Fishery Management Report No. 06-48

Annual Management Report for the Shellfish Fisheries of the Kodiak, Chignik and Alaska Peninsula Areas, 2005

by

Nicholas H. Sagalkin

September 2006

Alaska Department of Fish and Game **Divisions of Sport Fish and Commercial Fisheries**

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Weights and measures (metric)

centimeter	cm
deciliter	dL
gram	g
hectare	ha
kilogram	kg
kilometer	km
liter	L
meter	m
milliliter	mL
millimeter	mm

Weights and measures (English)

cubic feet per second	ft^3/s
foot	ft
gallon	gal
inch	in
mile	mi
nautical mile	nmi
ounce	oz
pound	lb
quart	qt
yard	yd

Time and temperature

day	d
degrees Celsius	°C
degrees Fahrenheit	°F
degrees kelvin	K
hour	h
minute	min
second	s

Physics and chemistry

all atomic symbols	
alternating current	AC
ampere	A
calorie	cal
direct current	DC
hertz	Hz
horsepower	hp
hydrogen ion activity (negative log of)	pH
parts per million	ppm
parts per thousand	ppt, ‰
volts	V
watts	W

General

Alaska Administrative Code	AAC
all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.
all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.
at	@
compass directions:	
east	E
north	N
south	S
west	W
copyright	©
corporate suffixes:	
Company	Co.
Corporation	Corp.
Incorporated	Inc.
Limited	Ltd.
District of Columbia	D.C.
et alii (and others)	et al.
et cetera (and so forth)	etc.
exempli gratia (for example)	e.g.
Federal Information Code	FIC
id est (that is)	i.e.
latitude or longitude	lat. or long.
monetary symbols (U.S.)	$, ¢
months (tables and figures): first three letters	Jan,...,Dec
registered trademark	®
trademark	™
United States (adjective)	U.S.
United States of America (noun)	USA
U.S.C.	United States Code
U.S. state	use two-letter abbreviations (e.g., AK, WA)

Measures (fisheries)

fork length	FL
mideye-to-fork	MEF
mideye-to-tail-fork	METF
standard length	SL
total length	TL

Mathematics, statistics

all standard mathematical signs, symbols and abbreviations	
alternate hypothesis	H_A
base of natural logarithm	*e*
catch per unit effort	CPUE
coefficient of variation	CV
common test statistics	(F, t, χ^2, etc.)
confidence interval	CI
correlation coefficient (multiple)	R
correlation coefficient (simple)	r
covariance	cov
degree (angular)	°
degrees of freedom	df
expected value	*E*
greater than	>
greater than or equal to	≥
harvest per unit effort	HPUE
less than	<
less than or equal to	≤
logarithm (natural)	ln
logarithm (base 10)	log
logarithm (specify base)	log_2, etc.
minute (angular)	'
not significant	NS
null hypothesis	H_O
percent	%
probability	P
probability of a type I error (rejection of the null hypothesis when true)	α
probability of a type II error (acceptance of the null hypothesis when false)	β
second (angular)	"
standard deviation	SD
standard error	SE
variance	
population	Var
sample	var

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Nicholas H. Sagalkin
Alaska Department of Fish and Game, Division of Commercial Fisheries, Kodiak

Alaska Department of Fish and Game
Division of Sport Fish, Research and Technical Services
333 Raspberry Road, Anchorage, Alaska 99518-1565

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Nicholas H. Sagalkin,
Alaska Department of Fish and Game, Division of Commercial Fisheries,
211 Mission Road, Kodiak, Alaska 99615, USA

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ABSTRACT

This annual management report summarizes shellfish fisheries, excluding weathervane scallops *Patinopecten caurinus*, for the Kodiak, Chignik, and South Peninsula Areas during 2005. Commercial fisheries occurred for Tanner crab *Chionoecetes bairdi*, Dungeness crab *Cancer magister*, giant Pacific octopus *Octopus dofleini*, red sea cucumber *Parastichopus californicus*, and various Pandalid shrimp species. Historically, these management areas have supported 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, catch per unit effort, exclusive economic zone, EEZ, guideline harvest level, GHL, 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 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. King crab stocks are currently depressed and no fishing has occurred since the early 1980s for red king crab. Minor harvests of green sea urchins *Strongylocentrotus droebachiensis* and grooved Tanner crabs *Chionoecetes tanneri* have also 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 2005 were Tanner crab *Chionoecetes bairdi*, Dungeness crab, giant Pacific octopus *Octopus dofleini*, and red sea cucumber *Parastichopus californicus*. A small harvest of trawl-caught shrimp occurred during 2005. The single most valuable shellfish species harvested were Tanner crabs, worth an estimated $4.1 million to the fleet. The Kodiak area weathervane scallop fishery was summarized in a separate report (Barnhart 2006).

The Alaska Department of Fish and Game (ADF&G) issued emergency orders to enact regulatory actions for time and area changes to commercial fisheries. These changes affected commercial fishery openings, closures, and modified fishing periods, or fishing areas. Ten emergency orders were issued during 2005 for shellfish fisheries in the Kodiak Area (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 some

fisheries the eastern boundary is located at the longitude of Cape Kumlik (157° 27’ W long.). For some fisheries, the Alaska Peninsula Area is divided into separate districts, Chignik and the Alaska Peninsula. The area divisions are detailed in each fishery description that follows.

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. A harvest occurred in 2005 for Dungeness crab and Tanner crab. Four emergency orders were issued in 2005 that pertained to shellfish fisheries mentioned in this report in the Alaska Peninsula Area (Table 2): one for the South Alaska Peninsula District Tanner crab fishery and three for the Chignik District Tanner crab fishery.

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, superexlcusive registration area for Tanner crab fishing. Criteria within the harvest strategy specify that at least two sections in the district must be above the mature male threshold to have a fishery. 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; although, 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 in the EEZ for Tanner crab management. 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 under a fishery management plan (FMP). This joint-jurisdiction would last until 1987, when the state again assumed full management authority for Tanner crab in the Kodiak District for all waters out to 200 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 pots for crab stock assessment because they are faster and sample a wider range of crab sizes (Jackson 1990).

Tanner crab stocks continued to decline in the Kodiak District, and by the early 1990s, annual harvests averaged less than two million pounds. 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 began to increase. 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) 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 was 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 2004/05 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 2005, with a combined GHL of 1,750,000 pounds, which was an increase of 955,000 pounds from the 2004 fishery (Table 4). The Northeast Section GHL was set at 550,000 pounds, the Eastside Section GHL was set at 650,000 pounds, the Southeast Section GHL was set at 100,000 pounds, and the Southwest Section GHL was set at 450,000 pounds.

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, as outlined in 5 AAC 35.510 FISHING SEASONS FOR REGISTRATION AREA J. The criteria for a weather delay was not met in 2005; therefore, the season opened as scheduled at NOON on January 15. However, due to a price dispute, the majority of the vessels did not fish until February 28. This was after the state-waters Pacific cod pot season closed. During this delay, many fishermen that had participated in the federal cod season debated the applicability of the prohibition against operation of other pot gear prior to the season which excluded their participation in he Tanner crab season (5 AAC 35.428). Eighty-six permit holders recorded landings on 86 unique vessels during the 2005 fishery. The total harvest, including deadloss and personal use, was 1,804,533 pounds from 287 landings. The estimated ex-vessel fishery value was $3.11 million as indicated by the price per pound on fish tickets (Table 3).

Unlike the previous year, no partial section closures occurred in the Northeast Section. The Northeast Section closed at NOON on March 27 (Table 5). Forty three vessels harvested 468,245 pounds from the Northeast Section (Table 4). The Northeast Section catch per unit effort or catch of legal crabs per pot (CPUE) averaged 25 crabs during the season.

Prior to the season, Kiliuda Bay and Sitkalidak Strait were closed to Tanner crab fishing. The Eastside Section waters were open until the regulatory closure at NOON on March 31. Twenty seven vessels harvested 664,576 pounds from the Eastside Section (Table 4). The Eastside Section CPUE averaged 33 crabs.

The Southeast Section waters were open until the regulatory closure at NOON on March 31. Nine vessels harvested 92,398 pounds from the Southeast Section (Table 4). The Southeast Section CPUE averaged 20 crabs.

This was the first year since 1994 that the Southwest Section opened. A partial section closure of Alitak Bay inside a line from Cape Trinity to Cape Alitak occurred on March 3 at 5:59 PM. The remaining waters closed March 16 at 1:00 PM. Twenty vessels harvested 574,944 pounds from the Southwest Section (Table 4). The Southwest Section CPUE averaged 56 crabs.

Northeast Section Fishery

Based on the 2004 trawl survey estimate of abundance, the population of mature male Tanner crab was 4,689,184 crabs (Spalinger 2006), well above the regulatory threshold of 1,123,000 crabs for opening the fishery. 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 GHL of 550,000 pounds, which was more than double the 2004 GHL (245,000 pounds).

Thirty-six vessels registered for the Northeast Section during tank inspections on January 14. Over the course of the fishery, 43 vessels participated in the Northeast Section.

In the first two days of fishing, after the price dispute, approximately 29 vessels participated in the vicinity of Chiniak and Kalsin Bays. CPUE varied from the 20s to the high 40s. By the third day of fishing, the CPUE had fallen off to the mid-teens. Toward the end of the first full week of fishing, there were approximately 10 vessels left fishing in Chiniak and Kalsin Bays.

After the first week, the majority of the vessels had moved to Marmot Bay. Over the course of the season, CPUE averaged 35 crabs in Marmot Bay. By the time of the section closure on March 27, a total of 43 vessels harvested 468,245 pounds from the Northeast Section.

Eastside Section Fishery

Based on the 2004 trawl survey estimates of abundance, the population of mature male Tanner crabs was 10,430,764 crabs (Spalinger 2006), well above the regulatory threshold of 1,552,000 crabs for opening the fishery. 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 GHL of 650,000 pounds, which was higher than the 450,000 pound GHL from the 2004 fishery.

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.

Twenty vessels registered for the Eastside Section during tank inspections. The majority of effort was concentrated in offshore areas. This was unexpected because in previous seasons Inner Ugak Bay closed quickly due to high effort and harvest. The CPUE in the offshore waters remained fairly constant throughout the season, ranging from the low to mid-30s. After the price dispute, five vessels fished inside of Ugak Bay. After the first four fishing days only two vessels remained. The CPUE inside Ugak Bay was comparable to that of the offshore waters, but fishermen reported a large number of old-shelled crab in the harvest.

The Eastside Section closed by regulation on March 31. Twenty seven vessels fished the Eastside Section, landing 664,576 pounds (Table 4). A total of 26,609 pounds was harvested from Ugak Bay. The remaining harvest came from outside Ugak Bay.

Southeast Section Fishery

Based on the 2004 trawl survey estimates of abundance, the population of mature male Tanner crabs was 2,074,215 crabs (Spalinger 2006), above the regulatory threshold of 733,000 crabs for opening the fishery. 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.

One vessel registered for the Southeast Section during tank inspections on January 14. Throughout the season, a few vessels moved into and out of this section. After March 23, only one vessel remained fishing in the section.

The GHL for the Southeast Section was not attained by the regulatory closure date of March 31. Nine vessels harvested 92,398 pounds, or 92.4% of the section GHL. A total of 37,000 pounds were harvested from the waters of Three Saints Bay, Kaiugnak Bay and Kiavak Bays. The remaining harvest came from outside the bays.

Southwest Section Fishery

Based on the 2004 trawl survey estimates of abundance, the population of mature male Tanner crabs was 2,259,741 crabs (Spalinger 2006), above the regulatory threshold of 1,236,000 crabs for opening the fishery. 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 GHL of 450,000 pounds.

This was the first time since 1994 that the Southwest Section had opened. Twenty-three vessels registered for the Southwest Section during tank inspections on January 14. Twenty vessels fished inside of Alitak Bay when fishing commenced. Ten to fifteen of the vessels in the section reported their effort in voluntary catch reports over the first three days. Vessels averaged 34 pot lifts per day with a CPUE of 51 legal male crabs. Based on this information, the estimated harvest for the first three fishing periods was approximately 265,000 pounds. The target harvest for the waters inside Alitak Bay was 290,000 pounds. The estimated harvest approached this level on March 3 and continued harvest was not warranted. A news release was issued at 8:30 AM on March 3 closing the waters inside of a line from the southernmost point of Cape Trinity to the southernmost point of Cape Alitak at 5:59 PM that evening. The delivery requirement was waived because the remainder of the Southwest Section remained open.

After the waters inside Alitak Bay closed, only six vessels remained fishing in the section. Voluntary catch reports were received from five to all of the vessels daily. Vessels averaged 31 pot lifts per day with a CPUE of 54 legal male Tanner crabs. The harvest and landing information collected through March 15 indicated that the GHL for the section would be reached by 1:00 PM on March 16. Twenty-three vessels harvested a total of 574,944 pounds from the Southwest Section.

2005 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 weight, and carapace width/shell age data. During confidential interviews, samplers obtained detailed information regarding effort, location, fishery performance, and bycatch. Forty-five percent of all landings were sampled.

The average weight of crabs from the Northeast Section was 2.22 pounds per crab, compared to 2.34 pounds for the Eastside Section, 2.31 pounds per crab for the Southeast Section, and 2.48 pounds for the Southwest Section. Harvested crab were predominantly new shell and averaged 148 mm (Figure 4). Of the crabs sampled in the Northeast Section, 85.1% were new shell, 14.5% old shell, and 0.4% very old shell. Shell ages of the Eastside Section were 89.7% new shell, 10.3% old shell, and 0.0% very old. Shell ages of the Southeast Section were 93.4% new shell, 6.6% old shell and 0.0% very old. Shell ages of the Southwest Section were 89.8% new shell, 9.7% old shell and 0.5% very old.

Status of Kodiak District Tanner Crab Stocks

The 2005 Kodiak District estimate, based on the summer survey, of 69.2 million crabs of all sizes and sex was lower than the estimate in 2004 (73.1 million crabs) and 2003 (73.5 million crabs). The population of legal male Tanner crabs increased from 4.7 million crabs in 2004 to 6.6 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 year's surveys. The 2005 summer survey estimates will be used to establish the GHLs for the 2005/06 season.

Egg clutches of 4,453 mature female Tanner crabs were examined during the survey. Approximately 16.6% were primiparous. This was similar to the proportion of primiparous observed in 2004 (17.0%). Forty four percent of the mature females examined had a clutch fullness of 80% or higher. This was a decrease from the 70% in 2004 (Spalinger 2006).

CHIGNIK DISTRICT

Description of the District

The Chignik District for Tanner crab includes 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. Criteria within the harvest strategy specify that the district GHL 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 in the 2004/05 cycle that were in effect for the 2004/05 season. 1) The requirement that the South Peninsula District must open for the Chiginik 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 11.0 million pounds. Annual harvest declined in the late 1970s. Recruitment failures in the early 1980s led to consecutively 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 Mitrofania 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 2004/05 Chignik District Tanner Crab Season

The Chignik District met criteria specified in the harvest strategy for a commercial fishery opening in 2005. Over 2 million crabs were estimated to be mature male, exceeding the threshold abundance of mature male abundance of 973,000 crabs, resulting in a guideline harvest level (GHL) of 400,000 pounds.

The fishery opened as scheduled on January 15, 2005 (Table 5). Harvest from the 2005 Chignik District fishery, including deadloss, was approximately 407,743 pounds from 58 landings made by a total of 23 unique vessels. Relatively small vessels participated in the fishery. Roughly half of the fleet was composed of vessels less than 50 feet. Waters of Castle Bay (from Castle Cape to Jack Point) closed by emergency order on January 30, 2005. Waters of the Ivanof Bay area (state waters from 159° W long. to Kupreanof Point) closed by emergency order on February 2, 2005. The remainder of the Chignik District closed by emergency order on February 7, 2005. The estimated exvessel fishery value of $681,507 resulted from an initial payment of $1.65 per pound.

Castle, Chignik, and Kuiukta (Dorner) Bays

Fourteen vessels were tank inspected in Chignik. Ten of these vessels fished the entire season in Castle and Chignik Bays. Four vessels explored Dorner Bay. Catch rates in Castle Bay gradually declined from 29 CPUE to 17 CPUE toward the end of January. Waters of Castle Bay (from Castle Cape to Jack Point) closed by emergency order on January 30, 2005. Many of the vessels that were tank inspected in Chignik were small and their performance was hindered due to the poor weather.

Ivanof and Mitrofania

The majority of the vessels fishing in this portion of the district were registered in Sand Point. While three vessels were delayed, the remainder of the fleet began fishing on the opening day. Fishing was concentrated around Jacob's Island for the first five days of the fishery. After the first five days, several vessels began exploring areas near Mitrofania Island.

Catch rates in Ivanof Bay remained strong until the second week of the fishery. Catch rates were approximately 40 CPUE and declined to approximately 19 CPUE after the second week of the fishery. State waters from Kupreonof Point to 159° W longitude closed to commercial fishing on February 2, 2005. Approximately 154,000 pounds of Tanner crab were harvested from the Ivanof Bay area (statistical area 59531). Approximately 64,000 pounds of Tanner crab were harvested near Mitrofania Island (statistical area 585531).

2005 Dockside Sample Statistics

Tanner crabs were sampled from commercial deliveries throughout the season. ADF&G samplers obtained the following information in order of most to least important: confidential interviews with vessel captains, average weight, and carapace width data. Through confidential interviews, samplers obtained detailed information regarding effort, location, and bycatch that was used to evaluate fishery performance. Forty-eight percent of all landings were sampled.

A larger percentage of the sampled Tanner crab harvest from the Chignik District were old shell crab in comparison to the Kodiak District: 54.4% were new shell, 38.2% were old shell, and 7.4% were very old shell (Figure 4). Tanner crab had an average carapace width of 146 mm and the average weight was uniformly 2.23 pounds per crab throughout the district.

Status of Chignik District Tanner Crab Stock

The overall crab abundance in the Chignik District increased from 12.1 million in 2004 to 13.7 million in 2005 (Spalinger 2006). The number of juvenile females and prerecruit males from 70-114 mm CW showed the largest increase in 2005. Based on survey data, the highest density of crab were found in Ivanof, Chignik, and Castle Bays (Figure 6). Egg clutches of 836 mature female Tanner crabs were examined during the survey. Approximately 50% of mature females had a clutch fullness of 60% or higher, but only 30% percent of the mature females examined had a clutch fullness of 80% 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 area for Tanner crab. Vessels over 58 feet in overall length may not take Tanner crab in the South Peninsula District. Additional criteria within the harvest strategy specify that the district GHL must be at least 200,000 pounds. The pot limit ranges from 30 to 75 pots per vessel depending on the GHL.

The following regulation changes 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 until 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. GHLs were established in 1974. In 1975, seasons were imposed to protect adult crab during the mating and molting period. In 1976, the minimum size limit of 5.5” CW was established. During the six fishing seasons from 1974/75 through 1978/79, harvests ranged from five to almost nine million pounds. The fishery peaked during the 1978/79 season when slightly less than nine million pounds of crab were caught. From 1979 to 1984, harvest and CPUE declined as a result of low recruitment and in the 1983/84 season the fleet only landed two million pounds. Recruitment improved in subsequent years and the harvest increased to almost four million pounds in 1985/86. The harvest decreased to 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 1990 through 2000 due to the low abundance of legal-sized crab and the lack of recruitment.

In 1999, ADF&G presented the BOF with a comprehensive harvest strategy for Tanner crab in the South Peninsula District. The criteria in the harvest strategy were met for a commercial fishery opening in 2000/01. The South Peninsula District opened for the first time since 1989 with a 375,000-pound GHL. Fifty-five vessels harvested 258,631 pounds from 67 landings. The fishery lasted for four days.

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 2001. The population of Tanner crabs in the South Peninsula District was not likely to remain above threshold. Therefore, the commercial fishery in the South Peninsula District remained closed for the 2003/04 season.

Overview of the 2004/05 South Peninsula District Tanner Crab Season

The South Peninsula District met criteria specified in the harvest strategy for a commercial fishery opening in 2005. Over 4 million crabs were estimated to be mature male, exceeding the threshold (1,375,000 mature male crabs), resulting in a GHL of 300,000 pounds (Table 5).

The fishery opened as scheduled on January 15, 2005. Annual harvest from the 2004/05 South Peninsula District fishery, including deadloss, was approximately 295,055 pounds from 68 landings made by a total of 43 unique vessels (Table 7). The South Peninsula District closed by emergency order on February 11, 2005. The estimated exvessel fishery value of $491,385 resulted from an initial payment of $1.60 per pound.

2005 Dockside Sample Statistics

ADF&G personnel were deployed to Sand Point and King Cove a week prior to the fishery opening. Tanner crabs were sampled from commercial deliveries throughout the season. All samplers obtained the following information in order of most to least important: confidential interviews with vessel captains, average weight, and carapace width data. Through confidential interviews, samplers obtained detailed information regarding effort, location, and bycatch that was used to evaluate fishery performance. Interviews were obtained from 64 of the 68 deliveries. Seventy-four percent of all landings, a total of 4,203 crab, were sampled for carapace width (Figure 4). The average weight was 2.2 lbs.

Status of South Peninsula District Tanner Crab Stock

The overall crab abundance in the South Peninsula District increased from 16.1 million in 2004 to 22.3 million in 2005 (Spalinger 2006). Based on survey data, the highest density of crab were in Morzhovoi Bay (Figure 6). The number of adult females showed the largest increase in 2005. Egg clutches of 1,247 mature female Tanner crabs were examined during the survey. Almost 43.7% of the mature females examined had a clutch fullness of 80% or higher.

The BOF, during the 2005/06 cycle, revised the harvest strategy (5 AAC 35.507) splitting the South Peninsula District into Eastern and Western Sections that could open independently from one another. Each section has its own threshold and must meet the minimum 200,000 pound GHL to open (Urban and Vining 2005). Complete information on the 2005 trawl survey results is available in an ADF&G Fishery Management Report.

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 crabs 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 is 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 only from June 15 through January 1.

Historic Background

Dungeness crabs were first harvested commercially in 1962 when 1.9 million pounds 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 crabs in the Kodiak District. A harvest of 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.

The Kodiak District fishery has been prosecuted primarily on crabs newly recruited to legal size in recent years (Figure 8). The fishery has experienced years of low harvest that correspond to fluctuations in recruitment. Reduced effort may also contribute to decreased fishery production. Participation decreased from 62 vessels in 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 to $0.86 per pound in 1992 after the 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.

2005/06 Kodiak District Dungeness Crab Season

The 2005/06 fishery opened on May 1 in all areas except Kodiak's south end, which opened on June 15. Fourteen vessels harvested 834,749 pounds from 75 landings (Table 8).

Harvest peaked in July and steadily declined through October (Figure 9). As in 2002/03 – 2004/05, the majority of harvest during 2005/06 came from statistical area 545601, south of Sitkinak and Tugidak Islands. (Table 9).

An average of six legal crabs per pot were landed during the 2005/06 season. The CPUE has remained almost constant over the course of the commercial fishery. CPUE has historically been highest in the late summer months, presumably as crabs molt to legal size and are then available to the commercial fishery under '3-S' management.

Price paid per pound in 2005 averaged $1.25, down from $1.48 in 2004 (Table 8). The estimated exvessel value for the 2005/06 season was $485,519, a declined from the exvessel value in 2004/05 ($518,000).

Dungeness crabs harvested in the Kodiak District had a mean CW of 176 mm in 2005, approximately the same since 2002 (Figure 8). The percentage of post-recruit crabs taken in the commercial harvest during the 2005/06 season was 12%, which was similar to the 12% from the 2004/05 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" CW or larger may be taken from May 1 to January 1.

2005/06 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 2005/06 season, less than three vessels or processors (confidential) have participated in the fishery annually. Therefore, harvest information is combined with the Alaska Peninsula District. During the 2005/06 season a total of eight vessels participated in either the Chignik or South Peninsula District landing over 400,000 pounds (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" CW or larger may be taken from May 1 to January 1.

Historic Background

Prior to 2001, the Alaska Peninsula District also included the Chignik District. Historically, Dungeness crab catches from the district have been sporadic, with the highest catch recorded in 1968 when 1.3 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 crabs generated renewed interest in the fishery. The BOF specified the Alaska Peninsula District as a superexclusive registration area in 1983. Since then effort in the district has declined and recent catches have been small.

2005/06 Alaska Peninsula District Dungeness Crab Fishery

The 2005/06 Alaska Peninsula District Dungeness crab season opened May 1. Data is combined with the Chignik District to maintain confidentiality. During the 2005/06 season a total of eight vessels participated in the Chignik or South Peninsula District landing over 400,000 pounds (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*. Red king crab fisheries in the Kodiak Area open by regulation on September 25 if biomass estimates meet or exceed threshold levels contained in the Harvest Strategy for Kodiak and Bristol Bay Red King Crab and Saint Matthew Island and Pribilof Blue King Crab, Special Publication Number 7 (Pengilly and Schmidt 1995). In the Kodiak Area, a threshold of 5.12 million fertilized females was established in this harvest strategy. The female threshold is further broken down by individual Kodiak management districts. Additional harvest strategy criteria restrict harvest to only 20% of mature males and caps harvest on legal-sized males at 60% of the estimated legal-sized population. Trawl surveys indicate red king crab population levels remain low in the 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 that (1) a valid CFEC permit card is required, (2) tank inspection is required, (3) gear must comply with 5 AAC 34.425 LAWFUL

GEAR FOR REGISTRATION AREA K, (4) only male golden king crab 6.5” 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 up to 100 fathoms, (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 GHL 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.), 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 GHL that ranges from 25 to 75 pots per vessel.

Historic Background

Beginning in 1936, small amounts of red king crab were landed in Kodiak, but catches were not officially recorded until 1950. This period in the history of the fishery was exploratory in nature with fishers developing gear, locating commercially harvestable quantities of crab and developing markets for product. In 1960, the king crab season was open year round and 21 million pounds were landed (Table 11). The development period peaked during the 1965/66 season, when over 94 million pounds of crab were landed during a ten-month fishing season. From the peak in 1966, catches dropped to 12 million pounds by the 1969/70 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 occurred that targeted larger, older crabs. Annual harvests ranged from 10.9 million pounds during the 1971/72 season to 24.1 million pounds during the 1975/76 season. Harvest declined in the late 1970s and by the 1978/79 season, harvest totaled 12.0 million pounds. The 1981/82 season harvest was the highest of the previous 13 years at 24.2 million pounds. The 1982/83 season total harvest declined to 8.7 million pounds, the lowest in 24 years. However, effort was the highest on record.

ADF&G did not open the 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 king crab season 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 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 did reopen.

STATUS OF KODIAK AREA RED KING CRAB STOCKS

The Kodiak red king crab population remains at historically low levels, and fishing seasons for red king crabs have remained closed since the 1982/83 season. During the 2005 Kodiak trawl survey, ADF&G completed 226 hauls in known king crab habitat. The red king crab population was estimated to be 113,710 animals (down from 369,779 in 2004), of which 33,929 were legal-sized males. 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 king crabs were found in the Southwest District (Spalinger 2006). The mature red king crab female population was estimated to be 38,096 animals, well below the 5.1 million crab threshold required for a fishery opening. Only 7% of the mature female crab sampled had an estimated ovigerity of 80% or greater. This is a sharp decrease from recent years. In 2003 and 2004, greater than 50% of the mature female crab sampled had an estimated ovigerity of 80% or greater.

GOLDEN KING CRAB

Overview of Fishery Regulations

The Kodiak Area is 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 crab 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 years, there has been no activity.

2005 KODIAK AREA GOLDEN KING CRAB FISHERY

No effort occurred in 2005.

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° 27’ W long.), and as its western boundary the longitude of Scotch Cap Light (164° 44’ W long.). The Alaska Peninsula is further divided into the Unimak Bight, Central, and West Chignik Districts (Figure 13).

RED KING CRAB

Overview of Fishery Regulations

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

Historic Background

The red king crab fishery in the Alaska Peninsula Area began in 1947, when 141,000 pounds were landed. The largest historic catch of 22.6 million pounds occurred in 1966 (Table 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 2005 survey consisted of 139 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 estimated population from the 2005 survey was 31,102 crabs, a decrease from the estimated 54,167 crabs from the 2004 survey (Spalinger 2006). 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.

2005 ALASKA PENINSULA AREA GOLDEN KING CRAB FISHERY

No vessels registered to fish for golden king crab in the Alaska Peninsula Area during 2005.

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 undescribed waters within these districts open by established seasons, without threshold criteria, or established GHLs. 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 GHLs 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 catch of 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 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 at over 140 million pounds (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 this management scheme be defined and adopted into regulation. This led to the WESTWARD REGION SHRIMP MANAGEMENT PLAN, which was approved by the BOF in 1982. The objectives of this management plan were to maintain shrimp stocks at a level termed "representative biomass index" (RBI) determined by survey trawls, while allowing a fishery during rebuilding periods. A minimum level at which any harvest would occur was established and termed the MABI (Table 16).

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

ADF&G requires vessels registering in the General Section to provide logbooks for fishery management and research. There has been little commercial 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 of product was less than 19,000 pounds of spot shrimp tails in 1983 (Table 17).

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 year[1]. Logbooks are required of fishers targeting shrimp in the North Afognak, West Afognak, and Mainland Sections.

2005/06 KODIAK DISTRICT SHRIMP POT AND TRAWL SEASONS

There was no fishing effort for pot shrimp in 2005/06.

STATUS OF KODIAK DISTRICT SHRIMP STOCKS

ADF&G conducts trawl surveys to assess shrimp biomass. In recent years, surveys have been conducted every three years in the Kodiak District. 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 2002, 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 was found in Marmot and Wide Bays (Jackson *In prep*). 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.

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, Mitrofania 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, and west of a line extending 135° southeast from the easternmost point of Castle Rock and Pacific Ocean waters east of the longitude of Cape Sarichef. The South Peninsula District is further divided into eight sections: Stepovak Bay, Unga Straits, West Nagai, Beaver Bay, Kenoys Island, Pavlof Bay, Belkofski Bay, and Morzhovoi Bay Sections (Figure 17). The offshore waters in the South Peninsula District are not assigned sections.

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

Historic Background

Shrimp fishing in the South Peninsula and Chignik Districts began in 1968, but catch levels remained relatively low until the 1972/73 season when 19.7 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 1977/78 season. Catches declined rapidly until all South Peninsula sections were closed in 1980/81. Although the Sutwik Island Section and all offshore waters of the Chignik District remained open 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.

2005/06 SOUTH PENINSULA AND CHIGNIK DISTRICTS SHRIMP POT AND TRAWL SEASON

There was no fishing effort for pot shrimp during the 2005/06 season and no fishing effort for shrimp with trawl gear for the 2005/06 season.

STATUS OF SOUTH PENINSULA AND CHIGNIK DISTRICTS SHRIMP STOCKS

The South Peninsula and Chignik Districts were not surveyed in 2005. However, in 2004, ADF&G conducted a trawl survey in the South Peninsula and Chignik Districts for the second time since 1995. Shrimp abundance indices from the 2004 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 and 2002 surveys (Jackson *In prep*).

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. Sea cucumber fisheries are open by regulation from October 1 through April 30 under the authority of a commissioner's permit. GHLs are established annually and fisheries remain open until section GHLs 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 GHLs 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.) and east of a line from the southern most tip of Kupreanof Point (55° 34' N lat., 159° 36' W long.) to the easternmost point of Castle Rock, and east of a line extending 135° from the easternmost point of Castle Rock (Figure 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 over harvest of the red sea cucumber resource. A seasonal closure from May 1 through September 30 was established to protect spawning aggregates of red sea cucumbers. In addition, GHLs were established for the Kodiak and Chignik Districts. Management areas based on the Tanner crab fishing sections were utilized in the Kodiak District in an attempt to spread the effort and harvest around the island and prevent localized depletion. A GHL was set for each of the individual sections based on historic production and fisheries performance. Registration permit provisions included a weekly fishing period of five days and daily dive logs submitted by the divers with fish tickets. The fishery was reopened April 1, 1994 and closed on April 30.

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

The 1995/96 sea cucumber fishing season opened on October 1, 1995. Evaluation of another year of fishery performance resulted in a decreased GHL. The GHL for the Kodiak District was 135,000 pounds, and the Chignik District GHL was set at 25,000 pounds. Effort again concentrated on the Eastside, Southeast, Southwest, and Westside Sections of Kodiak. Although outlying areas along the Alaska Peninsula have historically remained open for the duration of the regulatory season, divers were reluctant to cross Shelikof Strait due to stormy weather and the expectation of marginal returns. From 1998-2004, 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.

2005/06 KODIAK AND CHIGNIK DISTRICTS RED SEA CUCUMBER SEASON

The 2005/06 fishery opening was Saturday, October 1, 2005. The 2005/06 GHL for the Kodiak District totaled 145,000 pounds of eviscerated product, a decrease of 5,000 pounds from the last few years (Table 20). The GHL for Uganik Bay was decreased to 5,000 pounds due to poor fishery performance in previous seasons. The Chignik District GHL was 25,000 pounds. Eighteen divers registered (up from 13 last year) with a high of 17 participating during the first opening. This effort level is similar to the 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 2005 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 Saturday, October 1 and Sunday, October 2. Seventeen divers registered and participated during the first fishery opening; however, one diver did not harvest any sea cucumbers. There were a total of five fishing periods and 19 days of fishing. All sections in the Kodiak District except the Northeast and Mainland Sections closed.

While fishing in the Chignik District historically has occurred in the spring, the only effort in 2005/05 occurred in October concurrent with the effort in the Kodiak District. Diver fished four days in Chignik; harvest in this district remains confidential.

2005 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. Average weights were taken at the point of delivery. Twenty landings were sampled for

average weights. The average eviscerated weight for Kodiak Area red sea cucumbers that were sampled was 0.63 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 Area

The South Peninsula District for red sea cucumbers includes all Pacific Ocean waters west of a line from the southernmost tip of Kupreanof Point to the easternmost tip of Castle Rock, west of a line extending southeast 135° from the easternmost tip of Castle Rock, and east of 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 only one diver made a landing. There have been no landings in the South Peninsula District since 1994.

2005/06 SOUTH PENINSULA DISTRICT RED SEA CUCUMBER SEASON

No fishing occurred during the 2005/06 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 at 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 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 or 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. There was little further interest

in green sea urchins in Kodiak until 1985 when several thousand pounds were harvested. In 1986, the harvest increased with more divers participating. Peak harvest occurred in 1988 at 190,509 pounds (Table 21). Kodiak green sea urchins are usually shipped live to Japan for processing.

In 2000, ADF&G developed conservative GHLs for the green sea urchin fisheries based on historic harvest information. The sections utilized for Tanner crab and red sea cucumber management were adopted for green sea urchin management. Sections that lacked historic harvest data were assigned a 5,000 pound GHL (Table 20). Sections that had been previously explored and had some prior harvest were assigned a 10,000 pound GHL to help prevent local depletion. ADF&G will work closely with fishery participants to collect baseline biological data from the green sea urchin fishery.

2005/06 GREEN SEA URCHIN SEASON

No vessels were registered for the 2005/06 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 GHLs are established for octopus fisheries.

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

HISTORIC BACKGROUND

Octopus is considered a groundfish species by National Marine Fisheries Service (NMFS) and a shellfish species under 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. 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 from late fall to early spring with pot gear. 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 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 in the Pacific cod pot fisheries. Periodic episodes of favorable market conditions also resulted in large amounts of octopus sold to processors.

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 Area. In that same year, 22,607 pounds of octopus were harvested from federal waters in the Kodiak Area. Octopus harvest decreased substantially in the mid-1990s, only to increase sharply with the advent of the state-waters Pacific cod fisheries in 1997. In the Kodiak District, harvest reached a record high in 1998 with a combined state and federal harvest of 375,379 pounds. In the Chignik and South Peninsula Districts, harvest reached a record high in 2004 with a combined harvest of 330,192 pounds.

2005 Kodiak District Octopus Fishery

Five vessels were registered to target octopus in 2005; however, little effort occurred. The 2005 incidental harvest of octopus in the Kodiak District totaled 136,545 pounds from state and federal waters. Thirty nine vessels harvested 37,210 pounds from 111 landings in state waters. A total of 99,335 pounds were harvested from federal waters by 37 vessels making 207 landings. Fish tickets with price information listed an average of $0.42 per pound for an estimated exvessel fishery value of $57,349 for the state and federal water harvest combined.

2005 Alaska Peninsula and Chignik Districts Octopus Fisheries

No vessels registered for directed fishing of octopus in the Chignik and South Peninsula Districts in 2005. The 2005 incidental harvest of octopus in the Chignik and South Peninsula Districts totaled 116,679 pounds from state and federal waters. Forty three vessels harvested 33,332 pounds from 110 landings in state waters. A total of 83,347 pounds were harvested from federal waters by 23 vessels making 98 landings. Fish tickets with price information listed an average of $0.41 per pound for an estimated exvessel fishery value of $47,838 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 GHLs 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 that dictates a ban on camping in the monument in support of a business enterprise. In 1986, the BOF adopted a regulation prohibiting hydraulic mechanical dredges from harvesting clams in the Kodiak District east of Kilokak Rocks.

STATUS OF KODIAK, CHIGNIK, AND ALASKA PENINSULA DISTRICTS RAZOR CLAM STOCKS

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

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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REFERENCES CITED

ADF&G (Alaska Department of Fish and Game). 1982. Westward Region shrimp fishery management report. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Unpublished Report, 4K82-10, Kodiak.

Barnhart, J. P. 2006. Annual management report for the commercial weathervane scallop fisheries in Alaska's Westward Region, 2004/05. Alaska Department of Fish and Game, Division of Commercial Fisheries, Fishery Management No. 06-41, Anchorage.

Jackson, D. R. 1990. A bottom trawl survey of crab and groundfish in the Kodiak Island and Alaska Peninsula Areas, June through September, 1989. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Data Report No. 96, Kodiak.

Jackson, D. R. 1997. Westward Region commercial Dungeness crab and shrimp fisheries: A report to the Alaska board of fisheries. Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Regional Information Report No. 4K97-9, Kodiak.

Jackson, D. R. *In prep*. Trawl survey of shrimp and forage fish abundance in Alaska's Westward Region, 2005. Alaska Department of Fish and Game, Fishery Management Report, Kodiak.

Jackson, D. R. 2005. Trawl survey of shrimp and forage fish abundance in Alaska's Westward Region, 2004. Alaska Department of Fish and Game, Fishery Management Report No. 05-44, Kodiak.

Jackson, D. R. and M. P. Ruccio. 2003. Kodiak, Chignik, and South Peninsula shrimp fisheries and their management: A report to the Alaska board of fisheries. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report No. 4K03-7, Kodiak.

Lourie, S. A., and D. L. Sanders. 2000. IUNC species assessment for the green sea urchin *Strongylocentrotus droebachiensis.* McGill University Press.

Pengilly, D. and D. Schmidt. 1995. Harvest strategy for Kodiak and Bristol bay red king crab and Saint Matthew Island and Pribilof blue king crab. Alaska Department of Fish and Game. Commercial Fisheries Management and Development Division, Special Publication No. 7, Juneau.

Spalinger, K. 2006. Bottom trawl survey of crab and groundfish: Kodiak, Chignik, and South Peninsula, and Eastern Aleutians management districts, 2005. Alaska Department of Fish and Game, Fishery Management Report No. 06-43, Anchorage.

Urban, D. and I. Vining. 2004. Reconstruction of historic abundances of Tanner crabs in the proposed Eastern and Western Sections of the South Peninsula District, Report to the Alaska Board of Fisheries. Alaska Department of Fish and Game, Fishery Management Report No. 05-03, Kodiak.

TABLES AND FIGURES

Table 1.-Shellfish emergency orders issued for the Kodiak Area, 2005.

Emergency Order	Effective Date	Explanation
Tanner Crab		
4-S-07-05	3/3/2005	Closed Alitak Bay of the Southwest Section to Tanner crab fishing for the remainder of the 2004/2005 season.
4-S-08-05	3/16/2005	Closed the Southwest Section to Tanner crab fishing for the remainder of the 2004/2005 season.
4-S-09-05	3/27/2005	Closed the Northeast Section to Tanner crab fishing for the remainder of the 2004/2005 season.
Sea Cucumber		
4-S-10-05	10/1/2005	Opened the Kodiak District for the first 48-hour fishing period for red sea cucumbers.
4-S-11-05	10/7/2005	Opened the Westside Section for a 36 hour fishing period; opened the Southeast and Southwest Sections for a 60 hour period; opened Uganik Bay for a 24 hour fishing period, and the remainder of the Kodiak District for a 72 hour fishing period for red sea cucumbers.
4-S-12-05	10/14/2005	Closed the Southeast and Westside Sections for the remainder of the 2005/2006 season. Opened the Eastside Section for a 12 hour fishing period; opened the Southwest Section for a 24 hours fishing period, opened the Uganik Bay area for a 12 hour fishing period, and the remainder of the Kodiak District for a 72 hour fishing period for red sea cucumbers.
4-S-14-05	10/15/2005	Extended the fishing period in the Southwest Section for an additional 24 hours and reopend the Eastside Section for an additional 6 hours for red sea cucumbers.
4-S-15-05	10/21/2005	Opened the Southwest Section and the Uganik Bay area for 12 hour fishing periods. Opened other remaining sections not previously closed, for a 3 day fishing period in the Kodiak District for red sea cucumbers.
4-S-16-05	10/21/2005	Extended the previous red sea cucumber opening for 24-hours in the Kodiak District due to weather.
4-S-17-05	10/28/2005	Closed the Eastside and Southwest Sections for the remainder of the 2005/2006 season. Opened the Uganik Bay area for a 6 hour fishing period, the Northeast Section for 2 days, and the remainder of the Kodiak District not previously closed for 3 days for red sea cucumbers.

Table 2.-Shellfish emergency orders issued for the Alaska Peninsula Management Areas, 2005.

Emergency Order	Effective Date	Explanation
Tanner Crab		
4-S-03-05	1/30/2005	Closed the inside waters of Castle Bay of the Chignik District to Tanner crab fishing for the remainder of the 2004/2005 season.
4-S-04-05	2/2/2005	Closed the Chignik District between Cape Kupreanof to 159° W long. to Tanner crab fishing for the remainder of the 2004/2005 season.
4-S-05-05	2/7/2005	Closed the Chignik District to Tanner crab fishing for the remainder of the 2004/2005 season.
4-S-06-05	2/11/2005	Closed the South Peninsula District to Tanner crab fishing for the remainder of the 2004/2005 season.

Table 3.-Tanner crab commercial catch, effort, and value for the Kodiak District, 1967 – 2004/05.

Year/Season	GHL	Number Vessels	Number Landings	Number Crabs[a]	Number Pounds[a]	Pots Lifted	CPUE	Average Weight	Price Per Pound	Exvessel Value (millions)
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	253,971	566,218	15,491	36	2.2	$2.45	$1.37
2004/05	1,750,000	86	287	738,535	1,804,533	21,399	35	2.4	$1.73	$3.11
5 year average[b]	811,000	110	257	309,579	750,730	13,135	26	2.4	$2.19	$1.53

NA = not available

[a] Includes deadloss.

[b] 5 year average is last 5 years of fishery data (2000/01-2004/05.

Table 4.-Tanner crab guideline harvest level, effort, and harvest by section for the Kodiak District, 2002/03 – 2004/05.

Year	Section[a]	GHL	Vessels	Permits	Harvest	Pots Lifted	CPUE
2002/03							
	Northeast	170,000	44	46	162,494	5,036	15
	Eastside	340,000	39	43	348,830	6,072	23
	Semidi	Closed					
	Total	510,000	72[b]	79	511,324	11,108	19
2003/04							
	Northeast	245,000	43	44	259,572	6,281	41
	Eastside	450,000	20	20	219,980	6,781	32
	Southeast	100,000	15	16	86,666	2,429	36
	Semidi	Closed					
	Total	795,000	66[b]	68	566,218	15,491	36
2004/05							
	Northeast	550,000	43	43	468,245	6,876	25
	Eastside	650,000	27	27	664,576	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	2	2	4,370	184	10
	Total	1,750,000	86[b]	86	1,804,533	21,399	34

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

[b] Total unique vessels; several vessels participated in multiple sections.

Table 5.-Kodiak, Chignik, and South Peninsula Districts Tanner crab guideline harvest levels and season dates, 2004/05.

District/Section	GHL (pounds)	Opening date/ time	Partial Closure/time	Closure date/ time
Kodiak				
Northeast	550,000	Jan 15/ Noon	none	March 27/ Noon
Eastside	650,000	Jan 15/ Noon	none	March 31/ Noon
Southeast	100,000	Jan 15/ Noon	none	March 31/ Noon
Southwest	450,000	Jan 15/ Noon	March 3/ 5:59 PM[a]	March 16/ 1:00 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[b]
Chignik	400,000	Jan 15/ Noon	January 30/ 10:00 AM[c] Februrary 2/ 5:59 PM[d]	February 7/ Noon
South Peninsula	300,000	Jan 15/ Noon	none	February 11/ 5:59 PM

[a] Partial Closure of the Southwest Section (Alitak Bay)

[b] The Semidi island Overlap Section (abbreviated Semidi Island) opened concurrent with the Southwest Section and the Chignik District, and closed when the Chignik District closed.

[c] Partial closure of the Chignik District (Castle Bay)

[d] Partial closure of the Chignik District (Ivanof Bay)

Table 6.-Tanner crab commercial catch, effort, and value for the Chignik District, 1968 – 2004/05.

Year/Season	GHL	Number				Pots		Average	Price Per
		Vessels	Landings	Crabs	Pounds	Lifted	CPUE	Weight	Pound
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	183,033	410,741	7,456	25	2.2	$1.65
5 year average [a]		11	31	125,495	278,008	7,724	17	2.2	$2.33

NA = not available

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

Table 7.-Tanner crab commercial catch, effort, and value for the South Peninsula District, 1967 – 2004/05.

Year/Season	GHL	Number Vessels	Number Landings	Number Crabs	Number Pounds	Pots Lifted	CPUE	Average Weight	Price Per Pound
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					NO COMMERCIAL FISHERY				
2002/03					NO COMMERCIAL FISHERY				
2003/04					NO COMMERCIAL FISHERY				
2004/05	300,000	43	68	133,694	295,055	5,710	23	2.2	$1.63
5 year average [a]		58	95	596826	1467672	25624	23	2.4	$1.96

NA = not available

[a] 5 year average is last 5 years of fishery data (1986/87, 1987/88-1988/89, 2000/01 and 2004/05)

Table 8.-Dungeness crab commercial catch, effort, and value for the Kodiak District, 1962 – 2005/06.

	Number				Pots	Average Lbs		Average Price	Exvessel
Year/Season	Vessels	Landings	Crab	Pounds[a]	Lifted	Per Landing	CPUE	Per Pound	Value
1962	NA	149	NA	1,904,567	NA	12,782	NA	$0.09	$171,000
1963	NA	354	NA	2,487,512	NA	7,026	NA	$0.09	$224,000
1964	29	395	NA	4,254,565	NA	10,537	NA	$0.09	$375,000
1965	25	351	NA	3,311,571	NA	9,434	NA	$0.12	$397,000
1966	12	144	NA	1,416,174	NA	7,976	NA	$0.13	$149,000
1967	18	439	NA	6,663,668	NA	15,179	NA	$0.13	$866,000
1968	43	536	NA	6,829,061	NA	12,741	NA	$0.14	$956,000
1969	29	455	NA	5,834,628	190,967	12,823	12	$0.16	$934,000
1970	33	318	-	5,741,438	249,800	18,005	9	$0.14	$804,000
1971	24	173	515,653	1,445,864	90,913	8,358	6	$0.18	$260,000
1972	34	316	766,960	2,059,536	140,921	6,517	6	$0.40	$824,000
1973	42	487	879,484	2,000,526	251,467	4,108	3	$0.50	$1,000,000
1974	23	172	337,839	750,057	104,062	4,361	3	$0.47	$353,000
1975	15	154	307,272	639,813	76,411	4,154	4	$0.61	$390,000
1976	4	6	38,072	87,110	4,410	14,518	9	$0.15	$13,000
1977					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	Number Vessels	Number Landings	Number Crab	Number Pounds[a]	Pots Lifted	Average Lbs Per Landing	CPUE	Average Price/Pound	Exvessel Value
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[b]	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	168,981	352,216	42,136	5,970	4	$1.48	$518,000
2005/06	14	75	184,414	390,995	63,170	5,213	6	$1.25	$485,519
5 year average	16	71	172,955	354,590	53,375	4,975	4	$1.53	$522,218

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.

Table 9.-Harvest, vessels, and landings by statistical area from the Kodiak District Dungeness crab fisheries, 2002/03 - 2005/06.

	2002/03			2003/04			2004/05			2005/06		
Statistical Area	Vessels	Landings	Pounds [a]	Vessels	Landings	Pounds [a]	Vessels	Landings	Pounds [a]	Vessels	Landings	Pounds [a]
525701	8	30	82,850	11	46	127,049	4	27	70,529	5	33	69,654
525703	6	14	17,350	3	22	48,026	3	14	23,979	3	18	32,331
525733	4	6	5,773	7	32	59,952	4	7	6,641	9	43	17,883
535705	5	8	11,963			42,582	3	15	27,425	Confidential		
545601	5	21	164,712	3	20	138,021	4	17	159,253	3	10	187,078
545602	3	4	10,596	0	0	0	Confidential			0	0	0
545632	Confidential			Confidential			3	10	13,285	4	13	15,576
Other	18	34	30,305 [b]	11	23	20,825 [c]	5	18	43,540 [d]	10	37	36,700 [e]
Total[f]	25	55	353,849	21	89	467,623	16	59	352,216	23	79	390,995

[a] Includes deadloss

[b] Total of 16 statistical areas.

[c] Total of 8 statistical areas.

[d] Total of 7 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.

Table 10.-Dungeness crab commercial catch, effort, and value for the Alaska Peninsula and Chignik Districts combined, 1968 - 2005/06.

	Number				Pots		Average	Price per
Year	Vessels	Landings	Crab[a]	Pounds[a]	Lifted	CPUE	Weight	Pound
1968	NA	NA	434,142	1,259,013	NA	NA	2.9	NA
1969	NA	NA	411,000	1,056,000	NA	NA	NA	NA
1970	NA	NA	4,200	13,000	NA	NA	NA	NA
1971	NA	NA	3,900	11,000	NA	NA	NA	NA
1972	NA	NA	29,400	65,000	NA	NA	NA	NA
1973	Confidential							
1974	No Commercial Fishing Effort							
1975	No Commercial Fishing Effort							
1976	No Commercial Fishing Effort							
1977	No Commercial Fishing Effort							
1978	No Commercial Fishing Effort							
1979	Confidential							
1980	No Commercial Fishing Effort							
1981/82	Confidential							
1982/83	16	79	357,955	779,600	59,265	6	2.2	$0.75
1983/84	18	132	565,430	1,207,128	113,061	5	2.1	$0.97
1984/85	13	99	294,191	647,497	106,056	3	2.1	$1.38
1985/86	7	31	239,202	488,107	52,117	5	2.0	$1.26
1986/87	6	28	87,925	180,261	30,280	3	2.0	$1.05
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	154,256	311,225	16,398	9	2.0	$1.21

[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 at the latitude of 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 – 2005/06.

Fishing Year[a]	Vessels	Landings	Number of Crab	Number of Pounds	Pots Lifted	CPUE	Average Weight Per Crab	Price Per Pound
1960/61	143	NA [b]	2,116,375	21,064,871	NA	NA	NA	$ 0.09
1961/62	148	NA	3,181,554	28,962,900	NA	NA	NA	$0.10
1962/63	195	NA	4,146,143	37,626,703	NA	NA	NA	$0.10
1963/64	181	NA	4,158,988	37,716,223	NA	NA	NA	$0.10
1964/65	189	NA	4,923,309	41,596,518	95,951	51	NA	$0.10
1965/66	175	NA	11,061,709	94,431,026	173,083	64	NA	$0.13
1966/67[c]	213	NA	8,476,299	73,817,779	223,174	38	NA	$0.11
1967/68	227	3,847	5,147,321	43,448,492	207,392	25	NA	$0.26
1968/69	178	1,839	2,348,950	18,211,485	119,146	20	NA	$0.26
1969/70[d]	136	978	1,606,181	12,200,571	96,841	17	NA	$0.28
1970/71	100	830	1,561,318	11,719,970	119,192	13	NA	$0.30
1971/72	89	507	1,539,157	10,884,152	66,166	23	NA	$0.39
1972/73	88	683	2,029,670	15,479,916	70,806	29	NA	$0.55
1973/74	129	837	1,847,679	14,397,287	77,826	24	NA	$0.45
1974/75	158	1,195	2,910,201	23,582,720	110,297	26	NA	$0.45
1975/76	169	1,569	2,976,909	24,061,651	113,795	26	8.1	$0.66
1976/77	195	1,165	2,177,956	17,966,846	130,777	17	8.2	$1.37
1977/78	179	1,186	1,590,477	13,503,666	145,867	11	8.5	$1.34
1978/79	194	1,077	1,464,021	12,021,850	177,261	8	8.2	$1.60
1979/80	247	1,346	1,979,394	14,608,900	207,991	9	7.3	$0.95
1980/81	164	1,175	2,787,199	20,448,654	201,531	14	7.3	$1.05
1981/82	246	2,214	3,035,674	24,237,601	388,751	8	8.0	$2.00
1982/83	309	1,373	1,011,109	8,729,761	283,795	4	8.6	$3.75
No commercial fishery has occurred since the 1982/83 season.								
AVERAGE[e]	176	1,364	3,220,765	26,987,806	158,402	20		

[a] Fishing year defined as May 1 - April 30.

[b] Not available.

[c] July 1 - April 30 season established.

[d] August 15 - January 15 season established.

[e] Average includes only years with open fishing season.

Table 12.-Kodiak red king crab harvest composition and seasons, 1960/61 – 2005/06.

Season	Open	Closed	Catch Million Pounds	Percent Recruits[a]	Percent Post -Recruits	Size Limit (Inches)
1960/61	1-Jul	30-Jun	18.9	8	92	6.5
1961/62	1-Jul	30-Jun	29.0	36	64	6.5
1962/63	1-Jul	30-Jun	37.6	26	74	6.5
1963/64	1-Jul	30-Jun	35.0	33	67	7.0
1964/65	1-Jul	30-Jun	41.6	48	52	7.0
1965/66	1-Jul	30-Apr	94.4	35	65	7.0
1966/67	1-Jul	30-Apr	73.8	28	72	7.0
1967/68	1-Jul	30-Apr	43.4	27	73	7.0
1968/69	15-Jun	31-Mar	18.2	61	39	7.0
1969/70	15-Aug	15-Jan	12.2	59	41	7.0
1970/71	15-Aug	15-Jan	11.7	38	62	7.0
1971/72	15-Aug	29-Oct	10.9	75	25	7.0
1972/73	15-Aug	13-Oct	15.5	47	53	7.0
1973/74	15-Aug	25-Oct	14.4	49	51	7.0
1974/75	15-Aug	21-Sep	20.9	52	48	7.0
	15-Oct	15-Jan	2.2	3	97	8.0
1975/76	15-Aug	20-Oct	21.6	48	52	7.0
	20-Oct	1-Dec	2.5	3	97	8.0
1976/77	1-Sep	16-Oct	14.6	33	67	7.0
	1-Dec	15-Jan	3.1	1	100	8.0
1977/78	15-Sep	30-Nov	11.7	37	63	7.0
	1-Dec	15-Jan	1.8	1	99	8.0
1978/79	10-Sep	30-Nov	10.3	44	56	7.0
	1-Dec	15-Jan	1.7	15	85	7.5
1979/80	10-Sep	30-Nov	13.4	70	30	7.0
	1-Dec	15-Jan	1.2	30	70	7.5
1980/81	15-Sep	30-Nov	18.4	69	31	7.0
	1-Dec	15-Jan	2.1	22	78	7.5
1981/82	15-Sep	15-Dec	20.3	61	39	7.0
	15-Dec	15-Jan	3.9	7	93	7.5
1982/83	1-Sep	10-Dec	7.5	46	54	7.0
	10-Dec	19-Dec	1.2	19	81	7.5
	No commercial fishery has occurred since the 1982/83 season.					

[a] Recruitment after 1963 based on 7" size limit.

Table 13.-Golden king crab commercial catch, effort, and value for the Kodiak Area, 1983-2005.

Year	Vessels	Landings	No. of Crabs[a]	No. of Pounds[a]	Pots Lifted	CPUE	Average Weight of Crab	Price Per Pound	Exvessel Value (Millions)
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

NA= Not Available

[a]Includes deadloss.

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

Table 14.-Red king crab commercial catch, effort, and value for the Alaska Peninsula Area, 1947 – 2005/06.

	Number				Pots		Average	Price Per
Year	Vessels	Landings	Crab	Pounds	Lifted	CPUE	Weight	Pound
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 [a]	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
1983-2005			NO FISHERY					

NA=Not Available.

[a] Combined 6.5 inch and 7.5 inch seasons.

Table 15.-Shrimp trawl fishery catch, effort, and value for the Kodiak District, 1958 – 2004/05.

Year/Season	Vessels	Landings	Harvest in Pounds	Price Per Pound
1958	NA	NA	31,886	$0.04
1959	NA	NA	2,861,900	$0.04
1960	11	94	3,197,985	$0.04
1961	12	203	11,083,500	$0.04
1962	11	204	12,654,027	$0.04
1963	NA	NA	10,118,472	$0.04
1964	6	NA	4,339,114	$0.04
1965	11	320	13,823,061	$0.04
1966	17	551	24,097,141	$0.05
1967	23	NA	38,267,856	$0.05
1968	16	NA	34,468,713	$0.04
1969	26	935	41,353,461	$0.06
1970	18	1,024	62,181,204	$0.04
1971	49	1,746	82,153,724	$0.04
1972	63	1,398	58,352,319	$0.04
1973	50	1,283	70,511,477	$0.06
1973/74	63	1,029	56,203,992	$0.08
1974/75	75	1,100	58,235,982	$0.08
1975/76	58	884	49,086,591	$0.08
1976/77	62	762	46,712,083	$0.10
1977/78	58	653	26,409,366	$0.13
1978/79	50	328	20,506,021	$0.17
1979/80	37	242	12,863,536	$0.23
1980/81	67	462	27,101,218	$0.29
1981/82	55	298	19,112,367	$0.27
1982/83	40	224	10,391,207	$0.27
1983/84	14	63	2,779,030	$0.35
1984/85	13	59	2,942,922	$0.33
1985/86			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	Vessels	Landings	Harvest in Pounds	Price Per Pound
1990/91	0	0	0	0
1991/92	0	0	0	0
1992/93	0	0	0	0
1993/94	3	3	1,704	NA
1994/95	0	0	0	0
1995/96	0	0	0	0
1996/97			Confidential	
1997/98			Confidential	
1998/99	5	8	12,724	NA
1999/00	3	4	4,325	NA
2000/01			Confidential	
2001/02			Confidential	
2002/03			Confidential	
2003/2004			Confidential	
2004/2005	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 minimum acceptable biomass indices (MABI) and population estimates in millions of pounds from surveyed districts and sections, 2001-2005.

District	Section	MABI [a]	2005	2004	2003	2002	2001
Kodiak	Inner Marmot Bay	1,652	445	498	469	573	1,173
	Marmot Island	11,615	1,182	809	1,406	1,356	1,685
	Chiniak Bay	658	31	14	86	57	333
	Ugak Bay	1,815	10	-	2	-	42
	Kiliuda Bay	2,405	19	-	146	198	56
	Two Headed Island	3,312	81	-	3	-	56
	Alitak Bay	1,942	120	-	123	-	232
	Uyak Bay	1,447	326	-	433	-	344
	Uganik Bay	1,175	297	-	402	-	711
	Kukak Bay[b]	NA	41	-	67	-	187
	Wide Bay[b]	476	217	365	384	**880**	**967**
	Puale Bay[b]	540	22	-	40	-	48
	Shelikof Strait	NA	7,732	1,362	8,527	-	1,056
	Alitak Flats	577	-	-	30	-	-
Chignik	Kujulik Bay	1,715	-	-	-	12	-
	Chignik Bay	2,064	-	580	-	508	-
	Kuiukta Bay	862	-	44	-	163	-
	Mitrofania Island	2,341	-	40	-	99	-
	Ivanof Bay	2,586	-	-	-	9	-
South Peninsula	Stepovak Bay	10,526	-	101	-	375	-
	Unga Straits	3,412	-	272	-	137	-
	Beaver Bay	1,978	-	1	-	11	-
	Pavlof Bay	8,221	61	64	8	38	30
	Belkofski Bay	NA	-	-	-	1	-

[a] Minimum acceptable biomass index

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

NA = no MABI established for survey area.

- = Not surveyed

Bold indicates population estimate above established MABI.

Table 17.-Shrimp pot fishery catch and effort for the Kodiak District, 1969-2005.

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	
2000	0	0	0
2001		Confidential	
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	0	0	0
Total[b]			77,997

[a] Pounds are weight of shrimp tails.

[b] Does not include confidential pounds.

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

NA = Not Available

Table 18.-Trawl shrimp fishery catch, effort, and value for the South Peninsula and Chignik Districts, 1968 – 2004/05.

	SOUTH PENINSULA				CHIGNIK			
	Number			Price per	Number			Price per
Year	Vessels	Landings	Pounds	Pound	Vessels	Landings	Pounds	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]			0		54	148	12,843,270	$0.29
1981/82			0		3	4	70,948	$0.27
No commercial fishing activity has occurred in these districts after 1981/82.								

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

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, 1991-2005.

Year	Number of Dive Permits	Number of Landings	Pounds Harvested	Average Price Per Pound
1991			Confidential	
1992			Confidential	
1993	50	487	564,516	$0.93
1994	86	269	413,576	$1.20
1995	21	60	145,092	$1.25
1996	31	93	162,451	$1.25
1997	26	65	132,337	$1.16
1998	16	55	142,313	$1.20
1999	19	36	116,134	$1.20
2000	20	56	116,152	$1.50
2001	18	67	152,613	$1.25
2002	24	102	177,597	$1.25
2003			Confidential	
2004			Confidential	
2005			Confidential	

Confidential = Less than three permits fished or less than three processors purchased product.

Table 20.-Red sea cucumber and green sea urchin guideline harvest levels, 2005/06.

Area	Sea Cucumber GHL (pounds) [a]	Sea Urchin GHL (pounds)
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.

Table 21.-Green sea urchin commercial catch, effort, and value for the Kodiak District, 1980 – 2005/06.

Year	Number		Pounds Harvested	Average Price
	Permits	Landings	(Live Weight)	Per Pound
1980		Confidential		
1985-1986[a]	NA	26	45,560	$0.35
1987	12	78	104,139	$0.69
1988	28	260	190,509	$0.80
1989	29	81	44 862	$0.82
1990	25	83	84,004	$0.84
1991	6	24	29,947	$0.92
1992-1994[a]	22	95	73,399	$1.15
1995	8	50	38,437	$1.34
1996	7	31	36,147	$1.10
1997-2000[a]	11	21	22,850	$1.00
2001/02			Confidential	
2002/03	0	0	0	0
2003/04	0	0	0	0
2004/05	0	0	0	0
2005/06	0	0	0	0

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

Table 22.-Octopus commercial catch, effort, and value for the Kodiak District, 1985-2005.

	State Waters			Federal Waters			Combined				
Year	Vessels	Landings	Pounds[a]	Vessels	Landings	Pounds[a]	Vessels[b]	Landings	Pounds[a]	Ave. Price per Pound	Fishery Value
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

[a] Includes discards

[b] Some vessels made landings from both state and federal waters

NA=not available

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

Table 23.-Octopus commercial catch, effort, and value for the Chignik and South Peninsula Districts combined, 1980-2005.

	State waters			Federal waters			Combined				
Year	Vessels	Landings	Pounds [a]	Vessels	Landings	Pounds [a]	Vessels[b]	Landings	Pounds [a]	Ave. Price per Pound	Fishery Value
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

[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, 1960-2004.

	Number		Pounds		Ave. Price	Est. Fishery
Year	Registered Diggers[a]	Landings	Ave. per landing	Total	Per Pound	Value
1960	76	NA	NA	420,636	$0.11	$44,000
1961	95	NA	NA	381,971	$0.11	$40,000
1962	66	NA	NA	297,516	$0.11	$31,000
1963	39	NA	NA	323,757	$0.11	$35,600
1964	2	NA	NA	0	$0.00	$0
1965	4	NA	NA	20,000	$0.25	$5,000
1966	29	NA	NA	15,429	$0.38	$6,000
1967	9	NA	NA	2,155	$0.40	$900
1968	19	NA	NA	6,384	$0.40	$2,600
1969	5	6	2,005	12,029	$0.40	$4,812
1970	6	32	4,133	132,261	$0.40	$53,000
1971	73	82	2,322	190,394	$0.30	$57,000
1972	95	128	1,188	152,116	$0.35	$53,000
1973	64	140	1,181	165,282	$0.40	$66,000
1974	58	74	2,681	198,381	$0.50	$99,000
1975	18	5	1,238	6,188	$0.50	$3,000
1976	9	0	0	0	$0.00	$0
1977				Confidential		
1978				Confidential		
1979	0	0	0	0	$0.00	$0
1980	NA	8	1,001	8,006	$0.79	$6,325
1981	NA	5	1,637	8,186 [b]	$1.00	$8,186
1982	NA	11	1,055	11,608 [c]	$1.00	$11,608
1983	NA	7	1,131	7,920	$1.00	$7,920
1984	NA	21	1,613	33,972	$1.00	$33,972
1985	NA	11	1,540	16,945 [d]	$1.00	$16,945
1986	NA	4	998	3,993	$1.00	$3,993
	No commercial harvest has occurred from 1986 - 2005.					

[a] Represents registered diggers not actual diggers. No data available after 1977 due to statewide issuance 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.

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

NA = Not Available

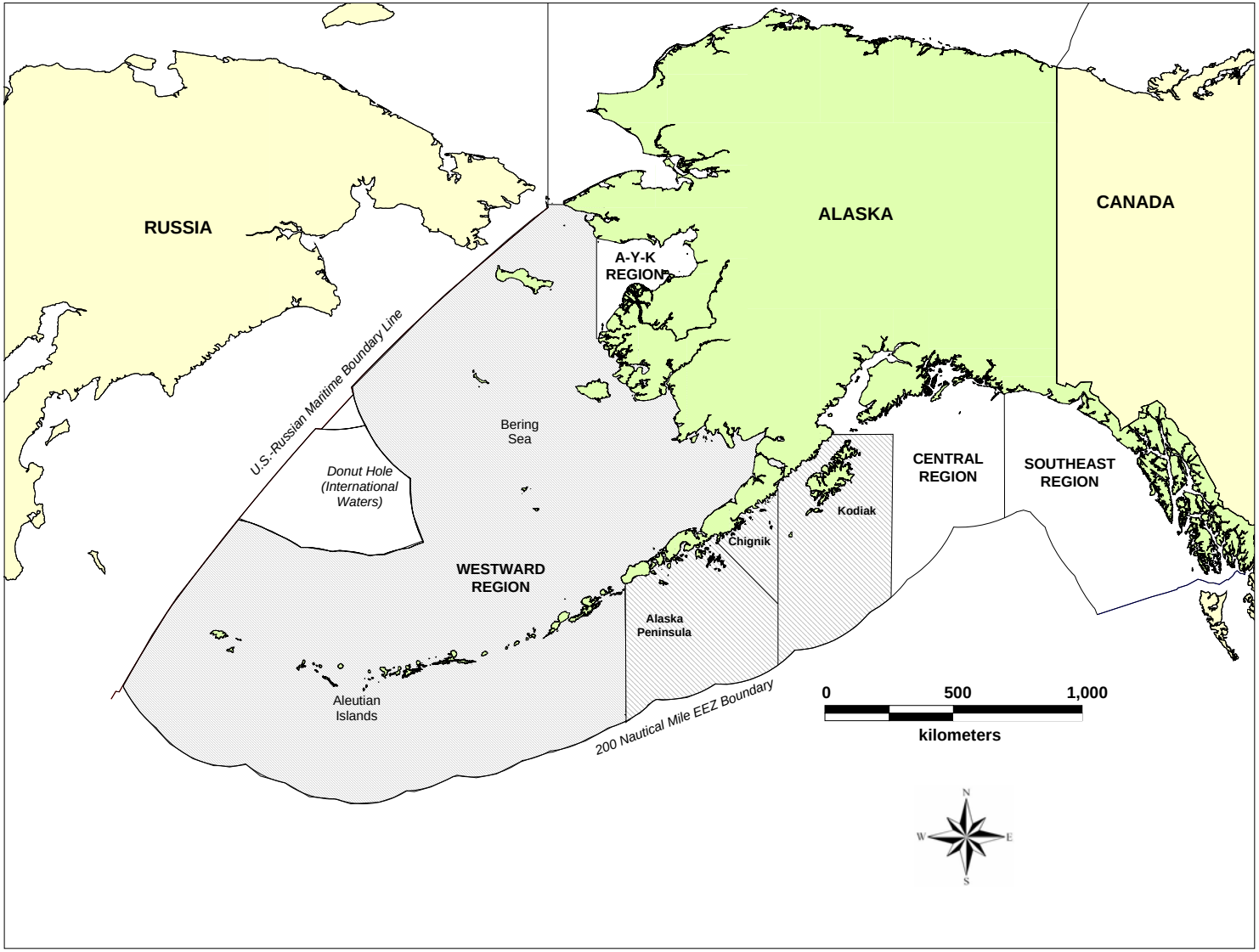

Figure 1.-Alaska Department of Fish and Game shellfish management regions, 2005.

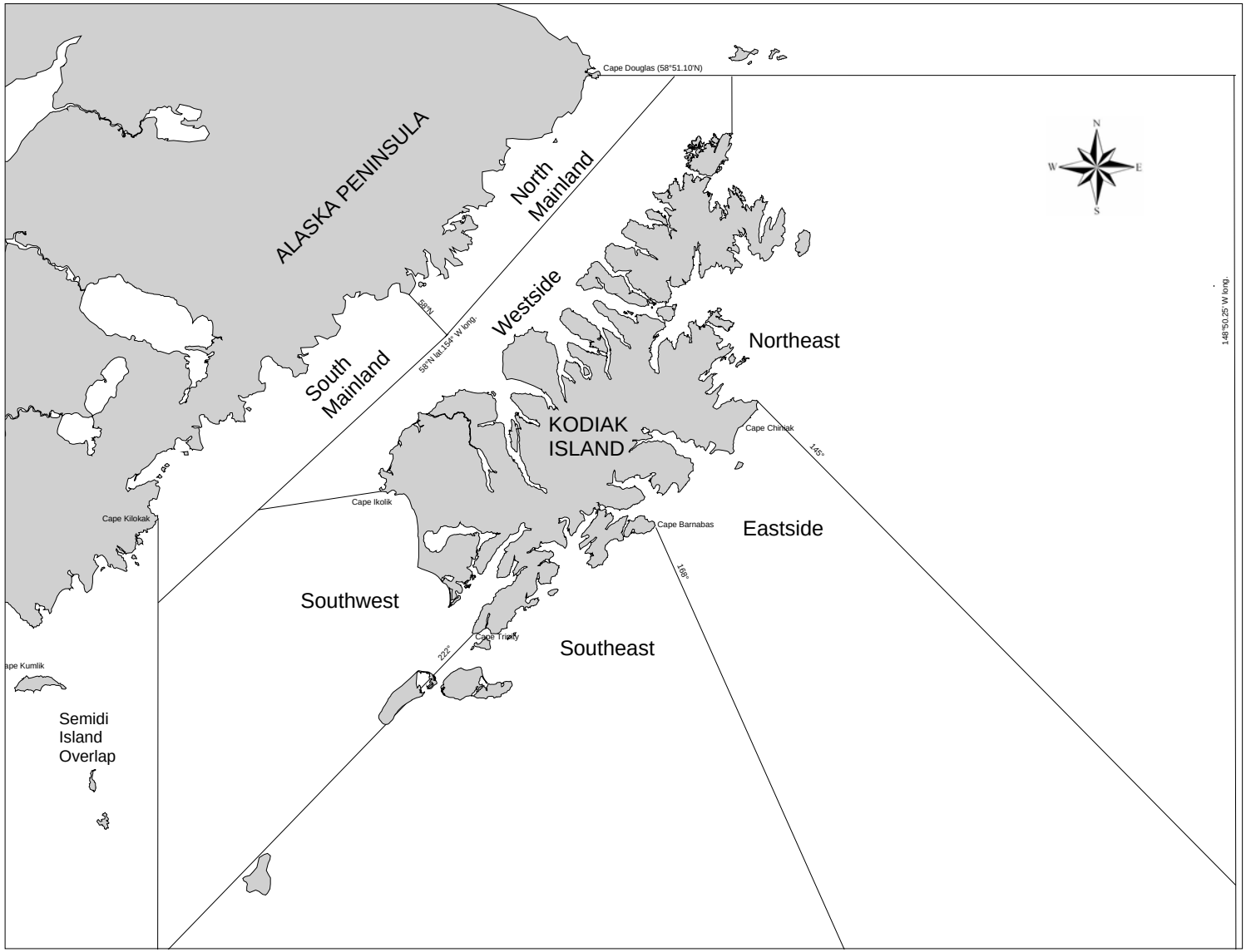

Figure 2.-Kodiak District and sections for Tanner crabs and sea cucumber fishery management, 2005.

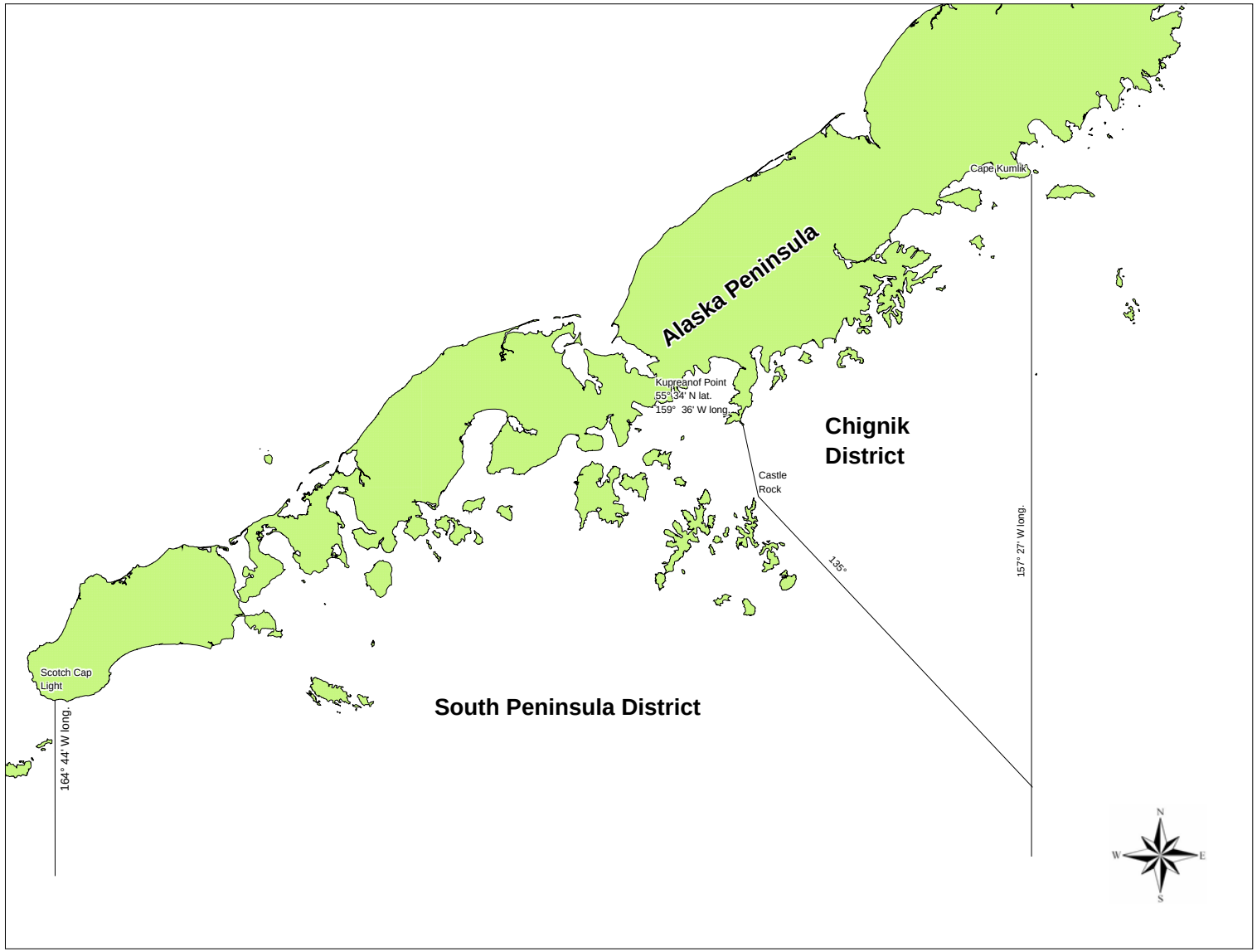

Figure 3.-Chignik and South Peninsula Districts for Tanner crab and sea cucumber fishery management, 2005.

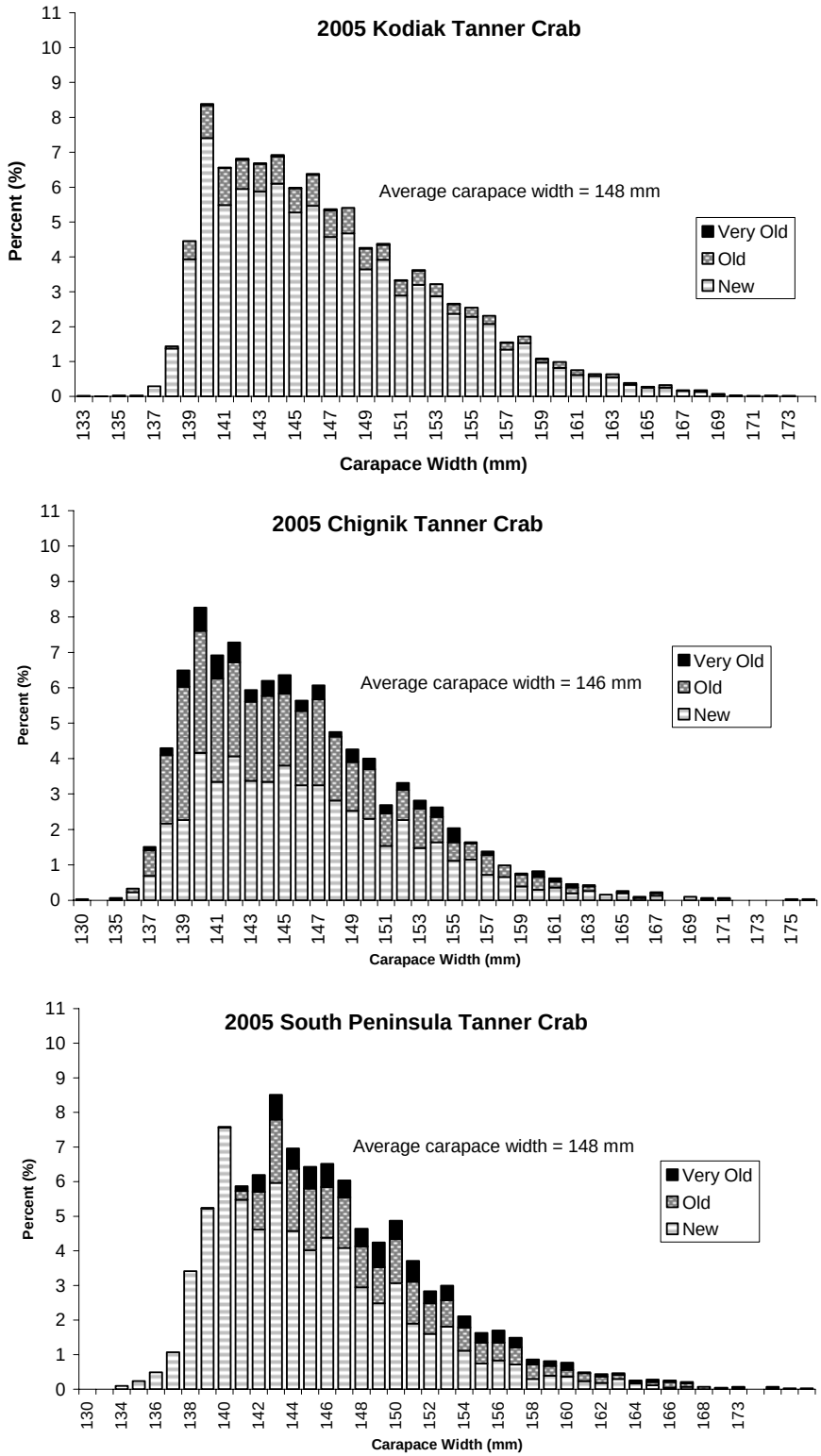

Figure 4.-Carapace width and shell condition of the harvest from the Kodiak, Chignik, and South Alaska Peninsula Districts Tanner crab fishery, 2005.

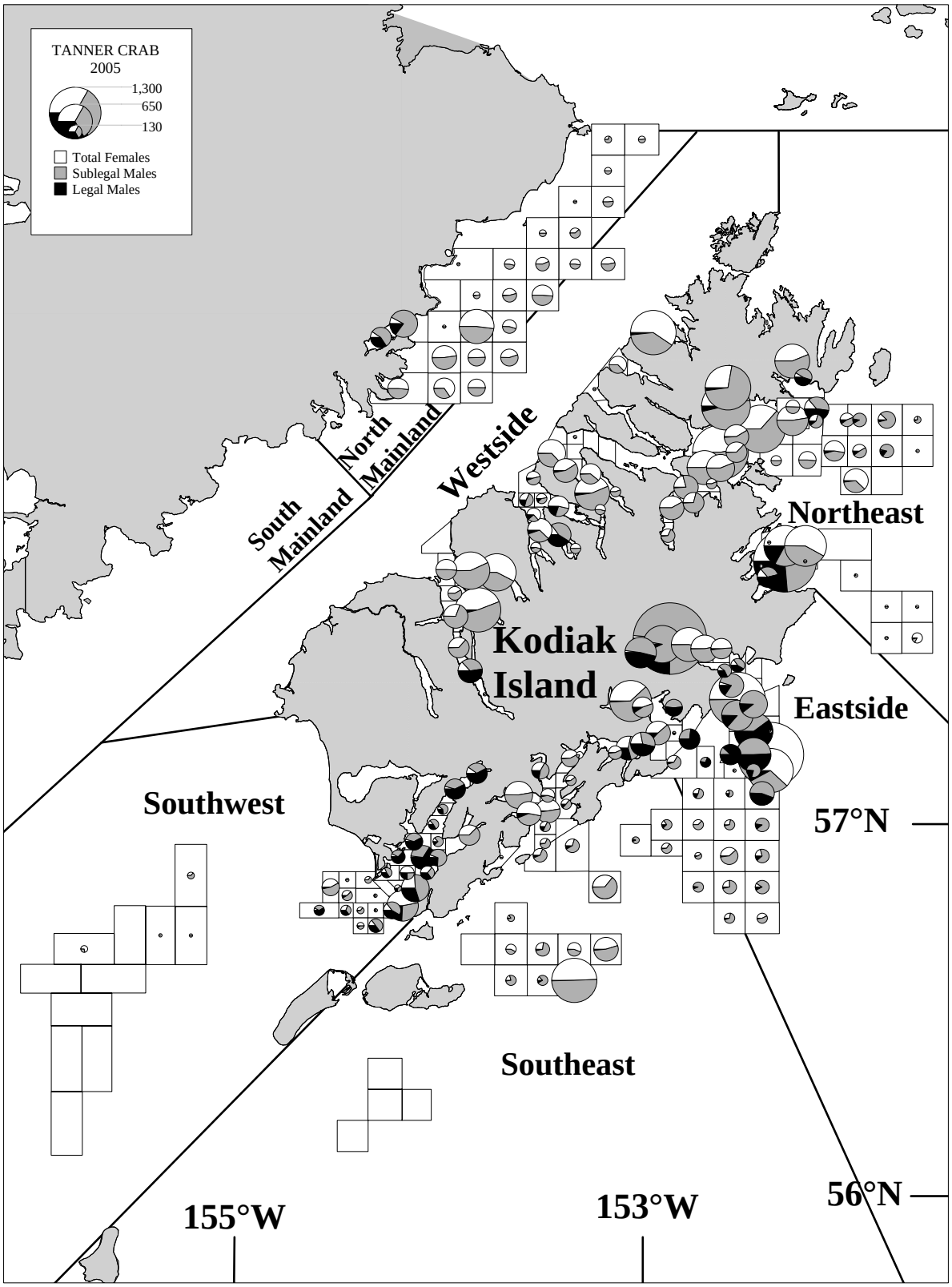

Figure 5.-Number of Tanner crabs per kilometer towed in the 2005 Kodiak District trawl survey.

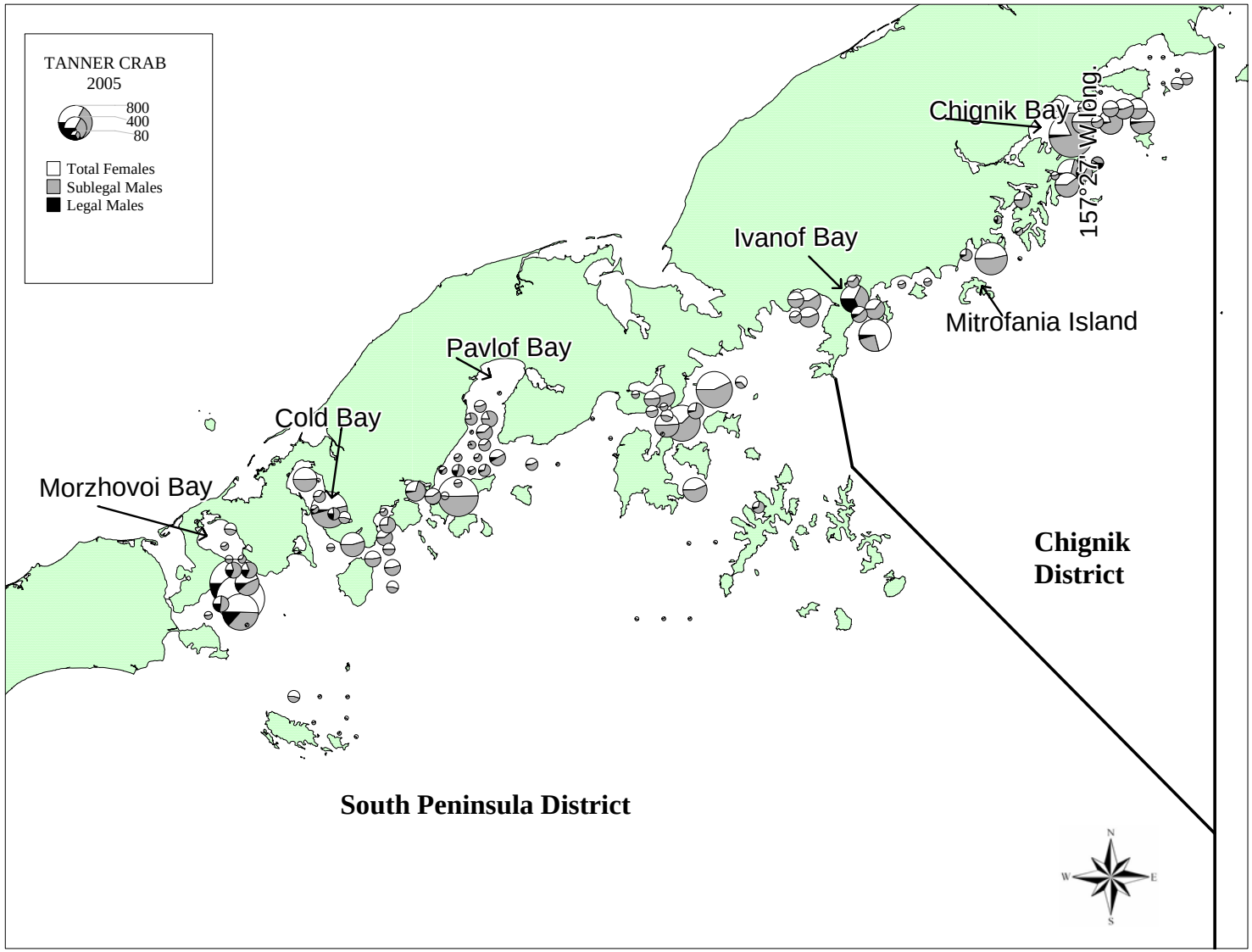

Figure 6.-Number of Tanner crabs per kilometer towed in the 2005 Chignik and South Peninsula Districts trawl survey.

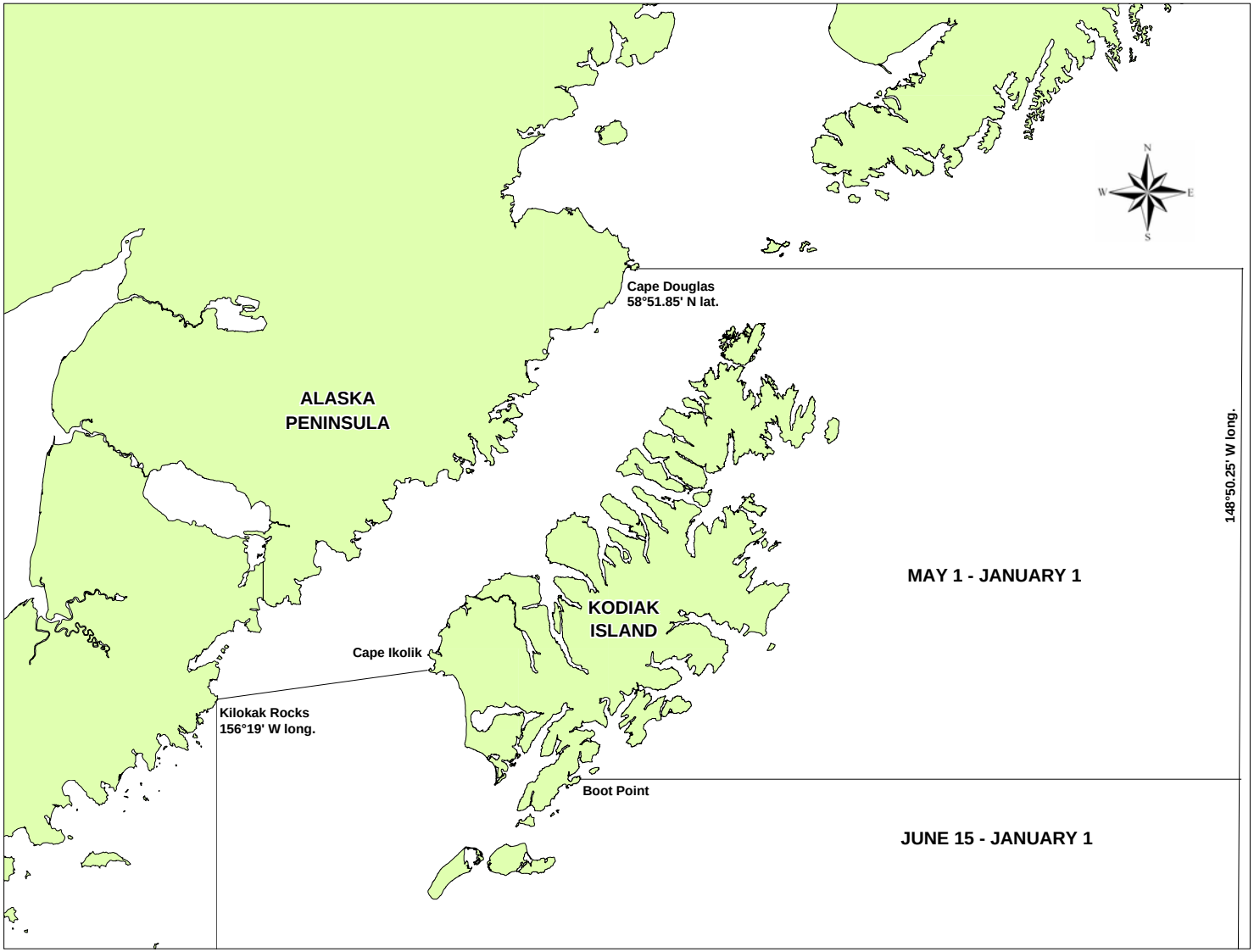

Figure 7.-Kodiak District for the Dungeness crab fishery and fishing seasons, 2005.

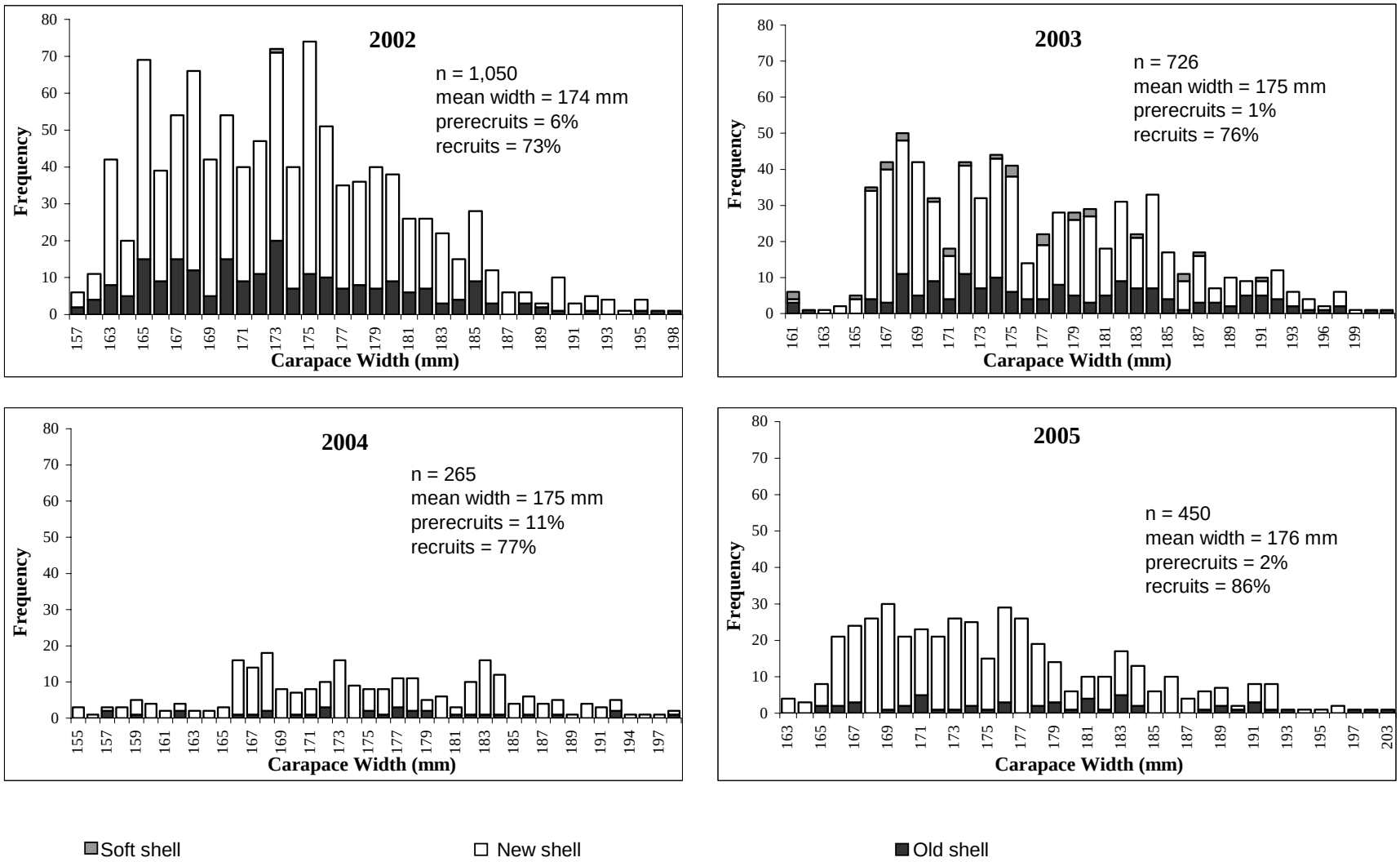

Figure 8.-Kodiak District Dungeness crab carapace width frequencies and shell condition from dockside samples, 2002-2005.

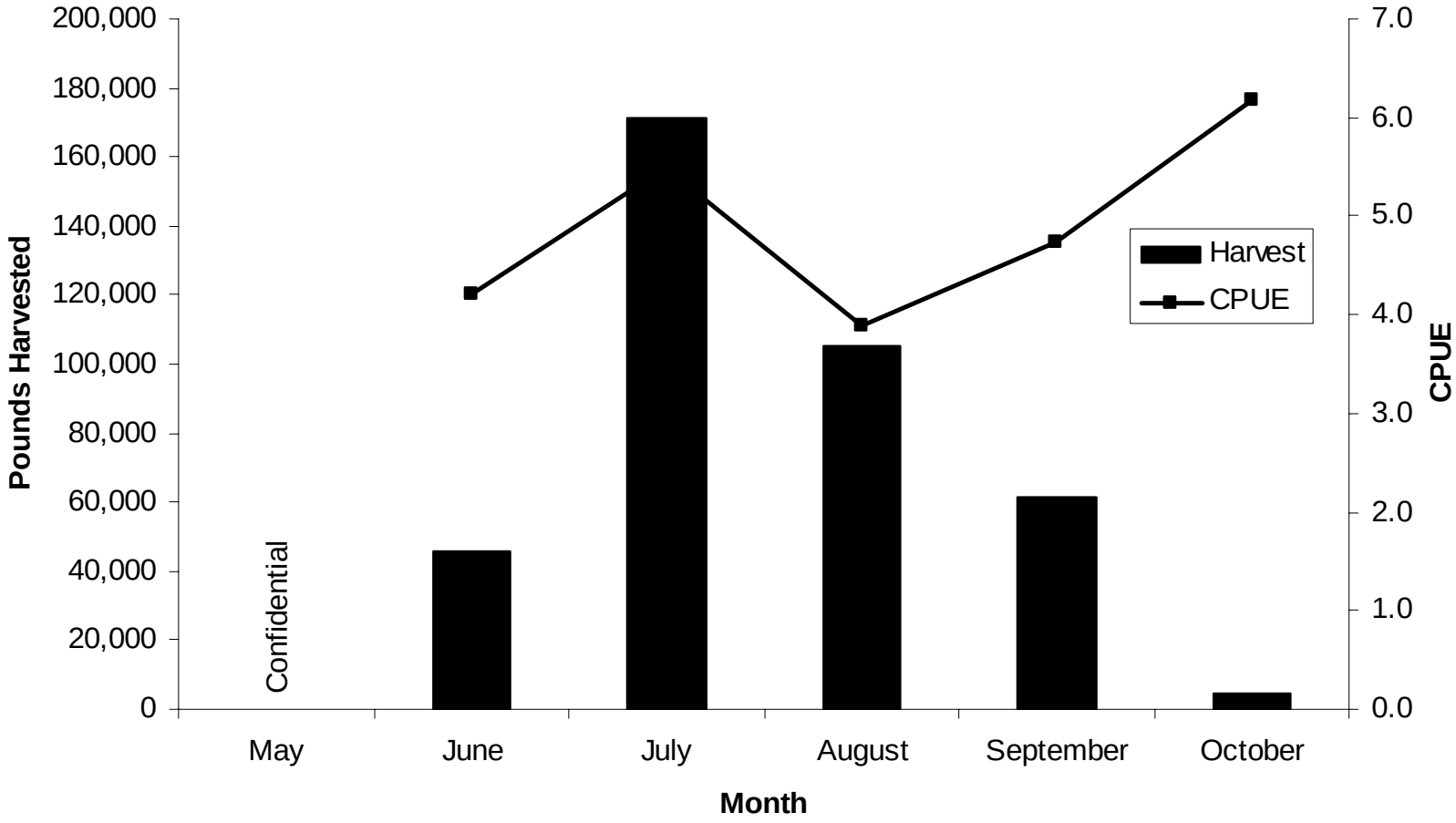

Figure 9.-Kodiak District Dungeness crab harvest, in pounds, CPUE, and vessels participating, by month, for the 2005 fishery.

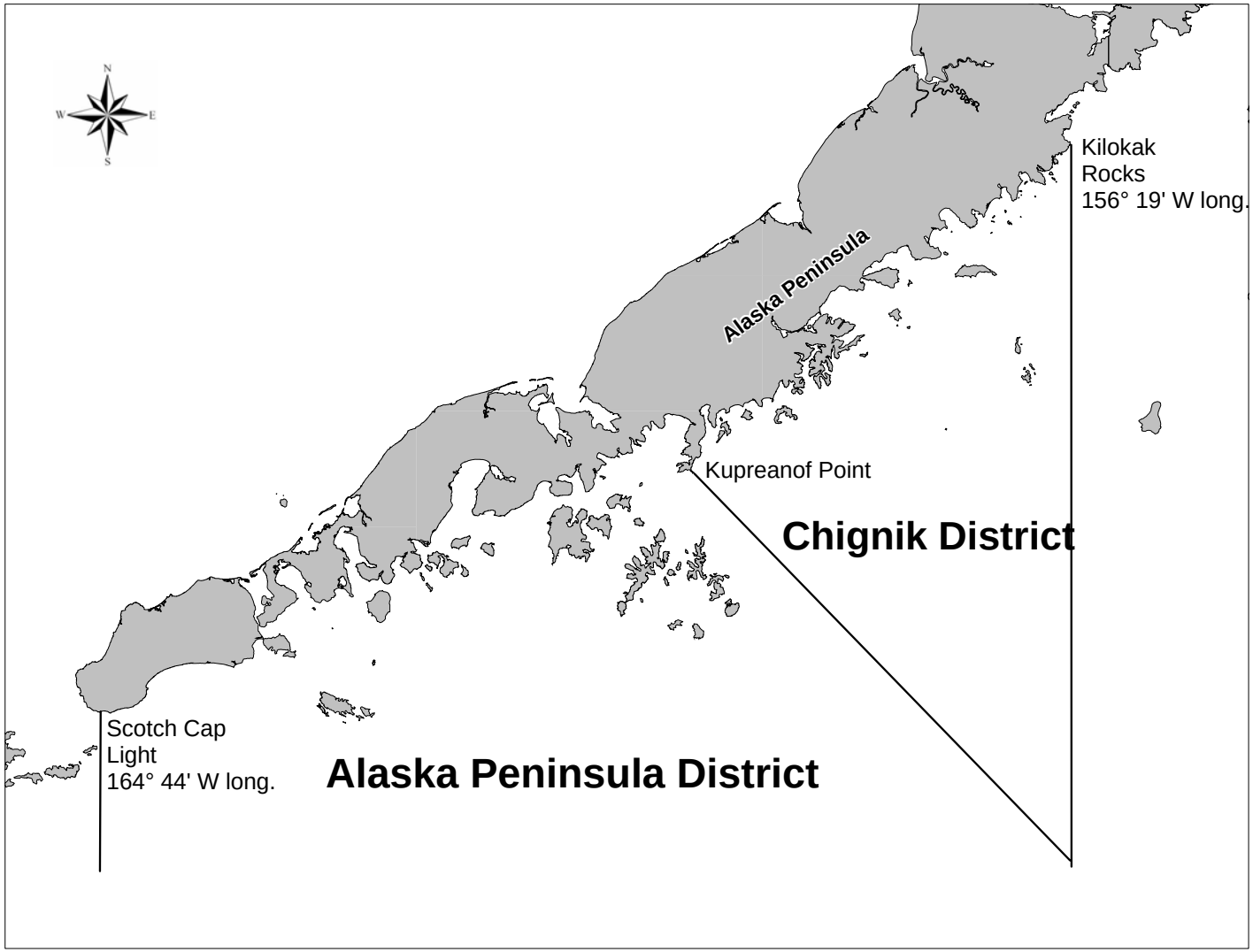

Figure 10.-Chignik and Alaska Peninsula Districts for Dungeness crab fishery management, 2005**.**

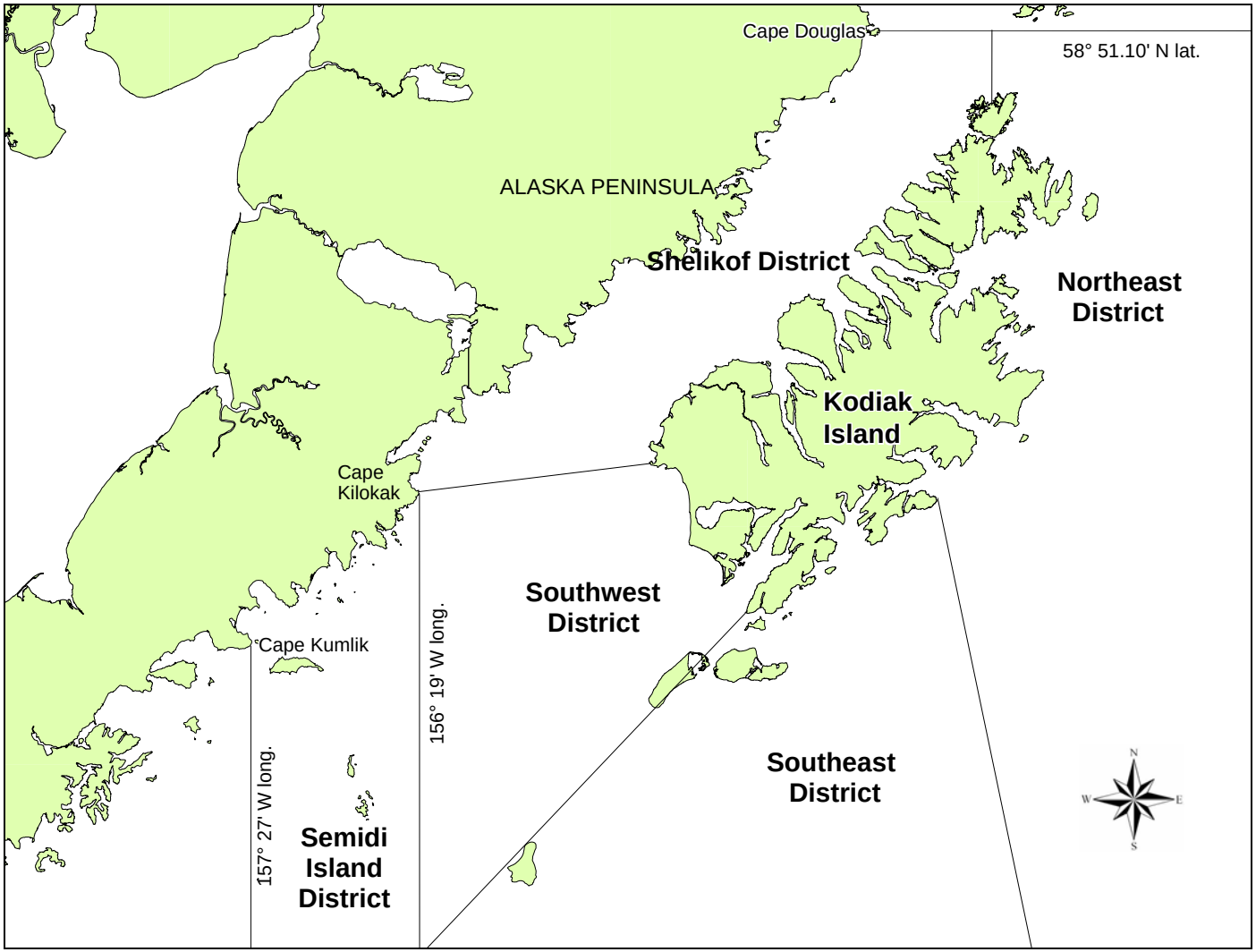

Figure 11.-Kodiak Area districts for king crab fishery management, 2005.

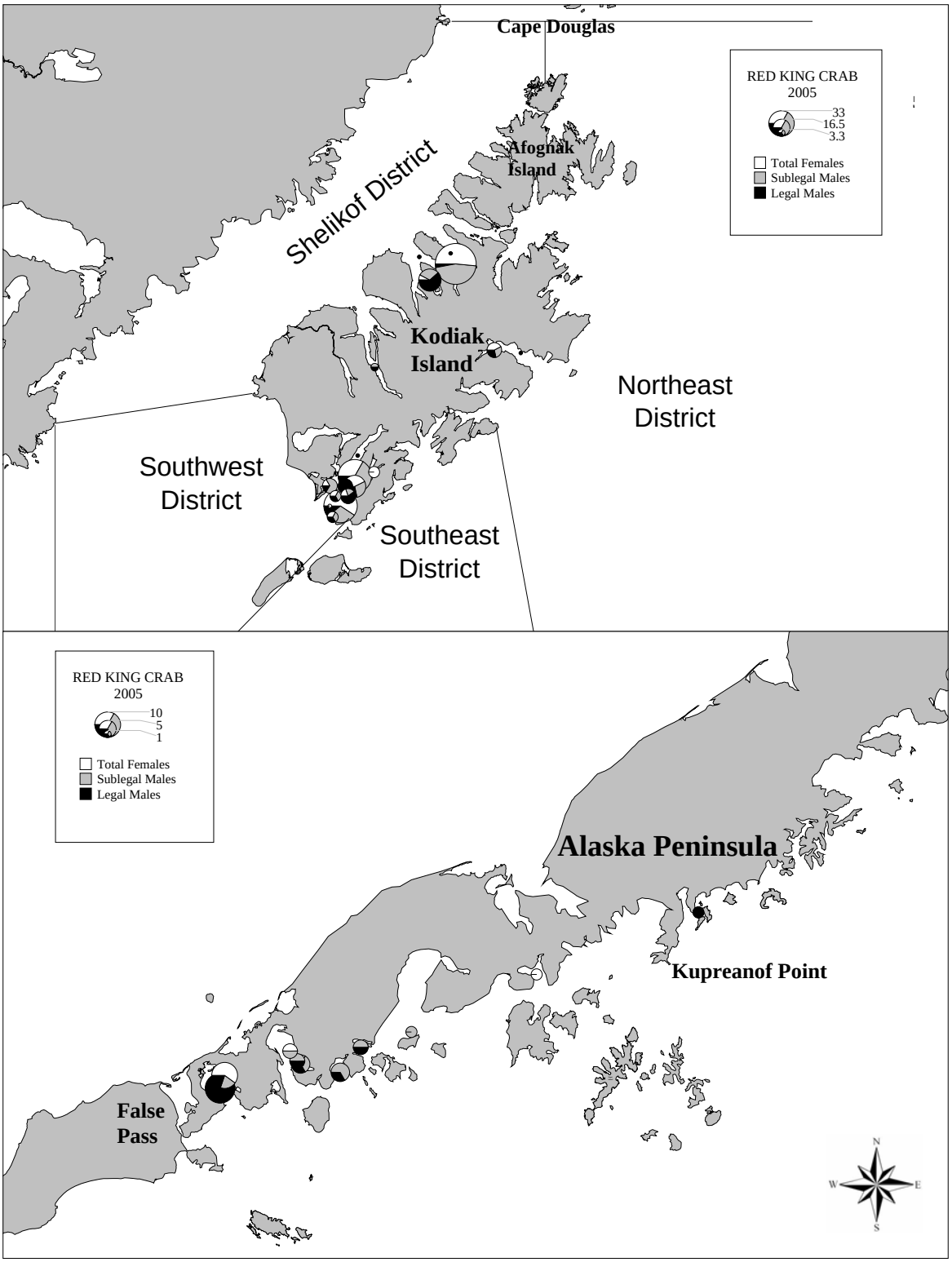

Figure 12.-Number of red king crabs per kilometer towed from the 2005 Kodiak and Alaska Peninsula Area trawl survey.

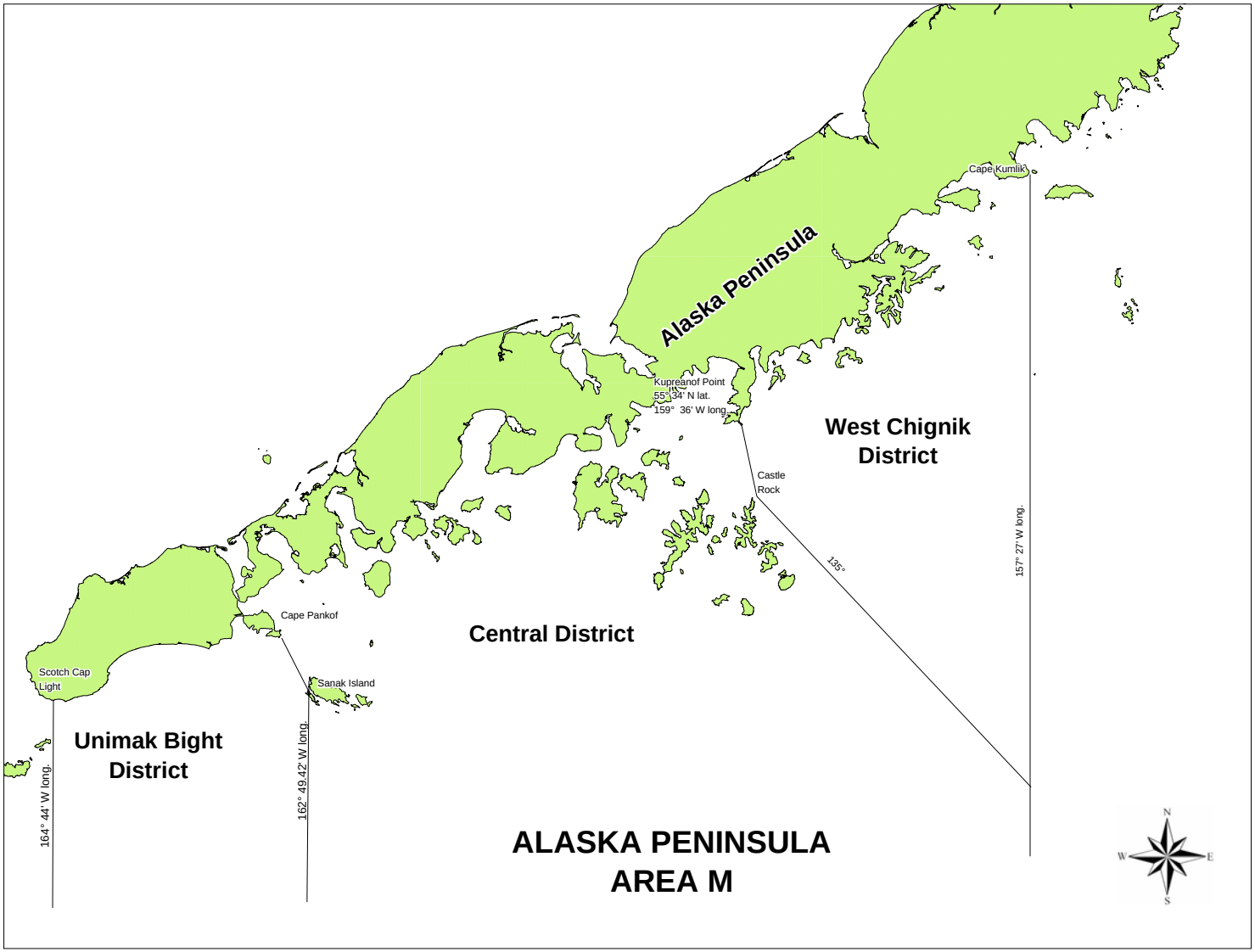

Figure 13.-Alaska Peninsula Area and districts for king crab fishery management, 2005.

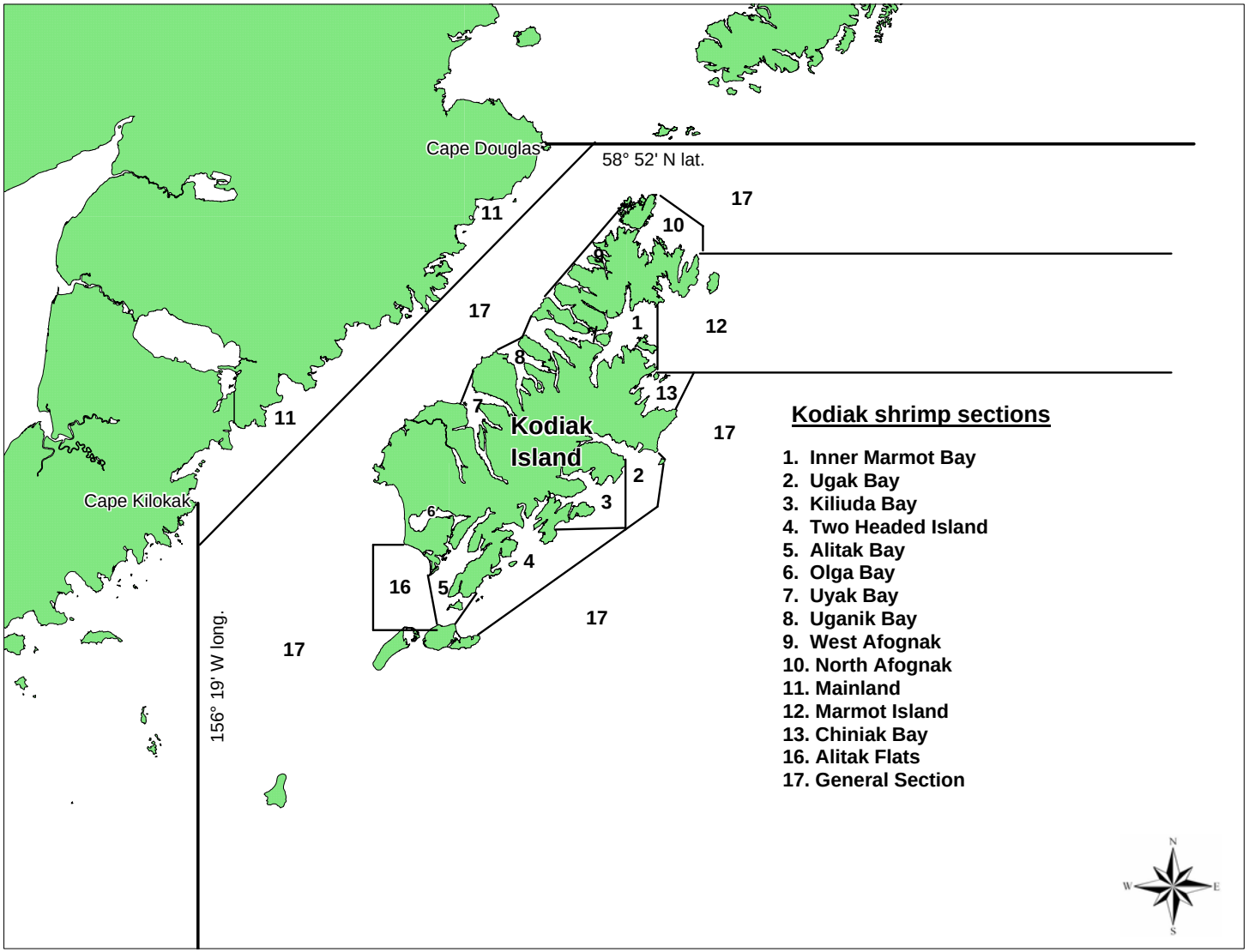

Figure 14.-Kodiak District and sections for shrimp fishery management, 2005.

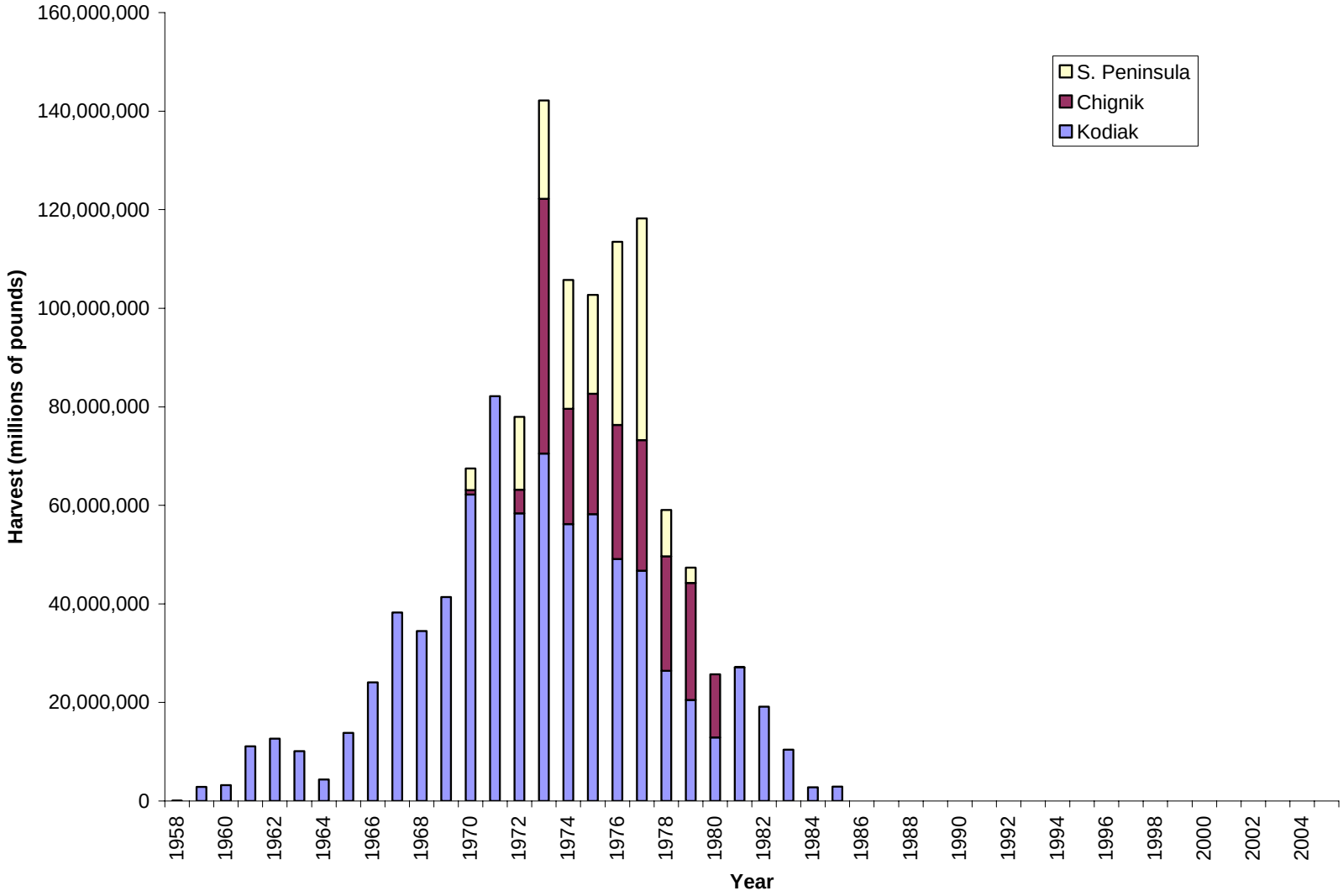

Figure 15.-Shrimp harvests from the Kodiak, Chignik, and South Peninsula Districts, 1958-2005.

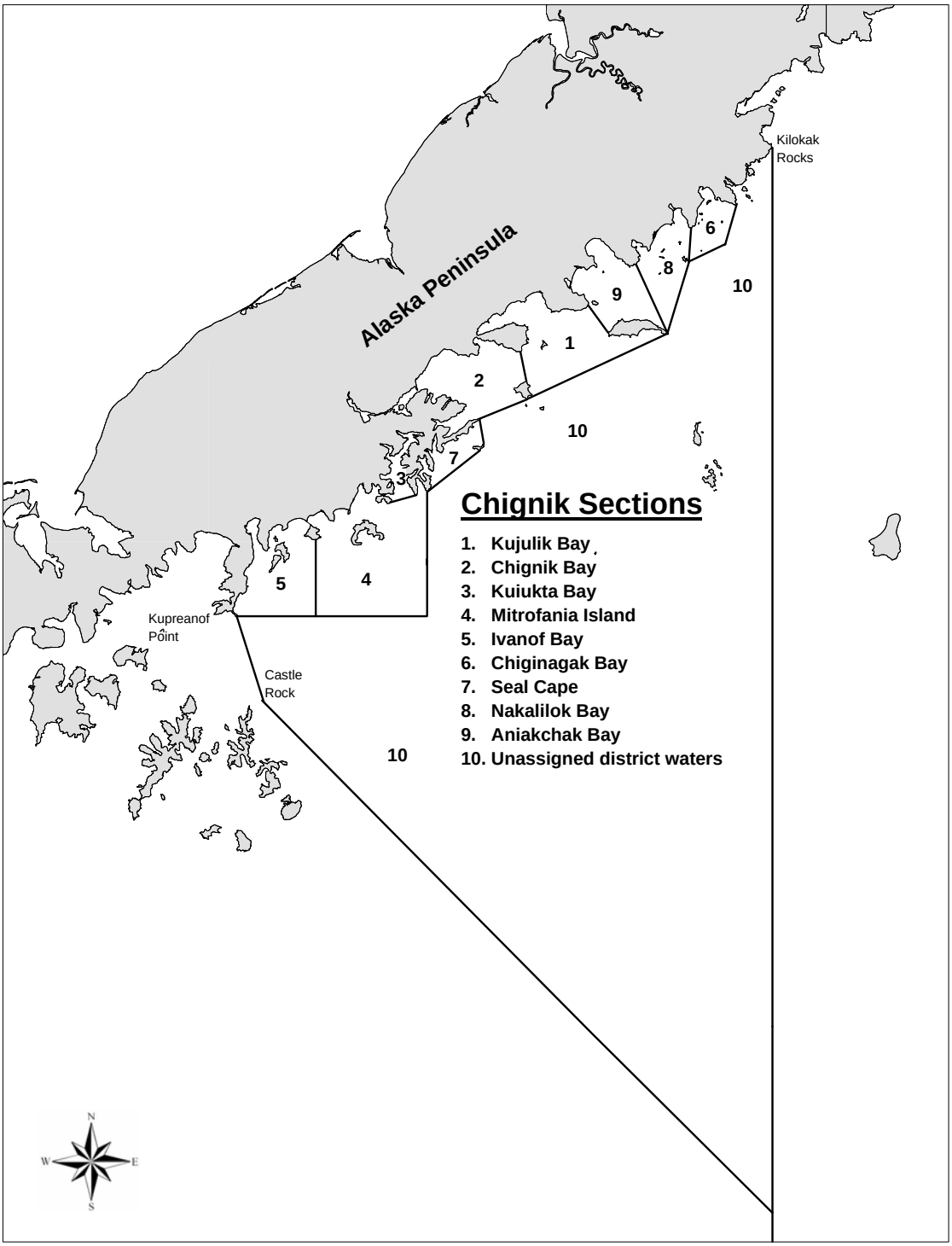

Figure 16.-Chignik District and sections for shrimp fishery management, 2005.

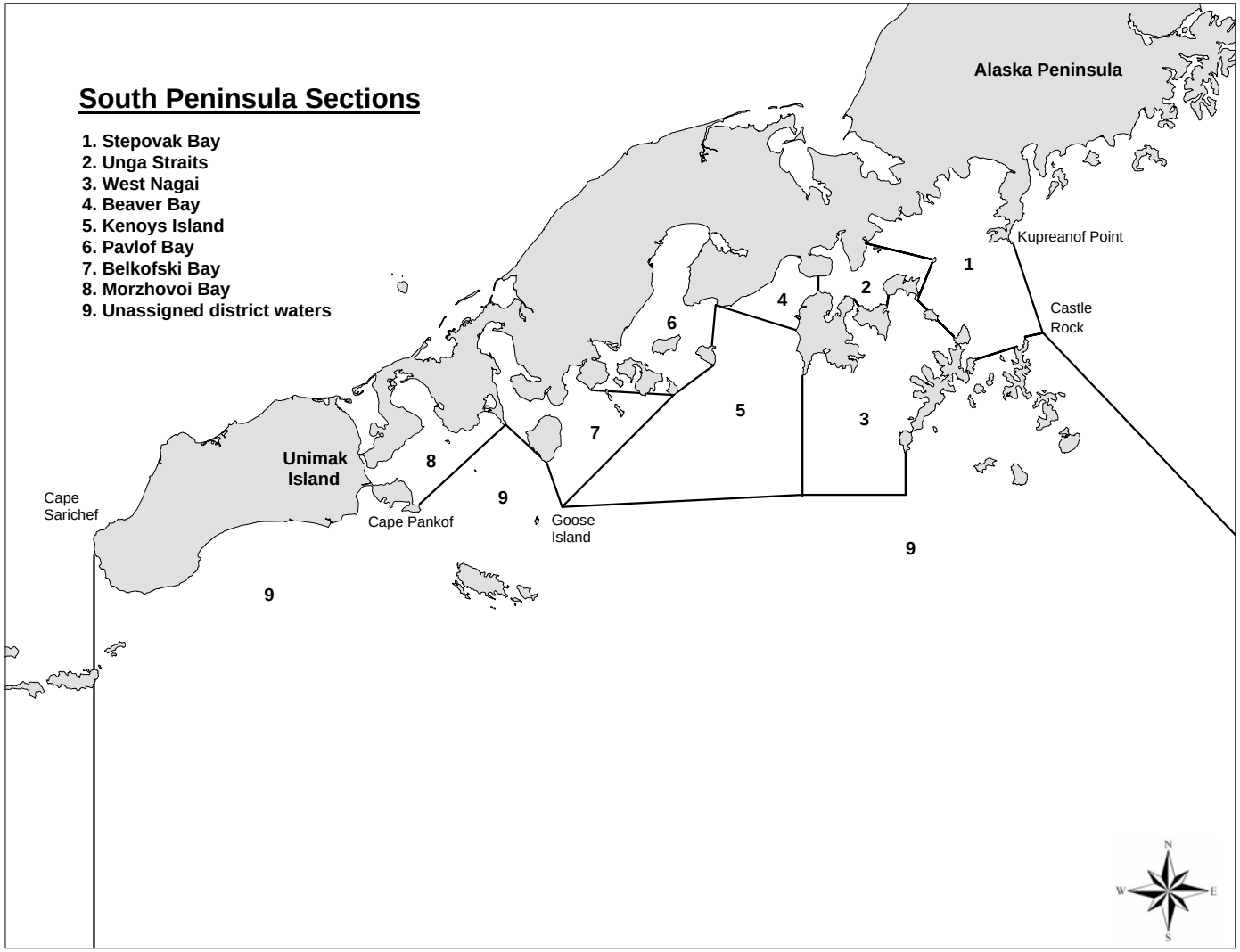

Figure 17.-South Peninsula District and sections for shrimp fishery management, 2005.