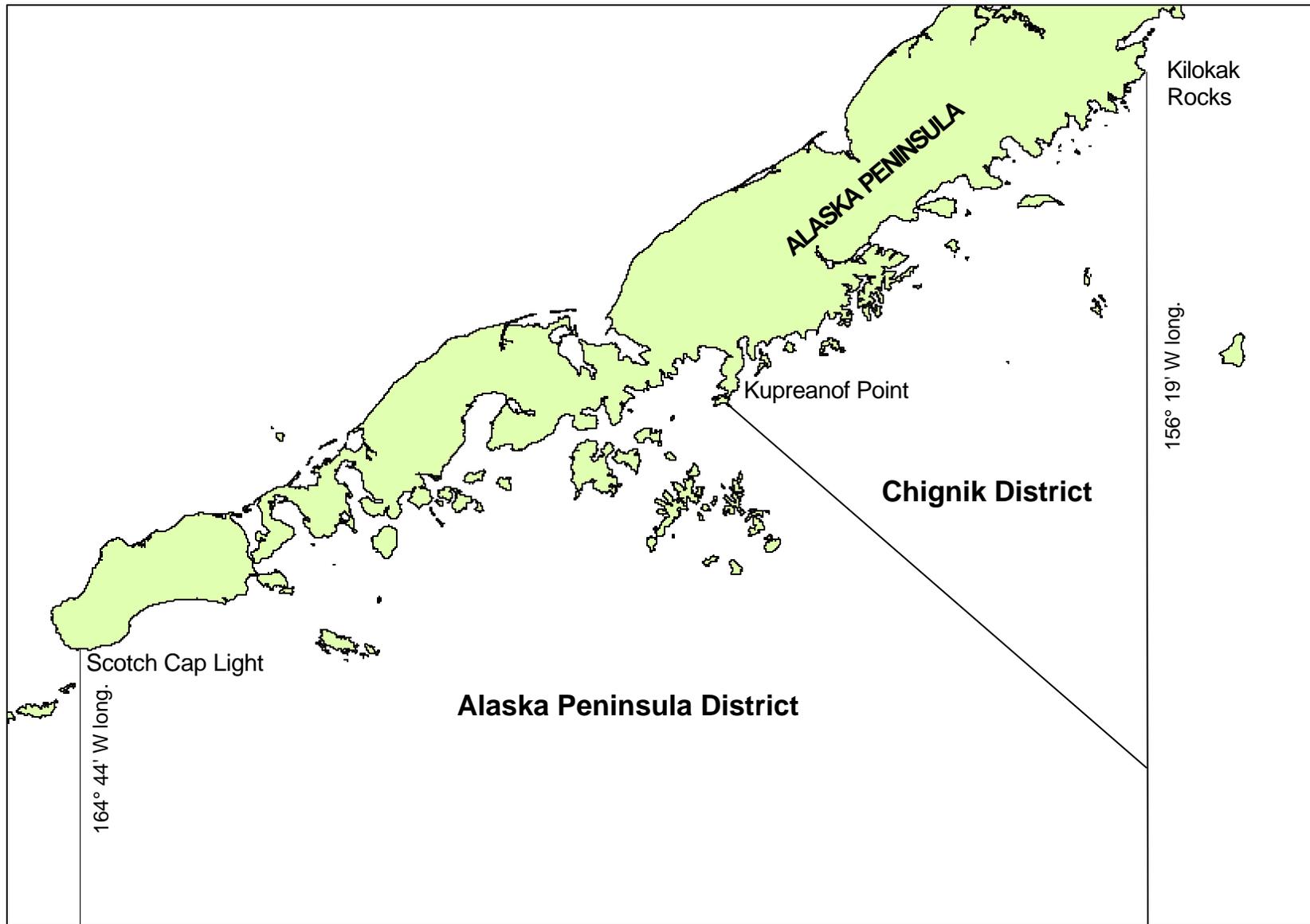


Figure 10. Chignik and Alaska Peninsula Districts for Dungeness crab fishery management, 2002.

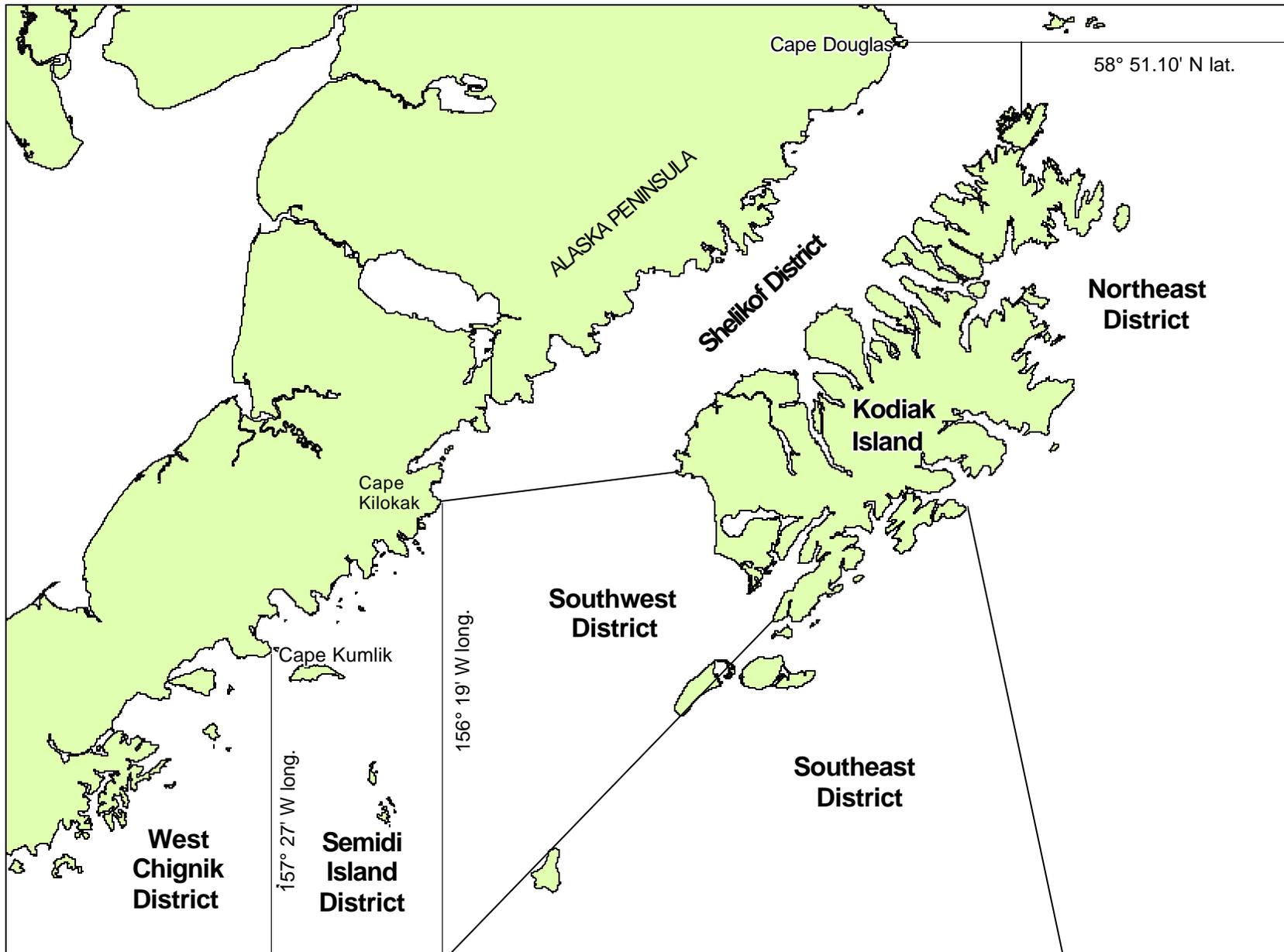


Figure 11. Kodiak Area and districts for king crab fishery management, 2002.

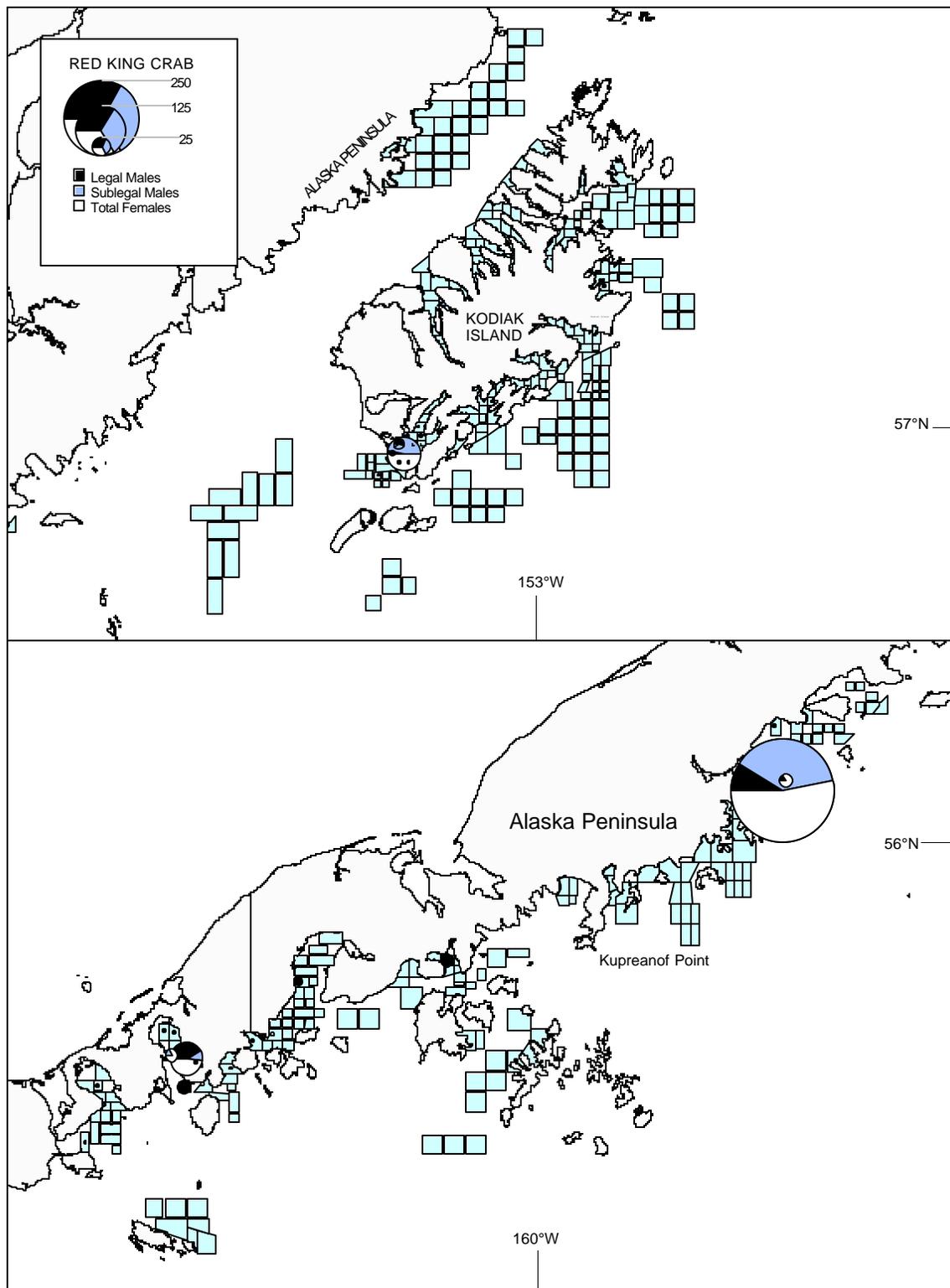


Figure 12. Number of red king crabs per kilometer towed from the 2002 Kodiak and Alaska Peninsula Areas trawl survey.

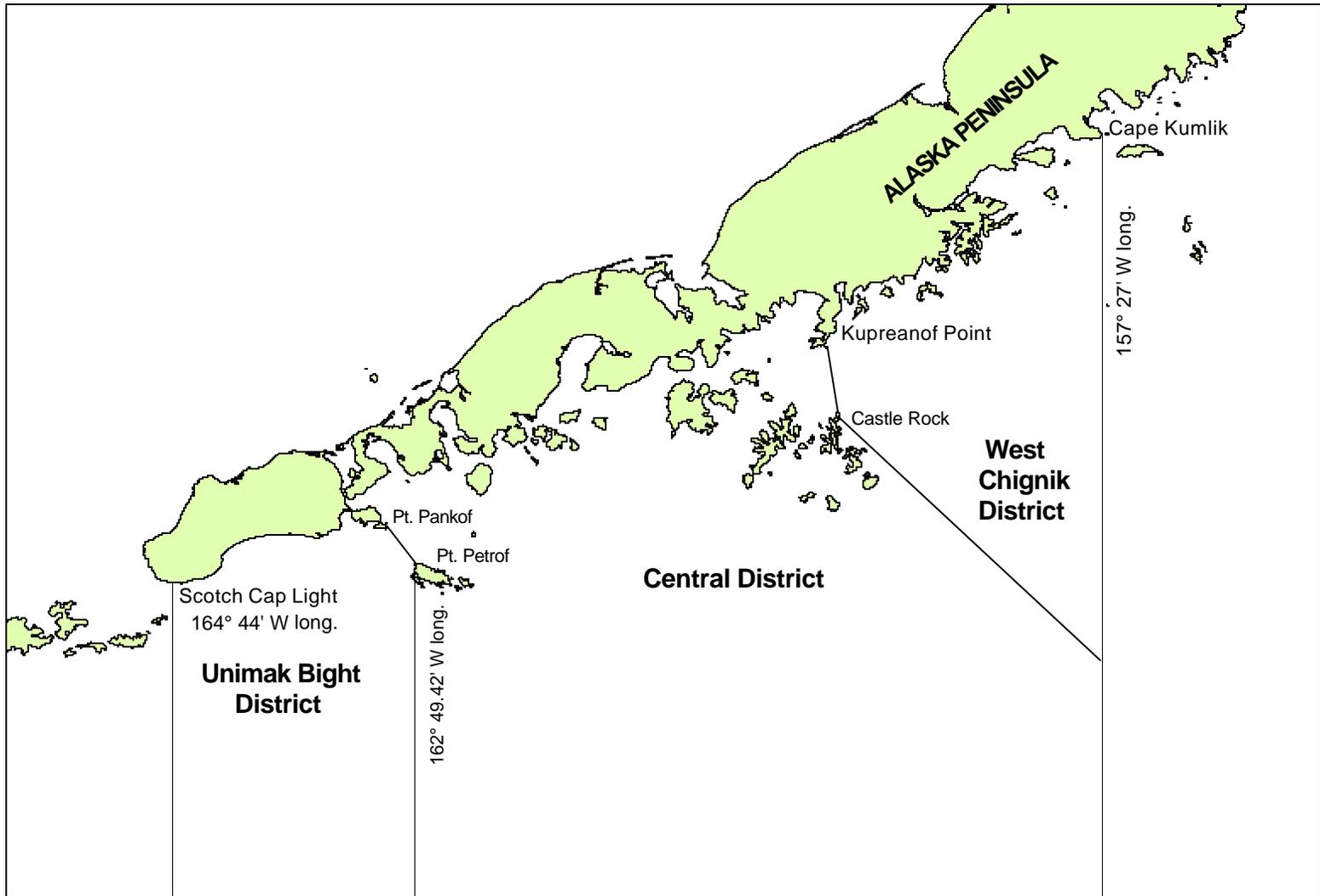


Figure 13. Alaska Peninsula Area and districts for king crab fishery management, 2002.

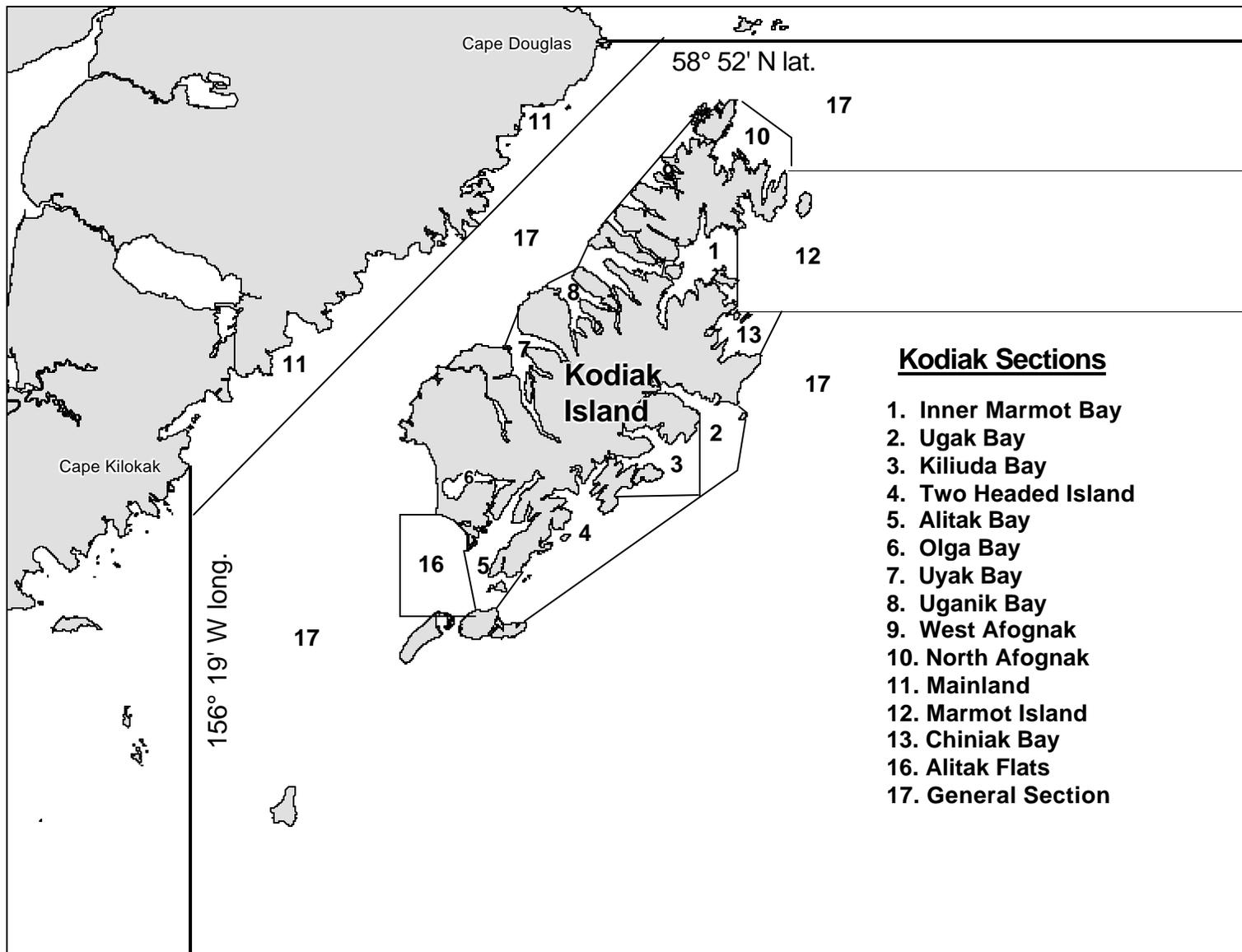


Figure 14. Kodiak District and sections for shrimp fishery management, 2002.

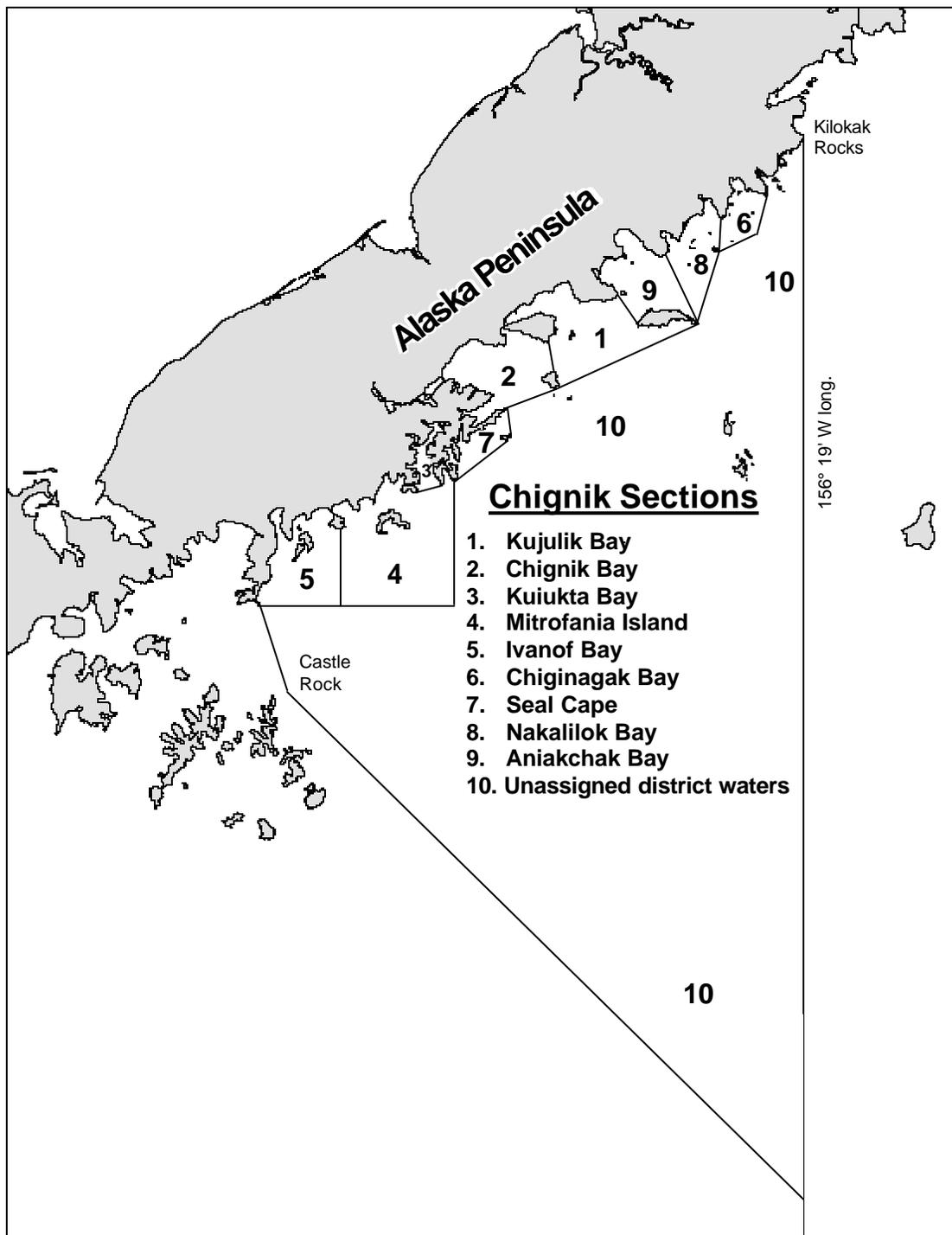


Figure 15. Chignik District and sections for shrimp fishery management, 2002.

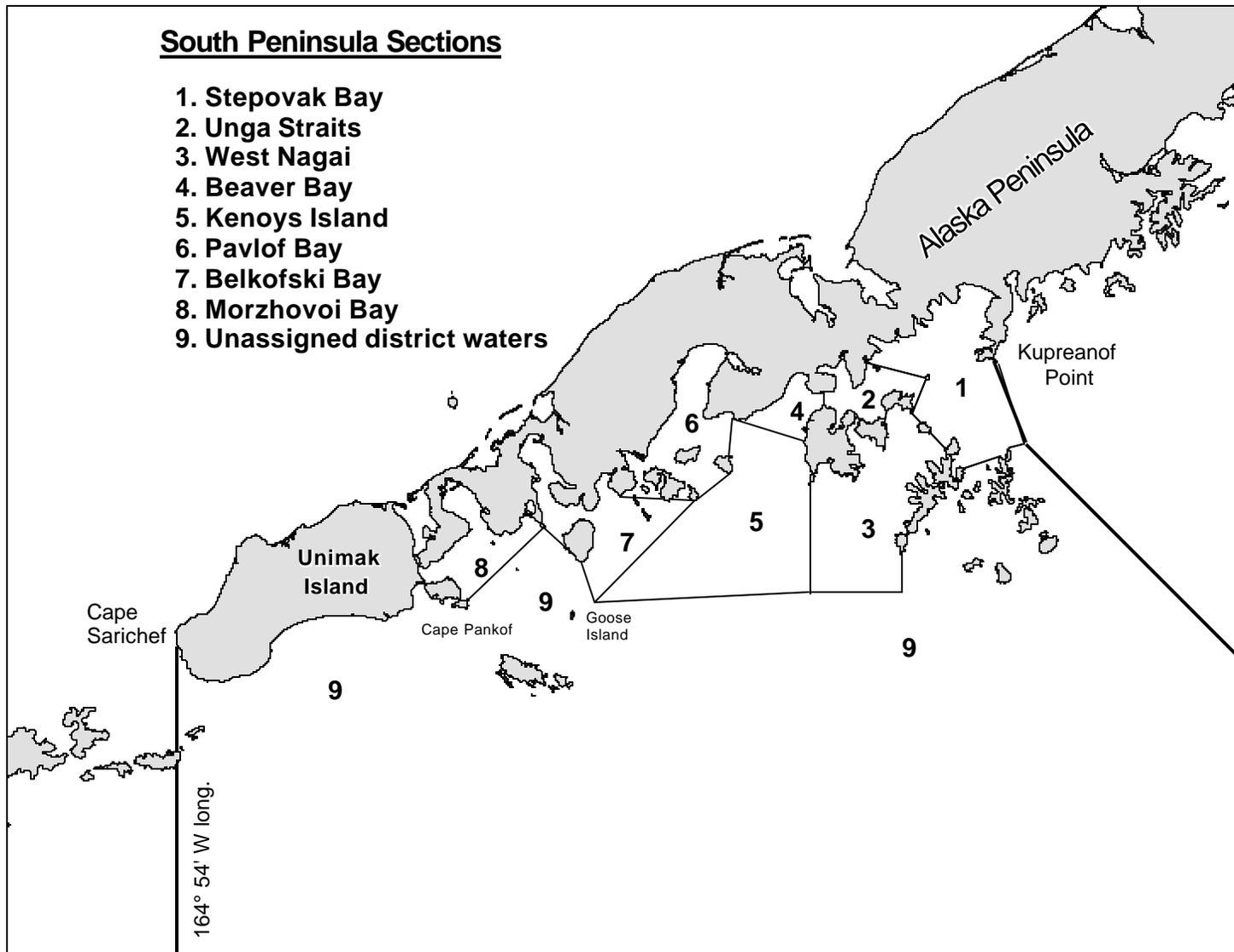


Figure 16. South Peninsula District and sections for shrimp fishery management, 2002.

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