Fishery Management Report No. 05-51

Annual Management Report for the Commercial and Subsistence Shellfish Fisheries of the Aleutian Islands, Bering Sea and the Westward Region's Shellfish Observer Program, 2004

by

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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

FISHERY MANAGEMENT REPORT NO. 05-51

ANNUAL MANAGEMENT REPORT FOR THE COMMERCIAL AND SUBSISTENCE SHELLFISH FISHERIES OF THE ALEUTIAN ISLANDS, BERING SEA AND THE WESTWARD REGION'S SHELLFISH OBSERVER PROGRAM, 2004

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ABSTRACT

The Alaska Department of Fish and Game (ADF&G) is tasked with management of all commercial, subsistence and personal use shellfish fisheries occurring in the Territorial Sea and Exclusive Economic Zone (EEZ) of the Aleutian Islands west of Scotch Cap Light (164° 44' W long.) and all Bering Sea waters of the Territorial Sea and EEZ north of Cape Sarichef (58° 39' N lat.). King crab in the Bering Sea north of Cape Romanzof and Tanner crab in Norton Sound are managed by ADF&G's Arctic-Yukon-Kuskokwim Region.

In 2004, three species of king crabs, snow crabs, Tanner crabs, Dungeness crabs, and giant Pacific octopus were taken in the Bering Sea and Aleutian Islands (BSAI) commercial and subsistence fisheries.

This report presents details on the commercial and subsistence harvest, participation and value of shellfish fisheries in the BSAI area. Historical and current fishery management practices, a summary of the most recent commercial fishery and stock status information are presented for each fishery. The Bering Sea king and Tanner crab Community Development Quota (CDQ) crab fisheries and American Fisheries Act (AFA) crab sideboards for Bristol Bay red king crab are summarized.

To enhance shellfish fishery management and collect data that would otherwise be unavailable, ADF&G has operated an observer program in the BSAI for crab since 1988 and for scallop since 1993. Varying levels of observer coverage are required for each crab fishery and observers are deployed on catcher vessels, catcher–processors and floating–processors. Observer costs are paid by either the vessel or ADF&G test fishery revenues. Details of the crab and scallop observer program are presented as well as information on the BSAI pot limit program.

Key words: Tanner crab, *Chionoecetes bairdi*, snow crab, *C. opilio*, C. tanneri, Dungeness crab, *Cancer magister*, golden king crab, *Lithodes aequispinus*, red sea cucumber, *Parastichopus californicus*, red king crab *Paralithodes camtschaticus*, Pacific octopus, Community Development Quota, CDQ, American Fisheries Act, AFA, subsistence, Bering Sea, Aleutian Islands, North Peninsula.

INTRODUCTION

The Alaska Department of Fish and Game (ADF&G) Westward Region includes all waters of the Territorial Sea and EEZ south of Cape Douglas (58° 51.1' N lat.) and west of 148° 50.25' W long. to the U.S.-Russia Maritime Boundary. ADF&G in Dutch Harbor is tasked with management of all commercial, subsistence and personal use shellfish fisheries occurring in the Territorial Sea and Exclusive Economic Zone (EEZ) of the Aleutian Islands west of Scotch Cap Light (164° 44' W long.) and all Bering Sea waters of the Territorial Sea and EEZ north of Cape Sarichef (58° 39' N lat.). King crab in the Bering Sea north of Cape Romanzof and Tanner crab in Norton Sound are managed by ADF&G's Arctic-Yukon-Kuskokwim Region. The waters of the Bering Sea and Aleutian Islands (BSAI) support the largest and most valuable commercial crab fisheries in Alaska.

The BSAI are divided into registration areas for king crab management and include districts of Registration Area J for Tanner crab, Dungeness crab and miscellaneous shellfish management. BSAI king and Tanner crab fisheries are managed under a federal fisheries management plan (FMP) that establishes a cooperative management structure deferring king and Tanner crab management to the state of Alaska with federal oversight. The Bering Sea hair crab fishery is managed solely under state jurisdiction, as are other crab and miscellaneous shellfish fisheries.

Species commercially harvested during 2004 in waters of the (BSAI) include red king crabs *Paralithodes camtschaticus*, golden king crabs *Lithodes aequispinus*, scarlet king crabs *Lithodes couesi*, snow crabs *Chionoecetes opilio*, Tanner crabs *Chionoecetes bairdi*, grooved Tanner crabs *Chionoecetes tanneri*, triangle Tanner crabs *Chionoecetes angulatus*, Dungeness crabs *Cancer magister*, and giant Pacific octopus *Octopus dolfeini*. Historically, waters of the BSAI have

supported commercial harvests of blue king crabs *Paralithodes platypus*, green sea urchins *Strongylocentrotus droebachiensis*, pandalid shrimp, hair crab *Erimacrus isenbeckii, and* sea snails of several species, however these fisheries are currently either closed due to low abundance or are not being commercially pursued. In addition, a fishery for weathervane scallops *Patinopectin caurinus* occurs in the BSAI, however it is summarized in a separate report.

In 2004, 263 catcher vessels, 8 catcher-processors, 8 floating-processors and 16 shorebased processors were involved in harvesting and processing non-scallop shellfish resources in the BSAI. BSAI shellfish landings totaled approximately 45.7 million pounds generating an approximate exvessel value of $140 million.

The Bering Sea snow crab fishery was the largest shellfish fishery in Alaska with a total harvest of 23.9 million pounds, followed by the Bristol Bay red king crab fishery with a total harvest of 15.4 million pounds and the Aleutian Islands golden king crab fishery with a total harvest of 5.6 million pounds.

In addition to the fisheries previously mentioned, there was a fishery for golden king crabs in the Pribilof District with a 0.15 million pound guideline harvest level (GHL) and a fishery for grooved Tanner crab in the Bering Sea (0.2 million pound GHL). Scarlet king crabs were taken incidentally in the Aleutian Islands golden king crab and Bering Sea grooved Tanner crab fisheries. Fisheries for red and blue king crabs in the Pribilof District, for blue king crabs in the Saint Matthew Island Section and for red king crabs in the Aleutian Islands were closed due to low abundance. Both the Saint Matthew Island and Pribilof blue king crabs stocks have been declared overfished.

While the Bering Sea snow crab fishery was open in 2004, the harvest was well below the long–term average. The Bering Sea Tanner crab fishery was closed due to low abundance, as was the western Aleutian Islands Tanner crab fishery. Both the Bering Sea Tanner and snow crab stocks have been declared overfished. A commercial fishery was conducted in the Eastern Aleutian Tanner crab District with a 135,110 pound GHL.

Dungeness crab harvests in the BSAI have historically been small. One boat registered to fish for Dungeness crab during the 2004 season, thus all harvest information is confidential.

Relative to other portions of the Westward Region, the BSAI area has never supported large harvests of shrimp. No vessels registered to harvest shrimp in 2004.

2004 saw little participation in most BSAI fisheries for miscellaneous shellfish species. The Bering Sea hair crab fishery was closed due to low abundance and there was no effort targeting green sea urchins or sea cucumbers. Giant Pacific octopuses were harvested incidentally in BSAI groundfish fisheries and in a directed state waters fishery.

Both state and federal management agencies and the public have come to rely on shellfish observer data to provide information on the targeted and non-targeted portions of the catch. All vessels that process crabs at sea are required to be observed and catcher vessel observer coverage is either full or partial depending on the fishery. Vessels that process at sea pay for observer coverage, while catcher vessels, depending on the fishery, either pay for coverage or the department pays for the coverage with test fish funds.

Pot limits for BSAI crab fisheries were implemented in 1992. ADF&G currently issues buoy tags to enforce the various pot limits. This report summarizes the activities of the BSAI buoy tag program.

ANNUAL MANAGEMENT REPORT FOR THE COMMERCIAL AND SUBSISTENCE SHELLFISH FISHERIES OF THE ALEUTIAN ISLANDS, 2004/05

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ALEUTIAN ISLANDS KING CRAB MANAGEMENT AREA

DESCRIPTION OF AREA

The Aleutian Islands king crab Registration Area O has as its eastern boundary the longitude of Scotch Cap Light (164° 44' W long.), its northern boundary a line from Cape Sarichef (54° 36' N lat.) to 171° W long., north to 55° 30' N lat., and as its western boundary the Maritime Boundary Agreement Line as that line is described in the text of and depicted in the annex to the Maritime Boundary Agreement between the United States and the Union of Soviet Socialist Republics signed in Washington, June 1, 1990 (Figure 1-1). Area O encompasses both the waters of the Territorial Sea (0-3 nautical miles) and waters of the Exclusive Economic Zone (3-200 nautical miles).

ALEUTIAN ISLANDS RED KING CRAB

Historical Background

Historically, the red king crab *Paralithodes camtschaticus* resource in the Aleutian Islands was harvested in two registration areas. The Adak Registration Area (Area R) consisted of those waters in the Aleutian Islands west of 171° W long., while the Dutch Harbor Registration Area (Area O) encompassed waters east of 171° W long., (Figure 1-2). In addition, as the fleet moved westward, a third Registration Area (Area S) was established for the waters around Amchitka Island and the Petrel Bank. Area S was created in 1967 and was merged into Area R in 1978 (ADF&G 1991). In March of 1996, the Alaska Board of Fisheries (BOF) established the Aleutian Islands king crab Registration Area (Area O) by combining the existing Dutch Harbor and Adak Registration Areas. The BOF adopted this change to improve management of the increasingly important golden king crab *Lithodes aequispinus* resource in the Aleutian Islands. Combining the Adak and Dutch Harbor Areas was not expected to impact management of red king crabs in the Aleutian Islands (ADF&G 1999a).

Domestic fisheries for red king crabs in both the Adak and Dutch Harbor Registration Areas began in 1961, with effort and harvest increasing rapidly in both areas. Maximum production of 33 million pounds in the Dutch Harbor Area was reached in 1966/67 (Table 1-1, Figure 1-3). The Aleutian Islands red king crab fishery had a maximum fishery value of nearly $20 million in the 1980/81 season (Table 1-2). Fluctuating harvest levels from one year to the next characterized the fishery in the Dutch Harbor, and by the 1982/83 season the fishery had declined to a harvest of 430,000 pounds. Commercial fishing for red king crabs in the Dutch Harbor Area was closed on an annual basis after the 1982/83 season.

The Adak Area reached a peak harvest of 21 million pounds in 1964/65. The fishery remained open through the 1995/96 season when only 39,000 pounds were harvested. After the 1995/96 season the Adak fishery was closed for several years. Portions of the area were opened during the 1998/99, 2000/01, and 2001/02 seasons in order to assess the status of red king crab stocks.

Observers have been required on all crab catcher-processor vessels since 1988/89 and on catcher vessels targeting red and golden king crabs in the Aleutian Islands since 1995/96. Observer coverage on golden king crab vessels provides red king crab bycatch data from that fishery, although red king crab bycatch in golden king crab gear is minimal due to the limited overlap in distribution of the two species. Observer coverage provides data on retained and non-retained crabs as well as information related to fishing patterns (i.e. areas fished, avg. depth and soak time).

In October of 1996, a catcher-processor vessel targeting golden king crab in the Petrel Bank area reported significant bycatch of red king crabs at depths below 200 fathoms. As a result of these reports, ADF&G initiated a tagging project with the help of the onboard observers. The goals of this project were to enumerate, tag, and collect biological data from all red king crabs captured and to recapture tagged individuals. From November of 1996 through February of 1998, a total of 926 crabs were tagged along the north side of Amchitka Island and along the south side of Semisopochnoi Island. Of the tagged crabs, 440 were legal males and 160 were females; 89% of legal crabs were new shell. Recovery efforts yielded 15 tagged crabs, 6 of which were legal males. While the tagging was too limited to provide quantitative stock assessment data, it did provide some information related to migration, molting cycle, and seasonal distribution (Byersdorfer 1998).

In order to assess the status of red king crab stocks in two areas of the Aleutian Islands where the department had little recent abundance information, a limited commercial fishery was opened on November 1, 1998 with the provision that crabs not harvested (sublegal male and female crabs) be tagged and released. In addition, vessel operators were required to document all red king crab fishing activities in a pilothouse logbook. East of 179° W long., a GHL of 5,000 pounds was established and west of 179° E long., a GHL of 10,000 pounds was set: these GHLs were set using historic catch distribution information. Closed waters included the Petrel Bank, between 179° E long. and 179° W long. The department did not open the Petrel Bank area in 1998/99 since prior efforts had provided some population data from that area (Byersdorfer 1998).

Three vessels registered to harvest red king crabs in the Aleutian Islands during the 1998/99 season, but only one recorded any landings. The GHL was not reached in either open area and the fishery was closed by emergency order on July 31, 1999. Observers were required on all vessels participating in the 1998/99 fishery.

In order to address concerns for red king crab abundance in the Petrel Bank area, two surveys were conducted in January/February and November, 2001. Due to budget constraints, the survey was designed so fishers could retain and sell all legal male red king crabs captured to cover survey expenses. The commissioner's permit specified stations to be fished, soak times and effort levels.

Capture of red king crabs from both of the 2001 surveys in the Petrel Bank area indicated healthy levels of legal males. CPUE (catch per unit of effort, defined as number of legal crabs per pot lift) for the combined surveys was 28. Survey CPUEs are not directly comparable to previous commercial fishery CPUEs because pot lifts in prior commercial fisheries were not conducted in a systematic manner and may have occurred in different fishing locations (Bowers et al. 2002). Sublegal male and female CPUE for the combined surveys was two and three, respectively.

Size frequency data from the 2001 surveys were comparable to the size composition that was found in catches prior to the 1996/97 fishery closure. The size frequency indicated that approximately 61% of the sampled legal-size crabs were post recruits. Of the crabs sampled 77% were new-shell. Similar to the surveys conducted in the mid 1990s, very few sublegal crabs were captured during the 2001 surveys.

The surveys conducted in 2001 indicate that legal male abundance has increased since the fishery was closed in 1996/97, however, red king crab female and sublegal abundance remains low. Given the legal male abundance, a limited commercial fishery on the Petrel Bank was opened during the 2002/03 and 2003/04 seasons with a GHL of 500,000 pounds. Based on expected

effort, this was considered the minimum GHL that could be managed inseason. Because of the uncertainty in the status of sublegal and female red king crabs and to provide for overall stock protection, the department adopted a management strategy that would close the fishery prior to achieving the GHL if legal male CPUE dropped below 10 crabs/pot. Establishing a low GHL with a moderate CPUE threshold level should help prevent the stock from declining to levels seen in the mid-90s. Trends in fishery performance were used to evaluate stock status and a defined threshold for closing the fishery permitted clearer understanding of the management strategy. Prior to opening a commercial fishery in other portions of the western Aleutians, the department will need to conduct surveys similar to those performed on the Petrel Bank.

Thirty-three vessels participated in the 2002/03 Petrel Bank red king crab fishery. The fleet pulled 3,782 pots, an average of 115 pots per vessel. CPUE for the Petrel Bank was 18 legal crabs per pot lift and the fleet harvested a total of 505,642 pounds. Exvessel price averaged $6.51 per pound and the fishery had a total value of over $3.29 million (Table 1-2).

During the 2003/04 Petrel Bank red king crab fishery a total of 479,113 pounds were harvested by 30 vessels in 91 hours. The fleet pulled 5,774 pots and average CPUE was 10 legal crabs per pot lift. Exvessel price averaged $5.14 per pound and the fishery had a total value of nearly $2.45 million (Table 1-2)

In addition to commercial fisheries, long-standing subsistence and sport fisheries have targeted red king crabs in the vicinity of Unalaska Island. To gather subsistence harvest data, the department has periodically required fishers to obtain a harvest permit and log sheet. Historically, few of the permits were returned and the program was discontinued in 1994. On average, 15 permits were returned per year. The reported average annual harvest was 135 king crabs.

To address conservation concerns for the eastern Aleutian Islands red king crab stock, the BOF took action at the March 1999 meeting regarding the subsistence and sport king crab fisheries in that portion of the Aleutian Islands between 168° and 164° 44’ W long. Regulations were adopted by BOF that closed the sport fishery and reduced the daily bag limit of subsistence king crabs from 6 to one per person per day. BOF also adopted regulations requiring that subsistence king and Tanner crab fishers operating in the Aleutian Islands between 168° and 164° 44’ W long. obtain a subsistence permit before fishing.

Subsistence logsheet information has been collected by ADF&G for the past 6 years. An average of 218 permits are issued each year and approximately 71 percent are returned. The returned permits accounted for an average annual harvest of 664 king crabs, with harvest ranging from zero to 76 king crabs per permit. Estimates generated from the subsistence harvest logsheets indicate an average of approximately 902 king crabs are taken per year, although in recent years the harvest has been much lower (Table 1-3). These recent harvest figures are substantially less than estimates generated by a 1994 survey of 15.1% of households in Unalaska, where 6,892 king crabs were estimated to have been taken (ADF&G 1999b).

2004/05 Commercial Fishery

The red king crab commercial fishery in the Aleutian Islands Registration Area O was not opened during the 2004 season due to low stock abundance.

2004 Subsistence Fishery

In 2004, ADF&G in Dutch Harbor issued 225 subsistence permits and harvest logsheets, of which 144, or 64%, have been returned. The returned permits accounted for a harvest of 201 king crabs (Table 1-3). Estimates generated from the subsistence harvest logsheets indicate that approximately 314 king crabs were taken with harvest ranging from zero to 36 king crabs per permit. The majority of subsistence caught king crabs were taken in Unalaska Bay (45%) and Captain's Bay (30%). Ninety-four percent of the red king crabs were taken with pot gear and 6% were taken with dive gear. The average CPUE was <1 legal crab per pot. Thirty-one percent of the red king crabs were harvested in January.

Fishery Management and Stock Status

A vessel may be registered to fish in the commercial red king crab and golden king crab fisheries concurrently; however, only single line pots may be operated in areas open to red king crab fishing and only longline pots may be operated in areas open to golden king crab fishing. Likewise, red king crab may only be retained from single line pots and golden king crab may only be retained from longline pots. Golden king crab fisheries in the Aleutian Islands are not restricted by pot limits. In the Petrel Bank red king crab fishery the fleet may operate no more than 1,250 total pots.

Western Aleutian Islands pot surveys conducted from 1975 to 1977 provided CPUE, fecundity, and relative abundance information of red king crabs (ADF&G 1978). Pot surveys were conducted on an annual basis in the Dutch Harbor Area until 1990 when trawl surveys were implemented to survey larger areas in a more timely fashion and to reduce gear selectivity inherent to pot fishing activities (Urban 1992). In the late 1970s, GHL ranges were established using a blend of pot survey results and fisheries data. Historic fishery GHLs set in the late 1970s ranged from 8 million to 26 million pounds for Dutch Harbor and from 0.5 million to 3.0 million pounds in Adak (ADF&G 1978). GHLs were often modified inseason based on fishery performance.

Bottom trawl surveys of the waters around Unalaska Island were conducted in 1991, 1994, 1995, 1999, 2000, 2003 and 2004. Recent bottom trawl surveys have not captured many king crabs. In 1995, only two red king crabs were caught, thus no population estimate could be generated. During the 1999 survey, 72 red king crabs were caught, one of which was a legal male. All others were prerecruit males and small females captured in a single tow made in Kalekta Bay (Worton 2000). A single red king crab was captured during 2000 and 2003 (Spalinger 2004 and Worton 2001), indicating that the red king crab population in the eastern Aleutian Islands remains severely depressed.

In November of 2002 the department conducted a survey similar in design to the Petrel Bank surveys of 2001 in the area between 172° W long. and 179° W long. The survey area was developed in consultation with Industry and focused on areas of historic red king crab abundance in the Adak, Atka, and Amlia Islands areas that have been closed to commercial red king crab fishing since the 1998/99 season and had not been previously surveyed. The survey had a total of 116 stations that were divided between state-waters (56 stations) and federal-waters (60 stations).

Ten vessels surveyed a total of 61 stations composed of 1,085 pot lifts. Survey catches were poor and only four legal males were captured during the entire survey. Due to poor survey catches and high operation costs, many vessels were unable to fulfill their survey commitment and only 34% of the survey was completed. The portion of the survey that was completed indicates that the red

king crab stocks around Adak, Atka, and Amlia Islands continue to be severely depressed. Therefore, the department does not expect a commercial red king crab fishery to open in this area in the near future (Granath 2003).

Shell-age and size composition data from the 2001 pot surveys and the 2002/03 and 2003/04 commercial fisheries in the Petrel Bank area indicate that the stock is primarily older, post-recruit crabs. Proportions of sublegal and female red king crabs was low and did not change significantly from the 2001 surveys to the 2002/03 or 2003/04 commercial fisheries. Average weight and length of legal male red king crabs increased from the surveys to 7.4 pounds and 162 mm in 2002 and up to 8.0 pounds and 168 mm in 2003.

Petrel Bank cumulative fishery CPUE did not drop below the benchmark of 10 during the 2003/04 fishery, although fish ticket data indicated that the final fishery CPUE was 10 crabs per pot. Fishery CPUE climbed during the first 36 hours of fishing from 8.5 to 15.0 crabs per pot and steadily dropped for the remainder of the fishery with the exception of the morning of October 28, when most pots had soaked for an additional 12 hours. Compared to the combined 2001 survey CPUE of 28 and 2002/03 commercial fishery CPUE of 18, performance during the 2003/04 commercial fishery was not promising. Based on fishery performance and the lack of recruitment of legal-sized crabs, it is likely that the fishery would fail to stay above the threshold criteria of 10 crabs per pot if a fishery were prosecuted in 2004/05.

The harvest approach using only legal-male CPUE as a threshold was developed to help maintain multiple size and age classes on the grounds to promote rebuilding. Using a threshold of legal male CPUE does not protect the entire stock. Because survey catch of sublegal and female crab was low, thresholds were not developed for those stock components. After the 2001 surveys, staff expressed concern of overall stock status. While legal male catch was encouraging, the lack of sublegal and female crab was disappointing. The department now has two additional years of fishery information, which have failed to indicate healthy levels of sublegal male and female crab stock components. In order to ensure the long-term reproductive viability of the stock and conservation of the resource for rebuilding, the fishery remained closed in 2004/05.

A mode of sublegal crab centered at 86 – 90 mm is approximately three molts from attaining legal size. The department plans to conduct a Petrel Bank survey during the fall of 2006. Survey results will be compared to previous surveys to evaluate stock status.

ALEUTIAN ISLANDS GOLDEN KING CRAB

Historic Background

The golden king crab *Lithodes aequispinus* fishery in the Aleutian Islands has never failed to open due to low stock abundance, making it unique among Westward Region king crab fisheries. Golden king crabs inhabit greater depths than other commercially exploited king crabs (Blau et al. 1996). The depths and steep bottom topography of the Aleutian Island passes, inhabited by golden king crabs, necessitate the use of longline rather than single-pot gear. No other major king crab fisheries in Alaska exist where longline pot gear is the only legal gear type.

Historically, golden king crabs were taken as incidental harvest during red king crab fisheries in the Adak (Area R) and Dutch Harbor (Area O) Registration Areas. One landing of golden king crabs was reported from the Adak Area during the 1975/76 season, but directed fishing for golden king crabs did not occur in either management area until the 1981/82 season (ADF&G 1984). From the 1981/82 season until the 1996/97 season, the golden king crab resource in the

Aleutian Islands was harvested in two directed fisheries occurring in the Adak and Dutch Harbor Registration Areas.

During the 1981/82 season, 14 vessels landed 1.2 million pounds of golden king crabs in 76 deliveries from the Adak Area (Table 1-4). By the following season, harvest had reached 8.0 million pounds with 99 vessels participating in the fishery. Between 1981 and 1995, an average of 49 vessels participated in the Adak golden king crab fishery, harvesting an average of 6.9 million pounds annually. Peak harvest in the Adak fishery occurred during the 1986/87 season when 12.8 million pounds of golden king crabs were harvested for an exvessel value of $37.6 million (Table 1-5). No stock assessment of the golden king crab population was performed in the Adak Area and initially the fishery was managed based on size, sex, and season restrictions. Catches were monitored inseason (ADF&G 1999a) and after the initial fishery, harvest levels were set based on harvest expectations generated from catch in prior seasons (ADF&G 1983a). The majority of golden king crabs harvested in the Adak Area were taken in the North Amlia and Petrel Bank Districts; however, significant harvest also occurred in the Western Aleutian District (Figure 1-2).

From the 1981/82 season to the 1995/96 season, average weight of golden king crabs harvested in the Adak Area fishery declined from 5.5 to 4.2 pounds and CPUE declined from 10 to five legal crabs per pot pull (Figure 1-4). In July 1985, BOF adopted a regulation reducing the minimum legal size for golden king crabs from 6.5 to 6.0 inches in carapace width (CW). Decreasing the legal size for golden king crabs in this area resulted in an expected decrease in average weight of legal crabs harvested after the 1985/86 season and increased catch during the 1985/86 and 1986/87 seasons. This regulation change did not, however, reverse the trend of slowly declining catch rates in the area west of 171° W long.

Initial catches of golden king crabs in the Dutch Harbor Area were similar to those observed in the Adak Area fishery (ADF&G 1984). Harvest was incidental to the red king crab fishery and effort in the fishery only increased as red king crab stocks decreased in abundance. Six vessels harvested approximately 116,000 pounds of golden king crabs during the 1981/82 Dutch Harbor red king crab season (Table 1-4). By the following season, 49 vessels were participating in the directed golden king crab fishery, harvesting 1.2 million pounds. Between 1981 and 1995, an average of 18 vessels harvested approximately 1.5 million pounds of golden king crabs annually (Figure 1-5). Peak golden king crab harvest in the Dutch Harbor Area occurred during the 1995/96 season when 2.0 million pounds were harvested for an exvessel value of $5.2 million (Table 1-5). The Dutch Harbor Area harvest was primarily from the Islands of Four Mountains and Yunaska Island area (Figure 1-1).

In general, average weight of golden king crabs harvested in the Dutch Harbor Area declined during the period from 1981 to 1995, ranging from a high of 7.6 pounds in the 1983/84 season to 4.1 pounds during the 1992/93 season (Figure 1-5). CPUE has slowly declined throughout the history of this fishery, reaching a peak of 14 legal crabs per pot during the 1984/85 season and declining to 6 crabs during the 1994/95 season. The golden king crab stock in the Dutch Harbor Area was not surveyed for abundance prior to 1991 and the fishery was managed based on a historical average catch of 1.5 million pounds annually (ADF&G 1999a). In 1984, BOF adopted an ADF&G staff proposal to lower the legal size for golden king crabs in the Dutch Harbor Area from 6.5 inches to 6.0 inches CW and to establish the area as a permit fishery.

At its March 1996 meeting, BOF chose to restructure management of king crabs in the Aleutian Islands. Formerly, the Aleutian Islands king crab populations had been managed using the Adak and Dutch Harbor Registration Areas that were established for red king crab fisheries. However, during the 1970s and 1980s, red king crab fisheries declined in the Aleutian Islands while the golden king crab fishery gained increasing importance. Consequently, BOF felt that king crab management areas in the Aleutian Islands should be redesigned to more accurately reflect current golden king crab stock distribution and patterns in fishing effort. BOF, therefore, elected to combine the Adak and Dutch Harbor Areas to form the Aleutian Islands Registration Area O and directed ADF&G to manage the golden king crab in the areas east and west of 174° W long. as two distinct stocks. It also stipulated that a conservative management plan be initiated and that all vessels registered for the fishery continue to carry an onboard observer for all of their fishing activities.

In 1996/97, when the initial golden king crab fishery in the new king crab Registration Area O occurred, a GHL of 3.2 million pounds was established for the area east of 174° W long., and 2.7 million pounds for the area west of 174° W long. Compared to the combined Adak and Dutch Harbor Area fisheries from prior years, there was reduced effort and harvest during the 1996/97 fishery. Eighteen vessels harvested 5.9 million pounds, down from 28 vessels taking 6.9 million pounds in 1995/96. This reduction in effort was likely due to the departure of vessels for the 1996 Bristol Bay red king crab season, which re-opened to commercial fishing for the first time since 1993. The eastern portion of Area O closed by emergency order on December 25, with a harvest of 3.3 million pounds, while the western portion was open for the entire registration year with a harvest of 2.6 million pounds.

During the 1996/97 fishery, the CPUE east of 174° W long. was 6 legal crabs per pot and the average weight was 4.5 pounds per crab. Most fishing effort was concentrated in the area around Yunaska Island and the Islands of Four Mountains with some effort in the Seguam and Amukta Pass areas (Figure 1-2). In the portion of Area O west of 174° W long., fishery performance was 6 legal crabs per pot pull with an average weight of 4.2 pounds per crab (Table 1-4). Most harvest occurred between Amchitka Pass and Buldir Island. The 1996/97 golden king crab fishery in the Aleutian Islands had an estimated exvessel value of $12.5 million (Table 1-5).

Since the 1996/97 season, effort and harvest in the Aleutian Islands east of 174° W long. have remained relatively stable. During the 1997/98 season, 15 vessels harvested 3.5 million pounds in an 84-day season. CPUE averaged 7 legal crabs per pot lift and harvested crabs averaged 4.5 pounds each. The fishery west of 174° W long. has experienced greater variability in catch and effort. During the 1997/98 season, 8 vessels participated in the fishery and harvested 2.4 million pounds. The GHL west of 174° W long. was not reached and the fishery was not closed. The fleet averaged 7 legal crabs per pot lift west of 174° W long. with landed crabs averaging 4.3 pounds each. The 1997/98 Aleutian Islands golden king crab fishery had an exvessel value of $12.5 million.

Prior to the 1998/99 season, the golden king crab GHL east of 174° W long. was reduced from 3.2 million pounds to 3.0 million pounds. Fishery performance trends and data from tag recoveries indicated that the 200,000 pound GHL reduction for the area east of 174° W long. was necessary in order to comply with the overfishing definition specified in the Fishery Management Plan (FMP) for the king and Tanner crab fisheries of the Bering Sea and Aleutian Islands (NPFMC 1998). The FMP specifies that the golden king crab stock in the Aleutian

Islands is considered overfished when fishing mortality (F) exceeds 0.2 (NPFMC 1998). A fishing rate of F=0.2 corresponds to an annual mature male removal rate of approximately 18%. During the 1997/98 season, the GHL of 3.2 million pounds in the area east of 174° W long. was exceeded by approximately 300,000 pounds. Therefore, to maintain a long-term average harvest at 3.2 million pounds, the 1998/99 GHL in this area was reduced to 3.0 million pounds (D. Pengilly, ADF&G, Kodiak, personal communication).

The 1998/99 fishery east of 174° W long. was similar to the prior two fisheries. Fourteen vessels registered and harvested 3.2 million pounds in a 68-day season. The catch accrued at an average rate of 9 legal crabs per pot lift with landed crabs averaging 4.4 pounds each. West of 174° W long., effort declined significantly from the prior two seasons. The vessels averaged 12 legal crabs per pot lift with landed crabs averaging 4.1 pounds each. The 1998/99 fishery had an exvessel value of $9.3 million, the lowest in 14 years.

In July 1999, BOF adopted a regulation to move the Registration Area O golden king crab fishery from September 1 to August 15 in order to accommodate fishers that participate in both the golden king and Bristol Bay red king crab (BBRKC) fisheries. The BBRKC fishery opening date had been moved from November 1 to October 15, which reduced the amount of fishing time available to the golden king crab fleet prior to the Bristol Bay opening. The change in opening date for Area O was designed to provide adequate fishing time for the golden king crab fleet to harvest the GHL east of 174° W long., prior to the opening of the BBRKC fishery.

In 2000/01, the fishery east of 174° W long. continued the stable trend seen in the previous four years. Fifteen vessels registered and harvested 3.1 million pounds. The CPUE was 10 legal crabs per pot, with a 4.5-pound average weight per crab. West of 174° W long., a fleet of 12 vessels harvested 2.9 million pounds. The CPUE was 7 legal crabs per pot, while the average weight per crab was 4.1 pounds. With an exvessel value of just under $19.5 million, the 2000/01 season was the most valuable golden king crab fishery in 6 years (Table 1-5).

These stable trends have continued through the 2003/04 fishery. In the area east of 174° W long., since the 2001/02 season, 18 to 19 vessels have participated and harvested an average of 2.99 million pounds per year. The CPUE and average weight have not changed significantly with an average of 11 to 12 legal male crab per pot lift and legal males averaged 4.4 to 4.6 pounds each. In the area west of 174° W long, 6 to 9 vessels have harvested an average of 2.69 million pounds per year (Table 1-4). The average weight and CPUE have not changed significantly with legal males averaging 4.0 pounds each and an average of 7 crabs per pot lift, with the exception of the 2003/04 fishery when average CPUE increased to 10 legal crabs per pot lift. Exvessel values for the 2001/02, 2002/03 and 2003/04 seasons were $18.13, $18.26 and $20.16 million, respectively (Table 1-5).

The number of vessels fishing and the average number of pots per vessel in the eastern portion of the Aleutian Islands golden king crab fishery has remained fairly constant during the past ten years (Figure 1-6). In the western portion of the Aleutian Islands golden king crab fishery, there has been a decrease in the number of vessels registered per season with a dramatic increase in the number of pots registered per vessel, especially in the past 6 years (Figure 1-7). With the adoption of longline gear in 1986, vessels became more specialized in fishing for golden king crabs and were able to more efficiently operate gear. In recent years, with shorter Bristol Bay red king and Bering Sea snow crab fisheries, those longline vessels that also fish in the Bering Sea have increased their effort in the Aleutian Islands. While the total number of vessels registered

has remained relatively low since the early 1990s, the amount of time relative to other crab fisheries that these vessels spend fishing in the Aleutian Islands has increased, resulting in shorter golden king crab fisheries. The expansion of processing facilities in Adak has also contributed to the shorter seasons, especially in the western Aleutians. Vessels can now deliver closer to the fishing grounds, which saves approximately a week in transit time for each delivery.

2004/05 Fishery

The 2004/05 Aleutian Islands golden king crab fishery opened by regulation at 12:00 noon August 15 with a GHL of 5.7 million pounds; 3.0 million pounds of which was apportioned to the area east of 174° W long., and 2.7 million pounds apportioned to the area west of 174° W long. Twenty-two vessels participated in the fishery and landed 5.58 million pounds. The fleet averaged 14 legal crabs per pot lift, up from 11 the prior season, and landed crabs averaged 4.2 pounds each which is slightly less than the 2003/04 season (Table 1-4).

East of 174° W long.

A total of 19 vessels participated in the golden king crab commercial fishery east of 174° W long. The fleet registered 13,165 pots, or 693 pots per vessel, similar to the 2003/04 fishery when 12,518 pots, or 699 pots per vessel, were registered. Most fishing effort was concentrated around Yunaska Island, Islands of Four Mountains, and in Seguam and Amukta Passes. Catch rates tended to be highest in Amukta and Yunaska Passes, with the most productive grounds yielding up to 23 legal crabs per pot lift, compared to 14 crabs per pot lift in this area the pervious season (Table 1-6, Figure 1-8). The average catch rate for the entire eastern portion was 18 crabs per pot lift, up from 11 crabs per pot lift the previous season. The average weight of legal crabs was 4.5 pounds, a decrease from 4.6 pounds during the 2003/04 season, with the largest crabs encountered around Yunaska Island (Table 1-6).

The fleet harvested 2.89 million pounds of golden king crabs in two weeks of fishing. Three shorebased processors in Dutch Harbor and one in Adak processed golden king crabs from the eastern Aleutian Islands. Exvessel price for live, whole crabs averaged $3.18 per pound, leading to a fishery value of $9.05 million, a decrease of one million dollars from the 2003/04 fishery (Table 1-5). A fishery closure announcement was issued to the fleet on August 25, providing the fleet with four days advance notice of the August 29 closure.

West of 174° W long.

A total of 6 vessels participated in the fishery west of 174° W long., three vessels began at the fishery opening on August 15, and an additional three joined the fishery after the closure of the eastern portion of the Aleutian Islands. The fleet registered 7,240 pots, an average of 1,207 pots per vessel, an increase from the previous season when 7,140 pots or an average of 1,190 pots per vessel were registered (Table 1-4). Fishing effort was concentrated around the Delarof Islands, Amchitka Pass and the Petrel Bank. Weekly catch rates ranged from 6 to 15 crabs per pot lift and averaged 12, which is up from ten crabs per pot lift the previous season. The average weight of legal crab was 3.9 pounds, a slight decrease from the 2003/04 season average weight of 4.0 pounds. The largest crabs were harvested from around Adak Island (Table 1-6).

The fleet harvested 2.68 million pounds of golden king crab in 21 weeks of fishing, four weeks faster than the previous season, and the shortest season west of 174° W long. on record. Landings averaged 137,000 pounds per week with a maximum weekly landing of 226,824 pounds. Golden king crabs were purchased and processed by one catcher-processor and by three

shorebased processors, one in Adak and two in Dutch Harbor. Exvessel price averaged $3.09 per pound for live, whole crabs, yielding a total fishery value of $8.16 million, slightly below the 5-year average fishery value of $8.80 million. A fishery closure announcement was issued to the fleet on December 27, providing one-week advance notice to the fleet of the January 3 closure.

Fishery Management and Stock Status

The Aleutian Islands golden king crab fishery is managed using two sources of inseason fishery data. Processors report landed catch to ADF&G weekly or more frequently as requested. These reports are the primary source of inseason harvest information. Observers stationed on each vessel participating in the fishery report average weight and catch rate information that is used in conjunction with landed catch to develop inseason projections of fishery length.

The department surveyed a small portion of the golden king crab habitat in the Aleutian Islands during the summer of 1997 (Blau et al. 1998). Prior to that, the department performed the only survey of this area in 1991 (Blau and Pengilly 1994). Only a small but commercially important portion of the area in which golden king crabs are harvested is currently surveyed. Mark-recapture data from the 1997 survey suggested that the commercial fishery was annually removing a minimum of 20% of the legal male crabs present in the area surveyed.

The stations surveyed in 1997 were surveyed again in 2000 and 2003. Tag recovery rates changed only slightly even though approximately one-third fewer legal-sized male crabs were tagged in 2000 than in 1997. Harvest rates as indicated by tag returns in the 2000/2001 season were similar to those in 1997/98. Shell-age composition data indicated the stock is healthy, while size composition of the retained catch has changed very little (Watson and Gish 2002). Preliminary results from the 2003 survey indicate that overall approximately 22% fewer crab were tagged compared to the 2000 survey although numbers of tagged legal males were similar. Results from the 2003 survey and subsequent tag recoveries will be available in a report later this year.

Even though the harvest rates are at or near the allowable maximum in some areas, the Aleutian Islands golden king crab population appears healthy. Portions of the stock occur at depths greater than those fished. Additionally, the area surveyed receives more fishing pressure than many other areas in the entire Aleutian Islands, so golden king crabs in less heavily fished locales may have a lower harvest rate. In order to operate their gear more efficiently, fishers tend to utilize the shallowest waters in which crabs may be found in abundance. Distribution of legal males extends to depths greater than those fished, so the entire depth range distribution of legal males is not exploited. Recent fishery data also indicates that the stock is healthy. Average size of crabs harvested has remained nearly constant for the last 6 seasons. Average weight has been between 4.3 and 4.6 pounds per crab for the last ten years. Catch per unit of effort has also been stable and has been above the 10-year average during the last four seasons. All this information suggests that the 3.0 million-pound GHL has provided a stable fishery and protects against overfishing as defined in the FMP. Currently, the department intends to survey the area around Amukta and Yunaska Islands every three years, with the next survey scheduled for the summer of 2006.

In the Aleutian Islands west of 174° W long., no surveys are conducted. The 2.7 million-pound GHL has been in effect since the 1996/97 season and was determined on the basis of the preceding 5-year average harvest in the waters west of 174° W long. Fishery and observer data

do not demonstrate a compelling reason to change the GHL from 2.7 million pounds as fishery statistics have not markedly changed since it was developed in 1996/97.

ALEUTIAN ISLANDS SCARLET KING CRAB

Historic Background

Scarlet king crabs *Lithodes couesi* are currently harvested under authority of a permit issued by the commissioner of ADF&G and authorized in 5 AAC 34.082. PERMITS FOR *LITHODES COUESI* KING CRAB. These permits are usually issued in conjunction with an Aleutian Islands golden king crab registration. Scarlet king crabs are typically found in waters deeper than 200 fathoms and have been taken as incidental harvest in the golden king crab and deepwater Tanner crab fisheries in the Aleutian Islands. Limited directed fishing has occurred; however, exploratory fishing does not indicate that a large biomass is present. Since 1992, annual harvest of scarlet king crabs in the Aleutian Islands has ranged from less than 5,000 pounds to a peak of nearly 63,000 pounds in 1995, when 8 vessels made 21 landings. Exvessel value was at a maximum in 1995 when the fishery was worth approximately $187,000 (Table 1-7). Since 1996, effort and harvest in this fishery have been minimal and catch information has been confidential in all years except 1997 when 6,700 pounds were harvested. When BOF combined the Adak and Dutch Harbor king crab Registration Areas to create Area O, management of scarlet king crabs was not impacted (ADF&G 1999a).

2004 Fishery

In 2004, three vessels registered to retain scarlet king crab bycatch during the grooved Tanner and golden king crab fisheries. Harvest information is confidential since less than three processors purchased crab.

Fishery Management and Stock Status

No surveys are conducted, nor are any estimates of population abundance made for scarlet king crabs in the Aleutian Islands; consequently, stock status and distribution are not well known. There is little stock assessment data and the stock appears small and geographically limited to deep-water areas. Scarlet king crab males larger than or equal to five and one-half inches in CW may be taken as incidental harvest up to 20% of the directed fishery under the conditions of a commissioner's permit. No directed fishing for scarlet king crabs is anticipated prior to adoption of a plan for new and developing fisheries by the BOF. Future directed fisheries for scarlet king crabs would be conducted in accordance with the provisions of that plan. Observer coverage on each vessel registered for the king crab fisheries of the Aleutian Islands has provided biological information that will be used by the department to develop future management measures for scarlet king crab.

EASTERN ALEUTIAN TANNER CRAB DISTRICT

DESCRIPTION OF AREA

The Eastern Aleutian Tanner crab District (EAD) encompasses all waters of Registration Area J between the longitude of Scotch Cap Light at 164° 44' W long., west to 172° W long., and south of the latitude of Cape Sarichef at 54°36' N lat. (Figure 1-9). Area J encompasses both waters of the Territorial Sea (0-3 nautical miles) and waters of the Exclusive Economic Zone (3-200 nautical miles).

TANNER CRAB

Historic Background

The Eastern Aleutian District has not supported harvests of Tanner crabs *Chionoecetes bairdi* as large as those recorded in other districts of Area J. Tanner crabs are found only in a few major bays and inlets of the eastern Aleutians and the directed fishery was relatively small in volume and geographically limited until the late 1970s. The fishery began in Akutan and Unalaska Bays and subsequently expanded to include all areas of known Tanner crab distribution in the Eastern Aleutian District. Harvest of Tanner crabs over the last 26 years has typically remained under one million pounds per year. Only in the three consecutive seasons from 1976/77 to 1978/79 did the harvest exceed one million pounds, reaching a peak of 2.5 million pounds in the 1977/78 season (Table 1-8). Vessel participation was low in 1973/74, with only 6 vessels registered and reached a high of 31 vessels in 1982 when the fishery was in decline. Vessel participation declined in 1991 to five vessels and consequently the harvest reached a low of 50,038 pounds. The Eastern Aleutian Islands Tanner crab fishery reached a maximum exvessel value of approximately $950,000 in 1977/78 (Table 1-9). Commercial fishing for Tanner crabs has not been permitted in the Eastern Aleutian District from 1995 to 2002 due to low stock abundance.

Subsistence harvest-limit reductions applied to the Eastern Aleutian Islands red king crab fishery in 1999 were not applied to Tanner crabs. However, the permit and reporting requirements for subsistence harvest of Tanner crabs were reinstated. Between 1988 and 1994, an average of 15 subsistence permits per year were returned and accounted for approximately 121 Tanner crabs annually. A survey of 15.1% of Unalaska households in 1994 generated an estimated total subsistence Tanner crab harvest of 10,957 crabs (ADF&G 1999b). ADF&G staff issued 180 subsistence permits in 1999, of which 80 were returned. Returned permits accounted for a Tanner crab harvest of 1,430 crabs and the estimated total harvest was 3,200 crabs (Table 1-3).

From 2000 to 2004, ADF&G in Dutch Harbor has issued an average of 218 subsistence permits and harvest logsheets. On average, 71 percent or 155 permits are returned. The returned permits account for an average annual harvest of 2,817 Tanner crabs and harvest ranged from zero to 915 crabs per permit. Estimates generated from the subsistence harvest logsheets indicate that an average of 4,060 Tanner crabs are harvested annually between 2000 and 2004, although in recent years the harvest has been much higher (Table 1-3).

2004 Commercial Fishery

The commercial Tanner crab fishery in the EAD opened at noon, January 15, 2004. Only the Unalaska Bay and Makushin/Skan Bay portions of the Eastern Aleutian District were opened to commercial fishing with at GHL of 47,219 pounds in Unalaska Bay and 87,891 pounds in Makushin/Skan Bay. Preseason registrations were received from 25 vessels and based on he fishery limit of 300 pots, pot limits were set at 12 pots per vessel. Fourteen vessels using 168 pots participated in the fishery.

Unalaska Bay

Ten vessels fished in the Unalaska Bay portion of the EAD. The GHL was reached in four and a half days of fishing. Harvest information is confidential since less that three processors purchased crab (Table 1-8). Fishing effort was highly concentrated in Nateekin Bay. Legal crabs in Unalaska Bay averaged 2.35 pounds.

Makushin/Skan Bay

Nine vessels fished in the Makushin/Skan Bay portion of the Eastern Aleutian District. Fishing effort was geographically well distributed. The GHL was caught in 18 days and legal crab averaged 2.35 pounds each. Harvest information is confidential since less than three processors purchased crab (Table 1-8).

Dockside Sampling

Tanner crabs were sampled at dockside from deliveries during the course of the 2004 Eastern Aleutian District Tanner crab fishery. Confidential interviews were conducted with vessel captains to acquire detailed information regarding areas fished, effort and fishery performance. Biological data collected consisted of CW and shell-age.

The fishery had a total of 65 landings by 14 vessels, of which 49 landings were sampled by staff for confidential interviews and biological data during offloads. Approximately 16% of the crabs delivered in the 2004 EAD Tanner crab fishery were accounted for in the average weight sampling. Average weight for Tanner crabs harvested in the EAD fishery was 2.35 pounds. During the fishery 7% of the crabs delivered were sampled for CW and shell age. From the biological data collected, 70% of the crabs measured were new-shell, 26% old-shell and 4% were very old-shell (Figure 1-10). Average CW was 148 mm.

2004 Subsistence Fishery

In 2004, ADF&G issued 225 subsistence permits and harvest logsheets, of which 144, or 64%, have been returned. The returned permits accounted for a harvest of 4,417 Tanner crabs (Table 1-3). Estimates generated from the subsistence harvest logsheets indicate that approximately 6,902 Tanner crabs were taken with pot and scuba gear with harvest ranging from zero to 435 Tanner crabs per permit. The majority of Tanner crabs were taken in Unalaska Bay (65%) and in Iliuliuk Bay adjacent to the landfill and spit (14%), with peak harvest in June although catch continued throughout the year.

Fishery Management and Stock Status

In 2002 the BOF adopted new management measures for the Eastern Aleutian Tanner crab including pot limits, daily fishing periods and reporting requirements. A total of 300 pots are allowed in the fishery with no more than 50 pots per vessel. Pots may be operated to take Tanner crab only from 8:00 AM until 5:59 PM with a soak time of 14 hours from 6:00 PM until 7:59 AM. Fishers must report daily to the department the number of pot lifts, number of crab retained and any other information considered necessary for the management and conservation of the fishery.

Prior to 1990, sporadic pot surveys were utilized to generate a Tanner crab abundance index in the eastern Aleutian Islands (Urban 1992). The pot surveys were not utilized to generate a GHL; instead they were used to monitor trends in abundance and recruitment. Pot surveys and fishery data were used to establish harvest levels up to 250,000 pounds (ADF&G 1983b). Since 1990, trawl surveys have been used to estimate abundance and are used in conjunction with fishery data for management purposes.

Trawl surveys in 1990 and 1991 indicated that a surplus of 100,000 pounds of Tanner crab were available for harvest. Commercial fisheries that opened in 1991 and 1992 based on those surveys resulted in legal male harvests of 50,038 and 98,703 pounds respectively (Table 1-8). A 1994 trawl survey of the same location revealed an 87% decrease in abundance of Tanner crabs since 1991. Results of the 1994 survey prompted the department to issue an emergency order closing

the 1995 season (ADF&G 1999b). A trawl survey conducted by the department in 1995 indicated that the abundance of Tanner crabs had increased slightly over the 1994 level, but was still well below levels observed on the 1990 and 1991 surveys. The 1995 survey found an increase in juvenile male and immature female crabs. However, the abundance of legal male crabs was still very low (Urban 1996); thus, the fishery closure was extended.

A trawl survey conducted in 1999 indicated that the biomass of Tanner crabs in the eastern Aleutian Islands had increased. Abundance increases were recorded for all size classes, with females and large males showing the greatest change. Female abundance more than doubled from the 1995 survey estimate to 2.2 million crabs, and male crab abundance increased nearly four-fold to just over 4.0 million crabs of which approximately 0.4 million were legal size. The majority of the recruitment was observed in Akutan, Unalaska, and Makushin Bays (Worton 2000).

Because encouraging recruitment was noted during the 1999 trawl survey, the department surveyed the eastern Aleutian Islands again in 2000. Much of the recruitment observed in Akutan Bay in 1999 was not encountered in 2000; thus the Tanner crab abundance estimate declined (Worton 2001).

A commissioner's-permit survey using pot gear, similar in design to the pot surveys for red king crab in the western Aleutians, was conducted in the EAD during January/February of 2003. The survey focused on areas of historic Tanner crab abundance in Unalaska Bay, Beaver Inlet and Akutan Bay. The pot survey included areas that are inaccessible to the trawl survey. Results from the 2003 pot survey indicated an increase in the abundance of Tanner crabs in Unalaska Bay and Akutan Bay when compared to historic catch at the same survey locations (Bon 2005).

The 2003 trawl survey estimated total abundance at 6.4 million crabs, the third largest abundance estimate since 1990. Population estimates for legal males, post-recruit males, and adult females were the highest on record (Spalinger 2004). A portion of the area was again surveyed by trawl gear in 2004. Total estimated abundance for the area surveyed was 5.2 million crabs. In Makushin/Skan Bays, legal male abundance estimates are the highest since the inception of the trawl survey and continued recruitment to the legal size class is likely in the next several years based on high numbers of prerecruit sized crabs.

GROOVED TANNER CRAB

Historic Background

In a manner similar to other deep-water crab fisheries in the Aleutian Islands, the first harvest of grooved Tanner crabs *Chionoecetes tanneri* in the Eastern Aleutian District occurred in the early 1980s as incidental harvest in the Dutch Harbor golden king crab fishery. Directed fishing for *C. tanneri* did not begin until 1993, when one vessel participated from July until December. The grooved Tanner crab fishery in the Eastern Aleutian District typically occurred between March and December. Peak harvest in the Eastern Aleutian District occurred in 1995 when 8 vessels landed approximately 883,000 pounds (Table 1-10).

Limited data has been collected regarding the abundance, distribution, and stock status of deep-water Tanner crab species in the Bering Sea and Aleutian Islands. During the 1993 season, the department reviewed data collected by onboard observers and restricted harvest to males of five inches or greater CW. In 1994, pursuant to permit provisions described in 5 AAC 35.511. PERMITS FOR TANNERI AND ANGULATUS TANNER CRAB IN REGISTRATION AREA J, the department required that vessels registered for this fishery carry an observer for all of their

fishing activities. Data collected by observers has documented bycatch as well as fishing practices and has aided the department in developing further management measures.

In 1997, the department established GHLs for grooved Tanner crabs in the Eastern Aleutian, Bering Sea, and Alaska Peninsula Districts where most historical harvests had occurred. Harvest levels in this fishery were derived using catch information from previous seasons and data collected by onboard observers. A GHL of 200,000 pounds was established for each of the aforementioned areas, while smaller harvest levels of 100,000 pounds were established for the Kodiak and Western Aleutian Districts to allow for exploratory fishing. In addition, the department required that all pots be equipped with at least two escape rings of 4.5 inches minimum diameter (ADF&G 1999a).

2004 Fishery

No vessels registered to harvest grooved Tanner crabs in the Eastern Aleutian District during 2004.

Fishery Management and Stock Status

The grooved Tanner crab population in the Eastern Aleutian District is not surveyed; consequently, no estimates of population abundance are available for this stock. Fishery data from the mid 1990s is the primary source of information regarding abundance and stock status. Catch per unit of effort declined from 15 legal crabs per pot lift in 1993 to two in 1996 and catches decreased from over 850,000 pounds in 1995 to 106,000 pounds in 1996. In addition, fishing effort was concentrated in three statistical areas immediately to the south of Unalaska Island. This information indicates that at least in the area historically fished, the population was heavily exploited.

Given poor fishery performance and declining harvests of the mid 1990s, the department re-evaluated deepwater Tanner crab guideline harvest levels in 2000. A GHL range of 50,000 to 200,000 pounds was established for the Eastern Aleutian District. The GHL was set as a range to provide greater flexibility for inseason management and to better inform the public of the department's management goals for the fishery. The fishery will be managed so that the upper end of the GHL range is reached only when catch rates similar to, or greater than those documented prior to the harvest declines of the mid 1990s are observed. In addition to new GHL requirements, the department specified that four 4.5-inch escape rings be placed on the lower third of each pot and required that pots be fished over multiple depth strata. Observers required on all vessels registered for the fishery will collect biological and fishery data.

TRIANGLE TANNER CRAB

Historic Background

In the Eastern Aleutian District, triangle Tanner crab *Chionoecetes angulatus* is harvested under a permit authorized in 5 AAC 35.511. PERMITS FOR TANNERI AND ANGULATUS TANNER CRAB IN REGISTRATION AREA J. Triangle Tanner crabs were incidentally harvested in the eastern Aleutian grooved Tanner crab fishery, where the species has occurred in small numbers. Prior to 1995 and the beginning of the directed fishery, no harvest of triangle Tanner crabs was reported on fish tickets; however, shellfish observers stationed on board vessels participating in the grooved Tanner crab fishery observed small numbers of triangle crabs harvested in 1994 (ADF&G 1999a). Two vessels targeted triangle Tanner crabs in the Eastern Aleutian District during the 1995 and 1996 seasons, thus harvest information from those fisheries is confidential

(Table 1-11). From 1997 to 2000, no vessels registered to harvest triangle Tanner crabs in the Eastern Aleutian District.

2004 Fishery

No vessels registered to harvest triangle Tanner crabs in the Eastern Aleutian District during 2004.

Fishery Management and Stock Status

Surveys of population abundance are not conducted for triangle Tanner crabs; thus the status of this stock is unknown. Because of the paucity of population level data for this species and the history of the fishery, additional fishing for triangle Tanner crabs in the Eastern Aleutian District will be limited to incidental harvest during the grooved Tanner crab fishery. Vessels registered to fish for grooved Tanner crabs will be permitted to harvest triangle Tanner crabs at up to 50% of the weight of the target species. This harvest level is consistent with the historic development of the fishery.

WESTERN ALEUTIAN TANNER CRAB DISTRICT

DESCRIPTION OF AREA

The Western Aleutian Tanner crab District of Registration Area J includes all waters west of 172° W long., east of the United States-Russia Maritime Boundary Line of 1991, and south of 54° 36’ N lat. (Figure 1-9). Area J encompasses both waters of the Territorial Sea (0-3 nautical miles) and waters of the Exclusive Economic Zone (3-200 nautical miles).

TANNER CRAB

Historic Background

Harvest of Tanner crabs *Chionoecetes bairdi* from the Western Aleutian District has, in general, been incidental to the directed red king crab fishery in that area. Commercial harvest has ranged from a high of over 800,000 pounds during the 1981/82 season to less than 8,000 pounds in 1991/92 (Table 1-12). No commercial harvest of Tanner crabs has occurred in the Western Aleutian District since 1995/96. The Western Aleutian District Tanner crab fishery reached a maximum value of just over $1 million in the 1981/82 season (Table 1-13). Tanner crab abundance in the Western Aleutian District is probably limited by available habitat. Most of the historical harvest occurred within a few bays in the vicinity of Adak and Atka Islands.

2004/05 Fishery

The Western Aleutian District Tanner crab fishery has a regulatory opening date of November 1, however, the fishery was not opened during the 2004/05 season. The fishery was not opened because there is not sufficient population data to develop a GHL or to establish that a harvestable surplus exists.

Fishery Management and Stock Status

No stock assessment surveys are conducted for Tanner crabs in the Western Aleutian District; thus no population estimates are available. Stock status is currently unknown. Historic fisheries were managed using GHLs set from commercial catch data (ADF&G 1985).

GROOVED TANNER CRAB

Historic Background

In the Western Aleutian District, harvest of grooved Tanner crab first occurred as bycatch with the developing golden king crab fishery in the Adak king crab management area during the late 1970s. Effort in this fishery has been minimal with two or fewer vessels participating during most years. Only in 1995 did significant fishing effort occur, when 6 vessels harvested approximately 146,000 pounds of grooved Tanner crabs (Table 1-14).

To prevent overharvest of this population where little abundance information is available, the ADF&G restricted harvest to males of five inches or greater CW in 1993. In addition, beginning in 1994, and according to provisions provided in 5 AAC 35.511 PERMITS FOR TANNERI AND ANGULATUS TANNER CRAB IN AREA J, all vessels registered for the fishery were required to carry an onboard observer for all of their fishing activities. Using information collected by onboard observers and historic catch information, the department established GHLs for grooved Tanner crabs in the Western Aleutian District in 1997. The GHL was set at 100,000 pounds; this level was believed to be adequate to allow for exploratory fishing and incidental harvest (ADF&G 1999a). Since 1997, the department has reevaluated harvest levels for deepwater Tanner crabs. Because directed commercial fishing for grooved Tanner crabs in the Western Aleutian District has only occurred during four seasons and no survey data is available, confidence was not as high in the GHL for this district as in other districts where grooved Tanner crab harvest has occurred. In order to prevent overharvest of this stock, no GHL was set in 2000 when new deepwater Tanner crab GHLs were announced and the fishery will remain closed until further notice.

In addition to harvests of *C. bairdi* and grooved Tanner crab, fishers have anecdotally reported incidental triangle Tanner crab catch in the grooved Tanner crab and golden king crab fisheries in the Western Aleutian District. There have not been any landings of triangle Tanner crab from this area and there is currently no fishery.

2004 Fishery

The Western Aleutian District was not open to commercial fishing for grooved Tanner crabs in 2004.

Fishery Management and Stock Status

No stock assessment surveys have been conducted for grooved Tanner crabs in the Western Aleutian District; therefore, no estimates of population abundance are available. Fishery data from the mid 1990s indicates that the western Aleutian Islands may not support grooved Tanner crab populations as large as the eastern Aleutian Islands and the Bering Sea. Commercial fishery data from the mid 1990s indicates that neither catch nor CPUE were large when compared to those observed in other districts.

ALEUTIAN DISTRICT DUNGENESS CRAB

DESCRIPTION OF AREA

The Aleutian District for Dungeness crab *Cancer magister* management includes all waters of Registration Area J west of the longitude of Scotch Cap Light (164° 44’ W long.), south of the latitude of Cape Sarichef (54° 36’ N lat.), and east of the United States-Russia Maritime Boundary Line of 1991 (Figure 1-11). Area J encompasses both waters of the Territorial Sea (0-3 nautical miles) and waters of the Exclusive Economic Zone (3-200 nautical miles).

HISTORIC BACKGROUND

Islands in the Aleutian chain are separated by deep passes with swift currents and are closely bordered on the north by the Aleutian Basin and to the south by the Aleutian Trench. Dungeness crabs inhabit bays, estuaries, and other shallow water habitats, areas that are sparse and widely dispersed in the Aleutian Islands. Therefore, populations of Dungeness crabs are small and fishing effort has been low within the district.

The Aleutian District Dungeness crab fishery has occurred primarily as a small-vessel, summer fishery in the vicinity of Unalaska Island. Some larger-vessel effort has occurred in other locales within the district, but fishing in these areas has been sporadic throughout the history of the fishery. Interest and activity in this fishery has been erratic from year to year, with the first reliable reports of harvest made in 1970. Since 1974, harvests have ranged from no landings, to a peak of over 91,000 pounds in 1984/85 (Table 1-15). Four vessels operated that year, with over 80% of their catch coming from Unalaska and Makushin Bays. In addition to commercial harvest, Dungeness crabs have also been taken in subsistence and sport fisheries occurring in the vicinity of Unalaska Island. Subsistence harvest reports returned to ADF&G between 1988 and 1994 indicate that Dungeness crab harvests were larger than those documented for both red king *P. camtschaticus* and Tanner crabs *C. bairdi*. On average, 15 harvest reports were returned per year and Dungeness harvest averaged 686 crabs per year with a range of five to 1,906 crabs per year (ADF&G 1999b). A harvest permit is not required for sport or subsistence caught Dungeness crab, therefore no harvest estimates are available, but annual catch is believed to be low.

2004/05 FISHERY

No vessels registered to harvest Dungeness crabs during the 2004/05 season.

FISHERY MANAGEMENT AND STOCK STATUS

The Aleutian Islands Dungeness crab fishery is managed using size, sex, and season restrictions. Only male Dungeness crabs 6 and one-half inches (165 mm) or greater in carapace width may be retained in the Aleutian District from 12:00 noon May 1 to 12:00 noon January 1. No stock assessment work has been performed and limited biological and fishery data have been collected through dockside sampling. The status of this species in the Aleutian Islands is unknown, but the resource is believed to be limited due to the lack of suitable habitat.

ALEUTIAN DISTRICT SHRIMP

DESCRIPTION OF AREA

The Aleutian District of Registration Area J, as described for shrimp, includes all Bering Sea and Pacific Ocean waters west of the longitude of Cape Sarichef at 164° 55’ W long. and east of the United States-Russia Maritime Boundary Line of 1991 (Figure 1-12). Area J encompasses both waters of the Territorial Sea (0-3 nautical miles) and waters of the Exclusive Economic Zone (3-200 nautical miles). The Aleutian District includes four sections: Unalaska Bay, Makushin Bay, Usof Bay, and Beaver Inlet.

HISTORIC BACKGROUND

Commercial fishing for shrimp in the Aleutian District began in the 1960s with Russian and Japanese participation. Most harvests occurred northwest of the Pribilof Islands, with some harvests as large as 30,000 metric tons per year. In 1972 a domestic trawl fishery began targeting

northern pink shrimp *Pandalus borealis* in the vicinity of Unalaska Island. Catch and effort increased and harvest peaked in 1977/78 at 6.8 million pounds (Table 1-16). Sharp declines in catches after 1978 led to a reduction in season length. Between 1983 and 1991 no fishing occurred; however, in 1992 four catcher-processors targeted shrimp northwest of the Pribilof Islands. Low concentrations of shrimp were located and all four vessels departed the fishery after making a total of 6 landings for 72,133 pounds. Since 1992, interest in fishing for shrimp in the Aleutian District has remained at a very low level, several vessels registered to fish, but made no landings. In 1999, the first commercial harvest of shrimp in the Aleutian District occurred since 1992. Only two vessels registered for the fishery; therefore, catch information is confidential. Initial catches were composed primarily of northern pink shrimp. As the fishery progressed, sidestriped shrimp *Pandalopsis dispar* became the dominant species in the catch. The fishery was closed on July 9, 1999, because ADF&G did not possess adequate information regarding the abundance and distribution of these species and it was not possible to prosecute the trawl fishery in accordance with 5 AAC 39.210. MANAGEMENT PLAN FOR HIGH IMPACT EMERGING FISHERIES.

2004 FISHERY

The 2004 trawl fishery did not open because there was insufficient information on shrimp stock abundance and distribution. There is no closed season for shrimp fishing with pots in the Aleutian Islands.

FISHERY MANAGEMENT AND STOCK STATUS

ADF&G has obtained limited population information for the shrimp stocks of the Aleutian Islands. The last extensive commercial activity occurred in the 1970s and trawl surveys conducted by ADF&G and NMFS do not target shrimp. Consequently, ADF&G does not possess information to develop a management plan or conduct a commercial trawl fishery. Fishers have expressed interest in collaborating with ADF&G on a stock assessment survey, but funding constraints have limited such endeavors. Once BOF has adopted a plan for new and developing fisheries, a collaborative survey may be one step in the creation of a sustainable, well-managed fishery. In 2000, NMFS performed a pilot deep-sea trawl survey of the continental slope. Sidestriped shrimp was the most abundant shrimp species, found primarily on the continental slope of the Bering Sea east of Zhemchug Canyon at an average depth of 214 fathoms. NMFS conducted an eastern Bering Sea continental slope survey again in 2002. Sidestriped and northern pink shrimp were the most abundance species encountered although extensive data was not collected (Hoff and Britt 2003). Shrimp are also encountered during the NMFS summer Bering Sea trawl survey. The most abundant species caught on the survey are northern pink shrimp which are found along the outer shelf between the 100 and 200 meter depth contours and humpy shrimp, *P. goniurus*, which are usually found in water shallower than 100 meters.

ALEUTIAN DISTRICT MISCELLANEOUS SHELLFISH SPECIES

DESCRIPTION OF AREA

The Aleutian Islands portion of miscellaneous shellfish Registration Area J, includes all waters south of the latitude of Cape Sarichef (54° 36’ N lat.), west of the longitude of Scotch Cap Light (164° 44’ W long.), and east of the United States-Russia Maritime Boundary Line of 1991 (Figure 1-13). Area J encompasses both waters of the Territorial Sea (0-3 nautical miles) and

waters of the Exclusive Economic Zone (3-200 nautical miles). Area J is not divided into districts for commercial miscellaneous shellfish fisheries.

INTRODUCTION

Shellfish species included in this section are those which have been harvested in relatively small amounts compared to the commercial king and Tanner crab fisheries which occur in the Aleutian Islands. Miscellaneous shellfish species include hair crabs, sea urchins, sea cucumbers, snails, *Paralomis multispina* (cherry) crab, and octopi. It is ADF&Gs policy to register vessels for exploratory fishing in these new and emerging fisheries under authority of a commissioner's permit described in 5 AAC 38.062. PERMITS FOR OCTOPI, SQUID, HAIR CRAB, SEA URCHINS, SEA CUCUMBERS, SEA SNAILS, AND OTHER MARINE INVERTEBRATES. Typically, permit conditions were general and not fully developed on an individual species basis. Fisheries for these species were conducted without prior knowledge of stock abundance or distribution and no harvest limits were established.

2004 FISHERIES

Octopus

In 2004, directed fishing for octopi was permitted in the Aleutian Islands under the authority of a commissioner's permit. Twelve vessels registered for the fishery using pot gear. Two vessels fished during the early summer months and ten additional vessels registered to fish octopus in the fall. All vessels fishing octopus in the fall were concurrently registered for the Pacific cod pot fishery. These vessels were allowed to retain all octopus and cod captured in their pots provided they fished exclusively in state waters. Fishery CPUE was one octopus per pot and the average weight of gutted octopus was 39 pounds. One processor purchased octopus in the directed fishery, thus all harvest information is confidential.

Incidental harvest may also be retained on a Commercial Entry Fisheries Commission (CFEC) card at up to 20% of the weight of the target species. In 2004, out of the 132 vessels registered for incidental harvest, 72 vessels made 401 landings of octopus totaling 720,997 pounds from the Aleutian Islands (Table 1-17). At-sea discards totaled 97,463 pounds. The majority of retained octopuses were sold to processors (86%), while the rest was either retained for personal use including bait (13%), discarded (<1%) or sold for use as fishmeal (<1%). Octopus landings were made by vessels targeting Pacific cod or other groundfish species using pot gear (98%), longline gear (1%), trawl gear (<1%) and jig gear (<1%).

Sea Cucumber and Sea Urchin

In September of 2004, ADF&G issued a news release announcing the GHL for sea cucumbers and sea urchins in the Westward Region. The 2004 season opened under a commissioner's permit with a GHL of 5,000 pounds each of eviscerated product for sea cucumbers and whole animal weight for sea urchins in the Aleutian Islands. The small GHLs were established to permit conservative commercial exploration of areas that lacked historic harvest data and to allow ADF&G to collect critical information for future management purposes. However, no vessels or divers registered or fished for either of these fisheries in the Aleutian Islands in 2004.

Other Miscellaneous Shellfish Species

No vessels were registered for any other miscellaneous shellfish species in the Aleutian Islands in 2004.

FISHERY MANAGEMENT AND STOCK STATUS

No surveys of abundance for octopuses have been performed in the Aleutian Islands; thus, no population data is available. ADF&G has not developed a management plan for this species. In addition to incidental harvest which is limited to 20% of the weight of the target species, directed fishing may also occur under the authority of a commissioner's permit. A fishing logbook is required for the directed fishery and only pots or dive gear may be used. Starting in 2005, vessels may not be concurrently registered to fish more that one species in a directed fishery using pot gear. Stock assessment work has not been performed for other miscellaneous shellfish species in the Aleutian Islands and until such work has been performed and a BOF approved management plan has been adopted, only limited fisheries for these species will be allowed.

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TABLES AND FIGURES

Table 1-1.-Aleutian Islands, Area O, red king crab commercial fishery data, 1960/61 - 2004/05.

		Number of					Average			
Season	Locale	Vessels[a]	Landings	Crabs[b]	Pots Lifted	Harvest[b,c]	Weight[c]	CPUE[d]	Length[e]	Deadloss[c]
1960/61	East of 172°	NA	NA	NA	NA	NA	NA	NA	NA	NA
	West of 172°	4	41	NA	NA	2,074,000	NA	NA	NA	NA
	TOTAL									
1961/62	East of 172°	4	69	NA	NA	533,000	NA	NA	NA	NA
	West of 172°	8	218	NA	NA	6,114,000	NA	NA	NA	NA
	TOTAL		**287**			**6,647,000**				
1962/63	East of 172°	6	102	NA	NA	1,536,000	NA	NA	NA	NA
	West of 172°	9	248	NA	NA	8,006,000	NA	NA	NA	NA
	TOTAL		**350**			**9,542,000**				
1963/64	East of 172°	4	242	NA	NA	3,893,000	NA	NA	NA	NA
	West of 172°	11	527	NA	NA	17,904,000	NA	NA	NA	NA
	TOTAL		**769**			**21,797,000**				
1964/65	East of 172°	12	336	NA	NA	13,761,000	NA	NA	NA	NA
	West of 172°	18	442	NA	NA	21,193,000	NA	NA	NA	NA
	TOTAL		**778**			**34,954,000**				
1965/66	East of 172°	21	555	NA	NA	19,196,000	NA	NA	NA	NA
	West of 172°	10	431	NA	NA	12,915,000	NA	NA	NA	NA
	TOTAL		**986**			**32,111,000**				
1966/67	East of 172°	27	893	NA	NA	32,852,000	NA	NA	NA	NA
	West of 172°	10	90	NA	NA	5,883,000	NA	NA	NA	NA
	TOTAL		**983**			**38,735,000**				

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Table 1-1.-(Page 2 of 6)

Season	Locale	Number of Vessels[a]	Number of Landings	Number of Crabs[b]	Number of Pots Lifted	Harvest[b,c]	Average Weight[c]	Average CPUE[d]	Average Length[e]	Deadloss[c]
1967/68	East of 172°	34	747	NA	NA	22,709,000	NA	NA	NA	NA
	West of 172°	22	505	NA	NA	14,131,000	NA	NA	NA	NA
	TOTAL		**1,252**			**36,840,000**				
1968/69	East of 172°	NA	NA	NA	NA	11,300,000	NA	NA	NA	NA
	West of 172°	30	NA	NA	NA	16,100,000	NA	NA	NA	NA
	TOTAL					**27,400,000**				
1969/70	East of 172°	41	375	NA	72,683	8,950,000	NA	NA	NA	NA
	West of 172°	33	435	NA	115,929	18,016,000	6.5	NA	NA	NA
	TOTAL		**810**		**188,612**	**26,966,000**				
1970/71	East of 172°	32	268	NA	56,198	9,652,000	NA	NA	NA	NA
	West of 172°	35	378	NA	124,235	16,057,000	NA	NA	NA	NA
	TOTAL		**646**		**180,433**	**25,709,000**				
1971/72	East of 172°	32	210	1,447,692	31,531	9,391,615	7	46	NA	NA
	West of 172°	40	166	NA	46,011	15,475,940	NA	NA	NA	NA
	TOTAL		**376**		**77,542**	**24,867,555**				
1972/73	East of 172°	51	291	1,500,904	34,037	10,450,380	7	44		
	West of 172°	43	313	3,461,025	81,133	18,724,140	5.4	43	NA	NA
	TOTAL		**604**	**4,961,929**	**115,170**	**29,174,520**	**5.9**	**43**		
1973/74	East of 172°	56	290	1,780,673	41,840	12,722,660	7.1	43	NA	NA
	West of 172°	41	239	1,844,974	70,059	9,741,464	5.3	26	148.6	NA
	TOTAL		**529**	**3,625,647**	**111,899**	**22,464,124**	**6.2**	**32**		

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Table 1-1.-(Page 3 of 6)

Season	Locale	Number of Vessels[a]	Number of Landings	Number of Crabs[b]	Number of Pots Lifted	Harvest[b,c]	Average Weight[c]	Average CPUE[d]	Average Length[e]	Deadloss[c]
1974/75	East of 172°	87	372	1,812,647	71,821	13,991,190	7.7	25		
	West of 172°	36	97	532,298	32,620	2,774,963	5.2	16	148.6	NA
	TOTAL		**469**	**2,344,945**	**104,441**	**16,766,153**	**7.1**	**22**		
1975/76	East of 172°	79	369	2,147,350	86,874	15,906,660	7.4	25		
	West of 172°	20	25	79,977	8,331	411,583	5.2	10	147.2	NA
	TOTAL		**394**	**2,227,327**	**95,205**	**16,318,243**	**7.3**	**23**		
1976/77	East of 172°	72	226	1,273,298	65,796	9,367,965[f]	7.4	19		
	East of 172°	38	61	86,619	17,298	830,458[g]	9.6	5	NA	NA
	West of 172°				FISHERY CLOSED					
	TOTAL		**287**	**1,359,917**	**83,094**	**10,198,423**	**7.5**	**16**		
1977/78	East of 172°	33	227	539,656	46,617	3,658,860[f]	6.8	12		
	East of 172°	6	7	3,096	812	25,557[h]	8.3	4	NA	NA
	West of 172°	12	18	160,343	7,269	905,527	5.7	22	152.2	NA
	TOTAL		**252**	**703,095**	**54,698**	**4,589,944**	**6.5**	**13**		
1978/79	East of 172°	60	300	1,233,758	51,783	6,824,793	5.5	24	NA	NA
	West of 172°	13	27	149,491	13,948	807,195	5.4	11	NA	1,170
	TOTAL		**327**	**1,383,249**	**65,731**	**7,631,988**	**5.5**	**21**		
1979/80	East of 172°	104	542	2,551,116	120,554	15,010,840	5.9	21	NA	NA
	West of 172°	18	23	82,250	9,757	467,229	5.7	8	152	24,850
	TOTAL		**565**	**2,633,366**	**130,311**	**15,478,069**	**5.9**	**20**		
1980/81	East of 172°	114	830	2,772,287	231,607	17,660,620[f]	6.4	12	NA	NA
	East of 172°	54	120	182,349	30,000	1,392,923[h]	7.6	6		
	West of 172°	17	52	254,390	20,914	1,419,513	5.6	12	149	54,360
	TOTAL		**1,002**	**3,209,026**	**282,521**	**20,473,056**	**6.4**	**11**		

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Table 1-1.-(Page 4 of 6)

Season	Locale	Number of Vessels[a]	Number of Landings	Number of Crabs[b]	Number of Pots Lifted	Harvest[b,c]	Average Weight[c]	Average CPUE[d]	Average Length[e]	Deadloss[c]
1981/82	East of 172°	92	683	741,966	220,087	5,155,345	6.9	3	NA	NA
	West of 172°	46	106	291,311	40,697	1,648,926	5.7	7	148.3	8,759
	TOTAL		**789**	**1,033,277**	**260,784**	**6,804,271**	**6.6**	**4**		
1982/83	East of 172°	81	278	64,380	72,924	431,179	6.7	1		
	West of 172°	72	191	284,787	66,893	1,701,818	6.0	4	150.8	7,855
	TOTAL		**469**	**349,167**	**139,817**	**2,132,997**	**6.1**	**3**		
1983/84	East of 172°				FISHERY CLOSED					
	West of 172°	106	248	298,948	60,840	1,981,579	6.6	5	157.3	3,833
	TOTAL	**106**	**248**	**298,948**	**60,840**	**1,981,579**	**6.6**	**5**	**157.3**	**3,833**
1984/85	East of 171°				FISHERY CLOSED					
	West of 171°	64	113	206,751	50,685	1,367,672	6.6	4	155.1	0
	TOTAL	**64**	**113**	**206,751**	**50,685**	**1,367,672**	**6.6**	**4**	**155.1**	**0**
1985/86	East of 171°				FISHERY CLOSED					
	West of 171°	35	89	162,271	32,478	906,293	5.6	5	152.2	6,120
	TOTAL	**35**	**89**	**162,271**	**32,478**	**906,293**	**5.6**	**5**	**152.2**	**6,120**
1986/87	East of 171°				FISHERY CLOSED					
	West of 171°	33	69	126,146	29,189	712,243	5.6	4	NA	500
	TOTAL	**33**	**69**	**126,146**	**29,189**	**712,243**	**5.6**	**4**	**NA**	**501**
1987/88	East of 171°				FISHERY CLOSED					
	West of 171°	71	109	211,712	43,433	1,213,933	5.7	5	148.5	6,900
	TOTAL	**71**	**109**	**211,712**	**43,433**	**1,213,933**	**5.7**	**5**	**148.5**	**6,900**
1988/89	East of 171°				FISHERY CLOSED					
	West of 171°	73	156	266,053	64,374	1,567,314	5.9	4	153.1	557
	TOTAL	**73**	**156**	**266,053**	**64,374**	**1,567,314**	**5.9**	**4**	**153.1**	**557**

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Table 1-1.-(Page 5 of 6)

Season	Locale	Number of Vessels[a]	Number of Landings	Number of Crabs[b]	Number of Pots Lifted	Harvest[b,c]	Average Weight[c]	Average CPUE[d]	Average Length[e]	Deadloss[c]
1989/90	East of 171°				F I S H E R Y C L O S E D					
	West of 171°	56	123	196,070	54,513	1,118,566	5.7	4	151.5	759
	TOTAL	**56**	**123**	**196,070**	**54,513**	**1,118,566**	**5.7**	**4**	**151.5**	**759**
1990/91	East of 171°				F I S H E R Y C L O S E D					
	West of 171°	7	34	146,903	10,674	828,105	5.6	14	148.1	0
	TOTAL	**7**	**34**	**146,903**	**10,674**	**828,105**	**5.6**	**14**	**148.1**	**0**
1991/92	East of 171°				F I S H E R Y C L O S E D					
	West of 171°	10	35	165,356	16,636	951,278	5.7	10	149.8	0
	TOTAL	**10**	**35**	**165,356**	**16,636**	**951,278**	**5.7**	**10**	**149.8**	**0**
1992/93	East of 171°				F I S H E R Y C L O S E D					
	West of 171°	12	30	218,049	16,129	1,286,424	6.0	13	151.5	5,000
	TOTAL	**12**	**30**	**218,049**	**16,129**	**1,286,424**	**6.0**	**13**	**151.5**	**5,000**
1993/94	East of 171°				F I S H E R Y C L O S E D					
	West of 171°	12	21	119,330	13,575	698,077	5.8	9	154.6	7,402
	TOTAL	**12**	**21**	**119,330**	**13,575**	**698,077**	**5.8**	**9**	**154.6**	**7,402**
1994/95	East of 171°				F I S H E R Y C L O S E D					
	West of 171°	20	31	30,337	18,146	196,967	6.5	2	157.5	1,430
	TOTAL	**20**	**31**	**30,337**	**18,146**	**196,967**	**6.5**	**2**	**157.5**	**1,430**
1995/96	East of 171°				F I S H E R Y C L O S E D					
	West of 171°	4	12	6,880	2,205	38,941	5.7	3	153.6	235
	TOTAL	**4**	**12**	**6,880**	**2,205**	**38,941**	**5.7**	**3**	**153.6**	**235**
1996/97					F I S H E R Y C L O S E D					
1997/98					F I S H E R Y C L O S E D					

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Table 1-1.-(Page 6 of 6)

Season	Locale	Number of Vessels[a]	Number of Landings	Number of Crabs[b]	Number of Pots Lifted	Harvest[b,c]	Average Weight[c]	Average CPUE[d]	Average Length[e]	Deadloss[c]
1998/99	West of 174°	3	6	749	102	5,900	7.9	7	NA	0
1999/2000					F I S H E R Y C L O S E D					
2000/01[i]	Petrel Bank[j]	1	3	11,257	498	76,792	6.8	23	161.0	0
2001/02[k]	Petrel Bank[j]	4	5	22,080	700	153,961	7.0	32	159.5	82
2002/03	Petrel Bank[j]	33	35	68,300	3,782	505,642	7.4	18	162.4	1,311
2003/04	Petrel Bank[j]	30	31	59,828	5,774	479,113	8.0	10	167.9	2,617
2004/05					F I S H E R Y C L O S E D					

[a] Many vessels fished both east and west locales., thus total number of vessels reflects registrations for entire Aleutian Islands.
[b] Deadloss included.
[c] In pounds.
[d] Number of legal crabs per pot lift.
[e] Carapace length in millimeters.
[f] Split season based on 6.5 inch minimum legal size.
[g] Split season based on 8 inch minimum legal size.
[h] Split season based on 7.5 inch minimum legal size.
[I] January/February Petrel Bank survey (fish ticket harvest code 15).
[j] Those waters of king crab Registration Area O between 179° E long., 179° W long., and north of 51° 45' N lat.
[k] November Petrel Bank survey (fish ticket harvest code 15).
NA = Not available.

Table 1-2.-Aleutian Islands, Area O, red king crab fishery economic performance data, 1973/74 - 2004/05.

Year	Locale	GHL[a]	Value		Season Length	
			Ex-vessel[b]	Total	Days	Dates
1973/74	East of 172° W long.	10.0[c]	$0.65	$8,269,729	24	11/01 - 11/24
	West of 172° W long.	20.0[c]	NA	NA	NA	11/01 - 12/06
1974/75	East of 172° W long.	11.5[c]	$0.37	$5,176,740	75	11/01 - 01/14
	West of 172° W long.	20.0[c]	$0.35	$971,237	NA	11/01 - 02/26
1975/76	East of 172° W long.	14.5[c]	$0.42	$6,680,797	71	11/01 - 01/10
	West of 172° W long.	15.0[c]	$0.38	$156,402	NA	01/10 - 12/18
1976/77	East of 172° W long.[d]	14.5[c]	$0.64	$5,995,497	37	11/01 - 12/07
	East of 172° W long.[e]		$0.79	$656,061	31	12/13 - 01/13
	West of 172° W long.			FISHERY CLOSED		
1977/78	East of 172° W long.[d]	8.0 - 14.5[c]	$0.99	$3,622,271	84	09/15 - 12/08
	East of 172° W long.[f]		$1.35	$34,502	28	12/08 - 01/05
	West of 172° W long.	0.25 - 2.5[g]	$1.36	$1,231,517	NA	NA
1978/79	East of 172° W long.	5.0 - 13.0[c]	$1.35	$9,213,471	71	09/10 - 11/20
	West of 172° W long.	0.5 - 3.0[g]	$1.23	$992,850	NA	NA
1979/80	East of 172° W long.	17.0 - 25.0[c]	$0.90	$13,509,756	122	09/10 - 01/10
	West of 172° W long.	0.5 - 3.0[g]	$0.68	$317,716	NA	NA
1980/81	East of 172° W long.[d]	7.0 - 17.0[c]	$1.02	$18,013,832	73	11/01 - 01/12
	East of 172° W long.[f]		$1.03	$1,434,711	31	01/15 - 02/15
	West of 172° W long.	0.5 - 3.0[g]	$0.92	$1,305,952	72	01/15 - 03/28
1981/82	East of 172° W long.	7.0 - 17.0[c]	$2.30	$11,617,293	107	11/01 - 02/15
	West of 172° W long.	0.5 - 3.0[g]	$2.01	$3,314,341	107	11/01 - 02/15
1982/83	East of 172° W long.	2.0 - 3.0[h]	$3.43	$1,478,944	66	11/01 - 01/15
	West of 172° W long.	0.5 - 3.0[g]	$3.44	$5,854,254	76	11/01 - 01/15
1983/84	East of 172° W long.			FISHERY CLOSED		
	West of 172° W long.	0.5 - 3.0[g]	$3.43	$6,796,816	340	01/01 - 12/16

-continued-

Table 1-2.-(page 2 of 3)

Year	Locale	GHL[a]	Value		Season Length	
			Ex-vessel[b]	Total	Days	Dates
1984/85	East of 171° W long.			FISHERY CLOSED		
	West of 171° W long.	1.5 - 3.0[i]	$2.10	$2,872,111	97	11/10 - 02/15
1985/86	East of 171° W long.			FISHERY CLOSED		
	West of 171° W long.	0.5 - 2.0[i]	$2.15	$1,948,530	107	11/01 - 02/15
1986/87	East of 171° W long.			FISHERY CLOSED		
	West of 171° W long.	0.5 - 1.5[i]	$3.87	$2,756,380	107	11/01 - 02/15
1987/88	East of 171° W long.			FISHERY CLOSED		
	West of 171° W long.	0.5 - 1.5[i]	$4.00	$4,855,732	107	11/01 - 02/15
1988/89	East of 171° W long.			FISHERY CLOSED		
	West of 171° W long.	1.0[i]	$5.00	$7,836,570	34	11/01 - 12/04
1989/90	East of 171° W long.			FISHERY CLOSED		
	West of 171° W long.	1.7[i]	$4.20	$4,697,977	107	11/01 - 02/15
1990/91	East of 171° W long.			FISHERY CLOSED		
	West of 171° W long.	NA	$4.00	$3,312,420	107	11/01 - 02/15
1991/92	East of 171° W long.			FISHERY CLOSED		
	West of 171° W long.	NA	$3.00	$2,853,834	107	11/01 - 02/15
1992/93	East of 171° W long.			FISHERY CLOSED		
	West of 171° W long.	NA	$5.05	$6,496,441	76	11/01 - 01/15
1993/94	East of 171° W long.			FISHERY CLOSED		
	West of 171° W long.	NA	$3.87	$2,701,558	107	11/01 - 02/15
1994/95	East of 171° W long.			FISHERY CLOSED		
	West of 171° W long.	1.0 - 1.5	$5.50	$1,083,319	27	11/01 - 11/28
1995/96	East of 171° W long.			FISHERY CLOSED		
	West of 171° W long.	1.0 - 1.5	$2.81	$109,424	107	11/01 - 02/15
1996/97 - 1997/98				FISHERY CLOSED		

-continued-

Table 1-2.-(page 3 of 3)

Year	Locale	GHL[a]	Value		Season Length	
			Ex-vessel[b]	Total	Days	Dates
1998/99	West of 174° W long.	0.015		CONFIDENTIAL		
1999/2000 - 2001/02				FISHERY CLOSED		
2002/03	Petrel Bank[j]	0.5	$6.51	$3,291,729	2	10/25 - 10/27
2003/04	Petrel Bank[j]	0.5	$5.14	$2,449,189	4	10/25 - 10/29
2004/05				FISHERY CLOSED		

[a] Guideline harvest level (GHL), millions of pounds.

[b] Average price per pound. No economic data available prior to 1973.

[c] GHL includes all king crab species. Golden king crab primarily harvested incidental to red king crab.

[d] Split season based on 6.5 inch minimum legal size.

[e] Split season based on 8.0 inch minimum legal size.

[f] Split season based on 7.5 inch minimum legal size.

[g] Red king crab only.

[h] The harvest strategy was to take 40% of the estimated population of legal size male king crab. No survey was conducted in Area O in 1982, and a preseason harvest estimate of 2 - 3 millions pounds was based on the 1981 survey and fishery.

[i] GHL includes red and blue king crab.

[j] Those waters of king crab Registration Area O between 179° E long., 179° W long., and north of 51° 45' N lat.

NA = Not available.

Confidential = Less than three vessels or processors participated in fishery.

Table 1-3.-Eastern Aleutian Islands, west of Scotch Cap Light and east of 168° W long., subsistence king and Tanner crab harvest, 1999-2004.

Year	Number of Permits Issued	Number of Permits Returned	Percentage Returned	Harvest[a]			
				King crab reported	King crab estimated	Tanner crab reported	Tanner crab estimated
1999	180	80	44.4	787	1,771	1,432	3,222
2000	194	143	73.7	523	710	911	1,236
2001	201	153	76.1	1,128	1,482	1,703	2,237
2002	237	177	74.7	1,080	1,446	2,453	3,285
2003	231	160	69.3	387	559	4,600	6,641
2004[b]	225	144	64.0	201	314	4,417	6,902
2000 - 2004 Average	**218**	**155**	**71.4**	**664**	**902**	**2,817**	**4,060**

[a] Harvest estimate, in numbers of crab, from Unalaska Island (no reported harvest from any other portion of permit area).

[b] Data incomplete, permits are returned throughout the year.

Table 1-4.-Aleutian Islands golden king crab commercial fishery data, 1981/82 - 2004/05.

		Number of				Number of Pots		Average			
Season	Locale	Vessels[a]	Landings	Crabs[b]	Harvest[b,c]	Registered	Lifted	Weight[c]	CPUE[d]	Length[e]	Deadloss[c]
1981/82	East of 172° W.	6	16	22,666	115,715	0	2,906	5.1	8	158	8,752
	West of 172° W.	14	76	217,700	1,194,046	2,647	24,627	5.5	9	160	22,064
	TOTAL		**92**	**240,458**	**1,319,761**	**2,647**	**27,533**	**5.4**	**9**		**30,816**
1982/83	East of 172° W.	49	136	227,471	1,184,971	NA	29,369	5.2	8	158	47,479
	West of 172° W.	99	501	1,509,001	8,006,274	13,111	150,103	5.3	10	158	220,743
	TOTAL		**637**	**1,737,109**	**9,191,245**	**13,111**	**179,472**	**5.3**	**10**		**268,222**
1983/84	East of 172° W.	47	132	238,353	1,810,973	4,514	29,595	7.6	8	NA	45,268
	West of 172° W.	157	1,002	1,534,909	8,128,029	17,406	226,798	5.3	7	NA	171,021
	TOTAL		**1,134**	**1,773,262**	**9,939,002**	**21,920**	**256,393**	**5.6**	**7**		**186,289**
1984/85	East of 171° W.	13	67	327,440	1,521,142	1,394	24,044	4.6	14	161	70,362
	West of 171° W.	38	85	643,597	3,180,095	5,270	64,777	4.9	10	157	125,073
	TOTAL		**152**	**971,274**	**4,701,237**	**6,664**	**88,821**	**4.8**	**11**		**195,435**
1985/86	East of 171° W.	13	67	410,977	1,968,213	1,479	34,287	4.7	12	156	38,663
	West of 171° W.	49	386	2,052,048	11,124,759	7,057	202,401	5.4	10	151	5,304
	TOTAL		**453**	**2,463,025**	**13,092,972**	**8,536**	**236,688**	**5.3**	**10**		**43,967**
1986/87	East of 171° W.	17	71	400,389	1,869,180	1,575	37,585	4.7	11	NA	9,510
	West of 171° W.	62	525	2,923,947	12,798,004	12,958	392,185	4.4	7	150	276,736
	TOTAL		**596**	**3,324,336**	**14,667,184**	**14,533**	**429,770**	**4.4**	**8**		**286,246**
1987/88	East of 171° W.	22	77	299,734	1,383,198	3,591	43,017	4.6	7	150	24,210
	West of 171° W.	46	386	1,908,989	8,001,177	10,687	267,705	4.2	7	147	165,415
	TOTAL		**463**	**2,208,723**	**9,324,375**	**14,278**	**310,722**	**4.2**	**7**		**189,625**

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Table 1-4.-(Page 2 of 4)

Season	Locale	Number of Vessels[a]	Number of Landings	Number of Crabs[b]	Harvest[b,c]	Number of Pots Registered	Number of Pots Lifted	Average Weight[c]	Average CPUE[d]	Average Length[e]	Deadloss[c]
1988/89	East of 171° W.	21	57	323,695	1,545,113	4,215	40,869	4.8	8	154	22,960
	West of 171° W.	74	455	2,165,508	9,080,196	23,627	280,732	4.2	8	149	122,251
	TOTAL		**512**	**2,489,203**	**10,625,309**	**27,842**	**321,604**	**4.3**	**8**		**145,211**
1989/90	East of 171° W.	13	70	424,067	1,852,249	5,635	43,345	4.4	10	151	17,421
	West of 171° W.	64	505	2,520,786	10,162,400	14,724	324,153	4.0	8	149	100,724
	TOTAL		**575**	**2,944,853**	**12,014,649**	**20,359**	**367,498**	**4.1**	**8**		**118,145**
1990/91	East of 171° W.	16	58	384,885	1,718,848	5,225	54,618	4.3	7	148	42,800
	West of 171° W.	13	167	1,312,116	5,250,687	7,380	160,960	4.0	8	145	176,583
	TOTAL	**24**	**235**	**1,697,001**	**6,969,535**	**12,605**	**214,578**	**4.1**	**8**		**219,383**
1991/92	East of 171° W.	11	50	335,647	1,447,732	3,760	40,604	4.3	8	148	45,100
	West of 171° W.	16	206	1,511,751	6,254,409	7,635	192,949	4.1	8	145	96,848
	TOTAL	**20**	**256**	**1,847,398**	**7,702,141**	**11,395**	**233,553**	**4.2**	**8**		**141,948**
1992/93	East of 171° W.	10	44	330,159	1,375,048	4,222	37,718	4.1	9	148	37,200
	West of 171° W.	18	130	1,198,169	4,916,149	8,236	165,503	4.1	7	147	104,215
	TOTAL	**22**	**174**	**1,528,328**	**6,291,197**	**12,458**	**203,221**	**4.1**	**8**		**141,415**
1993/94	East of 171° W.	4	14	217,788	915,460	2,334	22,490	4.2	10	149	7,324
	West of 171° W.	21	147	1,102,541	4,635,683	11,970	212,164	4.2	5	148	165,358
	TOTAL	**21**	**161**	**1,320,329**	**5,551,143**	**14,304**	**234,654**	**4.2**	**6**		**172,682**
1994/95	East of 171° W.	14	45	384,353	1,750,267	7,378	67,537	4.6	6	148	29,908
	West of 171° W.	34	247	1,539,866	6,378,030	15,604	319,006	4.1	5	150	242,065
	TOTAL	**35**	**292**	**1,924,219**	**8,128,297**	**22,982**	**386,543**	**4.2**	**5**		**271,973**

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Table 1-4.-(Page 3 of 4)

Season	Locale	Number of Vessels[a]	Number of Landings	Number of Crabs[b]	Harvest[b,c]	Number of Pots Registered	Number of Pots Lifted	Average Weight[c]	Average CPUE[d]	Average Length[e]	Deadloss[c]
1995/96	East of 171° W.	17	42	431,867	1,993,980	10,325	65,030	4.6	7	150	14,676
	West of 171° W.	25	139	1,134,274	4,896,926	14,213	226,463	4.2	5	147	338,223
	TOTAL	**28**	**181**	**1,566,141**	**6,890,906**	**24,538**	**291,493**	**4.4**	**5**		**352,899**
1996/97	East of 174° W.	14	70	725,452	3,262,516	9,040	113,460	4.5	6		156,857
	West of 174° W.	13	100	618,498	2,591,720	8,805	100,340	4.2	6		78,973
	TOTAL	**18**	**170**	**1,343,950**	**5,854,236**	**17,845**	**213,800**	**4.4**	**6**	**147**	**235,830**
1997/98	East of 174° W.	15	74	780,609	3,501,054	9,720	106,403	4.5	7	147	131,480
	West of 174° W.	8	160	569,550	2,444,628	5,240	86,811	4.3	7	148	79,525
	TOTAL	**15**	**234**	**1,350,159**	**5,945,682**	**14,960**	**193,214**	**4.4**	**7**	**147**	**211,005**
1998/99	East of 174° W.	14	55	740,011	3,247,863	8,295	83,378	4.4	9	148	82,113
	West of 174° W.	3	44	409,531	1,691,385	1,930	35,920	4.1	11	146	21,218
	TOTAL	**16**	**99**	**1,149,542**	**4,939,248**	**10,225**	**119,298**	**4.3**	**10**	**147**	**103,331**
1999/00	East of 174° W.	15	60	709,332	3,069,886	9,514	79,129	4.3	9	147	67,574
	West of 174° W.	17	113	676,558	2,768,902	10,564	101,040	4.1	7	147	104,675
	TOTAL	**17**	**173**	**1,385,890**	**5,838,788**	**20,078**	**180,169**	**4.2**	**8**	**147**	**172,249**
2000/01	East of 174° W.	15	50	704,702	3,134,079	10,598	71,551	4.5	10	147	55,999
	West of 174° W.	12	100	705,613	2,884,682	8,910	101,239	4.1	7	145	53,158
	TOTAL	**17**	**150**	**1,410,315**	**6,018,761**	**19,508**	**172,790**	**4.3**	**8**	**146**	**109,157**
2001/02	East of 174° W.	19	45	730,030	3,178,652	12,927	62,639	4.4	12	147	50,030
	West of 174° W.	9	90	686,738	2,740,054	8,491	105,512	4.0	7	145	43,519
	TOTAL	**21**	**134**	**1,416,768**	**5,918,706**	**21,418**	**168,151**	**4.2**	**8**	**146**	**93,549**

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Table 1-4.-(Page 4 of 4)

Season	Locale	Number of Vessels[a]	Number of Landings	Number of Crabs[b]	Harvest[b,c]	Number of Pots Registered	Number of Pots Lifted	Average Weight[c]	Average CPUE[d]	Average Length[e]	Deadloss[c]
2002/03	East of 174° W.	19	43	643,886	2,821,851	11,834	52,042	4.4	12	148	55,425
	West of 174° W.	6	72	664,832	2,640,604	6,225	78,979	4.0	8	146	32,101
	TOTAL	**22**	**115**	**1,308,718**	**5,462,455**	**18,059**	**131,021**	**4.2**	**10**	**147**	**87,526**
2003/04	East of 174° W.	18	37	643,074	2,977,055	12,518	58,883	4.6	11	149	76,006
	West of 174° W.	6	60	676,633	2,688,773	7,140	66,236	4.0	10	146	49,321
	TOTAL	**21**	**96**	**1,319,707**	**5,665,828**	**19,658**	**125,119**	**4.3**	**11**	**147**	**301,111**
2004/05	East of 174° W.	19	32	637,536	2,886,817	13,165	34,848	4.5	18	148	43,576
	West of 174° W.	6	51	685,465	2,688,234	7,240	56,846	3.9	12	146	43,560
	TOTAL	**22**	**83**	**1,323,001**	**5,575,051**	**20,405**	**91,694**	**4.2**	**14**	**147**	**87,136**

[a] Many vessels fished both east and west locales, thus total number of vessels reflects registrations for entire Aleutian Islands.

[b] Deadloss included.

[c] In pounds.

[d] Number of legal crabs per pot lift.

[e] Carapace length in millimeters, from observer database.

Table 1-5.-Aleutian Islands golden king crab fishery economic performance data, 1981/82 - 2004/05.

			Value		Season Length	
Year	Locale	GHL[a]	Ex-vessel[b]	Total[c]	Days	Dates
1981/82	East of 172° W.	7.0 - 17.0[d]	$2.05	$0.22	75	11/01-01/15
	West of 172° W.	NA	$2.06	$2.41	227	11/01-06/15
	Total	**-**	**$2.06**	**$2.63**		
1982/83	East of 172° W.	NA	$3.00	$3.41	105	11/01-02/15
	West of 172° W.	NA	$3.01	$23.43	166	11/01-04/15
	Total		**$3.01**	**$26.85**		
1983/84	East of 172° W.	NA	$3.05	$5.38	105	11/01-02/15
	West of 172° W.		$2.92	$23.23	157	11/10-04/15
	Total		**$2.94**	**$28.62**		
1984/85	East of 171° W.	NA	$1.35	$1.96	229	07/01-02/15
	West of 171° W.		$2.00	$6.11	240	11/10-07/08
	Total		**$1.79**	**$8.07**		
1985/86	East of 171° W.	NA	$2.00	$3.86	121	07/01-10/31
	West of 171° W.		$2.50	$27.80	288	11/01-08/15
	Total		**$2.43**	**$31.66**		
1986/87	East of 171° W.	NA	$2.85	$5.30	182	07/01-12/31
	West of 171° W.		$3.00	$37.56	288	11/01-08/15
	Total		**$2.98**	**$42.86**		
1987/88	East of 171° W.	NA	$2.85	$3.87	62	07/01-09/02
	West of 171° W.		$3.00	$23.51	289	11/01-08/15
	Total		**$2.98**	**$27.38**		
1988/89	East of 171° W.	NA	$3.00	$4.57	93	09/01-12/04
	West of 171° W.		$3.20	$28.66	288	11/01-08/15
	Total		**$3.17**	**$33.23**		
1989/90	East of 171° W.	NA	$3.50	$6.42	104	09/01-12/15
	West of 171° W.		$3.00	$30.18	288	11/01-08/15
	Total		**$3.08**	**$36.61**		
1990/91	East of 171° W.	NA	$3.00	$5.03	68	09/01-11/09
	West of 171° W.		$3.00	$15.22	288	11/01-08/15
	Total		**$3.00**	**$20.25**		
1991/92	East of 171° W.	NA	$2.00	$2.81	74	09/01-11/15
	West of 171° W.		$2.50	$15.39	289	11/01-08/15
	Total		**$2.41**	**$18.20**		
1992/93	East of 171° W.	NA	$2.50	$3.30	76	09/01-11/17
	West of 171° W.		$2.05	$9.86	288	11/01-08/15
	Total		**$2.15**	**$13.16**		
1993/94	East of 171° W.	NA	$2.15	$1.95	212	09/01-03/1
	West of 171° W.		$2.50	$11.18	288	11/01-08/15
	Total		**$2.44**	**$13.13**		

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Table 1-5.-(Page 2 of 2)

Year		GHL[a]	Value		Season Length	
			Ex-vessel[b]	Total[c]	Days	Dates
1994/95	East of 171° W.	NA	$4.00	$6.88	57	09/01-10/28
	West of 171° W.		$3.33	$20.43	288	11/01-08/15
	Total		**$3.48**	**$27.31**		
1995/96	East of 171° W.	1.5	$2.60	$5.15	38	09/01-10/09
	West of 171° W.	5.0 - 6.0	$2.10	$9.57	289	11/01-08/15
	Total	**-**	**$2.25**	**$14.72**		
1996/97	East of 174° W.	3.2	$2.23	$6.93	115	09/01-12/25
	West of 174° W.	2.7	$2.23	$5.60	365	09/01-08/31
	Total	**5.9**	**$2.23**	**$12.53**		
1997/98	East of 174° W.	3.2	$2.25	$7.58	84	09/01-11/24
	West of 174° W.	2.7	$2.10	$4.96	365	09/01-08/31
	Total	**5.9**	**$2.19**	**$12.54**		
1998/99	East of 174° W.	3.0	$1.87	$5.92	68	09/01-11/07
	West of 174° W.	2.7	$2.04	$3.41	365	09/01-08/31
	Total	**5.7**	**$1.92**	**$9.33**		
1999/00	East of 174° W.	3.0	$3.26	$9.78	55	09/01-10/25
	West of 174° W.	2.7	$3.09	$8.23	348	09/01-8/14
	Total	**5.7**	**$3.15**	**$18.01**		
2000/01	East of 174° W.	3.0	$3.50	$10.77	40	08/15-09/24
	West of 174° W.	2.7	$3.09	$8.75	286	08/15-05/28
	Total	**5.7**	**$3.33**	**$19.52**		
2001/02	East of 174° W.	3.0	$3.30	$10.26	26	08/15-09/10
	West of 174° W.	2.7	$2.93	$7.87	227	08/15-03/30
	Total	**5.7**	**$3.16**	**$18.13**		
2002/03	East of 174° W.	3.0	$3.30	$9.13	23	08/15-09/07
	West of 174° W.	2.7	$3.50	$9.13	205	08/15-03/08
	Total	**5.7**	**$3.38**	**$18.26**		
2003/04	East of 174° W.	3.0	$3.46	$10.05	24	08/15-09/08
	West of 174° W.	2.7	$3.83	$10.11	175	08/15-02/06
	Total	**5.7**	**$3.61**	**$20.16**		
2004/05	East of 174° W.	3.0	$3.18	$9.05	14	8/15-8/29
	West of 174° W.	2.7	$3.09	$8.16	141	8/15-1/03
	Total	**5.7**	**$3.14**	**$17.23**		

[a] Guideline harvest level, millions of pounds. Prior to 1996/97, management was based on size, sex, and season.

[b] Average price per pound.

[c] Millions of dollars.

[d] GHL includes all king crab species.

Table 1-6.-Aleutian Islands golden king crab catch by statistical area, 2004/05.

Locale	Statistical Area	Number of Landings	Number of Crab[a]	Number of Pots lifted	Harvest[a,b]	Average Weight[b]	Average CPUE[c]	Deadloss[b]
Yunaska Island	705200	6	87,762	4423	405,341	4.6	20	12,029
	705232	13	140,975	6,324	644,735	4.6	22	5,792
	705300	6	41,281	1930	185,649	4.5	21	1,864
Amukta Pass	715202	4	54,792	2,407	243,672	4.4	23	4,192
	715231	6	58,316	2,554	244,582	4.2	23	2,877
Seguam Pass	725201	10	86,690	4,768	391,654	4.5	18	4,813
Seguam Island	725203	4	10,382	486	46,615	4.5	21	716
Seguam Pass	725230	5	12,776	811	57,890	4.5	16	984
Kasatochi/Koniuji Islands	755201	5	2,969	565	12,523	4.2	5	290
Adak Island	765144	5	2,132	325	8,913	4.2	7	169
	765205	5	1,492	360	6,121	4.1	4	131
Kanaga/Tanaga Islands	775133	9	4,999	946	20,666	4.1	5	397
Bobrof Island	775137	8	3,538	746	14,442	4.1	5	279
Tanaga Island	785132	10	3,057	394	11,601	3.8	8	186
Amchitka Pass	795132	17	26,668	1,470	100,036	3.8	18	870
Other[d]		448	785,172	63,185	3,180,611	4.1	12	51,547
Total		**83**	**1,323,001**	**91,694**	**5,575,051**			**87,136**

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crabs per pot lift.

[d] Combination of 83 statistical areas in which landings were made by fewer than three vessels.

Table 1-7.-Aleutian Islands scarlet king crab fishery data, 1992-2004.

		Number of					Average		Value		
Year	Area	Vessels	Landings	Crabs[a]	Pots lifted	Harvest[a,b]	Weight[b]	CPUE[c]	Ex-vessel[d]	Total[e]	Deadloss[b]
1992	Dutch Harbor					NO LANDINGS					
	Adak	1				CONFIDENTIAL					
1993	Dutch Harbor					NO LANDINGS					
	Adak					NO LANDINGS					
1994	Dutch Harbor	1				CONFIDENTIAL					
	Adak	5	9	6,613	7,370	21,269	3.2	1	$1.24	$26.4	10,829
	Total	6				CONFIDENTIAL					
1995	Dutch Harbor	3	7	6,270	5,706	13,871	2.2	1	$3.01	$41.8	1,755
	Adak	6	18	19,544	15,046	49,126	2.5	1	$2.95	$144.9	2,066
	Total	8	21	25,814	20,752	62,997	2.4	1	$1.89	$186.7	3,821
1996	Dutch Harbor	3	10	10,124	8,247	20,839	2.1	1	$1.78	$37.1	4,002
	Adak	4	13	10,199	18,547	24,161	2.4	<1	$1.80	$43.5	1,861
	Total	7	23	20,323	29,417	45,000	2.2	<1	$1.79	$80.6	5,851
1997	Aleutian Islands	3	12	2,698	21,217	6,720	2.5	1	$1.40	$9.4	408
1998	Aleutian Islands	2				CONFIDENTIAL					
1999	Aleutian Islands	1				CONFIDENTIAL					
2000	Aleutian Islands	2				CONFIDENTIAL					
2001	Aleutian Islands	2				CONFIDENTIAL					
2002	Aleutian Islands	2				CONFIDENTIAL					
2003	Aleutian Islands	2				CONFIDENTIAL					
2004	Aleutian Islands	2				CONFIDENTIAL					

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crabs per pot lift.

[d] Average price per pound.

[e] Thousands of dollars.

Confidential = Less than three vessels or processors participated in fishery.

Table 1-8.-Eastern Aleutian District Tanner crab fishery data, 1973/74 - 2004.

		Number of						Average		
Season	Locale	Vessels	Landings	Crabs	Pots lifted	GHL	Harvest[a,b]	Weight[b]	CPUE[c]	Deadloss[b]
1973/74		6	14	210,539	NA	NA	498,836	2.4	60	0
1974/75						CONFIDENTIAL				
1975/76		8	13	219,166	4,646	NA	534,295	2.4	47	0
1976/77		12	35	544,755	9,640	NA	1,239,569	2.3	57	0
1977/78		15	198	1,104,631	29,855	NA	2,494,631	2.3	37	0
1978/79		20	174	542,081	18,618	NA	1,280,115	2.4	29	0
1979/80		18	107	352,819	18,040	NA	886,487	2.5	20	NA
1981		29	119	264,238	21,771	NA	654,514	2.5	12	NA
1982		31	138	332,260	30,109	NA	739,694	2.2	11	NA
1983		23	107	250,774	22,168	NA	547,830	2.2	11	NA
1984		16	91	104,761	11,069	NA	239,585	2.3	9	NA
1985		7	56	78,930	6,295	NA	181,407	2.3	13	60
1986		8	37	73,187	10,244	NA	167,339	2.3	7	400
1987		8	65	72,098	5,915	NA	162,097	2.2	12	115
1988		20	130	129,478	11,011	NA	309,918	2.4	12	2,000
1989		12	108	144,593	14,615	NA	326,196	2.3	10	2,300
1990		10	75	68,859	6,858	NA	155,648	2.3	10	0
1991		5	27	21,511	1,849	NA	50,038	2.3	12	0
1992		4	29	42,096	2,963	NA	98,703	2.3	14	0
1993		7	34	51,441	3,530	NA	118,609	2.3	15	0
1994		8	119	71,760	6,303	NA	166,080	2.3	11	40
1995-2002						FISHERY CLOSED				
2003[d]		3	10	6,695	191		15,138	2.3	35	9
2004	Unalaska Bay	10	36	*	*	47,219	*	2.3	*	*
	Makushin/Skan	9	14	*	*	87,891	*	2.3	*	*
	Total	**14**	**50**	*****	*****	**135,110**	*****	**2.3**	*****	*****

[a] Deadloss included beginning 1985.

[b] In pounds.

[c] Number of legal crabs per pot lift.

[d] January/February survey (fish ticket harvest code 15).

NA = Not Available.

*Confidential = Less than three vessels or processors participated in fishery.

Table 1 9.-Eastern Aleutian District Tanner crab fishery economic performance data, 1973/74 - 2004.

	Date		Value	
Season	Opened	Closed	Exvessel[a]	Total[b]
1973/74	1-Oct	31-Jul	NA	
1974/75	18-Jan	15-Oct	NA	
1975/76	20-Jan	15-Oct	$0.20	$0.11
1976/77	7-Nov	15-Jun	$0.30	$0.38
1977/78	1-Nov	15-Jun	$0.38	$0.95
1978/79	1-Nov	15-Jun	$0.52	$0.67
1979/80	1-Nov	15-Jun	$0.52	$0.46
1981	15-Jan	15-Jun	$0.58	$0.38
1982	15-Feb	15-Jun	$1.25	$0.92
1983	15-Feb	15-Jun	$1.20	$0.66
1984	15-Feb	15-Jun	$0.98	$0.23
1985	15-Jan	15-Jun	$0.96	$0.17
1986	15-Jan	15-Jun	$1.66	$0.28
1987	15-Jan	15-Jun	$2.03	$0.33
1988	15-Jan	10-Apr	$2.18	$0.67
1989	15-Jan	7-May	$2.72	$0.88
1990	15-Jan	9-Apr	$1.97	$0.31
1991	15-Jan	31-Mar	$1.25	$0.06
1992	15-Jan	31-Mar	$2.07	$0.20
1993	15-Jan	31-Mar	$1.70	$0.20
1994	15-Jan	31-Mar	$2.11	$0.35
1995-2003	FISHERY CLOSED			
2004	15-Jan	3-Feb	CONFIDENTIAL	

[a] Average price per pound.

[b] Millions of dollars.

NA = Not Available.

Confidential = Less than three vessels or processors participated in fishery.

Table 1-10.-Eastern Aleutian District grooved Tanner crab fishery data, 1993 - 2004.

	Number of					Average		Value		
Year	Vessels	Landings	Crabs[a]	Pots lifted	Harvest[a,b]	Weight[b]	CPUE[c]	Exvessel[d]	Total[e]	Deadloss[b]
1993	1				CONFIDENTIAL					
1994	4	28	443,125	38,323	773,083	1.7	12	$1.72	$1.3	19,474
1995	8	55	512,655	78,400	882,667	1.7	7	$1.57	$1.4	30,373
1996	3	25	57,394	24,862	108,953	1.9	2	$0.99	$0.1	8,003
1997-2000					NO LANDINGS					
2001	1				CONFIDENTIAL					
2002 - 2004					NO LANDINGS					

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crabs per pot lift.

[d] Average price per pound.

[e] Millions of dollars.

Confidential = Less than three vessels or processors participated in fishery.

Table 1-11.-Eastern Aleutian District triangle Tanner crab fishery data, 1993 - 2004.

	Number of					Average		Value		
Year	Vessels	Landings	Crabs[a]	Pots lifted	Harvest[a,b]	Weight[b]	CPUE[c]	Exvessel[d]	Total[e]	Deadloss[b]
1993					NO LANDINGS					
1994					NO LANDINGS					
1995	2				CONFIDENTIAL					
1996	2				CONFIDENTIAL					
1997-2000					NO LANDINGS					
2001	1				CONFIDENTIAL					
2002 - 2004					NO LANDINGS					

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crabs per pot lift.

[d] Average price per pound.

[e] Millions of dollars.

Confidential = Less than three vessels or processors participated in fishery.

Table 1-12.-Western Aleutian District Tanner crab fishery data, 1973/74 - 2004/05.

	Number of					Average		
Year	Vessels	Landings	Crabs[a]	Pots lifted	Harvest[a,b]	Weight[b]	CPUE[c]	Deadloss[b]
1973/74	7	12	31,079	2,390	71,887	2.3	13	NA
1974/75				C O N F I D E N T I A L				
1975/76				C O N F I D E N T I A L				
1976/77				NO LANDINGS				
1977/78	6	7	103,190	2,700	237,512	2.3	38	NA
1978/79	6	9	84,129	4,730	197,244	2.3	18	0
1979/80	10	12	147,843	5,952	337,297	2.3	25	NA
1980/81	9	23	95,102	7,327	220,716	2.3	13	0
1981/82	17	43	364,164	21,910	838,697	2.3	17	6,470
1982/83	61	125	225,491	40,450	488,399	2.2	6	7,662
1983/84	31	86	171,576	20,739	384,146	2.2	8	200
1984/85	31	41	75,009	13,416	163,460	2.2	6	1,000
1985/86	15	30	98,089	7,999	206,814	2.1	12	0
1986/87	8	24	19,874	10,878	42,761	2.1	2	200
1987/88	15	37	63,545	7,453	141,390	2.2	9	200
1988/89	36	77	69,280	18,906	148,997	2.1	4	233
1989/90	12	30	22,937	6,204	48,746	2.1	4	3,810
1990/91	5	21	6,901	1,309	14,779	2.1	5	125
1991/92	8	8	3,483	986	7,825	2.2	4	NA
1992/93	2			C O N F I D E N T I A L				
1993/94				NO LANDINGS				
1994/95				NO LANDINGS				
1995/96	1			C O N F I D E N T I A L				
1996/97 - 2004/05				FISHERY CLOSED				

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crabs per pot lift.

NA = Not available.

Confidential = Less than three vessels or processors participated in fishery.

Table 1-13.-Western Aleutian District commercial Tanner crab fishery economic data, 1973/74 - 2004/05.

Year	Value	
	Exvessel[a]	Total
1973/74	NOT AVAILABLE	
1974/75	CONFIDENTIAL	
1975/76	CONFIDENTIAL	
1976/77	NO LANDINGS	
1977/78	$0.38	$90,255
1978/79	$0.53	$104,539
1979/80	$0.52	$175,394
1980/81	$0.54	$119,187
1981/82	$1.30	$1,081,895
1982/83	$1.27	$610,536
1983/84	$0.95	$364,749
1984/85	$1.30	$211,198
1985/86	$1.40	$289,540
1986/87	$1.50	$63,842
1987/88	$2.10	$296,499
1988/89	$1.00	$148,764
1989/90	$1.00	$44,936
1990/91	$1.25	$18,318
1991/92	$1.00	$7,825
1992/93	CONFIDENTIAL	
1993/94	NO LANDINGS	
1994/95	NO LANDINGS	
1995/96	CONFIDENTIAL	
1996/97 - 2004/05	FISHERY CLOSED	

[a] Average price per pound.

Confidential = Less than three vessels or processors participated in fishery.

Table 1-14.-Western Aleutian District grooved Tanner crab fishery data, 1992 - 2004.

Year	Number of		Harvest[a,b]	Average		Value		Deadloss[b]
	Vessels	Pots lifted		Weight[b]	CPUE[c]	Exvessel[d]	Total[e]	
1992	1			CONFIDENTIAL				
1993				NO LANDINGS				
1994	2			CONFIDENTIAL				
1995	6	17,749	145,795	1.9	4	$2.45	$0.36	17,190
1996	1			CONFIDENTIAL				
1997-1998				NO LANDINGS				
1999-2004				FISHERY CLOSED				

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crabs per pot lift.

[d] Average price per pound.

[e] Millions of dollars.

Confidential = Less than three vessels or processors participated in fishery.

Table 1-15.-Aleutian District Dungeness crab fishery data, 1974 - 2004/05.

Year	Season Dates	Number of Vessels	Number of Landings	Number of Crabs[a]	Number of Pots Lifted	Harvest[a,b]	Average Weight[b]	Average CPUE[c]	Average Price/pound
1974	01/01-12/31	3	13	24,459	3,399	60,517	2.4	8	NA
1975	01/01-12/31				C O N F I D E N T I A L				
1976/77	05/01-01/01				NO LANDINGS				
1977/78	05/01-01/01				NO LANDINGS				
1978/79	05/01-01/01				C O N F I D E N T I A L				
1979/80	05/01-01/01				C O N F I D E N T I A L				
1980/81	05/01-01/01				NO LANDINGS				
1981/82	05/01-01/01				NO LANDINGS				
1982/83	05/01-01/01				C O N F I D E N T I A L				
1983/84	05/01-01/01				C O N F I D E N T I A L				
1984/85	05/01-01/01	4	50	40,128	13,555	91,739	2.3	3	$1.35
1985/86	05/01-01/01	4	19	8,590	1,706	17,830	2.1	5	NA
1986/87	05/01-01/01	2			C O N F I D E N T I A L				
1987/88	05/01-01/01	5	43	13,247	2,987	26,627	2.0	4	$0.95
1988/89	05/01-01/01	6	45	10,814	2,581	22,634	2.1	4	$0.90
1989/90	05/01-01/01	4	31	5,165	2,078	11,124	2.1	2	$0.90
1990/91	05/01-01/01	3	11	8,379	1,345	17,365	2.1	6	$0.90
1991/92	05/01-01/01	4	14	3,654	732	7,412	2.0	5	$1.25
1992/93	05/01-01/01	4	13	2,854	555	5,649	2.0	5	$0.83
1993/4	05/01-01/01	5	12	3,448	797	7,531	2.2	4	$0.78
1994/95-2000/01	05/01-01/01				NO LANDINGS				
2001/02	05/01-01/01	1			C O N F I D E N T I A L				
2002/03	05/01-01/01	1			C O N F I D E N T I A L				
2003/04	05/01-01/01				NO LANDINGS				
2004/05	05/01-01/01				NO LANDINGS				

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crabs per pot lift.

NA = Not available.

Confidential = Less than three vessels or processors participated in fishery.

Table 1-16.-Aleutian Islands District trawl shrimp fishery data, 1972 - 2004.

		Number of				Value	
Year	Season Dates	Vessels	Landings	Tows	Harvest[a]	Exvessel[b]	Total[c]
1972	1/1 - 12/1				CONFIDENTIAL		
1973	1/1 - 12/1				CONFIDENTIAL		
1974	1/1 - 12/1	7	88	721	5,749,407	NA	NA
1975	1/1 - 12/1	4	14	54	467,196	NA	NA
1976	1/1 - 12/1	8	66	689	3,670,609	$0.07	$0.26
1977/78	2/1 - 3/1	7	93	1,372	6,800,393	$0.12	$0.82
1978/79	4/1 - 3/1	7	74	1,007	4,946,350	$0.15	$0.74
1979/80	4/1 - 2/1	7	68	799	3,292,049	$0.20	$0.66
1980	3/1 - 12/1	4	60	711	2,454,829	$0.23	$0.56
1981	3/1 - 12/2	6	45	551	2,185,326	$0.22	$0.48
1982	5/1 - 6/1				CONFIDENTIAL		
1983-1991					NO LANDINGS		
1992	1/1 - 12/1	4	6	94	72,133	NA	NA
1993-1998					NO LANDINGS		
1999	1/1 - 7/9	2			CONFIDENTIAL		
2000-2004					FISHERY CLOSED		

[a] In pounds.

[b] Average price per pound.

[c] Millions of dollars.

NA = Not available.

Confidential = Less than three vessels or processors participated in fishery.

Table 1-17.-Aleutian Islands miscellaneous shellfish fishery data 1996 - 2004.

Year	Fishery	Number of Vessels	Number of Landings	Harvest[a]
1996	Octopus	35	119	62,214
	Sea Urchins	6	15[b]	3,701
	Sea Cucumbers	NO LANDINGS		
	Hair Crab	NO LANDINGS		
	Snails	NO LANDINGS		
	Paralomis multispina	NO LANDINGS		
1997	Octopus[c]	38	107	73,472
	Sea Urchins	NO LANDINGS		
	Sea Cucumbers	NO LANDINGS		
	Hair Crab	NO LANDINGS		
	Snails	NO LANDINGS		
	Paralomis multispina			
1998	Octopus	CONFIDENTIAL		
	Octopus[c]	24	75	29,360
	Sea Urchins	NO LANDINGS		
	Sea Cucumbers	NO LANDINGS		
	Hair Crab	NO LANDINGS		
	Snails	NO LANDINGS		
	Paralomis multispina	NO LANDINGS		
1999	Octopus[c]	34	95	115,322
	Sea Urchins	NO LANDINGS		
	Sea Cucumbers	NO LANDINGS		
	Hair Crab	NO LANDINGS		
	Snails	NO LANDINGS		
	Paralomis multispina	NO LANDINGS		
2000	Octopus[c]	31	91	21,265
	Sea Urchins	NO LANDINGS		
	Sea Cucumbers	NO LANDINGS		
	Hair Crab	NO LANDINGS		
	Snails	NO LANDINGS		
	Paralomis multispina	NO LANDINGS		
2001	Octopus[c]	25	51	13,097
	Sea Urchins	NO LANDINGS		
	Sea Cucumbers	NO LANDINGS		
	Hair Crab	NO LANDINGS		
	Snails	NO LANDINGS		
	Paralomis multispina	NO LANDINGS		

-continued-

Table 1-17.-(Page 2 of 2)

Year	Fishery	Number of Vessels	Number of Landings	Harvest[a]
2002	Octopus[c]	56	186	96,585
	Sea Urchins	NO LANDINGS		
	Sea Cucumbers	NO LANDINGS		
	Hair Crab	NO LANDINGS		
	Snails	NO LANDINGS		
	Paralomis multispina	NO LANDINGS		
2003	Octopus[c]	70	313	242,946
	Sea Urchins	NO LANDINGS		
	Sea Cucumbers	NO LANDINGS		
	Hair Crab	NO LANDINGS		
	Snails	NO LANDINGS		
	Paralomis multispina	NO LANDINGS		
2004	Octopus[c]	72	401	720,997
	Octopus, state-waters[d]	14	31	Confidential
	Total	**86**	**432**	
	Sea Urchins	NO LANDINGS		
	Sea Cucumbers	NO LANDINGS		
	Hair Crab	NO LANDINGS		
	Snails	NO LANDINGS		
	Paralomis multispina	NO LANDINGS		

[a] In pounds. Deadloss included.

[b] Dives.

[c] Octopus bycatch.

[d] Commissioner's permit fishery.

Confidential = Less than three vessels or processors participated in fishery.

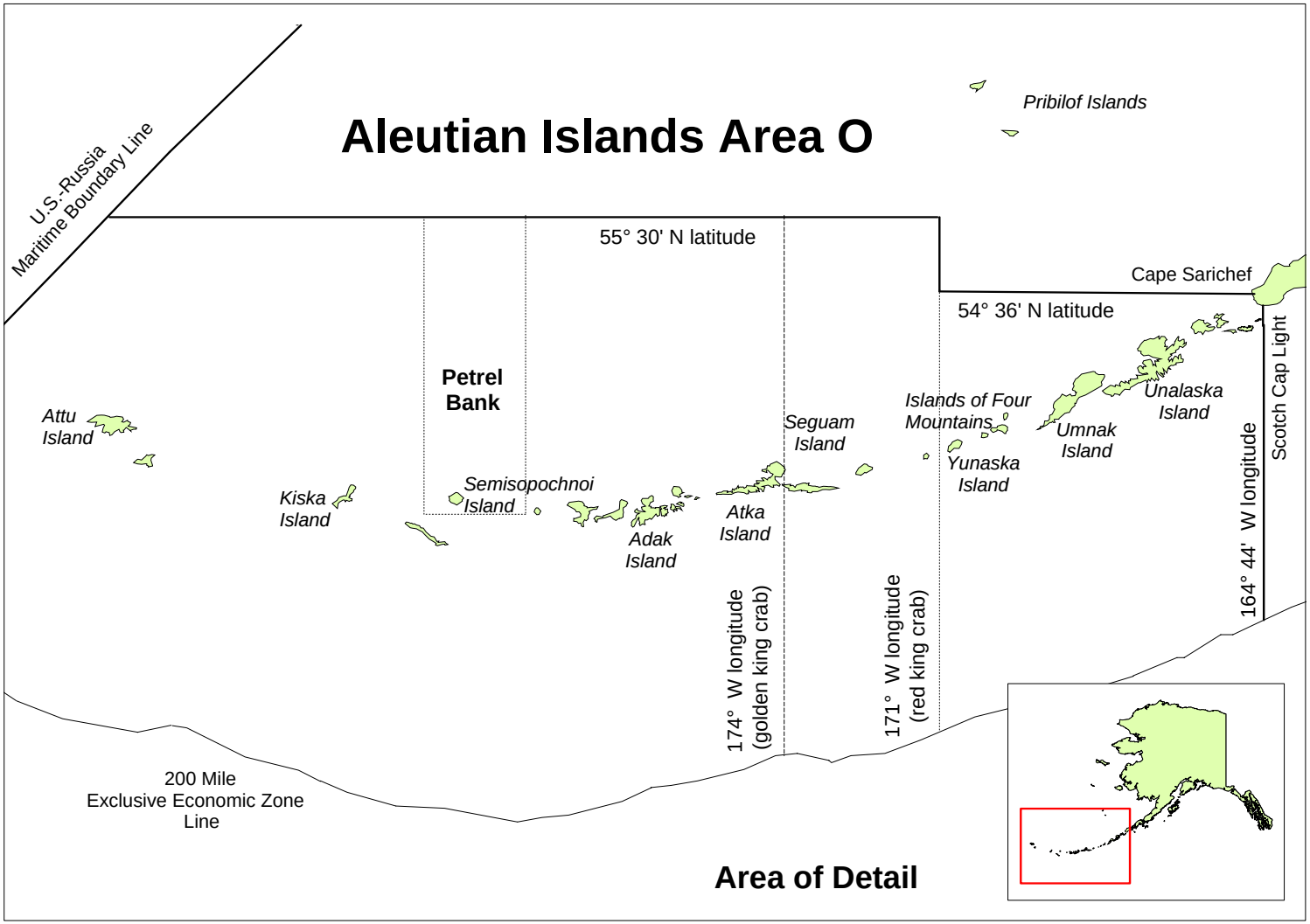

Figure 1-1.-Aleutian Islands, Area O, king crab management area.

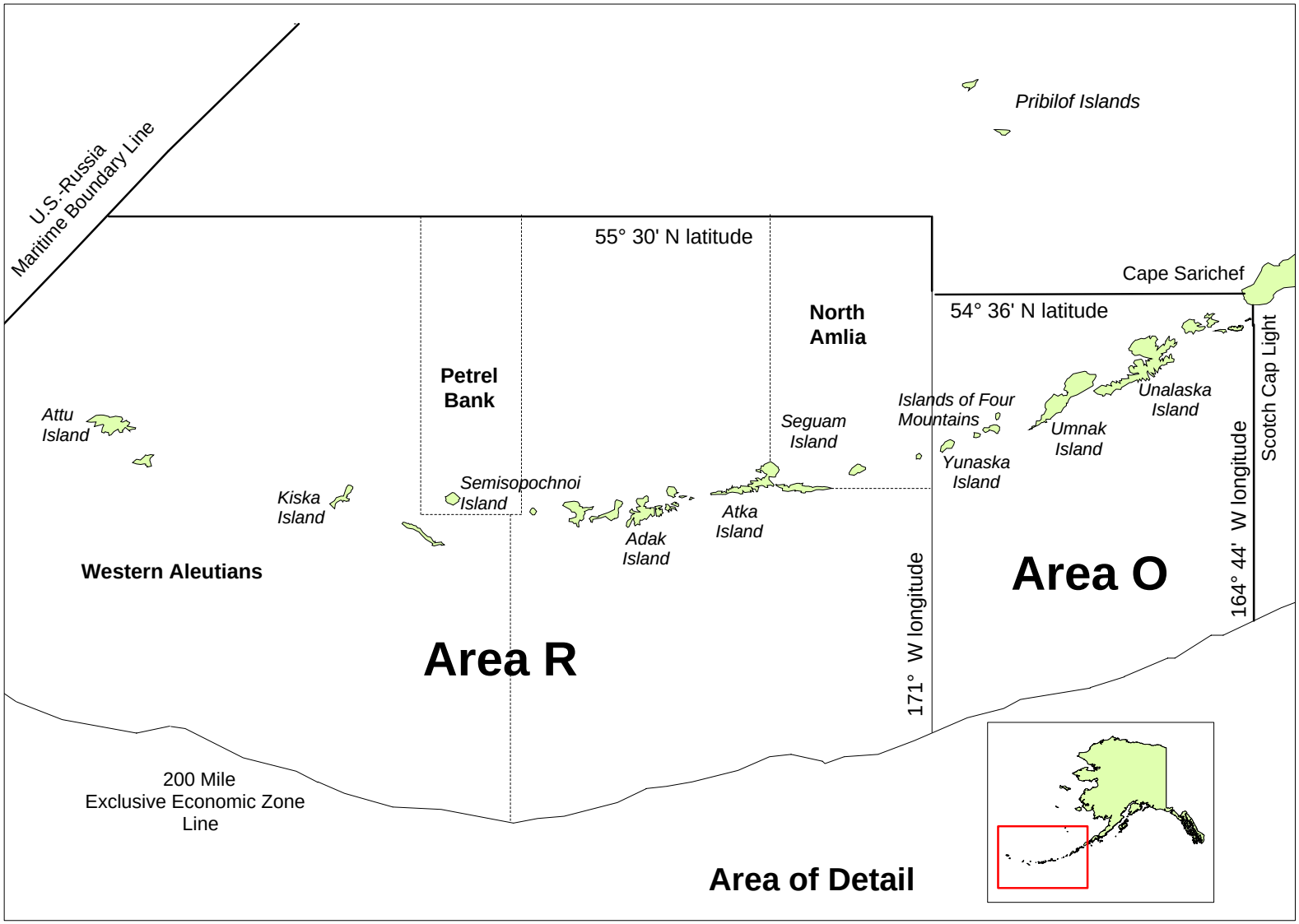

Figure 1-2.-Adak (Area R) and Dutch Harbor (Area O) king crab Registration Areas and Districts 1981/82 – 1996/97.

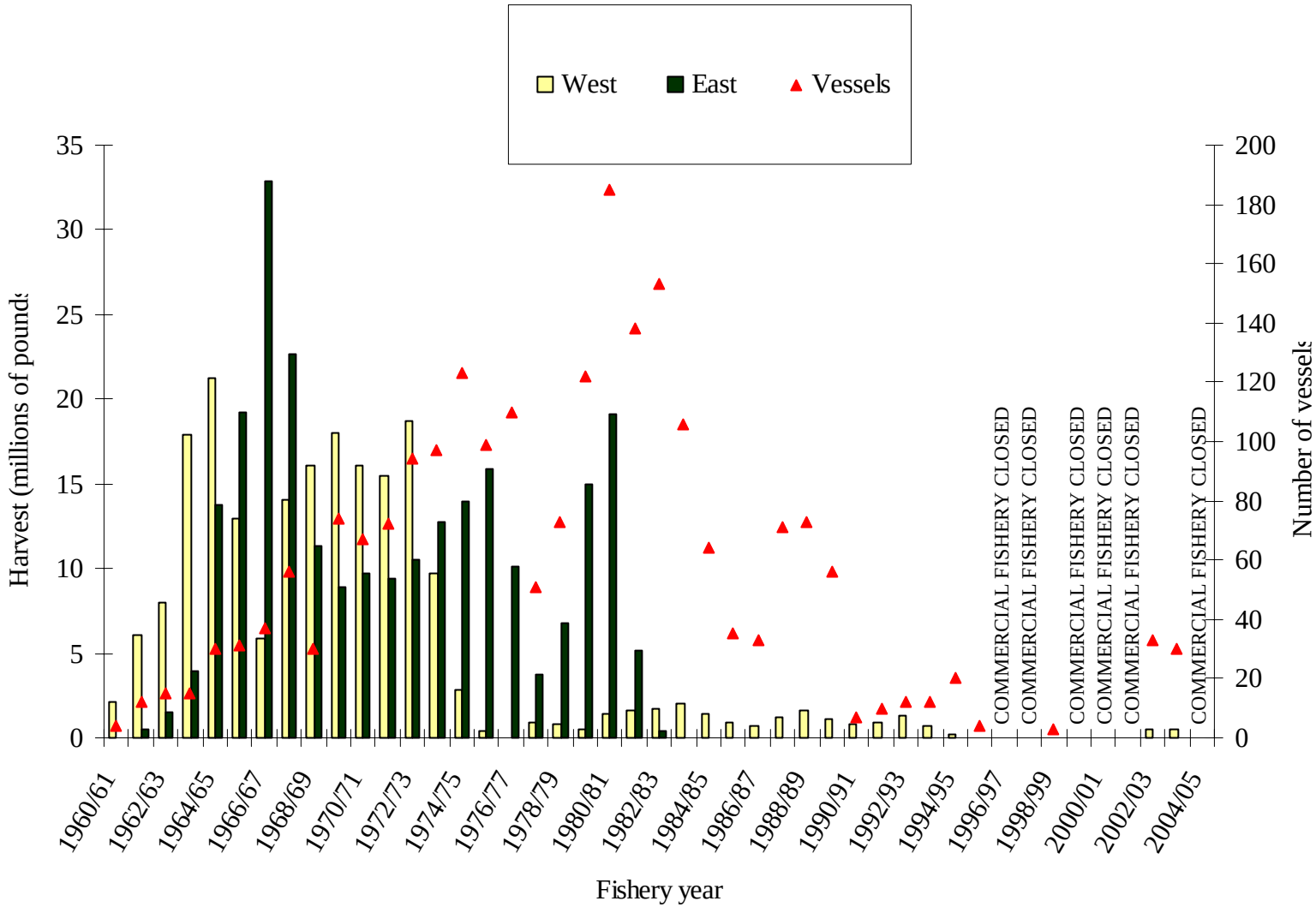

Figure 1-3.-Aleutian Islands red king crab fishery harvest and vessel effort, 1960/61 - 2004/05.

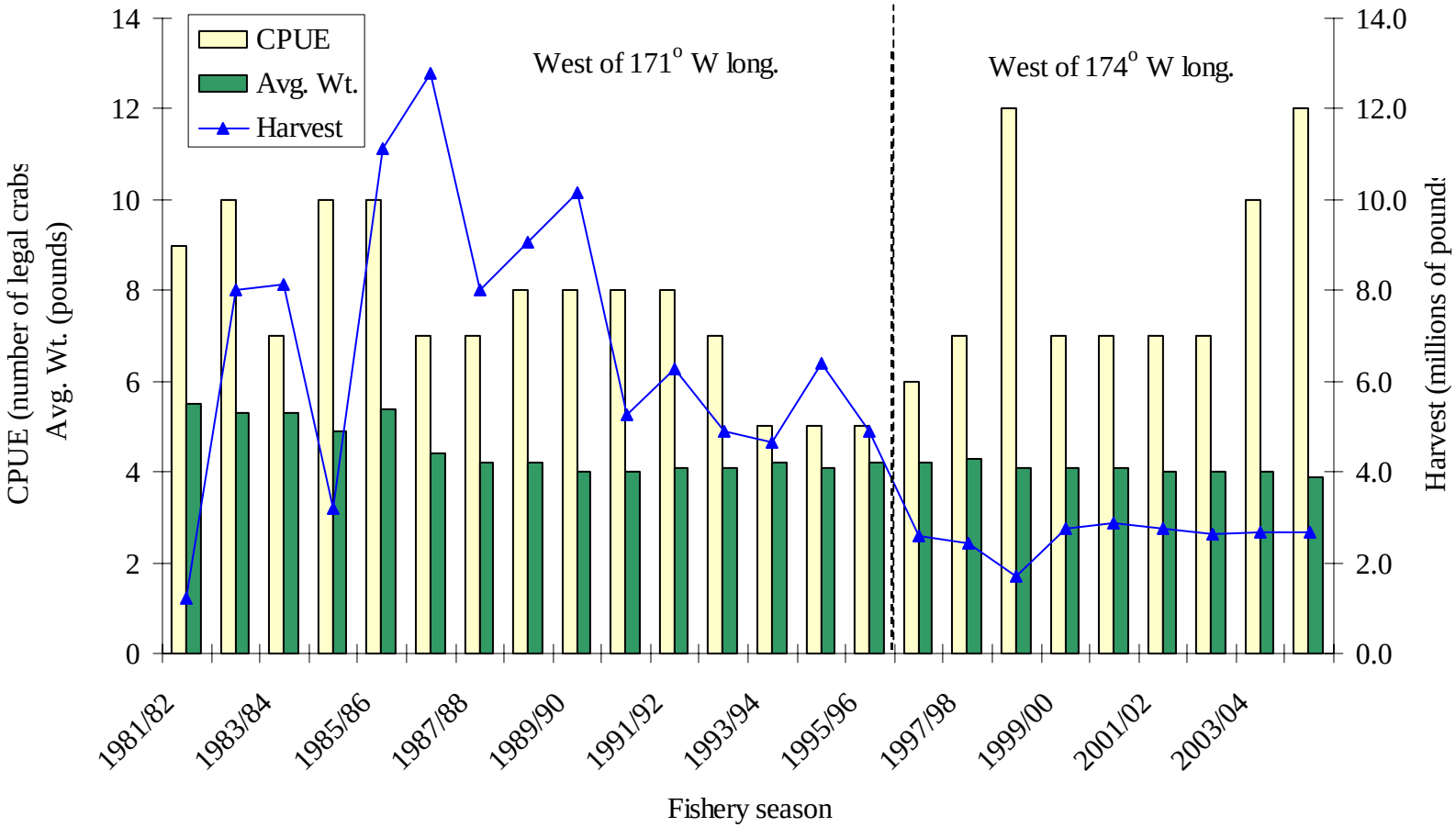

Figure 1-4.-Western Aleutian Islands golden king crab fishery harvest, fishery performance and average weight data for the 1981/82 - 2004/05 seasons.

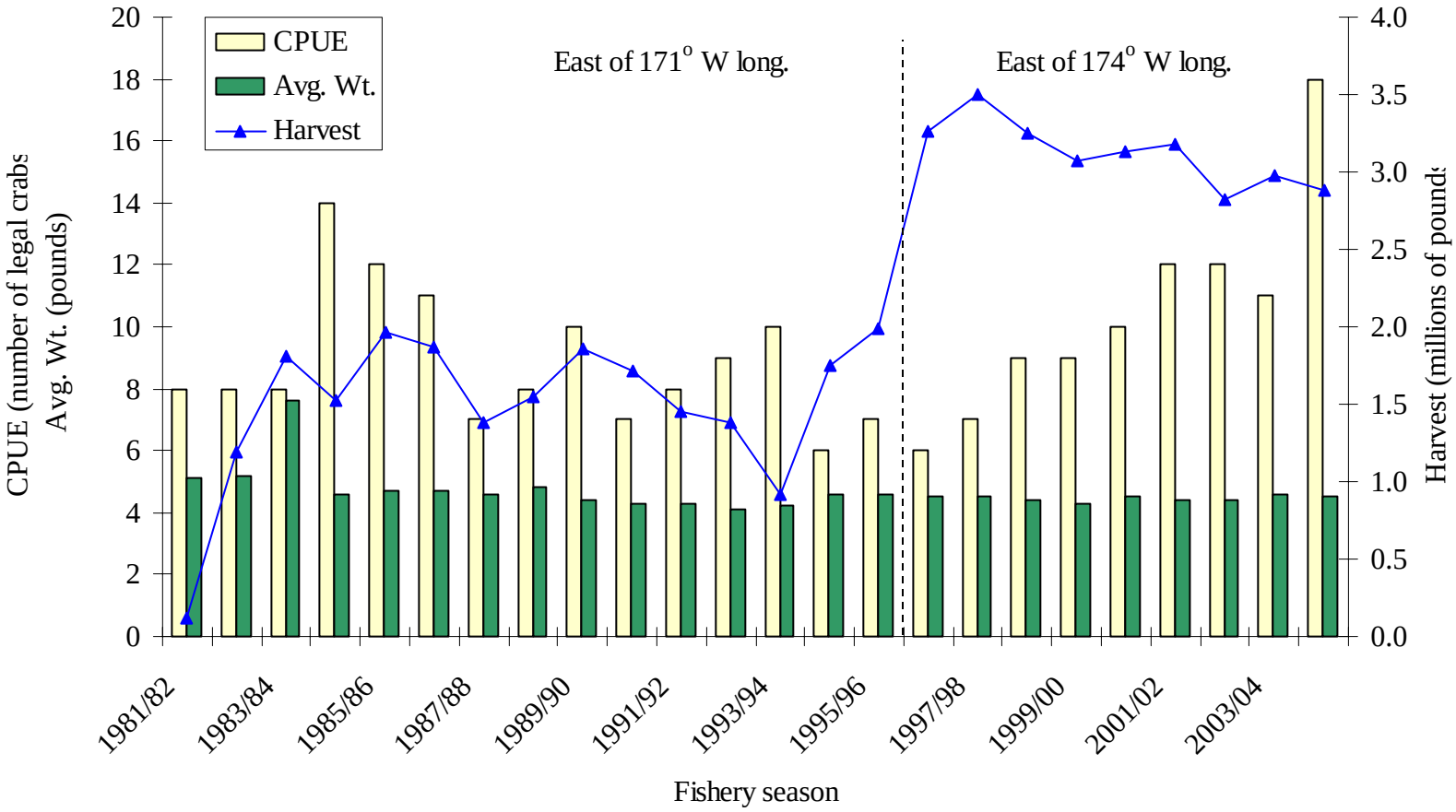

Figure 1-5.-Eastern Aleutian Islands golden king crab fishery harvest, fishery performance and average weight data, 1981/82 - 2004/05 seasons.

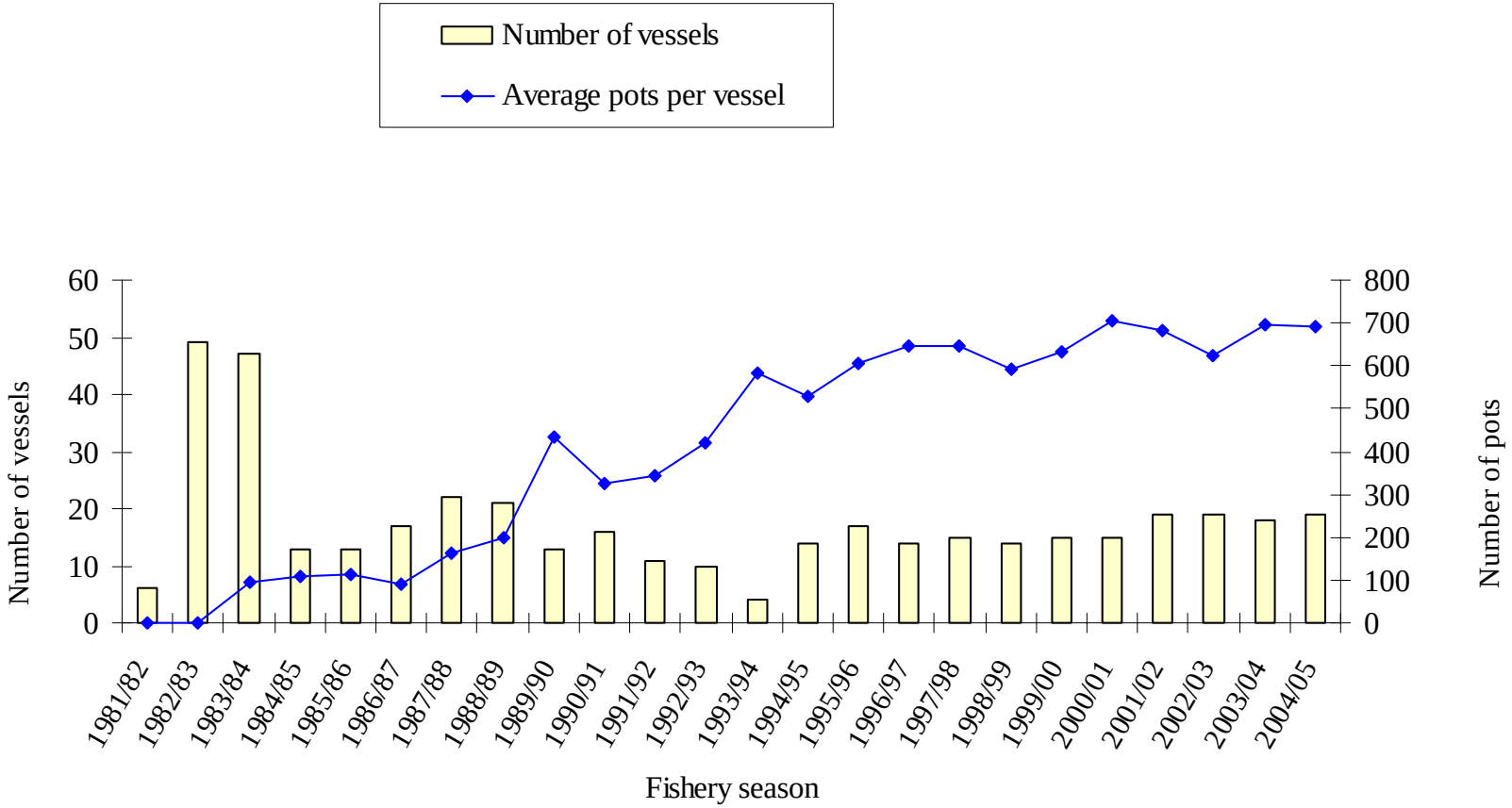

Figure 1-6.-Eastern Aleutian Islands golden king crab fishery vessel registrations and average number of pots per vessel 1981/82 - 2004/05.

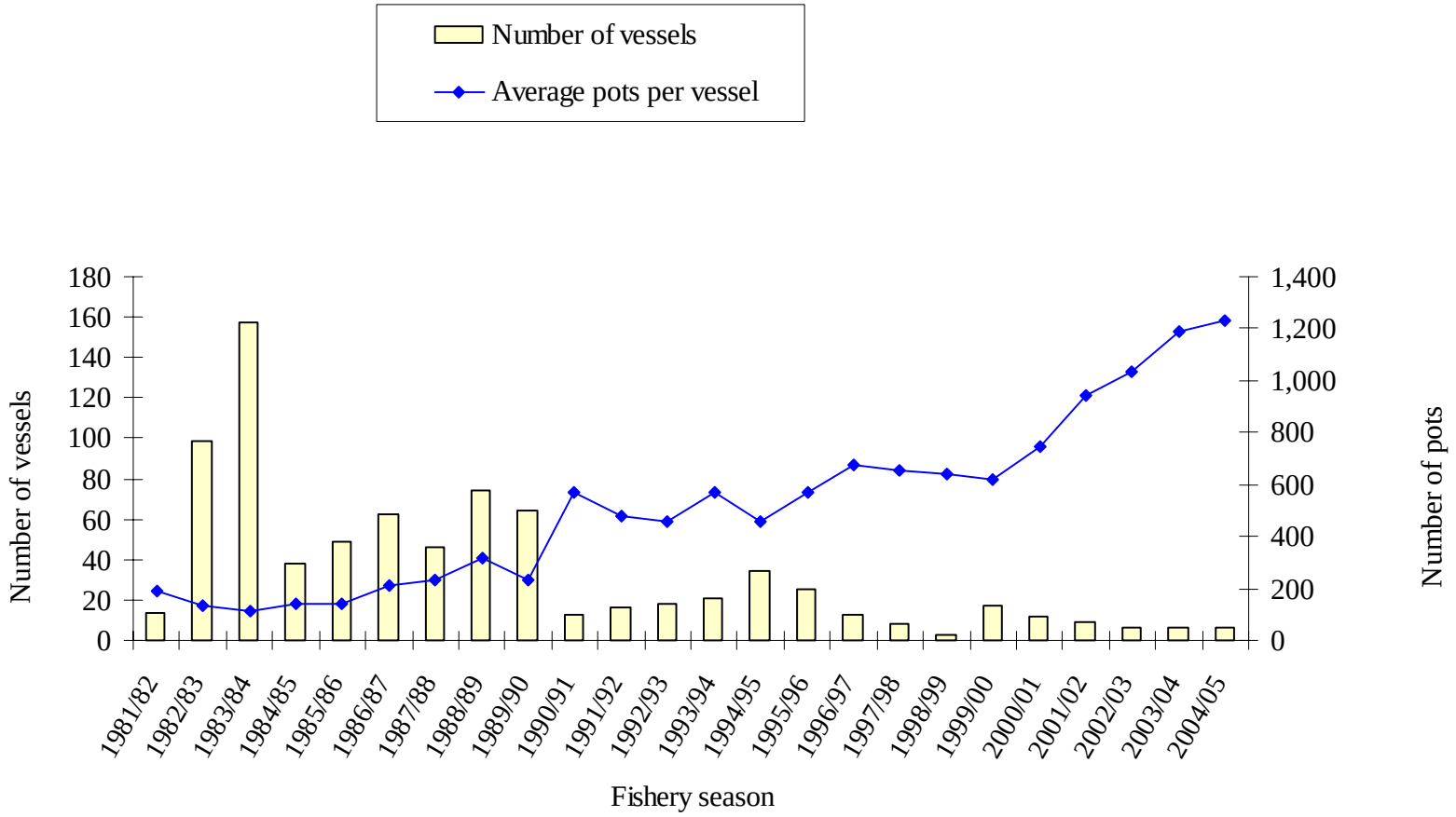

Figure 1-7.-Western Aleutian Islands golden king crab fishery vessel registrations and average number of pots per vessel 1981/82 - 2004/05.

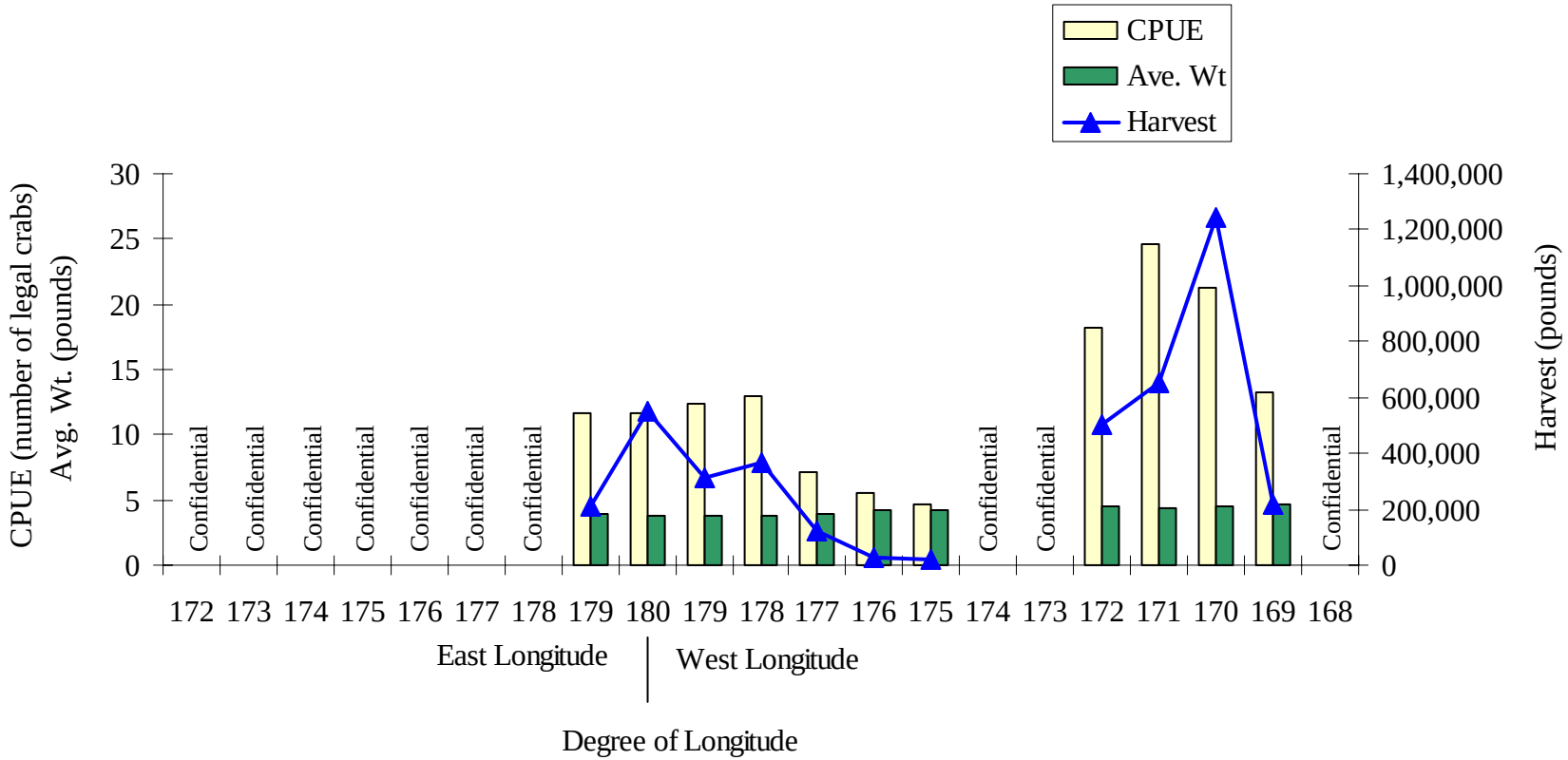

Figure 1-8.-Aleutian Islands golden king crab fishery harvest, catch per unit of effort and average weight data by degree of longitude, 2004/2005.

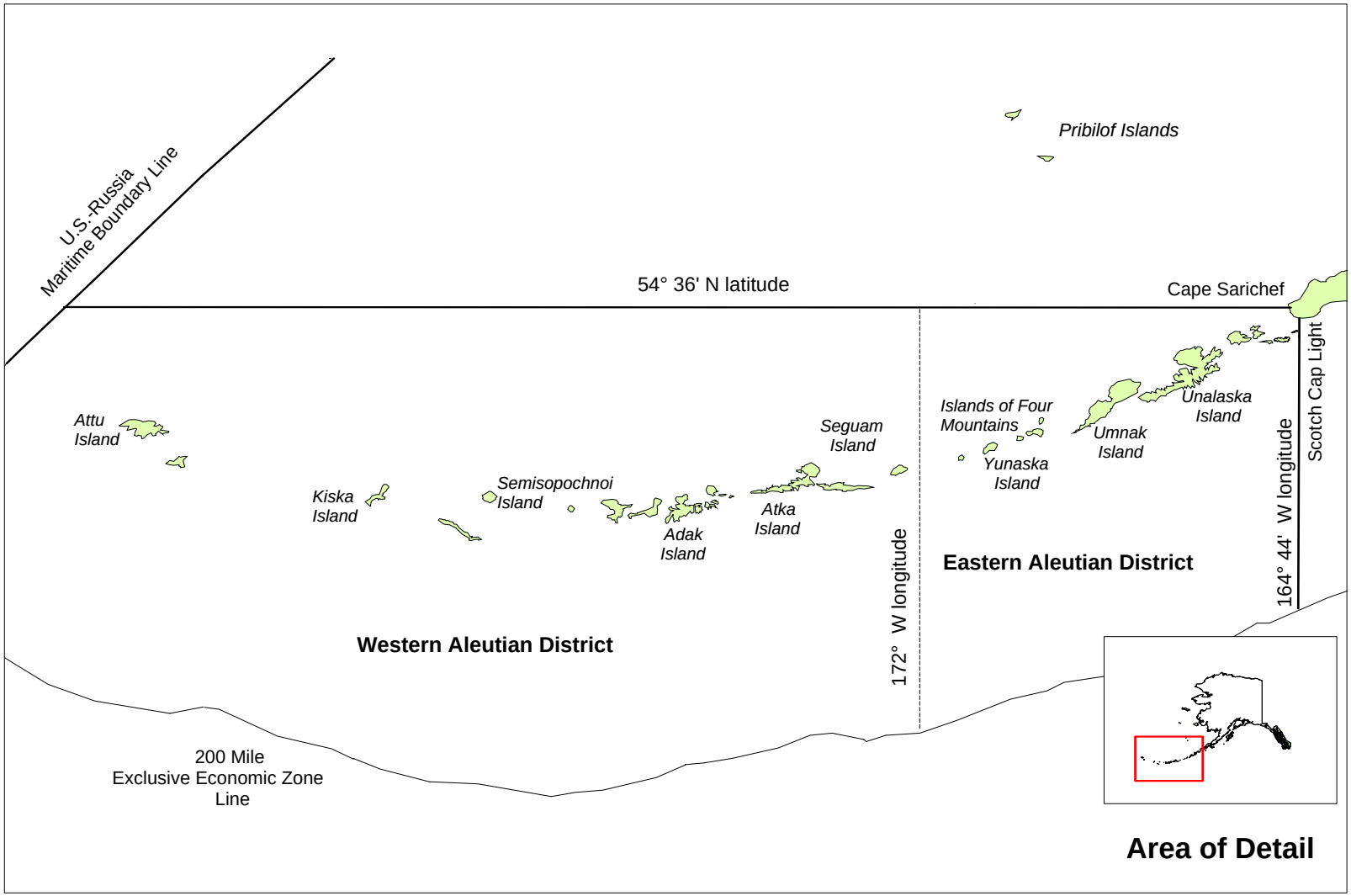

Figure 1-9.-Eastern and Western Aleutian Districts of Tanner crab Registration Area J.

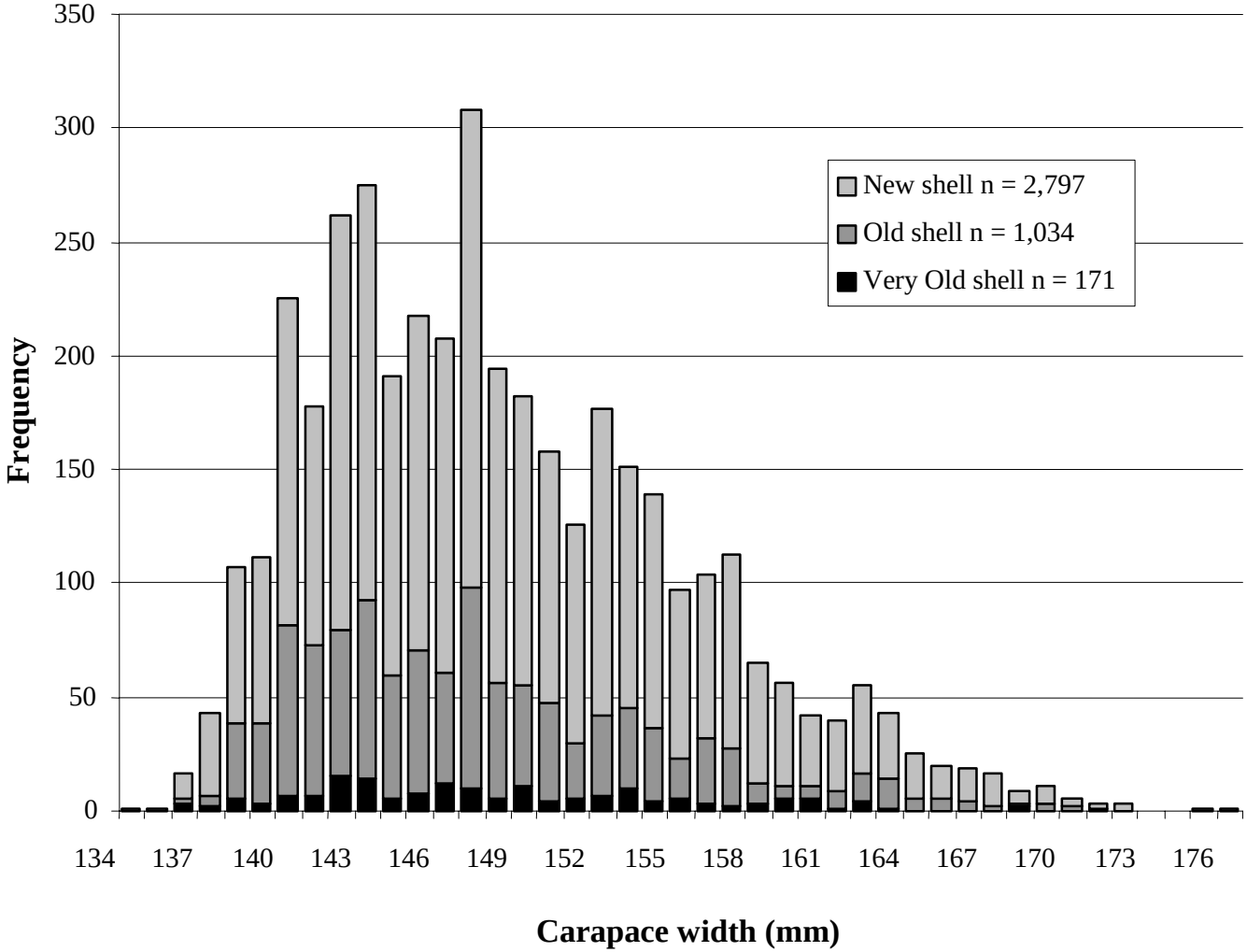

Figure 1-10.-Carapace width and shell condition from the 2004 Eastern Aleutian District Tanner crab fishery.

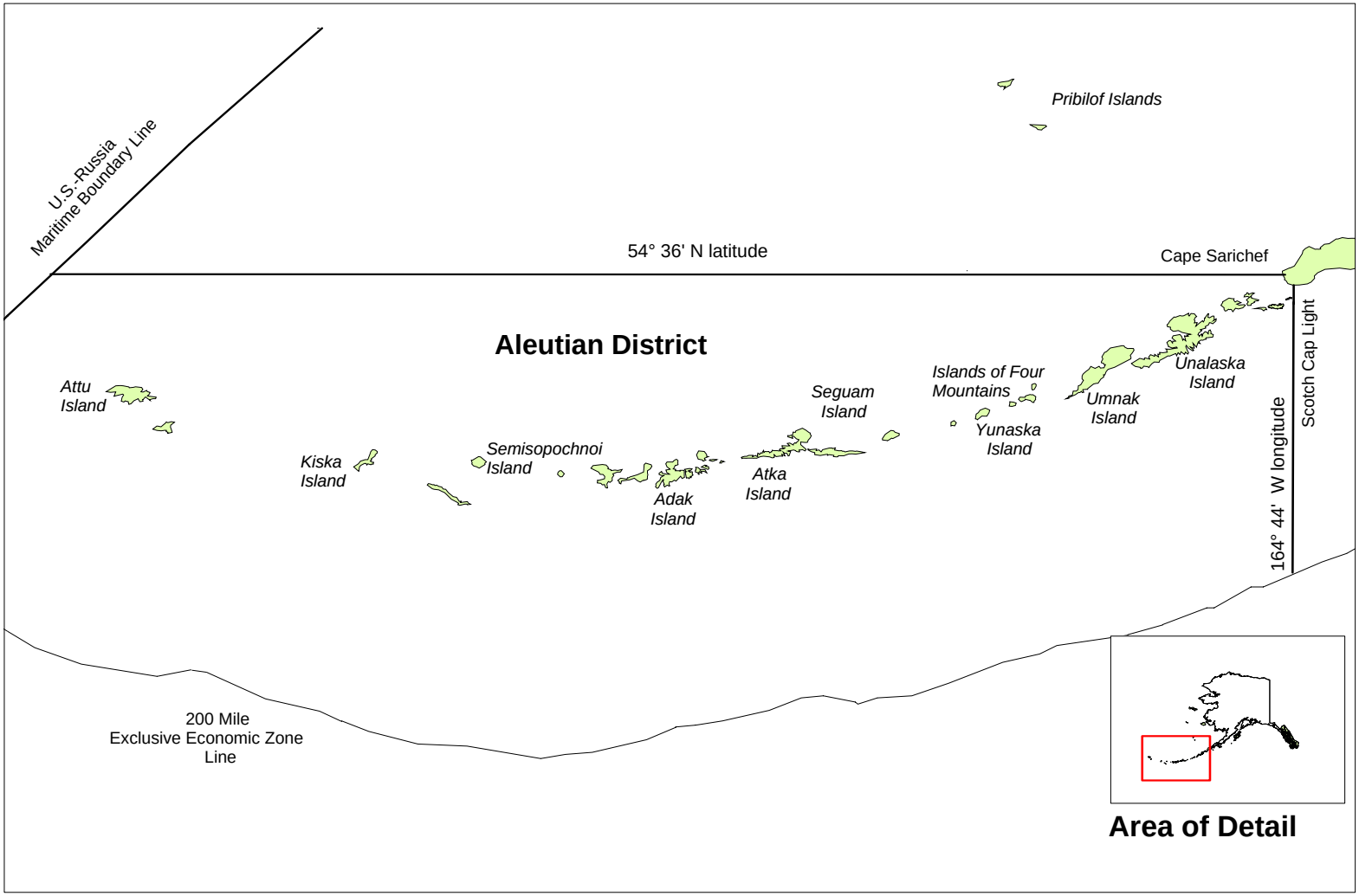

Figure 1-11.-Aleutian District for Dungeness crab management.

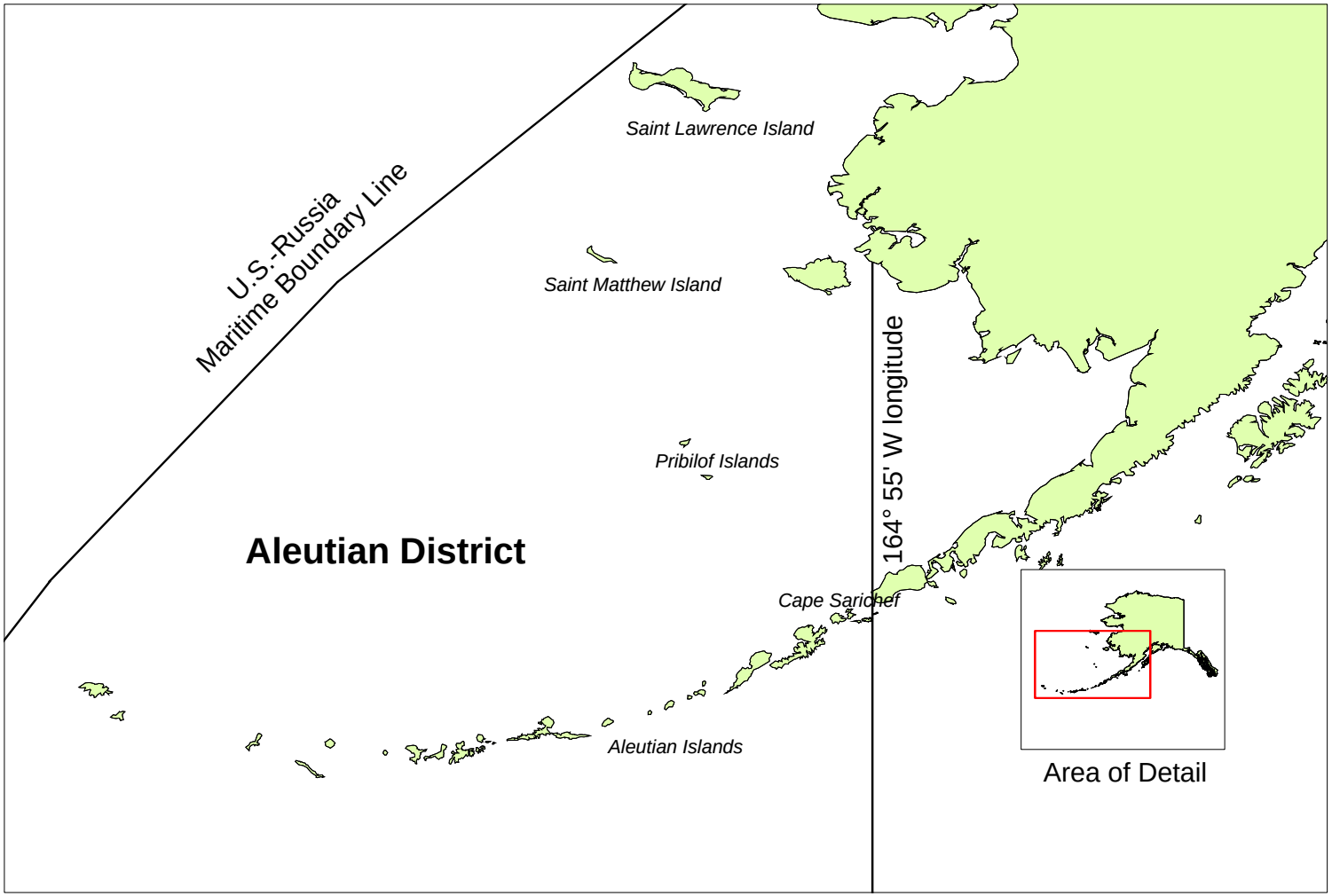

Figure 1-12.-Aleutian District for shrimp management.

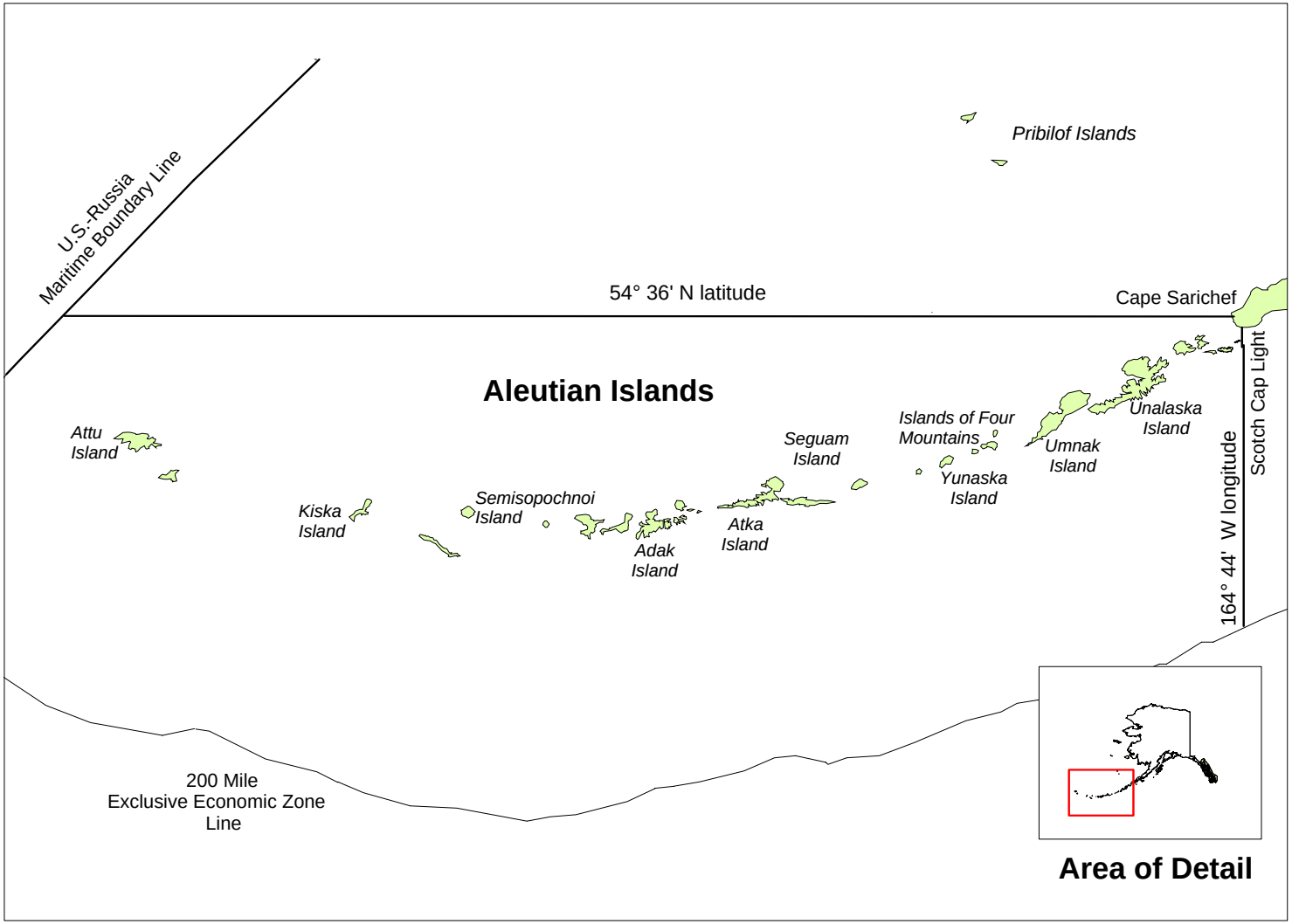

Figure 1-13.-Aleutian Islands portion of miscellaneous shellfish Registration Area J.

ANNUAL MANAGEMENT REPORT FOR THE COMMERCIAL SHELLFISH FISHERIES OF THE BERING SEA, 2004

by
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KING CRAB REGISTRATION AREA T BRISTOL BAY

DESCRIPTION OF AREA

King crab Registration Area T (Bristol Bay) includes all waters of the Territorial Sea (0-3 nautical miles from shore) and all waters of the Exclusive Economic Zone (3-200 nautical miles from shore) north of the latitude of Cape Sarichef (54° 36' N lat.), east of 168° W long., and south of the latitude of Cape Newenham (58° 39' N lat.) (Figure 2-1).

HISTORIC BACKGROUND

Commercial fishing for red king crabs *Paralithodes camtschaticus* in the Bering Sea began with Japanese harvests in 1930. The Japanese fishery ended in 1940 and resumed again from 1953 until 1974. The Russian king crab fleet operated in the eastern Bering Sea from 1959 through 1971. U.S. fishers entered the eastern Bering Sea fishery with trawl gear in 1947. Effort and catches declined in the 1950s, with no catch reported in 1959. A period of low catches followed through 1966 before the domestic fishery expanded to full-scale in the late 1970s.

The red king crab fishery in the eastern Bering Sea traditionally harvested crabs from waters north of Unimak Island and the Alaska Peninsula from Cape Sarichef to Port Heiden. With the decline of king crab stocks in other areas of the state, U.S. effort in the eastern Bering Sea increased beginning in 1966 with a peak harvest of 129.9 million pounds in 1980 (Table 2-1, Figure 2-2). Since 1980, king crab stocks throughout Alaska, including Bristol Bay, declined sharply and have not recovered to pre-1980 levels, leading to closures of the Bristol Bay red king crab (BBRKC) fishery in 1983, 1994, and 1995. From 1980 to 2001, economic value of the BBRKC fishery ranged from $8.9 million in 1982 to a high of $115.3 million in 1980 (Table 2-2, Figure 2-3). Exvessel price ranged from $0.90 per pound in 1980 to a high of $6.26 per pound in 1999.

In 1980, the Alaska Board of Fisheries (BOF) defined that portion of the Bering Sea south of Cape Newenham and east of 168° W long. as the Bristol Bay King Crab Registration Area T, and the area was designated an exclusive registration area. During any king crab registration year (June 28 through June 27), vessels registering for and fishing in this area are prohibited from fishing in any other exclusive or super-exclusive king crab registration area. Only non-exclusive areas may be fished once a vessel is registered in Area T.

The National Marine Fisheries Service (NMFS) has conducted annual trawl abundance index surveys of the eastern Bering Sea since 1968. This multi-species (crab and groundfish) survey is conducted during the summer months and the resulting area-swept estimates of abundance are published annually. In 1983, the NMFS Bering Sea trawl survey indicated a record low number of legal male crabs and the lowest total red king crab population ever recorded in Bristol Bay. Small female crabs carrying fewer eggs and high predator abundance were also noted. Consequently, the BBRKC fishery was closed for the 1983 season. The fishery reopened in 1984 and catches slowly increased to over 20.3 million pounds in 1990. Due to the large number of catcher-processors and floating-processors in the fishery and the inability of the Alaska Department of Fish and Game (ADF&G) to monitor these catches, an onboard observer program was initiated in 1988. Fishing effort increased dramatically from 89 vessels in 1984 to over 300 vessels in 1991 (Table 2-1, Figure 2-3). The number of pots used by the fleet also increased, with almost 90,000 pots registered for the 1991 fishery compared to just under 22,000 pots registered in 1984.

Due to the increased number of pots, the BOF established a 250-pot limit enforced through a buoy sticker program, which was implemented for the 1992 BBRKC fishery. This measure was intended to improve manageability of the fishery by extending the length of the season as well as reducing the potential for pot loss and gear conflict.

Immediately following the 1992 BBRKC fishery, the 250-pot limit was repealed by NMFS. This action was taken because of inconsistencies between the state regulations and provisions of the Fishery Management Plan for Bering Sea/Aleutian Islands King and Tanner Crabs (FMP), mandating application of pot limits in a nondiscriminatory manner (NPFMC 1998). In the spring of 1993, the BOF adopted new regulations, setting pot limits based on overall vessel length. For the BBRKC fishery, vessels in excess of 125 feet in overall length were limited to 250 pots and vessels 125 feet and under in overall length were allowed a maximum of 200 pots. These pot limits were administered through a buoy tag program from the Dutch Harbor and Kodiak ADF&G offices.

Voluntary daily vessel reports received via single side band (SSB) radio and marine telex have been used to manage the BBRKC fishery since 1993. The 1993 season lasted 9 days and the total harvest was 14.6 million pounds, approximately 2.2 million pounds less than the 16.8 million pounds harvest guideline.

Results of the NMFS 1994 summer trawl survey of the Eastern Bering Sea indicated declines in all size-classes of both male and female red king crabs in the Bristol Bay area. Compared to observations made during the 1993 survey, the abundance index of large male crabs decreased 25%. Based on the 1994 survey results, large female abundance was estimated at 7.5 million crabs, which was below the minimum threshold of 8.4 million crabs necessary to allow a fishery. Consequently, the BBRKC fishery was not open for the 1994 season.

To address potential measurement errors in the area-swept trawl abundance estimates, ADF&G developed a length-based analysis (LBA) model for estimating population abundance. This method, used for the first time prior to the 1995 season, incorporates a variety of data sources including dockside sampling and observer collected data, as well as data collected on the annual NMFS survey. The LBA is less susceptible to year-to-year variations in factors unrelated to population abundance (i.e. oceanographic conditions, changes in species distribution, and subsequent availability to the survey gear) and is therefore more likely to produce an accurate estimate of abundance. Analysis of the 1995 NMFS survey using the LBA model indicated no significant difference in the abundance of mature male and female red king crabs from estimates made from the 1994 survey (Zheng et al. 1995). Based on these combined results, the BBRKC fishery remained closed for the 1995 season.

Due to the depressed status of the BBRKC population, the BOF, at their March 1996 meeting adopted a revised harvest strategy to promote stock rebuilding. One of the most significant changes to the harvest strategy was a reduction in the exploitation rate of mature male crabs from 20% to 10% at levels below where the stock is considered rebuilt (55 million pounds of effective spawning biomass (ESB)), or 15% when the stock is considered rebuilt.

Results from the LBA incorporating the 1996 NMFS survey data indicated increased abundance in all size classes of males and females compared to the 1995 estimate (Zheng et al. 1996). Of major importance was an increase in the number of large females in 1996 to 10.2 million crabs, which was well above the threshold of 8.4 million large female crabs necessary to allow a fishery. This was a significant increase relative to the prior two years where fishery closures occurred due to

insufficient numbers of large female crabs. Based on a 10% mature male exploitation rate, the 1996 guideline harvest level (GHL) was set at 5.0 million pounds. The 1996 fishery lasted four days and a total of 8.4 million pounds were harvested, exceeding the GHL by 68%.

To address the difficulty in managing this fishery at low GHLs, the BOF held a special meeting in August of 1997 implementing new pot limits and vessel preseason registration requirements. Also adopted were regulations that extended the tank inspection window for the BBRKC fishery from 24 to 30 hours and allowed fishers to leave baited pots on the fishing grounds when a fishery closure announcement is made with less than 24 hours of advance notice. New pot limits were based on vessel overall length, the preseason GHL, and the number of vessels preseason registered for the fishery. These new pot limit regulations were adopted with a sunset provision of December 31, 1998, to provide for reevaluation at the 1999 BOF meeting.

The LBA, using the 1997 NMFS survey data, indicated that all components of the BBRKC crab stock increased from levels observed in 1996 (Zheng et al. 1997). ESB was below the 55 million pound threshold necessary to allow a 15% harvest rate. Therefore, a 10% mature male exploitation rate was used, generating a general fishery GHL of 7.0 million pounds for the 1997 season. Based on the GHL and number of vessels that filed a preseason registration, pot limits were set at 100 and 125 pots for small and for large vessels, respectively. The 1997 fishery lasted four days and a total of 8.8 million pounds were harvested. The 1997 harvest exceeded the GHL by 26%, largely due to extremely high catch rates in the final hours of the fishery.

Analysis of the 1998 NMFS survey data indicated the abundance of prerecruit male red king crabs increased by 85%, resulting in an increase in the fishable stock of mature male crabs for the 1998 season. The abundance of large females (>89 mm carapace length (CL)) increased by 42% (Stevens et al. 1998a). Effective spawning biomass was estimated to be over 55 million pounds, resulting in a 15% harvest rate on mature male crabs. The GHL for the 1998 general fishery (non-Community Development Quota) was 15.8 million pounds. Because the GHL was in excess of 12 million pounds, the preseason registration requirement was waived and pot limits were set at 200 for vessels less than or equal to 125 feet in length and 250 for vessels greater than 125 feet in length. Total harvest in the 1998 fishery, which lasted five days, was 14.2 million pounds.

At the March 1999 meeting, the BOF made permanent the interim management measures that were adopted in the fall of 1997. The BOF also passed anti-prospecting regulations that were amended in 2000. The regulations prohibit vessels from participating in the Bristol Bay king crab fishery if they have operated pot, longline, or trawl gear in that portion of Registration Area T north of 55° 30’ N lat. and east of 164° W long. during the 30 days immediately prior to the opening of the king crab season. However, an exception was made for vessels participating in a directed pollock fishery with trawl gear in Area T north of 55° 30’ N lat. and east of 164° W long. during the 14 days prior to the red king crab season. These vessels may participate in the BBRKC fishery if they delivered to an offshore processor or had 100 percent federal groundfish onboard observer coverage for the entire 14 days prior to the opening. The BOF also adopted a regulation that moved the opening date of the commercial red king crab fishery in Bristol Bay from November 1 to October 15. The change to an earlier opening was intended to improve fleet and industry efficiency by reducing the hiatus between the BBRKC fishery and the Bering Sea king crab fisheries, opening on September 15.

The LBA, including the 1999 NMFS survey data, indicated that while the abundance of legal and mature male red king crabs in Bristol Bay increased, all other classes decreased from the 1998 level:

small males by 57%, prerecruit males by 27%, and large females by 7% (Zheng and Kruse 1999). The LBA estimates resulted in an ESB of 47.0 million pounds. By applying an exploitation rate of 10% to the mature male population, a general fishery GHL of 10.1 million pounds was set. The 1999 season lasted five days, with a total harvest of 11.1 million pounds.

LBA estimates made in 2000 indicated that the abundance of almost all size-classes of the Bristol Bay red king crab stock decreased from levels observed in 1999. Small males increased by 192%, but all others decreased: prerecruit males by 23%, mature males by 14% and legal males by 3%. Large females also decreased by 10% (Zheng and Kruse 2000). The 2000 ESB was estimated to be 39.9 million pounds, a decrease of 11% compared to 1999. At 39.9 million pounds, ESB was above the threshold for a fishery opening with a 10% exploitation rate on mature males. The 10% exploitation rate on mature males resulted in a general fishery GHL of 7.7 million pounds. The 2000 fishery opened at 4:00 PM on October 16 after a 24-hour delay to allow strong winds in the Bristol Bay area to diminish. A total of 239 catcher-only vessels and 7 catcher-processors participated. However, only 244 vessels made landings. A total of 7.6 million pounds of red king crabs was harvested in the 4.2-day fishery, which was closed by emergency order at 9:00 PM on October 20.

Results of the NMFS stock assessment survey and LBA in 2001 gave an estimated ESB of 40.6 million pounds and a mature male abundance estimate of nearly 11 million crabs. As specified in regulation, a 10% exploitation rate was applied to the mature male abundance estimate resulting in a general fishery GHL of 7.2 million pounds. The 2001 fishery opened at 4:00 PM on October 15 with 232 vessels registered (two registered vessels did not make landings). The fishery closed at 11:59 PM on October 18 after approximately 7.8 million pounds were harvested.

In 2002, survey results provided an estimated ESB of 37.7 million pounds and a mature male abundance estimate of 14.3 million crabs. A 10% exploitation rate was applied to the mature male abundance resulting in a general fishery GHL of 8.6 million pounds. The 2002 fishery opened at 4:00 PM on October 15 with 242 vessels registered. The fishery closed at noon on October 18 after approximately 8.9 million pounds were harvested.

In 2003, the BOF modified the BBRKC harvest strategy. The BOF maintained the existing 10% and 15% harvest rates on mature males and implemented a 12.5% harvest rate on mature males when the ESB is greater than or equal to 34.75 million pounds but less than 55 million pounds. NMFS survey and LBA results for 2003 indicated that the stock was above the fishery threshold with an estimated abundance of 29.7 million mature females and an estimated ESB of 60.7 million pounds. Both of these estimates represented substantial increases from those generated in 2002. Since ESB was estimated to be greater than 55.0 million pounds, the harvest strategy specifies an exploitation rate of 15% on mature males. Given an estimated mature male abundance of 16.4 million crabs and an average weight of 6.4 pounds per legal crab, the 2003 GHL was set at 15.7 million pounds, 1.2 million pounds of which were allocated to the Community Development Quota fishery. A total of 252 vessels participated in the 122 hour general fishery and harvested 14.5 million pounds.

AMERICAN FISHERIES ACT

The American Fisheries Act (AFA), passed in 1998 by Congress, gave pollock fishers exclusive fishing privileges in the Bering Sea/Aleutian Islands (BSAI) pollock fishery. To protect the interests of fishers not directly benefited by the AFA, sideboards were established for AFA fishers qualified to participate in BSAI crab fisheries. To implement the sideboards, the BOF developed a management plan requiring ADF&G to manage AFA vessels with a harvest cap equally

apportioned between all AFA qualified vessels or through a cooperative fishery when 100% of AFA qualified participants agree to the cooperative. The harvest cap specified by the AFA was implemented for the first time in the 2000 BBRKC fishery.

Of the 239 catcher-only vessels that participated in the 2000 BBRKC fishery, 25 participated under AFA sideboards. The AFA vessels fished in a cooperative manner with a fixed harvest cap of 10.96% of the general fishery GHL, or 0.9 million pounds. Postseason production reports show that AFA vessels harvested approximately 0.7 million pounds or 84.7% of their cap.

During the 2001 BBRKC fishery, 31 vessels participated under the AFA sideboards and fished in a cooperative manner. The fleet harvested 0.70 million pounds of a 0.72 million pound cap. Most of the vessels fishing under the AFA sideboards in 2001 were not constrained by the cap.

In 2002, 31 vessels participated under the AFA sideboards and fished in a cooperative manner. Twenty-seven of the AFA vessels were constrained by the cap and stopped fishing prior to the closure. Several of the participating vessels exceeded the individual limits, however the AFA fleet remained under the cap and harvested 917,676 pounds, or 97.6% of the 939,842 pound cap.

Fishers restricted under the AFA cap in the general fishery made a substantial change to their fishing practices in 2003. All but two of the participating vessels chose to be assigned a preseason trip limit rather than fish competitively until 80% of the cap was reached before receiving a limit. The AFA fleet made the change in an attempt to address perceived inequities in the prior management approach. Ten of the 32 AFA vessels reached their trip limit and stopped fishing prior to the closure. Harvest information for the two vessels participating in the competitive fishery is confidential. The AFA fleet remained well under the cap and harvested 1,189,013 pounds or 75% of the cap.

2004 FISHERY

Preseason vessel registration was required by 5:00 PM, September 24, 2004. Based on the 252 preseason vessel registrations received prior to that deadline and the 14.267 million pound general fishery GHL, pot limits were set at 200 pots for vessels less than or equal to 125 feet in overall length and 250 pots for vessels greater than 125 feet in overall length. In addition, preseason vessel registrations were used to select 21 catcher vessels to carry onboard observers during the fishery. 8 catcher–processors and one floating–processor registered for the fishery. Based on preseason effort levels and recent catch rate data, the department chose to manage the 2004 fishery through inseason catch reports from fishers rather than with a closure announced prior to the opening. As part of the inseason management process, the department advised the fleet that catch updates would be made daily at noon and 9:00 PM and that the department would attempt to provide the fleet with 24-hours advance notice of the closure announcement, but given the small GHL, less than 24-hours advance notice was possible.

During the week preceding vessel registration, department staff consulted with United States Coast Guard (USCG) search and rescue personnel and National Weather Service (NWS) forecasters regarding a potential weather-related delay in season opening. NWS staff did not forecast storm force winds in the operational area of vessels that would be travelling to the Bristol Bay red king crab fishing grounds from Dutch Harbor, Akutan, King Cove or False Pass, nor were storm force winds forecast for the time period October 15-18. USCG personnel did not foresee that current or forecast weather conditions would hamper a search and rescue mission immediately before or during the first 18 hours of the fishery, thus the season was not delayed.

Vessel hold and gear inspections as part of the "quick registration" process began October 8 in Dutch Harbor, Akutan, and King Cove and October 10 in False Pass. Vessel registration began at 10:00 AM, October 14. A total of 251 vessels registered for the fishery that began at 4:00 PM, October 15. Prior to the season, the department registered 131 vessel operators to participate in the voluntary inseason catch reporting program. Observers on 28 additional vessels contributed daily catch reports as well. Catch reports were first received at 6:00 PM October 15; however, these reports represented only the first two hours of the season and no catch was reported.

By 6:00 AM October 17, the non-AFA fleet catch rate was approximately 25 legal crabs per pot lift, the fleet pulled approximately 13,900 pots in the preceding twelve hours and the cumulative harvest had reached 4.4 million pounds (Table 2-3). By 6:00 PM October 17, catch per unit of effort had decreased slightly to 23 legal crabs per pot lift; however, the number of pot lifts increased to 15,300 pots in the previous 12 hours. The cumulative catch at 6:00 PM October 17 was 6.7 million pounds and the fleet was harvesting approximately 2.33 million pounds every 12 hours. Based on catch reports received through 6:00 PM October 17 and the most recent 12-hour harvest, the department issued a news release at 9:00 PM on October 17 stating that the GHL would be met and that the fishery would close at 11:59 PM October 18. Eighty-nine vessel operators participated in the inseason management process by providing at least one catch report during the fishery.

Catch reports received from the fleet on the 18th indicated that catch per unit of effort remained steady in the first 12-hour report period after the closure announcement, but then fell to approximately 14 legal crabs per pot lift in the final hours of the fishery. The fleet pulled nearly 40,000 pots in the final 24 hours of the fishery. The general fleet harvest projection including the AFA fleet portion based on inseason reports received after the closure announcement was approximately 15.1 million pounds. Actual harvest was 14,112,438 pounds, or 98.9% of the GHL.

The fleet was provided with more than 24 hours of advance notice of the fishery closure, thus all gear was required to be unbaited and stored with the doors open, or removed from the water at the time of the closure. The majority of the fleet was able to comply with this requirement; however, 13 vessels experienced mechanical problems or delays that caused them to have gear stored illegally.

Fishers restricted under the AFA cap in the general fishery operated in a voluntary cooperative similar to the voluntary cooperative formed in 2003. All but three of the participating vessels chose to be assigned a preseason trip limit rather than fish competitively until 80% of the cap was reached before receiving a limit. Catch rates of the 32 vessels participating in the AFA voluntary cooperative during the general fishery were slightly higher than those recorded by the non-capped portion of the fleet. Vessels operating under the AFA cap had an average CPUE of 27 legal crabs per pot lift (Table 2-4) compared to 22 legal crabs per pot lift for the non-AFA fleet. Seventeen of the 29 AFA vessels fishing under an individual trip limit reached their trip limit and stopped fishing prior to the closure. Two of the three vessels participating in the competitive fishery reached 80% of their portion of the cap. The AFA fleet remained under their cap and harvested 1,462,535 pounds or 94% of the cap.

The 2004 Bristol Bay red king crab fishery was 80 hours in length, a 34% decrease from the 2003 season length of 122 hours. Only the 2002 season at 68 hours was shorter (Table 2-2). The 2004 legal male CPUE was 23, an increase from the 2003 catch rate of 18 legal crabs per pot lift

and the highest legal male CPUE since the 1980 season (Table 2-1). Catch rates were highest north of 56° 30' N lat (Table 2-5). ADF&G statistical areas in the southwestern portion of the fishing grounds that showed average or above average catch rates in 2002 and 2003 were below average in 2004. Catches were distributed over a broader geographic area in 2004 than in 2003. Harvests of 1.0 million pounds or more were recorded from 6 ADF&G statistical areas in 2004 compared to four in 2003 and five in 2002. In general, the highest catch rates during the 2004 fishery occurred to the north of the most productive areas in the 2003 fishery. The fleet pulled 90,972 pots to harvest 14,112,438 pounds.

Fishers were paid an average price of $4.71 per pound by shore plants in Dutch Harbor, Akutan, King Cove, Sand Point and Kodiak. In addition, one floating–processor and two catcher–processors purchased crabs after the season. The 2004 Bristol Bay red king crab fishery had an exvessel value of $65.7 million, a 9.6% decrease from the 2003 exvessel value of $72.7 million (Table 2-2).

Weather conditions during the 2004 Bristol Bay red king crab fishery were generally favorable until late in the fishery when operation of some vessels was slowed due to high seas. No vessels or fishers were lost during the fishery.

The Alaska Bureau of Wildlife Enforcement (ABWE) stationed personnel in all ports where Bristol Bay red king crabs were landed. ABWE personnel did not cite any vessel operators for possession of undersized crabs in 2004. In 2003 ABWE seized 14,955 pounds of illegal king crab valued at approximately $75,000.

ADF&G conducted cost-recovery fishing operations after the closure of the 2004 Bristol Bay red king crab general fishery. The cost-recovery projects harvested 201,579 pounds of Bristol Bay red king crabs (Table 2-6), worth $1,000,686 (Table 2-7). The 2004 cost-recovery fishery was the second largest in terms of pounds harvested and the most valuable since the program began in 1990. The cost-recovery fishery is part of an ongoing program used to collect funds to conduct research on Bering Sea shellfish and to fund the BSAI crab observer program.

DOCKSIDE SAMPLING

Red king crabs were sampled at dockside from deliveries occurring after the closure of the 2004 Bristol Bay red king crab general fishery. Confidential interviews were conducted with vessel captains to acquire detailed information regarding statistical areas fished, effort and fishery performance. Biological data collected consists of carapace length measurements, average weight, and shell-age determination.

The Bristol Bay red king crab fleet made 215 deliveries to shoreside processing facilities in 2004. ADF&G observers collected biological data from 23 of those deliveries while ADF&G dockside sampling staff performed skipper interviews and collected biological data from 153 (80%) of the remaining non-observed shoreside deliveries. Approximately 5% of the crabs delivered in the 2004 Bristol Bay red king crab fishery were counted and weighed to generate estimates of average weight. Landed crabs averaged 6.8 pounds, an increase of 0.6 pounds per crab from the 2003 fishery average weight and a 0.36-pound increase from average weight used when setting the GHL.

Less than 1% of the crabs delivered were sampled for size and shell-age. Biological sampling indicated that 79% of the crabs measured were new shell, 15.2% were old shell and 6% were very old shell (Table 2-8, Figure 2-4). These proportions are nearly unchanged from those

observed during the prior three seasons. Average carapace length was 154 mm, an increase of 5 mm from 2003 and the largest annual increase in carapace length since 1978/79. The percentage of recruit-sized crabs in the commercial harvest decreased from 72% in 2003 to 52% in 2004. This decrease is consistent with length frequency distributions generated from survey data showing a peak in legal male abundance at about 150 mm carapace length. In 2003, peak legal male abundance was at approximately 140 mm carapace length.

STOCK STATUS

The status of the Bristol Bay red king crab stock is evaluated through the use of abundance-based thresholds. When the total mature biomass (TMB) of red king crabs in Bristol Bay falls below the 44.8 million pound minimum stock size threshold (MSST), the stock is considered overfished. In 2004, the TMB of red king crabs in Bristol Bay was estimated to be 176.4 million pounds, which is well above the maximum sustained yield (MSY) value of 89.6 million pounds TMB and is essentially unchanged from the 2003 estimate of 178.1 million pounds which was the highest TMB estimate since 1981.

The state harvest strategy for Bristol Bay red king crabs establishes three thresholds that must be met prior to a fishery opening. The first is a threshold abundance level of 8.4 million mature females, the second is an ESB threshold of 14.5 million pounds, and the third is a minimum GHL threshold of 4.0 million pounds. LBA estimates for 2004 show the stock to be above both the mature female abundance threshold at 35.35 million females and the ESB threshold at 61.87 million pounds of ESB. Mature female abundance and ESB increased from the 2003 levels and the estimates are the largest since the early 1980s.

Legal male abundance increased only slightly over the 2003 level. At 10.4 million crabs, the legal male abundance estimate in 2004 is the largest since 1980. Strong recruitment experienced in 2003 resulted in a slightly lower average weight and average crab size during the 2003 fishery. Recruitment to the legal size class slowed in 2004 as evidenced by the increase in average size of crabs landed during the 2004 commerical fishery.

Given recent population trends, recruitment to the mature-size male class is expected in 2005, however, the mode that has contributed to increases in mature female abundance in 2003 and 2004 is fully recruited to the mature-size female class. No additional recruitment, or perhaps a slight decrease in mature female abundance is expected in 2005.

Size frequency distribution for 2004 shows a mode of juvenile male and female red king crab centered at just under 70 mm carapace length. If these juveniles continue to remain in the population, they will begin recruiting to the mature size class in 2006 (NPFMC 2004).

In light of the most recent stock assesment and fishery performance information, it is likely that fishery thresholds will be met and the stock will be above MSST in 2005.

KING CRAB REGISTRATION AREA Q BERING SEA

DESCRIPTION OF AREA

The Bering Sea king crab Registration Area Q has as its southern boundary a line from 54° 36’ N lat., 168° W long., to 54° 36’ N lat., 171° W long., to 55° 30’ N lat., 171° W. long., to 55° 30’ N lat., 173° 30’ E long., as its northern boundary the latitude of Point Hope (68° 21’ N lat.), as its eastern boundary a line from 54° 36’ N lat., 168° W long., to 58° 39’ N lat., 168° W long., to Cape

Newenham (58° 39' N lat.), and as its western boundary the United States-Russia Maritime Boundary Line of 1991 (Figure 2-5). Area Q is divided into the Pribilof District, which includes waters south of Cape Newenham, and the Northern District, which incorporates all waters north of Cape Newenham. The Northern District is subdivided into three sections: the Saint Matthew Island Section, which includes waters north of Cape Newenham and south of Cape Romanzof; the Norton Sound Section, which includes all waters north of Cape Romanzof, south of Cape Prince of Wales, and east of 168° W long; and the Saint Lawrence Island Section, which encompasses all remaining waters of the district. Registration Area Q includes waters of both the Territorial Sea (0-3 nautical miles from shore) and the Exclusive Economic Zone (3-200 miles from shore).

PRIBILOF DISTRICT RED AND BLUE KING CRAB

Historic Background

The king crab fishery in the Pribilof District began in 1973, when vessels targeted blue king crabs *Paralithodes platypus* in the vicinity of Saint George and Saint Paul Islands. The first reported catch in this area was 1.3 million pounds taken by 8 vessels between July 1973 and October 1974 (Table 2-9). The average weight of crabs harvested was 7.3 pounds and CPUE was 26 legal crabs per pot lift. By the 1980/1981 season, fishing effort had increased to 110 vessels, that harvested 11.0 million pounds, the highest catch on record. However, by that time the fishery CPUE had dropped to 9 legal crabs per pot lift and continued declining to a low of two crabs per pot by the end of the 1986/1987 season. Consequently, the harvest dropped to 260,000 pounds, taken by 16 vessels during the 1986/1987 season. Due to this 6-year decline in harvest and concurrently low annual population estimate, the blue king crab fishery was closed beginning with the 1988/1989 season and remained closed until 1995 (Figure 2-6).

In 1993, the BOF adopted regulations that set pot limits based on overall vessel length for all king crab fisheries in the Bering Sea. In the Pribilof District, pot limits were established at 50 for vessels over 125 feet overall length and at 40 for vessels 125 feet overall length or less.

The 1993 NMFS summer trawl survey of the Bering Sea indicated a marked increase in the abundance of red king crabs around the Pribilof Islands. Although no regulatory harvest strategy with biological reference points was established for Pribilof District red king crabs, survey results indicated that a harvestable surplus of legal-sized male crabs was available. Consequently, a red king crab fishery in the Pribilof District opened for the first time in September 1993. A harvest of 2.6 million pounds was taken from a GHL of 3.4 million pounds. In 1994, the Pribilof District was again opened to the commercial harvest of red king crabs, and 104 vessels harvested 1.3 million pounds.

In 1995, an increase in blue king crab abundance and a continued harvestable surplus of red king crabs resulted in a combined red and blue king crab GHL of 2.5 million pounds. Subsequent declines in red and blue king crab abundance over the next three years resulted in a combined GHL for 1998 of 1.3 million pounds (Table 2-10). Poor fishery performance during those seasons resulted in annual harvests below the fishery GHL. From 1999 to 2003, blue king crab abundance continued to decline and the Pribilof fishery was not opened.

Since 1993, fishery openings have ranged from 6 to 14 days (Table 2-10). This compares to the eight-year period from 1980-1988 when fishery openings ranged from 10 to 86 days. Due to shorter seasons, the Pribilof District fishery has been managed inseason using voluntary catch reports from fishing vessels. Reports are received up to twice per day and are used to calculate CPUE, effort, and daily harvest. Inseason management of the fishery allows the department to

base management decisions on real-time fishery performance and to respond to changes in catch rates caused by weather, crab abundance, and effort.

The economic value of the Pribilof District red king crab fishery peaked at $13.0 million in 1993 with an exvessel price of $4.98 per pound, the second highest on record. The value of the Pribilof District blue king crab fishery peaked at $13.6 million in 1981/1982, with an exvessel price of $1.50 per pound. Since 1995, the exvessel price of red or blue king crabs has not exceeded $3.37 per pound. Total value for the combined red and blue king crab fishery declined from $6.8 million in 1995 to $2.4 million in 1998 (Table 2-10, Figure 2-7).

ADF&G conducted a pot survey targeting red and blue king crab in the Pribilof District in 2003. The objectives of the survey were to determine the distribution and relative abundance of red and blue king crab in the District and to conduct cost-recovery fishing to cover the costs of the survey and related expenses. A total of 696 pots were pulled during the survey with an overall legal male red and blue king crab CPUE of less than one crab per pot lift. An additional 202 pots were pulled as part of the cost-recovery effort. Only 146 legal male red king crab were caught and sold for cost-recovery from the Pribilof District, thus the chartered vessel was directed to Registration Area T for the remainder of the cost-recovery efforts. Results of that pot survey suggest that the highest catches of blue king crabs occurred at stations with low red king crab catches and stations with high red king crab catches had low blue king crab catches. Distribution of red and blue king crabs in the Pribilof District is patchy and stations with high blue king crab catches were interspersed among stations showing greater red king crab abundance.

2004 Fishery

The blue king crab fishery in the Pribilof District was not opened in 2004 due to the continued decline in blue king crab abundance. The stock remains below the threshold level of abundance required for a fishery opening. Due to significant uncertainty surrounding estimated red king crab abundance and concerns for blue king crab bycatch in a directed red king crab fishery, the red king crab fishery also remained closed for the 2004 season.

Stock Status

The 2004 population estimates of blue king crabs in the Pribilof District are the lowest on record. The area-swept legal (≥ 135 mm CL) male abundance was estimated to be 0.017 million crabs in 2004, a decrease from the 2003 estimate of 0.2 million crabs. The prerecruit (110-134 mm CL) male abundance estimate remained at less than 0.1 million crabs and large (≥ 90 mm CL) female abundance decreased from 1.1 to 0.09 million crabs. Total mature blue king crab biomass in the Pribilof District was estimated to be 0.5 million pounds in 2004, or approximately one eighth of the 2003 estimate. Since TMB remains below the MSST level of 6.6 million pounds, the stock remains overfished. ADF&G catch survey estimates of blue king crab abundance in the Pribilof District are greater than the NMFS area-swept estimates, but show continued decline through 2004 and are the lowest on record. Overall, the population abundance remains low and there appears to be little or no recruitment. Total mature biomass was below the 13.2 million pound threshold required for opening in 2004, thus the fishery will not open in 2005.

The abundance index for large female red king crabs in the Pribilof District decreased from 1.1 to 0.56 million crabs in 2004. The 2004 mature female abundance estimate is similar to the 2003 estimate of 0.4 million crabs. All mature male red king crab captured during the NMFS area-swept survey of the Pribilof District were post-recruit, legal males, indicating that little or no recruitment to the legal-size class can be expected in the near future. Legal male red king crab

abundance decreased from 1.3 million crabs in 2003 to 0.8 million crabs in 2004. Estimated TMB has declined from 25.5 million pounds in 2001 to 9.9 million pounds in 2004.

In general, estimates of red king crab abundance in the Pribilof District are considered imprecise. In 2004, the majority of male red king crab were caught in a single trawl tow made just southwest of Saint Paul Island. The imprecision of red king crab abundance estimates in the Pribilof District coupled with the potential for blue king crab bycatch in a red king crab fishery, the lack of a formal harvest strategy for red king crabs and poor performance of prior fisheries has contributed to the continued closure of the fishery despite recent increases in legal male abundance (NPFMC 2004).

The Pribilof blue king crab stock was declared overfished in September of 2002, and the department developed a rebuilding harvest strategy as part of a comprehensive rebuilding plan for the blue king crab stock (Zheng and Pengilly 2003). The BOF selected a harvest strategy that includes a 10% harvest rate on mature males and a 500,000 pound minimum GHL.

SAINT MATHEW ISLAND SECTION BLUE KING CRAB

Historic Background

The commercial blue king crab fishery in the Saint Matthew Island Section of the Northern District was first prosecuted in 1977, resulting in a commercial harvest of 1.2 million pounds (Table 2-11). In 1978, the catch increased to almost 2.0 million pounds. Catches decreased in 1979 and 1980 due to lack of fishing effort. In 1981, several vessels returned to the Saint Matthew Island Section during the Norton Sound Section fishery. Catches were strong, and after the Norton Sound Section closed, additional vessels moved into the Saint Matthew Section, taking 4.6 million pounds of blue king crabs. Catch and effort increased to a peak harvest of 9.5 million pounds in 1983 when 164 vessels participated. In subsequent seasons, catches remained at or below 4.7 million pounds (Figure 2-8).

NMFS trawl surveys from 1983 to 1998 in the Saint Matthew Island indicated a harvestable surplus of blue king crabs ranging from 1.7 to 8.0 million pounds. In 1998, the legal male abundance decreased by 21%, resulting in a GHL of 4.0 million pounds. The 1998 season closed before the GHL was attained due to poor fishery performance and observer information indicating a relatively high incidental capture rate of sublegal males and female crabs. The 1998 legal male CPUE was 7 crabs per pot lift, the second lowest CPUE on record. The 1998 season, which was managed based on inseason catch reports, lasted 11 days, the longest since a 17-day opening that occurred in 1983 (Table 2-12), when 9.5 million pounds were harvested. The actual harvest of 2.9 million pounds equaled the harvest projected from inseason catch reports (Table 2-13). From 1999 to 2003, abundance estimates for the Saint Matthew blue king crab stock were low and the fishery remained closed because harvest strategy abundance thresholds were not met.

In 1993, BOF adopted regulation changes and moved the opening date of the Saint Matthew king crab fishery from September 1 to September 15 (Table 2-14), concurrent with the king crab fishery in the Pribilof District. This action was taken to improve effort distribution between the Pribilof and Saint Matthew areas, thereby reducing the number of vessels participating in each fishery. Differential pot limits, established in 1993 for the Saint Matthew Island Section, limited vessels over 125 in feet overall length to 75 pots and vessels 125 feet in overall length or less to a maximum of 60 pots.

The exvessel price for Saint Matthew blue king crab during the last open season, 1998, averaged $1.87 per pound, the lowest on record since 1984 and 1985, when fishers received $1.75 and $1.60 per pound, respectively. Total value for this fishery peaked in 1983 at $25.8 million, and since 1994, has not been higher than $15.0 million (Table 2-12). In contrast, the number of vessels participating has generally increased, from 87 in 1994 to 131 in 1998 (Figure 2-9). Average weight per crab has ranged from 4.0 to 5.0 pounds, depending on the percentage of recruits entering the fishery each year. The average weight per crab during the last fishery (1998), was 4.7 pounds (Table 2-11).

2004 Fishery

The 2004 Saint Matthew Island Section blue king crab fishery remained closed because the GHL calculated from the harvest strategy was below the minimum GHL threshold specified in regulation.

Stock Status

Based on the 2004 NMFS survey, the abundance index for legal male blue king crabs remained stable at 0.7 million crabs. Abundance of prerecruit male blue king crabs decreased from 0.3 million crabs in 2003 to 0.2 million in 2004. Large female blue king crab abundance decreased from 0.8 million crabs in 2003 to 0.2 million in 2004 (NPFMC 2004). Total mature biomass for the Saint Matthew Island blue king crab stock decreased from the 2003 level from 12.8 million pounds to 7.3 million pounds, which is below the MSST threshold of 11.0 million pounds. The stock was above MSST for the first time in the last five years in 2003, but has been considered overfished for the last 6 years. The 2003 TMB estimate should be viewed with caution due to the low precision in estimating this stock. Female blue king crab can be particularly difficult to capture during the trawl survey resulting in highly variable estimates from one year to the next.

A rebuilding plan was adopted for this stock in 2000 (NPFMC 2000). Stocks listed as overfished are not deemed rebuilt until TMB increases to or above the maximum sustainable yield biomass, which is twice the MSST, or 22.0 million-pounds TMB for the Saint Matthew Island blue king crab stock. Based on the 2004 survey results, the TMB would have to triple for the stock to be considered rebuilt. Survey data do not indicate that this level of rebuilding is likely in the near future; however, population estimates made from 1999 to 2004 indicate a weak positive trend in TMB (NPFMC 2004).

PRIBILOF DISTRICT GOLDEN KING CRAB

Historic Background

Golden king crabs *Lithodes aequispina* are found in commercial concentrations in only a few deep canyons in the Bering Sea District and have never sustained large harvests when compared to other Bering Sea king crab fisheries. As with many other crab fisheries in the Bering Sea, the fishery for golden king crabs was pioneered by foreign fishing fleets. A domestic fishery developed during the 1982/83 season after BOF directed ADF&G to regulate fishing for golden king crabs in the Pribilof District by emergency order (ADF&G 1984). By the 1984 season, BOF directed ADF&G to manage the Area Q golden king crab fishery under authority of a commissioner's permit that allowed the fishery to develop and expand into new areas (ADF&G 1985).

The first domestic harvest of golden king crabs in the Bering Sea occurred in June of 1982 when two vessels fished in the Pribilof District (Table 2-15). Effort increased to 10 vessels during the following season with a harvest of nearly 70,000 pounds. The size limit for golden king crabs in

the Pribilof District was reduced from 6 and one-half inches to five and one-half inches in 1983. Subsequently, effort in the Pribilof District peaked during the 1983/84 season when 50 vessels harvested 860,000 pounds of golden king crabs. From 1984 to 1992, no more than two vessels participated each year in the fishery. Since the 1983/84 season, harvest has not exceeded 350,000 pounds annually. The Pribilof District golden king crab fishery reached a maximum exvessel value of just over $1 million in 1995 and the highest price fishers received per pound was $3.81 in 1994 (Table 2-16). During the last 9 years in the Pribilof District fishery an average of five vessels have annually harvested an average of 166,000 pounds. CPUE has averaged 7 legal crabs per pot lift with an average weight of 4.0 pounds. Most harvest in the Pribilof District has occurred in the area immediately to the south of the Pribilof Islands.

At its March 1993 meeting, BOF developed pot limits for all king crab fisheries in the Bering Sea. Current pot limits in the Pribilof District are set at 40 pots for vessels 125 feet or less in length and 50 pots for vessels greater than 125 feet in length.

In 2000, the Pribilof District golden king crab fishery opened with a GHL of 150,000 pounds, which was 50,000 pounds less than the 1999 harvest level. This adjustment better complies with guidelines outlined in the FMP for the king and Tanner crab fisheries of the Bering Sea and Aleutian Islands and is based on the average harvest from 1983 to 1997. Seven vessels harvested 127,000 pounds in 2000. The GHL was not reached; thus, the fishery remained open until the end of the year. In 2001, 6 vessels harvested 146,000 pounds and the fishery was closed by emergency order.

The golden king crab fishery in the Bering Sea is managed using inseason catch reports provided by processors and observers. Fishing is restricted to depths of 100 fathoms or greater. Starting in 2001, 100% observer coverage was required for each vessel registered for the fishery to provide fishery and biological data that has not previously been available. In addition, vessel logbooks issued with the commissioner's permit provide location of fishing operations, effort, and estimates of bycatch. Primary bycatch species include non-retained golden king crabs, Pacific halibut *Hippoglossus stenolepis*, Pacific cod *Gadus macrocephalus* and, snow crabs *Chionoecetes opilio*.

The 2002 fishery opened January 1 with a GHL of 150,000 pounds, and closed by emergency order on May 14. The total harvest was 150,434 pounds. CPUE averaged 6 legal crabs per pot lift, a decrease from the CPUE of 8 legal crabs per pot during the 2001 fishery. Landed crabs averaged 4.3 pounds per crab, the same as the 2001 season. The 2002 Pribilof District golden king crab fishery had a total fishery value of $438,000, which was just $9,000 more than the 2001 fishery value.

The 2003 Pribilof District golden king crab fishery opened on January 1 with a GHL of 150,000 pounds. Three vessels registered for the fishery and began fishing in late March. A fourth vessel registered in April but did not fish. Because only two processors participated in the fishery, most harvest information is confidential. The majority of the harvest in 2003 occurred south of Saint George Island.

2004 Fishery

Five vessels registered for the 2004 Pribilof District golden king crab fishery. Fishing effort began in late February and the fishery was closed by emergency order on March 12. Most of the 2004 harvest information is confidential because only three processors purchased the harvest. Catch rates during the 2004 fishery were among the highest on record, and the fishery was the

shortest ever at approximately three weeks in duration. Most of the 2004 harvest occurred immediately to the south of Saint George Island in the vicinity of the Pribilof Canyon.

Stock Status

The golden king crab population in the Pribilof District is not surveyed and no estimate of abundance has been made. There are no plans to survey this population, nor has a formal harvest strategy been developed. Population size is believed to be limited by the amount of available habitat in the Pribilof District. The fishery is currently managed using a GHL set from the long-term average harvest. Data collected by onboard observers in conjunction with data from the landed catch are used to annually evaluate the status of the stock. Since 2002, the average size of legal male golden king crab taken during the commercial fishery has decreased while CPUE has increased suggesting that above average recruitment to the legal male portion of the stock has recently occurred.

NORTHERN DISTRICT GOLDEN KING CRAB

Historic Background

A domestic fishery for golden king crabs in the Saint Matthew Island Section of the Northern District also began in the 1982/83 season. Effort and harvest in the Northern District has been sporadic. Since the initial fishery, harvest has only been documented during ten seasons. Harvest peaked during the 1987 season when 11 vessels harvested over 424,000 pounds (Table 2-17). Since 1988, no more than four vessels have participated during any season. The majority of the golden king crab harvest in the Northern District has occurred west of Saint Matthew Island. There has been no documented harvest of golden king crabs from either the Saint Lawrence Island or Norton Sound Sections.

At its March 1993 meeting, BOF developed pot limits for all king crab fisheries in the Bering Sea. Current pot limits in the Northern District are set at 60 pots for vessels 125 feet or less in length and 75 pots for vessels greater than 125 feet in length. These pot limits are significantly lower than the average number of pots fished per vessel in the Aleutian Islands golden king crab fishery, which has no pot limits in place. The Northern District fishery has never been closed by emergency order (Table 2-18).

The golden king crab fishery in the Bering Sea is managed using inseason catch reports provided by processors and observers. Starting in 2001, 100% observer coverage was required for each vessel registered for the fishery in order to provide fishery and biological data that has not previously been available. In addition, vessel logbooks issued with the commissioner's permit provide location of fishing operations, effort, and estimates of bycatch. Primary bycatch species include sublegal male and female golden king crabs, Pacific halibut, Pacific cod, and snow crabs. Fishing is also restricted to depths of 100 fathoms or greater.

2004 Fishery

The fishery opened January 1 with a GHL of 10,000 to 20,000 pounds and closed December 31, 2004. No vessels registered to fish for golden king crabs in the Northern District of Area Q in 2004 and there was no commercial harvest.

Stock Status

The golden king crab population in the Northern District is not surveyed and no estimate of abundance has been made. There are no plans to survey this population, nor has a formal harvest strategy been developed. Population size is believed to be limited by the amount of available

habitat in the Northern District. The current GHL of 10,000 to 20,000 pounds is designed to allow for some exploratory fishing and data gathering.

BERING SEA SCARLET KING CRAB

Historic Background

Scarlet king crabs *Lithodes couesi* are harvested under authority of a permit issued by the commissioner of ADF&G authorized in 5 AAC 34.082 PERMITS FOR LITHODES COUESI KING CRAB. Harvest of scarlet king crabs in the Bering Sea has primarily occurred as incidental harvest in the grooved Tanner crab *Chionoecetes tanneri* and golden king crab fisheries. Although vessels first registered to fish for Bering Sea scarlet king crabs in 1992, no commercial landings occurred prior to 1995. In 1995, four vessels harvested 26,684 pounds (Table 2-19) and were paid an exvessel price of $2.12 per pound. Only two vessels participated in 1996, consequently all catch information is confidential. No vessels registered to fish for scarlet king crabs from 1997 to 1999. A single vessel was permitted to retain scarlet king crabs as incidental harvest during the grooved Tanner crab fishery in 2000 and 2001. Since less than three vessels participated, the harvest information is confidential. Scarlet king crab incidental harvest was permitted at a rate of 50% of the weight of the target species. No vessels registered to retain incidental catch of scarlet king crab in 2002. Three vessels registered to retain scarlet king crabs as incidental harvest during the 2003 Bering Sea golden king and deep-water Tanner crab fisheries. Due to the limited amount of participation in the fishery all harvest information is confidential.

2004 Fishery

Three vessels registered to retain scarlet king crabs as incidental harvest during the 2004 Bering Sea golden king and deep-water Tanner crab fisheries. Due to the limited amount of participation in the fishery all harvest information is confidential.

Fishery Management and Stock Status

No annual abundance estimates are available for scarlet king crab stocks, nor have any stock assessment surveys been conducted. Onboard observers have been required on most vessels targeting deepwater crab species since 1994 and have collected information detailing the size and sex composition of the retained and non-retained scarlet king crab and bycatch species. This information will be used to help develop management measures for these deepwater crab stocks. Currently, ADF&G does not register vessels to fish directly for scarlet king crabs in the Bering Sea because stock size appears low and not capable of supporting a directed fishery. Retention of scarlet king crabs captured in other deepwater crab fisheries will be permitted at low levels.

BERING SEA TANNER CRAB MANAGEMENT DISTRICT

DESCRIPTION OF AREA

The Bering Sea District of Tanner crab Registration Area J includes all waters of the Bering Sea north of Cape Sarichef at 54° 36’ N lat. and east of the U.S.-Russia Maritime Boundary Line of 1991. This district is divided into the Eastern and Western Subdistricts at 173° W long. The Eastern Subdistrict is further divided at the latitude of Cape Romanzof and 168° W long. into the Norton Sound Section to the east and the General Section to the south and west (Figure 2-10).

BERING SEA TANNER CRAB

Historic Background

The first reported U.S. harvest of Tanner crabs *Chionoecetes bairdi* occurred in 1968, incidental to the harvest of red king crabs in Bristol Bay. In 1974, a directed Tanner crab fishery began. Harvest peaked at 66.6 million pounds during the 1977/78 season (Table 2-20). In the fall of 1978, NMFS predicted sharp declines in Tanner crab abundance beginning with the 1978/79 fishing season. As anticipated, Tanner crab stocks declined and by 1984 the commercial harvest fell to 1.2 million pounds (Figure 2-11). Further stock declines led to a fishery closure during the 1986 and 1987 seasons.

In 1992, in an effort to slow the harvest rate in order to provide sufficient time for inseason management of the Tanner crab fishery, the BOF adopted regulations which restricted all participating vessels to fishing a maximum of 250 pots. In 1993, in order to comply with federal law regarding application of pot limits in a nondiscriminatory manner, differential pot limits based on vessel length were implemented. Vessels 125 feet or under in overall length were limited to a maximum of 200 pots, while vessels longer than 125 feet in overall length were limited to a maximum of 250 pots.

Also in 1993, BOF adopted regulations that opened and closed that portion of the Eastern Subdistrict east of 168° W long., to Tanner crab fishing concurrent with the regulatory opening and emergency order closure of the Bristol Bay red king crab fishery. If sufficient GHL remained to be taken, the BOF mandated a reopening of the Eastern Subdistrict between 163° and 173° W long. for the directed Tanner crab fishery 10 days after the closure of the Bristol Bay red king crab fishery. In the event the Bristol Bay red king crab fishery failed to open, the portion of the Eastern Subdistrict west of 163° W long. would open to a directed Tanner crab fishery on November 1. These BOF actions were based on observer bycatch data and historic harvest patterns indicating that the majority of female king crab bycatch in the Bristol Bay red king crab and Bering Sea Tanner crab fisheries came from waters east of 163° W long.

During the 1994 and 1995 seasons, the Bristol Bay red king crab fishery did not open due to low stock abundance. As a result, the Tanner crab fishery opened on November 1 in the Eastern Subdistrict west of 163° W long. The commercial Tanner crab harvest in 1994 was 7.8 million pounds; in 1995 the harvest declined to 4.2 million pounds (Table 2-21).

The GHL for the 1996 Tanner crab fishery was 8.4 million pounds (Table 2-22). Due to poor fishery performance, the fishery was closed before the GHL was reached; a total of 1.8 million pounds was harvested. The average size of crabs harvested in 1996 was 152 mm carapace width (CW). This compares to an average of 149 mm CW observed in 1995. The percentage of new-shell crabs harvested in 1996 decreased to 47% from 59% observed in the 1995 harvest (Table 2-23).

Based on poor fishery performance in 1996 and results from the 1997 NMFS survey indicating significant declines in most segments of the Tanner crab population (Stevens et al. 1998a), the Bering Sea Tanner crab fishery remained closed for the 1997 season. The 1998 NMFS survey indicated further declines in Tanner crab abundance and the fishery did not open in 1998. Abundance of large male and female Tanner crabs continued to decline to the lowest level in the history of the survey (Stevens et al. 1998b). Because the stock fell below the MSST established in the FMP for this fishery, the stock was declared overfished by NMFS in 1998, necessitating a rebuilding plan.

At the March 1999 BOF meeting, a revised harvest strategy was adopted as part of a comprehensive Bering Sea Tanner crab rebuilding plan. The harvest strategy for the Eastern Subdistrict specifies a threshold of 21.0 million pounds of mature female biomass that, for management purposes, are females ≥ 80 mm CW. No directed crab fishery is prosecuted when female biomass is below that threshold. When the mature female biomass is between 21.0 million and 45.0 million pounds, a maximum harvest rate of 10% is applied to "molting mature males", or those mature male crabs likely to continue to grow, defined as 100% of new-shell and 15% of old-shell males greater than 112 mm CW. When the mature female biomass is above 45.0 million pounds the harvest rate is set at a maximum of 20% of molting mature males.

When establishing a GHL, no more than 50% of the exploitable legal-size male abundance may be harvested. Exploitable legal-size male abundance is 100% of new shell and 32% of old-shell male crabs greater than 140 mm CW. Separate GHLs are calculated for the areas east and west of 168° W long. The minimum fishery threshold is 4.0 million pounds. If the fishery is not opened because it did not meet threshold requirements, the fishery may reopen the following season if a GHL of at least 8.0 million pounds is calculated through the harvest strategy, but only half of the GHL may be taken that year. If the fishery remains closed because the GHL is calculated to be greater than 4.0 million pounds, but less than 8.0 million pounds, the fishery may reopen the following year if the calculated GHL is at least 4.0 million pounds. This safeguard was established to protect against survey bias in the year following a closure due to low stock abundance.

Prerecruit crab abundance began increasing in 1998 and 1999, but this trend reversed in 2000 and 2001. In addition, the stock remained below fishery threshold level established in the harvest strategy and the fishery was closed from 1999 to 2003.

2004 Fishery

Harvest strategy thresholds were not met in 2004. Consequently, the Bering Sea Tanner crab fishery remained closed for the 2004 season.

Stock Status

The abundance of Tanner crabs in the Bering Sea District remains below levels to allow for a fishery, but the stock demonstrates increasing trends in total mature biomass.

Based on area-swept calculations made by ADF&G, the estimated abundance of molting mature males increased 51% over the 2003 level to 15.6 million crabs. Molting mature male abundance has more than doubled since 2002. The 2004 estimate for mature female abundance was 39% lower than in 2003. The 2004 legal male abundance estimate was 5.5 million crabs, a 27% decrease from the 2003 level. The 2004 Bering Sea Tanner crab mature female biomass estimate made by ADF&G using area-swept calculations was 13.2 million pounds and the fishery was not opened because the harvest strategy threshold of 21 million pounds of mature female biomass was not met.

The Bering Sea Tanner crab estimated spawning biomass decreased from 100.8 million pounds in 2003 to 86.8 million pounds in 2004. Despite the decrease, the 2004 spawning biomass estimate was the second largest since 1997. In 2004, the stock decreased below MSST (94.8 million pounds of spawning biomass). Despite recent upward trends in spawning biomass, molting mature male abundance and legal male abundance, the stock remains well below the rebuilt level of 189.6 million pounds of spawning biomass and is not likely to reach that level in 2005 (NPFMC 2004).

BERING SEA SNOW CRAB

Historic Background

The first commercial landings of snow crabs *Chionoecetes opilio* from the Bering Sea were recorded in 1977, incidental to the harvest of Tanner crabs. In 1981, a reduction in the Tanner crab harvest resulted in increased snow crab harvest. The harvest of snow crabs fell from 52.8 million pounds in 1981 to 26.1 million by 1983 (Table 2-24, Figure 2-12). In 1984, harvest increased slightly, and in 1985, 66 million pounds were landed. In 1986, the harvest increased to 98.0 million pounds. The commercial catch continued to increase annually to a high of 328.6 million pounds in 1991. Although stocks began to decline, the harvest of snow crabs remained over 100 million pounds through the 1994 season. In 1996, the harvest declined to 65.7 million pounds, the lowest in the preceding eleven seasons. The GHL more than doubled in 1997 to 117.0 million pounds and the fleet harvested 119.5 million pounds. In the 1998 general fishery, 229 vessels harvested 243.3 million pounds.

The NMFS stock assessment survey in 1998 indicated that the estimate of large male snow crabs declined by 17% from the prior year's survey, resulting in a general fishery GHL of 186.2 million pounds. Two hundred and forty one vessels landed 184.5 million pounds during the 1999 general fishery, ending on March 22.

In 1999, the surveyed stock was 60% of the minimum stock size threshold, defined as half the long term average mature biomass established in the FMP for Bering Sea and Aleutian Islands king and Tanner Crab (NPFMC 1998). In response to significant stock declines, ADF&G initially reduced the 58% exploitation rate on 102 mm CW and larger male snow crabs by 50%. The revised 29% exploitation rate would still have resulted in a removal rate from the estimated mature biomass close to the long-term average. Thus, in accordance with NMFS guidelines for stock rebuilding, the harvest rate was reduced by an additional 25% to 22%, which also took into consideration handling mortality during the fishery and high natural mortality during the 6 month hiatus between the survey and the fishery opening. This reduction in exploitation rate resulted in a GHL of 28.5 million pounds for the 2000 season.

The 2000 snow crab fishery was scheduled to open by regulation at noon on January 15. However, by early January, a significant portion of the fishing grounds were ice covered. The ADF&G and industry had concerns about potential gear conflicts and gear loss due to sea ice and vessel interactions because of the limited fishing area. ADF&G was also concerned with the handling effects and the potential for increased handling mortality and limb loss of captured crabs in a derby-style fishery under extreme weather conditions. ADF&G received input from representatives of the crab industry and the majority indicated a desire to delay the season. The USCG was also in favor of delaying the season due to vessel safety concerns during severe vessel icing conditions. On January 7, ADF&G announced by news release that the fishery would be delayed and would not open prior to April 1, and that two weeks advance notice would be provided to industry prior to an opening. On March 7, ADF&G issued a news release defining criteria that would be used to open the fishery. These criteria, developed with input from industry, specified that at least 50% of the fishing grounds had to be ice free at the time of the opening, and that the ice edge at 167° W long. could be no further south than 58° N lat. On March 15, ADF&G issued a news release indicating opening criteria had been met and that the fishery would open at noon on April 1.

The 2000 general fishery opened at noon on April 1 and closed at noon on April 8 (Table 2-25). Due to the relatively small GHL, management of the 2000 fishery was based on daily inseason reports from fishers.

Harvest from the Eastern Subdistrict was 20.9 million pounds from 217 landings (Table 7), or 68% of the total harvest. In recent years the majority of the harvest had occurred in the Eastern Subdistrict. Total harvest from the Western Subdistrict was 9.8 million pounds from 91 landings. The majority of the Eastern Subdistrict harvest came from 6 statistical areas surrounding the Pribilof Islands. The majority of the harvest in the Western Subdistrict came from four statistical areas along the 100 fathom depth contour, between 173° and 174° W long. In both subdistricts the majority of the harvest came from areas which have, in recent years, contributed the majority of the harvest.

The exvessel price for snow crabs harvested in the 2000 fishery was two-tiered due to concerns for higher than normal old-shell crabs expected in the catch. Fishers were offered $1.85 per pound for new-shell crabs and $1.00 per pound for old-shell crabs. Fishers reported encountering high percentages of old-shell crabs in the first two days of the fishery, but thereafter located areas, which contained predominantly new-shell animals. As a result, less than 10% of crabs landed were old-shell animals. Based on an average exvessel price of $1.81 per pound, the 2000 snow crab fishery was worth $55.1 million. This compares to an exvessel price of $0.88 per pound and an overall fishery value in excess of $161 million in 1999.

Analysis of the 2000 National Marine Fisheries Service summer trawl survey of the Eastern Bering Sea indicated a 19% decrease in the abundance of large (≥ 102 mm CW) male crabs from the 1999 survey. However, small (< 102 mm CW) male and large (≥ 50 mm CW) female abundance increased 100% and 212%, respectively. Due to the large increase in both small male and large female abundance, the spawning biomass, estimated at 472.7 million pounds, was slightly above the minimum stock size threshold of 460.8 million pounds.

In the spring of 2000, the BOF adopted a harvest strategy specifying a stepped harvest rate on mature male crabs that is dependant on estimated spawning biomass and that would rebuild the stock. At that time, the rebuilding plan specified an exploitation rate of 16.875% of the mature male biomass when the spawning biomass is between 460.8 and 921.6 million pounds, resulting in a GHL for the 2001 season of 27.3 million pounds with 25.3 available to the general fishery and 2.0 million pounds allocated to the CDQ fishery.

The 2001 Bering Sea snow crab general fishery opened by regulation at noon on January 15 and closed by emergency order at 11:59 PM on February 14. The fleet harvested 23,382,046 pounds, or 92% of the GHL. A total of 207 vessels, including 7 catcher-processors participated in the 2001 fishery. Because of lengthy price negotiations, most catcher vessels did not begin fishing until 4:00 PM on February 3. As a result, harvest for the first 18 days of the season, 2.2 million pounds, was taken almost entirely by catcher-processor vessels.

The average exvessel price per pound in 2001 was $1.53, resulting in a total fishery value of $32.1 million, a significant decrease from the 2000 fishery value of $55.1 million.

Weather conditions in the Bering Sea throughout the 2001 fishery were very unfavorable. Several storms, some generating hurricane force winds, combined with large tides to produce extremely dangerous sea conditions. Several vessels lost wheelhouse windows and experienced other structural damaged caused by large waves. No vessels or lives were lost during the 2001

fishery. Sea ice was not a major concern in 2001, and the main ice pack remained north of Saint Matthew Island throughout the fishery.

The 2001 NMFS trawl survey of the Eastern Bering Sea indicated a 2% increase in the abundance of large male crabs when compared to the 2000 survey. Prerecruit male and large female abundance increased 114% and 3%, respectively. The total mature biomass of snow crab in the Bering Sea was estimated to be 571.0 million pounds which was above the minimum stock size threshold of 460.8 million pounds.

Given the estimated total mature biomass of 571.0 million pounds and current harvest strategy requirements, the GHL was set using a 16.875% exploitation rate. The calculated GHL of 51.0 million pounds constituted a harvest greater than 50% of the estimated exploitable legal male abundance and thus, according to harvest strategy requirements was adjusted down to not exceed 50% of the exploitable legal male abundance. The resultant 2002 Bering Sea snow crab GHL was 30.8 million pounds with 28.5 million pounds available to the general fishery. The remaining 2.31 million pounds were allocated to the CDQ fishery. Approximately 61% of the four inch and greater carapace width males encountered during the 2001 survey had old shells.

The 2002 Bering Sea snow crab general fishery opened by regulation at noon on January 15 and closed by emergency order at noon on February 8. Total harvest by 191 vessels including 8 catcher–processors was 30,252,501 pounds, exceeding the general fishery GHL of 28.5 million pounds by 1.8 million pounds (6.4%).

Unlike the 2001 fishery, in 2002 the Bering Sea snow crab fleet voted to accept a price offer prior to the beginning of vessel registration on January 13. The fleet voted to accept $1.40 per pound for new-shell crabs that were four-inch and greater carapace width. As the fishery progressed, some fishers experienced difficulty in finding grounds containing a high percentage of new-shell crabs. Approximately 31% of landed crabs had old shells. As a result, processors offered a second price of $0.90 to $1.00 per pound for old-shell crabs that were four inch and greater carapace width. Given this price structure, the 2002 Bering Sea snow crab fishery had an estimated exvessel value of $44 million.

In addition to old-shell crabs that were delivered, onboard observers and fishers reported that up to 30% of legal crabs caught were being discarded at sea due to shell condition. During the 2001 fishery, approximately 20% of the legal snow crabs that were caught were not retained and 4.8% of snow crabs landed had old shells.

Due to the protracted length of the 2002 fishery, most vessels made one or two landings prior to the closure of the fishery. By the fishery closure, approximately 66% of the harvest had already been processed, reducing post season processing delays experienced in 2001. Processing was completed by February 17. Two processors operating under sideboards of the AFA were constrained by their processing caps; none were constrained in 2001.

Weather conditions in the Bering Sea during the 2002 fishery did not significantly hamper the fleet, however heavy freezing spray slowed production in late January and early February. Like the 2001 fishery, no vessels or lives were lost in 2002. Unlike the 2001 fishery, sea ice was a significant factor throughout the season. Sea ice forced most of the fleet to remain below 59° N lat. and thus a significant portion of the stock could not be fished. In addition, sea ice forced fishers to move gear more frequently. Post season, sea ice covered some gear stored north of 56° 30’ N lat.

The 2003 Bering Sea snow crab general fishery opened by regulation at noon on January 15 and closed by emergency order at 6:00 AM on January 25 with a harvest of 26.34 million pounds which exceeded the general fishery guideline harvest level (GHL) of 23.69 million pounds by 2.65 million pounds (11.2%).

The 2002 National Marine Fisheries Service summer trawl survey of the Eastern Bering Sea indicated a 2% decrease in the abundance of large (≥ 102 mm carapace width (cw)) male crabs when compared to the 2001 survey. Small (< 102 mm cw) male and large (≥ 50 mm cw) female abundance decreased 12% and 67%, respectively. The total mature biomass of snow crab in the Bering Sea is estimated to be 313.0 million pounds which is below the minimum stock size threshold of 460.8 million pounds, and is a decrease from the 2001 TMB estimate of 571.0 million pounds.

The snow crab fleet voted to accept $1.85 per pound for new-shell crabs that were four inch and greater carapace width, a substantial increase from the 2002 price of $1.40 per pound. In contrast to 2002, the fleet did not encounter large numbers of old or very old shell crabs on the grounds resulting in an average exvessel price of $1.83 per pound and a total exvessel value of nearly $47 million, an increase from the 2002 exvessel value of $40 million.

Weather conditions in the Bering Sea during the 2003 fishery did not significantly hamper the fleet and sea ice location allowed the fleet to operate farther north and west of areas that have been recently fished. Like the prior two snow crab fisheries, no vessels or lives were lost in 2003.

2004 Fishery

The 2004 Bering Sea snow crab general fishery opened by regulation at noon on January 15 and closed by emergency order at 10:00 PM on January 23. Fish ticket data indicate a harvest of 22.17 million pounds, exceeding the general fishery guideline harvest level (GHL) of 19.27 million pounds by 2.9 million pounds (15%).

Analysis of the 2003 National Marine Fisheries Service summer trawl survey of the Eastern Bering Sea indicated a 16% decrease in the abundance of large (≥ 102 mm carapace width (cw)) male crabs when compared to the 2002 survey. The total mature biomass (TMB) of snow crab in the Bering Sea is estimated to be 306.2 million pounds which is below the minimum stock size threshold of 460.8 million pounds, and is a decrease from the 2002 TMB estimate of 313.0 million pounds.

Given the estimated total mature biomass of 306.2 million pounds and current harvest strategy requirements, the GHL was set using an 11.5% exploitation rate. The resultant 2004 Bering Sea snow crab GHL was 20.83 million pounds with 19.27 million pounds available to the general fishery. The remaining 1.56 million pounds were allocated to the CDQ fishery.

Preseason vessel registration was required by 5:00 PM on December 24, 2003. A total of 193 vessels filed preseason registrations. Eight vessels filed applications for late registration and were permitted to enter the fishery. Catcher-vessel observer coverage was assigned based on the number of catcher vessels that filed preseason registrations. Nineteen catcher vessels and 6 catcher–processors carried observers during the 2004 Bering Sea snow crab fishery.

Based on the snow crab GHL, regulatory pot limits were 70 pots for vessels less than or equal to 125 feet in overall length and 90 pots for vessels greater than 125 feet in overall length. A total of 14,460 buoy tags were purchased by 191 vessel operators for the 2004 Bering Sea snow crab fishery. The fleet purchased 20,452 buoy tags for the 2003 fishery. The 2004 snow crab fishery

is only the second during which pot limits have been lower than 200 pots for vessels less than or equal to 125 feet in overall length and 250 pots for vessels greater than 125 feet in overall length.

The quick registration process began January 7 with preseason tank inspections in Dutch Harbor, Akutan, King Cove and False Pass. The quick registration process is not used in Saint Paul, however standard tank inspections and vessel registrations are conducted in the 24 hours prior to the fishery opening. In the four other ports, the fleet was registered on January 13. The tank inspection process was also used to enlist vessel operators in the inseason catch reporting program. Over 50% of the fleet volunteered to make daily catch and effort reports.

During the week preceding vessel registration, department staff consulted with United States Coast Guard (USCG) search and rescue personnel and National Weather Service (NWS) forecasters regarding a potential weather-related delay in season opening. NWS staff did not forecast storm force winds in the operational area of vessels that would be travelling to the snow crab fishing grounds from Dutch Harbor, Akutan, King Cove, Saint Paul or False Pass, nor were storm force winds forecast for the time period January 15-17. USCG personnel did not foresee that current or forecast weather conditions would hamper a search and rescue mission immediately before or during the first 48 hours of the fishery, thus the season was not delayed.

A total of 189 vessels participated in the 2004 fishery. Three floating–processors registered and purchased crabs on the grounds during and after the fishery. Six shorebased processors in Dutch Harbor, two in Saint Paul, one in King Cove and two in Kodiak also purchased and processed snow crabs. In addition, two catcher–processor vessels purchased snow crabs from catcher vessels after the fishery.

The fleet spent January 15 and the early portion of the 16th deploying gear and just over 0.5 million pounds were taken by 6:00 AM January 16. By 6:00 AM January 17, the fleet had harvested nearly 3.4 million pounds and was pulling approximately 14,000 pots per day for a catch per unit of effort (CPUE) of 155 crabs per pot lift and a daily harvest rate of 2.8 million pounds. Daily harvest peaked during the 24-hour period ending at 6:00 AM January 18 when the fleet harvested just over 3.0 million pounds with a CPUE of 169 crabs per pot lift (Table 2-26).

Reports received through 6:00 AM January 22 indicated that in the prior 24 hours, the fleet harvested 2.2 million pounds and pulled approximately 14,000 pots for a CPUE of 122 crabs per pot lift and a cumulative harvest of 15.5 million pounds. Given this catch rate, the department issued a news release at 3:00 PM on January 22 announcing that the 2004 Bering Sea snow crab fishery would close at 10:00 PM January 23. Based on inseason catch reports received from approximately 40% of the fleet through January 24, the estimated total harvest for the 2004 snow crab fishery was 20.2 million pounds with an estimated effort of 111,152 pot lifts and a CPUE of 139 crabs per pot lift. Based on fish ticket data CPUE for the 2004 fishery was 157 crabs per pot lift from a total of 110,087 pot lifts. In 2003, the fleet harvested 26.3 million pounds and pulled approximately 140,000 pots for a CPUE of 155 crabs per pot lift.

In 2004, relatively little of the snow crab harvest occurred in the Eastern Subdistrict, a sharp contrast to the fisheries of the 1990s when the majority of the harvest occurred east of 173° W long. During 2004, approximately 2.8 million pounds (12%) of snow crabs were harvested east of 173° W long (Table 2-27). In 2003, 15% of the harvest occurred in the Eastern Subdistrict. Harvest distribution was limited in 2004 as it was in 2003. Nearly two thirds of the 2004 harvest occurred in four contiguous ADF&G statistical areas northwest of the Pribilof Islands (Table 2-28).

Representatives of the snow crab fleet voted to accept a price offer from processors prior to the start of tank inspections. The fleet accepted $2.05 per pound for new-shell crabs that were four inches and greater in carapace width, a substantial increase from the 2003 price of $1.85 per pound. The fleet did not encounter large numbers of old or very old shell crabs on the grounds resulting in an exvessel price of $2.05 per pound and an exvessel fishery value of nearly $45 million, a slight decrease from the 2003 exvessel fishery value of $47 million (Table 2-29).

The fleet was not significantly constrained by weather or sea ice conditions in 2004. Like the prior three snow crab fisheries, no vessels or lives were lost in 2004.

Alaska Bureau of Wildlife Enforcement (ABWE) stationed personnel in all ports where snow crabs were landed. No vessel operators were cited for illegally harvesting Tanner crabs during the snow crab fishery, however one vessel operator was cited for failing to register for the fishery.

Dockside Sampling

Snow crabs were sampled at dockside from deliveries during and after the 2004 Bering Sea snow crab general fishery. Confidential interviews were conducted with vessel captains to acquire detailed information regarding statistical areas fished, effort and fishery performance. Biological data collected consisted of average size and weight, shell condition and hybridization.

A total of 163 shoreside deliveries were made by the snow crab fleet in 2004. ADF&G observers collected biological and fishery data from 20 of those deliveries while ADF&G dockside samplers performed the same duties on 128 (90%) of the remaining non-observed shoreside deliveries. Approximately 2% of the crabs delivered in the 2004 Bering Sea snow crab general fishery were counted and weighed to derive average weight estimates. The average weight of crabs landed during the 2004 fishery is 1.3 pounds, a slight increase from the 2003 average weight of 1.2 pounds. Preliminary data does not indicate that there was a significant difference in average weight between crabs harvested in the Eastern and Western Subdistricts.

Less than 1% of the crabs delivered were measured for CW and examined for shell condition. Based on these data, 86% of the crabs measured were new shell, 13% were old shell and 1% were very old shell (Table 2-30, Figure 2-13). Average CW for Bering Sea snow crabs was 110 mm, a slight increase from 107 mm in 2003.

Stock Status

The Bering Sea snow crab stock fell below the minimum stock size threshold and was declared overfished in 1999. Since 1999, snow crab abundance in the Bering Sea has fluctuated, but has remained depressed relative to fishery management reference points.

The 2004 estimated abundance of small males decreased 3.6% from the 2003 level and large female abundance increased by 32%. Despite the increase in mature female abundance, the lack of recruitment to this portion of the stock for several years is evidenced by the high proportion of old and very old shell female crabs in the population.

Federal FMP and state harvest strategy requirements use the total mature snow crab biomass (TMB) to evaluate the stock. TMB is defined as the biomass of all the mature male and female snow crabs. In 2001, the TMB of snow crabs in the Bering Sea was estimated to be 571 million pounds, a 21% increase over the 2000 level of 473 million pounds, but well below the Federal FMP defined rebuilt level of 921.6 million pounds. In 2003, TMB decreased to 306.2 million

pounds compared to 313 million pounds in 2002. The 2004 TMB estimate was 343.7 million pounds. TMB must remain above 230.4 million pounds in order for a fishery to occur.

Relative to FMP criteria, the Bering Sea snow crab stock remains below the rebuilt level. The recruitment observed in 2000 and 2001 does not appear to have contributed significantly to stock rebuilding, however it helped sustain small commercial harvests that otherwise may not have been possible. The 2004 estimated snow crab biomass is near historic lows and it is difficult to predict if TMB will be adequate to meet the harvest strategy threshold for opening the 2006 fishery, or if the minimum GHL threshold will be met.

BERING SEA GROOVED TANNER CRAB

Historic Background

In 1988, BOF established a special permit season for deepwater Tanner crabs. However, no commercial harvest of grooved Tanner crabs from the Bering Sea occurred until 1992. In 1993, ADF&G restricted the harvest to male crabs with a CW of 127 mm (5 inches) or greater. Six vessels harvested just less than 660,000 pounds. The following year, differential pot limits, based on vessel size, were applied to vessels fishing for deepwater Tanner crabs in the Bering Sea. Effort and landings consequently decreased as four vessels harvested slightly over 300,000 pounds (Table 2-31).

At the March 1995 meeting, BOF determined that pot limits should not apply to the deepwater Tanner crab permit fisheries of the Westward Region. Effort increased significantly that year when 8 vessels harvested over one million pounds with a fishery value exceeding $1.3 million. Since 1995, the number of vessels registered for Bering Sea District grooved Tanner crabs has not exceeded three vessels for any year. Catch per unit effort was highest in 1994 at 11 legal crabs per pot lift and declined to three in 1996. Harvests decreased from over 1,000,000 pounds in 1995 to 107,000 pounds in 1996. No vessels registered to fish grooved Tanner crabs in the Bering Sea District from 1997 to 1999, while only one vessel registered each year in 2000 and 2001. Historically, fishing effort has been concentrated in a few statistical areas immediately south of Saint George Island.

In 1997, ADF&G set GHLs for grooved Tanner crabs that were based on prior harvest information. In the past, the Bering Sea, Alaska Peninsula, and Eastern Aleutian Districts supported the largest catches of grooved Tanner crabs. A GHL of 200,000 pounds was established for each of these districts. A GHL of 100,000 pounds was established in the Kodiak and Western Aleutian Districts to allow for exploratory fishing. Additionally, due to concerns about handling mortality on undersized and female deepwater crabs caught and released, ADF&G began to require a minimum of two escape rings per pot with a minimum inside ring diameter of 4.5 inches.

Given fishery performance and declining harvests of the mid-1990s, the department reevaluated deepwater Tanner crab harvest levels in 1999. A GHL range of 50,000 to 200,000 pounds was established for the Bering Sea District. The GHL was set as a range to provide greater flexibility for inseason management and to better inform the public of the department's management goals for the fishery. The fishery is managed so that the upper end of the GHL range is reached only when catch rates similar to or greater than those documented prior to the harvest declines of the mid 1990s are observed. In addition to new GHL requirements, the department specified that four 4.5" escape rings be placed on the lower third of each pot and required that pots be fished

over multiple depth strata. Since 1994, observers have been required on each vessel registered for the fishery to collect biological and fishery data.

2004 Fishery

Two vessels registered for the directed Bering Sea grooved Tanner crab fishery in 2004. Two additional vessels registered to retain grooved Tanner crab incidentally taken during the Pribilof District golden king crab fishery, but did not harvest any grooved Tanner crab. The Bering Sea District grooved Tanner crab harvest in 2004 was confidential because only one processor participated in the fishery.

Stock Status

The grooved Tanner crab population in the Bering Sea District is not surveyed; subsequently, no estimates of population abundance are available for this stock. Fishery data is the primary source of information regarding abundance and stock status. Based on the available information, the Bering Sea grooved Tanner crab stock was heavily exploited in the mid-1990s and catch rates decreased to a level where the commercial fishery was no longer economically viable. Since then, the stock has been managed more conservatively and appears to have stabilized or recovered slightly.

BERING SEA TRIANGLE TANNER CRAB

Historic Background

Historically, triangle Tanner crabs *Chionoecetes angulatus* were taken as incidental harvest in the grooved Tanner crab fishery. Vessel operators have verbally reported retention of triangle Tanner crabs before 1994. To obtain biological information on grooved Tanner crabs, ADF&G implemented 100% onboard observer coverage on vessels fishing for deep-water Tanner crabs in 1994. That year, onboard observers documented a single incidence of triangle Tanner crab bycatch, but prior to 1995, this species had not been commercially harvested. In 1995, four vessels registered to retain triangle Tanner crabs, and harvested over 49,000 pounds for a total fishery value of $50,000. In 1996, 2000, and 2001, only one vessel delivered triangle Tanner crabs as incidental harvest each year. No vessels registered to fish triangle Tanner crabs in the Bering Sea District in 1997, 1998, 1999, or 2002 (Table 2-32).

Due to the lack of stock abundance data for this species fishing will be limited to incidental harvest during the grooved Tanner and Pribilof District golden king crab fisheries. Vessels registered to fish for grooved Tanner crabs will be permitted to retain incidentally taken triangle Tanner crabs at up to 50% of the weight of the target species. In the Pribilof District golden king crab fishery, incidentally taken triangle Tanner crabs may be retained at up to 5% of the weight of the target species onboard the vessel. This harvest level is consistent with the historic catches and allows for limited retention of this deepwater species that is believed to experience significant handling mortality when caught and released.

2004 Fishery

There was no directed fishing for triangle Tanner crabs in the Bering Sea District in 2004. Three vessels registered to retain triangle Tanner crab incidentally taken during the Pribilof District golden king and Bering Sea grooved Tanner crab fisheries.

Stock Status

Surveys of population abundance are not conducted for triangle Tanner crabs in the Bering Sea; thus the status of this stock is unknown. There are currently no plans to survey this population.

MISCELLANEOUS SHELLFISH SPECIES BERING SEA

DESCRIPTION OF AREA

The Bering Sea portion of Registration Area J, as described herein for miscellaneous shellfish, includes all Bering Sea waters of both the Territorial Sea (0-3 nautical miles from shore) and the Exclusive Economic Zone (3-200 miles from shore) north of the latitude of Cape Sarichef at 54° 36' N lat. and east of the United States-Russia Maritime Boundary Line of 1991 (Figure 2-14).

INTRODUCTION

Miscellaneous shellfish species include hair crabs *Erimacrus isenbeckii*, green sea urchins *Strongylocentrotus droebachiensis*, red sea cucumbers *Parastichopus californicus*, snails *Neptunea* and *Buccinum*, octopus *Octopus dofleini*, and cherry crabs *Paralomis multispina*, a deepwater crab closely related to king crabs. These species have been harvested in relatively small amounts when compared to the commercial king and Tanner crab fisheries in the Bering Sea. To regulate fisheries for these species, ADF&G issues commissioners permits in accordance with 5 AAC 38.062. PERMITS FOR OCTOPI, SQUID, HAIR CRAB, SEA URCHINS, SEA CUCUMBERS, SEA SNAILS, CORAL, AND OTHER MARINE INVERTEBRATES.

Those species of current or historic interest in the Bering Sea include cherry, hair and Dungeness crabs *Cancer magister*, octopus, and snails. North Peninsula District shrimp do not fall under the miscellaneous species category, but are included in this report due to low or infrequent annual harvests. The fishery for shrimp in the Bering Sea District is described in the Aleutian Islands section of this report.

BERING SEA HAIR CRABS

Description of Area

The Bering Sea hair crab fishery is prosecuted in an area that includes all waters north of 54° 36' N lat., south of 60° N lat., east of the United States-Russia Maritime Boundary Line of 1991, and west of 168° W long. (Figure 2-15). There is no formal hair crab registration area established in regulation; rather, the fishing area is set using the terms of a commissioner's permit.

Historic Background

The fishery for hair crabs in the Bering Sea was pioneered by the Japanese fleet during the 1960s and first commercially exploited by the U. S. fleet in 1979. In its early years, the domestic hair crab season was opened by emergency order concurrent with the Bering Sea Tanner crab fishery. In 1980, the BOF established a year-long season within a three-mile area of the Pribilof Islands. In 1984, under conditions of a commissioner's permit issued by ADF&G, the year-round hair crab fishery was expanded in the Bering Sea District. Between 1979 and 1992, however, the majority of hair crabs landed was reported as incidental catch in the Bering Sea Tanner crab fisheries.

Beginning in the fall of 1993, under the terms of the Commissioner's Permit, all vessels fishing for hair crabs were required to carry an observer during all fishing activities (ADF&G 1996). In 1994, hair crab pots were defined by BOF as pots with a rigid tunnel opening in the top of the pot, with a tunnel perimeter not to exceed 26 inches and a base that does not exceed 48 inches in any one direction. Legal retention of hair crabs is permitted only from hair crab pots.

In 1996, due to a steady increase in the number of vessels participating in this fishery, the Alaska Legislature authorized the Commercial Fisheries Entry Commission (CFEC) to regulate vessel licenses in the Bering Sea hair crab fishery. Vessel qualification was based on participation in at

least one of the qualifying years from 1992 to 1995. Licenses were issued to 23 vessels for those waters beyond five nautical miles of Saint George and Saint Paul Islands. Also included in this legislation were provisions which allow any vessel 58 feet and under to fish within five nautical miles of Saint George and Saint Paul Islands. In addition, it was the intent of the Legislature, expressed in the moratorium, that BOF maintain 100% observer coverage on all vessels participating in the Bering Sea hair crab fishery. However, ADF&G exempted vessels under 44 feet in length from mandatory observer coverage because of observer safety considerations (ADF&G 1998).

Observers provide catch and effort reports that are expanded into harvest estimates. Their data, along with information collected from vessel operators and processors, allow ADF&G to manage the Bering Sea hair crab fishery inseason. Catch reports from processors are used to verify estimates generated from observer data. Reports from fishers provide information regarding distribution of crabs, gear conflicts, weather, and other fishing conditions.

Participation and harvest in the Bering Sea hair crab fishery has varied greatly over the history of the U. S. fishery. Effort and harvest reached a peak of 67 vessels and 2.4 million pounds in 1980 when the fishery was prosecuted as an incidental harvest fishery during the Tanner crab season (Table 2-33 and Figure 2-16). Between 1985 and 1990, effort was minimal due to low stock abundance. Since the 1996 moratorium, effort has remained at 19 or fewer vessels and in 2000 only three vessels made landings. In the 1990s, harvest reached a peak of 2.3 million pounds in the 1993/94 season. Total fishery value peaked in 1995 at $5.7 million (Table 2-34). Since 1995, both effort and GHL have been declining. During the 2000 season, only 1,500 pounds of hair crabs were harvested, for a total fishery value of $5,000.

Since the establishment of the year-round permit fishery in the Bering Sea in 1984, average weight and CPUE have also fluctuated significantly. The highest CPUE of 10 crabs per pot was recorded in 1991, while CPUE dropped to less than one crab per pot during the spring 1993 and 2000 seasons. Average weight of retained hair crabs was highest during the early years of the U.S. fishery at 2.1 pounds, but decreased to 0.9 pound in 1991. In the late 1990s, the average weight of retained hair crabs has remained around 1.6 pounds (Table 2-33).

Beginning in 1993, the hair crab fishing season opening date was set at November 1, which conflicted with the Bristol Bay red king crab fishery. In 1998, ADF&G solicited comments from industry regarding a new opening date. A consensus was reached that the fishery would open 10 days after the closure of the Pribilof District or Saint Matthew Island Section king crab fisheries, whichever closed later. The fishery opened on October 8 in 1998. In 1999, BOF changed the Bristol Bay red king crab season opening to October 15; thus the hair crab fishery opening was again in conflict the opening of the BBRKC season. Consensus was reached with industry to conduct the fishery 10 days after the closure of the Bristol Bay red king crab fishery. Subsequently, in 1999 and 2000, the hair crab season opened on October 30.

The GHL for Bering Sea hair crabs is established using results of the NMFS Bering Sea trawl survey. Since there are no registration areas, districts, or sections established in regulation for hair crabs, survey results are described in terms of Bering Sea king crab registration areas, districts and sections (Figure 2-5). Because confidence in the results of this survey is relatively low, a maximum 20% fishery exploitation rate has been used to determine the GHL. Male hair crabs ≥ 83 mm in CW are defined as legal crabs in the commissioner's permit for this fishery.

Typically, the majority of legal-sized male hair crabs encountered during the trawl survey have been found in the vicinity of the Pribilof Islands and the fishery harvest has occurred primarily in the area east of Saint Paul Island. During the 1999 survey, however, 65% of the large male hair crab population in the Bering Sea was found in the Northern District instead of the traditional Pribilof District. Subsequently, in 2000, the Pribilof District was closed to commercial hair crab fishing due to low stock abundance, and for the first time, a directed hair crab fishery was opened in the Northern District of king crab Registration Area Q. Given the experimental nature of the fishery, the low abundance of small male crabs found during the 2000 survey, the relative size of the stock, and lack of fishery data from the Northern District, the harvest rate was set conservatively at 10% of the estimated large male hair crab abundance. As a result of low stock abundance, the Bering Sea was closed to hair crab fishing in 2001 and 2002.

In 2003, CFEC instituted a vessel-based limited entry program for the Bering Sea hair crab fishery and issued hair crab permits to qualified vessel owners. Impact of the limited entry program on fishery management is currently unknown, but the program should lead to a more easily managed fishery if stock conditions allow a reopening. It is estimated that approximately 20 permanent licenses will be issued for the fishery.

2004 Fishery

The 2004 Bering Sea hair crab fishery was closed in both the Northern and Pribilof Districts due to low stock abundance.

Stock Status

The abundance index for large male hair crabs declined from 1981 to 1992, increased from 1992 to 1995, and decreased again from 1995 to 1999. The 2004 NMFS trawl survey of the eastern Bering Sea indicated that in the Northern and Pribilof Districts increased over 50% from the 2003 level, but still remain near historic low levels. Population trends observed during the last 8 years and weak performance of the most recent commercial fisheries indicate that the Bering Sea hair crab population is severely depressed. Precise estimates of total female and small male hair crab abundance have never been available from current trawl survey data. In general, the biology and habitat usage of hair crabs makes them difficult to survey with trawl gear. Large male abundance is thought to be better estimated because general recruitment trends can be followed in the survey results and fishery harvests.

BERING SEA OCTOPUS

The last directed fishery for octopus in the Bering Sea occurred in 1995, with areas fished covering both Aleutian Islands and Bering Sea waters. Less than three vessels made landings; therefore, the harvest information is confidential. Since 1995, all reported harvests in the Bering Sea have been incidental to other fisheries. Vessel operators may retain incidentally caught octopus at up to 20% of the weight of the target species.

In 2004, Ninety one vessels made 190 landings with 61,230 pounds of octopus landed from the Bering Sea. Another 25,527 pounds were discarded at sea (Table 2-35). The majority of the octopi caught in the Bering Sea are retained for use as bait in other fisheries.

The incidental harvest of octopi in Bering Sea groundfish fisheries more than doubled from 2002 to 2003, but the 2004 harvest decreased 35% from the 2003 level. Verbal reports from fishers and processors indicate that market interest in octopuses has increased and that some fishers are operating to increase their incidental harvest of octopuses while remaining below the maximum

retainable amount. The department intends to closely monitor effort in the octopus fishery as well as the spatial and temporal distribution of the incidental harvest.

CHERRY CRABS

Fishing for cherry crabs is managed under the terms of a commissioner's permit. Although one vessel was registered to fish for cherry crabs in 1995, no commercial harvest was reported. One vessel, for which landings are confidential, participated in the 1996 fishery. No vessels requested commissioner's permits to fish for cherry crabs in the Bering Sea District from 1997 through 2004. Given the lack of available data on this stock, and prior fishery information indicating small stock size, the department will not issue permits allowing harvest of cherry crabs.

SEA CUCUMBERS AND SEA URCHINS

The season for sea cucumbers and sea urchins in the Bering Sea Area opens October 1 under terms of a commissioner's permit with a GHL of 5,000 pounds of eviscerated red sea cucumbers and 5,000 pounds round weight for green sea urchins. The small GHLs were established to permit conservative commercial exploration of areas that lacked historic harvest data and to allow ADF&G to collect information for future management purposes (Ruccio and Jackson 2000). No commercial harvest of either species occurred in the Bering Sea District in 2001. In 2002, a separate guideline harvest range of 30,000 to 60,000 pounds of green sea urchins was established for the waters around Saint George Island. This harvest level was based on abundance estimates obtained from dive survey data and marketing factors. One diver harvested green sea urchins in the Saint George Island area in 2002; therefore, all harvest information is confidential.

In 2004, the GHL for the Bering Sea Area was set at 5,000 pounds each, for red sea cucumbers and green sea urchins. No divers registered to harvest green sea urchins or red sea cucumbers in 2004.

SNAILS

Historic Background

Commercial fishing for snails in the Bering Sea was initiated by the Japanese fleet in 1971 and continued until 1987, however little information is available from this early fishery. The Fishery Conservation and Management Act of 1976 required that foreign nations provide the United States with records concerning fisheries occurring inside the U.S. Exclusive Economic Zone (EEZ) and the Japanese began to provide fishing records following the passage of the act (MacIntosh 1979). NMFS recorded 14 vessels participating in 1971, five vessels in 1972, no vessels in 1973, and 6 vessels in 1974. No fishing occurred in 1975 and 1976. In 1977, records indicate that participation in the fishery increased to three vessels (MacIntosh 1980). In the 1980s all fishing was conducted by catcher-processor vessels. The majority of the retained catch during this early fishery was composed of the Pribilof Neptune *Neptunea pribiloffensis*. Smaller components of the retained catch were composed of *Buccinum angulossum* and *B. scalariforme* (MacIntosh 1980). Exvessel value was $242 thousand in 1977, increasing to $1.3 million by 1979. Russian vessels began fishing for snails in the same area in 1989.

The Foreign Fisheries Observer Program assigned observers to Japanese catcher-processors in the years 1984-1987 and later to Russian vessels in 1989. The Russian venture only lasted one year with minimal return. Converted Tanner crab pots were used in the early foreign fishery. Pots were long-lined in depths from 100 to 150 fathoms. Data from the Foreign Fisheries

Observer Program showed the Japanese vessels pulled an average of 2,779 pots per day with an average soak time of 50 hours while the Russian vessels averaged just 1,219 pot lifts per day with an average soak time of 80 hours.

The U.S. fishery began in 1992 when two vessels registered to fish for snails. One vessel harvested snails as incidental harvest in the Tanner crab fishery and the second participated in a directed fishery for snails after the June closure of the hair crab fishery. Fishing for snails was limited to waters of the Bering Sea District west of 168° W long. from 1994 to 1996. In 1997, snail fishing was limited to waters west of 164° W long.

Observer coverage was required as a condition of the commissioner's permit issued in 1993 under 5 AAC 39.210 (h) MANAGEMENT PLAN FOR HIGH IMPACT EMERGING FISHERIES. Minimal crab bycatch was observed in the area west of 168° W long. Bycatch of legal sized king crabs was less than one animal per pot. Female snow crabs had the highest incidence of bycatch at one animal per pot (Tracy 1995).

Observer coverage was not required again until 1997 when two vessel operators expressed interest in fishing east of 168° W longitude. Vessels were restricted to grounds west of 164° W long. and north of 54° 36' N latitude. These restrictions were conditions of the permit issued under 5 AAC 38.062 PERMITS FOR OCTOPI, SQUID, HAIR CRAB, SEA URCHINS, SEA CUCUMBERS, SEA SNAILS, CORAL, AND OTHER MARINE INVERTEBRATES. There was no bycatch of red or blue king crabs; however, bycatch of Tanner crabs was observed. An estimated 17,300 female and 2,100 sublegal male Tanner crabs, in addition to 57,600 sublegal snow crabs, were captured in the 192,000 pots pulled.

In the 1997 fishery, average CPUE was 16 snails per pot, equal to the CPUE from vessels fishing northwest of the Pribilof Islands in the 1996 fishery. The majority of the catch for the 1997 season was composed of the genera *Neptunea* and *Buccinum*. Catches increased from 313,000 pounds in 1993 to 3,570,000 pounds in 1996 and then declined to 932,000 pounds in 1997 (Table 2-36 and Figure 2-17). The value of the fishery increased from $125 thousand in 1993 to over $1.05 million in 1996 and then dropped to $308 thousand in 1997 (Table 2-37). From 1998 to 2003, no snails were harvested from the Bering Sea.

2004 Fishery

No vessels registered to harvest snails from the Bering Sea in 2004.

Stock Status

The NMFS eastern Bering Sea trawl survey provides distribution and relative abundance information on Bering Sea snail populations. However, differential catchability of various species of snails makes accurate population estimates difficult.

NORTH PENINSULA DISTRICT

DESCRIPTION OF AREA

The North Peninsula District for shrimp management includes all Bering Sea waters of both the Territorial Sea (0-3 nautical miles from shore) and the Exclusive Economic Zone (3-200 miles from shore) east of the longitude of Cape Sarichef at 164° 55'30" W long. (Figure 2-18).

The North Peninsula District for management of Dungeness crabs includes all waters of both the Territorial Sea (0-3 nautical miles from shore) and the Exclusive Economic Zone (3-200 miles from shore) north of the latitude of Cape Sarichef at 54° 36' N lat. (Figure 2-19).

SHRIMP

No vessels have registered for the North Peninsula District pot or trawl shrimp fishery since 1994. Currently, shrimp fishing is not permitted in this district due to a lack of data concerning the shrimp stocks.

DUNGENESS CRABS

Fishing effort for the North Peninsula Dungeness crab fishery has been sporadic, with few vessels participating. Typically the fishery has occurred north of Unimak Island. In 1995, 6 vessels made 19 deliveries for a harvest of 134,407 pounds. Catch information from 1996 to 1998 is confidential, as less than three vessels participated in each of those years. The average annual harvest in the three-year period from 1996-1998 was approximately 48,000 pounds. No vessels registered to fish for Dungeness crabs in the North Peninsula District in 1999. One vessel, for which landings are confidential, participated in the 2000 fishery. No vessels registered to fish for Dungeness crabs in 2001. In 2002, three vessels registered to fish for Dungeness crabs however harvest information is confidential because less than three processors purchased the harvest (Table 2-38). In 2003 no vessels registered to fish for Dungeness crabs in the North Peninsula District. A single vessel registered to fish for North Peninsula District Dungeness crabs in 2004 and all harvest information is confidential.

Stock Status

There is no population data available to determine the status of the North Peninsula Dungeness crab stock. This fishery is managed using size, sex, and season restrictions. Currently in this District only male Dungeness crabs with a shoulder width of 165 mm or larger may be taken between 12:00 noon May 1 through 12:00 noon October 18.

BERING SEA/ALEUTIAN ISLANDS COMMUNITY DEVELOPMENT QUOTA CRAB FISHERIES

DESCRIPTION OF AREA

The Bering Sea, for Community Development Quota (CDQ) fisheries, encompasses all waters of the Territorial Sea (0-3 nautical miles) and Exclusive Economic Zone (3-200 nautical miles from shore) north of Cape Sarichef (54° 36' N lat.), south of Cape Prince of Wales (65° 49' N lat.), and east of the U.S.-Russia Maritime Boundary Line, including the waters of Bristol Bay. For those CDQ fisheries managed by the ADF&G Westward Region, Cape Romanzof (61° 49' N lat.) is the northern boundary (Figure 2-20).

CDQ PROGRAM BACKGROUND

The North Pacific Fishery Management Council (NPFMC) established the CDQ Program in 1992 for walleye pollock and was later expanded to sablefish and Pacific halibut. In 1995, the NPFMC included certain Bering Sea king and Tanner crab stocks in the CDQ Program. The BOF adopted regulations for the Bering Sea/Aleutian Islands king and Tanner crab CDQ fisheries in 1997, and fisheries started in 1998. The State of Alaska manages the CDQ Program and ADF&G manages the crab CDQ fisheries.

Sixty-five coastal Bering Sea communities are eligible for the CDQ Program. These communities are aligned into 6 CDQ organizations and are collectively referred to as CDQ groups. The groups are Aleutian Pribilof Island Community Development Association (APICDA), Bristol Bay Economic Development Corporation (BBEDC), Central Bering Sea Fishermen's Association (CBSFA), Coastal Villages Regional Fund (CVRF), Norton Sound Economic Development Corporation (NSEDC), and Yukon Delta Fisheries Development Association (YDFDA).

The CDQ groups are non-profit entities, which may have for-profit subsidiaries. Each group submits comprehensive plans on the intended use of the CDQ funds, which vary widely between groups. Most include fishing-related investments, scholarships, training, employment services, and other projects which are intended to benefit the communities and regions the CDQ groups represent. Some groups are buying equity in fishing vessels which will harvest crab in both CDQ and general fisheries.

The CDQ groups receive allocations for the following Bering Sea crab fisheries: Norton Sound red king crab *Paralithodes camtschaticus*, Bristol Bay red king crab, Pribilof red and blue king crab *Paralithodes platypus*, St. Matthew blue king crab, Bering Sea snow crab *Chionoecetes opilio*, and Bering Sea Tanner crab *Chionoecetes bairdi*. To be eligible as a CDQ crab fishery, the crab stock must have an established guideline harvest level (GHL), be managed under the Fishery Management Plan (FMP) for Bering Sea/Aleutian Islands king and Tanner crabs and have a reliable survey to estimate abundance. The CDQ allocation percentage is based on the total actual harvest each year. The annual CDQ allocations for crab were phased in over a three-year period (3.5% of the total allowable fishery harvest for 1998, 5.0% for 1999, and reaching a maximum of 7.5% for 2000 and subsequent years). The individual CDQ group allocation varies in each fishery (Table 2-39). The value of the crab fisheries to the CDQ groups is estimated to be 20-30% of the exvessel fishery value.

The CDQ groups are required to submit fishery plans to the department prior to each CDQ crab fishery. Plans include names of participating vessels and operators, vessel information regarding safety and communications, intended processor and location, method of attaining but not exceeding the allocation, and if a cooperative effort, the method for apportioning the allocation.

All CDQ crab fishing seasons have been subsequent to the general fisheries season, and all CDQ vessels have also participated in the prior general fishery. Before vessels are allowed to register for the CDQ fishery, ADF&G must generate an accurate estimate of the general fishery harvest. Fishers are required to obtain buoy tags for all gear fished, and if required an onboard observer. At the time of registration all gear on board the vessel must be tagged with CDQ buoy tags and all gear in the water must be tagged before being deployed in the fishery. Additionally, all gear must be in compliance with the closure requirements of the general fishery.

This report addresses all CDQ crab fisheries except the Norton Sound CDQ red king crab fishery.

FISHERY HISTORY

The CDQ allocation for 1998 was 3.5% of the total harvest of red king crab, blue king crab and snow crab. This was increased in 1999 to 5.0% of the total harvest, and again in 2000 to 7.5% of the total harvest of king and Tanner crab.

All 6 CDQ groups participated in the CDQ fisheries; however, not all groups participated in each fishery. All CDQ groups have participated in the snow crab fishery yearly. Five groups participated in the St. Matthew Island Section CDQ blue king crab fishery in 1998 and one group participated in the Pribilof red and blue king crab CDQ fishery, the only year a commercial fishery has occurred since the inception of the CDQ program for crab. Five groups participated in the Bristol Bay red king crab CDQ fishery from 1998 to 2000, and all 6 groups have participated since. No Tanner crab fishery has occurred due to low stock abundance.

Regulations pertaining to the CDQ fisheries authorize a harvest prior to the general fishery; however, the department did not allow a CDQ harvest before the general fishery during the first year. A full understanding of the impact of these new fisheries and adequate staff to handle the increased management burden was needed before allowing CDQ fisheries to occur prior to the general fisheries. The department's intent was to allow CDQ groups to harvest part of their allocation before the general fishery during the second and subsequent years of the program. This would have allowed CDQ groups to harvest part of their 1999 allocation of snow crab in the fall of 1998. The National Marine Fisheries Service (NMFS) determined that the CDQ regulatory language did not allow for a harvest of the allocation outside of the calendar year to which it was assigned. The intent of NMFS was not to impede ADF&G management of the CDQ crab fisheries. The federal CDQ regulations were revised, but not in time for any harvest of the 1999 allocation of snow crab to occur in the fall of 1998. The Alaska Board of Fisheries (BOF) agreed to address an agenda change request at the March 1999 meeting to consider a proposal to prohibit any CDQ harvest prior to the general fishery. Representatives of processors and non-CDQ fishers contended that CDQ crabs on the market prior to the general fishery would be detrimental to the value of the general fishery. The BOF directed the CDQ, non-CDQ and processor representatives to reach a compromise, and adopted the compromise into regulation. The new regulations allow a CDQ king or Tanner crab fishery prior to the general fishery only when the GHL is 50 million pounds or more, and a maximum of 30% of the CDQ allocation may be harvested preseason.

In 1999, the department changed permitting procedures after the allocation was exceeded in the snow crab fishery for two consecutive years. Permits for CDQ fisheries were previously issued only to vessels fishing for the groups. These permits were issued before the actual allocation was established, and therefore did not reference the CDQ group's harvest allocation. Permits were henceforth to be issued to each CDQ group, initially stating the group allocation percentage and followed by an addendum with the actual allocation in pounds. The vessels were to be issued a permit that referred to the group permit and the associated allocation.

Observer coverage requirements have fluctuated over the history of the CDQ crab fisheries. During the first year of CDQ crab fishing operations, onboard observers were required during all fishing operations. In 1999, observer coverage was reduced in the CDQ snow crab fishery from one observer per vessel to one per CDQ group while during the Bristol Bay CDQ red king crab fishery, coverage remained at one observer per vessel. Observer coverage in the 2000 CDQ snow crab fishery was increased from one observer per group to two per group. During the 2001 CDQ Bristol Bay red king crab fishery, only one observer was required per group. In previous years, all CDQ vessels for this fishery were required to carry on board observers. Observers collect biological data and document the fishing practices of the CDQ fleet.

2004 CDQ FISHERIES

Bering Sea CDQ Snow Crab Fishery

The 2004 Bering Sea CDQ snow crab fishery occurred subsequent to the general snow crab fishery. The 2004 CDQ allocation was 7.5 percent of the total snow crab commercial harvest. Based on inseason processor reports and hailed weights for the general fishery, the CDQ allocation was 1,782,081 pounds. All 6 CDQ groups participated in the fishery. The percent allocated to each group ranged from 8-20%. Percentages allocated to each group are determined by a percentage set forth for these CDQ groups by the Alaska Department of Community and Economic Development (ADCED).

Ten vessels participated in the fishery. Data from fish tickets show that those vessels made 25 deliveries for a harvest of 1,772,222 pounds including deadloss, approximately 99.4% of the allocation (Table 2-40). Two of the CDQ groups exceeded their individual group allocations.

Permits were issued to each CDQ group prior to the closure of the general fishery on January 23. The permit stated the group's allocation, listed the vessel(s) requested by the group and authorized by ADF&G to participate in the fishery, and stated that those vessels must comply with requirements such as dates of operation, pot limits, buoy tags, and observer coverage. Vessel registration could begin 8:00 AM January 29, 72 hours after the closure of the general fishery. CDQ groups were notified of their preliminary allocation January 27. Final allocations were announced February 6 after processing of all general fishery harvest was completed. During the fishery, four of the groups received amended allocations resulting from poundage transfers. Transfers were made after two of the groups completed fishing and found their final landings were less than expected. Transfers were approved through the ADCED and ADF&G.

The first vessel began fishing on January 29 and fishing operations concluded on March 20. The first delivery of CDQ snow crab occurred on February 7 with the final delivery March 20. Average exvessel price per pound in the 2004 CDQ snow crab fishery was $1.99 (Table 2-41), slightly less than the general fishery where the average price per pound was $2.05. The fishery value to the fleet was approximately $3.48 million, and the estimated value to the CDQ groups was 20-30% of the CDQ fleet fishery value.

The average number of legal male crab per pot pull (catch per unit effort or CPUE) was 98 retained crabs per pot, a substantial decrease from the 2003 CDQ CPUE of 120 retained crabs per pot, and less than the general fishery CPUE of 157 retained crabs per pot. Average weight of crabs in the CDQ fishery was 1.3 pounds, the same as the general fishery. Catches were landed at three shorebased processors located in Akutan, Dutch Harbor, and St. Paul. No floater-processors operated during the CDQ fishery. One catcher–processor vessel participated in the CDQ fishery.

Observer coverage in the 2004 fishery was two for each group, the same coverage employed since 2000. Since each group utilized two or fewer vessels, all vessels in the fleet fished with an onboard observer for the entire season. Observers collected biological data, provided inseason harvest rates to the department, and documented fishing practices of the CDQ fleet.

Saint Matthew Island Section CDQ Blue King Crab Fishery

No CDQ harvest of Saint Matthew Island Section blue king crab occurred in 2004 due to closure of the commercial fishery.

Pribilof District CDQ Red And Blue King Crab Fishery

No CDQ harvest of Pribilof District red or blue king crab occurred in 2004 due to closure of the commercial fishery.

Bristol Bay CDQ Red King Crab Fishery

The 2004 Bristol Bay CDQ red king crab fishery allocation based on inseason processor reports and hailed weights from the general fishery, was 1,135,326 pounds. All 6 CDQ groups participated in this fishery.

Permits were issued to each CDQ group prior to the closure of the general fishery on October 18. The permit stated the group's preliminary allocation, which is determined by a percentage set forth for each CDQ group by the ADCED. The permit listed the vessel(s) requested by the group and authorized by ADF&G to participate in the fishery, and stated that those vessels must comply with requirements such as dates of operation, pot limits, buoy tags, and observer coverage. Vessel registration could begin at 8:00 am October 22, slightly over 72 hours after closure of the general fishery. Two vessels registered on October 22, one registered October 23, two registered October 24, three registered October 25, two registered October 26, one registered October 27, and the last vessel registered October 28. The final fishery allocations were announced October 27. Deliveries began November 3, and the final delivery was made November 15. Twelve vessels made 21 landings for an overall harvest of 1,133,013 pounds and a fishery value of approximately 4.5 million dollars. All CDQ groups were under their allocation.

The average CPUE was 31, higher than the CPUE of 23 for the general fishery, but the same as the 2003 CDQ fishery. The average soak time during the CDQ fishery was 67 hours compared to a soak time of 28 hours during the general fishery. Average weight of crabs in the CDQ fishery was 6.8 pounds, the same average weight for the general fishery. Two of the groups used three vessels to harvest their allocation, two groups used two vessels, and the remaining two groups used one vessel each.

Prior to 2001, all CDQ vessels for this fishery were required to carry onboard observers. During the 2001 to 2004 seasons, only one observer was required per CDQ group. Based on this level of coverage, 66% of the CDQ fleet had observer coverage. During the fishery observers collected biological data, provided inseason harvest rates to the department, and documented fishing practices of the CDQ fleet.

Bering Sea CDQ Tanner Crab Fishery

No CDQ harvest of Tanner crab occurred during 2004 due to closure of the commercial fishery.

BERING SEA KING AND TANNER CRAB BUOY IDENTIFICATION PROGRAM

INTRODUCTION AND BACKGROUND

Early 1990s Bering Sea and Aleutian Islands (BSAI) crab fisheries were characterized by increased fishing effort, decreased guideline harvest levels (GHL), and shorter fishing seasons than prior years. In response to these changes, the BSAI crab industry submitted a petition to the BOF requesting the implementation of pot limits. The petition was supported by data from ADF&G indicating that conservation and management efforts were hampered during low GHL fisheries due in part to the amount of gear fishing being utilized. On March 20, 1991 the BOF proposed an agenda change request regarding this issue and subsequently adopted BSAI pot limit

regulations. Effective August 1, 1992 these regulations limited the number of pots a vessel may operate while harvesting BSAI king *Paralithodes* and *Lithodes*, and Tanner *Chionoecetes* crabs. The buoy identification program was created to implement these regulations and as per Alaska statute designed to be completely self-supportive by generating funds through the sale of buoy tags.

Buoy identification stickers were first implemented during 1992 Bristol Bay red king crab *P. camtschaticus* season, but were temporarily suspended due to product failure. Pot limit requirements for Bering Sea Tanner crab fisheries remained in effect until repealed by National Marine Fisheries Services on November 30, 1992. According to the Fishery Management Plan for Bering Sea /Aleutian Island King and Tanner Crab, pot limit regulation is a category II measure (NPFMC 1998). Category II measures may be adopted at the state level but are subject to the federal appeal process and must adhere to national standards requiring regulation application to be nondiscriminatory. Consequently, in February 1993 BOF passed differential pot limit regulations. Each fishery has specific pot limits based on vessel overall length (OL) (Table 2-42). Vessels in excess of 125 feet OL are entitled to operate the maximum number of pots allowed for a fishery, and vessels 125 feet or less in OL may fish 80% of the maximum pot limit. Further differential pot limit regulations for the Bristol Bay red king crab fishery were adopted on an interim basis August 27, 1997. The regulations created an 11-tier pot limit system dependent on fishery GHL and anticipated fleet size. The tiered system was made permanent March 1999.

IMPLEMENTATION

Beginning with 1992-1993 Bristol Bay king and Bering Sea Tanner crab seasons, ADF&G employed a Fish and Wildlife Technician III to administer the buoy identification program. Regulations providing implementation of the buoy identification program are stated in Alaska Statute 16.05.050. POWERS AND DUTIES OF THE COMMISSIONER and Alaska Statute 16.05.632. IDENTIFICATION OF SHELLFISH POTS OR BUOYS, OR BOTH, USED IN THE TAKING OF KING CRAB AND REQUIREMENTS FOR BUOYS.

By May 1993 heavy-duty, self-locking, nylon, zip tie tags had taken the place of buoy stickers. After use in several fisheries, numerous quality control problems and industry complaints prompted ADF&G to initiate trial tests of other manufactured tags. Eventually, a new style buoy tag was procured which required an independent means of attachment. The Alaska Department of Fish and Game initially supplied zip ties for tag attachment at no additional charge, but dispersal was discontinued due to high failure rates. Consequently, industry is now responsible for tag attachment. The new style tags were first issued in September 1998 and continue to be used.

REPLACEMENT TAGS

Buoy tag replacement issues were resolved during the initial BOF meeting regarding pot limits. Regulations were adopted based on concerns from the Division of Fish and Wildlife Protection regarding prosecution of cases involving replacement tags. Specifics regarding replacement tag sales are included in 5 AAC 34.826. (b) KING CRAB POT MARKING REQUIREMENTS FOR REGISTRATION AREA T, 5 AAC 34.926. (b) KING CRAB POT MARKING REQUIREMENTS FOR REGISTRATION AREA Q, and 5 AAC 35.526. (b) TANNER CRAB POT MARKING REQUIREMENTS FOR REGISTRATION AREA J.

Between the 1994 Bristol Bay red king crab and Bering Sea Tanner crab fisheries, and prior to 1995 snow crab season, the Dutch Harbor ADF&G office received input from fishers concerned with tag replacement regulations. At the time, vessels delivering to remote areas such as King Cove or Saint Paul were unable to obtain replacement tags without travel to Dutch Harbor. Some vessel operators felt the cost of travelling to Dutch Harbor with three crewmembers was prohibitive to obtaining replacement tags and would promote illegal fishing.

During 1998-1999 seasons, stakeholders reiterated buoy tag replacement issues. In response to these concerns ADF&G began allowing permit holders to file an official affidavit in Saint Paul or King Cove, however ADF&G personnel must be available for verification. This change was implemented prior to 2000 Bering Sea snow crab fishery.

BUOY IDENTIFICATION TAG REFUNDS

Since the inception of the tag program, refunds for buoy tags have not been offered because the $2.00 fee per tag covers administrative and program implementation costs. However, during the 2001 Bering Sea snow crab fishery, two buoy tag refunds were issued as per 15 AAC 116.120. REFUND OF LICENSE FEES.

Requests for buoy identification tag refunds may be procured only through ADF&G Headquarters in Juneau. To request a refund, the following information must be sent by the tag administrator to regional administrative staff: name, address, and social security number of the permit holder, vessel name and ADF&G number, a copy of the check used for original payment, number of tags purchased/returned, the imprinted sequential tag numbers, return date of unused, complete set of tags and person who received the tags, budget code for refunding, and a statement from the permit holder explaining the refund request. All tag refund requests will be evaluated by ADF&G Headquarters in Juneau.

VESSEL LENGTH VERIFICATION

The tiered pot limit regulations are based in part on vessel overall length (OL). These measurements are outlined in 5 AAC 34.825 (j) LAWFUL GEAR FOR REGISTRATION AREA T and 5 AAC 35.525 (f) LAWFUL GEAR FOR REGISTRATION AREA J. In order to obtain the maximum number of buoy tags allotted per fishery all vessels with OL in excess of 125 feet must present valid, original or notarized, U.S. Coast Guard or certified marine surveyor documentation, showing the vessel's OL. The permit holder is required to show OL documentation the first time buoy tags are purchased, and when any change in vessel OL occurs. The ADF&G office in Dutch Harbor has an established list of 98 vessels with documented OL in excess of 125 feet.

ADMINISTRATION OF THE BUOY IDENTIFICATION PROGRAM

Bering Sea buoy tags are issued from the ADF&G offices in Kodiak and Dutch Harbor for an administrative fee of $2.00 per tag. Tags are issued to the holder of a valid, fishery specific, Commercial Fisheries Entry Commission interim use permit card. An authorized agent may be issued tags if an affidavit is signed by the permit holder and filed with ADF&G in Dutch Harbor. Also upon request, ADF&G Dutch Harbor office will send buoy tags through the U.S. Mail, via priority mail with insurance and return receipt. Due to potential weather delayed mail service, the deadline for mail request is generally two to three weeks prior to the opening of each fishery. The deadline is announced in fishery specific news releases regarding pot limits.

2004 BUOY TAG SALES

Several of the Bering Sea crab fisheries were not open to commercial harvest because stocks did not meet minimum threshold levels. The Pribilof Island red king and blue king crab, Saint Matthew Island blue king crab, and Bering Sea Tanner crab fisheries were closed in 2004. Tags for these fisheries are stored in Dutch Harbor ready for issue when needed (Table 2-43).

There were no tags procured for the 2004 Bering Sea snow crab fishery. Tag sales for this fishery are as follows: from Dutch Harbor 142 vessels purchased 11,020 tags (27 were mail requests) and in Kodiak 49 vessels purchased 3,650 tags. One hundred ninety one vessels purchased 14,670 tags and 4 replacement tags were issued for 14,674 total tags. Ten vessels purchased 1,428 tags for the 2004 Bering Sea snow crab CDQ fishery. No replacement tags were issued.

Sixteen vessels purchased tags for the 2004 Eastern Aleutian District Tanner fishery, 192 tags were sold and five replacements issued, a total of 197 tags.

Five vessels purchased tags for the 2004 Pribilof District golden king crab fishery, 210 tags were sold and 6 replacements issued, for a total of 216 tags. There was no fishing effort in the 2004 Northern District, Saint Matthew Island Section golden king crab and South Peninsula grooved Tanner crab.

There were 65,000 tags procured for the 2004 Bristol Bay red king crab fishery. Tag sales for this fishery are as follows: from Dutch Harbor 195 vessels purchased 39,807 tags (38 were mail requests), in Kodiak 56 vessels purchased 9,699 tags. Two hundred fifty one vessels purchased 49,506 tags and 17 replacement tags were issued for 49,523 total tags. Twelve vessels purchased 2,258 tags for the 2004 Bristol Bay red king crab Community Development Quota (CDQ) fishery. No replacement tags were issued. The 2004 Petrel Bank red king crab fishery was not open to commercial harvest because stocks did not meet minimum threshold levels.

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TABLES AND FIGURES

Table 2-1.-Bristol Bay commercial red king crab fishery harvest data, 1966-2004.

Year	Number of			Harvest[a,b]	Number of Pots		CPUE[c]	Deadloss[b]
	Vessels	Landings	Crabs[a]		Registered	Pulled		
1966	9	15	140,554	997,321	NA	2,720	52	NA
1967	20	61	397,307	3,102,443	NA	10,621	37	NA
1968	59	261	1,278,592	8,686,546	NA	47,496	27	NA
1969	65	377	1,749,022	10,403,283	NA	98,426	18	NA
1970	51	309	1,682,591	8,559,178	NA	96,658	17	NA
1971	52	394	2,404,681	12,955,776	NA	118,522	20	NA
1972	64	611	3,994,356	21,744,924	NA	205,045	19	NA
1973	67	441	4,825,963	26,913,636	NA	194,095	25	NA
1974	104	605	7,710,317	42,266,274	NA	212,915	36	NA
1975	102	592	8,745,294	51,326,259	NA	205,096	43	1,639,483
1976	141	984	10,603,367	63,919,728	NA	321,010	33	875,327
1977	130	1,020	11,733,101	69,967,868	NA	451,273	26	730,279
1978	162	926	14,745,709	87,618,320	NA	406,165	36	1,273,037
1979	236	889	16,808,605	107,828,057	NA	315,226	53	3,555,891
1980	236	1,251	20,845,350	129,948,463	78,352	567,292	37	1,858,668
1981	177	1,026	5,307,947	33,591,368	75,756	542,250	10	711,289
1982	90	255	541,006	3,001,210	36,166	141,656	4	95,834
1983				FISHERY CLOSED				
1984	89	137	794,040	4,182,406	21,762	112,556	7	35,601
1985	128	130	796,181	4,174,953	30,117	85,003	9	6,436
1986	159	230	2,099,576	11,393,934	32,468	178,370	12	284,127
1987	236	311	2,122,402	12,289,067	63,000	220,871	10	120,388
1988	200	201	1,236,131	7,387,795	50,099	153,004	8	23,537
1989	211	287	1,684,706	10,264,791	55,000	208,684	8	81,334

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Table 2-1.-(page 2 of 2)

Year	Number of			Harvest[a,b]	Number of Pots		CPUE[c]	Deadloss[b]
	Vessels	Landings	Crabs[a]		Registered	Pulled		
1990	240	331	3,120,326	20,362,342	69,906	262,131	12	116,527
1991	302	324	2,630,446	17,177,894	89,068	227,555	12	119,670
1992	281	289	1,196,958	8,043,018	68,189	205,940	6	9,000
1993	292	361	2,261,287	14,628,639	58,881	253,794	9	133,442
1994				FISHERY CLOSED				
1995				FISHERY CLOSED				
1996	196	198	1,249,005	8,405,614	39,461	76,433	16	24,166
1997	256	265	1,315,969	8,756,490	27,499	90,510	15	13,771
1998	274	284	2,140,607	14,233,063	56,420	141,707	15	53,716
1999	257	268	1,812,403	11,090,930	42,403	146,997	12	44,132
2000	246	256	1,166,796	7,546,145	26,352	98,694	12	76,283
2001	230	238	1,196,040	7,786,420	24,571	63,242	19	57,294
2002	242	254	1,377,922	8,856,828	25,833	68,328	20	32,177
2003	252	275	2,335,614	14,530,248	46,964	129,019	18	228,272
2004	251	270	2,075,622	14,112,438	49,506	90,972	23	160,563

[a] General fishery only. Deadloss included.

[b] In pounds.

[c] Number of legal crabs per pot lift.

NA = Not available.

Table 2-2.-Bristol Bay commercial red king crab fishery economic data, 1980-2004.

Year	GHL[a]	Value		Season Length	
		Ex-vessel[b]	Total[c]	Days	Dates
1980	70-120	$0.90	$115.3	40	09/10-10/20
1981	70-100	$1.50	$49.3	91	09/10-12/15
1982	10-20[d]	$3.05	$8.9	30	09/10-10/10
1983		FISHERY CLOSED			
1984	2.5- 6.0	$2.60	$10.8	15	10/01-10/16
1985	3.0-5.0	$2.90	$12.1	8	09/25-10/02
1986	6.0-13.0	$4.05	$45.0	13	09/25-10/07
1987	8.5-17.7	$4.00	$48.7	12	09/25-10/06
1988	7.5	$5.10	$37.6	8	09/25-10/02
1989	16.5	$5.00	$50.9	12	09/25-10/06
1990	17.1	$5.00	$101.2	12	11/01-11/13
1991	18.0	$3.00	$51.2	7	11/01-11-08
1992	10.3	$5.00	$40.2	7	11/01-11/08
1993	16.8	$3.80	$55.1	9	11/01-11/10
1994		FISHERY CLOSED			
1995		FISHERY CLOSED			
1996	5.0	$4.01	$33.6	4	11/01-11/05
1997	7.0	$3.26	$28.5	4	11/01-11/05
1998	15.8	$2.64	$37.4	5	11/01-11/06
1999	10.1	$6.26	$69.1	5	10/15-10/20
2000	7.7	$4.81	$36.0	4	10/16-10/20[e]
2001	6.6	$4.81	$37.5	3	10/15-10/18
2002	8.6	$6.14	$54.2	3	10/15-10/18
2003	14.5	$5.08	$72.7	5	10/15-10/20
2004	14.3	$4.71	$65.7	3	10/15-10/18

[a] Guideline harvest level for general fishery only, millions of pounds.

[b] Average price per pound.

[c] Millions of dollars.

[d] Inseason revision to 4.7 million pounds.

[e] Delayed start due to weather.

Table 2-3.-2004 Bristol Bay commercial red king crab fishery inseason catch and effort projections for the non-AFA fleet based on 12-hour reports to ADF&G.

Date	Report Hour	Potlifts	Catch[a, b]	Cummulative Catch[a, b]	Cumulative Number of Crabs	CPUE[c]	Number of Vessels Reporting
16-Oct	12	842	52,728	52,728	7,989	9	62
16-Oct	24	11,827	1,977,508	2,030,236	307,612	24	57
17-Oct	36	13,953	2,320,661	4,350,897	659,227	25	65
17-Oct	48	15,367	2,326,333	6,677,230	1,011,702	23	58
18-Oct	60	16,297	2,520,655	9,197,885	1,393,619	24	32
18-Oct	72	23,098	3,224,168	12,422,053	1,882,129	21	20
19-Oct	84	10,667	1,015,399	13,437,452	2,035,978	14	25
Total		92,051	13,437,452	13,437,452	2,035,978	22	

[a] In pounds.

[b] Based on 6.6 pound average weight.

[c] Number of legal crabs per pot lift.

Table 2-4.-2004 Bristol Bay commercial red king crab fishery catch and effort projections for the AFA fleet, based on inseason vessel reports to the AFA fleet manager.

Date	Report Hour	Potlifts	Catch[a,b]	Cummulative Catch[a, b]	Number of Crabs	CPUE[c]	Percentage of Cap Harvested
16-Oct	12	0	0	0	0	0	0
16-Oct	24	1,053	215,193	215,193	31,646	30	14
17-Oct	36	1,639	351,023	566,216	51,621	31	36
17-Oct	48	2,101	463,216	1,029,432	68,120	32	66
18-Oct	60	1,399	231,547	1,260,979	34,051	24	81
18-Oct	72	1,224	141,216	1,402,194	20,767	17	90
19-Oct	84	322	33,803	1,435,997	4,971	15	92
Total		7,738	1,435,998	1,435,998	211,176	27	92

[a] In pounds.

[b] Based on 6.8 pound average weight.

[c] Number of legal crabs per pot lift.

Table 2-5.-Bristol Bay commercial red king crab general fishery catch by statistical area, 2004.

Statistical	Number of				Average		
Area	Landings	Crabs[a]	Pots Lifted	Harvest[a,b]	Weight[b]	CPUE[c]	Deadloss[b]
615630	11	63,907	2,124	423,183	6.6	30	11,596
625600	47	279,311	10,127	1,827,500	6.5	28	26,307
625630	36	233,371	7,890	1,522,440	6.5	30	27,880
635530	3	12,576	724	86,070	6.8	17	195
635600	93	328,991	19,333	2,253,159	6.8	17	15,954
635630	99	581,631	24,196	4,025,085	6.9	24	44,609
635700	4	29,732	864	191,641	6.4	34	1,300
645600	58	269,350	14,367	1,865,784	6.9	19	11,553
645630	65	255,165	10,594	1,772,459	6.9	24	15,782
645700	5	10,040	469	69,766	6.9	21	4,156
Other[d]	4	11,548	284	75351	6.7	41	1,231
Total	425[e]	2,075,622	90,972	14,112,438	6.8	23	160,563

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crabs per pot lift.

[d] Combination of two statistical areas from which less than three vessels made landings.

[e] Number of statistical area landings is greater than the total number of vessel landings because a single vessel may fish in several statistical areas.

Table 2-6.-Bristol Bay red king crab cost-recovery harvest data, 1990-2004.

	Number of				Average		
Year[a]	Landings	Crabs[b]	Pots Lifted	Harvest[b,c]	Weight[c]	CPUE[d]	Deadloss[c]
1990	3	9,567	870	80,701	5.9	16	24,540
1991	2	30,351	518	205,851	6.4	62	12,817
1992	1	11,213	670	74,089	6.3	17	3,000
1993	1	8,384	464	53,200	6.3	18	800
1994	1	14,806	732	93,336	6.0	21	4,500
1995	2	14,123	564	80,158	5.5	26	2,339
1996	3	15,390	355	107,955	6.9	44	1,918
1997	4	21,698	658	154,739	6.3	37	18,040
1998	2	22,230	738	188,176	7.0	36	32,564
1999[e]	4	29,368	1,239	185,944	6.3	24	410
2000[f]	2	14,196	702	86,218	6.1	20	347
2001[e]	3	17,605	597	120,435	6.8	29	138
2002[e]	2	14,528	277	96,221	6.6	52	181
2003[f,g]	1	5,327	584	33,817	6.4	9	143
2004[e]	3	29,733	1,286	201,579	6.8	23	638

[a] All cost recovery from 1990-1998 was conducted to fund the Bering Sea and Aleutian Islands shellfish research program.

[b] Deadloss included.

[c] In pounds.

[d] Number of legal crabs per pot lift.

[e] Bering Sea and Aleutian Islands shellfish research and observer program cost recovery.

[f] Bering Sea and Aleutian Islands shellfish research program cost recovery.

[g] Includes 1,222 pounds harvested in the Pribilof District.

Table 2-7.-Bristol Bay red king crab cost-recovery economic performance data, 1990-2004.

Year[a]	Harvest[b]	Value		Charter dates	Charter length[d]
		Ex-vessel[c]	Total		
1990	56,161	$5.10	$286,421	8/7-9/7	30
1991	193,034	$3.75	$723,878	9/2-10/7	35
1992	71,089	$5.24	$372,506	10/8-10/23	15
1993	52,400	$6.57	$344,268	8/20-9/20	31
1994	88,836	$5.21	$462,836	9/25-10/25	30
1995	77,819	$6.65	$517,496	8/1-8/31	31
1996	106,037	$4.53	$480,348	8/1-8/31	31
1997	136,699	$3.55	$485,281	7/25-8/21	28
1998	155,612	$3.25	$505,739	8/1-8/28	28
1999[e]	185,944	$6.18	$1,148,695	9/25-10/11,10/25-11/10	34
2000[f]	85,871	$5.82	$499,769	9/20-10/04	15
2001[e]	120,297	$5.18	$623,138	9/22-10/10, 10/23-11/8	36
2002[e]	96,087	$6.45	$619,761	9/23-10/9, 10/17-10/27	27
2003[f,g]	33,674	$5.56	$187,227	9/1-10/4	34
2004[e]	200,941	$4.98	$1,000,686	10/21-10/25,10/23-10/31,10/27-11/01	20

[a] All cost recovery from 1990-1998 was conducted to fund the Bering Sea and Aleutian Islands shellfish research program.

[b] In pounds. Deadloss not included.

[c] Average price per pound.

[d] In days.

[e] Bering Sea and Aleutian Islands shellfish research and observer program cost recovery.

[f] Bering Sea and Aleutian Islands shellfish research program cost recovery.

[g] Includes 1,204 pounds harvested in the Pribilof District.

Table 2-8.-Bristol Bay commercial red king crab fishery harvest composition by fishing season, 1973-2004.

Season	Percent Recruit	Percent Postrecruit[a]	Size Limit[b]	Average Weight[c]	Average Length[d]	% Old Shell
1973	63	37	6¼	5.6	NA	NA
1974	60	40	6¼	5.5	NA	NA
1975	21	79	6¼[e]	5.7	NA	NA
1976	56	44	6½	6.0	148	27.4
1977	67	33	6½	5.9	148	13.0
1978	75	25	6½	5.9	147	6.9
1979	47	53	6½	6.4	152	10.4
1980	44	56	6½	6.2	151	11.0
1981	14	86	6½[f]	6.3	151	47.4
1982	68	32	6½	5.5	145	24.6
1983			FISHERY CLOSED			
1984	59	41	6½	5.2	142	26.5
1985	66	34	6½	5.2	142	25.8
1986	65	35	6½	5.4	142	25.5
1987	77	23	6½	5.8	145	19.0
1988	59	41	6½	6.0	147	15.1
1989	58	42	6½	6.1	148	17.7
1990	49	51	6½	6.5	152	14.7
1991	44	56	6½	6.5	152	12.1
1992	33	67	6½	6.7	153	22.3
1993	33	67	6½	6.5	152	15.2
1994			FISHERY CLOSED			
1995			FISHERY CLOSED			
1996	31	69	6½	6.7	153	24.3
1997	28	72	6½	6.7	152	11.0
1998	40	60	6½	6.7	152	19.1
1999	72	28	6½	6.1	148	6.3
2000	65	35	6½	6.5	151	16.3
2001	54	46	6½	6.5	151	22.3
2002	61	39	6½	6.4	151	22.2
2003	72	28	6½	6.2	149	21.9
2004	52	48	6½	6.8	154	21.2

[a] Legal sized new and old shell greater than 153 mm carapace length defined as postrecruits.

[b] Minimum carapace width in inches.

[c] In pounds.

[d] Carapace length in millimeters.

[e] 6½ inches after 11/01.

[f] 7 inches after 10/20.

NA = Not Available.

Table 2-9.-Pribilof District commercial red and blue king crab fishery data, 1973/74-2004.

	Number of				Number of Pots		Average			
Year[a]	Vessels	Landings	Crabs[b]	Harvest[b,c]	Registered	Pulled	Weight[c]	CPUE[d]	Length[e]	Deadloss[c]
1973/74	8	13	174,420	1,276,533	NA	6,814	7.3	26	NA	NA
1974/75	70	101	908,072	7,107,294	NA	45,518	7.8	20	157.8	NA
1975/76	20	54	314,931	2,433,714	NA	16,297	7.7	19	159.1	NA
1976/77	47	113	855,505	6,611,084	NA	71,738	7.7	12	158.1	NA
1977/78	34	104	807,092	6,456,738	NA	106,983	7.9	8	158.9	159,269
1978/79	58	154	797,364	6,395,512	NA	101,117	8.1	8	159.3	63,140
1979/80	46	115	815,557	5,995,231	NA	83,527	7.7	10	155.9	284,555
1980/81	110	258	1,497,101	10,970,346	31,636	167,684	7.3	9	155.7	287,285
1981/82	99	312	1,202,499	9,080,729	25,408	176,168	7.6	7	158.2	250,699
1982/83	122	281	587,908	4,405,353	34,429	127,728	7.5	5	159.8	51,703
1983/84	126	221	276,364	2,193,395	36,439	86,428	7.9	3	159.9	4,562
1984/85	16	25	40,427	306,699	3,122	15,147	7.6	3	155.5	NA
1985/86	26	49	77,607	532,735	6,038	23,483	6.9	3	146.5	7,500
1986/87	16	25	36,988	258,939	4,376	15,800	7.0	2	NA	5,450
1987/88	38	68	95,131	701,337	9,594	40,507	7.4	2	152.7	9,910
1988/89-92/93				FISHERY CLOSED						
1993[f]	112	135	380,217	2,607,634	4,860	35,942	6.9	11	154.4	NA
1994[f]	104	121	167,520	1,338,953	4,675	28,976	8.0	6	162.1	2,929
1995[f]	117	151	107,521	871,173		33,531	8.1	3	162.5	15,316
1995[g]	119	152	172,987	1,267,454		34,721	7.3	5	N/A	46,263
1995[h]	127	162	280,508	2,138,627	5,400	37,643	NA	8		61,579
1996[f]	66	90	25,383	200,304		29,411	7.9	<1	161.0	319
1996[g]	66	92	127,712	937,032		30,607	7.3	4	153.1	14,997
1996[h]	66	92	153,095	1,137,336	2,730	30,607	7.4	3		15,316

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Table 2-9.-(Page 2 of 2)

Year[a]	Number of Vessels	Number of Landings	Number of Crabs[b]	Harvest[b,c]	Number of Pots Registered	Number of Pots Pulled	Average Weight[c]	Average CPUE[d]	Average Length[e]	Deadloss[c]
1997[f]	53	110	90,641	756,818		28,458	8.4	3	164.3	18,807
1997[g]	51	105	73,745	537,316		27,652	7.5	3	163.6	16,747
1997[h]	53	110	159,244	1,269,192	2,230	30,400	8.0	5		35,554
1998[f]	57	84	68,129	510,365		23,381	7.5	3	158.8	8,703
1998[g]	57	83	68,513	516,996		22,965	7.5	3	156.1	22,289
1998[h]	57	84	136,642	1,027,361	2,398	23,381	7.5	3		30,992
1999-2004					F I S H E R Y	CLOSED				

[a] Blue king crab, 1973 - 1988.
[b] Deadloss included.
[c] In pounds
[d] Number of legal crabs per pot lift.
[e] Carapace length in millimeters.
[f] Red king crab.
[g] Blue king crab.
[h] Blue and red king crab fisheries combined.
NA = Not available.

Table 2-10.-Guideline harvest level (GHL), economic performance and season length summary for the Pribilof District commercial red and blue king crab fishery, 1980/81 - 2004.

		Value		Season Length	
Year[a]	GHL[b]	Exvessel[c]	Total[d]	Days	Dates
1980/81	5.0-8.0	$0.90	$9.6	60	09/15-11/15
1981/82	5.0-8.0	$1.50	$13.6	47	09/10-10/28
1982/83	5.0-8.0	$3.05	$13.4	15	09/10-09/25
1983/84	4.0[e]	$3.00	$6.6	10	09/01-09/11
1984/85	0.5-1.0	$2.50	$0.1	15	09/01-09/16
1985/86	0.3-0.8	$2.90	$1.4	26	09/25-10/21
1986/87	0.3-0.8	$4.05	$1.2	55	09/25-11/20
1987/88	0.3-1.7	$4.00	$2.8	86	09/25-12/20
1988/89-92/93		F I S H E R Y CLOSED			
1993[f]	3.4	$4.98	$13.0	6	09/15-09/21
1994[f]	2.0[e]	$6.45	$8.6	6	09/15-09/21
1995[f]	2.5[h]	$3.37	$2.9	7	09/15-09/22
1995[g]	2.5[h]	$2.92	$3.9	7	09/15-09/22
1996[f]	1.8[h]	$2.76	$0.6	11	09/15-09/26
1996[g]	1.8[h]	$2.65	$2.4	11	09/15-09/26
1997[f]	1.5[h]	$3.09	$2.3	14	09/15-09/29
1997[g]	1.5[h]	$2.82	$1.4	14	09/15-09/29
1998[f]	1.25[h,i]	$2.39	$1.2	13	09/15-09/28
1998[g]	1.25[h,i]	$2.34	$1.2	13	09/15-09/28
1999-2004		F I S H E R Y CLOSED			

[a] Blue king crab, 1980-1988.
[b] Guideline harvest level, millions of pounds.
[c] Average price per pound.
[d] Millions of dollars.
[e] Set not to exceed.
[f] Red king crab.
[g] Blue king crab.
[h] Combined red and blue king crab.
[I] General fishery only.

Table 2-11.-Saint Matthew Island Section commercial blue king crab fishery data, 1977-2004.

	Number of				Number of Pots		Percent	Average			
Year	Vessels	Landings	Crabs[a]	Harvest[a,b]	Registered	Pulled	Recruits	Weight[b]	CPUE[c]	Length[d]	Deadloss[b]
1977	10	24	281,665	1,202,066		17,370	7	4.3	16	130.4	129,148
1978	22	70	436,126	1,984,251		43,754	NA	4.5	10	132.2	116,037
1979	18	25	52,966	210,819		9,877	81	4.0	5	128.8	128.8
1980						C O N F I D E N T I A L					
1981	31	119	1,045,619	4,627,761		58,550	NA	4.4	18	NA	53,355
1982	96	269	1,935,886	8,844,789		165,618	20	4.6	12	135.1	142,973
1983	164	235	1,931,990	9,454,323	38,000	133,944	27	4.8	14	137.2	828,994
1984	90	169	841,017	3,764,592	14,800	73,320	34	4.5	11	135.5	31,983
1985	79	103	484,836	2,427,110	13,000	51,606	9	5.0	9	139	2,613
1986	38	43	219,548	1,003,162	5,600	22,093	10	4.6	10	134.3	32,560
1987	61	62	234,521	1,075,179	9,370	28,440	5	4.6	8	134.1	400
1988	46	46	302,053	1,325,185	7,780	10,160	65	4.4	30	133.3	22,358
1989	69	69	247,641	1,166,258	11,983	30,853	9	4.7	8	134.6	3,754
1990	31	38	391,405	1,725,349	6,000	26,264	4	4.4	15	134.3	17,416
1991	68	69	726,519	3,372,066	13,100	37,104	12	4.6	20	134.1	216,459
1992	174	179	544,956	2,474,080	17,400	56,630	9	4.6	10	134.1	0
1993	92	136	629,874	2,999,921	5,895	58,647	6	4.8	11	135.4	0
1994	87	133	827,015	3,764,262	5,685	60,860	60	4.6	14	133.3	46,699
1995	90	111	666,905	3,166,093	5,970	48,560	45	4.8	14	135	90,191
1996	122	189	661,115	3,080,916	8,010	91,205	47	4.7	7	134.6	36,892
1997	117	166	939,822	4,649,660	7,650	81,117	31	4.9	12	139.5	209,490
1998	131	255	612,346	2,868,965	8,561	89,500	46	4.7	7	135.8	14,417
1999-2004						F I S H E R Y C L O S E D					

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crabs per pot lift.

[d] Carapace length in millimeters.

NA = Not available.

Table 2-12.-Guideline harvest level (GHL), economic performance and season length summary for the Saint Matthew Island Section commercial blue king crab fishery, 1983-2004.

		Value		Season Length	
Year	GHL[a]	Ex-vessel[b]	Total[c]	Days	Dates
1983	8	$3.00	$25.80	17	08/20-09/06
1984	2.0-4.0	$1.75	$6.50	7	09/01-09/08
1985	0.9-1.9	$1.60	$3.80	5	09/01-09/06
1986	0.2-0.5	$3.20	$3.20	5	09/01-09/06
1987	0.6-1.3	$2.85	$3.10	4	09/01-09/05
1988	0.7-1.5	$3.10	$4.00	4	09/01-09/05
1989	1.7	$2.90	$3.50	3[d]	09/01-09/04
1990	1.9	$3.35	$5.70	6	09/01-09/07
1991	3.2	$2.80	$9.00	4	09/16-09/20
1992	3.1	$3.00	$7.40	3[d]	09/04-09/07
1993	4.4	$3.23	$9.70	6	09/15-09/21
1994	3.0	$4.00	$15.00	7	09/15-09/22
1995	2.4	$2.32	$7.10	5	09/15-09/20
1996	4.3	$2.20	$6.70	8	09/15-09/23
1997	5.0	$2.21	$9.80	7	09/15-09/22
1998	4.0[e]	$1.87	$5.34	11	09/15-09/26
1999-2004			FISHERY CLOSED		

[a] Millions of pounds.

[b] Average price per pound.

[c] Millions of dollars.

[d] Actual length - 60 hours.

[e] General fishery only.

Table 2-13.-Guideline harvest level (GHL), inseason harvest projections and actual commercial harvests for the St. Matthew Island Section blue king crab fishery, 1983-2004.

Year	Guideline Harvest Level[a]	Projected Harvest[a,b]	Actual Harvest[a,c]
1983	8.0	8.0	9.5
1984	2.0 - 4.0	4.0	3.8
1985	0.9 - 1.9	2.0	2.4
1986	0.2 - 0.5	1.0	1.0
1987	0.6 - 1.3	1.3	1.1
1988	0.7 - 1.5	1.5	1.3
1989	1.7	1.7	1.2
1990	1.9	1.9	1.7
1991	3.2	3.2	3.4
1992	3.1	3.1	2.5
1993	4.4	4.4	3.0
1994	3.0	3.0	3.8
1995	2.4	2.4	3.2
1996	4.3	4.3	3.1
1997	5.0	5.0	4.6
1998	4.0[d]	2.9	2.9
1999-2004		FISHERY CLOSED	

[a] Millions of pounds.

[b] Based on inseason catch reports.

[c] Deadloss included.

[d] General fishery only.

Table 2-14.-Commercial harvest of blue king crabs by season for the St. Matthew Island Section, 1977-2004.

Season	Date Opened	Date Closed	Harvest[a]	Minimum Size[b]	Price per Pound
1977	Jun-07	Aug. 16	1,202,066	5 1/2	$1.00
1978	Jul-15	Sept. 3	1,984,251	5 1/2	$0.95
1979	Jul-15	Aug. 24	210,819	5 1/2	$0.70
1980	Jul-15	Sept. 3	CONFIDENTIAL	5 1/2	CONFIDENTIAL
1981	Jul-15	Aug. 21	4,627,761	5 1/2	$0.90
1982	Aug-01	Aug. 16	8,844,789	5 1/2	$2.00
1983[c,d]	Aug-20	Sept. 6[c]	9,506,880[d]	5 1/2	$3.00
1984	Aug-01	Sept. 8	3,764,592	5 1/2	$1.75
1985	Sep-01	Sept. 6	2,427,110	5 1/2	$1.60
1986	Sep-01	Sept. 6	1,003,162	5 1/2	$3.20
1987	Sep-01	Sep-05	1,075,179	5 1/2	$2.85
1988	Sep-01	Sep-05	1,325,185	5 1/2	$3.10
1989	Jan-01	Sep-04	1,166,258	5 1/2	$2.90
1990	Sep-01	Sep-07	1,725,349	5 1/2	$3.35
1991	Sep-16	Sep-20	3,372,066	5 1/2	$2.80
1992	Sep-04	Sep-07	2,474,080	5 1/2	$3.00
1993	Sep-15	Sep-21	2,999,921	5 1/2	$3.23
1994	Sep-15	Sep-22	3,764,262	5 1/2	$4.00
1995	Sep-15	Sep-22	3,166,093	5 1/2	$2.32
1996	Sep-15	Sep-16	3,080,916	5 1/2	$2.20
1997	Sep-15	Sep-22	4,649,660	5 1/2	$2.21
1998	Sep-15	Sep-26	2,868,965	5 1/2	$1.87
1999-2004			F I S H E R Y C L O S E D		

[a] In pounds, deadloss included.

[b] Carapace width in inches.

[c] Part of Northern District open until September 20.

[d] St. Lawrence Island harvest of 52,557 pounds included.

Table 2-15.-Pribilof District golden king crab fishery harvest data, 1981/82 - 2004 seasons.

Season	Number of				Harvest[a,b]	Average			Deadloss[b]
	Vessels	Landings	Crabs[a]	Pots lifted		Weight[b]	CPUE[c]	Length[d]	
1981/82	2			CONFIDENTIAL					
1982/83	10	19	15,330	5,252	69,970	4.6	3	151	570
1983/84	50	115	253,162	26,035	856,475	3.4	10	127	20,041
1984				NO LANDINGS					
1985	1			CONFIDENTIAL					
1986	1			CONFIDENTIAL					
1987	1			CONFIDENTIAL					
1988	2			CONFIDENTIAL					
1989	2			CONFIDENTIAL					
1990				NO LANDINGS					
1991	1			CONFIDENTIAL					
1992	1			CONFIDENTIAL					
1993	5	15	17,643	15,395	67,458	3.8	1	NA	0
1994	3	5	21,477	1,845	88,985	4.1	12	NA	730
1995	7	22	82,456	9,481	341,700	4.1	9	NA	716
1996	6	32	91,947	9,952	329,009	3.6	9	NA	3,570
1997	7	23	43,305	4,673	179,249	4.1	9	NA	5,554
1998	3	9	9,205	1,530	35,722	3.9	6	NA	474
1999	3	9	44,098	2,995	177,108	4.0	15	NA	319
2000	7	19	29,145	5,450	127,217	4.4	5	NA	5,288
2001	6	14	33,723	4,262	145,876	4.3	8	143	8,227
2002	8	20	34,639	5,464	150,434	4.3	6	144	8,984
2003	3	CONFIDENTIAL		2,854	CONFIDENTIAL	4.1	13	139	CONFIDENTIAL
2004	5	CONFIDENTIAL		2,312	CONFIDENTIAL	4.0	15	143	CONFIDENTIAL

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crabs per pot lift.

[d] Carapace length in millimeters.

NA = Not available.

Confidential = Less than three vessels or processors participated in the fishery.

Table 2-16.-Pribilof District golden king crab fishery economic data, 1991-2004 seasons.

		Value		Season Length	
Season	GHL[a]	Ex-vessel[b]	Total	Days	Dates
1991		CONFIDENTIAL		365	1/1-12/31
1992		CONFIDENTIAL		365	1/1-12/31
1993		$2.42	$163,248	365	1/1-12/31
1994		$3.81	$336,252	365	1/1-12/31
1995		$3.12	$1,056,900	365	1/1-12/31
1996		$2.02	$639,532	365	1/1-12/31
1997		$2.23	$387,340	365	1/1-12/31
1998		$2.06	$72,611	365	1/1-12/31
1999		$2.34	$413,686	162	1/1-6/10
2000	0.2	$3.22	$392,436	365	1/1-12/31
2001	0.15	$3.12	$429,464	105	1/1-4/15
2002	0.15	$3.10	$438,495	134	1/1-5/14
2003	0.15	CONFIDENTIAL		121	1/1-5/1
2004	0.15	CONFIDENTIAL		72	1/1-3/12

[a] Guideline harvest level in millions of pounds.

[b] Average price per pound.

Confidential = Less than three vessels or processors participated in fishery.

Table 2-17.-Saint Matthew Island Section commercial golden king crab fishery harvest data,1982/83 - 2004 seasons.

Season	Number of				Harvest[a,b]	Average			Deadloss[b]
	Vessels	Landings	Crabs[a]	Pots lifted		Weight[b]	CPUE[c]	Length[d]	
1982/83	22	30	51,714	7,825	193,507	3.7	7	138	957
1983/84				NO LANDINGS					
1985				NO LANDINGS					
1986				NO LANDINGS					
1987	11	29	101,618	14,525	424,394	4.2	7	142	11,750
1988	11	23	36,270	11,672	160,441	4.4	3	150	14,000
1989	2			CONFIDENTIAL					
1990				NO LANDINGS					
1991				NO LANDINGS					
1992	1			CONFIDENTIAL					
1993				NO LANDINGS					
1994	1			CONFIDENTIAL					
1995	4	4	245	383	1,200	4.9	1	NA	0
1996	1			CONFIDENTIAL					
1997-2000				NO LANDINGS					
2001	1			CONFIDENTIAL					
2002				NO LANDINGS					
2003	1			CONFIDENTIAL					
2004				NO LANDINGS					

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crabs per pot lift.

[d] Carapace length in millimeters.

NA = Not available.

Confidential = Less than three vessels or processors participated in the fishery.

Table 2-18.-Saint Matthew Island Section commercial golden king crab fishery economic data, 1991-2004 seasons.

	Value		Season Length	
Season	Exvessel[a]	Total	Days	Dates
1991	NO LANDINGS		365	1/1-12/31
1992	CONFIDENTIAL		365	1/1-12/31
1993	NO LANDINGS		365	1/1-12/31
1994	CONFIDENTIAL		365	1/1-12/31
1995	$3.12	$3,744	365	1/1-12/31
1996	CONFIDENTIAL		365	1/1-12/31
1997-2000	NO LANDINGS		365	1/1-12/31
2001	CONFIDENTIAL		365	1/1-12/31
2002	NO LANDINGS		365	1/1-12/31
2003	CONFIDENTIAL		365	1/1-12/31
2004	NO LANDINGS		365	1/1-12/31

[a] Average price per pound.

Confidential = Less than three vessels or processors participated in the fishery.

Table 2-19.-King crab Registration Area Q commercial scarlet king crab fishery data, 1992-2004.

Year	Number of		Harvest[a,b]	Average		Value		Deadloss[a]
	Vessels	Pots Lifted		Weight[a]	CPUE[c]	Ex-vessel[d]	Total[e]	
1992-94			NO LANDINGS					
1995	4	24,551	26,684	2.4	1	$2.12	$0.06	465
1996	2		CONFIDENTIAL					
1997- 99			NO LANDINGS					
2000[f]	1		CONFIDENTIAL					
2001[f]	1		CONFIDENTIAL					
2002[f]			NO LANDINGS					
2003[f]	1		CONFIDENTIAL					
2004	3		CONFIDENTIAL					

[a] In pounds.

[b] Deadloss included.

[c] Number of legal crabs per pot lift.

[d] Average price per pound.

[e] Millions of dollars.

[f] Restricted to incidental harvest during Bering Sea golden king and grooved Tanner crab fisheries.

Confidential = Less than three vessels or processors participated in fishery.

Table 2-20.-Bering Sea District commercial Tanner crab fishery harvest data, 1969-2004.

Year	Number of			Harvest[a,b]	Number of Pots		CPUE[c]	Deadloss[b]
	Vessels	Landings	Crabs[a]		Registered	Pulled		
1969	NA	131	353,300	1,008,900	NA	29,800	12	NA
1970	NA	66	482,300	1,014,700	NA	16,400	29	NA
1971	NA	22	61,300	166,100	NA	7,300	8	NA
1972	NA	14	42,061	107,761	NA	4,260	10	NA
1973	NA	44	93,595	231,668	NA	15,730	6	NA
1974	NA	69	2,531,825	5,044,197	NA	22,014	115	NA
1974/75	28	80	2,773,770	7,028,378	NA	38,462	72	NA
1975/76	66	304	8,956,036	22,358,107	NA	141,206	63	NA
1976/77	83	541	20,251,508	51,455,221	NA	297,471	68	NA
1977/78	120	861	26,350,688	66,648,954	NA	516,350	51	218,099
1978/79	144	817	16,726,518	42,547,174	NA	402,697	42	76,000
1979/80	152	804	14,685,611	36,614,315	40,273	488,434	30	56,446
1981	165	761	11,845,958	29,630,492	42,910	559,626	21	101,594
1982	125	791	4,830,980	11,008,779	36,396	490,099	10	138,159
1983	108	448	2,286,756	5,273,881	15,255	282,006	8	60,029
1984	41	134	516,877	1,208,223	9,851	61,357	8	5,025
1985	44	166	1,283,474	3,151,498	15,325	104,707	12	14,096
1986				FISHERY CLOSED				
1987				FISHERY CLOSED				
1988	98	248	897,059	2,210,394	38,765	112,334	8	10,724
1989	109	359	2,907,021	7,012,965	43,607	184,892	16	34,664
1990	179	1,032	10,717,924	24,549,299	46,440	711,137	15	87,475
1990/91	255	1,756	16,608,625	40,081,555	75,356	883,391	19	210,769
1991/92	285	2,339	12,924,034	31,796,381	85,401	1,244,633	10	279,741

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Year	Number of Vessels	Number of Landings	Number of Crabs[a]	Harvest[a,b]	Number of Pots Registered	Number of Pots Pulled	CPUE[c]	Deadloss[b]
1992/93	294	2,084	15,265,880	35,130,866	71481	1,200,885	13	343,955
1993/94	296	862	7,235,498	16,891,320	116,039	576,464	13	258,389
1994	183	349	3,351,639	7,766,886	38,670	249,536	13	132,780
1995	196	256	1,877,303	4,233,061	40,827	247,853	8	44,508
1996[d]	196	347	734,296	1,806,077	68,602	149,289	5	14,608
1997 to 2004				FISHERY CLOSED				

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crabs per pot lift.

[d] Includes incidental catch with Bristol Bay red king crab and Tanner crab directed fishery totals.

NA = Not available.

Table 2-21.-Bering Sea District commercial Tanner crab fishery catch by subdistrict, 1974/75-2004.

Season	Subdistrict[a]	Number of Vessels	Number of Landings	Number of Crabs[b]	Number of Pots Lifted	Harvest[b,c]	Average Weight[c]	Average CPUE[d]	Deadloss[c]
1974/75	Southeastern		72	2,526,687	32,275	6,504,984	2.6	78	0
	Pribilofs		8	247,083	3,923	523,394	2.1	63	0
	TOTAL	28	80	2,773,770	38,462	7,028,378	2.5	72	0
1975/76	Southeastern		230	6,682,232	106,445	16,643,194	2.5	63	0
	Pribilofs		74	2,273,804	34,761	5,714,913	2.5	65	0
	TOTAL	66	304	8,956,036	141,206	22,358,107	2.5	63	0
1976/77	Southeastern		437	16,089,057	233,667	41,007,736	2.6	69	0
	Pribilofs		104	4,162,451	63,804	10,447,485	2.5	65	0
	TOTAL	83	541	20,251,508	297,471	51,455,221	2.5	68	0
1977/78	Southeastern		706	21,055,527	408,437	53,278,012	2.5	52	0
	Pribilofs		155	5,210,170	107,913	13,152,843	2.5	48	0
	TOTAL	120	861	26,350,688	516,350	66,648,954	2.5	51	218,099
1978/79	Southeastern		758	15,601,891	356,594	39,694,205	2.5	44	75,400
	Pribilofs		59	1,124,627	46,103	2,852,969	2.5	24	600
	TOTAL	144	817	16,726,518	402,697	42,547,174	2.5	42	76,000
1979/80	Southeastern		789	14,329,889	476,410	35,724,003	2.5	30	56,446
	Pribilofs		15	355,722	12,024	890,312	2.5	30	0
	TOTAL	152	804	14,685,611	488,434	36,614,315	2.5	30	56,446

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Season	Subdistrict[a]	Number of Vessels	Number of Landings	Number of Crabs[b]	Number of Pots Lifted	Harvest[b,c]	Average Weight[c]	Average CPUE[d]	Deadloss[c]
1981	Southeastern		674	10,532,007	496,751	26,684,956	2.5	21	97,398
	Pribilofs		87	1,313,951	62,875	2,945,536	2.5	21	4,196
	TOTAL	165	761	11,845,958	559,626	29,630,492	2.5	21	101,594
1982	Southeastern		539	3,825,433	322,634	8,812,302	2.3	12	69,829
	Pribilofs		252	1,005,547	167,465	2,196,477	2.2	6	68,330
	TOTAL	125	791	4,830,980	490,099	11,008,779	2.3	10	138,159
1983	Northern		10	29,478	5,950	48,454	1.7	5	167
	Southeastern		287	1,984,673	192,538	4,633,354	2.3	10	52,879
	Pribilofs		151	272,505	83,528	592,073	2.2	3	6,983
	TOTAL	108	448	2,286,756	282,006	5,273,881	2.3	8	60,029
1984	Southeastern		91	470,181	44,546	1,099,142	2.3	11	4,688
	Pribilofs		43	46,759	16,811	109,081	2.3	3	337
	TOTAL	41	134	516,877	61,357	1,208,223	2.3	8	5,025
1985	Southeastern	38	143	1,278,109	96,976	3,139,041	2.4	13	14,096
	Pribilofs	15	23	5,365	7,731	12,457	2.3	1	0
	TOTAL	44	166	1,283,474	104,707	31,513,498	2.4	12	14,096
1986				F I S H E R Y C L O S E D					
1987				F I S H E R Y C L O S E D					

-continued-

Table 2-21.-(page 3 of 4)

Season	Subdistrict[a]	Number of Vessels	Number of Landings	Number of Crabs[b]	Number of Pots Lifted	Harvest[b,c]	Average Weight[c]	Average CPUE[d]	Deadloss[c]
1988	Eastern	98	248	897,059	112,334	2,210,394	2.5	8	10,724
	Western	0	0	0	0	0	0	0	0
	TOTAL	98	248	897,059	112,334	2,210,394	2.5	8	10,724
1989	Eastern	109	359	2,907,021	184,892	7,012,965	2.4	16	34,664
	Western	0	0	0	0	0	0	0	0
	TOTAL	109	359	2,907,021	184,892	7,012,965	2.4	16	34,664
1990	Eastern		1,105	10,708,996	701,924	24,529,165	2.3	15	87,475
	Western		17	8,928	9,213	20,134	2.3	1	0
	TOTAL	179	1,032	10,717,924	711,137	24,549,299	2.3	15	87,475
1990/91	Eastern	255	1,756	16,608,625	883,391	40,081,555	2.4	19	210,769
	Western	0	0	0	0	0	0	0	0
	TOTAL	255	1,756	16,608,625	883,391	40,081,555	2.4	19	210,769
1991/92	Eastern	285	2,339	12,924,034	1,244,633	31,796,381	2.5	10	279,741
1992/93	Eastern	293	2,011	15,074,084	1,150,834	34,821,043	2.3	13	340,955
	Western	70	96	191,796	50,051	309,823	1.6	4	3,000
	TOTAL	294	2,084	15,265,880	1,200,885	35,130,866	2.3	13	343,955
1993/94	East of 168°[e]	283	347	1,696,430	250,501	4,114,949	2.4	7	103,715
	163° to 173°[f]	261	515	5,539,068	325,963	12,776,371	2.3	17	154,674
	TOTAL	296	862	7,235,498	576,464	16,891,320	2.3	13	258,389

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Table 2-21.-(page 4 of 4)

Season	Subdistrict[a]	Number of Vessels	Number of Landings	Number of Crabs[b]	Number of Pots Lifted	Harvest[b,c]	Average Weight[c]	Average CPUE[d]	Deadloss[c]
1994	163° to 173°	183	349	3,351,639	249,536	7,766,886	2.3	13	132,780
1995	163° to 173°	196	256	1,877,303	247,853	4,233,061	2.3	8	44,508
1996	East of 168°[e]	192	195	393,257	75,753	994,776	2.5	5	8,464
	163° to 173°[f]	135	152	341,039	73,522	811,301	2.4	5	6,144
	TOTAL	196	347	734,296	149,275	1,806,077	2.5	5	14,608
1997 to 2004				F I S H E R Y C L O S E D					

[a] Prior to 1988, the subdistricts were: Southeastern, Pribilof, and Northern (includes the Norton Sound and General Sections).

[b] Deadloss included.

[c] In pounds.

[d] Number of legal crabs per pot lift.

[e] Incidental harvest in Bristol Bay red king crab fishery.

[f] Directed Tanner crab fishery.

Table 2-22.-Bering Sea District commercial Tanner crab fishery economic data, 1979/80-2004.

		Value		Season Length	
Year	GHL[a]	Exvessel[b]	Total[c]	Days	Dates
1979/80	28-36	$0.52	$19.0	189	11/01-05/11
1981	28-36	$0.58	$17.2	88	01/15-04/15
1982	12-16	$1.06	$11.5	118	02/15-06/15
1983	5.6	$1.20	$6.2	118	02/15-06/15
1984	7.1	$0.95	$1.1	118	02/15-06/15
1985	3	$1.40	$4.3	149	01/15-06/15
1986			FISHERY CLOSED		
1987			FISHERY CLOSED		
1988	5.6	$2.17	$4.8	93	01/15-04/20
1989	13.5	$2.90	$20.3	110	01/15-05/07
1990[d]	29.5	$1.85	$45.3	89	01/15-04/24
1990/91	42.8	$1.12	$44.5	126	11/20-03/25
1991/92	32.8	$1.50	$47.3	137	11/15-03/31
1992/93	39.2	$1.69	$58.8	137	11/15-03/31
1993[e]	10.7	$1.90	$7.6	10	11/01-11/10
1993/94[f]	9.1	$1.90	$24.0	42	11/20-01/01
1994[f]	7.5	$3.75	$28.5	20	11/01-11/21
1995[f]	5.5	$2.80	$11.7	15	11/01-11/16
1996[e]	2.2	$2.51	$2.5	4	11/01-11/05
1996[f]	6.2	$2.48	$2.0	12	11/15-11/27
1997 to 2004			FISHERY CLOSED		

[a] Guideline harvest level, millions of pounds.

[b] Average price per pound.

[c] Millions of dollars.

[d] Winter fishery.

[e] East of 168° West longitude (incidental to Bristol Bay red king crab).

[f] 163° -173° West longitude (directed fishery).

Table 2-23.-Bering Sea District commercial Tanner crab fishery harvest composition by fishing season, 1972-2004.

Season	Average Weight[a]	Average Width[b]	% New Shell
1972[c]	2.6	NA	NA
1973[c]	2.5	NA	NA
1974[c]	2	NA	NA
1974/75	2.5	NA	NA
1975/76	2.5	NA	NA
1976/77	2.5	NA	NA
1977/78	2.5	152.8	88.0
1978/79	2.5	152.7	95.0
1979/80	2.5	151.4	90.0
1981	2.5	149.4	86.6
1982	2.3	148.8	85.4
1983[d]	2.3	148.8	70.5
1984	2.3	146.5	40.0
1985	2.4	150.0	65.0
1986	FISHERY CLOSED		
1987	FISHERY CLOSED		
1988	2.5	143.5	70.2
1989	2.4	149.4	80.8
1990	2.3	148.1	96.5
1990/91	2.4	149.7	95.3
1991/92	2.5	150.4	93.2
1992/93	2.3	148.0	90.5
1993/94	2.4	150.7	93.9
1994	2.3	150.0	92.5
1995	2.3	149.3	58.6
1996[e]	2.5	152.1	46.6
1997 to 2004	FISHERY CLOSED		

[a] In pounds.

[b] Carapace width in millimeters.

[c] Incidental to Bristol Bay red king crab fishery.

[d] Partial Bering Sea closure.

[e] Includes incidental catch with Bristol Bay red king crab and Tanner crab directed fishery totals.

NA = Not available.

Table 2-24.-Bering Sea District commercial snow crab general fishery harvest data, 1978/79 - 2004.

Year	GHL[a]	Number of Vessels	Number of Landings	Number of Crabs[b]	Number of Pots Lifted	Harvest[b,c]	CPUE[d]	Deadloss[c]
1978/79		102	490	22,118,498	190,746	32,187,039	116	759,137
1979/80		134	597	25,286,777	255,102	39,572,668	99	228,345
1981	39.5-91.0	153	867	34,415,322	435,742	52,750,034	79	2,269,979
1982	16.0-22.0	122	803	24,089,562	469,091	29,355,374	51	1,092,655
1983[e]	15.8	109	461	23,853,647	287,127	26,128,410	83	1,324,466
1984[e]	49.0	52	367	24,009,935	173,591	26,813,074	138	798,795
1985[e]	98.0	75	718	52,903,246	372,045	65,998,875	142	1,064,184
1986[e]	57.0	88	992	76,499,123	543,744	97,984,539	141	1,378,533
1987[e]	56.4	103	1,038	81,307,659	616,113	101,903,388	132	978,449
1988[e]	110.7	171	1,285	105,716,337	776,907	135,354,637	136	3,260,020
1989[e]	132.0	168	1,341	112,618,881	663,442	149,455,848	170	1,844,682
1990[e]	139.8	189	1,565	128,977,638	911,613	161,821,350	141	1,796,664
1991[e]	315.0	220	2,788	265,123,960	1,391,583	328,647,269	191	3,464,036
1992	333.0	250	2,763	227,376,582	1,281,796	315,302,034	177	2,325,852
1993	207.2	254	1,836	169,558,842	971,046	230,787,000	175	1,573,952
1994	105.8	273	1,293	114,779,014	716,524	149,775,765	160	1,799,323
1995	55.7	253	869	60,611,411	506,802	75,252,677	117	1,287,169
1996	50.7	234	766	52,912,823	520,651	65,712,797	102	1,333,014
1997	117.0	226	1,127	99,975,539	754,140	119,543,024	133	2,351,555
1998[f]	225.9	229	1,767	186,543,734	891,268	243,341,381	207	2,893,945
1999[f]	186.2	241	1,630	143,296,568	899,043	184,529,821	158	1,828,313
2000[f]	26.4	229	287	23,265,802	170,064	30,774,838	137	338,057
2001[f]	25.3	207	293	17,185,523	176,930	23,382,046	97	429,884
2002[f]	28.5	191	403	23,303,975	307,666	30,252,501	76	582,589
2003[f,g]	23.7	192	230	21,637,019	139,903	26,341,958	155	665,199
2004[f]	19.3	189	240	17,331,514	110,087	22,170,150	157	224,377

[a] Guideline harvest level, millions of pounds.

[b] Deadloss included.

[c] In pounds.

[d] Number of legal crabs per pot lift.

[e] Partial district and subdistrict closures, see Table 2-26.

[f] General fishery only.

[g] Includes 181,457 pounds illegally taken in Russian waters.

Table 2-25.-Bering Sea District commercial snow crab general fishery season dates and area closures, 1977/78-2004.

Season	Opened	Closed	Comments
1977/78	09/15/77	09/23/78	Bering Sea District closure[a]
1978/79	11/01/78	09/03/79	Bering Sea District closure[a]
1979/80	11/01/79	08/15/80	Bering Sea District state closure
		09/03/80	Bering Sea District federal closure
1981	01/15/81	09/01/81	Bering Sea District closure[b]
1982	02/15/82	08/01/82	Bering Sea District closure[b]
1983	02/15/83	05/22/83	Bering Sea District closure south of 57°30' N. lat. [b]
		08/01/83	Bering Sea District closure north of 57°30' N. lat. [b]
1984	02/15/84	08/01/84	Bering Sea District closure south of 58° N. lat.[b]
		08/22/84	Bering Sea District closure north of 58° N. lat. to allow an orderly start to king crab season[b]
	09/15/84	12/31/84	Bering Sea District closure north of 58°N. lat. reopened after king season and Bering Sea District closure[b]
1985	01/15/85	05/08/85	Pribilof Subdistrict closure south of 58° N. lat.[b]
		08/01/85	Bering Sea District closure south of 58°39' N. lat.[b]
		08/22/85	Northern Subdistrict closure to allow an orderly start to king crab season[b]
	10/09/85	01/15/86	*Bering Sea District reopened, except east of 164° W. long. in Southeastern Subdistrict, *fishery was scheduled to close 12/31/85 but did not, it remained open until the start of the 1986 fishery
1986	01/15/86	04/21/86	Southeastern Subdistrict closure west of 164° W long.[b]
		06/01/86	Pribilof Subdistrict closure[b]
		08/01/86	Northern Subdistrict closure east of 175° W. long.[b]
		08/24/86	Northern Subdistrict closure west of 175° W. long.[b]
1987	01/15/87	04/12/87	Southeastern Subdistrict west of 164° W. long., and Pribilof Subdistrict closure
		06/01/87	Northern Subdistrict south of 60°30' N lat. and east of 178° W. long. closure

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Table 2-25.-(page 2 of 2)

Season	Opened	Closed	Comments
1987 (cont.)	01/15/87	06/22/87	Northern Subdistrict north of 60°30' N lat. and west of 178° W. long. closure
1988	01/15/88	03/29/88	Bering Sea District closure (Western Subdistrict to assist in an orderly closure)
	05/15/88	06/30/88	Western Subdistrict reopen and closure
1989	01/15/89	03/26/89	Eastern Subdistrict closure
		05/07/89	Western Subdistrict closure
1990	01/15/90	04/09/90	Eastern Subdistrict east of 165° W. long. closure
		04/24/90	Eastern Subdistrict west of 165° W. long. closure
		06/12/90	Western Subdistrict closure
1991	01/15/91	05/05/91	Eastern Subdistrict closure
		06/23/91	Western Subdistrict closure
1992	01/15/92	04/22/92	Bering Sea District closure
1993	01/15/93	03/15/93	Bering Sea District closure
1994	01/15/94	03/01/94	Bering Sea District closure
1995	01/15/95	02/17/95	Bering Sea District closure
1996	01/15/96	02/29/96	Bering Sea District closure
1997	01/15/97	03/21/97	Bering Sea District closure
1998	01/15/98	03/20/98	Bering Sea District closure
1999	01/15/99	03/22/99	Bering Sea District closure
2000	04/01/00	04/08/00	Bering Sea District closure
2001	01/15/01	02/14/01	Bering Sea District closure
2002	01/15/02	02/08/02	Bering Sea District closure
2003	01/15/03	01/25/03	Bering Sea District closure
2004	01/15/04	01/23/04	Bering Sea District closure

[a] State managed domestic fishery.

[b] Concurrent state and federal date.

Table 2-26.-2004 Bering Sea snow crab fishery inseason harvest and effort projections.

		Projected					
Date	Report Day	Daily CPUE[a]	Pot lifts	Number of crabs	Daily Harvest[b]	Cumulative harvest[b]	Season CPUE[a]
16-Jan	1	99	4,499	443,922	577,099	577,099	99
17-Jan	2	155	13,836	2,148,782	2,793,416	3,370,515	141
18-Jan	3	169	14,046	2,329,378	3,028,192	6,398,707	152
19-Jan	4	163	12,488	2,001,438	2,601,870	9,000,577	154
20-Jan	5	144	12,744	1,819,733	2,365,653	11,366,230	152
21-Jan	6	117	12,686	1,498,136	1,947,577	13,313,807	146
22-Jan	7	122	13,875	1,683,012	2,187,916	15,501,723	142
23-Jan	8	134	13,535	1,811,307	2,354,699	17,856,422	141
24-Jan	9	130	13,443	1,722,690	2,239,497	20,095,919	139
Totals			111,152	15,458,399	20,095,919		139

[a] Number of legal crabs per pot lift.

[b] In pounds.

Table 2-27.-Bering Sea District commercial snow crab harvest by season and subdistrict, 1977/78 - 2004.

Season	Subdistrict	Number of				Harvest[b,c]	Average		Deadloss[c]
		Vessels	Landings[a]	Crabs[b]	Pots Lifted		Weight[c]	CPUE[d]	
1977/78	Southeastern		33	1,063,872	11,560	1,439,959	1.4	92	NA
	Pribilof		5	203,674	1,687	276,165	1.4	121	NA
	TOTAL	15	38	1,267,546	13,247	1,716,124	1.4	96	NA
1978/79	Southeastern	101	476	21,279,794	184,491	31,102,832	1.5	115	659,137
	Pribilof	10	14	838,704	6,225	1,084,039	1.5	135	100,000
	TOTAL	102	490	22,118,498	190,746	32,187,039	1.5	116	759,137
1979/80	Southeastern	133	561	23,199,446	237,375	36,406,391	1.6	98	187,945
	Pribilof	19	36	2,087,331	17,727	3,166,777	1.5	118	40,400
	TOTAL	134	597	25,286,777	255,102	39,572,668	1.6	99	228,345
1981	Southeastern		624	24,498,642	309,304	37,866,229	1.6	79	1,475,078
	Pribilof		243	9,916,617	126,438	14,886,705	1.5	78	794,901
	TOTAL	153	867	34,415,322	435,742	52,750,034	1.5	79	2,269,979
1982	Southeastern		468	10,207,174	257,193	13,079,583	1.3	40	422,979
	Pribilof		335	13,882,388	211,898	16,276,421	1.2	66	669,676
	TOTAL	122	803	24,089,562	469,091	29,355,374	1.2	51	1,092,655
1983	Southeastern		153	3,553,281	94,470	4,197,304	1.2	38	165,298
	Pribilof		239	19,076,553	153,458	20,514,000	1.0	124	1,078,643
	Northern		69	1,223,813	39,199	1,417,106	1.1	31	80,525
	TOTAL	109	461	23,853,647	287,127	26,128,410	1.1	83	1,324,466

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Table 2-27.-(page 2 of 5)

Season	Subdistrict	Number of Vessels	Number of Landings[a]	Number of Crabs[b]	Number of Pots Lifted	Harvest[b,c]	Average Weight[c]	Average CPUE[d]	Deadloss[c]
1984	Southeastern		76	3,534,370	33,091	3,990,621	1.1	107	54,678
	Pribilof		230	17,909,096	112,078	19,727,493	1.1	160	708,706
	Northern		61	2,566,469	28,422	3,094,960	1.2	90	35,411
	TOTAL	52	367	24,009,935	173,591	26,813,074	1.1	138	798,795
1985	Southeastern	55	301	21,963,882	158,819	27,373,232	1.4	138	461,001
	Pribilof	60	301	24,089,526	142,937	29,804,093	1.2	169	505,146
	Northern	24	116	6,849,838	70,289	8,821,550	1.3	97	98,037
	TOTAL	75	718	52,903,246	372,045	65,998,875	1.3	142	1,064,184
1986	Southeastern	47	112	8,491,694	63,889	10,957,578	1.3	133	44,755
	Pribilof	80	508	39,851,767	281,337	50,525,150	1.3	142	472,342
	Northern	67	372	28,155,662	198,518	36,501,811	1.3	142	861,436
	TOTAL	88	992	76,499,123	543,744	97,984,539	1.3	141	1,378,533
1987	Southeastern	28	64	4,116,778	24,619	5,106,473	1.2	167	24,619
	Pribilof	94	458	38,604,802	261,337	47,676,734	1.2	148	261,337
	Northern	99	516	38,586,079	330,157	49,120,181	1.2	117	330,157
	TOTAL	103	1,038	81,307,659	616,113	101,903,388	1.2	132	978,449
1988	Eastern	162	770	59,811,702	431,310	75,781,258	1.3	139	775,104
	Western	151	515	45,904,635	335,597	58,278,927	1.3	137	2,484,916
	TOTAL	171	1,285	105,716,337	776,907	134,060,185	1.3	136	3,260,020
1989	Eastern	163	871	77,698,698	391,451	104,399,693	1.3	198	1,128,971
	Western	127	470	34,920,183	271,991	45,056,155	1.3	128	715,711
	TOTAL	168	1,341	112,618,881	663,442	149,455,848	1.3	170	1,844,682

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Table 2-27.-(page 3 of 5)

Season	Subdistrict	Number of Vessels	Number of Landings[a]	Number of Crabs[b]	Number of Pots Lifted	Harvest[b,c]	Average Weight[c]	Average CPUE[d]	Deadloss[c]
1990	Eastern	177	956	76,331,829	512,259	94,831,897	1.2	149	1,010,755
	Western	152	659	52,645,809	399,354	66,989,453	1.3	132	785,909
	TOTAL	189	1,565	128,977,638	911,613	161,821,350	1.3	141	1,796,664
1991	Eastern	218	2,013	190,139,612	912,751	240,090,666	1.3	208	1,593,021
	Western	186	867	74,984,348	478,832	88,556,603	1.2	157	1,871,015
	TOTAL	220	2,788	265,123,960	1,391,583	328,647,269	1.2	191	3,464,036
1992	Eastern	250	N/A	217,375,564	1,228,280	302,363,005	1.4	177	2,268,467
	Western	55	N/A	10,001,018	53,516	12,939,029	1.3	187	57,385
	TOTAL	250	2,763	227,376,582	1,281,796	315,302,034	1.4	177	2,325,852
1993	Eastern	251	1,384	110,760,099	675,996	151,328,721	1.4	164	1,108,520
	Western	185	633	58,798,743	295,050	79,458,279	1.4	199	465,432
	TOTAL	254	1,836	169,558,842	971,046	230,787,000	1.4	175	1,573,952
1994	Eastern	220	820	56,012,017	375,928	72,008,424	1.3	149	901,674
	Western	171	586	58,766,997	340,596	77,767,341	1.3	173	897,649
	TOTAL	273	1,293	114,779,014	716,524	149,775,765	1.3	160	1,799,323
1995	Eastern	217	627	32,630,348	313,910	39,736,986	1.2	104	657,051
	Western	153	357	27,981,063	192,892	35,515,691	1.3	145	630,118
	TOTAL	253	869	60,611,411	506,802	75,252,677	1.2	120	1,287,169
1996	Eastern	161	462	23,676,069	252,227	28,244,924	1.2	94	555,118
	Western	146	351	29,236,754	268,424	37,467,873	1.3	109	777,896
	TOTAL	234	766	52,912,823	520,651	65,712,797	1.2	102	1,333,014

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Table 2-27.-(page 4 of 5)

Season	Subdistrict	Number of Vessels	Number of Landings[a]	Number of Crabs[b]	Number of Pots Lifted	Harvest[b,c]	Average Weight[c]	Average CPUE[d]	Deadloss[c]
1997	Eastern	225	1,040	88,486,602	649,319	105,648,771	1.2	136	2,115,217
	Western	83	164	11,488,937	104,821	13,894,253	1.2	110	236,338
	TOTAL	226	1,127	99,975,539	754,140	119,543,024	1.2	133	2,351,555
1998[e]	Eastern	228	1,724	177,781,444	855,393	232,485,209	1.3	205	2,787,292
	Western	44	88	8,762,290	35,875	10,856,172	1.2	242	106,653
	TOTAL	229	1,767	186,543,734	891,268	243,341,381	1.3	207	2,893,945
1999[e]	Eastern	236	1,386	102,209,222	656,276	134,135,696	1.3	156	1,237,770
	Western	121	388	39,646,982	242,767	48,565,812	1.2	163	590,543
	TOTAL	241	1,630	141,856,204	899,043	182,701,508	1.3	158	1,828,313
2000[e]	Eastern	168	217	15,269,109	110,127	20,941,389	1.4	139	200,748
	Western	82	91	7,996,693	59,937	9,833,449	1.2	133	137,309
	TOTAL	229	287	23,265,802	170,064	30,774,838	1.3	137	338,057
2001[e]	Eastern	163	219	8,877,103	114,044	12,575,815	1.4	78	224,266
	Western	85	115	8,308,420	62,866	10,806,231	1.3	132	205,618
	TOTAL	207	293	17,185,523	176,910	23,382,046	1.4	97	429,884
2002[e]	Eastern	144	274	10,369,137	161,736	13,513,988	1.3	64	296,854
	Western	107	191	12,909,073	145,330	16,707,594	1.3	89	283,716
	TOTAL[f]	191	403	23,303,975	307,666	30,252,501	1.3	76	580,570

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Table 2-27.-(page 5 of 5)

Season	Subdistrict	Number of Vessels	Number of Landings[a]	Number of Crabs[b]	Number of Pots Lifted	Harvest[b,c]	Average Weight[c]	Average CPUE[d]	Deadloss[c]
2003[e]	Eastern	66	102	3,931,327	29,305	4,856,607	1.2	134	106,594
	Western	158	155	17,705,692	110,598	21,485,351	1.2	160	558,605
	TOTAL[g]	192	257	21,637,019	139,903	26,341,958	1.2	155	665,199
2004[e]	Eastern	59	75	2,127,631	16,539	2,764,695	1.3	129	28,211
	Western	170	209	15,203,883	93,548	19,405,455	1.3	163	196,166
	TOTAL	189	240	17,331,514	110,087	22,170,150	1.3	157	224,377

[a] Number of subdistrict landings is greater than the total number of vessel landings because a single vessel may fish in several statistical areas.

[b] Deadloss included.

[c] In pounds.

[d] Number of legal crabs per pot lift.

[e] General fishery only.

[f] Total harvest includes 30,919 pounds taken from an unidentified statistical area.

[g] Includes 181,457 pounds illegally taken in Russian waters.

NA = Not Available.

Table 2-28.-Bering Sea District commercial snow crab fishery catch by statistical area, 2004.

Area	Number of			Harvest[b,c]	Average		Deadloss[c]
	Landings[a]	Crabs[b]	Pots Lifted		Weight[c]	CPUE[d]	
EASTERN SUBDISTRICT AREAS							
715630	10	312,578	1,810	401,501	1.3	173	2,408
725630	15	452,519	4,114	576,941	1.3	110	3,809
725700	22	486,732	4,206	648,735	1.3	116	9,681
725730	21	484,926	3,607	633,154	1.3	134	9,096
725800	13	252,375	1,852	325,109	1.3	136	1,490
Other[e]	6	138,501	950	179,255	1.3	146	1,727
Subtotal	75	2,127,631	16,539	2,764,695	1.3	129	28,211
WESTERN SUBDISTRICT AREAS							
735630	4	130,404	1,040	166,290	1.3	125	936
735700	37	1,417,886	10,131	1,798,956	1.3	140	21,932
735730	54	2,118,019	13,996	2,687,167	1.3	151	22,667
735800	116	7,181,556	45,245	9,065,428	1.3	159	91,277
735830	24	962,461	5,998	1,220,218	1.3	160	9,238
745800	17	538,959	3,035	659,907	1.2	178	8,484
745830	10	292,033	1,569	357,402	1.2	186	2,034
755830	4	167,559	765	226,269	1.4	219	201
775930	3	616,908	1,646	746,903	1.2	375	9,297
776030	3	232,353	1,098	328,640	1.4	212	4,836
776100	4	16,824	128	24,382	1.4	131	230
786000	6	194,601	1,272	275,598	1.4	153	3,837
786030	12	692,633	4,062	1,002,900	1.4	171	9,570
Other[f]	16	641,687	3,563	845,395	1.3	180	11,627
Subtotal	209	15,203,883	93,548	19,405,455	1.3	163	196,166
Total[g]	240	17,331,514	110,087	22,170,150	1.3	157	224,377

[a] Number of statistical area landings is greater than the total number of vessel landings because a single vessel may fish in several statistical areas.

[b] Deadloss included.

[c] In pounds.

[d] Number of legal crabs per pot lift.

[e] Includes 4 statistical areas where less than three vessels made landings.

[f] Includes 10 statistical areas where less than three vessels made landings.

[g] General fishery only.

Table 2-29.-Bering Sea District commercial snow crab fishery economic data 1979/80 - 2004.

Year	Value		Registered	Season
	Ex-vessel[a]	Total[b]	Pots[c]	Length[d]
1979/80	$0.21	$ 82.50	35,503	307
1981	$0.26	$ 13.10	39,789	229
1982	$0.73	$ 20.70	35,522	167
1983[e]	$0.35	$ 8.70	15,396	120
1984[e]	$0.30	$ 7.80	12,493	320
1985[e]	$0.30	$ 19.50	15,325	333
1986[e]	$0.60	$ 60.00	13,750	252
1987[e]	$0.75	$ 75.70	19,386	158
1988[e]	$0.77	$ 100.70	38,765	120
1989[e]	$0.75	$ 110.70	43,607	112
1990[e]	$0.64	$ 102.30	46,440	148
1991[e]	$0.50	$ 162.60	76,056	159
1992	$0.50	$ 156.50	77,858	97
1993	$0.75	$ 171.90	65,081	59
1994	$1.30	$ 192.40	54,837	45
1995	$2.43	$ 180.00	53,707	33
1996	$1.33	$ 85.60	50,169	45
1997	$0.79	$ 92.60	47,036	65
1998[f]	$0.56	$ 134.65	47,909	64
1999[f]	$0.88	$ 160.78	50,173	66
2000[f]	$1.81	$ 55.09	43,407	7
2001[f]	$1.53	$ 32.12	40,379	30
2002[f]	$1.49	$ 44.20	37,807	24
2003[f]	$1.83	$ 46.98	20,452	9
2004[f]	$2.05	$ 44.99	14,444	8

[a] Average price per pound.

[b] Millions of dollars.

[c] Prior to 1992 includes Tanner crab gear.

[d] In days.

[e] Partial district and subdistrict closures, see Table 2-27.

[f] General fishery only.

Table 2-30.-Bering Sea District commercial snow crab fishery harvest composition by fishing season, 1978/79 - 2004.

Season	Average		Percent new shell	Percent <102 mm cw landed
	Weight[a]	Width[b]		
1978/79	1.5	113.1	83.0	NA
1979/80	1.6	118.1	90.0	NA
1981	1.5	117.0	79.2	NA
1982	1.2	109.4	78.0	NA
1983[c]	1.1	NA	NA	NA
1984[c]	1.1	105.4	78.0	NA
1985[c]	1.3	108.0	80.0	NA
1986[c]	1.3	109.5	73.7	NA
1987[c]	1.2	108.9	84.0	NA
1988[c]	1.3	109.5	71.2	NA
1989[c]	1.3	111.2	85.2	NA
1990[c]	1.3	109.1	97.4	NA
1991[c]	1.2	110.2	95.1	NA
1992	1.4	111.7	97.6	NA
1993	1.4	111.6	92.5	NA
1994	1.3	110.4	93.1	11.3
1995	1.2	108.6	89.6	17.2
1996	1.2	107.5	75.8	19.7
1997	1.2	107.3	96.5	17.3
1998[d]	1.3	111.1	97.0	7.3
1999[d]	1.3	110.3	97.7	8.0
2000[d]	1.3	111.3	95.2	6.5
2001[d]	1.4	111.3	95.2	5.3
2002[d]	1.3	110.4	69.0	12.2
2003[d]	1.2	107.2	83.8	10.2
2004[d]	1.3	110.4	86.0	10.2

[a] In pounds.

[b] Carapace width in millimeters.

[c] Partial district and subdistrict closures, see Table 2-27.

[d] General fishery only.

NA = Not available.

Table 2-31.-Bering Sea District commercial grooved Tanner crab fishery harvest data, 1992-2004.

Year	Number of Vessels	Number of Crabs[a]	Number of Pots Lifted	Harvest[a,b]	Average Weight[b]	Average CPUE[c]	Value Ex-vessel[d]	Value Total[e]	Deadloss[b]
1992				CONFIDENTIAL					
1993	6	346,735	35,650	658,796	1.9	10	$0.94	$0.60	71,000
1994	4	166,227	13,739	332,454	2.0	12	$1.20	$0.40	30,585
1995	8	478,915	60,993	1,005,721	2.1	8	$1.40	$1.31	69,177
1996	3	50,898	14,504	106,886	2.1	4	$1.08	$0.10	11,186
1997-1999				NO LANDINGS					
2000	1			CONFIDENTIAL					
2001	1			CONFIDENTIAL					
2002				NO LANDINGS					
2003	1			CONFIDENTIAL					
2004	4			CONFIDENTIAL					

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crabs per pot lift.

[d] Average price per pound.

[e] Millions of dollars.

Table 2-32.-Bering Sea District commercial triangle Tanner crab fishery harvest data, 1992-2004.

	Number of				Average		Value		
Year	Vessels	Crabs[a]	Pots Lifted	Harvest[a,b]	Weight[b]	CPUE[c]	Exvessel[d]	Total[e]	Deadloss[b]
1992-1994				NO LANDINGS					
1995	4	41,914	22,180	49,007	1.2	1	$1.35	$0.05	14,147
1996	1			CONFIDENTIAL					
1997-1999				NO LANDINGS					
2000[f]	1			CONFIDENTIAL					
2001[f]	1			CONFIDENTIAL					
2002[f]				NO LANDINGS					
2003[f]	1			CONFIDENTIAL					
2004[f]	4			CONFIDENTIAL					

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crabs per pot lift.

[d] Average price per pound.

[e] Millions of dollars.

[f] Restricted to incidental harvest during grooved Tanner crab fishery.

Confidential = Less than three vessels or processors participated in the fishery.

Table 2-33.-Bering Sea commercial hair crab fishery data, 1979-2004.

Year	Number of Vessels	Number of Landings	Number of Crabs[a]	Harvest[a,b]	Pots Registered	Pots Pulled	Average Weight[b]	Average CPUE[c]	Deadloss[b]
1979	11	16	2,457	5,213		9,908	2.1	<1	0
1980	9	17	25,417	53,914		14,506	2.1	2	0
1980/81	67	192	1,127,309	2,439,483		172,695	2.2	7	265,369
1981/82	48	159	466,560	932,584		117,518	2.0	4	29,749
1982/83	52	161	575,453	1,211,420		84,346	2.1	7	122,456
1983/84	19	48	200,670	406,538		20,414	2.0	10	28,062
1984[d]	7	26	197,209	396,630		22,392	2.0	9	19,436
1985[d]	3	9	34,410	66,042		3,905	2.0	9	593
1986	3	7	7,289	14,835		4,720	2.0	2	500
1987[e]	2				CONFIDENTIAL				
1988-90[d]					NO LANDINGS				
1991[d]	7	42	441,533	377,708		44,444	.9	10	0
1992[d,e]	9	20	203,758	240,767		38,808	1.2	5	11,495
1992[d,f]	10	47	1,127,948	1,198,590		125,943	1.1	9	65,674
1993[d,e]	4	5	2,347	3,038		9,345	1.3	<1	0
1993/94[d,f,g,h]	19	129	1,936,795	2,331,686		585,913	1.2	3	124,596
1994[d,f]	10	55	897,070	1,199,246	13,350	287,954	1.3	3	49,275
1995[d,f]	21	81	1,485,097	2,059,988	25,750	441,494	1.4	3	73,882

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Year	Number of Vessels	Number of Landings	Number of Crabs[a]	Harvest[a,b]	Pots Registered	Pots Pulled	Average Weight[b]	Average CPUE[c]	Deadloss
1996[d]	19	99	485,735	745,804	20,680	410,548	1.5	1	32,495
1997[d]	16	52	420,121	668,096	18,180	211,970	1.6	2	17,522
1998[d]	12	31	188,784	307,739	14,330	128,495	1.6	2	17,392
1999[d]	8	27	139,894	221,656	9,840	92,333	1.6	1	4,677
2000[d]	3	3	1,058	1,546	3,900	3,300	1.5	<1	0
2001-2004[d]					FISHERY CLOSED				

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crabs per pot lift.

[d] Permit Fishery.

[e] Spring Fishery.

[f] Fall Fishery.

[g] Fishery opened Nov. 1, 1993 and closed April 20, 1994.

[h] Includes seven vessels that landed hair crab incidental to Tanner crab.

Confidential = Less than three vessels or processors participated in fishery.

Table 2-34.-Bering Sea commercial hair crab fishery economic performance data, 1979-2004.

Year	GHL[a]	Value		Season	
		Ex-vessel[b]	Total[c]	Days	Dates
1979		$0.54	$.003	257	04/19-12/31
1980		$0.75	$0.04	244	01/01-08/30
1980/81		$0.80	$1.7	242	11/01-06/30
1981/82		$0.55	$0.5	288	11/01-08/15
1982/83		$0.65	$0.7	297	10/08-08/01
1983/84		$1.20	$0.5	335	08/01-06/30
1984		$1.60	$0.6	184	07/01-12/31
1985		$1.60	$0.1	365	01/01-12/31
1986		$1.15	$0.2	365	01/01-12/31
1987		CONFIDENTIAL		365	01/01-12/31
1988-90		NO LANDINGS		365	01/01-12/31
1991		$3.08	$1.2	365	01/01-12/31
1992		$2.25	$0.5	32	01/01-06/04
1992		$2.46	$2.8	156	10/01-11/01
1993		NA	NA	45	04/01-05/15
1993/94	3.0	$2.42	$5.3	171	11/01-04/20
1994	1.1	$3.55	$4.0	41	11/01-12/12
1995	1.8	$2.87	$5.7	25	11/01-11/26
1996	0.9	$2.65	$1.9	31	11/01-12/02
1997	0.8	$2.97	$1.9	25	11/01-11/25
1998	0.4	$2.70	$0.8	16	10/08-10/23
1999	0.3	$3.20	$0.7	37	10/30-12/07
2000	0.3	$3.84	$0.005	7	10/30-11/05
2001-2004		FISHERY CLOSED			

[a] Guideline harvest level, millions of pounds.

[b] Average price per pound.

[c] Millions of dollars.

NA = Not available.

Table 2-35.-Bering Sea commercial octopus incidental harvest in groundfish fisheries, 1995-2004.

Year	Number of		Harvest[b]	
	Vessels	Landings[a]	Total[c]	Landed
1995[d]	30	76	17,730	11,967
1996	38	104	27,226	5,337
1997	27	47	12,232	6,997
1998	30	48	9,542	3,855
1999	7	8	6,961	376
2000	50	128	39,944	16,303
2001	62	163	50,947	8,982
2002	70	185	56,179	39,466
2003	78	237	122,423	94,462
2004	91	190	86,757	61,230

[a] All landings incidental to other fisheries.
[b] Numbers from state groundfish fish tickets (Neptune database), in pounds.
[c] Discards at sea included.
[d] The 1995 directed fishery data is confidential, and is not included in this table.

Table 2-36.-Bering Sea commercial snail catch data, 1992 - 2004.

Year	Number of Vessels	Number of Landings	Number of Pots Registered	Number of Pots Pulled	Harvest[a,b]	CPUE[c]	Pounds Per Pot[d]	Deadloss[b]
1992				CONFIDENTIAL				
1993	4	10	13,800	44,686	312,876	25	7	NA
1994	4	42	14,850	279,349	2,027,328	21	7.3	62,571
1995	4	38	18,800	262,096	2,352,825	28	9	22,371
1996	5	67	31,300	741,326	3,572,992	16	4.8	62,494
1997	3	17	14,500	191,893	932,048	16	4.9	77,131
1998-2004				NO LANDINGS				

[a] Deadloss included.

[b] In pounds.

[c] Number of snails per pot pull.

[d] Whole weight.

NA = Not applicable.

Confidential = Less than three vessels or processors participated in fishery.

Table 2-37.-Bering Sea commercial snail fishery economic performance data, 1992-2004.

Year	Harvest[a]	Number of Vessels	Number of Landings	Value Exvessel[b]	Value Total
1992			CONFIDENTIAL		
1993	312,876	4	10	$0.40	$125,150
1994	1,964,757	4	42	$0.34	$668,017
1995	2,330,454	4	38	$0.30	$699,136
1996	3,510,498	5	67	$0.30	$1,053,149
1997	854,917	3	17	$0.36	$307,770
1998-2004			NO LANDINGS		

[a] In pounds.

[b] Average price per pound.

Confidential = Less than three vessels or processors participated in fishery.

Table 2-38.-North Peninsula District commercial Dungeness crab fishery data, 1992-2004.

Year	Number of Vessels	Number of Crabs[a]	Number of Pots Lifted	Harvest[a,b]	Average Weight[b]	Average CPUE[c]	Value Exvessel[d]	Value Total[e]	Deadloss[b]
1992			NO LANDINGS						
1993	2		CONFIDENTIAL						
1994	2		CONFIDENTIAL						
1995	6	63,732	34,499	134,407	2.1	4	$1.32	$0.18	367
1996	1		CONFIDENTIAL						
1997	2		CONFIDENTIAL						
1998	1		CONFIDENTIAL						
1999			NO LANDINGS						
2000	1		CONFIDENTIAL						
2001			NO LANDINGS						
2002	3		CONFIDENTIAL						
2003			NO LANDINGS						
2004	1		CONFIDENTIAL						

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crabs per pot pull.

[d] Average price per pound.

[e] Millions of dollars.

Confidential = Less than three vessels or processors participated in fishery.

Table 2-39.-The 2003-2005 Community Development Quota (CDQ) Program percent allocation by fishery to each participating CDQ group.

Fishery	Group[a]					
	APICDA	BBEDC	CBSFA	CVRF	NSEDC	YDFDA
Bristol Bay Red King Crab	17	19	10	18	18	18
Pribilof Red & Blue King Crab	0	0	100	0	0	0
St. Mathew Blue King Crab	50	12	0	12	14	12
Norton Sound Red King Crab	0	0	0	0	50	50
Bering Sea Tanner Crab	10	19	19	17	18	17
Bering Sea Snow Crab	8	20	20	17	18	17

[a] APICDA (Aleutian Pribilof Island Community Development Association).
BBEDC (Bristol Bay Economic Development Corporation).
CBSFA (Central Bering Sea Fishermen's Association).
CVRF (Coastal Villages Region Fund).
NSEDC (Norton Sound Economic Development Corporation).
YDFDA (Yukon Delta Fisheries Development Association).

Table 2-40.-The 1998-2004 Community Development Quota (CDQ) Program crab fisheries statistics.

Fishery	Allocation[a]	Number of Vessels	Number of Landings	Number of Crabs[ab]	Harvest[a,b]	Deadloss[a]
			Bristol Bay Red King Crab			
1998	525,115		Confidential			
1999	580,641		Confidential			
2000	610,265		Confidential			
2001	617,623		Confidential			
2002	714,239		Confidential			
2003	1,167,040	13	20	174,907	1,166,662	2,197
2004	1,135,326	12	21	166,829	1,133,013	2,549
			Pribilof Red King Crab			
1998	35,958 [d]		Confidential			
1999			Fishery Closed			
2000			Fishery Closed			
2001			Fishery Closed			
2002			Fishery Closed			
2003			Fishery Closed			
2004			Fishery Closed			
			Pribilof Blue King Crab			
1998	35,958 [d]		Confidential			
1999			Fishery Closed			
2000			Fishery Closed			
2001			Fishery Closed			
2002			Fishery Closed			
2003			Fishery Closed			
2004			Fishery Closed			
			St. Matthew Blue King Crab			
1998	99,512		Confidential			
1999			Fishery Closed			
2000			Fishery Closed			
2001			Fishery Closed			
2002			Fishery Closed			
2003			Fishery Closed			
2004			Fishery Closed			
			Bering Sea Snow Crab			
1998	8,886,634	20	86	6,975,242	8,846,977	134,898
1999	9,674,326	23	104	7,747,876	9,670,084	92,871
2000	2,518,760		Confidential			
2001	1,878,070		Confidential			
2002	2,458,565	11	33	1,873,443	2,399,289	73,130
2003	2,120,637	10	29	1,747,935	2,118,899	18,378
2004	1,782,081	10	25	1,338,077	1,772,222	24,199
			Bering Sea Tanner Crab			
1998			Fishery Closed			
1999			Fishery Closed			
2000			Fishery Closed			
2001			Fishery Closed			
2002			Fishery Closed			
2003			Fishery Closed			
2004			Fishery Closed			

[a] In pounds.

[b] Deadloss included.

[c] Number of legal crabs per pot pull.

[d] Fishery was executed with an overall quota for both Pribilof red and blue king crab, harvest was tracked by species.

Table 2-41.-The 1998 - 2004 crab Community Development Quota (CDQ) Program economic overview.

Fishery	Harvest[ab]	Exvessel Value[c]	Fishery Value[d]	Average Weight[a]	Pots Registered	Pots Lifted
			Bristol Bay Red King Crab			
1998			Confidential			
1999			Confidential			
2000			Confidential			
2001			Confidential			
2002			Confidential			
2003	1,164,465	$ 4.67	$ 5,438,052	6.7	2,470	5,704
2004	1,130,464	$ 3.97	$ 4,487,942	6.8	2,258	5,359
			Pribilof Red King Crab			
1998			Confidential			
1999			Fishery Closed			
2000			Fishery Closed			
2001			Fishery Closed			
2002			Fishery Closed			
2003			Fishery Closed			
2004			Fishery Closed			
			Pribilof Blue King Crab			
1998			Confidential			
1999			Fishery Closed			
2000			Fishery Closed			
2001			Fishery Closed			
2002			Fishery Closed			
2003			Fishery Closed			
2004			Fishery Closed			
			St. Matthew Blue King Crab			
1998			Confidential			
1999			Fishery Closed			
2000			Fishery Closed			
2001			Fishery Closed			
2002			Fishery Closed			
2003			Fishery Closed			
2004			Fishery Closed			
			Bering Sea Snow Crab			
1998	8,712,079	$ 0.54	$ 4,704,523	1.3	4,016	39,575
1999	9,577,213	$ 0.85	$ 8,140,631	1.2	5,250	46,490
2000			Confidential			
2001			Confidential			
2002	2,326,159	$ 1.33	$ 3,093,791	1.3	2,100	18,786
2003	2,100,521	$ 1.80	$ 3,780,938	1.2	1,670	14,583
2004	1,748,023	$ 1.99	$ 3,478,566	1.3	1428	13,622
			Bering Sea Tanner Crab			
1998			Fishery Closed			
1999			Fishery Closed			
2000			Fishery Closed			
2001			Fishery Closed			
2002			Fishery Closed			
2003			Fishery Closed			
2004			Fishery Closed			

[a]In pounds.

[b]Deadloss not included.

[c]Average price per pound.

[d]CDQ group portion estimated at 20 to 30% of fishery value.

Table 2-42.-Pot Limits for Bering Sea king and Tanner crab Fisheries, 2004.

Fishery	GHL Range[a]	Number of Vessels	Pot Limits	
			= 125' [b]	> 125' [b]
Bering Sea District snow crab [c]	15 = or < 20	-	70	90
	20 = or < 25	-	100	120
	= 25	-	200	250
Eastern Aleutian District Tanner crab [d]	-	-	Total Allowable Pots 300	
St. Matthew Island Section king crab [e]	-	-	60	75
Pribilof District king crab [e]	-	-	40	50
Bristol Bay red king crab [f]	< 4.0	Fishery Closed		
	4.0 = to < 6.0	< 200	80	100
		200 to 250	60	75
		> 250	60	75
	6.0 = to < 9.0	< 200	120	150
		200 to 250	100	125
		> 250	100	125
	9.0 = to 12	< 200	200	250
		200 to 250	160	200
		> 250	160	200
	> 12	Any	200	250
Petrel Bank red king crab [c]	-	-	Total Allowable Pots 1,250	

[a] In millions of pounds. Does not include Community Development Quota pounds.
[b] Vessel Length Overall in feet.
[c] Multi-tier pot limits effective 2002.
[d] Total allowable pots divided into number of preseason registered vessels.
[e] Pot limits independent of number of registered vessels and GHL.
[f] Multi-tiered pot limits effective 1997.

Table 2-43.-Number of Bering Sea buoy tags printed and issued by fishery, 2004.

Fishery	Number of Tags Ordered[a]	Tag Sets Issued		Total Sets	Tags Issued		Tags Replaced	Total Tags
		= 125'[b]	> 125'[b]		= 125'[b]	> 125'[b]		
South Peninsula grooved Tanner crab	Surplus Tags	NO FISHING EFFORT						
Pribilof red and blue king crab	Tags in Storage	FISHERY CLOSED						
Pribilof red and blue king crab CDQ[c]	-	FISHERY CLOSED						
Pribilof golden king crab	Surplus Tags	4	1	5	160	50	6	216
St. Matthew blue king crab	Tags in Storage	FISHERY CLOSED						
St. Matthew blue king crab CDQ[c]	-	FISHERY CLOSED						
Bristol Bay red king crab	65,000	177	74	251	31,866	17,640	17	49,523
Bristol Bay red king crab CDQ[c]	Surplus Tags	6	6	12	1,055	1,203	0	2,258
Bering Sea snow crab	Surplus Tags	126	65	191	8,820	5,850	4	14,674
Bering Sea snow crab CDQ[c]	Surplus Tags	7	3	10	883	545	0	1,428
Eastern Aleutian District Tanner	Surplus Tags	15	1	16	180	12	5	197
Total	65,000	335	150	485	42,964	25,300	32	68,296

[a] Tags ordered in sets of 200, then separated for each fishery pot limit.

[b] Vessel Length Overall in feet.

[c] Community Development Quota.

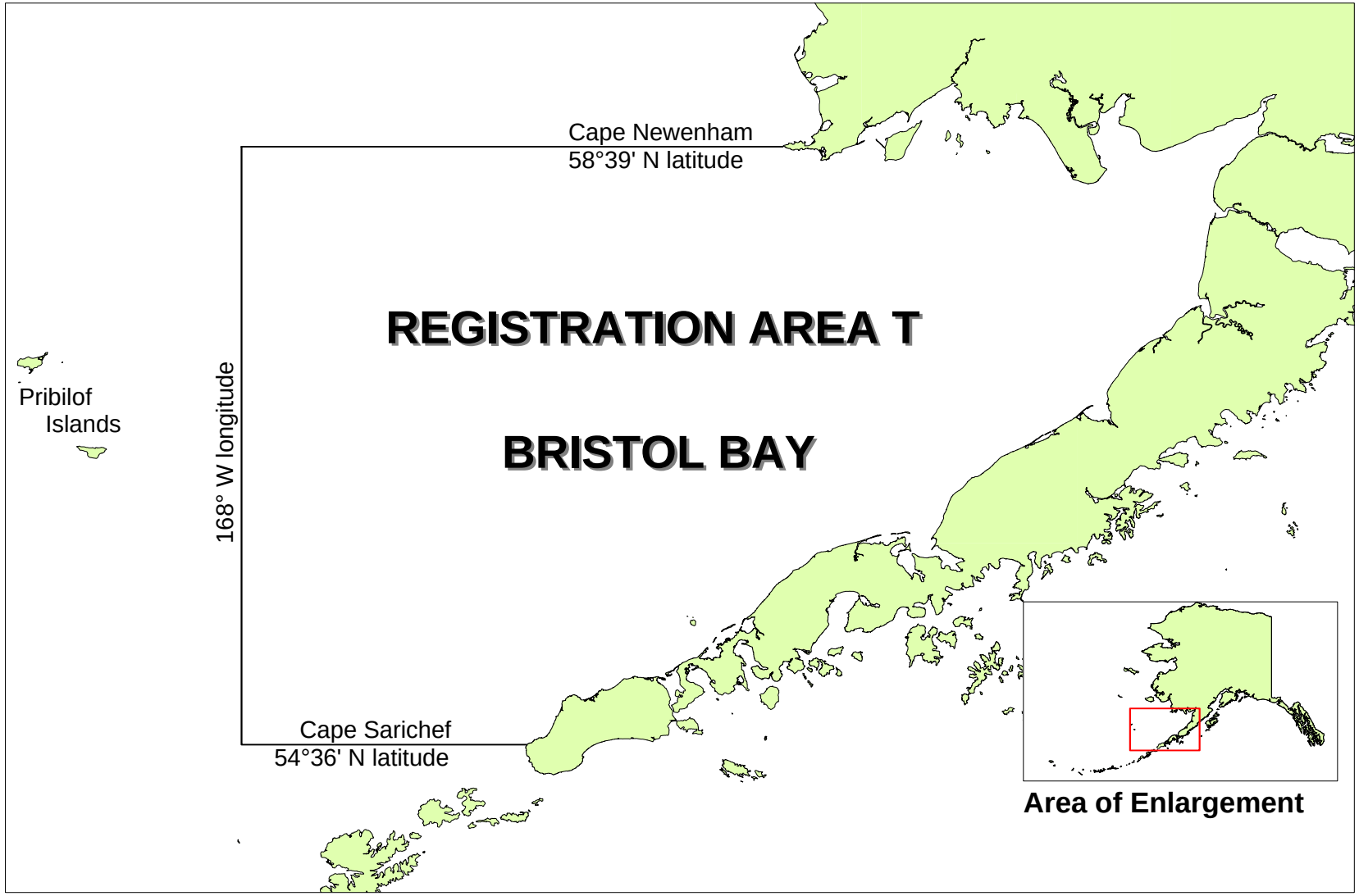

Figure 2-1.-King crab Registration Area T (Bristol Bay).

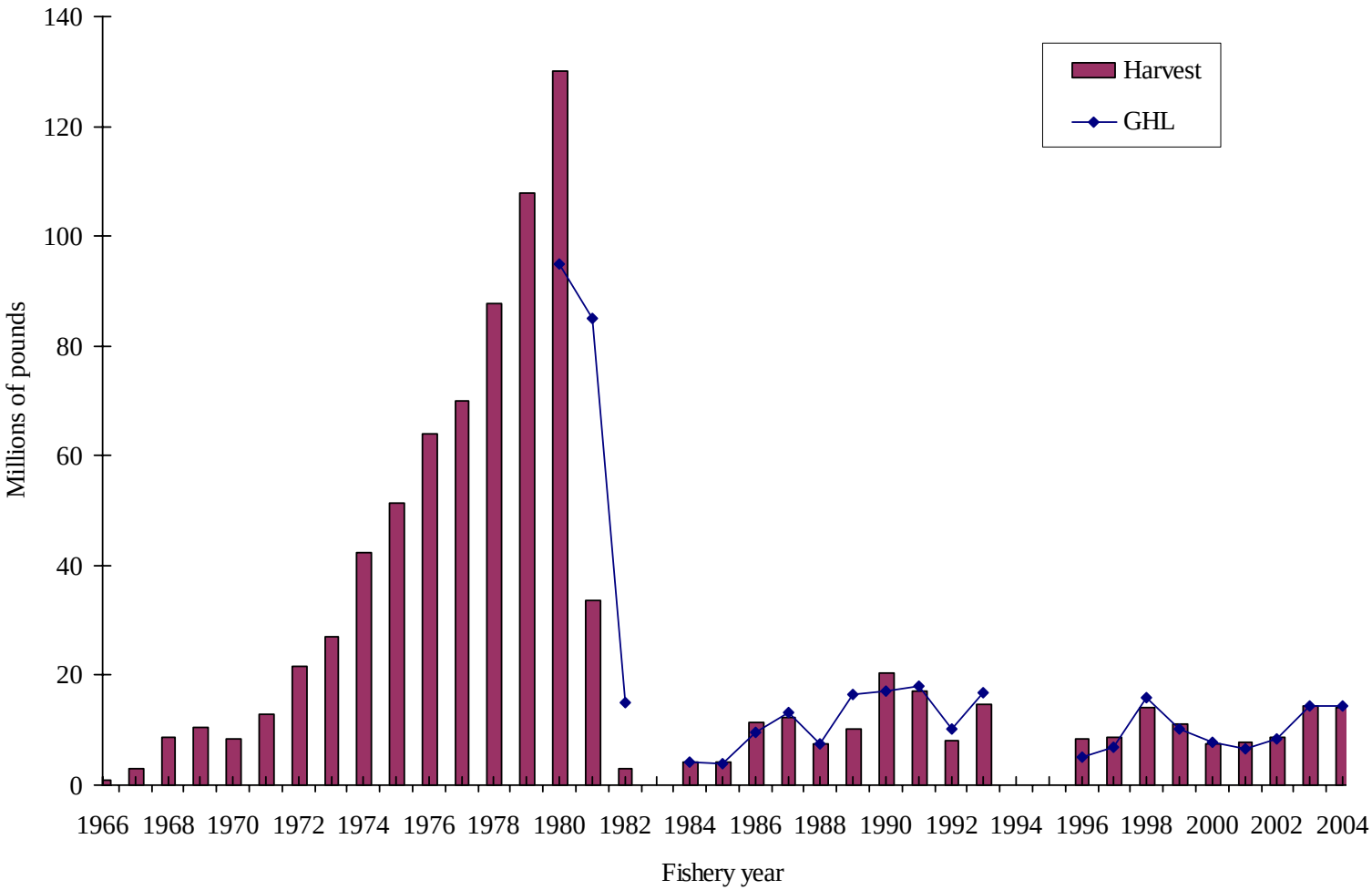

Figure 2-2.-Bristol Bay commercial red king crab fishery harvest and guideline harvest levels, 1966-2004.

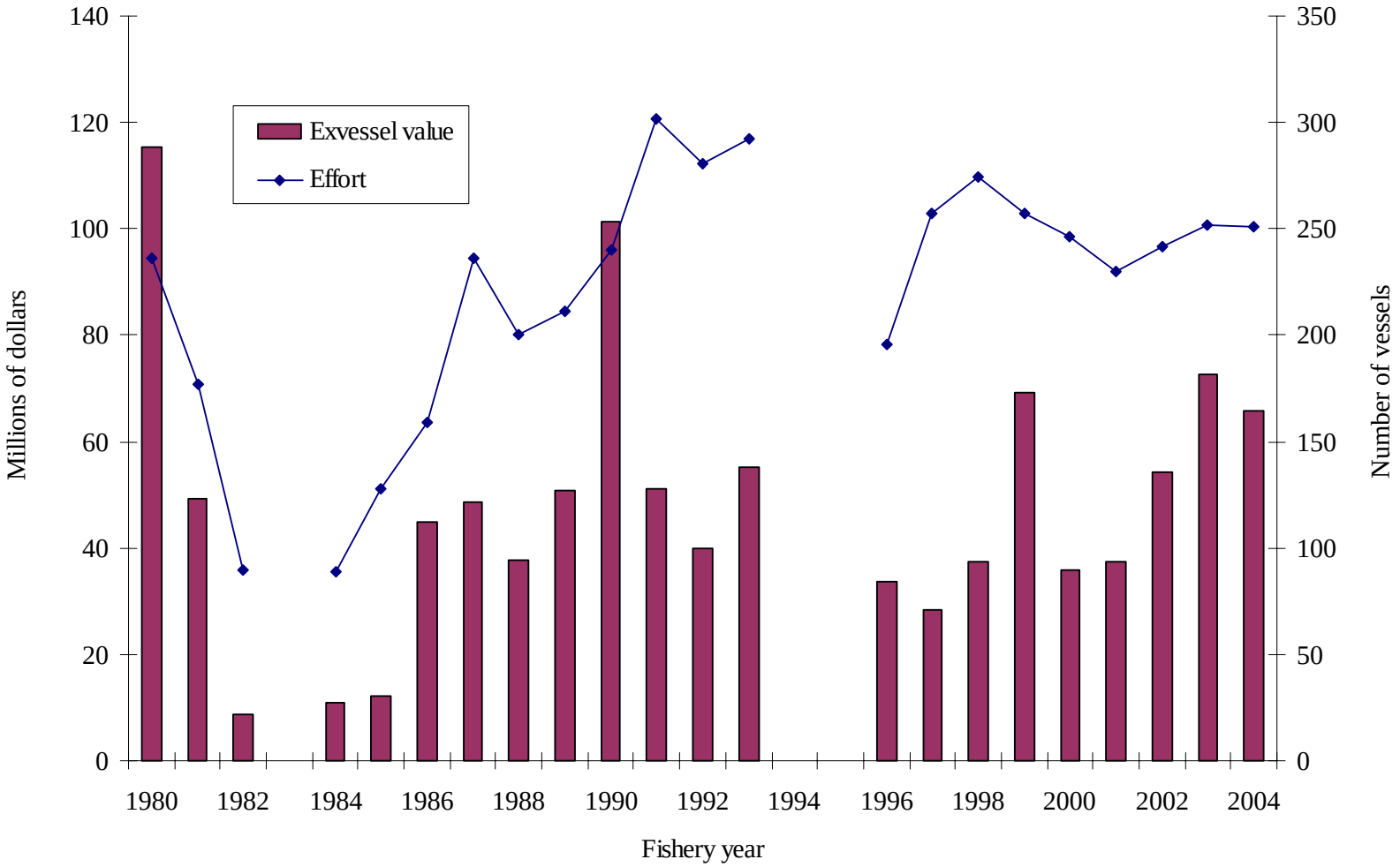

Figure 2-3.-Bristol Bay commercial red king crab fishery effort and ex-vessel value, 1980-2004.

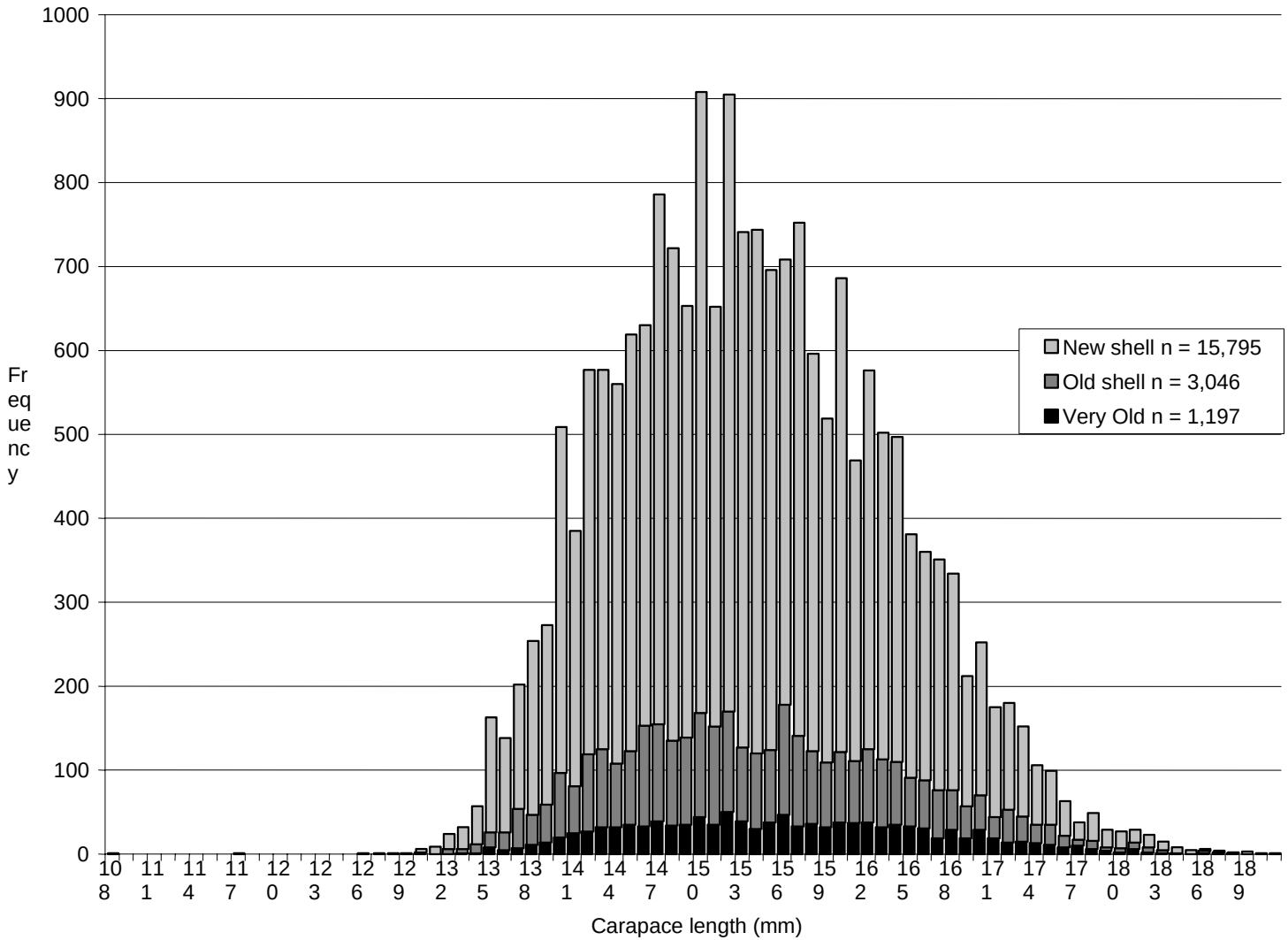

Figure 2-4.-Carapace length and shell condition of Bristol Bay red king crabs harvested during the 2004 general fishery.

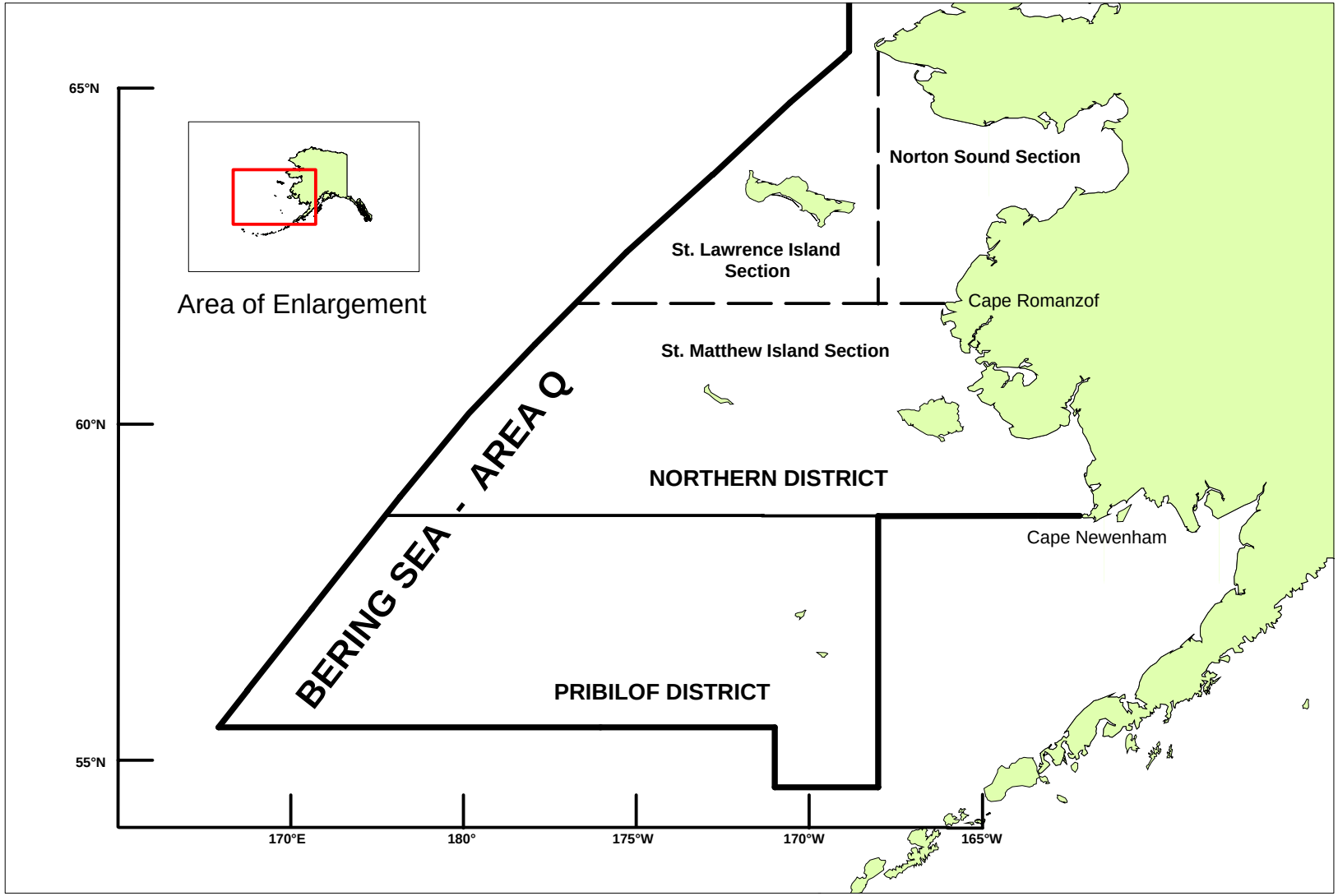

Figure 2-5.-King crab Registration Area Q (Bering Sea).

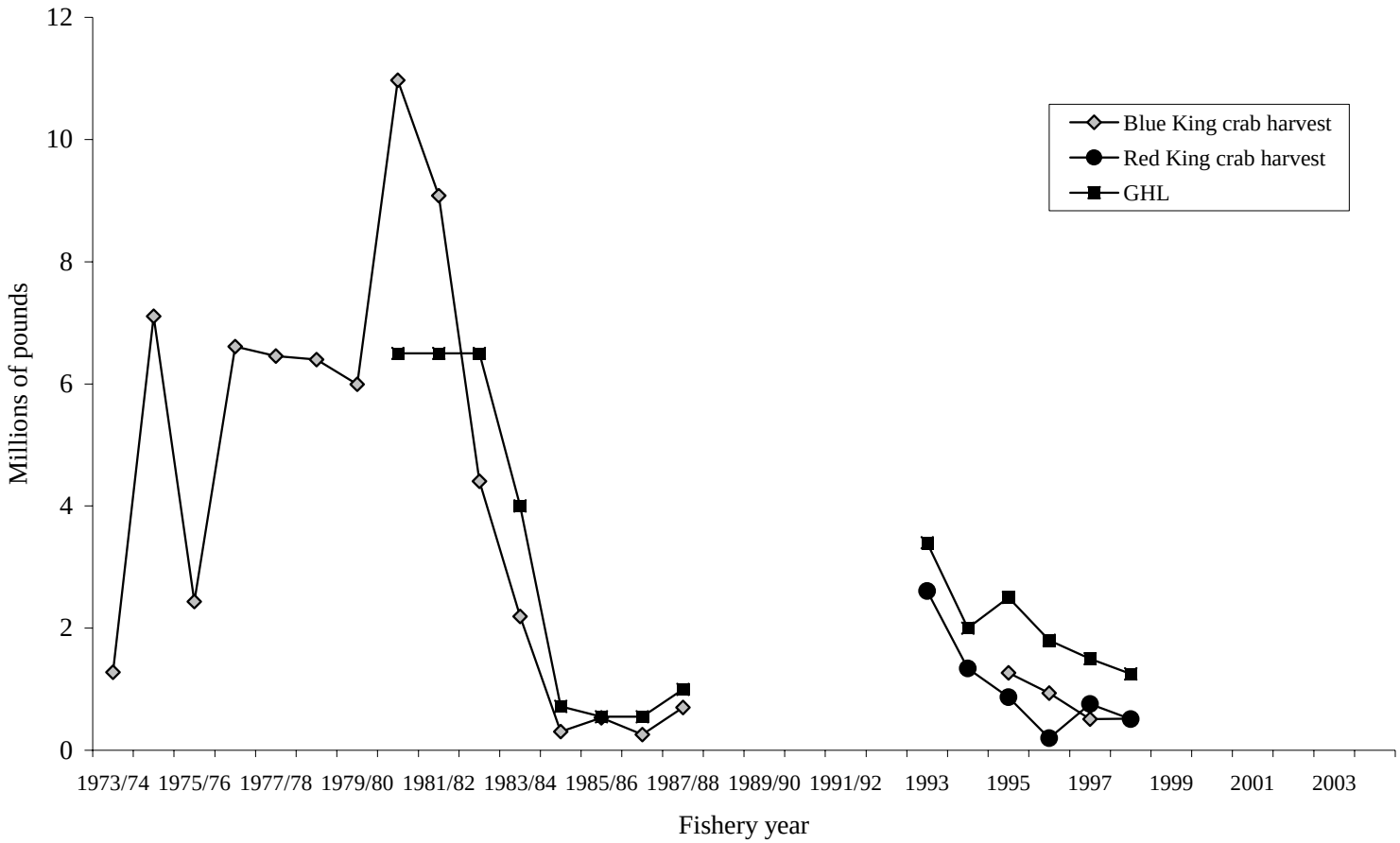

Figure 2-6.-Pribilof District red and blue king crab harvest and guideline harvest level (GHL) 1973/74 - 2004. GHL for red and blue king crab is combined from 1995 to 1998. Fishery closed beginning 1999.

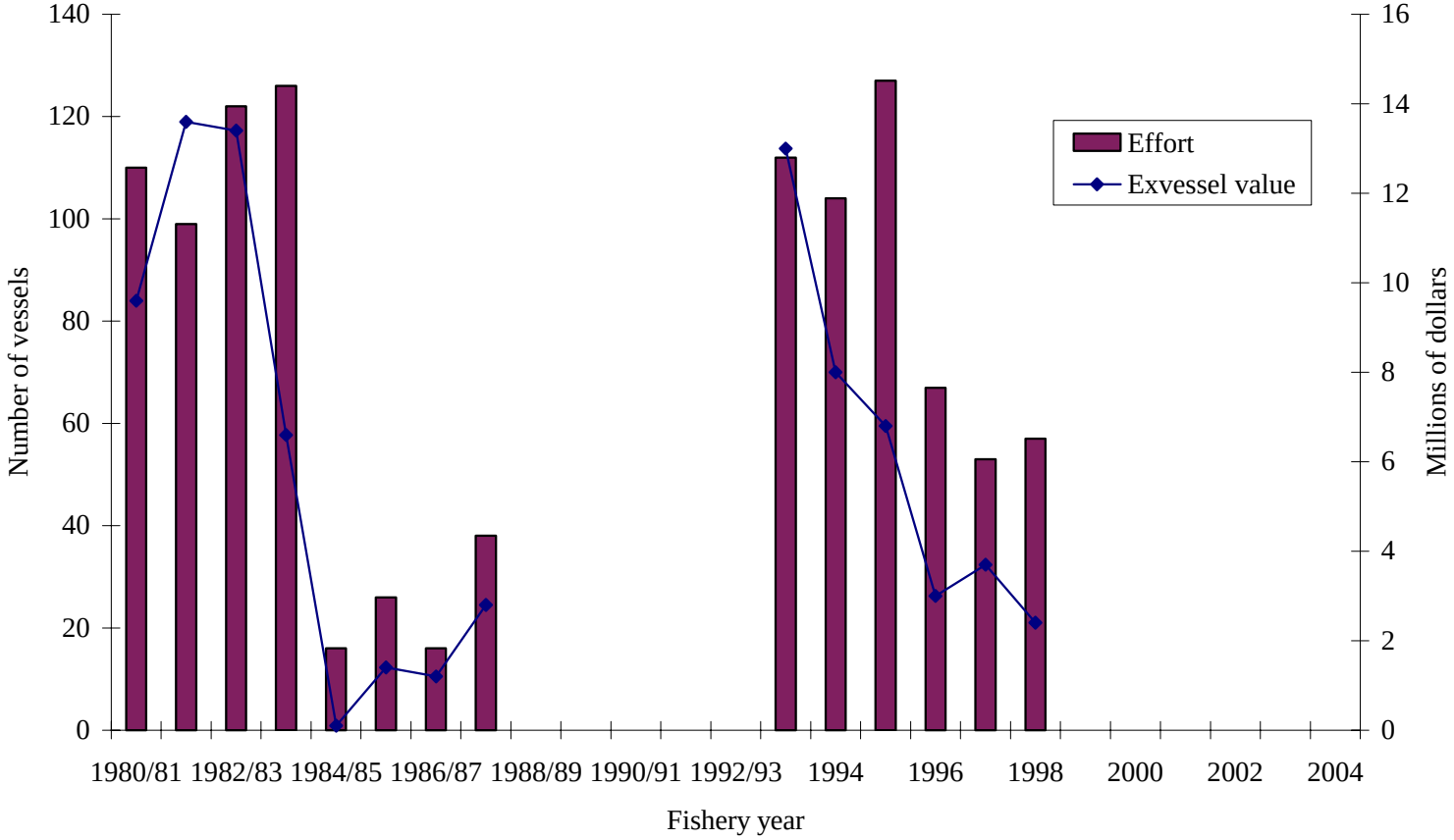

Figure 2-7.-Pribilof District commercial red and blue king crab fishery effort and exvessel value, 1980/81 - 2004. Fishery closed beginning 1999.

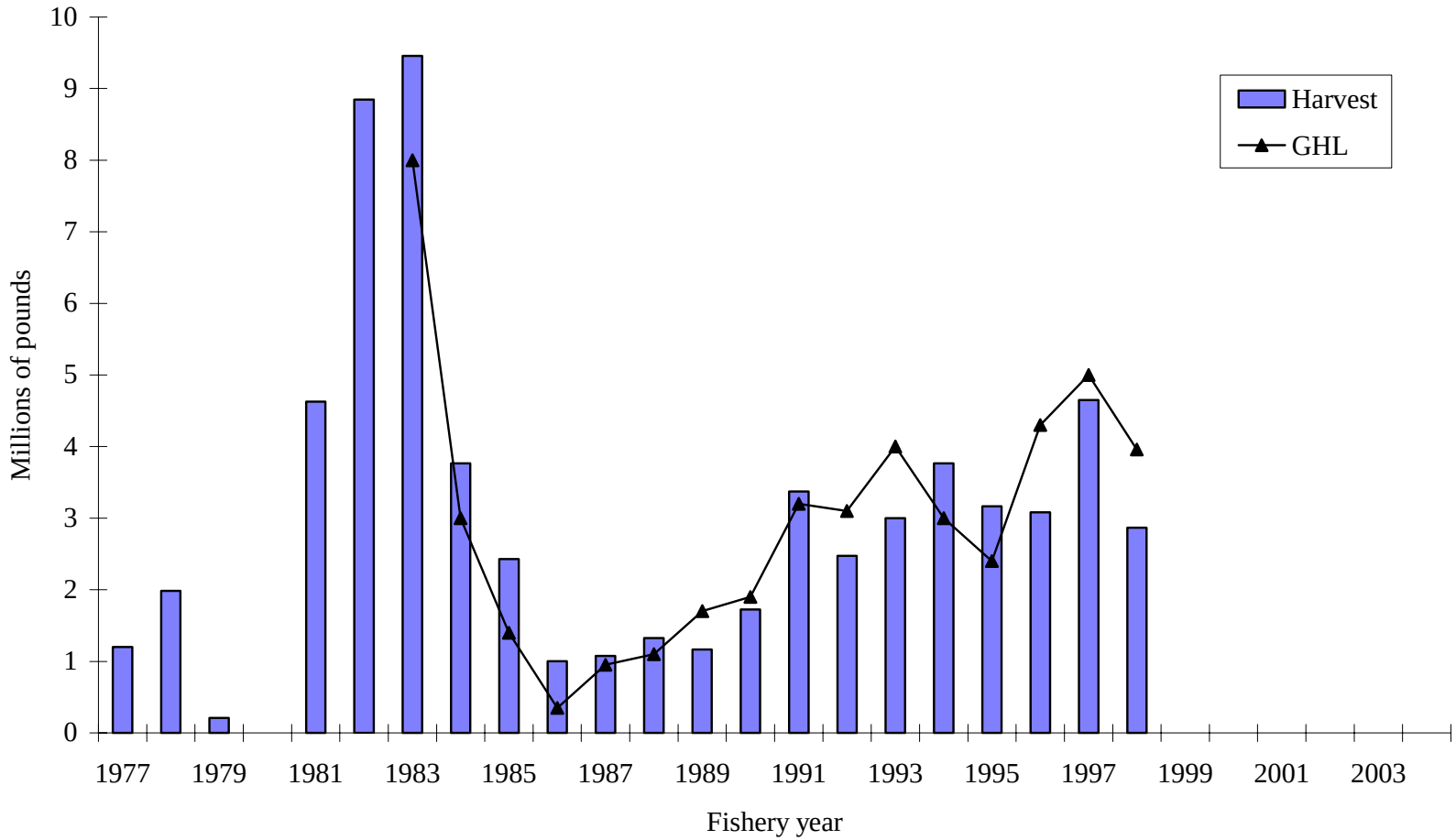

Figure 2-8.-Saint Matthew Island Section commercial blue king crab fishery harvest and guideline harvest level, 1977 - 2004. Fishery closed beginning 1999.

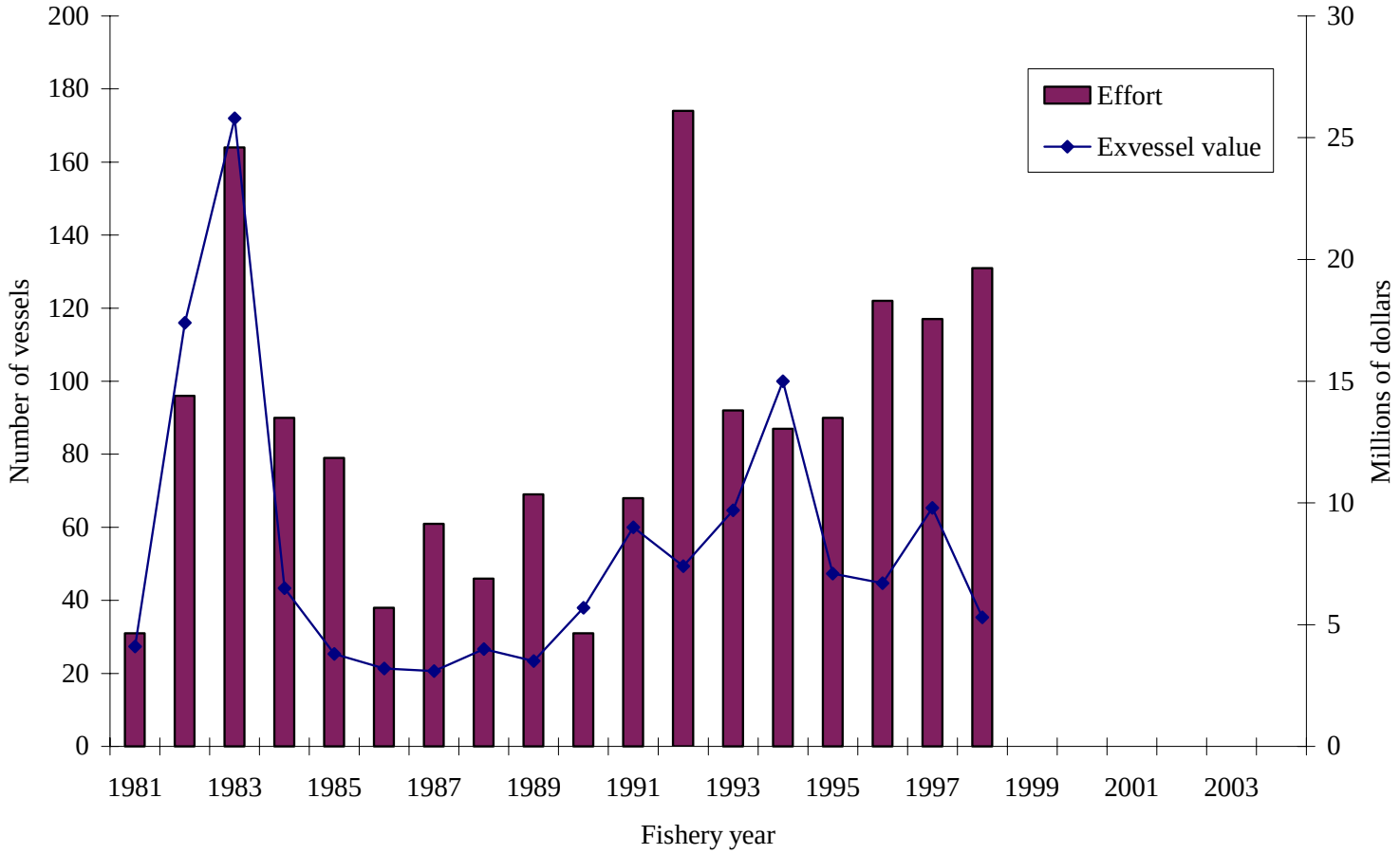

Figure 2-9.-Saint Matthew Island Section commercial blue king crab fishery effort and exvessel value, 1981-2004. Fishery closed beginning 1999.

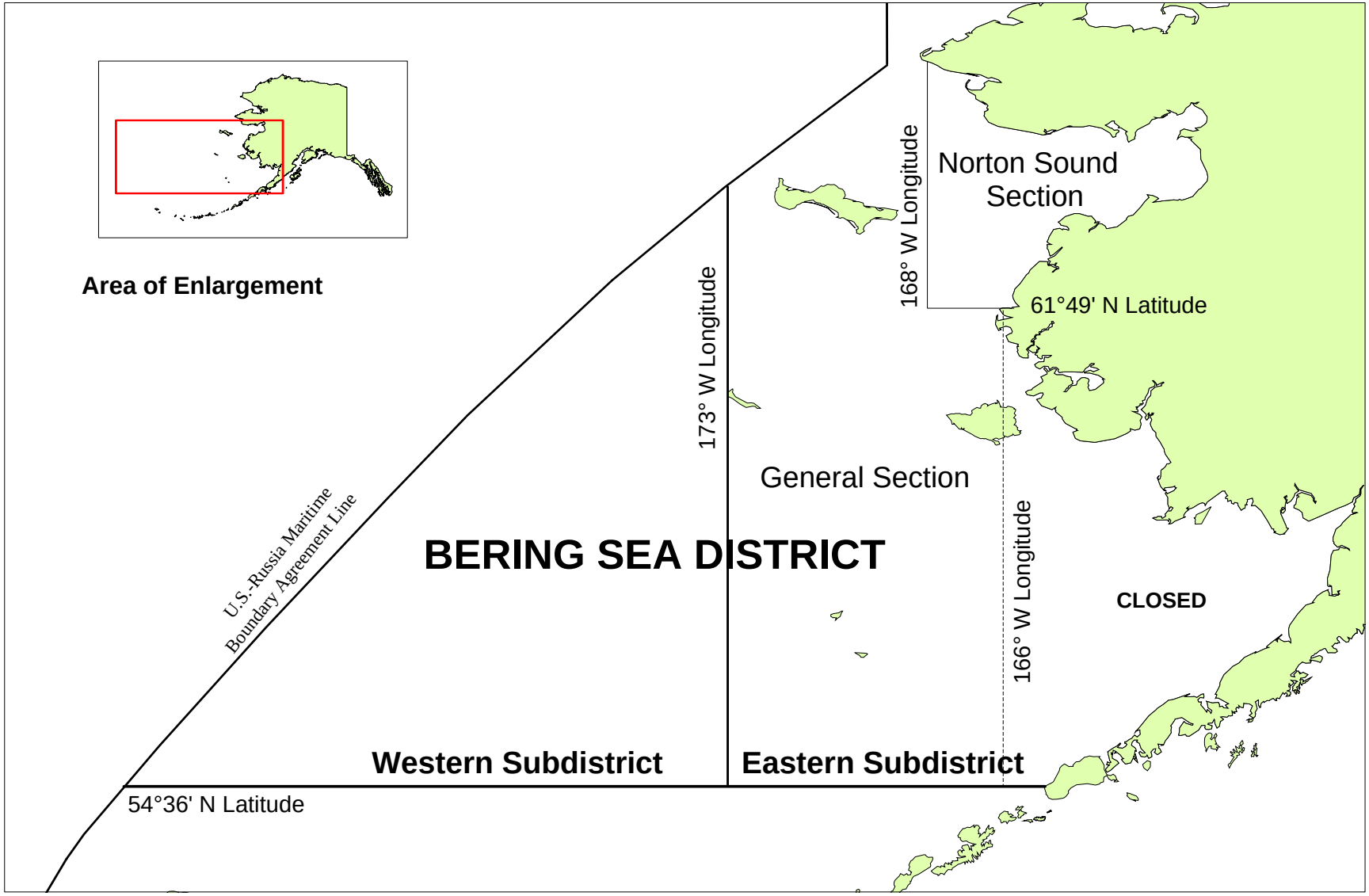

Figure 2-10.-Bering Sea District of Tanner crab Registration Area J including subdistricts and sections.

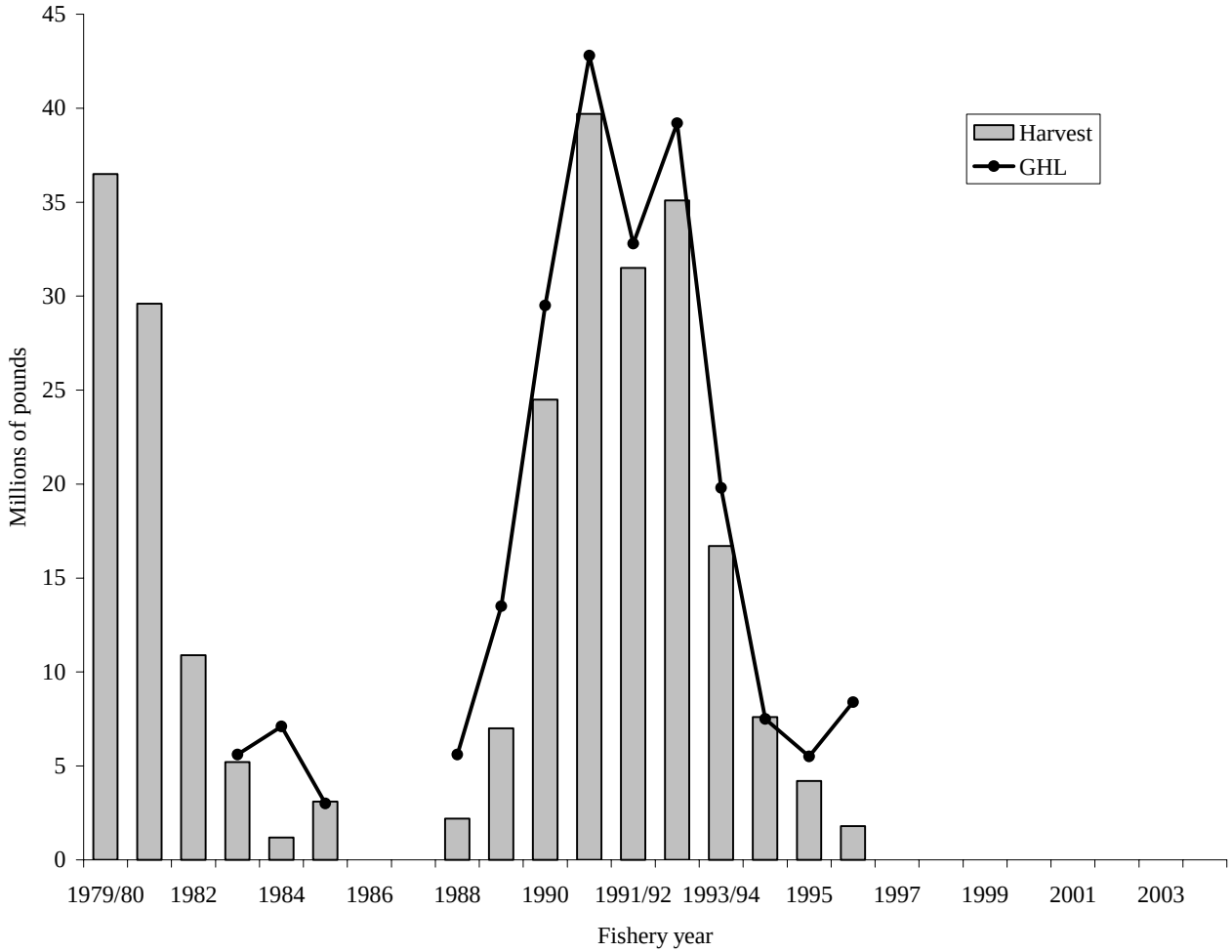

Figure 2-11.-Bering Sea District commercial Tanner crab harvest and guideline harvest levels, 1979/80-2004. Fishery closed beginning 1997.

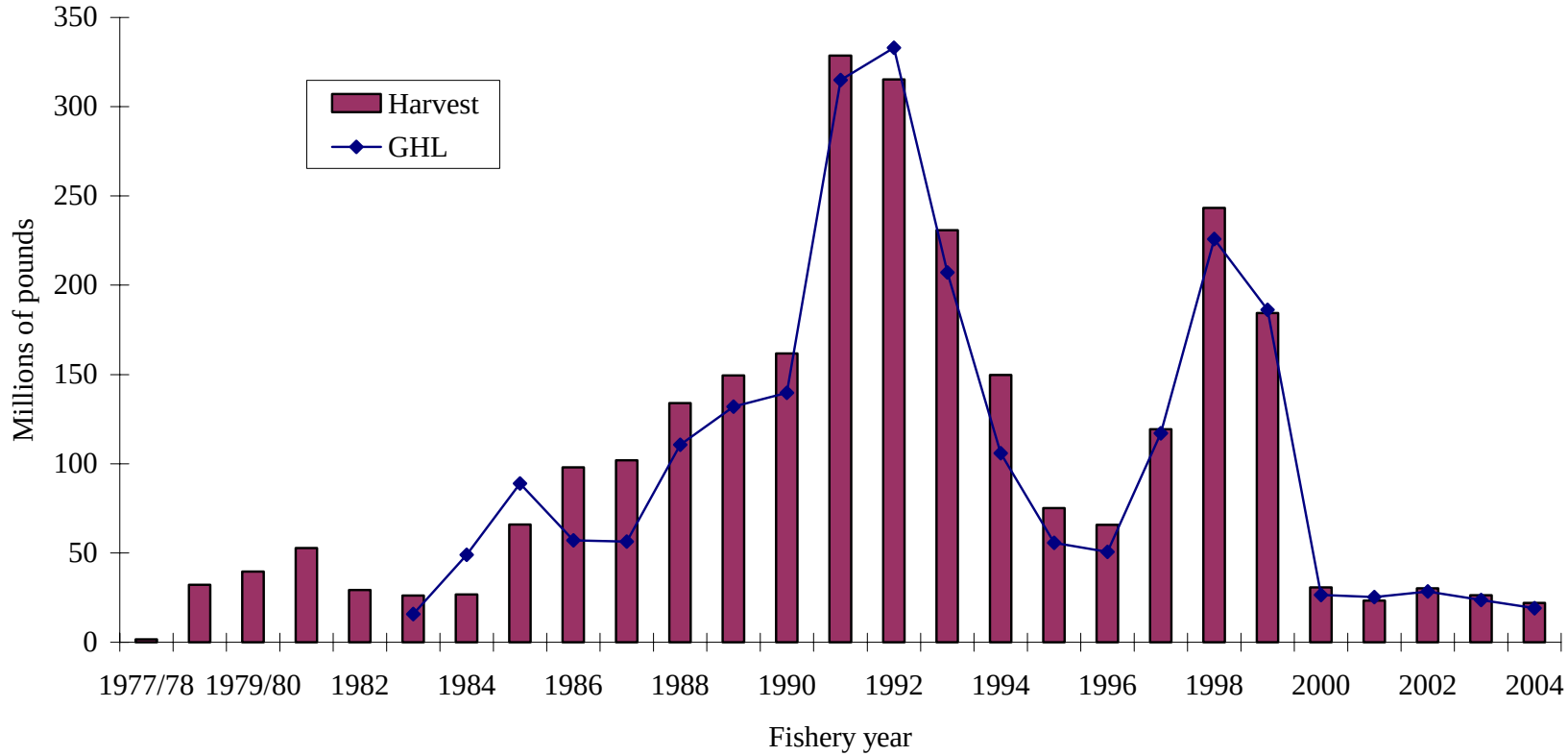

Figure 2-12.-Bering Sea District commercial snow crab fishery harvest and guideline harvest level, 1977/78-2004.

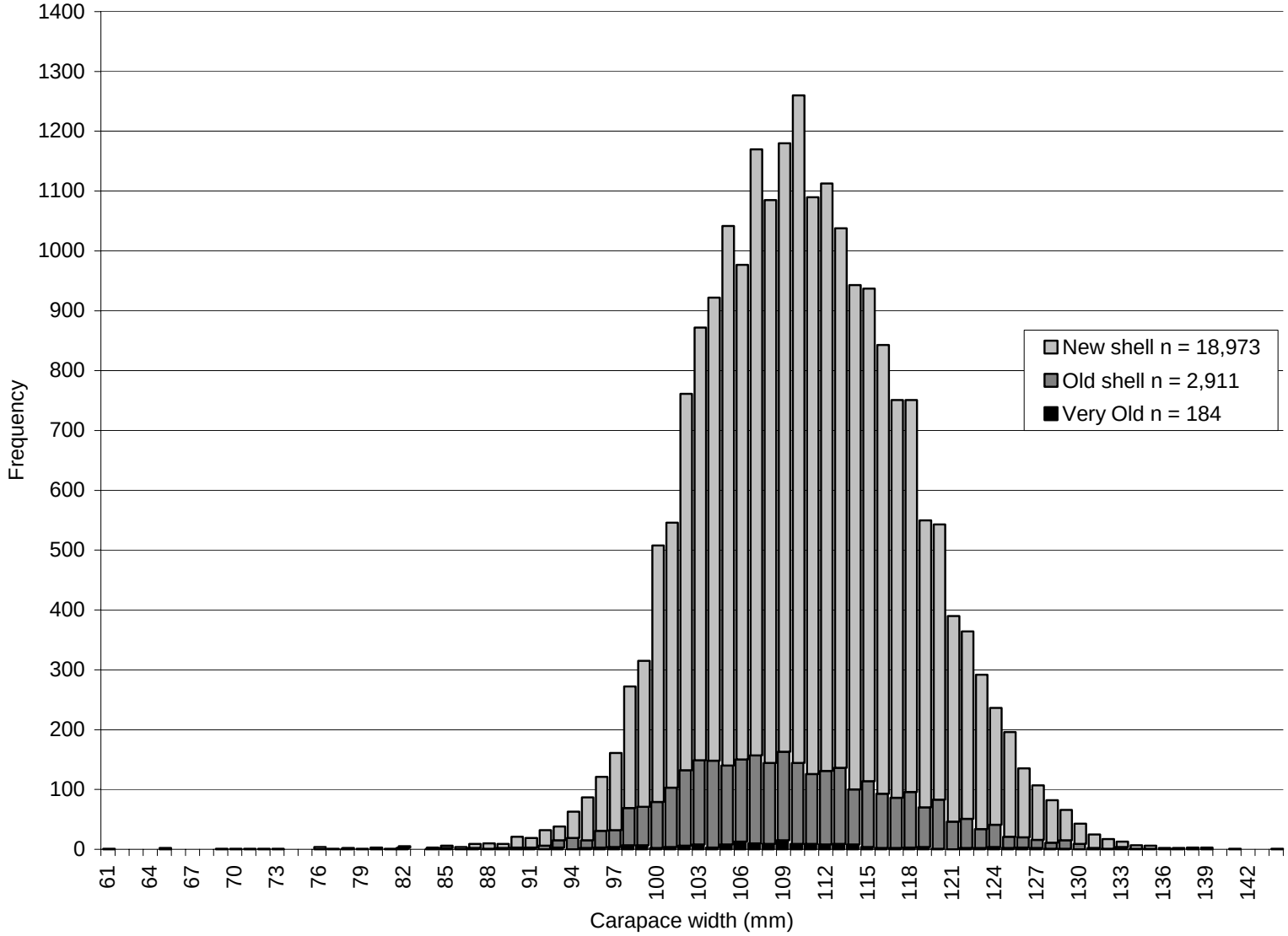

Figure 2-13.-Carapace width and shell condition from the 2004 Bering Sea snow crab general fishery.

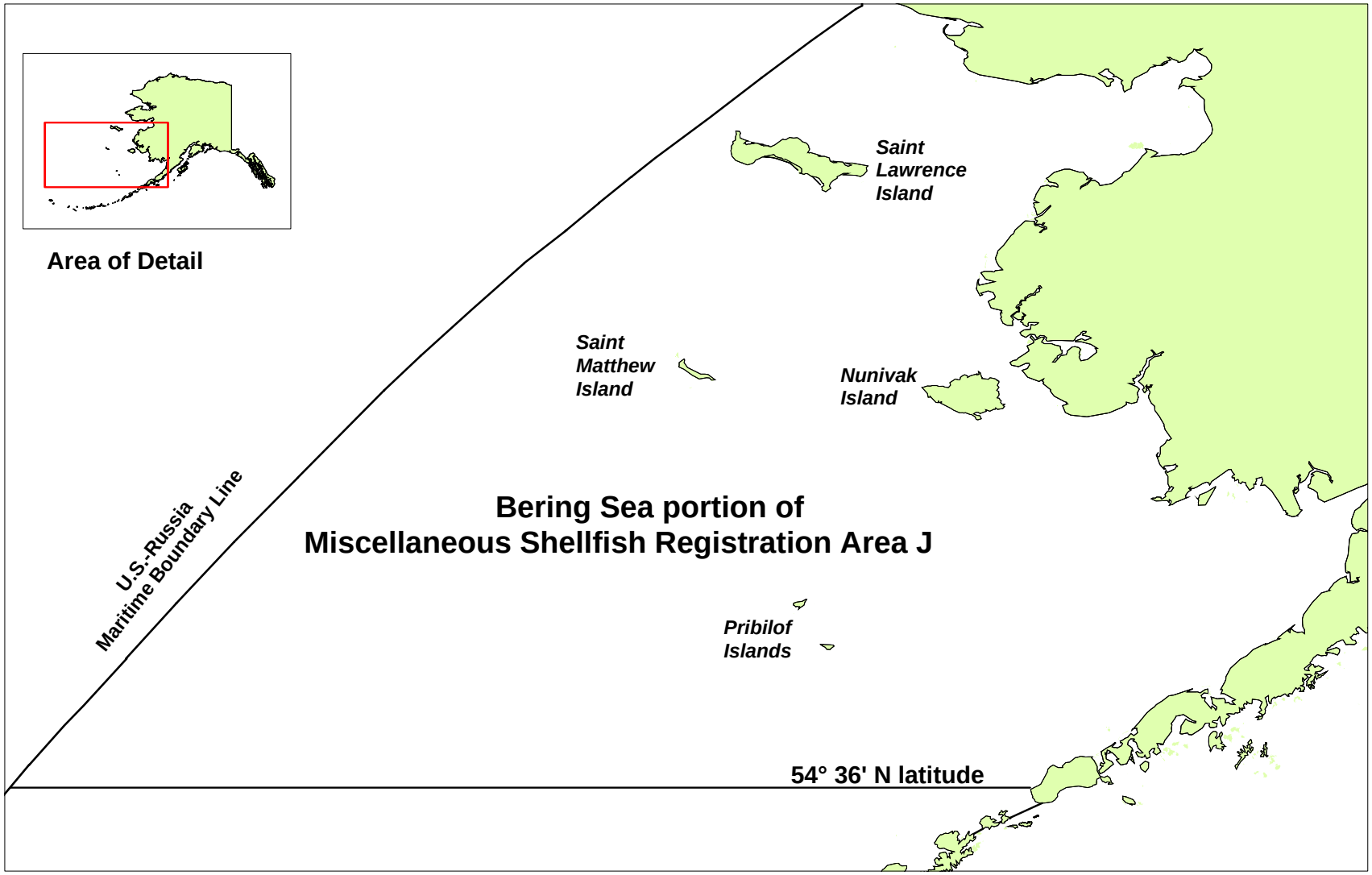

Figure 2-14.-Bering Sea portion of miscellaneous shellfish Registration Area J.

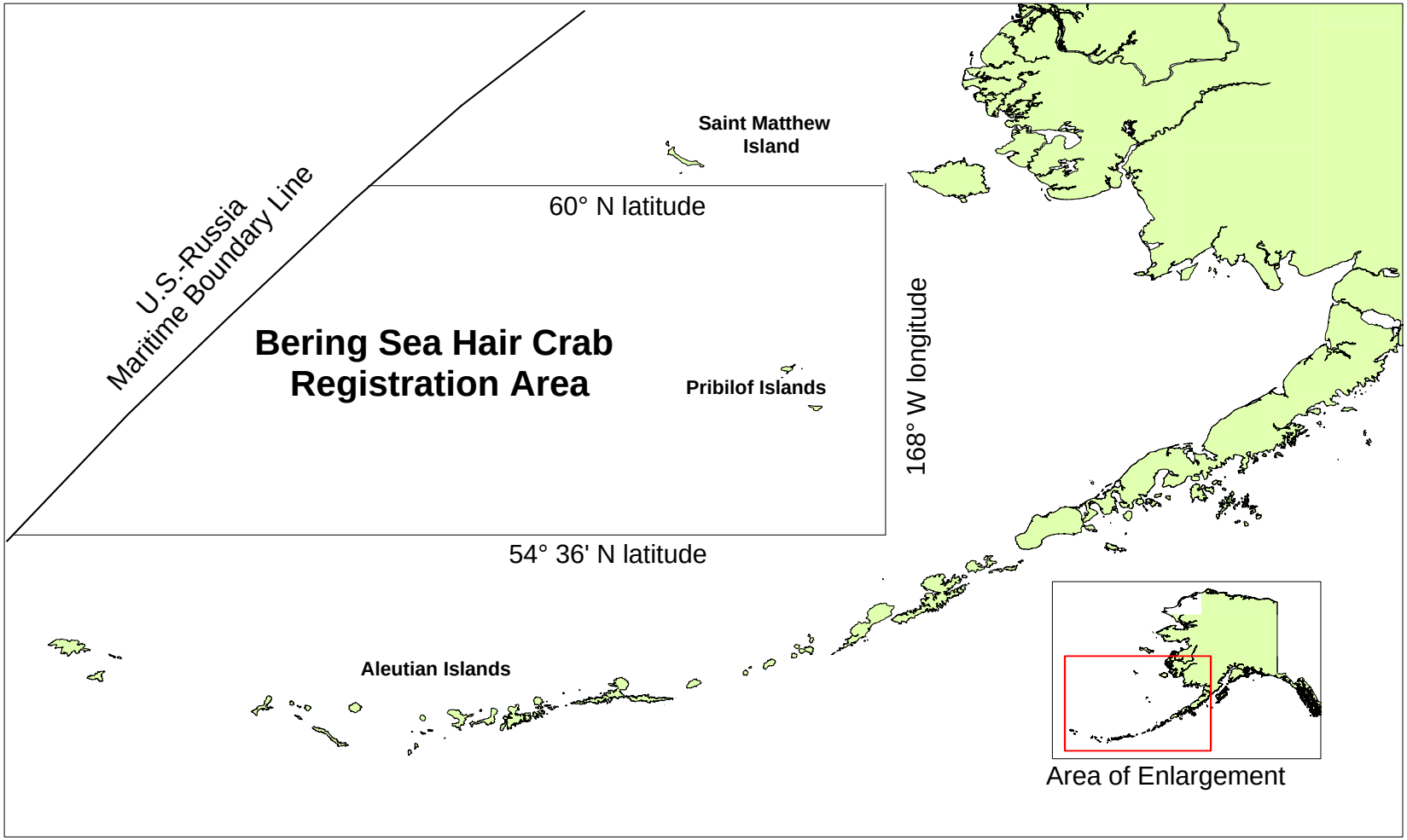

Figure 2-15.-Bering Sea hair crab fishing area of miscellaneous shellfish Registration Area J.

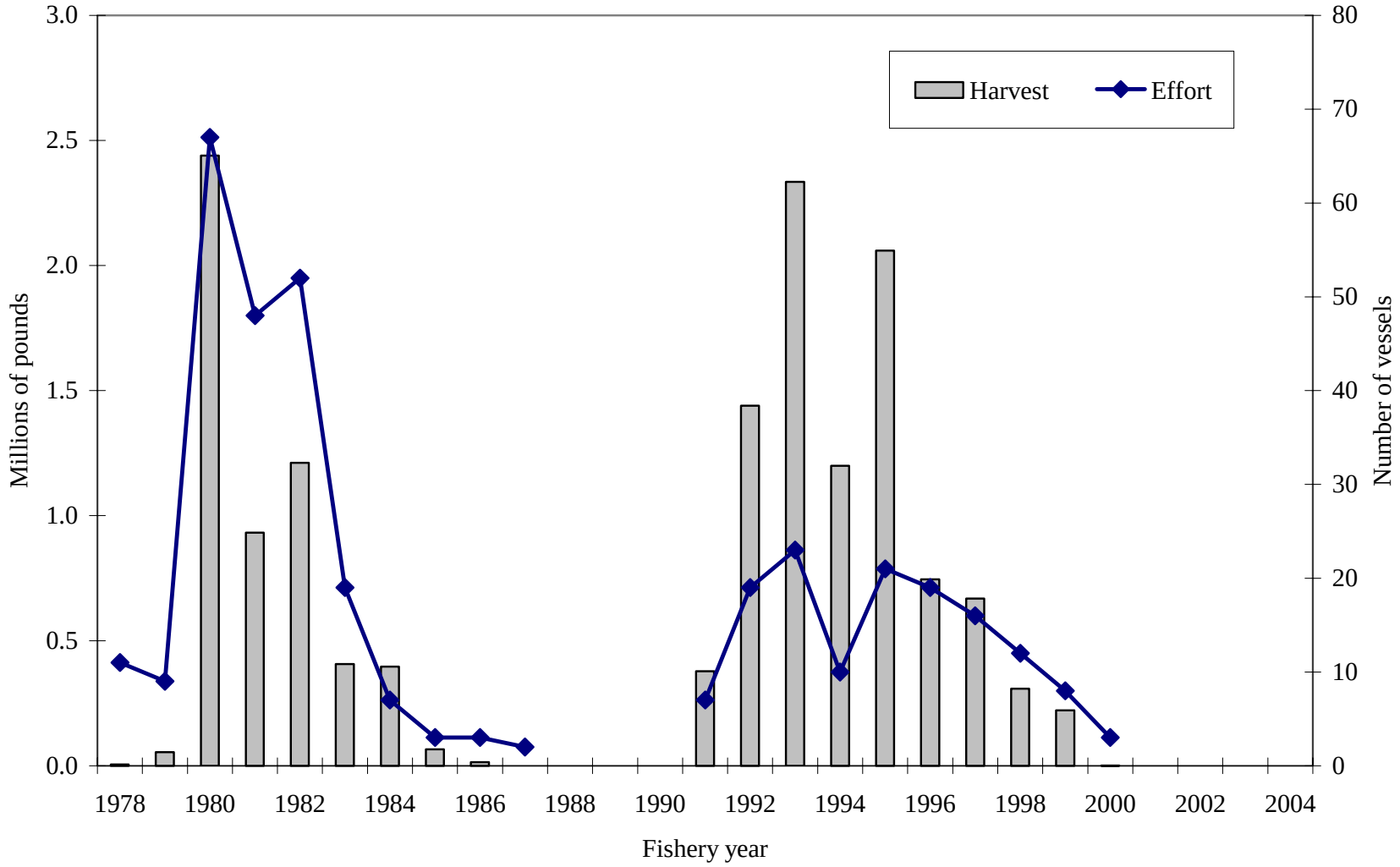

Figure 2-16.-Bering Sea commercial hair crab fishery harvest and effort, 1978-2004.

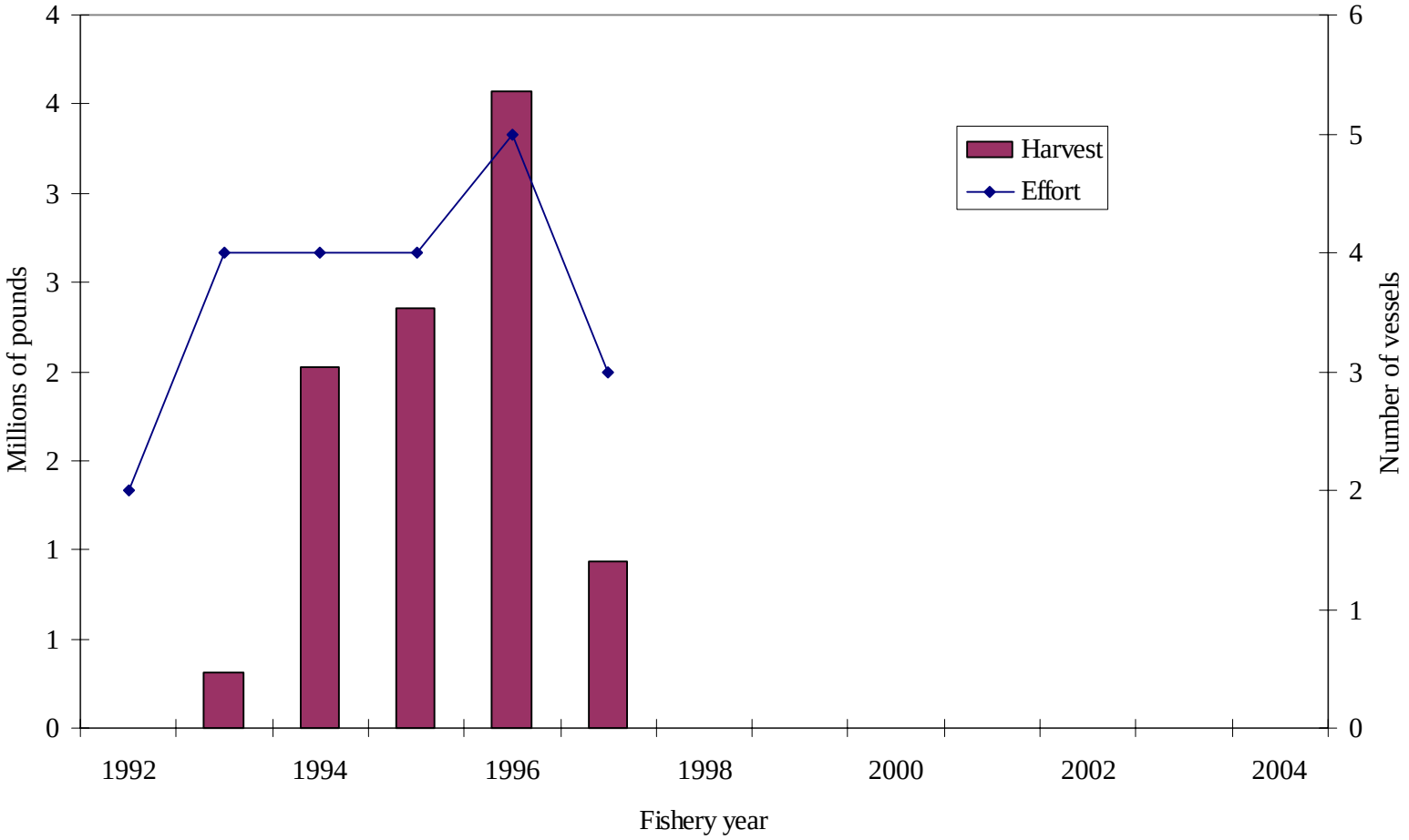

Figure 2-17.-Bering Sea commercial snail fishery harvest and effort, 1992 - 2004.

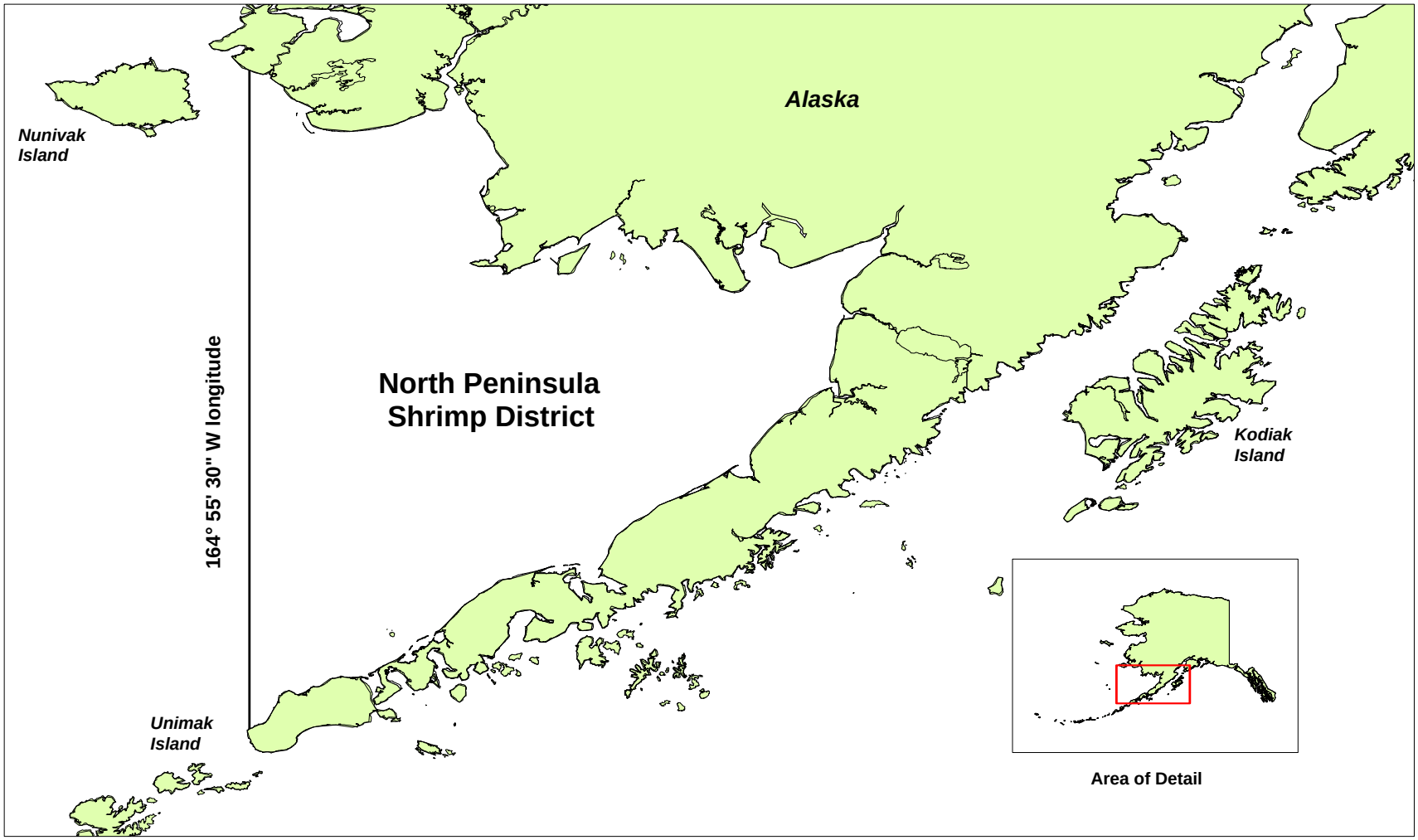

Figure 2-18.-North Peninsula District of shrimp Registration Area J.

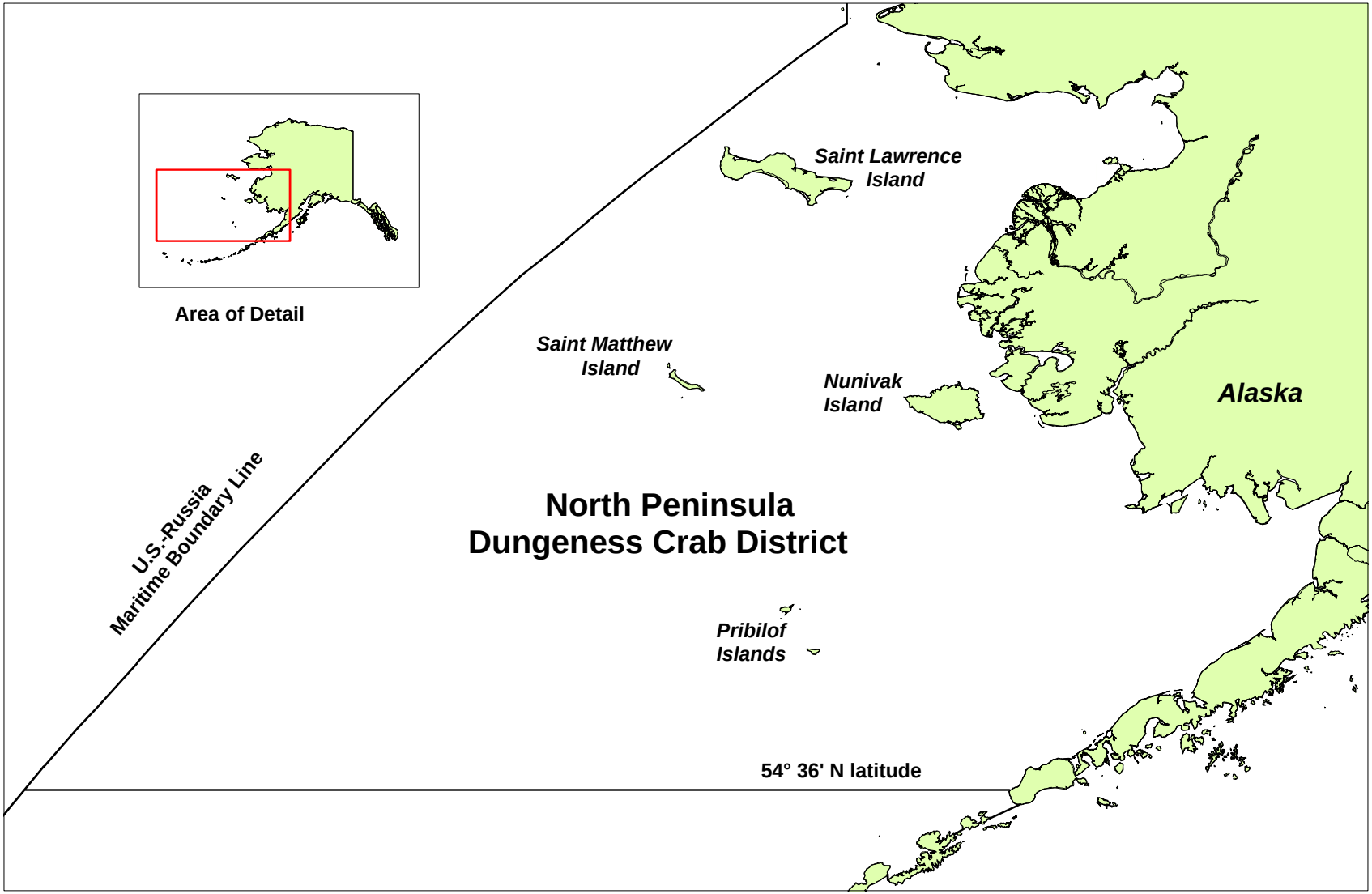

Figure 2-19.-North Peninsula District of Dungeness crab Registration Area J.

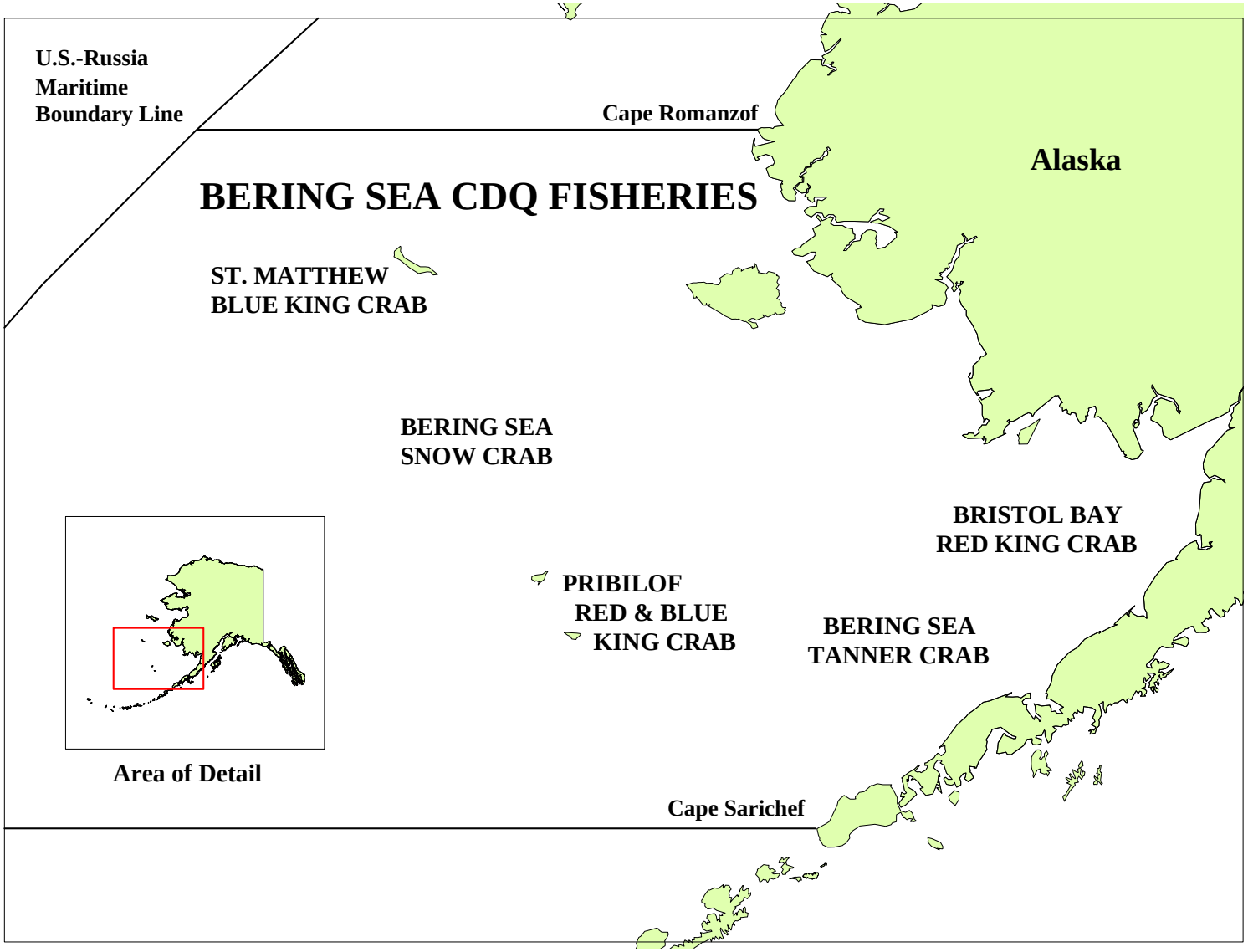

Figure 2-20.-Bering Sea Community Development Quota Program crab fisheries managed by the Westward Region.

ANNUAL REPORT OF THE ONBOARD OBSERVER PROGRAM FOR THE WESTWARD REGION CRAB AND STATEWIDE SCALLOP FISHERIES

by
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INTRODUCTION

Onboard observer data collection and fishery monitoring is an integral component of fisheries management. The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) of 1996 states in Findings (8) "The collection of reliable data is essential to the effective conservation, management, and scientific understanding of the fishery resources of the United States" (U.S. Department of Commerce 1996).

The State of Alaska Shellfish Onboard Observer Program has evolved to help meet the MSFCMA National Standards. The Alaska Department of Fish and Game (ADF&G) commercial shellfish fishing regulation 5 AAC 39.645. SHELLFISH ONBOARD OBSERVER PROGRAM, states that onboard observers afford the only practical mechanism of gathering essential biological and management data in particular fisheries, and provide the only effective means to enforce regulations that protect the shellfish resource.

This report summarizes the activities of the ADF&G crab and scallop observer programs for calendar year 2004. Observer deployment activities in all observer-monitored crab fisheries are outlined for the 2004 fisheries, with the addition of the 2003/2004 Aleutian Islands golden king crab fishery. Statewide scallop observer deployment activities are summarized for the 2004/2005 regulatory season.

HISTORY OF SHELLFISH OBSERVER PROGRAMS

CRAB OBSERVER PROGRAM

In April 1988, the Alaska Board of Fisheries (BOF) adopted regulations requiring observers on all vessels that process king crabs *Paralithodes* and *Lithodes*, and Tanner crabs *Chionoecetes bairdi* within waters under the jurisdiction of the state. The observer requirement was prompted by historic catch information collected by ADF&G, which suggested illegal processing of undersized and female crabs by catcher-processors (C/Ps) in the Bering Sea and Aleutian Islands (BSAI) fisheries. These regulations resulted in the creation of the Shellfish Onboard Observer Program. At inception, the primary program goals were to monitor compliance of sex and size regulations of retained crabs, and collect data for inseason management of BSAI fisheries. The cost of providing onboard observers is borne by the at-sea processors. The first observer deployments occurred in September 1988 during the Bristol Bay red king crab *P. camtschaticus* fishery.

In the spring of 1990, the BOF broadened observer coverage to include vessels processing snow crabs *C. opilio.* This change was considered necessary based on reports of undersized Tanner crabs being processed and labeled as snow crabs. The BOF also defined observer qualification standards and observer duties and responsibilities. In the fall of 1991, the BOF adopted observer certification and decertification standards.

In 1993, the department required vessels to carry shellfish observers as a condition of the permit for fishing hair crabs *Erimacrus isenbeckii* in the Bering Sea. BOF regulations implemented in 1994 allow the department to require, as a condition of the commissioner's permit, 100% observer coverage on vessels targeting grooved Tanner crabs *C. tanneri*, triangle Tanner crabs *C. angulatus*, scarlet king crabs *Lithodes couesi*, and cherry crabs *Paralomis multispinus*. Management and research of these fisheries rely almost completely on observer-collected data to

determine the impacts of fishing activities. Beginning in 1995, shellfish observers were required on all vessels fishing for king crabs in the Aleutian Islands Registration Area.

An Amendment to the MSFCMA provided for the development and implementation of a Community Development Quota (CDQ) program for specific crab fisheries in the Bering Sea. The CDQ amendment was incorporated into the existing state-managed shellfish fisheries in 1998. Six separate CDQ groups are designated for the Bering Sea: Bristol Bay Economic Development Corporation (BBEDC), Coastal Villages Region Fund (CVRF), Central Bering Sea Fishermen's Association (CBSFA), Yukon Delta Fisheries Development Association (YDFDA), Norton Sound Economic Development Corporation (NSEDC), and Aleutian Pribilof Island Community Development Association (APICDA). Crab fisheries included in the CDQ program are Bristol Bay red king crab, Norton Sound red king crab, St. Matthew blue king crab *P. platypus*, Pribilof red and blue king crab, and Bering Sea Tanner and snow crab. Observer coverage levels have varied since initiation of the CDQ program, but all participating groups must adhere to the observer requirements regardless of vessel type.

In 1998, Congress passed the American Fisheries Act (AFA), which gave eligible walleye pollock *Theragra chalcogramma* fishers exclusive fishing privileges in the Bering Sea walleye pollock fishery. To protect the interests of fishers not directly benefited by the AFA, sideboards were established for AFA boats qualified to participate in specific Bering Sea crab and statewide scallop fisheries. Partial observer coverage levels are required for the AFA catcher-vessel fleet.

The number of C/Ps participating in various BSAI fisheries has decreased since the inception of the observer program, therefore reducing the number of deployed observers. Consequently, observer data no longer provided a representative sample of the fleet's activities in a particular fishery, thus hampering the department's ability to adequately monitor harvests and bycatch information. Therefore in 1999, the BOF granted ADF&G full authority and responsibility for deploying observers on any vessel participating in BSAI crab fisheries. The BOF also established a 15-member Crab Observer Oversight Task Force (COOTF) comprised of crab industry representatives to provide program recommendations to ADF&G. In addition to the pay-as-you-go funding mechanism, where vessels secure and pay for observer coverage, the BOF endorsed funding for additional observer deployments through ADF&G cost-recovery fishing (Boyle and Schwenzfeier 2000). The test-fish funded portion of the program was initiated July 1, 2000.

With a rapid increase in observer participation on catcher-only vessels (C/Vs), observer training and logistic efforts could not meet industry demands. Therefore, in 2002, in an effort to address observer shortages, the BOF relaxed conflict of interest standards by increasing an observer's time on any one vessel in 12 consecutive months from 90 days to 120 days in particular fisheries. Additionally, as an effort to retain observers in spite of shorter fishing seasons, trainee permits may be extended to 365 days for crab observers and 270 days for scallop observers so that a trainee may gain the experience needed to obtain full certification.

SCALLOP OBSERVER PROGRAM

From the inception of the fishery in 1967 through mid May 1993, the scallop fishery was passively managed employing minimal management measures. Closed waters and seasons were established to protect crabs and crab habitat. As catches declined in one bed, vessels moved to better grounds. While this may have been generally acceptable for a sporadic low intensity fishery, increased participation led to boom and bust cycles (Barnhart 2003).

In the early 1990s, the Alaska weathervane scallop fishery expanded rapidly with an influx of scallop boats from the East Coast of the United States. Concerns about bycatch (in particular crab bycatch) and overharvest of the scallop resource prompted the Commissioner of ADF&G, under 5 AAC 39.210, to designate the weathervane scallop fishery a high impact emerging fishery on May 21, 1993. This action required ADF&G to close the fishery and implement an interim management plan prior to reopening. The interim management plan contained provisions for king and Tanner crab bycatch limits for most areas within the Westward Region. Since then, crab bycatch limits have been established for the Kamishak District of the Cook Inlet Registration Area and the Prince William Sound Registration Area. The interim management plan included a provision for 100% onboard observer coverage to monitor crab bycatch and to collect biological and fishery-based data. The Commissioner adopted the regulations and reopened the fishery on June 17, 1993. In March 1994, the BOF adopted the interim regulations identified as the Alaska Scallop Fishery Management Plan, 5 AAC 38.076 (Barnhart, *In Press*).

Some Alaska weathervane scallop fishery participants formed a vessel cooperative program prior to the 2000/2001 regulatory season. Within this cooperative, vessel owners allocate vessel shares based primarily on fishing history. Some owners opted to remove their boats from the fishery and arranged for their coop shares to be caught by other vessels within the cooperative. Not all fishery participants are members of the cooperative.

The cooperative has led to fewer vessels in the fishery, so it is important that all remaining vessels have observer coverage in order to collect adequate data to manage the fishery and ascertain its impacts.

Onboard observer coverage is funded by industry through direct payments to independent contracting agents. Independent contracting agents provide the onboard observers who are trained at the University of Alaska North Pacific Fisheries Observer Training Center (OTC) in Anchorage, Alaska, and observer training costs are funded via a federal grant awarded annually to OTC.

In summary, under 5 AAC 38.076 (g) of the Alaska Scallop Fishery Management Plan “The department may require a vessel fishing in the scallop fishery to carry an observer unless the department determines that carrying an observer will not serve the purpose of the onboard observer program.” Carrying an observer does serve the purpose of the scallop program. Data collected from the scallop fishery are used to manage the fishery inseason, set guideline harvest ranges (GHRs) for the following seasons, monitor crab bycatch and ensure established crab bycatch caps are not exceeded, provide for regulatory enforcement, and answer a host of questions about catch composition, bycatch, habitat, and the health of the scallop resource. These data are necessary to achieve the requirements set out in the Magnuson-Stevens Act and the Federal Fisheries Management Plan for the Scallop Fishery off Alaska including the sustained yield of the shellfish resource without overfishing. In most areas of the state, the department does not conduct scallop stock assessment surveys, so observer-collected data are even more vital to the management of the resource. In areas where fishery independent assessment surveys do occur, fishery data provides another perspective on the health of the stock.

SHELLFISH OBSERVER PROGRAM REGULATIONS AND GUIDELINES

Shellfish Observer Program guidelines were originally defined by the BOF in 1988. Current guidelines defining the responsibilities of each group (ADF&G, observer companies, observers and vessels) involved in the observer program can be found in the Alaska Statutes Title 16, AS 16.05.050 POWERS AND DUTIES OF THE COMMISSIONER, AS 16.05.055 ON-BOARD OBSERVER PROGRAM, AS 16.05.251 REGULATIONS OF THE BOARD OF FISHERIES, Alaska Administrative Code, 5 AAC 39.141 ONBOARD OBSERVER PROGRAM, 5 AAC 39.142 CONFLICT OF INTEREST STANDARDS FOR ONBOARD OBSERVERS AND INDEPENDENT CONTRACTING AGENTS, 5 AAC 39.143 ONBOARD OBSERVER CERTIFICATION AND DECERTIFICATION, 5 AAC 39.144 ONBOARD OBSERVER INDEPENDENT CONTRACTING AGENT CERTIFICATION AND DECERTIFICATION, 5 AAC 39.146 ONBOARD OBSERVER BRIEFING AND DEBRIEFING, 5 AAC 39.645 SHELLFISH ONBOARD OBSERVER PROGRAM, and 5 AAC 39.646 SHELLFISH ONBOARD OBSERVER TRAINEE PROGRAM QUALIFICATIONS AND REQUIREMENTS.

ALASKA DEPARTMENT OF FISH AND GAME RESPONSIBILITIES

The Alaska Department of Fish and Game is responsible for establishing policies and procedures for certification and decertification of contracting agents and observers. To promote data consistency and reliability, ADF&G developed observer training standards and sampling methodology and protocols. Department personnel continue to develop the program with a progressive outlook towards future data integrity and meeting the management need for fisheries information.

INDEPENDENT CONTRACTING AGENT RESPONSIBILITIES

Independent contracting agent observer providers, also referred to as observer companies or contractors, are required by regulation to hire, train, deploy, and logistically support their observers with food, accommodations, sampling equipment and transportation. Observer companies secure contracts for observer services directly with vessel owners or the department, depending on the funding source for observer coverage. In 2004, four independent contracting agents were authorized to provide onboard observers: Alaskan Observers, Inc. (AOI), Northwest Observers Inc. (NWO), Saltwater Inc. (SWI) and Techsea International (TSI).

OBSERVER RESPONSIBILITIES

Observer qualifications include a minimum of a Bachelor's degree in the sciences of biology or any branch of biology, a valid National Marine Fisheries Service (NMFS) observer certification, or other fisheries related experience or education. Observer candidates are required to undergo ADF&G approved training and must demonstrate 90% proficiency on the ADF&G shellfish observer written examination. As part of their training, crab observers must also participate in a practical training exercise administered by the observer program staff in Dutch Harbor. As representatives of ADF&G, observers are required to adhere to a detailed set of professional standards outlined in regulation. Prior to 1991, observer companies provided observer training. Currently, the OTC conducts crab and scallop observer training. This facility is operated through funds provided by the University of Alaska Sea Grant Program. The OTC also trains groundfish fisheries observers for NMFS.

VESSEL OWNER AND OPERATOR RESPONSIBILITIES

Regulations require the cost of observers to be borne by the shellfish industry or funded through ADF&G cost-recovery fishing. When required, vessel owners and operators are to procure and pay for observers through a qualified observer contractor and provide their observer with food and accommodations equal to that of the vessel's crew. The vessel must also dedicate a safe work area, necessary totes to hold the contents of sampled pots, and allow the observer opportunity and time to adequately sample the catch according to specific ADF&G data collection requirements. Accurate fishing effort and harvest data are to be provided daily to the observer as well as access to communication equipment.

The MSFCMA and ADF&G commercial shellfish fishing regulations require that a vessel carrying an observer meets United States Coast Guard (USCG) commercial fishing vessel safety standards and possesses a current Commercial Fishing Vessel Safety Examination (CFVSE) decal. Whenever possible before a fishery, USCG personnel will board and examine safety equipment on vessels that carry observers. Although a vessel possesses the CFVSE decal, the vessel's safety equipment may not meet the USCG requirements, usually because equipment currency dates have expired since the last CFVSE.

OBSERVER DUTIES

Observers record retained daily catch, fishing effort and location, and periodically report vessel and observer activity to ADF&G. Reports are coded and given via radio, marine satellite, or telephone. Scallop observers report scallop harvests, number of tows, areas fished and crab bycatch. Crab observers report number of pots pulled, number of crab caught, and number of pots sampled.

Crab observers sample the retained catch and bycatch in a specified number of randomly selected pots each day. Scallop observers randomly select a specified number of dredges each day to sample species composition, crab/halibut bycatch, and discarded/retained scallop catch.

Observers may also be assigned projects such as collecting shellfish, finfish and other marine specimens, gathering tissue specimens for genetic stock identification, and the morphometric data collection of non-retained crabs. Observers also facilitate the tag-recovery studies of crabs and document specific seabird and mammal observations.

Shellfish observers regularly monitor fishing operations for regulatory compliance. The Alaska Department of Public Safety, Bureau of Wildlife Enforcement (ABWE) assists OTC and ADF&G staff with instruction of observers for evidence collection, handling procedures and proper chain-of-custody documentation. In the event that a potential violation is encountered, the ABWE will interview the observer and usually request a written statement. Observers are also required to confirm that the vessel is displaying a current CFVSE decal and that safety equipment on the vessel is current and in usable condition. This inspection is made when the observer first boards the vessel.

CRAB CATCHER-PROCESSOR VESSEL

Daily duties specific to C/P vessel observers are: 1) interview the vessel operator for confidential catch and effort information, 2) conduct pot sampling of a specified number of randomly selected pots for retained catch and bycatch, 3) size frequency sampling of up to 100 randomly selected retained crabs for the purpose of determining carapace size and shell age distribution, 4)

obtain average weights from a specified number of crab, and 5) obtain size, sex, and species compliance monitoring through a legal tally of 600 retained crabs conducted throughout the day. Observers are also asked to obtain processed crab section counts and case weights in the factory to verify catch data supplied by the vessel operator.

CRAB FLOATING–PROCESSOR VESSEL

Sampling duties specific to floating–processor (F/P) vessel observers are: 1) interview the delivering vessel's skipper for confidential catch and effort information, 2) determine average weight of retained crabs, 3) conduct size frequency sampling of 100 retained crabs for carapace size and shell age distribution, and 4) obtain size, sex, and species compliance monitoring through a legal tally of 600 retained crabs during the offload. Sampling duties are conducted on all vessels delivering to the processor.

CRAB CATCHER-ONLY VESSEL

Daily observer duties specific to C/Vs include: 1) interviewing the vessel operator for confidential catch and effort information, and 2) conducting samples of a specified number of randomly selected pots for retained catch and bycatch. During deliveries, the observer: 1) determines the average weight of retained crabs, 2) collects a size frequency sample of up to 100 randomly selected retained crabs for the purpose of determining carapace size and shell age distribution, and 3) monitors size, sex, and species compliance through a legal tally of 600 crabs in the live tank.

SCALLOP CATCHER-PROCESSOR VESSEL

Daily observer sampling duties on board a scallop vessel involve: 1) conducting a species composition assessment of a specified number of randomly selected tows, 2) measuring shell height and weighing 20 retained scallops per bycatch sample tow, 3) collecting scallops for shell-aging, 4) enumerating, measuring and assessing the condition of commercially important crab species, Pacific halibut and scallops from a specified number of randomly selected tows, and 5) conducting a detailed examination of the discarded scallop catch. In addition to biological data, observers also collect and summarize a variety of fishery-based data including statistical areas fished, total minutes of all fished hauls, total minutes of all bycatch sampled hauls, and pounds of scallop meats retained (Barnhart and University of Alaska Anchorage, 2004).

PROGRAM REVIEW

OBSERVER COVERAGE AND COST-RECOVERY FUNDS

In addition to requirements for observer coverage on at-sea processing vessels, the BOF has given ADF&G the regulatory authority to deploy crab observers on an adequate number of C/Vs in each BSAI crab fishery. This regulatory authority allows ADF&G to collect much needed biological and fishery-based data necessary for resource management. It has also allowed ADF&G to meet requirements of the MSFCMA and the Fishery Management Plan for Bering Sea/Aleutian Islands King and Tanner crabs (NPFMC 1998). During their meeting in the spring of 1999, the BOF appointed the COOTF to report and be advisory to the BOF, and interact with and be advisory to the department. The department meets annually with the COOTF to review test-fish fund expenditures and observer coverage levels in certain BSAI fisheries.

The COOTF and ADF&G agreed to lower the coverage goals for catcher-vessels in fiscal year 2005. This was due, in part, to the loss of state general funds to support the observer program

staff. Observer program staff is now funded from the test fishery budget. ADF&G's goal for the 2004/2005 season was to deploy observers on 8% of C/Vs in two vessel size categories, between 75 ft and 125 ft, and greater than 125 feet, with a minimum of five observers per vessel size category in selected fisheries. Since 2000, the goal was 10% observer coverage in the selected fisheries. ADF&G deploys seasonal biologist staff observers, and additional observers are obtained through a State of Alaska contract with observer providers. Observer coverage levels for 2004 are depicted in Figure 3-1.

Observer coverage levels remained at 100% and funded under the pay-as-you-go system for at-sea processors participating in BSAI king or Tanner crab fisheries, for all vessels in the Aleutian Islands king crab fisheries, and for all vessels participating in hair crab, deep water king crab, and deep water Tanner crab fisheries under a commissioner's permit. Likewise, observer coverage for vessels in the CDQ and AFA fisheries remained under the pay-as-you-go system (Table 3- 1).

The Shellfish Onboard Observer Program has utilized test-fish funding for a portion of the BSAI observer coverage costs since 1999 (Tables 3-2 and 3-3). The test-fish authority was originally capped at $650,000 and structured as a revolving fund, which, if not used in one fiscal year, may be rolled into and available in the following fiscal year. A total of $669,500 in test-fish funds was collected for the cost-recovery funded portion of the observer program from the harvest and sale of red king crab after the close of the 1999 Bristol Bay red king crab fishery. In 2000, the ADF&G and COOTF agreed that if the cost-recovery fund dropped below $300,000, a test fishery would be conducted to replenish it. The observer test-fish fund balance at the end of fiscal year 2005 was expected to fall below $300,000. Consequently, the department conducted a cost-recovery test-fish charter after closure of the 2004 Bristol Bay red king crab general fishery. A total of $572,240 was collected to fund observer deployments for the Bristol Bay red king crab and Bering Sea snow crab general fisheries, as well as the crab observer program staff (Table 3 - 3).

2004 OBSERVER PROGRAM ACTIVITY

Shellfish observer activities in this section of the report are documented by calendar year. The length of an observer deployment is defined in observer-days. An observer-day is any day between and including the observer's briefing and debriefing. One observer-month is equivalent to 30 observer-days. The length of an observer deployment is the number of observer-days between and including the observer's briefing and debriefing.

OBSERVER TRAINING, CERTIFICATION, AND DECERTIFICATION ACTIVITY

Since the inception of the observer program in 1988, 38 crab observer classes have been held, resulting in the dispersion of 528 trainees into the field. During 2004, one crab observer training class was conducted at the OTC in Anchorage. At the end of 2004, 55 crab observers either held a trainee permit or were certified in the crab observer program. The observer turnover in 2004 was 28%, up from 23% in 2003. During 2004, 16 observer certifications lapsed due to 12 months of inactivity, and five trainees were not certified and their trainee permits expired. Crab observer training and participation levels from 1988 to 2004 are summarized in Table 3-4.

One scallop observer training class was held at the OTC during 2004. Three trainees were issued permits, of which two received full certification and one certification was pending at the end of 2004. Conversely during 2004, seven scallop observer certifications lapsed due to 12 months of

inactivity, resulting in a 39% turnover rate. No scallop observers were decertified for failure to comply with observer program standards. Eight certified scallop observers remained in the program as of December 31, 2004. Scallop observer training and participation levels from 1993 to present are summarized in Table 3-5.

SHELLFISH OBSERVER DEPLOYMENT ACTIVITY

The Shellfish Observer Program continues to develop its procedures and policies with data integrity as the primary goal. Over the years ADF&G has found a need to increase the length of observer sessions (briefing, midtrip debriefing, debriefing) from the minimum 15 minutes to two or more hours in order to keep pace with data needs and data quality issues. Data requests have become more complex, and additionally, deployment dynamics and vessel differences more varied.

Observer deployment activity in 2004 decreased significantly from the previous year. In fact, 2004 ranks third lowest in the history of the program in terms of number of observer trips and sessions, and records the fewest observer-months since 1988 (Table 3-6). Seventy-nine vessels were observed during the course of the year, and despite record lows in observer participation, the number of vessels carrying observers remained one of the highest documented. Even though fleet coverage for the Bristol Bay red king and Bering Sea snow crab fisheries has expanded since 1999, fishery closures, shorter seasons in the major fisheries and the decrease in vessel participation has decreased total observer time.

Spikes of observer activity occurred during the months of January and October, coinciding with the Bering Sea snow crab and Bristol Bay red king crab fisheries (Table 3-7 and Figure 3-2). Observers participating in the combined red king crab fisheries, including Bristol Bay general and CDQ fisheries, accounted for 86 (30%) of the 283 total number of observer sessions in 2004 (Table 3-8). The Bering Sea snow crab general and CDQ fisheries followed a close second with 29% of observer sessions. A total of 134 briefings, 14 midtrip debriefings, and 135 debriefings were conducted in 2004.

OBSERVER DEPLOYMENTS BY FISHERY

Observer coverage goals and requirements were met in most fisheries, with a total of 132 deployments, accumulating 118 observer-months (Table 3-9). Forty-three percent of the observer-months were in deployments during the 2004/2005 Aleutian Islands golden king crab *L. aequispina* fishery. Crab and scallop observers conducted a combined 16,774 pot and dredge samples for species composition, establishing an overall sampling rate of 5.8% (Table 3-10).

Shellfish observer vessel assignments and deployments in this section of the report are documented by fishing season.

2003/2004 ALEUTIAN ISLANDS GOLDEN KING CRAB FISHERY OBSERVER ACTIVITY

The 2003/2004 Aleutian Islands golden king crab fishery opened at noon on August 15, 2003 with 21 vessels, including one C/P and 20 C/Vs. Observer coverage was mandatory for all participating vessels, and observers were secured and paid for directly by the vessels. Due to unforeseeable circumstances surrounding an observer and contractor error, two vessels were without assigned observers just prior to the opening of the fishery. To avoid delaying their entrance into the fishery, both vessels entered into revenue contracts with the State of Alaska in

which the department supplied two certified ADF&G crab observers. In addition, Saltwater Inc., AOI, DCI and TSI provided observers throughout the season for 31 total deployments.

Thirty-one observer briefings took place between August 7 and December 29, 2003, with 27 and 4 occurring in Dutch Harbor and Adak, respectively. Twenty-two of these briefings took place in Dutch Harbor over a one-week period in August for the opening of the fishery in both the eastern and western management areas. Twenty-five observers boarded their assigned vessels in Dutch Harbor, five boarded in Adak and one observer boarded in Nikolski.

Sampling duties varied by vessel type and fishing location. For vessels fishing east of 174° W longitude, C/V observers were assigned four measurement and ten count sample pots per fishing day. Harvest information and sampling effort was reported tri-weekly. For vessels fishing west of 174° W longitude, C/V observers were assigned 6 measurement and four count pots per fishing day and C/P observers were assigned five measurement sample pots per fishing day. Reports were transmitted on a weekly basis until a few weeks prior to the closure announcement, at which time report periods increased to tri-weekly. Observers were to report all tagged golden king crab recovered, and those participating in the western management area were also required to measure and document all red king crab bycatch from all pots pulled.

The eastern management area of the 2003/2004 Aleutian Islands golden king crab fishery closed at noon on September 8, 2003, and 17 debriefings occurred in Dutch Harbor between August 18 and September 12, 2003. The western management area closed five months later at noon on February 6, 2004. Another 14 debriefings were held during and after the season in either Dutch Harbor or Adak, with the last debriefing occurring February 19, 2004. Eleven midtrip debriefings occurred in Dutch Harbor throughout the course of the fishery. In summary, 31 briefings, 11 midtrip debriefings and 31 final debriefings were conducted throughout the fishery. Twenty-four observers disembarked in Dutch Harbor, 6 disembarked in Adak and one in Nikolski.

During the 1,400 deployment days, observers sampled 7,294 (5.8%) of the 125,119 pots pulled by the entire fishing fleet. Observers on C/Vs sampled 6,744 pots and completed 73 legal tallies and 73 size frequency samples, and observers on the C/P sampled 550 pots and completed 115 legal tallies and 115 size frequency samples (Table 3-11). Observers and crewmembers collectively recovered 334 golden king crab tags and no evidence was collected for regulatory non-compliance. Observers reported 283 red king crabs caught in all pots pulled west of 174° W longitude.

In Area O, *Lithodes couesi* may be retained under the conditions of a commissioner permit when longlining for golden king crab. Observers sampling *L. couesi* follow the sampling and tallying guidelines established for the golden king crab fishery, but maintain separate reporting forms for any *L. couesi*. Since the Aleutian Islands *L. couesi* registrations have all been issued in conjunction with the directed Aleutian Islands golden king crab fishery, fishing and observer sampling effort for *L. couesi* king crab are indistinguishable from the golden king crab fishery and therefore not reported. One legal tally (18 crabs) and one size frequency sample (2 crabs) was conducted on retained *L. couesi* king crab.

2004/2005 Aleutian Islands Golden King Crab Fishery Observer Activity

The 2004/2005 Aleutian Islands golden king crab fishery opened at noon on August 15, 2004 with 22 vessels, including one catcher-processor and 21 catcher vessels. Observer coverage was

mandatory for all participating vessels and observers were secured and paid for directly by the vessels. Saltwater Inc., AOI and TSI provided observer coverage throughout the season for 27 total deployments.

Twenty-seven observer briefings took place between August 10 and December 6, 2004, with 24 occurring in Dutch Harbor and three in Anchorage. Twenty-three of the Dutch Harbor briefings were conducted over a five-day period in August for the opening of the fishery in the eastern and western management areas. Twenty-one observers boarded their assigned vessels in Dutch Harbor and 6 boarded in Adak.

For vessels fishing east of 174° W longitude, C/V observers were assigned four measurement and ten count pots per fishing day. Harvest information and sampling effort was reported tri-weekly. For vessels fishing west of 174° W longitude, C/V observers were assigned 6 measurement and four count pots per fishing day and C/P observers were assigned five measurement pots per day. Sampling duties varied by area and vessel type due to differences in fishery performance and fishing activities. Reports were transmitted on a weekly basis until a few weeks prior to the closure announcement, at which time report periods increased to tri-weekly. Observers reported all tagged golden king crab recovered, and those participating in the western management area were also required to measure and document all red king crab bycatch from all pots pulled.

The eastern management area of the 2004/2005 Aleutian Islands golden king crab fishery closed on August 29, 2004. The western management area closed five months later at noon on January 3, 2005. One midtrip debriefing occurred in Dutch Harbor during the fishery. Twenty-six final debriefings took place in Dutch Harbor and one occurred in Anchorage between August 30, 2004 and January 11, 2005. Seventeen of the 27 debriefings occurred August 30 – September 6, 2004. Twenty observers disembarked in Dutch Harbor and seven disembarked in Adak.

The entire fleet fished for 577 days, pulled a total of 91,694 pots, delivered 5,575,051 pounds of golden king crab and made 83 landings to five different processors (Table 3-10). Catch information by vessel type is confidential because only one C/P participated in the fishery. Observers sampled 4,825 (5.3%) of the pots pulled by the entire fishing fleet. Observers on C/Vs were deployed for a total of 1,375 days, sampled 4,408 pots and completed 63 legal tallies and 61 size frequency samples. Observers on the C/P were deployed for 146 days, sampled 417 pots and completed 100 legal tallies and 100 size frequency samples (Table 3-11). No evidence of violations was collected during this fishery. Twenty-six golden king crabs tagged in 2000, and 223 crabs tagged in 2003 were recovered during the fishery. Observers reported 209 red king crabs caught in all pots pulled west of 174° W longitude.

In Area O, *Lithodes couesi* may be retained under the conditions of a commissioner permit when longlining for golden king crab. Observers sampling *L. couesi* follow the sampling and tallying guidelines established for the golden king crab fishery, but maintain separate reporting forms for any *L. couesi*. Since the Aleutian Islands *L. couesi* registrations have all been issued in conjunction with the directed Aleutian Islands golden king crab fishery, fishing and observer sampling effort for *L. couesi* king crab are indistinguishable from the golden king crab fishery and therefore not reported.

2004 BERING SEA SNOW CRAB GENERAL FISHERY OBSERVER ACTIVITY

The 2004 Bering Sea snow crab general fishery opened at noon on January 15, 2004 with 192 vessels, including 183 C/Vs, 6 C/Ps and 3 F/Ps. Two C/Ps took crab deliveries and processed crab as floating-processors after the fishery closure. The department set a goal of 10% observer coverage for the C/V fleet, and employed 6 staff biologists and contracted 12 observers from SWI and AOI. The C/Vs that carried observers were chosen at random from the preseason vessel registration list and observer costs paid through the state's test-fish project. One hundred percent observer coverage was mandatory for C/Ps and F/Ps and observers were secured and paid for by the vessels. Alaskan Observers, Inc., SWI, TSI and NWO provided 9 observers for the C/Ps and F/Ps.

Eight C/Vs pre-registered late, and in accordance to department policy, were required to carry an observer for the duration of the season. Because 8 vessels entered the fishery after pre-registration, increasing the fleet size from 175 to 183 catcher-only vessels, one additional observer was secured in order to maintain the 10% observer coverage level.

Many communication challenges arose due to the number of late registries. As each new vessel registered, one of the original vessels was dropped from the observer list. Vessels and contractors had to be immediately notified of the changes. This occurred on an almost daily basis from December 30 until January 6, causing continuous changes to observer travel plans and some confusion among the vessels originally selected. Six or 32% of the 19 vessels carrying observers at the start of the fishery were late registrants.

Briefings for 21 of the 28 observers took place in Dutch Harbor from January 10-12. Six observers who were scheduled to board their vessels in ports other than Dutch Harbor were briefed in Anchorage by department staff on January 10 and 11. One observer was briefed in Dutch Harbor for deployment on a floating–processor on January 16. Twenty-one observers boarded their vessels in Dutch Harbor, two boarded in Akutan, two boarded in King Cove and three in St. Paul.

Observers on C/Vs were assigned a pot-sampling goal of one measurement and five count pots per fishing day and observers on C/Ps were assigned one measurement and three count pots. All observers reported harvest and effort information every 24 hours to the department.

The fishery closed at 10:00 PM on January 23, 2004. Sixteen observers disembarked in Dutch Harbor, two in Akutan, two in King Cove, 6 in St. Paul and one remained on the same vessel for another crab fishery. One observer disembarked in Seattle after a freight haul on a C/P. Debriefings were performed for 31 deployments from January 26 to February 6 in Dutch Harbor.

The fleet pulled a total of 110,087 pots for the entire fishery, made 240 deliveries and landed 22,169,550 pounds of snow crab during the Bering Sea snow crab season. The observed C/Vs pulled 11,067 pots, made 25 deliveries and landed 2,421,672 pounds of crab. The C/Ps pulled 3,943 pots, made 11 deliveries and landed 666,027 pounds of crab (Table 3-10).

During 603 deployment days observers sampled a total of 847 pots, which represented 5.6% of pots pulled on observed vessels. Catcher vessel observers sampled 688 of 11,067 pots pulled on observed C/Vs (6.2%) and conducted 19 size frequency samples and 19 legal tallies. Observers on C/Ps sampled 159 of 3,943 pots pulled (4.0%) and conducted 44 size frequency samples and 44 legal tallies. Observers on all vessels sampled a total of 0.77% of all pots pulled by the fleet. Observers on F/Ps performed 58 size frequency samples and 59 legal tallies on retained catch

(Table 3-12). Due to a long wait time, one observer was allowed to disembark his vessel before offload and the F/P observer performed the observer duties. No tagged crabs were gathered and evidence of violations was collected on two vessels.

2004 Bering Sea CDQ Snow Crab Fishery Observer Activity

The 2004 Bering Sea CDQ snow crab fishery opened to registration on January 26, 2004. The 6 CDQ groups eligible to fish participated with 9 catcher-only vessels and one catcher-processor. Each group was responsible for securing observers through a state-certified observer contractor and for all observer costs. The observer coverage level was fixed at two observed vessels per CDQ group, with the exception of the C/P, where 100% observer coverage is mandatory. All vessels were observed throughout the duration of the fishery as no group had more than two vessels harvesting crab at any one time.

Alaskan Observers Inc., NWO, SWI and TSI supplied observers for the CDQ groups. All observer briefings took place between January 28 and February 16, 2004. Eight observers boarded in Dutch Harbor, one boarded in Akutan and one boarded in St. Paul.

Observers on C/Vs were assigned a sampling goal of one measurement pot and five count pots per fishing day, and the observer on the C/P was assigned one measurement and three count pots. Harvest and effort information was reported to the department every Monday.

The last delivery for the 2004 Bering Sea CDQ snow crab fishery occurred March 20, 2004. Eight observers disembarked in Dutch Harbor, one disembarked in Akutan and one in St. Paul. Debriefings for all observers took place in Dutch Harbor between February 23 and March 22, 2004.

The Bering Sea snow crab CDQ fleet took 186 fishing days (combined actual fishing days of the entire fleet) to harvest their catch and delivered 1,770,774 pounds of snow crab in 25 separate landings. During 309 deployment days, observers conducted 61 size frequency samples, 56 legal tallies and sampled 780 of the 13,622 pots (5.7%) pulled by the entire fleet (Table 3-13). Catch and sampling information by vessel type is confidential because only one C/P participated in the fishery. No evidence of violations or tagged crab were collected during this fishery.

2004 Bering Sea Golden King Crab Fishery Observer Activity

The 2004 Bering Sea golden king crab fishery opened on January 1, 2004. Five catcher-only vessels registered to fish the Pribilof District. No vessels registered to fish the Northern District. One hundred percent observer coverage was mandatory on all vessels and observers were secured and paid for by the vessels.

From February 19 through March 5, 2004, five briefings were conducted in the Dutch Harbor office, and all observers boarded their vessels in Dutch Harbor. Saltwater Inc., AOI and TSI provided observer coverage. All observers were assigned a sampling goal of ten measurement pots per fishing day. Tri-weekly harvest information and sampling effort was reported to the department.

The 2004 Bering Sea golden king crab fishery closed March 12, 2004 for the Pribilof District, and the last delivery occurred March 14. All observers disembarked and debriefed in Dutch Harbor between March 6–16. Harvest information (Table 3-10) is confidential because only two processors participated in the fishery. During 102 deployment days, observers conducted seven

size frequency samples, seven legal tallies and sampled 551 of 2,312 pots (23.8%) pulled by the entire fleet (Table 3-14). No evidence was collected during this fishery.

2004 BRISTOL BAY RED KING CRAB GENERAL FISHERY OBSERVER ACTIVITY

The 2004 Bristol Bay red king crab fishery opened at 4:00 PM on October 15 with 252 vessels, including 243 C/Vs, 8 C/Ps and one F/P. Three C/Ps participated as floating-processors at the closure of the fishery. Of the 243 C/Vs, 32 were AFA vessels. The department set a goal of 8% observer coverage for the catcher-only fleet. Observer costs for the non-AFA vessels were paid through the state's test-fish project and AFA vessel observers were secured and paid for directly by the vessels. One hundred percent observer coverage was mandatory for the C/Ps and the F/P, and those observers were secured and paid for directly by the vessels.

The department employed five staff observers and contracted 12 observers from SWI and TSI for the non-AFA C/V fleet. Three observers were contracted from SWI for the AFA vessels. Saltwater Inc, NWO, AOI and TSI provided 9 observers for the catcher-processors and floating–processor.

Briefings for 26 of the 33 observer trips occurred in Dutch Harbor October 9-14, 2004. Six observers who boarded their vessels in ports other than Dutch Harbor were briefed in Anchorage by department staff on October 12. One observer was rebriefed in Dutch Harbor on October 20 for a freight haul to Seattle. Two certified observers were double-briefed for both the Bristol Bay red king crab general fishery and the Bristol Bay red king crab CDQ fishery. Twenty-one observers boarded in Dutch Harbor, two boarded in Akutan and 6 in King Cove.

Observers on C/Ps and C/Vs were assigned a sampling goal of 10 measurement pots per fishing day. This assignment proved to be too much for the C/P observers to complete each day due to other required observer duties on a C/P. Catcher-vessel observers were able to satisfactorily complete this daily sampling goal. All observers reported harvest information and sampling effort twice daily to the department.

The fishery closed at 11:59 PM on October 18, 2004. Seventeen observers disembarked in Dutch Harbor, one disembarked in Akutan, one in False Pass, four in King Cove, one in Kodiak, one in Sand Point, one in Seattle after a freight haul, and three remained on their vessels to observe in other fisheries. One observer was given a waiver by the department to disembark her vessel prior to offloading in order to be expedited to the Bristol Bay red king crab CDQ fishery. The vessel delivered to a floating–processor where the F/P observer completed the offload duties. Debriefings were performed for all observer trips in Dutch Harbor from October 20 to November 9.

The fleet pulled a total of 90,972 pots for the entire fishery, made 270 deliveries and landed 14,112,438 pounds of crab during the Bristol Bay red king crab season. Observers sampled a total of 536 pots, representing 5.1% and 0.6% of pots pulled on observed vessels and the entire fleet, respectively (Table 3-10).

The 211 non-AFA C/Vs pulled 79,539 pots, made 223 deliveries and landed 12,043,862 pounds of red king crab. Observers sampled 339 (5.4%) of the 6,304 pots pulled by the observed vessels and conducted 16 size frequency samples and 16 legal tallies during 198 deployment days. The 32 AFA C/Vs pulled 8,093 pots, made 33 deliveries and landed 1,462,535 pounds of crab. Observers sampled 67 (8.0%) of the 842 pots pulled on observed AFA vessels, and conducted three size frequency samples and three legal tallies in 33 deployment days.

The C/Ps pulled 3,370 pots, made 14 deliveries and landed 606,041 pounds of crab (Table 3-10). Three C/Ps took a total of 15 deliveries from C/Vs at the closure of the fishery. Observers on C/Ps had a combined 84 deployment days, sampled 130 (3.9%) of 3,370 pots pulled and conducted 17 size frequency samples and 17 legal tallies. Observers on F/Ps performed 31 size frequency samples and 33 legal tallies (Table 3-15).

Observers reported 18 of the 74 red king crab tags retrieved during the fishery (24.3%) and evidence of violations was collected on two vessels.

2004 Bristol Bay Red King Crab CDQ Fishery Observer Activity

The 2004 Bristol Bay CDQ red king crab fishery opened to registration on October 22, 2004. The 6 CDQ groups eligible to fish participated with 10 C/Vs and 2 C/Ps. The mandatory observer coverage was one observer per CDQ group for catcher vessels. All C/Ps were required to carry an observer, and groups using more than one catcher-only vessel were responsible for determining which vessel would carry the observer. Each group was responsible for securing an observer through a state-certified observer contractor and for all observer costs.

Eight vessels, two of which were C/Ps, carried observers for the fishery. Alaskan Observers, Inc., TSI, SWI and NWO provided 8 observers for the CDQ groups. Observer briefings were conducted in Dutch Harbor between October 12 and October 26, 2004. Four observers boarded their vessels in Dutch Harbor and one in Akutan. Three observers remained on their vessels after the closure of the Bristol Bay red king crab general fishery.

The sampling goal for each C/V and C/P deployment was 10 measurement sample pots for each day of fishing. Harvest and effort information was reported tri-weekly to the department.

The last delivery for the 2004 Bristol Bay CDQ red king crab fishery occurred on November 15, 2004. Seven of the observers disembarked in Dutch Harbor and one disembarked in Akutan. Debriefings for the 8 CDQ observers took place in Dutch Harbor November 5-15, 2004.

The Bristol Bay red king crab CDQ fleet took 90 fishing days (combined actual fishing days of the entire fleet) to harvest their catch and pulled 5,359 pots and made 21 deliveries, totaling 1,133,013 pounds of red king crab. Harvest information by observed vessel type (Table 3-10) is confidential because only two C/Ps participated in the fishery. Observers sampled 226 (5.2%) of the 4,312 pots pulled by observed vessels and 4.2% of pots pulled by the entire CDQ fleet (Table 3-16). After 8 observer trips and 142 deployment days, observers had conducted 23 size frequency samples and 23 legal tallies. Observers reported 8 of the 9 red king crab tags retrieved during the fishery(88.9% of all tags recovered). No evidence was collected during this fishery.

2004 Bristol Bay Golden King Crab Fishery Observer Activity

One catcher-only vessel registered to fish Bristol Bay golden king crab in 2004. One hundred percent observer coverage was mandatory for this fishery and the observer was secured and paid for by the vessel. Saltwater, Inc. provided one observer who was briefed in Dutch Harbor on March 16, 2004. All catch information (Table 3-10) is confidential because only one vessel participated in the fishery. After seven observer deployment days, 10 pots were sampled and no evidence of violations reported. The observer was debriefed in Dutch Harbor on March 22 and boarded and disembarked the vessel in Dutch Harbor.

2004 STATEWIDE GROOVED TANNER CRAB FISHERY OBSERVER ACTIVITY

In 2004, two catcher-only vessels registered to fish for grooved Tanner crab. Three deepwater Tanner crab permits were issued: two for Area J/Bering Sea District and one for Area M/South Peninsula. Under the conditions of the commissioner's permit, the vessel could retain triangle crab and scarlet king crab as bycatch. This fishery requires 100% mandatory observer coverage, which is secured and paid for directly by the vessels.

Saltwater Inc. and TSI provided three observers during the course of the fishery. All observers boarded and disembarked their vessels in Dutch Harbor. All observer briefings, midtrip debriefings and final trip debriefings occurred in Dutch Harbor, with the first briefing on March 22 and the last debriefing on June 30, 2004.

Observers were assigned a sampling goal of ten measurement pots per fishing day. A set number of experimental pots with no escapement mesh were required, and observers were instructed to target-sample these pots. Observers also collected data on Tanner crab male chela heights and female abdominal widths in each sample pot for size-of-maturity research in each sample pot. Harvest and fishing effort information was reported tri-weekly to the department.

During 150 observer-days, the observers conducted 14 legal tallies, 18 size frequency samples and sampled 628 pots (Table 3-17). Fishing effort and harvest information (Table 3-10) is confidential because only two vessels participated in the fishery. No evidence of violations was collected for this fishery.

2004 NORTON SOUND RED KING CRAB FISHERY OBSERVER ACTIVITY

No observer activity occurred in this fishery in 2004.

2004/2005 WEATHERVANE SCALLOP FISHERIES OBSERVER ACTIVITY

The 2004/2005 scallop season opened on July 1, 2004 in all state and federal waters, except in the Cook Inlet Registration Area, which opened August 15. Throughout the 7.5-month regulatory season, two C/Ps fished in four registration areas, including Yakutat, Prince William Sound, Kodiak and the Bering Sea. A third vessel registered and deployed, but did not engage in fishing activities. All vessels were required to carry onboard observers 100% of the time exept in Cook Inlet where the third-party observer requirement was waived provided the participants accommodate an ADF&G observer when requested. Observers were secured and paid for by vessel operators through independent contracting agents. During the 2004/2005 scallop season, SWI and AOI provided all observers for the 12 deployments throughout the season.

The first briefing occurred in Dutch Harbor on July 1, 2004 for the Bering Sea Registration Area. Eleven additional briefings, 6 mid-trip debriefings and twelve final debriefings were conducted throughout the year in Kodiak, Prince William Sound, and Yakutat. The last debriefing was held February 17, 2005 in Kodiak.

Scallop C/Ps normally engage in fishing activity 24 hours per day. Two dredges are fished simultaneously, one on the port side and one on the starboard side. Observers were assigned a goal of sampling one dredge from 6 different tows per day. One dredge is sampled each day for species composition and five dredges are sampled for crab/halibut bycatch and discarded/retained scallop catch monitoring, including collecting scallops for shell-aging. Observers reported scallop harvest, crab bycatch, fishing effort and location information to

ADF&G on a tri-weekly basis. Bycatch of Tanner crabs, snow crabs, Dungeness crabs, red king crabs, and Pacific halibut are estimated from observer data.

For the 2004/2005 regulatory season, observers made 12 trips, accounting for 11.3 deployment months, the lowest since inception of the scallop observer program in 1993 (Table 3-18). Four of the twelve observer trips were made in the Kodiak registration area, and accounted for 49% of the total observer-months (Table 3-19). No evidence was collected on any of the trips.

2004 Fisheries Evidence Collected by Observers

Shellfish observers collected evidence associated with potential illegal activities on four observer trips in 2004. Evidence was collected in the Bering Sea snow crab fishery, the Aleutian Islands golden king crab fishery, and the Bristol Bay red king crab general and CDQ fisheries. Of the four cases, warnings were issued in two cases, and the others are under investigation. Evidence collection remains low over the last five years, despite an overall increase in the catcher-only vessel coverage (Table 3-20).

OBSERVER DATA USE AND ANALYSIS

The MSFCMA mandates collection of reliable data for fisheries conservation and management. Although ADF&G continues to collect retained catch data shore-side, it relies on data collected on the fishing grounds by at-sea observers who are in a unique position to collect specific and accurate baseline data. The crab observer database has accumulated enough data to become an important source of objective information for fisheries management and research. Some of the applications of this data are discussed in Schwenzfeier et al., (2000). The observer program database staff summarizes the large volume of biological data collected by crab observers annually. The most recent summary and analysis of BSAI observer data is available in Barnard and Burt (2005).

Scallop observer-collected data are used to manage the fishery inseason and to set GHRs for the following season. Data are provided to local advisory committees, BOF, NPFMC, NMFS and the public to help answer a myriad of questions pertaining to the weathervane scallop fishery. Regulatory decisions, in the absence of observer-collected data, may have had different outcomes. These data have been invaluable for preparing Essential Fish Habitat and Habitat Areas of Particular Concern (HAPC) documents. Data from observer samples were particularly useful in showing that a proposed HAPC would have minimal impact. For analyzing fine-scale spatial impacts, observer data are critical. The most recent summary and analysis of the statewide scallop observer-collected data is available in Barnhart and Rosenkranz (2003).

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TABLES AND FIGURES

Table 3-1.-Observer coverage levels for the 2004/2005 BSAI crab fisheries.

Fishery	Preseason Registration Deadline[a]	Catcher Vessels[b]		At-Sea Processors	
		Observer Coverage	Cost-Recovery Funded?	Observer Coverage	Cost-Recovery Funded?
St. Matthew blue king crab	24-Aug	Partial	YES	100%	NO
Pribilof red and blue king crab	24-Aug	Partial	YES	100%	NO
Bristol Bay red king crab	24-Sep	Partial	YES	100%	NO
Bering Sea Tanner crab	24-Sep	Partial	YES	100%	NO
Bering Sea snow crab	24-Dec	Partial	YES	100%	NO
St. Matthew golden king crab	none	100%	NO	100%	NO
Pribilof golden king crab	none	100%	NO	100%	NO
Hair crab	none	100%	NO	100%	NO
Triangle Tanner and grooved Tanner	none	100%	NO	100%	NO
Aleutian king crab (red or golden)	none	100%	NO	100%	NO

[a] When the pre-registration deadline occurs on a Saturday, Sunday, or state holiday, the deadline is extended to the next workday.

[b] AFA and CDQ catcher vessels are pay-as-you-go.

Table 3-2.-Shellfish onboard observer program test-fish cost-recovery harvest statistics, 1999-2004.

Year	Number of		Harvest[a,b]	Number of Pots Pulled	Average		Deadloss[a]
	Landings	Crabs			CPUE[c]	Weight[a]	
1999 [d]	2	16,930	106,179	541	31.0	6.3	245
2000	No cost-recovery fishing						
2001 [d]	2	13,065	90,151	463	28.2	6.9	103
2002 [d]	1	10,837	71,661	198	54.7	6.6	134
2003	No cost-recovery fishing						
2004 [d]	2	16,414	111,620	704	24.1	6.8	72

[a] In pounds.

[b] Deadloss included.

[c] Number of legal crabs per pot lift.

[d] Cost-recovery fishing occurred after the Bristol Bay red king crab general fishery.

Table 3-3.-Economic performance of the shellfish onboard observer program test-fish cost-recovery harvest, 1999-2004.

Year	Harvest[a]	Exvessel Value			Charter Dates	Total Charter Days
		Test-fish[b]	General Fishery[b]	Total		
1999	105,934	$6.32	$6.26	$669,500	10/25-11/10	17
2000		No cost-recovery fishing				
2001	90,048	$5.12	$4.81	$461,045	10/23-11/08	17
2002	71,527	$6.41	$6.14	$458,488	10/17-10/27	10
2003		No cost-recovery fishing				
2004	111,548	$5.13	$4.71	$572,240	10/21-10/30	10

[a] In pounds, deadloss not included.

[b] Price per pound.

Table 3-4.-Crab observer training and participation in the Shellfish Onboard Observer Program, 1988 - 2004.

Year Class	Number of		Certified at Year's End [a]	Percent Turnover [b]	Certification Status for Year Class as of December 31, 2004		
	Classes	Trainees			Current [a]	Expired [c]	Other [d]
1988	3	82	81	1.0	0	67	15
1989	1	41	98	19.0	0	36	5
1990	3	27	121	3.2	0	25	2
1991	4	59	108	40.0	0	54	5
1992	3	40	104	29.7	1	38	1
1993	2	19	78	36.6	0	17	2
1994	1	14	65	29.3	0	11	3
1995	3	55	77	35.8	3	48	4
1996	3	36	72	36.3	3	33	0
1997	2	27	67	32.3	3	23	1
1998	2	22	54	39.3	3	19	0
1999	1	11	43	33.8	0	11	0
2000	2	14	37	35.1	4	10	0
2001	3	24	57	6.6	5	18	1
2002	2	27	67	20.2	14	11	2
2003	2	25	71	22.8	14	11	0
2004	1	5	55	27.6	5	0	0
Totals	38	528	NA	NA	55	432	41

[a] Represents all crab observers who hold a certificate or trainee permit.

[b] Calculated by the number of observers at the beginning of the year, plus observers certified throughout the year, compared to the number of observers certified at the end of the year.

[c] Due to 12-month shellfish observer employment inactivity or trainee permit expiration.

[d] Certification revoked for non-compliance with shellfish observer program standards.

NA = not applicable

Table 3-5.-Scallop observer training and participation in the Shellfish Onboard Observer Program, 1991 - 2004.

Year Class	Number of		Certifiedat Year's End[a]	Percent Turnover [b]	Certification Status for Year Class as of December 31, 2004		
	Classes	Trainees			Current [a]	Expired[c]	Other[d]
1993	3	23	22	4.0	0	22	1
1994	3	16	5	86.8	0	13	3
1995	0	0	2	60.0	0	0	0
1996	2	10	5	58.3	0	10	0
1997	2	10	7	53.3	0	10	0
1998	1	8	5	66.7	0	8	0
1999	1	9	5	64.3	0	8	1
2000	1	6	6	45.5	0	6	0
2001	1	6	9	25.0	1	5	0
2002	1	5	9	35.7	0	5	0
2003	2	6	10	33.3	4	2	0
2004	1	3	8	38.5	3	0	0
Totals	17	99	NA	NA	8	89	5

[a] Represents all scallop observers who hold a certificate or trainee permit.

[b] Calculated by the number of observers at the beginning of the year, plus observers certified throughout the year, compared to the number of observers certified at the end of the year.

[c] Due to 12-month shellfish observer employment inactivity or trainee permit expiration.

[d] Certification revoked for non-compliance with shellfish observer program standards.

NA = not applicable

Table 3-6.-Summary of observer deployment activity in the shellfish onboard observer program, from July 1988 through December 2004.

Year	Vessels[a]					Observer Trips	Deployed Observers	Certified at Year's End[b]	Observer Months	Number of Sessions[c]	Active Contractors
	C/P	F/P	C/V	S/V	Total						
1988	21	6	0	0	27	46	28	80	31.4	89	6
1989	22	12	0	0	34	124	53	98	124.0	252	7
1990	26	15	0	0	41	140	61	121	163.5	268	7
1991	33	18	0	1	52	282	105	114	352.2	651	6
1992	32	19	2	0	53	225	100	105	280.3	531	7
1993	29	21	14	11	75	235	80	102	216.8	412	7
1994	24	17	19	12	72	185	74	87	178.8	350	7
1995	21	15	50	8	94	211	91	95	213.0	478	5
1996	16	13	38	5	72	209	82	80	250.5	491	5
1997	15	11	30	6	62	157	71	78	184.4	347	5
1998	13	11	44	8	76	186	62	65	203.1	382	5
1999	11	11	42	8	72	152	48	55	148.5	345	4
2000	9	6	62	6	83	154	48	45	128.0	335	3
2001	9	5	62	4	80	161	59	64	150.3	364	4
2002	10	6	85	4	105	199	70	75	158.8	429	5
2003	9	7	83	2	101	171	70	80	137.6	363	5
2004	10	6	60	3	79	134	50	55	103.6	283	4

[a] Unique vessels requiring observer coverage: C/P = Catcher-Processor, F/P = Floating–processor, C/V = Catcher-Only Vessel, and S/V = Scallop Vessel (C/P or C/V).

[b] Total number of observers who possess either a shellfish observer trainee permit or are currently certified on December 31st of each year.

[c] Includes briefings, midtrip debriefings and final debriefings.

Table 3-7.-Number of shellfish observer sessions by month and year, including briefings, midtrip debriefings and final debriefings, 1988 - 2004.

Year	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Yearly Total
1988	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	27	36	12	14	89
1989	9	3	9	4	15	9	13	51	56	55	12	16	252
1990	21	14	16	13	8	8	5	17	20	41	77	28	268
1991	73	56	94	68	63	49	24	7	24	43	96	54	651
1992	101	60	41	111	8	10	13	31	22	28	62	44	531
1993	71	24	75	15	4	14	14	20	42	35	62	36	412
1994	49	4	81	25	8	7	28	38	38	26	26	20	350
1995	41	70	20	23	31	17	16	36	44	84	65	31	478
1996	42	22	68	28	36	26	39	42	34	53	64	37	491
1997	37	22	54	14	15	10	10	25	27	38	82	13	347
1998	32	17	67	20	35	14	9	28	43	65	50	2	382
1999	23	8	43	33	22	10	13	29	39	74	36	15	345
2000	24	7	26	38	15	11	13	42	42	86	21	10	335
2001	27	43	25	20	20	10	9	41	29	104	25	11	364
2002	40	46	37	19	7	3	5	34	31	148	43	16	429
2003	58	31	13	2	4	3	7	35	22	146	30	12	363
2004	63	27	18	2	3	5	6	35	17	85	14	8	283
Average	44	28	43	27	18	13	14	32	33	67	46	22	375

Table 3-8.-Number of shellfish observer sessions by fishery for calendar year 2004.

Fishery	Number of			Totals	Percent of Total Sessions
	Briefings	Midtrips	Debriefings		
Aleutian Islands golden king crab	27	3	28	58	20.5
Bering Sea golden king crab	5	1	5	11	3.9
Bristol Bay golden king crab	1	0	1	2	0.7
Bering Sea snow crab	31	0	31	62	21.9
Bering Sea snow crab CDQ	10	0	10	20	7.1
Bristol Bay red king crab	33	1	33	67	23.7
Bristol Bay red king crab CDQ	9	1	9	19	6.7
Statewide grooved Tanner	4	3	4	11	3.9
Statewide scallops	14	5	14	33	11.7
Totals	134	14	135	283	100.0

Table 3-9.-Summary of observed vessels, observer trips, percentage of total observer trips, observer-months at sea, and percentage of total observer-months at sea by fishery in the shellfish onboard observer program, 2004.

Fishery	Observed Vessels			Observer Trips	% Total Observer Trips	Observer Months	% Total Observer Months	% Coverage		Vessel Participation
	C/P	F/P [a]	C/V [b]					C/P & F/P	C/V	
Aleutian Islands golden king crab[c]	1	0	21	27	20.5	50.7	42.9	100.0	100.0	22
Bering Sea snow crab	6	5	19	31	23.5	20.1	17.0	100.0	10.4	192
Bering Sea snow crab CDQ	1	0	9	10	7.6	11.0	9.3	100.0	100.0	10
Bering Sea golden king crab	0	0	5	5	3.8	3.4	2.9	NA	100.0	5
Bristol Bay red king crab[d]	8	4	20	33	25.0	11.9	10.1	100.0	8.2	252
Bristol Bay red king crab CDQ	2	0	6	9	6.8	4.7	4.0	100.0	60.0	12
Bristol Bay golden king crab	0	0	1	1	0.8	0.2	0.2	100.0	100.0	1
Bering Sea grooved Tanner	0	0	2	4	3.0	5.0	4.2	NA	100.0	2
Statewide scallops [e]	3	0	0	12	9.1	11.3	9.6	100.0	NA	3
Totals [f]	12	6	60	132	NA	118.3	NA	NA	NA	NA

[a] May include vessels that also operated as a C/P during the same fishery.

[b] C/Vs required to carry onboard shellfish observers.

[c] 2004/2005 fishery.

[d] Includes three AFA vessels.

[e] 2004/2005 regulatory year, excluding Cook Inlet.

[f] Vessels are unique.

NA = not applicable

Table 3-10.-Observer sampling effort and fishing effort by vessel type on observed vessels for statewide scallop and BSAI crab fisheries, 2004.

Fishery	Vessel Type	Number of Sample Pots or Tows	Number of Total Pots or Tows	Sample Rate	Number of Landings	Harvest[a]
Aleutian Islands golden king crab[b]	C/V	4,408	Confidential			
	C/P	417	Confidential			
	Total	4,825	91,694	5.3%	83	5,575,051
Bering Sea snow crab	C/V	688	11,067	6.2%	25	2,421,672
	C/P	159	3,943	4.0%	11	666,027
	Total	847	15,010	5.6%	36	3,087,699
Bering Sea snow crab CDQ	C/V	619	Confidential			
	C/P	161	Confidential			
	Total	780	13,622	5.7%	25	1,770,774
Bering Sea golden king crab	C/V	551	2,312	23.8%	Confidential	
Bristol Bay red king crab	C/V[c]	339	6,304	5.4%	22	1,042,600
	AFA C/V	67	842	8.0%	3	123,137
	C/P	130	3,370	3.9%	14	606,041
	Total	536	10,516	5.1%	39	1,771,778
Bristol Bay red king crab CDQ	C/V	143	Confidential			
	C/P	83	Confidential			
	Total	226	4,312	5.2%	16	904,244
Bristol Bay golden king crab	C/V	10	Confidential			
Bering Sea grooved Tanner	C/V	628	Confidential			
Statewide scallops[d]	C/P	1,157	4,241	27.3%	16	425,477
Totals		16,774	287,016	5.8%	432	26,769,831

[a] In pounds, deadloss included

[b] 2004/2005 fishery

[c] Non-AFA catcher vessels

[d] 2004/2005 regulatory year, excluding Cook Inlet

Table 3-11.-Aleutian Islands golden king crab observer sampling efforts for bycatch and retained catch by vessel type, 1996 – 2004.

Year	Vessel Type	Number of[a]		% Obs. Coverage	Number of				% Sample Pot Pulls by Vessel Type	Number of	
		Total Vessels	Obs. Vessels		Observer Trips	Observer Months	Sample Pots	Pot Pulls by Vessel Type		Size Freq.[b]	Legal Tallies[c]
1996/1997	C/V	15	15	100.0	44	73.6	9,741	146,629	6.6	90	111
	C/P	3	3	100.0	11	16.0	1,610	32,023	5.0	239	257
	F/P	0	0	NA	0	0.0	NA	NA	NA	NA	NA
	TOTAL	18	18	100.0	55	88.6	11,351	178,652	6.4	329	368
1997/1998	C/V	11	11	100.0	41	62.0	6,871	124,073	5.5	83	94
	C/P	4	4	100.0	12	18.8	1,388	41,922	3.3	267	259
	F/P	0	0	NA	0	0.0	NA	NA	NA	NA	NA
	TOTAL	15	15	100.0	53	80.8	8,259	165,995	5.0	350	353
1998/1999	C/V	13	13	100.0	17	29.0	3,076	68,960	4.5	43	47
	C/P	3	3	100.0	7	13.0	1,293	37,584	3.4	230	233
	F/P	1	1	100.0	1	1.0	NA	NA	NA	4	4
	TOTAL	17	17	100.0	25	43.0	4,369	106,544	4.1	277	284
1999/2000	C/V	15	15	100.0	49	69.0	7,642	Confidential		97	121
	C/P	1	1	100.0	5	11.2	822	Confidential		228	230
	F/P	0	0	NA	0	0.0	NA	NA	NA	NA	NA
	TOTAL	16	16	100.0	54	80.2	8,464	186,430	4.5	325	351
2000/2001	C/V	16	16	100.0	47	63.5	9,015	Confidential		102	106
	C/P	1	1	100.0	5	9.2	742	Confidential		183	174
	F/P	0	0	NA	0	0.0	NA	NA	NA	NA	NA
	TOTAL	17	17	100.0	52	72.7	9,757	173,241	5.6	285	280

-continued-

Table 3-11.-(Page 2 of 2)

Year	Vessel Type	Number of[a]		% Obs. Coverage	Number of				% Sample Pot Pulls by Vessel Type	Number of	
		Total Vessels	Obs. Vessels		Observer Trips	Observer Months	Sample Pots	Pot Pulls by Vessel Type		Size Freq.[b]	Legal Tallies[c]
2001/2002	C/V	20	20	100.0	44	58.7	8,344	Confidential		100	102
	C/P	1	1	100.0	4	7.7	700	Confidential		146	147
	F/P	1	1	100.0	1	0.1	NA	NA	NA	1	1
	TOTAL	21	21	100.0	49	66.5	9,044	167,544	5.4	247	250
2002/2003	C/V	21	21	100.0	31	44.3	5,834	Confidential		81	81
	C/P	1	1	100.0	2	7.0	660	Confidential		144	146
	F/P	0	0	NA	0	0.0	NA	NA	NA	NA	NA
	TOTAL	22	22	100.0	33	51.3	6,494	147,618	4.4	225	227
2003/2004	C/V	20	20	100.0	28	40.5	6,744	Confidential		73	73
	C/P	1	1	100.0	3	6.1	550	Confidential		115	115
	F/P	0	0	NA	0	0.0	NA	NA	NA	NA	NA
	TOTAL	21	21	100.0	31	46.6	7,294	125,119	5.8	188	188
2004/2005	C/V	21	21	100.0	25	45.8	4,408	Confidential		61	63
	C/P	1	1	100.0	2	4.9	417	Confidential		100	100
	F/P	0	0	NA	0	0	NA	NA	NA	NA	NA
	TOTAL	22	22	100.0	27	50.7	4,825	91,694	5.3	163.0	161

[a] Some vessels participated as both a C/P and F/P, but are counted once in the total number of vessels.

[b] Size frequency sample taken on retained catch; each data set typically consists of 100 crab.

[c] Each legal tally typically consists of 600 crab.

Table 3-12.-Bering Sea snow crab observer sampling efforts for bycatch and retained catch by vessel type, 1995 – 2004.

Year	Vessel Type	Number of [a]		% Obs. Coverage	Number of					% Sample Pot Pulls by Obs. Vessel Type[b]	% Sample Pot Pulls by Vessel Type[b]	Number of	
		Total Vessels	Obs. Vessels		Observer Trips	Observer Months	Sample Pots	Pot Pulls by Obs. Vessel Type[b]	Pot Pulls by Vessel Type[b]			Size Freq.[c]	Legal Tallies[d]
1995	C/V	234	0	0.0	NA	NA	NA	NA	-	NA	NA	NA	NA
	C/P	19	19	100.0	36	31.6	1,574	-	-	-	-	465	475
	F/P	15	15	100.0	17	22.5	NA	NA	NA	NA	NA	-	-
	TOTAL	268	34	12.7	53	54.1	1,574	-	506,802	-	0.3	465	475
1996	C/V	219	0	0.0	NA	NA	NA	NA	-	NA	NA	NA	NA
	C/P	15	15	100.0	35	31.3	1,412	-	-	-	-	479	494
	F/P	13	13	100.0	15	25.1	NA	NA	NA	NA	NA	246	292
	TOTAL	247	28	11.3	50	56.4	1,412	-	520,651	-	0.3	725	786
1997	C/V	216	0	0.0	NA	NA	NA	NA	680,725	NA	NA	NA	NA
	C/P	14	14	100.0	24	33.5	1,728	73,415	73,415	2.4	2.4	607	621
	F/P	11	11	100.0	17	26.5	NA	NA	NA	NA	NA	440	447
	TOTAL	237	25	10.5	41	60.0	1,728	73,415	754,140	2.4	0.2	1,047	1,068
1998	C/V	217	0	0.0	NA	NA	NA	NA	825,832	NA	NA	NA	NA
	C/P	12	12	100.0	21	30.7	5,872	65,436	65,436	9.0	9.0	598	609
	F/P	11	11	100.0	14	26.9	NA	NA	NA	NA	NA	751	762
	TOTAL	240	23	9.6	35	57.6	5,872	65,436	891,268	9.0	0.7	1,349	1,371
1999	C/V	231	0	0.0	NA	NA	NA	NA	846,163	NA	NA	NA	NA
	C/P	10	10	100.0	15	24.6	1,593	52,880	52,880	3.0	3.0	694	8
	F/P	11	11	100.0	12	26.3	NA	NA	NA	NA	NA	736	683
	TOTAL	252	21	8.3	27	50.9	1,593	52,880	899,043	3.0	0.2	1,430	691

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Year	Vessel Type	Number of [a]		% Obs. Coverage	Number of					% Sample Pot Pulls by Obs. Vessel Type[b]	% Sample Pot Pulls by Vessel Type[b]	Number of	
		Total Vessels	Obs. Vessels		Observer Trips	Observer Months	Sample Pots	Pot Pulls by Obs. Vessel Type[b]	Pot Pulls by Vessel Type[b]			Size Freq.[c]	Legal Tallies[d]
2000	C/V	220	0	0.0	NA	NA	NA	NA	161,579	NA	NA	NA	NA
	C/P	9	9	100.0	10	5.7	202	8,485	8,485	2.4	2.4	76	60
	F/P	5	5	100.0	5	3.5	NA	NA	NA	NA	NA	111	91
	TOTAL	234	14	6.0	15	9.2	202	8,485	170,064	2.4	0.1	187	151
2001	C/V	200	7	3.5	7	9.6	241	4,663	159,438	5.2	0.2	7	6
	C/P	7	7	100.0	10	9.4	487	17,492	17,492	2.8	2.8	162	83
	F/P	3	3	100.0	3	4.3	NA	NA	NA	NA	NA	74	64
	TOTAL	210	17	8.1	20	23.3	728	22,155	176,930	3.3	0.4	243	153
2002	C/V	183	10	5.5	12	11.8	809	16,021	292,846	5.0	0.3	29	21
	C/P	8	8	100.0	9	8.0	509	14,820	14,820	3.4	3.4	170	121
	F/P	5	5	100.0	5	4.0	NA	NA	NA	NA	NA	192	105
	TOTAL	194	21	10.8	26	23.8	1,318	30,841	307,666	4.3	0.4	391	247
2003	C/V	188	18	9.6	19	14.1	741	12,813	136,280	5.8	0.5	20	20
	C/P	5	5	100.0	5	3.0	129	3,623	3,623	3.6	3.6	47	47
	F/P	5	5	100.0	6	3.5	NA	NA	NA	NA	NA	61	61
	TOTAL	196	26	13.3	30	20.6	870	16,436	139,903	5.3	0.6	128	128

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Year	Vessel Type	Number of [a]		% Obs. Coverage	Number of					% Sample Pot Pulls by Obs. Vessel Type[b]	% Sample Pot Pulls by Vessel Type[b]	Number of	
		Total Vessels	Obs. Vessels		Observer Trips	Observer Months	Sample Pots	Pot Pulls by Obs. Vessel Type[b]	Pot Pulls by Vessel Type[b]			Size Freq.[c]	Legal Tallies[d]
2004	C/V	183	19	10.4	19	13.7	688	11,067	106,144	6.2	0.6	19	19
	C/P	6	6	100.0	7	3.2	159	3,943	3,943	4.0	4.0	44	44
	F/P	5	5	100.0	5	3.2	NA	NA	NA	NA	NA	58	59
	TOTAL	192	28	14.7	31	20.1	847	15,010	110,087	5.6	0.8	121	122

[a] Some vessels participated as both a C/P and F/P, but are counted once in the total number of vessels.

[b] Information is not available for 1995 - 1996.

[c] Size frequency sample taken on retained catch; each data set typically consists of 100 crab. Information is not available for 1995.

[d] Each legal tally typically consists of 600 crab. Information is not available for 1995.

Table 3-13.-Bering Sea snow crab CDQ observer sampling efforts for bycatch and retained catch by vessel type, 1998 - 2004.

Year	Vessel Type	Number of[a]		% Obs. Coverage	Number of					% Sample Pot Pulls by Obs. Vessel Type[b]	% Sample Pot Pulls by Vessel Type[b]	Number of	
		Total Vessels	Obs. Vessels		Observer Trips	Observer Months	Sample Pots	Pot Pulls by Obs. Vessel Type	Pot Pulls by Vessel Type			Size Freq.[b]	Legal Tallies[c]
1998	C/V	20	20	all vessels	25	34.0	1,726	39,333	39,333	4.4	4.4	80	82
	F/P	0	0	all F/Ps	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TOTAL	20	20		25	34.0	1,726	39,333	39,333	4.4	4.4	80	82
1999	C/V	23	21	1 per group	26	10.2	789	14,131	46,490	5.6	1.7	35	27
	F/P	1	1	all F/Ps	2	1.9	NA	NA	NA	NA	NA	24	19
	TOTAL	24	22		28	12.1	789	14,131	46,490	5.6	1.7	59	46
2000	C/V	13	12	2 per group	12	8.5	629	Confidential	12,570	Confidential	5.0	32	26
	F/P	0	0	all F/Ps	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TOTAL	13	12		12	8.5	629	Confidential	12,570	Confidential	5.0	32	26
2001	C/V	11	11	2 per group	11	9.9	771	14,270	14,270	5.4	5.4	33	11
	F/P	0	0	all F/Ps	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TOTAL	11	11		11	9.9	771	14,270	14,270	5.4	5.4	33	11
2002	C/V	11	11	2 per group	15	16.0	1,098	Confidential	18,845	Confidential	5.8	12	10
	F/P	0	0	all F/Ps	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TOTAL	11	11		15	16.0	1,098	Confidential	18,845	Confidential	5.8	12	10
2003[d]	C/V	9	8	2 per group	8	8.3	622	Confidential				21	21
	C/P	1	1	all C/Ps	2	2.1	129	Confidential				40	40
	F/P	0	0	all F/Ps	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TOTAL	10	9		10	10.4	746	Confidential	14,583	Confidential	5.1	61	61

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Year	Vessel Type	Number of[a]		% Obs. Coverage	Number of					% Sample Pot Pulls by Obs. Vessel Type[b]	% Sample Pot Pulls by Vessel Type[b]	Number of	
		Total Vessels	Obs. Vessels		Observer Trips	Observer Months	Sample Pots	Pot Pulls by Obs. Vessel Type	Pot Pulls by Vessel Type			Size Freq.[b]	Legal Tallies[c]
2004	C/V	9	9	2 per group	9	9.2	619	Confidential				23	17
	C/P	1	1	all C/Ps	1	1.8	161	Confidential				38	39
	F/P	0	0	all F/Ps	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TOTAL	10	10		10	11.0	780	13,622	13,622	5.7	5.7	61	56

[a] Vessels may not have had observer coverage for 100% of the fishing time.

[b] Size frequency sample taken on retained catch; each data set typically consists of 100 crab.

[c] Each legal tally typically consists of 600 crab.

[d] 2003 was the first year a C/P participated in the fishery.

Table 3-14.-Bering Sea golden king crab observer sampling efforts for bycatch and retained catch by vessel type in 1989, 1992, 2001 - 2004.

Year	Vessel Type	Number of		% Obs. Coverage	Number of				% Sample Pot Pulls by Vessel Type[a]	Number of	
		Total Vessels	Obs. Vessels		Observer Trips	Observer Months	Sample Pots[a]	Pot Pulls by Vessel Type[a]		Size Freq.[a,b]	Legal Tallies[a,c]
1989	C/V	0	0	100.0	0	0.0	NA	NA	NA	NA	NA
	C/P	2	2	100.0	2	1.5	-	-	-	-	-
	TOTAL	2	2	100.0	2	1.5	-	-	-	-	-
1992	C/V	0	0	100.0	0	0.0	NA	NA	NA	NA	NA
	C/P	2	2	100.0	2	1.3	-	-	-	-	-
	TOTAL	2	2	100.0	0	1.3	-	-	-	-	-
2001	C/V	6	6	100.0	9	10.5	1,356	4,513	30.0	13	14
	C/P	0	0	100.0	0	0.0	NA	NA	NA	NA	NA
	TOTAL	6	6	100.0	9	10.5	1,356	4,513	30.0	13	14
2002	C/V	8	8	100.0	11	11.4	1,505	5,464	27.5	9	10
	C/P	0	0	100.0	0	0.0	NA	NA	NA	NA	NA
	TOTAL	8	8	100.0	11	11.4	1,505	5,464	27.5	9	10
2003	C/V	3	3	100.0	3	4.6	593	Confidential		6	6
	C/P	0	0	100.0	0	0	NA	NA	NA	NA	NA
	TOTAL	3	3	100.0	3	4.6	593	Confidential		6	6
2004	C/V	5	5	100.0	5	3.4	551	2,312	23.8	7	7
	C/P	0	0	100.0	0	0	NA	NA	NA	NA	NA
	TOTAL	5	5	100.0	5	3.4	551	2,312	23.8	7	7

[a] Information is not available for 1989 and 1992.

[b] Size frequency sample taken on retained catch; each data set typically consists of 100 crab.

[c] Each legal tally typically consists of 600 crab.

Table 3-15.-Bristol Bay red king crab observer sampling efforts for bycatch and retained catch by vessel type, 1988 – 2004.

Year	Vessel Type	Number of[a]		% Obs. Coverage	Number of					% Sample Pot Pulls by Obs. Vessel Type[b]	% Sample Pot Pulls by Vessel Type[b]	Number of	
		Total Vessels	Obs. Vessels		Observer Trips	Observer Months	Sample Pots	Pot Pulls by Obs. Vessel Type[b]	Pot Pulls by Vessel Type[b]			Size Freq.[c]	Legal Tallies[b,d]
1988	C/V	180	0	0.0	0	0	NA	NA	-	NA	NA	NA	NA
	C/P	20	20	100.0	20	8.4	31	-	-	-	-	0	-
	F/P	5	5	100.0	5	1.9	NA	NA	NA	NA	NA	0	-
	TOTAL	205	25	12.2	25	10.3	31	-	153,004	-	<.1	0	-
1989	C/V	193	0	0.0	0	0	NA	NA	-	NA	NA	NA	NA
	C/P	18	18	100.0	18	10.9	94	-	-	-	-	110	-
	F/P	12	12	100.0	12	6.8	NA	NA	NA	NA	NA	101	-
	TOTAL	223	30	13.5	30	17.6	94	-	208,684	-	<.1	211	-
1990	C/V	220	0	0.0	0	0	NA	NA	-	NA	NA	NA	NA
	C/P	20	20	100.0	20	11.9	140	-	-	-	-	-	-
	F/P	15	15	100.0	15	8.9	NA	NA	NA	NA	NA	-	-
	TOTAL	255	35	13.7	35	20.8	140	-	262,131	-	0.1	-	-
1991	C/V	277	0	0.0	0	0	NA	NA	-	NA	NA	NA	NA
	C/P	25	25	100.0	26	14.2	272	-	-	-	-	163	-
	F/P	14	14	100.0	14	7.4	NA	NA	NA	NA	NA	130	-
	TOTAL	316	39	12.3	40	21.5	272	-	227,555	-	0.1	293	-
1992	C/V	263	0	0.0	0	0	NA	NA	-	NA	NA	NA	NA
	C/P	18	18	100.0	19	9.0	290	-	-	-	-	99	-
	F/P	6	6	100.0	6	3.0	NA	NA	NA	NA	NA	80	-
	TOTAL	287	24	8.4	25	12.0	290	-	205,940	-	0.1	179	-

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Year	Vessel Type	Number of[a] Total Vessels	Number of[a] Obs. Vessels	% Obs. Coverage	Number of Observer Trips	Number of Observer Months	Number of Sample Pots	Number of Pot Pulls by Obs. Vessel Type[b]	Number of Pot Pulls by Vessel Type[b]	% Sample Pot Pulls by Obs. Vessel Type[b]	% Sample Pot Pulls by Vessel Type[b]	Number of Size Freq.[c]	Number of Legal Tallies[b,d]
1993	C/V	275	0	0.0	0	0	NA	NA	-	NA	NA	NA	NA
	C/P	17	17	100.0	19	10.6	558	-	-	-	-	124	-
	F/P	7	7	100.0	7	4.5	NA	NA	NA	NA	NA	112	-
	TOTAL	299	24	8.0	26	15.1	558	-	253,794	-	0.2	236	-
1994	NO COMMERCIAL FISHERY												
1995	NO COMMERCIAL FISHERY												
1996	C/V	192	0	0.0	0	0	0	NA	73,908	NA	NA	NA	NA
	C/P	4	4	100.0	7	2.0	84	2,525	2,525	3.3	3.3	19	19
	F/P	2	2	100.0	2	0.8	NA	NA	NA	NA	NA	26	62
	TOTAL	197	5	2.5	9	2.8	84	2,525	76,433	3.3	0.1	45	81
1997	C/V	248	0	0.0	0	0	0	NA	86,968	NA	NA	NA	NA
	C/P	8	8	100.0	12	3.9	146	3,542	3,542	4.1	4.1	28	28
	F/P	3	3	100.0	3	1.6	NA	NA	NA	NA	NA	52	56
	TOTAL	259	11	4.2	15	5.5	146	3,542	90,510	4.1	0.2	80	84
1998	C/V	263	0	0.0	0	0	0	NA	135,093	NA	NA	NA	NA
	C/P	11	11	100.0	19	6.7	131	6,614	6,614	2.0	2.0	48	52
	F/P	5	5	100.0	3	1.8	NA	NA	NA	NA	NA	37	52
	TOTAL	277	14	5.1	22	8.5	131	6,614	141,707	2.0	0.1	85	104
1999	C/V	249	0	0.0	0	0	0	NA	141,298	NA	NA	NA	NA
	C/P	8	8	100.0	10	4.6	135	5,699	5,699	2.4	2.4	46	56
	F/P	3	3	100.0	1	1.0	NA	NA	NA	NA	NA	22	26
	TOTAL	258	9	3.5	11	5.6	135	5,699	146,997	2.4	0.1	68	82

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Year	Vessel Type	Number of[a]		% Obs. Coverage	Number of					% Sample Pot Pulls by Obs. Vessel Type[b]	% Sample Pot Pulls by Vessel Type[b]	Number of	
		Total Vessels	Obs. Vessels		Observer Trips	Observer Months	Sample Pots	Pot Pulls by Obs. Vessel Type[b]	Pot Pulls by Vessel Type[b]			Size Freq.[c]	Legal Tallies[b,d]
2000	C/V[e]	214	11	5.1	11	5.1	403	4,429	86,313	9.1	0.5	10	11
	AFA C/V	25	3	12.0	3	1.1	88	1,024	8,340	8.6	1.1	3	3
	C/P	7	7	100.0	9	3.4	156	4,041	4,041	3.9	3.9	28	29
	F/P	2	2	100.0	3	0.6	NA	NA	NA	NA	NA	14	17
	TOTAL	247	22	8.9	26	10.2	647	9,494	98,694	6.8	0.7	55	60
2001	C/V[e]	193	20	10.4	20	9.5	359	5,746	54,804	6.2	0.7	19	19
	AFA C/V	31	3	9.7	3	1.0	48	682	6,662	7.0	0.7	3	3
	C/P	6	6	100.0	7	2.3	97	1,776	1,776	5.5	5.5	13	13
	F/P	3	3	100.0	3	1.2	NA	NA	NA	NA	NA	19	19
	TOTAL	231	30	13.0	33	14.0	504	8,204	63,242	6.1	0.8	54	54
2002	C/V[e]	204	17	8.3	17	7.1	330	5,236	55,496	6.3	0.6	16	18
	AFA C/V	31	3	9.7	3	1.3	37	551	5,776	6.7	0.6	3	3
	C/P	7	7	100.0	8	2.3	144	2,556	2,556	5.6	5.6	21	21
	F/P	3	3	100.0	3	1.0	NA	NA	NA	NA	NA	9	9
	TOTAL	243	28	11.5	31	11.8	511	8,343	63,828	6.1	0.8	49	51
2003	C/V[e]	210	19	9.0	20	10.0	485	10,531	111,120	4.6	0.4	11	11
	AFA C/V	32	3	9.0	3	1.2	71	911	12,913	7.8	0.5	1	1
	C/P	8	8	100.0	10	3.6	175	4,986	4,986	3.5	3.5	35	32
	F/P	4	4	100.0	4	1.6	NA	NA	NA	NA	NA	16	18
	TOTAL	251	31	13.0	37	16.4	731	16,428	129,019	4.4	0.6	63	62

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Year	Vessel Type	Number of[a]		% Obs. Coverage	Number of					% Sample Pot Pulls by Obs. Vessel Type[b]	% Sample Pot Pulls by Vessel Type[b]	Number of	
		Total Vessels	Obs. Vessels		Observer Trips	Observer Months	Sample Pots	Pot Pulls by Obs. Vessel Type[b]	Pot Pulls by Vessel Type[b]			Size Freq.[c]	Legal Tallies[b,d]
2004	C/V[e]	211	17	8.0	17	6.6	339	6,304	79,509	5.4	0.4	16	16
	AFA C/V	32	3	9.0	3	1.1	67	842	8,093	8.0	0.8	3	3
	C/P	8	8	100.0	9	2.8	130	3,370	3,370	3.9	3.9	17	17
	F/P	4	4	100.0	4	1.4	NA	NA	NA	NA	NA	31	33
	TOTAL	252	29	12.0	33	11.9	536	10,516	90,972	5.1	0.6	67	69

[a] Some vessels participated as both a C/P and F/P and are only counted once in the total number of vessels.

[b] Information is not available for 1988-1993.

[c] Size frequency sample taken on retained catch; each data set typically consists of 100 crab. Information is not available for 1990.

[d] Each legal tally typically consists of 600 crab.

[e] Non-AFA catcher vessels.

Table 3-16.-Bristol Bay red king crab CDQ observer sampling efforts for bycatch and retained catch by vessel type, 1998 - 2004.

Year	Vessel Type	Number of		% Obs. Coverage	Number of					% Sample Pot Pulls by Obs. Vessel Type[b]	% Sample Pot Pulls by Vessel Type[b]	Number of	
		Total Vessels	Obs. Vessels		Observer Trips	Observer Months	Sample Pots	Pot Pulls by Obs. Vessel Type	Pot Pulls by Vessel Type			Size Freq.[a]	Legal Tallies[b]
1998	C/V	7	7	all vessels	7	3.1	193	3,405	3,405	5.7	5.7	9	10
1999	C/V	10	10	all vessels	10	3.5	263	2,976	2,976	8.8	8.8	9	12
2000	C/V	11	11	all vessels	11	4.4	423	4,663	4,663	9.1	9.1	1	0
2001	C/V	10	6	1 per group	6	2.9	166	2,516	3,158	6.6	5.3	9	9
2002	C/V	10	6	1 per group	6	2.7	242	2,875	3,909	8.4	6.2	9	9
2003[c]	C/V	11	6	1 per group	7	2.8	184	Confidential				8	8
	C/P	2	2	all vessels	2	0.9	95	Confidential				14	4
	TOTAL	13	8		9	3.7	279	4,372	5,704	6.4	4.9	22	12
2004	C/V	10	6	1 per group	7	3.5	143	Confidential				11	11
	C/P	2	2	all vessels	2	1.2	83	Confidential				12	12
	TOTAL	12	8		9	4.7	226	4,312	5,359	5.2	4.2	23	23

[a] Size frequency sample taken on retained catch; each data set typically consists of 100 crab.

[b] Each legal tally typically consists of 600 crab.

[c] 2003 was the first year C/Ps fished Bristol Bay CDQ red king crab.

Table 3-17.-Statewide grooved Tanner crab observer sampling efforts for bycatch and retained catch by vessel type, 1994 – 2004.

Year	Vessel Type	Number of Total Vessels	Number of Obs. Vessels	% Obs. Coverage	Number of Observer Trips	Number of Observer Months	Number of Sample Pots	Pot Pulls by Vessel Type	% Sample Pot Pulls by Vessel Type	Number of Size Freq.[a]	Number of Legal Tallies[b]
1994	C/V	6	6	100.0	14	16.6	1782	Confidential		58	30
	C/P	2	2	100.0	3	2.3	336	Confidential		46.0	45.0
	TOTAL	8	8	100.0	17	18.8	2118	55,433	3.8	104	75
1995	C/V	16	16	100.0	47	55.2	10343	Confidential		155	145
	C/P	2	2	100.0	8	6.2	620	Confidential		66.0	85.0
	TOTAL	18	18	100.0	55	61.3	10963	163,462	6.7	221	230
1996	C/V	9	9	100.0	20	26.3	4469	73,960	6.0	40	62
	C/P	0	0	100.0	0	0.0	NA	NA	NA	NA	NA
	TOTAL	9	9	100.0	20	26.3	4469	73,960	6.0	40	62
1997					No vessels participated in the fishery						
1998					No vessels participated in the fishery						
1999					No vessels participated in the fishery						
2000	C/V	1	1	100.0	1	1.4	164	Confidential		3.0	3.0
	C/P	2	2	100.0	2	0.7	17	Confidential		5	0
	TOTAL	3	3	100.0	3	2.0	181	Confidential		8	3
2001	C/V	2	2	100.0	4	2.7	258	Confidential		15	15
	C/P	0	0	100.0	0	0.0	NA	NA	NA	NA	NA
	TOTAL	2	2	100.0	4	2.7	258	Confidential		15	15
2002					No vessels participated in the fishery						

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Year	Vessel Type	Number of Total Vessels	Number of Obs. Vessels	% Obs. Coverage	Number of Observer Trips	Number of Observer Months	Number of Sample Pots	Pot Pulls by Vessel Type	% Sample Pot Pulls by Vessel Type	Number of Size Freq.[a]	Number of Legal Tallies[b]
2003	C/V	1	1	100.0	2	3.2	393	Confidential		11	10
	C/P	0	0	100.0	0.0	0.0	NA	NA	NA	NA	NA
	TOTAL	1	1	100.0	2	3.2	393	Confidential		11	10
2004	C/V	2	2	100.0	4	5.0	628	Confidential		18	14
	C/P	0	0	100.0	0.0	0.0	NA	NA	NA	NA	NA
	TOTAL	2	2	100.0	4	5.0	628	Confidential		18	14

[a] Size frequency sample taken on retained catch; each data set typically consists of 100 crab.

[b] Each legal tally typically consists of 600 crab.

Table 3-18.-Yearly summary by region of observed scallop vessels, number of observer trips, and observer-months at sea for Alaska weathervane scallop fisheries from 1993 – 2004/05, excluding Cook Inlet.

Year	Yakutat[a]			Prince William Sound			Westward[c]			Total		
	Vessel[b]	Trips	Months	Vessel[b]	Trips	Months	Vessel[b]	Trips	Months	Vessel[b]	Trips	Months
1993	7	8	4.1	7	7	2.3	11	62	35.0	10	77	41.4
1994/1995	10	15	6.8	0	0	0.0	12	50	35.2	12	65	42.0
1995/1996	8	9	8.1	2	2	1.0	1	4	2.4	8	15	11.5
1996/1997	4	7	5.7	0	0	0.0	5	12	11.7	5	19	17.4
1997/1998	4	4	4.2	1	1	0.4	6	20	17.0	6	25	21.6
1998/1999	8	10	7.7	2	2	0.7	8	28	18.0	8	40	26.5
1999/2000	3	4	6.1	2	2	0.5	7	21	15.1	8	27	21.7
2000/2001	3	10	8.4	3	3	1.4	6	14	10.4	7	27	20.2
2001/2002	2	4	3.8	1	2	1.0	4	11	9.9	4	17	14.7
2002/2003	2	2	3.9	2	2	0.9	3	13	10.0	4	17	14.8
2003/2004	2	3	4.3	1	2	0.7	2	8	7.9	2	13	12.9
2004/2005	2	4	3.8	3	3	1.6	2	5	5.9	3	12	11.3
Average	5	7	5.6	2	2	0.9	6	21	14.9	6	30	21.3

[a] Includes District 16.

[b] Number of unique vessels.

[c] Includes Kodiak, Alaska Peninsula, Dutch Harbor, Adak and Bering Sea Registration Area.

Table 3-19.-Scallop observer activity by area for the 2004/2005 regulatory season.

Area	Number of Vessels[a]	Observer Trips		Observer Months	Percent of Total Observer Months
		Number	Percent		
Yakutat	2	4	33.3	3.8	33.6
Prince William Sound	3	3	25.0	1.6	14.2
Kodiak	2	4	33.3	5.5	48.7
Bering Sea	1	1	8.3	0.4	3.5
Alaska Peninsula	0	0	0.0	0.0	0.0
Adak	0	0	0.0	0.0	0.0

[a] Number of unique vessels.

NA = not applicable

Table 3-20.-Summary of evidence collected by shellfish observers during fisheries in which observers were deployed.

Fishery	Year	Observer Trips	Trips with Evidence	Percent of Observed Trips[a]	Percent of Year's Evidence[b]
St. Matthew / Pribilof red and blue king crab	1991	11	0	0.0	0.0
	1992	16	1	6.3	2.4
	1993	11	1	9.1	5.6
	1994	11	1	9.1	5.9
	1995	7	1	14.3	4.0
	1996	7	4	57.1	16.7
	1997	4	0	0.0	0.0
	1998	8	1	12.5	3.0
Dutch Harbor area golden king crab	1991	4	1	25.0	2.4
	1992	6	1	16.7	2.4
	1993	2	0	0.0	0.0
	1994	2	1	50.0	5.9
	1995	19	0	0.0	0.0
Adak area red and golden king crab	1991	23	3	13.0	7.1
	1992	12	5	41.7	11.9
	1993	5	1	20.0	5.6
	1994	12	2	16.7	11.8
	1995	60	5	8.3	20.0
Adak area red king crab only	1991	2	0	0.0	0.0
	1992	2	0	0.0	0.0
	1993	1	0	0.0	0.0
	1994	4	1	25.0	5.9
	2001	6	0	0.0	0.0
	2002	46	0	0.0	0.0
	2003	31	0	0.0	0.0
Aleutian Islands golden king crab [c]	1996	34	12	35.3	50.0
	1997	53	15	28.3	57.7
	1998	25	3	12.0	9.1
	1999	54	3	5.6	25.0
	2000	52	2	3.8	40.0
	2001	49	5	10.2	71.4
	2002	33	0	0.0	0.0
	2003	31	0	0.0	0.0
	2004	27	1	3.7	0.3

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Fishery	Year	Observer Trips	Trips with Evidence	Percent of Observed Trips[a]	Percent of Year's Evidence[b]
	1996	9	0	0.0	0.0
	1997	15	3	20.0	11.5
	1998	24	3	12.5	9.1
Bristol Bay red king crab	1999	15	3	20.0	25.0
	2000	26	1	3.8	20.0
	2001	33	2	6.1	28.6
	2002	33	0	0.0	0.0
	2003	37	3	8.1	42.9
	2004	33	1	3.0	0.3
	1991	151	18	11.9	42.9
	1992	107	19	17.8	45.2
	1993	63	8	12.7	44.4
	1994	55	8	14.5	47.1
	1995	53	14	26.4	56.0
Bering Sea snow crab	1996	50	3	6.0	12.5
	1997	41	4	9.8	15.4
	1998	35	11	31.4	33.3
	1999	27	5	18.5	41.7
	2000	15	0	0.0	0.0
	2001	20	0	0.0	0.0
	2002	26	3	11.5	100.0
	2003	30	3	10.0	42.9
	2004	31	1	3.2	0.3
	1991	52	12	23.1	28.6
	1992	42	8	19.0	19.0
Bering Sea Tanner crab	1993	22	5	22.7	27.8
	1994	10	2	20.0	11.8
	1995	12	2	16.7	8.0
	1996	3	0	0.0	0.0
	1992	10	0	0.0	0.0
Bering Sea hair crab	1993	27	0	0.0	0.0
	1994	12	1	8.3	5.9
	1995	22	0	0.0	0.0

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Fishery	Year	Observer Trips	Trips with Evidence	Percent of Observed Trips[a]	Percent of Year's Evidence[b]
	1996	21	3	14.3	12.5
	1997	16	4	25.0	15.4
Bering Sea hair crab	1998	12	2	16.7	6.1
	1999	8	0	0.0	0.0
	2000	3	0	0.0	0.0
	1994	14	1	7.1	5.9
Grooved Tanner crab	1995	57	1	1.8	4.0
All areas[d]	1996	20	2	10.0	8.3
	2000	3	0	0.0	0.0
	2001	4	0	0.0	0.0
	2003	2	0	0.0	0.0
	2004	4	0	0.0	0.0
	1992	8	0	0.0	0.0
	1993	8	0	0.0	0.0
	1994	0	0	0.0	0.0
	1995	15	2	13.3	8.0
Miscellaneous	1996	1	0	0.0	0.0
Fisheries[e]	1997	4	0	0.0	0.0
	1998	0	0	0.0	0.0
	1999	0	0	0.0	0.0
	2000	1	0	0.0	0.0
	2001	10	0	0.0	0.0
	2002	12	0	0.0	0.0
	2003	3	0	0.0	0.0
	2004	6	0	0.0	0.0
	1998	35	13	37.1	39.4
Community Development	1999	38	1	2.6	8.3
Quota fisheries[f]	2000	23	2	8.7	40.0
	2001	17	0	0.0	0.0
	2002	21	0	0.0	0.0
	2003	19	1	5.3	14.3
	2004	19	1	5.3	0.3

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Fishery	Year	Observer Trips	Trips with Evidence	Percent of Observed Trips[a]	Percent of Year's Evidence[b]
Statewide scallops	2001	15	0	0.0	0.0
	2002	17	0	0.0	0.0
	2003	13	0	0.0	0.0
	2004	12	0	0.0	0.0
Summary	1991	283	34	12.0	NA
	1992	228	34	14.9	
	1993	165	15	9.1	
	1994	120	17	14.2	
	1995	245	25	10.2	
	1996	145	24	16.6	
	1997	133	26	19.5	
	1998	139	33	23.7	
	1999	142	12	8.5	
	2000	123	5	4.1	
	2001	154	7	4.5	
	2002	199	3	1.5	
	2003	166	7	4.2	
	2004	132	4	3.0	

[a] Percentage of trips in which evidence was collected.

[b] Percentage of total evidence collected by fishery for the fishing season.

[c] In 1996 the Adak and Dutch Harbor king crab Registration Areas were consolidated into the Aleutian Islands Area 'O' king crab Registration Area and opened on September 1st, the traditional opening time of the former Dutch Harbor area.

[d] Grooved Tanner crab areas include the Bering Sea, Aleutian Islands, Kodiak, Alaska Peninsula, and Southeastern Alaska.

[e] Miscellaneous fisheries for all years can include: Bering Sea golden king crab, BSAI octopus, surf clam, snail, St. Lawrence blue king crab, Norton Sound red king crab, eastern Aleutian triangle Tanner crab, western Aleutian Tanner and hair crab, Southeast Alaska misc. (urchins, shrimp, etc.).

[f] CDQ fisheries include Bering Sea snow crab, St. Matthew blue king crab, Pribilof red and blue king crab, and Bristol Bay red king crab.

NA = not applicable

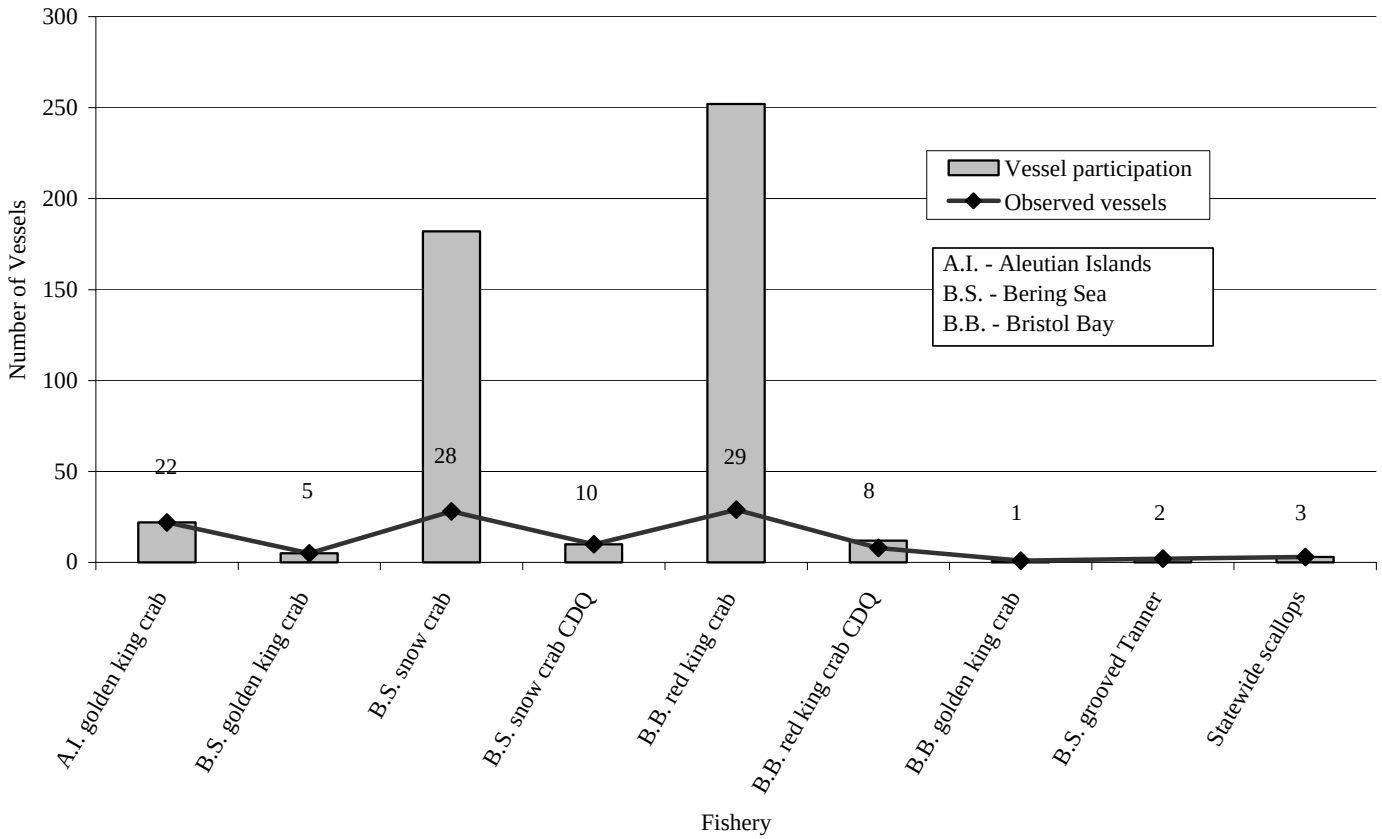

Figure 3-1.-Level of observer coverage by fishery in 2004.

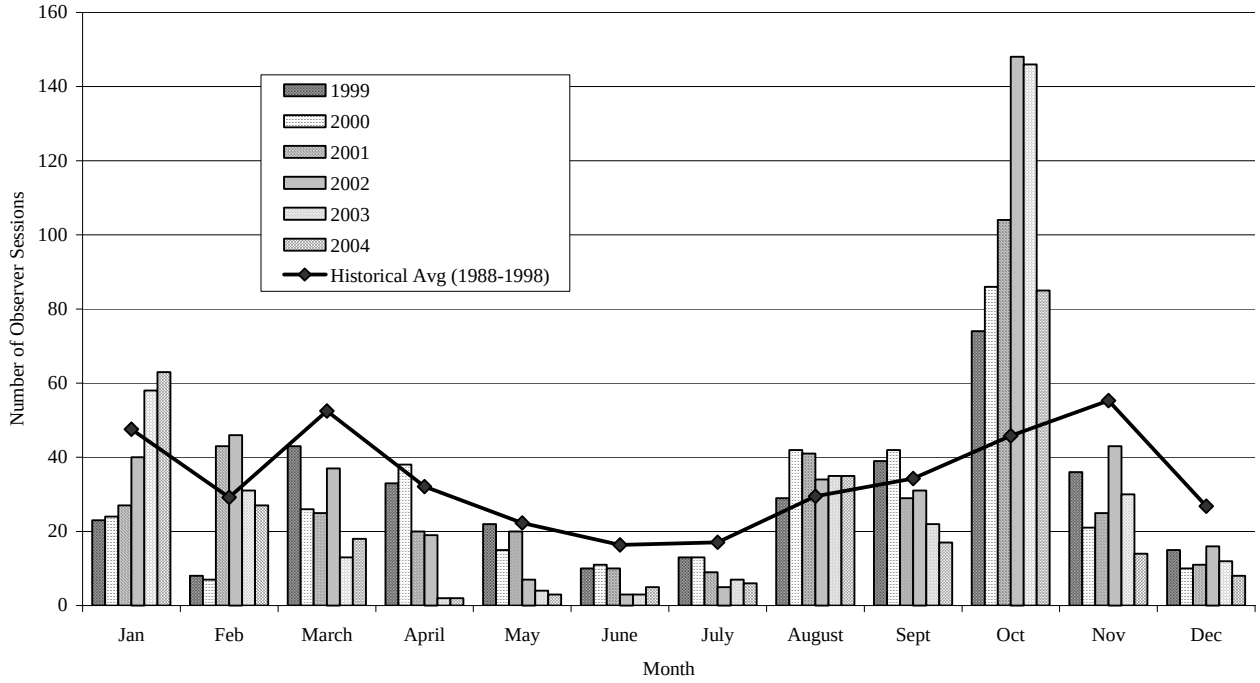

Figure 3-2.-Comparison of the total number of crab and scallop observer sessions, including briefings, midtrips and debriefings for calendar year 1999, 2000, 2001, 2002, 2003 and 2004, and the historical average (1988 - 1998).