

Fishery Management Report No. 07-43

**Annual Management Report for the Shellfish Fisheries
of the Kodiak, Chignik, and Alaska Peninsula Areas,
2006**

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and

Kally Spalinger

July 2007

Alaska Department of Fish and Game

Divisions of Sport Fish and Commercial Fisheries



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OF THE KODIAK, CHIGNIK, AND ALASKA PENINSULA AREAS, 2006**

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ABSTRACT

This annual management report summarizes shellfish fisheries, excluding weathervane scallops *Patinopecten caurinus*, for the Kodiak, Chignik, and Alaska Peninsula areas during 2006. Commercial fisheries occurred for Tanner crab *Chionoecetes bairdi*, Dungeness crab *Cancer magister*, giant Pacific octopus *Octopus dofleini*, and red sea cucumber *Parastichopus californicus*. Historically, these management areas have supported various Pandalid shrimp fisheries and red king crab *Paralithodes camtschaticus* fisheries.

Key words: Tanner crab, *Chionoecetes bairdi*, Dungeness crab, *Cancer magister*, red sea cucumber, *Parastichopus californicus*, red king crab, *Paralithodes camtschaticus*, Pacific octopus, *Octopus dofleini*, Pandalid shrimp, *Pandalus* spp, catch per unit effort, exclusive economic zone, EEZ, guideline harvest level, GHL, Alaska Board of Fisheries, BOF, Kodiak, Chignik, Alaska Peninsula.

INTRODUCTION

This report covers shellfish fisheries in the Gulf of Alaska 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 Scotch Cap Light (164° 44' W long.). The three primary management divisions within this report are the Kodiak, Chignik, and South Peninsula areas (Figure 1).

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. (Figure 2). The Kodiak Area encompasses both the waters of the territorial sea, 0–3 nautical miles (nmi), and waters of the Exclusive Economic Zone (EEZ), (3–200 nmi). The management area varies slightly for Dungeness crab *Cancer magister* and Pandalid *Pandalus* spp. 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 may occur at the area, district, or section level depending upon the target species.

Historically, the Kodiak Area supported red king crab *Paralithodes camtschaticus* and trawl-caught shrimp fisheries. Red king crab stocks are currently depressed and no fishing has occurred since the early 1980s. Minor harvests of green sea urchins *Strongylocentrotus droebachiensis*, golden king crab *Lithodes aequispinus*, and grooved Tanner crabs *Chionoecetes tanneri* have occurred sporadically. Various clam species, primarily razor clams *Siliqua* sp., were once harvested in large quantities.

The predominant commercial shellfish species harvested from the Kodiak area in 2006 were Tanner crab *Chionoecetes bairdi*, Dungeness crab, giant Pacific octopus *Octopus dofleini*, and red sea cucumber *Parastichopus californicus*. The most valuable shellfish species harvested was Tanner crab, worth an estimated \$3.05 million to the fleet. The Kodiak area weathervane scallop fishery will be summarized in a separate report (Barnhart *In prep*).

The Alaska Department of Fish and Game (ADF&G) issued ten emergency orders during 2006 to enact time and area regulatory actions to commercial fisheries. These actions changed commercial fishery openings and closures and modified fishing periods and fishing areas (Table 1).

ALASKA PENINSULA AREA

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.; Figure 3). However, in the red king crab fishery the eastern boundary is located at the longitude of Cape Kumlik

(157° 27' W long.). For Tanner crab fisheries, the Alaska Peninsula Area is divided into separate districts, Chignik and the Alaska Peninsula. The area divisions are detailed in each fishery description.

Commercial shellfish fisheries have occurred in the Alaska Peninsula Area for red king crab, Tanner crab, grooved Tanner crab, Dungeness crab, various Pandalid shrimp, red sea cucumber, and giant Pacific octopus. Shellfish stocks are considered depressed for most species within the management area. No commercial fishery for red king crab or shrimp has occurred since 1982. Harvest occurred in 2006 for Dungeness crab, Tanner crab and octopus. Three emergency orders were issued in 2006 that pertained to shellfish fisheries in the Alaska Peninsula Area (Table 2).

TANNER CRAB

INTRODUCTION

The Tanner crab fisheries 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. Harvest strategies contain a threshold of mature male abundance as well as additional criteria that must be met for each district or section to open to 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.

KODIAK DISTRICT

Description of the District

The Kodiak District for Tanner crab is defined 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 Overlap, Westside, North Mainland, and South Mainland (Figure 2).

Overview of Fishery Regulations

The Kodiak District is a limited entry district 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 for the fishery to open. The district GHL must be at least 400,000 pounds, with each section having a GHL of 100,000 pounds or more. The Kodiak District has a sliding scale pot limit based on the district GHL that ranges from 20 to 60 pots per vessel. Gear may only be set or retrieved during daily fishing periods from 8:00 AM to 5:59 PM; however, fishing periods may be extended depending on the department's assessment of effort, fishery manageability, available harvest, and harvest rate.

Historic Background

The domestic Tanner crab fishery in the Kodiak District began in 1967 when 110,961 pounds were landed (Table 3). 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.

During the 1969/70 season, over eight million pounds were harvested. 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 annual 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. A minimum carapace width (CW) of 5.5 inches was established in 1976. The commercial fishery peaked during the 1977/78 season when over 33 million pounds were harvested.

Beginning in December 1978, the federal government assumed joint responsibility with the State of Alaska for Tanner crab management in the EEZ. The state managed the resources in the waters from shore to three nautical miles offshore while the federal government managed those from three to 200 nmi offshore. This joint-jurisdiction lasted until 1987, when the state again assumed full management authority for Tanner crab in the Kodiak District for all waters out to 200 nmi offshore.

In the early 1980s, Tanner crab 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 pot surveys 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. Beginning with the 1994/95 season, the fishery was closed due to the progressive decline in the harvestable surplus of Tanner crabs in the Kodiak District. The commercial fishery remained closed until the 2000/01 season when the population had increased above minimum threshold levels. During the six-year closure period a harvest strategy was developed by ADF&G and was adopted by the Alaska Board of Fisheries (BOF) in 1999. This harvest strategy specified minimum population levels (biological thresholds) and minimum guideline harvest levels (management thresholds) required to open a commercial fishery.

The following regulations were adopted by the BOF in the 2001/02 cycle and were in effect starting with the 2002/03 season: 1) The Kodiak District was designated superexclusive for Tanner crab; 2) criteria was adopted to delay the fishery opening for severe weather; 3) if less than six hours notice was provided for a fishery closure, baited gear may be left in waters deeper than 25 fathoms for up to three days following the closure; and 4) daily fishing periods were reduced from 12 hours to 10 hours per day. When the season is open gear may only be operated from 8:00 AM to 5:59 PM, and may be left to soak from 6:00 PM until 7:59 AM.

The Commercial Fisheries Entry Commission (CFEC) developed a limited entry program using 2000/01 and 2001/02 as qualifying years to determine participation history. The CFEC limitation to participate in the Kodiak District Tanner crab fishery began during the 2003/04 season.

During the 2004/05 cycle, the BOF adopted several additional regulations: 1) daily fishing periods could be extended based on the department's assessment of effort, manageability, and harvest rates; 2) pot limits in the Semidi Island Overlap Section were increased to 70 per vessel; 3) the Semidi Island Overlap Section could open when either the Southwest Section or the

Chignik District opened; 4) the Semidi Island Overlap Section closed by emergency order; and 5) vessels participating in the Semidi Island Overlap Section were required to either report daily or provide daily logbook data.

Overview of the 2005/06 Kodiak District Tanner Crab Season

The Northeast, Eastside, Southeast, and Southwest sections of the Kodiak District met criteria specified in the harvest strategy for a commercial fishery opening in 2006, with a combined GHL of 2,100,000 pounds, which was an increase of 350,000 pounds from the 2004/05 fishery (Table 4). The Northeast Section GHL was set at 550,000 pounds, the Eastside Section GHL was set at 1,300,000 pounds, the Southeast Section GHL was set at 100,000 pounds, and the Southwest Section GHL was set at 150,000 pounds. The Semidi Island Overlap Section also opened during the 2005/06 season but there was no set GHL.

The scheduled opening date for the Kodiak District Tanner crab fishery was January 15 unless the fishery was delayed for weather due to gale force winds or greater, as outlined in 5 AAC 35.510 FISHING SEASONS FOR REGISTRATION AREA J. The criteria for a weather delay were met on January 14 and 15 in 2006; therefore, the season opened two days late at NOON on January 17. Sixty-eight permit holders recorded landings on 67 unique vessels during the 2005/06 fishery. The total harvest, including deadloss and personal use, was 2,121,384 pounds from 248 landings. The estimated exvessel fishery value was \$3.05 million as indicated by the price per pound on fish tickets (Table 3).

Similar to the 2004/05 season, a partial section closure occurred in the Northeast Section during the 2005/06 season. The Chiniak Bay portion of the Northeast Section closed at NOON on January 27. The remainder of the Northeast Section closed at 2:00 PM on March 2 (Table 5). Forty one vessels harvested 519,730 pounds from the Northeast Section (Table 4). The Northeast Section catch per unit effort or catch of legal crabs per pot (CPUE) averaged 27 crabs during the season.

The Eastside Section waters closed at NOON on January 26. Forty three vessels harvested 1,302,378 pounds from the Eastside Section (Table 4). The Eastside Section CPUE averaged 51 legal crabs per pot.

The Southeast Section waters closed at 2:00 PM on February 2. Nine vessels harvested 130,292 pounds from the Southeast Section (Table 4). The Southeast Section CPUE averaged 35 crabs.

This was the third year since 1994 that the Southwest Section opened. The waters of the entire Southwest Section closed January 20 at 6:00 PM. Seven vessels harvested 168,984 pounds from the Southwest Section (Table 4). The Southwest Section CPUE averaged 61 crabs.

Northeast Section Fishery

Based on the 2005 trawl survey estimate of abundance, the total population of mature male Tanner crab in the Northeast Section was 4,880,517 crabs (Spalinger 2006), above the regulatory threshold of 1,123,000 crabs. Because the population estimate was above the long-term average of mature male abundance, the regulatory harvest strategy prescribed a 20% exploitation rate on molting mature male abundance, but not exceeding 30% exploitation on legal-size crabs. This resulted in a 2006 GHL of 550,000 pounds, which was the same as the 2005 GHL (Table 4). Twenty-four vessels registered for the Northeast Section during tank inspections on January 16. Over the course of the fishery, 41 vessels participated in the Northeast Section.

Approximately 13 vessels participated in the vicinity of Chiniak and Kalsin bays. The number of legal crab per pot (CPUE) varied from the 20s to the high 40s. By late January, approximately 120,000 pounds had been landed from Chiniak and Kalsin bays. The inseason target was 140,000 pounds. A closure for Chiniak Bay was announced for January 27. The timing of this closure was due to the reported harvest, estimated harvest onboard, and to avoid a large number of vessels placing pots in Chiniak Bay after the Eastside Section closure.

Vessels moved into Marmot Bay after the closure of Chiniak Bay, and additional vessels moved into the Northeast Section after other section closures, particularly after the Eastside Section closed. The majority of the fleet concentrated in outer Marmot Bay. Catch rates quickly declined, and just as quickly, participation dropped. As effort declined, catch rates for some vessels improved. The entire Northeast Section closed at 2:00 PM on March 2.

Eastside Section Fishery

Based on the 2005 trawl survey estimates of abundance, the population of mature male Tanner crabs in the Eastside Section was 11,007,627 crabs (Spalinger 2006), well above the regulatory threshold of 1,552,000 crabs. Because the population estimate was above the long-term average of mature male abundance, the regulatory harvest strategy prescribed a 20% exploitation rate on molting mature abundance, but not exceeding 30% exploitation on legal-size crabs. This resulted in a 2005/06 fishery GHL of 1,300,000 pounds, which was twice the 650,000 pound GHL from the 2004/05 fishery (Table 4).

The 2003 trawl survey results indicated a significant decline in the abundance of legal-sized male Tanner crabs in Ugak Bay and Kiliuda Bay. In recent seasons these areas provided a large portion of the harvest. As a result these bays were closed during the 2003/04 season. The 2004 trawl survey showed an increase in the legal-sized males in Ugak Bay, but continued low numbers in Kiliuda Bay. As a result, Ugak Bay was opened for the 2004/05 season while Kiliuda Bay remained closed. The 2005 trawl survey results showed an increase in legal-sized males in Ugak Bay and Kiliuda Bay, as a result, both were opened to commercial fishing for the 2005/06 season.

Forty-one vessels registered for the Eastside Section during tank inspections. The majority of effort was concentrated in offshore areas. The fleet concentrated in the trench at the mouth of Ugak Bay and in the offshore waters known as the “horseshoe”. Only a few vessels fished inside Ugak Bay. Six vessels fished the entire season in Kiliuda Bay.

The seasonal CPUE average was 51 crab per pot with most vessels pulling their gear twice per day. Catch rates were generally higher in offshore areas and some vessels had CPUE over 100 crab per pot for several days. Catch rates in Kiliuda were slower, but remained consistently between 20–30 crab per pot, with vessels pulling their gear once per day. A tender offloaded crab from vessels fishing in Kiliuda Bay twice during the season.

The Eastside Section closed at NOON on January 26. Forty-three vessels fished the Eastside Section landing 1,302,378 pounds (Table 4) and exceeding the GHL by 0.2%.

Southeast Section Fishery

Based on the 2005 trawl survey estimates of abundance, the total population of mature male Tanner crabs in the Southeast Section was 1,823,984 crab (Spalinger 2006), and was above the regulatory threshold of 733,000 crabs. Because the population estimate was above the long-term

average of mature male abundance, the regulatory harvest strategy prescribed a 20% exploitation rate on molting mature abundance but not exceeding 30% exploitation on legal-size crabs. This resulted in a GHL of 100,000 pounds, the same as in 2005 (Table 4).

No vessels began the season in the Southeast Section. One vessel switched to the Southeast Section from the Eastside Section after 2.5 days of fishing, and three vessels switched to the Southeast Section after the Southwest Section closed on January 20, 2006. The remaining participants switched after the Eastside Section closure. Weather from January 26–28 was windy and extremely cold. Many vessels reported icing conditions and did not work gear these three days. Two vessels discontinued fishing on January 31 due to poor fishery performance.

Total harvest on January 31 was estimated to be 83,000 pounds, and average harvest was approximately 1,000 crab per day per vessel. Department staff estimated the following day's harvest (February 1) would be 5,000 to 7,000 crab, or 11,000 to 15,000 pounds bringing the total to 94,000 to 98,000 pounds. Due to weather and variable performance among participants, the department decided to wait on making a decision until reports were received on February 1st. The fleet harvested an additional 13,000 pounds, and a closure was announced for the following day (February 2) at 2 PM, providing a 6-hour notice within a fishery period. Total harvest from the section was 130,292 pounds (Table 4), 30% over the GHL.

Southwest Section Fishery

Based on the 2005 trawl survey estimates of abundance, the total population of mature male Tanner crabs in the Southwest Section was 1,421,130 crabs (Spalinger 2006), this was above the regulatory threshold of 1,236,000 crabs. The regulatory harvest strategy prescribed a 10% exploitation rate on molting mature abundance because the population estimate was less than the long-term average of mature male abundance. This resulted in a 2006 GHL of 150,000 pounds, 300,000 pounds less than in 2005 (Table 4).

This was the second consecutive year that the Southwest Section opened. Prior to 2004/05, the Southwest Section had not opened since 1994. Seven vessels registered for the Southwest Section during tank inspections on January 16. Two vessels began fishing outside Alitak Bay, while all remaining vessels fished inside of Alitak Bay. Vessels averaged 41 pot lifts per day during the first three days of the fishery, with a CPUE of 61 legal male crabs, compared to 51 legal male crabs per pot lift the first three days in 2005. Based on this information the estimated harvest for the first three fishing periods was approximately 115,000 pounds. The daily harvest and landing information collected through January 19 indicated that the GHL for the section would be reached by 6:00 PM on January 20. Participants were notified during the evening harvest reports on January 19 that there would be an announcement for the section in the morning update on January 20. An announcement was made on 4125 MHz on the single sideband radio at 10:30 AM announcing the closure for 6:00 PM. Each vessel fishing in the section was also contacted via satellite dispatch. Seven vessels fished the Southwest Section harvesting 168,984 pounds (Table 4), 13% above the GHL from the Southwest Section.

Semidi Island Overlap Section Fishery

The Semidi Island Overlap Section opened in 2004/05 because both the Southwest Section of the Kodiak District and the Chignik District were opened. The Southwest Section of the Kodiak District was open to commercial fishing in 2006, as well as the Chignik District, therefore the Semidi Island Overlap Section opened. The Semidi Island Overlap Section closed with the

Chignik District on the regulatory closure date of March 31. Three or fewer vessels participated in this fishery, therefore, all data is confidential.

2006 Dockside Sample Statistics

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 weights, and carapace width/shell condition data. During confidential interviews, samplers obtained detailed information regarding effort, location, and bycatch which were used to evaluate fishery performance. Forty-five percent of all landings were sampled.

The average weight of crabs from the Northeast Section was 2.29 pounds per crab, compared to 2.42 pounds for the Eastside Section, 2.40 pounds per crab for the Southeast Section, and 2.52 pounds for the Southwest Section. Harvested crabs were predominantly new shell and averaged 148 mm carapace width (Figure 4). Of the crabs sampled in the Northeast Section, 94.5% were new shell, 5.3% old shell, and 0.2% very old shell. Shell ages of the Eastside Section were 96.4% new shell, 3.6% old shell, and 0.0% very old. Shell ages of the Southeast Section were 76.2% new shell, 23.8% old shell, and 0.0% very old. Shell ages of the Southwest Section were 86.8% new shell, 13.0% old shell, and 0.2% very old.

Status of Kodiak District Tanner Crab Stock

The 2006 Kodiak District estimate based on the summer survey of 165 million Tanner crabs of all sizes and sex was more than double the estimate in 2005 (69.2 million crabs), 2004 (73.1 million crabs) and 2003 (73.5 million crabs). However, the population of legal male Tanner crab decreased by almost 2.0 million crabs, 6.6 million crabs in 2005 compared to 4.6 million crabs in 2006 (Spalinger *In prep*). The number of males less than 70 mm CW and juvenile females showed the highest increase in numbers, 133.8 million crabs, combined, in 2006, compared to 22.0 million crabs in 2005. The highest densities of crabs were found in the Eastside Section (Figure 5); this is similar to the results of recent years' surveys. The 2006 summer survey estimates will be used to establish the GHLS for the 2006/07 season.

Egg clutches of 3,988 mature female Tanner crabs were examined during the survey. Of all mature females, 47.2% were primiparous, an increase from 16.6% in 2005. Of mature females, 52.6% had clutches that were more than half full. This was a decline from 2005 when 81% of mature females had a clutch fullness of 50% or greater (Spalinger *In prep*).

CHIGNIK DISTRICT

Description of the District

The Chignik District for Tanner crab includes the Pacific Ocean waters of Registration Area J east of a line from the southernmost tip of Kupreanof Point to the easternmost point of Castle Rock, and east of a line extending southeast 135° from the easternmost point of Castle Rock, and west of the longitude of the easternmost tip of Cape Kumlik (Figure 3).

Overview of Fishery Regulations

The Chignik District is designated as a superexclusive registration district for Tanner crab. Vessels larger than 58 feet in overall length may not take Tanner crab in the Chignik District. A criterion within the harvest strategy specifies that the district GHLS must be at least 200,000 pounds for a commercial fishery to occur.

The following regulations were adopted by the BOF in the 2001/02 cycle and were in effect for the 2003/04 season: 1) The Chignik District was designated superexclusive for Tanner crab; 2) if less than six hours notice is provided for a fishery closure, baited gear may be left in waters deeper than 25 fathoms for up to three days following the closure; and 3) daily fishing periods were established. When the season is open for a Tanner crab fishery, gear may only be operated from 8:00 AM to 5:59 PM Gear may be left to soak from 6:00 PM until 7:59 AM.

Additional regulations were adopted by the BOF that were in effect for the 2004/05 season; 1) The requirement that the South Peninsula District must open for the Chignik District to open was repealed; and 2) the pot limit is 30 pots per vessel until the GHL exceeds 600,000 pounds. Pot limits for GHLS greater than 600,000 pounds are 1,000 pots for the entire fishing fleet with no more than 75 pots per vessel. The individual pot limit is calculated by dividing the 1,000 total pot limit by the number of vessels that register by the deadline specified in 5 AAC 35.506(e) (6).

Historic Background

The Chignik District Tanner crab fishery began in 1968 when 21,100 pounds were harvested (Table 6). The fishery peaked during the 1975/76 season when 35 vessels harvested approximately 11.2 million pounds. Annual harvest declined in the late 1970s. Recruitment failures in the early 1980s led to smaller annual harvests 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. The most productive areas were offshore between Mitrofanina Island and Lighthouse Rocks.

ADF&G did not survey the Chignik District until 1981. Surveys in the early 1980s predicted poor recruitment. As expected, the recruitment was low and subsequent fisheries had lower harvests. Catches declined first in the productive offshore areas, then later in bays. The district was closed to commercial fishing in 1990 and remained closed until the 2004/05 season.

Overview of the 2005/06 Chignik District Tanner Crab Season

The Chignik District met the criteria specified in the harvest strategy for a commercial fishery opening in 2005/06. Approximately 1.5 million crabs were estimated to be mature male, exceeding the threshold of mature male abundance of 973,000 crabs, resulting in a guideline harvest level (GHL) of 200,000 pounds.

The fishery opened as scheduled at NOON on January 15, 2006 (Table 5). Harvest from the 2005/06 Chignik District fishery, including deadloss, was 143,164 pounds from seven landings made by a total of four unique vessels (Table 6). Two other vessels registered and purchased tags but did not make a landing. During the first three weeks of the fishery, effort was primarily concentrated in the Ivanof Bay area. A partial closure of the Ivanof Bay area or all waters west of 159° W long., closed by emergency order at 5:59 PM on February 10, 2006. The remainder of the Chignik District closed by regulation at NOON on March 31, 2006.

The estimated exvessel fishery value, excluding deadloss, of \$170,796 resulted from an initial payment of \$1.20 per pound. It is not known if a retroactive payment will be made on the 2006 fishery landings.

Castle, Chignik, and Kuiu (Dorner) Bays

The 2005 trawl survey estimated 127,144 legal male crabs in Castle Bay. Because the molting mature male abundance was below the long-term average for the district, the harvest strategy

(5 AAC 35.507) limited the exploitation rate to no more than 10% of the molting mature male abundance. Furthermore, the harvest could not exceed this 10% rate or 30% of the legal male abundance. The exploitation of legal males was calculated at 30% of the legal male abundance in Castle Bay, 38,143 crabs (85,059 pounds). However, the inseason target was set at a more conservative 60,000 pounds due to the previous season's fishery performance being inconsistent with what had been expected, based on survey results. Only three vessels made landings from Castle, Chignik, and Kuiukta bays totaling less than 30,000 pounds. High fuel prices may have been a contributing factor in these areas receiving little effort. Sand Point was the only port where crabs were landed from the Chignik District.

Ivanof and Mitrofanina

The 2005 trawl survey estimated approximately 110,000 legal male crabs in Ivanof Bay and 149,000 legal male crabs in Mitrofanina. Because the molting mature male abundance was below the long-term average for the district, the harvest strategy (5 AAC 35.507) limited the exploitation rate to no more than 10% of the molting mature male abundance. Furthermore, the harvest could not exceed this 10% rate or 30% of the legal male abundance. The exploitation of legal males was calculated at 30% of the legal male abundance in Ivanof Bay and Mitrofanina, 77,417 crabs (172,640 pounds). However, the inseason target was set at a more conservative 120,000 pounds (50,000 pounds from Ivanof Bay and 70,000 pounds from Mitrofanina), to prevent overharvest in the areas closest to the processor in Sand Point.

The majority of fishing effort in the Chignik District occurred in the Ivanof Bay and Mitrofanina areas. Catch rates in Ivanof Bay remained strong through the second week in February. Average CPUEs were 35 crabs per pot. By February 7, total harvest in Ivanof Bay had exceeded the preseason target. Therefore, all waters of the Chignik District west of 159° W long. were closed to commercial fishing on February 10, 2006. Approximately 116,000 pounds of Tanner crabs were harvested from the Ivanof Bay area.

2006 Dockside Sample Statistics

Tanner crabs were sampled from one commercial delivery during the season. The sampler was relocated to King Cove on January 26 to sample the South Peninsula District commercial Tanner crab fishery.

Status of Chignik District Tanner Crab Stock

The overall crab abundance in the Chignik District more than tripled from 13.7 million crabs in 2005 to 42.0 million crabs in 2006 (Spalinger *In prep*). The number of juvenile females and males less than 70 mm CW showed the largest increase in 2006, and accounted for the majority of the increase in the total abundance of crabs. Based on survey data, the highest density of crab were found in Ivanof and Castle bays (Figure 6). Egg clutches of 659 mature female Tanner crabs were examined during the survey. Approximately 48.4% of mature females had a clutch fullness of 50% or higher.

SOUTH PENINSULA DISTRICT

Description of the District

The South Peninsula District for Tanner crab includes the Pacific Ocean waters of Registration Area J 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 3).

Overview of Fishery Regulations

The South Peninsula District is a nonexclusive registration district 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 GHL must be at least 200,000 pounds for a fishery opening. The pot limit ranges from 30 to 75 pots per vessel depending on the GHL.

The following regulations were adopted by the BOF in the 2001/02 cycle and were in effect for the 2003/04 season: 1) If less than six hours notice is provided for a fishery closure, baited gear may be left in waters deeper than 25 fathoms for up to three days following the closure; and 2) daily fishing periods were established. When the season is open for a Tanner crab fishery, gear may only be operated from 8:00 AM to 5:59 PM. Gear may be left to soak from 6:00 PM to 7:59 AM.

Historic Background

The first harvest of Tanner crab in the South Peninsula District occurred in 1967 when 3,100 pounds were landed (Table 7). The fishery grew quickly and, by the 1972/73 season, the annual harvest exceeded five million pounds. 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 five fishing seasons from 1974/75 through 1978/79, harvests ranged from five to almost nine million pounds. The fishery peaked during the 1978/79 season when nearly nine million pounds of crab were harvested. From 1979/80 to 1983/84 harvest and average CPUE declined as a result of low recruitment, and in the 1983/84 season the fleet landed less than two million pounds. Recruitment improved in subsequent years and the harvest increased to almost four million pounds in 1985/86. The harvest decreased again to about one million pounds in the 1988/89 season, and ADF&G predicted a decline in recruitment based on analysis of the ADF&G trawl survey. The fishery was closed from the 1989/90 season through the 1999/2000 season 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 2000/01. The South Peninsula District opened for the first time since 1989/90 with a 375,000-pound GHL. Fifty-five vessels harvested 258,631 pounds from 67 landings (Table 7). The fishery lasted for four days. The criteria in the harvest strategy were not met for a commercial fishery opening in 2001/02 or 2002/03, based on the trawl survey results.

The 2003 trawl survey indicated the South Peninsula District was above the established threshold level of molting-mature abundance for a commercial fishery opening in 2003/04. However, stocks within the district had continued to decline since the commercial fishery conducted in 2000/01. The population of Tanner crab in the South Peninsula District was not likely to remain above the threshold. Therefore, the commercial fishery in the South Peninsula District remained closed for the 2003/04 season. The 2004 trawl survey indicated the South Peninsula District was above the established threshold level of molting-mature abundance for the second year in a row, therefore the 2004/05 fishery opened with a GHL of 300,000 pounds.

The South Peninsula District is and was not separated into any smaller management units (e.g. sections). Concentrations of crabs in a small number of bays or marginally commercial

quantities spread across large areas may put the abundance calculation over the threshold needed to open the entire South Peninsula District, while some portions of the district may not be capable of sustaining a harvest (Urban and Vining 2005). Therefore, ADF&G submitted a proposal to the BOF in 2005 to split the district into two sections at 162° W longitude (Figure 3). This would allow for the opportunity for a fishery in one portion of the district where stocks are capable of sustaining a harvest while protecting other portions of the district where stocks are weak or rebuilding (Urban and Vining 2005). The proposal was approved by the BOF and the Eastern and Western sections were in place for the 2005/06 fishery.

Overview of the 2005/06 South Peninsula District Tanner Crab Season

The South Peninsula District Western Section met criteria specified in the harvest strategy for a commercial fishery opening for the 2005/06 season. Over 2.26 million crabs were estimated to be mature males, exceeding the threshold of 1.25 million mature male crabs, resulting in a GHIL of 290,000 pounds for the Western Section (Table 5). The Eastern Section did not meet criteria specified in the harvest strategy for a commercial fishery opening for the 2005/06 season.

The fishery opened as scheduled on January 15, 2006. Weather on the day of tank inspections and the opening day of the fishery was poor. The weather delayed some of the smaller vessels from leaving port by approximately one half day. During the course of the season, there were many days with high winds, in excess of 40 knots, and rough seas; many fishers used those days to come to port to deliver their catch.

After February 1 there were only six vessels and one processor participating in the fishery; this simplified estimating the harvest. The processors voluntarily used the Interagency Electronic Reporting System (e-landings) to enter fish tickets. This allowed managers to have real time access to fish ticket and landing data, rather than having to wait a week or more for fish tickets to arrive via the mail.

The fishery closed at 5:59 PM on February 17, 2006. Projected harvest from voluntary catch reports, fish ticket information, and cannery landing reports indicated that the 290,000 pound GHIL would be attained at the time of closure.

Annual harvest from the 2005/06 South Peninsula District Tanner crab fishery including deadloss, was 287,749 pounds from 47 landings made by a total of 15 unique vessels (Table 7). The estimated exvessel fishery value of \$353,391 resulted from an initial payment of \$1.23 per pound.

2006 Dockside Sample Statistics

ADF&G personnel were deployed to Sand Point and King Cove a week prior to the fishery opening. In the week preceding the fishery, buoy tags were sold, inseason reporting worksheets were distributed, and general fishery information was provided. Tanner crab were sampled from commercial deliveries in King Cove through February 5. The sampler was removed from King Cove on February 6 due to the low number of vessels still fishing and the small GHIL remaining. Only two small deliveries were taken to Sand Point. All samplers obtained the following information, in order of priority: confidential interviews with vessel captains, average weight, and carapace width and shell condition data. Through confidential interviews, samplers obtained detailed information regarding effort, location, and bycatch that was used to evaluate fishery performance. Interviews were obtained from 31 of the 47 deliveries (66%). Fifty-five percent of

all landings were sampled for carapace width which averaged 148 mm carapace width (Figure 4). The average weight was 2.27 lbs.

Status of South Peninsula District Tanner Crab Stock

The overall crab abundance in the South Peninsula District has increased from 16.1 million crabs in 2004 to 22.3 million crabs in 2005 to 77.3 million crabs in 2006 (Spalinger *In prep*). Based on the 2006 trawl survey data, the highest density of crab were in Morzhovoi Bay (Figure 6). The number of juvenile females and males less than 70 mm CW showed the largest increase in 2006, and accounted for most of the increase in total crab abundance. Egg clutches of 1,141 mature female Tanner crabs were examined during the survey. Almost 51.2% of the mature females examined had a clutch fullness of 50% or higher.

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. Dungeness crab are managed by regulating sex, size, and season ('3-S' management). Only male crab 6.5" CW or larger 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 shellfish registration from ADF&G, and have circulating seawater tanks inspected prior to participating 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 has nonexclusive registration for Dungeness crab fishing. In most waters of the Kodiak District, Dungeness crab 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, Dungeness crab may be taken from June 15 through January 1 (Figure 7).

Historic Background

Dungeness crabs were first harvested commercially in 1962 when 1.9 million pounds, including deadloss, were taken (Table 8). 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 crab in the Kodiak District. A harvest of almost 5.6 million pounds occurred during the 1981/82 Kodiak District season. Effort peaked during the 1985/86 season when 125 vessels participated in the fishery (Table 8).

The Kodiak District fishery has in recent years been prosecuted primarily on crabs newly recruited to legal size (Figure 8). The fishery has experienced years of low harvest that correspond to fluctuations in recruitment. Reduced effort may also contribute to decreased fishery harvest. Participation decreased from 62 vessels in 1991 to only 21 or less since the 1996/97 season.

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 (ADEC) 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 1991/92 to \$0.86 per pound in 1992/93 after ADEC restrictions took effect. ADEC restrictions have remained in place since their initial implementation in the early 1990s. Prices have fluctuated and reached a high of \$2.04 price per pound in 1997/98.

2006/07 Kodiak District Dungeness Crab Season

The 2006/07 Kodiak District Dungeness crab fishery opened on May 1 in all areas except Kodiak's south end which opened on June 15. Twelve vessels harvested 148,502 pounds from 62 landings (Table 8).

Harvest peaked in August and steadily declined through October, with some harvest continuing into November and December (Figure 9). As in the previous three seasons, the majority of harvest during 2006/07 came from waters in statistical areas near Sitkinak and Tugidak islands (Table 9).

An average of two legal crabs per pot was landed during the 2006/07 season. This was the lowest CPUE in five seasons (Table 8). CPUE has historically been highest in the late summer months, presumably as crab molt to legal size and are then available to the commercial fishery under '3-S' management.

Price paid per pound in 2006/07 averaged \$1.45, up from \$1.25 in 2005/06 (Table 8). The estimated exvessel value for the 2006/07 season was \$215,328, a decline from the exvessel value in 2005/06 (\$485,519).

Dungeness crabs harvested in the Kodiak District had a mean CW of 174 mm in 2006/07, approximately the same since 2003 (Figure 8). The percentage of pre-recruit crabs taken in the commercial harvest during the 2006/07 season was 12.8%, which was similar to the 11% from the 2004/05 season and higher than the 2% from the 2005/06 season.

CHIGNIK DISTRICT

Description of the District

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 with a 6.5" or larger CW may be taken from May 1 to January 1.

2006/07 Chignik District Dungeness Crab Season

Prior to 2001, the Chignik and Alaska Peninsula districts were combined. Since the creation of the Chignik District in 2002 until the 2006/07 season, less than three vessels or processors have participated in the fishery annually. Therefore, harvest information is combined with the Alaska Peninsula District. During the 2006/07 season, a total of four vessels participated in either the Chignik or South Peninsula district landing 261,798 pounds of Dungeness crab (Table 10).

ALASKA PENINSULA DISTRICT

Description of the District

The Alaska Peninsula District for Dungeness crab 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.) (Figure 10).

Overview of Fishery Regulations

The Alaska Peninsula District is a superexclusive registration area for Dungeness crab fishing. Male Dungeness crab with a 6.5" or larger CW 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 almost 1.3 million pounds were landed (Table 10). 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 crab 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 catches since 1986/87 have been small.

2006/07 Alaska Peninsula District Dungeness Crab Fishery

The 2006/07 Alaska Peninsula District Dungeness crab season opened May 1. Data is combined with the Chignik District to maintain confidentiality. During the 2006/07 season, a total of four vessels participated in the Chignik or South Peninsula district landing 261,798 pounds of Dungeness crab (Table 10).

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. Stock size is estimated annually by a trawl survey conducted aboard the *R/V Resolution*. The red king crab fishery in the Kodiak Area may open by regulation on September 25 if biomass estimates meet or exceed threshold levels described 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 2005, the BOF modified the opening of the red king crab fishery to be via emergency order rather than by a set date in regulation. In the Kodiak Area, a threshold abundance estimate of 5.12 million fertilized females was established in the harvest strategy. The female abundance threshold is further broken down by individual Kodiak management districts. Additional harvest strategy criteria restrict harvest to only 20% of mature male abundance and place harvest caps on legal-sized males at 60% of the estimated legal-size population. Trawl surveys indicate red king crab population levels remain low in the Kodiak and Alaska Peninsula areas.

GENERAL GOLDEN KING CRAB INFORMATION

Minor harvest of golden king crabs, previously called ‘brown’ king crab, has occurred in the Kodiak Area. ADF&G manages the golden king crab fishery by commissioner’s permit. 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. Conditions of the commissioner’s permit for golden king crabs state; (1) a valid CFEC permit card is required; (2) a 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 6.5” 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 100 fathoms or deeper; (10) retention of Pacific cod for sale is not permitted, nor is simultaneous participation in the state-waters Pacific 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 GHLL is established for the golden king crab fishery.

KODIAK AREA

Description of the Area

The Kodiak King Crab Management Area includes waters of the Gulf of Alaska south of the latitude of Cape Douglas (58° 51.10’ N lat.) and east of 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 exclusive registration for red king crab. The Kodiak Area has a sliding scale pot limit based on the GHM 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 1960/61, the king crab season was open year round and 21 million pounds were landed (Table 11). The fishery peaked during the 1965/66 season when over 94 million pounds of crab were landed during a ten-month fishing season. After this peak, catches dropped to 12 million pounds by the 1969/70 season. By the 1972/73 season, the decline had been reversed and harvests started increasing. The 1972/73 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 7.0 to 8.0 inches occurred (Table 12). Often, second fishing seasons within a year targeted larger, older crabs. Annual harvests ranged from almost 10.9 million pounds during the 1971/72 season to almost 24.1 million pounds during the combined 1975/76 seasons. 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 seasons 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 1983/84 season to red king crab fishing due to poor stock condition. The population of adult male crabs was the lowest recorded in 13 years of annual population assessments. ADF&G developed a harvest strategy that included a threshold level of 5.1 million female red king crab before considering any future fishery openings (Pengilly and Schmidt 1995). The red king crab fishery in the Kodiak Area has not opened since the 1982/83 season.

Since 1988, ADF&G has 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 remains closed because the abundance estimates of female crabs are 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, the pot limit was aimed at reducing effort when the fishery does 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 the 1982/83 season. During the 2006 Kodiak trawl survey, ADF&G completed 216 hauls in known king crab habitat. The red king crab population was estimated to be 215,976 crabs (up from 113,710 crabs in 2005 and down from 369,779 crabs

in 2004) of which 84,648 were legal-sized males (Spalinger *In prep*). Annual fluctuations in total population size are common when populations, such as Kodiak red king crab, become depressed and localized. As seen in Figure 12, the majority of red king crabs were found in the Southwest and Shelikof districts (Spalinger *In prep*). The mature red king crab female population was estimated to be 74,259 crabs, well below the 5.1 million crab threshold required for a fishery opening. Only 66.9% of the mature female crab sampled had an estimated ovigerity of 50% or greater (Spalinger *In prep*). That is an increase from 55.6% of adult female king crabs with clutches of $\geq 50\%$ fullness in 2005 (Spalinger 2006).

GOLDEN KING CRAB

Overview of Fishery Regulations

The Kodiak Area is nonexclusive registration 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 crabs were occasionally landed with red king crab in prior years, the first recorded landings occurred in 1983. In that year, 12 vessels explored the Kodiak Area with limited success. The catch totaled 111,398 pounds from 36 landings (Table 13). 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 of these years, there has been no activity.

2006 KODIAK AREA GOLDEN KING CRAB FISHERY

No effort occurred in 2006.

STATUS OF KODIAK AREA GOLDEN KING CRAB STOCK

ADF&G does not assess the golden king crab stock in the Kodiak Area. Given the 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 ($157^{\circ} 27'$ W long.), and as its western boundary the longitude of Scotch Cap Light ($164^{\circ} 44'$ W long.). The Alaska Peninsula Area 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 (Table 14). The largest historic catch of 22.6 million pounds occurred in 1966 (Table 14). 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 5.0 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 1982/83 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 2006 survey consisted of 136 tows in king crab habitat throughout the registration area. Data from the survey indicate the red king crab population remains at very low levels. The population slightly increased from an estimate of 31,102 crabs in 2005 to 34,178 crabs in 2006 (Spalinger *In prep*). 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. Each vessel may operate up to 75 pots 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 carapace width may be taken from January 1 through December 31 under a permit issued by the commissioner.

2006 ALASKA PENINSULA AREA GOLDEN KING CRAB FISHERY

No vessels registered to fish for golden king crab in the Alaska Peninsula Area during 2006.

STATUS OF ALASKA PENINSULA AREA GOLDEN KING CRAB STOCK

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 trawl shrimp. The majority of historically-productive inshore sections have established biomass 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 (Jackson 2005; ADF&G 1982). Sections with MABI thresholds open and close by emergency order. An emergency order 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 unspecified 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 pot shrimp. With the exception of six sections located in the Kodiak and Chignik districts, fishing for shrimp with pots is open all year, and no GHs are established.

KODIAK DISTRICT

Description of the District

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).

Historic Background

The Kodiak trawl shrimp fishery began with a harvest of 31,886 pounds in 1958 (Jackson and Ruccio 2003; Table 15). The fishery grew rapidly to an annual harvest of almost 12.7 million pounds in 1962. 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 almost 82.2 million pounds in 1971. 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 1973 with over 120 million pounds of shrimp (Figure 15). 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 *P. dispar*, coonstriped *P. hypsinotus*, spot *P. platyceros*, and humpy *P. 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 a 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) as determined by survey trawls, while allowing a fishery during rebuilding periods. A minimum level at which any harvest could occur was established and termed MABI.

Concurrent with approval of the WESTWARD REGION SHRIMP MANAGEMENT PLAN in 1982, 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 trawl effort in the General Section since the 1986/87 season.

Pot fishing for shrimp has been recorded since 1969 in the Kodiak District, but it has never been a large fishery (Jackson and Ruccio 2003). The North Afognak, West Afognak, and Mainland sections of the Kodiak District were closed to all commercial shrimp fishing in 1997. The BOF closed these sections due to concerns that inadequate information existed regarding the biology and stock status of shrimp in the Westward Area. In March 2003, the BOF amended 5 AAC 31.590 WESTWARD AREA SHRIMP FISHERIES MANAGEMENT PLAN to contain conservative management tools to allow pot shrimp fishing opportunities in these areas. Season dates, a guideline harvest range (GHR), and a mandatory logbook requirement was adopted. These new regulations became effective July 1, 2003. In all other areas, shrimp may be taken year round with pots, and ADF&G requests that logbooks be submitted with fish tickets. The largest landing was less than 19,000 pounds of spot shrimp tails in 1983 (Table 16).

Overview of Fishery Regulations

To participate in commercial shrimp fishing 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. Effective July 1, 2003, vessel operators may not be registered to take shrimp in more than one district at a time.

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 emergency order. Currently, there is no closed season for shrimp fishing with pot gear in the Kodiak District with the exception of the North Afognak, West Afognak, and Mainland sections, which have a fishing season of May 1 through February 28, unless closed earlier by emergency order. There is a GHR of 0 to 40,000 pounds whole weight for these three sections, and no more than 15,000 pounds may be harvested from an individual section during a calendar year¹.

¹ The current regulation 5 AAC 31.590 limits harvest to 15,000 pounds per calendar year; however, registration and guideline harvest ranges are from May 1 through February 28. ADF&G intends to submit a proposal to the BOF to clarify this discrepancy.

Logbooks are required of fishers targeting shrimp in the North Afognak, West Afognak, and Mainland sections.

2006/07 KODIAK DISTRICT SHRIMP POT AND TRAWL SEASONS

There was no pot fishing effort for shrimp in 2006/07.

STATUS OF KODIAK DISTRICT SHRIMP STOCKS

ADF&G conducts trawl surveys to assess shrimp biomass. Surveys have been conducted every three years in the Kodiak District. Beginning in 2003, portions of the Kodiak District were surveyed on an annual basis. Most of the General Section is not surveyed nor is there any established MABI in the General Section. Since 2003, no sections in the Kodiak District produced shrimp population estimates above the department's established MABI. In the Kodiak District, the highest catch of shrimp per mile towed in 2005 was found in Marmot and Wide bays (Table 17; Jackson 2006). Most sections remain well below historic population levels. In 2001 and 2002, Wide Bay showed some increase in shrimp population size, but the population size decreased again in 2003 and has not shown an increase (Table 17).

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.

SOUTH PENINSULA AND CHIGNIK DISTRICTS

Description of the Districts

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 16). 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, west of a line extending 135° southeast from the easternmost point of Castle Rock and 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, Kenoy's Island, Pavlof Bay, Belkofski Bay, and Morzhovoi Bay sections (Figure 17). The offshore waters in the South Peninsula District are not assigned sections.

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 14.7 million pounds were harvested from the South Peninsula District and 4.8 million pounds were harvested from the Chignik District (Table 18). The historic high catch was reached in the 1973/74 season. Catches declined rapidly after the 1977/78 season 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 for the 1981/82 season, 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.

The Chiginagak, Nakalilok, and Aniakchak sections of the Chignik District were closed to all commercial shrimp fishing in 1997. The BOF closed these sections due to concerns that inadequate information existed regarding the biology and stock status of shrimp in the Westward Area. In March 2003, the BOF created 5 AAC 31.592 CHIGNIK DISTRICT POT SHRIMP FISHERIES MANAGEMENT PLAN.

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 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 emergency order 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.

Currently there is no closed season for shrimp fishing with pot gear in the Chignik District with the exception of Chiginagak, Nakalilok, and Aniakchak Bay sections, which have a fishing season of May 1 through February 28, unless closed earlier by emergency order. There is a GHR of 0 to 40,000 pounds whole weight for these three sections, and no more than 15,000 pounds may be harvested from an individual section during a calendar year. Logbooks are required of fishers targeting shrimp in the Chiginagak, Nakalilok, and Aniakchak Bay sections. There are no closed sections in the South Peninsula District for vessels using pot gear.

2006/07 SOUTH PENINSULA AND CHIGNIK DISTRICTS SHRIMP POT AND TRAWL SEASON

There was no fishing effort for shrimp with pot gear or trawl gear in the South Peninsula or Chignik districts during the 2006/07 seasons.

STATUS OF SOUTH PENINSULA AND CHIGNIK DISTRICTS SHRIMP STOCKS

The South Peninsula and Chignik districts were surveyed in 2006. Shrimp abundance indices from the 2006 survey were below MABI levels in all South Peninsula and Chignik district sections that were surveyed (Table 16). Shrimp densities within the South Peninsula and Chignik districts were similar to those found during the 1995, 2002 and 2004 surveys (Jackson 2006).

RED SEA CUCUMBER

INTRODUCTION

The red sea cucumber fishery in the Kodiak, Chignik, and South Peninsula districts is part of miscellaneous shellfish Registration Area J. The sea cucumber dive fisheries are nonexclusive registration fisheries. The districts and sections in use for Tanner crab management are used to delineate sea cucumber management. GHs are established annually and fisheries remain open until section GHs are attained or the biological closure begins. Weekly fishing periods are announced and established by emergency order. Fishing periods begin on or about October 1 and

continue until the established GHGs are attained. Most sections 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 allowed. Divers are required to submit dive logs 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 Districts

The Kodiak District for sea cucumbers includes Pacific Ocean waters of miscellaneous shellfish 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).

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.), 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 3). 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 (Table 19). 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 recruited divers to prosecute a commercial fishery for red sea cucumbers in those same areas.

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, GHGs were established for the Kodiak and Chignik districts. Management areas based on the Tanner crab fishing sections were utilized in the Kodiak District in an attempt to spread the effort and harvest around the island and prevent localized depletion. A GHG was set for each of the individual sections based on historic production and fishery 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. GHGs for the Kodiak and Chignik districts combined during the 1994/95 season totaled 225,000 pounds with weekly fishing periods of three days. The shortened fishing periods were set to allow ADF&G a better opportunity to assess inseason fishery performance. GHGs 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 GHG. The GHG for the Kodiak District was 135,000 pounds, and the Chignik District GHG 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 1998-2004, 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.

2006/07 KODIAK AND CHIGNIK DISTRICTS RED SEA CUCUMBER SEASON

The 2006/07 fishery opening was Sunday, October 1, 2006. The 2006/07 GHLS for the Kodiak District totaled 145,000 pounds of eviscerated product (Table 20), the same as in 2005/06. The GHLS for Uganik Bay in the Westside Section remained at 5,000 pounds due to poor fishery performance in previous seasons. The Chignik District GHLS was 25,000 pounds. Twenty-one divers registered (up from eighteen in 2005/06) with a high of eighteen divers participating during the first opening. This effort level is similar to the recent highest level of participation (2003) when 25 divers registered with a high of 17 participating during two openings. The Eastside, Southeast, Southwest, and Westside sections of the Kodiak Area were closed by emergency order to prevent divers from exceeding the GHLS. Only one processor purchased product; therefore, harvest information is confidential.

The level of participation for the 2006/07 sea cucumber fishery was unknown up until one week prior to the fishery. Based on conservative estimates of anticipated participation, the first dive fishing period was established as a two-day opening on Sunday, October 1 and Monday, October 2. Twenty divers registered and eighteen participated during the first fishery opening. There were a total of four fishing periods and twelve days of fishing. All sections in the Kodiak District except the Northeast and Mainland sections closed; the Southwest and Westside sections closed on October 14, and the Eastside and Southeast sections closed on October 21.

While fishing in the Chignik District historically has occurred in the spring, there was no effort in the Chignik District during the 2006/07 fishery.

2006 Dockside Sample Statistics

Over the course of the fishery, dockside samplers conducted interviews with vessel operators at each delivery. Logbook data supplied by divers was much improved from previous seasons; most of the logbooks contained latitude and longitude data as opposed to only bay names or statistical areas. Eighteen landings were sampled for average weights at the point of delivery. The average eviscerated weight for sampled Kodiak District red sea cucumbers was 0.68 pounds per animal.

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 from diver logbook data in the commercial fishery have remained stable. Biomass levels, especially at depths unavailable to divers, are unknown.

SOUTH PENINSULA DISTRICT

Description of the District

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 the latitude of Scotch Cap Light (Figure 3).

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 less than three divers made a landing. There have been no landings in the South Peninsula District since 1994.

2006/07 SOUTH PENINSULA DISTRICT RED SEA CUCUMBER SEASON

No fishing occurred during the 2006/07 season in the South Peninsula District 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; therefore, actual population levels are unknown. In addition, the extent of the westward range of red sea cucumbers is not well documented. 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 from October 1 to January 31. Sea urchins may be taken only by hand picking, which may be aided by the use of diving gear, an abalone iron, or a sea urchin rake. A valid CFEC interim use permit card and registration with ADF&G are required. Logbooks are mandatory and must be submitted with completed fish tickets. There are currently no size limits for green sea urchins in regulation. However, buyers have only purchased green sea urchins that are approximately 2 to 2.25 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 (Table 21). 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 with 190,509 pounds of urchins (Table 21). Kodiak green sea urchins are usually shipped live to Japan for processing.

In 2000, ADF&G developed conservative GHGs 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 GHG (Table 20). Sections that had been previously explored and had some prior harvest were assigned a 10,000 pound GHG to help prevent local depletion. ADF&G will work closely with fishery participants to collect baseline biological data from the green sea urchin fishery.

2006/07 GREEN SEA URCHIN SEASON

No vessels were registered for the 2006/07 green sea urchin season 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. While in possession of an octopus commissioner's permit, vessel operators may not participate in other fisheries such as the state-waters Pacific cod *Gadus macrocephalus* fishery. Vessel operators may retain octopus bycatch up to 20% of their target species weight with any valid CFEC permit card. Vessel operators registered for an octopus fishery may only retain permissible bycatch levels of other species. As part of the commissioner's permit requirements, individuals targeting octopus are required to maintain a logbook. No GHGs are established for the octopus fishery.

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 BOF regulation. Before 1985, no distinction between state and federal waters was made regarding octopus harvest. In the period from 1977 to 1984, 51,479 pounds were harvested from state and federal waters in the Kodiak District. During these years the highest recorded harvest in the Kodiak District occurred in 1980 with 19,342 pounds of octopus. Much of the octopus harvested was used as bait or kept for personal consumption and was not reported on fish tickets. 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 with pot gear from late fall to early spring. To fill the void, many pot-gear fishers turned to Pacific cod 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 were retained as bait, was documented on fish tickets. 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 the Pacific cod pot fisheries. Periodic episodes of favorable market conditions also resulted in large amounts of octopus sold to processors.

Historically, the majority of octopus harvest in the Kodiak, Chignik, and South Peninsula districts has occurred within state waters (Tables 22 and 23). In 1991, there were 106,748 pounds of octopus harvested from state waters in the Kodiak District. In that same year, 22,607 pounds of octopus were harvested from federal waters in the Kodiak District. 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 the Kodiak District, harvest reached a record high in 1998 with a combined state and federal harvest of 375,379 pounds of octopus. In the Chignik and South Peninsula districts, harvest reached a record high in 2004 with a combined harvest of 330,192 pounds of octopus (Table 23).

2006 KODIAK DISTRICT OCTOPUS FISHERY

Four vessels were registered to target octopus in 2006; however, little effort occurred. The 2006 incidental harvest of octopus in the Kodiak District totaled 237,894 pounds from state and federal waters (Table 22). Forty two vessels harvested 69,086 pounds from 185 landings in state waters. A total of 168,808 pounds were harvested from federal waters by 46 vessels making 245 landings. Fish tickets with price information listed an average of \$0.57 per pound for an estimated exvessel fishery value of \$135,600 for the state and federal waters harvests combined.

2006 ALASKA PENINSULA AND CHIGNIK DISTRICTS OCTOPUS FISHERIES

One vessel registered for directed fishing of octopus in the Chignik and South Peninsula districts in 2006. The 2006 incidental harvest of octopus in the Chignik and South Peninsula districts totaled 75,604 pounds from state and federal waters (Table 23). Forty four vessels harvested 52,663 pounds of octopus from 167 landings in state waters. A total of 22,941 pounds of octopus were harvested from federal waters by 21 vessels making 61 landings. Fish tickets with price information listed an average of \$0.51 per pound for an estimated exvessel fishery value of \$38,559 for the state and federal water harvest combined.

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 *S. 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 (Table 24). 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, which dictates a ban on camping to conduct a business enterprise within the monument. In 1986, the BOF adopted a regulation prohibiting hydraulic mechanical dredges from harvesting clams in the Kodiak District east of Kilokak Rocks. No commercial activity has occurred in the Kodiak, Chignik or South Peninsula districts since 1986.

2006 RAZOR CLAM SEASON

There was no harvest of razor clams in 2006.

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.

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 harvesting shellfish species not described in this report can be obtained by contacting ADF&G. Regulations governing other miscellaneous shellfish can be found in Chapter 38 of the shellfish regulations.

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TABLES AND FIGURES

Table 1.—Shellfish emergency orders issued for the Kodiak Area, 2006.

Emergency Order	Effective Date	Explanation
<u>Tanner Crab</u>		
4-S-01-06	1/15/2006	Delayed the opening of the Kodiak Tanner crab fishery 24-hours due to weather.
4-S-02-06	1/16/2006	Second 24-hour weather delay of the Kodiak Tanner crab fishery.
4-S-04-06	1/20/2006	Closed the Southwest Section to Tanner crab fishing for the remainder of the 2005/2006 season.
4-S-05-06	1/26/2006	Closed the Eastside Section to Tanner crab fishing for the remainder of the 2005/2006 season.
4-S-06-06	1/27/2006	Closed the Chiniak Bay portion of the Northeast Section to Tanner crab fishing for the remainder of the 2005/2006 season.
4-S-07-06	2/2/2006	Closed the Southeast Section to Tanner crab fishing for the remainder of the 2005/2006 season.
<u>Sea Cucumber</u>		
4-S-12-06	10/1/2006	Opened the Kodiak District for the first 48-hour fishing period for red sea cucumbers.
4-S-13-06	10/6/2006	Opened the Southeast and Eastside Sections for a 48 hour fishing period; opened the Westside Section for a 72 hour fishing period; opened the Uganik Bay area for a 48 hour fishing period; and the remainder of the Kodiak District for a 72 hour fishing period for red sea cucumbers.
4-S-14-06	10/14/2006	Closed the Southwest and Westside Sections for the remainder of the 2006/07 season. Opened the Southeast Section for a 24 hour fishing period; opened the Eastside Section for an 8 hour fishing period, opened the Uganik Bay area for a 30 hour fishing period, and the remainder of the Kodiak District for a 72 hour fishing period for red sea cucumbers.
4-S-15-06	10/21/2006	Closed the Eastside, Southeast, Southwest and Westside Sections for the remainder of the 2006/2007 season. Opened the Northeast Section for a 72 hour fishing period; and opened the Uganik Bay area for a 6 hour fishing period.

Table 2.—Shellfish emergency orders issued for the Alaska Peninsula Management Area, 2006.

Emergency Order	Effective Date	Explanation
<u>Tanner Crab</u>		
4-S-03-06	1/19/2006	Closed the waters of Cold Bay in the Western Section of the South Peninsula District to Tanner crab fishing for the remainder of the 2005/2006 season.
4-S-09-06	2/10/2006	Closed the Chignik District west of 159° W long. to Tanner crab fishing for the remainder of the 2005/2006 season.
4-S-10-06	2/17/2006	Closed the Western Section of the South Peninsula District to Tanner crab fishing for the remainder of the 2005/2006 season.

Table 3.—Tanner crab commercial catch, effort, and value for the Kodiak District, 1967 – 2005/06.

Year/Season	GHL	Number				Pots Lifted	Average CPUE ^b	Average Weight	Average Price Per Pound	Exvessel Value (millions)
		Vessels	Landings	Crabs ^a	Pounds ^a					
1967	NA	NA	83	NA	110,961	NA	NA	NA	\$0.07	NA
1968	NA	NA	817	NA	2,560,687	NA	NA	NA	\$0.10	NA
1969	NA	85	955	NA	6,827,312	72,748	43	NA	\$0.11	NA
1969/70	NA	67	833	3,237,244	8,416,782	78,266	42	2.6	\$0.11	NA
1970/71	NA	82	453	2,686,067	6,744,163	60,967	44	2.5	\$0.11	NA
1971/72	NA	46	505	3,878,618	9,475,902	65,907	59	2.4	\$0.13	NA
1972/73	NA	105	1,466	13,609,688	30,699,777	188,158	72	2.3	\$0.17	NA
1973/74	NA	123	1,741	11,857,573	29,820,899	217,523	55	2.5	\$0.20	NA
1974/75	NA	74	471	5,459,940	13,649,966	73,826	74	2.5	\$0.17	NA
1975/76	NA	104	1,168	10,748,958	27,336,909	199,304	54	2.5	\$0.20	NA
1976/77	NA	102	998	7,830,727	20,720,079	164,213	48	2.6	\$0.33	NA
1977/78	NA	148	1,483	12,401,243	33,281,472	251,621	49	2.6	\$0.43	NA
1978/79	NA	218	1,225	10,702,829	29,173,807	275,455	38	2.7	\$0.55	NA
1979/80	NA	211	1,385	6,813,128	18,623,875	282,946	24	2.7	\$0.55	NA
1980/81	NA	188	771	4,398,631	11,748,629	174,351	25	2.7	\$0.65	NA
1981/82	NA	221	950	5,413,467	13,756,159	230,403	24	2.5	\$1.65	NA
1982/83	NA	348	1,439	7,744,812	18,927,061	377,562	21	2.4	\$1.25	NA
1983/84	NA	303	1,229	5,891,968	14,478,066	303,764	19	2.5	\$1.20	NA
1984/85	NA	217	710	4,540,114	11,947,696	176,215	26	2.6	\$1.96	NA
1985/86	NA	234	603	3,454,957	8,990,612	160,220	22	2.6	\$1.97	NA
1986/87	NA	190	506	1,832,962	4,839,446	111,198	16	2.6	\$2.64	NA
1987/88	NA	178	560	1,648,064	3,959,504	103,391	16	2.4	\$2.27	NA
1988/89	NA	171	566	2,096,540	5,185,563	86,056	24	2.5	\$2.84	NA
1989/90	NA	232	547	1,437,905	3,446,937	96,956	15	2.4	\$2.64	NA
1990/91	NA	137	445	764,357	1,917,713	54,110	14	2.5	\$1.56	NA
1991/92	NA	143	434	982,391	2,400,213	47,384	21	2.4	\$2.23	NA
1992/93	NA	140	353	518,982	1,318,446	43,528	12	2.5	\$2.11	NA
1993/94	NA	130	379	511,131	1,253,462	41,587	12	2.5	\$2.25	NA
1994/95 to 1999/00					NO COMMERCIAL FISHERY					
2000/01	500,000	144	192	193,138	510,407	7,233	27	2.6	\$2.08	\$1.10
2001/02	500,000	181	279	146,655	361,166	10,446	14	2.5	\$2.20	\$0.79
2002/03	510,000	72	276	215,594	511,324	11,108	19	2.4	\$2.48	\$1.26
2003/04	795,000	66	251	254,990	566,218	15,491	16	2.2	\$2.31	\$1.31
2004/05	1,750,000	86	287	776,188	1,800,197	21,399	36	2.3	\$1.71	\$3.08
2005/06	2,100,000	67	248	889,748	2,121,384	21,962	41	2.4	\$1.44	\$3.05
5 year average ^c	1,131,000	94	268	456,635	1,072,058	16,081	25	2.3	\$2.03	\$1.90

^a Includes deadloss and personal use.

^b Average CPUE is number of crab per pot

^c 5 year average is last 5 years of fishery data (2001/02-2005/06).

NA = not available

Table 4.–Tanner crab guideline harvest level, effort, and harvest, including deadloss and personal use, by section for the Kodiak District, 2003/04 – 2005/06.

Year	Section ^a	GHL	Vessels	Permits	Harvest	Pots Lifted	CPUE ^b
2003/04	Northeast	245,000	43	44	259,572	6,281	19
	Eastside	450,000	20	20	219,980	6,781	15
	Southeast	100,000	15	16	86,666	2,429	16
	Southwest	Closed					
	Semidi	Closed					
	<i>Total</i>	795,000	66 ^c	68	566,218	15,491	16
2004/05	Northeast	550,000	43	43	467,516	6,876	25
	Eastside	650,000	27	27	665,339	8,607	33
	Southeast	100,000	9	9	92,398	1,711	20
	Southwest	450,000	20	20	574,944	4,021	56
	Semidi	n/a	Confidential	Confidential	Confidential	Confidential	Confidential
	<i>Total^d</i>	1,750,000	86 ^c	86	1,800,197	21,399	36
2005/06	Northeast	550,000	41	42	519,730	8,565	27
	Eastside	1,300,000	43	43	1,302,378	10,478	51
	Southeast	100,000	9	9	130,292	1,489	35
	Southwest	150,000	7	7	168,984	1,108	61
	Semidi	n/a	Confidential	Confidential	Confidential	Confidential	Confidential
	<i>Total^d</i>	2,100,000	67 ^c	68	2,121,384	21,640	41

^a The Semidi Island Overlap Section (abbreviated Semidi) does not have a GHL.

^b CPUE is number of crab per pot lift.

^c Total unique vessels; several vessels participated in multiple sections.

^d Totals do not include confidential data.

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

Table 5.—Kodiak, Chignik, and South Peninsula districts Tanner crab guideline harvest levels and season dates, 2005/06.

District/Section	GHL (pounds)	Opening date/time	Partial closure/time	Closure date time
Kodiak				
Northeast	550,000	Jan 17/ Noon ^a	January 27/Noon ^b	March 2/ 2:00 PM
Eastside	1,300,000	Jan 17/ Noon ^a	none	January 26/ Noon
Southeast	100,000	Jan 17/ Noon ^a	none	February 2/ 2:00 PM
Southwest	150,000	Jan 17/ Noon ^a	none	January 20/ 6:00 PM
Westside		No Commercial Fishery		
North Mainland		No Commercial Fishery		
South Mainland		No Commercial Fishery		
Semidi Island	n/a	Jan 15/ Noon		March 31/ Noon ^c
Chignik	200,000	Jan 15/ Noon	February 10/ 5:59 PM ^d	March 31/ Noon
South Peninsula				
Eastern		No Commercial Fishery		
Western	290,000	Jan 15/ Noon	January 19/5:59 PM ^e	February 17/ 5:59 PM

^a The weather delay criteria was met for 2 days, delaying the opening by 48 hours.

^b Partial Closure of the Northeast Section (Chiniak Bay).

^c The Semidi Island Overlap Section (abbreviated Semidi Island) opened concurrent with the Chignik District, and closed when the Chignik District closed.

^d Partial closure of the Chignik District (west of 159° W long.).

^e Partial closure of the Western Section (Cold Bay).

Table 6.–Tanner crab commercial catch, including deadloss and personal use, effort, and value for the Chignik District, 1968 – 2005/06.

Year/Season	GHL	Number				Pots Lifted	Average CPUE	Average Weight	Average Price Per Pound
		Vessels	Landings	Crabs	Pounds				
1968	NA	NA	NA	NA	21,100	NA	NA	NA	NA
1969	NA	NA	NA	NA	38,100	NA	NA	NA	NA
1969/70	NA	NA	NA	NA	2,800	NA	NA	NA	NA
1970/71	NA	NA	NA	NA	152,300	NA	NA	NA	NA
1971/72	NA	CONFIDENTIAL HARVEST							
1972/73	NA	15	56	297,363	747,788	8,080	51	2.5	\$0.16
1973/74	NA	25	115	1,585,560	4,054,873	28,083	57	2.6	\$0.20
1974/75	NA	25	91	1,438,508	3,649,444	22,675	63	2.5	\$0.14
1975/76	NA	35	288	2,724,509	11,201,900	52,381	52	2.5	\$0.19
1976/77	NA	21	141	2,098,226	5,672,919	40,604	52	2.7	\$0.33
1977/78	NA	32	140	1,725,042	4,693,830	38,414	45	2.8	\$0.42
1978/79	NA	39	126	926,253	2,536,105	28,378	33	2.7	\$0.55
1979/80	NA	42	155	2,340,004	3,517,920	54,627	25	2.6	\$0.54
1980/81	NA	24	112	1,534,847	3,653,723	44,022	35	2.4	\$0.64
1981/82	NA	45	174	1,343,500	3,240,476	47,830	28	2.4	\$1.21
1982/83	NA	48	136	1,432,029	3,497,370	60,210	24	2.4	\$1.12
1983/84	NA	17	41	269,724	659,043	14,665	18	2.4	\$1.09
1984/85	NA	15	27	162,448	375,476	15,708	10	2.3	\$1.42
1985/86	NA	6	12	85,697	188,162	7,435	12	2.2	\$1.97
1986/87	NA	10	20	89,329	195,060	7,052	13	2.2	\$2.28
1987/88	NA	6	11	87,148	183,111	6,544	13	2.1	\$2.33
1988/89	NA	6	34	142,470	323,120	9,845	15	2.3	\$3.05
1989/90 to 2003/04		NO COMMERCIAL FISHERY							
2004/05	400,000	23	59	186,706	415,111	7,456	25	2.2	\$1.65
2005/06	200,000	4	7	57,547	143,164	2,037	28	2.5	\$1.20
5 year average ^a		10	28	112,640	251,913	6,587	19	2.3	\$2.10

^a 5 year average is the last 5 years of fishery data (1986/87 - 1988/89 and 2004/05 - 2005/06).

NA= Not available

Table 7.–Tanner crab commercial catch, including deadloss and personal use, effort, and value for the South Peninsula District, 1967 - 2005/06.

Year/Season	GHL	Number				Pots Lifted	Average CPUE	Average Weight	Average Price Per Pound
		Vessels	Landings	Crabs	Pounds				
1967	NA	NA	NA	NA	3,100	NA	NA	NA	NA
1968	NA	NA	155	36,835	110,610	NA	NA	3.0	NA
1969	NA	NA	173	221,946	606,178	NA	NA	2.7	NA
1969/70	NA	NA	NA	NA	2,093,600	NA	NA	NA	NA
1970/71	NA	17	242	813,610	2,140,585	NA	NA	2.6	\$0.10
1971/72	NA	NA	NA	NA	3,618,900	NA	NA	NA	NA
1972/73	NA	36	390	2,213,006	5,615,563	53,573	41	2.5	NA
1973/74	NA	44	386	3,504,668	8,300,578	58,444	60	2.4	NA
1974/75	NA	44	131	2,053,530	5,195,800	38,153	54	2.5	\$0.14
1975/76	NA	36	288	2,724,509	6,926,161	52,381	52	2.5	\$0.20
1976/77	NA	28	289	2,524,565	6,773,838	63,143	40	2.7	\$0.32
1977/78	NA	36	374	2,847,948	7,446,270	70,587	40	2.6	\$0.40
1978/79	NA	48	332	3,267,122	8,684,408	82,374	40	2.7	\$0.51
1979/80	NA	61	363	2,581,544	6,961,251	96,989	27	2.7	\$0.54
1980/81	6,000,000	43	268	1,274,539	3,294,106	59,560	21	2.6	\$0.58
1981/82	4,500,000	72	365	1,815,060	4,589,042	81,008	22	2.5	\$1.05
1982/83	3,000,000	82	230	1,144,096	2,863,798	70,524	16	2.5	\$1.20
1983/84	2,750,000	61	207	775,472	1,789,883	50,726	15	2.3	\$1.04
1984/85	1,930,000	52	184	1,097,182	2,549,686	47,465	23	2.3	\$1.42
1985/86	3,900,000	74	187	1,589,759	3,781,950	65,078	24	2.4	\$1.72
1986/87	2,000,000	54	106	950,300	2,400,784	37,511	25	2.5	\$2.03
1987/88	3,431,000	73	148	1,359,371	3,328,809	52,516	26	2.4	\$2.20
1988/89	700,000	65	87	433,112	1,055,082	27,958	15	2.4	\$2.70
1989/90 to 1999/00						NO COMMERCIAL FISHERY			
2000/01	375,000	55	67	107,653	258,631	4,426	24	2.4	\$1.24
2001/02 to 2003/04						NO COMMERCIAL FISHERY			
2004/05	300,000	43	68	134,019	295,741	5,710	23	2.2	\$1.63
2005/06	290,000	15	47	126,383	287,749	3,703	34	2.3	\$1.23
5 year average ^a		50	83	432,108	1,045,202	18,863	25	2.3	\$1.80

^a 5 year average is last 5 years of fishery data (1987/88-1988/89, 2000/01, 2004/05-2005/06).

NA = Not available.

Table 8.—Dungeness crab commercial catch, effort, and value for the Kodiak District, 1962 – 2006/07.

Year/Season	Number				Pots Lifted	Average Lbs Per Landing	Average CPUE ^b	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	NA	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					Confidential				
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
1985/86	125	1,243	1,791,446	4,160,435	599,291	3,347	3	\$1.20	\$4,992,522
1986/87	81	577	439,738	967,423	199,881	1,667	2	\$1.15	\$1,112,500
1987/88	45	379	747,117	1,450,983	150,067	3,828	5	\$1.26	\$1,828,000

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Table 8.—Page 2 of 2.

Year/Season	Number				Pots Lifted	Average Lbs Per Landing	Average CPUE ^b	Average Price/Pound	Exvessel Value
	Vessels	Landings	Crab	Pounds ^a					
1988/89	50	363	1,064,387	2,125,114	203,217	5,854	5	\$1.06	\$2,253,000
1989/90	47	359	1,428,973	3,077,937	185,242	8,574	8	\$1.10	\$3,385,730
1990/91	62	519	1,301,465	2,937,433	296,168	5,660	4	\$1.54	\$4,435,000
1991/92	62	732	695,470	1,414,499	279,872	1,932	1	\$1.37	\$1,938,000
1992/93	46	501	805,215	1,656,793	218,602	3,306	3	\$0.86	\$1,425,000
1993/94	42	263	647,736	1,369,889	180,534	5,209	5	\$0.92	\$1,260,000
1994/95	31	162	426,848	948,461	151,888	5,855	5	\$1.20	\$1,138,000
1995/96	24	106	257,677	527,434	107,506	4,976	4	\$1.72	\$907,000
1996/97	21	113	334,237	668,772	88,682	4,223	4	\$1.01	\$675,460
1997/98	21	123	257,697	529,550	95,066	4,305	3	\$2.04	\$1,080,282
1998/99	12	60	185,249	371,241	63,926	6,187	3	\$1.45	\$538,299
1999/00	13	72	269,277	551,183	65,721	7,655	4	\$1.57	\$849,555
2000/01	12	69	114,038	238,955	57,037	3,463	2	\$1.65	\$394,276
2001/02	21	57	101,371	208,265	41,760	3,654	2	\$1.95	\$392,080
2002/03	18	74	181,698	353,849	71,096	4,782	3	\$1.46	\$520,493
2003/04	17	89	228,309	467,623	48,715	5,254	5	\$1.50	\$695,000
2004/05	11	59	169,807	351,986	42,136	5,966	4	\$1.48	\$518,000
2005/06	14	75	185,165	390,547	63,170	5,207	6	\$1.25	\$485,519
2006/07	12	62	74,033	148,502	31,570	2,395	2	\$1.45	\$215,328
5 year average	16	72	167,802	342,501	51,337	4,721	4	\$1.43	\$486,868

NOTE: The western boundary of the Kodiak District for Dungeness crab fishing is the longitude located at Kilokak Rocks, (156° 19' W long.).

Prior to 2001, the western boundary was located at the longitude located at Cape Kumlik, (157° 27' W long.).

^a Includes deadloss.

^b Average CPUE is number of crab per pot.

NA= Not available.

Table 9.—Harvest, vessels, and landings by statistical area from the Kodiak District Dungeness crab fisheries, 2003/04 – 2006/07.

Statistical Area	2003/04			2004/05			2005/06			2006/07		
	Vessels	Landings	Pounds ^a									
525701	11	46	127,049	4	27	70,299	5	33	69,346	5	18	33,850
525703	3	22	48,026	3	14	23,979	3	18	39,331	4	12	12,828
525733	7	32	59,952	4	7	6,641	9	43	17,743	7	30	7,339
535705			42,582	3	15	27,425	Confidential			Confidential		
545601	3	20	138,021	4	17	159,253	3	10	187,078	Confidential		
545602	0	0	0	Confidential			0	0	0	0	0	0
545632	Confidential			3	10	13,285	4	13	15,576	Confidential		
Other	11	23	20,825 ^b	5	18	51,104 ^c	10	37	61,473 ^d	5	37	28,156 ^e
Total ^{f,g}	21	89	436,455	16	59	351,986	23	79	390,547	12	62	82,173

^a Includes deadloss.

^b Total of 8 statistical areas.

^c Total of 7 statistical areas.

^d Total of 9 statistical areas.

^e Total of 9 statistical areas.

^f Some vessels made landings in more than one statistical area, and some landings had multiple statistical areas.

^g Total does not include confidential data.

Confidential = less than 3 vessels made landings or less than 3 processors purchased product.

Table 10.—Dungeness crab commercial catch, effort, and value for the Alaska Peninsula and Chignik districts combined, 1968 – 2006/07.

Year/Season	Number			Pounds ^a	Pots Lifted	Average CPUE	Average Weight	Average Price Per Pound
	Vessels	Landings	Crab ^a					
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 to 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
1987/88	Confidential							
1988/89	Confidential							
1989/90	4	10	31,074	65,806	5,225	6	2.1	\$1.53
1990/91	7	18	39,069	80,248	12,813	3	2.1	\$1.24
1991/92	Confidential							
1992/93	3	15	127,979	273,811	15,675	8	2.1	\$0.79
1993/94	4	24	134,429	277,639	27,950	5	2.1	\$1.01
1994/95	Confidential							
1995/96	4	9	52,694	112,438	16,557	3	2.1	\$1.01
1996/97	8	18	121,085	240,427	43,103	3	2.0	\$2.06
1997/98	3	8	60,049	116,757	19,800	3	2.0	\$1.50
1998/99-2004/05 ^b	8	132	409,202	839,210	61,442	7	2.0	\$1.42
2005/06	6	34	156,045	314,938	16,398	10	2.0	\$1.21
2006/07	4	26	140,926	261,798	15,850	9	2.0	\$1.43

^a Includes deadloss.

^b Harvest combined to maintain confidentiality.

NA = Not available

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

Note: In 2001 the Alaska Peninsula District was divided by a line extending 135° from Kupreanof Point with waters to the east becoming the Chignik District.

Table 11.—Red king crab commercial catch, effort, and value for the Kodiak Area, 1960/61 – 2006/07.

Fishing Year ^a	Vessels	Landings	Number of Crab ^b	Number of Pounds ^b	Pots Lifted	Average		
						CPUE	Weight Per Crab	Price Per Pound
1960/61	143	NA	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	176	1,364	3,220,765	26,987,806	158,402	22		
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^a Fishing year defined as May 1 - April 30.

^b Includes deadloss.

^c July 1 - April 30 season established.

^d August 15 - January 15 season established.

NA = Not available.

Table 12.—Kodiak red king crab harvest composition and seasons, 1960/61 – 2006/07.

Season	Open	Closed	Catch Million Pounds ^a	Percent Recruits ^b	Percent Post -Recruits	Size Limit (Inches)
1960/61	1-Jul	30-Jun	21.1	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	37.7	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	2.6	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	14.9	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 Including deadloss.

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

Table 13.—Golden king crab commercial catch, effort, and value for the Kodiak Area, 1983-2006.

Year	Vessels	Landings	No. of Crabs ^a	No. of Pounds ^a	Pots Lifted	Average		Exvessel Value (Millions)	
						CPUE	Weight of Crab Price Per Pound		
1983	12	36	16,349	111,398	8,490	2.0	6.8	\$3.00	\$0.3
1984	6	8	3,513	22,066	1,950	2.0	6.3	\$2.50	\$0.1
1985	4	19	10,005	63,641	2,693	4.0	6.4	\$1.95	\$0.1
1986	4	31	21,862	146,478	5,463	4.0	6.7	\$3.00	\$0.4
1987	5	38	9,484	67,191	3,187	3.0	7.1	\$3.44	\$0.2
1988					Confidential				
1989					Confidential				
1990	6	6	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				
2003					Confidential				
2004					Confidential				
2005	0	0	0	0	0	NA	NA	NA	NA
2006	0	0	0	0	0	NA	NA	NA	NA

^a includes deadloss.

NA = Not Available.

Confidential = less than three vessels participated or less than three processor purchased product.

Table 14.—Red king crab commercial catch, effort, and value for the Alaska Peninsula Area, 1947 – 2006/07.

Year/Season			Number		Pots Lifted	Average CPUE	Average Weight	Average Price Per Pound
	Vessels	Landings	Crab ^a	Pounds ^a				
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 ^b	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
1983/84 - 2006/07	No commercial fishery has occurred since the 1982/83 season.							

^a Includes deadloss

^b Combined 6.5 inch and 7.5 inch seasons.

NA=Not Available.

Table 15.—Shrimp trawl fishery catch, effort, and value for the Kodiak District, 1958 – 2005/06.

Year/Season	Vessels	Landings	Harvest in Pounds	Average 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			Confidential	
1986/87			Confidential	
1987/88			Confidential	
1988/89	0	0	0	0
1989/90	0	0	0	0

-continued-

Table 15.—Page 2 of 2.

Year/Season	Vessels	Landings	Harvest in Pounds	Average 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			Confidential	
1998/99	5	8	12,724	NA
1999/00	3	4	4,325	NA
2000/01			Confidential	
2001/02			Confidential	
2002/03			Confidential	
2003/04			Confidential	
2004/05	0	0	0	0
2005/06	0	0	0	0
Average ^a	36	630	30,728,707	\$0.11

^a Average calculated from years 1960 - 1984/85.

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

NA = Not Available

Table 16.—Shrimp pot fishery catch and effort for the Kodiak District, 1969 - 2006.

Year	Vessels	Landings	Pounds ^a
1969		Confidential	
1970	NA	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	0	0	0
2000	0	0	0
2001		Confidential	
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
2006	0	0	0
Total^b			77,997

^a Pounds are weight of shrimp tails.

^b Does not include confidential pounds.

NA = Not Available

Table 17.—Shrimp minimum acceptable biomass indices (MABI) and population estimates in millions of pounds from surveyed districts and sections, 2002 - 2006.

District	Section	MABI ^a	2006	2005	2004	2003	2002
Kodiak	Inner Marmot Bay	1,652	714	445	498	423	604
	Marmot Island	11,615	1,631	1,182	809	1,407	1,315
	Chiniak Bay	658	-	31	14	84	52
	Ugak Bay	1,815	-	10	-	2	-
	Kiliuda Bay	2,405	-	19	-	146	198
	Two Headed Island	3,312	-	81	-	4	-
	Alitak Bay	1,942	-	120	-	130	-
	Uyak Bay	1,447	-	326	-	439	-
	Uganik Bay	1,175	-	297	-	403	-
	Kukak Bay ^b	NA	-	41	-	68	-
	Wide Bay ^b	476	168	217	365	384	880
	Puale Bay ^b	540	-	22	-	40	-
	Shelikof Strait	NA	1,065	7,732	1,362	8,527	-
Alitak Flats	577	-	-	-	30	-	
Chignik	Kujulik Bay	1,715	143	-	-	-	11
	Chignik Bay	2,064	911	-	580	-	506
	Chiginagak Bay	314	-	-	44	-	-
	Nakalilok Bay	373	-	-	40	-	-
	Kuiukta Bay	862	180	-	226	-	167
	Mitrofanina Island	2,341	-	-	3	-	97
	Ivanof Bay	2,586	-	-	-	-	8
South Peninsula	Stepovak Bay	10,526	1,095	-	101	-	370
Peninsula	Unga Strait	3,412	944	-	272	-	115
	Beaver Bay	1,978	-	-	1	-	10
	Pavlof Bay	8,221	10	61	64	8	38
	Morzhovoi Bay	NA	19	-	-	-	-

^a Minimum acceptable biomass index

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

NA = no MABI established for survey area.

- = Not surveyed

Bold indicates population estimate above established MABI.

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

Table 18.—Trawl shrimp fishery catch, effort, and value for the South Peninsula and Chignik districts, 1968 – 2005/06.

Year	SOUTH PENINSULA				CHIGNIK			
	Number			Average Price	Number			Average Price
	Vessels	Landings	Pounds	Per Pound	Vessels	Landings	Pounds	Per Pound
1968			Confidential				Confidential	
1969			Confidential				Confidential	
1970	4	173	4,398,800	\$0.04	NA	NA	890,705	NA
1971			Confidential				Confidential	
1972/73	NA	NA	14,740,801	\$0.07	NA	NA	4,829,117	NA
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 ^a			Closed		54	148	12,843,270	\$0.29
1981/82			Closed		3	4	70,948	\$0.27

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

^a South Peninsula District closed to trawl gear after the 1979/80 fishery.

NA = Not available.

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

Table 19.—Red sea cucumber commercial catch, effort, and value for the Kodiak and Chignik districts, 1991 – 2006/07.

Year/Season	Number of		Pounds Harvested ^a	Average Price Per Pound
	Dive Permits	Landings		
1991			Confidential	
1992			Confidential	
1993/94	50	487	564,516	\$0.93
1994/95	86	269	413,576	\$1.20
1995/96	21	60	145,092	\$1.25
1996/97	31	93	162,451	\$1.25
1997/98	26	65	132,337	\$1.16
1998/99	16	55	142,313	\$1.20
1999/2000	19	36	116,134	\$1.20
2000/01	20	56	116,152	\$1.50
2001/02	18	67	152,613	\$1.25
2002/03	24	102	177,597	\$1.25
2003/04	25		Confidential	
2004/05	13		Confidential	
2005/06	18		Confidential	
2006/07	21		Confidential	

^a Pounds of eviscerated product.
 Confidential = Less than three processors purchased product.

Table 20.—Red sea cucumber and green sea urchin guideline harvest levels (GHL), 2006/07.

Area	Sea Cucumber GHL (pounds) ^a	Sea Urchin GHL (pounds) ^b
Kodiak District		
Northeast Section	5,000	10,000
Eastside Section	40,000	10,000
Southeast Section	30,000	10,000
Southwest Section	20,000	10,000
Westside Section		10,000
Uganik Bay	5,000	
Remainder of Westside Section	30,000	
North Mainland Section	5,000	5,000
South Mainland Section	5,000	5,000
Semidi Island Section	5,000	5,000
Total Kodiak District	145,000	65,000
Chignik District	25,000	5,000
Alaska Peninsula	5,000	5,000
Totals	175,000	75,000

^a Pounds of eviscerated product.

^b Pounds of whole product.

Table 21.—Green sea urchin commercial catch, effort, and value for the Kodiak District, 1980 – 2006/07.

Year	Number		Pounds Harvested (Live Weight)	Average Price Per Pound
	Permits	Landings		
1980		Confidential		
1981	0	0	0	0
1982	0	0	0	0
1983	0	0	0	0
1984	0	0	0	0
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
2003/04	0	0	0	0
2004/05	0	0	0	0
2005/06	0	0	0	0
2006/07	0	0	0	0

^a Years combined because less than three divers participated or less than three processor purchased product. Confidential = less than three divers participated or less than three processors purchased product.

Table 22.—Octopus commercial catch, effort, and value for the Kodiak District, 1985 - 2006.

Year	State waters			Federal waters			Combined			Ave. Price per Pound	Fishery Value
	Vessels	Landings	Pounds ^a	Vessels	Landings	Pounds ^a	Vessels ^b	Landings	Pounds ^a		
1985		Confidential			Confidential				Confidential		
1986		Confidential			Confidential		4	8	643	\$0.87	\$559
1987		Confidential			Confidential		8	15	14,151	\$1.07	\$15,142
1988		Confidential			Confidential				Confidential		
1989		Confidential			Confidential				Confidential		
1990	25	95	56,052	15	51	20,127	31	140	76,179	\$1.13	\$76,180
1991	56	260	106,748	29	85	22,607	70	342	129,355	\$1.07	\$138,410
1992	64	252	103,230	34	153	44,551	75	394	147,781	\$0.94	\$139,000
1993	16	51	95,889	24	42	8,453	33	89	104,342	\$0.71	\$73,379
1994	5	7	4,504	4	9	613	8	15	5,117	NA	NA
1995	38	293	66,855	21	90	3,673	46	327	70,528	\$0.49	\$31,489
1996	35	194	67,898	27	143	20,670	44	257	88,568	\$0.45	\$36,943
1997	63	526	230,606	58	279	46,296	87	658	276,902	\$0.46	\$125,702
1998	54	407	258,047	57	291	117,332	76	670	375,379	\$0.43	\$144,908
1999	50	307	198,116	32	149	54,889	67	440	253,005	\$0.33	\$73,718
2000	49	292	98,833	46	239	61,551	71	482	160,384	\$0.39	\$51,113
2001	28	206	99,665	31	80	12,712	45	252	112,377	\$0.38	\$39,951
2002	31	213	206,748	29	97	23,078	46	278	229,826	\$0.48	\$100,072
2003	40	119	55,918	29	58	17,019	66	165	72,937	\$0.35	\$23,198
2004	14	41	11,816	21	64	32,291	34	105	44,107	\$0.35	\$15,437
2005	39	111	37,210	37	207	99,335	61	318	136,545	\$0.42	\$57,349
2006	42	185	69,086	46	245	168,808	66	398	237,894	\$0.57	\$135,600

^a Includes discards.

^b Some vessels made landings from both state and federal waters.

NA=Not Available

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

Table 23.—Octopus commercial catch, effort, and value for the Chignik and South Peninsula districts combined, 1980-2006.

Year	State waters			Federal waters			Combined			Ave. Price per Pound	Fishery Value
	Vessels	Landings	Pounds ^a	Vessels	Landings	Pounds ^a	Vessels ^b	Landings	Pounds ^a		
1980-1985			Confidential			Confidential			Confidential		
1986-1987			No fishing			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
2003	26	55	18,333	28	88	46,090	41	119	64,423	\$0.61	\$39,298
2004	69	342	138,521	44	168	191,671	85	495	330,192	\$0.52	\$171,700
2005	43	110	33,332	23	98	83,347	58	208	116,679	\$0.41	\$47,838
2006	44	167	52,663	21	61	22,941	53	217	75,604	\$0.51	\$38,558

^a Includes discards.

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

NA = Not Available.

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

Table 24.—Razor clam commercial catch, effort, and value for the Kodiak District, 1960 - 2006.

Year	Number		Pounds		Ave. Price Per Pound	Est. Fishery Value
	Registered Diggers ^a	Landings	Ave. per landing	Total		
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 - 2006.

^a Represents registered diggers, not actual diggers. No data available after 1977 due to statewide use of Interim Use Permits.

^b Additional 1,985 pounds of hardshell clams harvested.

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

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

NA = Not available.

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

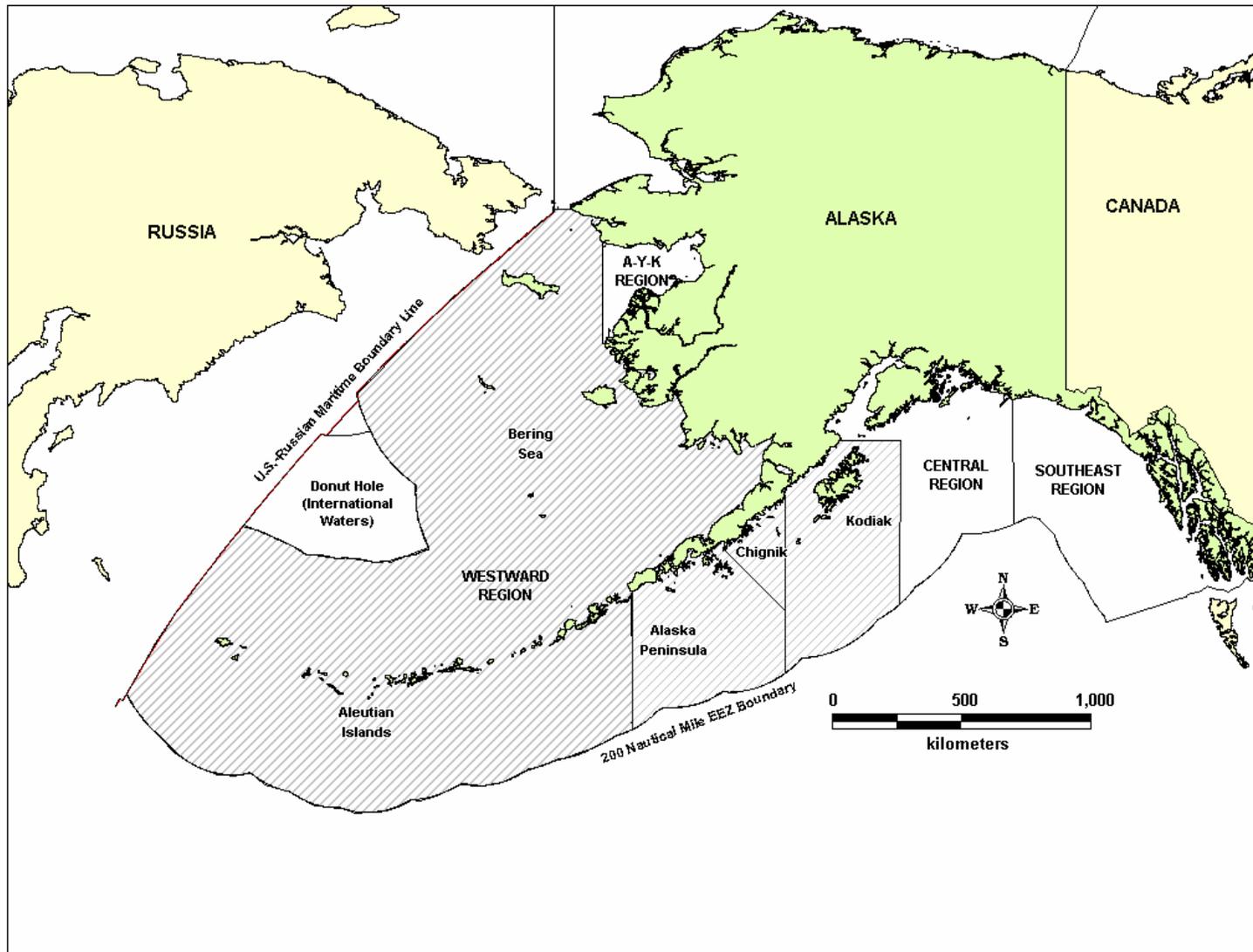


Figure 1.—Alaska Department of Fish and Game shellfish management regions, 2006.

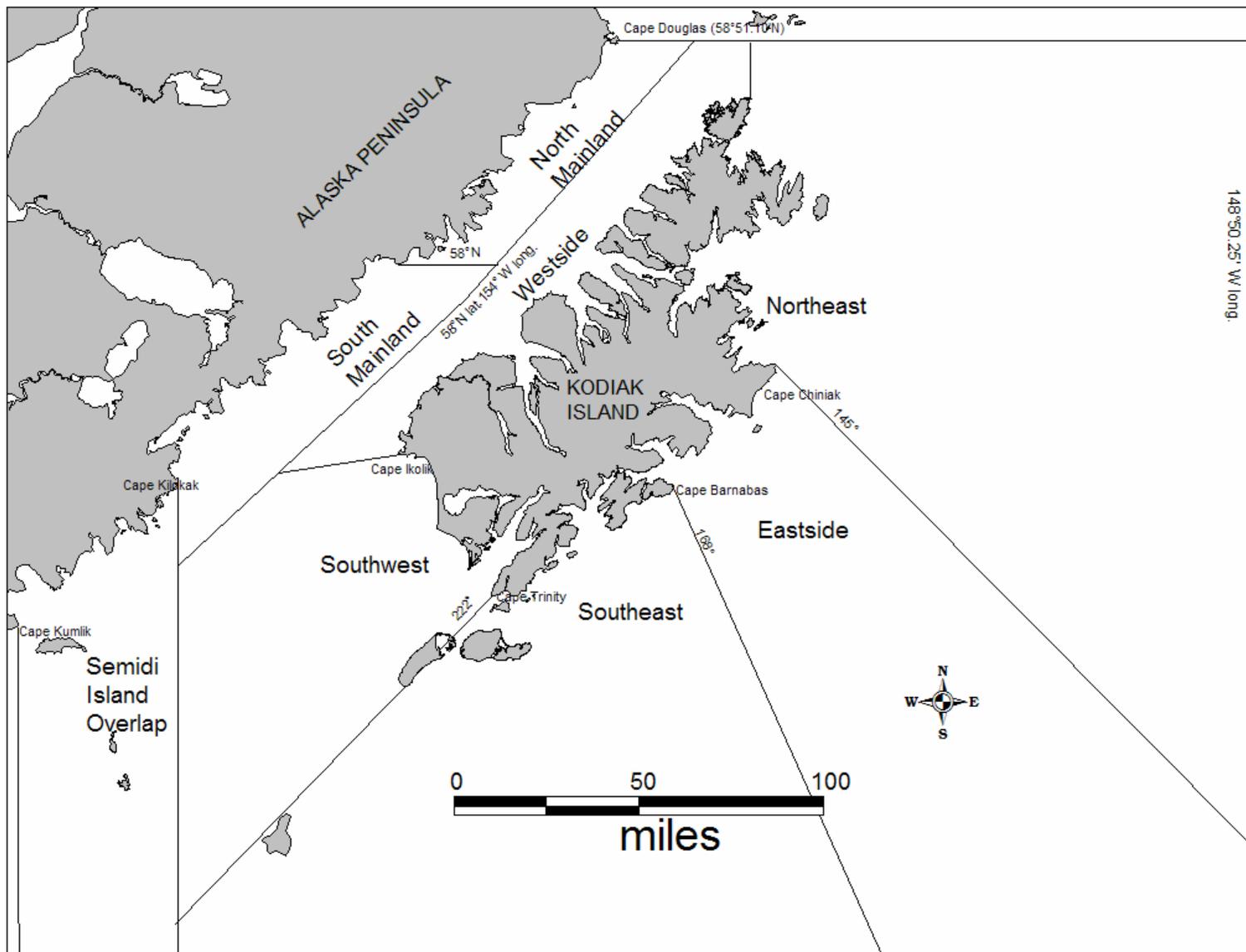


Figure 2.—Kodiak District and sections for Tanner crabs and sea cucumber fishery management, 2006.

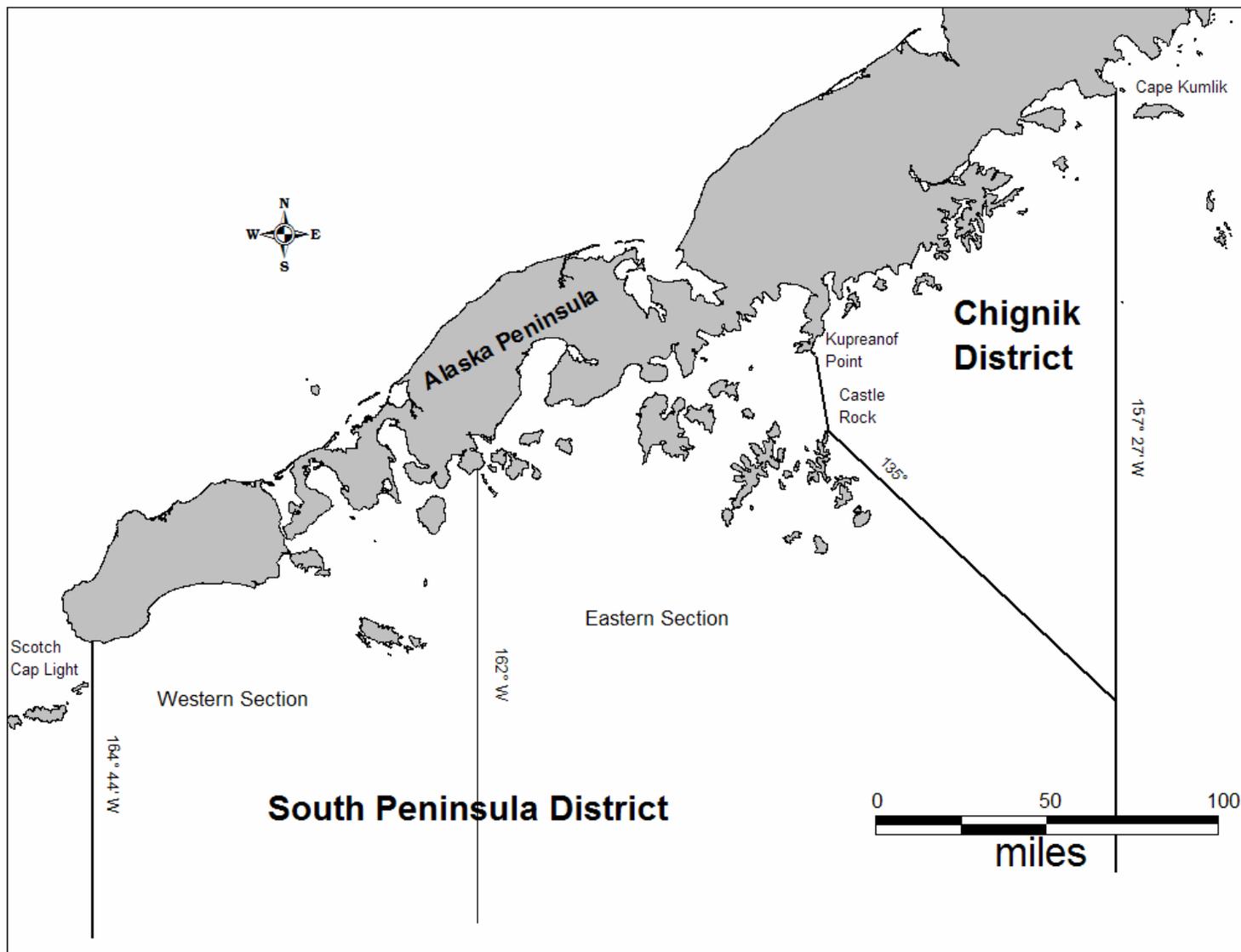


Figure 3.—Chignik and South Peninsula districts for Tanner crab and sea cucumber fishery management, 2006.

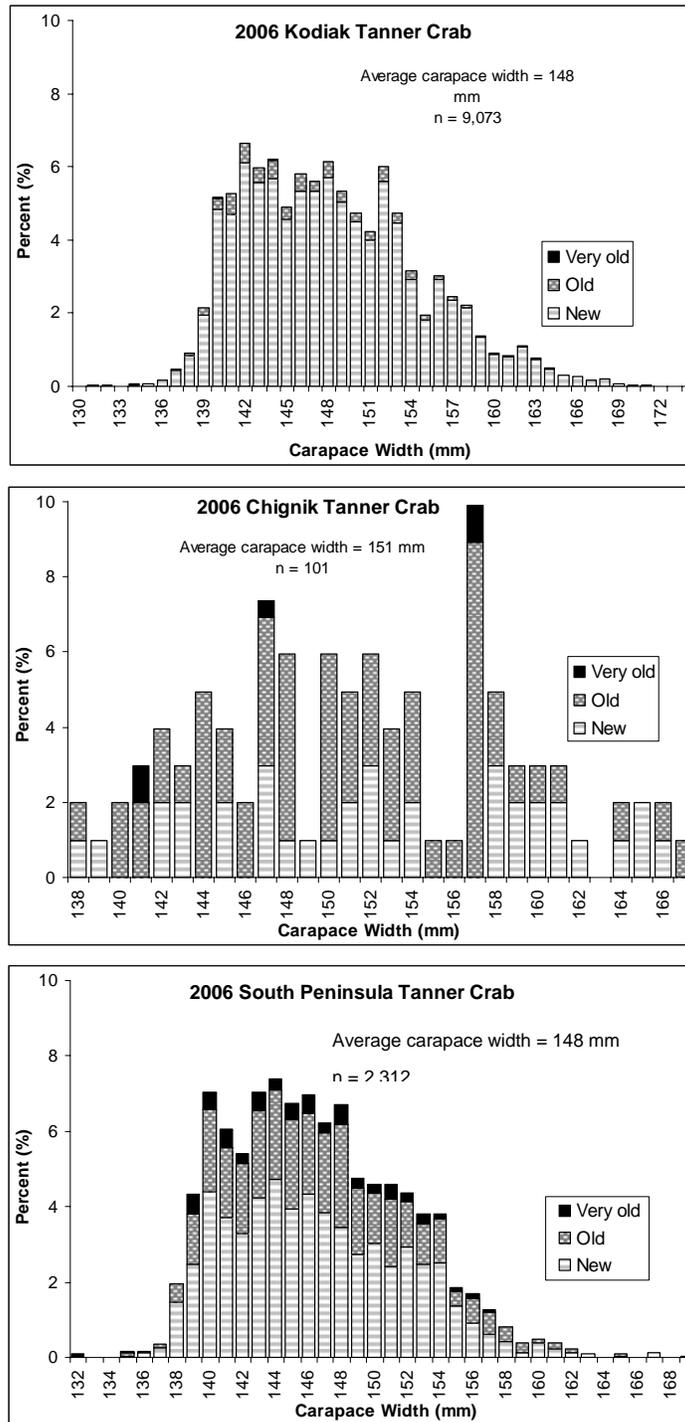


Figure 4.—Carapace width and shell condition of the harvest from the Kodiak, Chignik and South Alaska Peninsula districts Tanner crab fishery, 2006.

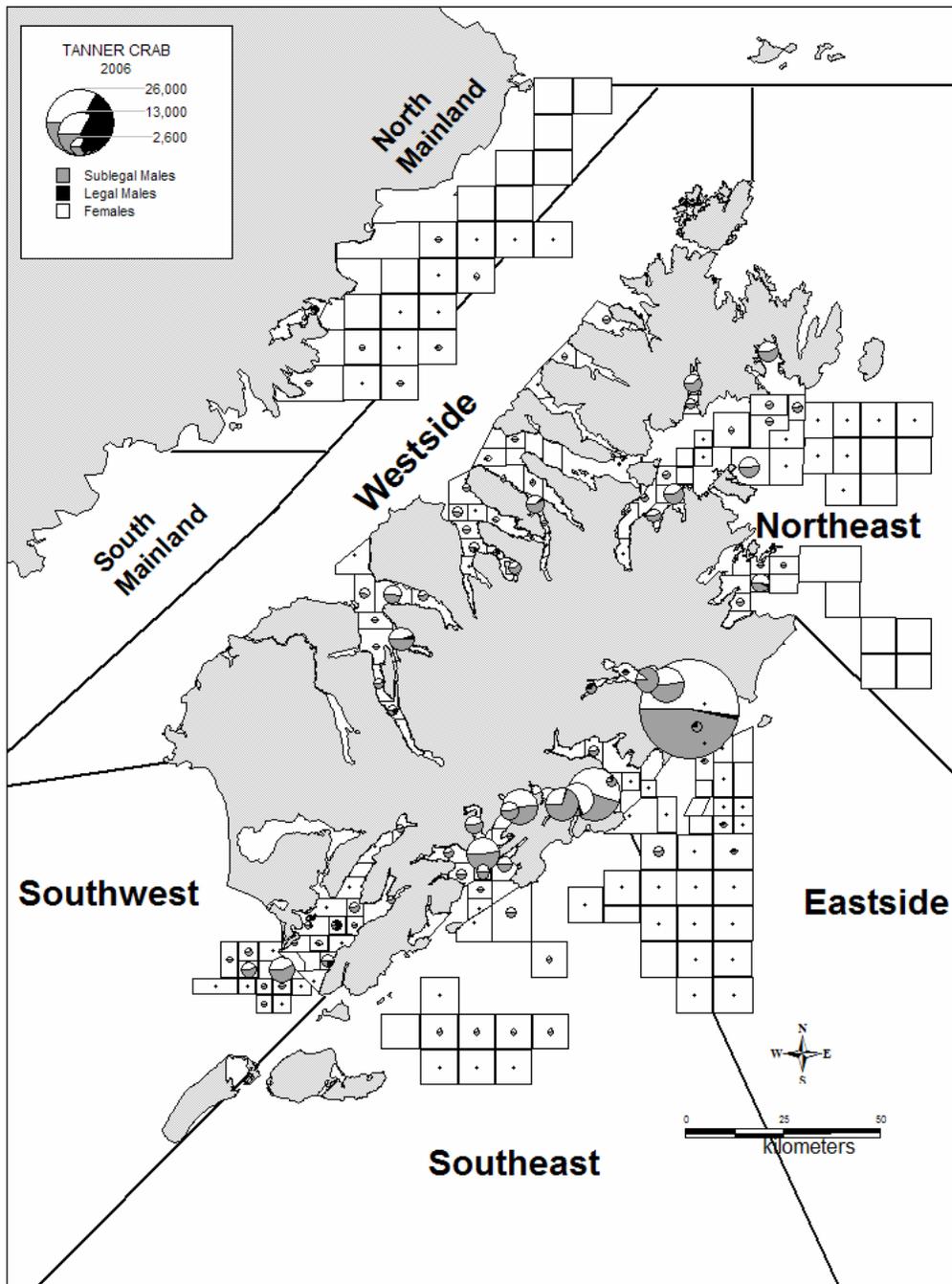


Figure 5.—Number of Tanner crabs per kilometer towed in the 2006 Kodiak District trawl survey.

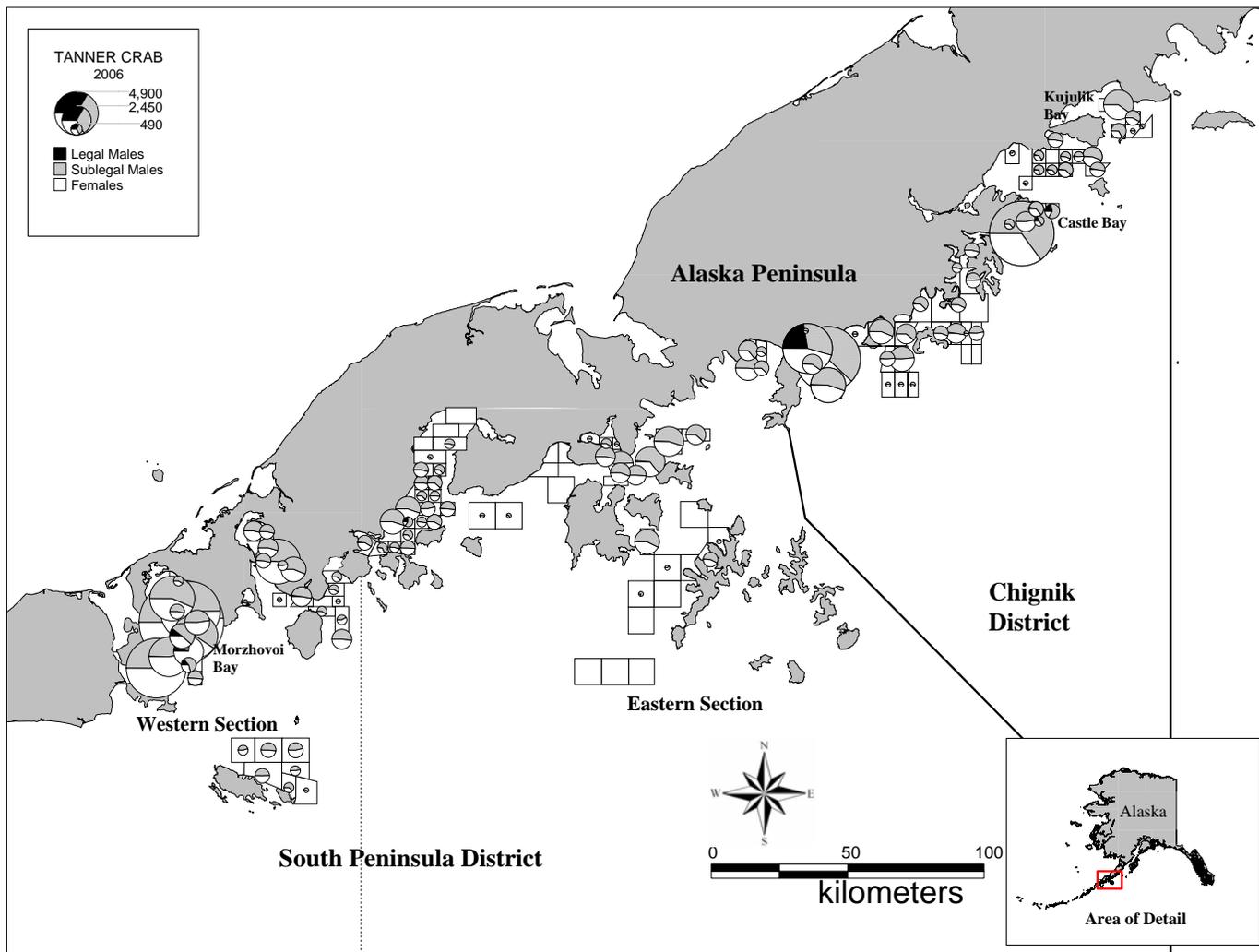


Figure 6.—Number of Tanner crabs per kilometer towed in the 2006 Chignik and South Peninsula districts trawl survey.

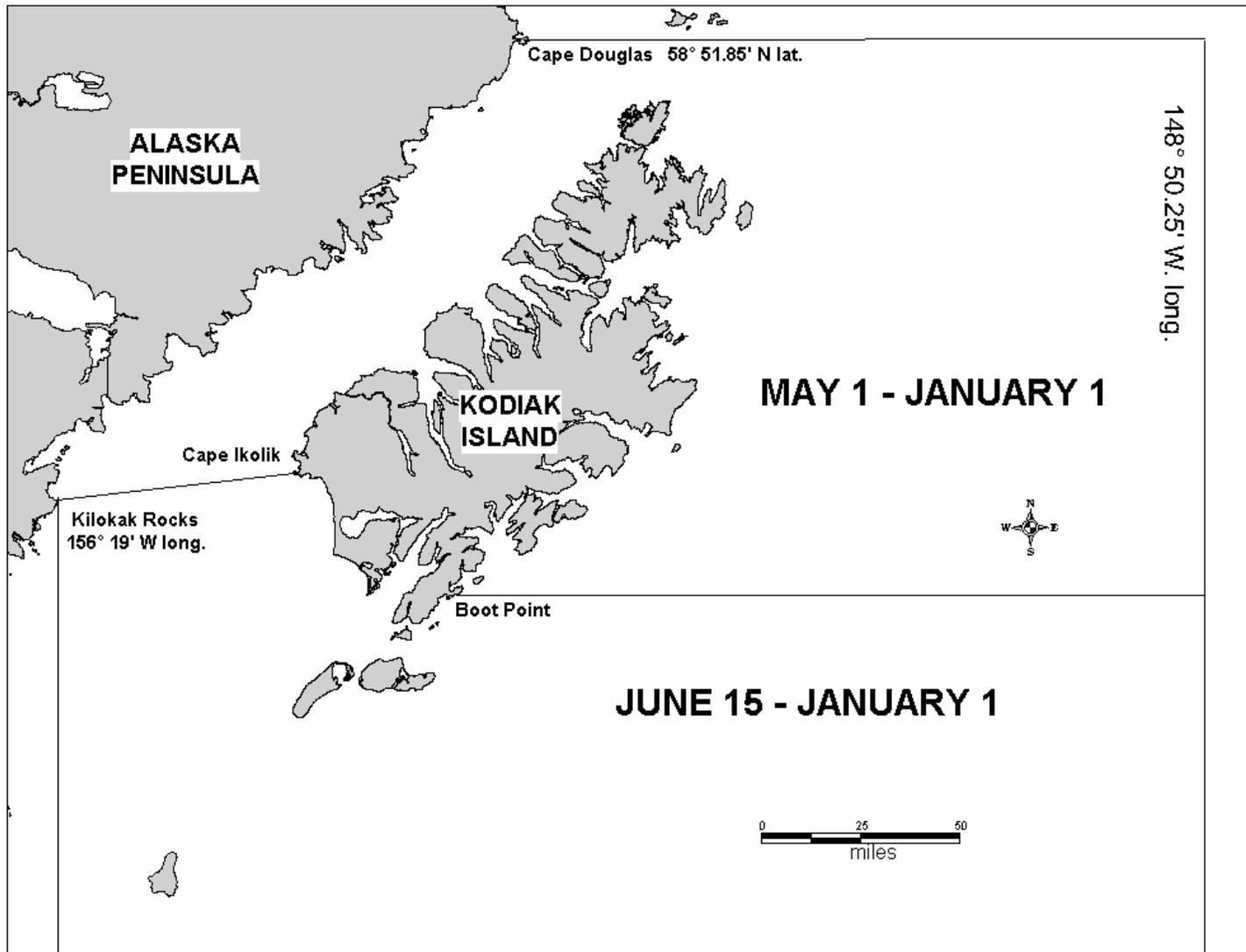


Figure 7.—Kodiak District for the Dungeness crab fishery and fishing seasons, 2006.

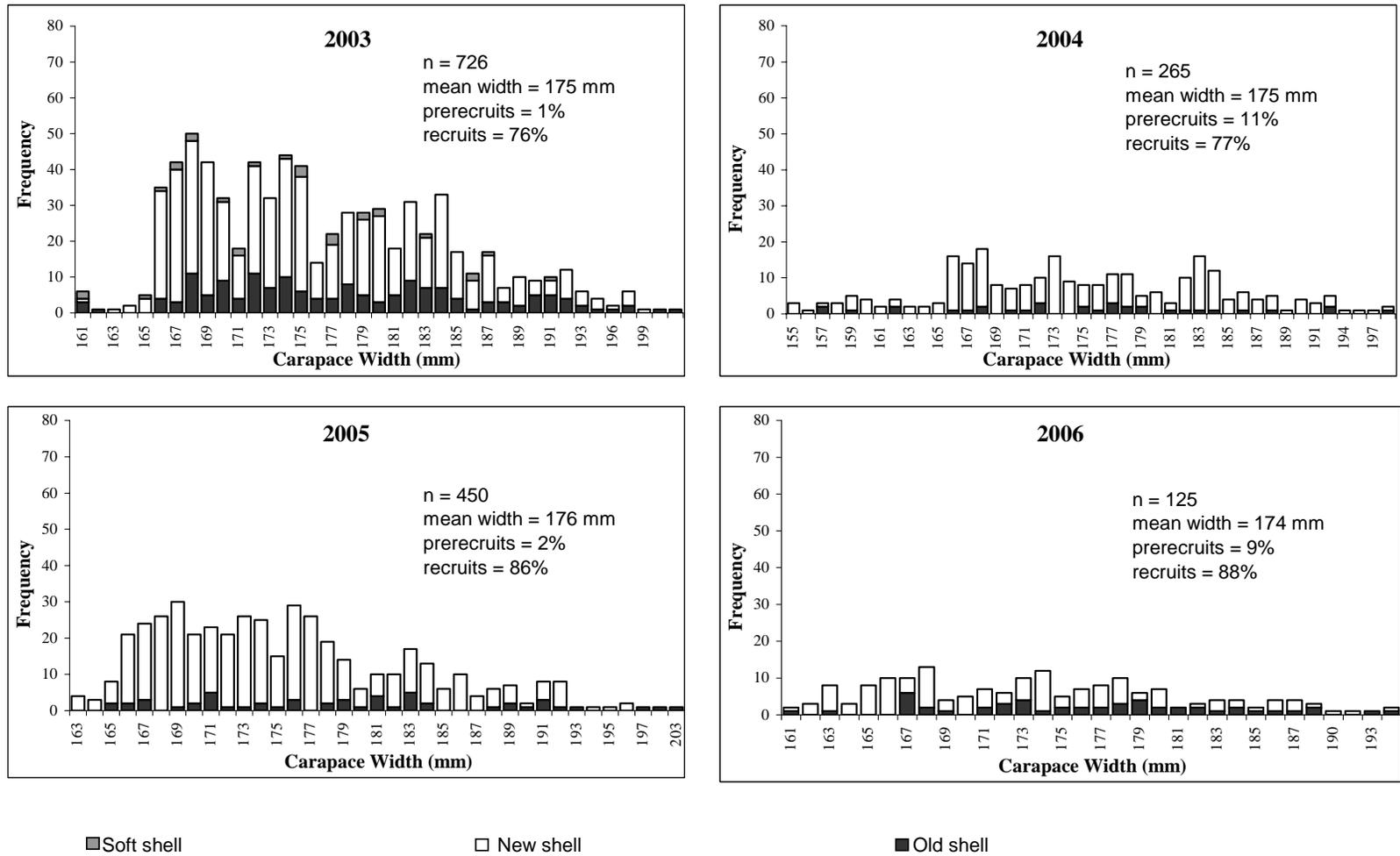


Figure 8.—Kodiak District Dungeness crab carapace width frequencies and shell condition from dockside samples, 2003-2006.

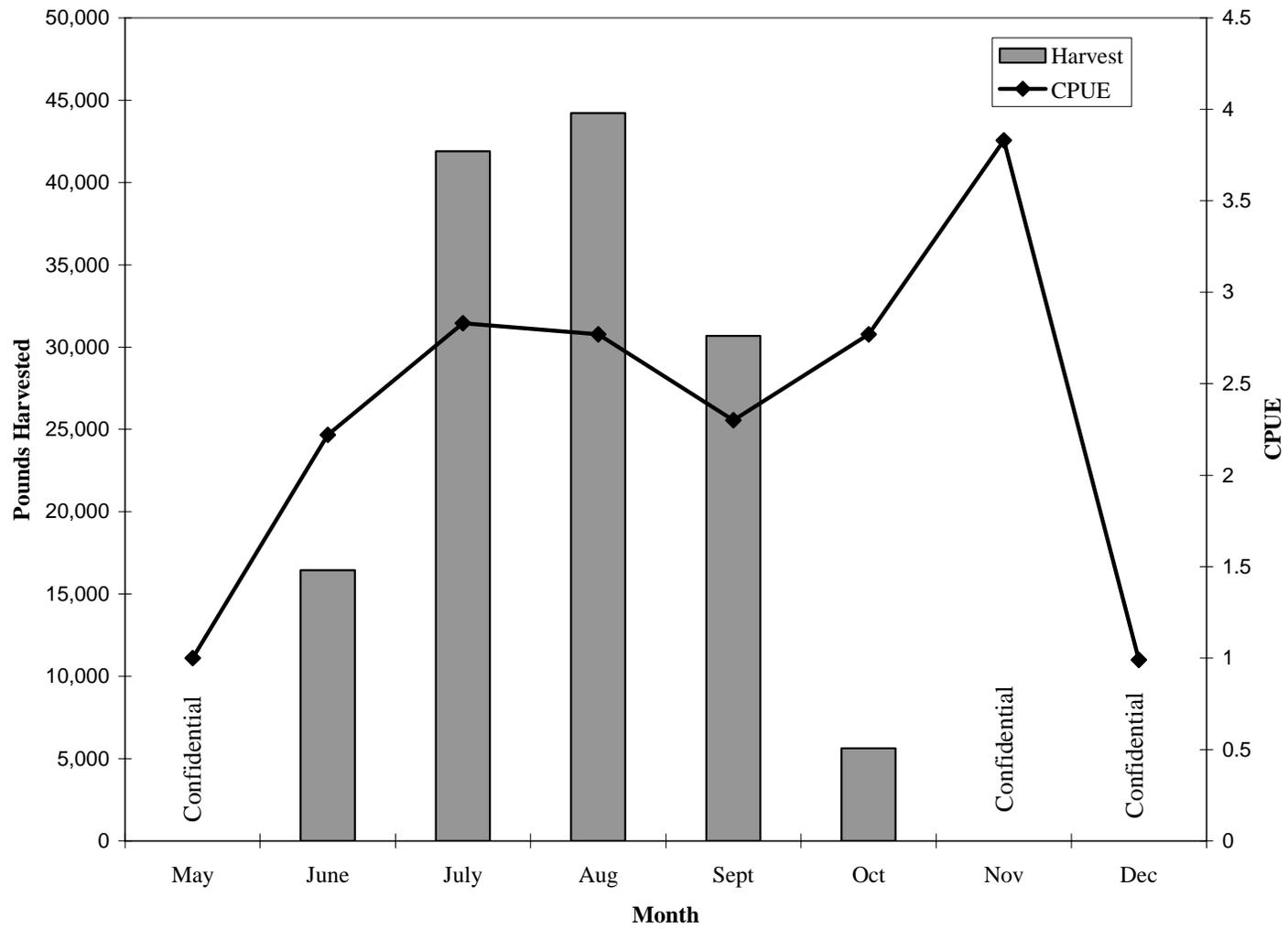


Figure 9.—Kodiak District Dungeness crab harvest, in pounds and CPUE (legal crab per pot), by month, for the 2006 fishery.

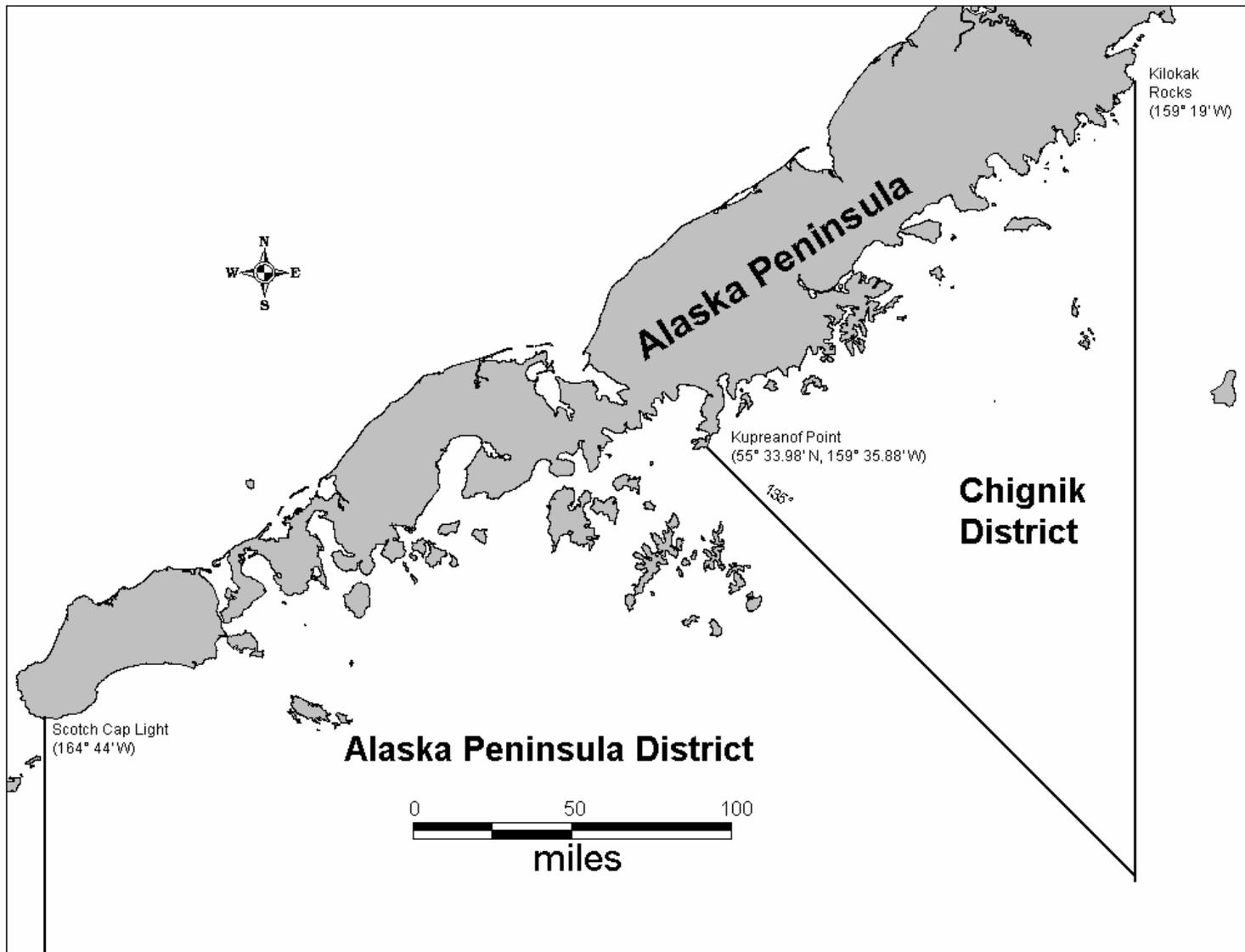


Figure 10.—Chignik and Alaska Peninsula districts for Dungeness crab fishery management, 2006/07.

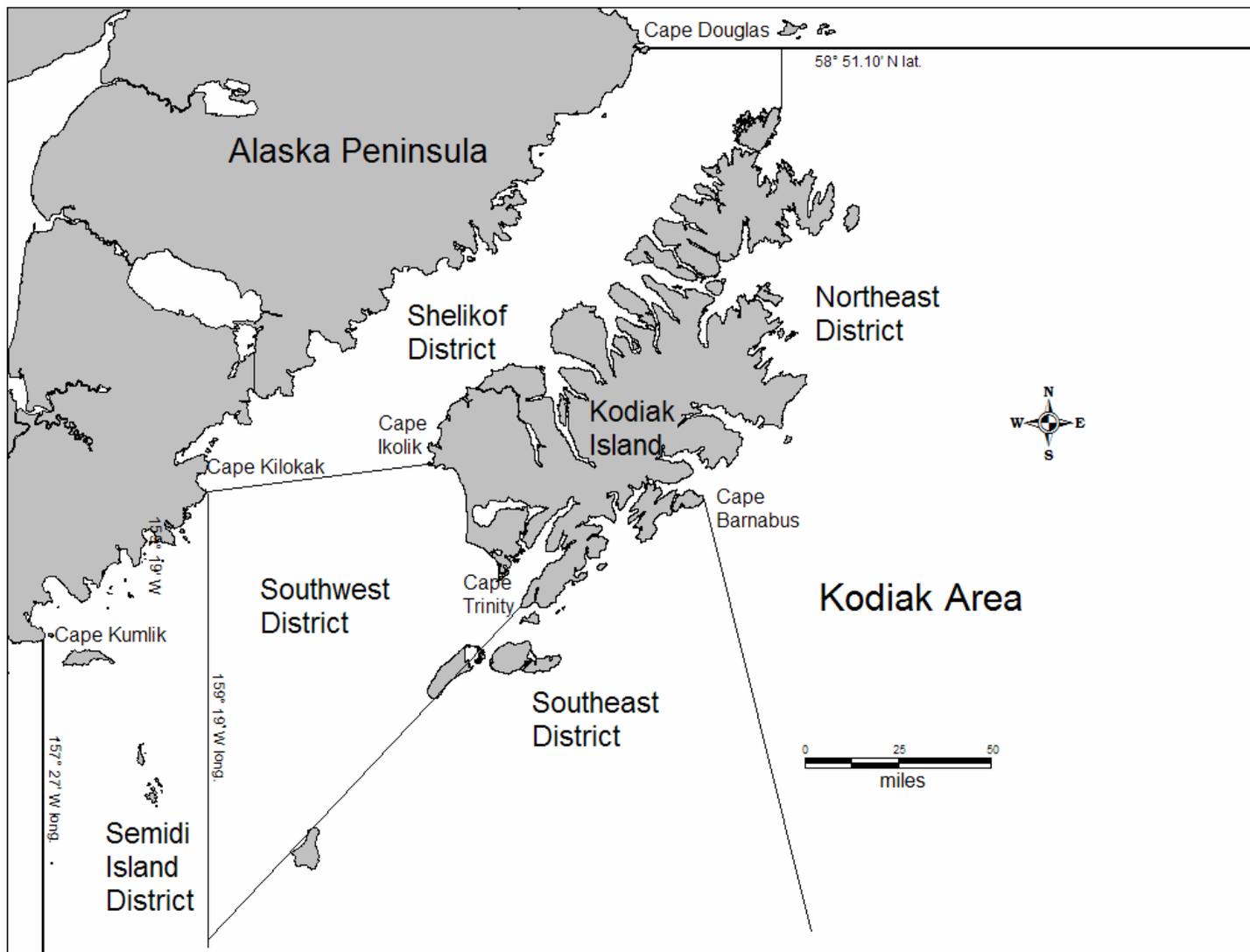


Figure 11.—Kodiak Area districts for king crab fishery management, 2006.

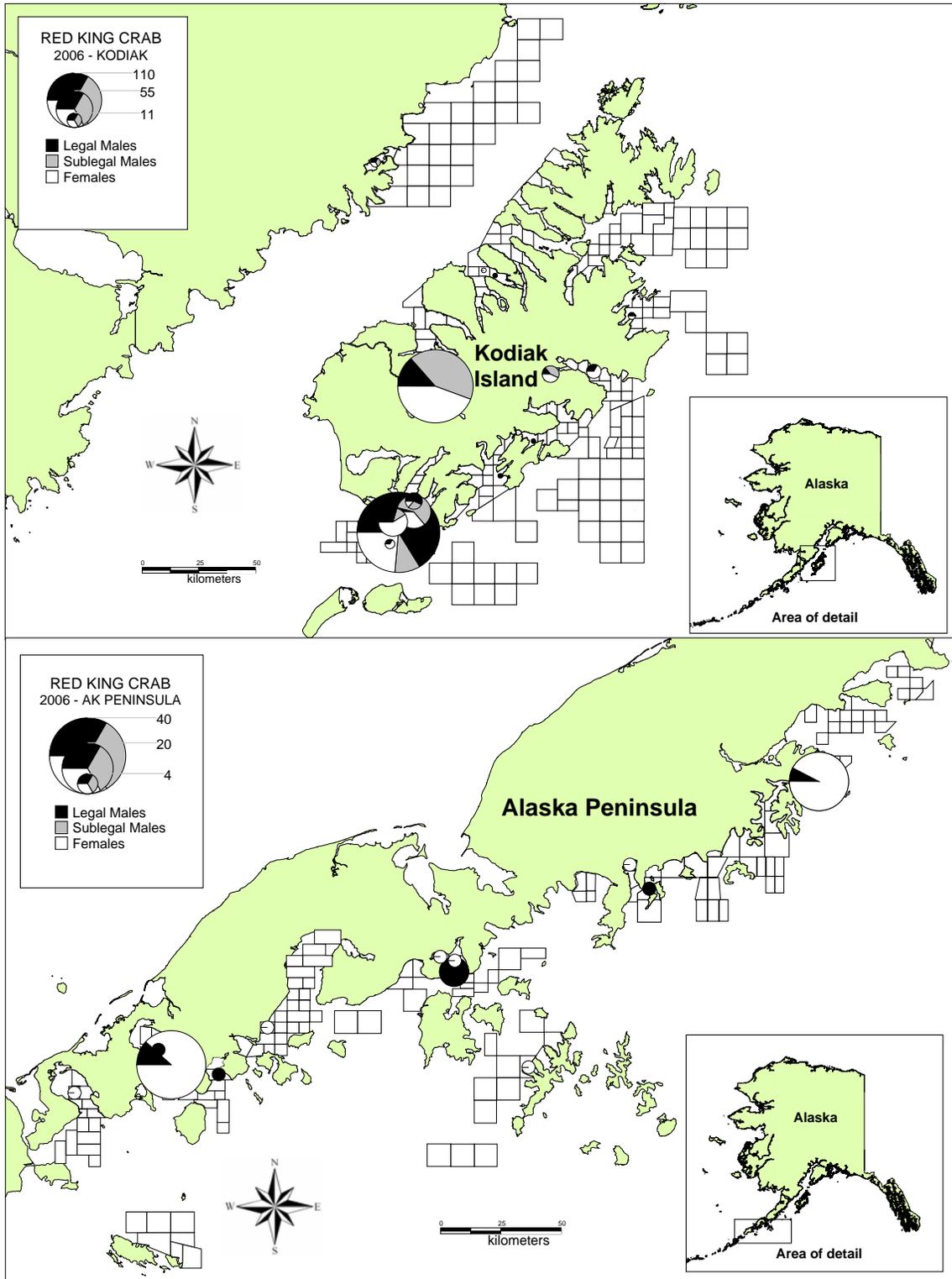


Figure 12.—Number of red king crabs per kilometer towed from the 2006 Kodiak and Alaska Peninsula areas trawl survey.

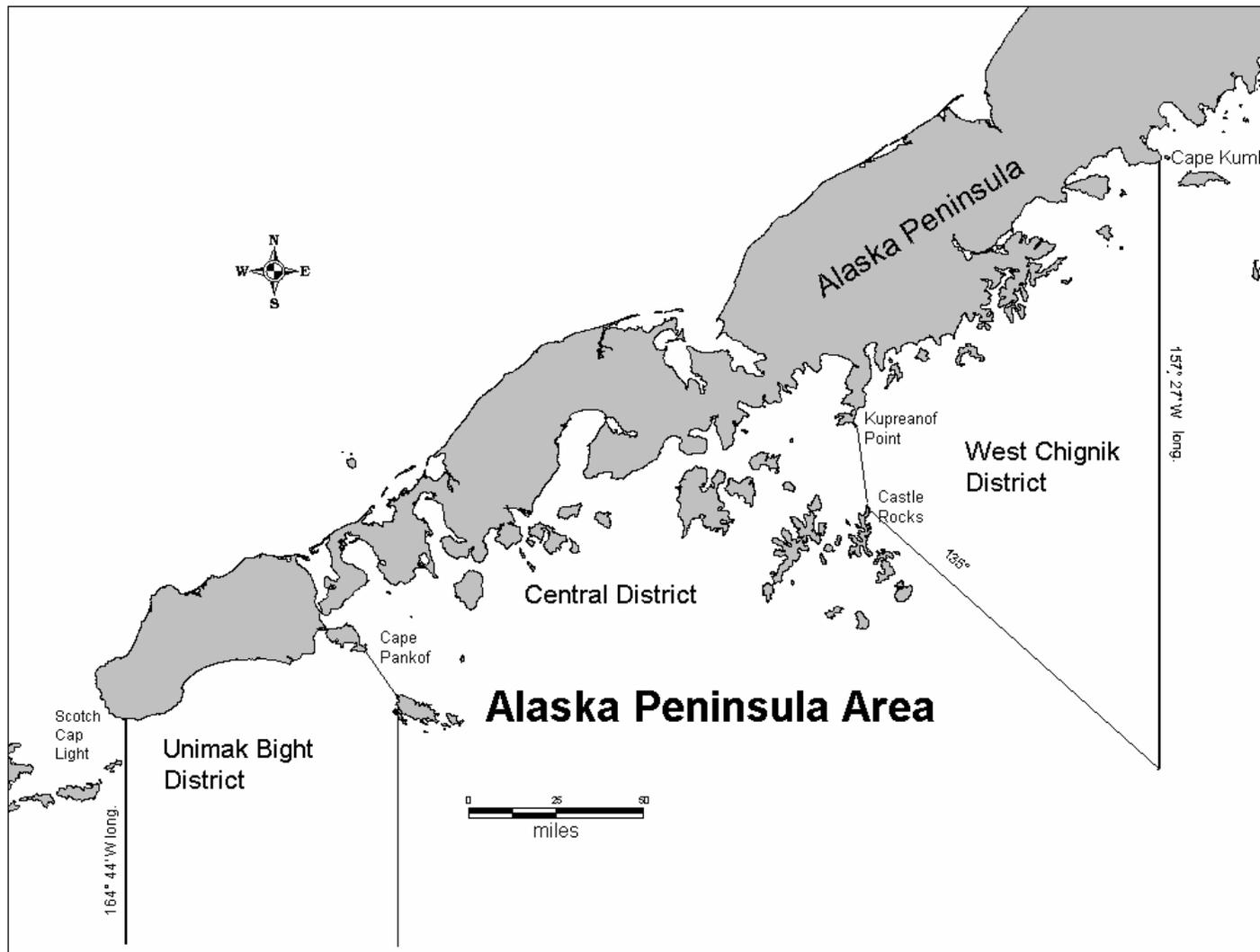


Figure 13.—Alaska Peninsula Area and districts for king crab fishery management, 2006.

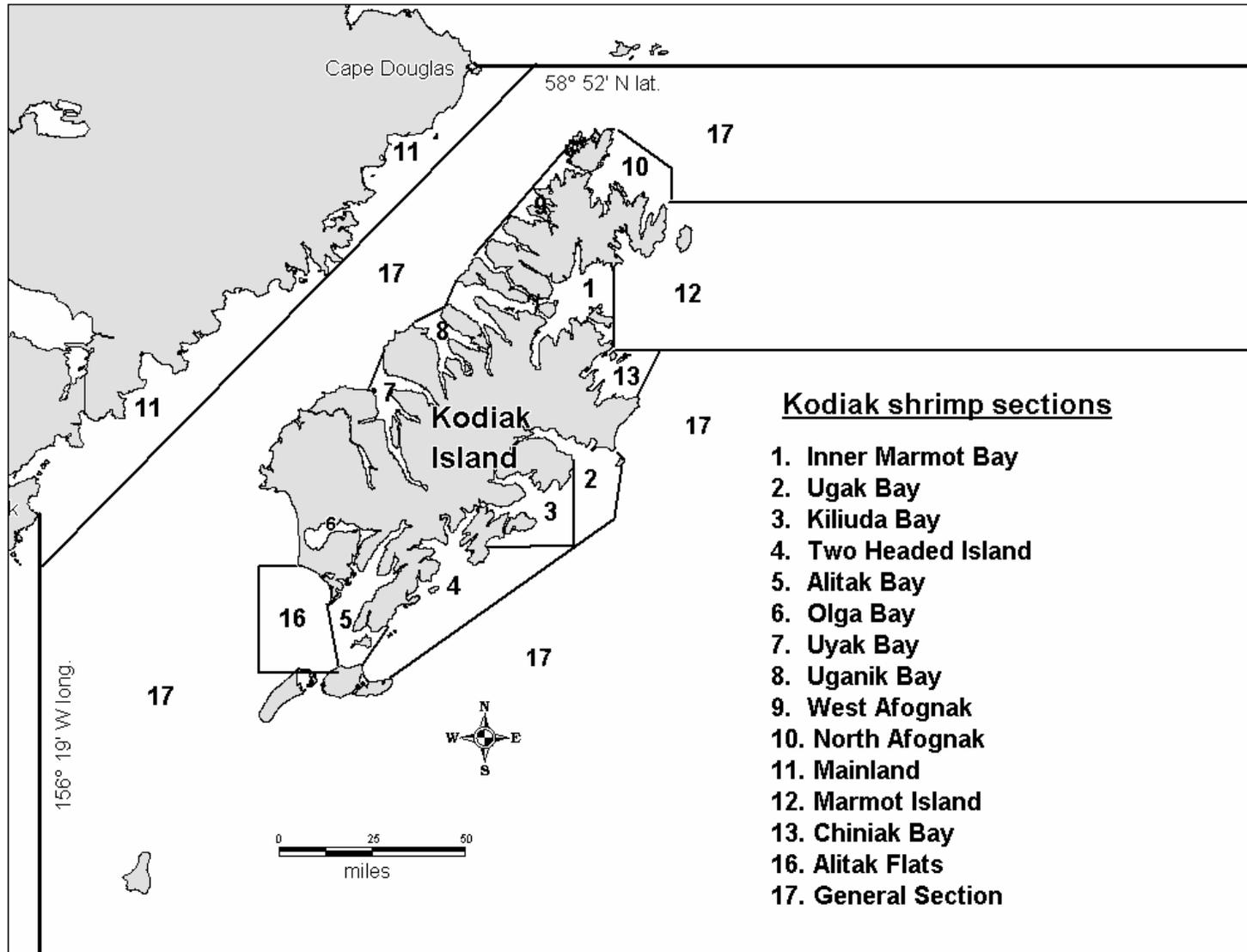


Figure 14.—Kodiak District and sections for shrimp fishery management, 2006.

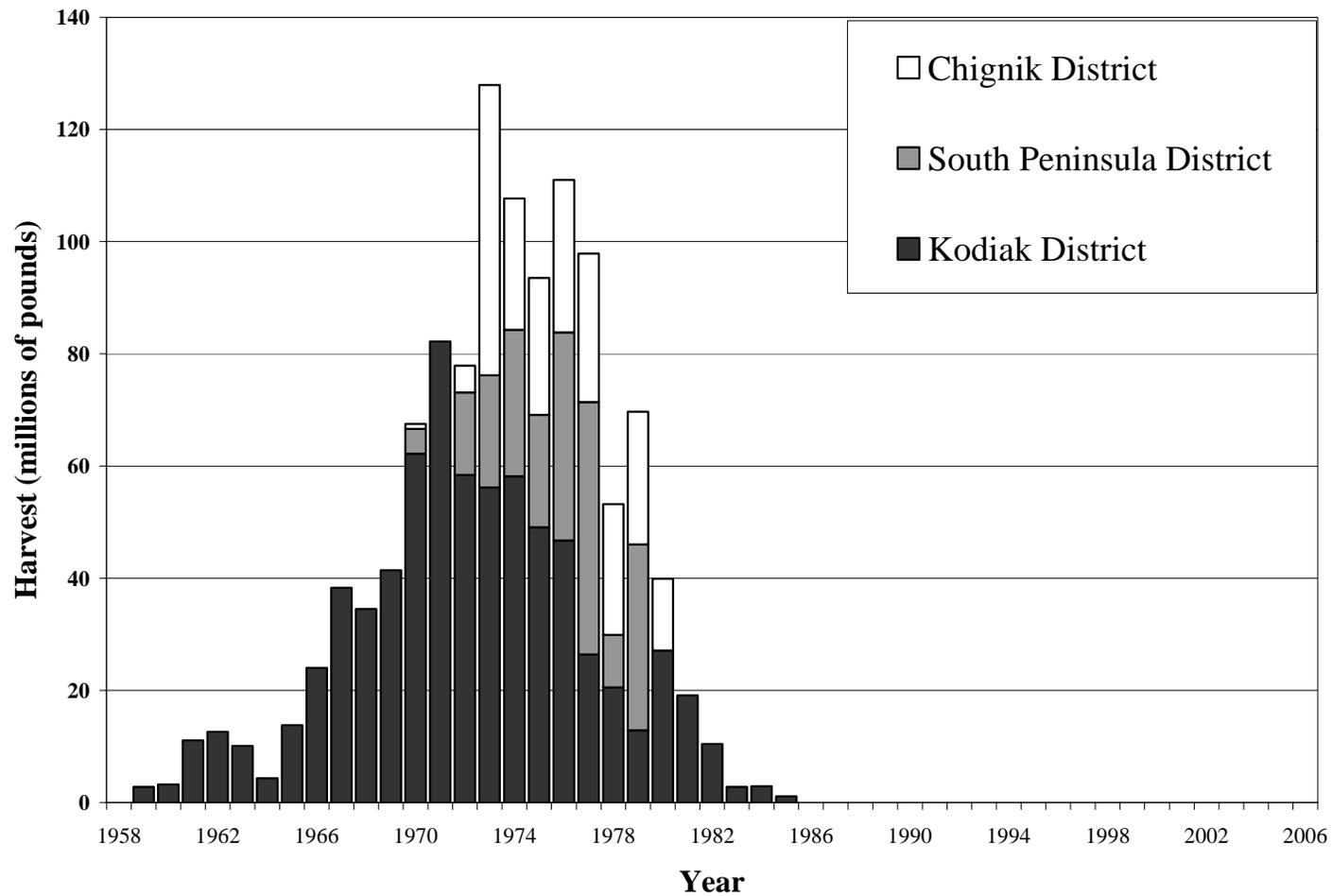


Figure 15.—Shrimp harvests from the Kodiak, Chignik, and South Peninsula districts, 1958-2006.

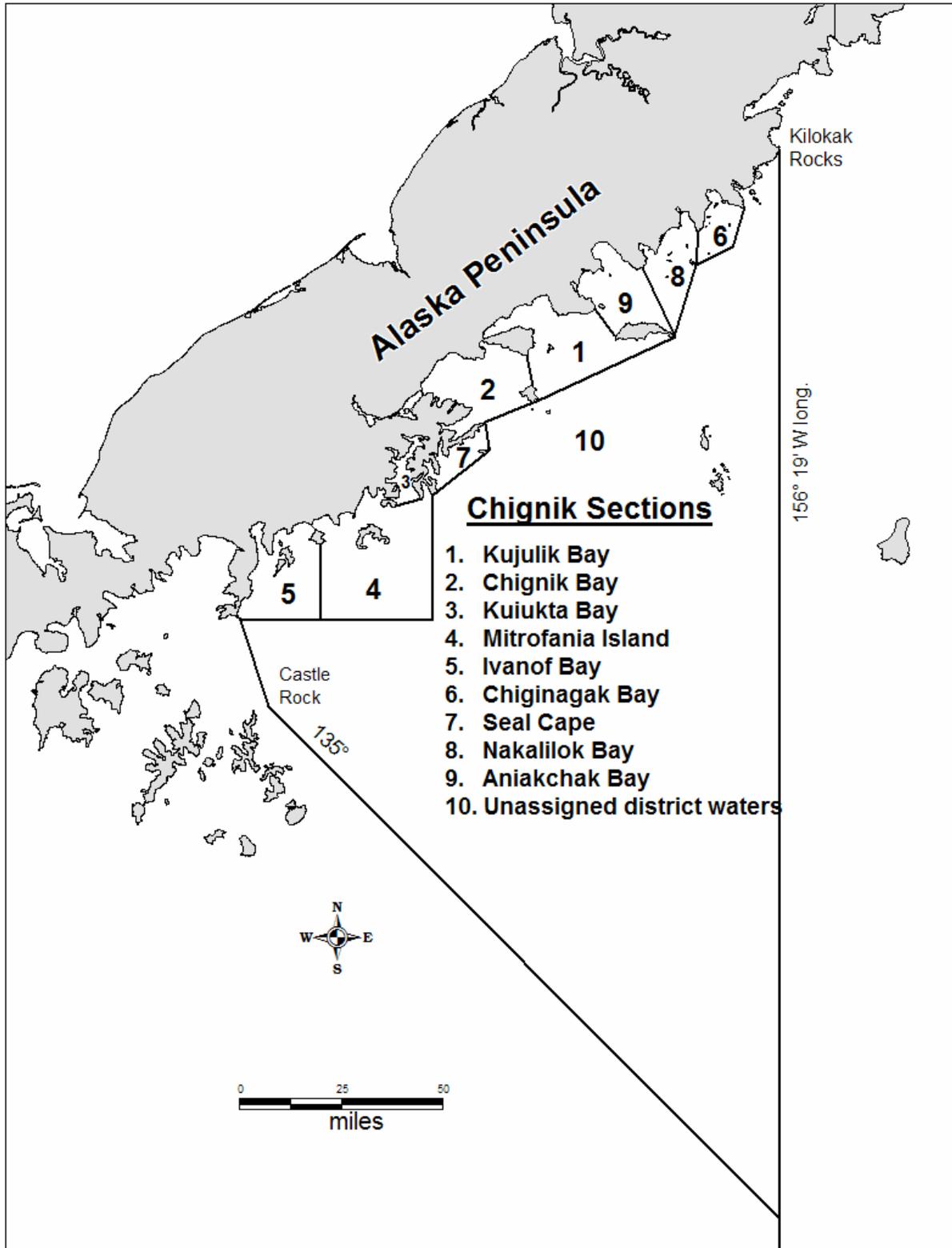


Figure 16.—Chignik District and sections for shrimp fishery management, 2006.

