Fishery Management Report No. 10-24

Annual Management Report for the Commercial and Subsistence Shellfish Fisheries of the Aleutian Islands, Bering Sea and the Westward Region's Shellfish Observer Program, 2008/09

by

Forrest R. Bowers,

Mary Schwenzfeier,

Kathleen Herring,

Melissa Salmon,

Krista Milani,

Janis Shaishnikoff,

Heather Barnhart,

Jeanette Alas,

Ryan Burt,

Britta Baechler,

and

Anna Buettner

June 2010

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

Symbols and Abbreviations

The following symbols and abbreviations, and others approved for the Système International d'Unités (SI), are used without definition in the following reports by the Divisions of Sport Fish and of Commercial Fisheries: Fishery Manuscripts, Fishery Data Series Reports, Fishery Management Reports, and Special Publications. All others, including deviations from definitions listed below, are noted in the text at first mention, as well as in the titles or footnotes of tables, and in figure or figure captions.

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. 10-24

ANNUAL MANAGEMENT REPORT FOR THE COMMERCIAL AND SUBSISTENCE SHELLFISH FISHERIES OF THE ALEUTIAN ISLANDS, BERING SEA, AND THE WESTWARD REGION'S SHELLFISH OBSERVER PROGRAM, 2008/09

by

Forrest R. Bowers and Mary Schwenzfeier
Alaska Department of Fish and Game, Division of Commercial Fisheries, Dutch Harbor

and

Kathleen Herring, Melissa Salmon, Krista Milani, Janis Shaishnikoff, Heather Barnhart, Jeanette Alas, Ryan Burt, Britta Baechler, and Anna Buettner
Alaska Department of Fish and Game, Division of Commercial Fisheries, Dutch Harbor

Alaska Department of Fish and Game
Division of Sport Fish, Research and Technical Services
333 Raspberry Road, Anchorage, Alaska 99518-1599

June 2010

The Fishery Management Reports series was established in 1989 by the Division of Sport Fish for the publication of an overview of management activities and goals in a specific geographic area, and became a joint divisional series in 2004 with the Division of Commercial Fisheries. Fishery Management Reports are intended for fishery and other technical professionals, as well as lay persons. Fishery Management Reports are available through the Alaska State Library and on the Internet: http://www.sf.adfg.state.ak.us/statewide/divreports/html/intersearch.cfm. This publication has undergone regional peer review.

Forrest R. Bowers and
Mary Schwenzfeier,
Alaska Department of Fish and Game, Division of Commercial Fisheries,
PO Box 920587, Dutch Harbor, Alaska 99692 USA

and

Kathleen Herring, Melissa Salmon, Krista Milani, Janis Shaishnikoff, Heather Barnhart, Jeanette Alas, Ryan Burt, Britta Baechler, and Anna Buettner
Alaska Department of Fish and Game, Division of Commercial Fisheries
PO Box 920587, Dutch Harbor, Alaska 99692 USA

This document should be cited as:
Bowers, F. R., M. Schwenzfeier, K. Herring, M. Salmon, K. Milani, J. Shaishnikoff, H. Barnhart, J. Alas, R. Burt, B. Baechler, and A. Buettner. 2010. Annual management report for the commercial and subsistence shellfish fisheries of the Aleutian Islands, Bering Sea and the Westward Region's Shellfish observer program, 2008/09. Alaska Department of Fish and Game, Fishery Management Report No. 10-24, Anchorage.

TABLE OF CONTENTS

Page

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Continued)

LIST OF TABLES

LIST OF TABLES (Continued)

LIST OF TABLES (Continued)

LIST OF FIGURES

LIST OF FIGURES (Continued)

ABSTRACT

The Alaska Department of Fish and Game's (ADF&G) Westward Region is tasked with management of all commercial and subsistence 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.). ADF&G's Arctic-Yukon-Kuskokwim Region manages king crab in the Bering Sea north of Cape Romanzof and Tanner crab in Norton Sound.

In 2008/09, 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 2008/09 Bering Sea king and Tanner crab Community Development Quota (CDQ) and Individual Fishing Quota (IFQ) fisheries are summarized.

To enhance shellfish fishery management and collect data that would otherwise be unavailable, ADF&G has operated an onboard observer program in the BSAI since 1988. 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. Details of the crab and scallop observer program are presented as well as information on the BSAI pot limit program.

Key words: red king crab *Paralithodes camtschaticus*, golden king crab *Lithodes aequispinus*, scarlet king crab *Lithodes couesi,* snow crab *Chionoecetes opilio*, Tanner crab *C. bairdi*, Dungeness crab *Cancer magister*, giant Pacific octopus *Octopus dofleini*, blue king crab *P. platypus*, grooved Tanner crab *C. tanneri*, triangle Tanner crab *C. angulatus,* green sea urchins *Strongylocentrotus droebachiensis*, pandalid shrimp, hair crab *Erimacrus isenbeckii,* sea snails, Community Development Quota, CDQ, Crab Rationalization, CR, individual fishing quota, IFQ, catch per unit effort, CPUE, Exclusive Economic Zone, EEZ, subsistence, guideline harvest level, GHL, Board of Fisheries, BOF, National Marine Fisheries Service, NMFS, Bering Sea, Aleutian Islands, North Peninsula, Area, District, deploy, observer-days, catcher-processor, C/P, catcher-vessel, C/V, floater-processor, F/P, bycatch, University of Alaska Anchorage, UAA, North Pacific Fisheries Observer Training Center, OTC, National Oceanic and Atmospheric Administration, NOAA, North Pacific Groundfish Observer Program, NPGOP, legal tallies, confidential interviews, CIF, United States Coast Guard, USCG, Commercial Fishing Vessel Safety Examination, CFVSE, Crab Observer Oversight Task Force, COOTF.

INTRODUCTION

The Alaska Department of Fish and Game (ADF&G) Westward Region includes all waters of the Territorial Sea (0-3 nautical miles) and Exclusive Economic Zone (EEZ, 3-200 nautical miles) south of Cape Douglas (58° 51.1' N lat.) and west of 148° 50.25' W long. to the U.S.-Russia Maritime Boundary in the Bering Sea. ADF&G in Dutch Harbor is tasked with management of all commercial and subsistence shellfish fisheries occurring in the Territorial Sea and 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 area is divided into several registration areas for king crab management, whereas districts are utilized for Tanner crab, Dungeness crab, and miscellaneous shellfish management. The major 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. Beginning with the 2005/06 season, major BSAI crab fisheries were managed under the crab rationalization (CR) program. The CR program has resulted in consolidation of the harvesting and processing sectors and greatly lengthened fishing seasons.

Species commercially harvested during the 2008/09 season 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 *C. bairdi*, Dungeness crabs *Cancer magister*, and giant Pacific octopus *Octopus dofleini*. Historically, waters of the BSAI have supported commercial harvests of blue king crabs *P. platypus*, grooved Tanner crabs *C. tanneri*, triangle Tanner crabs *C. angulatus,* 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 2008/09, 97 catcher vessels, five catcher-processors, one floating processor, and 14 shorebased processors were involved in harvesting and processing non-scallop shellfish resources in the BSAI. BSAI shellfish landings totaled approximately 86.6 million pounds generating an approximate exvessel value of $200.2 million.

The Bering Sea snow crab fishery was the largest shellfish fishery in Alaska with a total harvest of 58.6 million pounds, followed by the Bristol Bay red king crab fishery with a total harvest of 20.3 million pounds, the Aleutian Islands golden king crab fishery with a total harvest of 5.7 million pounds, and the Bering Sea Tanner crab fishery with a harvest of 1.9 million pounds.

In addition to the fisheries previously mentioned, fisheries for golden king crabs in the Pribilof District (0.15 million pounds guideline harvest level (GHL)) and grooved Tanner crabs in the BSAI were open (0.2 million pounds GHL), however there was no participation in these 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 eastern and western Aleutian Islands were closed due to low abundance. The Saint Matthew Island Section blue king crab and the Pribilof blue king crab stocks are considered overfished under the FMP.

Both the Bering Sea snow and Tanner crab fisheries were open in 2008/09. Snow crab harvest remains high relative to the period after the post-1999 collapse; however the Tanner crab harvest was below the long-term average. Bering Sea Tanner crab stock status improved and is no longer considered overfished. The Eastern Aleutian District Tanner crab fishery was open for a small harvest in 2009.

Dungeness crab harvests in the BSAI have historically been small. No fishermen registered to fish for Dungeness crab during the 2008 season in the Aleutian Islands and North Peninsula Districts.

Relative to other portions of the Westward Region, shrimp harvests in the BSAI area are low and there was no shrimp harvest in the BSAI during 2008.

There was limited or no participation during 2008 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 octopus were harvested incidentally in BSAI groundfish fisheries.

Both state and federal management agencies and the public utilize data collected by shellfish observers. 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 or with federal reimbursement fees.

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

ANNUAL MANAGEMENT REPORT FOR THE COMMERCIAL AND SUBSISTENCE SHELLFISH FISHERIES OF THE ALEUTIAN ISLANDS, 2008/09

by
Forrest R. Bowers,
Alaska Department of Fish and Game, Division of Commercial Fisheries, Dutch Harbor

and

Kathleen Herring, Janis Shaishnikoff, Heather Barnhart, Jeanette Alas, Britta Baechler, and Anna Buettner
Alaska Department of Fish and Game, Division of Commercial Fisheries, Dutch Harbor

Alaska Department of Fish and Game
Division of Sport Fish, Research and Technical Services
333 Raspberry Road, Anchorage, Alaska 99518-1599

June 2010

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

LIST OF TABLES

LIST OF FIGURES

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 172° W long., while the Dutch Harbor Registration Area (Area O) encompassed waters east of 172° W long., the line separating the Adak and Dutch Harbor areas was changed to 171° W longitude prior to the 1984/85 season (ADF&G 1985a; 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 has not impacted 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, and rapidly developed in both areas. The Adak Area reached a peak harvest of 21 million pounds in 1964/65, while the Dutch Harbor Area reached maximum production of 33 million pounds in 1966/67 (Table 1-1). The Aleutian Islands red king crab fishery had a maximum fishery value of nearly $21 million in the 1980/81 season (Table 1-2).

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 25 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 (Table 1-2).

Fluctuating harvest levels from one year to the next characterized the fisheries in the Dutch Harbor and Adak areas, and by the 1982/83 season the Dutch Harbor fishery had declined to a harvest of 430,000 pounds. Commercial fishing for red king crabs in the Dutch Harbor Area has been closed on an annual basis after the 1982/83 season. The Adak fishery remained open through the 1995/96 season when only 39,000 pounds were harvested. After the 1995/96 season the 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 (Figure 1-3). In 2002/03 the Petrel Bank portion of Area O was reopened to commercial fishing with a GHL of 500,000 pounds.

Observers have been required on all crab catcher-processors since 1988 and on catcher vessels targeting red or golden king crabs in the Aleutian Islands since 1995. Observer coverage on golden king crab vessels provides red king crab incidental harvest 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.

Pot surveys in the western Aleutian Islands were conducted annually beginning in 1975 to provide catch per unit of effort (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 1996 and 1997, a catcher-processor vessel was permitted to target red king crabs on the Petrel Bank in conjunction with their directed golden king crab fishing. The goals of this project were to enumerate, tag, and collect biological data from all red king crabs captured and to recapture tagged individuals. During this two-year period, a total of 926 crabs were tagged along the north side of Amchitka Island and along the south side of Semisopochnoi Island. 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 without recent abundance information, a limited commercial fishery was opened on November 1, 1998 with the provision that crabs not harvested 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 information. The Petrel Bank area (the area between 179° E long. and 179° W long.) was not opened because prior work 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 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 gain information on red king crab abundance in the Petrel Bank area, two surveys were conducted in January/February and November, 2001. Due to budget constraints, the surveys were designed so fishermen 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 2001 surveys in the Petrel Bank area indicated healthy levels of legal males, however, red king crab female and sublegal abundance was low. Legal male CPUE 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).

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, ADF&G adopted a management strategy that would close the fishery prior to achieving the GHL if legal male CPUE dropped below 10 crabs per pot.

Thirty-three vessels participated in the 2002/03 Petrel Bank red king crab fishery. CPUE for the Petrel Bank fishery was 18 legal crabs per pot lift and the fleet harvested a total of 505,642 pounds (Table 1-1). The 2002/03 Petrel Bank 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 (Table 1-1). Exvessel price averaged $5.14 per pound and the 2003/04 Petrel Bank fishery had a total value of nearly $2.45 million (Table 1-2).

The Petrel Bank red king crab fishery was closed in 2004/05 and 2005/06 due to low levels of sublegal and female crabs seen in the 2002/03 and 2003/04 fisheries, along with the low legal male CPUE seen toward the end of the 2003/04 fishery.

In 2005 the crab rationalization (CR) program was implemented for the major Bering Sea and Aleutian Islands crab fisheries. Western Aleutian Islands red king crab (west of 179° W long.) is included in this program and will have both individual fishing quota (IFQ) and Community Development Quota (CDQ) fisheries when the stock is again open to commercial harvest.

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, ADF&G requires fishermen to obtain a harvest permit and log sheet. Historically, few of the permits were returned. On average, 15 permits were returned per year between 1988 and 1994. The reported average annual harvest was 135 king crabs.

To address conservation concerns for the eastern Aleutian Islands red king crab stock, the Board of Fisheries (BOF) took action at the March 1999 meeting regarding the subsistence and sport king crab fisheries in the Aleutian Islands between 168° and 164° 44’ W long. Regulations were adopted by the BOF that closed the sport fishery and reduced the daily bag limit of subsistence king crabs from six to one per person per day. The BOF also adopted regulations requiring that subsistence king and Tanner crab *Chionoecetes bairdi* fishermen 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 ten years. An average of 220 permits have been issued annually with an approximate 70% return rate. The returned permits accounted for an average annual harvest of 1,356 king crabs (Table 1-3), with harvest ranging from 0 to 150 king crabs per permit. These 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). The subsistence red king crab fishery opens June 1 and closes January 31.

2008/09 Commercial Fishery East of 171° W Longitude

The red king crab fishery in the Aleutian Islands Registration Area O east of 171° W long. was not opened during the 2008/09 season due to low stock abundance.

2008/09 Commercial Fishery 171° W Longitude to 179° W Longitude

The red king crab fishery in the Aleutian Islands Registration Area O between 171° W long. and 179° W long. was not opened during the 2008/09 season due to low stock abundance.

2008/09 Commercial Fishery West of 179° W Longitude (Petrel Bank)

The red king crab fishery in the Aleutian Islands Registration Area O west of 179° W long. was not opened during the 2008/09 season due to low stock abundance.

2008 Subsistence Fishery

In 2008, ADF&G issued 242 subsistence permits and harvest logsheets, of which 176, or 73%, were returned. The returned permits account for a reported harvest of 1,188 king crabs (Table 1-3). Estimates generated from the subsistence harvest logsheets indicate that approximately 1,634 king crabs were taken with harvest ranging from 0 to 112 king crabs per permit. The majority of subsistence-caught king crabs in the Unalaska Island area are taken with pot gear, though some king crabs are taken using SCUBA gear.

Fishery Management and Stock Status East of 171° W Longitude

The red king crab fishery in this area was not included in crab rationalization. A fisherman may not be concurrently registered for both the commercial red king crab and golden king crab fisheries east of 171° W longitude.

Most shellfish research in the Aleutian Islands has been directed at crab stocks inhabiting the eastern Aleutian Islands. Recent bottom trawl surveys by ADF&G have not captured many king crabs. A portion of the eastern Aleutian Islands were surveyed by bottom trawl during the summers of 2000 and 2003-2008. A single red king crab was captured during 2000, 2003, and 2005 and none were captured during the 2004 survey (Spalinger 2006 and Worton 2001). While the five that were captured during the 2006 and the three during the 2007 survey (Spalinger 2007) are an increase over the 2000 and 2003-2005 survey catches, the red king crab population in the eastern Aleutian Islands remains severely depressed. A single red king crab was captured during the 2008 survey (Spalinger 2009).

In December 2007 the North Pacific Fishery Management Council amended the Federal Fishery Management Plan for Bering Sea and Aleutian Islands King and Tanner Crabs adopting new overfishing definitions for BSAI crabs and removing eastern Aleutian Islands red king crab from the FMP and providing the state with sole jurisdiction over the fishery.

Fishery Management and Stock Status 171° W Longitude to 179° W Longitude

The red king crab fishery in this area was not included in the CR program. A fisherman may not be registered to fish in the commercial red king crab and golden king crab fisheries concurrently between 171° W long. and 179° W long.

In November of 2002 ADF&G 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 conducted 1,085 pot lifts in a total of 61 stations. 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

(Granath 2003). Therefore, the department does not expect a commercial red king crab fishery to open in this area in the near future.

Fishery Management and Stock Status West of 179° W Longitude (Petrel Bank)

West of 179° W longitude 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 each vessel is restricted to a limit of 250 pots.

Shell condition and size composition data from the 2001 survey, as well as the 2002/03 and 2003/04 fisheries in the Petrel Bank area indicate that primarily older, post-recruit crabs supported these harvests. Proportions of sublegal and female red king crabs did not change significantly from the 2001 surveys to the 2002/03 or 2003/04 commercial fisheries. Average weight and carapace length (CL) of legal male red king crabs increased from 2001 to 2003. Average weight and CL of legal male red king crabs increased from the surveys to 7.4 pounds and 162 mm in 2002/03 up to 8.0 pounds and 168 mm in 2003/04.

Cumulative fishery CPUE was 10 legal crabs per pot during the 2003/04 fishery and did not drop below the 10 legal crabs per pot benchmark. Fishery CPUE climbed during the first 36 hours 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 2001 combined survey CPUE of 28 and 2002/03 fishery CPUE of 18, performance during the 2003/04 fishery was not promising.

The harvest based 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 alone does not protect the stock. Because the 2001 survey catch of sublegal and female crab was low, thresholds were not developed for those stock components. After the 2001 surveys, staff expressed concern about overall stock status. While legal-male catch was encouraging, the lack of sublegal and female crab was disappointing. Two additional years of fishery information failed to indicate healthy levels of those stock components. Based on fishery performance and the lack of recruitment of legal-sized crabs, it was 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. Following the 2003/04 fishery, ADF&G closed the Petrel Bank red king crab fishery.

A survey was conducted on the Petrel Bank area red king crab stock in November of 2006. This information was compared to the 2001 industry survey and the 2002/03 and 2003/04 commercial fisheries to evaluate current stock status. Because of differences in fishing practices between the 2001 survey, the 2002/03 and 2003/04 commercial fisheries, and the 2006 survey, a direct CPUE comparison could not be made. However, legal male red king crab catch rate during the 2006 survey was lower than during the 2001 survey and recent commercial fisheries. The 2006 survey CPUE of legal males was 1.2 crabs per pot from 170 stations fished (Gish 2007). Red king crabs captured during the survey were predominately larger, mature-sized male crabs, and the size distribution of surveyed crabs provided no expectation for significant recruitment of legal males in the immediate future. Although males that were estimated to be new recruits to legal size accounted for 36% of the 2006 survey catch of legal crabs, recruitment occurring since the 2001 survey has been insufficient to rebuild legal male abundance to levels of the early 2000s. Spatial

distribution of legal males during the 2006 survey decreased from the 2001 survey distribution and was limited to the northwestern portion of the Petrel Bank. Distribution of red king crabs was also restricted relative to harvest location during the last two commercial fisheries. Given the limited distribution and low relative abundance of legal male red king crab on Petrel Bank and the lack of projected recruitment to the legal size class in the near future, a harvestable surplus of red king crab is not currently available.

Implementation of CR designated a portion of the western Aleutian Islands (west of 179° W long.) red king crab fishery as an IFQ fishery. Individual fishing quota shares will allow harvesters to prosecute this fishery at any time during the biological season opening. Prior to rationalization, the overall pot limit in the Western Aleutian Islands red king crab fishery was 1,250 pots to be divided evenly among participants. Currently the pot limit is 250 pots per vessel. This fishery requires 100% observer coverage for all fishing operations.

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 depths greater than where most other commercially exploited king crabs are typically found (Blau et al. 1996). The depths and steep bottom topography of the inter-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 through the 1995/96 season, the golden king crab resource in the Aleutian Islands was harvested in separate 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 50 vessels participated in the Adak golden king crab fishery, harvesting an average of 6.9 million pounds annually (Figure 1-4). Peak harvest in the Adak Area fishery occurred during the 1986/87 season when 12.9 million pounds of golden king crabs were harvested for an exvessel value of $37.6 million (Table 1-5). Initially, the fishery was managed based on size, sex, and season restrictions as no stock assessment of the golden king crab population was performed in the Adak Area. Catches were monitored in season (ADF&G 1999a) and after the initial fishery, harvest levels were based on harvest expectations generated from the 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 (Figure 1-2).

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). The following season, 49 vessels participated 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 (Table 1-4). Peak golden king crab harvest in the Dutch Harbor Area occurred during the 1995/96 season when 2.0 million pounds were harvested for a total 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). 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 1.6 million pounds annually (ADF&G 1999a).

The average weight of golden king crabs harvested in both the Dutch Harbor and Adak Areas declined during the period from 1981 to 1995, ranging from a high of 7.6 pounds during the 1983/84 season to 4.2 pounds during the 1992/93 season in the Dutch Harbor area and 5.5 pounds to 4.3 pounds in the Adak Area (Figure 1-5). In 1984, the BOF adopted an ADF&G proposal to lower the legal size for golden king crabs in the Aleutian Islands from 6.5 inches to 6.0 inches CW, which would affect average weight, and to establish the Dutch Harbor Area as a permit fishery. The regulation decreasing the legal size did not, however, reverse the trend of slowly declining catch rates in the area west of 171° W long. CPUE had also slowly declined, reaching a peak of 14 legal crabs per pot during the 1984/85 season and declining to 6 crabs during the 1994/95 season in the Dutch Harbor area and from 9 legal crabs per pot to 5 crabs in the Adak Area.

At the March 1996 meeting, the 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, the BOF felt that king crab management areas in the Aleutian Islands should be re-designated to more accurately reflect current golden king crab stock distribution and patterns in fishing effort. The BOF, therefore, elected to replace Adak and Dutch Harbor areas with the newly created Aleutian Islands Registration Area O and directed ADF&G to manage 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, when the initial golden king crab fishery in the new king crab Registration Area O occurred, GHLs were established at 3.2 million pounds for the area east of 174° W long., and 2.7 million pounds for the area west of 174° W long (Table 1-5). 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 (Table 1-4). 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 2.5 million pounds.

During the 1996/97 fishery, the CPUE east of 174° W long. was six 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 1-1). In the portion of Area O west of 174° W long., fishery performance was

six legal crabs per pot lift 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 seven 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, nine vessels participated in the fishery and harvested 2.4 million pounds (Table 1-4). The GHL west of 174° W long. was not reached and the fishery was not closed. The fleet averaged six legal crabs per pot lift with landed crabs averaging 4.3 pounds. The 1997/98 Aleutian Islands golden king crab fishery had a total value of $12.5 million (Table 1-5).

Prior to the 1998/99 season opening, the Aleutian Islands 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 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 rate was nine legal crabs per pot lift with an average weight of 4.4 pounds per crab. West of 174° W long., effort declined significantly from the prior two seasons. A fleet of three vessels harvested 1.7 million pounds, or 63% of the GHL. The fleet averaged 11 legal crabs per pot lift with an average weight of 4.1 pounds per crab (Table 1-4). The 1998/99 fishery had a total value of $9.3 million, the lowest in 14 years (Table 1-5).

In July 1999, the BOF adopted a regulation to move the Registration Area O golden king crab fishery from September 1 to August 15 in order to accommodate fishermen 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 4.4-pound average weight. West of 174° W long., a fleet of 12 vessels harvested 2.9 million pounds. The CPUE was seven legal crabs per pot, while the average weight per crab was 4.1 pounds (Table 1-4). With a total value of $19.5 million, the 2000/01 season was the most valuable golden king crab fishery in six years (Table 1-5).

These stable trends continued through the 2003/04 fishery. In the area east of 174° W long., since the 2001/02 season, 18 to 19 vessels participated and harvested an average of 2.99 million pounds per year. The CPUE and average weight have remained relatively stable with a CPUE ranging from 11 to 12 crab per pot lift and legal males averaging 4.4 to 4.6 pounds. In the area west of 174° W long., six to nine vessels harvested an average of 2.69 million pounds per year (Table 1-4). Legal males averaged 4.0 pounds and in 2001/02 and 2002/03 CPUE ranged from

seven to eight crabs per pot lift. Catch rates rose during the 2003/04 fishery when average CPUE increased to 10 legal crabs per pot lift.

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 remained fairly constant from the 1994/95 season to the 2004/05 season (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 (Figure 1-7). The expansion of processing facilities in Adak also contributed to the shorter seasons, especially in the western Aleutians. The implementation of CR in 2005 decreased participation further with the consolidation of quota onto fewer vessels. Under rationalization the season is open from August 15 to May 15 of the following year.

Effort in the rationalized golden king crab fishery has remained low relative to historic levels. In the 2006/07 fishery seven vessels participated in harvesting 4.69 million pounds of the 5.13 million pound IFQ total allowable catch (TAC). Catch rates were among the highest on record at 23 legal crabs per pot lift. In 2007/08 the participation dropped further, when only five vessels participated. Despite the smaller fleet size 4.94 million pounds of the same size TAC were harvested. Catch rates increased from the prior season by one legal crab per pot lift overall, with the eastern portion experiencing the highest CPUE on record at 28 crabs per pot lift. In addition to fleet consolidation and a lengthy fishing season, CR regulations require that 10% of the total harvest in the area east of 174° W longitude be allocated to the CDQ program and that 250,000 pounds of TAC for the area west of 174° W longitude be designated as an Adak Community Allocation (ACA) controlled by the community of Adak.

2008/09 IFQ Fishery

The 2008/09 Aleutian Islands IFQ golden king crab fishery opened by regulation at noon on August 15 with an IFQ TAC of 5.39 million pounds, 2.84 million pounds of which was apportioned to the area east of 174° W long. and 2.60 million pounds apportioned to the area west of 174° W long. The increase in TAC from prior seasons is due to a regulatory change made in March 2008 when the Alaska Board of Fisheries (BOF) set the Aleutian Islands golden king crab TAC in regulation at a fixed number. Five vessels participated in the IFQ fishery and landed 5.08 million pounds. The fleet averaged 25 legal crabs per pot lift, a slight increase from the prior season, and landed crabs averaged 4.5 pounds each, the same as the 2007/08 season (Table 1-4). At the March 2008 meeting the BOF defined the portion of the Aleutian Islands golden king crab fishery east of 174° W long. as a separate fishery from the area west of 174° W long. Because of this regulation change fishermen may not fish in both areas concurrently.

East of 174° W long. (IFQ)

Three vessels participated in the Aleutian Islands golden king crab commercial fishery east of 174° W long. The fleet registered 4,200 pots, or 1,400 pots per vessel, the same total amount of pots were registered in the 2007/08 season. Harvest data is confidential for all weeks except for the week of September 13 because fewer than three vessels fished all other weeks. Fishing operations were completed before January (Table 1-6). Most fishing effort was concentrated around Yunaska Island and in Seguam and Amukta Passes. Catch rates tended to be highest in Amukta Pass, with the most productive grounds yielding nearly 40 legal crabs per pot lift, (Table 1-7). The average catch rate for the entire eastern portion was 27 legal crabs per pot lift, slightly lower than the previous season. The average weight of legal crabs was 4.5 pounds, with the largest crabs encountered west of 172° W long. (Table 1-7).

The IFQ fleet harvested 2.83 million pounds of the 2.84 million pound TAC. Five shorebased processors, one in Akutan and four in Dutch Harbor, processed golden king crabs from the eastern Aleutian Islands. Exvessel price paid for live, whole crabs averaged $3.32 per pound, leading to a fishery value of $9.31 million, a 65% increase from the 2007/08 fishery (Table 1-5).

West of 174° W long. (IFQ)

Three vessels participated in the IFQ fishery west of 174° W long. The fleet registered 4,900 pots, an average of 1,600 pots per vessel (Table 1-4). Weekly harvest peaked in mid-September (Table 1-8). Fishing effort was concentrated around Amchitka Island and the Petrel Bank. Weekly catch rates ranged from a low of 15 to a high of 34 legal crabs per pot lift and averaged 23, a 9% increase from the prior season. The average weight of legal crabs was 4.3 pounds, the same as in 2007/08.

The fleet harvested 2.25 million pounds of the 2.55 million pound TAC. Golden king crabs were purchased and processed by one catcher-processor and by five shorebased processors, one in Adak, one in Akutan, and three in Dutch Harbor. Exvessel price averaged $1.87 per pound yielding a total fishery value of $4.17 million, slightly more than the previous two seasons but below the previous five-year average fishery value of $5.89 million (Table 1-5).

Fishery Management and Stock Status

Crab rationalization introduced regulatory changes in the Aleutian Islands golden king crab fishery. The historic GHL has been changed to a TAC. Qualified participants are issued IFQ shares which they may harvest at any time while the season is open. Harvesters may use gear cooperatively, transporting and fishing another vessel's gear if registered to do so. Additionally, observer coverage requirements have decreased. Prior to rationalization, vessels harvesting golden king crab in the Aleutian Islands were required to carry an observer during 100% of their fishing activities. Current regulations stipulate that onboard observers are required during the harvest of 50% of the total golden king crab weight harvested by each catcher vessel and 100% of the fishing activity of each catcher-processor during each of the three trimesters as outlined in 5 AAC 39.645 (d)(4)(A).

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 portion of the area in which golden king crabs are commercially 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. At that time the FMP for king and Tanner crabs in the Bering Sea and Aleutian Islands specified that the golden king crab stock in the Aleutian Islands was 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 stations surveyed in 1997 were surveyed again in 2000, 2003, and 2006. 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 2000/01 season were similar to those in 1997/98. Shell-condition composition data indicated the stock was healthy,

while size composition of the retained catch has changed very little (Watson and Gish 2002). 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 (Watson 2005). Approximately 14% fewer crabs were tagged during the 2006 survey than the 2003 survey, although numbers of tagged legal males increased. Results from the 2006 survey and tag recovery data are available in Fishery Management Report No. 07-07 (Watson 2007). No surveys have been conducted since 2006.

A stock assessment model is currently being developed for Aleutian Islands golden king crab and pending adoption by ADF&G and the North Pacific Fishery Management Council Crab Plan Team, this model could be used to generate estimates of abundance and other fishery parameters (S. Siddeek, ADF&G, Juneau, personal communication).

ALEUTIAN ISLANDS SCARLET KING CRAB

Historic Background

Scarlet king crabs are currently harvested under authority of a commissioner's permit issued by ADF&G and authorized in 5 AAC 34.082. PERMITS FOR *LITHODES COUESI* KING CRAB. These permits were 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 and 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 eight vessels made 25 landings. Exvessel value was at a maximum in 1995 when the fishery was worth approximately $186,500 (Table 1-9). Since 1996, effort and harvest in this fishery have been minimal and catch information has been confidential in all years except 1997 when 6,720 pounds were harvested.

2008 Fishery

No vessels were registered to harvest scarlet king crab in the Aleutian Islands in 2008.

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. Scarlet king crab males larger than or equal to five and one-half inches in CW may be taken as incidental harvest under the conditions of a commissioner's permit; directed fishing for scarlet king crabs is currently permitted. Scarlet king crab may not be retained as an incidental species retained in the Aleutian Islands golden king crab fishery. In December 2007 the North Pacific Fishery Management Council amended the Federal Fishery Management Plan for Bering Sea and Aleutian Islands King and Tanner Crabs (FMP) adopting new overfishing definitions for BSAI crabs and removing Aleutian Islands scarlet king crab from the FMP and providing the state with sole jurisdiction over the fishery.

EASTERN ALEUTIAN TANNER CRAB DISTRICT

DESCRIPTION OF DISTRICT

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 1-8). 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 EAD has not supported harvests of Tanner crabs 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 Aleutian Islands 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 EAD. 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 1-10). The EAD Tanner crab fishery reached a maximum exvessel value of approximately $950,000 in 1977/78 (Table 1-11). Vessel participation was low in 1973/74, with only six 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. Commercial fishing for Tanner crabs was not permitted in the EAD between 1994 and 2003 due to low stock abundance. The 2004 fishery opened in two areas, Makushin/Skan Bay (GHL of 87,891 pounds) and Unalaska Bay (GHL of 47,219 pounds), but harvest information is confidential because less than three processors purchased the crab. Unalaska Bay opened in 2005 with a GHL of 35,304 pounds of Tanner crab. Twenty-five vessels participated with 79 landings, harvesting 96.4% of the quota.

In 2006, only the Makushin/Skan Bay portion of the EAD was estimated to have a harvestable surplus allowing for commercial fishing with a GHL of 87,241 pounds. Preseason registrations were received from 15 vessels and based on this level of effort and the fishery limit of 300 pots, pot limits were set at 20 pots per vessel. Ten vessels participated in the fishery and used 198 pots. Harvest information from the 2006 Tanner crab fishery is confidential as less than three processors participated.

The 2007 EAD Tanner crab fishery opened in Akutan and Unalaska Bays with GHLs of 49,000 pounds in Unalaska Bay and 35,000 pounds in Akutan Bay. The fishery in Unalaska Bay closed on January 19, however the GHL was not met in the Akutan area and the fishery remained open until the regulatory closure on March 31. Since less than three processors participated in the fishery, catch data is confidential. Because the 2007 fishery did not perform as well as expected and survey estimates showed increases in mature males but not legal males, the calculated GHL for Unalaska Bay, 84,000 pounds, was lowered to 60,000 pounds. The minimum GHLs in Akutan and Makushin/Skan Bays were not met; therefore those sections were not opened to commercial fishing in 2008. Eleven vessels participated and the fishery closed on January 29, 2008, however catch information is confidential because less than three processors participated.

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 were reinstated. Between 1988 and 1994, an average of 15 subsistence permits per year were returned to the department and accounted for a harvest of 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 issued 179 subsistence permits in 1999, of which 80 were returned. Returned permits accounted for a Tanner crab harvest of 1,432 crabs and the estimated total harvest was 3,204 crabs (Table 1-3).

During the past eight years, ADF&G in Dutch Harbor has issued an average of 220 subsistence permits and harvest logsheets annually. On average, approximately 70% or 152 are returned. The returned permits account for an average annual reported harvest of 2,513 Tanner crabs and annual harvest ranged from 0 to 914 crabs per permit holder. Harvest estimates generated from the subsistence harvest logsheets indicate an average of 3,641 Tanner crabs were harvested annually between 1999 and 2008 (Table 1-3). The Tanner crab subsistence fishing season runs from January 1 to December 31.

2009 Commercial Fishery

The 2009 commercial Tanner crab fishery in the EAD opened on January 15 with a GHL of 58,000 pounds in the Unalaska/Kalekta Bay Section, 35,000 pounds in the Akutan Section, and 35,000 pounds in the Makushin/Skan Bay Section, for a combined GHL of 128,000 pounds. Thirteen vessels were preseason registered for the 2009 fishery resulting in a pot limit of 23 pots per vessel; eleven vessels actually participated in the fishery. Due to limited processor participation, harvest information is confidential. The fishery closed on February 11 in the Unalaska/Kalekta Bay Section, the remaining sections closed by regulation on March 31.

Dockside Sampling, 2009 Commercial Fishery

Tanner crabs were sampled by dockside sampling staff at a Dutch Harbor processor during the course of the 2009 EAD 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 average weights, CW, and shell condition.

Eleven vessels made a total of 87 landings, of which 86 deliveries were contacted by dockside sampling staff for confidential interviews and biological data during offloads. Average weight for Tanner crabs harvested in the EAD fishery was 2.3 pounds. In Unalaska Bay the average weight decreased from 2.4 pounds in 2008 to 2.2 pounds in 2009. From the biological data collected, 57% of the crabs measured were new-shell, a significant increase from 2008 when 27% of the landed catch was classified as new-shell.

2008 Subsistence Fishery

In 2008, ADF&G issued 242 subsistence permits and harvest logsheets, of which 176, or 73%, were returned. The returned permits account for a reported harvest of 889 Tanner crabs (Table 1-3). Estimates generated from the subsistence harvest logsheets indicate that approximately 1,222 Tanner crabs were taken with harvest ranging from 0 to 96 Tanner crabs per permit. Most subsistence Tanner crabs harvested in the EAD in 2008 were taken with pot gear.

Fishery Management and Stock Status

In 2002 the BOF adopted new management measures for the Eastern Aleutian Tanner crab District 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 a.m. until 5:59 p.m. with a soak time of 14 hours from 6:00 p.m. until 7:59 a.m. Fishermen must report daily the number of pot lifts, number of crab retained and any other information considered necessary for the management and conservation of the fishery.

In the EAD, the waters of Unalaska Bay enclosed by a line from Cape Cheerful (54° N lat., 166° 40.33' W long.) to Priest Rock (54° N lat., 166° 22.50' W long.) are closed to harvest of Tanner crab by vessels over 58 feet in overall length. In 2005 the BOF expanded vessel length restrictions in the EAD Tanner crab fishery restricting the harvest of Tanner crab in the Eastern Aleutian District to vessels under 58 feet overall length when the GHL for Tanner crabs in the EAD is 1,000,000 pounds or less. The federal CR program was implemented in 2005, but the EAD Tanner crab fishery was not included in that program, nor is it managed under any state limited entry program.

In December 2007 the North Pacific Fishery Management Council amended the Federal Fishery Management Plan (FMP) for Bering Sea and Aleutian Islands King and Tanner Crabs adopting new overfishing definitions for BSAI crabs and removing Aleutian Islands Tanner crab from the FMP and providing the state with sole jurisdiction over the fishery.

In March 2008 the Alaska Board of Fisheries adopted proposals implementing a harvest strategy for EAD Tanner crab. The proposals placed the existing interim harvest strategy in regulation and subdivided the EAD into sections allowing for greater management precision. The proposals adopted by the board were identical to the management measures that the department had implemented on an interim basis in recent years.

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 of 0 to 250,000 pounds (ADF&G 1983b). Since 1990, trawl surveys and occasional pot surveys have been used to estimate abundance and are used in conjunction with fishery data for management purposes.

In 2008 the Akutan, Unalaska, Makushin/Skan, and Pumicestone Bay sections of the EAD were surveyed using the ADF&G research vessel Resolution (Spalinger 2009). Total estimated abundance for the area surveyed was 7.7 million crabs which is a 43% decrease from the 2007 estimated abundance. Most of the decrease in abundance can be explained by lower abundance estimates of immature females and prerecruit II – IV males in Makushin/Skan Bay and Akutan Bay. Abundance estimates for mature-size crabs were generally stable.

In Unalaska Bay, the largest trawl survey catch of legal males occurred in Broad Bay. The largest trawl survey catch of legal-male Tanner crabs in the vicinity of Akutan Island occurred in the eastern portion of Akutan Bay. The largest trawl survey catch of legal males in the vicinity of Makushin Bay occurred off Cape Starichkof between Skan Bay and Makushin Bay.

The 2008 population estimate of legal males, 0.41 million crabs, represents a decrease of 23% from 2007. The number of recruit-sized legal males increased 9.6%, however the post-recruit estimate dropped 32.8%. The abundance estimate for post-recruits larger than 165 mm CW is among the lowest on record suggesting that the legal-male size class is composed primarily of crabs that have recently reached recruit size.

The 2008 legal-male Tanner crab abundance is above average relative to the trawl survey time series from 1990 - 2007. The 2008 survey abundance estimate of recruit and sublegal males greater than 114 mm CW slightly increased from 2007. Sublegal males smaller than 114 mm CW decreased in abundance from 2007 and are slightly below average relative to the survey time series. Total female abundance decreased 43% from 2007, but is well above the survey time

series average. Based on trawl survey estimates, the EAD Tanner crab stock appears capable of supporting a small harvest in 2009.

GROOVED TANNER CRAB

Historic Background

Similar to other deepwater crab fisheries in the Aleutian Islands, the first harvest of grooved Tanner crabs in the EAD occurred in the early 1980s as incidental harvest in the Dutch Harbor golden king crab fishery. Directed fishing for this species did not begin until 1993, when one vessel participated in a fishery that lasted from July until December. The grooved Tanner crab fishery in the EAD typically occurred between March and December. Peak harvest in the EAD occurred in 1995 when eight vessels landed approximately 879,000 pounds (Table 1-12).

Limited data has been collected regarding the abundance, distribution, and stock status of deep-water crab species in the Bering Sea and Aleutian Islands. During the 1993 season, ADF&G utilized data collected by onboard observers to restrict 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 incidental harvest as well as fishing practices and has aided the department in developing further management measures.

In 1997, ADF&G 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).

2008 Fishery

No fishermen registered to harvest grooved Tanner crabs in the EAD during 2008.

Fishery Management and Stock Status

The grooved Tanner crab population in the EAD 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 under 105,000 pounds in 1996. In addition, fishing effort was concentrated in three statistical areas immediately to the south of Unalaska Island. The commercial fishery data suggests that at least in the area historically fished, the population was heavily exploited in the early to mid-1990s.

Given poor fishery performance and declining harvests of the mid 1990s, ADF&G re-evaluated deepwater Tanner crab harvest levels in 2000. A GHL range of 50,000 to 200,000 pounds was established for the EAD. The GHL was set as a range to provide greater flexibility for inseason management and to better inform the public of ADF&G'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, ADF&G 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.

In December 2007 the North Pacific Fishery Management Council amended the Federal Fishery Management Plan for Bering Sea and Aleutian Islands King and Tanner Crabs adopting new overfishing definitions for BSAI crabs and removing Aleutian Islands grooved Tanner crab from the FMP and providing the state with sole jurisdiction over the fishery.

TRIANGLE TANNER CRAB

Historic Background

In the Eastern Aleutian District triangle Tanner crabs are 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 EAD during the 1995 and 1996 seasons; harvest information from those fisheries is confidential (Table 1-13). From 1997 to 2000, and 2002 to 2005, no fishermen registered to harvest triangle Tanner crabs in the EAD. One vessel registered to participate in 2001; harvest information is confidential.

2008 Fishery

No fishermen registered to harvest triangle Tanner crabs in the EAD during 2008.

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 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. Fishermen registered to fish for grooved Tanner crabs are 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 and allows retention of a deepwater species that is believed to have a high mortality rate when taken incidentally in pot gear.

In December 2007 the North Pacific Fishery Management Council amended the Federal Fishery Management Plan for Bering Sea and Aleutian Islands King and Tanner Crabs adopting new overfishing definitions for BSAI crabs and removing Aleutian Islands triangle Tanner crab from the FMP and providing the state with sole jurisdiction over the fishery.

WESTERN ALEUTIAN TANNER CRAB DISTRICT

DESCRIPTION OF DISTRICT

The Western Aleutian District of Registration Area J includes all waters west of 172° W long., east of the United States-Russia Maritime Boundary Line of 1990, and south of 54° 36’ N lat.

(Figure 1-8). 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 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 839,000 pounds during the 1981/82 season to less than 8,000 pounds in 1991/92 (Table 1-14). 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 1-15). Most of the historical harvest occurred within a few bays in the vicinity of Adak and Atka Islands.

2008/09 Fishery

The Western Aleutian District Tanner crab fishery may be opened by emergency order on November 1, however, the fishery was not opened during the 2008/09 season. The fishery was not opened because there is no management plan in place, nor has sufficient data been collected to set a GHL.

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 1985b).

In December 2007 the North Pacific Fishery Management Council amended the Federal Fishery Management Plan for Bering Sea and Aleutian Islands King and Tanner Crabs adopting new overfishing definitions for BSAI crabs and removing Aleutian Islands Tanner crab from the FMP and providing the state with sole jurisdiction over the fishery.

GROOVED TANNER CRAB

Historic Background

In the Western Aleutian District, harvest of grooved Tanner crab first occurred in conjunction 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 six vessels harvested approximately 146,000 pounds of grooved Tanner crabs (Table 1-16).

To prevent overharvest of this population where little abundance information is available, 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 re-evaluated harvest levels for deepwater Tanner crabs. Because 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 Tanner crabs and grooved Tanner crabs, fishermen have 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.

2008 Fishery

The Western Aleutian District was not open to commercial fishing for grooved Tanner crabs in 2008.

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 catches nor CPUE were large when compared to those observed in other districts.

In December 2007 the North Pacific Fishery Management Council amended the Federal Fishery Management Plan for Bering Sea and Aleutian Islands King and Tanner Crabs adopting new overfishing definitions for BSAI crabs and removing Aleutian Islands grooved Tanner crab from the FMP and providing the state with sole jurisdiction over the fishery.

ALEUTIAN DISTRICT DUNGENESS CRAB

DESCRIPTION OF DISTRICT

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 1990 (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).

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 sparsely 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 0 pounds, to a

peak of over 91,000 pounds in 1984/85 (Table 1-17). 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 and Tanner crabs. On average, 15 harvest reports were returned per year and Dungeness crab harvest averaged 686 crabs per year with a range of 5 to 1,906 crabs per year (ADF&G 1999b). No estimate of current Dungeness harvest by sport or subsistence users is available, but it is believed to be small relative to subsistence harvest of king and Tanner crabs in the Unalaska locale.

2008/09 FISHERY

No vessels registered to harvest Dungeness crabs during the 2008/09 season.

FISHERY MANAGEMENT AND STOCK STATUS

The Aleutian Islands Dungeness crab fishery is managed using size, sex, and season restrictions. Only male Dungeness crabs six 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 by the availability of suitable Dungeness habitat.

ALEUTIAN DISTRICT SHRIMP

DESCRIPTION OF DISTRICT

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 1990 (Figure 1-10). 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 (NMFS 1999). 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 1-18). 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 six 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 until 1999. When the first commercial harvest of shrimp in the Aleutian District occurred in 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.

2008 FISHERY

No vessels registered to participate in the 2008 trawl shrimp fishery. There is no closed season for shrimp fishing with pots in the Aleutian Islands and there was no participation during the 2008 season.

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. Fishermen have expressed interest in collaborating with ADF&G on a stock assessment survey, but funding constraints have limited such endeavors. 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 abundant 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 DISTRICT

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 1990 (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). Area J is not divided into districts for commercial miscellaneous shellfish fisheries.

HISTORIC BACKGROUND

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 *Erimacrus isenbeckii*, sea urchins *Strongylocentrotus spp*, red sea cucumbers *Parastichopus californicus*, snails, *Paralomis multispina* (cherry) crab, and octopi. Prior to 1999, it was ADF&G’s 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. Since 1999, requests for commissioner's permits have decreased in frequency and the department has been hesitant to issue permits for species where no stock status information is available. When permits have been issued, permit terms have been crafted so as to promote data gathering.

2008 FISHERIES

Octopus

In 2008, directed fishing for octopi was permitted in the Aleutian Islands under the authority of a commissioner's permit. No vessels registered to target octopus in the Aleutian Islands.

Incidental harvest may also be retained at up to 20% of the weight of the target species. In 2008, 37 vessels made 56 landings of octopi totaling 35,480 pounds from the Aleutian Islands (Table 1-19).

Red Sea Cucumber and Sea Urchin

The 2008 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 2008.

Other Miscellaneous Shellfish Species

No vessels were registered for any other miscellaneous shellfish species in the Aleutian Islands in 2008.

FISHERY MANAGEMENT AND STOCK STATUS

No surveys of abundance for octopi 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 than one species in a directed fishery using pot gear. Current ADF&G policy on fisheries for miscellaneous shellfish is more restrictive with commissioner's permits only being issued on a limited basis and with permit terms designed to provide ADF&G with at least limited relative abundance information. 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.

REFERENCES CITED

Alaska Department of Fish and Game (ADF&G). 1978. Westward region shellfish report to the Alaska Board of Fisheries. Alaska Department of Fish and Game, Division of Commercial Fisheries, Kodiak.

Alaska Department of Fish and Game (ADF&G). 1983a. Westward Region king crab survey results for 1983. Alaska Department of Fish and Game, Division of Commercial Fisheries, Kodiak.

REFERENCES CITED (Continued)

Alaska Department of Fish and Game (ADF&G). 1983b. 1983 Westward Region Tanner Crab population surveys. Alaska Department of Fish and Game, Westward Region, Kodiak.

Alaska Department of Fish and Game (ADF&G). 1984. Westward Region Shellfish Report to the BOF. Alaska Department of Fish and Game, Division of Commercial Fisheries, Kodiak.

Alaska Department of Fish and Game (ADF&G). 1985a. Westward region shellfish report to the Alaska Board of Fisheries. Alaska Department of Fish and Game, Division of Commercial Fisheries, Kodiak.

Alaska Department of Fish and Game (ADF&G). 1985b. Westward region Tanner crab survey results for 1985. Alaska Department of Fish and Game, Division of Commercial Fisheries, Kodiak.

Alaska Department of Fish and Game (ADF&G). 1991. Westward region shellfish report to the Alaska Board of Fisheries. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K91-4, Kodiak.

Alaska Department of Fish and Game (ADF&G). 1999a. Annual management report for the shellfish fisheries of the Westward Region, 1998. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K99-49, Kodiak.

Alaska Department of Fish and Game (ADF&G). 1999b. Customary and traditional use worksheet for marine invertebrates, including king and Tanner crab; Alaska Peninsula-Aleutian Islands Area. [*in*]: Westward region report to the Alaska Board of Fisheries 1999, Kodiak.

Blau, S. F. and D. Pengilly. 1994. Findings from the 1991 golden king crab survey in the Dutch Harbor and Adak management areas including analysis of recovered tagged crabs. Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Regional Information Report 4K94-35, Kodiak.

Blau, S. F., D. Pengilly, and D. T. Tracy. 1996. Distribution of golden king crabs by sex, size, and depth zones in the eastern Aleutian Islands, Alaska. Pages 167-185 in High Latitude Crabs: Biology Management and Economics. Alaska Sea Grant College Program Report no. 96-02, University of Alaska Fairbanks.

Blau, S. F., L. J. Watson and I. Vining. 1998. The 1997 Aleutian Islands golden king crab survey. Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Regional Information Report 4K98-30, Kodiak.

Bowers, F .R., W. Donaldson, and D. Pengilly. 2002. Analysis of the January-February and November 2001 Petrel Bank red king crab commissioner's-permit surveys. Alaska Department of Fish and Game, Commercial Fisheries Division, Regional Information Report 4K02-11, Kodiak.

Byersdorfer, S. 1998. A summary of tagging data collected by observers on board the F/V Patricia Lee during the Aleutians brown king crab fishery from November 1996 to February 1997. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K98-22, Kodiak.

Gish, R. K. 2007. The 2006 Petrel Bank red king crab survey. Alaska Department of Fish and Game, Fishery Management Report No. 07-44, Anchorage.

Granath, K. 2003. Analysis of the November 2002 Adak, Atka, and Amlia Islands red king crab commissioner's permit survey. Alaska Department of Fish and Game, Commercial Fisheries Division, Regional Information Report 4K03-33, Kodiak.

Hoff, G. R. and L. L. Britt. 2003. The 2002 eastern Bering Sea upper continental slope survey of groundfish and invertebrate resources. U.S. Department of Commerce, NOAA Technical Memo. NMFS-AFSC-141, 261p.

NMFS. 1999. Our Living Oceans. Report on the status of U.S. living marine resources, 1999. U.S. Department of Commerce, NOAA Technical Memo. NMFS-F/SPO-41, online version, http://spo.nwr.noaa.gov/olo99.htm.

NPFMC. 1998. Fisheries Management Plan for the King and Tanner Crab Fisheries of the Bering Sea and Aleutian Islands.

Spalinger, K. 2006. Bottom trawl survey of crab and groundfish: Kodiak, Chignik, South Peninsula, and Eastern Aleutian Management Districts, 2005. Alaska Department of Fish and Game, Commercial Fisheries Division, Fishery Management Report No. 06-43, Kodiak.

REFERENCES CITED (Continued)

Spalinger, K. 2007. Bottom trawl survey of crab and groundfish: Kodiak, Chignik, South Peninsula, and Eastern Aleutians Management Districts, 2006. Alaska Department of Fish and Game, Commercial Fisheries Division, Fishery Management Report No. 07-52, Anchorage.

Spalinger, K. 2009. Bottom trawl survey of crab and groundfish: Kodiak, Chignik, South Peninsula, and Eastern Aleutians Management Districts, 2008. Alaska Department of Fish and Game, Commercial Fisheries Division, Fishery Management Report No. 09-25, Anchorage.

Urban, D. 1992. A bottom trawl survey of crab and groundfish in the Kodiak Island, Alaska Peninsula, and Dutch Harbor areas, June to September, 1990. Alaska Department of Fish and Game, Division of Commercial Fisheries, Technical Fishery Report 92-10, Kodiak.

Watson, L. 2005. The 2003 trienniel Aleutian Islands golden king crab survey and comparisons to the 1997 and 2000 surveys. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K04-42, Kodiak.

Watson, L. J. 2007. The 2006 triennial Aleutian Islands golden king crab survey. Alaska Department of Fish and Game, Fishery Management Report No. 07-07, Anchorage.

Watson, L. J. and R. K. Gish. 2002. The 2000 Aleutian Islands golden king crab survey and recoveries of tagged crabs in the 1997-1999 and 2000-2002 fishing seasons. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K02-06, Kodiak.

Worton, C. 2001. Bottom trawl survey of crab and groundfish: Kodiak Island, Chignik, South Alaska Peninsula, and Eastern Aleutian areas, 2000. Alaska Department of Fish and Game, Commercial Fisheries Division, Regional Information Report 4K01-58, Kodiak.

TABLES AND FIGURES

Table 1-1.–Aleutian Islands, Area O, red king crab commercial fishery data, 1960/61 - 2008/09.

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

-continued-

Table 1-1.–Page 2 of 6.

Season	Locale	Number of				Harvest[b,c]	Average			Deadloss[c]
		Vessels[a]	Landings	Crabs[b]	Pots Lifted		Weight[c]	CPUE[d]	Length[e]	
1967/68	East of 172° W	34	747	NA	NA	22,709,000	NA	NA	NA	NA
	West of 172° W	22	505	NA	NA	14,131,000	NA	NA	NA	NA
	TOTAL		**1,252**			**36,840,000**				
1968/69	East of 172° W	NA	NA	NA	NA	11,300,000	NA	NA	NA	NA
	West of 172° W	30	NA	NA	NA	16,100,000	NA	NA	NA	NA
	TOTAL					**27,400,000**				
1969/70	East of 172° W	41	375	NA	72,683	8,950,000	NA	NA	NA	NA
	West of 172° W	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° W	32	268	NA	56,198	9,652,000	NA	NA	NA	NA
	West of 172° W	35	378	NA	124,235	16,057,000	NA	NA	NA	NA
	TOTAL		**646**		**180,433**	**25,709,000**				
1971/72	East of 172° W	32	210	1,447,692	31,531	9,391,615	7	46	NA	NA
	West of 172° W	40	166	NA	46,011	15,475,940	NA	NA	NA	NA
	TOTAL		**376**		**77,542**	**24,867,555**				
1972/73	East of 172° W	51	291	1,500,904	34,037	10,450,380	7	44		
	West of 172° W	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° W	56	290	1,780,673	41,840	12,722,660	7.1	43	NA	NA
	West of 172° W	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**		

-continued-

Table 1-1.–Page 3 of 6.

Season	Locale	Number of				Harvest[b,c]	Average			Deadloss[c]
		Vessels[a]	Landings	Crabs[b]	Pots Lifted		Weight[c]	CPUE[d]	Length[e]	
1974/75	East of 172° W	87	372	1,812,647	71,821	13,991,190	7.7	25		
	West of 172° W	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° W	79	369	2,147,350	86,874	15,906,660	7.4	25		
	West of 172° W	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° W	72	226	1,273,298	65,796	9,367,965 [f]	7.4	19		
	East of 172° W	38	61	86,619	17,298	830,458 [g]	9.6	5	NA	NA
	West of 172° W	FC	FC	FC	FC	FC	FC	FC	FC	FC
	TOTAL		**287**	**1,359,917**	**83,094**	**10,198,423**	**7.5**	**16**		
1977/78	East of 172° W	33	227	539,656	46,617	3,658,860 [f]	6.8	12		
	East of 172° W	6	7	3,096	812	25,557 [h]	8.3	4	NA	NA
	West of 172° W	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° W	60	300	1,233,758	51,783	6,824,793	5.5	24	NA	NA
	West of 172° W	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° W	104	542	2,551,116	120,554	15,010,840	5.9	21	NA	NA
	West of 172° W	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**		

-continued-

Table 1-1.–Page 4 of 6.

Season	Locale	Number of				Harvest[b,c]	Average			Deadloss[c]
		Vessels[a]	Landings	Crabs[b]	Pots Lifted		Weight[c]	CPUE[d]	Length[e]	
1980/81	East of 172° W	114	830	2,772,287	231,607	17,660,620 [f]	6.4	12	NA	NA
	East of 172° W	54	120	182,349	30,000	1,392,923 [h]	7.6	6		
	West of 172° W	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**		
1981/82	East of 172° W	92	683	741,966	220,087	5,155,345	6.9	3	NA	NA
	West of 172° W	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° W	81	278	64,380	72,924	431,179	6.7	1		
	West of 172° W	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° W	FC	FC	FC	FC	FC	FC	FC	FC	FC
	West of 172° W	106	248	298,958	60,840	1,981,579	6.6	5	157.3	3,833
1984/85	East of 171° W	FC	FC	FC	FC	FC	FC	FC	FC	FC
	West of 171° W	64	106	196,276	48,642	1,296,385	6.6	4	155.1	0
1985/86	East of 171° W	FC	FC	FC	FC	FC	FC	FC	FC	FC
	West of 171° W	35	82	156,097	29,095	868,828	5.6	5	152.2	0
1986/87	East of 171° W	FC	FC	FC	FC	FC	FC	FC	FC	FC
	West of 171° W	33	69	126,204	29,189	712,543	5.7	4	NA	800
1987/88	East of 171° W	FC	FC	FC	FC	FC	FC	FC	FC	FC
	West of 171° W	71	103	211,692	43,433	1,213,892	5.7	5	148.5	6,900

-continued-

Table 1-1.–Page 5 of 6.

Season	Locale	Number of				Harvest[b,c]	Average			Deadloss[c]
		Vessels[a]	Landings	Crabs[b]	Pots Lifted		Weight[c]	CPUE[d]	Length[e]	
1988/89	East of 171° W	FC	FC	FC	FC	FC	FC	FC	FC	FC
	West of 171° W	73	156	266,053	64,334	1,567,314	5.9	4	153.1	557
1989/90	East of 171° W	FC	FC	FC	FC	FC	FC	FC	FC	FC
	West of 171° W	56	123	193,177	54,213	1,105,971	5.7	4	151.5	759
1990/91	East of 171° W	FC	FC	FC	FC	FC	FC	FC	FC	FC
	West of 171° W	7	34	146,903	10,674	828,105	5.6	14	148.1	0
1991/92	East of 171° W	FC	FC	FC	FC	FC	FC	FC	FC	FC
	West of 171° W	10	35	165,356	16,636	951,278	5.8	10	149.8	0
1992/93	East of 171° W	FC	FC	FC	FC	FC	FC	FC	FC	FC
	West of 171° W	12	30	218,049	16,129	1,286,424	6.0	14	151.5	5,000
1993/94	East of 171° W	FC	FC	FC	FC	FC	FC	FC	FC	FC
	West of 171° W	12	21	119,330	13,575	698,077	5.9	9	154.6	7,402
1994/95	East of 171° W	FC	FC	FC	FC	FC	FC	FC	FC	FC
	West of 171° W	20	31	30,337	18,146	196,967	6.5	2	157.5	1,430
1995/96	East of 171° W	FC	FC	FC	FC	FC	FC	FC	FC	FC
	West of 171° W	4	12	6,880	1,986	38,941	5.7	3	153.6	235
1996/97		FC	FC	FC	FC	FC	FC	FC	FC	FC
1997/98		FC	FC	FC	FC	FC	FC	FC	FC	FC

-continued-

Table 1-1.–Page 6 of 6.

Season	Locale	Number of				Harvest[b,c]	Average			Deadloss[c]
		Vessels[a]	Landings	Crabs[b]	Pots Lifted		Weight[c]	CPUE[d]	Length[e]	
1998/99	West of 174° W	1	CF	CF	CF	CF	CF	CF	CF	CF
1999/2000		FC	FC	FC	FC	FC	FC	FC	FC	FC
2000/01[i]	Petrel Bank[j]	1	3	11,299	496	76,562	6.8	23	161.0	0
2001/02[k]	Petrel Bank[j]	4	5	22,080	564	153,961	7.0	39	159.5	82
2002/03	Petrel Bank[j]	33	35	68,300	3,786	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 - 2008/09		FC	FC	FC	FC	FC	FC	FC	FC	FC

Note: NA = Not Available, FC = Fishery Closed, CF = Confidential, less than three vessels or processors participated in fishery

[a] Many vessels fished both eastern and western areas, 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).

Table 1-2.–Aleutian Islands, Area O, red king crab fishery economic performance data, 1973/74 - 2008/09.

Year	Locale	GHL[a]	Value		Season Length	
			Exvessel[b]	Total	Days	Dates
1973/74	East of 172° W	10.0[c]	$0.65	$8,269,729	24	11/01 - 11/24
	West of 172° W	20.0[c]	NA	NA	NA	11/01 - 12/06
1974/75	East of 172° W	11.5[c]	$0.37	$5,176,740	75	11/01 - 01/14
	West of 172° W	20.0[c]	$0.35	$971,237	NA	11/01 - 02/26
1975/76	East of 172° W	14.5[c]	$0.42	$6,680,797	71	11/01 - 01/10
	West of 172° W	15.0[c]	$0.38	$156,402	NA	01/10 - 12/18
1976/77	East of 172° W[d]	14.5[c]	$0.64	$5,995,497	37	11/01 - 12/07
	East of 172° W[e]		$0.79	$656,061	31	12/13 - 01/13
	West of 172° W	FC	FC	FC	FC	FC
1977/78	East of 172° W[d]	8.0 - 14.5[c]	$0.99	$3,622,271	84	09/15 - 12/08
	East of 172° W[f]		$1.35	$34,502	28	12/08 - 01/05
	West of 172° W	0.25 - 2.5	$1.36	$1,231,517	NA	NA
1978/79	East of 172° W	5.0 - 13.0[c]	$1.35	$9,213,471	71	09/10 - 11/20
	West of 172° W	0.5 - 3.0	$1.23	$992,850	NA	NA
1979/80	East of 172° W	17.0 - 25.0[c]	$0.90	$13,509,756	122	09/10 - 01/10
	West of 172° W	0.5 - 3.0	$0.68	$317,716	NA	NA
1980/81	East of 172° W[d]	7.0 - 17.0[c]	$1.02	$18,013,832	73	11/01 - 01/12
	East of 172° W[f]		$1.03	$1,434,711	31	01/15 - 02/15
	West of 172° W	0.5 - 3.0	$0.92	$1,305,952	72	01/15 - 03/28
1981/82	East of 172° W	7.0 - 17.0[c]	$2.30	$11,617,293	107	11/01 - 02/15
	West of 172° W	0.5 - 3.0	$2.01	$3,314,341	107	11/01 - 02/15
1982/83	East of 172° W	2.0 - 3.0[g]	$3.43	$1,478,944	66	11/01 - 01/15
	West of 172° W	0.5 - 3.0	$3.44	$5,854,254	76	11/01 - 01/15
1983/84	East of 172° W	FC	FC	FC	FC	FC
	West of 172° W	0.5 - 3.0	$3.53	$6,796,816	340	11/10 - 12/16

-continued-

Table 1-2.–Page 2 of 3.

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

-continued-

Table 1-2.–Page 3 of 3.

Year	Locale	GHL[a]	Value		Season Length	
			Exvessel[b]	Total	Days	Dates
1998/99	West of 174° W	0.015	CF	CF	272	11/01 - 7/31
1999/2000		FC	FC	FC	FC	FC
2000/01		FC	FC	FC	FC	FC
2001/02		FC	FC	FC	FC	FC
2002/03	Petrel Bank[h]	0.5	$6.51	$3,291,729	2	10/25 - 10/27
2003/04	Petrel Bank[h]	0.5	$5.14	$2,449,189	4	10/25 - 10/29
2004/05 - 2008/09		FC	FC	FC	FC	FC

Note: FC = Fishery Closed, NA = Not Available, CF = Confidential, less than three vessels or processors participated in fishery

[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. Individual species harvest not available.

[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] 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 1981/82 survey and fishery.

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

Table 1-3.–Eastern Aleutian Islands, west of Scotch Cap Light and east of 168° W long., subsistence king and Tanner crab harvest, 1999-2008.

Year	Number of Permits		Percentage Returned	Harvest[a]			
	Issued	Returned		King crab reported	King crab estimated	Tanner crab reported	Tanner crab estimated
1999	179	80	45	787	1,761	1,432	3,204
2000	193	137	71	523	737	916	1,290
2001	200	153	77	1,149	1,502	1,703	2,226
2002	231	179	77	1,080	1,394	2,451	3,163
2003	229	160	70	387	554	4,600	6,584
2004	225	144	64	225	352	4,714	7,366
2005	241	182	76	866	1,147	5,447	7,213
2006	256	185	72	1,796	2,485	1,439	1,991
2007	203	122	60	1,359	2,265	1,542	2,570
2008	242	176	73	1,188	1,634	889	1,222
1999 - 2008 Average	**220**	**152**	**69**	**936**	**1,356**	**2,513**	**3,641**

[a] Harvest estimate, in numbers of crab, from waters surrounding Unalaska Island (no reported harvest elsewhere in permit area).

Table 1-4.–Aleutian Islands golden king crab commercial fishery data, 1981/82 - 2008/09.

Season	Locale	Number of				Number of Pots		Average			
		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**		**216,289**
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	59	364,097	1,733,878	1,479	25,223	4.8	14	156	25,223
	West of 171° W.	53	386	2,452,216	11,024,759	7,057	205,279	4.5	12	151	197,753
	TOTAL		**445**	**2,816,313**	**12,758,637**	**8,536**	**230,502**	**4.5**	**12**		**222,976**
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	528	2,940,238	12,869,564	12,958	395,435	4.4	7	150	276,741
	TOTAL		**599**	**3,340,627**	**14,738,744**	**14,533**	**433,020**	**4.4**	**8**		**286,251**
1987/88	East of 171° W.	23	77	301,227	1,388,983	3,591	42,867	4.6	7	150	25,060
	West of 171° W.	57	380	1,873,349	7,868,022	10,687	263,863	4.2	7	147	167,110
	TOTAL		**457**	**2,174,576**	**9,257,005**	**14,278**	**306,730**	**4.3**	**7**		**192,170**
1988/89	East of 171° W.	21	57	323,783	1,546,113	4,215	41,371	4.8	8	154	23,960
	West of 171° W.	74	455	2,164,650	9,080,929	23,627	280,556	4.2	8	149	125,500
	TOTAL		**512**	**2,488,433**	**10,627,042**	**27,842**	**321,927**	**4.3**	**8**		**149,460**

-continued-

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]
1989/90	East of 171° W.	13	70	424,067	1,852,249	5,635	43,346	4.4	10	151	17,421
	West of 171° W.	65	505	2,478,846	10,169,803	14,724	314,457	4.1	8	149	99,866
	TOTAL		**575**	**2,902,913**	**12,022,052**	**20,359**	**357,803**	**4.1**	**8**		**117,287**
1990/91	East of 171° W.	16	67	391,135	1,699,675	5,225	53,592	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**	**234**	**1,703,251**	**6,950,362**	**12,605**	**214,552**	**4.1**	**8**		**219,383**
1991/92	East of 171° W.	11	53	346,176	1,490,830	3,760	42,600	4.3	8	148	45,100
	West of 171° W.	16	206	1,494,595	6,185,362	7,635	191,626	4.1	8	145	96,848
	TOTAL	**20**	**259**	**1,840,771**	**7,676,192**	**11,395**	**234,226**	**4.2**	**8**		**141,948**
1992/93	East of 171° W.	10	46	337,559	1,404,452	4,222	38,348	4.2	9	148	37,200
	West of 171° W.	18	128	1,190,769	4,886,745	8,236	164,873	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	148	1,179,742	4,635,683	11,970	212,164	3.9	6	148	165,358
	TOTAL	**21**	**162**	**1,397,530**	**5,551,143**	**14,304**	**234,654**	**4.0**	**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**
1995/96	East of 171° W.	17	42	431,867	1,993,980	10,325	65,030	4.6	7	150	67,027
	West of 171° W.	25	141	1,150,466	4,966,426	14,213	227,991	4.3	5	147	248,108
	TOTAL	**28**	**183**	**1,582,333**	**6,960,406**	**24,538**	**293,021**	**4.4**	**5**		**315,135**
1996/97	East of 174° W.	14	71	731,909	3,290,862	9,040	113,460	4.5	6		185,203
	West of 174° W.	13	99	602,968	2,524,910	8,805	99,267	4.2	6		75,506
	TOTAL	**18**	**170**	**1,334,877**	**5,815,772**	**17,845**	**212,727**	**4.4**	**6**	**147**	**260,709**

-continued-

Table 1-4.–Page 3 of 4.

Season	Locale	Number of			Harvest[b,c]	Number of Pots		Average			Deadloss[c]
		Vessels[a]	Landings	Crabs[b]		Registered	Lifted	Weight[c]	CPUE[d]	Length[e]	
1997/98	East of 174° W.	15	74	780,610	3,501,055	9,720	106,403	4.5	7	147	131,481
	West of 174° W.	9	160	569,550	2,444,628	5,240	86,811	4.3	6	148	79,564
	TOTAL	**15**	**234**	**1,350,160**	**5,945,683**	**14,960**	**193,214**	**4.4**	**7**	**147**	**211,045**
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	107,040	4.1	6	147	104,675
	TOTAL	**17**	**173**	**1,385,890**	**5,838,788**	**20,078**	**186,169**	**4.2**	**7**	**147**	**172,249**
2000/01	East of 174° W.	15	50	704,702	3,134,079	10,598	71,551	4.4	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**	**135**	**1,416,768**	**5,918,706**	**21,418**	**168,151**	**4.2**	**8**	**146**	**93,549**
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	73	664,823	2,640,604	6,225	78,979	4.0	8	146	32,101
	TOTAL	**22**	**116**	**1,308,709**	**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**	**97**	**1,319,707**	**5,665,828**	**19,658**	**125,119**	**4.3**	**11**	**147**	**125,327**
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**

-continued-

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]
2005/06[f]	East of 174° W.	7	33	560,906	2,567,781	8,833	21,898	4.6	25	151	23,791
	West of 174° W.	3	43	571,014	2,384,567	4,800	27,503	4.2	21	148	26,500
	TOTAL	**8**	**72** [g]	**1,131,920**	**4,952,348**	**9,833**[g]	**49,401**	**4.4**	**23**	**149**	**50,291**
2006/07[f]	East of 174° W.	6	32	585,676	2,692,010	8,150	23,839	4.6	24	152	31,311
	West of 174° W.	3	32	462,529	2,002,190	6,000	22,694	4.3	20	150	19,768
	TOTAL	**7**	**63** [g]	**1,048,205**	**4,694,200**	**9,300**[g]	**46,533**	**4.5**	**23**	**150**	**51,079**
2007/08[f]	East of 174° W.	4	36	566,838	2,689,997	4,200	20,496	4.8	28	153	21,042
	West of 174° W.	3	35	524,894	2,248,103	4,800	25,287	4.3	21	149	23,183
	TOTAL	**5**	**66** [g]	**1,091,732**	**4,938,100**	**7,600**[g]	**45,783**	**4.5**	**24**	**151**	**44,225**
2008/09[f]	East of 174° W.	3	29	600,380	2,829,423	4,200	21,855	4.7	27	152	24,117
	West of 174° W.	3	38	519,530	2,252,114	4,900	22,351	4.3	23	149	22,802
	TOTAL	**5**	**67**	**1,119,910**	**5,081,537**	**7,900**[g]	**44,206**	**4.5**	**25**	**150**	**46,919**

Note: NA = Not Available

[a] Many vessels fished both east and west of 174° W long., 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.

[f] Individual Fishing Quota (IFQ) harvest does not include Community Development Quota (CDQ) harvest, or Adak Community Allocation (ACA) harvest.

[g] Some vessels participated in both East and West fishery.

Table 1-5.–Aleutian Islands golden king crab fishery economic performance data, 1981/82 - 2008/09.

Year	Locale	GHL/TAC[a]	Value		Season Length	
			Exvessel[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.	NA	$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.	NA	$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.	NA	$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.	NA	$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.	NA	$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.	NA	$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	09/01-02/15
	West of 171° W.	NA	$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.	NA	$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.	NA	$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.	NA	$2.05	$9.86	288	11/01-08/15
	Total		**$2.15**	**$13.16**		

-continued-

Table 1-5.–Page 2 of 3.

Year	Locale	GHL/TAC[a]	Value		Season Length	
			Exvessel[b]	Total[c]	Days	Dates
1993/94	East of 171° W.	NA	$2.15	$1.95	212	09/01-03/01
	West of 171° W.	NA	$2.50	$11.18	288	11/01-08/15
	Total		**$2.44**	**$13.13**		
1994/95	East of 171° W.	NA	$4.00	$6.88	57	09/01-10/28
	West of 171° W.	NA	$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	09/01-08/14
	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	08/15-08/29
	West of 174° W.	2.7	$3.09	$8.16	141	08/15-01/03
	Total	**5.7**	**$3.14**	**$17.23**		

-continued-

Table 1-5.–Page 3 of 3.

Year	Locale	GHL/TAC[a]	Value		Season Length	
			Exvessel[b]	Total[c]	Days	Dates
2005/06[e]	East of 174° W.	2.7	$2.53	$6.50	273	08/15-05/15
	West of 174° W.	2.43	$2.05	$4.89	273	08/15-05/15
	Total	**5.13**	**$2.32**	**$11.39**		
2006/07[e]	East of 174° W.	2.7	$1.77	$4.71	273	8/15-5/15
	West of 174° W.	2.43	$1.33	$2.64	273	8/15-5/15
	Total	**5.13**	**$1.58**	**$7.35**		
2007/08[e]	East of 174° W.	2.7	$2.11	$5.63	273	8/15-5/15
	West of 174° W.	2.43	$1.63	$3.63	273	8/15-5/15
	Total	**5.13**	**$1.89**	**$9.26**		
2008/09[e]	East of 174° W.	2.84	$3.32	$9.31	273	8/15-5/15
	West of 174° W.	2.55	$1.87	$4.17	273	8/15-5/15
	Total	**5.39**	**$2.68**	**$13.49**		

Note: NA = Not Available

[a] Guideline harvest level, millions of pounds. Prior to 1996/97, management was based on size, sex, and season. Total Allowable Catch (TAC) from 2005/06 forward.

[b] Average price per pound.

[c] Millions of dollars.

[d] GHL includes all king crab species.

[e] Individual fishing quota (IFQ); does not include CDQ, or ACA quota.

Table 1-6.–Eastern Aleutian Islands golden king crab Individual Fishing Quota (IFQ) catch by statistical week, 2008/09.

Week Ending	Statistical Week[a]	Number of Landings	Number of Crab[b]	Number of Pots lifted	Harvest[b,c]	Average Weight[c]	Average CPUE[d]	Deadloss[c]
16-Aug	33	CF	CF	CF	CF	CF	CF	CF
23-Aug	34	CF	CF	CF	CF	CF	CF	CF
30-Aug	35	CF	CF	CF	CF	CF	CF	CF
13-Sep	37	5	100,283	3,532	465,703	4.6	28	3,532
20-Sep	38	CF	CF	CF	CF	CF	CF	CF
27-Aug	39	CF	CF	CF	CF	CF	CF	CF
4-Oct	40	CF	CF	CF	CF	CF	CF	CF
11-Oct	41	CF	CF	CF	CF	CF	CF	CF
18-Oct	42	CF	CF	CF	CF	CF	CF	CF
25-Oct	43	CF	CF	CF	CF	CF	CF	CF
8-Nov	45	CF	CF	CF	CF	CF	CF	CF
15-Nov	46	CF	CF	CF	CF	CF	CF	CF
6-Dec	49	CF	CF	CF	CF	CF	CF	CF
20-Dec	51	CF	CF	CF	CF	CF	CF	CF
Total		**29**	**600,380**	**21,855**	**2,829,423**	**4.7**	**27**	**5,118**

Note: CF = Confidential, less than three vessels or processors participated in fishery

[a] Landings in a statistical week are based on the date fishing began, not the date landed.

[b] Deadloss included.

[c] In pounds.

[d] Number of legal crabs per pot lift.

Table 1-7.–Aleutian Islands golden king crab Individual Fishing Quota (IFQ) catch by statistical area, 2008/09.

Locale	Statistical Area	Number of			Harvest[a,b]	Average		Deadloss[b]
		Landings	Crab[a]	Pots lifted		Weight[b]	CPUE[c]	
S Yunakaska Is.	705200	14	50,997	1,973	252,935	5.0	26	2,130
Amukta Pass	715202	28	181,239	6,325	860,799	4.8	29	7,640
Seguam Pass	725201	19	78,559	2,982	370,790	4.7	26	3,329
SE Amchitka Is.	805103	24	36,497	1,144	155,722	4.3	32	1,786
Other[d]		NA	772,618	31,782	3,441,291	4.5	22	32,035
Total		**67**	**1,119,910**	**44,206**	**5,081,537**	**4.5**	**25**	**46,920**

Note: NA = Not Available

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crabs per pot lift.

[d] Combination of 55 statistical areas in which landings were made by fewer than three vessels.

Table 1-8.–Western Aleutian Islands golden king crab Individual Fishing Quota (IFQ) catch by statistical week, 2008/09.

Week Ending	Statistical Week[a]	Number of			Harvest[b,c]	Average		Deadloss[c]
		Landings	Crab[b]	Pots lifted		Weight[c]	CPUE[d]	
17-Aug	34	CF	CF	CF	CF	CF	CF	CF
31-Aug	36	CF	CF	CF	CF	CF	CF	CF
7-Sep	37	CF	CF	CF	CF	CF	CF	CF
14-Sep	38	CF	CF	CF	CF	CF	CF	CF
21-Sep	39	CF	CF	CF	CF	CF	CF	CF
28-Sep	40	CF	CF	CF	CF	CF	CF	CF
5-Oct	41	CF	CF	CF	CF	CF	CF	CF
12-Oct	42	CF	CF	CF	CF	CF	CF	CF
19-Oct	43	CF	CF	CF	CF	CF	CF	CF
26-Oct	44	CF	CF	CF	CF	CF	CF	CF
2-Nov	45	CF	CF	CF	CF	CF	CF	CF
9-Nov	46	CF	CF	CF	CF	CF	CF	CF
16-Nov	47	CF	CF	CF	CF	CF	CF	CF
23-Nov	48	CF	CF	CF	CF	CF	CF	CF
30-Nov	49	CF	CF	CF	CF	CF	CF	CF
7-Dec	50	CF	CF	CF	CF	CF	CF	CF
14-Dec	51	CF	CF	CF	CF	CF	CF	CF
4-Jan	2	CF	CF	CF	CF	CF	CF	CF
11-Jan	3	CF	CF	CF	CF	CF	CF	CF
18-Jan	4	CF	CF	CF	CF	CF	CF	CF
1-Feb	6	CF	CF	CF	CF	CF	CF	CF
8-Feb	7	CF	CF	CF	CF	CF	CF	CF
1-Mar	10	CF	CF	CF	CF	CF	CF	CF
15-Mar	12	CF	CF	CF	CF	CF	CF	CF
5-Apr	15	CF	CF	CF	CF	CF	CF	CF
26-Apr	18	CF	CF	CF	CF	CF	CF	CF
Total		**38**	**519,530**	**22,351**	**2,252,114**	**4.3**	**23**	**22,802**

Note: CF = Confidential, less than three vessels or processors participated in fishery

[a] Landings in a statistical week are based on the date fishing began, not the date landed.

[b] Deadloss included.

[c] In pounds.

[d] Number of legal crabs per pot lift.

Table 1-9.–Aleutian Islands scarlet king crab fishery data, 1992-2008.

Year	Area	Number of				Harvest[a,b]	Average		Value		Deadloss[b]
		Vessels	Landings	Crabs[a]	Pots lifted		Weight[b]	CPUE[c]	Exvessel[d]	Total[e]	
1992	Dutch Harbor	0	0	0	0	0	0	0	0	0	0
	Adak	1	CF	CF	CF	CF	CF	CF	CF	CF	CF
1993	Dutch Harbor	0	0	0	0	0	0	0	0	0	0
	Adak	0	0	0	0	0	0	0	0	0	0
1994	Dutch Harbor	1	CF	CF	CF	CF	CF	CF	CF	CF	CF
	Adak	5	9	6,613	7,370	21,269	3.2	1	$1.24	$26.4	10,829
	Total	6	CF	CF	CF	CF	CF	CF	CF	CF	CF
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**	**25**	**25,814**	**20,752**	**62,997**	**2.4**	**1**	**$2.96**	**$186.5**	**3,821**
1996	Dutch Harbor	3	10	9,967	8,071	20,538	2.1	1	$1.78	$37.1	3,911
	Adak	4	13	10,199	18,547	24,161	2.4	<1	$1.80	$43.5	1,861
	Total	**7**	**23**	**20,166**	**26,618**	**44,699**	**2.2**	**<1**	**$1.79**	**$80.6**	**5,772**
1997	Aleutian Islands	3	12	2,698	21,217	6,720	2.5	<1	$1.40	$9.4	408
1998	Aleutian Islands	2	CF	CF	CF	CF	CF	CF	CF	CF	CF
1999	Aleutian Islands	1	CF	CF	CF	CF	CF	CF	CF	CF	CF
2000	Aleutian Islands	2	CF	CF	CF	CF	CF	CF	CF	CF	CF
2001	Aleutian Islands	2	CF	CF	CF	CF	CF	CF	CF	CF	CF
2002	Aleutian Islands	2	CF	CF	CF	CF	CF	CF	CF	CF	CF
2003	Aleutian Islands	2	CF	CF	CF	CF	CF	CF	CF	CF	CF
2004	Aleutian Islands	2	CF	CF	CF	CF	CF	CF	CF	CF	CF
2005	Aleutian Islands	0	0	0	0	0	0	0	0	0	0
2006	Aleutian Islands	0	0	0	0	0	0	0	0	0	0
2007	Aleutian Islands	1	CF	CF	CF	CF	CF	CF	CF	CF	CF
2008	Aleutian Islands	0	0	0	0	0	0	0	0	0	0

Note: CF = Confidential, less than three vessels or processors participated in fishery

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crabs per pot lift.

[d] Average price per pound.

[e] Thousands of dollars.

Table 1-10.–Eastern Aleutian District Tanner crab fishery data, 1973/74 - 2009.

Season	Locale	Number of				GHL	Harvest[a,b]	Average		Deadloss[b]
		Vessels	Landings	Crabs	Pots lifted			Weight[b]	CPUE[c]	
1973/74		6	14	210,539	NA	NA	498,836	2.4	60	0
1974/75		CF	CF	CF	CF	CF	CF	CF	CF	CF
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		FC	FC	FC	FC	FC	FC	FC	FC	FC
2003[d]		3	10	6,695	191		15,138	2.3	35	9
2004	Unalaska Bay	10	36	CF	CF	47,219	CF	2.3	CF	CF
	Makushin/Skan	9	14	CF	CF	87,891	CF	2.3	CF	CF
	Total	**14**	**50**	CF	CF	**135,110**	CF	**2.3**	CF	CF

-continued-

Table 1-10.–Page 2 of 2.

Season	Locale	Number of				GHL	Harvest[a,b]	Average		Deadloss[b]
		Vessels	Landings	Crabs	Pots lifted			Weight[b]	CPUE[c]	
2005	Unalaska Bay	25	79	14,249	696	35,304	34,022	2.4	20	0
2006	Makushin/Skan	10	32	CF	CF	87,241	CF	2.4	CF	CF
2007	Akutan Bay	3	7	CF	CF	35,000	CF	2.2	CF	CF
	Unalaska Bay	12	41	CF	CF	49,000	CF	2.5	CF	CF
	Total	**13**	**48**	CF	CF	**84,000**	CF	**2.4**	CF	CF
2008	Unalaska Bay	11	48	CF	CF	60,000	CF	2.4	CF	CF
2009	Akutan Bay	1	2	CF	CF	35,000	CF	2.3	CF	CF
	Makushin/Skan	1	3	CF	CF	35,000	CF	2.4	CF	CF
	Unalaska Bay	10	83	CF	CF	58,000	CF	2.2	CF	CF
	Total	**11**	**87** [e]	CF	CF	**128,000**	CF	**2.3**	CF	CF

Note: NA = Not Available, CF = Confidential, less than three vessels or processors participated in fishery

[a] Deadloss included beginning 1980.

[b] In pounds.

[c] Number of legal crabs per pot lift.

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

[e] One vessel participated in multiple sections.

Table 1-11.–Eastern Aleutian District Tanner crab fishery economic performance data, 1973/74 - 2009.

Season	Locale	Date		Value	
		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		FC	FC	FC	FC
2004	Unalaska Bay	15-Jan	19-Jan	CF	CF
	Makushin/Skan Bay	15-Jan	3-Feb	CF	CF
2005		15-Jan	18-Jan	$2.58	$0.09
2006		15-Jan	21-Jan	CF	CF
2007	Akutan Bay	15-Jan	31-Mar	CF	CF
	Unalaska Bay	15-Jan	19-Jan	CF	CF
2008		15-Jan	29-Jan	CF	CF
2009	Akutan Bay	15-Jan	31-Mar	CF	CF
	Makushin/Skan Bay	15-Jan	31-Mar	CF	CF
	Unalaska Bay	15-Jan	11-Feb	CF	CF

Note: CF = Confidential, less than three vessels or processors participated in fishery, NA = Not Available, FC = Fishery Closed

[a] Average price per pound.

[b] Millions of dollars.

Table 1-12.–Eastern Aleutian District grooved Tanner crab fishery data, 1993 - 2008.

Year	Number of				Harvest[a,b]	Average		Value		Deadloss[b]
	Vessels	Landings	Crabs[a]	Pots lifted		Weight[b]	CPUE[c]	Exvessel[d]	Total[e]	
1993	1	CF	CF	CF	CF	CF	CF	CF	CF	CF
1994	4	28	429,777	37,246	754,983	1.8	11	$1.72	$1.30	19,151
1995	8	55	511,125	77,443	879,386	1.7	6	$1.57	$1.40	30,348
1996	3	25	54,903	21,994	104,680	1.9	2	$0.99	$0.10	7,496
1997-2000	0	0	0	0	0	0	0	0	0	0
2001	1	CF	CF	CF	CF	CF	CF	CF	CF	CF
2002 - 2008	0	0	0	0	0	0	0	0	0	0

Note: CF = Confidential, less than three vessels or processors participated in fishery

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crabs per pot lift.

[d] Average price per pound.

[e] Millions of dollars.

Table 1-13.–Eastern Aleutian District triangle Tanner crab fishery data, 1993 - 2008.

Year	Number of				Harvest[a,b]	Average		Value		Deadloss[b]
	Vessels	Landings	Crabs[a]	Pots lifted		Weight[b]	CPUE[c]	Exvessel[d]	Total[e]	
1993	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0	0
1995	2	CF	CF	CF	CF	CF	CF	CF	CF	CF
1996	2	CF	CF	CF	CF	CF	CF	CF	CF	CF
1997 - 2000	0	0	0	0	0	0	0	0	0	0
2001	1	CF	CF	CF	CF	CF	CF	CF	CF	CF
2002 - 2008	0	0	0	0	0	0	0	0	0	0

Note: CF = Confidential, less than three vessels or processors participated in fishery

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crabs per pot lift.

[d] Average price per pound.

[e] Millions of dollars.

Table 1-14.–Western Aleutian District Tanner crab fishery data, 1973/74 - 2008/09.

Year	Number of				Harvest[a,b]	Average		Deadloss[b]
	Vessels	Landings	Crabs[a]	Pots lifted		Weight[b]	CPUE[c]	
1973/74	7	12	31,079	2,390	71,887	2.3	13	NA
1974/75		CF	CF	CF	CF	CF	CF	CF
1975/76		CF	CF	CF	CF	CF	CF	CF
1976/77	0	0	0	0	0	0	0	0
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	CF	CF	CF	CF	CF	CF	CF
1993/94	0	0	0	0	0	0	0	0
1994/95	0	0	0	0	0	0	0	0
1995/96	1	CF	CF	CF	CF	CF	CF	CF
1996/97 - 2008/09	FC	FC	FC	FC	FC	FC	FC	FC

Notes: NA = Not Available, CF = Confidential, less than three vessels or processors participated in fishery, FC = Fishery Closed

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crabs per pot lift.

Table 1-15.–Western Aleutian District commercial Tanner crab fishery economic data, 1973/74 - 2008/09.

Year	Value	
	Exvessel[a]	Total
1973/74	NA	NA
1974/75	CF	CF
1975/76	CF	CF
1976/77	0	0
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	CF	CF
1993/94	0	0
1994/95	0	0
1995/96	CF	CF
1996/97 - 2008/09	FC	FC

Note: NA = Not Available, CF = Confidential, less than three vessels or processors participated in fishery, FC = Fishery Closed

[a] Average price per pound.

Table 1-16.–Western Aleutian District grooved Tanner crab fishery data, 1992 - 2008.

Year	Number of		Harvest[a,b]	Average		Value		Deadloss[b]
	Vessels	Pots lifted		Weight[b]	CPUE[c]	Exvessel[d]	Total[e]	
1992	1	CF	CF	CF	CF	CF	CF	CF
1993	0	0	0	0	0	0	0	0
1994	2	CF	CF	CF	CF	CF	CF	CF
1995	6	17,749	145,795	1.9	4	$2.45	$0.36	17,190
1996	1	CF	CF	CF	CF	CF	CF	CF
1997-1999	0	0	0	0	0	0	0	0
2000-2008		FC	FC	FC	FC	FC	FC	FC

Note: CF = Confidential, less than three vessels or processors participated in fishery, FC = 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.

Table 1-17.–Aleutian District Dungeness crab fishery data, 1974 – 2008/2009.

Year	Season Dates	Number of Vessels	Landings	Crabs[a]	Pots Lifted	Harvest[a,b]	Average Weight[b]	CPUE[c]	Price/pound
1974	01/01-12/31	3	13	24,459	3,399	60,517	2.4	8	NA
1975	01/01-12/31		CF	CF	CF	CF	CF	CF	CF
1976/77	05/01-01/01	0	0	0	0	0	0	0	0
1977/78	05/01-01/01	0	0	0	0	0	0	0	0
1978/79	05/01-01/01		CF	CF	CF	CF	CF	CF	CF
1979/80	05/01-01/01		CF	CF	CF	CF	CF	CF	CF
1980/81	05/01-01/01	0	0	0	0	0	0	0	0
1981/82	05/01-01/01	0	0	0	0	0	0	0	0
1982/83	05/01-01/01		CF	CF	CF	CF	CF	CF	CF
1983/84	05/01-01/01		CF	CF	CF	CF	CF	CF	CF
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	CF	CF	CF	CF	CF	CF	CF
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	0	0	0	0	0	0	0	0
2001/02	05/01-01/01	1	CF	CF	CF	CF	CF	CF	CF
2002/03	05/01-01/01	1	CF	CF	CF	CF	CF	CF	CF
2003/04	05/01-01/01	0	0	0	0	0	0	0	0
2004/05	05/01-01/01	0	0	0	0	0	0	0	0
2005/06	05/01-01/01	1	CF	CF	CF	CF	CF	CF	CF
2006/07	05/01-01/01	1[d]	0	0	0	0	0	0	0
2007/08	05/01-01/01	1	0	0	0	0	0	0	0
2008/09	05/01-01/01	0	0	0	0	0	0	0	0

Note: CF = Confidential, less than three vessels or processors participated in fishery

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crabs per pot lift.

[d] Vessel registered but did not fish.

Table 1-18.–Aleutian Islands District trawl shrimp fishery data, 1972 - 2008.

Year	Season Dates	Number of			Harvest[a]	Value	
		Vessels	Landings	Tows		Exvessel[b]	Total[c]
1972	1/1 - 12/1		CF	CF	CF	CF	CF
1973	1/1 - 12/1		CF	CF	CF	CF	CF
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		CF	CF	CF	CF	CF
1983-1991		0	0	0	0	0	0
1992	1/1 - 12/1	4	6	94	72,133	NA	NA
1993-1998		0	0	0	0	0	0
1999	1/1 - 7/9	2	CF	CF	CF	CF	CF
2000-2008		0	0	0	0	0	0

Notes: CF = Confidential, less than three vessels or processors participated in fishery, NA = Not available

[a] In pounds.

[b] Average price per pound.

[c] Millions of dollars.

Table 1-19.–Aleutian Islands miscellaneous shellfish fishery data 1996 - 2008.

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	0	0	0
	Hair Crab	0	0	0
	Snails	0	0	0
	Paralomis multispina	0	0	0
1997	Octopus[c]	38	107	73,472
	Sea Urchins	0	0	0
	Sea Cucumbers	0	0	0
	Hair Crab	0	0	0
	Snails	0	0	0
	Paralomis multispina			
1998	Octopus	CF	CF	CF
	Octopus[c]	24	75	29,360
	Sea Urchins	0	0	0
	Sea Cucumbers	0	0	0
	Hair Crab	0	0	0
	Snails	0	0	0
	Paralomis multispina	0	0	0
1999	Octopus[c]	34	95	115,322
	Sea Urchins	0	0	0
	Sea Cucumbers	0	0	0
	Hair Crab	0	0	0
	Snails	0	0	0
	Paralomis multispina	0	0	0
2000	Octopus[c]	31	91	21,265
	Sea Urchins	0	0	0
	Sea Cucumbers	0	0	0
	Hair Crab	0	0	0
	Snails	0	0	0
	Paralomis multispina	0	0	0
2001	Octopus[c]	25	51	13,097
	Sea Urchins	0	0	0
	Sea Cucumbers	0	0	0
	Hair Crab	0	0	0
	Snails	0	0	0
	Paralomis multispina	0	0	0

-continued-

Table 1-19.–Page 2 of 3.

Year	Fishery	Number of Vessels	Number of Landings	Harvest[a]
2002	Octopus[c]	56	186	96,585
	Sea Urchins	0	0	0
	Sea Cucumbers	0	0	0
	Hair Crab	0	0	0
	Snails	0	0	0
	Paralomis multispina	0	0	0
2003	Octopus[c]	70	313	242,946
	Sea Urchins	0	0	0
	Sea Cucumbers	0	0	0
	Hair Crab	0	0	0
	Snails	0	0	0
	Paralomis multispina	0	0	0
2004	Octopus[c]	72	401	720,997
	Octopus, state-waters[d]	14	31	CF
	Total	**86**	**432**	**CF**
	Sea Urchins	0	0	0
	Sea Cucumbers	0	0	0
	Hair Crab	0	0	0
	Snails	0	0	0
	Paralomis multispina	0	0	0
2005	Octopus[c]	55	334	438,794
	Octopus, state-waters[d]	1	2	CF
	Total	**56**	**336**	**CF**
	Sea Urchins	0	0	0
	Sea Cucumbers	0	0	0
	Hair Crab	0	0	0
	Snails	0	0	0
	Paralomis multispina	0	0	0
2006	Octopus[c]	33	113	182,353
	Octopus, state-waters[d]	2	0	0
	Total	**35**	**113**	**182,353**
	Sea Urchins	0	0	0
	Sea Cucumbers	0	0	0
	Hair Crab	0	0	0
	Snails	0	0	0
	Paralomis multispina	0	0	0

-continued-

Table 1-19.–Page 3 of 3.

Year	Fishery	Number of Vessels	Number of Landings	Harvest[a]
2007	Octopus[c]	39	101	46,782
	Octopus, state-waters[a]	0	0	0
	Total	**39**	**101**	**46,782**
	Sea Urchins	0	0	0
	Sea Cucumbers	0	0	0
	Hair Crab	0	0	0
	Snails	0	0	0
	Paralomis multispina	0	0	0
2008	Octopus[c]	37	56	35,480
	Octopus, state-waters[d]	0	0	0
	Total	**37**	**56**	**35,480**
	Sea Urchins	0	0	0
	Sea Cucumbers	0	0	0
	Hair Crab	0	0	0
	Snails	0	0	0
	Paralomis multispina	0	0	0

Note: CF = Confidential, less than three vessels or processors participated in fishery

[a] In pounds. Deadloss included for all species other than Octopus. Octopus discards at sea included.

[b] Dives.

[c] Octopus incidental harvest in Pacific cod fishery.

[d] Commissioner's permit fishery.

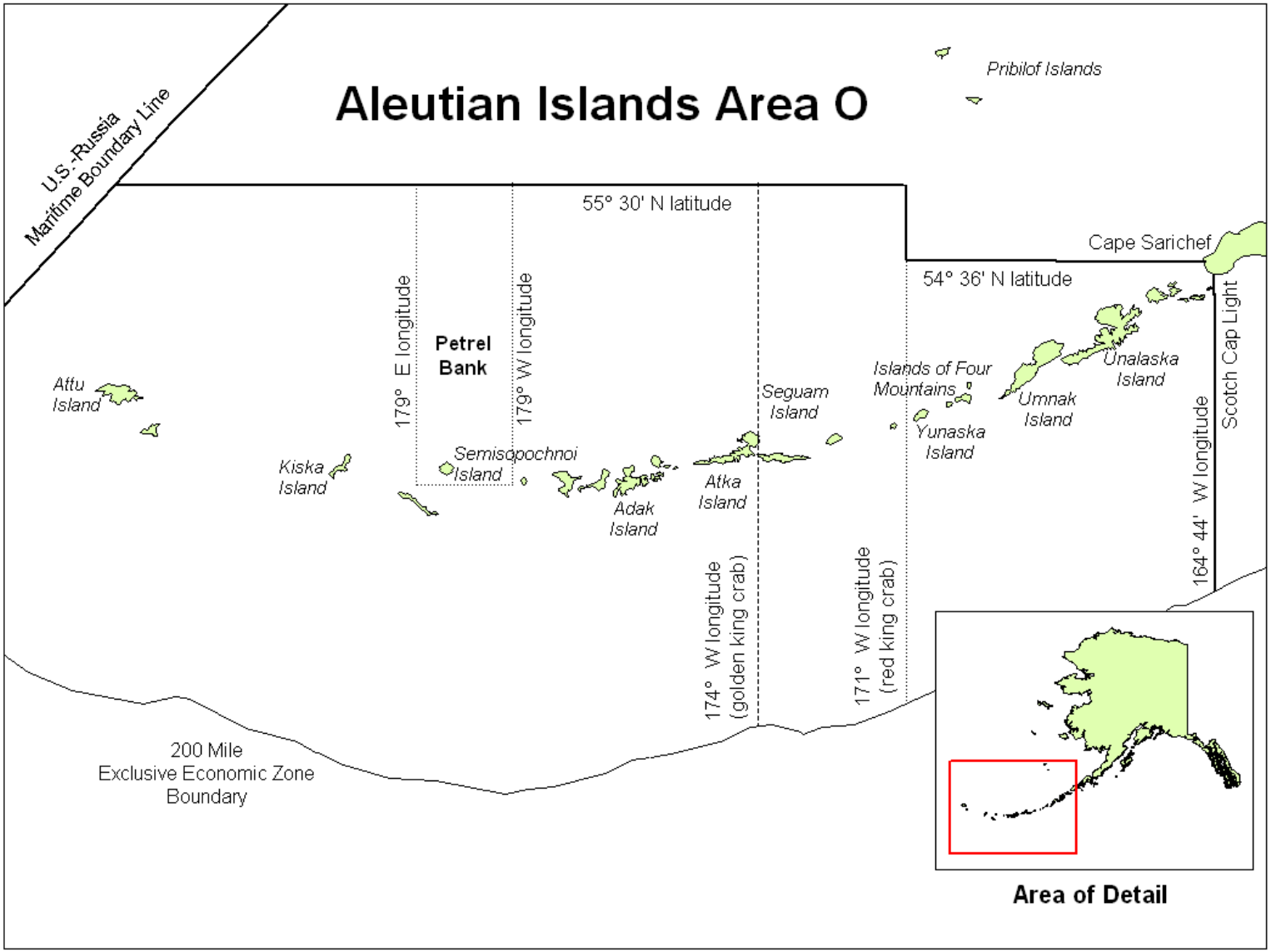

Figure 1-1.–Aleutian Islands, Area O, red and golden king crab management area.

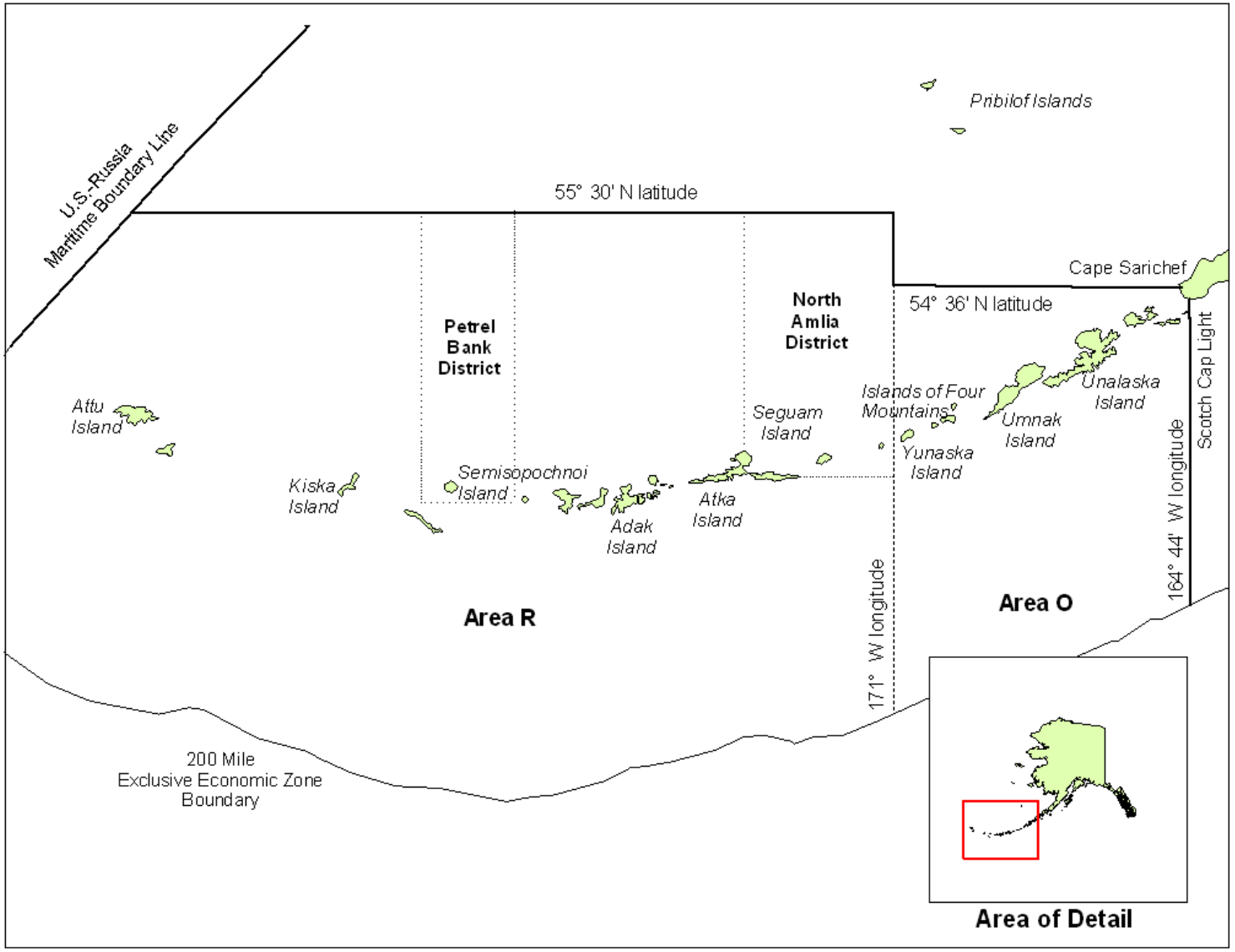

Figure 1-2.–Adak (Area R) and Dutch Harbor (Area O) king crab Registration Areas and Districts 1981/82 – 1996/97.

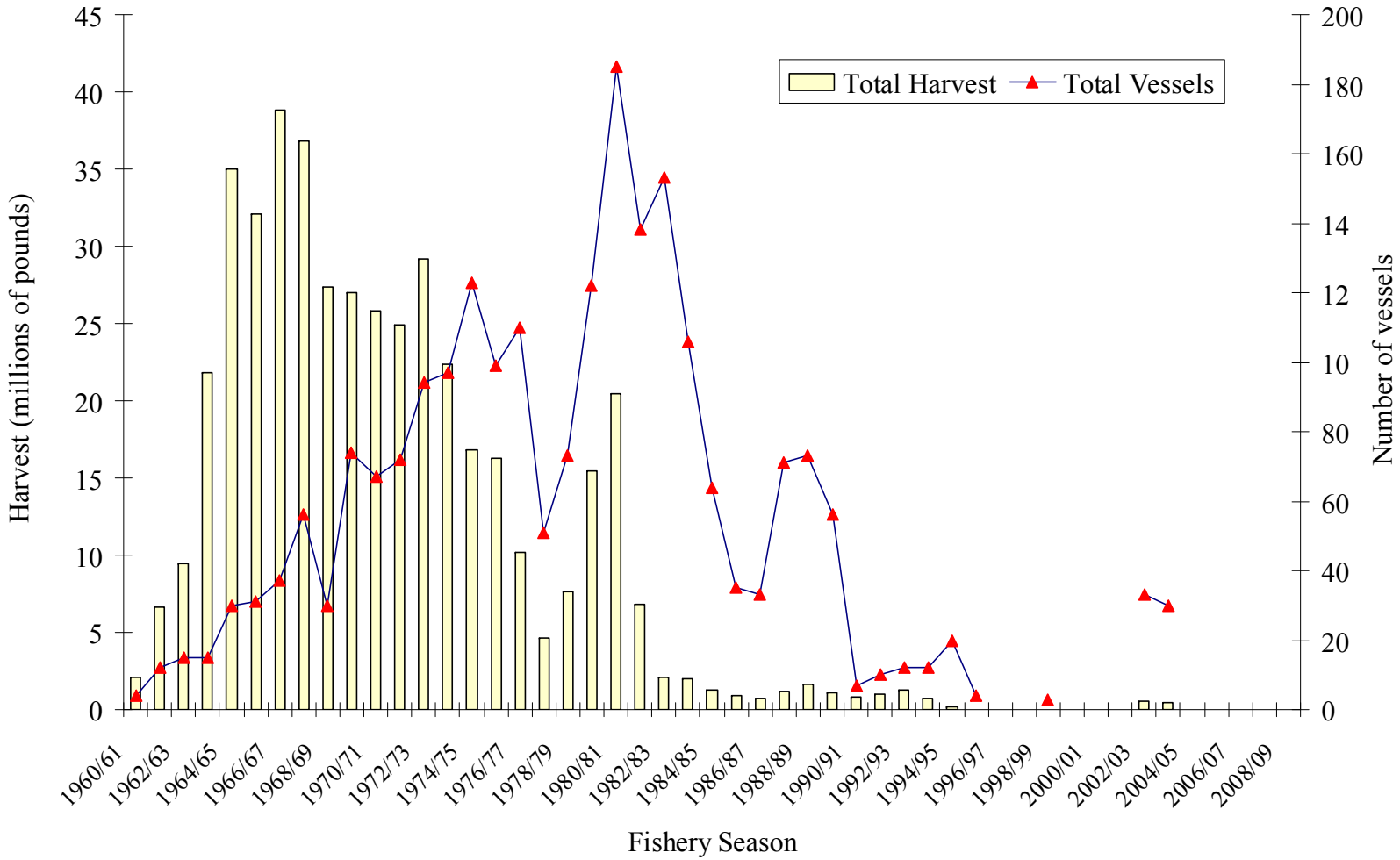

Figure 1-3.–Aleutian Islands red king crab fishery harvest and vessel effort, 1960/61 – 2008/09.

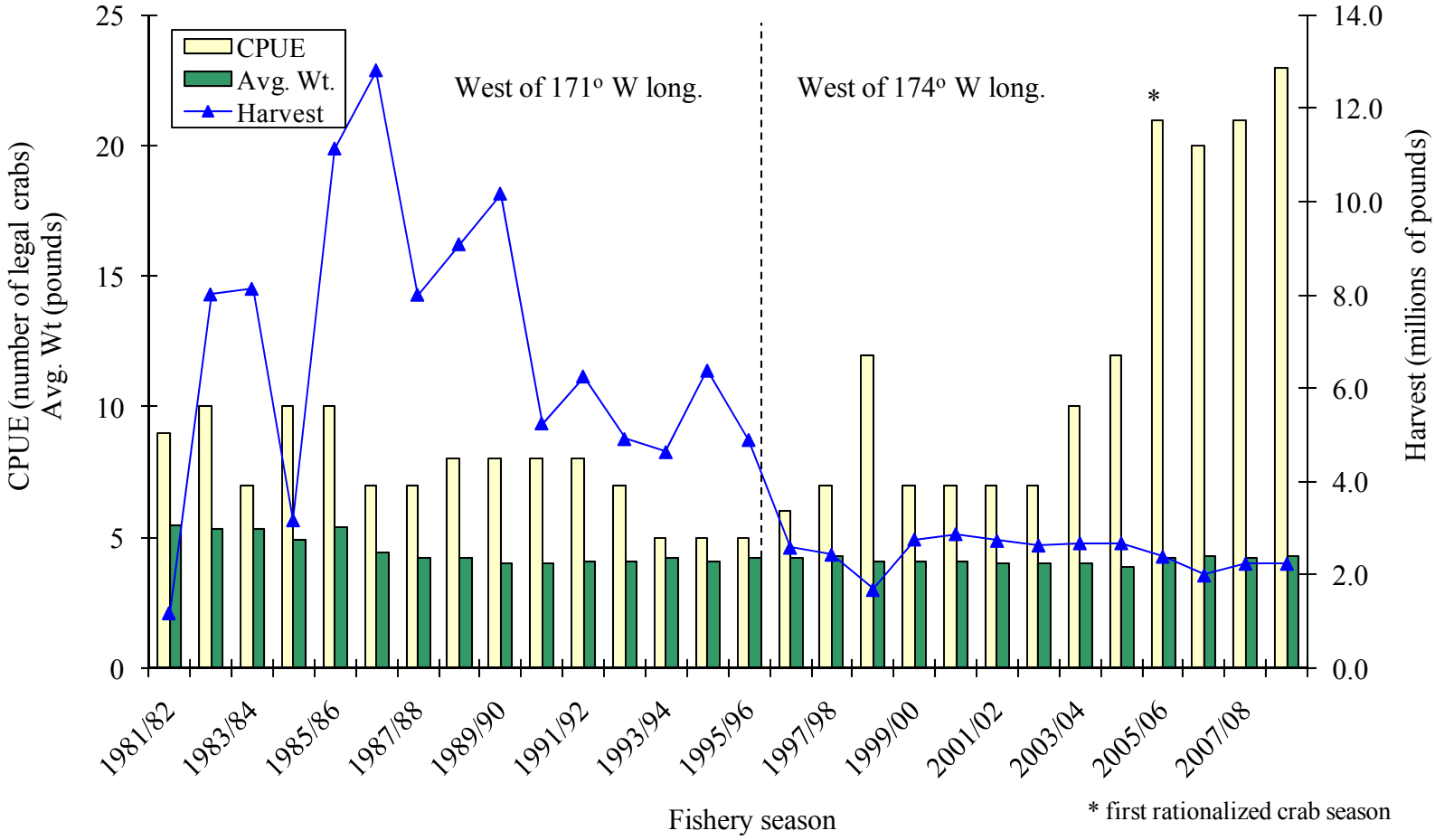

Figure 1-4.–Western Aleutian Islands golden king crab fishery harvest, fishery performance and average weight data for the 1981/82 – 2008/09 seasons, does not include Adak Community Allocation (west of 174° W long.) fishery.

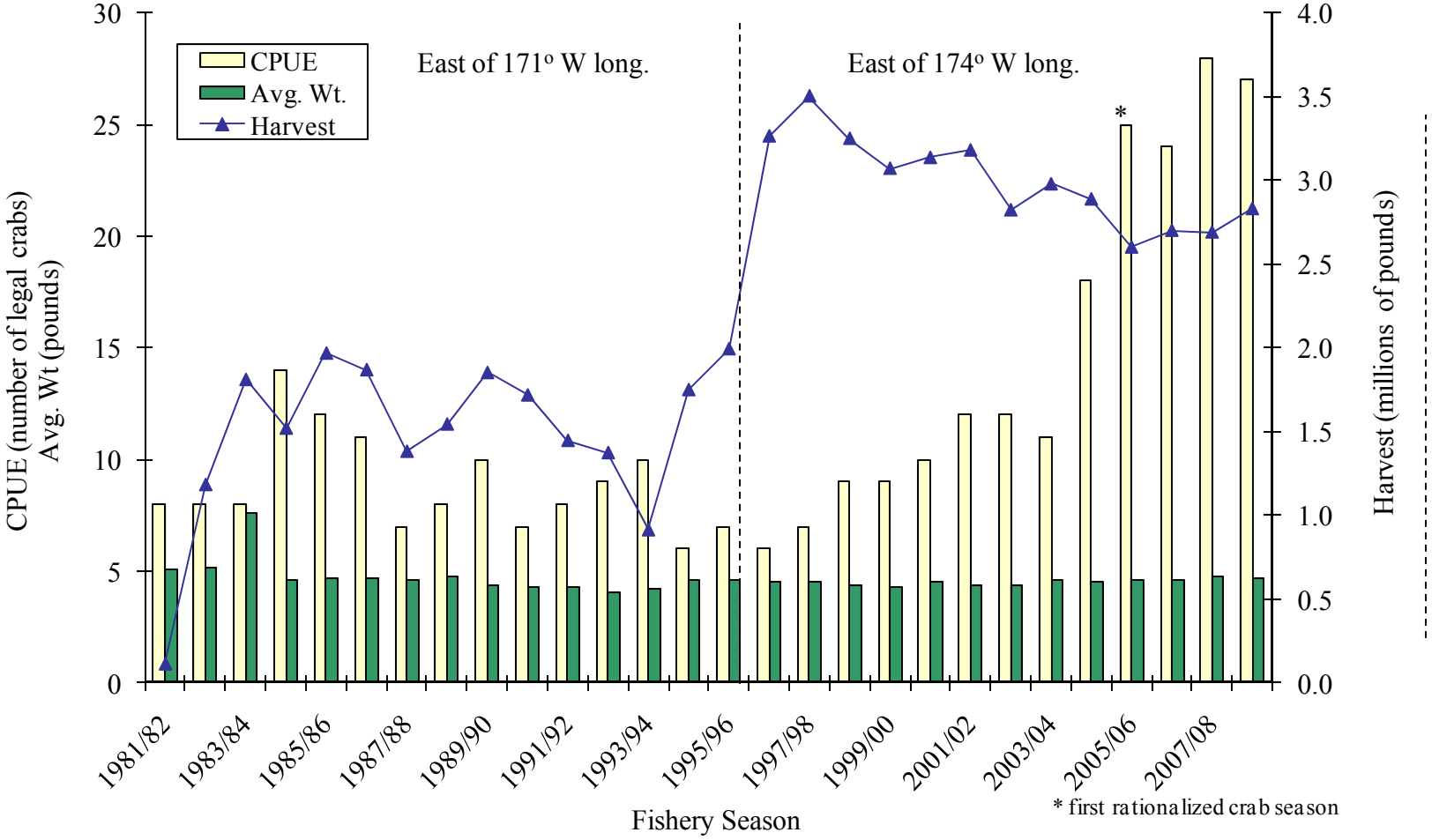

Figure 1-5.-–Eastern Aleutian Islands golden king crab fishery harvest, fishery performance and average weight data for the 1981/82 – 2008/09 seasons, does not include Community Development Quota (east of 174° W long.) fishery.

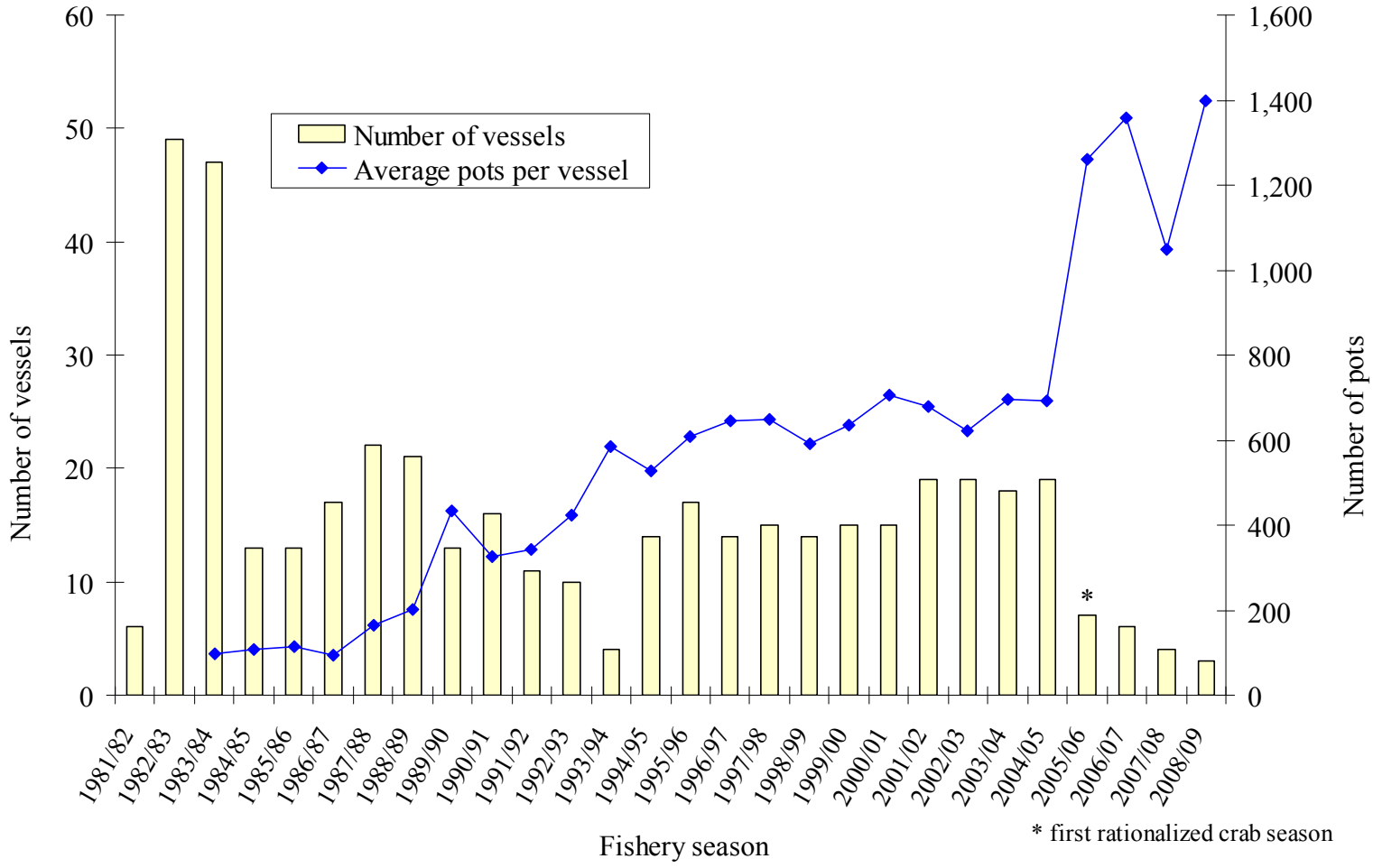

Figure 1-6.–Eastern Aleutian Islands golden king crab fishery vessel registrations and average number of pots per vessel 1981/82 - 2008/09, includes Community Development Quota (east of 174° W long.) fishery.

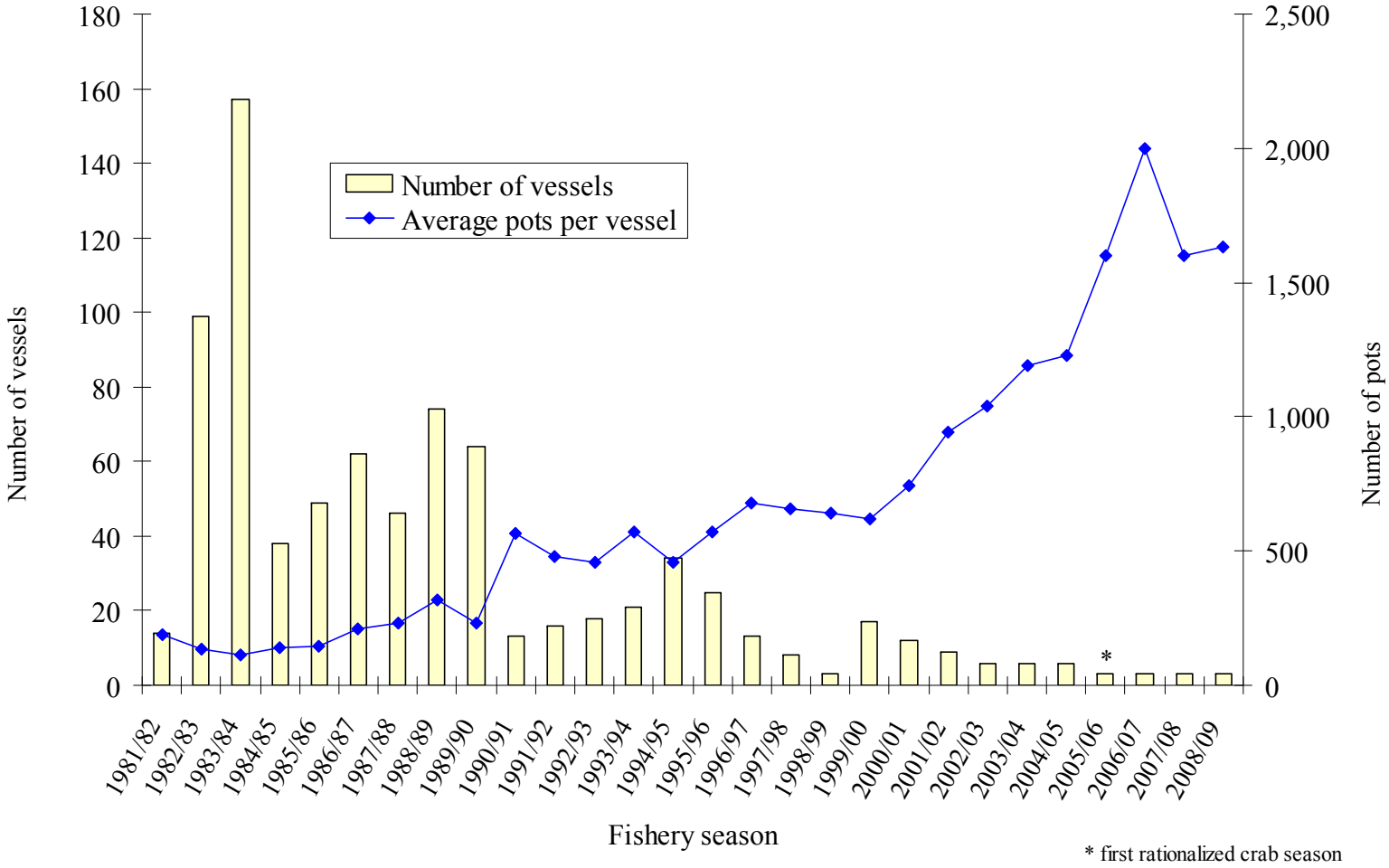

Figure 1-7.–Western Aleutian Islands golden king crab fishery vessel registrations and average number of pots per vessel 1981/82 - 2008/09, includes Adak Community Allocation (west of 174° W long) fishery.

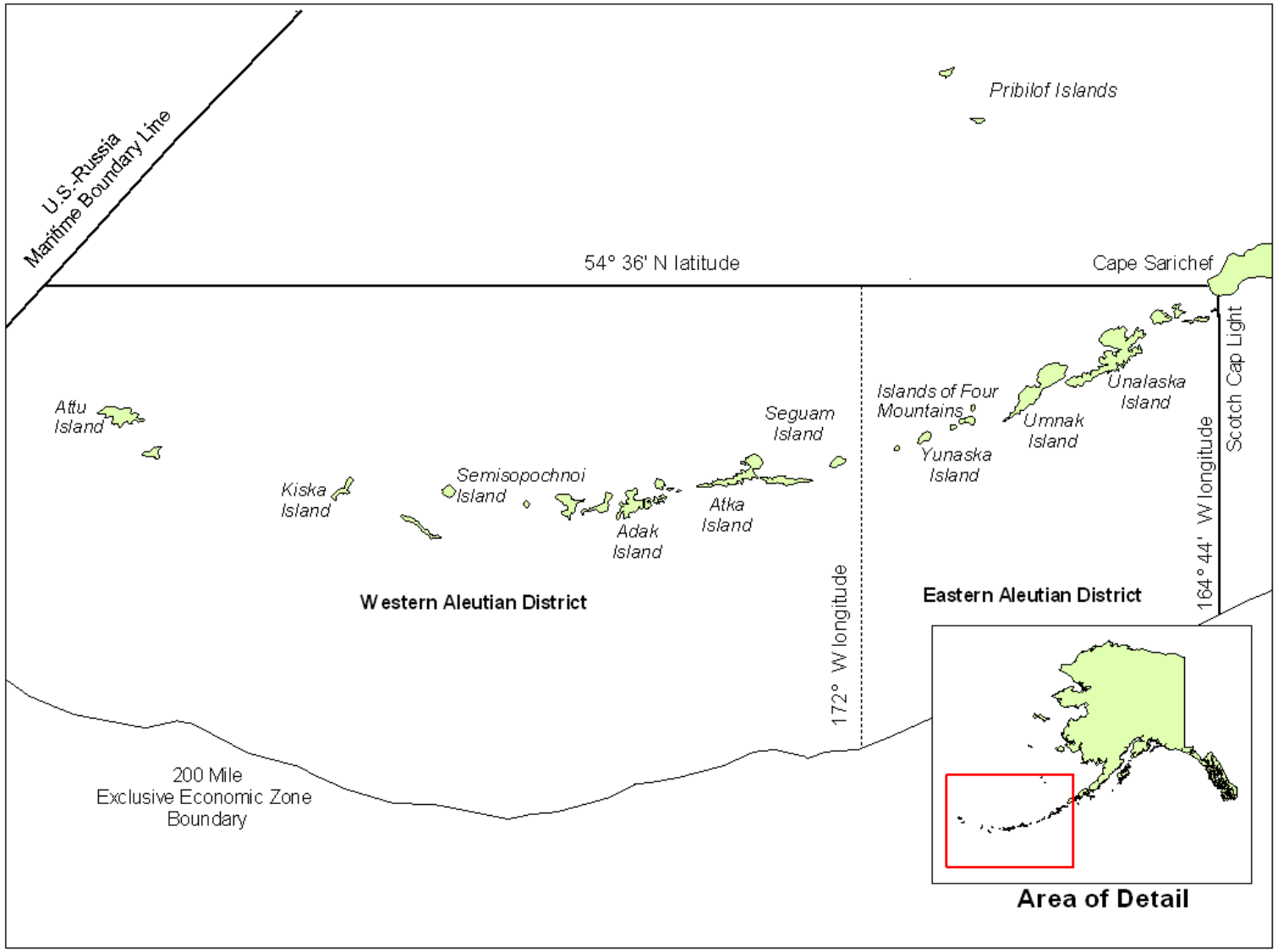

Figure 1-8.–Eastern and Western Aleutian Districts of Tanner crab Registration Area J.

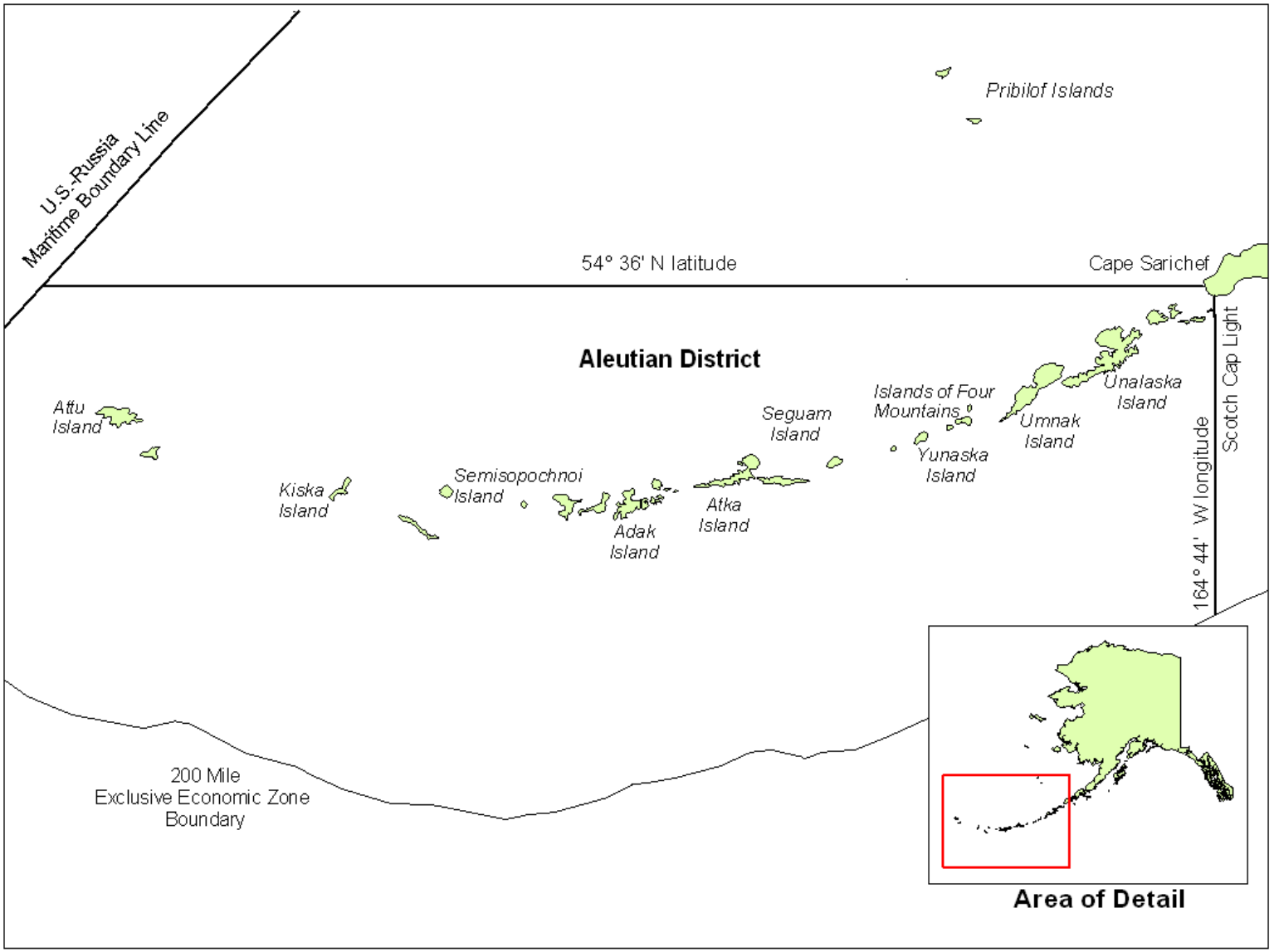

Figure 1-9.–Aleutian District for Dungeness crab management.

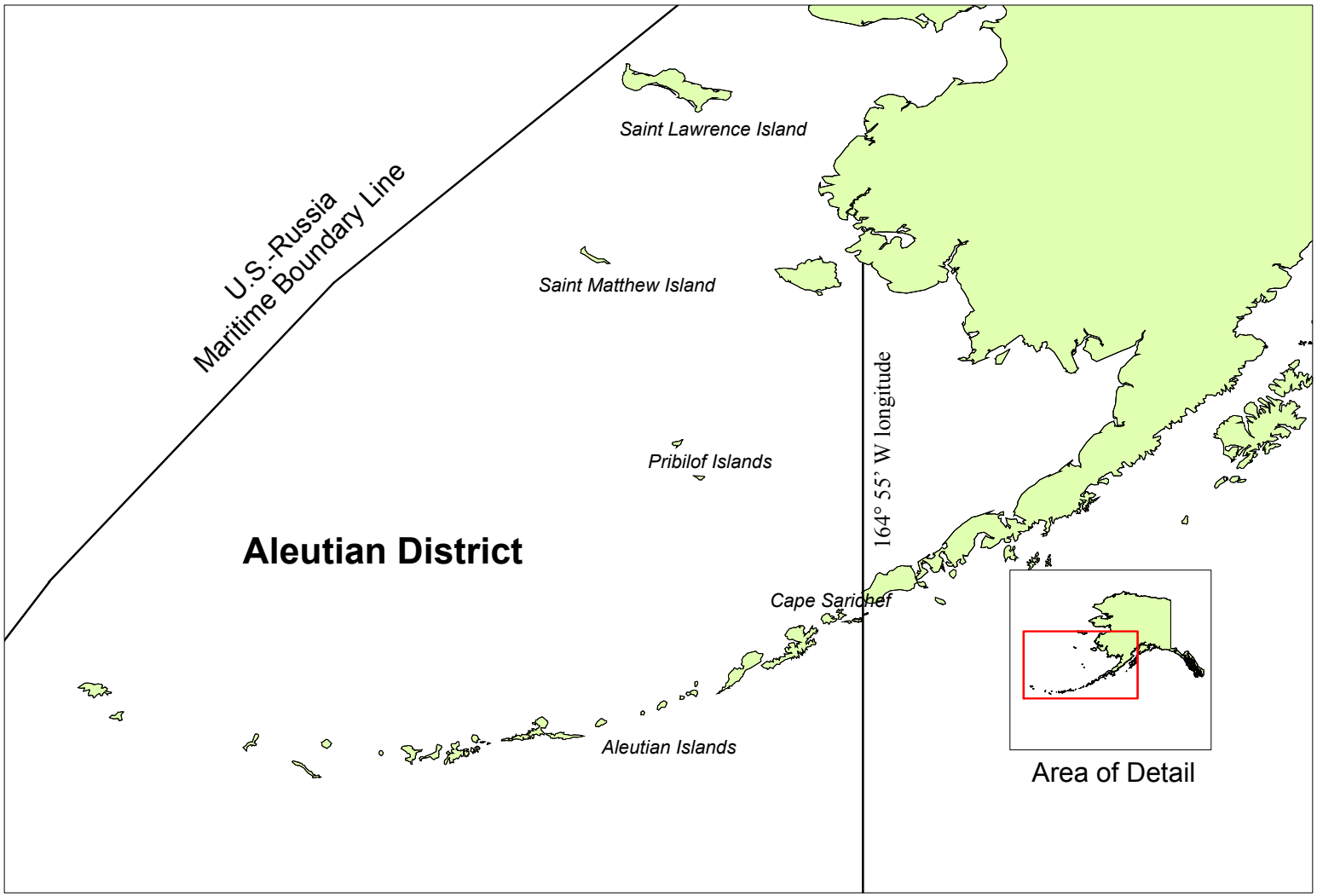

Figure 1-10.–Aleutian District for shrimp management.

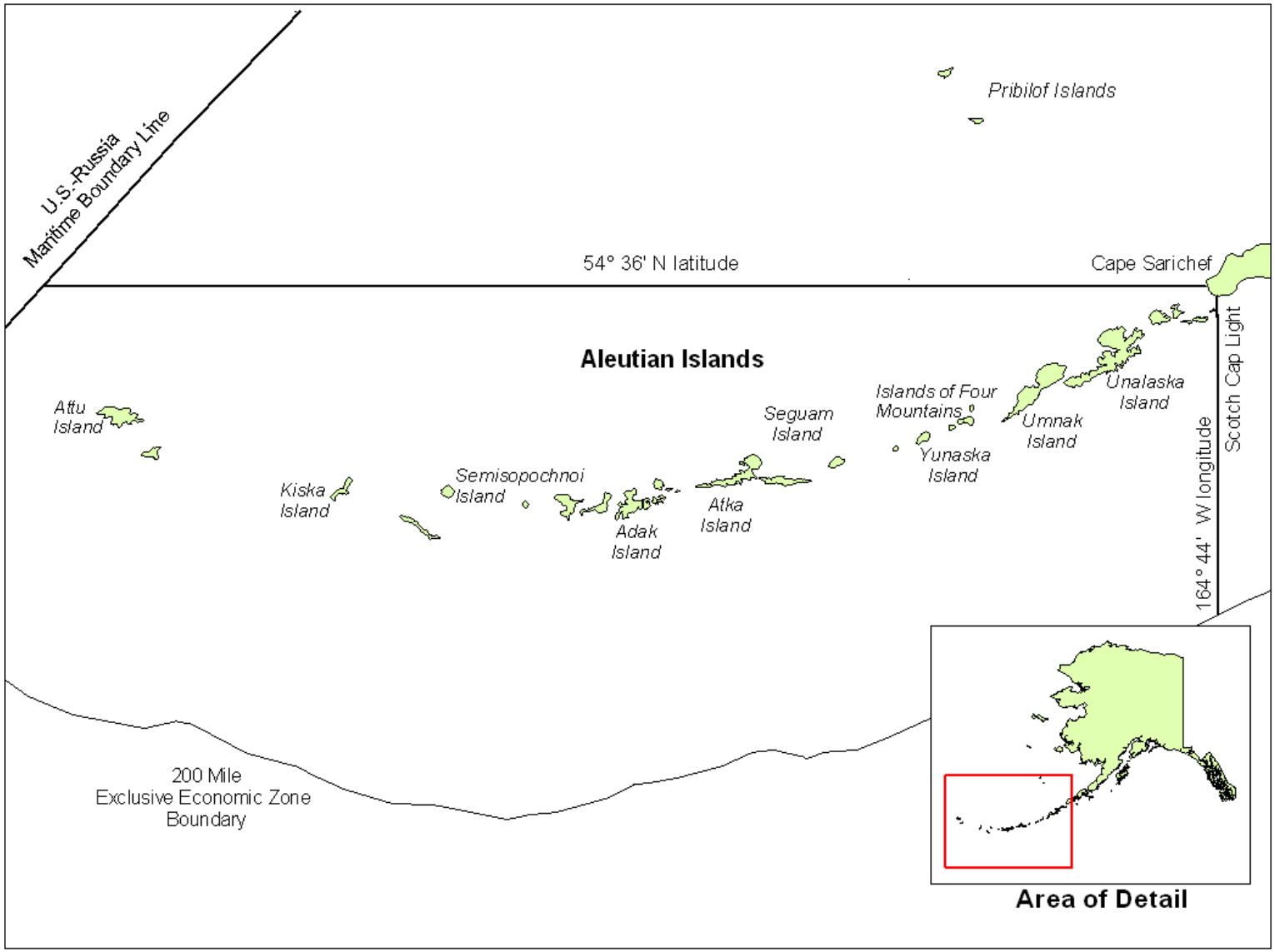

Figure 1-11.–Aleutian Islands District of miscellaneous shellfish Registration Area J.

ANNUAL MANAGEMENT REPORT FOR THE COMMERCIAL SHELLFISH FISHERIES OF THE BERING SEA, 2008/09

by

Forrest R. Bowers,
Alaska Department of Fish and Game, Division of Commercial Fisheries, Dutch Harbor

and

Kathleen Herring, Janis Shaishnikoff, Heather Barnhart, Jeanette Alas, Britta Baechler, and Anna Buettner
Alaska Department of Fish and Game, Division of Commercial Fisheries, Dutch Harbor

Alaska Department of Fish and Game
Division of Sport Fish, Research and Technical Services
333 Raspberry Road, Anchorage, Alaska 99518-1599

June 2010

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

LIST OF TABLES

LIST OF TABLES (Continued)

LIST OF FIGURES

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) and all waters of the Exclusive Economic Zone (EEZ) (3-200 nautical miles) 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. fishermen 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 2008/09, 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 trawl survey of the Bering Sea indicated a record low number of legal male crabs and the lowest total king crab population since the survey began in 1968. Small female crabs carrying fewer eggs and high predator abundance were also noted. Consequently, the fishery was closed for the 1983 season. The fishery reopened in 1984 and catches slowly increased to over 20.4 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 302 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 per vessel limit 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. Beginning in 1993 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.

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 spawning female 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 sampler 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 produces an estimate of abundance based on several data sources. 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 fishermen 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 and made permanent at the 1999 BOF meeting. The GHL for the 1998 fishery was 15.8 million pounds, because the GHL was in excess of 15 million pounds the preseason registration requirements were waived. The 1998 fishery was the first year the GHL was split into Community Development Quota (CDQ) and general fishery components; CDQ fishery information is summarized later in this report.

At the March 1999 meeting, the BOF 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 walleye pollock *Theragra chalcogramma* 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 were provided access to 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.

Using the LBA and including NMFS survey data, the 1999 through 2002 fisheries had a 10% exploitation rate, with the ESB ranging from a low of 37.7 million pounds in 2002 to a high of 47.0 million pounds in 1999. The BOF modified the BBRKC harvest strategy at their 2003 meeting, maintaining the existing 10% and 15% harvest rates on mature males and implementing 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. The ESB substantially increased in 2003 and the exploitation rate was set at 15% of mature males. The 2004 BBRKC fishery was 80 hours in length, only the 2002 season was shorter, at 68 hours (Table 2-2).

The 2005/06 season was the first to operate under the Crab Rationalization (CR) program. Under the CR program 90% of the Total Allowable Catch (TAC) is available to the individual fishing quota (IFQ) fishery, 10% is available for CDQ harvest, the fishing season was expanded to run from October 15 until January 15, pot limits were increased to 450 pots per vessel, and vessel operators could now authorize another person to operate their pot gear.

In 2005/06 89 vessels participated in the IFQ fishery and made 264 landings for a total harvest of 16.48 million pounds from a 16.5 million pound total allowable catch (TAC). During the 2005/06 season approximately 20% of the legal male red king crab caught were discarded at sea primarily due to undesirable shell condition (Barnard and Pengilly 2006); this pattern was not seen in following seasons. The fleet size decreased in the following two seasons to 81 vessels in 2006/07 and 74 vessels 2007/08. The number of landings ranged from 187 in 2006/07 to 246 in 2007/08. In 2006/07 13.89 million pounds were harvested from a 13.9 million pound IFQ TAC. The 18.3 million pound TAC in 2007/08 was exceeded by just under 30,000 pounds.

Though the fishery is now open from October 15 through January 15, in most years the majority of the harvest occurs by mid-November, however, some fishing effort typically continues until the season closure. Duration of vessel registration in the fishery over the past three seasons has averaged 24 days. Fleet-wide pot effort has ranged from 64,000 pots in 2006/07 to just under

102,000 in 2007/08. CPUE during the 2005/06 and 2007/08 seasons was 29 legal crabs per pot lift, however in 2006/07 the CPUE was 34 legal crabs per pot, the highest since 1980 (Table 2-1). The IFQ fishery value has ranged from $48.0 million in 2006/07 to $76.2 million in 2007/08, making 2007/08 the most valuable Bristol Bay red king crab fishery since 1990.

2008/09 SEASON

The 2008/09 Bristol Bay red king crab fishery opened on October 15 with an IFQ TAC of 18.3 million pounds. There were 77 vessels that participated in the fishery and harvested a total of 18.3 million pounds, of which less than 1% was deadloss.

Catch per unit of effort in terms of number of legal crabs retained per pot lift dropped from the 2008/09 level of 28 to 22, lower than seen in 2004, prior to CR. Despite this drop the 2008/09 CPUE ranks among the highest seasonal catch rate estimates for the last 28 years.

Even though the fishery was open through January 15, over 90% of the harvest had occurred by mid-November (Table 2-3). Harvest during the first month of the season takes advantage of favorable weather and market conditions.

Harvest during the 2008/09 season was spread over 25 ADF&G statistical areas and 74% of the catch occurred east of 163° W long. (Table 2-4). Most fishing effort occurred south of 57° 30' N lat.

At the 2008 BOF meeting the 450-pot limit was repealed. The fleet registered 15,098 pots, or an average of 196 pots per vessel. Total effort for the 2008/09 fishery was approximately 124,739 pot lifts, a nearly 20% increase from the 2007/08 fishery. The average vessel was active in the fishery for 26 days.

There was no cost recovery fishery conducted by ADF&G during 2008 (Tables 2-5 and 2-6).

IFQ harvesters were paid an average price of $4.98 per pound for a total exvessel fishery value of $90.3 million making the 2008/09 Bristol Bay red king crab fishery the most valuable since 1990 (Table 2-2).

AMERICAN FISHERIES ACT

The American Fisheries Act (AFA), passed in 1998 by Congress, gave pollock fishermen exclusive fishing privileges in the Bering Sea/Aleutian Islands (BSAI) pollock fishery. To protect the interests of fishermen not directly benefited by the AFA, sideboards were established for AFA fishermen 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 and was set at 10.96% of the general fishery GHL. The AFA harvest cap was in effect for the 2000 to 2004 seasons and was never exceeded. AFA sideboard restrictions were eliminated with the implementation of the CR program in 2005.

PORT SAMPLING

Red king crabs were sampled dockside from deliveries during the 2008/09 Bristol Bay red king crab fishery. Vessels without observer coverage delivering to shorebased processors in King Cove, Akutan, Kodiak, Saint Paul, and Dutch Harbor were sampled by ADF&G personnel. Confidential interviews were conducted with vessel captains to acquire detailed information

regarding statistical areas fished, effort, and fishery performance. Interview data was supplemented with daily fishing log (DFL) records. Red king crab biological data collected consists of carapace length measurement, average weight, and shell condition.

ADF&G port samplers collected data from 160 of the 237 fishing trips during the 2008/09 season. Landed crabs averaged 6.6 pounds, an increase of 0.1 pound per crab from the 2007/08 fishery average weight. Less than 1% of the crabs delivered were sampled for size and shell condition. Sampling indicated that 82% of the crabs measured were new-shell, compared to less than 68% new-shell in 2007/08 (Table 2-7). Average carapace length was 153 mm, an increase of 1% from the previous season. The percentage of recruit-sized crabs in the commercial harvest dropped from 57% in 2007/08 to 54% in 2008/09.

STOCK STATUS

Based on 2008 NMFS trawl survey data (Chilton et al. 2008) pre-recruit sized male red king crab increased 40% in abundance from the 2007 estimate and small males increased 27%. Legal male abundance was 10.5 million crabs which is 21% lower than the 2007 estimated abundance, but remains above the most recent 20 year average abundance level.

Estimated large female abundance increased 22% from the 2007 level while small females decreased 30%. Due to relatively cold water temperatures during the initial survey, Bristol Bay was resurveyed in 2008. During the second survey 90% of females captured were mature and 99% of the mature females were carrying uneyed eggs.

Further information on the Bristol Bay red king crab harvest strategy may be found in 5 AAC 34.816. BRISTOL BAY RED KING CRAB HARVEST STRATEGY. Additional stock status information and details on federal overfishing levels (OFL) for Bristol Bay red king crab may be found in the 2008 Stock Assessment and Fishery Evaluation Report for the King and Tanner Crab Fisheries of the Bering Sea and Aleutian Islands Regions (NPFMC 2008).

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 1990 (Figure 2-4). 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, and south of 66° N lat. and the Kotzebue Sound Section, which encompasses all remaining waters of the district. Registration Area Q includes waters of both the Territorial Sea and EEZ.

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 in the vicinity of Saint George and Saint Paul Islands. The first reported catch in this area was 1.3 million pounds taken by eight vessels between July 1973 and October 1974. The average weight of crabs harvested was 7.3 pounds and CPUE was 26 legal crabs per pot lift. By the 1980/81 season, fishing effort had increased to 110 vessels that harvested 11.0 million pounds, the largest catch on record. However, the fishery CPUE had dropped to nine legal crabs per pot lift and continued declining to a low of two crabs per pot by the end of the 1986/87 season when harvest was 260,000 pounds, taken by 16 vessels (Table 2-8, Figure 2-5). Due to this six-year decline in harvest and concurrently low annual population estimates, the blue king crab fishery was closed beginning with the 1988/1989 season and remained closed through the 1994 season (Table 2-9).

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 threshold abundance level for opening the fishery was established for Pribilof District red king crabs, survey results indicated a harvestable surplus of legal-sized male crabs. Consequently, a red king crab fishery in the Pribilof District opened for the first time in September 1993 with a GHL of 3.4 million pounds, however only 2.6 million pounds was taken. In 1994, the Pribilof District was again opened to the commercial harvest of red king crabs with a GHL of 2.0 million pounds, however only 1.3 million pounds was taken by 104 participating vessels.

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 including the CDQ fishery. Poor fishery performance during those seasons resulted in annual harvests below the fishery GHL. From 1999 to 2007/08, blue king crab abundance continued to decline and the Pribilof fishery was not opened.

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 1981/82, 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 of the fishery declined from $6.8 million in 1995 to $2.4 million in 1998 (Table 2-9, Figure 2-6).

ADF&G conducted pot surveys targeting red and blue king crab in the Pribilof District in 2003 and 2005. The objectives of the surveys were to determine the distribution and relative abundance of red and blue king crab in the District and in 2003 to conduct cost-recovery fishing to cover the costs of the surveys and related expenses. A total of 696 pots were pulled during the 2003 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 the 2003 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. Catches of red and blue king crabs during the 2005 survey were lower than those of the 2003 survey.

The Pribilof District red and blue king crab fishery has not opened under the CR program which began in 2005/06.

2008/09 Season

The blue king crab fishery in the Pribilof District was not opened in 2008/09 due to continued low 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 2008/09 season.

Stock Status

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 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 IFQ TAC. The Pribilof blue king crab stock is still considered overfished.

The Pribilof District blue king crab stock remained in "overfished" condition for the seventh year in a row. In 2008 blue king crab were caught at only 6 of the 75 trawl survey stations in the Pribilof District. Estimated legal-size male abundance decreased to 0.02 million crabs which is well below the most recent 20 year average abundance of 0.6 million crabs (Chilton et al. 2008).

Given the continued low abundance of blue king crabs in the Pribilof District and distribution of the stock, ADF&G statistical areas 685700, 685730, 695700, and 695730 were closed to all crab fishing during the 2008/09 season to protect blue king crab. The majority of the haul locations that captured blue king crab in the 2008 NMFS trawl survey were within or on the borders of those four statistical areas.

Because estimated total mature biomass in 2008 is <13.2 million pounds, the stock cannot meet the state harvest strategy criteria for opening the fishery in the 2009/10 season.

No formal harvest strategy has been developed for Pribilof District red king crab and the fishery has been closed since the 1999 season due to imprecision of abundance estimates and concerns about bycatch of blue king crab. Past fishery and trawl survey data have indicated the potential for significant bycatch of blue king crab during a directed fishery on the Pribilof red king crab stock. Pot surveys performed by ADF&G in 2003, 2005, and 2008 and an attempt at cost-recovery fishing on Pribilof red king crab by ADF&G in 2003 demonstrated the difficulty of establishing a TAC for Pribilof red king crab on the basis of the trawl survey estimates and of prosecuting a fishery on Pribilof red king crabs without risking significant bycatch of Pribilof blue king crab.

In general, confidence in the estimates of red king crab abundance in the Pribilof District is low. The low confidence in 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 red king crab fisheries in the district has contributed to the closure of the red king crab fishery.

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. In 1978, the catch increased to almost 2.0 million pounds (Table 2-10). Catches decreased in 1979 and 1980 due to lack of 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 below 4.7 million pounds (Figure 2-7).

NMFS trawl surveys from 1983 to 1998 in the Saint Matthew Island Section 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% from the 1997 level, resulting in a GHL of 4.0 million pounds. The 1998 season closed due to poor fishery performance and observer information indicated a relatively high incidental capture rate of sublegal male and female crabs. The harvest in 1998 was 2.9 million pounds. The CPUE was seven crabs per pot lift, the second lowest CPUE on record. The 1998 season lasted 11 days, the longest since a 17-day opening in 1983 (Table 2-12), when 9.5 million pounds were harvested. From 1999 to 2005/06, abundance estimates for the Saint Matthew Island Section 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, concurrent with the king crab fishery in the Pribilof District. This action was taken to improve effort distribution between the Pribilof and Saint Matthew fisheries, 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 feet overall length to 75 pots and vessels 125 feet 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 since 1984 and 1985, when fishermen 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 2-11, Figure 2-8). In contrast, the number of vessels participating has generally increased, from 87 in 1994 to 131 in 1998. Average weight per crab has ranged from 4.0 to 5.0 pounds, depending on the percentage of new recruits entering the fishery each year. The average weight per crab during the last fishery, 1998, was 4.7 pounds (Table 2-10).

Stock status declined after the 1998 fishery and the stock was declared overfished based on results of the 1999 survey. Subsequently, a rebuilding plan was developed and implemented in 2000 (NPFMC 2000).

2008/09 Season

The 2008/09 Saint Matthew Island Section blue king crab fishery did not open because the TAC, calculated using the ADF&G harvest strategy, was below the minimum TAC threshold.

Stock Status

Blue king crabs were captured at 25 of 59 trawl survey stations during the 2008 NMFS bottom trawl survey (Chilton et al. 2008). The legal male abundance estimate increased 21% from the 2007 estimate while pre-recruit sized males decreased 61% during the same time interval. The small male abundance estimate decreased 16% from the 2007 level. While legal male blue king crab abundance in the Saint Matthew Island Section continues to improve it remains below the most recent 20 year average abundance estimate.

In addition to the NMFS trawl survey ADF&G conducts a triennial pot survey in the Saint Matthew Island section with a focus on the near-shore waters. The next ADF&G pot survey is scheduled for 2010.

Under federal overfishing regulations the Saint Matthew Island blue king crab stock is considered to be "rebuilding" and remains under a rebuilding plan (NPFMC 2008).

PRIBILOF DISTRICT GOLDEN KING CRAB

Historic Background

Golden king crabs are found in commercial concentrations in only a few deep canyons in the Bering Sea 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. 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 six and one-half inches to five and one-half inches in 1983. Effort in the Pribilof District peaked during the 1983/84 season when 50 vessels harvested 856,000 pounds of golden king crabs. From 1984 to 1992, no more than two vessels participated each year. Since the 1983/84 season, annual harvest has not exceeded 350,000 pounds (Table 2-13). The Pribilof District golden king crab fishery reached a maximum exvessel value of just over $1.1 million in 1995, and the highest price fishermen received per pound was $3.99 in 1994 (Table 2-14). Most harvest in the Pribilof District has occurred in the area immediately to the south of the Pribilof Islands.

At the 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 (Table 2-14), which was 50,000 pounds less than the 1999 GHL. 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, six vessels harvested 146,000 pounds and the fishery was closed by emergency order on April 15 (Table 2-14).

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 that supplement data collected by observers. 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 six legal crabs per pot lift, a decrease from the CPUE of eight 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 $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 near the Pribilof Canyon.

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 two processors participated. Catch rates during the 2004 fishery were among the highest on record and the fishery was the shortest ever at approximately two and one half months in length. Most of the 2004 harvest occurred immediately to the south of Saint George Island in the vicinity of the Pribilof Canyon.

Four vessels participated in the 2005 Pribilof District golden king crab fishery, however harvest information is confidential because only two processors purchased the harvest. The entire GHL was not taken in 2005, therefore the fishery was open until December 31, 2005. No vessels registered to fish for golden king crabs in the Pribilof District in 2006 or 2007.

2008 Season

No vessels registered to fish for golden king crab in the Pribilof District during 2008.

Stock Status

The golden king crab fishery is currently managed using a GHL set based on long-term average harvest. Data collected by onboard observers in conjunction with biological 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 recruitment to the legal male portion of the stock. Stock biomass of golden king crabs in the Pribilof Canyon area has been estimated using the area-swept technique applied to NMFS trawl survey catch data collected in 2002, 2004, and 2008. Survey data suggest that the

biomass of golden king crabs in the Pribilof Canyon area has increased from 1.50 million pounds in 2002 to 2.03 million pounds in 2008.

In December 2007 the North Pacific Fishery Management Council amended the Federal Fishery Management Plan for Bering Sea and Aleutian Islands King and Tanner Crabs adopting new overfishing definitions for BSAI crabs. The new overfishing levels will be implemented for Pribilof District golden king crab beginning with the 2009 season. The Pribilof District golden king crab fishery was not included in the CR program.

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 10 vessels harvested over 414,000 pounds (Table 2-15). Since 1988, no more than five 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 in the Northern District outside of the Saint Matthew Island Section.

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 limit in place.

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 that supplement data collected by observers. Primary bycatch species include non-retained golden king crabs, Pacific halibut, Pacific cod, and snow crab. Fishing is also restricted to depths of 100 fathoms or greater. The Northern District fishery GHL has never been fully utilized (Table 2-16).

2008 Season

The fishery opened January 1 with a GHL range of 10,000 to 20,000 pounds and closed December 31, 2008. No vessels registered to fish for golden king crabs in the Northern District in 2008.

Stock Status

The golden king crab population in the Northern District is not surveyed annually, but was surveyed by NMFS in 2002, 2004, and 2008. Survey biomass estimates are not used in management of the fishery. The current GHL range of 10,000 to 20,000 pounds is designed to allow for some exploratory fishing and data gathering. The Northern District golden king crab fishery was not included in the CR program.

In December 2007 the North Pacific Fishery Management Council amended the Federal Fishery Management Plan for Bering Sea and Aleutian Islands King and Tanner Crabs by removing

Northern District golden king crab from the FMP providing the state with sole jurisdiction over the fishery.

BERING SEA SCARLET KING CRAB

Historic Background

Scarlet king crabs 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 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, 4 vessels harvested 26,684 pounds (Table 2-17) and were paid an exvessel price of $2.45 per pound. Scarlet king crab incidental harvest has been permitted since the species was first commercially exploited by the domestic fleet, however since 2000 incidental harvest has been capped at a rate of 50% of the weight of the target species. Only two vessels participated in 1996, consequently all harvest 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. No vessels registered to retain incidental catch of scarlet king crab in 2002. One vessel registered to retain scarlet king crabs as incidental harvest in 2003 and three registered in 2004 during the Bering Sea golden king and deepwater Tanner crab fisheries. A single vessel registered for scarlet king crab in 2005, but none have registered since then. Due to limited participation in recent incidental fisheries for scarlet king crabs; all harvest information is confidential.

2008 Season

No vessels registered to fish for Bering Sea scarlet king crab in 2008.

Fishery Management and Stock Status

No abundance estimates are available for scarlet king crab, 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 intend to register any vessels to fish directly for scarlet king crabs in the Bering Sea. Retention of scarlet king crabs captured in other deepwater crab fisheries will be permitted at low levels.

In December 2007 the North Pacific Fishery Management Council amended the Federal Fishery Management Plan for Bering Sea and Aleutian Islands King and Tanner Crabs and removed Bering Sea scarlet king crab from the FMP providing the state with sole jurisdiction over the fishery.

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 1990. This district is divided into the Eastern and Western subdistricts at 173° W long. The Eastern Subdistrict is further divided into the Norton Sound Section north of the latitude of Cape

Romanzof and east of 168° W long. and the General Section to the south and west of the Norton Sound Section (Figure 2-9).

BERING SEA TANNER CRAB

Historic Background

The first reported U.S. harvest of Tanner crabs occurred in 1968 as incidental harvest during the red king crab fishery in Bristol Bay. In 1974 a directed Tanner crab fishery began. Harvest peaked at 66.6 million pounds during the 1977/78 season (Table 2-18). 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 1.20 million pounds (Figure 2-10). Further stock declines led to 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 less 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 after the BBRKC fishery was closed, 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 BBRKC 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 7.77 million pounds; in 1995 the harvest declined to 4.23 million pounds (Table 2-19).

The GHL for the 1996 Tanner crab fishery was 6.2 million pounds (Table 2-20). 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.

Based on poor fishery performance in 1996 and 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 decline 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 minimum stock size threshold established in the FMP, the stock was declared overfished by NMFS in 1998, necessitating the establishment of 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, or 50% of the exploitable legal male abundance, whichever is less.

Pre-recruit crab abundance began increasing in 1998 and 1999, but this trend reversed in 2000 and 2001. In addition, the stock remained below the fishery threshold level established in the harvest strategy and the fishery was closed from 1999 through the 2005 season.

From results of the 2005 NMFS survey, the stock was estimated to be above the minimum mature female biomass threshold and the fishery opened for the 2005/06 season in the area west of 166º W long. with the TAC set at 1.5 million pounds for the IFQ fishery. In computing the TAC for the area west of 166° W long., the abundance of exploitable legal male Tanner crabs estimated for ADF&G statistical area 695700 was not included in the TAC computation; although this statistical area accounted for approximately 27% of the exploitable legal male Tanner crabs west of 166° W long. estimated from the 2005 trawl survey, the area was closed to commercial fishing to protect the Pribilof blue king crab stock. The 2005/06 season did not open in the area east of 166º W long. because the TAC as calculated according to the harvest strategy (1.02 million pounds) was below the minimum 4.0 million pound TAC that was in regulation at that time for the area east of 166º W long. Forty-three vessels harvested Tanner crab during the 2005/06 season, but only six of those fished directly for Tanner crab with Tanner crab gear; the remainder harvested incidentally captured legal Tanner crab while directing their fishing on snow crab with snow crab gear. Only 0.791 million pounds of the TAC for 2005/06 was harvested, apparently due to the fact that many harvesters were unaware that the Tanner crab season closed more than a month earlier than the snow crab season.

After the 2005/06 season the BOF eliminated the minimum TAC for Bering Sea Tanner crabs. The 2006/07 Bering Sea Tanner crab IFQ TAC was set at 1.69 million pounds for the area east of 166° W long. and 0.99 million pounds for the area west of 166° W long. TACs were increased in 2007/08 to 3.10 million pounds east of 166° W long. and 1.96 million pounds west of 166° W long.

Although the fishery opens on October 15, most catch and effort in the area east of 166° W long. occurrs during January through March. Thirty-seven vessels harvested 1.27 million pounds during the IFQ fishery in 2006/07. In 2007/08 the fleet size was nearly half the size, only 20 vessels harvested 1.44 million pounds.

Like the fishery for the area east of 166° W long., most catch and effort in the area west of 166° W long. occurs during January through March, with only limited catch and effort during October and November. Thirty-eight vessels harvested 0.63 million pounds during the 2006/07 IFQ fishery. The 2007/08 fleet size and harvest was slightly smaller, 31 vessels harvested 0.47 million pounds.

Vessels fishing for Tanner crabs in the 2006/07 and 2007/08 seasons were able to fish Tanner crab gear as well as snow or king crab crab gear and retain Tanner crabs from both gear types

making summaries of catch per unit effort, size frequencies, or bycatch for the entire 2006/07 and 2007/08 seasons difficult to produce or interpret.

Harvesters were paid an average price of $1.29 per pound for Bering Sea Tanner crabs for a total fishery value of $2.4 million for the 2006/07 season. In 2007/08 harvesters were paid $1.68 per pound for a total fishery value of $3.2 million pounds, the highest since 1995.

2008/09 Season

The 2008/09 Bering Sea Tanner crab IFQ TAC was set at 2.49 million pounds for the area east of 166° W long. and 1.38 million pounds for the area west of 166° W long. The fishery opened on October 15 and closed by regulation on March 31. Fishing effort was least in October and December, with most fishing activity occurring in November and January through the season closure, contrasted to the 2007/08 season when most fishing occurred in January through March with limited effort before January 1.

New regulations adopted in 2008 specified that IFQ Tanner crab fishermen may only use one type of pot gear - fisherman may either participate in the directed Tanner crab fishery using Tanner crab pots or retain a limited amount of Tanner crab taken incidentally from red king or snow crab pots.

Twenty-one vessels harvested 1.6 million pounds during the IFQ fishery east of 166° W long. Average weight of landed catch in the IFQ fishery in the area east of 166° W long. was 2.4 pounds and average CPUE was 20 legal crabs per pot lift. Vessels fishing in the Bristol Bay red king crab fishery were allowed to retain up to 5% Tanner crabs (by weight) east of 166° W long., making summaries of catch per unit effort, size frequencies, or bycatch for the entire 2008/09 season difficult to produce or to interpret. Ten vessels participated in the directed fishery and accounted for nearly 98% of landings. The most productive fishing areas for Tanner crabs east of 166° W long. were found in southwestern Bristol Bay.

All fishing effort west of 166° W long. occurred January through March. The fleet of 39 vessels harvested 0.11 million pounds. CPUE was 2 legal crabs per pot and the average weight of retained crabs was 2.1 pounds. In the Bering Sea snow crab fishery vessels were allowed to retain Tanner crabs up to 5% west of 166° W long., making summaries of catch per unit effort, size frequencies, or bycatch for the entire 2008/09 season difficult to produce. The most productive fishing grounds in the western area were found to the north and west of the Pribilof Islands and southeast along the 166th parallel (Table 2-21).

Total Bering Sea Tanner crab harvest during the 2008/09 season was 1.7 million pounds, less than one half of the TAC. Harvesters were paid an average exvessel price of $1.49 per pound for a total fishery value of $2.5 million. Limited harvest during the Bering Sea Tanner crab fishery is likely due to several factors including season overlap with the more valuable snow crab fishery and low catch rates relative to that fishery.

Port Sampling

Bering Sea Tanner crabs taken during the 2008/09 season were delivered in Dutch Harbor, Akutan, King Cove, St. Paul, and Kodiak. ADF&G port samplers collected data from 6 of the 30 fishing trips in the directed Bering Sea Tanner crab fisheries. Of the 102 trips in which Tanner crab were retained incidentally, ADF&G samplers collected data from 64 trips. Landed crabs averaged 2.3 pounds, the same as during the 2007/08 season. Average size was 149 mm CW, 1

mm greater than in 2007/08. Ninety two percent of sampled crabs were new shell, compared to 75% in 2007/08 and 36% in 2006/07 (Table 2-22).

Stock Status

Estimated mature male biomass for the Bering Sea Tanner crab stock was above the rebuilt level in both 2007/08 and 2008/09 and the stock met rebuilding criteria of two consecutive years above the rebuilt level in 2008/09.

Estimated 2008 legal-male Tanner crab abundance in the Eastern Bering Sea was 13.2 million crabs (Chilton 2008). Sixty-nine percent of legal-male Tanner crabs were estimated to be in the Eastern Subdistrict; an increase from 2007. It was estimated that 45% of the legal-male abundance was in the Eastern Subdistrict. The larger male size-classes continue to be dominated by old and very old shell category crabs.

Estimated large female Tanner crab abundance decreased 21% from the 2007 estimate and the small female abundance estimate decreased 39% during the same interval. The majority of female Tanner crab examined carried new eggs.

Further information on Tanner crab stock status and federal overfishing levels may be found in NPFMC 2008.

BERING SEA SNOW CRAB

Historic Background

The first commercial landings of snow crabs from the Bering Sea were recorded in 1977, incidental to the harvest of Tanner crabs. Over the next 18 years, snow crab fishery performance and harvest showed considerable variability. From 1978/79 to 1985 snow crab harvest ranged from 26.1 million pounds in 1983 to a high of 52.9 million pounds in 1985. Harvest then increased from 1986 to 1991 when harvest reached an all-time high of 328.6 million pounds. Subsequently, harvest decreased to 65.7 million pounds in 1996. Stock status improved between 1997 and 1999 when harvests averaged 163.6 million pounds (Table 2-23, Figure 2-11).

In 1999, the NMFS trawl survey stock estimate 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 decline, 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% of the mature male biomass estimate, which also took into consideration handling mortality during the fishery and high natural mortality during the six month hiatus between the survey and the fishery opening. This reduction in exploitation rate resulted in a GHL of 26.4 million pounds available to the 2000 general fishery.

In collaboration with the United States Coast Guard (USCG) and industry, the 2000 snow crab season was delayed from January 15 to April 1 due to sea ice covering the majority of the fishing grounds. Because of the relatively small GHL, management of the 2000 fishery was based on daily inseason reports from fishermen. The 2000 snow crab harvest of 30.77 million pounds exceeded the 26.4 million pound general fishery GHL by 17% and the fishery CPUE was 137 retained crabs per pot compared to 160 in 1999. Harvest from the Eastern Subdistrict was 20.94 million pounds from 217 landings, or 68% of the total harvest (Table 2-25). In prior years the majority of the harvest

occurred in the Eastern Subdistrict. Total harvest from the Western Subdistrict was 9.83 million pounds from 92 landings.

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. Fishermen were offered $1.85 per pound for new-shell crabs and $1.00 per pound for old-shell crabs. Fishermen 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 crabs. As a result, less than 10% of crabs landed were old-shell crabs. 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 $160 million in 1999 (Table 2-27).

Analysis of the 2000 NMFS summer trawl survey of the Eastern Bering Sea indicated a 19% decrease in the abundance of large male ($\geq$ 102mm CW) crabs from the 1999 survey. However, small male (< 102mm CW) and large female ($\geq$ 50mm CW) 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 dependent on estimated spawning biomass. The rebuilding plan specifies 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 25.3 million pounds available to the general fishery.

The 2001 Bering Sea snow crab general fishery opened on January 15 and closed on February 14. The fleet harvested 24.4 million pounds, or 92% of the GHL. 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.

The 2002 GHL was calculated at 51.0 million pounds based on NMFS survey estimates which constituted a harvest greater than 50% of the estimated exploitable legal male abundance and in accordance with harvest strategy requirements was adjusted downward to not exceed 50% of the exploitable legal male abundance. The resultant 2002 Bering Sea snow crab general fishery GHL was 28.5 million pounds.

The 2003 Bering Sea snow crab fishery harvest of 26.2 million pounds exceeded the general fishery GHL by 10.6%. 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 2003, approximately 4.9 million pounds (19%) of snow crabs were harvested east of 173° W long. In contrast to 2002, the fleet did not encounter large numbers of old or very old shell crabs on the grounds (Table 2-26). In the 2004 fishery, a harvest of 22.2 million pounds exceeded the general fishery GHL of 19.27 million pounds by 15%. A similar pattern followed in the 2005 fishery, where the 23.0 million pound harvest exceeded the GHL by 19%. The 2005 fishery CPUE was 239 retained crabs per pot, higher than any previous year.

The first rationalized season for snow crab (2005/06) opened on October 15, 2005 with an IFQ TAC of 33.5 million pounds and 78 vessels participating. A total of 33.3 million pounds were harvested. Average weight of harvested crabs was 1.51 pounds, 11% greater than the preseason estimate of 1.35 pounds and greater than any average weight for this fishery since 1981. Harvest from the Eastern Subdistrict accounted for 62% of the total snow crab harvest and 71% of the harvest was from areas south of 58º 30' N lat. In general, harvest location shifted to the southeast

compared to the 2000-2005 seasons. Total fishery CPUE for retained legal crabs in the 2005/06 fishery was 204 crabs per pot, the second highest CPUE since the 1999 season. Compared to the short (less than 10 days) general fisheries of the pre-rationalized 2003-2005 seasons, the 2005/2006 season was prolonged and had varying levels of vessel participation, catch, effort, and catch rates over a 7.5 month period.

The 2006/07 IFQ TAC was 32.9 million pounds, similar to the 2005/06 TAC. In 2007/08 the TAC was increased to 56.7 million pounds, the highest since 1999. Sixty-nine vessels participated and harvested a total of 32.7 million pounds in 2006/07. The 2007/08 fleet increased to 78 vessels, the same as in 2005/06, and harvested 56.7 million pounds. The CPUE in 2006/07 was 332 crabs per pot and increased to 352 crabs per pot in 2007/08, a value more than 60% higher than that of the 2005/06 season and the highest on record for the fishery. Vessels averaged 157 pots in 2006/07 and 175 pots in 2007/08. Since the snow crab fishery was rationalized soak times average longer than 2 days, which is 3 times greater than the average soak times for the pre-rationalized 2004 and 2005 general fishery seasons (21 hours) (Burt and Barnard 2006, Barnard and Burt 2007). First landings began in early November and continued into May in both the 2006/07 and 2007/08 seasons; most of the harvest occurred in mid-January through mid-April. In the 2006/07 season each snow crab vessel was registered for an average of 36 days compared to 48 days during the 2007/08 season. The 2007/08 fishery value was $89.96 million, making it the most valuable snow crab fishery since 1999.

2008/09 Season

The 2008/09 Bering Sea snow crab season opened on January 15 with an IFQ TAC of 52.7 million pounds. Seventy-seven vessels participated in the fishery and harvested 52.7 million pounds.

Catch rates during the 2008/9 season were lower than the previous two seasons at 277 retained crabs per pot lift, but still well above the long-term average, likely due to efficiency gains achieved after the implementation of the CR program.

Pot limits were repealed by the BOF at the April 2008 meeting. The snow crab fleet utilized 12,549 pots during the 2008/09 season, an average of 163 pots per vessel. Average number of pots deployed per vessel remains unchanged from the prior season.

The average snow crab vessel was active in the fishery for 50 days during the 2008/09 season, similar to the 48 days seen in the 2007/08 season. Consistent with prior CR snow crab fisheries, peak harvest timing occurred in late January and continued through the end of February. Fishing activity was concluded by early May (Table 2-28).

Average carapace width was 110 mm, similar to the 109 mm CW average in 2006/07 and 2007/08. Retained catch was 92% new shell. The average weight of landed crabs was 1.3 pounds, the same as in the 2007/08 season. Snow crabs tended to be slightly smaller in the Western Subdistrict than the Eastern Subdistrict, harvest was evenly split between subdistricts, with 54% of the harvest coming from the Eastern Subdistrict (Table 2-29).

Harvesters were paid an average price of $1.37 per pound for snow crabs generating a total exvessel fishery value of $71.49 million, a 20% decrease from the 2007/08 fishery value, but still significantly greater than the prior eight seasons.

Port Sampling

ADF&G port samplers stationed in Dutch Harbor, Saint Paul, Kodiak, and King Cove collected data from 221 of the 375 fishing trips during the 2008/09 snow crab fishery. Sampled crabs averaged 1.3 pounds live weight, the same as the 2007/08 season.

Stock Status

The 2008 Bering Sea legal-male snow crab abundance estimate decreased 26% from the 2007 estimate and is similar to the 2005 level. Approximately 32% of the legal-male abundance estimate was composed of males greater than or equal to four inches CW (Chilton et al. 2008). Nearly 75% of the legal-male snow crab abundance was found in the Eastern Subdistrict.

Pre-recruit male snow crab abundance decreased 19% from 2007 with about two-thirds of the pre-recruit sized males occurring in the Eastern Subdistrict.

The Bering Sea snow crab stock was not considered overfished during the 2008/09 season, it was considered to be rebuilding (NPFMC 2008).

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 under 659,000 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 4 vessels harvested slightly over 322,000 pounds (Table 2-30).

At the March 1995 meeting, BOF determined that pot limits would not apply to the deepwater permit fisheries of the Westward Region. Effort increased significantly that year when 8 vessels harvested close to 985,000 pounds with a fishery value exceeding $2.0 million. Since 1995, the number of vessels registered for Bering Sea District grooved Tanner crabs has not exceeded 4 vessels for any year. Catch per unit effort was highest in 1994 at 11 legal crabs per pot lift and declined to 4 in 1996. Harvests decreased from 985,000 pounds in 1995 to 96,000 pounds in 1996. No vessels registered to fish grooved Tanner crabs in the Bering Sea District from 1997 to 1999, while only 1 vessel registered each year in 2000 and 2001. Four 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. There was one vessel registered to fish for grooved Tanner crab in the Bering Sea during 2005. 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 Western Aleutian District 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 inch 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 deployed to collect biological and fishery data on each vessel registered for the fishery.

2008 Fishery

There were no vessels registered to fish for grooved Tanner crab in the Bering Sea during 2008.

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 the late 1990s, the stock has been managed more conservatively and based on the most recent fishery performance data, appears to have stabilized or recovered slightly.

In December 2007 the North Pacific Fishery Management Council amended the Federal Fishery Management Plan for Bering Sea and Aleutian Islands King and Tanner Crabs and removed Bering Sea grooved Tanner crab from the FMP providing the state with sole jurisdiction over the fishery.

BERING SEA TRIANGLE TANNER CRAB

Historic Background

Historically, triangle Tanner crabs 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 triangle Tanner crabs, ADF&G implemented 100% onboard observer coverage 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 40,991 pounds for a total fishery value of $60,000 (Table 2-31). In 1996, 2000, and 2001, only 1 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 2-31). Four vessels registered to retain triangle Tanner crab incidentally taken during the Pribilof District golden king and Bering Sea grooved Tanner crab fisheries in 2004. There were no vessels registered to fish for triangle Tanner crabs in the Bering Sea District between 2005 and 2007.

Due to the lack of stock abundance data for this species, additional fishing for triangle Tanner crabs in the Bering Sea District 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 grooved tanner crab. 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 golden king crab 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.

2008 Fishery

There were no vessels registered to fish for triangle Tanner crabs in the Bering Sea District during 2008.

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.

In December 2007 the North Pacific Fishery Management Council amended the Federal Fishery Management Plan for Bering Sea and Aleutian Islands King and Tanner Crabs and removed Bering Sea triangle Tanner crab from the FMP providing the state with sole jurisdiction over the fishery.

MISCELLANEOUS SHELLFISH SPECIES BERING SEA

DESCRIPTION OF AREA

The Bering Sea portion of Registration Area J for miscellaneous shellfish includes all Bering Sea waters of both the Territorial Sea and the EEZ north of the latitude of Cape Sarichef at 54° 36' N lat. and east of the United States-Russia Maritime Boundary Line of 1990 (Figure 2-12).

INTRODUCTION

Miscellaneous shellfish species include hair crabs *Erimacrus isenbeckii*, green sea urchins *Strongylocentrotus droebachiensis*, red sea cucumbers *Parastichopus californicus*, snails *Neptunea* and *Buccinum* spp., octopus *Octopus dofleini*, and *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. Prior to 1999, commercial fishing for miscellaneous shellfish species was allowed 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, CORAL, AND OTHER MARINE INVERTEBRATES. Typical permit conditions were general and not fully developed on an individual species basis. Fisheries for miscellaneous shellfish species occurred without prior knowledge of stock abundance or distribution and no harvest limits were established. More recently ADF&G has developed species-specific permit terms when sufficient information has been available to do so. ADF&G will only register vessels for those fisheries with an established GHL, or when sufficient data to develop a conservative GHL can be collected.

Those species of current or historic interest in the Bering Sea include *P. multispina*, 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 portion of the report due to low or infrequent annual harvests.

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 1990, and west of 168° W long. (Figure 2-13). 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. Beginning in 1984, under conditions of a commissioner's permit issued by ADF&G, the year-round, the directed hair crab fishery was allowed to operate in all waters of the Bering Sea District, however between 1979 and 1992 the majority of hair crabs landed was still 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 vessel moratorium, that BOF maintain 100% observer coverage on all vessels participating in the Bering Sea hair crab fishery. 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 fishermen 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 1980/81 when the fishery was prosecuted as an incidental harvest fishery during the Tanner crab season (Table 2-32, Figure 2-14). Between 1985 and 1990, effort was minimal due to low stock abundance. Since the 1996 CFEC moratorium, effort dropped from 19 participating vessels in 1996 to 3 vessels in 2000. 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 2-33). Since 1995, both effort and GHL have

been declining. During the 2000 season, only 1,546 pounds of hair crabs were harvested, for a 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 shown substantial annual fluctuations. 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 pounds in 1991. In the late 1990s, the average weight of retained hair crabs was approximately 1.5 pounds (Table 2-32).

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 was again in conflict. 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. It is likely that future fisheries for hair crab in the Bering Sea would open on October 15 and may continue until March 31.

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 2-4). Because confidence in the results of this survey is relatively low, a 20% fishery exploitation rate on large males has been used to determine the GHL. Male hair crabs ≥3.25” 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. Three vessels participated in the fishery and harvested approximately 1,500 pounds. As a result of low stock abundance, the Bering Sea was closed to hair crab fishing from 2001 to 2007.

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. Thirteen permits have been issued and three others may be issued to qualified entities. During the 2008 session, the Alaska Legislature passed a bill extending the vessel-based limited entry program to 2013.

2008 Season

The 2008 Bering Sea hair crab fishery was closed in both the Northern and Pribilof Districts due to low stock abundance.

Stock Status

Abundance of hair crabs in the Pribilof District has decreased since the early 1990s and large male abundance is currently near historic low levels and survey data do not indicate that recruitment to the large male size-class is likely in the near term. Estimates of abundance for the Bristol Bay and Northern District portion of the stock are larger than those for the Pribilof District, but show considerable variability from one year to the next.

Population trends observed during the last eight years and weak performance of the most recent commercial fisheries indicate that the Bering Sea hair crab population is severely depressed and is unable to sustain a commercial fishery. 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 3 vessels made landings; therefore, the harvest information is confidential. Since 1995, all reported harvests in the Bering Sea have been incidental to other fisheries. Any vessel registered for groundfish in the Westward Region using a miscellaneous finfish permit may retain incidentally caught octopus at up to 20% of the weight of the target species.

Since 1995, the number of vessels registered for incidental octopus harvest in the BSAI has ranged from 22 vessels in 1999 to a high of 92 vessels in 2004. Landed octopus harvest ranged from 409 pounds in 1999 with a peak of 143,798 pounds in 2005. Total annual octopus harvest has varied since its inception as incidental harvest in other BSAI fisheries. In 2008, only 5 vessels participated and landed just under 7,000 pounds, a 77% increase from 2007 (Table 2-34).

Verbal reports from fishermen and processors suggest that market interest in octopi increased in the 2002-2004 period and that some fishermen operated to increase their incidental harvest of octopi while remaining below the maximum retainable amount. This "topping off" behavior is common in fisheries where a valuable non-target species may be retained as bycatch during a directed fishery for another species. The department monitors effort in the octopus fishery as well as the spatial and temporal distribution of the incidental harvest.

PARALOMIS MULTISPINA

Fishing for *P. multispina* is managed under the terms of a commissioner's permit. Although one vessel was registered to fish for *P. multispina* in 1995, no commercial harvest was reported. One vessel, for which landing data is confidential, participated in the 1996 fishery. No vessels requested commissioner's permits to fish for *P. multispina* in the Bering Sea District from 1997 through 2008. Given the lack of available data on this stock, the department will not issue permits allowing harvest of *P. multispina*.

SEA CUCUMBERS AND SEA URCHINS

ADF&G annually issues a news release announcing the GHL for red sea cucumbers and green sea urchins in the Westward Region. 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 critical 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 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 2008, 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 2008.

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. EEZ and the Japanese began to provide fishing records following the passage of the act (MacIntosh 1979). NMFS recorded 14 vessels participating in 1971, 5 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 3 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 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 1,219 pot lifts per day with an average soak time of 80 hours.

The U.S. fishery began in 1992 when 2 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 1 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 2 vessel operators expressed interest in fishing east of 168° W long. Vessels were restricted to grounds west of 164° W long. and north of 54° 36' N lat. 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, and 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 2-35). 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 2-36). From 1998 to 2007, no fishing effort for snails occurred in the Bering Sea.

2008 Season

No vessels registered to harvest snails from the Bering Sea in 2008.

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 and the EEZ east of the long. of Cape Sarichef at 164° 55'30' W long. (Figure 2-15).

The North Peninsula District for management of Dungeness crabs includes all waters of both the Territorial Sea and the EEZ north of the latitude of Cape Sarichef at 54° 36' N lat. (Figure 2-16).

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 Dungeness crabs in the North Peninsula District has been sporadic, with few vessels participating. The fishery has typically 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 3 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 in 1999. One vessel, for which landings are confidential, participated in the 2000 fishery. No vessels registered in 2001. In 2002, three vessels registered and harvested less than 22,000 pounds (Table 2-37). In 2003 no vessels registered. A single vessel registered

in 2004 and all harvest information is confidential. No vessels registered in 2005 or 2006. A single vessel registered in 2007 and all harvest information is confidential. No fishermen registered for North Peninsula District Dungeness in 2008.

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. 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 AND ALEUTIAN ISLANDS 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 GHLs, and shorter fishing seasons than prior years. In response to these changes, the BSAI crab industry submitted a petition regarding pot limits to the BOF. The petition was supported by data from ADF&G indicating impaired conservation and management during low GHL fisheries due in part to the amount of gear fishing on the grounds. 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 and Tanner crabs. The buoy identification program was created to help implement these regulations and as per Alaska State statute designed to be completely self-supportive by generating funds.

Buoy identification stickers were first implemented during 1992 Bristol Bay red king crab 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 Service on November 30, 1992. Pot limits are an FMP category II management 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 specified in the Magnuson-Stevens Fishery Management and Conservation Act 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 (OAL). Vessels in excess of 125 feet OAL are entitled to operate the maximum number of pots allowed for a fishery, and vessels 125 feet or less in OAL 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.

With the implementation of crab rationalization in 2005, the BOF revised regulation to allow a maximum of 450 pots per vessel regardless of vessel length for Bering Sea King and Tanner crab fisheries (Table 2-38). In 2007 CDQ fishermen were allowed to use the same tags purchased for the corresponding IFQ fishery. In March 2008 the BOF eliminated pot limits and tag requirements for the Bristol Bay red king crab, Bering Sea Tanner and snow crab fisheries.

2008/09 Buoy Tag Sales

Several of the Bering Sea crab fisheries requiring buoy tags were not open to commercial harvest during the 2008/09 season because stocks did not meet minimum threshold levels.

In the 2009 EAD Tanner crab fishery 11 vessels purchased 243 tags, including 2 replacement tags.

REFERENCES CITED

Alaska Department of Fish and Game (ADF&G). 1984. Westward Region Shellfish Report to the Alaska Board of Fisheries. Alaska Department of Fish and Game, Division of Commercial Fisheries, Kodiak.

Alaska Department of Fish and Game (ADF&G). 1985. Westward Region Shellfish Report to the Alaska Board of Fisheries. Alaska Department of Fish and Game, Division of Commercial Fisheries, Kodiak.

Alaska Department of Fish and Game (ADF&G). 1996. Annual management report for the shellfish fisheries of the Westward Region, 1994. Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Regional Informational Report 4K96-37, Kodiak.

Alaska Department of Fish and Game (ADF&G). 1998. Annual management report for the shellfish fisheries of the Westward Region, 1997. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Informational Report 4K98-39, Kodiak.

Barnard, D.R. and R. Burt. 2006. Alaska Department of Fish and Game Summary of the 2005 Mandatory Shellfish Observer Program Database for the Non-rationalized Bering Sea Crab Fisheries. Alaska Department of Fish and Game, Fishery Data Series No. 06-36, Anchorage.

Barnard, D.R. and D. Pengilly. 2006. Estimates of red king crab bycatch during the 2005/2006 Bristol Bay red king crab fishery with comparisons to the 199-2004 seasons. Alaska Department of Fish and Game, Fishery Data Series No. 06-23, Anchorage.

Barnard, D.R. and R. Burt. 2007. Alaska Department of Fish and Game Summary of the 2005/2006 Mandatory Shellfish Observer Program Database for the Rationalized Crab Fisheries. Alaska Department of Fish and Game, Fishery Data Series No. 07-02, Anchorage.

Burt, R., and D.R. Barnard. 2006. Alaska Department of Fish and Game Summary of the 2004 Mandatory Shellfish Observer Program Database for the General and CDQ Fisheries. Alaska Department of Fish and Game, Fishery Data Series No. 06-03, Anchorage.

Chilton, E. A., C. E. Armistead, and R. J. Foy. 2008. The 2008 Eastern Bering Sea continental shelf bottom trawl survey: Results for commercial crab species. U.S. Department of Commerce, NOAA Technical Memo. NMFS-AFSC-187, 88 p.

Gish, R. K. 2006. The 2005 Pribilof District king crab survey. Alaska Department of Fish and Game, Fishery Management Report No. 06-60, Anchorage.

Gish, R.K, and D. Pengilly. 2004. The 2003 Pribilof District king crab survey. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K04-41, Kodiak.

MacIntosh, R. 1979. Alaska's snail resource. Alaska Seas and Coasts Vol. 6. No. 5.

MacIntosh, R. 1980. The snail resource of the eastern Bering Sea and its fishery. Marine Fisheries Review 42:15-20.

North Pacific Fishery Management Council (NPFMC). 1998. Fisheries Management Plan for the King and Tanner Crab Fisheries of the Bering Sea and Aleutian Islands. North Pacific Fishery Management Council. Anchorage.

North Pacific Fishery Management Council (NPFMC). 2000. A Rebuilding Plan for the Saint Matthew Blue King Crab Stock. North Pacific Fishery Management Council, Anchorage.

North Pacific Fishery Management Council (NPFMC). 2003. Stock Assessment and Fishery Evaluation Report for the King and Tanner Crab Fisheries of the Bering Sea and Aleutian Islands Regions. North Pacific Fishery Management Council, Anchorage.

REFERENCES CITED (Continued)

North Pacific Fishery Management Council (NPFMC). 2006. Stock Assessment and Fishery Evaluation Report for the King and Tanner Crab Fisheries of the Bering Sea and Aleutian Islands: 2006 Crab SAFE. North Pacific Fishery Management Council, Anchorage.

North Pacific Fishery Management Council (NPFMC). 2008. Stock Assessment and Fishery Evaluation Report for the King and Tanner Crab Fisheries of the Bering Sea and Aleutian Islands Regions: 2008 Crab SAFE. North Pacific Fishery Management Council, Anchorage.

Ruccio, M., and Jackson, D. 2000. Management plan for the Red Sea Cucumber and Green Sea Urchin Commercial Fisheries for the Westward Region, 2000-01. Alaska Department of Fish and Game, Commercial Fisheries Division, Regional Information Report No. 4K00-59, Kodiak.

Stevens, B. G., J. A. Haaga, and R. A. MacIntosh. 1998a. Report to Industry on the 1998 Eastern Bering Sea Crab Survey. AFSC Processed Report 98-07.

Stevens, B. G., R. S. Otto, J. A. Haaga, and R. A. MacIntosh. 1998b. Report to Industry on the 1997 Eastern Bering Sea Crab Survey. Alaska Fisheries Science Center (AFSC) Processed Report 98-02.

Tracy, D. 1995. Alaska Department of Fish and Game biological summary of the 1993 mandatory shellfish observer program database. Alaska Department of Fish and Game, Commercial Fisheries Management and Development, Regional Information Report 4K95-14, Kodiak.

Watson, L.J. 2005. The 2004 triennial St. Matthew Island blue king crab survey and comparisons to the 1995, 1998, and surveys. Alaska Department of Fish and Game, Fishery Management Report No. 05-22, Anchorage.

Zheng, J., M. C. Murphy, and G. H. Kruse. 1995. Overview of population estimation methods and robust long-term harvest strategy for red king crabs in Bristol Bay. Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Regional Information Report 5J95-21, Juneau.

Zheng, J., G. H. Kruse, and M. C. Murphy. 1996. Stock status of Bristol Bay red king crabs in 1996. Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Regional Information Report 5J96-12, Juneau.

Zheng, J., G. H. Kruse, and M. C. Murphy. 1997. Status of king crab stocks in the eastern Bering Sea in 1997. Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Regional Information Report 5J97-13, Juneau.

Zheng, J., and G. H. Kruse. 1999. Status of king crab stocks in the Eastern Bering Sea in 1999. Alaska Department of Fish and Game, Commercial Fisheries Division, Regional Information Report 5J99-09, Juneau.

Zheng, J., and G. H. Kruse. 2000. Status of king crab stocks in the Eastern Bering Sea in 2000. Alaska Department of Fish and Game, Commercial Fisheries Division, Regional Information Report 5J00-09, Juneau.

Zheng, J., and D. Pengilly. 2003. Evaluation of alternative rebuilding strategies for Pribilof Islands blue king crabs. Alaska Department of Fish and Game, Commercial Fisheries Division, Regional Information Report 5J03-10, Juneau.

TABLES AND FIGURES

Table 2-1.–Bristol Bay commercial red king crab fishery harvest data, 1966 - 2008/09.

Season	Number of				Number of Pots			
	Vessels[a]	Landings	Crabs[d]	Harvest[b,d]	Registered	Pulled	CPUE[c]	Deadloss[b]
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	1,013	5,273,530	33,372,832	75,756	536,646	10	706,489
1982	89	253	538,925	2,990,082	36,166	140,492	4	95,834
1983	FC	FC	FC	FC	FC	FC	FC	FC
1984	89	133	793,046	4,083,612	21,762	107,406	7	35,101
1985	128	130	780,791	4,090,305	30,117	84,443	9	6,436
1986	159	229	2,083,496	11,306,084	32,468	175,753	12	284,126
1987	236	311	2,122,341	12,289,067	63,000	220,971	10	120,388
1988	200	201	1,231,731	7,361,026	50,099	146,179	8	23,537
1989	211	287	1,667,405	10,156,849	55,000	205,528	8	81,334

-continued-

Table 2-1.–Page 2 of 2.

Season	Number of Vessels[a]	Number of Landings	Number of Crabs[b]	Harvest[b,c]	Number of Pots Registered	Number of Pots Pulled	CPUE[d]	Deadloss[c]
1990	240	331	3,134,082	20,443,043	69,906	262,761	12	141,067
1991	302	322	2,597,994	16,971,365	89,068	227,555	12	106,853
1992	281	288	1,189,443	7,996,040	68,189	206,172	6	6,000
1993	292	360	2,254,989	14,587,704	58,881	253,794	9	133,314
1994	FC	FC	FC	FC	FC	FC	FC	FC
1995	FC	FC	FC	FC	FC	FC	FC	FC
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	90,427	15	13,771
1998	274	284	2,140,604	14,290,271	56,420	141,707	15	53,716
1999	257	268	1,812,357	11,070,729	42,403	146,997	12	44,132
2000	246	256	1,166,796	7,546,145	26,352	98,694	12	32,118
2001	230	238	1,196,469	7,786,446	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	2,344,436	14,529,124	46,964	128,430	18	228,270
2004	251	270	2,075,622	14,112,438	49,506	90,976	23	160,563
2005/06[e]	89	264	2,460,856	16,478,458	15,713	99,573	25	77,507
2006/07[e]	81	187	2,186,967	13,892,044	14,685	64,325	34	98,720
2007/08[e]	74	246	2,817,766	18,327,780	11,885	101,739	28	131,954
2008/09[e]	77	254	2,765,282	18,303,012	15,098	124,739	22	160,812

Note: NA = Not Available, FC = Fishery Closed

[a] Vessel totals are vessels that registered but may not have actively participated in the fishery.

[b] General fishery only. Includes AFA fishery 2000 - 2004. Does not include CDQ. Deadloss included.

[c] In pounds.

[d] Number of legal crabs per pot lift.

[e] IFQ fishery beginning in 2005.

Table 2-2.–Bristol Bay commercial red king crab fishery economic data, 1980 - 2008/09.

		Value		Season Length	
Season	GHL/TAC[a]	Exvessel[b]	Total[c]	Days	Dates
1980	70-120	$0.90	$115.3	40	09/10-10/20
1981	40-100	$1.50	$49.3	91	09/10-12/15
1982	10-20[d]	$3.05	$8.9	30	09/10-10/10
1983	FC	FC	FC	FC	FC
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	FC	FC	FC	FC	FC
1995	FC	FC	FC	FC	FC
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[e]	7.7	$4.81	$36.0	4	10/16-10/20
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
2005/06	16.5	$4.24	$69.5	93	10/15-01/15
2006/07	13.9	$3.48	$48.0	93	10/15-01/15
2007/08	18.3	$4.19	$76.2	93	10/15-01/15
2008/09	18.3	$4.98	$90.3	93	10/15-01/15

Note: FC = Fishery Closed

[a] Guideline harvest level for general fishery only, millions of pounds. Total allowable catch for IFQ fishery beginning in 2005. Does not include CDQ.

[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.–Bristol Bay commercial red king crab IFQ fishery harvest and effort by week, 2008/09.

Week ending	Number of Vessels	Number of Landings	Crabs[a]	Harvest[a,b]	Pot pulls	CPUE[c]	Deadloss[b]
18-Oct	54	62	920,560	6,057,829	32,305	29	47,555
25-Oct	36	42	571,388	3,785,084	22,158	26	37,131
1-Nov	39	43	535,395	3,512,301	25,695	21	29,777
8-Nov	26	35	361,133	2,378,993	18,288	20	22,223
15-Nov	22	27	155,212	1,046,357	9,709	16	10,498
22-Nov	18	23	119,767	813,511	8,573	14	12,265
29-Nov	6	7	36,748	258,697	2,703	14	577
6-Dec	8	9	44,222	302,013	3,608	12	439
13-Dec	4	4	15,885	112,270	1,080	15	195
20-Dec	1	CF	CF	CF	CF	CF	CF
10-Jan	1	CF	CF	CF	CF	CF	CF
Total	77[d]	254	2,765,282	18,303,012	124,739	22	160,812

Note: CF = Confidential, less than three vessels or processors participated in fishery

[a] Deadloss included. Does not include CDQ.

[b] In pounds.

[c] Number of legal crabs per pot lift.

[d] Some vessels made landings in more than one week, thus the sum of the number of vessels per week is greater than the total number of vessels that participated in the fishery.

Table 2-4.–Bristol Bay commercial red king crab IFQ fishery catch by statistical area, 2008/09.

Statistical	Number of				Average		
Area	Landings	Crabs[a]	Pots Lifted	Harvest[a,b]	Weight[b]	CPUE[c]	Deadloss[b]
605630	18	15,193	980	98,915	6.5	16	871
605700	26	37,216	2,802	250,808	6.7	13	2,395
615601	57	142,496	6,211	919,101	6.4	23	9,670
615630	120	658,024	26,666	4,303,663	6.5	25	34,706
615700	61	220,764	10,012	1,508,112	6.8	22	25,423
625531	57	137,398	6,931	865,248	6.3	20	9,965
625600	112	586,254	22,796	3,784,994	6.5	26	26,220
625630	84	122,284	6,864	830,738	6.8	18	6,764
625700	45	138,024	7,485	948,892	6.9	18	7,101
625730	16	14,100	978	100,174	7.1	14	448
635504	9	3,505	115	23,609	6.7	30	21
635530	89	503,301	23,814	3,351,769	6.7	21	29,093
635600	38	25,002	1,601	162,364	6.5	16	1,510
635630	15	3,938	428	27,234	6.9	9	808
635700	30	53,478	3,214	377,776	7.1	17	2,691
635730	7	1,313	86	9,311	7.1	15	26
645530	33	75,372	3,129	538,224	7.1	24	2,007
645600	5	120	85	767	6.4	1	7
Other[d]	-	27,500	542	201,314	7.0	27	1,086
Total	254[e]	2,765,282	124,739	18,303,012	6.6	22	160,812

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crabs per pot lift.

[d] Combination of 6 statistical areas from which less than 3 vessels made landings in each statistical area.

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

Table 2-5.–Bristol Bay red king crab cost-recovery harvest data, 1990 - 2008.

Year[a]	Number of			Harvest[b,c]	Average		Deadloss[c]
	Landings	Crabs[b]	Pots Lifted		Weight[c]	CPUE[d]	
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
2005[e]	4	30,585	1,376	208,828	6.8	22	1,500
2006[e]	4	47,215	1,067	303,867	6.4	44	3,313
2007[e]	4	22,951	734	145,619	6.3	31	469
2008[h]	0	0	0	0	-	-	0

[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.

[h] No cost recovery effort.

Table 2-6.–Bristol Bay red king crab cost-recovery economic performance data, 1990 - 2008.

Year[a]	Harvest[b]	Value		Charter dates	Charter length[d]
		Exvessel[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[fg]	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
2005[e]	208,828	$5.07	$1,051,153	11/12-12/2	19
2006[e]	300,563	$2.15	$646,210	9/23-10/23	31
2007[e]	145,150	$4.02	$583,503	10/2-10/23	22
2008	0	$0.00	$0	No cost recovery effort	0

[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 2-7.–Bristol Bay commercial red king crab general/IFQ fishery harvest composition fishing season, 1973 - 2008/09.

	Percent		Size	Average		% Old
Season	Recruit	Postrecruit[a]	Limit[b]	Weight[c]	Length[d]	Shell
1973	63	37	6¼	5.6	NA	NA
1974	60	40	6¼	5.5	NA	NA
1975[e]	21	79	6¼	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[f]	14	86	6½	6.3	151	47.4
1982	68	32	6½	5.5	145	24.6
1983	FC	FC	FC	FC	FC	FC
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	FC	FC	FC	FC	FC	FC
1995	FC	FC	FC	FC	FC	FC
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
2005/06	57	43	6½	6.7	152	21.4
2006/07	65	35	6½	6.4	151	26.5
2007/08	57	43	6½	6.5	151	32.2
2008/09	54	46	6½	6.6	153	17.7

Note: NA = Not available, FC = Fishery Closed, IFQ fishery began with 2005/06 season.

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

[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.

Table 2-8.–Pribilof District commercial red and blue king crab fishery data, 1973/74 - 2008/09.

	Number of				Number of Pots		Average			
Season[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	76,945	528,164	6,038	23,062	6.9	3	146.5	7,500
1986/87	16	25	36,988	258,939	4,376	15,740	7.0	2	NA	5,450
1987/88	38	68	95,130	701,337	9,594	40,707	7.4	2	152.7	9,910
1988/89-92/93	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
1993[f]	112	135	380,286	2,608,106	4,860	35,942	6.9	11	154.4	472
1994[f]	104	121	167,520	1,338,953	4,675	28,976	8.0	6	162.1	2,929
1995[f]	117	151	110,834	897,979		34,885	8.1	3	162.5	15,348
1995[g]	119	152	190,951	1,384,674		36,878	7.3	5	N/A	71,333
1995[h]	127	162	301,785	2,282,653	5,400	37,643	NA	8		86,681
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	5		15,316

-continued-

Table 2-8.–Page 2 of 2.

Season[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	68,603	512,374		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	68,419	516,306		22,965	7.5	3	156.1	21,599
1998[h]	57	84	136,548	1,026,671	2,398	23,381	7.5	6		30,302
1999 - 2008/09	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC

Note: NA = Not Available, FC = Fishery 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.

Table 2-9.–Harvest level, economic performance and season length summary for the Pribilof District commercial red and blue king crab fishery, 1980/81 - 2008/09.

		Value		Season Length	
Season[a]	GHL/TAC[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	$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 - 1992/93	FC	FC	FC	FC	FC
1993[e]	3.4	$4.98	$13.0	6	09/15-09/21
1994[e]	2.0	$6.45	$8.6	6	09/15-09/21
1995[e]	2.5[g]	$3.37	$2.9	7	09/15-09/22
1995[f]	2.5[g]	$2.92	$3.9	7	09/15-09/22
1996[e]	1.8[g]	$2.76	$0.6	11	09/15-09/26
1996[f]	1.8[g]	$2.65	$2.4	11	09/15-09/26
1997[e]	1.5[g]	$3.09	$2.3	14	09/15-09/29
1997[f]	1.5[g]	$2.82	$1.4	14	09/15-09/29
1998[e]	1.25[g]	$2.39	$1.2	13	09/15-09/28
1998[f]	1.25[g]	$2.34	$1.2	13	09/15-09/28
1999 - 2008/09	FC	FC	FC	FC	FC

Note: FC = Fishery Closed

[a] Blue king crab, 1980-1988.

[b] Guideline harvest level, millions of pounds.

[c] Average price per pound.

[d] Millions of dollars.

[e] Red king crab.

[f] Blue king crab.

[g] Combined red and blue king crab.

Table 2-10.–Saint Matthew Island Section commercial blue king crab fishery data, 1977 - 2008/09.

	Number of				Number of Pots		Percent	Average			
Season	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	NA	17,370	7	4.3	16	130.4	129,148
1978	22	70	436,126	1,984,251	NA	43,754	NA	4.5	10	132.2	116,037
1979	18	25	52,966	210,819	NA	9,877	81	4.0	5	128.8	128.8
1980	CF	CF	CF	CF	CF	CF	CF	CF	CF	CF	CF
1981	31	119	1,045,619	4,627,761	NA	58,550	NA	4.4	18	NA	53,355
1982	96	269	1,935,886	8,844,789	NA	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	441,479	2,200,781	13,000	47,748	9	5.0	9	139	2,613
1986	38	43	219,548	1,003,162	5,600	22,073	10	4.6	10	134.3	32,560
1987	61	62	227,447	1,039,779	9,370	28,230	5	4.6	8	134.1	600
1988	46	46	302,098	1,325,185	7,780	23,058	65	4.4	30	133.3	10,160
1989	69	69	247,641	1,166,258	11,983	30,803	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	545,222	2,475,916	17,400	56,630	9	4.6	10	134.1	1,836
1993	92	136	630,353	3,003,089	5,895	58,647	6	4.8	11	135.4	3,168
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	660,665	3,078,959	8,010	91,085	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	612,440	2,869,655	8,561	89,500	46	4.7	7	135.8	15,107
1999 - 2008/09	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC

Note: NA = Not available, CF = Confidential, less than three vessels or processors participated in fishery, FC = Fishery Closed

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crabs per pot lift.

[d] Carapace length in millimeters.

Table 2-11.–Harvest level, economic performance and season length summary for the Saint Matthew Island Section commercial blue king crab fishery, 1983 - 2008/09.

		Value		Season Length	
Season	GHL/TAC[a]	Exvessel[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 - 2008/09	FC	FC	FC	FC	FC

Note: FC = Fishery Closed

[a] Guideline harvest level in millions of pounds. Total allowable catch beginning in 2005.

[b] Average price per pound.

[c] Millions of dollars.

[d] Actual length - 60 hours.

[e] General fishery only.

Table 2-12.–Commercial harvest of blue king crabs by season for the Saint Matthew Island Section, 1977 - 2008/09.

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	CF	5 1/2	CF
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	2,200,781	5 1/2	$1.60
1986	Sep-01	Sept. 6	1,003,162	5 1/2	$3.20
1987	Sep-01	Sep-05	1,039,779	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	2,475,916	5 1/2	$3.00
1993	Sep-15	Sep-21	3,003,089	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	3,078,959	5 1/2	$2.20
1997	Sep-15	Sep-22	4,649,660	5 1/2	$2.21
1998	Sep-15	Sep-26	2,869,655	5 1/2	$1.87
1999 - 2008/09	FC	FC	FC	FC	FC

Note: CF = Confidential, less than three vessels or processors participated in fishery, FC = Fishery Closed

[a] In pounds, deadloss included.

[b] Carapace width in inches.

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

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

Table 2-13.–Pribilof District golden king crab fishery harvest data, 1981/82 - 2008 seasons.

	Number of					Average			
Season	Vessels	Landings	Crabs[a]	Pots lifted	Harvest[a,b]	Weight[b]	CPUE[c]	Length[d]	Deadloss[b]
1981/82	2	CF	CF	CF	CF	CF	CF	CF	CF
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	0	0	0	0	0	0	0	0	0
1985	1	CF	CF	CF	CF	CF	CF	CF	CF
1986	0	0	0	0	0	0	0	0	0
1987	1	CF	CF	CF	CF	CF	CF	CF	CF
1988	2	CF	CF	CF	CF	CF	CF	CF	CF
1989	2	CF	CF	CF	CF	CF	CF	CF	CF
1990	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0	0
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	82,489	9,551	341,908	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	4,599
2001	6	14	33,723	4,262	145,876	4.3	8	143	8,227
2002	8	20	34,860	5,279	150,434	4.3	6	144	8,984
2003	3	CF	CF	CF	CF	CF	CF	CF	CF
2004	5	CF	CF	CF	CF	CF	CF	CF	CF
2005	4	CF	CF	CF	CF	CF	CF	CF	CF
2006-2008	0	0	0	0	0	0	0	0	0

Note: CF = Confidential, less than three vessels or processors participated in fishery

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crabs per pot lift.

[d] Carapace length in millimeters.

Table 2-14.–Pribilof District golden king crab fishery economic data, 1991 - 2008 seasons.

		Value		Season Length	
Season	GHL[a]	Exvessel[b]	Total	Days	Dates
1991		$0.00	$0	365	1/1-12/31
1992		$0.00	$0	365	1/1-12/31
1993		$2.42	$163,248	365	1/1-12/31
1994		$3.99	$355,050	365	1/1-12/31
1995		$3.23	$1,104,363	365	1/1-12/31
1996		$2.10	$690,919	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	200,000	$2.34	$413,686	162	1/1-6/10
2000	150,000	$3.22	$392,436	365	1/1-12/31
2001	150,000	$3.12	$429,464	105	1/1-4/15
2002	150,000	$3.10	$438,495	134	1/1-5/14
2003	150,000	CF	CF	121	1/1-5/1
2004	150,000	CF	CF	72	1/1-3/12
2005	150,000	CF	CF	365	1/1-12/31
2006-2008	150,000	$0.00	$0	365	1/1-12/31

Note: CF = Confidential, less than three vessels or processors participated in fishery

[a] Guideline harvest level in pounds.

[b] Average price per pound.

Table 2-15.–Saint Matthew Island Section commercial golden king crab fishery harvest data, 1982/83 - 2008 seasons.

	Number of					Average			
Season	Vessels	Landings	Crabs[a]	Pots lifted	Harvest[a,b]	Weight[b]	CPUE[c]	Length[d]	Deadloss[b]
1982/83	22	30	51,714	7,825	193,507	3.7	7	138	957
1983/84	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0
1987	10	28	99,101	13,825	414,034	4.2	7	142	12,750
1988	10	22	36,470	11,672	160,441	4.4	3	150	14,000
1989	2	CF	CF	CF	CF	CF	CF	CF	CF
1990	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0
1992	1	CF	CF	CF	CF	CF	CF	CF	CF
1993	0	0	0	0	0	0	0	0	0
1994	1	CF	CF	CF	CF	CF	CF	CF	CF
1995	5	5	212	313	992	4.7	1	NA	0
1996	1	CF	CF	CF	CF	CF	CF	CF	CF
1997-2000	0	0	0	0	0	0	0	0	0
2001	1	CF	CF	CF	CF	CF	CF	CF	CF
2002	0	0	0	0	0	0	0	0	0
2003	1	CF	CF	CF	CF	CF	CF	CF	CF
2004-2008	0	0	0	0	0	0	0	0	0

Notes: CF = Confidential, less than three vessels or processors participated in fishery

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crabs per pot lift.

[d] Carapace length in millimeters.

Table 2-16.–Saint Matthew Island Section commercial golden king crab fishery economic data, 1991-2008 seasons.

	Value		Season Length	
Season	Exvessel[a]	Total	Days	Dates
1991	$0.00	$0	365	1/1-12/31
1992	CF	CF	365	1/1-12/31
1993	$0.00	$0	365	1/1-12/31
1994	CF	CF	365	1/1-12/31
1995	$2.77	$2,748	365	1/1-12/31
1996	CF	CF	365	1/1-12/31
1997	CF	CF	365	1/1-12/31
1998	CF	CF	365	1/1-12/31
1999	CF	CF	365	1/1-12/31
2000	$0.00	$0	365	1/1-12/31
2001	CF	CF	365	1/1-12/31
2002	$0.00	$0	365	1/1-12/31
2003	CF	CF	365	1/1-12/31
2004-2008	$0.00	$0	365	1/1-12/31

Note: CF = Confidential, less than three vessels or processors participated in fishery

[a] Average price per pound.

Table 2-17.–King crab Registration Area Q commercial scarlet king crab fishery data, 1992 - 2008.

	Number of			Average		Value		
Season	Vessels	Pots Lifted	Harvest[a,b]	Weight[a]	CPUE[c]	Exvessel[d]	Total[e]	Deadloss[a]
1992-1994	0	0	0	0	0	$0.00	$0.00	0
1995	4	24,551	26,684	2.4	1	$2.45	$65.38	465
1996	2	CF	CF	CF	CF	CF	CF	CF
1997- 1999	0	0	0	0	0	$0.00	$0.00	0
2000[f]	1	CF	CF	CF	CF	CF	CF	CF
2001[f]	1	CF	CF	CF	CF	CF	CF	CF
2002[f]	0	0	0	0	0	$0.00	$0.00	0
2003[f]	1	CF	CF	CF	CF	CF	CF	CF
2004[f]	3	CF	CF	CF	CF	CF	CF	CF
2005[f]	1	CF	CF	CF	CF	CF	CF	CF
2006-2008	0	0	0	0	0	$0.00	$0.00	0

Note: CF = Confidential, less than three vessels or processors participated in fishery

[a] In pounds.

[b] Deadloss included.

[c] Number of legal crabs per pot lift.

[d] Average price per pound.

[e] Thousands of dollars.

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

Table 2-18.–Bering Sea District commercial Tanner crab fishery harvest data, 1969 - 2008/09.

	Number of				Number of Pots			
Season	Vessels	Landings	Crabs[a]	Harvest[a,b]	Registered	Pulled	CPUE[c]	Deadloss[b]
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	1,272,501	3,036,935	15,325	94,532	12	14,096
1986	FC	FC	FC	FC	FC	FC	FC	FC
1987	FC	FC	FC	FC	FC	FC	FC	FC
1988	98	248	957,318	2,294,997	38,765	114,384	8	10,724
1989	109	359	2,894,480	6,982,865	43,607	183,692	16	34,664
1990	179	1,032	9,800,763	22,417,047	46,440	657,541	15	82,443
1990/91	255	1,756	16,608,625	40,081,555	75,356	883,391	19	210,769
1991/92	285	2,339	12,924,102	31,794,382	85,401	1,244,899	10	279,741

-continued-

Table 2-18.–Page 2 of 2.

Season	Number of				Number of Pots			
	Vessels	Landings	Crabs[a]	Harvest[a,b]	Registered	Pulled	CPUE[c]	Deadloss[b]
1992/93	294	2,084	15,265,865	35,130,831	71,481	1,200,385	13	343,955
1993/94	296	862	7,235,898	16,892,320	116,039	576,464	13	259,389
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	149,275	5	14,608
1997 - 2004	FC	FC	FC	FC	FC	FC	FC	FC
2005/06[e,f]	43	77	368,292	791,315	545	29,693	12	14,563
2006/07[d,e]	52	122	829,242	1,900,183	4,140	49,192	17	27,449
2007/08[d,e]	41	109	838,683	1,906,711	3,102	49,901	17	19,796
2008/09[d,e]	46	134	712,107	1,662,884	3,561	60,358	12	15,231

Note: NA = Not available, FC = Fishery Closed

[a] Deadloss included. Does not include CDQ.

[b] In pounds.

[c] Number of legal crabs per pot lift.

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

[e] Includes incidental harvest with Bering Sea snow crab and directed Tanner crab fishery totals.

[f] First Crab Rationalization fishery (IFQ).

Table 2-19.–Bering Sea District commercial Tanner crab fishery catch by subdistrict, 1974/75 - 2008/09.

Season	Subdistrict[a]	Number of				Harvest[b,c]	Average		Deadloss[c]
		Vessels	Landings	Crabs[b]	Pots Lifted		Weight[c]	CPUE[d]	
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**

-continued-

Table 2-19.–Page 2 of 4.

Season	Subdistrict[a]	Number of				Harvest[b,c]	Average		Deadloss[c]
		Vessels	Landings	Crabs[b]	Pots Lifted		Weight[c]	CPUE[d]	
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	1,266,567	85,926	3,023,193	2.4	13	14,096
	Pribilofs	15	23	5,934	8,606	13,742	2.3	1	0
	TOTAL	**44**	**166**	**1,272,501**	**94,532**	**3,036,935**	**2.4**	**12**	**14,096**
1986		FC	FC	FC	FC	FC	FC	FC	FC
1987		FC	FC	FC	FC	FC	FC	FC	FC

-continued-

Table 2-19.–Page 3 of 4.

Season	Subdistrict[a]	Number of				Harvest[b,c]	Average		Deadloss[c]
		Vessels	Landings	Crabs[b]	Pots Lifted		Weight[c]	CPUE[d]	
1988	Eastern	98	248	957,318	114,384	2,294,997	2.5	8	10,724
	Western	0	0	0	0	0	0	0	0
	TOTAL	**98**	**248**	**957,318**	**114,384**	**2,294,997**	**2.5**	**8**	**10,724**
1989	Eastern	109	359	2,894,480	183,692	6,982,865	2.4	16	34,664
	Western	0	0	0	0	0	0	0	0
	TOTAL	**109**	**359**	**2,894,480**	**183,692**	**6,982,865**	**2.4**	**16**	**34,664**
1990	Eastern		1,105	972,788	647,993	22,399,091	2.3	15	82,443
	Western		17	7,975	9,548	17,956	2.3	1	0
	TOTAL	**179**	**1,032**	**980,763**	**657,541**	**22,417,047**	**2.3**	**15**	**82,443**
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	12,924,102	1,224,899	31,794,382	2.5	10	279,741
1992/93	Eastern	293	2,011	15,074,069	1,150,334	34,821,008	2.3	13	340,955
	Western	70	96	191,796	50,051	309,823	1.6	4	3,000
	TOTAL	**294**	**2,084**	**15,265,865**	**1,200,385**	**35,130,831**	**2.3**	**13**	**343,955**
1993/94	East of 168° W[e]	283	347	1,696,830	250,501	4,115,949	2.4	7	104,715
	163° W to 173° W[f]	261	515	5,539,068	325,963	12,776,371	2.3	17	154,674
	TOTAL	**296**	**862**	**7,235,898**	**576,464**	**16,892,320**	**2.3**	**13**	**259,389**

-continued-

Table 2-19.–Page 4 of 4.

Season	Subdistrict[a]	Number of				Harvest[b,c]	Average		Deadloss[c]
		Vessels	Landings	Crabs[b]	Pots Lifted		Weight[c]	CPUE[d]	
1994	163° W to 173° W	183	349	3,351,639	249,536	7,766,886	2.3	13	132,780
1995	163° W to 173° W	196	256	1,877,303	247,853	4,233,061	2.3	8	44,508
1996	East of 168° W[e]	192	195	393,257	75,753	994,776	2.5	5	8,464
	163° W to 173° W[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 - 2004		FC	FC	FC	FC	FC	FC	FC	FC
2005/06[g,h]	West of 166° W	43	77	368,292	29,693	791,315	2.2	12	14,563
2006/07	East of 166° W[i]	37	58	529,766	26,351	1,266,286	2.4	20	8,416
	West of 166° W[h]	38	64	299,476	22,841	633,897	2.1	13	19,033
	TOTAL	**52**	**122**	**829,242**	**49,192**	**1,900,183**	**2.3**	**17**	**27,449**
2007/08[h,i]	East of 166° W[i]	20	58	623,508	30,691	1,439,435	2.3	20	15,633
	West of 166° W[h]	31	51	215,175	19,210	467,276	2.2	11	4,163
	TOTAL	**41**	**109**	**838,683**	**49,901**	**1,906,711**	**2.3**	**17**	**19,796**
2008/09[h,i]	East of 166° W[i]	21	60	660,962	33,827	1,553,773	2.4	20	11,935
	West of 166° W[h]	39	74	51,145	26,531	109,111	2.1	2	3,296
	TOTAL	**46**	**134**	**712,107**	**60,358**	**1,662,884**	**2.3**	**12**	**15,231**

Note: FC = Fishery Closed

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

[b] Deadloss included. Does not include CDQ.

[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.

[g] First Crab Rationalization fishery (IFQ).

[h] Includes incidental harvest with Bering Sea snow crab and directed Tanner crab fishery.

[i] Includes incidental harvest with Bristol Bay red king crab and directed Tanner crab fishery.

Table 2-20.–Bering Sea District commercial Tanner crab general/IFQ fishery economic data, 1979/80 - 2008/09.

		Value		Season Length	
Season	GHL/TAC[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	FC	FC	FC	FC	FC
1987	FC	FC	FC	FC	FC
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 - 2004	FC	FC	FC	FC	FC
2005/06	1.5	$1.28	$0.9	168	10/15-3/31
2006/07	2.7	$1.29	$2.4	168	10/15-3/31
2007/08	5.1	$1.68	$3.2	168	10/15-3/31
2008/09	3.9	$1.49	$2.5	168	10/15-3/31

Note: FC = Fishery Closed

[a] Guideline harvest level (total allowable catch from 2005/06 forward), 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 2-21.–Bering Sea District commercial Tanner crab IFQ fishery harvest by statistical area, 2008/09 season.

Statistical area	Number of				Average		
	Landings[a]	Crabs[b]	Pots Lifted	Harvest[b,c]	Weight[c]	CPUE[d]	Deadloss[c]
Eastern Subdistrict							
615601	5	106	239	222	2.1	>1	3
615630	7	912	1,789	2,230	2.4	1	13
625531	8	202	2,102	485	2.4	>1	2
625600	9	67	1,046	159	2.4	>1	2
625630	5	11	212	23	2.1	>1	0
635504	28	318,966	7,920	751,757	2.4	40	2,977
635530	38	241,450	13,988	571,096	2.4	17	4,422
635600	8	1,107	547	2,555	2.3	2	39
635630	4	2	154	6	3.0	>1	0
645501	10	10,905	461	25,075	2.3	24	191
645530	17	15,939	911	38,129	2.4	17	564
675530	11	435	2,104	727	1.7	>1	719
675600	11	766	2,296	1,620	2.1	>1	465
685600	9	287	2,361	375	1.3	>1	306
685630	6	648	1,015	1,381	2.1	1	193
695631	5	29,706	1,225	63,861	2.1	24	221
705600	4	367	103	757	2.1	4	10
705630	5	7,063	447	14,938	2.1	16	92
705701	3	4	51	9	2.3	>1	0
715600	3	1	23	1	1.0	>1	1
715630	13	124	2,072	182	1.5	>1	149
715700	5	11	177	22	2.0	>1	6
725630	24	487	5,057	886	1.8	>1	305
725700	17	135	3,245	199	1.5	>1	188
725730	3	11	241	18	1.6	>1	18
Western Subdistrict							
735700	14	80	1,693	120	1.5	>1	79
735730	18	114	2,263	163	1.4	>1	120
735800	10	64	477	82	1.3	>1	82
745800	8	50	480	59	1.2	>1	59
745830	4	47	349	56	1.2	>1	56
Other[e]	NA	82,040	5,310	185,691	2.3	15	3,947
Total	134	712,107	60,358	1,662,884	2.3	12	15,231

[a] Number of statistical area landings is greater than the total number of 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] Combination of 15 statistical areas where less than three vessels made landings.

Table 2-22.–Bering Sea District commercial Tanner crab general/IFQ fishery harvest composition by fishing season, 1972 - 2008/09.

Season	Average Weight[a]	Average Width[b]	% New Shell
1972[c]	2.6	NA	NA
1973[c]	2.5	NA	NA
1974[c]	2.0	NA	NA
1974/75	2.5	NA	NA
1975/76	2.5	NA	NA
1976/77	2.5	NA	NA
1977/78	2.5	153	88.0
1978/79	2.5	153	95.0
1979/80	2.5	151	90.0
1981	2.5	149	86.6
1982	2.3	149	85.4
1983[d]	2.3	149	70.5
1984	2.3	147	40.0
1985	2.4	150	65.0
1986	FC	FC	FC
1987	FC	FC	FC
1988	2.5	144	70.2
1989	2.4	149	80.8
1990	2.3	148	96.5
1990/91	2.4	150	95.3
1991/92	2.5	150	93.2
1992/93	2.3	148	90.5
1993/94	2.4	151	93.9
1994	2.3	150	92.5
1995	2.3	149	58.6
1996	2.5	152	46.6
1997 to 2004	FC	FC	FC
2005/06[e]	2.2	145	92.1
2006/07	2.3	150	35.9
2007/08	2.3	148	74.8
2008/09	2.3	149	92.1

Note: NA = Not available, FC = Fishery Closed

[a] In pounds.

[b] Carapace width in millimeters.

[c] Incidental to the king crab fishery.

[d] Partial Bering Sea closure.

[e] First Crab Rationalization fishery (IFQ).

Table 2-23.–Bering Sea District commercial snow crab fishery harvest data, 1978/79 - 2008/09.

Season	GHL/TAC[a]	Number of Vessels[h]	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	52,394,686	370,082	65,362,866	142	1,060,784
1986[e]	57.0	88	992	76,319,307	542,346	97,684,139	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	105,933,542	747,395	134,241,728	142	3,424,021
1989[e]	132.0	168	1,300	112,704,215	665,242	148,306,262	169	1,940,482
1990[e]	139.8	189	1,563	128,931,026	911,303	161,765,415	141	1,796,664
1991[e]	315.0	220	2,788	265,123,960	1,391,463	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	1,835	169,535,617	970,646	230,754,253	175	1,573,952
1994	105.8	272	1,293	114,810,186	716,524	149,792,718	160	1,799,763
1995	55.7	253	870	60,658,899	507,603	75,309,187	120	1,289,169
1996	50.7	234	771	52,892,320	520,671	65,696,173	102	1,333,015
1997	117.0	226	1,127	100,013,816	754,140	119,543,024	133	2,351,555
1998[f]	225.9	229	1,767	186,643,538	891,219	243,492,577	209	2,896,374
1999[f]	186.2	241	1,631	143,469,440	899,308	184,735,011	160	1,828,540
2000[f]	26.4	229	288	23,265,802	170,064	30,774,838	137	330,896
2001[f]	25.3	207	293	17,185,523	176,930	23,382,046	97	429,884
2002[f]	28.5	191	403	23,281,441	308,132	30,233,494	76	585,288
2003[fg]	23.7	192	256	21,504,969	139,279	26,198,024	154	662,409
2004[f]	19.3	189	240	17,331,514	110,087	22,170,150	157	224,377
2005[f]	19.4	169	196	16,684,751	69,863	23,036,287	239	224,193
2005/06[i]	33.5	78	310	22,080,235	108,320	33,256,146	204	322,595
2006/07[i]	32.9	69	274	26,633,212	80,112	32,699,874	332	379,132
2007/08[i]	56.7	78	461	45,204,759	129,527	56,724,730	352	500,156
2008/09[i]	52.7	77	431	41,326,795	148,220	52,693,167	279	402,679

[a] Guideline harvest level, millions of pounds. Total allowable catch from 2005/06 forward.
[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, does not include CDQ.
[g] Includes 181,457 pounds illegally taken in Russian waters.
[h] Vessel totals are vessels that registered but may not have actively participated in the fishery.
[i] IFQ fishery only, does not include CDQ.

Table 2-24.–Bering Sea District commercial snow crab fishery season dates and area closures, 1977/78 - 2008/09.

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

-continued-

Table 2-24.–Page 2 of 2.

Season	Opened	Closed	Comments
1987	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
2005	01/15/05	01/20/05	Bering Sea District closure
2005/06[c]	10/15/05	05/15/06	Eastern Subdistrict closure
		05/31/06	Western Subdistrict closure
2006/07	10/15/06	05/15/07	Eastern Subdistrict closure
		05/31/07	Western Subdistrict closure
2007/08	10/15/07	05/15/08	Eastern Subdistrict closure
		05/31/08	Western Subdistrict closure
2008/09	10/15/08	05/15/09	Eastern Subdistrict closure
		05/31/09	Western Subdistrict closure

[a] State managed domestic fishery.
[b] Concurrent state and federal date.
[c] Crab Rationalization begins.

Table 2-25.–Bering Sea District commercial snow crab harvest by season and subdistrict, 1977/78 - 2008/09.

Season	Subdistrict	Number of				Harvest[d,e]	Average		Deadloss[e]
		Vessels[a,b]	Landings[c]	Crabs[d]	Pots Lifted		Weight[e]	CPUE[f]	
1977/78	Southeastern	NA	33	1,063,872	11,560	1,439,959	1.4	92	NA
	Pribilof	NA	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	NA	624	24,498,642	309,304	37,866,229	1.6	79	1,475,078
	Pribilof	NA	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	NA	468	10,207,174	257,193	13,079,583	1.3	40	422,979
	Pribilof	NA	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	NA	153	3,553,281	94,470	4,197,304	1.2	38	165,298
	Pribilof	NA	239	19,076,553	153,458	20,514,000	1.0	124	1,078,643
	Northern	NA	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**

-continued-

Table 2-25.–Page 2 of 5.

Season	Subdistrict	Number of				Harvest[d,e]	Average		Deadloss[e]
		Vessels[a,b]	Landings[c]	Crabs[d]	Pots Lifted		Weight[e]	CPUE[f]	
1984	Southeastern	NA	76	3,534,370	33,091	3,990,621	1.1	107	54,678
	Pribilof	NA	230	17,909,096	112,078	19,727,493	1.1	160	708,706
	Northern	NA	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	771	60,019,586	423,919	75,926,942	1.3	142	740,976
	Western	151	518	45,913,956	323,476	58,314,786	1.3	142	2,501,693
	TOTAL	**171**	**1,285**	**105,933,542**	**747,395**	**134,241,728**	**1.3**	**142**	**3,424,021**
1989	Eastern	164	872	77,717,813	393,251	103,163,307	1.3	198	1,137,971
	Western	127	470	34,986,402	271,991	45,142,955	1.3	129	802,511
	TOTAL	**168**	**1,300**	**112,704,215**	**665,242**	**148,306,262**	**1.3**	**169**	**1,940,482**

-continued-

Table 2-25.–Page 3 of 5.

Season	Subdistrict	Number of				Harvest[d,e]	Average		Deadloss[e]
		Vessels[a,b]	Landings[c]	Crabs[d]	Pots Lifted		Weight[e]	CPUE[f]	
1990	Eastern	177	956	76,285,217	511,949	94,775,962	1.2	149	1,010,755
	Western	152	659	52,645,809	399,354	66,989,453	1.3	132	785,909
	TOTAL	**189**	**1,563**	**128,931,026**	**911,303**	**161,765,415**	**1.3**	**141**	**1,796,664**
1991	Eastern	218	2,013	190,139,612	912,631	240,090,666	1.3	208	1,593,021
	Western	185	867	74,984,348	478,832	88,556,603	1.2	157	1,871,015
	TOTAL	**220**	**2,788**	**265,123,960**	**1,391,463**	**328,647,269**	**1.2**	**191**	**3,464,036**
1992	Eastern	248	2696	217,376,231	1,228,280	302,364,005	1.4	177	2,269,467
	Western	55	152	10,000,351	56,385	12,938,029	1.3	187	56,385
	TOTAL	**250**	**2,763**	**227,376,582**	**2,325,852**	**315,302,034**	**1.4**	**177**	**2,325,852**
1993	Eastern	251	1,383	110,756,768	675,936	151,324,024	1.4	164	1,108,520
	Western	185	632	58,778,849	294,710	79,430,229	1.4	199	465,432
	TOTAL	**254**	**1,835**	**169,535,617**	**970,646**	**230,754,253**	**1.4**	**175**	**1,573,952**
1994	Eastern	219	820	56,012,433	375,928	72,008,424	1.3	149	901,674
	Western	171	586	58,797,753	340,596	77,784,294	1.3	173	898,089
	TOTAL	**273**	**1,293**	**114,810,186**	**716,524**	**149,792,718**	**1.3**	**160**	**1,799,763**
1995	Eastern	217	628	32,677,836	314,711	39,793,496	1.2	104	659,051
	Western	153	357	27,981,053	192,892	35,515,691	1.3	145	630,118
	TOTAL	**253**	**870**	**60,658,899**	**659,051**	**75,309,187**	**1.2**	**120**	**1,289,169**
1996	Eastern	161	465	23,663,995	252,159	28,232,574	1.2	94	555,326
	Western	146	354	29,228,325	268,512	37,463,599	1.3	109	777,689
	TOTAL	**234**	**771**	**52,892,320**	**520,671**	**65,696,173**	**1.2**	**102**	**1,333,015**

-continued-

Table 2-25.–Page 4 of 5.

Season	Subdistrict	Number of				Harvest[d,e]	Average		Deadloss[e]
		Vessels[a,b]	Landings[c]	Crabs[d]	Pots Lifted		Weight[e]	CPUE[f]	
1997	Eastern	225	1,041	88,524,929	649,319	105,695,147	1.2	136	2,115,217
	Western	83	164	11,488,887	104,821	13,894,192	1.2	110	236,338
	TOTAL	**226**	**1,127**	**100,013,816**	**754,140**	**119,543,024**	**1.2**	**133**	**2,351,555**
1998[g]	Eastern	228	1,724	177,994,288	855,869	232,772,054	1.3	208	2,789,721
	Western	43	87	8,649,250	35,350	8,649,250	1.2	245	106,653
	TOTAL	**229**	**1,767**	**186,643,538**	**891,219**	**186,643,538**	**1.3**	**209**	**2,896,374**
1999[g]	Eastern	236	1,387	103,230,699	656,541	135,454,092	1.3	157	1,237,997
	Western	121	388	40,238,741	242,767	49,280,919	1.2	166	590,543
	TOTAL	**241**	**1,631**	**143,469,440**	**899,308**	**184,735,011**	**1.3**	**160**	**1,828,540**
2000[g]	Eastern	170	217	15,269,109	110,127	20,941,389	1.4	139	196,610
	Western	82	92	7,996,693	59,937	9,833,449	1.2	133	134,286
	TOTAL	**229**	**288**	**23,265,802**	**170,064**	**30,774,838**	**1.3**	**137**	**330,896**
2001[g]	Eastern	162	218	8,864,497	113,954	12,557,788	1.4	78	223,861
	Western	85	115	8,321,026	62,976	10,824,258	1.3	132	206,023
	TOTAL	**207**	**293**	**17,185,523**	**176,930**	**23,382,046**	**1.4**	**97**	**429,884**
2002[g]	Eastern	144	274	10,403,159	162,729	13,554,037	1.3	64	300,716
	Western	108	192	12,878,282	145,403	16,679,457	1.3	89	284,572
	TOTAL[h]	**191**	**403**	**23,281,441**	**308,132**	**30,233,494**	**1.3**	**76**	**585,288**
2003[g]	Eastern	58	75	391,324	29,305	4,856,607	1.2	134	106,594
	Western	159	216	17,573,645	109,974	21,341,417	1.2	160	555,815
	TOTAL[i]	**192**	**256**	**21,504,969**	**139,279**	**26,198,024**	**1.2**	**154**	**662,409**

-continued-

Table 2-25.–Page 5 of 5.

Season	Subdistrict	Number of Vessels[a,b]	Number of Landings[c]	Number of Crabs[d]	Number of Pots Lifted	Harvest[d,e]	Average Weight[e]	Average CPUE[f]	Deadloss[e]
2004[g]	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**
2005[g]	Eastern	61	84	5,505,532	18,822	7,798,629	1.4	293	54,539
	Western	128	136	11,179,219	51,041	15,237,658	1.4	219	169,654
	TOTAL	**169**	**196**	**16,684,751**	**69,863**	**23,036,287**	**1.4**	**239**	**224,193**
2005/06[j]	Eastern	66	566	14,193,844	77,311	21,741,637	1.5	184	202,154
	Western	50	263	7,886,391	31,009	11,514,505	1.5	254	120,440
	TOTAL	**78**	**310**	**22,080,235**	**108,320**	**33,256,142**	**1.5**	**204**	**322,594**
2006/07[j]	Eastern	65	488	23,262,299	69,884	28,398,217	1.2	333	325,374
	Western	23	110	3,370,913	10,228	4,301,657	1.3	330	53,758
	TOTAL	**69**	**274**	**26,633,212**	**80,112**	**32,699,874**	**1.2**	**332**	**379,132**
2007/08[j]	Eastern	77	450	42,346,403	122,027	53,151,860	1.3	350	482,782
	Western	10	40	2,858,356	7,500	3,572,870	1.3	382	17,374
	TOTAL	**78**	**461**	**45,204,759**	**129,527**	**56,724,730**	**1.3**	**352**	**500,156**
2008/09[j]	Eastern	73	297	21,912,978	84,528	28,225,180	1.3	259	214,873
	Western	51	232	19,413,817	63,692	24,467,987	1.3	305	187,806
	TOTAL	**77**	**431**	**41,326,795**	**148,220**	**52,693,167**	**1.3**	**279**	**402,679**

Note: NA = Not Available.

[a] Vessels by subdistrict are vessels that actively participated in the fishery.

[b] Vessel totals are vessels that registered but may not have actively participated in the fishery.

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

[d] Deadloss included.

[e] In pounds.

[f] Number of legal crabs per pot lift.

[g] General fishery only, does not include CDQ.

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

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

[j] IFQ fishery only, does not include CDQ.

Table 2-26.–Bering Sea District commercial snow crab general/IFQ fishery harvest composition by fishing season, 1978/79 - 2008/09.

Season	Average Weight[a]	Average Width[b]	Percent new shell	Percent <102 mm cw landed
1978/79	1.5	113	83.0	NA
1979/80	1.6	118	90.0	NA
1981	1.5	117	79.2	NA
1982	1.2	109	78.0	NA
1983[c]	1.1	NA	NA	NA
1984[c]	1.1	105	78.0	NA
1985[c]	1.3	108	80.0	NA
1986[c]	1.3	110	73.7	NA
1987[c]	1.2	109	84.0	NA
1988[c]	1.3	110	71.2	NA
1989[c]	1.3	111	85.2	NA
1990[c]	1.3	109	97.4	NA
1991[c]	1.2	110	95.1	NA
1992	1.4	112	97.6	NA
1993	1.4	112	92.5	NA
1994	1.3	110	93.1	11.3
1995	1.2	109	89.6	17.2
1996	1.2	108	75.8	19.7
1997	1.2	107	96.5	17.3
1998	1.3	111	97.0	7.3
1999	1.3	110	97.7	8.0
2000	1.3	111	95.2	6.5
2001	1.4	111	95.2	5.3
2002	1.3	110	69.0	12.2
2003	1.2	107	83.8	10.2
2004	1.3	110	86.0	10.2
2005	1.4	114	88.1	7.9
2005/06[d]	1.5	117	81.4	1.8
2006/07	1.2	109	88.3	9.2
2007/08	1.3	109	94.3	2.9
2008/09	1.3	110	92.4	2.3

Note: NA = Not available.

[a] In pounds.

[b] Carapace width in millimeters.

[c] Partial district and subdistrict closures, see Table 2-24.

[d] Crab Rationalization begins.

Table 2-27.–Bering Sea District commercial IFQ snow crab fishery economic data 1979/80 - 2008/09.

Season	Value		Registered Pots[c]	Season Length[d]
	Exvessel[a]	Total[b]		
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	$0.56	$134.65	47,909	64
1999	$0.88	$160.78	50,173	66
2000	$1.81	$55.09	43,407	7
2001	$1.53	$32.12	40,379	30
2002	$1.49	$44.20	37,807	24
2003	$1.83	$46.98	20,452	9
2004	$2.05	$44.99	14,444	8
2005	$1.80	$41.47	12,840	6
2005/06[f]	$0.84	$27.66	13,734	229
2006/07	$1.40	$36.85	10,851	229
2007/08	$1.60	$89.96	13,647	229
2008/09	$1.37	$71.49	12,549	229

[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 2-24.
[f] Crab Rationalization begins (IFQ).

Table 2-28.–Bering Sea commercial snow crab IFQ fishery harvest and effort by week, 2008/09 season.

Week ending	Number of Vessels	Number of Landings	Crabs[a]	Harvest[a,b]	Pot pulls	CPUE[c]	Deadloss[b]
23-Nov	1	CF	CF	CF	CF	CF	CF
30-Nov	1	CF	CF	CF	CF	CF	CF
7-Dec	1	CF	CF	CF	CF	CF	CF
14-Dec	1	CF	CF	CF	CF	CF	CF
21-Dec	1	CF	CF	CF	CF	CF	CF
1-Jan	1	CF	CF	CF	CF	CF	CF
4-Jan	20	23	3,107,256	3,996,755	10,116	314	47,109
11-Jan	16	19	1,937,452	2,536,657	6,853	293	16,183
18-Jan	37	46	5,122,707	6,600,720	16,909	297	36,492
25-Jan	30	35	4,275,276	5,449,991	13,583	308	41,815
1-Feb	24	31	3,261,081	4,193,940	10,112	287	26,143
8-Feb	29	39	3,878,288	4,919,308	12,364	255	40,993
15-Feb	29	36	3,406,896	4,352,123	11,644	152	40,707
22-Feb	32	44	3,701,621	4,680,792	12,480	204	30,343
1-Mar	26	32	3,138,473	4,020,810	10,185	216	29,187
8-Mar	30	44	4,050,534	5,083,315	14,135	115	35,111
15-Mar	20	29	2,156,153	2,669,039	8,441	96	28,275
22-Mar	12	16	974,710	1,288,861	6,396	197	11,253
29-Mar	7	8	560,024	680,876	2,742	117	6,641
5-Apr	7	10	495,027	618,432	2,294	267	5,097
12-Apr	2	CF	CF	CF	CF	CF	CF
19-Apr	5	8	689,212	870,310	7,153	251	6,350
26-Apr	1	CF	CF	CF	CF	CF	CF
3-May	2	CF	CF	CF	CF	CF	CF
Total	77	431	41,326,795	52,693,167	148,220	279	402,679

Note: CF = Confidential, less than three vessels or processors participated in fishery

[a] Deadloss included.

[b] In Pounds.

[c] Number of legal crabs per pot lift.

Table 2-29.–Bering Sea District commercial IFQ snow crab fishery catch by statistical area, 2008/09.

Statistical Area	Number of				Average		
	Landings[a]	Crabs[b]	Pots Lifted	Harvest[b,c]	Weight[c]	CPUE[d]	Deadloss[c]
EASTERN SUBDISTRICT STATISTICAL AREAS							
675530	28	1,911,429	6,214	2,480,349	1.3	308	12,194
675600	40	1,866,556	7,183	2,434,444	1.3	260	16,129
675630	7	26,197	157	35,040	1.3	167	221
685530	6	28,759	212	39,726	1.4	136	217
685600	24	1,173,638	5,736	1,480,750	1.3	205	12,781
685630	11	274,528	1,492	345,107	1.3	184	2,500
705600	6	13,720	61	17,924	1.3	225	150
705630	7	109,899	809	143,957	1.3	136	1,690
705701	4	5,797	48	7,702	1.3	121	33
715600	10	18,015	163	23,624	1.3	111	221
715630	90	3,728,931	15,321	4,890,347	1.3	243	31,634
715700	24	229,788	1,107	297,838	1.3	208	1,879
715730	4	711	9	927	1.3	79	4
725630	132	5,815,247	22,081	7,544,485	1.3	263	48,042
725700	123	5,625,575	20,027	7,103,501	1.3	281	72,025
725730	41	906,424	2,825	1,147,164	1.3	321	13,301
725800	3	52,532	542	68,259	1.3	97	1,030
Other[e]	-	125,232	541	164,035	1.3	231	823
Subtotal	297	21,912,978	84,528	28,225,180	1.3	259	214,873
WESTERN SUBDISTRICT STATISTICAL AREAS							
735830	10	57,588	310	72,288	1.3	186	606
755830	13	385,423	1,532	488,526	1.3	252	2,055
735630	21	373,631	4,351	478,879	1.3	86	3,734
745830	48	2,657,902	7,463	3,354,388	1.3	356	23,637
745800	58	2,051,870	6,146	2,570,401	1.3	334	20,149
735800	74	2,458,199	8,270	3,088,077	1.3	297	24,241
735700	105	3,615,789	13,210	4,571,244	1.3	274	34,018
735730	137	7,810,749	22,347	9,840,749	1.3	350	79,337
Other[f]	-	2,666	63	3,434	1.3	42	29
Subtotal	232	19,413,817	63,692	24,467,987	1.3	305	187,806
Total	431	41,326,795	148,220	52,693,167	1.3	279	402,679

[a] Number of statistical area landings is greater than the total number of 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 9 statistical areas where less than three vessels made landings.

[f] Includes 3 statistical areas where less than three vessels made landings.

Table 2-30.–Bering Sea District commercial grooved Tanner crab fishery harvest data, 1992 - 2008.

	Number of				Average		Value		
Year	Vessels	Crabs[a]	Pots Lifted	Harvest[a,b]	Weight[b]	CPUE[c]	Exvessel[d]	Total[e]	Deadloss[b]
1992		CF	CF	CF	CF	CF	CF	CF	CF
1993	6	342,095	35,650	658,796	1.9	9	$0.92	$0.61	71,000
1994	4	165,365	13,739	322,444	2.0	11	$2.65	$0.85	30,585
1995	8	461,401	59,028	984,648	2.1	7	$2.09	$2.06	67,329
1996	3	46,338	10,802	95,795	2.1	4	$1.12	$0.11	11,120
1997-1999	0	0	0	0	0	0	$0.00	$0.00	0
2000	1	CF	CF	CF	CF	CF	CF	CF	CF
2001	1	CF	CF	CF	CF	CF	CF	CF	CF
2002	0	0	0	0	0	0	$0.00	$0.00	0
2003	1	CF	CF	CF	CF	CF	CF	CF	CF
2004	4	CF	CF	CF	CF	CF	CF	CF	CF
2005	1	CF	CF	CF	CF	CF	CF	CF	CF
2006 - 2008	0	0	0	0	0	0	$0.00	$0.00	0

Note: CF = Confidential, less than three vessels or processors participated in fishery

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crabs per pot lift.

[d] Average price per pound.

[e] Millions of dollars.

Table 2-31.–Bering Sea District commercial triangle Tanner crab fishery harvest data, 1992 - 2008.

	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	0	0	0	0	0	0	$0.00	$0.00	0
1995	4	35,236	21,070	40,991	1.2	1	$1.45	$0.06	11,943
1996	1	CF	CF	CF	CF	CF	CF	CF	CF
1997-1999	0	0	0	0	0	0	$0.00	$0.00	0
2000[f]	1	CF	CF	CF	CF	CF	CF	CF	CF
2001[f]	1	CF	CF	CF	CF	CF	CF	CF	CF
2002[f]	0	0	0	0	0	0	$0.00	$0.00	0
2003[f]	1	CF	CF	CF	CF	CF	CF	CF	CF
2004[f]	4	CF	CF	CF	CF	CF	CF	CF	CF
2005 - 2008[f]	0	0	0	0	0	0	$0.00	$0.00	0

Note: CF = Confidential, less than three vessels or processors participated in fishery

[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.

Table 2-32.–Bering Sea commercial hair crab fishery data, 1979 - 2008.

Season	Number of				Pots		Average		
	Vessels	Landings	Crabs[a]	Harvest[a,b]	Registered	Pulled	CPUE[c]	Weight[b]	Deadloss[b]
1979	11	16	2,457	5,213		9,908	<1	2.1	0
1980	9	17	25,417	53,914		14,506	2	2.1	0
1980/81	67	192	1,127,309	2,439,483		172,695	7	2.2	265,369
1981/82	48	159	466,560	932,584		117,518	4	2.0	29,749
1982/83	52	161	575,453	1,211,420		84,346	7	2.1	122,456
1983/84	19	48	200,670	406,538		20,414	10	2.0	28,062
1984[d]	7	26	197,209	396,630		22,392	9	2.0	19,436
1985[d]	3	9	34,410	66,042		3,905	9	2.0	593
1986	3	7	7,289	14,835		4,720	2	2.0	500
1987[e]	2	CF	CF	CF	CF	CF	CF	CF	CF
1988-90[d]	0	0	0	0	0	0	0	0	0
1991[d]	7	42	441,533	377,708		44,444	10	.9	0
1992[d,e]	9	20	203,758	240,767		38,808	5	1.2	11,495
1992[d,f]	10	47	1,127,948	1,198,590		125,943	9	1.1	65,674
1993[d,e]	4	5	2,347	3,038		9,345	<1	1.3	0
1993/94[d,f,g,h]	19	129	1,936,795	2,331,686		585,913	3	1.2	124,596
1994[d,f]	10	55	897,070	1,199,246	13,350	287,954	3	1.3	49,275
1995[d,f]	21	81	1,485,097	2,059,988	25,750	441,494	3	1.4	73,882

-continued-

Table 2-32.–Page 2 of 2.

Season	Number of Vessels	Number of Landings	Number of Crabs[a]	Harvest[a,b]	Pots Registered	Pots Pulled	Average CPUE[c]	Average Weight[b]	Deadloss
1996[d]	19	99	485,735	745,804	20,680	410,548	1	1.5	32,495
1997[d]	16	52	420,121	668,096	18,180	211,970	2	1.6	17,522
1998[d]	12	31	188,784	307,739	14,330	128,495	2	1.6	17,392
1999[d]	8	27	139,894	221,656	9,840	92,333	1	1.6	4,677
2000[d]	3	3	1,058	1,546	3,900	3,300	<1	1.5	0
2001-2008[d]	FC	FC	FC	FC	FC	FC	FC	FC	FC

Note: CF = Confidential, less than three vessels or processors participated in fishery, FC = Fishery Closed

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crabs retained per pot pull.

[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.

Table 2-33.–Bering Sea commercial hair crab fishery economic performance data, 1979 - 2008.

Season	GHL[a]	Value		Season	
		Exvessel[b]	Total[c]	Days	Dates
1979		$0.54	$0.003	257	04/19-12/31
1980		$0.75	$0.04	244	01/01-08/30
1980/81		$0.80	$1.70	242	11/01-06/30
1981/82		$0.55	$0.50	288	11/01-08/15
1982/83		$0.65	$0.70	297	10/08-08/01
1983/84		$1.20	$0.50	335	08/01-06/30
1984		$1.60	$0.60	184	07/01-12/31
1985		$1.60	$0.10	365	01/01-12/31
1986		$1.15	$0.20	365	01/01-12/31
1987		CF	CF	365	01/01-12/31
1988-90		$0.00	$0.00	365	01/01-12/31
1991		$3.08	$1.20	365	01/01-12/31
1992		$2.25	$0.50	32	01/01-06/04
1992		$2.46	$2.80	156	10/01-11/01
1993		NA	NA	45	04/01-05/15
1993/94	3.0	$2.42	$5.30	171	11/01-04/20
1994	1.1	$3.55	$4.00	41	11/01-12/12
1995	1.8	$2.87	$5.70	25	11/01-11/26
1996	0.9	$2.65	$1.90	31	11/01-12/02
1997	0.8	$2.97	$1.90	25	11/01-11/25
1998	0.4	$2.70	$0.80	16	10/08-10/23
1999	0.3	$3.20	$0.70	37	10/30-12/07
2000	0.3	$3.84	$0.005	7	10/30-11/05
2001-2008	FC	FC	FC	FC	FC

Note: CF = Confidential, less than three vessels or processors participated in fishery, NA = Not Available, FC = Fishery Closed

[a] Guideline harvest level, millions of pounds.

[b] Price per pound.

[c] In millions of dollars.

Table 2-34.–Bering Sea commercial octopus incidental harvest in groundfish fisheries, 1995 - 2008.

Year	Number of		Harvest[b]	
	Vessels	Landings[a]	Total[c]	Landed
1995[d]	30	76	17,730	11,967
1996	63	191	26,343	5,199
1997	44	92	12,202	6,997
1998	47	81	8,204	2,580
1999	22	56	6,994	409
2000	78	272	39,915	16,304
2001	62	158	49,641	8,425
2002	68	187	56,078	39,450
2003	80	236	122,423	94,663
2004	92	279	88,534	63,007
2005	80	271	156,381	143,798
2006	88	304	93,624	68,904
2007	4	6	1,946	1,571
2008	5	7	7,177	6,973

[a] All landings incidental to other fisheries.
[b] Harvest data 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 2-35.–Bering Sea commercial snail catch data, 1992 - 2008.

Year	Number of		Number of Pots		Harvest[a,b]	CPUE[c]	Pounds Per Pot[d]	Deadloss[b]
	Vessels	Landings	Registered	Pulled				
1992	CF	CF	CF	CF	CF	CF	CF	CF
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
1998-2008	0	0	0	0	0	0	0	0

Note: CF = Confidential, less than three vessels or processors participated in fishery, NA = Not available.

[a] Deadloss included.

[b] In pounds.

[c] Number of snails per pot pull.

[d] Whole weight.

Table 2-36.–Bering Sea commercial snail fishery economic performance data, 1992 - 2008.

Year	Harvest[a]	Number of		Value	
		Vessels	Landings	Exvessel[b]	Total
1992	CF	CF	CF	CF	CF
1993	312,876	4	10	$0.40	$125,150.00
1994	1,964,757	4	42	$0.34	$668,017.00
1995	2,330,454	4	38	$0.30	$699,136.00
1996	3,510,498	5	67	$0.30	$1,053,149.00
1997	854,917	3	17	$0.36	$307,770.00
1998-2008	0	0	0	$0.00	$0.00

Note: CF = Confidential, less than three vessels or processors participated in fishery

[a] In pounds. Deadloss not included.

[b] Price per pound.

Table 2-37.–North Peninsula District commercial Dungeness crab fishery data, 1992 - 2008.

Year	Number of Vessels	Number of Crabs[a]	Harvest[a,b]	Pots Pulled	Value Exvessel[c]	Value Total[d]	Average Weight[b]	Average CPUE[e]	Deadloss[b]
1992	0	0	0	0	$0.00	$0.00	0	0	0
1993	2	CF	CF	CF	CF	CF	CF	CF	CF
1994	2	CF	CF	CF	CF	CF	CF	CF	CF
1995	6	63,732	134,407	34,499	$1.32	$0.18	2.1	4	367
1996	1	CF	CF	CF	CF	CF	CF	CF	CF
1997	2	CF	CF	CF	CF	CF	CF	CF	CF
1998	1	CF	CF	CF	CF	CF	CF	CF	CF
1999	0	0	0	0	$0.00	$0.00	0	0	0
2000	1	CF	CF	CF	CF	CF	CF	CF	CF
2001	0	0	0	0	$0.00	$0.00	0	0	0
2002	3	11,173	21,871	2,431	$1.78	$0.04	2.0	5	236
2003	0	0	0	0	$0.00	$0.00	0	0	0
2004	1	CF	CF	CF	CF	CF	CF	CF	CF
2005	0	0	0	0	$0.00	$0.00	0	0	0
2006	0	0	0	0	$0.00	$0.00	0	0	0
2007	1	CF	CF	CF	CF	CF	CF	CF	CF
2008	0	0	0	0	$0.00	$0.00	0	0	0

Note: CF = Confidential, less than three vessels or processors participated in fishery

[a] Deadloss included.

[b] In pounds.

[c] Price per pound.

[d] Millions of dollars.

[e] Number of legal crabs per pot pull.

Table 2-38.–Pot Limits for Bering Sea and Aleutian Islands king and Tanner crab Fisheries, 2008/09.

Fishery	Vessel Length	Pot Limit
Bering Sea District snow crab[a]	-	-
Bering Sea District Tanner crab[a]	-	-
St. Matthew Island Section blue king crab	All vessels	250
St. Matthew Island Section golden king crab	<= 125'	60
	> 125'	75
Pribilof District red/blue king crab	All vessels	250
Pribilof District golden king crab	<= 125'	40
	> 125'	50
Bristol Bay red king crab[a]	-	-
Eastern Aleutian Tanner crab	-	300 [b]
Petrel Bank red king crab	All vessels	250

[a] Pot limits repealed.
[b] Pot limit is for entire fishery

Table 2-39.–Number of Bering Sea and Aleutian Islands buoy tags printed and issued by fishery, 2008/09.

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]		
Bristol Bay red king crab[c]	-	-	-	-	-	-	-	-
Bering Sea snow crab[c]	-	-	-	-	-	-	-	-
Bering Sea Tanner crab[c]	-	-	-	-	-	-	-	-
Eastern Aleutian District Tanner	Surplus Tags	11	-	11	241	-	2	243
Total		11	-	11	241	-	2	243

[a] Tags ordered in sets of 200, then separated for each fishery pot limit.
[b] Overall vessel length.
[c] Pot limits repealed, buoy tags no longer required.

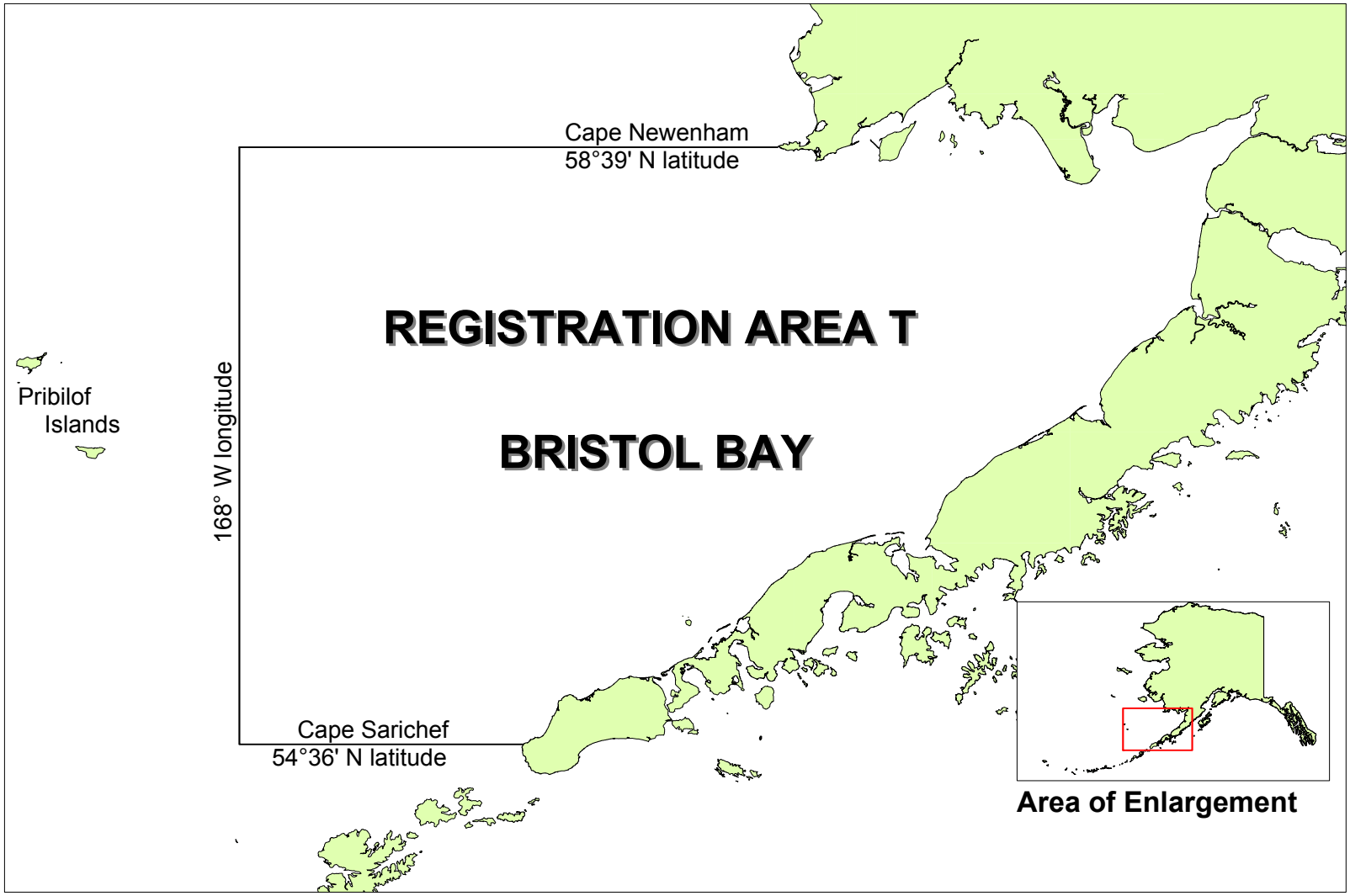

Figure 2-1.–King crab Registration Area T (Bristol Bay).

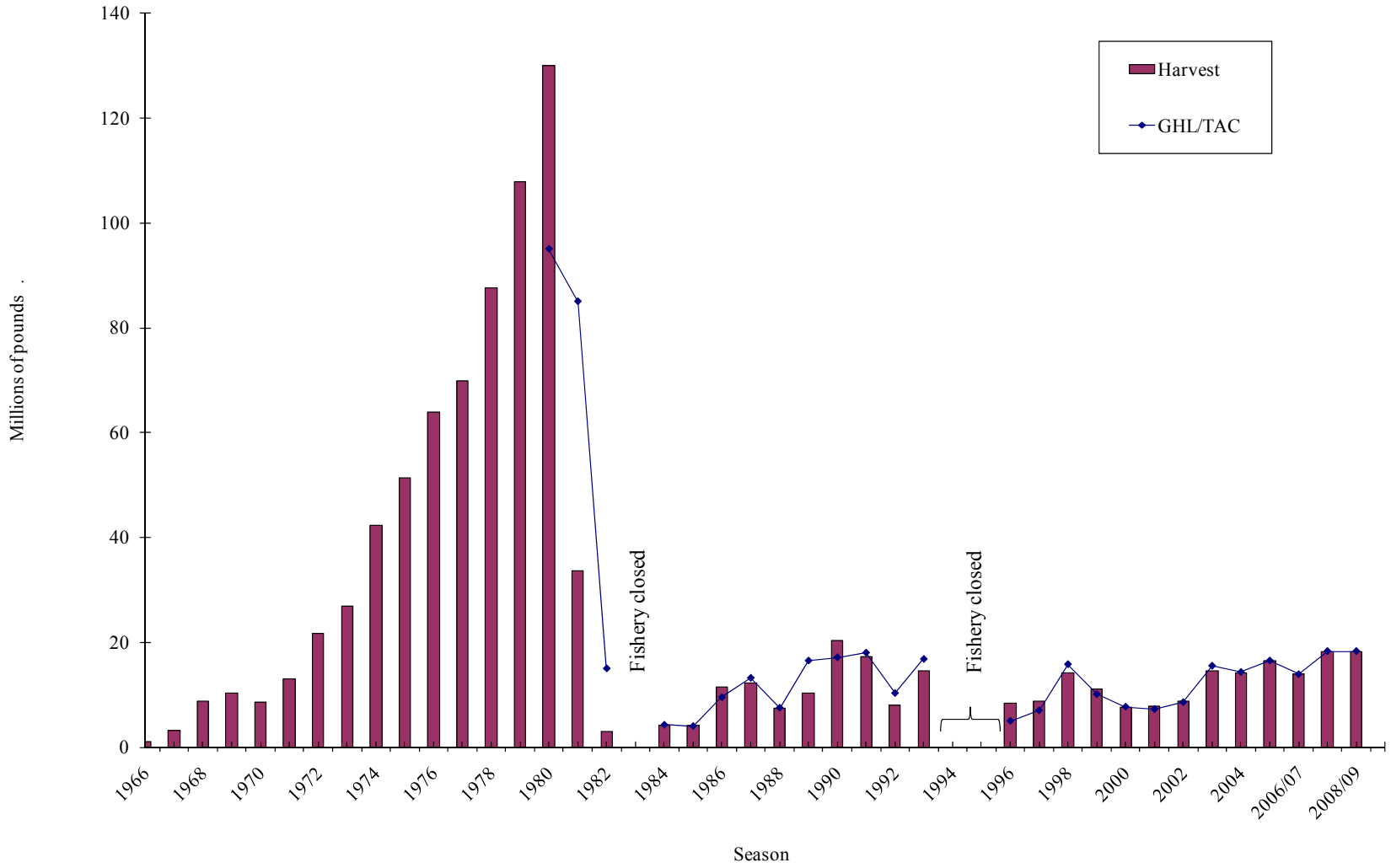

Figure 2-2.–Bristol Bay commercial red king crab general/IFQ fishery harvest and GHL/TAC, 1966 - 2008/09.

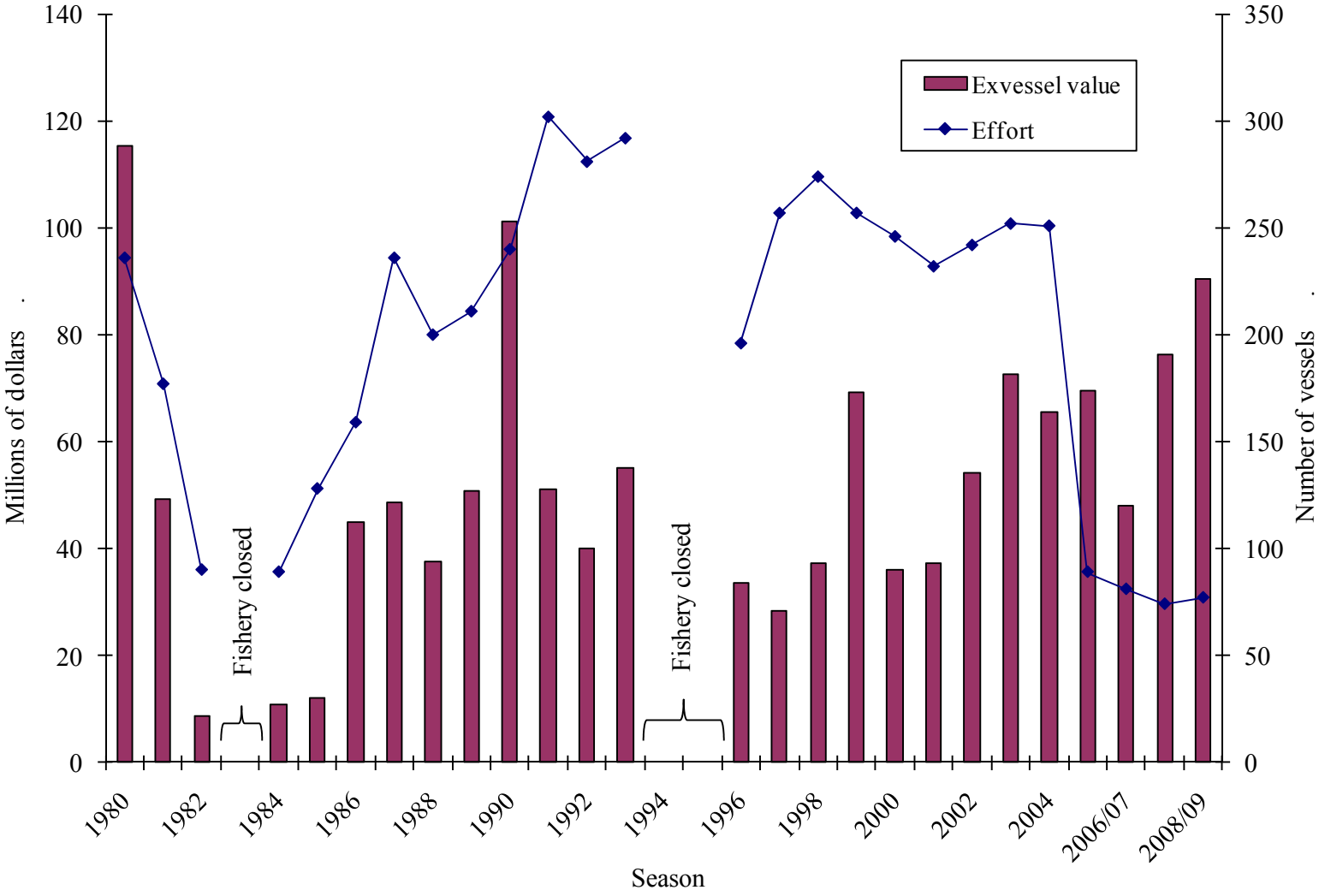

Figure 2-3.–Bristol Bay commercial red king crab general/IFQ fishery effort and exvessel value, 1980 - 2008/09.

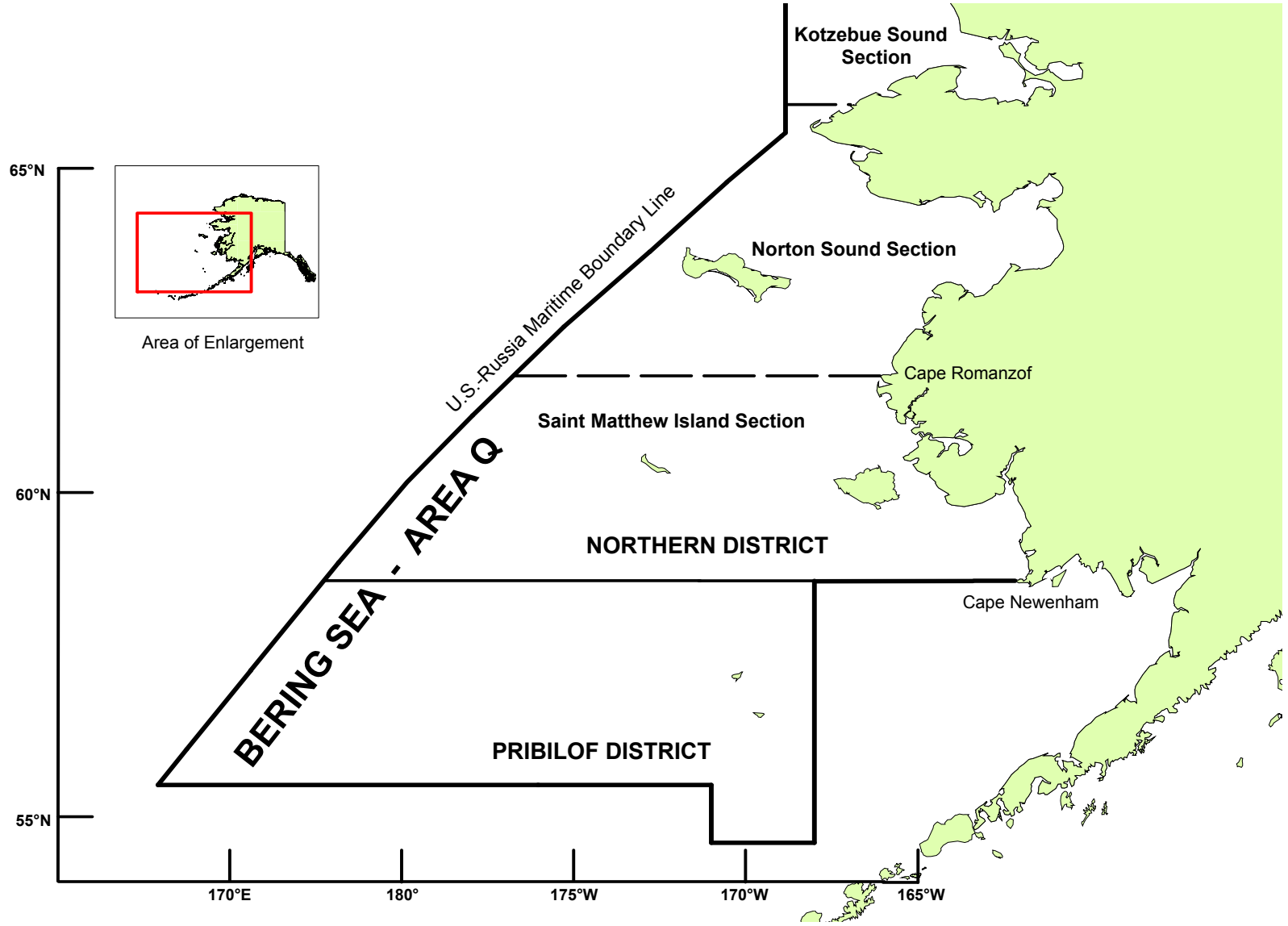

Figure 2-4.–King crab Registration Area Q (Bering Sea).

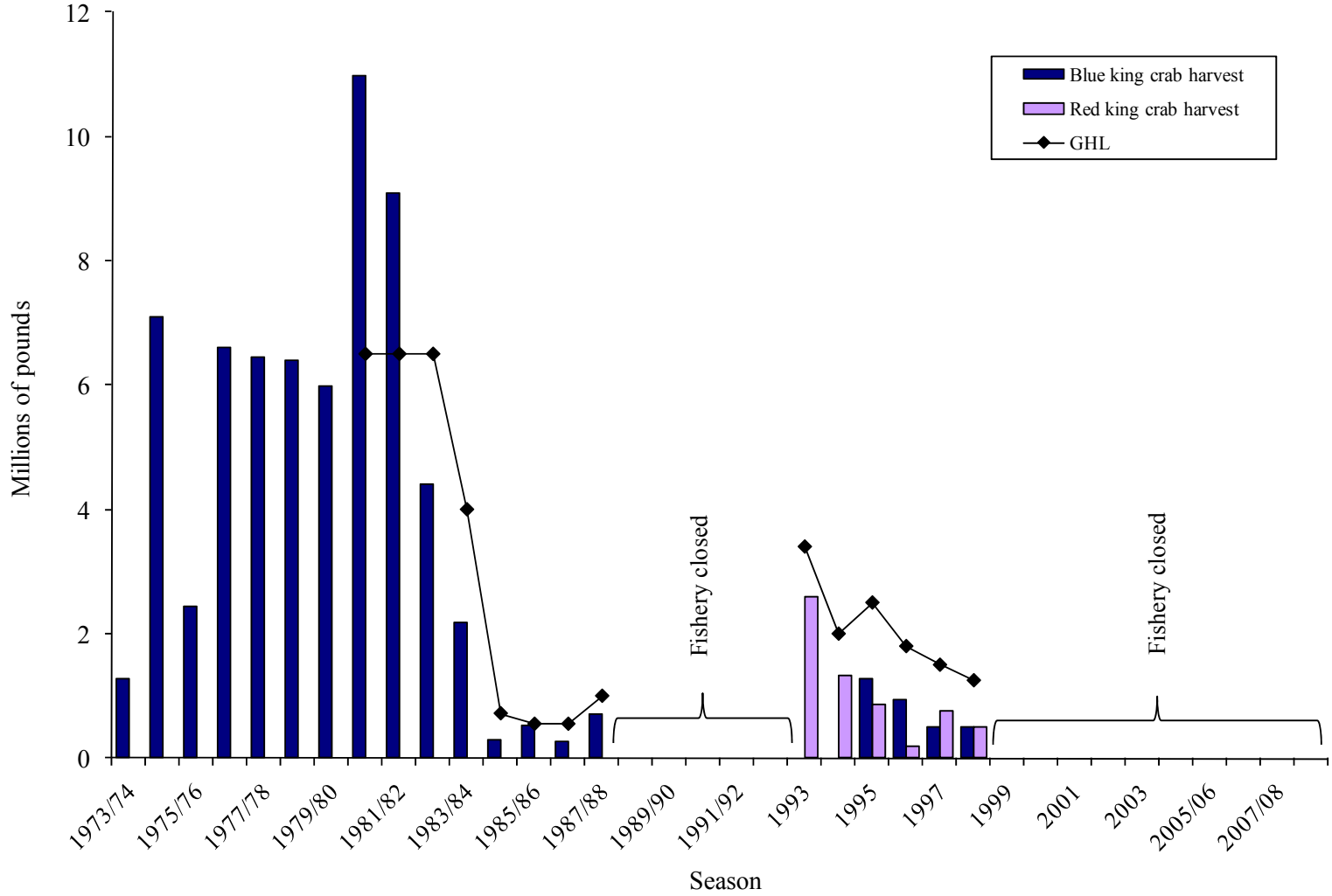

Figure 2-5.–Pribilof District red and blue king crab harvest and GHL 1973 - 2008/09. GHL for red and blue king crab is combined from 1995 onward.

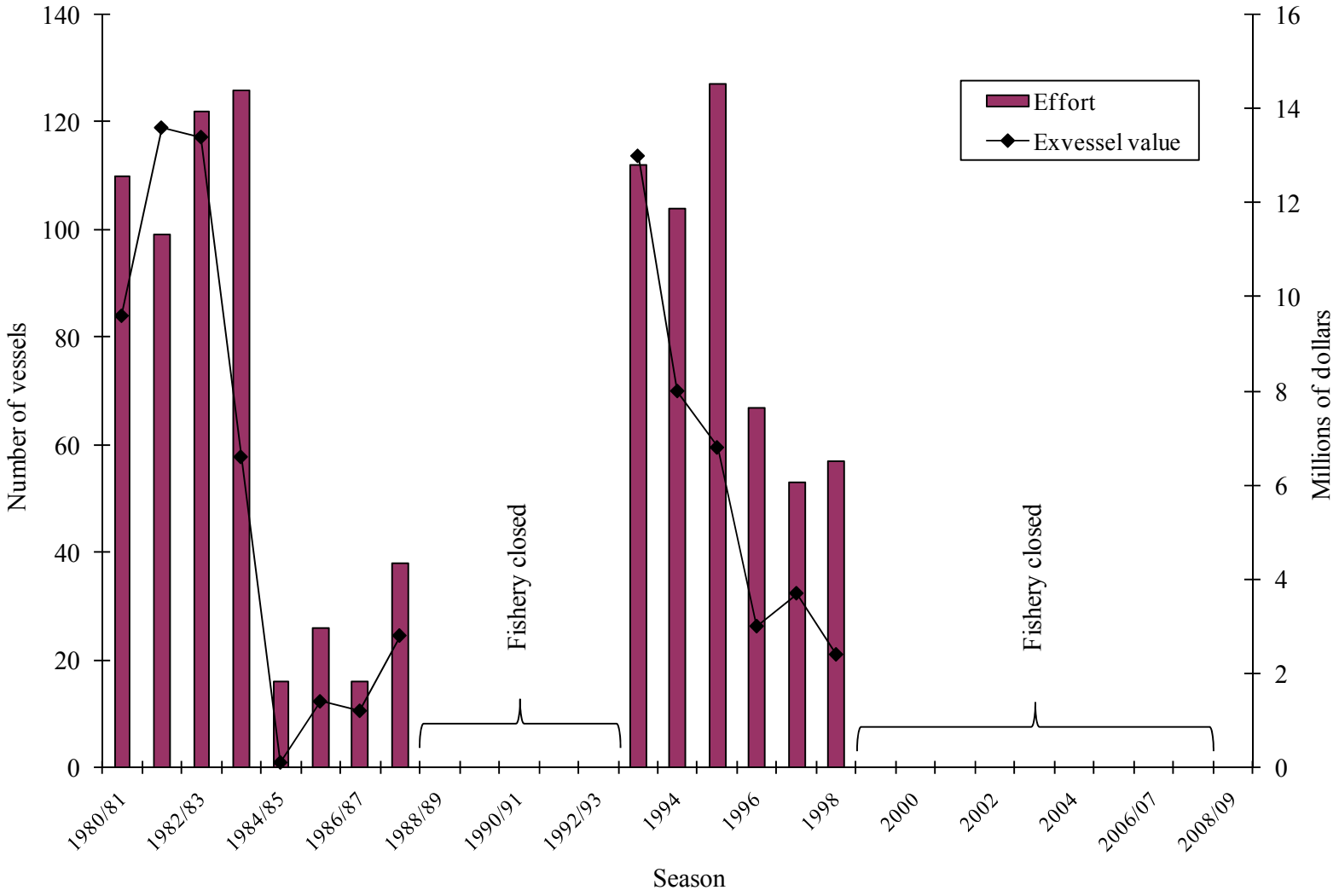

Figure 2-6.–Pribilof District commercial red and blue king crab fishery effort and exvessel value, 1980 - 2008/09.

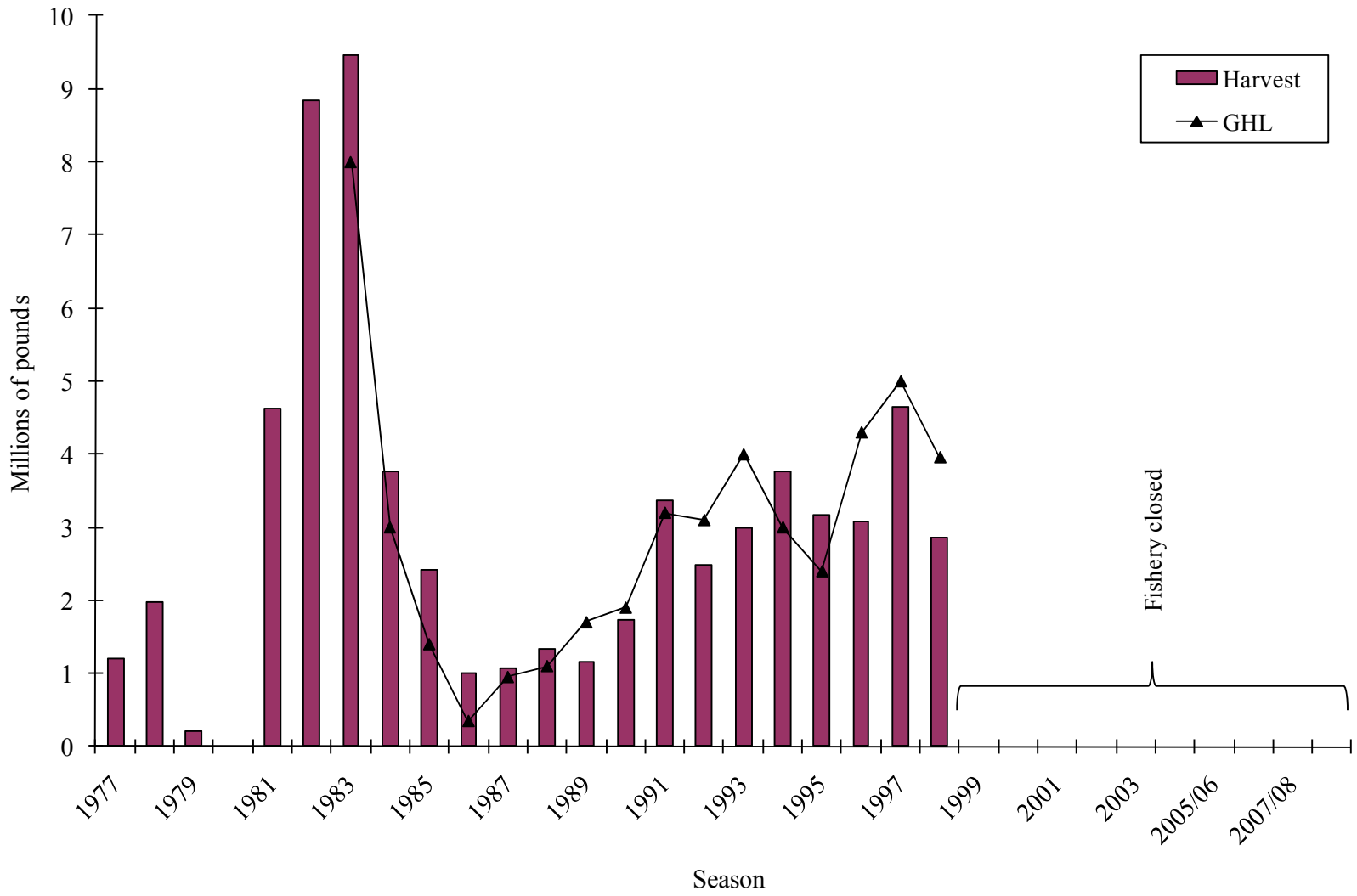

Figure 2-7.–Saint Matthew Island Section commercial blue king crab fishery harvest and GHL, 1977 - 2008/09.

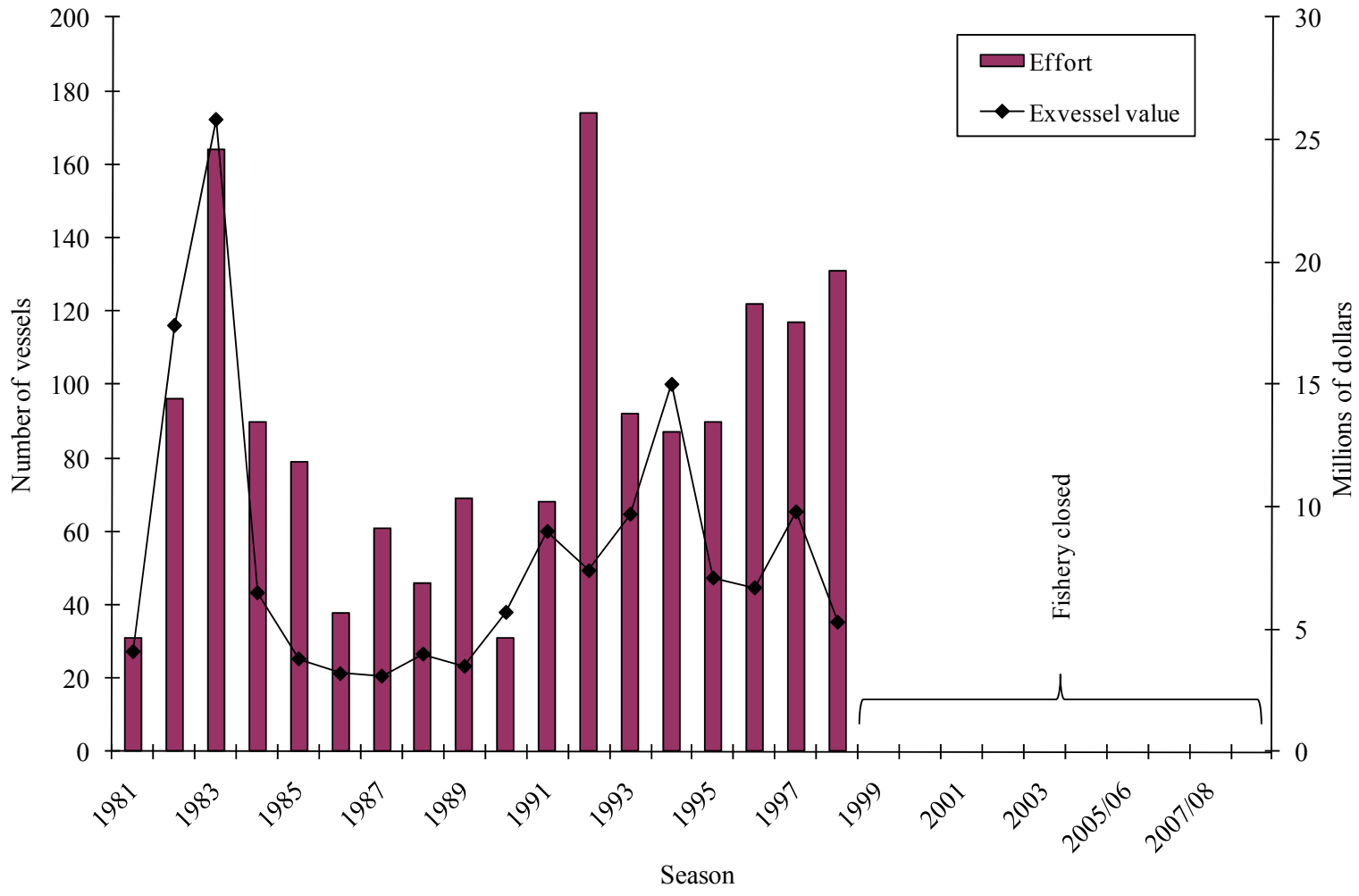

Figure 2-8.–Saint Matthew Island Section commercial blue king crab fishery effort and exvessel value, 1981 - 2008/09.

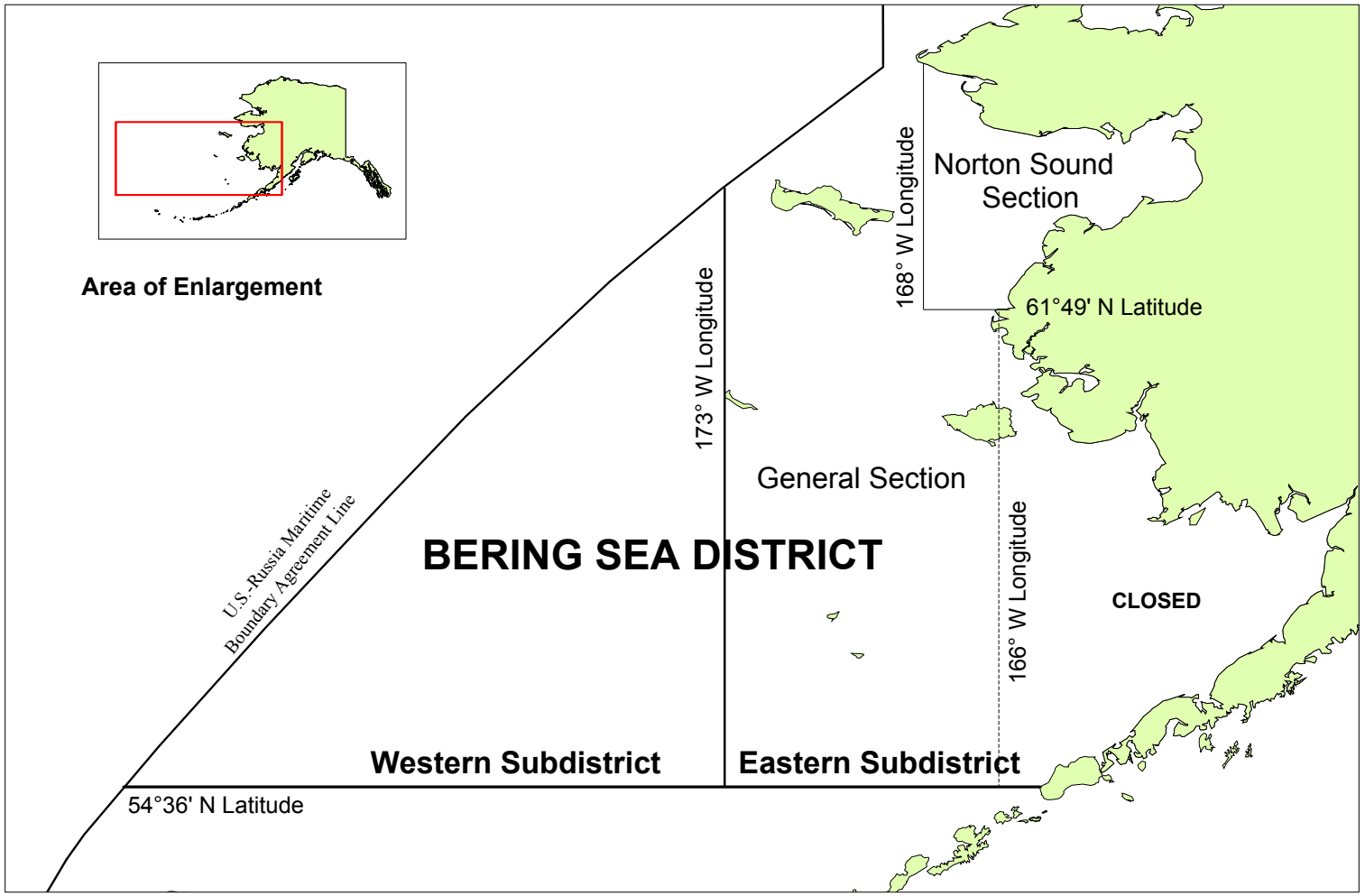

Figure 2-9.–Bering Sea District of Tanner crab Registration Area J including subdistricts and sections.

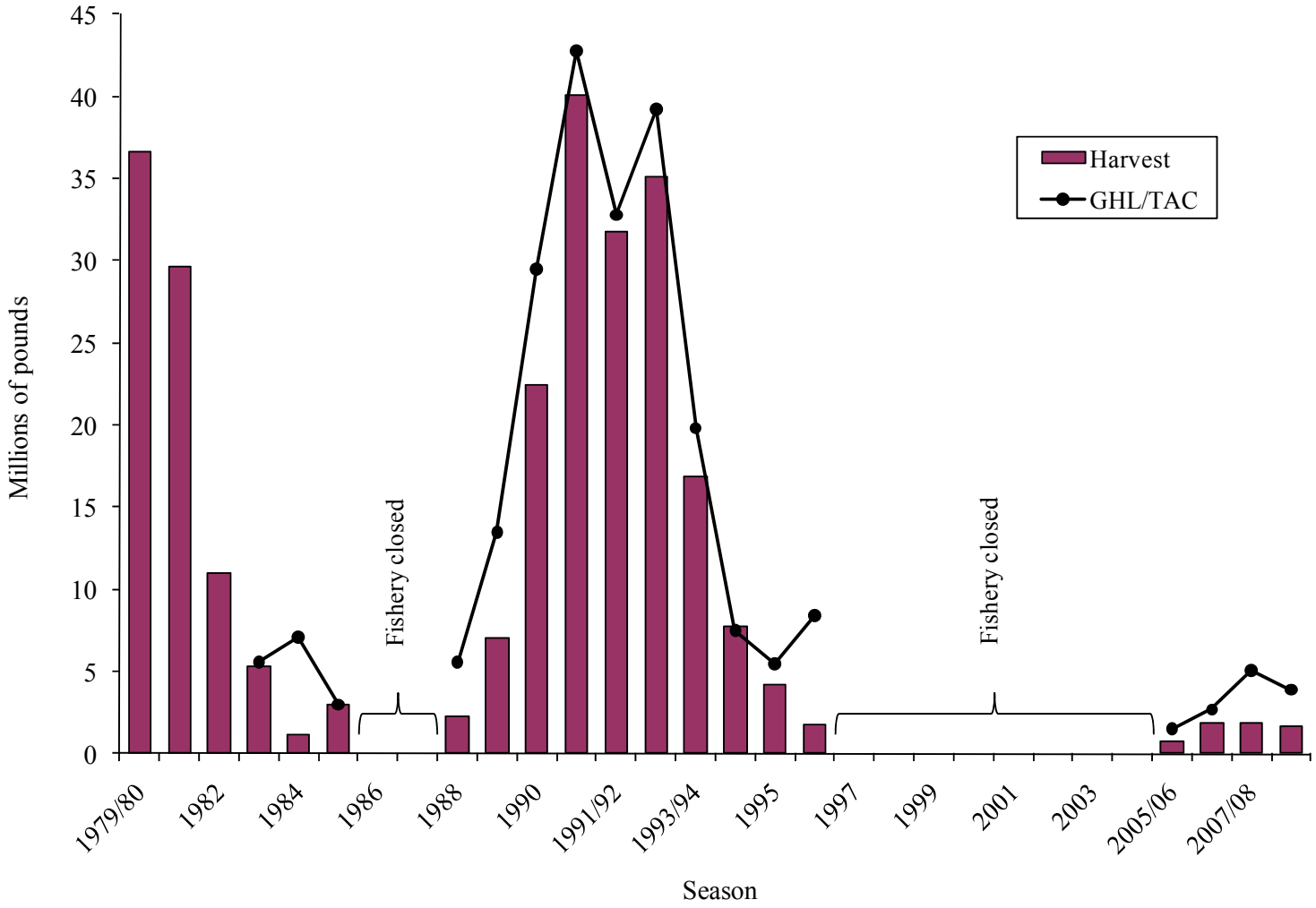

Figure 2-10.–Bering Sea District commercial Tanner crab general/IFQ fishery harvest and GHL/TAC, 1979 - 2008/09.

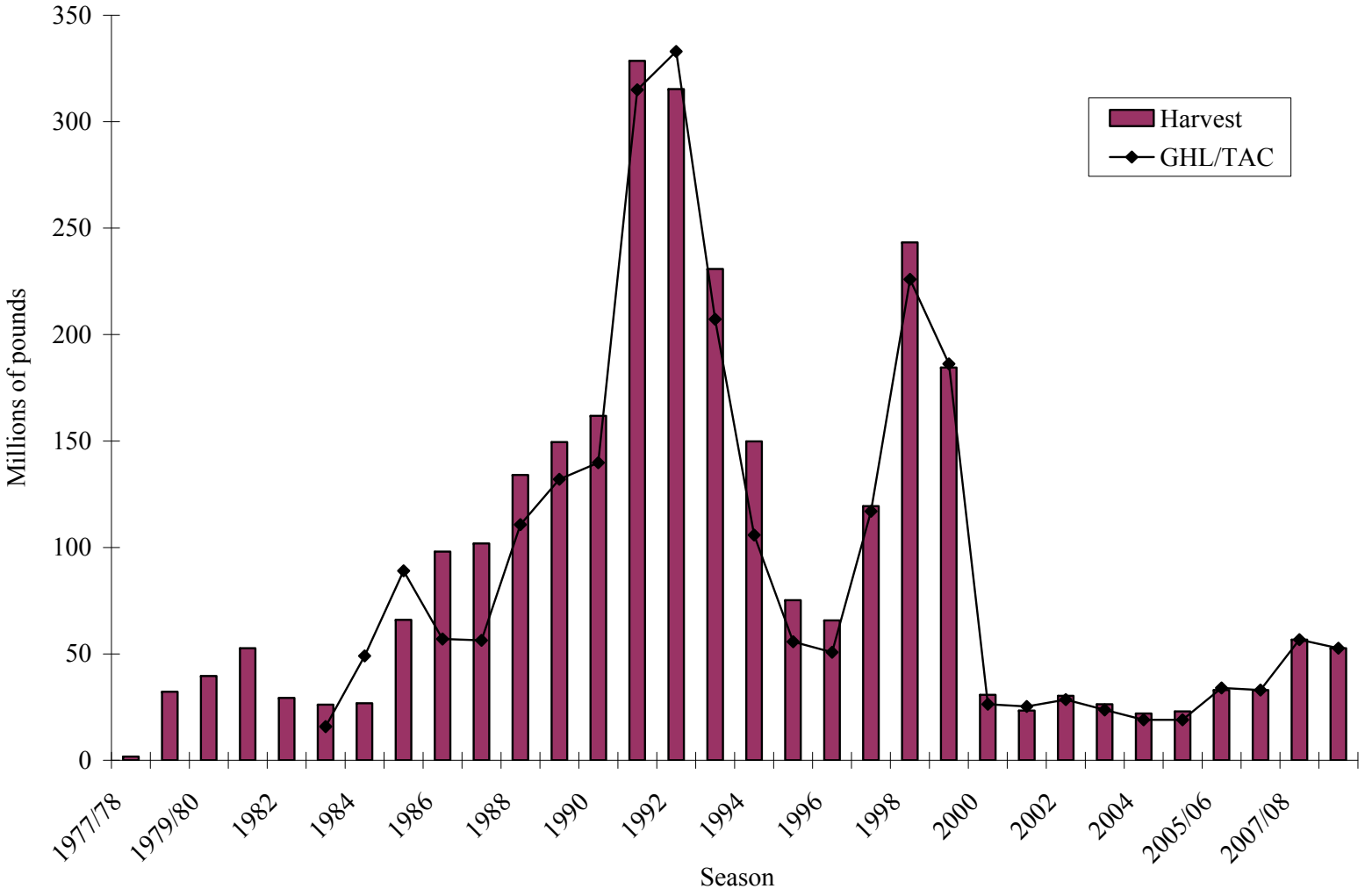

Figure 2-11.–Bering Sea District commercial snow crab general/IFQ fishery harvest and GHL/TAC, 1977 - 2008/09.

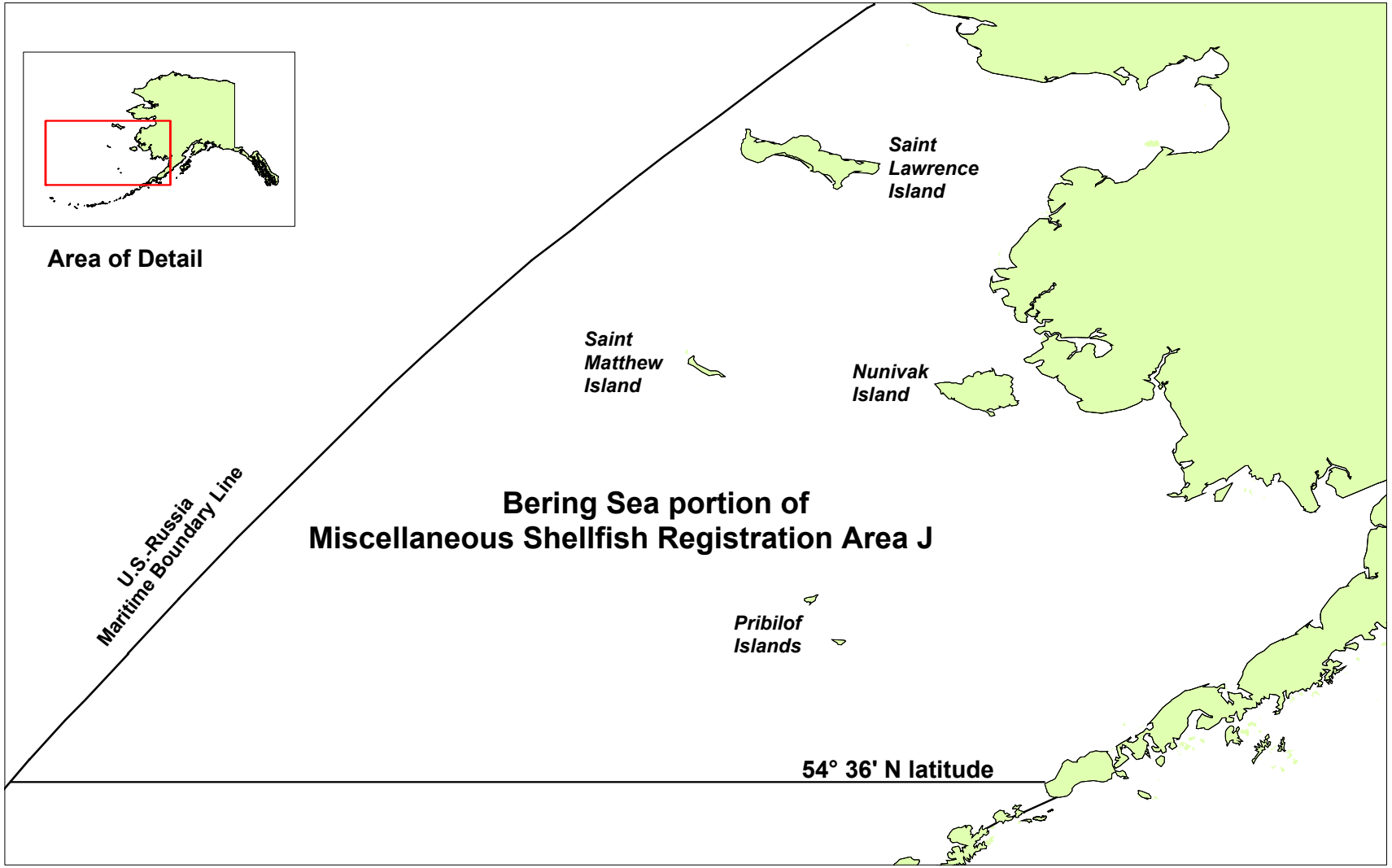

Figure 2-12.–Bering Sea portion of miscellaneous shellfish Registration Area J.

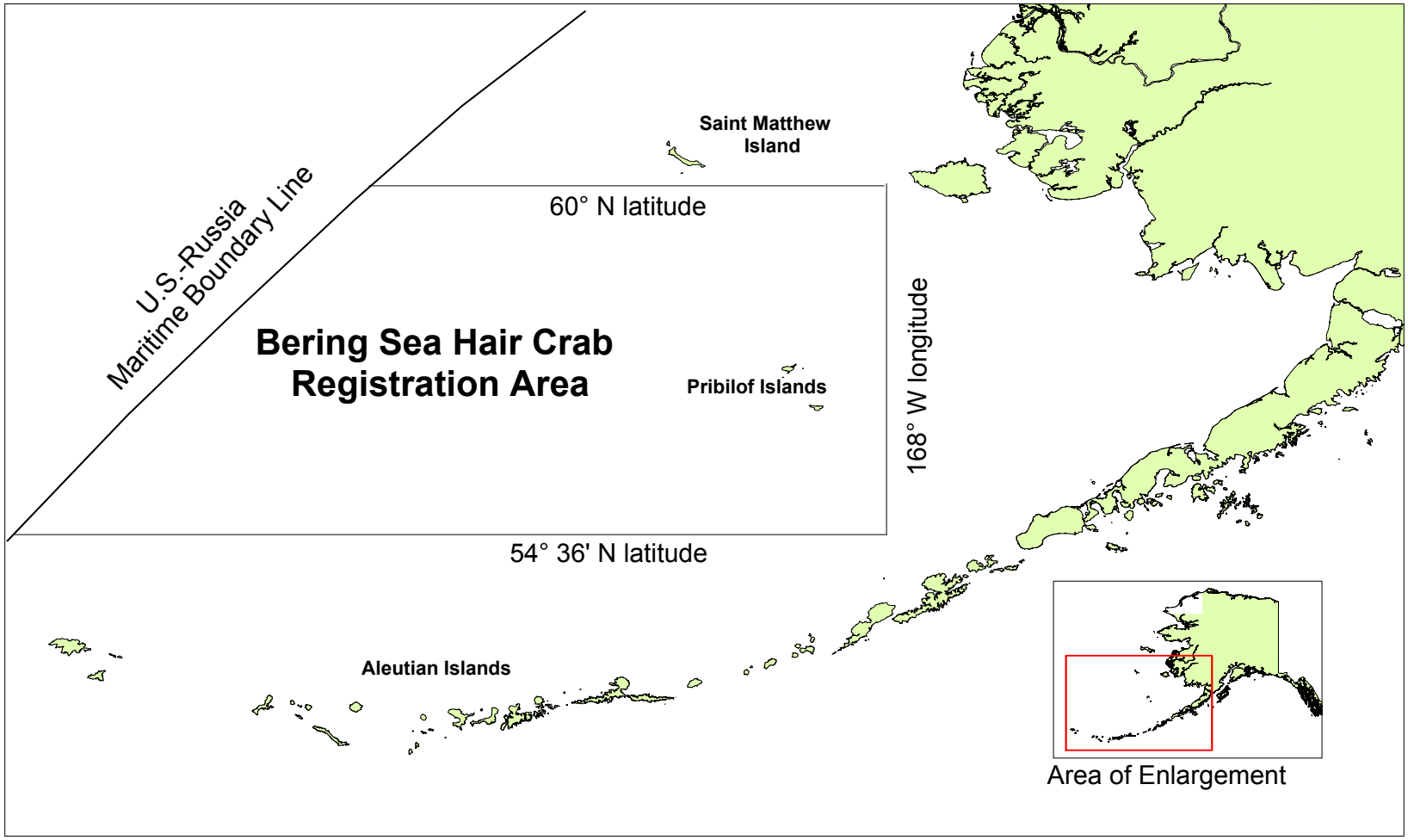

Figure 2-13.–Bering Sea hair crab fishing area of miscellaneous shellfish Registration Area J.

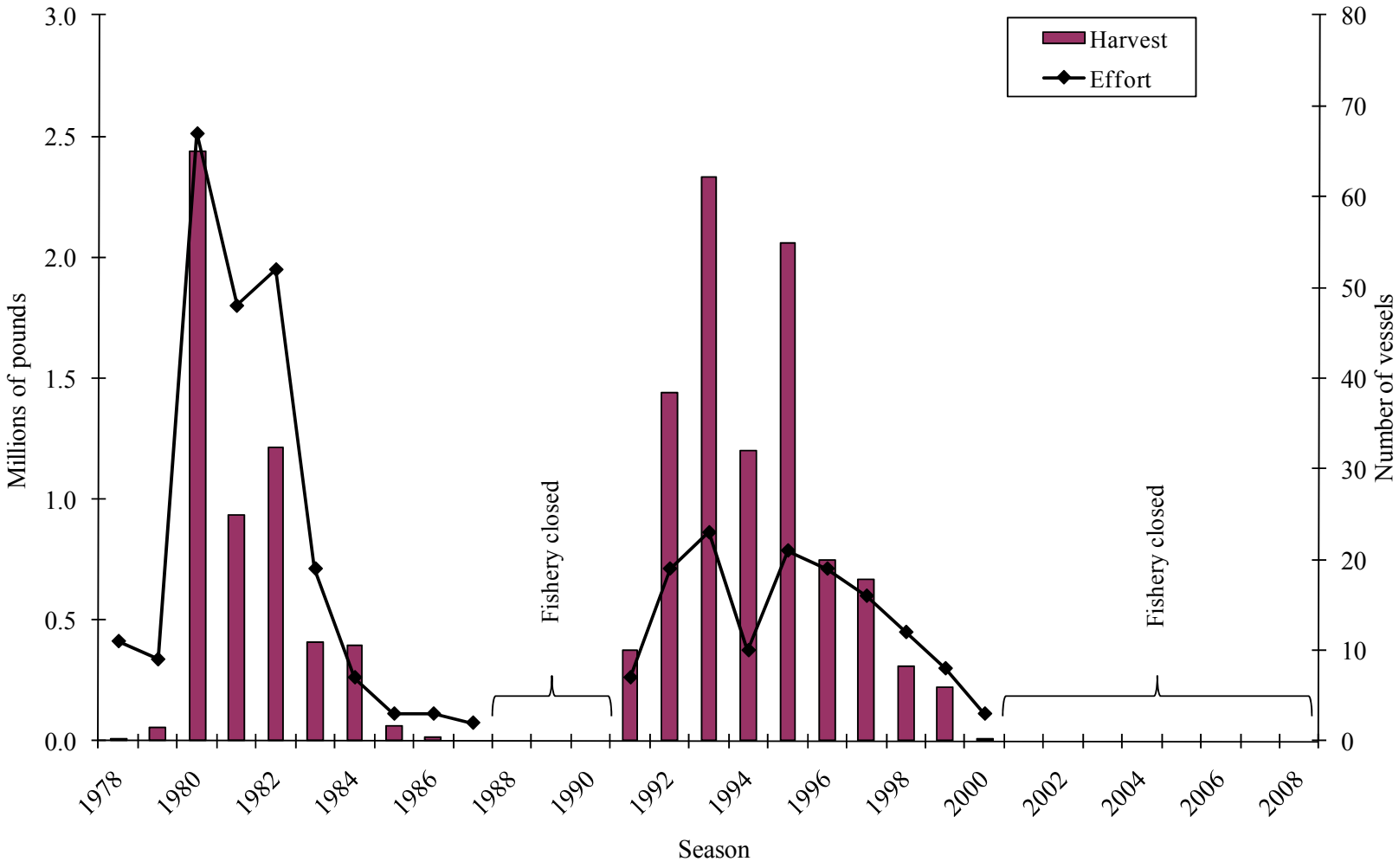

Figure 2-14.–Bering Sea commercial hair crab fishery harvest and effort, 1978 - 2008.

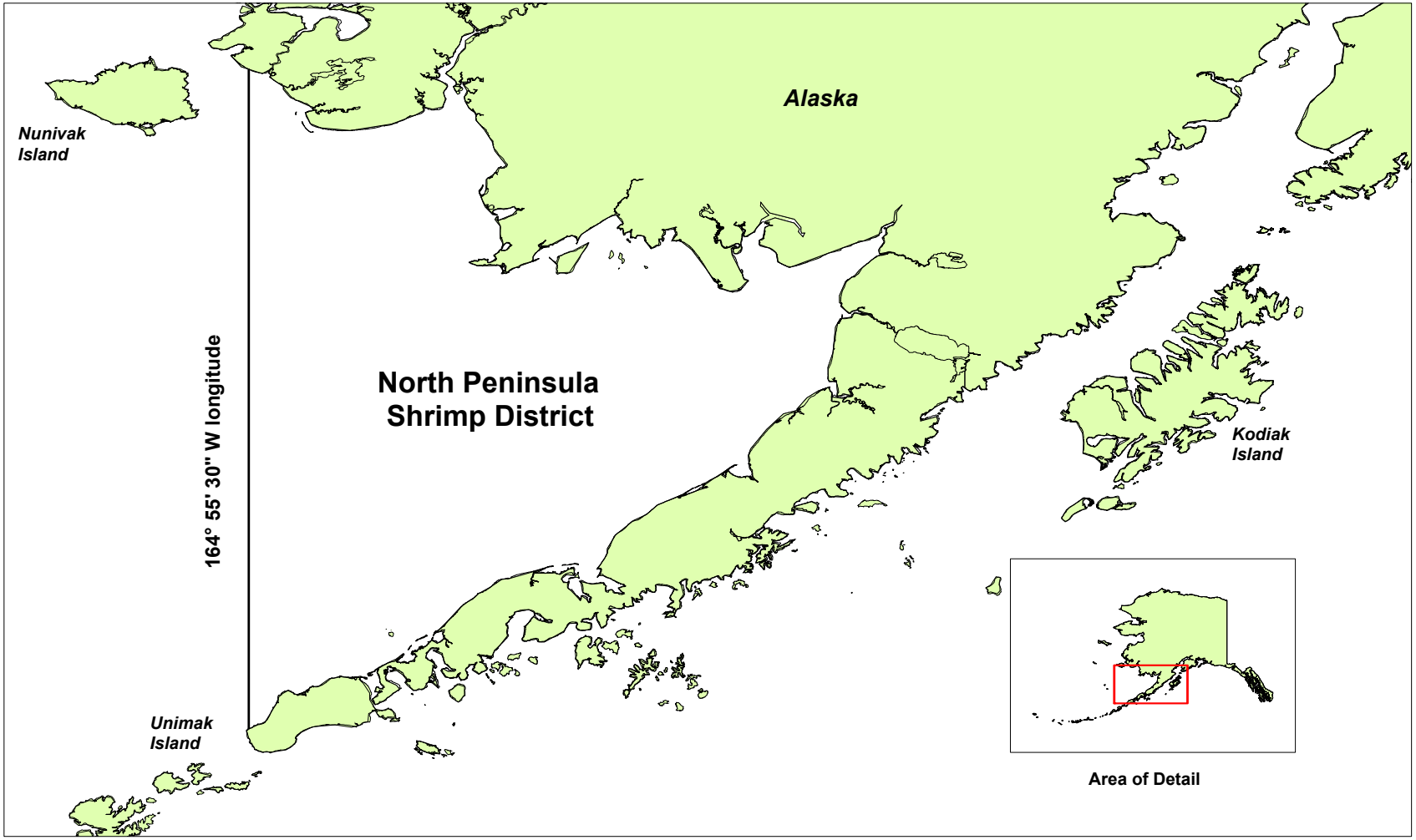

Figure 2-15.–North Peninsula District of shrimp Registration Area J.

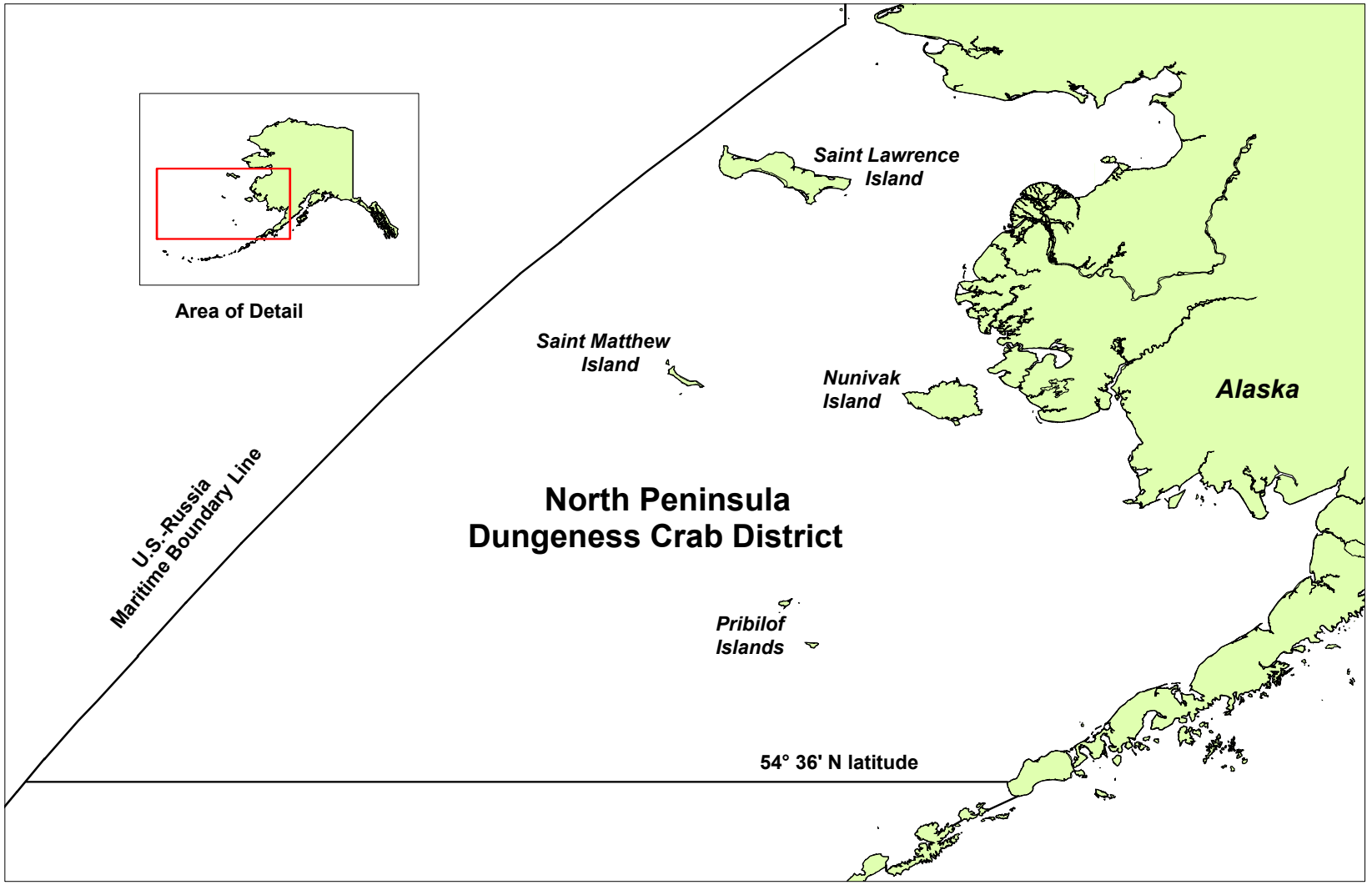

Figure 2-16.–North Peninsula District of Dungeness crab Registration Area J.

ANNUAL MANAGEMENT REPORT FOR THE COMMUNITY DEVELOPMENT QUOTA AND ADAK COMMUNITY ALLOCATION CRAB FISHERIES IN THE BERING SEA AND ALEUTIAN ISLANDS, 2008/09

by
Krista Milani
Alaska Department of Fish and Game, Division of Commercial Fisheries
Dutch Harbor, Kodiak

Alaska Department of Fish and Game
Division of Sport Fish, Research and Technical Services
333 Raspberry Road, Anchorage, Alaska 99518-1599

June 2010

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

BERING SEA/ALEUTIAN ISLANDS COMMUNITY DEVELOPMENT QUOTA AND ADAK COMMUNITY ALLOCATION CRAB FISHERIES

DESCRIPTION OF AREA

The Bering Sea Community Development Quota (CDQ) crab fisheries occur within 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 crab fisheries managed by the Alaska Department of Fish and Game (ADF&G) Westward Region, Cape Romanzof (61° 49' N lat.) is the northern boundary (Figure 3-1).

The Aleutian Islands CDQ and Adak Community Allocation (ACA) crab fisheries encompass both the waters of the Territorial Sea (0-3 nautical miles) and waters of the Exclusive Economic Zone (3-200 nautical miles) (Figure 3-2). The CDQ crab fisheries' eastern boundary is the longitude of Scotch Cap Light (164° 44' W long.), northern boundary from Cape Sarichef (54° 36' N lat.) to 171° W long., north to 55° 30' N lat., and western boundary the U.S.-Russia Maritime Boundary Agreement Line. The ACA fishery occurs in Area O west of 174° W long.

CDQ PROGRAM BACKGROUND

The North Pacific Fishery Management Council (NPFMC) established the CDQ Program in 1992 for walleye pollock and it 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 Alaska Board of Fisheries (BOF) adopted regulations for the Bering Sea/Aleutian Islands king and Tanner crab CDQ fisheries in 1997, which were implemented in 1998. With the advent of Crab Rationalization in 2005, the BOF adopted regulations to implement changes to the CDQ management program, including the addition of Aleutian Islands red *Paralithodes camtschaticus* (west of 179° W longitude) and Aleutian Islands golden king crab *Lithodes aequispinus* east of 174° W long. which were not previously included in the CDQ crab program. The ADF&G manages the crab CDQ fisheries.

Sixty-five Bering Sea coastal communities participate in the CDQ Program. These communities are aligned into six CDQ organizations, 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 to the Alaska Department of Commerce, Community and Economic Development (ADCCED) on the intended use of the CDQ funds, which vary widely between groups. Most plans 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 Individual Fishing Quota (IFQ) fisheries.

The CDQ groups receive allocations for the following Aleutian Islands and Bering Sea crab fisheries: Norton Sound red king crab, Bristol Bay red king crab, Pribilof red and blue king

Paralithodes platypus crab, St. Matthew blue king crab, Bering Sea snow *Chionoecetes opilio* crab, Bering Sea Tanner *Chionoecetes bairdi* crab, Aleutian Islands golden king crab (east of 174° W long.), and Aleutian Islands red king crab (west of 179° W long.). To be eligible as a CDQ crab fishery, the crab stock must have an established Total Allowable Catch (TAC) and be managed under the Fishery Management Plan (FMP) for Bering Sea/Aleutian Islands (BSAI) king and Tanner crabs. From 1998 – 2004 the CDQ allocation as specified in the BSAI crab FMP was based on the total actual harvest each year, however with the implementation of Crab Rationalization the CDQ allocation is a fixed percentage of the TAC. 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 7.5% for 2000 - 2004). The percentage of the TAC allocated to CDQ groups increased to 10% beginning in the 2005/06 season, the first season the Crab Rationalization program was in effect. The individual CDQ group allocation varies in each fishery (Table 3-1). This report addresses all CDQ crab fisheries except the Norton Sound CDQ red king crab fishery, which is managed by ADF&G's Arctic-Yukon-Kuskokwim (AYK) region.

ACA PROGRAM BACKGROUND

In 2005 the Alaska BOF adopted regulation for an ACA Western Aleutian Islands golden king crab fishery. The program was established to benefit the community of Adak, who created a group called the Adak Community Development Corporation (ACDC). ACDC is a non-profit entity that represents the community of Adak and has a board of directors elected by the residents of Adak. The group must submit a comprehensive plan to ADCCED on the intended use of the ACA funds derived from harvesting the ACA golden king crab, which is meant to be used for fisheries related purposes and other projects which are intended to benefit the community of Adak.

The ACA allocation is set at 10% of the Total Allowable Catch (TAC) of western Aleutian Islands (west of 174° W long.) golden king crab (Table 3-1). The fishery opened for the first time in August of 2005 with an allocation of 270,000 pounds. ADF&G directly manages the ACA crab allocation, however it is not a CDQ fishery as Adak is not a CDQ community.

FISHERY HISTORY

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

Prior to 2000 permits for CDQ fisheries were issued only to vessels fishing for the groups. Before vessel operators were allowed to register for a CDQ fishery, ADF&G generated an estimate of the general fishery harvest in order to calculate an estimated allocation for each CDQ group. However, the department changed permitting procedures after several CDQ groups exceeded their allocation in the snow crab fishery in 1998 and 1999. Because the vessel permits were issued before the actual harvest limit for the CDQ fishery was established, they did not reference the CDQ group's harvest allocation. Permits were henceforth issued to both the vessels and the CDQ groups. Prior to Crab Rationalization the CDQ group permits initially stated the estimated allocation for the group and was followed by an addendum with the actual allocation in pounds after the final general fishery harvest was known. Under Crab Rationalization the

final TAC for CDQ fisheries is established before the season begins so group permits are issued with the actual allocation.

CDQ regulations prior to Crab Rationalization authorized a CDQ harvest prior to the general fishery; however, the department did not allow a CDQ harvest before the general fishery in 1998. A full understanding of the impact of these new fisheries and adequate staff to handle the increased management was needed before allowing CDQ fisheries to occur prior to the general fisheries. The intent was to allow CDQ groups to harvest part of their allocation before the general fishery during the second and subsequent years of the CDQ 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 federal 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 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 fishermen 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 develop a plan for managing the CDQ fisheries preseason, and adopted the compromise into regulation. The new regulation allowed a CDQ king or Tanner crab fishery prior to the general fishery only when the GHL was 50 million pounds or more, and a maximum of 30% of the CDQ allocation was allowed to be harvested preseason. However, no fishing ever occurred before the general fishery.

Under Crab Rationalization, implemented in August of 2005, CDQ and IFQ crabs may be, and often are, harvested concurrently. The CDQ allocation for each rationalized crab stock is set at 10% of the TAC for each fishery. Fishermen generally use the same gear to harvest IFQ and CDQ crab, however for those fisheries with pot limits they are limited to a single species compliment of pots.

Each of the six CDQ groups participate in at least one CDQ fishery every year, however each group does not necessarily have an allocation for each fishery (Table 3-1). Groups may choose not to participate or transfer their allocation to another group.

Observers collect biological data and document the fishing practices of the IFQ and CDQ fleet. 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. Observer coverage in the 2000 CDQ snow crab fishery was increased from one observer per group to two per group. In the 2001 CDQ Bristol Bay red king crab fishery observer coverage requirements were reduced to one per group.

With the implementation of Crab Rationalization in August 2005 there was no longer a temporal difference in fishing for IFQ and CDQ crab. Almost all CDQ crab is harvested concurrently with IFQ fishing. As a result CDQ fisheries no longer have separate observer coverage requirements. Observer coverage for CDQ vessels has been incorporated in the overall fleet coverage and is based on the overall number of vessels pre-season registered to participate in the IFQ and CDQ crab fisheries. During the Bristol Bay red king crab fishery, twenty percent of the vessels have observer coverage for one hundred percent of the time. For Bering Sea snow crab, thirty percent

of the vessels have observer coverage for one hundred percent of the time. During the Bering Sea Tanner crab fishery thirty to one hundred percent of the vessels are required to have observer coverage for one hundred percent of the time. Each vessel fishing for Aleutian Islands golden king crab is required to carry an observer for 50% of the harvest in each of three trimesters (August 15 – November 15, November 16 – February 15 and February 16 – May 15). All remaining CDQ fisheries require 100% observer coverage.

In 2006, the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) was amended to allow voluntary quota transfers among eligible CDQ groups to cover harvest exceeding a group allocation after harvesting has occurred. In order to be in compliance with the MSFCMA the BOF adopted new regulation in March 2008 allowing a CDQ group to transfer quota to another CDQ group after crab has been harvested. All transfers must be completed by June 30 of the current allocation year. Prior to this regulation if a CDQ group landed crab and did not have any available quota remaining, the crab was considered an overage and was surrendered to the State of Alaska. Although this regulation was in place for the 2008/09 fishing season, no CDQ groups received a transfer after harvesting occurred.

During the March 2008 BOF meeting pot limits were repealed in the Bristol Bay red king crab, Bering Sea Tanner crab, and Bering Sea snow crab fisheries. Because pot limits are no longer in place for these fisheries, CDQ fishers no longer need buoy tags to participate. Pot limits and pot tags remain in effect for the Aleutian Islands red king crab, St. Matthew blue king crab, and Pribilof red and blue king crab CDQ fisheries.

The BOF also adopted regulation during the March 2008 meeting prohibiting fishermen from participating in both the Bering Sea snow crab and Bering Sea Tanner crab fisheries simultaneously. New regulation allows vessels to retain snow crab up to 5% of the weight of the Tanner crab on board the vessel or Tanner crab up to 5% of the weight of the snow crab on board the vessel. As a result CDQ fishermen are no longer able to utilize gear configured for snow crab and Tanner crab at the same time. However, fishermen may keep bycatch up to 5% of one species while targeting the other.

2008/09 CDQ AND ACA FISHERIES

Bristol Bay CDQ Red King Crab Fishery

The 2008/09 Bristol Bay CDQ red king crab fishery allocation based on 10% of the overall TAC, was 2,036,400 pounds (Table 3-2). Five of the six CDQ groups participated in this fishery. The remaining group transferred their entire allocation to another group. The fishery opened concurrently with the IFQ Bristol Bay red king crab fishery on October 15. Permits were issued to each CDQ group before fishing began. The permit stated the group's allocation, which is determined by a percentage set forth for each CDQ group by the ADCCED. 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 and observer coverage. Vessel registration could begin as soon as the group permits were issued.

Deliveries began October 18, and the final delivery was made December 15, although the season officially closed on January 15. Fifteen vessels made 35 landings for an overall harvest of 2,026,390 pounds (Table 3-2) and a fishery value of approximately 10.1 million dollars (Table 3-3). The value of the Bristol Bay red king crab fishery to the CDQ groups is estimated to be 50-75% of the exvessel fishery value. No groups exceeded their allocation.

The fishery average CPUE was 20 (Table 3-2), lower than the CPUE of 22 reported for the IFQ fishery. Average weight of crabs in the CDQ fishery was 6.7 pounds (Table 3-3), slightly higher than the 6.6 pound average weight from the IFQ fishery. Two of the groups used two vessels to harvest their allocation, two groups used three vessels, and the remaining group used five vessels. One vessel did not participate in the IFQ fishery. Five of the fifteen vessels that harvested CDQ crab were observed, accounting for 41% of the CDQ harvest.

Pribilof District CDQ Red And Blue King Crab Fishery

No CDQ harvest of Pribilof District red or blue king crab occurred in 2008/09 because the commercial fishery was closed.

Saint Matthew Island Section CDQ Blue King Crab Fishery

No CDQ harvest of Saint Matthew Island Section blue king crab occurred in 2008/09 due to closure of the commercial fishery.

Bering Sea CDQ Snow Crab Fishery

The 2008/09 Bering Sea CDQ snow crab fishery opened concurrently with the IFQ fishery on October 15, 2008. The allocation of 5,855,000 pounds (Table 3-2) was based on 10% of the overall TAC. All of the CDQ groups participated in the fishery; however, one group transferred 38% of their allocation to two other groups. Permits were issued to each CDQ group before fishing began. The permit stated the group's percent allocation, which is determined by a percentage set forth for each CDQ group by the ADCCED. 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 and observer coverage. Vessel registration could begin as soon as the group permits were issued.

Although the fishery opened in October, the first delivery was not until January 23 and the last delivery was on April 25. Fifteen vessels made 56 landings with a total harvest of 5,854,682 pounds and a fishery value of approximately 7.9 million dollars (Table 3-2 and 3-3). The value of the Bering Sea snow crab fishery to the CDQ groups is estimated to be 40-60% of the exvessel fishery value. No groups exceeded their allocation.

The average weight was 1.3 pounds (Table 3-3), the same as the IFQ fishery. The average CPUE was 302 (Table 3-2), slightly higher than the average CPUE of 279 from the IFQ fishery. Three of the groups used two vessels to harvest their allocation, two groups used four vessels, and the remaining group used one vessel. Eight of the fifteen vessels that harvested CDQ snow crab carried observers, accounting for 51% of the CDQ harvest.

Eastern Aleutian Islands CDQ Golden King Crab Fishery

The 2008/09 Aleutian Islands (east of 174° W long.) CDQ golden king crab fishery allocation was based on 10% of the overall TAC. The TAC was divided between the six CDQ groups with a total allocation of 315,000 pounds. All CDQ groups were allocated a portion of the harvest, but only three fished. The remaining three groups transferred their quotas to other CDQ groups.

The eastern Aleutian Islands CDQ golden king crab fishery opened concurrently with the Aleutian Islands golden king crab IFQ fishery on August 15. Permits were issued to each CDQ group before fishing began. The permit stated the group's allocation, which is determined by a percentage set forth for each CDQ group by the ADCCED. 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 and observer coverage. Vessel registration could begin as soon as the group permits were issued.

Deliveries began September 7, and the final delivery was made November 26, although the season officially closed on May 15. Three vessels made eight landings for an overall harvest of 315,000 pounds (Table 3-2) and a fishery value of approximately 1.1 million dollars (Table 3-3). No group exceeded their allocation.

The average CPUE was 25 (Table 3-2), lower than the CPUE of 27 for the IFQ fishery. Average weight of crabs in the CDQ fishery was 4.7 pounds (Table 3-3), higher than the 4.3 pound average weight from the IFQ fishery. Each group used one vessel to harvest their allocation. All three of the CDQ vessels carried observers during some of their CDQ fishing and observers covered 62% of the total CDQ harvest.

Western Aleutian Islands ACA Golden King Crab Fishery

The 2008/09 western Aleutian Islands ACA golden king crab fishery opened concurrently with the Western Aleutian Islands golden king crab IFQ fishery on August 15. ACDC was issued 10% of the western portion (west of 174° W) of the Aleutian Islands golden king crab TAC for an allocation of 283,500 pounds (Table 3-2). A permit was issued to ACDC before fishing began. The permit stated the group's allocation, 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 and observer coverage. Vessel registration could begin as soon as the group permit was issued.

One vessel registered to fish. All information regarding Aleutian Islands golden king crab for the 2008/09 fishery is confidential due to a limited number of participating processors and vessels.

Western Aleutian Islands CDQ Red King Crab Fishery

No CDQ harvest of Western Aleutian Islands red king crab occurred in 2008/09 due to closure of the commercial fishery.

Bering Sea CDQ Tanner Crab Fishery

The 2008/09 Bering Sea CDQ Tanner crab season opened October 15, 2008 with TAC available both east and west of 166° W long. CDQ groups received Tanner crab allocations in both areas. The CDQ fishery allocation was 10 percent of the total 2008/09 Tanner crab TAC, with separate TACs east and west of 166° W long. The CDQ fishery allocation east of 166° W long. was 276,300 pounds and west of 166° W long. was 153,700 pounds (Table 3-2).

Six CDQ groups were eligible to participate in the CDQ fishery. During the eastern portion of the fishery three groups transferred their entire allocations to other CDQ groups. Three groups did not participate in the western area and the remaining three groups only reported Tanner crab as deadloss caught incidentally during the CDQ snow crab fishery.

Permits were issued to each CDQ group before fishing began. The permit stated the group's allocation, which is determined by a percentage set forth for each CDQ group by the ADCCED. 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 and observer coverage. Vessel registration could begin as soon as the group permits were issued.

Deliveries began on November 14 and the final delivery was made on March 2. Three CDQ vessels fishing east of 166° W long. made five landings for a harvest of 276,246 pounds (Table 3-2). One vessel fished for two groups. Two of the CDQ groups harvested their entire allocation for the eastern portion of the fishery. West of 166° W long. four CDQ vessels made ten landings and harvested 441 pounds (Table 3-2) which accounted for less than one percent of the western fishery CDQ allocation. No groups harvested their entire allocation for the western portion of the fishery and all Tanner crab harvested was incidental to the CDQ Bering Sea snow crab fishery and reported as deadloss.

The average weight of the Tanner crab during the CDQ fishery in the eastern and western portion combined was 2.3 pounds, the same as the average for the IFQ fishery. The CPUE from the eastern and western portion combined was 21 which was higher than the IFQ fishery CPUE of 13. The CDQ fishery value was approximately $470,000 (Table 3-3). The value of the Bering Sea Tanner crab fishery to the CDQ groups is estimated to be 20-30% of the exvessel fishery value. In the eastern area all of the CDQ vessels carried an observer the entire time. In the western area one CDQ vessel carried an observer, covering 40% of the western harvest.

TABLES AND FIGURES

Table 3-1.–The 2003-2008/09 Community Development Quota (CDQ) Program and Adak Community Allocation (ACA) percent allocation by fishery to each group.

Fishery	Percent allocation by Group[a]						
	APICDA	BBEDC	CBSFA	CVRF	NSEDC	YDFDA	ACDC
Bristol Bay Red King Crab	17	19	10	18	18	18	0
Pribilof Red & Blue King Crab	0	0	100	0	0	0	0
St. Matthew Blue King Crab	50	12	0	12	14	12	0
Norton Sound Red King Crab	0	0	0	0	50	50	0
Bering Sea Tanner Crab	10	19	19	17	18	17	0
Bering Sea Snow Crab	8	20	20	17	18	17	0
Aleutian Islands Red King Crab (west of 179° W long.)[b]	8	18	21	18	21	14	0
Eastern Aleutian Islands Golden King Crab (east of 174° W long.)[b]	8	18	21	18	21	14	0
Western Aleutian Islands Golden King Crab (west of 174° W long.)[c]	0	0	0	0	0	0	100

[a] ACDC (Adak Community Development Corporation).
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).

[b] Aleutian Islands Red King Crab west of 179° W long. and Eastern Aleutian Islands Golden King Crab east of 174° W long. were not part of the CDQ program until the initiation of Crab Rationalization in the 2005/06 season.

[c] Western Aleutian Islands Golden King Crab west of 174° W long. is only available under the ACA program which began with Crab Rationalization in the 2005/06 season.

Table 3-2.–The 1998-2008/09 Community Development Quota (CDQ) and Adak Community Allocation (ACA) program crab fisheries statistics.

Season	% of overall GHL/TAC[a] allocated to CDQ/ACA[b]	Allocation[c]	Number of			Harvest[c,d]	Deadloss[c]	CPUE[e]
			Vessels	Landings	Crabs[d]			
Bristol Bay Red King Crab								
1998	3.5%	525,115	7	CF	CF	CF	CF	23
1999	5.0%	580,641	10	CF	CF	CF	CF	29
2000	7.5%	610,265	11	CF	CF	CF	CF	20
2001	7.5%	617,623	10	CF	CF	CF	CF	29
2002	7.5%	714,239	10	CF	CF	CF	CF	30
2003	7.5%	1,167,040	13	20	174,907	1,166,662	2,197	31
2004	7.5%	1,135,326	12	21	166,829	1,133,013	2,549	31
2005/06	10.0%	1,832,900	13	32	271,718	1,830,877	8,781	18
2006/07	10.0%	1,552,700	13	26	242,520	1,552,133	18,907	32
2007/08	10.0%	2,038,300	10	35	323,537	2,038,285	8,430	28
2008/09	10.0%	2,036,400	15	35	301,006	2,026,390	12,351	20
Pribilof Red King Crab								
1998	3.5%	35,958[f]	1	CF	CF	CF	CF	6
1999 - 2008/09	FC	FC	FC	FC	FC	FC	FC	FC
Pribilof Blue King Crab								
1998	3.5%	35,958[f]	1	CF	CF	CF	CF	6
1999 - 2008/09	FC	FC	FC	FC	FC	FC	FC	FC
St. Matthew Blue King Crab								
1998	3.5%	99,512	2	CF	CF	CF	CF	10
1999 - 2008/09	FC	FC	FC	FC	FC	FC	FC	FC
Bering Sea Snow Crab								
1998	3.5%	8,886,634	20	86	6,975,242	8,846,977	134,898	176
1999	5.0%	9,674,326	23	104	7,747,876	9,670,084	92,871	167
2000	7.5%	2,518,760	13	CF	CF	CF	CF	144
2001	7.5%	1,878,070	11	CF	CF	CF	CF	98
2002	7.5%	2,458,565	11	33	1,873,443	2,399,289	73,130	100
2003	7.5%	2,120,637	10	29	1,747,935	2,118,899	18,378	120
2004	7.5%	1,782,081	10	25	1,338,077	1,772,222	24,199	98
2005	7.5%	1,856,337	9	23	1,300,994	1,855,841	11,286	389
2005/06	10.0%	3,718,400	15	40	2,470,956	3,717,744	34,605	203
2006/07	10.0%	3,656,600	12	33	3,046,479	3,655,775	34,611	321
2007/08	10.0%	6,303,400	15	52	5,252,755	6,303,306	51,273	356
2008/09	10.0%	5,855,000	15	56	4,618,298	5,854,682	31,943	302

-continued-

Table 3-2.–Page 2 of 2.

Season	% of overall GHL/TAC[a] allocated to CDQ/ACA[b]	Allocation[c]	Number of			Harvest[c,d]	Deadloss[c]	CPUE[e]
			Vessels	Landings	Crabs[d]			
Eastern Aleutian Islands Golden King Crab (east of 174° W longitude)								
2005/06	10.0%	300,000	3	CF	CF	CF	CF	23
2006/07	10.0%	300,000	3	CF	CF	CF	CF	27
2007/08	10.0%	300,000	3	6	66,667	300,000	516	31
2008/09	10.0%	315,000	3	8	66,566	315,000	1,408	25
Western Aleutian Islands Golden King Crab (west of 174° W longitude), ACA Fishery								
2005/06	10.0%	270,000	1	CF	CF	CF	CF	26
2006/07	10.0%	270,000	2	CF	CF	CF	CF	15
2007/08	10.0%	270,000	1	CF	CF	CF	CF	16
2008/09	10.0%	283,500	1	CF	CF	CF	CF	18
Western Aleutian Islands Red King Crab (west of 179° W longitude)								
2005/06 - 2008/09	FC	FC	FC	FC	FC	FC	FC	FC
Eastern Bering Sea Tanner Crab (east of 166° W longitude)								
1998 - 2005/06	FC	FC	FC	FC	FC	FC	FC	FC
2006/07	10.0%	187,500	4	5	56,440	135,457	840	34
2007/08	10.0%	344,500	3	7	61,983	143,424	484	22
2008/09	10.0%	276,300	3	5	117,930	276,246	1,596	55
Western Bering Sea Tanner Crab (west of 166° W longitude)								
1998 - 2004	FC	FC	FC	FC	FC	FC	FC	FC
2005/06	10.0%	162,000	6	10	75,686	161,572	611	37
2006/07	10.0%	109,400	8	10	41,404	86,949	663	20
2007/08	10.0%	217,600	6	8	26,498	56,520	513	10
2008/09	10.0%	153,700	4	10	326	441	441	<1

Note: CF = Confidential, FC = Fishery Closed.

[a] Guideline Harvest Level (GHL) 1998 - 2005, Total Allowable Catch (TAC) 2005/06-2008/09.

[b] Only Western Aleutian Islands golden king crab is associated with the ACA fishery.

[c] In pounds.

[d] Deadloss included.

[e] Number of legal crabs per pot pull.

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

Table 3-3.– The 1998-2008/09 crab Community Development Quota (CDQ) and Adak Community Allocation (ACA) program economic overview.

Season	Harvest[a,b]	Exvessel Value[c]	Fishery Value	Average Weight[a]	Pots	
					Registered	Lifted
Bristol Bay Red King Crab						
1998 - 2002	CF	CF	CF	CF	CF	CF
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
2005/06	1,822,096	$3.12	$5,684,940	6.7	2,095	15,376
2006/07	1,533,226	$3.16	$4,844,994	6.4	3,032	7,415
2007/08	2,029,855	$3.85	$7,847,397	6.3	2,109	11,475
2008/09	2,014,039	$5.02	$10,110,476	6.7	3,176	15,200
Pribilof Red King Crab						
1998	CF	CF	CF	CF	CF	CF
1999 - 2008/09	FC	FC	FC	FC	FC	FC
Pribilof Blue King Crab						
1998	CF	CF	CF	CF	CF	CF
1999 - 2008/09	FC	FC	FC	FC	FC	FC
St. Matthew Blue King Crab						
1998	CF	CF	CF	CF	CF	CF
1999 - 2008/09	FC	FC	FC	FC	FC	FC
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 - 2001	CF	CF	CF	CF	CF	CF
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	1,428	13,622
2005	1,844,555	$1.75	$3,227,971	1.4	1,065	3,345
2005/06	3,683,139	$0.87	$3,204,331	1.5	2,729	12,185
2006/07	3,621,164	$1.50	$5,431,746	1.2	2,730	9,307
2007/08	6,252,033	$1.64	$10,253,334	1.2	3,134	14,385
2008/09	5,822,739	$1.36	$7,918,925	1.3	2,707	15,316
Eastern Aleutian Islands Golden King Crab (east of 174° W longitude)						
2005/06 - 2006/07	CF	CF	CF	CF	CF	CF
2007/08	299,484	$2.18	$652,875	4.5	4,350	2,157
2008/09	313,592	$3.58	$1,122,659	4.7	4,600	2,611

-continued-

Table 3-3.–Page 2 of 2.

Season	Harvest[a,b]	Exvessel Value[c]	Fishery Value	Average Weight[a]	Pots	
					Registered	Lifted
Western Aleutian Islands Golden King Crab (west of 174° W longitude), ACA Fishery						
2005/06 - 2008/09	CF	CF	CF	CF	CF	CF
Western Aleutian Islands Red King Crab (west of 179° W longitude)						
2005/06 - 2008/09	FC	FC	FC	FC	FC	FC
Eastern Bering Sea Tanner Crab (east of 166° W longitude)						
1998 - 2005/06	FC	FC	FC	FC	FC	FC
2006/07	134,617	$1.57	$211,349	2.4	835	1,631
2007/08	142,940	$1.79	$255,862	2.3	615	2,824
2008/09	274,650	$1.71	$469,652	2.3	870	2,130
Western Bering Sea Tanner Crab (west of 166° W longitude)						
1998 - 2004	FC	FC	FC	FC	FC	FC
2005/06	160,961	$1.25	$201,201	2.1	170[d]	2,024
2006/07	86,286	$1.61	$138,920	2.1	150[d]	2,691
2007/08	56,007	$1.65	$92,412	2.1	390[d]	2,728
2008/09	0	$0.00	$0	1.4	670[e]	3,477

Note: CF = Confidential, FC = Fishery Closed.

[a] In pounds.

[b] Deadloss not included.

[c] Average price per pound.

[d] Pots registered include Tanner pots only; some fishermen utilized snow crab gear to harvest Tanner crab.

[e] Although three vessels registered Tanner crab pots, no vessels used them to harvest Tanner crab. All Tanner crab were harvested incidentally during the Bering Sea snow crab fishery.

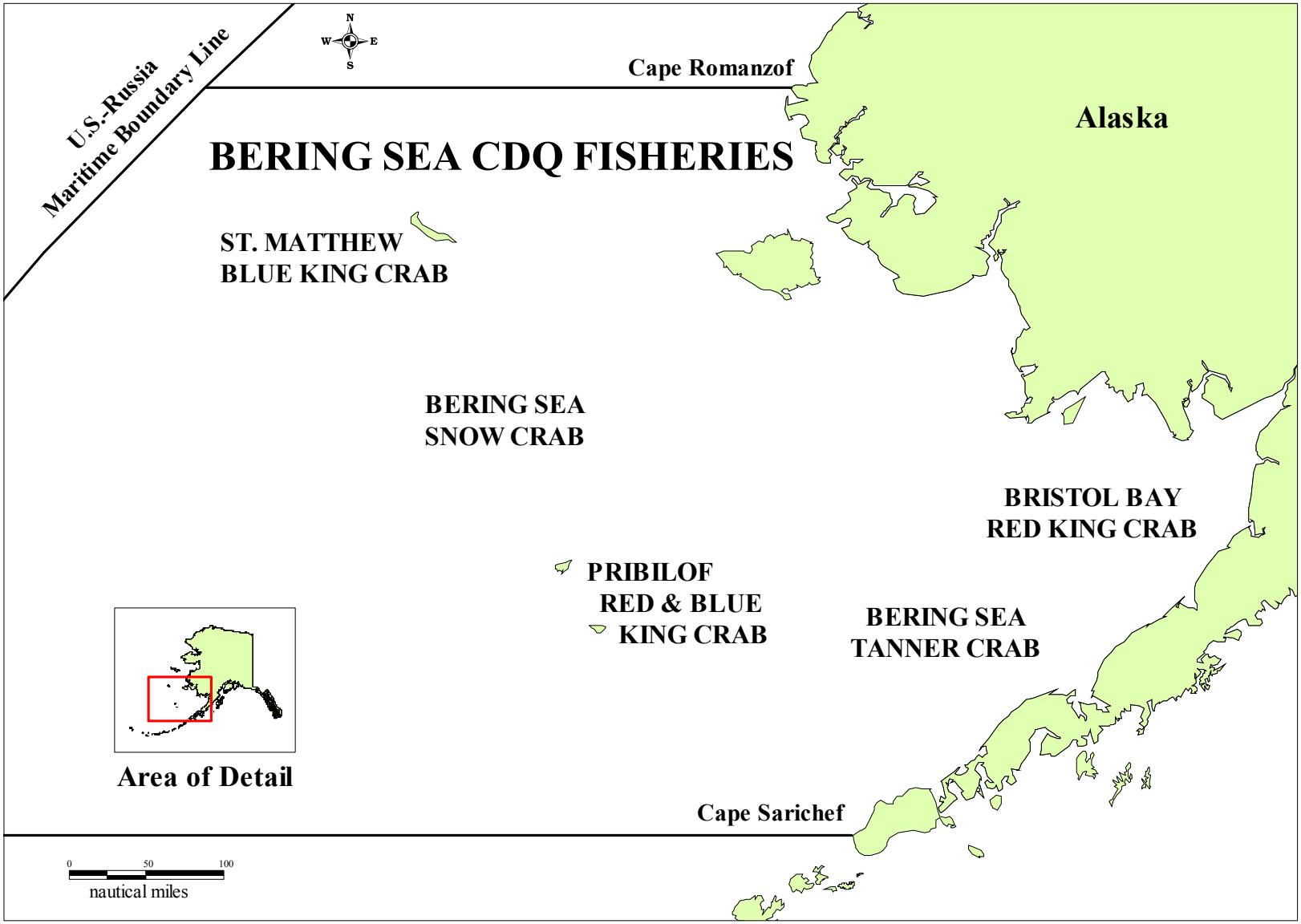

Figure 3-1.–Bering Sea Community Development Quota Program crab fisheries managed by ADF&G.

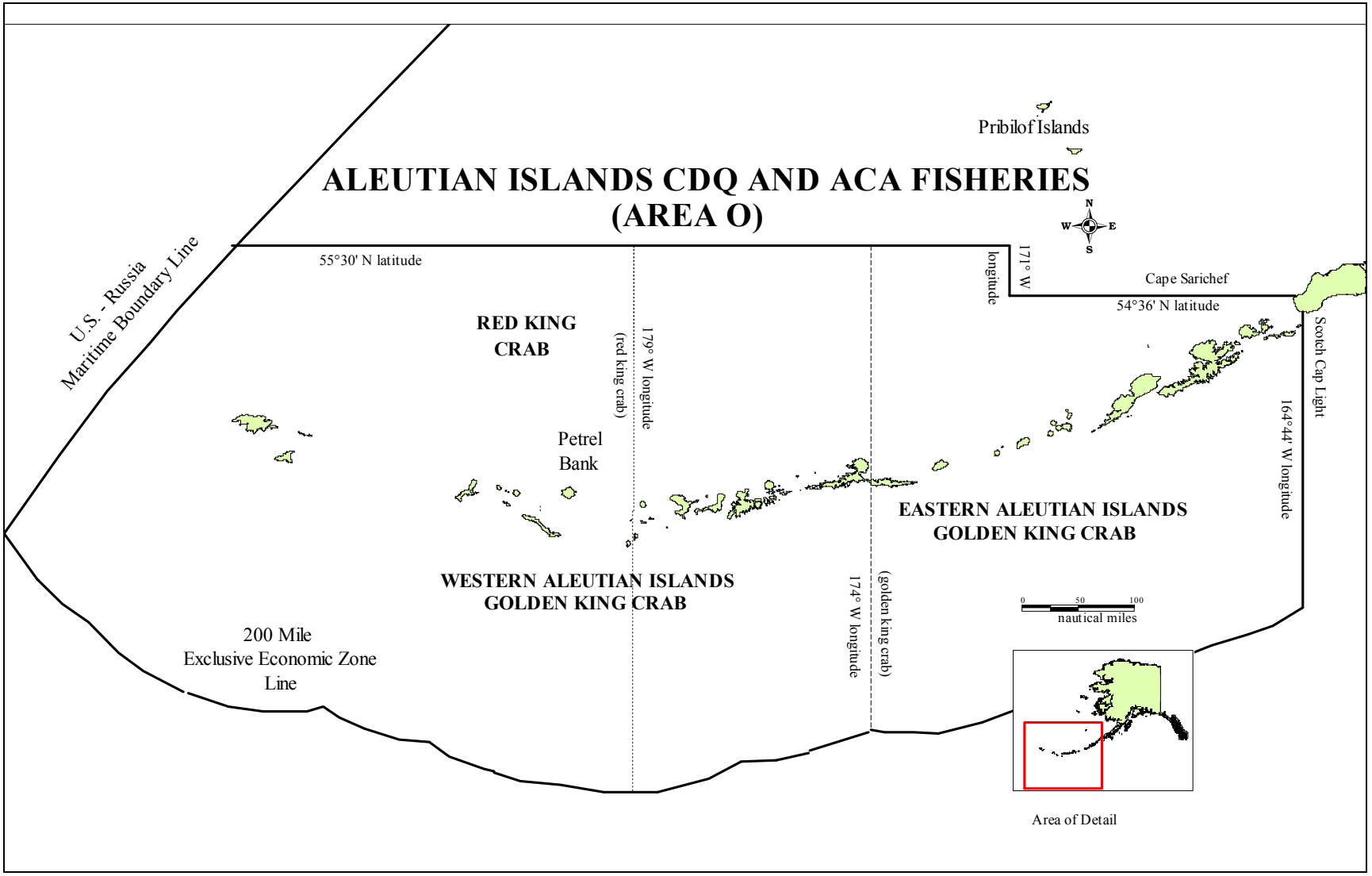

Figure 3-2.–Aleutian Islands Community Development Quota Program and Adak Community Allocation crab fisheries managed by ADF&G.

ANNUAL REPORT OF THE ONBOARD OBSERVER PROGRAM FOR THE BERING SEA AND ALEUTIAN ISLANDS CRAB AND STATEWIDE SCALLOP FISHERIES, 2008/2009

by
Mary Schwenzfeier

and

Melissa Salmon and Ryan Burt

Alaska Department of Fish and Game, Division of Commercial Fisheries
Dutch Harbor, Alaska

Alaska Department of Fish and Game
Division of Sport Fish, Research and Technical Services
333 Raspberry Road, Anchorage, Alaska 99518-1599

June 2010

199

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

Observer-collected data is a key component for the management of the Bering Sea-Aleutian Islands (BSAI) crab fisheries and to help meet the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act (MSRA) accountability measures and annual catch limit (ACL) requirements to define overfishing limits (OFL).

The ADF&G shellfish observer program has operated since 1988. Varying levels of observer coverage are required for the crab fisheries and observers deploy on catcher, catcher-processor, and floating processor vessels. Details of the program's history and structure, and the 2008/09 observer coverage levels and observer sampling efforts achieved during BSAI crab and statewide scallop fisheries are detailed in this report.

Key words: Tanner crab, *Chionoecetes bairdi*, snow crab, *C. opilio*, grooved Tanner crab, *C. tanneri*, triangle Tanner crab, *C. angulatus,* scarlet king crab, *Lithodes couesi, Paralomis multispinus*, golden king crab, *Lithodes aequispinus*, red king crab *Paralithodes camtschaticus*, blue king crab, *Paralithodes platypus,* weathervane scallop, *Patinopecten caurinus*, Community Development Quota, CDQ, crab rationalization, CR, Individual Fishing Quotas, IFQ, Adak Community Allocation, ACA, catch per unit effort, CPUE, guideline harvest level, GHL, Alaska Board of Fisheries, BOF, National Marine Fisheries Service, NMFS, Bering Sea, Aleutian Islands, BSAI, District, deployment, observer-days, catcher processor, C/P, catcher vessel, C/V, floater processor, F/P, bycatch, University of Alaska Anchorage, UAA, North Pacific Fisheries Observer Training Center, OTC, North Pacific Groundfish Observer Program, NPGOP, legal tallies, confidential interviews, CIF, species composition sample, size frequencies, United States Coast Guard, USCG, Commercial Fishing Vessel Safety Examination, CFVSE, Crab Observer Oversight Taskforce, COOTF, Magnuson-Stevens Fishery Conservation and Management Act, MSFCMA, MSA, NS1, The Fishery Management Plan for the Commercial King and Tanner Crab Fisheries in the Bering Sea/Aleutian Islands, FMP, onboard observer.

INTRODUCTION

Onboard observer data collection and fishery monitoring is an integral component of fisheries management. The Magnuson-Stevens Fishery Conservation and Management Act (MSA) 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 1998 and U.S. Department of Commerce 2007). The State of Alaska (SOA) Shellfish Onboard Observer Program has evolved to help meet the MSA, National Standard 1 (NS1) that requires all MSA mandated Fishery Management Plans (FMP) comply with annual catch limits (ACLs) and accountability measures (AMs), and end all overfishing by 2011.

The State of Alaska 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 history and structure of the observer program, and documents crab and scallop observer sampling efforts during the 2008/09 Bering Sea and Aleutian Islands (BSAI) crab and 2008/09 statewide scallop fisheries.

HISTORY OF THE SHELLFISH ONBOARD OBSERVER PROGRAMS

CRAB OBSERVER PROGRAM

The Alaska Board of Fisheries (BOF) adopted regulations in 1988 requiring observers on all vessels that process king crab including red king crab *Paralithodes camtschaticus*, blue king crab *P. platypus,* golden king crab *Lithodes aequispinus*, and Tanner crab *Chionoecetes bairdi* within waters under the jurisdiction of the state. The observer requirement was prompted by catch information collected by the Alaska Department of Fish and Game (ADF&G) suggesting illegal processing of undersize and female crab by catcher-processors (C/Ps) in BSAI fisheries. The Shellfish Onboard Observer Program was initially designed to monitor compliance of sex and size regulations of retained crab, and collect data for inseason management of BSAI crab fisheries.

The first crab observer deployments occurred in September 1988 during the Bristol Bay red king crab fishery. In 1990, the BOF broadened observer coverage to include vessels processing snow crab *C. opilio*. This observer coverage was considered necessary based on reports of undersize Tanner crab being processed and labeled as snow crabs. The BOF defined observer qualification standards, and observer duties and responsibilities. In the fall of 1991, the BOF adopted observer certification and decertification standards.

In 1993, ADF&G required vessels to carry observers as a condition of the permit for fishing hair crab *Erimacrus isenbeckii* in the Bering Sea. Regulations implemented in 1994 allow ADF&G to require, as a condition of the commissioner's permit, 100% observer coverage on vessels targeting grooved Tanner crab *C. tanneri,* triangle Tanner crab *C. angulatus,* scarlet king crab *Lithodes couesi,* and *Paralomis multispinus*. Management and research of these fisheries rely on observers to collect biological data on retained and discarded crab to determine impacts of fishing activities on crab populations. Beginning in 1995, observers were required on all vessels fishing Aleutian Islands red king crab and golden king crab.

An amendment to the MSA in 1996 provided for the development and implementation of a Community Development Quota (CDQ) program for specific crab fisheries in the Bering Sea. The CDQ fisheries were incorporated into the existing state-managed shellfish fisheries in 1998, when six CDQ groups were designated for participation in the Bering Sea and Bristol Bay crab fisheries. Beginning in 1998 CDQ fisheries for Saint Matthew Island blue king crab, and Pribilof red and blue king crab, Bristol Bay red king crab and Bering Sea snow crab were prosecuted. Between 1999 and 2005 the only CDQ fisheries prosecuted were for Bristol Bay red king crab and Bering Sea snow crab, where the CDQ fisheries would commence 72 hours after the closure of the general crab fisheries. Observer coverage requirements in the CDQ fisheries fluctuated. Observer coverage for Bristol Bay red king crab, Saint Matthew Island blue king crab, and Pribilof red and blue king crab CDQ fisheries was set at 100% of all fishing operations on all vessels during 1998 through 2000 and in 2001 through 2004 observer coverage was reduced to one catcher vessel (C/V) per group at any time CDQ crab were being harvested. Observer coverage requirements for the Bering Sea snow crab CDQ fishery were set at 100% of all C/V fishing operations in 1998. In 1999 observer coverage for CDQ snow crab was reduced to one observer per CDQ group, with each group's observer deploying for at least one trip on each C/V in the group. In 2000 through 2005 the observer requirement was increased to two C/Vs per

group at any time CDQ snow crab were harvested. All processing vessels participating in CDQ crab harvest are required to carry an observer during 100% of their fishing.

Within 10 years of the inception of the observer program, the number of C/Ps participating in various BSAI crab fisheries had decreased significantly, reducing the total number of deployed observers. Consequently, observer-collected data no longer provided sufficient information about the fleet's activities in those fisheries and restricted the department's ability to adequately monitor fleet wide harvest and bycatch information. 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 recommendations for the observer program 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 under State of Alaska test-fishery authority (Boyle and Schwenzfeier 2000). The test-fishery funded portion of the program began July 1, 2000.

With a marked increase in observer participation on C/Vs beginning in 2000, observer training and logistic efforts could not meet industry demands. To address observer shortages, the BOF in 2002 relaxed conflict of interest standards by increasing any one crab observer's time on any one vessel during 12 consecutive months from 90 days to 120 days in fisheries greater than 75 days in length. Additionally, because of problems with observer retention due to the shorter pre-rationalized crab fishing seasons, crab observer trainee permits are allowed to be extended 365 days at the department's discretion so that a trainee observer may gain additional experience, if warranted, to obtain full certification.

In March 2005 the BOF passed rationalization regulations for Bering Sea and Aleutian Islands crab fisheries. Regulations decreased C/V observer coverage in the Aleutian Islands golden king crab fishery and increased observer coverage on C/Vs for Bristol Bay red king crab (BBR), St. Matthew Island blue king crab (SMB), Pribilof king crab (PIK), Eastern Bering Sea Tanner crab (EBT), Western Bering Sea Tanner crab (WBT) and Bering Sea snow crab (BSS) fisheries. There were no changes in observer coverage levels for the non-quota BSAI crab fisheries. Observer coverage for all BSAI quota fisheries are addressed in shellfish fishery regulation 5 AAC 39.645. Quota fisheries that require observer coverage are the Adak Community Allocation (ACA), CDQ, and IFQ fisheries. The ACA fishery was created by the North Pacific Fishery Management Council (NPFMC) with the rationalization of the BSAI crab fisheries.

With the implementation of crab rationalization in August 2005 there are no longer separate fishery seasons; CDQ and IFQ crab fishery season dates are now identical and crab for both quotas are often harvested together on the same vessel. Crab fisheries currently included in the CDQ program since 2005 are Aleutian Islands golden king crab east of 174° West Longitude, Bristol Bay red king crab, Norton Sound red king crab, St. Matthew Island blue king crab, Pribilof red and blue king crab, and Bering Sea Tanner and Bering Sea snow crab (Table 4-1).

Observer coverage is implemented in two ways for C/Vs in the BSAI crab quota fisheries. For the Aleutian Islands golden king crab fishery, a percentage of the total harvest weight of each C/V is observed. Catcher vessel observer coverage in BBR, EBT, WBT, and BSS fisheries may be met by either requiring that a percentage of the harvest on each vessel be observed, or the department may select a certain percentage of the registered vessels to carry observers for 100% of their fishing time. Observer coverage requirements for SMB, PIK, and Western Aleutian

Islands red king crab (WAI) fisheries are 100% for all fishing activities on all participating vessels. Observer requirements for all processing vessels in all BSAI crab fisheries remains at 100% coverage for all fishing activities.

SCALLOP OBSERVER PROGRAM

From the inception of the Alaska weathervane scallop fishery in 1967 until the influx of scallop boats into the fishery from the east coast of the U.S. in the early 1990s, the fishery was open year-round in many parts of the state, without harvest restrictions (Barnhart 2006). However, vessels were registered to conduct fishing under a commissioner's permit which could stipulate location and duration of harvest, limit gear and other harvest procedures, and require periodic or annual reporting. 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.

By 1993, scallop fishery management changed in response to increased effort. Concerns from industry and ADF&G about crab bycatch and overharvest of the scallop resource prompted the Commissioner of ADF&G, under 5 AAC 39.210 MANAGEMENT PLAN FOR HIGH IMPACT EMERGING FISHERIES, 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 other registration areas within the state. The interim management plan also 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 (Rosenkranz and Burt 2009).

The majority of the weathervane scallop fishery vessel owners formed a vessel cooperative program prior to the 2000/01 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 vessel owners are members of the cooperative. The cooperative has led to fewer vessels in the fishery, so it is important that all remaining vessels have 100% observer coverage in order to collect adequate data to manage the fishery and ascertain its impacts.

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." Data collected from the scallop fishery are used to manage the fishery inseason, set guideline harvest levels, monitor crab bycatch, ensure established crab bycatch caps are not exceeded, and provide for regulatory enforcement. Additionally, the data provide information about catch composition, habitat, and the scallop resource. These data are necessary to achieve the requirements set out in the MSA and the Federal Fisheries Management Plan for the Scallop Fishery off Alaska including the sustained yield of the shellfish resource without over fishing. In most areas of the state, the department does not conduct scallop stock assessment surveys, and observer-collected data are vital to the management of the resource. In areas where

fishery independent assessment surveys do occur, fishery data provide another perspective on the health of the stock.

SHELLFISH OBSERVER PROGRAM REGULATIONS AND GUIDELINES

Shellfish Observer Program regulations were originally adopted at the 1988 BOF meeting. During the development of the state's shellfish observer program, the BOF and state legislature, through public processes, have adopted and placed observer program regulations and statutes into law. The statutes and regulations that define responsibilities for ADF&G, observer companies, observers, and vessels 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, and 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

ADF&G 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 protocols. Department personnel continue to develop the program with a progressive outlook towards 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 observer 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 2008/09, five independent contracting agents were authorized to provide onboard observers: Alaskan Observers Inc. (AOI), Marine Resources Assessment Group Americas (MRAG), Northwest Observers (NWO), Saltwater Incorporated (SWI), and TechSea International (TSI).

OBSERVER RESPONSIBILITIES

Observer qualifications require a minimum of a Bachelor's degree in biology or any branch of biology, a valid National Marine Fisheries Service (NMFS) observer certification, or other fisheries related experience or education approved by the department, including minimum qualification requirements for an entry-level ADF&G fishery biologist position. Observer candidates are required to undergo ADF&G-approved training and must demonstrate 90% proficiency on the ADF&G observer examination. As part of their instruction, observers must also participate in a practical training exercise administered by ADF&G. As representatives of ADF&G, observers are required to adhere to a detailed set of professional standards outlined

throughout program regulations listed in this section. Prior to 1991, observer companies trained crab observers. Currently the University of Alaska Anchorage North Pacific Fisheries Observer Training Center (OTC) located in Anchorage trains all BSAI crab, statewide scallop, and a large percentage of the North Pacific and BSAI groundfish observers. The OTC is supported with university and federal funds.

VESSEL OWNER AND OPERATOR RESPONSIBILITIES

By regulation the cost of observers is either borne by the individual vessel or funded by ADF&G. When required, vessel owners and operators procure observers through a certified observer contractor. Each vessel must provide their observer with food and accommodations equal to that of the vessel's crew. Each vessel must also dedicate a safe work area, necessary totes to hold the entire contents of each sample pot, and allow the observer opportunity and time to adequately sample the catch according to specific ADF&G data collection requirements. Accurate fishing effort, location, and harvest data are to be provided to the observer as well as access to communication equipment for the purpose of communicating with ADF&G.

The MSFCMA and ADF&G commercial shellfish fishing regulations require that each vessel carrying an observer meet United States Coast Guard (USCG) commercial fishing vessel safety standards and possess 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.

SHELLFISH OBSERVER DUTIES

Fisheries observers are tasked with an important and serious job. They are required to accomplish duties that no one else on the vessel is assigned to do. Observers must have the ability to successfully and objectively complete independent work assignments under sometimes harsh and potentially dangerous conditions. Observers conduct species composition sampling of retained catch and bycatch, and record data on retained catch, fishing effort, and location. Observers prepare and code reports on vessel and observer activity, then periodically send the reports to the ADF&G observer program office via single-side band radio, facsimile, e-mail, or telephone.

Fisheries observers regularly monitor fishing operations for regulatory compliance. The Division of Alaska Wildlife Troopers (AWT) assists OTC and ADF&G staff with instruction of observers for evidence collection, documentation, and proper chain-of-custody procedures. In the event that a potential violation is encountered, troopers will interview the observer and may 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 conducted when the observer first boards the vessel.

Observers are additionally assigned special projects that may include collecting shellfish, finfish, and other marine specimens; gathering tissue specimens for genetic stock identification, egg clutches for fecundity studies, morphometric data for scallop or crab-aging studies; facilitating tag-recovery studies; documenting specific seabird and mammal observations; recording data on biotwine endurance-to-breakage; and assessing crab reflex behavior for mortality studies.

Observer instructions for sampling species composition of catch and bycatch differ between crab and scallop fisheries because pots are used to catch crab and bottom-dredges are used to harvest

scallops. Crab observers conduct species composition sampling on the entire contents of crab pots using two possible methods; measurement-pot or count-pot samples. A measure-pot sample identifies, measures, and assesses biological conditions of all organisms in the selected pot and a count-pot sample identifies, counts, and assesses biological conditions of all organisms in the pot. Scallop observers sample the entire contents on a specified number of dredges from either the port or starboard side of their vessel. Instructions and protocols for crab and scallop observers are thoroughly described in the Crab Observer Training and Deployment Manual (ADF&G Shellfish Observer Program, September 2008) and the Scallop Observer Training and Deployment Manual (ADF&G Shellfish Observer Program, June 2008)

CRAB CATCHER-PROCESSOR VESSEL

Duties that are specific to crab C/P vessels require each observer to 1) interview the vessel operator for confidential catch and effort information, 2) collect biological data on the entire contents of a specified number of randomly selected pots for species composition sampling, 3) conduct size frequency sampling of up to 100 randomly selected retained crabs for the purpose of determining carapace size and shell condition, 4) daily obtain an average weight from a specified number of retained crabs, and 5) monitor size, sex, and species data for a legal tally of up to 600 retained crabs conducted throughout the day.

CRAB FLOATING-PROCESSOR VESSEL

Floating-processor (F/P) crab observer sampling duties are conducted on each vessel delivering to the processor and require each observer to 1) interview the delivering vessel's captain 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 condition, and 4) monitor size, sex, and species data for a legal tally of 600 retained crabs during the offload.

CRAB CATCHER-ONLY VESSEL

Observer duties specific to crab C/Vs include 1) interviewing the vessel operator daily for confidential catch and effort information, 2) during each fishing day collect biological data on the entire contents of a specified number of randomly selected pots for species composition, 3) during delivery, determine the average weight of retained crabs, 4) during delivery, conduct size frequency sampling of up to 100 randomly selected retained crabs for the purpose of determining carapace size and shell condition, and 5) during delivery monitor size, sex, and species data for a legal tally of 600 retained crabs.

SCALLOP CATCHER-PROCESSOR VESSEL

Daily observer duties on board a scallop vessel include 1) conducting scallop catch sampling from a specified number of randomly selected tows, which includes documenting the retained and discarded scallop catch, as well as enumerating, weighing, measuring, and assessing the condition of scallops, commercially important crab species, and Pacific halibut; 2) conducting species composition sampling from one randomly selected tow to document the catch of all species and debris; 3) collecting retained scallop shells for shell-aging; 4) summarizing daily fishing and production data from each statistical area and number of dredges fished; and 5) transmitting catch reports with fishing effort, sampling activities, and retained catch data to ADF&G for inseason management.

2008/2009 OBSERVER PROGRAM ACTIVITY

OBSERVER PROGRAM TEST FISHERY

The ADF&G reports annually to the BOF appointed COOTF with a review of test fishery funded expenditures in various BSAI fisheries. The COOTF is advisory to the BOF, interacts with and is also advisory to the department with regard to test fishery expenditures and observer coverage levels in specific fisheries.

During the March 2005 BOF meeting, observer coverage levels for all quota fisheries were established in the State's commercial shellfish fishing regulations (Table 4-1). The Shellfish Observer Program has utilized test-fishery funding for a portion of the costs of BSAI crab observer coverage since 1999. The test fishery authority was originally capped at $650,000 and structured as a revolving fund which, if funds generated were not expended in one fiscal year those funds would be available in the following fiscal year. The allocation cap was increased to $875,000 starting in Fiscal Year (FY) 2006 to aid in funding the increased catcher vessels' observer coverage costs as a result of crab rationalization. The most recent test-fishery harvest was 78,670 pounds of Bristol Bay red king crab in October 2007 and generated $315,000 in revenue (Tables 4-2 and 4-3). The test fishery harvest and sale of crab was contracted to the highest bidder responding to the department's publicly solicited Invitation to Bid (ITB).

OBSERVER DEPLOYMENTS BY FISHERY

2008/09 ALEUTIAN ISLANDS GOLDEN KING CRAB FISHERY OBSERVER ACTIVITY

The 2008/09 EAG and WAG season opened to fishing on August 15, 2008 with a total allowable catch (TAC) of 5.985 million pounds. Five vessels participated in the fishery, including four C/Vs and one C/P.

Observer coverage requirements implemented in 2005 with crab rationalization for all C/Vs harvesting under IFQ, CDQ, and ACA permits are mandatory for 50% of each vessel's total golden king crab harvest in each of the eastern and western management areas, in each of three trimesters (August 15 to November 15, November 16 to February 15, and February 16 to May 15). "Observed harvest" is defined as the observer being present and acting in the capacity of an onboard observer during harvest and delivery. All C/V observers are secured and paid for directly by the participating vessels. Observer coverage required for C/Ps and F/Ps is set at 100% and observers were secured and paid for directly by the participating vessels.

Observers placed on C/Vs fishing both east and west of 174° West longitude were assigned a species composition sampling goal of six measurement and four count pots per fishing day, and C/P observers were assigned a species composition sampling goal of four measurement and no count pots per fishing day. Observers in both EAG and WAG reported harvest information every Monday by e-mail, fax, phone, or radio. Observers deployed in EAG reported all tagged golden king crab recovered, and those participating in WAG were required to measure and document 100% of the red king crab bycatch.

Catcher vessels in both EAG and WAG delivered 4,504,102 pounds of golden king crab with 61.9 percent or 2,787,803 pounds of the weight observed. One C/P made 20 deliveries and harvest information for the vessel is confidential. The entire fleet lifted a total of 50,666 pots of which 32,694 occurred while an observer was onboard (Table 4-4 and 4-5).

Observers sampled 1,585 pots in EAG and WAG for a 3.1% sample rate of all pots lifted. Observers on C/Vs sampled 1,258 of the pots lifted and completed 19 legal tallies and 24 size frequency samples. Observers on the C/P sampled 327 pots and completed 94 legal tallies and 94 size frequency samples (Table 4-5).

A total of 8,778 pot lifts from 13 statistical areas had less than 50% observer coverage, of those, two statistical areas with a total of 105 pot lifts were not observed. Another 8,673 pot lifts in 11 statistical areas were between 15 and 49 percent observed. The remaining 41,988 pot lifts in the other 45 statistical areas where golden king crabs were harvested were between 50 and 100 percent observed (Table 4-6).

All but one catcher vessel that harvested Aleutian Islands golden king crab maintained a 50% or greater observer coverage level for each management area and trimester. No fishing activities or harvest were observed during the first three weeks of the fishery from August 15 through the first week in September (statistical weeks 33 through 36) nor during the final weeks of the fishery from the first week of April through May 15 (statistical weeks 15 - 20), (Figure 4-1).

2008/09 Aleutian Islands Scarlet King Crab Fishery Observer Activity

No vessels registered to harvest scarlet king crab in 2008. Historic observer activity data for this fishery are not available because harvest of scarlet king crab has been minimal and incidental to golden king crab harvest. This fishery was not rationalized and scarlet king crab may no longer be harvested at the same time as golden king crab in the Aleutian Islands. Observer coverage requirements in this fishery are not set in regulation and are determined at the time that a commissioners permit is issued. Because little is known about scarlet king crab, observer coverage will be required during all fishing activities.

2008/09 Bristol Bay Red King Crab Fishery Observer Activity

The 2008/09 Bristol Bay red king crab season opened to fishing on October 15, 2008 with a TAC of 20.364 million pounds. Seventy-eight vessels participated in the fishery, including 75 C/Vs, and three C/Ps. No F/Ps took deliveries for the 2008/09 season. Twenty percent or 18 of the 2008/09 BBR preseason-registered C/Vs (intent to fish) were randomly selected to carry observers for 100% of their fishing activity. ADF&G covers costs of observer coverage for C/Vs in this fishery. One hundred percent observer coverage was mandatory for the C/Ps, and observers were secured and paid for directly by the vessels.

Observers on C/Ps and C/Vs were assigned a daily species composition sampling goal of four and seven measurement pots, respectively. All observers reported harvest information weekly.

The 2008/09 BBR season closed to all fishing activity on January 15, 2009. Eighteen of the 75 C/Vs that registered for BBR carried observers accounting for 24% of the C/V fleet with observers onboard.

The fleet lifted a total of 139,939 pots during the fishery, made 289 deliveries and landed 20,329,402 pounds of crab from a TAC of 20,364,000 pounds. Observed vessels lifted 39,101 pots and landed 5,576,125 pounds of crab. Catcher vessel harvest was 24.3% observed and C/V pot lifts were 23.7% observed (Table 4-7, 4-8, and 4-9).

Observers sampled a total of 1,820 pots, accounting for 4.7% of pots lifted on observed vessels. Catcher vessel observers sampled 1,634 (5.2%) of 31,478 pots lifted on observed C/Vs and conducted 56 size frequency samples and 50 legal tallies. Observers on C/Ps sampled 186 (2.4%) of the pots lifted on C/Ps and conducted 48 size frequency samples and 48 legal tallies. Observers on all vessels sampled 1.3% of all pots lifted by the fleet (Table 4-8).

A total of 22,624 pot lifts from eight statistical areas had less than 20% observer coverage, of that, 1,206 pot lifts in five statistical areas were not observed and 21,418 pot lifts in three statistical areas were between 10 and 17 percent observed. The remaining 117,315 pot lifts in the 17 other statistical areas where red king crabs were harvested were between 20 and 100 percent observed (Table 4-9).

With the exception of the fishing effort during the third week in November (statistical week 47) and the last three weeks of harvest (statistical week 50, 51, 1, and 2), observer coverage levels were maintained at greater than 24% of the harvest during each week of fishing activity (Figure 4-2).

2008/09 Eastern and Western Bering Sea Tanner Crab Fishery Observer Activity

The 2008/09 Eastern Bering Sea Tanner crab season opened to fishing on October 15, 2008 with a TAC of 2.763 million pounds. The 2008/09 Western Bering Sea Tanner crab season opened to fishing on October 15, 2008 with a TAC of 1.537 million pounds.

During the 2005/06 - 2008/09 Bering Sea Tanner crab fisheries ADF&G required 100 percent observer coverage on 30 to 100 percent of the catcher vessels that engaged in directed harvest of Tanner crab. The ADF&G covers costs of observer coverage for C/Vs in this fishery.

Eighty-three C/Vs preseason registered with intent to fish EBT, 10 vessels registered and harvested EBT, and nine of those vessels carried observers.

Eighty-two C/Vs preseason registered with intent to fish WBT, seven vessels registered and six of those vessels carried observers.

Observers on C/Vs were assigned a species composition sampling goal of three measurement pots and three count pots per fishing day, and observers on C/Ps were assigned two measurement and two count pots per fishing day for species composition sampling. All observers reported harvest and effort information to the department on a weekly basis.

The 2008/09 EBT and WBT crab seasons closed to all fishing activity on March 31, 2009.

The fleet lifted a total of 65,965 pots during EBT and WBT, made 149 deliveries and landed 1,939,571 pounds of crab from a TAC of 4.3 million pounds. Observed C/Vs lifted 33,748 pots and landed 1,611,815 pounds of crab. Observed vessels landed 82.9% of the total pounds harvested and hauled 52% of the total pots lifted. Observer sampled 2% of all pot lifts on observed vessels (Tables 4-10 and 4-11).

A total of 7,024 pot lifts from 13 statistical areas had less than 30% observer coverage, of that 350 pot lifts in three statistical areas were not observed and 6,674 pot lifts in three statistical areas were between 5 and 29 percent observed. The remaining 58,941 pot lifts in the other 33 statistical areas of Tanner harvest were between 30 and 100 percent observed (Table 4-12).

Tanner harvest observed was less than 30% for 4 of the 22 weeks of the fishery, with no harvest observed during the second week in October, the first week in January, and second and last week in March (statistical weeks 42, 3, 11, and 14). Harvest during all other statistical weeks ranged from 36 to 100 percent observed (Figure 4-3).

2008/09 Bering Sea Snow Crab Fishery Observer Activity

The 2008/09 Bering Sea snow crab season opened to fishing on October 15, 2008 with a TAC of 58.550 million pounds. Seventy-seven vessels participated in the fishery, including 73 C/Vs, four C/Ps, and one F/P.

Twenty-five or 34% of the 73 C/Vs carried observers during the season. Catcher vessels were randomly selected to carry observers from the 2008/09 BSS preseason registrants intending to fish. ADF&G paid the cost of observer coverage on C/Vs selected to carry observers. All crab processing vessels were required to carry an observer during all fishing activity and were responsible for securing and covering all observer costs.

Observers on C/Vs were assigned a species composition sampling goal of one measurement and three count pots per fishing day, and observers on C/Ps were assigned one measurement and two count pots per fishing day for species composition sampling. All observers reported harvest and effort information weekly to the department.

The fleet lifted a total of 163,536 pots during the fishery, made 487 deliveries and landed 58,547,849 pounds of crab from a TAC of 58,550,000 pounds. Observed vessels lifted 56,424 pots and landed 19,163,232 pounds of crab. Catcher vessel harvest was 26.7% observed and C/V pot lifts were 27.4% observed (Tables 4-13 and 4-14).

Observers sampled a total of 1,713 pots, accounting for 3% of pots lifted on observed vessels. Catcher vessel observers sampled 1,297 (3.2%) of 40,587 pots lifted on observed C/Vs and conducted 99 size frequency samples and 98 legal tallies. Observers on C/Ps sampled 416 (2.6%) of the pots lifted on C/Ps and conducted 194 size frequency samples and 184 legal tallies. Observers on all vessels sampled 1% of all pots lifted by the fleet (Table 4-14).

A total of 25,442 pot lifts in seventeen statistical areas had less than 30% observer coverage, of that, 20 pot lifts in two statistical areas were not observed and 25,422 pot lifts in 15 statistical areas were between six and 29 percent observed. The remaining 138,114 pot lifts in the other 24 statistical areas where snow crabs were harvested were between 30 and 100 percent observed (Table 4-15).

Snow crab deliveries began the last week in November (statistical week 48) and continued through the first week of May (statistical week 19). Observer coverage rates dipped below 30% of the harvest at 17%, 28%, 12%, 29%, 23%, 7%, 16%, 14%, and 0% for nine weeks during the first week of January, second week in February, second, third and last week in March, first and third week in April and last week in May (statistical weeks 2, 7, 11, 12, 14, 15, 17, and 19). During the other 15 statistical weeks 32 to 100% of the harvest was observed. The harvest deliveries peaked the third week in January and the second week in March (statistical weeks 4 and 11) (Figure 4-4).

2008/09 Bering Sea Golden King Crab Fishery Observer Activity

No vessel(s) registered for either the Saint Matthew Island Section or the Pribilof District in the Bering Sea golden king crab fishery during 2008. The observer coverage requirement in this

fishery is set at 100% for all vessels (Table 4-1). Historic observer activity in this permit fishery can be found in Table 4-16.

2008/09 Aleutian Islands Red King Crab Fishery Observer Activity

Aleutian Islands red king crab fisheries were closed during 2008/09 because of low stock abundance. The observer coverage requirements for these fisheries are set at 100% for all vessels (Table 4-1). Historic observer activity information for the 2001 through 2003 Petrel Bank red king crab fishery is in Table 4-17.

2008/09 Bering Sea Grooved Tanner Crab Fishery Observer Activity

No vessel(s) registered to harvest Bering Sea grooved Tanner crab in 2008. The observer coverage requirement in this fishery is set at 100% for all vessels (Table 4-1). Historic observer activity in this permit fishery can be found in Table 4-18.

2008/09 Bering Sea Triangle Tanner Crab Fishery Observer Activity

No vessel(s) registered to harvest Bering Sea triangle Tanner crab in 2008. Harvest of triangle crabs is typically incidental to grooved Tanner crab catch. The observer coverage requirement in this fishery is set at 100% for all vessels (Table 4-1). Historic observer activity data for this permit fishery are confidential.

2008/09 Aleutian Islands Grooved Tanner Crab Fishery Observer Activity

No vessel(s) registered to harvest grooved Tanner crab in 2008. The observer coverage requirement in this fishery is set at 100% for all vessels (Table 4-1). Historic observer activity in this fishery can be found in Table 4-18.

2008/09 Aleutian Islands Triangle Tanner Crab Fishery Observer Activity

No vessel(s) registered to harvest triangle Tanner crab in 2008. Harvest of triangle crab is typically incidental to grooved Tanner crab. The observer coverage requirement in this fishery is set at 100% for all vessels (Table 4-1). Historic observer activity data for this fishery are not available because harvest of triangle Tanner crab was minimal and incidental to grooved Tanner crab harvest.

2008/09 South Peninsula Grooved Tanner Crab Fishery Observer Activity

No vessel(s) registered to harvest grooved Tanner crab in 2008. The observer coverage requirement in this fishery is set at 100% for all vessels (Table 4-1). Historic observer activity in this fishery can be found in Table 4-18.

2008/09 St. Matthew Island Section Blue King Crab Fishery Observer Activity

This fishery has been closed since 1999 due to low stock abundance. The observer coverage requirement in this fishery is set at 100% for all vessels (Table 4-1). Historic observer activity data for the general fishery are confidential because of the small number of observed vessels that participated in the fishery.

2008/09 Pribilof District Red and Blue King Crab Fishery Observer Activity

This fishery has been closed since 1999 due to low stock abundance. The observer coverage requirement in this fishery is set at 100% for all vessels (Table 4-1). Historic observer activity data for the general fishery are confidential because of the small number of observed vessels that participated in the fishery.

2008/09 Bering Sea Hair Crab Fishery Observer Activity

The Bering Sea hair crab fishery has been closed since 2001 due to low stock abundance. The observer coverage requirement in this fishery is set at 100% for all vessels (Table 4-1). Historic observer activity data for this miscellaneous fishery are not available for this report.

2008/09 Bristol Bay Golden King Crab Fishery Observer Activity

This fishery occurred once. The one participant harvested golden king crab during March of 2004. One hundred percent observer coverage was required. Data are confidential for this permit fishery due to low participation.

2008/09 Weathervane Scallop Fishery Observer Activity

The 2008/09 Statewide scallop season opened on July 1, 2008 except in the Cook Inlet Registration Area, where it opened August 15. Throughout the 7.5-month regulatory season, four C/Ps fished in six registration areas: Yakutat, Prince William Sound, Kodiak, Alaska Peninsula, Dutch Harbor and Bering Sea. All vessels were required to carry onboard observers 100% of the time except 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 2008/09 scallop season, AOI and SWI provided all observers for the 16 deployments throughout the season.

The first 4 briefings occurred in Anchorage on June 26, 2008 for the Prince William Sound and Kodiak registration areas. Twelve additional briefings, 3 midtrip debriefings and 16 final debriefings were conducted throughout the year in Juneau, Yakutat, Homer, Kodiak and Dutch Harbor. The last debriefing was held on October 13, 2008 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 five different tows per day. Of the five sampled tows, the daily goal was to sample a single dredge from five different tows for scallop catch sampling and a single dredge from one tow for haul composition sampling. 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-collected data.

For the 2008/09 regulatory season, observers made 16 deployments, accounting for 9.9 deployment months (Table 4-19). Five deployments were made in the Yakutat registration area accounting for 31.3% of the total observer months, one deployment was made in the Prince William Sound registration area accounting for 6.3% of the total observer months and ten of the deployments were made in Westward Region registration areas accounting for 62.4% of the total observer months (Table 4-20). Observers sampled 1,042 of the 4,133 tows completed in the fishery for a sample rate of 25.2% (Table 4-21).

OBSERVER-COLLECTED DATA USE AND ANALYSIS

Shellfish observer-collected data are used to meet new MSA requirements that are intended to end and prevent overfishing. NMFS determines annual catch limits (ACLs) and establishes accountability measures (AMs) that include setting annual overfishing levels (OFLs) for all fisheries in federal waters. The OFL calculation accounts for all losses to a stock not attributable to natural mortality. BSAI crab observer-collected data exclusively provides crab fisheries information on bycatch discards and for calculating bycatch mortality, and also provides a large amount of data on directed-fishery retained catch. Scallop observer-collected data are used to manage the fishery inseason and to set harvest goals for the following season. Shellfish observer data are provided to local advisory committees, BOF, North Pacific Fishery Management Council (NPFMC), NMFS, and the public.

The MSA mandates collection of reliable data for fisheries conservation and management. Although ADF&G continues to collect retained catch data shore-side, it relies heavily on data collected on the fishing grounds by at-sea observers who are in a unique position to collect specific data on the fishing grounds. The crab and scallop observer-collected-data databases have accumulated enough information to become vital data sources for fisheries management and research. Some of the applications of crab observer-collected data are discussed in Schwenzfeier et al., (2000). Crab and scallop observer program database staff annually summarize the biological data collected by crab observers. The most recent summary and analysis of BSAI crab observer-collected data is available in Gaeuman 2009, and the most recent summary and analysis of statewide scallop observer-collected data is available in Rosenkranz and Burt 2009.

REFERENCES CITED

Alaska Department of Fish and Game Shellfish Observer Program (ADF&G). September 2008. Crab Observer Training and Deployment Manual. Alaska Department of Fish and Game, Division of Commercial Fisheries.

Alaska Department of Fish and Game Shellfish Observer Program (ADF&G). June 2008. Scallop Observer Training and Deployment Manual. Alaska Department of Fish and Game, Division of Commercial Fisheries.

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

Boyle, L., and M. Schwenzfeier. 2000. Alaska's Mandatory Shellfish Observer Program, 1988 - 2000. [*in*] 2002. A.J. Paul, E.B. Dawe, R. Elner, G.S. Jamieson, G.H. Kruse, R. S. Otto, B. Sainte-Marie, T.C. Shirley, and D. Woodby (eds.). Crabs in Cold Water Regions: Biology, Management, and Economics. University of Alaska Sea Grant, AK-SG-02-01, Fairbanks.

Gaeuman, W.B. 2009. Summary of the 2007/2008 mandatory shellfish observer program database for the rationalized crab fisheries. Alaska Department of Fish and Game, Fishery Data Series No. 09-76, Anchorage.

Rosenkranz, G. and R. Burt. 2009. Summary of observer data collected during the 2006/07 Alaska weathervane scallop fishery. Alaska Department of Fish and Game, Fishery Data Series No. 09-49, Anchorage.

Schwenzfeier, M., H. Moore, R. Burt, and R. Alinsunurin. 2000. Inquiry for application of data collected by observers deployed in the eastern Bering Sea crab fisheries. [*in*] 2002. A. J. Paul, E. B. Dawe, R. Elner, G. S. Jamieson, G. H. Kruse, R. S. Otto, B. Sainte-Marie, T.C. Shirley, and D. Woodby (eds.). Crabs in Cold Water Regions: Biology, Management, and Economics. University of Alaska Sea Grant, AK-SG-02-01, Fairbanks.

U.S. Department of Commerce. 1998. Magnuson-Stevens Fishery Conservation and Management Act. NOAA Technical Memorandum NMFS-F/SPO-23.

U.S. Department of Commerce. 2007. Magnuson-Stevens Fishery Conservation and Management Act as amended by the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act (P.L. 109-479). NOAA. May 2007 printing.

TABLES AND FIGURES

Table 4-1.–Observer coverage levels in the Bering Sea and Aleutian Islands crab fisheries.

Fishery	Pre-season registration deadline[a]	Catcher vessels (C/V)		At-sea processors	
		Observer coverage	Observer costs funded[b]	Observer coverage	Observer costs funded[b]
St. Matthew Is. Section blue king crab (SMB)	none	100%	no	100%	no
Pribilof District red & blue king crab (PIK)	none	100%	no	100%	no
Bristol Bay red king crab (BBR)	Sep-24	20%[c]	yes	100%	no
Eastern Bering Sea Tanner crab (EBT)	Sep-24	30% - 100%[c]	yes	100%	no
Western Bering Sea Tanner crab (WBT)	Sep-24	30% - 100%[c]	yes	100%	no
Bering Sea snow crab (BSS)	Sep-24	30%[c]	yes	100%	no
St. Matthew Is. Section golden king crab	none	100%	no	100%	no
Pribilof District golden king crab	none	100%	no	100%	no
Bering Sea hair crab	none	100%	no	100%	no
Grooved & triangle Tanner crab	none	100%	no	100%	no
Eastern Aleutian Islands golden king crab (EAG)	none	50%[d]	no	100%	no
Western Aleutian Islands golden king crab (WAG)	none	50%[d]	no	100%	no
Aleutian Islands red king crab (WAI)	none	100%	no	100%	no

Notes: C/V = catcher-only vessel, C/P - catcher-processor vessel

[a] When the pre-season vessel registration deadline occurs on a weekend or holiday, the deadline is extended to the next business day.

[b] C/V observer coverage is funded with test-fishery revenue and federal-fee grant.

[c] For Bristol Bay red king crab, and Eastern and Western Bering Sea Tanner and Bering Sea snow crab, the C/V coverage is the percentage of randomly selected C/Vs pre-season registered with intent to fish in each fishery where C/V observer deployment costs are paid for with test-fishery revenues and federal-fee grant.

[d] For Aleutian Islands golden king crab the coverage is set at a percentage of the harvest on each C/V.

Table 4-2.–Shellfish onboard observer program test-fishery harvest statistics, 1999–2008.

Year	Targeted Species	Number of Landings	Number of Crabs	Harvest[a,b]	Number of Pots Pulled	CPUE[c]	Average Weight[a]	Deadloss[a]
1999[d]	Bristol Bay red king crab	2	16,930	106,179	541	31.0	6.3	245
2000	No cost-recovery fishing							
2001[d]	Bristol Bay red king crab	2	13,065	90,151	463	28.2	6.9	103
2002[d]	Bristol Bay red king crab	1	10,837	71,661	198	54.7	6.6	134
2003	No cost-recovery fishing							
2004[d]	Bristol Bay red king crab	2	17,145	116,583	650	26.4	6.8	62
2005[e]	Bristol Bay red king crab	2	18,610	128,412	1,130	16.5	6.9	247
2006[e]	Bristol Bay red king crab	2	29,720	188,495	837	34.9	6.4	2,448
2007[e]	Bristol Bay red king crab	2	12,292	78,670	356	34.5	6.4	310
2008	No cost-recovery fishing							

Notes: IFQ = Individual Fishing Quota, CPUE = catch per unit effort

[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.

[e] Contracted vessel harvested IFQ crab in conjuction with test-fishery crab.

Table 4-3.–Economic performance of the shellfish onboard observer program test-fishery harvest, 1999–2008.

Year	Targeted Species	Harvest [a]	Exvessel Value			Charter Dates	Total Charter Days	Vessel Charter Cost
			Test-fish [b]	IFQ Fishery [b]	Total			
1999	Bristol Bay red king crab	105,934	$6.32	$6.26	$669,500	10/25-11/10	17	$40,800
2000	No cost-recovery fishing							
2001	Bristol Bay red king crab	90,048	$5.12	$4.81	$461,045	10/23-11/08	17	$46,925
2002	Bristol Bay red king crab	71,527	$6.41	$6.14	$458,488	10/17-10/27	10	$32,900
2003	No cost-recovery fishing							
2004	Bristol Bay red king crab	116,512	$5.13	$4.71	$598,245	10/21-11/01	14	$49,900
2005	Bristol Bay red king crab	128,165	$5.07	$4.22	$649,999	11/12 - 12/4 [c]	23 [c]	$69,900
2006	Bristol Bay red king crab	186,047	$2.15	$3.40	$400,000	9/22 - 10/11	17	no expenditure [d]
2007	Bristol Bay red king crab	78,360	$4.02	$4.19	$315,000	10/2 - 10/12	10	no expenditure [d]
2008	No cost-recovery fishing							

Note: IFQ = Individual Fishing Quota

[a] In pounds, deadloss not included.

[b] Price per pound.

[c] Harvest of both test-fishery crab and vessel's IFQ crab.

[d] No vessel charter expenditures for department; successful bidder was responsible for all crab harvesting costs, resulting in the department receiving a lower price per pound for the test fishery compared to the general and quota fisheries.

Table 4-4.–Eastern and Western Aleutian Islands golden king crab fishing effort and observer coverage by vessel type, 2003/04 - 2008/09.

Year	Vessel Type	Number of			Pounds Delivered[a]	Observed Pounds Delivered[a]	% Observed Pounds Delivered
		Vessels	Pot Lifts	Deliveries			
2003/04	C/V	20	106,011	74	5,023,178	5,023,178	100.0
	C/P	1	19,108	22	CF	CF	100.0
	TOTAL	21	125,119	96	CF	CF	100.0
2004/05	C/V	21	75,814	64	4,807,747	4,807,747	100.0
	C/P	1	15,880	19	CF	CF	100.0
	TOTAL	22	91,694	83	CF	CF	100.0
2005/06[b]	C/V	7	41,553	60	4,396,691	3,075,037	69.9
	C/P	1	13,132	22	CF	CF	100.0
	TOTAL	8	54,685	82	CF	CF	CF
2006/07[b]	C/V	6	43,087	51	4,134,440	2,855,126	69.1
	C/P	1	9,978	24	CF	CF	100.0
	TOTAL	7	53,065	75	CF	CF	CF
2007/08[b]	C/V	4	41,244	57	4,262,005	2,519,252	59.1
	C/P	1	11,359	24	CF	CF	100.0
	TOTAL	5	52,603	81	CF	CF	CF
2008/09[b]	C/V	4	40,888	59	4,504,102	2,787,803	61.9
	C/P	1	9,778	20	CF	CF	100.0
	TOTAL	5	50,666	79	CF	CF	CF

Notes: East and West of 174° W long combined for reporting due to low number of vessels harvesting in each area.
C/V = catcher-only vessel, C/P = catcher-processor vessel, CF = Confidential, IFQ = Individual Fishing Quota
CDQ = Community Development Quota, ACA = Adak Community Allocation

[a] Includes deadloss.

[b] Data includes IFQ, CDQ, and ACA. 2005/06 is the first year of crab rationalization and the first year CDQ and ACA quotas assigned to this fishery.

Table 4-5.–Eastern and Western Aleutian Islands golden king crab observer sampling efforts for bycatch and retained catch by vessel type, 1996/97 - 2008/09.

		Number of[a]			Number of						% Pot Lifts	Number of	
Year	Vessel Type	Total Vessels	Obsserved Vessels	% Obs. Coverage	Observer Deploy-ments	Observer Months	Pot Lifts Sampled	Pot Lifts On All Vessels	Pot Lifts On Observed Vessels	% Pot Lifts Sampled	Sampled on Observed Vessels	Size Freq.[b]	Legal Tallies[c]
1996/97	C/V	15	15	100.0	44	73.6	11,255	101,423	101,423	11.1	11.1	90	111
	C/P	3	3	100.0	11	16.0	975	18,326	18,326	5.3	5.3	239	257
	F/P	0	0	NA	0	0.0	NA	NA	NA	NA	NA	NA	NA
	FLEET	18	18	100.0	55	88.6	12,230	119,749	119,749	10.2	10.2	329	368
1997/98	C/V	11	11	100.0	41	62.0	7,481	161,761	161,761	4.6	4.6	83	94
	C/P	4	4	100.0	12	18.8	1,105	26,152	26,152	4.2	4.2	267	259
	F/P	0	0	NA	0	0.0	NA	NA	NA	NA	NA	NA	NA
	FLEET	15	15	100.0	53	80.8	8,586	187,913	187,913	4.6	4.6	350	353
1998/99	C/V	13	13	100.0	17	29.0	4,273	99,928	99,928	4.3	4.3	43	47
	C/P	3	3	100.0	7	13.0	694	25,501	25,501	2.7	2.7	230	233
	F/P	1	1	100.0	1	1.0	NA	NA	NA	NA	NA	4	4
	FLEET	17	17	100.0	25	43.0	4,967	125,429	125,429	4.0	4.0	277	284
1999/00	C/V	15	15	100.0	49	69.0	7,610	168,109	168,109	4.5	4.5	97	121
	C/P	1	1	100.0	5	11.2	820	18,060	18,060	4.5	4.5	228	230
	F/P	0	0	NA	0	0.0	NA	NA	NA	NA	NA	NA	NA
	FLEET	16	16	100.0	54	80.2	8,430	186,169	186,169	4.5	4.5	325	351
2000/01	C/V	16	16	100.0	47	63.5	9,023	149,319	149,319	6.0	6.0	102	106
	C/P	1	1	100.0	5	9.2	711	23,471	23,471	3.0	3.0	183	174
	F/P	0	0	NA	0	0.0	NA	NA	NA	NA	NA	NA	NA
	FLEET	17	17	100.0	52	72.7	9,734	172,790	172,790	5.6	5.6	285	280
2001/02	C/V	20	20	100.0	44	58.7	8,382	145,154	145,154	5.7	5.7	100	102
	C/P	1	1	100.0	4	7.7	700	22,997	22,997	3.0	3.0	146	147
	F/P	1	1	100.0	1	0.1	NA	NA	NA	NA	NA	1	1
	FLEET	21	21	100.0	49	66.5	9,082	168,151	168,151	5.4	5.4	247	250
2002/03	C/V	21	21	100.0	31	44.3	5,835	106,675	106,675	5.5	5.5	81	81
	C/P	1	1	100.0	2	7.0	660	24,345	24,345	2.7	2.7	144	146
	F/P	0	0	NA	0	0.0	NA	NA	NA	NA	NA	NA	NA
	FLEET	22	22	100.0	33	51.3	6,494	131,021	131,021	5.0	5.0	225	227

- continued -

Table 4-5.–Page 2 of 2.

Year	Vessel Type	Number of			Pounds Delivered[a]	Observed Pounds Delivered[a]	% Observed Pounds Delivered
		Vessels	Pot Lifts	Deliveries			
2003/04	C/V	20	106,011	74	5,023,178	5,023,178	100.0
	C/P	1	19,108	22	CF	CF	100.0
	TOTAL	21	125,119	96	CF	CF	100.0
2004/05	C/V	21	75,814	64	4,807,747	4,807,747	100.0
	C/P	1	15,880	19	CF	CF	100.0
	TOTAL	22	91,694	83	CF	CF	100.0
2005/06[b]	C/V	7	41,553	60	4,396,691	3,075,037	69.9
	C/P	1	13,132	22	CF	CF	100.0
	TOTAL	8	54,685	82	CF	CF	CF
2006/07[b]	C/V	6	43,087	51	4,134,440	2,855,126	69.1
	C/P	1	9,978	24	CF	CF	100.0
	TOTAL	7	53,065	75	CF	CF	CF
2007/08[b]	C/V	4	41,244	57	4,262,005	2,519,252	59.1
	C/P	1	11,359	24	CF	CF	100.0
	TOTAL	5	52,603	81	CF	CF	CF
2008/09[b]	C/V	4	40,888	59	4,504,102	2,787,803	61.9
	C/P	1	9,778	20	CF	CF	100.0
	TOTAL	5	50,666	79	CF	CF	CF

Notes: East and West of 174° W long combined for reporting due to low number of vessels harvesting in each area.
C/V = catcher-only vessel, C/P = catcher-processor vessel, CF = Confidential, IFQ = Individual Fishing Quota
CDQ = Community Development Quota, ACA = Adak Community Allocation

[a] Includes deadloss.

[b] Data includes IFQ, CDQ, and ACA. 2005/06 is the first year of crab rationalization and the first year CDQ and ACA quotas assigned to this fishery.

Table 4-6.–Pot lifts observed and non-observed for each statistical area fished during the Aleutian Islands golden king crab fishery, 2008/09.

	C/V pots lifted		C/P pots lifted		Total No.	Total Pots	% Pots
Stat area	Observed [a]	Non-observed	Observed [a]	Non-observed	Observed Pots [a]	Lifted	Observed [a]
695200	76	426	0	0	76	502	15.1
695239	22	0	0	0	22	22	100.0
695301	226	268	0	0	226	494	45.7
695302	60	0	0	0	60	60	100.0
705200	1,191	872	0	0	1,191	2,063	57.7
705232	2,406	1,451	0	0	2,406	3,857	62.4
705233	116	0	0	0	116	116	100.0
705300	801	637	0	0	801	1,438	55.7
715130	59	118	0	0	59	177	33.3
715201	85	99	0	0	85	184	46.2
715202	3,786	3,260	0	0	3,786	7,046	53.7
715231	765	816	0	0	765	1,581	48.4
715232	1,063	701	0	0	1,063	1,764	60.3
725130	168	60	0	0	168	228	73.7
725201	2,061	1,365	0	0	2,061	3,426	60.2
725202	0	60	0	0	0	60	0.0
725203	177	97	0	0	177	274	64.6
725230	603	249	0	0	603	852	70.8
735201	126	49	0	0	126	175	72.0
735230	147	0	0	0	147	147	100.0
775131	523	553	0	0	523	1,076	48.6
775133	157	137	0	0	157	294	53.4
775137	98	89	0	0	98	187	52.4
775138	25	0	0	0	25	25	100.0
785101	0	45	0	0	0	45	0.0
785102	1,510	1,300	0	0	1,510	2,810	53.7
785103	117	107	0	0	117	224	52.2
785131	1,181	1,416	0	0	1,181	2,597	45.5
785132	164	96	0	0	164	260	63.1
785134	346	410	0	0	346	756	45.8
785135	443	454	0	0	443	897	49.4
795101	54	56	0	0	54	110	49.1
795102	396	254	0	0	396	650	60.9
795131	440	351	0	0	440	791	55.6
795132	546	505	0	0	546	1,051	52.0
795200	0	0	288	0	288	288	100.0

-continued-

Table 4-6.–Page 2 of 2.

Stat area	C/V pots lifted		C/P pots lifted		Total No.	Total Pots	% Pots
	Observed [a]	Non-observed	Observed [a]	Non-observed	Observed Pots [a]	Lifted	Observed [a]
795230	50	0	279	0	329	329	100.0
805101	69	57	0	0	69	126	54.8
805103	547	467	453	0	1,000	1,467	68.2
805131	0	6	804	0	804	810	99.3
805132	715	568	1,610	0	2,325	2,893	80.4
805133	129	154	16	0	145	299	48.5
805201	0	0	1,457	0	1,457	1,457	100.0
805230	0	0	41	0	41	41	100.0
815100	119	149	169	0	288	437	65.9
815131	131	167	192	0	323	490	65.9
815132	316	103	346	0	662	765	86.5
815136	0	0	42	0	42	42	100.0
825132	0	0	92	0	92	92	100.0
825134	0	0	20	0	20	20	100.0
825201	76	0	602	0	678	678	100.0
825202	0	0	116	0	116	116	100.0
825203	24	0	28	0	52	52	100.0
835130	73	0	279	0	352	352	100.0
835200	264	0	974	0	1,238	1,238	100.0
845130	88	0	307	0	395	395	100.0
845201	77	0	178	0	255	255	100.0
845202	300	0	1,485	0	1,785	1,785	100.0
Totals	24,036	16,852	9,778	0	33,814	50,666	66.7

Notes: C/V = catcher-only vessel, C/P = catcher-processor vessel
[a] Observer onboard during harvest.

Table 4-7.–Bristol Bay red king crab fishing effort and observer coverage by vessel type, 2003 - 2008/09.

Year	Vessel Type	Number of Vessels	Number of Pot Lifts	Number of Deliveries	Pounds Delivered [a]	Observed Pounds Delivered [a]	% Observed Pounds Delivered
2003	C/V	243	123,444	262	13,849,554	1,412,963	10.2
	C/P	8	4,986	13	680,694	680,694	100.0
	CDQ	13	5,704	20	1,166,662	813,392	69.7
	TOTAL	264	134,134	295	15,696,910	2,907,049	18.5
2004	C/V	243	87,606	256	13,506,397	1,165,737	8.6
	C/P	8	3,370	14	606,041	606,041	100.0
	CDQ	12	5,359	21	1,133,013	904,294	79.8
	TOTAL	263	96,335	291	15,245,451	2,676,072	17.6
2005/06 [b]	C/V	85	103,538	270	17,284,281	4,453,697	25.8
	C/P	4	11,411	26	1,025,054	1,025,054	100.0
	TOTAL	89	114,949	296	18,309,335	5,478,751	29.9
2006/07 [b]	C/V	80	67,929	201	14,882,355	4,099,757	27.5
	C/P	3	3,811	12	561,822	561,822	100.0
	TOTAL	83	71,740	213	15,444,177	4,661,579	30.2
2007/08 [b]	C/V	73	107,926	266	19,519,828	5,034,013	25.8
	C/P	3	5,288	15	846,237	846,237	100.0
	TOTAL	76	113,214	281	20,366,065	5,880,250	28.9
2008/09 [b]	C/V	75	132,316	268	19,498,303	4,745,026	24.3
	C/P	3	7,623	21	831,099	831,099	100.0
	TOTAL	78	139,939	289	20,329,402	5,576,125	27.4

Notes: C/V - catcher-only vessel, C/P = catcher-processor vessel, IFQ = Individual Fishing Quota, CDQ = Community Development Quot

[a] Includes deadloss.

[b] Data includes IFQ and CDQ. 2005/06 is the first year of crab rationalization.

Table 4-8.–Bristol Bay red king crab observer sampling efforts for bycatch and retained catch by vessel type, 1988 – 2008/09.

Year	Vessel Type	Number of [a]		% Obs. Coverage	Number of					% Pot Lifts Sampled [b]	% Pot Lifts Sampled On Observed Vessels [b]	Number of	
		Total Vessels	Observed Vessels		Observer Deploy-ments	Observer Months	Pot Lifts Sampled	Pot Lifts On All Vessels [b]	Pot Lifts On Observed Vessels [b]			Size Freq. [c]	Legal Tallies [b,d]
1988	C/V	180	0	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	-
	FLEET	205	25	12.2	25	10.3	31	146,179	-	<.1	-	0	-
1989	C/V	193	0	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	-
	FLEET	223	30	13.5	30	17.6	94	205,528	-	<.1	-	211	-
1990	C/V	220	0	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	-	-
	FLEET	255	35	13.7	35	20.8	140	262,761	-	0.1	-	-	-
1991	C/V	277	0	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	-
	FLEET	316	39	12.3	40	21.5	272	226,999	-	0.1	-	293	-
1992	C/V	263	0	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	-
	FLEET	287	24	8.4	25	12.0	290	206,172	-	0.1	-	179	-

- continued -

Table 4-8.–Page 2 of 4.

Year	Vessel Type	Number of [a]		% Obs. Coverage	Number of					% Pot Lifts Sampled [b]	% Pot Lifts Sampled On Observed Vessels [b]	Number of	
		Total Vessels	Observed Vessels		Observer Deploy-ments	Observer Months	Pot Lifts Sampled	Pot Lifts On All Vessels [b]	Pot Lifts On Observed Vessels [b]			Size Freq. [c]	Legal Tallies [b,d]
1993	C/V	275	0	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	-
	FLEET	299	24	8.0	26	15.1	558	252,739	-	0.2	-	236	-
1994	FC												
1995	FC												
1996	C/V	192	0	0.0	0	0.0	0	73,908	NA	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
	FLEET	197	5	2.5	9	2.8	84	76,433	2,525	0.1	3.3	45	81
1997	C/V	248	0	0.0	0	0.0	0	86,885	NA	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
	FLEET	259	11	4.2	15	5.5	146	90,427	3,542	0.2	3.9	80	84
1998	C/V	263	0	0.0	0	0.0	0	131,757	NA	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
	CDQ	7	7	100.0	7	3.1	193	3,326	3,326	5.8	5.8	9	10
	FLEET	284	21	7.4	29	11.6	324	141,697	9,940	0.2	3.3	94	114

- continued -

Table 4-8.–Page 3 of 4.

Year	Vessel Type	Number of [a]		% Obs. Coverage	Number of					% Pot Lifts Sampled [b]	% Pot Lifts Sampled On Observed Vessels [b]	Number of	
		Total Vessels	Observed Vessels		Observer Deploy-ments	Observer Months	Pot Lifts Sampled	Pot Lifts On All Vessels [b]	Pot Lifts On Observed Vessels [b]			Size Freq. [c]	Legal Tallies [b,d]
1999	C/V	249	0	0.0	0	0.0	0	138,322	NA	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
	CDQ	10	10	100.0	10	3.5	263	2,976	2,976	8.8	8.8	9	12
	FLEET	268	19	7.1	21	9.1	398	146,997	8,675	0.3	4.6	77	94
2000	C/V [e]	214	11	5.1	11	5.1	403	82,453	4,429	0.5	9.1	10	11
	AFA C/V	25	3	12.0	3	1.1	88	8,340	1,024	1.1	8.6	3	3
	C/P	7	7	100.0	9	3.4	156	3,238	3,238	4.8	4.8	28	29
	F/P	2	2	100.0	3	0.6	NA	NA	NA	NA	NA	14	17
	CDQ	11	11	100.0	11	4.4	423	4,663	4,663	9.1	9.1	1	0
	FLEET	258	33	12.8	37	14.6	1,070	98,694	13,354	1.1	8.0	56	60
2001	C/V [e]	193	20	10.4	20	9.5	359	51,624	5,746	0.7	6.2	19	19
	AFA C/V	31	3	9.7	3	1.0	48	6,662	682	0.7	7.0	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
	CDQ	10	6	60.0	6	2.9	166	3,130	2,516	5.3	6.6	9	9
	FLEET	241	36	14.9	39	16.9	670	63,192	10,720	1.1	6.3	63	63
2002	C/V [e]	204	17	8.3	17	7.1	330	56,448	5,236	0.6	6.3	16	18
	AFA C/V	31	3	9.7	3	1.3	37	5,776	551	0.6	6.7	3	3
	C/P	7	7	100.0	8	2.3	144	2,591	2,591	5.6	5.6	21	21
	F/P	3	3	100.0	3	1.0	NA	NA	NA	NA	NA	9	9
	CDQ	10	6	60.0	6	2.7	242	3,513	2,875	6.9	8.4	9	9
	FLEET	253	34	13.4	37	14.5	753	68,328	11,253	1.1	6.7	58	60
2003	C/V [e]	211	19	9.0	20	10.0	485	110,531	10,531	0.4	4.6	11	11
	AFA C/V	32	3	9.4	3	1.2	71	12,913	911	0.5	7.8	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
	CDQ	13	8	61.5	9	3.7	279	5,704	4,372	4.9	6.4	22	12
	FLEET	264	39	14.8	46	20.1	1010	134,134	20,800	0.8	4.9	85	74

- continued -

Table 4-8.–Page 4 of 4.

Year	Vessel Type	Number of [a]		% Obs. Coverage	Number of					% Pot Lifts Sampled [b]	% Pot Lifts Sampled On Observed Vessels [b]	Number of	
		Total Vessels	Observed Vessels		Observer Deploy-ments	Observer Months	Pot Lifts Sampled	Pot Lifts On All Vessels [b]	Pot Lifts On Observed Vessels [b]			Size Freq. [c]	Legal Tallies [b,d]
2004	C/V [e]	211	17	8.1	17	6.6	339	79,513	6,304	0.4	5.4	16	16
	AFA C/V	32	3	9.4	3	1.1	67	8,093	842	0.8	8.0	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
	CDQ	12	8	66.7	9	4.7	226	5,359	4,312	4.2	5.2	23	23
	FLEET	263	37	14.0	42	16.6	762	96,335	14,828	0.8	5.1	90	92
2005/06 [f]	C/V	85	20	23.5	22	19.5	1,390	103,538	25,283	1.3	5.5	50	48
	C/P	4	4	100.0	4	5.0	465	11,411	11,411	4.1	4.1	90	90
	F/P	1	1	100.0	2	2.0	NA	NA	NA	NA	NA	7	7
	FLEET	90	25	27.8	28	26.5	1,855	114,949	36,694	1.6	5.1	144	142
2006/07 [f]	C/V	80	19	23.8	21	16.6	1,074	67,929	18,972	1.6	5.7	44	39
	C/P	3	3	100.0	3	3.1	140	3,811	3,811	3.7	3.7	38	38
	F/P	1	1	100.0	1	1.3	NA	NA	NA	NA	NA	0	0
	FLEET	83	22	26.5	25	21.1	1,214	71,740	22,783	1.7	5.3	82	77
2007/08 [f]	C/V	73	19	26.0	20	18.5	1,708	107,926	28,797	1.6	5.7	46	47
	C/P	3	3	100.0	3	2.7	210	5,288	5,288	3.5	3.5	52	49
	F/P	0	0	100.0	0	0.0	NA	NA	NA	NA	NA	0.0	0.0
	FLEET	76	22	26.5	23	21.2	1,918	113,214	34,085	1.7	5.3	98	96
2008/09 [f]	C/V	75	18	24.0	19	20.8	1,634	132,316	31,478	1.2	5.2	56	50
	C/P	3	3	100.0	3	3.7	186	7,623	7,623	2.4	2.4	48	48
	F/P	0	0	100.0	0	0.0	NA	NA	NA	NA	NA	0	0
	FLEET	78	21	26.9	22	24.5	1,820	139,939	39,101	1.3	4.7	104	98

Notes: NA = Not applicable, FC = Fishery closed, IFQ = Individual Fishing Quota, CDQ = Community Development Quota, C/V = catcher-only vessel, C/P = Catcher-processor vessel

[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.

[f] Since 2005/06 the harvest and sample data includes IFQ and CDQ information combined.

Table 4-9.–Pot lifts observed and non-observed for each statistical area fished during the Bristol Bay red king crab fishery, 2008/09.

Stat area	C/V pots lifted		C/P pots lifted		Total No. Observed Pots [a]	Total Pots Lifted	% Pots Observed [a]
	Observed [a]	Non-observed	Observed [a]	Non-observed			
605601	0	29	0	0	0	29	0.0
605630	221	759	0	0	221	980	22.6
605700	711	2,114	0	0	711	2,825	25.2
605730	0	37	0	0	0	37	0.0
615534	0	33	0	0	0	33	0.0
615601	1,524	4,793	0	0	1,524	6,317	24.1
615630	5,668	21,199	796	0	6,464	27,663	23.4
615700	5,102	5,601	619	0	5,721	11,322	50.5
625504	45	0	0	0	45	45	100.0
625531	521	6,465	838	0	1,359	7,824	17.4
625600	5,795	18,493	1,235	0	7,030	25,523	27.5
625630	1,734	6,348	38	0	1,772	8,120	21.8
625700	1,122	8,166	0	0	1,122	9,288	12.1
625730	0	1,016	0	0	0	1,016	0.0
635504	20	80	28	0	48	128	37.5
635530	6,677	17,321	3,774	0	10,451	27,772	37.6
635600	387	1,305	19	0	406	1,711	23.7
635630	197	252	0	0	197	449	43.9
635700	413	3,893	0	0	413	4,306	9.6
635730	110	89	0	0	110	199	55.3
645501	71	0	2	0	73	73	100.0
645530	1,325	2,515	19	0	1,344	3,859	34.8
645600	40	42	9	0	49	91	53.8
645630	41	188	0	0	41	229	17.9
665530	0	100	0	0	0	100	0.0
Totals	31,724	100,838	7,377	0	39,101	139,939	27.9

[a] Observer onboard during harvest.

Table 4-10.–Eastern and Western Bering Sea Tanner crab fishing effort and observer coverage by vessel type, 2005/06 – 2008/09.

Year [a]	Vessel Type	Number of Vessels	Number of Pot Lifts	Number of Deliveries	Pounds Delivered [b]	Observed Pounds Delivered	% Observed Pounds Delivered
2005/06 [c]	C/V	41	31,394	85	927,674	377,978	41.9
	C/P	1	323	2	25,213	25,213	100.0
	TOTAL	42	31,717	87	952,887	403,191	42.3
2006/07 [c]	C/V	55	50,621	126	1,986,778	855,345	43.1
	C/P	3	2,893	10	135,811	135,811	100.0
	TOTAL	58	53,514	136	2,122,589	991,156	46.7
2007/08 [c]	C/V	55	50,110	111	1,933,681	1,126,097	58.2
	C/P	1	5,343	13	172,973	172,973	100.0
	TOTAL	56	55,453	124	2,106,654	1,299,070	61.7
2008/09 [d]	C/V	48	61,634	142	1,917,071	1,589,315	82.9
	C/P	1	4,331	7	22,500	22,500	100.0
	TOTAL	49	65,965	149	1,939,571	1,611,815	83.1

[a] Data includes IFQ and CDQ. 2005/06 is the first year of crab rationalization.

[b] Includes deadloss.

[c] Some vessels fished observed and non-observed and are counted twice in total vessel number.

[d] Unique count of participating vessels.

Table 4-11.– Eastern and Western Bering Sea Tanner crab observer sampling efforts for bycatch and retained catch by vessel type, 2005/06 - 2008/09.

Year [a]	Vessel Type	Number of Vessels	Number of Pot Lifts	Number of Pot Lifts Sampled	% Pot Lifts Sampled	Number of Deliveries	Pounds Delivered [b]
2005/06 [c]	Unobserved Vessels	27	19,330	NA	NA	52	549,696
	Observed Vessels [d]	15	12,387	1,629	13.2	35	403,191
	TOTAL	42	31,717	1,629	5.1	87	952,887
2006/07 [c]	Unobserved Vessels	36	33,068	NA	NA	85	1,131,433
	Observed Vessels [e]	24	20,446	421	2.1	51	991,156
	TOTAL	58	53,514	421	0.8	136	2,122,589
2007/08 [c]	Unobserved Vessels	29	22,104	NA	NA	54	807,584
	Observed Vessels [f]	27	33,349	918	2.8	70	1,299,070
	TOTAL	56	55,453	918	1.7	124	2,106,654
2008/09 [g]	Unobserved Vessels	27	32,181	NA	NA	74	327,756
	Observed Vessels [h]	22	33,784	686	2.0	75	1,611,815
	TOTAL	49	65,965	686	1.0	149	1,939,571

Note: NA = Not applicable

[a] Data includes IFQ and CDQ. 2005/06 is the first year of crab rationalization.

[b] Includes deadloss.

[c] Some vessels fished observed and non-observed and are counted twice in total vessel number.

[d] Includes 14 catcher vessels and 1 catcher processor.

[e] Includes 23 catcher vessels and 1 catcher-processor.

[f] Includes 26 catcher vessels and 1 catcher-processor.

[g] Unique count of participating vessels.

[h] Includes 21 catcher vessels and 1 catcher-processor.

Table 4-12.– Pot lifts observed and non-observed for each statistical area fished during the Bering Sea Tanner crab fishery, 2008/09.

Stat area	C/V pots lifted		C/P pots lifted		Observed Pots [a]	Total Pots Lifted	% Pots Observed [a]
	Observed [a]	Non-observed	Observed [a]	Non-observed			
615534	0	28	0	0	0	28	0.0
615601	0	239	0	0	0	239	0.0
615630	0	1,605	184	0	184	1,789	10.3
615700	0	83	0	0	0	83	0.0
625531	67	1,400	635	0	702	2,102	33.4
625600	0	977	69	0	69	1,046	6.6
625630	2	210	0	0	2	212	0.9
625700	0	741	0	0	0	741	0.0
635504	7,258	1,995	15	0	7,273	9,268	78.5
635530	6,847	4,303	3,399	0	10,246	14,549	70.4
635600	162	374	11	0	173	547	31.6
635630	62	92	0	0	62	154	40.3
635700	20	395	0	0	20	415	4.8
645501	284	217	0	0	284	501	56.7
645530	523	560	9	0	532	1,092	48.7
645600	0	0	9	0	9	9	100.0
655430	542	491	0	0	542	1,033	52.5
655500	1,015	1,134	0	0	1,015	2,149	47.2
665500	127	0	0	0	127	127	100.0
665530	348	0	0	0	348	348	100.0
665600	21	0	0	0	21	21	100.0
675500	12	70	0	0	12	82	14.6
675530	89	2,015	0	0	89	2,104	4.2
675600	1,452	844	0	0	1,452	2,296	63.2

-continued-

Table 4-12.–Page 2 of 2.

Stat area	C/V pots lifted		C/P pots lifted		Observed	Total Pots	% Pots
	Observed [a]	Non-observed	Observed [a]	Non-observed	Pots [a]	Lifted	Observed [a]
675630	16	0	0	0	16	16	100.0
685530	0	2	0	0	0	2	0.0
685600	1,139	1,222	0	0	1,139	2,361	48.2
685630	488	527	0	0	488	1,015	48.1
695600	158	0	0	0	158	158	100.0
695631	779	446	0	0	779	1,225	63.6
705600	80	23	0	0	80	103	77.7
705630	221	226	0	0	221	447	49.4
705701	30	21	0	0	30	51	58.8
715600	4	19	0	0	4	23	17.4
715630	1,475	604	0	0	1,475	2,079	70.9
715700	65	112	0	0	65	177	36.7
725630	1,539	3,943	0	0	1,539	5,482	28.1
725700	1,486	2,007	0	0	1,486	3,493	42.5
725730	192	49	0	0	192	241	79.7
735630	0	551	0	0	0	551	0.0
735700	978	1,667	0	0	978	2,645	37.0
735730	1,497	1,799	0	0	1,497	3,296	45.4
735800	169	586	0	0	169	755	22.4
745700	5	0	0	0	5	5	100.0
745800	178	378	0	0	178	556	32.0
745830	123	226	0	0	123	349	35.2
Totals	29,453	32,181	4,331	0	33,784	65,965	51.2

[a] Observer onboard during harvest.

Table 4-13.–Bering Sea snow crab fishing effort and observer coverage by vessel type, 2004 - 2008/09.

Year	Vessel Type	Number of Vessels	Number of Pot Lifts	Number of Deliveries	Pounds Delivered [a]	Observed Pounds Delivered [a]	% Observed Pounds Delivered
2004	C/V	183	106,144	229	21,504,123	2,421,672	11.3
	C/P	6	3,943	11	666,027	666,027	100.0
	CDQ	10	13,622	25	1,772,222	1,772,222	100.0
	TOTAL	199	123,709	265	23,942,372	4,859,921	20.3
2005	C/V	162	66,712	184	22,066,179	3,674,096	16.7
	C/P	6	3,151	12	970,108	970,108	100.0
	CDQ	9	3,345	23	1,855,841	1,855,841	100.0
	TOTAL	177	73,208	219	24,892,128	6,500,045	26.1
2005/06 [b]	C/V	76	105,508	306	33,650,679	11,979,880	35.6
	C/P	4	15,004	44	3,323,211	3,323,211	100.0
	TOTAL	80	120,512	350	36,973,890	15,303,091	41.4
2006/07 [b]	C/V	67	78,611	272	32,525,172	11,206,761	34.5
	C/P	4	10,808	35	3,830,477	3,830,477	100.0
	TOTAL	71	89,419	307	36,355,649	15,037,238	41.4
2007/08 [b]	C/V	85	130,008	468	57,488,538	15,851,014	27.6
	C/P	4	13,834	44	5,539,498	5,539,498	100.0
	TOTAL	89	143,842	512	63,028,036	21,390,512	33.9
2008/09 [b, c]	C/V	73	147,699	443	53,729,804	14,345,187	26.7
	C/P	4	15,837	44	4,818,045	4,818,045	100.0
	TOTAL	77	163,536	487	58,547,849	19,163,232	32.7

[a] Includes deadloss.
[b] Data includes IFQ and CDQ. 2005/06 is the first year of crab rationalization.
[c] Some vessels fished observed and non-observed due to observer availability and trip length.

Table 4-14.–Bering Sea snow crab observer sampling efforts for bycatch and retained catch by vessel type, 1995–2008/09.

Year	Vessel Type	Number of [a]		% Obs. Coverage	Number of					% Pot Lifts Sampled [b]	% Pot Lifts Sampled on Observed Vessels [b]	Number of	
		Total Vessels	Obs. Vessels		Observer Deploy-ments	Observer Months	Pot Lifts Sampled	Pot Lifts on all Vessels [b]	Pot Lifts on all Observed Vessels [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	-	-
	FLEET	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
	FLEET	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	680,725	NA	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
	FLEET	237	25	10.5	41	60.0	1,728	754,140	73,415	0.2	2.4	1,047	1,068
1998	C/V	217	0	0.0	NA	NA	NA	825,832	NA	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
	CDQ	20	20	100.0	60	34.0	1,726	930,843	105,011	4.4	4	1,429	1,453
	FLEET	260	43	16.5	35	91.6	7,598	891,268	65,436	0.9	11.6	1,349	1,371
1999	C/V	231	0	0.0	NA	NA	NA	846,163	NA	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
	CDQ	276	22	91.7	28	12.1	789	46,490	14,131	1.7	6	59	46
	FLEET	252	43	17.1	55	63.0	2,382	945,533	67,011	0.3	3.6	1,489	737

- continued -

Table 4-14.–Page 2 of 3.

Year	Vessel Type	Number of [a]		% Obs. Coverage	Number of					% Pot Lifts Sampled [b]	% Pot Lifts Sampled on Observed Vessels [b]	Number of	
		Total Vessels	Obs. Vessels		Observer Deploy-ments	Observer Months	Pot Lifts Sampled	Pot Lifts on all Vessels [b]	Pot Lifts on all Observed Vessels [b]			Size Freq. [c]	Legal Tallies [d]
2000	C/V	220	0	0.0	NA	NA	NA	161,579	NA	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
	CDQ	13	12	92.3	12	8.5	629	12,570	12,185	5.0	5	32	26
	FLEET	247	26	10.5	27	17.7	831	182,634	20,670	0.5	4.0	219	177
2001	C/V	200	7	3.5	7	9.6	241	159,438	4,663	0.2	5.2	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
	CDQ	11	11	100.0	11	9.9	771	14,270	14,270	5.4	5.4	33	11
	FLEET	221	28	12.7	31	33.2	1499	191,200	36,425	0.8	4.1	276	164
2002	C/V	183	10	5.5	12	11.8	809	292,846	16,021	0.3	5.0	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
	CDQ	11	11	100.0	15	16.0	1,098	18,845	17,264	5.8	6.3	12	10
	FLEET	205	32	15.6	41	39.8	2,416	326,511	48,105	0.7	5.0	403	257
2003	C/V	188	18	9.6	19	14.1	741	136,280	12,813	0.5	5.8	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
	CDQ	10	9	90.0	10	10.4	746	14,583	13,519	5.1	5.5	61	61
	FLEET	206	35	17.0	40	31.0	1,616	154,486	29,955	1.0	5.4	189	189
2004	C/V	183	19	10.4	19	13.7	688	106,144	11,067	0.6	6.2	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
	CDQ	10	10	100.0	10	11.0	780	13,622	13,622	5.7	5.7	61	56
	FLEET	202	38	18.8	41	31.1	1,627	123,709	28,632	1.3	5.7	182	178

- continued -

Table 4-14.–Page 3 of 3.

Year	Vessel Type	Number of [a]		% Obs. Coverage	Number of					% Pot Lifts Sampled [b]	% Pot Lifts Sampled on Observed Vessels [b]	Number of	
		Total Vessels	Obs. Vessels		Observer Deploy-ments	Observer Months	Pot Lifts Sampled	Pot Lifts on all Vessels [b]	Pot Lifts on all Observed Vessels [b]			Size Freq. [c]	Legal Tallies [d]
2005	C/V	162	13	8.0	13	8.1	336	66,712	5,571	0.5	6.0	18	17
	C/P	6	6	100.0	6	3.0	91	3,151	3,151	2.9	2.9	32	26
	F/P	3	3	100.0	4	1.9	NA	NA	NA	NA	NA	37	38
	CDQ	9	9	100.0	9	6.5	210	3,345	3,345	6.3	6.3	48	39
	FLEET	179	31	17.3	32	19.5	637	73,208	12,067	0.9	5.3	135	120
2005/06 [e]	C/V	76	28	36.8	31	40.4	1,997	105,508	37,256	1.9	5.4	104	95
	C/P	4	4	100.0	7	11.0	586	15,004	15,004	3.9	3.9	208	197
	F/P	2	2	100.0	3	5.1	NA	NA	NA	NA	NA	32	32
	FLEET	82	34	41.5	41	56.5	2,583	120,512	52,260	2.1	4.9	344	324
2006/07 [e]	C/V	67	24	35.8	31	31.8	870	78,611	28,201	1.1	3.1	80	70
	C/P	4	4	100.0	9	10.0	248	10,808	10,808	2.3	2.3	181	157
	F/P	2	2	100.0	3	4.1	NA	NA	NA	NA	NA	49	56
	FLEET	73	30	41.1	43	45.9	1,118	89,419	39,009	1.3	2.9	310	283
2007/08 [e]	C/V	85	29	34.1	35	34.9	1,297	130,008	37,688	1.0	3.4	92	90
	C/P	4	4	100.0	4	10.0	416	13,834	13,834	3.0	3.0	136	132
	F/P	1	1	100.0	1	1.9	NA	NA	NA	NA	NA	44	29
	FLEET	90	34	37.8	40	46.8	1,713	143,842	51,522	1.2	3.3	272	251
2008/09 [e]	C/V	73	25	34.2	26	38.1	1297	147,699	40,587	0.9	3.2	99	98
	C/P	4	4	100.0	5	9.3	416	15,837	15,837	2.6	2.6	194	184
	F/P	1	1	100.0	3	2.5	NA	NA	NA	NA	NA	24	24
	FLEET	78	30	38.5	34	49.9	1713	163,536	56,424	1.0	3.0	317	306

Note: NA = Not applicable

[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.

[e] Data includes IFQ and CDQ. 2005/06 is the first year of crab rationalization.

Table 4-15.–Pot lifts observed and non-observed for each statistical area fished during the Bering Sea snow crab fishery, 2008/09.

Stat area	C/V pots lifted		C/P pots lifted		Observed Pots [a]	Total Pots Lifted	% Pots Observed [a]
	Observed [a]	Non-observed	Observed [a]	Non-observed			
665530	25	400	0	0	25	425	5.9
675500	177	84	0	0	177	261	67.8
675530	853	6,333	0	0	853	7,186	11.9
675600	2,495	5,376	0	0	2,495	7,871	31.7
675630	50	118	0	0	50	168	29.8
675730	4	0	0	0	4	4	100.0
685530	46	166	0	0	46	212	21.7
685600	3,179	3,544	80	0	3,259	6,803	47.9
685630	475	1,017	110	0	585	1,602	36.5
685730	4	0	0	0	4	4	100.0
695631	0	8	0	0	0	8	0.0
695730	4	0	0	0	4	4	100.0
705600	12	49	0	0	12	61	19.7
705630	107	702	0	0	107	809	13.2
705701	40	8	0	0	40	48	83.3
705730	4	0	0	0	4	4	100.0
715600	4	152	7	0	11	163	6.7
715630	4,672	8,829	1,998	0	6,670	15,499	43.0
715700	173	934	55	0	228	1,162	19.6
715730	5	4	0	0	5	9	55.6
715800	0	20	0	0	0	20	0.0
725600	0	13	0	0	0	13	0.0
725630	6,266	15,193	2,097	0	8,363	23,556	35.5
725700	4,431	14,312	2,186	0	6,617	20,929	31.6
725730	897	1,769	256	0	1,153	2,922	39.5
725800	0	542	0	0	0	542	0.0
735630	11	4,736	184	0	195	4,931	4.0
735700	4,256	8,736	1,712	0	5,968	14,704	40.6
735730	7,891	15,569	1,562	0	9,453	25,022	37.8
735800	1,975	7,047	649	0	2,624	9,671	27.1
735830	71	245	32	0	103	348	29.6
745700	6	0	0	0	6	6	100.0
745730	0	50	0	0	0	50	0.0
745800	1,446	5,092	1,470	0	2,916	8,008	36.4
745830	1,008	5,438	2,212	0	3,220	8,658	37.2
755800	0	0	2	0	2	2	100.0
755830	0	614	1,072	0	1,072	1,686	63.6
765830	0	12	0	0	0	12	0.0
765900	0	0	46	0	46	46	100.0
765930	0	0	52	0	52	52	100.0
775930	0	0	55	0	55	55	100.0
Totals	40,587	107,112	15,837	0	56,271	163,536	34.4

[a] Observer onboard during harvest.

Table 4-16.–Saint Matthew Island Section and Pribilof District golden king crab observer sampling efforts for bycatch and retained catch by vessel type, 1989 – 2009.

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	NA	NA	NA	NA	NA
	C/P	2	2	100	2	1.5	-	-	-	-	-
	TOTAL	2	2	100	2	1.5	-	-	-	-	-
1992	C/V	0	0	100	0	0.0	NA	NA	NA	NA	NA
	C/P	2	2	100	2	1.3	-	-	-	-	-
	TOTAL	2	2	100	0	1.3	-	-	-	-	-
2001	C/V	6	6	100	9	10.5	1,356	4,513	30.0	13	14
	C/P	0	0	100	0	0.0	NA	NA	NA	NA	NA
	TOTAL	6	6	100	9	10.5	1,356	4,513	30.0	13	14
2002	C/V	8	8	100	11	11.4	1,505	5,464	27.5	9	10
	C/P	0	0	100	0	0.0	NA	NA	NA	NA	NA
	TOTAL	8	8	100	11	11.4	1,505	5,464	27.5	9	10
2003	C/V	3	3	100	3	4.6	593	CF	CF	6	6
	C/P	0	0	100	0	0	NA	NA	NA	NA	NA
	TOTAL	3	3	100	3	4.6	593	CF	CF	6	6
2004	C/V	5	5	100	5	3.4	551	2,312	23.8	7	7
	C/P	0	0	100	0	0	NA	NA	NA	NA	NA
	TOTAL	5	5	100	5	3.4	551	2,312	23.8	7	7
2005 - 2009		0	0	0		0.0	0	0	0.0	0	0

[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 4-17.–Petrel Bank red king crab observer sampling efforts for bycatch and retained catch by vessel type, 2001 - 2008/09.

Year	Vessel Type	Number of [a]		% Obs. Coverage	Number of				% Sample Pot Pulls by Vessel Type	% Sample Pot Pulls of Total Fleet	Number of	
		Total Vessels	Obs. Vessels		Observer Trips	Observer Months	Sample Pots	Pot Pulls by Vessel Type			Size Freq. [b]	Legal Tallies [c]
2001 [d]	C/V	3	3	100.0	4	3.3	105	524	20.0	8.8	3	3
	C/P	1	1	100.0	2	5.1	133	671	19.8	11.1	5	5
	F/P	0	0	NA	0	0.0	NA	NA	NA	NA	0	0
	TOTAL	4	4	100.0	6	8.4	238	1,195	NA	19.9	8	8
2002	C/V	31	30	96.8	30	11.9	579	CF	CF	CF	21	22
	C/P	2	2	100.0	2	1.2	18	CF	CF	CF	3	3
	F/P	1	1	100.0	1	0.6	NA	NA	NA	NA	0	0
	TOTAL	33	32	97.0	33	13.6	597	3,782	NA	15.8	24	25
2003	C/V	28	28	100	28	10.9	884	CF	CF	CF	25	25
	C/P	2	2	100	2	0.6	47	CF	CF	CF	4	4
	F/P	1	1	100	1	0.07	NA	NA	NA	NA	0	0
	TOTAL	30	30	100.0	31	11.6	931	5,774	NA	16.1	29	29
2004 - 2008/09	FC											

Notes: NA = Not applicable, CF = Confidential, FC = Fishery closed, C/V = Catcher vessel, C/P = Catcher processor, F/P = Floater processor

[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.

[d] A survey in 2001 was conducted during the months of January and November.

Table 4-18.–South Peninsula, Bering Sea, and Aleutian Islands grooved Tanner crab fisheries observer sampling efforts for bycatch and retained catch by vessel type, 1994–2009.

Year	Vessel Type	Number of		% 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. [a]	Legal Tallies [b]
1994	C/V	6	6	100.0	14	16.6	1782	CF	CF	58	30
	C/P	2	2	100.0	3	2.3	336	CF	CF	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	CF	CF	155	145
	C/P	2	2	100.0	8	6.2	620	CF	CF	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		0	0	0	0	0	0	0	0	0	0
1998		0	0	0	0	0	0	0		0	0
1999		0	0	0	0	0	0	0	0	0	0
2000	C/V	1	1	100.0	1	1.4	164	CF	CF	3.0	3.0
	C/P	2	2	100.0	2	0.7	17	CF	CF	5	0
	TOTAL	3	3	100.0	3	2.0	181	CF	CF	8	3
2001	C/V	2	2	100.0	4	2.7	258	CF	CF	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	CF	CF	15	15
2002		0	0	0	0	0	0	0	0	0	0

-continued-

Table 4-18.–Page 2 of 2.

Year	Vessel Type	Number of		% 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. [a]	Legal Tallies [b]
2003	C/V	1	1	100.0	2	3.2	393	CF	CF	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	CF	CF	11	10
2004	C/V	2	2	100.0	4	5.0	628	CF	CF	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	CF	CF	18	14
2005 - 2009		0	0	0	0	0	0	0	0	0	0

Notes: NA = Not applicable, CF = Confidential, FC = Fishery closed, C/V = Catcher vessel, C/P = Catcher processor, F/P = Floater processor

[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 4-19.–Summary by region of observed scallop vessels, number of observer trips, and observer months at sea for Alaska weathervane scallop fisheries excluding Cook Inlet, 1993 - 2008/09.

Year	Yakutat [a]			Prince William Sound			Westward [c]			Total		
	Vessel [b]	Deploy-ments	Observer Months	Vessel [b]	Deploy ments	Observer Months	Vessel [b]	Deploy-ments	Months	Vessel [b]	Deploy-ments	Observer Months
1993	7	8	4.1	7	7	2.3	11	62	35.0	10	77	41.4
1994/95	10	15	6.8	0	0	0.0	12	50	35.2	12	65	42.0
1995/96	8	9	8.1	2	2	1.0	1	4	2.4	8	15	11.5
1996/97	4	7	5.7	0	0	0.0	5	12	11.7	5	19	17.4
1997/98	4	4	4.2	1	1	0.4	6	20	17.0	6	25	21.6
1998/99	8	10	7.7	2	2	0.7	8	28	18.0	8	40	26.5
1999/00	3	4	6.1	2	2	0.5	7	21	15.1	8	27	21.7
2000/01	3	10	8.4	3	3	1.4	6	14	10.4	7	27	20.2
2001/02	2	4	3.8	1	2	1.0	4	11	9.9	4	17	14.7
2002/03	2	2	3.9	2	2	0.9	3	13	10.0	4	17	14.8
2003/04	2	3	4.3	1	2	0.7	2	8	7.9	2	13	12.9
2004/05	2	4	3.8	3	3	1.6	2	5	5.9	3	12	11.3
2005/06	2	6	7.1	3	3	2.9	3	8	6.9	4	17	16.9
2006/07	2	5	4.1	2	2	1.3	3	9	8.1	3	16	13.5
2007/08	2	3	3.8	2	2	1.5	3	8	9.0	3	13	14.3
2008/09	3	5	4.3	1	1	0.4	4	10	5.2	4	16	9.9
Average	4	6	5.4	2	2	1.0	5	18	13.0	6	26	19.4

[a] Includes District 16.

[b] Number of unique vessels.

[c] Includes Kodiak, Alaska Peninsula, Dutch Harbor, Adak, and Bering Sea registration areas.

Table 4-20.–Scallop observer activity by registration area, 2006/07 - 2008/09.

2006/07

Area	Number of Vessels [a]	Observer Deployments		Observer Months	Percent of Total Observer Months
		Number	Percent		
Yakutat	2	5	31.3	4.1	30.4
Prince William Sound	2	2	12.5	1.3	9.6
Kodiak	3	6	37.5	6.0	44.4
Alaska Peninsula	2	2	12.5	0.5	3.7
Bering Sea	1	1	6.3	1.6	11.9
Total	3	16	100.0	13.5	100.0

[a] Number of unique vessels.

2007/08

Area	Number of Vessels [a]	Observer Deployments		Observer Months	Percent of Total Observer Months
		Number	Percent		
Yakutat	2	3	23.1	3.8	26.6
Prince William Sound	2	2	15.4	1.5	10.5
Kodiak	3	6	46.2	7.4	51.7
Bering Sea	2	2	15.4	1.6	11.2
Total	3	13	100.0	14.3	100.0

[a] Number of unique vessels.

2008/09

Area	Number of Vessels [a]	Observer Deployments		Observer Months	Percent of Total Observer Months
		Number	Percent		
Yakutat	3	5	31.3	4.3	43.4
Prince William Sound	1	1	6.3	0.4	4
Kodiak	4	7	43.8	3.2	32.3
Alaska Peninsula	1	1	6.2	0.4	4.1
Dutch Harbor	1	1	6.2	0.5	5.1
Bering Sea	1	1	6.2	1.1	11.1
Total	4	16	100.0	9.9	100.0

[a] Number of unique vessels.

Table 4-21.–Statewide scallop fishing and sampling effort excluding Cook Inlet, 1993/94 - 2008/09.

Regulatory Season	Number of Vessels	Number of Sampled Tows	Number of Total of Completed Tows	% of Tows Sampled	Pounds Delivered	Observed Pounds Delivered	% Observed Pounds Delivered
1993/94	12	5,048	15,083	33.5%	964,468	964,468	100.0
1994/95	12	6,165	18,436	33.4%	1,220,344	1,220,344	100.0
1995/96	8	524	1,596	32.8%	410,743	410,743	100.0
1996/97	5	2,662	8,212	32.4%	704,196	704,196	100.0
1997/98	6	2,118	7,158	29.6%	798,577	798,577	100.0
1998/99	8	2,947	8,489	34.7%	804,849	804,849	100.0
1999/00	8	2,651	7,569	35.0%	817,656	817,656	100.0
2000/01	7	1,905	6,288	30.3%	730,101	730,101	100.0
2001/02	4	1,573	5,249	30.0%	552,741	552,741	100.0
2002/03	4	1,373	5,359	25.6%	500,864	500,864	100.0
2003/04	2	1,216	4,765	25.5%	484,536	484,536	100.0
2004/05	2	1,157	4,241	27.3%	425,477	425,477	100.0
2005/06	4	1,460	5,733	25.5%	525,357	525,357	100.0
2006/07	3	1,224	4,493	27.2%	486,599	486,599	100.0
2007/08	3	1,227	4,611	26.6%	448,413	448,413	100.0
2008/09	4	1,042	4,133	25.2%	335,357	335,357	100.0

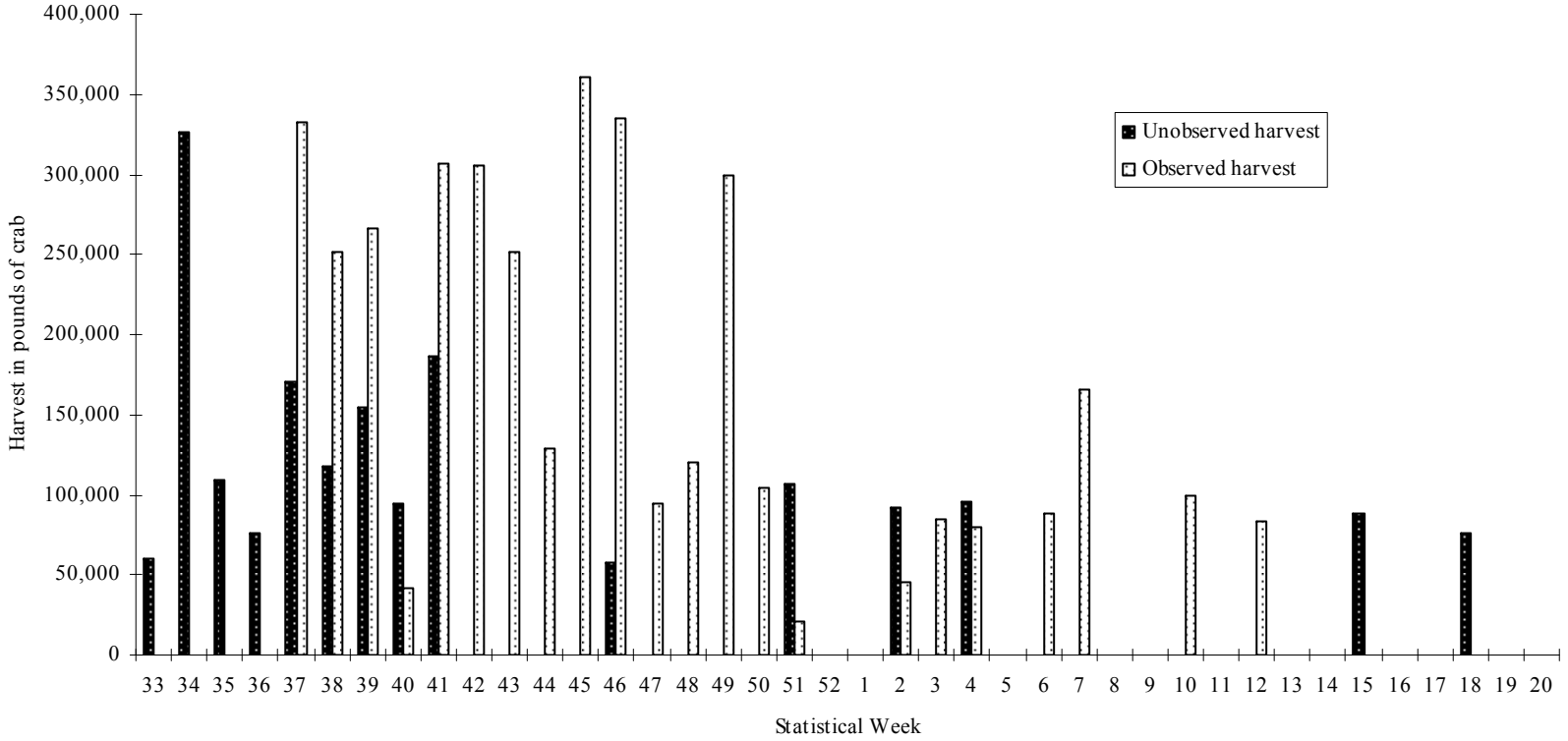

Figure 4-1.–Comparison of observed harvest to unobserved harvest during statistical weeks dated August 15, 2008 through May 15, 2009 combining harvest from both east and west of 174° W longitude in the Aleutian Islands golden king crab fishery, 2008/09.

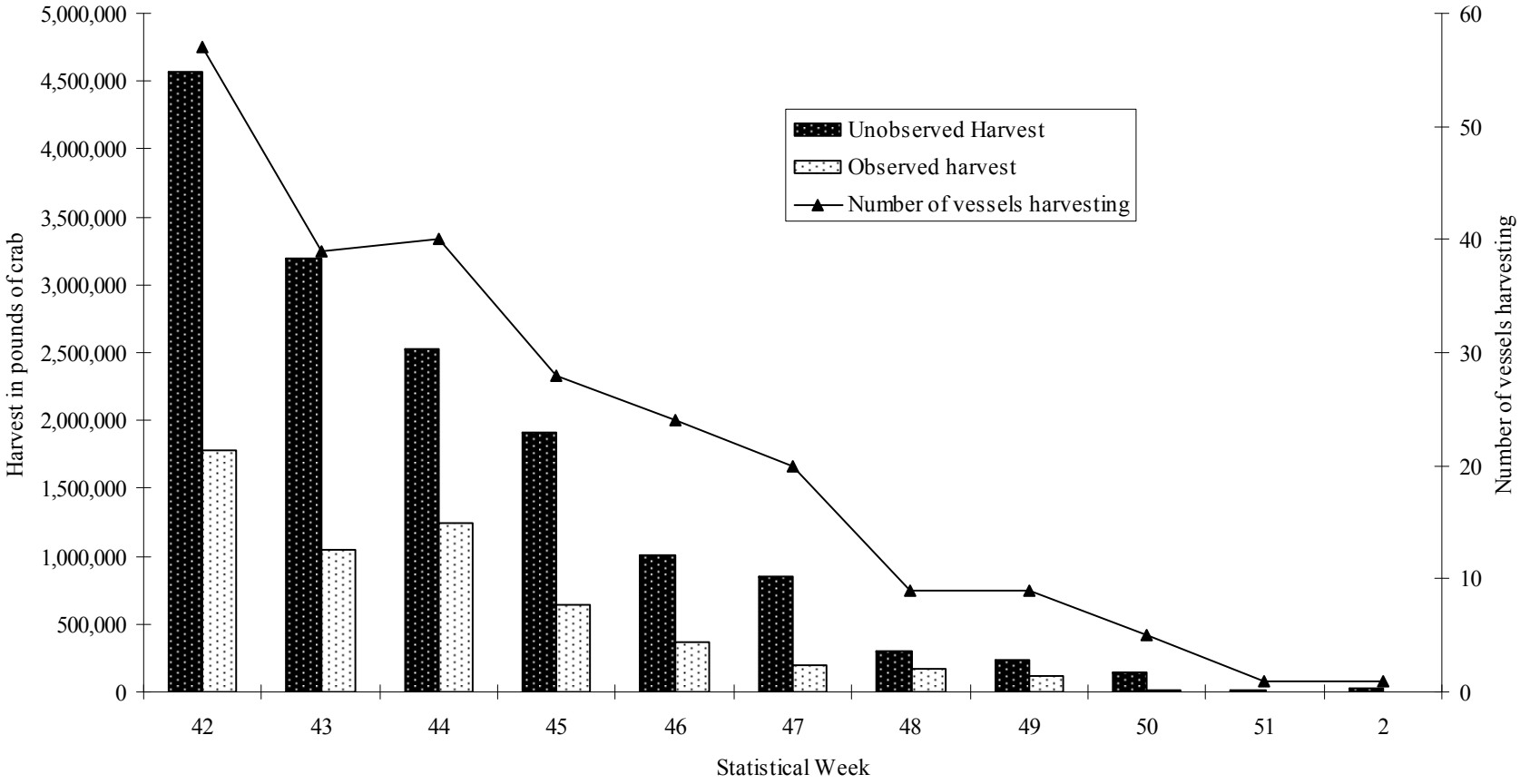

Figure 4-2.–Comparison of observed harvest to unobserved harvest, and total vessels harvesting during statistical weeks dated October 15, 2008 through January 10, 2009 in the Bristol Bay red king crab fishery, 2008/09

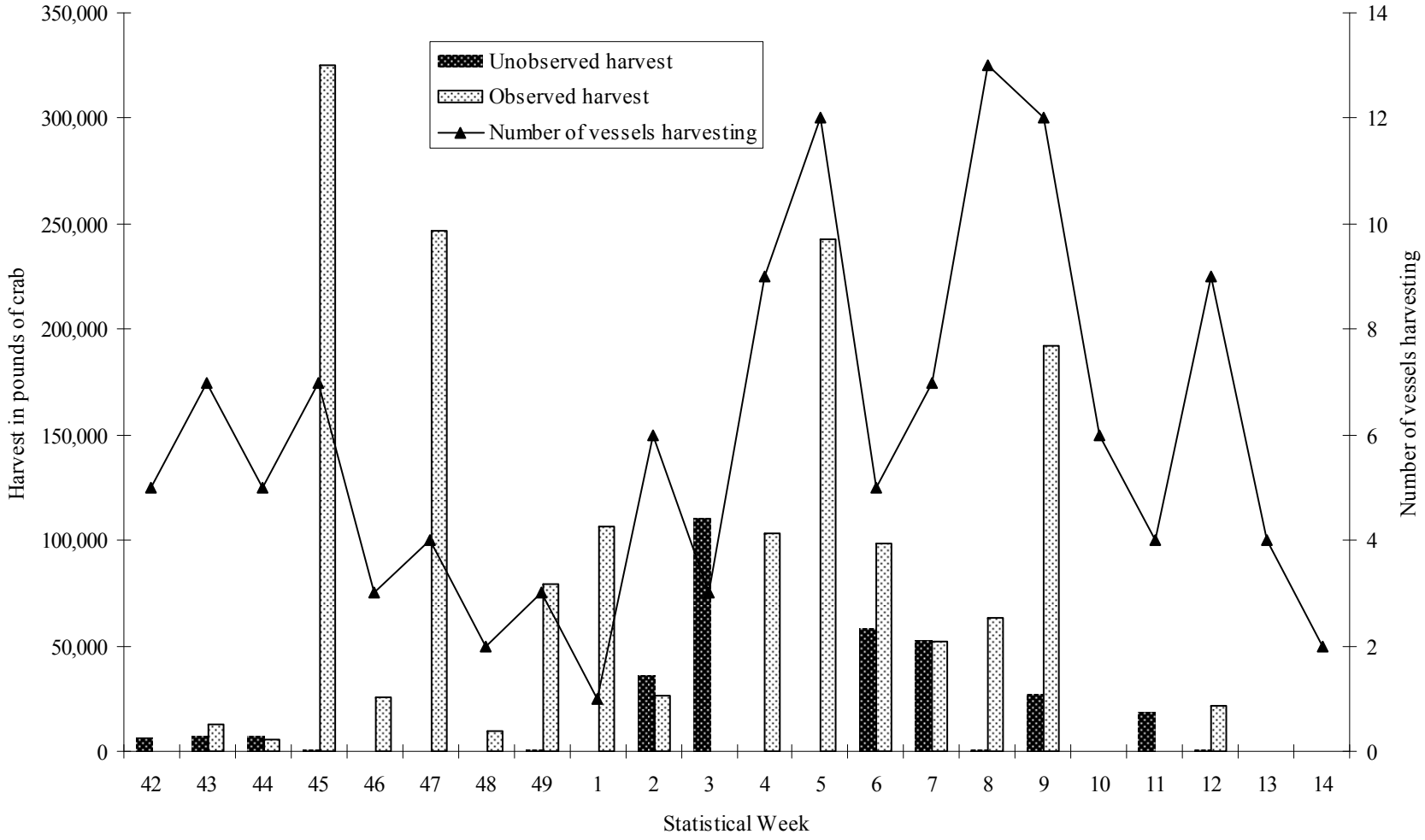

Figure 4-3.–Comparison of observed harvest to unobserved harvest, and total vessels harvesting during statistical weeks dated October 15, 2008 through March 31, 2009 in the Bering Sea Tanner crab fishery, 2008/09.

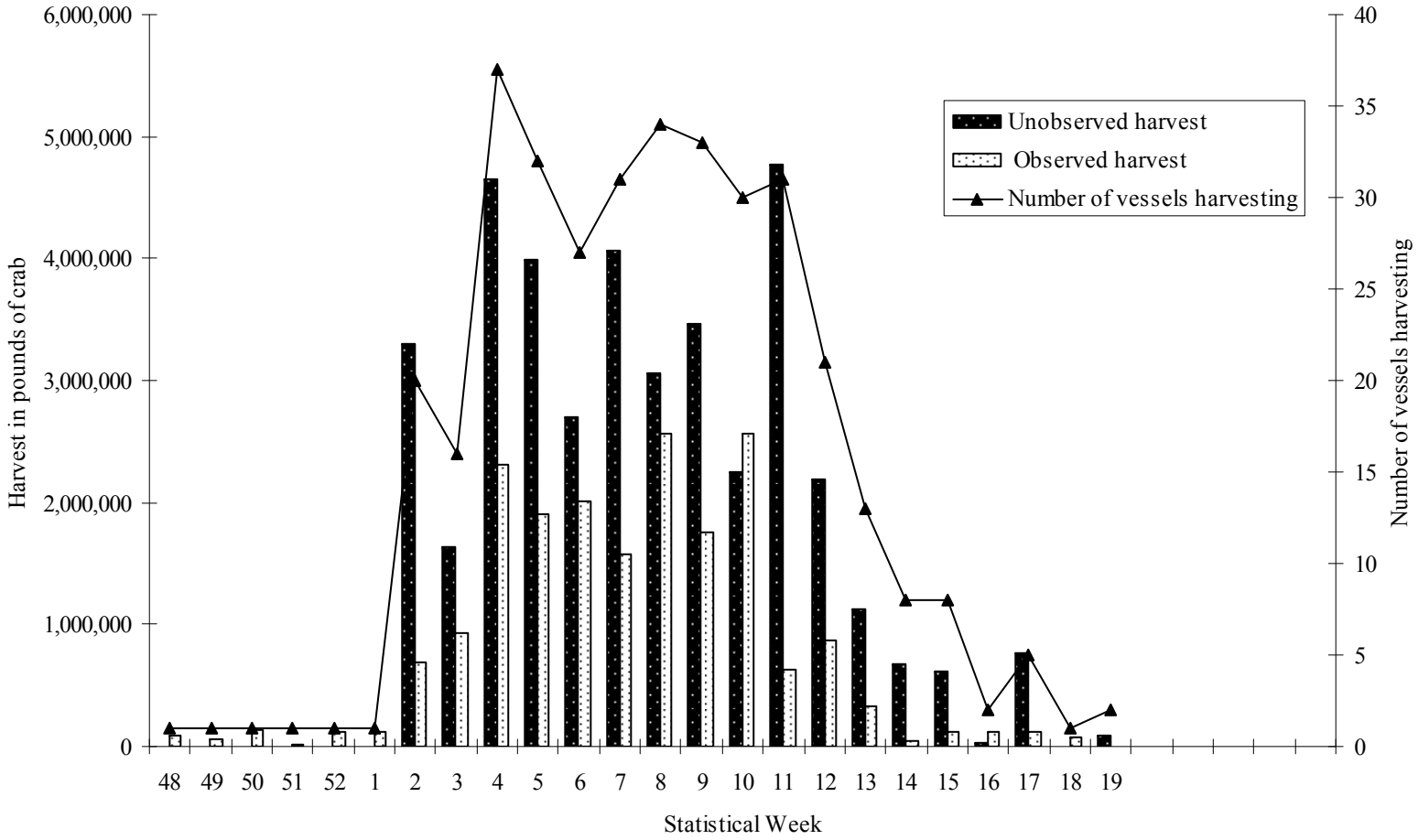

Figure 4-4.–Comparison of observed harvest to unobserved harvest, and total vessels harvesting during statistical weeks dated November 23, 2008 through May 10, 2009 in the Bering Sea snow crab fishery, 2008/2009.