Fishery Management Report No. 12-22

Annual Management Report for the Commercial and Subsistence Shellfish Fisheries of the Aleutian Islands, Bering Sea and the Westward Region's Shellfish Observer Program, 2010/11

by

Heather Fitch,

Mary Schwenzfeier,

Britta Baechler,

Trent Hartill

Melissa Salmon,

Melissa Deiman,

Eric Evans,

Edward Henry,

Lily Wald,

Janis Shaishnikoff,

Kathleen Herring,

and Jessica Wilson

May 2012

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)

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. 12-22

ANNUAL MANAGEMENT REPORT FOR THE COMMERCIAL AND SUBSISTENCE SHELLFISH FISHERIES OF THE ALEUTIAN ISLANDS, BERING SEA, AND THE WESTWARD REGION'S SHELLFISH OBSERVER PROGRAM, 2010/11

by

Heather Fitch and Mary Schwenzfeier
Alaska Department of Fish and Game, Division of Commercial Fisheries, Dutch Harbor

and
Britta Baechler, Trent Hartill, Melissa Salmon, Melissa Deiman, Eric Evans, Edward Henry, Lily Wald, Janis Shaishnikoff, Kathleen Herring, and Jessica Wilson
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

May 2012

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.adfg.alaska.gov/sf/publications/. This publication has undergone regional peer review.

Heather Fitch and
Mary Schwenzfeier
Alaska Department of Fish and Game, Division of Commercial Fisheries
PO Box 920587, Dutch Harbor, Alaska 99692 US

and

Britta Baechler, Trent Hartill, Melissa Salmon, Melissa Deiman, Eric Evans, Edward Henry, Lily Wald, Janis Shaishnikoff, Kathleen Herring and Jessica Wilson
Alaska Department of Fish and Game, Division of Commercial Fisheries
PO Box 920587, Dutch Harbor, Alaska 99692 USA

This document should be cited as:
Fitch, H., M. Schwenzfeier, B. Baechler, T. Hartill, M. Salmon, M. Deiman, E. Evans, E. Henry, L. Wald, J. Shaishnikoff, K. Herring, and J. Wilson. 2012. Annual management report for the commercial and subsistence shellfish fisheries of the Aleutian Islands, Bering Sea and the Westward Region's shellfish observer program, 2010/11. Alaska Department of Fish and Game, Fishery Management Report No. 12-22, Anchorage.

TABLE OF CONTENTS

Page

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Continued)

Page

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

Alaska Department of Fish and Game's (ADF&G) Westward Region is tasked with management of 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 Bering Sea waters 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, including Norton Sound.

This report presents details on commercial and subsistence harvest, participation, and value of shellfish fisheries in the Bering Sea and Aleutian Islands (BSAI) area. In 2010/11, three species of king crab, snow crab, Tanner crab, Dungeness crab, and giant Pacific octopus were taken in BSAI fisheries. Historical and current fishery management practices, a summary of the most recent commercial fishery and general stock status information are presented. The 2010/11 BSAI king and Tanner crab Community Development Quota (CDQ) and Individual Fishing Quota (IFQ) fisheries are summarized separately.

Observer coverage is required for crab fisheries. Details of the program's history and structure, and the 2010/11 observer coverage levels and observer sampling efforts during BSAI crab fisheries are detailed in this report.

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 *Metacarcinus 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, Fishery Management Plan, FMP, National Marine Fisheries Service, NMFS, Bering Sea, Aleutian Islands, North Peninsula, Area, observer deployment, catcher-processor, C/P, catcher vessel, C/V, floating processor, F/P, bycatch, National Oceanic and Atmospheric Administration, NOAA, legal tallies, confidential interviews, CIF, United States Coast Guard, USCG, onboard observer, observer coverage, retained catch, species composition sample, size frequencies, Commercial Fishing Vessel Safety Examination, CFVSE, Crab Observer Oversight Taskforce, 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 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 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, including Norton Sound, are managed by ADF&G's Arctic-Yukon-Kuskokwim Region. 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, and districts for Tanner crab, Dungeness crab, and miscellaneous shellfish management. 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. Other crab and miscellaneous shellfish fisheries are managed solely under state jurisdiction. 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 harvesting and processing sectors and substantially changed fishing practices.

Species commercially harvested during the 2010/11 season in waters of the BSAI include red king crab *Paralithodes camtschaticus,* golden king crab *Lithodes aequispinus,* blue king crab *P. platypus,* snow crab *Chionoecetes opilio,* Tanner crab *C. bairdi,* Dungeness crab *Metacarcinus magister,* and giant Pacific octopus *Octopus dofleini*. Historically, waters of the BSAI have supported commercial harvests of 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. A fishery for weathervane scallops *Patinopectin caurinus* occurs in the BSAI, however, it is summarized in a separate report.

In 2010/11, 79 catcher vessels, 2 catcher-processors, 2 floating processors, and 10 shorebased processors were involved in harvesting and processing shellfish resources in the BSAI. BSAI shellfish landings totaled approximately 71.0 million pounds and generated an approximate exvessel value of $220.2 million.

The Bering Sea snow crab fishery was the largest shellfish fishery in Alaska with a total harvest of 54.3 million pounds, followed by the Bristol Bay red king crab fishery with a total harvest of 14.8 million pounds, the Aleutian Islands golden king crab fishery with a total harvest of 5.4 million pounds, and the Saint Matthew Island Section blue king crab fishery with a harvest of 1.3 million pounds. North Peninsula Dungeness crab harvest was 0.8 million pounds.

The Pribilof District golden king crab fishery harvest was confidential due to limited participation, the guideline harvest level (GHL) was 0.15 million pounds. Fisheries for red and blue king crabs in the Pribilof District and for red king crabs in the eastern and western Aleutian Islands as well as Bering Sea Tanner crab fisheries were closed due to low abundance. The Pribilof blue king crab stock is considered overfished under the FMP.

There was limited or no participation during 2010 in most BSAI fisheries for miscellaneous shellfish species. There was no shrimp harvest in the BSAI during 2011. 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 was harvested incidentally in BSAI groundfish fisheries.

State and federal management agencies and the public utilize data collected by onboard crab fisheries observers. Observer coverage is required on all vessels that process crabs at sea while catcher-vessel observer coverage levels vary by fishery. Depending on the fishery and vessel type, observer coverage is either secured and paid for by industry (pay-as-you-go) or by ADF&G using funds acquired through cost-recovery crab fishing or federal grants. During the 2010/11 BSAI crab fisheries, 68 observers were sent on 80 deployments for a total of 103 observer months, and sampled the contents of 8,275 crab pots, conducted 354 confidential vessel interview, and sampled 483 landings.

In the 2010/11 season, buoy tags were issued for the St. Matthew Island Section blue king crab fishery, the Pribilof District golden king crab fishery, and for the Eastern Aleutian District Tanner crab fishery. ADF&G issues buoy tags to enforce pot limits. This report summarizes the activities and history of the BSAI buoy tag program.

ANNUAL MANAGEMENT REPORT FOR THE COMMERCIAL AND SUBSISTENCE SHELLFISH FISHERIES OF THE ALEUTIAN ISLANDS, 2010/11

by
Britta Baechler
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

May 2012

TABLE OF CONTENTS

Page

TABLE OF CONTENTS (Continued)

LIST OF TABLES

LIST OF FIGURES

ALEUTIAN ISLANDS KING CRAB MANAGEMENT AREA

DESCRIPTION OF AREA

The Aleutian Islands king crab management area eastern boundary is the longitude of Scotch Cap Light (164°44’ W long), the northern boundary is a line from Cape Sarichef (54°36’ N lat) to 171° W long, north to 55°30’ N lat, and the western boundary the Maritime Boundary Agreement Line as described in 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 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 long prior to the 1984/85 season (ADF&G 1985a; Figure 1-2). As the fleet moved westward, Registration Area S was established for waters around Amchitka Island and Petrel Bank. Area S was created in 1967 and was merged into Area R in 1978 (ADF&G 1991). In March 1996, the Alaska Board of Fisheries (BOF) established the Aleutian Islands king crab Registration Area (Area O) by combining the Dutch Harbor and Adak Registration areas, 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 crab in the Aleutian Islands (ADF&G 1999a).

Domestic fisheries for red king crab in both the Adak and Dutch Harbor Registration areas began in 1961 and rapidly developed. The Adak Area reached 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 maximum fishery value of nearly $21 million in the 1980/81 season (Table 1-2).

In the late 1970s, guideline harvest level (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 1-1).

Pot surveys in the western Aleutian Islands were conducted from 1975 to 1977 to provide red king crab catch per unit of effort (CPUE), fecundity, and relative abundance information (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).

Fluctuating annual harvest levels characterized fisheries in the Dutch Harbor and Adak areas; the Dutch Harbor fishery harvest declined from a high of 22.7 million pounds during the 1967/68

season to a low of 430,000 pounds by the 1982/83 season. Commercial fishing for red king crab in the Dutch Harbor Area has been closed since the 1983/84 season.

Adak fishery harvest in the 1995/96 season was only 39,000 pounds. After the 1995/96 season the fishery was closed. In 1996 and 1997, a catcher-processor vessel was permitted to target red king crab on 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 crab captured and to recapture tagged crab. During this two-year period, a total of 926 crab were tagged along the north side of Amchitka Island and along the south side of Semisopochnoi Island. While tagging was too limited to provide quantitative stock assessment data, it provided information on migration, molting cycle, and seasonal distribution (Byersdorfer 1998).

Portions of the Adak area were opened during the 1998/99, 2000/01, and 2001/02 seasons in order to assess the status of red king crab stocks without recent abundance information (Table 1-3). A limited commercial fishery was opened on November 1, 1998 for stock assessment purposes. Using historic catch information, a GHL of 5,000 pounds was established east of 179° W long and a GHL of 10,000 pounds was set west of 179° E long. During the limited fishery, crab not retained for commercial use were tagged and released. In addition, vessel operators were required to document all red king crab fishing activities in a logbook. The Petrel Bank area (the region between 179° E long and 179° W long) was not opened based on prior population data from that area (Byersdorfer 1998).

Three vessels registered to harvest red king crab 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 Commissioner's permit 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 crab captured to cover survey expenses. The commissioner's permit specified stations to be fished, soak times, and effort levels. Capture of red king crab from both surveys 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 survey legal male abundance, a limited commercial fishery on 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 uncertainty in status of sublegal and female red king crab 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 crab 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 crab per pot lift and the fleet harvested 505,642 pounds (Table 1-1). The 2002/03 Petrel Bank fishery had a value of $3.29 million (Table 1-2).

During the 2003/04 Petrel Bank red king crab fishery 479,113 pounds were harvested by 30 vessels in 91 hours. The fleet pulled 5,774 pots and average CPUE was 10 legal crab per pot lift (Table 1-1). Exvessel price averaged $5.14 per pound for a total value of $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 crab in the 2002/03 and 2003/04 fisheries, along with low legal male CPUE 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 (BSAI) 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. Individual Fishing Quota shares will allow harvesters to prosecute this fishery at any time during the open season. Prior to rationalization, the overall fishery pot limit in the Western Aleutian Islands red king crab fishery was 1,250 pots divided evenly among participants. Currently the individual vessel pot limit is 250 pots.

Observers have been required on all crab catcher-processors since 1988 and on catcher vessels targeting red king crabs in the Aleutian Islands since 1995. Observer coverage on golden king crab vessels provides red king crab incidental harvest data, although red king crab bycatch in golden king crab gear is minimal due to the limited overlap in distribution of the two species. Observer coverage is set at 100% for any vessels targeting red king crab in the Aleutian Islands.

In addition to commercial fisheries, long-standing subsistence and sport fisheries have targeted red king crab in the vicinity of Unalaska Island. The subsistence red king crab fishery opens June 1 and closes January 31. Historically, though many subsistence permits were issued, very few were returned. On average, 15 permits were returned per year between 1988 and 1994. The reported average annual harvest was 135 king crab.

To address conservation concerns for the eastern Aleutian Islands red king crab stock, in March 1999, between 168° W long and 164°44’ W long. of the Aleutian Islands was closed to sport fishing and the subsistence daily bag limit of king crab was reduced from six to one crab per person per day. Regulations also require that subsistence king and Tanner crab *Chionoecetes bairdi* fishermen operating in the Aleutian Islands between 168° W long and 164°44’ W long obtain a subsistence permit before fishing.

Subsistence logsheet information has been collected by ADF&G for the past 12 years. An average of 219 permits have been issued annually with an approximate 69 percent return rate. The returned permits accounted for an average annual harvest of 847 king crab (Table 1-3), with harvest ranging from 0 to 150 king crab per permit. Harvest estimates generated from the subsistence harvest logsheets indicate an average of 1,235 king crab were harvested annually between 1999 and 2010, substantially less than estimates generated by a 1994 survey of 15 percent of households in Unalaska, where 6,892 king crab were estimated to have been taken (ADF&G 1999b).

2010/11 Commercial Fishery East of 171° W Longitude

The commercial red king crab fishery in the Aleutian Islands east of 171° W long was closed during the 2010/11 season due to low stock abundance.

2010/11 Commercial Fishery 171° W Longitude to 179° W Longitude

The commercial red king crab fishery in the Aleutian Islands between 171° W long and 179° W long was closed during the 2010/11 season due to low stock abundance.

2010/11 IFQ Fishery West of 179° W Longitude (Petrel Bank)

The commercial red king crab fishery in the Aleutian Islands west of 179° W long was closed during the 2010/11 season due to low stock abundance.

2010 Subsistence Fishery

In 2010, ADF&G issued 215 subsistence permits and harvest logsheets, of which 119, or 55 percent, were returned. Returned permits reported a harvest of 160 king crab (Table 1-3) with harvest ranging from 0 to 23 king crab per permit. Estimates generated from the subsistence harvest logsheets indicate that approximately 289 king crab were taken. The majority of subsistence-caught king crab in the Unalaska Island area are taken with pot gear, though some king crab 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 CR. A fisherman may not be concurrently registered for both the commercial red king crab and golden king crab fisheries east of 171° W longitude as outlined in 5 AAC 39.670(c)(6) *Bering Sea/Aleutian Islands Individual Fishing Quota (IFQ) Crab Fisheries Management Plan*, which states that a vessel operator may not have king crab from an IFQ fishery and a non-IFQ fishery on board the vessel at the same time.

Recent bottom trawl surveys by ADF&G have not captured many red king crab. A portion of the eastern Aleutian Islands were surveyed by bottom trawl during the summers of 2000 and 2003–2010. Survey results show a severely depressed population with only zero to five red king crab captured in any year.

The 2010 survey captured zero red king crab, indicating the population remains at historic low levels (Spalinger 2011).

In December 2007 the North Pacific Fishery Management Council (NPFMC) amended the Federal Fishery Management Plan for Bering Sea/Aleutian Islands King and Tanner Crabs (FMP) by adopting new overfishing definitions for BSAI crabs and removing eastern Aleutian Islands red king crab from the FMP. The state of Alaska has sole jurisdiction over fishery management for this stock.

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

The red king crab fishery from 171° W long to 179° W long was not included in the CR program. Consistent with regulation for the area east of 171° W long, 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 as outlined in 5 AAC 39.670(c)(6) *Bering Sea/Aleutian Islands Individual Fishing Quota (IFQ) Crab Fisheries Management Plan*.

In November of 2002, ADF&G conducted a pot survey in the area between 172° W long and 179° W long. The survey area was developed in consultation with industry and focused on historically important areas of red king crab abundance in the Adak, Atka, and Amlia Islands

areas. These areas had been closed to commercial red king crab fishing since the 1998/99 season and had not been previously surveyed. The 116 survey stations were divided between state-waters (56 stations) and federal-waters (60 stations).

Ten vessels conducted 1,085 pot lifts in 61 stations. Survey catches were poor and only four legal males were captured during the survey. Due to poor survey catches and high operation costs, many vessels were unable to fulfill their survey commitment and only 34 percent of the survey was completed. The completed portion of the survey indicated that red king crab around Adak, Atka, and Amlia Islands were severely depressed (Granath 2003).

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. The golden king crab fishery in the Aleutian Islands does not have a pot limit. In the Petrel Bank red king crab fishery, each vessel is restricted to 250 pots (5 AAC 34.625 (d)).

Shell condition and size composition data from the 2001 survey, as well as the 2002/03 and 2003/04 fisheries in Petrel Bank indicate that primarily older, post-recruit crab supported these harvests. Proportions of sublegal and female red king crab 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 crab increased from 2001 to 2003. Average weight and CL of legal male red king crab 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 crab per pot during the 2003/04 fishery and did not drop below the 10 legal crab per pot benchmark. Fishery CPUE climbed during the first 36 hours from 8.5 to 15.0 crab 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 below average.

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, ADF&G 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 crab, it was likely that the fishery would fail to stay above the threshold criteria of 10 crab 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 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 crab per pot from 170 stations fished (Gish 2007). Red king crab captured during the survey were predominately larger, mature-sized male crab, and the size distribution of surveyed crab provided no near term expectation for significant recruitment of legal males. Although males that were estimated to be new recruits to legal size accounted for 36 percent of the 2006 survey catch of legal crab, 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 crab was also restricted relative to harvest location during the last two commercial fisheries.

ADF&G conducted a survey of the red king crab stock on the Petrel Bank in November 2009. A direct CPUE comparison cannot be made between the 2001, 2006, and 2009 surveys and the 2002/03 and 2003/04 commercial fisheries due to differences in fishing practices. The 2009 survey was designed to sample the areas previously surveyed in 2001 and 2006, and those areas commercially fished in 2002/03 and 2003/04. The 2009 survey had 117 stations fished in common with the 2006 survey. For the stations fished in common with the 2006 survey, the 2009 survey indicated that legal-sized male crab had decreased by 15 percent, female crab had decreased by 57 percent, and sublegal males had decreased by 85 percent. Legal-male CPUE declined from 1.7 in 2006 to 1.5 in 2009 for those stations fished during both years. The mean carapace length of males increased from 151 mm in 2006 to 166 mm CL in 2009. The lack of pre-recruit males and females and the increase in mean carapace length in males from the 2006 survey to the 2009 survey indicate an aging population with little potential for recruitment. Additionally, in the 2009 survey 59 percent of the catch of all red king crab captured occurred in just three stations, suggesting limited distribution of red king crab in the area (Gish 2010).

A catcher-processor conducted a commissioner's permit test fishery during October 15 to December 15, 2009 in waters west of Petrel Bank while concurrently fishing for golden king crab in nearby waters. The intent of this test fishery was to ascertain the presence or absence of red king crab in five survey blocks selected by a fisherman with experience harvesting red king crab in the area. Pots fished could be set in depths of 100 fathoms or less and had to be legal red king crab gear for the Aleutian Islands, except the escape webbing was closed to help retain sublegal and female crab. A total of 18 red king crab pots were set and pulled in four of the five survey blocks resulting in the capture of one legal-sized red king crab. The commissioner's permit allowed for the test fishery to continue during January 1 to February 15, 2010, but no test fishing activity occurred during this time period. Results of the test fishery suggest that the red king crab population west of Petrel Bank remains severely depressed (Unpublished Memorandum, 2009 Western Aleutian Islands Red King Crab Commissioner's Permit Test Fishery, ADF&G, Jeanette Alas, Dutch Harbor, Alaska).

ALEUTIAN ISLANDS GOLDEN KING CRAB

Historical 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 crab inhabit greater depths than most other commercially exploited king crabs (Blau

et al. 1996). The depths and steep bottom topography of the inter-island passes inhabited by golden king crab necessitate the use of longline rather than single-pot gear. No other major king crab fisheries in Alaska exist in which longline pot gear is the only legal gear type.

Historically, golden king crab 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 crab was reported from the Adak Area during the 1975/76 season, but directed fishing for golden king crab 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, golden king crab was harvested in separate directed fisheries occurring in the Adak and Dutch Harbor Registration Areas.

During the 1981/82 season, 14 vessels landed nearly 1.2 million pounds of golden king crab 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. Peak harvest in the Adak Area fishery occurred during the 1986/87 season when nearly 12.9 million pounds of golden king crab 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 inseason (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 crab harvested in the Adak Area were taken in the North Amlia and Petrel Bank Districts (Figure 1-2).

Initial catches of golden king crab 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 crab 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. 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 crab harvested in both the Dutch Harbor and Adak Areas declined 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 1-4). In 1984, the BOF adopted an ADF&G proposal to lower the legal size for golden king crab in the Aleutian Islands from 6.5 inches to 6.0 inches carapace width (CW), and 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 crab per pot during the 1984/85 season and declining to 6 crab during the 1994/95 season in the Dutch Harbor area and from 9 legal crab per pot to 5 crab 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 importance. Consequently, the BOF re-designated management areas in the Aleutian Islands to more accurately reflect current golden king crab stock distribution and patterns in fishing effort. The BOF, therefore, combined the Adak and Dutch Harbor areas as 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 fishing activities.

In 1996/97, 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 1-4). 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 5.8 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, CPUE east of 174° W long was six legal crab 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 crab 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 remained relatively stable. During the 1997/98 season, 15 vessels harvested 3.5 million pounds in an 84-day season. CPUE averaged seven legal crab per pot lift and crab 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 harvested 2.4 million pounds (Table 1-4; Table 1-5). The GHL west of 174° W long was not reached and the fishery was not closed. The fleet averaged six legal crab per pot lift with landed crab averaging 4.3 pounds. The 1997/98 Aleutian Islands golden king crab fishery had a total value of $12.5 million (Table 1-4; 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 0.2 million pound GHL reduction for the area east of 174° W long was necessary in order to comply with the existing overfishing definition specified in the FMP (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 crab 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 percent of the GHL. The fleet averaged 11 legal crab 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 (BBR) fisheries. The BBR fishery opening changed 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 BBR fishery.

In the 2000/01 fishery east of 174° W long fifteen vessels registered and harvested 3.1 million pounds. The CPUE was 10 legal crab 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 crab 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).

From 2001/02 to 2004/05, between 18 and 19 vessels harvested an average of 2.97 million pounds per year in the area east of 174° W long. 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 crab per pot lift. Catch rates rose during the 2003/04 fishery when average CPUE increased to 10 legal crab 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 availability of a shorebased processing facility in Adak has contributed to 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 harvested 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 crab per pot lift. In 2007/08 effort dropped further, when only five vessels participated. Despite the smaller fleet size 4.94 million pounds 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 crab per pot lift (Table 1-4). CR regulations require that 10 percent of the overall TAC in the area east of 174° W long is allocated to the CDQ program and 10 percent of the TAC in the area west of 174° W long is designated as an Adak Community Allocation (ACA) controlled by the community of Adak.

In March 2008 the BOF set the Aleutian Islands golden king crab TAC in regulation at 3.15 million pounds for the fishery east of 174° W long and 2.835 million pounds for the fishery west of 174° W long until a stock assessment model is established by ADF&G. Additionally, the BOF defined the portion of the Aleutian Islands east of 174° W long as a separate fishery from the area west of 174° W long; as a result, vessels could no longer fish both areas concurrently.

Three vessels participated in the 2008/09 golden king crab fishery east of 174° W long harvesting 2.83 million pounds, or 99.8 percent of the TAC. Average weight was 4.7 pounds, a decrease from 4.8 pounds the previous season. Legal-male CPUE was 27, one less than the CPUE in the previous season, but still one of the highest catch rates on record. Three vessels participated in the 2008/09 golden king crab fishery west of 174° W long. The harvest was 2.25 million pounds, or 88 percent of the TAC. The average weight was 4.3 pounds, similar to the 2006/07 and 2007/08 seasons. Legal-male CPUE was 23, an increase from the 2007/08 CPUE of 21, and the highest catch rate on record (Table 1-4).

Five vessels participated in the 2009/10 IFQ fishery and landed 5.31 million pounds. The fleet averaged 25 legal crab per pot lift, similar to the 2008/09 season, and average weight was 4.5 pounds, also similar to the 2008/09 season (Table 1-4).

2010/11 IFQ Fishery

The 2010/11 Aleutian Islands IFQ golden king crab fishery opened by regulation at noon on August 15 with a TAC of 5.39 million pounds, 2.84 million pounds of which was apportioned to the area east of 174° W long and 2.55 million pounds apportioned to the area west of 174° W long. Five vessels participated in the IFQ fishery and landed 5.37 million pounds. The fleet averaged 23 legal crab per pot lift, a decrease from the 2009/10 season CPUE of 25. Average weight was 4.6 pounds, the highest seen since the 1984/85 season (Table 1-4).

East of 174° W long

Three vessels participated in the Aleutian Islands golden king crab commercial fishery east of 174° W long. The fleet registered 4,600 pots, the same as the 2009/10 season. Harvest data is confidential for all weeks because fewer than three vessels fished except for the week of September 26, when 525,964 pounds were harvested. Fishing operations were completed the third week of March. Most fishing effort concentrated around Amukta Pass in ADF&G statistical areas 715231, 715202 and 725201 (Table 1-6). The average CPUE for the entire eastern portion was 25 legal crab per pot lift, one lower than the previous season. The average weight of legal crab was 4.7 pounds, an increase from 4.6 pounds in the 2009/10 season (Table 1-4).

The IFQ fleet left 1,812 pounds of the 2.84-million pound TAC unharvested. Three shorebased processors and one floating processor located in Dutch Harbor processed golden king crab from the eastern Aleutian Islands. Exvessel price paid for live, whole crab averaged $3.01 per pound, leading to a fishery value of $8.31 million, nearly a 34 percent increase from the 2009/10 fishery (Table 1-5).

West of 174° W long

Three vessels participated in the IFQ fishery west of 174° W long. The fleet registered 4,675 pots, a decrease of 375 pots from the 2009/10 season. Harvest data by statistical week is confidential because fewer than three vessels fished each week. Fishing effort was concentrated around Amchitka Island and Petrel Bank. Weekly CPUE ranged from a low of 16 to a high of 40 legal crab per pot lift and averaged 21, a decrease from the 2009/10 season average CPUE of 25. The average weight of legal crab was 4.5 pounds, an increase from 4.4 pounds during the 2009/10 season, and the highest on record since 1985/86 when average weight was also 4.5 pounds (Table 1-4).

The fleet harvested 2.54 million pounds or 99 percent of the western TAC. Golden king crab were purchased and processed by one catcher-processor and three shorebased processors, all located in Dutch Harbor. Exvessel price averaged $3.32 per pound yielding a total fishery value of $8.31 million, a 43 percent increase from the previous season (Table 1-5).

Fishery Management and Stock Status

Crab Rationalization introduced regulatory changes in the Aleutian Islands golden king crab fishery; for example, what was previously a GHL is now a TAC. Qualified participants are issued IFQ shares by National Marine Fisheries Service (NMFS) 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 percent of their fishing activities. Current regulations stipulate that onboard observers are required for 50 percent of the total golden king crab weight harvested by each catcher vessel during each of three trimesters and 100 percent of the fishing activity of each catcher-processor as outlined in 5 AAC 39.645 (d)(4)(A).

The department surveyed a small portion of 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). Mark-recapture data from the 1997 survey suggested that the commercial fishery was annually removing a minimum of 20 perecnt of the legal male crab present in the area surveyed. At that time the FMP 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 percent. 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, Regional Shellfish/Groundfish Research Coordinator, ADF&G, Kodiak, personal communication).

Only a small portion of the area in which golden king crab are commercially harvested is surveyed. 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 crab 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 percent fewer crab were tagged compared to the 2000 survey although numbers of tagged legal males were similar (Watson 2005). Approximately 14 percent fewer crab 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.

Beginning with Crab Rationalization in 2005/06, federal regulation requires 50 percent of western Aleutian Islands A share IFQ be delivered west of 174° W long. For the 2009/10 season, NMFS issued an emergency rule exempting IFQ holders from this landing regulation effective February 18, 2010 through August 17, 2010 due to the lack of a processing facility open in the west region. The emergency rule was extended another 180 days, with an expiration date of

February 20, 2011; with the extension, the emergency rule was in effect for the 2010/11 fishing season.

A stock assessment model is currently being developed for Aleutian Islands golden king crab. When completed and adopted by the NPFMC Crab Plan Team, this model could be used to generate estimates of abundance and other fishery parameters (S. Siddeek, Biometrician, ADF&G, Juneau, personal communication).

ALEUTIAN ISLANDS SCARLET KING CRAB

Historical Background

Scarlet king crab may be 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 historically issued in conjunction with an Aleutian Islands golden king crab registration. Scarlet king crab 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 the presence of a large biomass. Since 1992, annual harvest of scarlet king crab 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 peaked in 1995 when the fishery was worth approximately $186,500 (Table 1-7). Since 1996, effort and harvest in this fishery have been minimal and catch information has been confidential in all years except 1997 when 6,720 pounds were harvested.

2010 Fishery

No vessels registered to harvest scarlet king crab in the Aleutian Islands in 2010.

Fishery Management and Stock Status

With the implementation of CR, scarlet king crab were not permitted to be retained as an incidental species during the Aleutian Islands golden king crab fishery per 5 AAC 39.670(c)(6) *Bering Sea/Aleutian Islands Individual Fishing Quota (IFQ) Crab Fisheries Management Plan*, which states that a vessel operator may not have crab from an IFQ fishery and a non-IFQ fishery on board the vessel at the same time. In December 2007, the NPFMC amended the FMP adopting new overfishing definitions for BSAI crabs and removing Aleutian Islands scarlet king crab from the FMP and providing the state of Alaska with sole jurisdiction over the fishery. No surveys are conducted, nor are any estimates of population abundance made for scarlet king crab in the Aleutian Islands; consequently, stock status and distribution are not well known. Scarlet king crab males 5.5 inches or greater in CW may be taken under the conditions of a commissioner's permit as incidental harvest in a non-IFQ fishery or in a directed 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 waters of the Territorial Sea (0–3 nautical miles) and waters of the Exclusive Economic Zone (3–200 nautical miles).

TANNER CRAB

Historical Background

The EAD has not supported harvests of Tanner crab as large as those recorded in other districts of Area J. Tanner crab 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 crab has typically remained under one million pounds per year. Only in the three consecutive seasons from 1976/77 to 1978/79 did harvest exceed one million pounds, reaching a peak of 2.5 million pounds in the 1977/78 season (Table 1-8). The EAD Tanner crab fishery reached a maximum exvessel value of approximately $950,000 in 1977/78 (Table 1-9). Harvest fell to a low of 50,038 pounds by 1991. Between 1973/74 and 1994, vessel participation ranged from 4 vessels in 1992 to 31 vessels in 1982. Commercial fishing for Tanner crab was not permitted in the EAD from 1995 through 2002 due to low stock abundance. In 2003, the directed fishery remained closed; however, a survey effort around the vicinities of Unalaska, Akutan, and Akun Islands permitted vessels under 58 feet in length to retain all legal-size Tanner crab captured in ADF&G-designated survey stations around Unalaska, Akutan, and Akun Islands (Alaska Department of Fish and Game, "Eastern Aleutian Islands Tanner Crab Survey," news release, November 15, 2002).

Since 2004, the EAD Tanner crab fishery has opened each year in at least one of the three sections (Unalaska Bay, Makushin/Skan Bay, and Akutan Bay). Harvest information for 2004 and 2006 to 2011 is confidential because less than three processors purchased crab. Vessel participation since 2004 ranged from three vessels in 2011 to 25 vessels in 2005 (Table 1-8).

The Tanner crab subsistence fishing season runs from January 1 to December 31. 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 crab annually. A survey of 15 percent of Unalaska households in 1994 generated an estimated total subsistence Tanner crab harvest of 10,957 crab (ADF&G 1999b). Permit and reporting requirements for subsistence harvest were passed by the BOF in 1999. ADF&G issued 179 subsistence permits in 1999, of which 80 were returned. Returned permits accounted for a Tanner crab harvest of 1,432 crab and the estimated total harvest was 3,204 crab (Table 1-3).

During the past 11 years, ADF&G in Dutch Harbor has issued an average of 219 subsistence permits and harvest logsheets annually. On average, approximately 69 percent of permits are returned. The returned permits account for an average annual reported harvest of 2,469 Tanner crab and annual harvest ranged from 0 to 914 crab per permit holder. Harvest estimates generated from the subsistence harvest logsheets indicate an average of 3,601 Tanner crab were harvested annually between 1999 and 2010 (Table 1-3).

2011 Commercial Fishery

The 2011 commercial Tanner crab fishery in the EAD opened on January 15 with a GHL of 35,000 pounds in the Makushin/Skan Bay Section and 35,000 pounds in the Akutan Section. The minimum mature male abundance threshold was not met in the Unalaska/Kalekta Bay Section, therefore the Unalaska/Kalekta Bay Section was not opened to commercial fishing. Five vessels preseason registered for the 2011 fishery resulting in a limit of 50 pots per vessel; three vessels

participated in the fishery. Due to limited processor participation, harvest information is confidential. The fishery closed on March 18 in the Makushin/Skan Bay Section when the GHL was achieved. The Akutan Section closed by regulation on March 31 without attaining the GHL.

Dockside Sampling, 2011 Commercial Fishery

All EAD Tanner crab fishery landings were sampled by dockside sampling staff at a Dutch Harbor processing plant during the 2011 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 crab weight, CW, and shell condition.

Average weight for Tanner crab harvested in the EAD fishery was 2.2 pounds. In the Makushin/Skan Bay Section, average weight decreased from 2.4 pounds in 2009 to 2.3 pounds in 2011. In the Akutan Bay Section, average weight increased from 2.1 pounds in 2010 to 2.2 pounds in 2011 (Table 1-8). From the biological data collected, 72 percent of the landed catch was classified as new-shell, a decrease from 85 percent in the 2010 season.

2010 Subsistence Fishery

In 2010, ADF&G issued 215 subsistence permits and harvest logsheets, of which 119, or 55 percent, were returned. The returned permits account for a reported harvest of 2,469 Tanner crab (Table 1-3). Estimates generated from the subsistence harvest logsheets indicate that approximately 4,479 Tanner crab were taken with harvest ranging from 0 to 649 Tanner crab per permit. Most subsistence Tanner crab harvested in the EAD in 2010 were taken with pot gear, though some were taken using SCUBA gear.

Fishery Management and Stock Status

In 2002, the BOF adopted new management measures for the EAD Tanner crab fishery including pot limits, daily fishing periods, and reporting requirements. A total of 300 pots are allowed in the fishery with no more than 50 pots per vessel. Pots may be operated to take Tanner crab only from 8:00 AM until 5:59 PM with a soak time of 14 hours from 6:00 PM until 7:59 AM Depending on the anticipated rate of harvest, ADF&G requests that fishermen report daily or tri-weekly 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 to vessels under 58 feet overall length when the GHL for Tanner crab is 1,000,000 pounds or less. The EAD Tanner crab fishery was not included in the CR program, and remains an open access fishery.

In December 2007, the NPFMC amended the FMP adopting new overfishing definitions for BSAI crabs and removing Aleutian Islands Tanner crab from the FMP and providing the state of Alaska with sole jurisdiction over the fishery.

In March 2008, the BOF adopted 5 AAC 35.509 *Eastern Aleutian District Tanner Crab Harvest Strategy*, which placed the existing interim harvest strategy in regulation and subdivided the EAD into sections allowing for greater management precision. The proposal adopted by the

board was identical to the management measures that the department had implemented on an interim basis.

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 2010, the Akutan Bay, Unalaska/Kalekta Bay, Makushin/Skan Bay, Pumicestone Bay, and Beaver Inlet were surveyed with trawl gear using the ADF&G research vessel Resolution (Spalinger 2011). Total estimated abundance for the area surveyed was 2.8 million crab, a 64 percent decrease from 7.8 million crab in 2009. Most of the decrease in abundance from the 2009 survey can be explained by lower abundance estimates of adult females areawide, as well as a stark decrease in prerecruit II–III males in Makushin/Skan and Unalaska/Kalekta Bays.

In Unalaska Bay, the largest trawl survey catch of legal males occurred in Constantine Bay. The largest trawl survey catch of legal-male Tanner crab 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 2010 legal-male population estimate for areas surveyed, 0.17 million crab, represents a decrease of 56 percent from 0.39 million crab in 2009. This is consistent with a declining trend that began in the 2007 survey. The number of recruit-sized legal males decreased nearly 54 percent while the post-recruit estimate decreased by 59 percent. The abundance estimate for post-recruits larger than 165 mm CW was zero, the lowest estimate on record.

The 2010 legal-male Tanner crab abundance is below average relative to the trawl survey time series from 1990 to 2009. All female, sublegal male, and legal male population estimates for 2010 decreased from the 2009 survey, notably the total female abundance which decreased by 72 percent, and sublegal male crab in the 92–114 mm CW range which declined by 70 percent. Legal-male abundance in the Unalaska/Kalekta Bay Section decreased by 99 percent. Based on trawl survey estimates, the EAD Tanner crab stock appears capable of supporting only a small harvest in selected locations in 2011.

GROOVED TANNER CRAB

Historical Background

Similar to other deepwater crab fisheries in the Aleutian Islands, the first harvest of grooved Tanner crab 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 a single 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 1-10). One vessel harvested grooved Tanner crab in the EAD in 2001 and 2004; data from both years is confidential due to limited participation. From 2002 to 2003 and 2005 to 2010, there was no grooved Tanner crab effort in the EAD.

Limited data has been collected regarding abundance, distribution, and stock status of deep-water crab species in the BSAI. 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 crab in the Eastern Aleutian, Bering Sea, and Alaska Peninsula districts where most historical harvests had occurred. Harvest levels 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).

2010 Fishery

No vessels registered to harvest grooved Tanner crab in the EAD during 2010.

Fishery Management and Stock Status

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.

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 12 legal crab per pot lift in 1994 to 3 legal crab in 1996 and catches decreased from over 879,000 pounds in 1995 to less than 105,000 pounds in 1996 (Table 1-10). In addition, fishing effort was concentrated in three statistical areas immediately to the south of Unalaska Island. Commercial fishery data suggests that at least in the area historically fished, the population was heavily exploited in the early to mid-1990s.

In December 2007, the NPFMC amended the FMP adopting new overfishing definitions for BSAI crabs and removing Aleutian Islands grooved Tanner crab from the FMP and providing the state of Alaska with sole jurisdiction over the fishery.

TRIANGLE TANNER CRAB

Historical Background

Triangle Tanner crab have been 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 crab was reported on fish tickets; however, shellfish observers stationed on board vessels participating in the grooved Tanner crab fishery observed small numbers of triangle crab harvested in 1994 (ADF&G 1999a). Two vessels targeted triangle Tanner crab in the EAD during the 1995 and 1996 seasons; harvest information from those fisheries is confidential (Table 1-11). From 1997 to 2000, and 2002 to 2010, no vessels registered to harvest triangle Tanner crab in the EAD. One vessel participated in 2001; harvest information is confidential.

2010 Fishery

No vessels harvested triangle Tanner crab in the EAD during 2010.

Fishery Management and Stock Status

In the Eastern Aleutian District triangle Tanner crab are harvested under a permit authorized in 5 AAC 35.511 *Permits for Tanneri and Angulatus Tanner Crab in Registration Area J*. Surveys of population abundance are not conducted for triangle Tanner crab, 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 crab in the Eastern Aleutian District is limited to incidental harvest during the grooved Tanner crab fishery. Vessels registered to fish for grooved Tanner crab are permitted to retain triangle Tanner crab up to 50 percent of the weight of the target species onboard the vessel. This harvest strategy allows some retention of a deepwater species that is believed to have a high mortality rate when taken incidentally in pot gear.
In December 2007 the NPFMC amended the FMP adopting new overfishing definitions for BSAI crabs and removing Aleutian Islands triangle Tanner crab from the FMP and providing the state of Alaska with sole jurisdiction over the fishery.

WESTERN ALEUTIAN TANNER CRAB DISTRICT

DESCRIPTION OF DISTRICT

The Western Aleutian District (WAD) 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 waters of the Territorial Sea (0–3 nautical miles) and waters of the Exclusive Economic Zone (3–200 nautical miles).

TANNER CRAB

Historical Background

Most Tanner crab in the WAD have been taken incidentally 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 1-12). No commercial harvest of Tanner crab has occurred in the WAD since 1996/97 as the fishery has been closed. The WAD Tanner crab fishery reached a maximum value of just over $1 million in the 1981/82 season (Table 1-13). Most harvest has occurred within a few bays near Adak and Atka Islands.

2010/11 Fishery

The WAD Tanner crab fishery may be opened by emergency order on November 1; however, the fishery was not opened during the 2010/11 season 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 crab in the WAD; thus no population estimates are available. Stock status is currently unknown. Past fisheries were managed using GHLs set from commercial catch data (ADF&G 1985b).

In December 2007, the NPFMC amended the FMP by adopting new overfishing definitions for BSAI crabs, removing Aleutian Islands Tanner crab from the FMP, and providing the state of Alaska with sole jurisdiction over the fishery.

GROOVED TANNER CRAB

Historical Background

In the WAD, harvest of grooved Tanner crab first occurred in conjunction with the developing golden king crab fishery in the Adak Area during the late 1970s. Overall effort has been minimal with two or fewer vessels participating during most years. However, six vessels harvested approximately 146,000 pounds of grooved Tanner crab in 1995 (Table 1-14).

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 fishing activities. Using information collected by onboard observers and historic catch information, the department established GHLs for grooved Tanner crab in the WAD in 1997. The GHL was set at 100,000 pounds to allow for exploratory fishing and incidental harvest (ADF&G 1999a). Since 1997, the department has re-evaluated harvest levels for deepwater Tanner crab. Because commercial fishing for grooved Tanner crab in the WAD 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 and grooved Tanner crabs, fishermen have reported incidental triangle Tanner crab catch during the grooved Tanner crab and golden king crab fisheries in the WAD. Currently, there is no directed fishery for triangle Tanner crab.

2010 Fishery

The WAD was not open to commercial fishing for grooved Tanner crab in 2010.

Fishery Management and Stock Status

No stock assessment surveys have been conducted for grooved Tanner crab in the WAD; therefore, no estimates of population abundance are available. Fishery data from the mid 1990s

indicates the western Aleutian Islands may not support grooved Tanner crab populations as large as the eastern Aleutian Islands and the Bering Sea.

In December 2007, the NPFMC amended the FMP by adopting new overfishing definitions for BSAI crabs, removing Aleutian Islands grooved Tanner crab from the FMP, and providing the state of Alaska with sole jurisdiction over the fishery.

ALEUTIAN DISTRICT DUNGENESS CRAB

DESCRIPTION OF DISTRICT

The Aleutian District for Dungeness crab *Metacarcinus 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 waters of the Territorial Sea (0–3 nautical miles) and waters of the Exclusive Economic Zone (3–200 nautical miles).

HISTORICAL 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 crab inhabit bays, estuaries, and other shallow water habitats, areas that are sparsely and widely dispersed in the Aleutian Islands. Therefore, populations of Dungeness crab 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. The first reliable reports of commercial harvests of Dungeness crab were in 1970. Since 1974, harvests have ranged from no effort during several seasons to a peak of over 91,000 pounds in 1984/85 (Table 1-15), with most of the catch that year coming from Unalaska and Makushin Bays.

In addition to commercial harvest, Dungeness crab 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 crab per year with a range of 5 to 1,906 crab 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.

2010/11 FISHERY

No vessels registered to harvest Dungeness crab during the 2010/11 season.

FISHERY MANAGEMENT AND STOCK STATUS

The Aleutian Islands Dungeness crab fishery is managed using size, sex, and season restrictions. Only male Dungeness crab 6.5 inches (165 mm) or greater in CW 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 stock status of this species in the Aleutian Islands is unknown, but the resource is believed to be limited by the availability of suitable Dungeness crab 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 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.

HISTORICAL 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 1-16). Sharp declines in catches after 1978 led to a reduction in season length. Between 1983 and 1991 no fishing occurred; however, in 1992 four catcher-processors targeted shrimp northwest of the Pribilof Islands. Low concentrations of shrimp were located and all four vessels departed the fishery after making a total of six landings for 72,133 pounds. Since 1992, interest in Aleutian District shrimp fishery has remained at a very low level. Several vessels registered to fish, but made no landings until 1999 when two vessels registered for the fishery; 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*. This fishery has remained closed for trawl gear since that time.

2010 FISHERY

The Aleutian District was not open to commercial fishing for shrimp with trawl gear in 2010. There is no closed season for shrimp fishing with pots in the Aleutian Islands and there was no participation during the 2010 season.

FISHERY MANAGEMENT AND STOCK STATUS

Limited population information exists 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. However, in 2000, NMFS performed a pilot deep-sea trawl survey on the continental slope. During this survey sidestriped shrimp was the most abundant shrimp species encountered, found primarily on the continental slope 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 shrimp 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 *Pandalus goniurus*, which are usually found in waters less than 100 meters.

ALEUTIAN DISTRICT MISCELLANEOUS SHELLFISH

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 waters of the Territorial Sea (0–3 nautical miles) and waters of the Exclusive Economic Zone (3–200 nautical miles).

HISTORICAL BACKGROUND

Miscellaneous shellfish species are typically harvested in relatively small amounts compared to the Aleutian Islands commercial king and Tanner crab fisheries. Miscellaneous shellfish species include hair crab *Erimacrus isenbeckii*, sea urchins *Strongylocentrotus spp*, red sea cucumbers *Parastichopus californicus*, snails, *Paralomis multispina* crab, octopi, and weathervane scallops *Patinopecten caurinus*. Weathervane scallops are summarized in a separate statewide Annual Management Report. Prior to 1999, ADF&G regulated new and emerging shellfish fisheries under authority of a commissioner's permit as described in 5 AAC 38.062 *Permits for Octopi, Squid, Hair Crab, Sea Urchins, Sea Cucumbers, Sea Snails, and Other Marine Invertebrates*. Terms of commissioner's permits were general and not fully developed. As a result, miscellaneous shellfish fisheries were often conducted without prior knowledge of stock abundance or distribution and harvest limits were not established. Since 1999, requests for commissioner's permits have decreased in frequency; however, when permits have been issued, permit terms have been crafted to promote data gathering.

Octopus and sea urchins are the only miscellaneous shellfish that were harvested in the Aleutian Islands from 1996 to 2010.

Octopus have been retained in the directed octopus fishery (commissioner's permit) and as incidental harvest to Aleutian Islands groundfish fisheries for decades; however, this report only addresses octopus harvest beginning in 1996. Vessels have only participated in the directed octopus fishery during five of the last 15 seasons (Table 1-17). All harvest information for years where directed harvest for octopus occurred is confidential except for 2004, when 14 vessels harvested 230,492 pounds of octopus and made 43 landings. In Aleutian Islands groundfish fisheries, incidental octopus harvest may be retained. Harvest of octopus in State of Alaska waters has occurred every year since 1996. Incidental octopus harvest has been highly variable, ranging from a low of 3,063 pounds in 2002 to a high of 151,205 pounds in 2004 (Table 1-17).

Sea Urchins were harvested by commercial divers in 1996; 6 vessels participated in the fishery, harvesting 3,701 pounds and making 15 landings. No vessels have registered to fish for sea urchins since 1996.

2010 FISHERIES

Octopus

In 2010, directed fishing for octopi was permitted in the Aleutian Islands under the authority of a commissioner's permit, however, no vessels registered to target octopus in the Aleutian Islands. In 2010, 42,376 pounds of octopus were retained as incidental harvest to other commercial fisheries in State of Alaska waters of the Aleutian Islands (Table 1-17).

Red Sea Cucumber and Sea Urchin

The 2010 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 information for future management purposes. However, no vessels or divers registered for either fishery in the Aleutian Islands in 2010.

Other Miscellaneous Shellfish Species

No vessels were registered for any other miscellaneous shellfish species in the Aleutian Islands in 2010.

FISHERY MANAGEMENT AND STOCK STATUS

Octopi biomass is not assessed 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 percent 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.

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.

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 Alaska Board of Fisheries. 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 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.

Gish, R. K. 2010. 2009 Petrel Bank red king crab pot survey: results for red king crab. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K10-06, Kodiak.

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, Division of Commercial Fisheries, 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 Tech. Memo. NMFS-AFSC-141.

REFERENCES CITED (Continued)

NMFS. 1999. Our Living Oceans. Report on the status of U.S. living marine resources, 1999. U.S. Department of Commerce, NOAA Tech. Memo. NMFS-F/SPO-41, on-line version, http://wpo.nwr.noaa.gov/unit20.pdf.

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

Spalinger, K. 2011. Bottom trawl survey of crab and groundfish: Kodiak, Chignik, South Peninsula, and Eastern Aleutians Management Districts, 2010. Alaska Department of Fish and Game, Fishery Management Report No. 11-40, 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 triennial 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.

TABLES AND FIGURES

Table 1-1.–Aleutian Islands, Area O, red king crab commercial fishery data, 1960/61–2010/11.

Season	Location	Number of				GHL/TAC[b]	Harvest[a,c]	Deadloss[c]	Average		
		Vessels	Landings	Crab[a]	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	Location	Number of				GHL/TAC[b]	Harvest[a,c]	Deadloss[c]	Average		
		Vessels	Landings	Crab[a]	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	NA	6.5	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	NA	7	46	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	NA	5.4	43	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	10.0[f]	12,722,660	NA	7.1	43	NA
	West of 172° W	41	239	1,844,974	70,059	20.0[f]	9,741,464	NA	5.3	26	148.6
	TOTAL		**529**	**3,625,647**	**111,899**		**22,464,124**		**6.2**	**32**	

-continued-

Table 1-1.–Page 3 of 6.

Season	Location	Number of				GHL/TAC[b]	Harvest[a,c]	Deadloss[c]	Average		
		Vessels	Landings	Crab[a]	Pots lifted				Weight[c]	CPUE[d]	Length[e]
1974/75	East of 172° W	87	372	1,812,647	71,821	11.5[f]	13,991,190		7.7	25	
	West of 172° W	36	97	532,298	32,620	20.0[f]	2,774,963	NA	5.2	16	148.6
	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	14.5[f]	15,906,660		7.4	25	
	West of 172° W	20	25	79,977	8,331	15.0[f]	411,583	NA	5.2	10	147.2
	TOTAL		**394**	**2,227,327**	**95,205**		**16,318,243**		**7.3**	**23**	
1976/77	East of 172° W[g]	72	226	1,273,298	65,796	14.5[f]	9,367,965		7.4	19	
	East of 172° W[h]	38	61	86,619	17,298		830,458	NA	9.6	5	NA
	West of 172° W	FC	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[g]	33	227	539,656	46,617	8.0 - 14.5[f]	3,658,860		6.8	12	
	East of 172° W[i]	6	7	3,096	812		25,557	NA	8.3	4	NA
	West of 172° W	12	18	160,343	7,269	0.25 - 2.5	905,527	NA	5.7	22	152.2
	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	5.0 - 13.0[f]	6,824,793	NA	5.5	24	NA
	West of 172° W	13	27	149,491	13,948	0.5 - 3.0	807,195	1,170	5.4	11	NA
	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	17.0 - 25.0[f]	15,010,840	NA	5.9	21	NA
	West of 172° W	18	23	82,250	9,757	0.5 - 3.0	467,229	24,850	5.7	8	152
	TOTAL		**565**	**2,633,366**	**130,311**		**15,478,069**		**5.9**	**20**	

-continued-

Table 1-1.–Page 4 of 6.

Season	Location	Number of				GHL/TAC[b]	Harvest[a,c]	Deadloss[c]	Average		
		Vessels	Landings	Crab[a]	Pots lifted				Weight[c]	CPUE[d]	Length[e]
1980/81	East of 172° W[g]	114	830	2,772,287	231,607	7.0 - 17.0[f]	17,660,620	NA	6.4	12	NA
	East of 172° W[i]	54	120	182,349	30,000		1,392,923		7.6	6	
	West of 172° W	17	52	254,390	20,914	0.5 - 3.0	1,419,513	54,360	5.6	12	149
	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	7.0 - 17.0[f]	5,155,345	NA	6.9	3	NA
	West of 172° W	46	106	291,311	40,697	0.5 - 3.0	1,648,926	8,759	5.7	7	148.3
	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	2.0 - 3.0[j]	431,179		6.7	1	
	West of 172° W	72	191	284,787	66,893	0.5 - 3.0	1,701,818	7,855	6.0	4	150.8
	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	FC
	West of 172° W	106	248	298,958	60,840	0.5 - 3.0	1,981,579	3,833	6.6	5	157.3
1984/85	East of 171° W	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
	West of 171° W	64	106	196,276	48,642	1.5 - 3.0	1,296,385	0	6.6	4	155.1
1985/86	East of 171° W	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
	West of 171° W	35	82	156,097	29,095	0.5 - 2.0	868,828	0	5.6	5	152.2
1986/87	East of 171° W	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
	West of 171° W	33	69	126,204	29,189	0.5 - 1.5	712,543	800	5.7	4	NA
1987/88	East of 171° W	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
	West of 171° W	71	103	211,692	43,433	0.5 - 1.5	1,213,892	6,900	5.7	5	148.5

-continued-

Table 1-1.–Page 5 of 6.

Season	Location	Number of				GHL/TAC[b]	Harvest[a,c]	Deadloss[c]	Average		
		Vessels	Landings	Crab[a]	Pots lifted				Weight[c]	CPUE[d]	Length[e]
1988/89	East of 171° W	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
	West of 171° W	73	156	266,053	64,334	1.0	1,567,314	557	5.9	4	153.1
1989/90	East of 171° W	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
	West of 171° W	56	123	193,177	54,213	1.7	1,105,971	759	5.7	4	151.5
1990/91	East of 171° W	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
	West of 171° W	7	34	146,903	10,674	NA	828,105	0	5.6	14	148.1
1991/92	East of 171° W	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
	West of 171° W	10	35	165,356	16,636	NA	951,278	0	5.8	10	149.8
1992/93	East of 171° W	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
	West of 171° W	12	30	218,049	16,129	NA	1,286,424	5,000	6.0	14	151.5
1993/94	East of 171° W	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
	West of 171° W	12	21	119,330	13,575	NA	698,077	7,402	5.9	9	154.6
1994/95	East of 171° W	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
	West of 171° W	20	31	30,337	18,146	1.0 - 1.5	196,967	1,430	6.5	2	157.5
1995/96	East of 171° W	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
	West of 171° W	4	12	6,880	1,986	1.0 - 1.5	38,941	235	5.7	3	153.6
1996/97		FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
1997/98		FC	FC	FC	FC	FC	FC	FC	FC	FC	FC

-continued-

Table 1-1.–Page 6 of 6.

Season	Location	Number of				GHL/TAC[b]	Harvest[a,c]	Deadloss[c]	Average		
		Vessels	Landings	Crab[a]	Pots lifted				Weight[c]	CPUE[d]	Length[e]
1998/99	West of 174° W	1	CF	CF	CF	0.015	CF	CF	CF	CF	CF
1999/00		FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
2000/01[k]	Petrel Bank[l]	1	3	11,299	496	FC	76,562	0	6.8	23	161.0
2001/02[m]	Petrel Bank[l]	4	5	22,080	564	FC	153,961	82	7.0	39	159.5
2002/03	Petrel Bank[l]	33	35	68,300	3,786	0.5	505,642	1,311	7.4	18	162.4
2003/04	Petrel Bank[l]	30	31	59,828	5,774	0.5	479,113	2,617	8.0	10	167.9
2004/05 - 2010/11		FC	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] Deadloss included.

[b] Guideline harvest level (GHL), millions of pounds. Total allowable catch (TAC) for Aleutian Islands red king crab west of 179° W long beginning with the 2005/06 season.

[c] In pounds.

[d] Number of legal crab per pot lift.

[e] Carapace length in millimeters.

[f] GHL includes all king crab species. Golden king crab primarily harvested incidental to red king crab. Individual species harvest not available.

[g] 6.5 inch minimum legal size for this portion of the season.

[h] 8.0 inch minimum legal size for this portion of the season.

[i] 7.5 inch minimum legal size for this portion of the season.

[j] 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 million pounds was based on the 1981/82 survey and fishery.

[k] January/February Petrel Bank survey (fish ticket harvest code 15, exploratory shellfish harvest).

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

[m] November Petrel Bank survey (fish ticket harvest code 15, exploratory shellfish harvest).

Table 1-2.–Aleutian Islands, Area O, red king crab fishery economic performance data, 1973/74–2010/11.

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

-continued-

Table 1-2.–Page 2 of 3.

Season	Location	Value		Season length	
		Exvessel[a]	Total	Days	Dates
1984/85	East of 171° W	FC	FC	FC	FC
	West of 171° W	$2.10	$2,872,111	97	11/10 - 02/15
1985/86	East of 171° W	FC	FC	FC	FC
	West of 171° W	$2.15	$1,948,530	107	11/01 - 02/15
1986/87	East of 171° W	FC	FC	FC	FC
	West of 171° W	$3.87	$2,756,380	107	11/01 - 02/15
1987/88	East of 171° W	FC	FC	FC	FC
	West of 171° W	$4.00	$4,855,732	107	11/01 - 02/15
1988/89	East of 171° W	FC	FC	FC	FC
	West of 171° W	$5.00	$7,836,570	34	11/01 - 12/04
1989/90	East of 171° W	FC	FC	FC	FC
	West of 171° W	$4.20	$4,697,977	107	11/01 - 02/15
1990/91	East of 171° W	FC	FC	FC	FC
	West of 171° W	$4.00	$3,312,420	107	11/01 - 02/15
1991/92	East of 171° W	FC	FC	FC	FC
	West of 171° W	$3.00	$2,853,834	107	11/01 - 02/15
1992/93	East of 171° W	FC	FC	FC	FC
	West of 171° W	$5.05	$6,496,441	76	11/01 - 01/15
1993/94	East of 171° W	FC	FC	FC	FC
	West of 171° W	$3.87	$2,701,558	107	11/01 - 02/15
1994/95	East of 171° W	FC	FC	FC	FC
	West of 171° W	$5.50	$1,083,319	27	11/01 - 11/28
1995/96	East of 171° W	FC	FC	FC	FC
	West of 171° W	$2.81	$109,424	107	11/01 - 02/15
1996/97 - 1997/98		FC	FC	FC	FC
1998/99	West of 174° W	CF	CF	272	11/01 - 7/31

-continued-

Table 1-2.–Page 3 of 3.

Season	Location	Value		Season length	
		Exvessel[a]	Total	Days	Dates
1999/00		FC	FC	FC	FC
2000/01[e]		FC	FC	FC	FC
2001/02[f]		FC	FC	FC	FC
2002/03	Petrel Bank[g]	$6.51	$3,291,729	2	10/25 - 10/27
2003/04	Petrel Bank[g]	$5.14	$2,449,189	4	10/25 - 10/29
2004/05 - 2010/11		FC	FC	FC	FC

Note: FC = fishery closed; NA = not available; CF = confidential, less than three vessels or processors participated in fishery.

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

[b] 6.5 inch minimum legal size for this portion of the season.

[c] 8.0 inch minimum legal size for this portion of the season.

[d] 7.5 inch minimum legal size for this portion of the season.

[e] January/February Petrel Bank survey (fish ticket harvest code 15).

[f] November Petrel Bank survey (fish ticket harvest code 15).

[g] 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.–Subsistence king and Tanner crabs harvest from the Eastern Aleutian Islands, west of Scotch Cap Light and east of 168° W long, 1999–2010.

Year	Number of permits		Percent 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
2009	219	168	77	641	836	2,014	2,625
2010	215	119	55	160	289	2,479	4,479
1999 - 2010 Average	**219**	**150**	**69**	**847**	**1,235**	**2,469**	**3,601**

[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 general/IFQ commercial fishery data, 1981/82–2010/11.

Season	Location	Number of			GHL/TAC[c]	Harvest[b,d]	Deadloss[d]	Number of pots		Average		
		Vessels[a]	Landings	Crab[b]				Registered	Lifted	Weight[d]	CPUE[e]	Length[f]
1981/82	East of 172° W	6	16	22,666	7.0 - 17.0[g]	115,715	8,752	NA	2,906	5.1	8	158
	West of 172° W	14	76	217,700	NA	1,194,046	22,064	2,647	24,627	5.5	9	160
	TOTAL		**92**	**240,458**	-	**1,319,761**	**30,816**	**2,647**	**27,533**	**5.4**	**9**	
1982/83	East of 172° W	49	136	227,471	NA	1,184,971	47,479	NA	29,369	5.2	8	158
	West of 172° W	99	501	1,509,001	NA	8,006,274	220,743	13,111	150,103	5.3	10	158
	TOTAL		**637**	**1,737,109**		**9,191,245**	**268,222**	**13,111**	**179,472**	**5.3**	**10**	
1983/84	East of 172° W	47	132	238,353	NA	1,810,973	45,268	4,514	29,595	7.6	8	NA
	West of 172° W	157	1,002	1,534,909	NA	8,128,029	171,021	17,406	226,798	5.3	7	NA
	TOTAL		**1,134**	**1,773,262**		**9,939,002**	**216,289**	**21,920**	**256,393**	**5.6**	**7**	
1984/85	East of 171° W	13	67	327,440	NA	1,521,142	70,362	1,394	24,044	4.6	14	161
	West of 171° W	38	85	643,597	NA	3,180,095	125,073	5,270	64,777	4.9	10	157
	TOTAL		**152**	**971,274**		**4,701,237**	**195,435**	**6,664**	**88,821**	**4.8**	**11**	
1985/86	East of 171° W	13	59	364,097	NA	1,733,878	25,223	1,479	25,223	4.8	14	156
	West of 171° W	53	386	2,452,216	NA	11,024,759	197,753	7,057	205,279	4.5	12	151
	TOTAL		**445**	**2,816,313**		**12,758,637**	**222,976**	**8,536**	**230,502**	**4.5**	**12**	
1986/87	East of 171° W	17	71	400,389	NA	1,869,180	9,510	1,575	37,585	4.7	11	NA
	West of 171° W	62	528	2,940,238	NA	12,869,564	276,741	12,958	395,435	4.4	7	150
	TOTAL		**599**	**3,340,627**		**14,738,744**	**286,251**	**14,533**	**433,020**	**4.4**	**8**	
1987/88	East of 171° W	23	77	301,227	NA	1,388,983	25,060	3,591	42,867	4.6	7	150
	West of 171° W	57	380	1,873,349	NA	7,868,022	167,110	10,687	263,863	4.2	7	147
	TOTAL		**457**	**2,174,576**		**9,257,005**	**192,170**	**14,278**	**306,730**	**4.3**	**7**	
1988/89	East of 171° W	21	57	323,783	NA	1,546,113	23,960	4,215	41,371	4.8	8	154
	West of 171° W	74	455	2,164,650	NA	9,080,929	125,500	23,627	280,556	4.2	8	149
	TOTAL		**512**	**2,488,433**		**10,627,042**	**149,460**	**27,842**	**321,927**	**4.3**	**8**	

-continued-

Table 1-4.–Page 2 of 4.

Season	Location	Number of Vessels[a]	Number of Landings	Number of Crab[b]	GHL/TAC[c]	Harvest[b,d]	Deadloss[d]	Number of pots Registered	Number of pots Lifted	Average Weight[d]	Average CPUE[e]	Average Length[f]
1989/90	East of 171° W	13	70	424,067	NA	1,852,249	17,421	5,635	43,346	4.4	10	151
	West of 171° W	65	505	2,478,846	NA	10,169,803	99,866	14,724	314,457	4.1	8	149
	TOTAL		**575**	**2,902,913**		**12,022,052**	**117,287**	**20,359**	**357,803**	**4.1**	**8**	
1990/91	East of 171° W	16	67	391,135	NA	1,699,675	42,800	5,225	53,592	4.3	7	148
	West of 171° W	13	167	1,312,116	NA	5,250,687	176,583	7,380	160,960	4.0	8	145
	TOTAL	**24**	**234**	**1,703,251**		**6,950,362**	**219,383**	**12,605**	**214,552**	**4.1**	**8**	
1991/92	East of 171° W	11	53	346,176	NA	1,490,830	45,100	3,760	42,600	4.3	8	148
	West of 171° W	16	206	1,494,595	NA	6,185,362	96,848	7,635	191,626	4.1	8	145
	TOTAL	**20**	**259**	**1,840,771**		**7,676,192**	**141,948**	**11,395**	**234,226**	**4.2**	**8**	
1992/93	East of 171° W	10	46	337,559	NA	1,404,452	37,200	4,222	38,348	4.2	9	148
	West of 171° W	18	128	1,190,769	NA	4,886,745	104,215	8,236	164,873	4.1	7	147
	TOTAL	**22**	**174**	**1,528,328**		**6,291,197**	**141,415**	**12,458**	**203,221**	**4.1**	**8**	
1993/94	East of 171° W	4	14	217,788	NA	915,460	7,324	2,334	22,490	4.2	10	149
	West of 171° W	21	148	1,179,742	NA	4,635,683	165,358	11,970	212,164	3.9	6	148
	TOTAL	**21**	**162**	**1,397,530**		**5,551,143**	**172,682**	**14,304**	**234,654**	**4.0**	**6**	
1994/95	East of 171° W	14	45	384,353	NA	1,750,267	29,908	7,378	67,537	4.6	6	148
	West of 171° W	34	247	1,539,866	NA	6,378,030	242,065	15,604	319,006	4.1	5	150
	TOTAL	**35**	**292**	**1,924,219**		**8,128,297**	**271,973**	**22,982**	**386,543**	**4.2**	**5**	
1995/96	East of 171° W	17	42	431,867	1.5	1,993,980	67,027	10,325	65,030	4.6	7	150
	West of 171° W	25	141	1,150,466	5.0 - 6.0	4,966,426	248,108	14,213	227,991	4.3	5	147
	TOTAL	**28**	**183**	**1,582,333**	-	**6,960,406**	**315,135**	**24,538**	**293,021**	**4.4**	**5**	
1996/97	East of 174° W	14	71	731,909	3.2	3,290,862	185,203	9,040	113,460	4.5	6	NA
	West of 174° W	13	99	602,968	2.7	2,524,910	75,506	8,805	99,267	4.2	6	NA
	TOTAL	**18**	**170**	**1,334,877**	**5.9**	**5,815,772**	**260,709**	**17,845**	**212,727**	**4.4**	**6**	**147**

-continued-

Table 1-4.–Page 3 of 4.

Season	Location	Number of Vessels[a]	Number of Landings	Number of Crab[b]	GHL/TAC[c]	Harvest[b,d]	Deadloss[d]	Number of pots Registered	Number of pots Lifted	Average Weight[d]	Average CPUE[e]	Average Length[f]
1997/98	East of 174° W	15	74	780,610	3.2	3,501,055	131,481	9,720	106,403	4.5	7	147
	West of 174° W	9	160	569,550	2.7	2,444,628	79,564	5,240	86,811	4.3	6	148
	TOTAL	**15**	**234**	**1,350,160**	**5.9**	**5,945,683**	**211,045**	**14,960**	**193,214**	**4.4**	**7**	**147**
1998/99	East of 174° W	14	55	740,011	3.0	3,247,863	82,113	8,295	83,378	4.4	9	148
	West of 174° W	3	44	409,531	2.7	1,691,385	21,218	1,930	35,920	4.1	11	146
	TOTAL	**16**	**99**	**1,149,542**	**5.7**	**4,939,248**	**103,331**	**10,225**	**119,298**	**4.3**	**10**	**147**
1999/00	East of 174° W	15	60	709,332	3.0	3,069,886	67,574	9,514	79,129	4.3	9	147
	West of 174° W	17	113	676,558	2.7	2,768,902	104,675	10,564	107,040	4.1	6	147
	TOTAL	**17**	**173**	**1,385,890**	**5.7**	**5,838,788**	**172,249**	**20,078**	**186,169**	**4.2**	**7**	**147**
2000/01	East of 174° W	15	50	704,702	3.0	3,134,079	55,999	10,598	71,551	4.4	10	147
	West of 174° W	12	100	705,613	2.7	2,884,682	53,158	8,910	101,239	4.1	7	145
	TOTAL	**17**	**150**	**1,410,315**	**5.7**	**6,018,761**	**109,157**	**19,508**	**172,790**	**4.3**	**8**	**146**
2001/02	East of 174° W	19	45	730,030	3.0	3,178,652	50,030	12,927	62,639	4.4	12	147
	West of 174° W	9	90	686,738	2.7	2,740,054	43,519	8,491	105,512	4.0	7	145
	TOTAL	**21**	**135**	**1,416,768**	**5.7**	**5,918,706**	**93,549**	**21,418**	**168,151**	**4.2**	**8**	**146**
2002/03	East of 174° W	19	43	643,886	3.0	2,821,851	55,425	11,834	52,042	4.4	12	148
	West of 174° W	6	73	664,823	2.7	2,640,604	32,101	6,225	78,979	4.0	8	146
	TOTAL	**22**	**116**	**1,308,709**	**5.7**	**5,462,455**	**87,526**	**18,059**	**131,021**	**4.2**	**10**	**147**
2003/04	East of 174° W	18	37	643,074	3.0	2,977,055	76,006	12,518	58,883	4.6	11	149
	West of 174° W	6	60	676,633	2.7	2,688,773	49,321	7,140	66,236	4.0	10	146
	TOTAL	**21**	**97**	**1,319,707**	**5.7**	**5,665,828**	**125,327**	**19,658**	**125,119**	**4.3**	**11**	**147**
2004/05	East of 174° W	19	32	637,536	3.0	2,886,817	43,576	13,165	34,848	4.5	18	148
	West of 174° W	6	51	685,465	2.7	2,688,234	43,560	7,240	56,846	3.9	12	146
	TOTAL	**22**	**83**	**1,323,001**	**5.7**	**5,575,051**	**87,136**	**20,405**	**91,694**	**4.2**	**14**	**147**

-continued-

Table 1-4.–Page 4 of 4.

Season	Location	Number of Vessels[a]	Number of Landings	Crab[b]	GHL/TAC[c]	Harvest[b,d]	Deadloss[d]	Number of pots Registered	Number of pots Lifted	Average Weight[d]	Average CPUE[e]	Average Length[f]
2005/06[h]	East of 174° W	7	33	560,906	2.7	2,567,781	23,791	8,833	21,898	4.6	25	151
	West of 174° W	3	43	571,014	2.43	2,384,567	26,500	4,800	27,503	4.2	21	148
	TOTAL	**8**	**72**	**1,131,920**	**5.13**	**4,952,348**	**50,291**	**9,833**	**49,401**	**4.4**	**23**	**149**
2006/07	East of 174° W	6	32	585,676	2.7	2,692,010	31,311	8,150	23,839	4.6	24	152
	West of 174° W	3	32	462,529	2.43	2,002,190	19,768	6,000	22,694	4.3	20	150
	TOTAL	**7**	**63**	**1,048,205**	**5.13**	**4,694,200**	**51,079**	**9,300**	**46,533**	**4.5**	**23**	**150**
2007/08	East of 174° W	4	36	566,838	2.7	2,689,997	21,042	4,200	20,496	4.8	28	153
	West of 174° W	3	35	524,894	2.43	2,248,103	23,183	4,800	25,287	4.3	21	149
	TOTAL	**5**	**66**	**1,091,732**	**5.13**	**4,938,100**	**44,225**	**7,600**	**45,783**	**4.5**	**24**	**151**
2008/09	East of 174° W	3	29	600,380	2.84	2,829,423	24,117	4,200	21,855	4.7	27	152
	West of 174° W	3	38	519,530	2.55	2,252,114	22,802	4,900	22,351	4.3	23	149
	TOTAL	**5**	**67**	**1,119,910**	**5.39**	**5,081,537**	**46,919**	**7,900**	**44,206**	**4.5**	**25**	**150**
2009/10	East of 174° W	3	32	611,574	2.84	2,835,474	31,622	4,600	23,442	4.6	26	152
	West of 174° W	3	38	561,445	2.55	2,478,313	33,069	5,050	22,746	4.4	25	153
	TOTAL	**5**	**70**	**1,173,019**	**5.39**	**5,313,787**	**64,691**	**8,450**	**46,188**	**4.5**	**25**	**152**
2010/11	East of 174° W	3	30	604,471	2.84	2,833,188	69,329	4,600	23,737	4.7	25	152
	West of 174° W	3	35	562,060	2.55	2,537,161	32,628	4,675	26,587	4.5	21	153
	TOTAL	**5**	**65**	**1,166,531**	**5.39**	**5,370,349**	**101,957**	**8,275**	**50,324**	**4.6**	**23**	**152**

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] Guideline harvest level (GHL), millions of pounds. Prior to 1996/97, management was based on size, sex, and season. Total allowable catch (TAC) beginning in 2005/06.

[d] In pounds.

[e] Number of legal crab per pot lift.

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

[g] GHL includes all king crab species.

[h] Crab Rationalization begins. Individual Fishing Quota (IFQ) fishery program is implemented by National Marine Fisheries Service (NMFS).

Table 1-5.–Aleutian Islands golden king crab general/IFQ commercial fishery economic performance data, 1981/82–2010/11.

Season	Location	Value		Season length	
		Exvessel[a]	Total[b]	Days	Dates
1981/82	East of 172° W	$2.05	$0.22	75	11/01-01/15
	West of 172° W	$2.06	$2.41	227	11/01-06/15
	Total	**$2.06**	**$2.63**		
1982/83	East of 172° W	$3.00	$3.41	105	11/01-02/15
	West of 172° W	$3.01	$23.43	166	11/01-04/15
	Total	**$3.01**	**$26.84**		
1983/84	East of 172° W	$3.05	$5.38	105	11/01-02/15
	West of 172° W	$2.92	$23.23	157	11/10-04/15
	Total	**$2.94**	**$28.61**		
1984/85	East of 171° W	$1.35	$1.96	229	07/01-02/15
	West of 171° W	$2.00	$6.11	240	11/10-07/08
	Total	**$1.79**	**$8.07**		
1985/86	East of 171° W	$2.00	$3.86	121	07/01-10/31
	West of 171° W	$2.50	$27.80	288	11/01-08/15
	Total	**$2.43**	**$31.66**		
1986/87	East of 171° W	$2.85	$5.30	182	07/01-12/31
	West of 171° W	$3.00	$37.56	288	11/01-08/15
	Total	**$2.98**	**$42.86**		
1987/88	East of 171° W	$2.85	$3.87	62	07/01-09/02
	West of 171° W	$3.00	$23.51	289	11/01-08/15
	Total	**$2.98**	**$27.38**		
1988/89	East of 171° W	$3.00	$4.57	93	09/01-12/04
	West of 171° W	$3.20	$28.66	288	11/01-08/15
	Total	**$3.17**	**$33.23**		
1989/90	East of 171° W	$3.50	$6.42	104	09/01-02/15
	West of 171° W	$3.00	$30.18	288	11/01-08/15
	Total	**$3.08**	**$36.61**		
1990/91	East of 171° W	$3.00	$5.03	68	09/01-11/09
	West of 171° W	$3.00	$15.22	288	11/01-08/15
	Total	**$3.00**	**$20.25**		
1991/92	East of 171° W	$2.00	$2.81	74	09/01-11/15
	West of 171° W	$2.50	$15.39	289	11/01-08/15
	Total	**$2.41**	**$18.20**		
1992/93	East of 171° W	$2.50	$3.30	76	09/01-11/17
	West of 171° W	$2.05	$9.86	288	11/01-08/15
	Total	**$2.15**	**$13.16**		

-continued-

Table 1-5.–Page 2 of 3.

Season	Location	Value		Season length	
		Exvessel[a]	Total[b]	Days	Dates
1993/94	East of 171° W	$2.15	$1.95	212	09/01-03/01
	West of 171° W	$2.50	$11.18	288	11/01-08/15
	Total	**$2.44**	**$13.13**		
1994/95	East of 171° W	$4.00	$6.88	57	09/01-10/28
	West of 171° W	$3.33	$20.43	288	11/01-08/15
	Total	**$3.48**	**$27.31**		
1995/96	East of 171° W	$2.60	$5.15	38	09/01-10/09
	West of 171° W	$2.10	$9.57	289	11/01-08/15
	Total	**$2.25**	**$14.72**		
1996/97	East of 174° W	$2.23	$6.93	115	09/01-12/25
	West of 174° W	$2.23	$5.60	365	09/01-08/31
	Total	**$2.23**	**$12.53**		
1997/98	East of 174° W	$2.25	$7.58	84	09/01-11/24
	West of 174° W	$2.10	$4.96	365	09/01-08/31
	Total	**$2.19**	**$12.54**		
1998/99	East of 174° W	$1.87	$5.92	68	09/01-11/07
	West of 174° W	$2.04	$3.41	365	09/01-08/31
	Total	**$1.92**	**$9.33**		
1999/00	East of 174° W	$3.26	$9.78	55	09/01-10/25
	West of 174° W	$3.09	$8.23	348	09/01-08/14
	Total	**$3.15**	**$18.01**		
2000/01	East of 174° W	$3.50	$10.77	40	08/15-09/24
	West of 174° W	$3.09	$8.75	286	08/15-05/28
	Total	**$3.33**	**$19.52**		
2001/02	East of 174° W	$3.30	$10.26	26	08/15-09/10
	West of 174° W	$2.93	$7.87	227	08/15-03/30
	Total	**$3.16**	**$18.13**		
2002/03	East of 174° W	$3.30	$9.13	23	08/15-09/07
	West of 174° W	$3.50	$9.13	205	08/15-03/08
	Total	**$3.38**	**$18.26**		
2003/04	East of 174° W	$3.46	$10.05	24	08/15-09/08
	West of 174° W	$3.83	$10.11	175	08/15-02/06
	Total	**$3.61**	**$20.16**		
2004/05	East of 174° W	$3.18	$9.05	14	08/15-08/29
	West of 174° W	$3.09	$8.16	141	08/15-01/03
	Total	**$3.14**	**$17.21**		

-continued-

Table 1-5.–Page 3 of 3.

Season	Location	Value		Season length	
		Exvessel[a]	Total[b]	Days	Dates
2005/06[c]	East of 174° W	$2.53	$6.50	273	08/15-05/15
	West of 174° W	$2.05	$4.89	273	08/15-05/15
	Total	**$2.32**	**$11.39**		
2006/07	East of 174° W	$1.77	$4.71	273	08/15-05/15
	West of 174° W	$1.33	$2.64	273	08/15-05/15
	Total	**$1.58**	**$7.35**		
2007/08	East of 174° W	$2.11	$5.63	273	08/15-05/15
	West of 174° W	$1.63	$3.63	273	08/15-05/15
	Total	**$1.89**	**$9.26**		
2008/09	East of 174° W	$3.32	$9.31	273	08/15-05/15
	West of 174° W	$1.87	$4.17	273	08/15-05/15
	Total	**$2.68**	**$13.48**		
2009/10	East of 174° W	$1.96	$5.50	273	08/15-05/15
	West of 174° W	$1.93	$4.72	273	08/15-05/15
	Total	**$1.95**	**$10.22**		
2010/11	East of 174° W	$3.01	$8.31	273	08/15-05/15
	West of 174° W	$3.32	$8.31	273	08/15-05/15
	Total	**$3.08**	**$16.62**		

[a] Average price per pound.

[b] Millions of dollars.

[c] Crab Rationalization begins. Individual Fishing Quota (IFQ) fishery is implemented by National Marine Fisheries Service (NMFS).

Table 1-6.–Aleutian Islands golden king crab Individual Fishing Quota (IFQ) catch by statistical area, 2010/11.

Statistical Area	Number of			Harvest[a,b]	Deadloss[b]	Average	
	Landings	Crab[a]	Pots lifted			Weight[b]	CPUE[c]
695200	8	19,490	696	91,196	866	4.7	28
715202	26	119,665	5,324	562,207	10,059	4.7	22
715231	22	50,027	1,928	231,913	12,976	4.6	26
725201	20	64,262	3,506	295,265	8,753	4.6	18
815131	23	22,995	924	103,928	552	4.5	25
815132	19	8,132	398	36,527	234	4.5	20
825132	11	8,676	394	40,195	173	4.6	22
825201	15	17,219	817	80,261	348	4.7	21
Other[d]	65	856,065	36,337	3,928,857	67,995	4.6	24
Total	**65**	**1,166,531**	**50,324**	**5,370,349**	**101,957**	**4.6**	**23**

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crab per pot lift.

[d] Combination of 63 statistical areas in which landings were made by fewer than three vessels.

Table 1-7.–Aleutian Islands scarlet king crab fishery data, 1992–2010.

Year	Area	Number of				Harvest[a,b]	Deadloss[b]	Average		Value	
		Vessels	Landings	Crab[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	10,829	3.2	1	$1.24	$26.4
	Total	6	CF	CF	CF	CF	CF	CF	CF	CF	CF
1995	Dutch Harbor	3	7	6,270	5,706	13,871	1,755	2.2	1	$3.01	$41.8
	Adak	6	18	19,544	15,046	49,126	2,066	2.5	1	$2.95	$144.9
	Total	**8**	**25**	**25,814**	**20,752**	**62,997**	**3,821**	**2.4**	**1**	**$2.96**	**$186.5**
1996	Dutch Harbor	3	10	9,967	8,071	20,538	3,911	2.1	1	$1.78	$37.1
	Adak	4	13	10,199	18,547	24,161	1,861	2.4	<1	$1.80	$43.5
	Total	**7**	**23**	**20,166**	**26,618**	**44,699**	**5,772**	**2.2**	**<1**	**$1.79**	**$80.6**
1997	Aleutian Islands	3	12	2,698	21,217	6,720	408	2.5	<1	$1.40	$9.4
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

-continued-

Table 1-7.–Page 2 of 2.

Year	Area	Number of				Harvest[a,b]	Deadloss[b]	Average		Value	
		Vessels	Landings	Crab[a]	Pots lifted			Weight[b]	CPUE[c]	Exvessel[d]	Total[e]
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
2009	Aleutian Islands	0	0	0	0	0	0	0	0	0	0
2010	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 crab per pot lift.

[d] Average price per pound.

[e] Thousands of dollars.

Table 1-8.–Eastern Aleutian District Tanner crab commercial fishery data, 1973/74–2011.

Season	Location	Number of Vessels	Number of Landings	Number of Crab[a]	Number of Pots lifted	GHL[b]	Harvest[a,b]	Deadloss[b]	Average Weight[b]	Average CPUE[c]
1973/74		6	14	210,539	NA	NA	498,836	NA	2.4	60
1974/75		CF	CF	CF	CF	CF	CF	CF	CF	CF
1975/76		8	13	219,166	4,646	NA	534,295	NA	2.4	47
1976/77		12	35	544,755	9,640	NA	1,239,569	NA	2.3	57
1977/78		15	198	1,104,631	29,855	NA	2,494,631	NA	2.3	37
1978/79		20	174	542,081	18,618	NA	1,280,115	NA	2.4	29
1979/80		18	107	352,819	18,040	NA	886,487	NA	2.5	20
1981		29	119	264,238	21,771	NA	654,514	NA	2.5	12
1982		31	138	332,260	30,109	NA	739,694	NA	2.2	11
1983		23	107	250,774	22,168	NA	547,830	NA	2.2	11
1984		16	91	104,761	11,069	NA	239,585	NA	2.3	9
1985		7	56	78,930	6,295	NA	181,407	60	2.3	13
1986		8	37	73,187	10,244	NA	167,339	400	2.3	7
1987		8	65	72,098	5,915	NA	162,097	115	2.2	12
1988		20	130	129,478	11,011	NA	309,918	2,000	2.4	12
1989		12	108	144,593	14,615	NA	326,196	2,300	2.3	10
1990		10	75	68,859	6,858	NA	155,648	0	2.3	10
1991		5	27	21,511	1,849	NA	50,038	0	2.3	12
1992		4	29	42,096	2,963	NA	98,703	0	2.3	14
1993		7	34	51,441	3,530	NA	118,609	0	2.3	15
1994		8	119	71,760	6,303	NA	166,080	40	2.3	11
1995-2002		FC	FC	FC	FC	FC	FC	FC	FC	FC
2003[d]		3	10	6,695	191		15,138	9	2.3	35
2004	Unalaska Bay	10	CF	CF	705	47,219	CF	CF	2.3	31
	Makushin/Skan	9	CF	CF	556	87,891	CF	CF	2.3	35
	Total	**14**[e]	**CF**	CF	**1,261**	**135,110**	CF	CF	**2.3**	**33**

-continued-

Table 1-8.–Page 2 of 2.

Season	Location	Number of				GHL[b]	Harvest[a,b]	Deadloss[b]	Average	
		Vessels	Landings	Crab[a]	Pots lifted				Weight[b]	CPUE[c]
2005	Unalaska Bay	25	79	14,249	696	35,304	34,022	0	2.4	20
2006	Makushin/Skan	10	CF	CF	961	87,241	CF	CF	2.4	37
2007	Akutan Bay	3	CF	CF	532	35,000	CF	CF	2.2	17
	Unalaska Bay	12	CF	CF	837	49,000	CF	CF	2.5	20
	Total	**13**[e]	**CF**	CF	1,369	**84,000**	CF	CF	**2.4**	19
2008	Unalaska Bay	11	CF	CF	1,224	60,000	CF	CF	2.4	14
2009	Akutan Bay	1	CF	CF	CF	35,000	CF	CF	2.3	CF
	Makushin/Skan	1	CF	CF	CF	35,000	CF	CF	2.4	CF
	Unalaska Bay	10	CF	CF	1,756	58,000	CF	CF	2.2	15
	Total	**11**[e]	**CF**	CF	CF	**128,000**	CF	CF	**2.3**	CF
2010	Akutan Bay	3	CF	CF	591	45,000	CF	CF	2.1	20
	Unalaska Bay	7	CF	CF	2,208	74,000	CF	CF	2.3	11
	Total	**8**[e]	**CF**	CF	2,799	**119,000**	CF	CF	**2.2**	13
2011	Akutan Bay	2	CF	CF	492	35,000	CF	CF	2.2	18
	Makushin/Skan	3	CF	CF	653	35,000	CF	CF	2.3	24
	Total	**3**[e]	**CF**	CF	1,145	**70,000**	CF	CF	**2.2**	21

Note: NA = not available; FC = fishery closed; CF = confidential, less than three vessels or processors participated in fishery.

[a] Deadloss included beginning 1980.

[b] In pounds.

[c] Number of legal crab per pot lift.

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

[e] Vessel(s) participated in multiple sections.

Table 1-9.–Eastern Aleutian District Tanner crab commercial fishery economic performance data, 1973/74–2011.

Season	Location	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
2010	Akutan Bay	15-Jan	31-Mar	CF	CF
	Unalaska Bay	15-Jan	10-Feb	CF	CF
2011	Akutan Bay	15-Jan	31-Mar	CF	CF
	Makushin/Skan Bay	15-Jan	18-Mar	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 1-10.–Eastern Aleutian District grooved Tanner crab fishery data, 1993–2010.

Year	Number of				Harvest[a,b]	Deadloss[b]	Average		Value	
	Vessels	Landings	Crab[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	19,151	1.8	12	$1.61	$1.18
1995	9	57	511,125	77,443	879,386	30,348	1.7	7	$1.70	$1.44
1996	4	25	54,903	21,994	104,680	7,496	1.9	3	$1.00	$0.10
1997-2000	0	0	0	0	0	0	0	0	0	0
2001	1	CF	CF	CF	CF	CF	CF	CF	CF	CF
2002-2003	0	0	0	0	0	0	0	0	0	0
2004	1	CF	CF	CF	CF	CF	CF	CF	CF	CF
2005 - 2010	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 crab per pot lift.

[d] Average price per pound.

[e] Millions of dollars.

Table 1-11.–Eastern Aleutian District triangle Tanner crab fishery data, 1993–2010.

Year	Number of				Harvest[a,b]	Deadloss[b]	Average		Value	
	Vessels	Landings	Crab[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 - 2010	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 crab per pot lift.

[d] Average price per pound.

[e] Millions of dollars.

Table 1-12.–Western Aleutian District commercial Tanner crab fishery data, 1973/74–2010/11.

Season	Number of				Harvest[a,b]	Deadloss[b]	Average	
	Vessels	Landings	Crab[a]	Pots lifted			Weight[b]	CPUE[c]
1973/74	7	12	31,079	2,390	71,887	NA	2.3	13
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	NA	2.3	38
1978/79	6	9	84,129	4,730	197,244	0	2.3	18
1979/80	10	12	147,843	5,952	337,297	NA	2.3	25
1980/81	9	23	95,102	7,327	220,716	0	2.3	13
1981/82	17	43	364,164	21,910	838,697	6,470	2.3	17
1982/83	61	125	225,491	40,450	488,399	7,662	2.2	6
1983/84	31	86	171,576	20,739	384,146	200	2.2	8
1984/85	31	41	75,009	13,416	163,460	1,000	2.2	6
1985/86	15	30	98,089	7,999	206,814	0	2.1	12
1986/87	8	24	19,874	10,878	42,761	200	2.1	2
1987/88	15	37	63,545	7,453	141,390	200	2.2	9
1988/89	36	77	69,280	18,906	148,997	233	2.1	4
1989/90	12	30	22,937	6,204	48,746	3,810	2.1	4
1990/91	5	21	6,901	1,309	14,779	125	2.1	5
1991/92	8	8	3,483	986	7,825	NA	2.2	4
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 - 2010/11	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 crab per pot lift.

Table 1-13.–Western Aleutian District commercial Tanner crab fishery economic data, 1973/74–2010/11.

Season	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 - 2010/11	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 1-14.–Western Aleutian District grooved Tanner crab fishery data, 1992–2010.

Year	Number of				Harvest[a,b]	Deadloss[b]	Average		Value	
	Vessels	Landings	Crab[a]	Pots lifted			Weight[b]	CPUE[c]	Exvessel[d]	Total[e]
1992	1	CF	CF	CF	CF	CF	CF	CF	CF	CF
1993	0	0	0	0	0	0	0	0	0	0
1994	2	CF	CF	CF	CF	CF	CF	CF	CF	CF
1995	6	18	76,972	17,374	145,660	17,160	1.9	4	$2.22	$0.29
1996	1	CF	CF	CF	CF	CF	CF	CF	CF	CF
1997-1999	0	0	0	0	0	0	0	0	0	0
2000-2010	FC	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 crab per pot lift.

[d] Average price per pound.

[e] Millions of dollars.

Table 1-15.–Aleutian District Dungeness crab fishery data, 1974–2010/11.

	Number of						Average			
Year[a]	Vessels	Landings	Crab[b]	Pots lifted	Harvest[b,c]	Deadloss[c]	Weight[c]	CPUE[d]	Exvessel[e]	Total[g]
1974	3	13	24,459	3,399	60,517		2.4	8	NA	NA
1975	NA	CF	CF	CF	CF	CF	CF	CF	CF	CF
1976/77	0	0	0	0	0	0	0	0	0	0
1977/78	0	0	0	0	0	0	0	0	0	0
1978/79	NA	CF	CF	CF	CF	CF	CF	CF	CF	CF
1979/80	NA	CF	CF	CF	CF	CF	CF	CF	CF	CF
1980/81	0	0	0	0	0	0	0	0	0	0
1981/82	0	0	0	0	0	0	0	0	0	0
1982/83	2	CF	CF	CF	CF	CF	CF	CF	CF	CF
1983/84	2	CF	CF	CF	CF	CF	CF	CF	CF	CF
1984/85	4	50	40,128	13,555	91,739	NA	2.3	3	$1.35	NA
1985/86	4	19	8,590	1,706	17,830	0	2.1	5	NA	NA
1986/87	2	CF	CF	CF	CF	CF	CF	CF	CF	CF
1987/88	6	43	13,247	2,987	26,627	0	2.0	4	$0.95	$0.03
1988/89	6	45	10,956	2,599	22,915	4	2.1	4	$0.81	$0.02
1989/90	4	31	5,165	2,078	11,124	0	2.2	2	$0.91	$0.01
1990/91	3	11	8,379	1,345	17,482	117	2.1	6	$1.20	$0.02
1991/92	4	14	3,654	732	7,412	0	2.0	5	$1.25	$0.01
1992/93	4	13	2,854	555	5,649	0	2.0	5	$0.83	$0.00 [h]
1993/94	5	12	3,448	797	7,531	10	2.2	4	$0.78	$0.01
1994/95	0	0	0	0	0	0	0	0	0	0
1995/96	2	CF	CF	CF	CF	CF	CF	CF	CF	CF
1996/97	0	0	0	0	0	0	0	0	0	0
1997-98	2	CF	CF	CF	CF	CF	CF	CF	CF	CF
1998/99-2000/01	0	0	0	0	0	0	0	0	0	0
2001/02	1	CF	CF	CF	CF	CF	CF	CF	CF	CF
2002/03	1	CF	CF	CF	CF	CF	CF	CF	CF	CF
2003/04	0	0	0	0	0	0	0	0	0	0
2004/05	0	0	0	0	0	0	0	0	0	0

-continued-

Table 1-15.–Page 2 of 2.

	Number of						Average			
Year[a]	Vessels	Landings	Crab[b]	Pots lifted	Harvest[b,c]	Deadloss[c]	Weight[c]	CPUE[d]	Exvessel[e]	Total[g]
2005/06	1	CF	CF	CF	CF	CF	CF	CF	CF	CF
2006/07	1 [f]	0	0	0	0	0	0	0	0	0
2007/08	1 [f]	0	0	0	0	0	0	0	0	0
2008/09	0	0	0	0	0	0	0	0	0	0
2009/10	0	0	0	0	0	0	0	0	0	0
2010/11	0	0	0	0	0	0	0	0	0	0

Note: NA = not available; CF = confidential, less than three vessels or processors participated in fishery.

[a] Season dates 1/1–12/31 in 1974 and 1975. Season dates 5/1–1/1 beginning in 1976/77.

[b] Deadloss included.

[c] In pounds.

[d] Number of legal crab per pot lift.

[e] Average price per pound.

[f] Vessel registered but did not fish.

[g] Millions of dollars.

[h] Actual fishery value was $4,700.

Table 1-16.–Aleutian Islands District trawl shrimp fishery data, 1972–2010.

Year	Season dates	Number of			Harvest[a]	Value	
		Vessels	Landings	Tows		Exvessel[b]	Total[c]
1972	1/1 - 12/1	2	CF	CF	CF	CF	CF
1973	1/1 - 12/1	1	CF	CF	CF	CF	CF
1974	1/1 - 12/1	7	88	721	5,749,407	NA	NA
1975	1/1 - 12/1	3	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	5	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	6	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
2000-2010[d]		0	0	0	0	0	0

Note: 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.

[d] Pot gear only; fishery closed to trawl gear.

Table 1-17.–Aleutian Islands state waters octopus directed fishery and incidental harvest data, 1996–2010.

	Directed harvest[a]			Incidental harvest[b]		
Year	Vessels	Landings	Harvest[c]	Vessels	Landings	Harvest[c]
1996	2	21	CF	26	87	36,292
1997	0	0	0	19	44	22,431
1998	1	2	CF	16	44	18,375
1999	0	0	0	32	76	87,420
2000	0	0	0	24	37	5,911
2001	0	0	0	19	47	7,120
2002	0	0	0	12	21	3,063
2003	0	0	0	27	89	102,104
2004	14	43	230,492	38	135	151,205
2005	1	2	CF	22	82	57,552
2006	0	0	0	33	114	133,182
2007	0	0	0	31	96	46,782
2008	1[d]	1	CF	26	45	35,480
2009	0	0	0	13	21	8,782
2010	0	0	0	21	48	42,376

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

[a] Directed octopus harvest from Commissioner's permit fishery.

[b] Octopus incidentally taken from state waters in Pacific cod fishery.

[c] In pounds. Octopus discards at sea included.

[d] Harvest was incidental to Pacific cod fishery; however, vessel exceeded octopus bycatch limits in Pacific cod fishery, so excess was landed on vessel's directed octopus card.

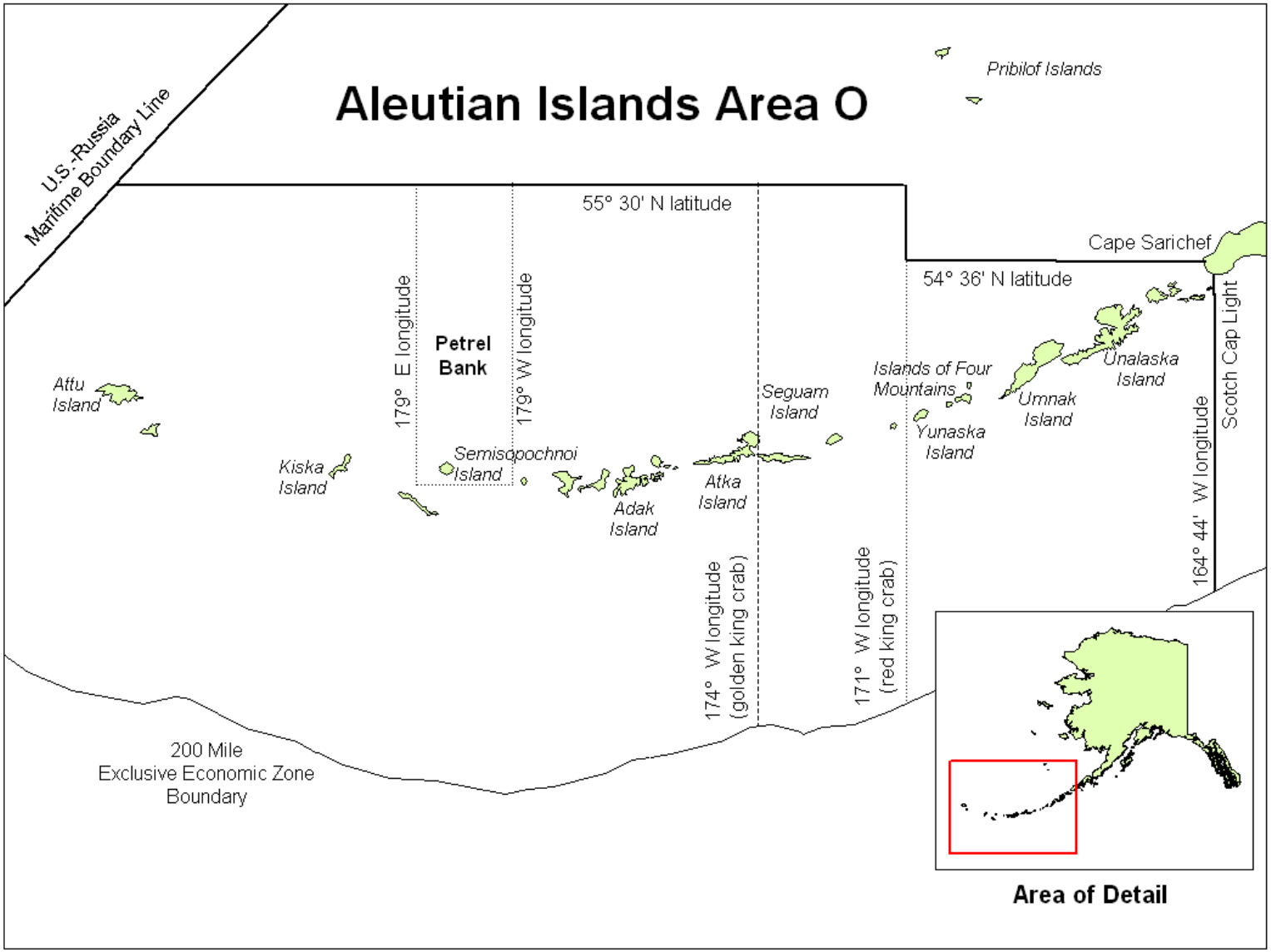


Figure 1-1.–Aleutian Islands Area O red and golden king crab management area.

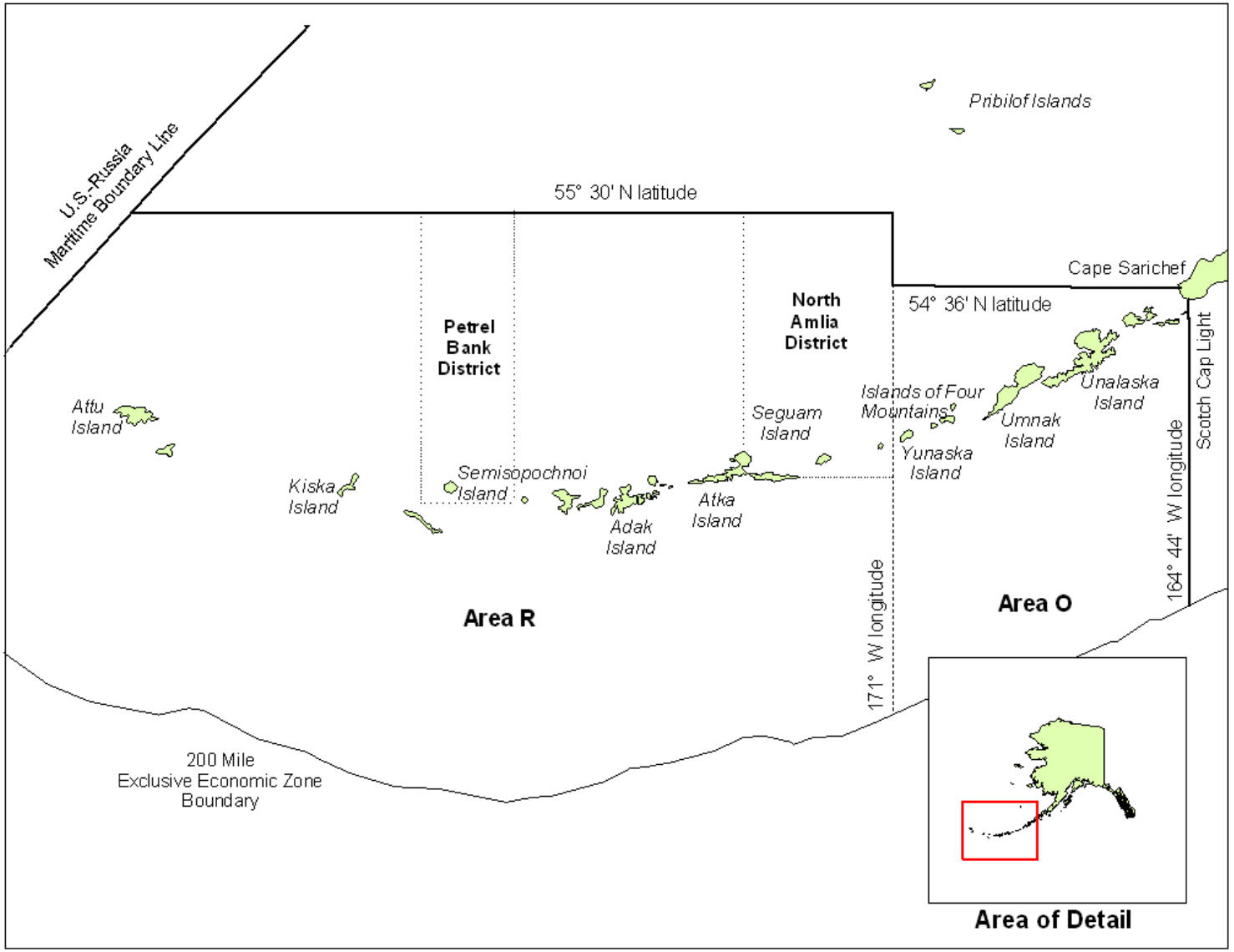


Figure 1-2.–Adak (Area R) and Dutch Harbor (Area O) king crab Registration Areas and Districts 1984/85–1996/97.

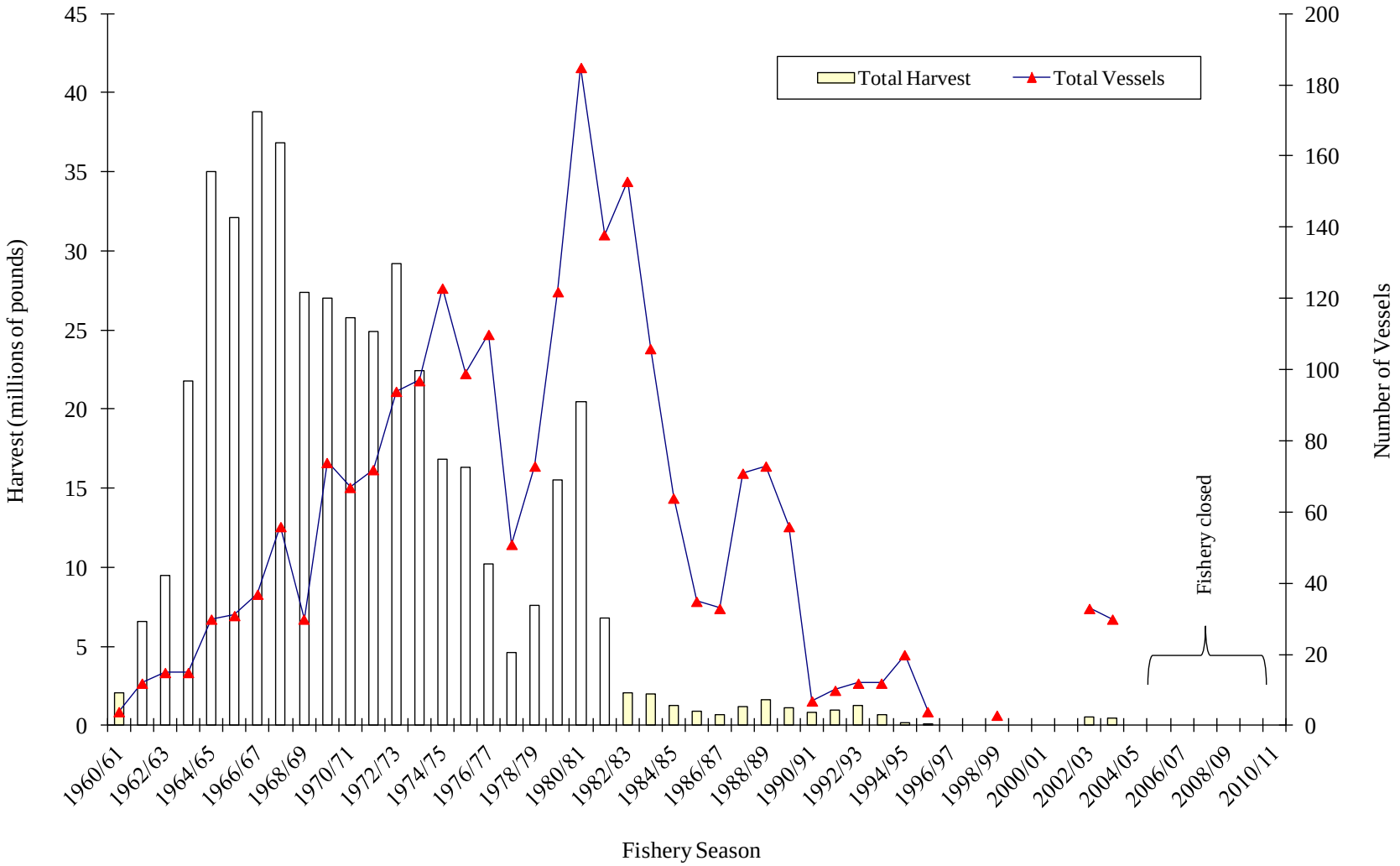
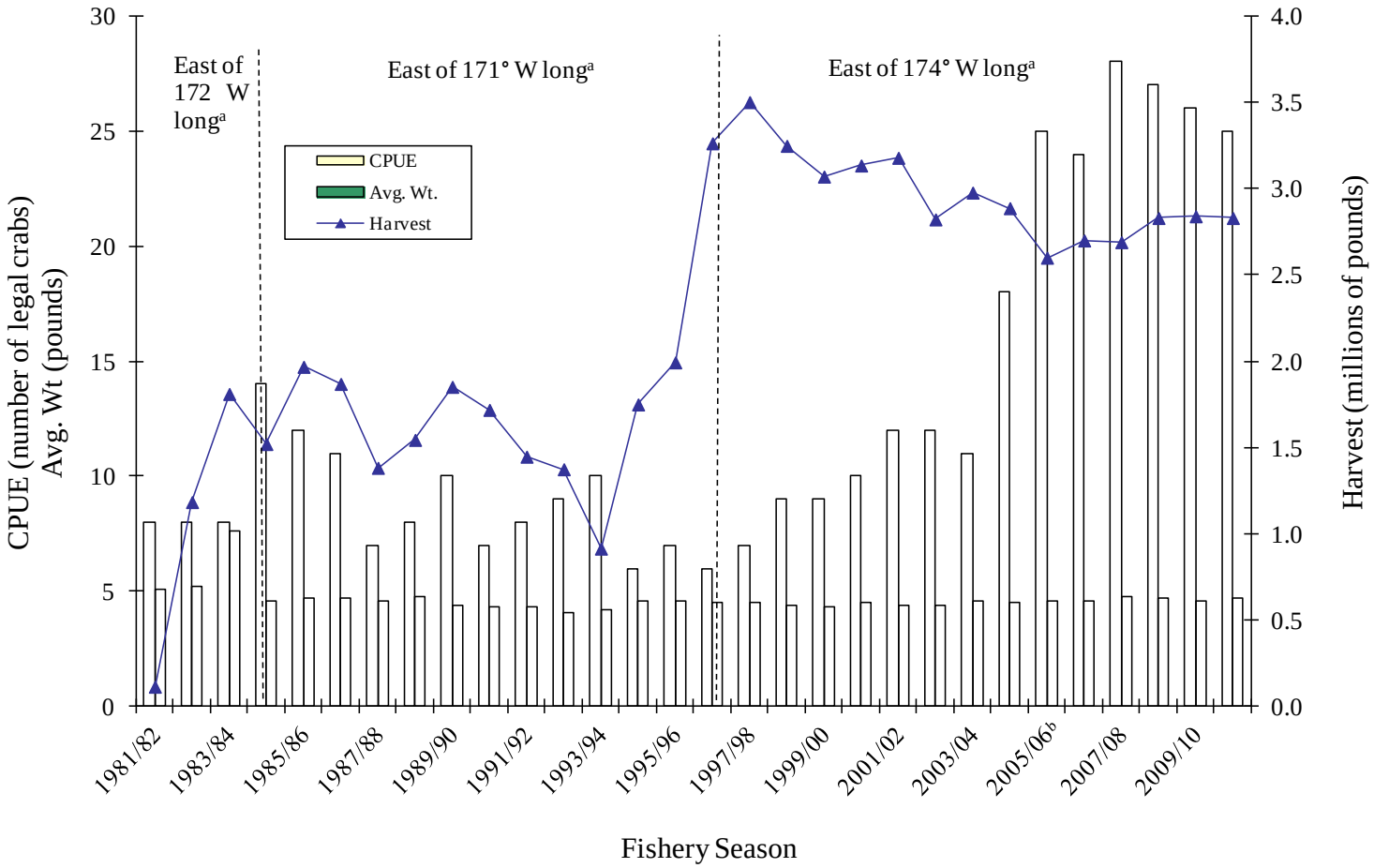
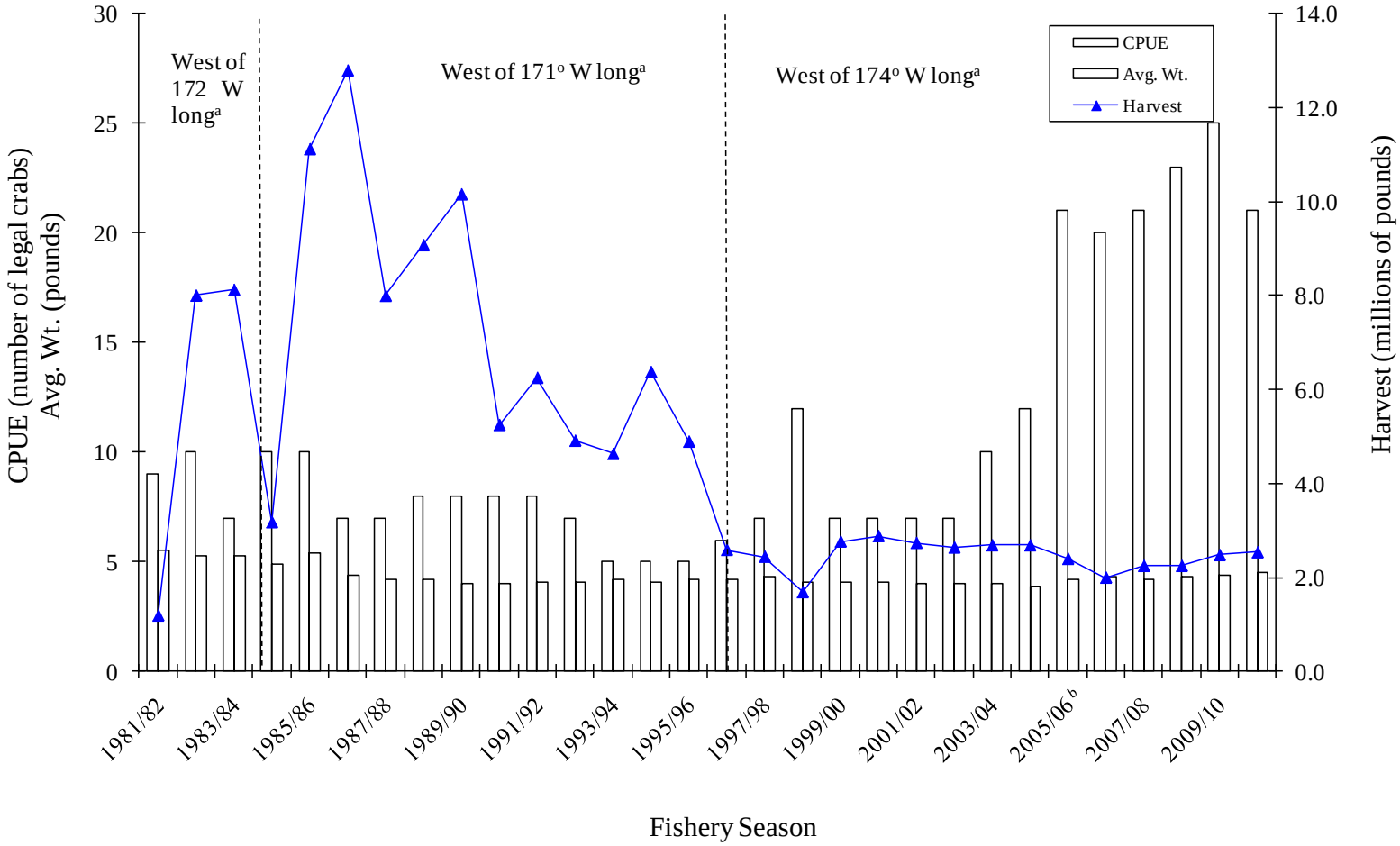


Figure 1-3.–Aleutian Islands red king crab fishery harvest and vessel effort, 1960/61–2010/11.



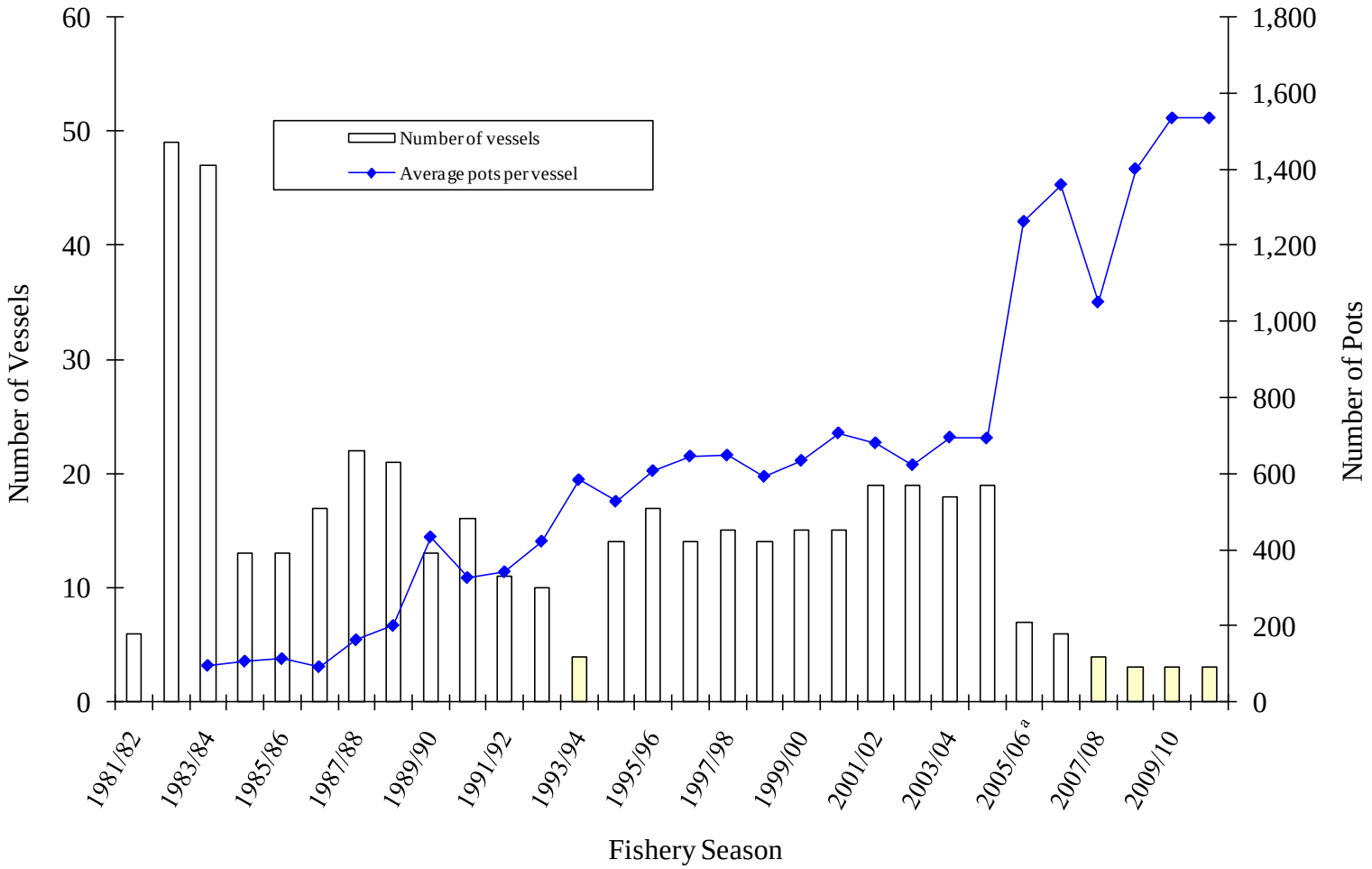
[a] Eastern boundary of the fishery as it changed prior to 1984/85 and 1996/97 seasons.
[b] First rationalized crab season.

Figure 1-4.–Eastern Aleutian Islands golden king crab fishery harvest, fishery performance and average weight data for the 1981/82–2010/11 seasons.



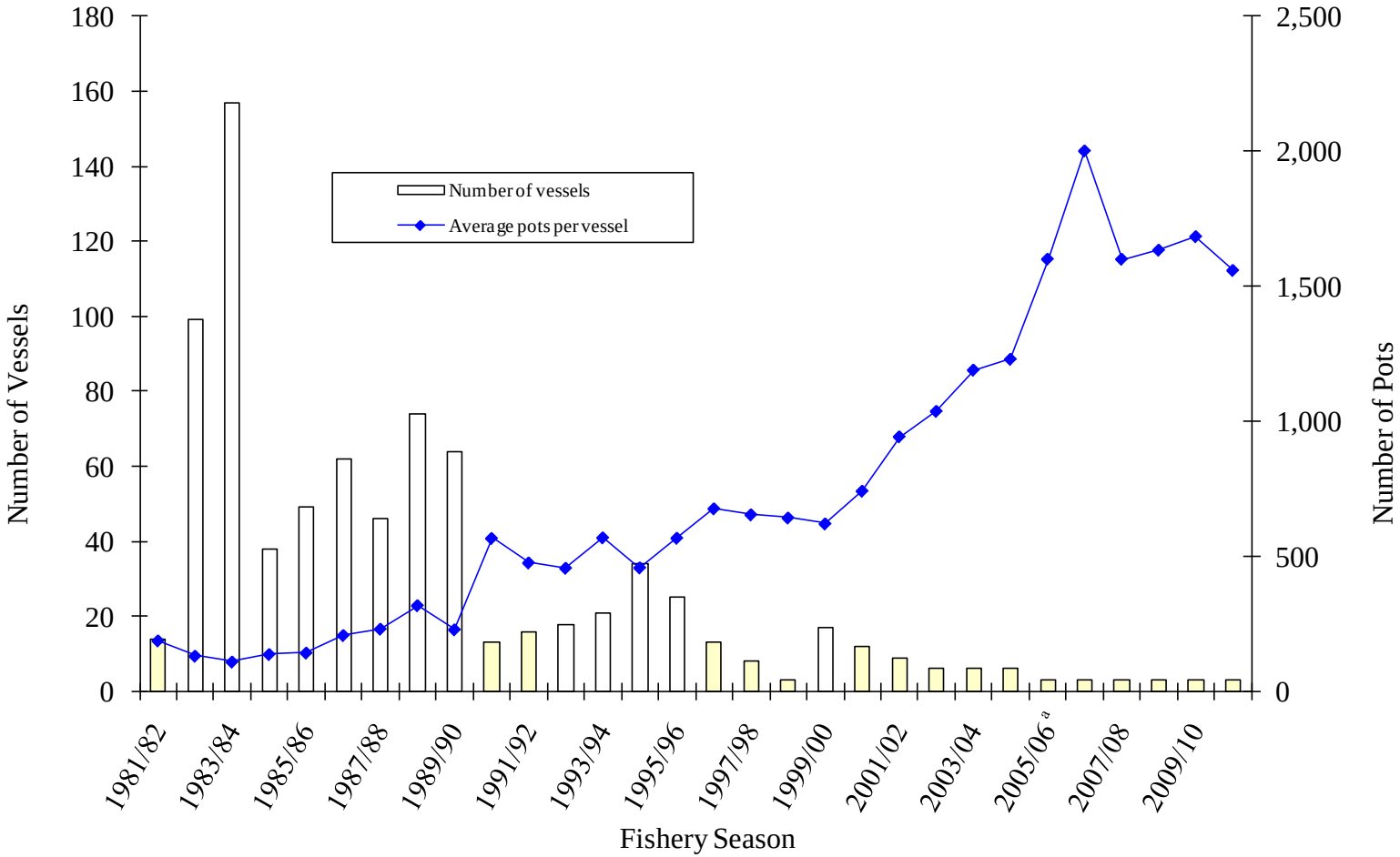
[a] Western boundary of the fishery as it changed prior to 1984/85 and 1996/97 seasons.
[b] First rationalized crab season.

Figure 1-5.–Western Aleutian Islands golden king crab fishery harvest, fishery performance and average weight data for the 1981/82–2010/11 seasons.



[a] First rationalized crab season.

Figure 1-6.–Eastern Aleutian Islands golden king crab fishery vessel registrations and average number of pots per vessel 1981/82–2010/11, includes Community Development Quota fishery.



[a] First rationalized crab season.

Figure 1-7.–Western Aleutian Islands golden king crab fishery vessel registrations and average number of pots per vessel 1981/82–2010/11, includes Adak Community Allocation fishery.

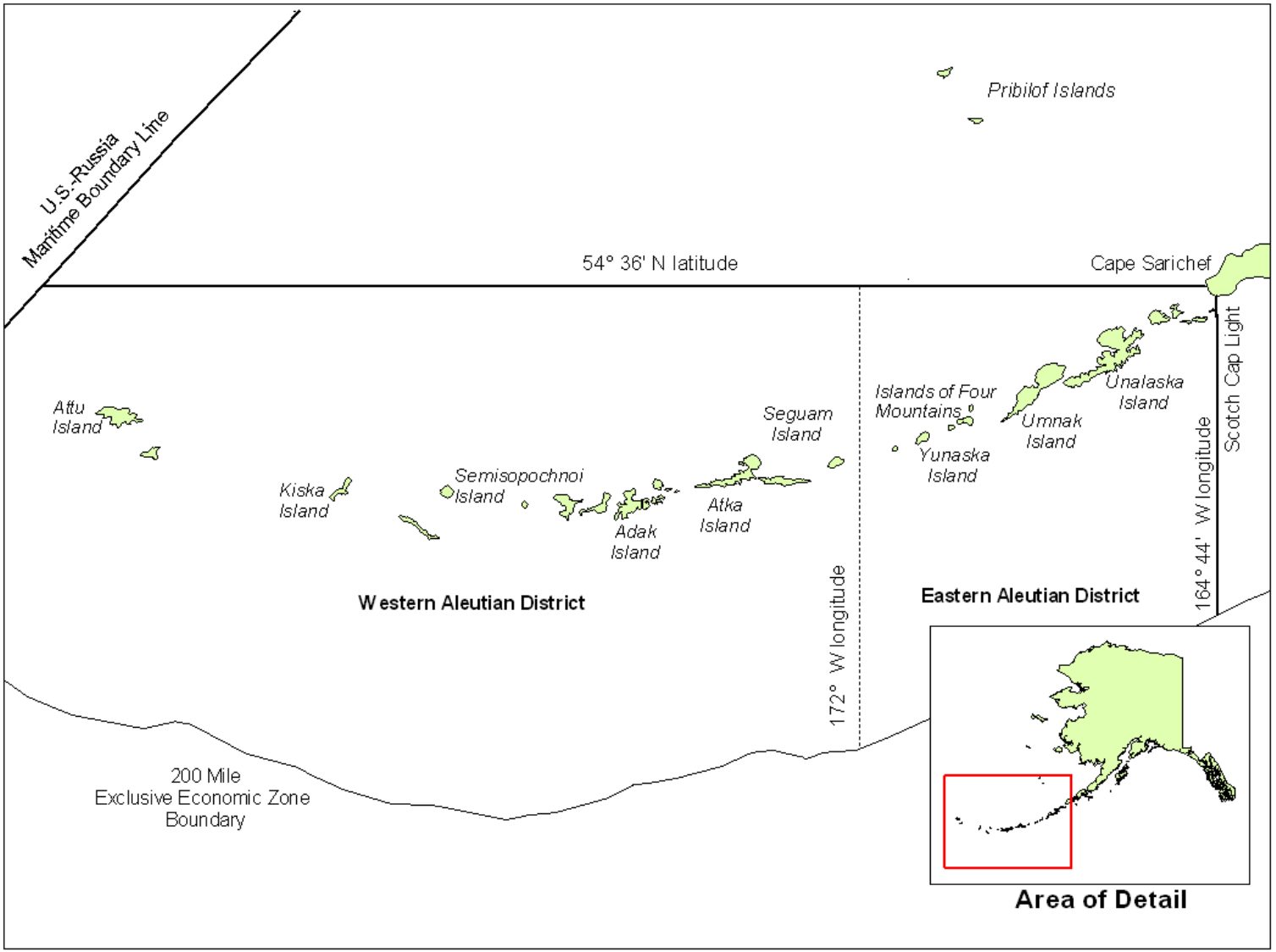


Figure 1-8.–Eastern and Western Aleutian Tanner crab Districts of Registration Area J.

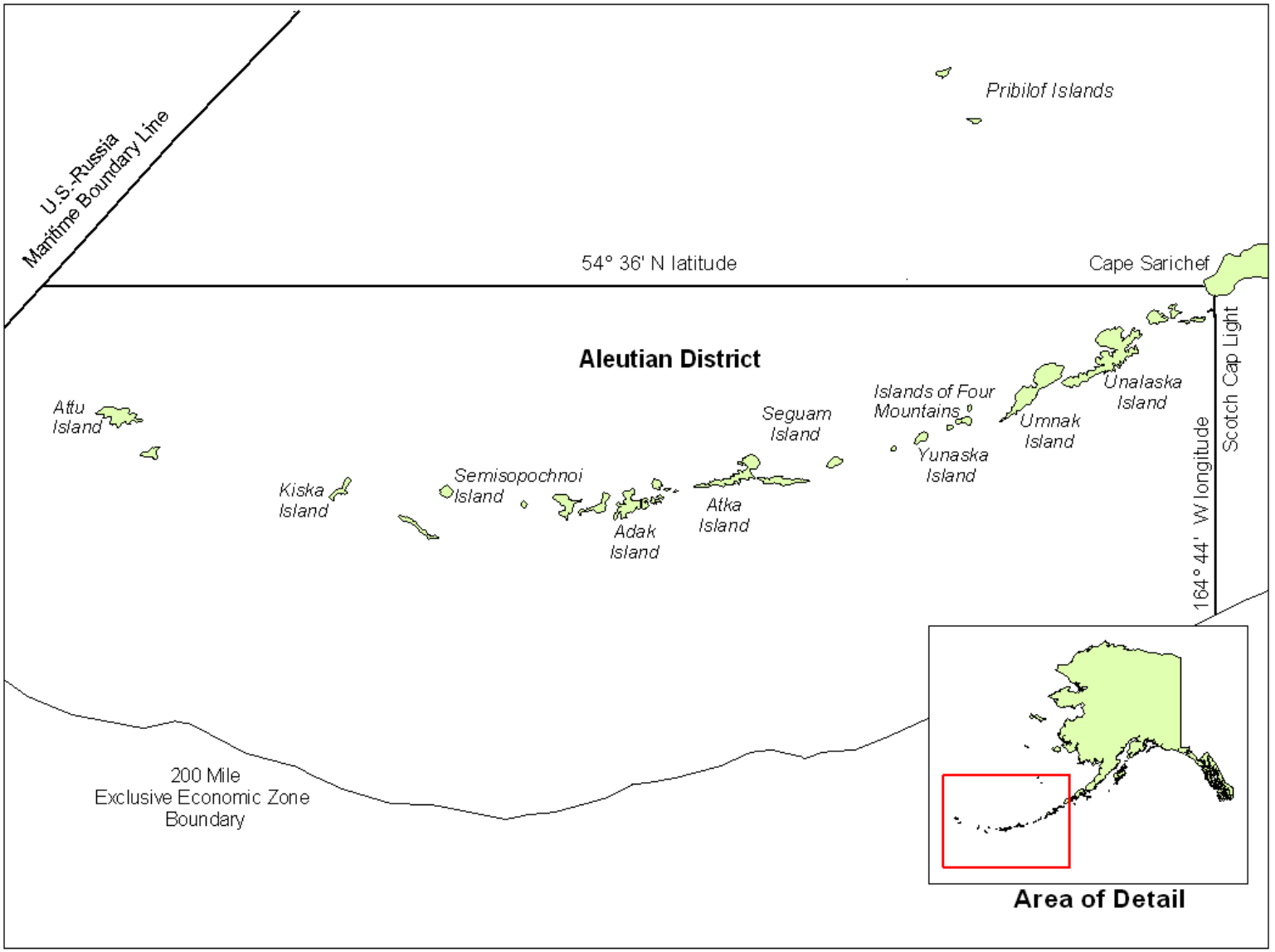


Figure 1-9.–Aleutian District for Dungeness crab management.

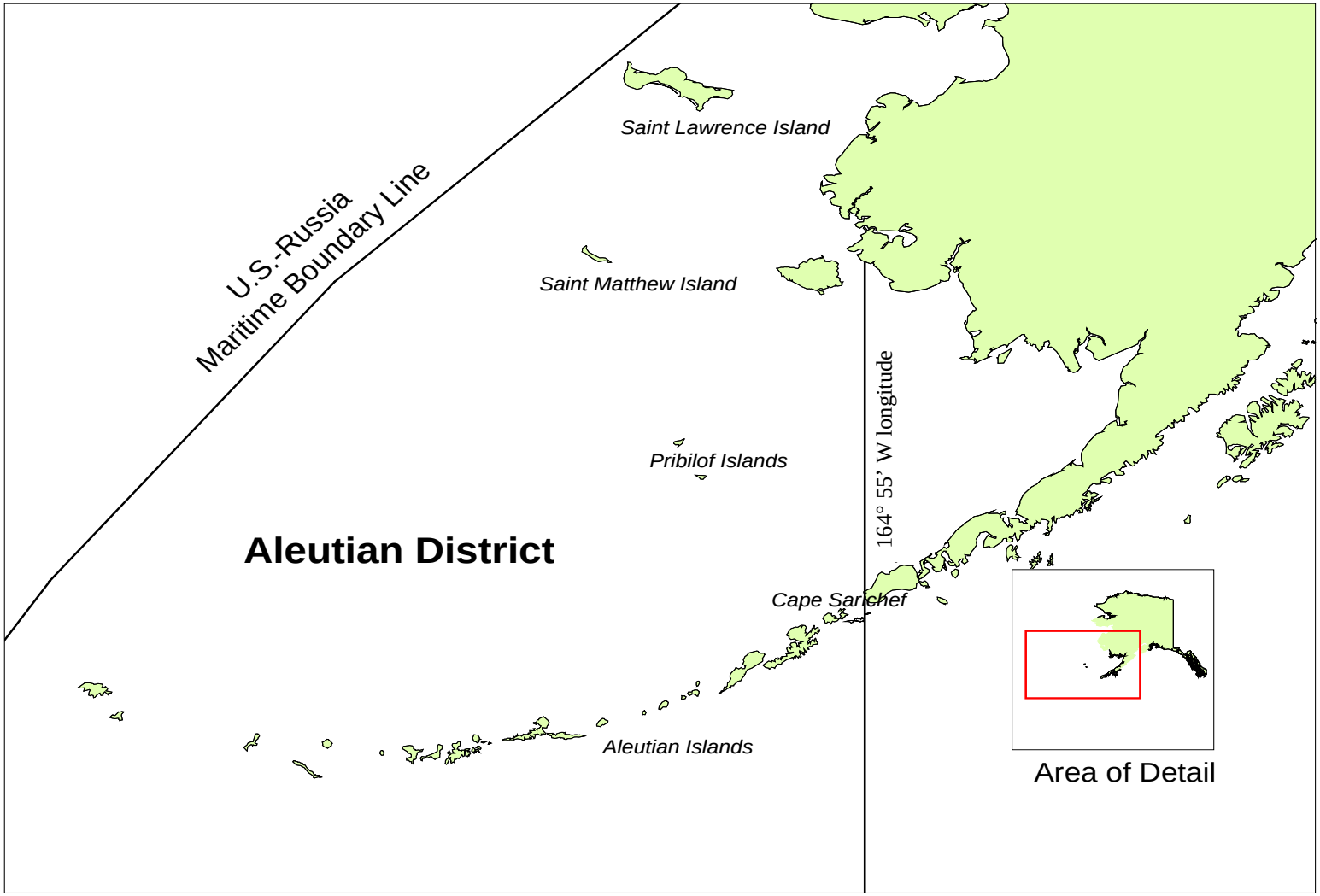


Figure 1-10.–Aleutian District for shrimp management.

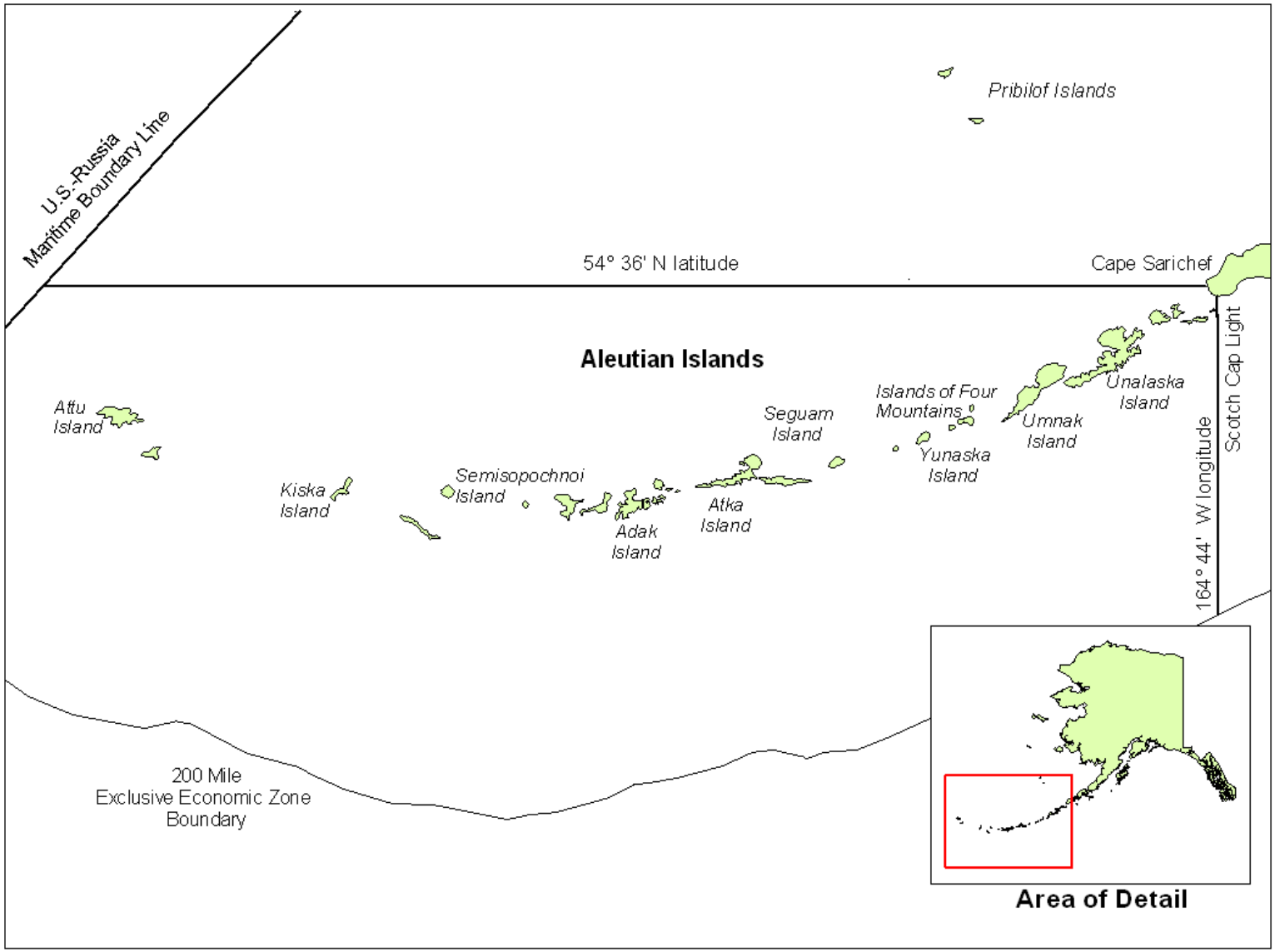


Figure 1-11.–Aleutian Islands District of miscellaneous shellfish Registration Area J.

ANNUAL MANAGEMENT REPORT FOR COMMERCIAL SHELLFISH FISHERIES OF THE BERING SEA, 2010/11

by

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

and

Melissa Deiman, Janis Shaishnikoff, and Kathleen Herring
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

May 2012

TABLE OF CONTENTS

Page

TABLE OF CONTENTS (Continued)

LIST OF TABLES

LIST OF FIGURES

BRISTOL BAY KING CRAB REGISTRATION AREA T

DESCRIPTION OF AREA

Bristol Bay king crab Registration Area T 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 Cape Sarichef (54°36' N lat), east of 168° W long, and south of Cape Newenham (58°39' N lat) (Figure 2-1).

HISTORICAL BACKGROUND

Commercial fishing for red king crab *Paralithodes camtschaticus* in the eastern Bering Sea began with Japanese harvests in 1930. Japanese participation ended in 1940 and resumed again from 1953 until 1974. A 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. U.S. effort and catches declined in the 1950s, with no catch reported in 1959. A period of low catches followed through 1966. With the decline of king crab stocks in other management areas of Alaska, U.S. effort in Bristol Bay increased from 1966 through 1980. In 1980, 236 vessels harvested a record 129.9 million pounds (Table 2-1, Figure 2-2). Since 1980, king crab stocks throughout Alaska, including Bristol Bay, declined sharply and have not recovered to pre-1981 levels. Closures of the Bristol Bay red king crab (BBR) fishery occurred in 1983, 1994, and 1995.

Exvessel value of the BBR fishery was highest in 1980 at $115.3 million (Table 2-2, Figure 2-3). Product value peaked in 1999 at $6.28 per pound. The lowest fishery value was in 1982 at $8.9 million.

In 1980, the Alaska Board of Fisheries (BOF) defined the Bering Sea south of Cape Newenham and east of 168° W long as the Bristol Bay King Crab Registration Area T, an exclusive registration area. During a king crab registration year, vessels registered for this area are prohibited from fishing in any other exclusive or super-exclusive king crab registration area. Once a vessel is validly registered in Area T, only non-exclusive areas may also be fished during the same registration year.

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 summer. In 1983, NMFS trawl survey of the Bering Sea indicated a record low number of legal male red king crab and the lowest total red king crab population since the survey began in 1968. Small female crab 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 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 catches, an onboard observer program was initiated in 1988.

Fishing effort increased dramatically from 89 vessels in 1984 to 300 vessels in 1991 (Table 2-1, Figure 2-3). The number of pots 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 high number of pots in the fishery, the BOF established a 250-pot per vessel limit for the 1992 BBR fishery. This action was intended to improve inseason management 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 BBR fishery, NMFS suspended the 250-pot limit due to inconsistencies between 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 spring 1993, the BOF adopted new regulations, setting pot limits based on overall vessel length. Beginning in 1993, vessels greater than of 125 feet in overall length were limited to 250 pots and vessels 125 feet and less in overall length were allowed a maximum of 200 pots. Pot limits were administered through a buoy tag program.

Results of the 1994 NMFS summer trawl survey of the eastern Bering Sea indicated decline in all size-classes of both male and female red king crab in the Bristol Bay area. Compared to observations made during the 1993 survey, the abundance index of large male crab decreased 25 percent. Based on 1994 survey results, large female abundance was estimated at 7.5 million crab, which was below the minimum threshold of 8.4 million spawning female crab necessary to allow a fishery. Consequently, the BBR fishery was closed for the 1994 season.

To address potential measurement errors in area-swept trawl abundance estimates, ADF&G developed a length-based analysis (LBA) model for estimating population abundance. This model, 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 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 crab from the 1994 survey (Zheng et al. 1995). Based on these combined results, the BBR fishery remained closed for the 1995 season.

Due to the depressed status of the BBR 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 crab from 20 percent to 15 percent when the stock is considered at or above maximum sustainable yield (MSY), in terms of an effective spawning biomass (ESB) at 55 million pounds or more, or 10 percent when the stock level is less than 55 million pounds ESB.

Results from LBA incorporating the 1996 NMFS survey data indicated increased abundance in all size classes of male and female red king crab compared to the 1995 estimate (Zheng et al. 1996). The 1996 survey indicated an increase in the number of large females to 10.2 million crab, which was well above the threshold of 8.4 million large female crab 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 crab. Based on a 10 percent 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 percent.

To address difficulty in managing at low GHLs, the BOF held a special meeting in August of 1997 implementing tiered pot limits and vessel preseason registration requirements. Also adopted were regulations that extended the tank inspection window for the BBR 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. Tiered pot limits were based on vessel overall length, the preseason GHL, and the number of vessels preseason registered for the fishery. New pot limit regulations were adopted with a sunset provision of December 31, 1998 and made permanent at the 1999 BOF meeting. 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 in a separate section of this report.

At the March 1999 meeting, the BOF passed anti-prospecting regulations; however, the anti-prospecting regulations were amended in 2000. Vessels were prohibited from participating in the Bristol Bay red king crab fishery if the vessel participated in operated pot, longline, or trawl gear fisheries 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 red 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. Vessels fishing for walleye pollock were exempted from the anti-prospecting regulation 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 of the BBR fishery. The BOF also adopted a regulation moving the opening date of the commercial red king crab fishery from November 1 to October 15 to improve fleet and industry efficiency by reducing the hiatus between the BBR fishery and Bering Sea king crab fisheries, which opened on September 15.

Using LBA, the 1999 through 2002 fisheries exploitation rate was 10 percent. ESB ranged from a low of 37.7 million pounds in 2002 to a high of 47.0 million pounds in 1999. The BOF modified the BBR harvest strategy at their 2003 meeting, maintaining the existing 10 percent and 15 percent harvest rates on mature males and implementing a 12.5 percent harvest rate on mature males when ESB is greater than or equal to 34.75 million pounds but less than 55 million pounds. ESB substantially increased in 2003 and the exploitation rate was set at 15 percent of mature males. The 2004 BBR fishery was 80 hours in length, only the 2002 season was shorter, at 68 hours (Table 2-2).

The American Fisheries Act (AFA), passed by Congress in 1998, gave walleye pollock fishermen exclusive fishing privileges in the Bering Sea/Aleutian Islands (BSAI) pollock fishery. To protect 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 AFA 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 percent of AFA qualified participants agree to the cooperative. The harvest cap specified by the AFA was implemented for the first time in the 2000 BBR fishery and was set at 10.96 percent 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 Crab Rationalization (CR) program in 2005.

The 2005/06 season was the first to operate under the CR program. Under the CR program, total allowable catch (TAC) was implemented in place of GHL, with 90 percent of the TAC available to individual fishing quota (IFQ) share holders and 10 percent available for CDQ harvest. The fishing season was expanded from October 15 until January 15, pot limits were increased to 450 pots per vessel, and vessel operators were authorized to allow other registered vessels to operate their pot gear. At the 2008 BOF meeting, the 450-pot limit was repealed.

In 2005/06, 89 vessels participated in the IFQ portion of the BBR fishery and made 264 landings for a harvest of 16.48 million pounds from a 16.5 million pound TAC (Table 2-1). During the 2005/06 season approximately 20 percent 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. Fleet size has decreased to a low of 70 vessels in 2009/10. The number of landings ranged from 187 in 2006/07 to 254 in 2008/09. In all years since CR, the IFQ harvest has been within 0.5 percent of the TAC.

Since CR the majority of harvest occurs by mid-November, however, some fishing effort has occurred until the season closure in mid-January. Vessel participation averaged 26 days over the past three seasons. Fleet-wide pot effort during CR has ranged from 64,000 pots in 2006/07 to just under 125,000 pots in 2008/09. CPUE during the 2005/06 season was 25 legal crab per pot lift. In 2006/07 CPUE increased to 34 legal crab per pot lift, the highest since 1980 (Table 2-1); however, CPUE decreased in following seasons, with 21 legal crab per pot in 2009/10. The value of the IFQ portion of the BBR fishery ranged from $48.0 million in 2006/07 to $90.3 million in 2008/09, making 2008/09 the most valuable Bristol Bay red king crab fishery since 1990 (Table 2-2).

2010/11 SEASON

The 2010/11 Bristol Bay red king crab fishery opened October 15 with an IFQ TAC of 13.4 million pounds (Table 2-1). Sixty five vessels participated in the fishery, harvesting 13.3 million pounds, of which less than 1 percent was deadloss. The fleet registered 13,769 pots, an average of 212 pots per vessel. Total effort for the 2010/11 fishery was 118,458 pot lifts, a 9 percent decrease from 2009/10. The average vessel was active in the fishery for 29 days. Even though the fishery was open through January 15, roughly 95 percent of the harvest occurred by mid-November, with the last delivery occurring on December 4 (Table 2-3). Harvest during the first month of the season takes advantage of favorable weather and market conditions. IFQ harvesters were paid an average price of $6.28 per pound for an IFQ exvessel fishery value of $83.2 million (Table 2-2).

The CPUE was 18 legal crab per pot, 15 percent less than the 2009/10 CPUE of 21 legal crab per pot, and the lowest CPUE in the 10 years. Similar to the prior two seasons, harvest was spread over 17 ADF&G statistical areas and nearly 60 percent of the harvest occurred between 161° W long and 162 W long, and 56°30’ N lat and 57°30’ N lat (Table 2-4). Landed crab averaged 6.2 pounds, a decrease of 0.1 pound per crab from the 2009/10 fishery average weight. Sampling of delivered catch indicated that just under 89 percent of the crab measured were new-shell, similar to the 88 percent new-shell in 2009/10. Average carapace length was 150 mm, the same as in 2009/10. The percentage of recruit-sized crab in the commercial harvest increased from 64 percent in 2009/10 to 71 percent in 2010/11 (Table 2-5).

In 2010, a cost recovery fishery was conducted by ADF&G on Bristol Bay red king crab and 72,787 pounds were harvested (Table 2-6). At an exvessel price of $5.50 per pound, the total value of the cost recovery fishery was $399,949 (Table 2-7). The 25-day charter occurred from September 27, 2010 to October 20, 2010.

PORT SAMPLING

During the 2010/11 BBR fishery, ADF&G personnel sampled red king crab from vessels without onboard observers at shorebased processors in King Cove, Akutan, Kodiak, Saint Paul, and

Dutch Harbor. Biological data collected on landed red king crab consists of carapace length measurement, shell condition, and average weight. Confidential interviews, supplemented by daily fishing log (DFL) records, were conducted with vessel captains to acquire detailed information regarding statistical areas fished, effort, and fishery performance. Data was collected from 135 of the 236 total landings during the 2010/11 BBR fishery.

STOCK STATUS

Based on 2010 NMFS trawl survey area-swept estimates (Chilton et al. 2011), mature male biomass decreased 12 percent and legal male biomass decreased 5 percent from 2009 estimates, while mature female biomass increased 30 percent. Both mature and legal male biomass estimates were the lowest in ten years, the estimate of female biomass was the highest since 1980.

The 2010 NMFS trawl survey was conducted in early June; however, stations were resurveyed in late July due to low counts of newly molted females with clutches of uneyed embryos. The 2010 survey ratio of eyed embryos to uneyed embryos decreased from 0.64 in early June, to 0.03 in the resampled stations in late July.

Data from the NMFS trawl survey is incorporated into the length-based analysis model which is applied to the regulatory Bristol Bay red king crab harvest strategy to determine the BBR fishery TAC. The 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) and annual catch limits (ACL) for Bristol Bay red king crab may be found in the 2010 Stock Assessment and Fishery Evaluation Report for the King and Tanner Crab Fisheries of the Bering Sea and Aleutian Islands Regions (NPFMC 2010).

BERING SEA KING CRAB REGISTRATION AREA Q

DESCRIPTION OF AREA

The Bering Sea king crab Registration Area Q southern boundary is 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, the northern boundary is the latitude of Point Hope (68°21' N lat). The eastern boundary is 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 the western boundary is 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 includes 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. The Norton Sound Section and Kotzebue Sound Section red king crab fisheries are not addressed in this report.

PRIBILOF DISTRICT RED AND BLUE KING CRAB

Historical Background

The Pribilof District king crab fishery began in 1973, when vessels targeted blue king crab 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 crab was 7.3 pounds and CPUE was 26 legal crab per pot lift. By the 1980/81 season, fishing effort increased to 110 vessels harvesting 11.0 million pounds, the largest catch on record. However, fishery CPUE declined to nine legal crab per pot lift and continued declining to a low of two crab 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 survey population estimates, the blue king crab fishery was closed beginning with the 1988/1989 season and remained closed through the 1994 season.

In 1993, the BOF adopted 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 pots for vessels over 125 feet and at 40 pots for vessels 125 feet or less.

The 1993 NMFS summer trawl survey of the Bering Sea indicated a marked increase in the abundance of red king crab around the Pribilof Islands. Although no threshold abundance level for opening the red king crab fishery was established in regulation for the Pribilof District, survey results indicated a harvestable surplus of legal-sized male red king crab. 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, 112 vessels participated, but only 2.6 million pounds were taken. In 1994, the Pribilof District again opened to red king crab with a GHL of 2.0 million pounds; however, only 1.3 million pounds were taken by 104 vessels (Table 2-8).

In 1995, an increase in blue king crab abundance and a continued harvestable surplus of red king crab 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, 1996-1998, resulted in a combined GHL for 1998 of 1.3 million pounds which included the CDQ fishery. Poor fishery performance during the 1996-1998 seasons resulted in annual harvests below the fishery GHL. The Pribilof red and blue king crab fishery has been closed since 1999.

The 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 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. (Table 2-9, Figure 2-6).

ADF&G conducted pot surveys targeting red and blue king crabs in the Pribilof District in 2003, 2005, and 2008. The objectives of the surveys were to determine the distribution and relative abundance of red and blue king crabs in the District and in 2003 to conduct cost-recovery fishing to cover 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 a cost-recovery effort. Only 146 legal male red king crab were caught and sold from the Pribilof District, thus the chartered vessel was directed to Registration Area T for the remainder of cost-recovery efforts. Results of pot surveys suggest the highest catch of blue king crab occurred at stations with low red king crab catch and stations with high red king crab catch had low blue king crab catch. Distribution of red and blue

king crabs in the Pribilof District is patchy and stations with high blue king crab catch were interspersed among stations showing greater red king crab abundance. Catch of male red and blue king crabs during the 2005 survey were lower than those of the 2003 survey (Gish 2006). Catch of red and blue king crab in the 2008 survey were greater than or comparable to 2003 and 2005 surveys (Gish 2010).

The Pribilof District red and blue king crab fishery was included in the CR program; however, neither the red nor blue king crab fisheries has opened since the implementation of the CR program, which began in 2005/06.

2010/11 Season

The blue king crab fishery in the Pribilof District was not opened in 2010/11 due to continued low blue king crab abundance. The stock remains well 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 2010/11 season.

Stock Status

The Pribilof blue king crab stock was declared overfished by the National Marine Fisheries Service (NMFS) in September 2002 and ADF&G developed a rebuilding harvest strategy as part of a comprehensive rebuilding plan for the stock (Zheng and Pengilly 2003). The harvest strategy was adopted by the BOF and includes a minimum estimated spawning biomass of 13.2 million pounds for two consecutive years, a 10 percent harvest rate on mature males or 20 percent of legal males (whichever is less), and a 500,000 pound minimum IFQ TAC.

Results from the 2010 Pribilof District blue king crab stock assessment survey indicated the stock remained below the minimum spawning biomass threshold for a fishery opening and would not have met the minimum TAC. The Pribilof blue king crab stock is still classified by NMFS as overfished. NMFS 2010 trawl survey data indicated that Pribilof District blue king crab were caught at only 8 of the 41 trawl survey stations. Though biomass estimates are imprecise due to a small number of tows yielding crab, the legal-size male biomass estimate was 0.45 million pounds, falling well below the most recent 20 year average biomass of 3.7 million pounds but increasing from the 2009 estimate of 0.37 million pounds (Chilton et al. 2011).

Given the continued low abundance of blue king crab in the Pribilof District and distribution of the stock, ADF&G statistical areas 685700, 685730, 695700, and 695730 have been closed to all crab fishing since the 2007/08 season to protect blue king crab.

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 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 crab without risking 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 crab, 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

Historical Background

The Saint Matthew Island Section of the Northern District commercial blue king crab fishery 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 crab. 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).

In 1993, the BOF 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.

In 1998, legal male abundance decreased by 21 percent from the 1997 level, resulting in a GHL of 4.0 million pounds (Table 2-10). The 1998 season closed early due to poor fishery performance and observer information indicating a relatively high incidental capture rate of sublegal male and female crab. The harvest in 1998 was 2.9 million pounds, and 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 2-11), when 9.5 million pounds were harvested. From 1999 to 2005/06, the fishery remained closed because harvest strategy abundance thresholds were not met.

Exvessel value peaked in 1983 at $25.8 million, and since 1994, has not exceeded $15.0 million (Table 2-11, Figure 2-8). In contrast, the number of vessels participating has 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 recruits entering the fishery. The average weight per crab in 1998 was 4.7 pounds (Table 2-10).

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

After a fishery closure lasting from 1999 until 2008/09, the St. Matthew blue king crab fishery re-opened in 2009/10 under the CR program. The 2009/10 TAC was 1.1 million pounds, although only 0.46 million pounds were harvested. Seven vessels participated in the fishery and had a CPUE of 10 legal crab per pot. Exvessel value was $2.19 per pound (Table 2-11).

Under the CR program, the fishery opens on October 15. The majority of effort takes place at the fishery opening, though some vessels participated in the BBR fishery before beginning fishery

operations in the St. Matthew Island blue king crab fishery. During the 2009/10 season, fishermen reported difficulty locating high concentrations of crab and catch rates were 10 legal crab per pot.

2010/11 Season

The 2010/11 season opened on October 15 with an IFQ TAC of 1.44 million pounds. Eleven vessels participated in the fishery and harvested 1,107,668 pounds, of which roughly 1 percent was deadloss. CPUE was 10, which is equal to the 2009/10 season, and greater than the CPUE of 7 in 1998 prior to CR, but 2 less than the average over the past 10 years when the fishery was open (Table 2-10). Although the fishery was open through February 1, all of the harvest occurred by late November.

Harvest during the 2010/11 season was spread over eight ADF&G statistical areas with most fishing effort occurring south of 60°30' N lat. Approximately fifty percent of harvest occurred in statistical area 735930 (Table 2-12).

The pot limit for the 2010/11 season was 250 pots per vessel. The fleet registered 1,615 pots, or an average of 147 pots per vessel. Total effort for the 2010/11 fishery was 25,300 pot lifts. The average vessel was active in the fishery for 46 days, though the fishery was open for 110 days.

The average price per pound for blue king crab during the IFQ fishery was $4.11 with an IFQ exvessel fishery value of $4.5 million (Table 2-11).

Port Sampling

All vessels participating in the Saint Matthew Island Section blue king crab fishery were observed during 100 percent of fishing activity, therefore no ADF&G port sampling activity occurred during this fishery.

Stock Status

During the 2010 NMFS bottom trawl survey, blue king crab were captured at 35 of 56 trawl survey stations (Chilton et al. 2011). Legal male biomass estimate increased 54 percent from the 2009 estimate, and is now higher than the previous 20-year average biomass estimate in the Saint Matthew Island Section. The Saint Matthew Island blue king crab stock reached the rebuilt level, based on 2009 NMFS area-swept abundance estimate. The 2010 NMFS trawl survey area-swept estimate indicates that total abundance is at its highest level since 1982; however, there is high uncertainty surrounding the estimate.

ADF&G conducted triennial pot surveys in the Saint Matthew Island Section from 1995 to 2010, with a focus on the near-shore waters. Results from commonly fished stations in 2010 indicate legal male catch was slightly higher than the average legal-male catch in prior pot surveys, and total catch of blue king crab was the highest of the six triennial surveys (unpublished ADF&G memorandum from R. Gish to D. Pengilly, Kodiak, Alaska).

PRIBILOF DISTRICT GOLDEN KING CRAB

Historical Background

Golden king crab are found in commercial concentrations in a few deep canyons in the Bering Sea. As with many other crab fisheries in the Bering Sea, the fishery for golden king crab 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 crab 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 crab in the Bering Sea occurred in June of 1982 when two vessels fished the Pribilof District. Effort increased to 10 vessels during the following season with a harvest of nearly 70,000 pounds. In 1983, the size limit for golden king crab in the Pribilof District was reduced from six and one-half inches to five and one-half inches. Effort in the Pribilof District peaked during the 1983/84 season when 50 vessels harvested 856,000 pounds of golden king crab. 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 $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 deep water south of the Pribilof Islands.

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

In 2000, Pribilof District golden king crab fishery opened with a GHL of 150,000 pounds (Table 2-13), which was 50,000 pounds less than the 1999 GHL. This reduction in GHL better complies with guidelines outlined in the FMP for 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. The 2002 fishery opened January 1 with a GHL of 150,000 pounds, and closed by emergency order on May 14 after eight vessels harvested 150,434 pounds. CPUE averaged six legal crab per pot lift, a decrease from the CPUE of eight legal crab per pot during the 2001 fishery. Landed crab averaged 4.3 pounds, the same as the 2001 season. The 2002 Pribilof District golden king crab fishery had a fishery value of $438,000, which was $9,000 more than the 2001 fishery value (Table 2-14).

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. Five vessels registered for the 2004 Pribilof District golden king crab fishery, which had a GHL of 150,000 pounds. Fishing effort began in late February and the fishery closed by emergency order on March 12. 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.

The Pribilof District golden king crab fishery was not included in the CR program. Four vessels participated in the 2005 Pribilof District golden king crab fishery; however, harvest information is confidential because only two processors participated. The GHL was not taken in 2005, therefore the fishery was open until December 31, 2005. No vessels registered to fish for golden king crab in the Pribilof District from 2006 through 2009 (Table 2-13).

The golden king crab fishery is managed through commissioner's permit on a calendar-year basis. Inseason management is based on catch reports provided by processors and observers. Fishing is restricted to depths of 100 fathoms or greater. Starting in 2001, 100 percent 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 crab, Pacific halibut *Hippoglossus stenolepis*, Pacific cod *Gadus macrocephalus*, and snow crab *Chionoecetes opilio*.

2010 Season

One vessel participated in the 2010 Pribilof District golden king crab fishery. The harvest information is confidential; however, the GHL was not reached.

Stock Status

The golden king crab fishery is managed using a GHL based on long-term average harvest. Data collected by onboard observers in conjunction with biological data from landed catch are used to annually evaluate the status of the stock. In December 2007, the NMFS amended the *Federal Fishery Management Plan for Bering Sea and Aleutian Islands King and Tanner Crabs* adopting new overfishing definitions for BSAI crab. Overfishing levels for this Tier V stock are based on historic catch and generally will not constrain the GHL.

Between 2002 and 2005, the average size of legal male golden king crab taken during the commercial fishery decreased while CPUE increased, suggesting a possible recruitment event.

Stock biomass of golden king crab in the Pribilof Canyon area has been estimated using area-swept methods applied to NMFS upper continental slope trawl survey data in 2002, 2004, and 2008. Survey data suggest the biomass of golden king crab in the Pribilof Canyon area has increased from 1.50 million pounds in 2002 to 2.03 million pounds in 2008 (Haaga et al. 2009).

NORTHERN DISTRICT GOLDEN KING CRAB

Historical Background

A domestic fishery for golden king crab in the Saint Matthew Island Section of the Northern District also began in the 1982/83 season. Since then, harvest has only occurred 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, and no effort has been made since 2003. 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 crab 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 60 pots for vessels 125 feet or less in length and 75 pots for vessels greater than 125 feet in length.

The golden king crab fishery in the Bering Sea is managed using inseason catch reports provided by processors and observers. Starting in 2001, 100 percent 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 crab, Pacific halibut, Pacific cod, and snow crab. Fishing is restricted to depths of 100 fathoms or greater.

In December 2007, NMFS 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. The Northern District golden king crab fishery was not included in the CR program.

2010 Season

The fishery opened January 1 with a GHL range of 10,000 to 20,000 pounds and closed December 31, 2010. No vessels registered to fish for golden king crab in the Northern District in 2010.

Stock Status

The golden king crab population in the Northern District is not surveyed annually, but was surveyed in the NMFS upper continental slop trawl survey in 2002, 2004, and 2008. Survey biomass estimates have not been 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.

BERING SEA SCARLET KING CRAB

Historical Background

Scarlet king crab 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 crab 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 crab in 1992, no commercial landings occurred prior to 1995. In 1995, 4 vessels harvested 26,684 pounds (Table 2-16) valued at $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 percent 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 crab from 1997 to 1999. A single vessel was permitted to retain scarlet king crab 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 crab 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 crab, all harvest information is confidential.

2010 Season

No vessels registered to fish for Bering Sea scarlet king crab in 2010.

Fishery Management and Stock Status

No abundance estimates are available for scarlet king crab. 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 deepwater crab stocks. Currently, ADF&G does not intend to register vessels to fish directly for scarlet king crab in the Bering Sea. Retention of scarlet king crab captured in other deepwater crab fisheries will be permitted in non-rationalized fisheries.

In December 2007, the NMFS 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, which includes waters north of the latitude of Cape Romanzof and east of 168° W long, and the General Section, which includes waters to the south and west of the Norton Sound Section (Figure 2-9).

BERING SEA TANNER CRAB

Historical Background

The first reported U.S. harvest of Tanner crab occurred in 1968 as incidental harvest during the Bristol Bay red king crab fishery. In 1974, a directed Tanner crab fishery began. Harvest peaked at 66.6 million pounds during the 1977/78 season (Table 2-17). 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 to provide sufficient time for inseason management of the Tanner crab fishery, the BOF restricted vessel operators 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 passed regulation opening and closing 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 after the BBR fishery was closed, the BOF allowed a reopening of the Eastern Subdistrict, only between 163° and 173° W long, for the directed Tanner crab fishery 10 days after the closure of the BBR fishery. In the event the BBR fishery failed to open, only 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 red 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 from a 7.5 million pounds GHL; in 1995 the GHL declined to 5.5 million pounds with a harvest of 4.23 million pounds (Table 2-17).

The GHL for the 1996 Tanner crab fishery was 6.2 million pounds (Table 2-17). Due to poor fishery performance, the fishery was closed before the GHL was reached; a total of 1.8 million pounds was harvested. Based on poor fishery performance in 1996 and the 1997 NMFS survey indicating significant decline 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 abundance of large male and female Tanner crab 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 greater than or equal to 80 mm CW. No directed Bering Sea Tanner crab fishery is prosecuted when female biomass is below the threshold. When mature female biomass is between 21.0 million and 45.0 million pounds, a maximum harvest rate of 10 percent is applied to “molting mature males”, or those mature male crab likely to continue to grow, defined as 100 percent of new-shell and 15 percent of old-shell males greater than 112 mm CW. When mature female biomass is above 45.0 million pounds the harvest rate is set at a maximum 20 percent of molting mature males, or 50 percent 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. The stock remained below the fishery threshold level established in the harvest strategy and the fishery was closed from 1999 through the 2005 season.

Based on 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 166° W long with the IFQ TAC set at 1.5 million pounds; 2005/06 was the first season under Crab Rationalization. In computing the TAC for the area west of 166° W long, the abundance of exploitable legal male Tanner crab estimated for ADF&G statistical area 695700 was not included in the TAC computation; although this statistical area accounted for approximately 27 percent of the exploitable legal male Tanner crab west of 166° W long estimated from the 2005 trawl survey, the area was closed to commercial fishing to protect Pribilof blue king crab. The 2005/06 season did not open in the area east of 166° 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 166° 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 pot gear; the remainder incidentally harvested Tanner crab while directed fishing for snow crab with snow crab gear. Only 0.791 million pounds of the 2005/06 TAC was harvested, apparently because many harvesters were unaware 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 crab. The 2006/07 Bering Sea Tanner crab IFQ TAC was set at 1.69 million pounds for the area east of 166° W long (EBT) and 0.99 million pounds for the area west of 166° W long (WBT). TACs were increased in 2007/08 to 3.10 million pounds for the EBT fishery and 1.96 million pounds for the WBT fishery. In 2008/09, the IFQ TAC was 2.49 million pounds for EBT and 1.38 million pounds WBT.

Although the fishery opens on October 15, recent catch and effort in the EBT fishery occurs January through March. Thirty-seven vessels harvested 1.27 million pounds during the IFQ fishery in 2006/07. In 2007/08, the fleet was nearly half the size, as only 20 vessels harvested 1.44 million pounds. Fleet size increased to 21 vessels in 2008/09, and 1.55 million pounds were harvested (Table 2-18).

Like the EBT fishery, most catch and effort in the WBT fishery occurs January through March, with 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. In 2008/09, just over 0.1 million pounds were brought in by 39 vessels (Table 2-18).

Harvesters were paid an average price of $1.29 per pound for Bering Sea Tanner crab for an IFQ fishery value of $2.4 million for the 2006/07 season. In 2007/08 harvesters were paid $1.68 per pound for an IFQ fishery value of $3.2 million, the highest since 1995. Average price per pound in the 2008/09 season was $1.49, for an IFQ fishery value of $2.5 million. (Table 2-19).

Vessels fishing for Tanner crab in the 2006/07 and 2007/08 seasons were able to use Tanner crab gear as well as snow or king crab gear and retain Tanner crab 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.

New regulations adopted in 2008 specified that Tanner crab fishermen may only use one type of pot gear—fisherman may either participate in a directed Tanner crab fishery using Tanner crab pots or retain up to 5 percent Tanner crab while targeting red king crab (EBT only) or snow crab (WBT only).

In 2009/10, 1.2 million pounds of the 1.2 million pound TAC were harvested in the EBT fishery. Tanner crab west of 166° was closed; however, 3,374 pounds were recorded as being incidentally harvested in the Bering Sea snow crab fishery. The average price per pound in the EBT fishery was $1.64 for an IFQ fishery value of $1.9 million.

2010/11 Season

The 2010/11 Bering Sea Tanner crab fisheries were closed because NMFS trawl survey area-swept estimates of mature female abundance was below the threshold for opening a fishery. Incidental harvest of Bering Sea Tanner crab was reported in deadloss from the Bering Sea snow crab season, totaling 2,545 pounds (Table 2-17). Tanner crab deadloss was also reported in the Bristol Bay red king crab fishery, though is confidential due to limited vessels and processors.

Port Sampling

No port sampling of Bering Sea Tanner crab occurred during the 2010/11 season.

Stock Status

The Bering Sea Tanner crab stock met rebuilding criteria of two consecutive years above the rebuilt level in 2008/09; however, the 2009/10 mature male biomass was below the minimum stock size threshold at the time of the 2009 survey. The stock continued to decline in 2010 and was once again determined to be overfished. Estimated 2010 legal-male Tanner crab biomass in the Bering Sea was 17.5 million pounds (Chilton et al. 2011). Mature female biomass decreased 60 percent from the 2009 estimate and was below 40 percent of the long-term mature female biomass estimates. Further information on Tanner crab stock status and federal overfishing levels may be found in NPFMC 2010.

BERING SEA SNOW CRAB

Historical Background

The first commercial landings of snow crab from the Bering Sea were recorded in 1977, incidental to harvest of Tanner crab. 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 65.4 million pounds in 1985. Harvest then increased each year from 1986 to an all-time high of 328.6 million pounds in 1991. Subsequently, harvest decreased to 65.7 million pounds by 1996. Stock status improved between 1997 and 1999 when harvests averaged 163.6 million pounds (Table 2-22, Figure 2-11).

In 1999, the NMFS trawl survey snow crab stock estimate was 60 percent of the minimum stock size threshold, defined in the FMP for Bering Sea and Aleutian Islands King and Tanner Crabs (NPFMC 1998). In response to significant stock decline, ADF&G initially reduced the 58 percent exploitation rate on 102 mm CW and larger male snow crab by 50 percent. The resultant 29 percent exploitation rate would 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 to 22 percent of the 4-inch 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.

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 (Table 2-23). The 2000 snow crab harvest of 30.77 million pounds exceeded the 26.4 million pound general fishery GHL by 17 percent (Table 2-22). The exvessel price for snow crab harvested in the 2000 fishery was two-tiered due to concerns for higher than normal percentage of old-shell crab expected in the catch. Fishermen were offered $1.85 per pound for new-shell crab and $1.00 per pound for old-shell crab. Fishermen reported encountering high percentages of old-shell crab in the first two days of the fishery, but thereafter located areas which contained predominantly new-shell crab. As a result, less than 10 percent of crab landed were old-shell crab (Table 2-24).

Analysis of the 2000 NMFS summer trawl survey of the Eastern Bering Sea indicated a 19 percent decrease in the abundance of large male (≥102 mm CW) crab from the 1999 survey. However, small male (<102 mm CW) and large female (≥50 mm CW) abundance increased 100 percent and 212 percent, 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 crab that is dependent on estimated spawning biomass. The rebuilding plan specifies an exploitation rate of 16.875 percent 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 (Table 2-22).

The 2001 Bering Sea snow crab general fishery harvest was 24.4 million pounds, or 92 percent of the GHL. The average exvessel price per pound in 2001 was $1.53, resulting in a general fishery value of $32.1 million, a significant decrease from the 2000 fishery value of $55.1 million (Table 2-25).

The 2002 GHL was initially calculated at 51.0 million pounds based on NMFS survey estimates which constituted a harvest greater than 50 percent of the estimated exploitable legal male abundance and in accordance with harvest strategy requirements was adjusted downward to not exceed 50 percent of the exploitable legal male abundance. The 2003 Bering Sea snow crab fishery harvest of 26.2 million pounds exceeded the general fishery GHL by 10.6 percent. 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 crab were harvested east of 173° W long. In contrast to 2002, the fleet did not encounter large numbers of old or very old shell crab on the grounds (Table 2-24). In the 2004 fishery, a harvest of 22.2 million pounds exceeded the general fishery GHL of 19.27 million pounds by 15 percent. A similar pattern followed in the 2005 fishery, where the 23.0 million pound harvest exceeded the GHL by 19 percent. The 2005 fishery CPUE was 239 retained crab per pot, higher than any previous year (Table 2-22).

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 crab was 1.51 pounds, 11 percent 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 percent of the total snow crab harvest and 71 percent of the harvest was from areas south of 58°30' N lat. In general, harvest location shifted to the southeast compared to the 2000–2005 seasons. Total fishery CPUE for retained legal crab in the 2005/06 fishery was 204 crab per pot, the second highest CPUE since the 1999 season (Table 2-22). 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 (Table 2-23).

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. In 2008/09 the TAC was set at 52.7 million pounds. In 2006/07, sixty-nine vessels harvested a total of 32.7 million pounds. The 2007/08 fleet increased to 78 vessels, the same as in 2005/06, and harvested 56.7 million pounds. In 2008/09, 77 vessels harvested 52.7 million pounds. The CPUE in 2006/07 was 332 crab per pot and increased to 352 crab per pot in 2007/08, a value more than 60 percent higher than the 2005/06 season and the highest on record for the fishery. Average catch rates decreased during the 2008/09 season to 279 retained crab per pot lift, and further decreased to 255 during the 2009/10 season (Table 2-22).

Landings began in early November and continued into May in the 2006/07, 2007/08, and 2008/09 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 and 50 days in the 2008/09 season. During the 2009/10 season, snow crab vessels were registered for an average of 40 days with landings beginning in mid-October and lasting until the first of May.

2010/11 Season

The 2010/11 Bering Sea snow crab season opened on October 15 with an IFQ TAC of 48.9 million pounds. Sixty-eight vessels harvested 48.9 million pounds (Table 2-22).

Catch rates during the 2010/11 season were lower than the previous two seasons at 254 retained crab per pot lift, but still well above the long-term average, likely due to efficiency gains achieved after the implementation of the CR program. The snow crab fleet utilized 11,604 pots during the 2010/11 season, and averaged 171 pots per vessel (Table 2-22).

Snow crab vessels were active in the fishery for an average of 40 days during the 2010/11 season, similar to the 2009/10 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 April (Table 2-26).

Average crab carapace width was 115 mm, similar to the 113 mm CW average in 2009/10 and 110 mm CW average in 2008/09. Retained catch was 97 percent new shell. The average weight of landed crab was 1.4 pounds, similar to the 2009/10 season, and 0.1 pound higher than the average weight in 2007/08 and 2008/09 (Table 2-24). Snow crab tended to be slightly smaller in the Western Subdistrict than the Eastern Subdistrict. Seventy-eight percent of harvest occurred in the Eastern Subdistrict, with only 22 percent from the Western Subdistrict, contrasting again with the 2008/09 harvest which was much more evenly split (Table 2-27).

Harvesters were paid an average price of $2.14 per pound for snow crab generating an IFQ exvessel fishery value of $103.87 million, a 54 percent increase from the 2009/10 fishery value, which is the highest fishery value on the last 10 seasons (Table 2-25).

Port Sampling

ADF&G port samplers in Dutch Harbor, Saint Paul, Kodiak, and King Cove collected data from vessels without onboard observers. Collected data includes: carapace width, average weight, and fishing effort and locations. Data was collected from 131 of the 348 landings during the 2010/11 snow crab fishery.

Stock Status

The Bering Sea snow crab stock was declared overfished in 2000 by NMFS and failed to rebuild within the required 10-year period (NPFMC 2010). The 2010 Bering Sea legal-male snow crab biomass estimate increased 9 percent from the 2009 estimate, a 12 percent increase for industry-preferred males (legal males four inches or greater). Approximately 65 percent of the legal male biomass was four inches CW or greater (Chilton et al. 2011). Seventy percent of the 2010 legal-male snow crab abundance was found in the Eastern Subdistrict, compared to 79 percent in 2009.

BERING SEA GROOVED TANNER CRAB

Historical Background

In 1988, BOF authorized a commissioner's permit for deepwater Tanner crab under 5 AAC 35.511. However, no commercial harvest of grooved Tanner crab from the Bering Sea occurred until 1992. In 1993, ADF&G increased the legal size of male grooved crab from 89 mm CW (3.5 inches) to 127 mm (5 inches) CW. 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 crab in the Bering Sea. In addition, beginning in 1994, observers were deployed to collect biological and fishery data on each registered vessel in the fishery. In 1994 effort and landings decreased to four vessels harvesting slightly over 322,000 pounds (Table 2-28).

At the March 1995 BOF meeting, pot limits were removed for deepwater permit fisheries of the Westward Region. Effort increased significantly that year when eight 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 crab has not exceeded four vessels for any year. Catch per unit effort was highest in 1994 at 11 legal crab per pot lift and declined to four in 1996. Harvest decreased to 96,000 pounds in 1996. No vessel registered to fish grooved Tanner crab in the Bering Sea District from 1997 to 1999, while only one vessel registered each year in 2000 and 2001. Four vessels registered for the directed Bering Sea grooved Tanner crab fishery in 2004 (Table 2-28). Two additional vessels registered to retain grooved Tanner crab incident to the Pribilof District golden king crab fishery, but did not land any grooved Tanner crab. The Bering Sea District grooved Tanner crab harvest in 2004 is confidential because only one processor participated in the fishery. One vessel registered to fish grooved Tanner crab in the Bering Sea during 2005. When fishing has taken place, most effort has been concentrated in a few statistical areas south of Saint George Island.

In 1997, ADF&G set GHLs for grooved Tanner crab based on prior harvest information. In prior years, the Bering Sea, Alaska Peninsula, and Eastern Aleutian districts supported the largest catches of grooved Tanner crab. 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 crab 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 harvest of the mid 1990s, ADF&G 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 flexibility for inseason management and to better inform the public of the department's management goals for the fishery. The upper end of the GHL range may be allowed when catch rates similar to or greater than catch rates prior to the harvest decline of the mid-1990s are observed. In addition to the new GHL range, ADF&G specified that four 4.5-inch escape rings be placed on the lower third of each pot and required pots be fished over multiple depth strata.

2010 Fishery

No vessels registered to fish for grooved Tanner crab in the Bering Sea during 2010.

Stock Status

The grooved Tanner crab stock in the Bering Sea District is not surveyed; consequently, no estimates of population abundance are available. Fishery data is the primary source of information regarding stock status. Based on 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 NMFS 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 of Alaska with sole jurisdiction over the fishery.

BERING SEA TRIANGLE TANNER CRAB

Historical Background

Historically, triangle Tanner crab were taken as incidental harvest in the grooved Tanner crab fishery. Vessel operators have verbally reported retention of triangle Tanner crab before 1994. To obtain biological information on triangle Tanner crab, in 1994, ADF&G implemented 100 percent onboard observer coverage. 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 crab, and harvested 40,991 pounds for a total fishery value of $60,000 (Table 2-29). No vessel registered to fish triangle Tanner crab in the Bering Sea District in 1997, 1998, 1999, or 2002 (Table 2-29). In 1996, 2000, and 2001, only one vessel delivered triangle Tanner crab as incidental harvest each year. Four vessels registered to retain triangle Tanner crab incident to the Pribilof District golden king and Bering Sea grooved Tanner crab fisheries in 2004. No vessel has registered to fish for triangle Tanner crab in the Bering Sea District since 2004.

Due to the lack of stock abundance data for this species, additional fishing for triangle Tanner crab in the Bering Sea District will be limited to incidental harvest during the grooved Tanner crab and Pribilof District golden king crab fisheries. Vessels registered to fish for grooved Tanner crab will be permitted to retain incidentally taken triangle Tanner crab up to 50 percent of the weight of grooved Tanner crab. In the Pribilof District golden king crab fishery, incidentally taken triangle Tanner crabs may be retained up to 5 percent 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.

2010 Fishery

No vessel registered to fish for triangle Tanner crab in the Bering Sea District during 2010.

Stock Status

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

In December 2007, the NMFS 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 of Alaska with sole jurisdiction over the fishery.

BERING SEA MISCELLANEOUS SHELLFISH SPECIES

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 includes hair crab *Erimacrus isenbeckii*, Dungeness crab *Metacarcinus magister*, 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 crab. 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 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 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.

Those species of current or historic interest in the Bering Sea include *P. multispina*, hair and Dungeness crab *Metacarcinus 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 harvest.

BERING SEA HAIR CRAB

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.

Historical Background

The fishery for hair crab 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 three miles of the Pribilof Islands. Beginning in 1984, under conditions of a commissioner’s permit issued by ADF&G, the year-round 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 crab 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 crab 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 crab 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 to allow any vessel 58 feet and under to fish within five nautical miles of Saint George and Saint Paul islands as described in AS 16.05.835. In addition, it was the intent of the Legislature, expressed in the vessel moratorium, that BOF maintain 100 percent 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 crab, 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 2-30, Figure 2-14). Between 1985 and 1990, effort was minimal due to low stock abundance. Since the 1996 CFEC moratorium, effort dropped from 19 vessels in 1996 to three vessels in 2000. In the 1990s, harvest peaked at 2.3 million pounds in the 1993/94 season. Total fishery value peaked in 1995 at $5.7 million. Since 1995, both effort and GHL have been declining. During the 2000 season, only 1,546 pounds of hair crab were harvested, for a fishery value of $5,000 (Table 2-31).

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 crab 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 crab 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 crab was approximately 1.5 pounds (Table 2-30).

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 open 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 crab 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 crab, survey results are described in terms of Bering Sea king crab registration areas, districts, and sections (Figure 2-4). Because confidence in the survey is relatively low, a 20 percent fishery exploitation rate on large males has been used to determine the GHL. Male hair crabs greater than or equal to 3.25 inches in CW are defined as legal crab in the commissioner's permit for this fishery.

Typically, the majority of legal-sized male hair crab 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 percent of the large male hair crab population in the Bering Sea were 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 crab 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 percent 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 has been closed to hair crab fishing since 2001.

In 2003, hair crab permits were issued to qualified vessel owners based on a limited-entry CFEC program for the Bering Sea hair crab fishery. 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 (20 AAC 05.1405- 20 AAC 05.1420).

2010 Season

The 2010 Bering Sea hair crab fishery was closed in both the Northern and Pribilof Districts due to low stock abundance.

Stock Status

Abundance of hair crab in the Pribilof District has decreased since the early 1990s. Large male abundance is currently at low levels and survey data does not indicate 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 indicate the Bering Sea hair crab population is 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 crab 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.

As of 2010, biomass estimates for male hair crab have increased relative to 2006; however, as of 2010 legal-male hair crab abundance estimates remain below the 20-year average (Chilton, et al. 2010).

BERING SEA OCTOPUS

The last directed fishery for octopus in the Bering Sea occurred in 1995, with areas fished covering both Aleutian Islands and Bering Sea waters. Less than three vessels made landings; therefore, harvest information is confidential. Since 1995, all reported harvests in the Bering Sea have been incidental to other fisheries.

NMFS considers octopus a groundfish species, while State of Alaska's regulation lists octopus as a shellfish species. A vessel registered for groundfish in the Westward Region using a miscellaneous finfish permit may retain incidentally caught octopus up to 20 percent of the weight of the target species. Octopus is primarily retained as bycatch in Pacific cod fisheries.

Since 1995, landed incidental octopus harvest from state waters ranged from 59 pounds in 1997 to 7,177 pounds in 2008. Harvest reported from both state and federal waters is significantly higher, with a peak of 156,381 pounds in 2005. In 2007, a peak of 110 vessels participating in state and federal waters reported landed octopus bycatch in 375 landings (Table 2-32).

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. Average exvessel value of octopus peaked in 2005, at $0.65 per pound, based on landed weight.

PARALOMIS MULTISPINA

Fishing for *P. multispina* is managed under the terms of a commissioner's permit under 5 AAC 38.062. 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 vessel requested a commissioner's permit to fish for *P. multispina* in the Bering Sea District from 1997 through 2010. 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 develops GHLs 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 as noted under 5 AAC 38.062 . Recent GHLs have been established at 5,000 pounds of eviscerated red sea cucumbers and 5,000 pounds round weight for green sea urchins. Fishing seasons are described in 5 AAC 38.411 and 5 AAC 38.412. 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. Since 2002, no divers have registered to harvest green sea urchins or red sea cucumbers.

In 2010, the GHL for the Bering Sea Area was set at 5,000 pounds each, for red sea cucumbers and green sea urchins; however, there was no participation in the fishery.

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 Magnuson-Stevens Fishery Management and Conservation 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, five vessels in 1972, no vessels in 1973, and six vessels in 1974. No fishing occurred in 1975 and 1976. In 1977, records indicate that participation in the fishery increased to three vessels (MacIntosh 1980). In the 1980s, all fishing was conducted by catcher-processor vessels. The majority of the retained catch during this early fishery was composed of 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 longlined 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 two vessels registered to fish for snails. One vessel harvested snails as incidental harvest in the Tanner crab fishery and the second participated in a directed fishery for snails after the June closure of the hair crab fishery. Fishing for snails was limited to waters of the Bering Sea District west of 168° W long from 1994 to 1996. In 1997, snail fishing was limited to waters west of 164° W long.

Observer coverage was required as a condition of the commissioner's permit issued in 1993 under 5 AAC 39.210 (h) *Management Plan for High Impact Emerging Fisheries*. Minimal crab bycatch was observed in the area west of 168° W long. Bycatch of legal sized king crab was less than one animal per pot. Female snow crab had the highest incidence of bycatch at one animal per pot (Tracy 1995).

Observer coverage was not required again until 1997 when two vessel operators expressed interest in fishing east of 168° W 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 crab was observed. An estimated 17,300 female and 2,100 sublegal male Tanner crab, and 57,600 sublegal snow crab 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 2-33). 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 2-33). From 1998 to 2009, no fishing effort for snails occurred in the Bering Sea.

2010 Season

No vessels registered to harvest snails from the Bering Sea in 2010.

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 crab 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 shrimp stocks.

DUNGENESS CRAB

The North Peninsula Dungeness crab fishery is managed with an inseason harvest management strategy based upon size, sex, and season restrictions Fishing effort for Dungeness crab in the North Peninsula District has been sporadic, with few vessels participating. The fishery has typically occurred north of Unimak Island. In 1995, six vessels made 19 deliveries harvesting 134,407 pounds. Catch information from 1996 to 1998 is confidential, as less than three vessels participated in each of those years. The average annual harvest in the three-year period from 1996 to 1998 was approximately 48,000 pounds. No vessel registered to fish in 1999. One vessel, for which landings are confidential, participated in the 2000 fishery. No vessel registered in 2001. In 2002, two vessels fished and harvest is confidential (Table 2-34). In 2003 no vessels registered. A single vessel registered in 2004 and harvest information is confidential. No vessels registered in 2005 or 2006. A single vessel registered in 2007 and harvest information is confidential. No fishermen registered for North Peninsula District Dungeness in 2008. Catch information for 2009 is confidential, as only one vessel registered for North Peninsula District Dungeness.

2010 Season

The North Peninsula Dungeness crab fishery opened May 1, 2010. Five vessels registered for the 2010 season, bringing in a total fishery harvest of 795,392 pounds with a CPUE of six (Table 2-34).

Harvesters were paid an average of $1.73 a pound for Dungeness crab generating a total fishery value of $1.36 million, the highest on record for the North Peninsula District (Table 2-34).

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 crab with a shoulder width of 165 mm or larger may be taken between 12:00 noon May 1 through 12:00 noon October 18.

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 short fishing seasons. In response, 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 and subsequently adopted BSAI pot limit regulations. Effective August 1, 1992 regulations limited the number of pots a vessel may operate while harvesting BSAI king and Tanner crab. The buoy identification program was created to help implement pot limits and as per Alaska state statute designed to be self-supportive by generating funds.

Buoy identification stickers were first implemented during the 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 NMFS on November 30, 1992. Pot limits are an FMP category 2 management measure (NPFMC 1998). Category 2 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 percent 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 in March of 1999.

With the implementation of crab rationalization in 2005, the BOF revised regulations to allow a maximum of 450 pots per vessel regardless of vessel length for Bering Sea king and Tanner crab fisheries. 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 Bering Sea snow crab fisheries.

2010/11 Buoy Tag Sales

In the 2010 Eastern Aleutian District Tanner crab fishery, three vessels purchased 93 tags. For the 2010/11 St. Matthew Island section blue king crab fishery, 11 vessels purchased 1,615 tags. Two vessels also purchased 80 tags for the 2010 Pribilof gold king crab fishery (Table 2-36).

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, Division of Commercial Fisheries Management and Development, 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 D. Pengilly. 2006. Estimates of red king crab bycatch during the 2005/2006 Bristol Bay red king crab fishery with comparisons to the 1999-2004 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. 2010. The 2009 Eastern Bering Sea continental shelf bottom trawl survey: Results for commercial crab species. U.S. Department of Commerce, NOAA Technical Memo NMFS-AFSC-201.

Chilton, E. A., C. E. Armistead, and R. J. Foy. 2011. The 2010 Eastern Bering Sea continental shelf bottom trawl survey: Results for commercial crab species. U.S. Department of Commerce, NOAA Technical Memo NMFS-AFSC-216.

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. 2010. 2008 Pribilof District king crab survey. Alaska Department of Fish and Game, Fishery Management Report No. 10-07, Anchorage.

Haaga, J. A., S. Van Sant, and G. R. Hoff. 2009. Crab abundance and depth distribution along the continental slope of the eastern Bering Sea: Poster presented at the 25th Lowell Wakefield Fisheries Symposium (Biology and Management of Exploited Crab Populations under Climate Change), held March 10-13, 2009, Anchorage, AK.

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). 2009. Stock Assessment and Fishery Evaluation Report for the King and Tanner Crab Fisheries of the Bering Sea and Aleutian Islands Regions: 2009 Crab SAFE. North Pacific Fishery Management Council, Anchorage.

North Pacific Fishery Management Council (NPFMC). 2010. Stock Assessment and Fishery Evaluation Report for the King and Tanner Crab Fisheries of the Bering Sea and Aleutian Islands Regions: 2010 Crab SAFE. North Pacific Fishery Management Council, Anchorage.

REFERENCES CITED (Continued)

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, Division of Commercial Fisheries, Regional Information Report 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, Division of Commercial Fisheries Management and Development, Regional Information Report 4K95-14, Kodiak.

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, Division of Commercial Fisheries Management and Development, 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, Division of Commercial Fisheries Management and Development, Regional Information Report 5J96-12, Juneau.

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

TABLES AND FIGURES

Table 2-1.–Bristol Bay commercial red king crab general/IFQ fishery harvest data, 1966–2010/11.

	Number of						Number of pots		
Season	Vessels	Landings	Crab[a]	GHL/TAC[b]	Harvest[a,c]	Deadloss[c]	Registered	Pulled	CPUE[d]
1966	9	15	140,554	-	997,321	NA	NA	2,720	52
1967	20	61	397,307	-	3,102,443	NA	NA	10,621	37
1968	59	261	1,278,592	-	8,686,546	NA	NA	47,496	27
1969	65	377	1,749,022	-	10,403,283	NA	NA	98,426	18
1970	51	309	1,682,591	-	8,559,178	NA	NA	96,658	17
1971	52	394	2,404,681	-	12,955,776	NA	NA	118,522	20
1972	64	611	3,994,356	-	21,744,924	NA	NA	205,045	19
1973	67	441	4,825,963	-	26,913,636	NA	NA	194,095	25
1974	104	605	7,710,317	-	42,266,274	NA	NA	212,915	36
1975	102	592	8,745,294	-	51,326,259	1,639,483	NA	205,096	43
1976	141	984	10,603,367	-	63,919,728	875,327	NA	321,010	33
1977	130	1,020	11,733,101	-	69,967,868	730,279	NA	451,273	26
1978	162	926	14,745,709	-	87,618,320	1,273,037	NA	406,165	36
1979	236	889	16,808,605	-	107,828,057	3,555,891	NA	315,226	53
1980	236	1,251	20,845,350	70-120	129,948,463	1,858,668	78,352	567,292	37
1981	177	1,013	5,273,530	40-100	33,372,832	706,489	75,756	536,646	10
1982	89	253	538,925	10-20 [e]	2,990,082	95,834	36,166	140,492	4
1983	FC	FC	FC	FC	FC	FC	FC	FC	FC
1984	89	133	793,046	2.5-6.0	4,083,612	35,101	21,762	107,406	7
1985	125	130	780,791	3.0-5.0	4,090,305	6,436	30,117	84,443	9
1986	156	229	2,083,496	6.0-13.0	11,306,084	284,126	32,468	175,753	12
1987	227	311	2,122,341	8.5-17.7	12,289,067	120,388	63,000	220,971	10
1988	200	201	1,231,731	7.5	7,361,026	23,537	50,099	146,179	8
1989	207	287	1,667,405	16.5	10,156,849	81,334	55,000	205,528	8

-continued-

Table 2-1.–Page 2 of 2.

Season	Number of Vessels	Number of Landings	Crab[a]	GHL/TAC[b]	Harvest[a,c]	Deadloss[c]	Number of pots Registered	Number of pots Pulled	CPUE[d]
1990	241	331	3,134,082	17.1	20,443,043	141,067	69,906	262,761	12
1991	300	322	2,597,994	18.0	16,971,365	106,853	89,068	227,555	12
1992	279	288	1,189,443	10.3	7,996,040	6,000	68,189	206,172	6
1993	291	360	2,254,989	16.8	14,587,704	133,314	58,881	253,794	9
1994	FC	FC	FC	FC	FC	FC	FC	FC	FC
1995	FC	FC	FC	FC	FC	FC	FC	FC	FC
1996	196	198	1,249,005	5.0	8,405,614	24,166	39,461	76,433	16
1997	256	265	1,315,969	7.0	8,756,490	13,771	27,499	90,427	15
1998	274	284	2,140,604	15.8	14,290,271	53,716	56,420	141,707	15
1999	257	268	1,812,357	10.1	11,070,729	44,132	42,403	146,997	12
2000[f]	244	256	1,166,796	7.7	7,546,145	32,118	26,352	98,694	12
2001[f]	230	238	1,196,469	6.6	7,786,446	57,294	24,571	63,242	19
2002[f]	242	254	1,377,922	8.6	8,856,828	32,177	25,833	68,328	20
2003[f]	250	275	2,344,436	14.5	14,529,124	228,270	46,964	128,430	18
2004[f]	251	270	2,075,622	14.3	14,112,438	160,563	49,506	90,976	23
2005/06	89	264	2,460,856	16.5	16,478,458	77,507	15,713	99,573	25
2006/07	81	187	2,186,967	13.9	13,892,044	98,720	14,685	64,325	34
2007/08	74	246	2,817,766	18.3	18,327,780	131,954	11,885	101,739	28
2008/09	77	254	2,765,282	18.3	18,303,012	160,812	15,098	124,739	22
2009/10	70	210	2,277,434	14.4	14,331,803	111,467	14,977	107,058	21
2010/11	65	236	2,157,354	13.4	13,349,929	99,612	13,769	118,458	18

Note: NA = not available, FC = fishery closed. Individual Fishing Quota (IFQ) beginning in 2005/06 season.

[a] Deadloss included.

[b] Millions of pounds. Guideline harvest level (GHL) for general fishery, total allowable catch for IFQ fishery.

[c] In pounds.

[d] Number of legal crab per pot lift.

[e] Inseason revision to 4.7 million pounds.

[f] Includes American Fisheries Act (AFA) fishery.

Table 2-2.–Bristol Bay commercial red king crab general/IFQ fishery economic data, 1980–2010/11.

		Value		Season length	
Season	Harvest[a,b]	Exvessel[c]	Total[d]	Days	Dates
1980	128,089,795	$0.90	$115.3	40	09/10-10/20
1981	32,666,343	$1.50	$49.3	91	09/10-12/15
1982	2,894,248	$3.05	$8.9	30	09/10-10/10
1983	FC	FC	FC	FC	FC
1984	4,048,511	$2.60	$10.8	15	10/01-10/16
1985	4,083,869	$2.90	$12.1	8	09/25-10/02
1986	11,021,958	$4.05	$45.0	13	09/25-10/07
1987	12,168,679	$4.00	$48.7	12	09/25-10/06
1988	7,337,489	$5.10	$37.6	8	09/25-10/02
1989	10,075,515	$5.00	$50.9	12	09/25-10/06
1990	20,301,976	$5.00	$101.2	12	11/01-11/13
1991	16,864,512	$3.00	$51.2	7	11/01-11-08
1992	7,990,040	$5.00	$40.2	7	11/01-11/08
1993	14,454,390	$3.80	$55.1	9	11/01-11/10
1994	FC	FC	FC	FC	FC
1995	FC	FC	FC	FC	FC
1996	8,381,448	$4.01	$33.6	4	11/01-11/05
1997	8,742,719	$3.26	$28.5	4	11/01-11/05
1998	14,236,555	$2.64	$37.4	5	11/01-11/06
1999	11,026,597	$6.26	$69.1	5	10/15-10/20
2000[e]	7,514,027	$4.81	$36.0	4	10/16-10/20
2001	7,729,152	$4.81	$37.5	3	10/15-10/18
2002	8,824,651	$6.14	$54.2	3	10/15-10/18
2003	14,300,854	$5.08	$72.7	5	10/15-10/20
2004	13,951,875	$4.71	$65.7	3	10/15-10/18
2005/06	16,400,951	$4.24	$69.5	93	10/15-01/15
2006/07	13,793,324	$3.48	$48.0	93	10/15-01/15
2007/08	18,195,826	$4.19	$76.2	93	10/15-01/15
2008/09	18,142,200	$4.98	$90.3	93	10/15-01/15
2009/10	14,220,336	$4.44	$63.1	93	10/15-01/15
2010/11	13,250,317	$6.28	$83.2	93	10/15-01/15

Note: FC = fishery closed. Individual Fishing Quota (IFQ) beginning in 2005/06 season.

[a] Sold weight (deadloss not included).

[b] In pounds.

[c] Average price per pound.

[d] Millions of dollars.

[e] Delayed start due to weather.

Table 2-3.–Bristol Bay commercial red king crab IFQ fishery harvest and effort by week, 2010/11.

	Number of						
Week ending	Vessels	Landings	Crab[a]	Harvest[a,b]	Deadloss[b]	Pot pulls	CPUE[c]
16-Oct	50	56	721,880	4,420,833	21,566	33,884	21
23-Oct	17	18	264,054	1,607,802	12,973	13,078	20
30-Oct	38	48	441,218	2,711,013	21,515	25,322	17
6-Nov	30	42	312,040	1,956,612	10,174	18,071	17
13-Nov	34	42	312,478	1,959,317	26,560	18,351	17
20-Nov	10	14	46,679	297,188	1,790	5,052	9
27-Nov	9	CF	CF	CF	CF	CF	CF
4-Dec	2	CF	CF	CF	CF	CF	CF
Total	65[d]	236	2,157,354	13,349,929	99,612	118,458	18

Note: CF = confidential.

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crab 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, 2010/11.

Statistical area	Number of					Average	
	Landings	Crab[a]	Pots lifted	Harvest[a,b]	Deadloss[b]	Weight[b]	CPUE[c]
605630	31	65,237	3,722	393,086	2,114	6.0	18
605700	20	11,720	994	72,381	306	6.2	12
615601	66	100,501	6,570	641,518	6,109	6.4	15
615630	155	880,134	45,614	5,400,208	40,456	6.1	19
615700	113	392,360	21,067	2,390,039	18,983	6.1	19
615730	13	16,259	1,094	99,949	517	6.1	15
625531	17	7,072	646	45,136	164	6.4	11
625600	48	202,178	11,508	1,254,459	9,962	6.2	18
625630	47	61,695	3,965	377,181	1,540	6.1	16
625700	48	54,807	3,796	330,799	2,204	6.0	14
625730	4	5,920	359	37,052	380	6.3	16
635530	41	136,508	7,900	862,840	8,198	6.3	17
635600	35	104,144	6,171	648,382	6,477	6.2	17
645530	19	114,790	4,808	770,113	2,137	6.7	24
Other[d]	-	4,029	244	26,785	65	6.4	27
Total	236[e]	2,157,354	118,458	13,349,929	99,612	6.2	18

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crab per pot lift.

[d] Combination of 5 statistical areas from which less than 3 vessels made landings from 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 commercial red king crab general/IFQ fishery harvest composition by fishing season, 1973–2010/11.

	Percent			Average		% New
Season	Recruit	Postrecruit[a]	Size 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	73
1977	67	33	6½	5.9	148	87
1978	75	25	6½	5.9	147	93
1979	47	53	6½	6.4	152	90
1980	44	56	6½	6.2	151	89
1981[f]	14	86	6½	6.3	151	53
1982	68	32	6½	5.5	145	75
1983	FC	FC	FC	FC	FC	FC
1984	59	41	6½	5.2	142	74
1985	66	34	6½	5.2	142	74
1986	65	35	6½	5.4	142	75
1987	77	23	6½	5.8	145	81
1988	64	36	6½	6.0	147	85
1989	66	32	6½	6.1	148	82
1990	46	54	6½	6.5	152	85
1991	55	45	6½	6.5	152	88
1992	44	56	6½	6.7	153	78
1993	57	43	6½	6.5	152	85
1994	FC	FC	FC	FC	FC	FC
1995	FC	FC	FC	FC	FC	FC
1996	49	51	6½	6.7	153	76
1997	51	49	6½	6.7	152	89
1998	44	56	6½	6.7	152	81
1999	69	31	6½	6.1	148	94
2000	50	50	6½	6.5	151	84
2001	47	53	6½	6.5	151	78
2002	56	44	6½	6.4	151	78
2003	53	47	6½	6.2	149	78
2004	42	58	6½	6.8	154	79

-continued-

Table 2-5.–Page 2 of 2.

Season	Percent		Size limit[b]	Average		% New
	Recruit	Postrecruit[a]		Weight[c]	Length[d]	shell
2005/06	38	62	6½	6.7	152	79
2006/07	60	40	6½	6.4	151	74
2007/08	48	52	6½	6.5	151	68
2008/09	48	52	6½	6.6	153	82
2009/10	64	36	6½	6.3	150	88
2010/11	71	29	6½	6.2	150	89

Note: NA = not available, FC = fishery closed. Individual Fishing Quota (IFQ) beginning in 2005/06 season.

[a] Legal sized old and new shell red king crab greater than 153 mm 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 2-6.–Bristol Bay red king crab cost-recovery harvest data, 1990–2010.

	Number of					Average	
Year	Landings	Crab[a]	Pots lifted	Harvest[a,b]	Deadloss[b]	Weight[b]	CPUE[c]
1990[d]	3	9,567	870	80,701	24,540	5.9	16
1991[d]	2	30,351	518	205,851	12,817	6.4	62
1992[d]	1	11,213	670	74,089	3,000	6.3	17
1993[d]	1	8,384	464	53,200	800	6.3	18
1994[d]	1	14,806	732	93,336	4,500	6.0	21
1995[d]	2	14,123	564	80,158	2,339	5.5	26
1996[d]	3	15,390	355	107,955	1,918	6.9	44
1997[d]	4	21,698	658	154,739	18,040	6.3	37
1998[d]	2	22,230	738	188,176	32,564	7.0	36
1999[e]	4	29,368	1,239	185,944	410	6.3	24
2000[d]	2	14,196	702	86,218	347	6.1	20
2001[e]	3	17,605	597	120,435	138	6.8	29
2002[e]	2	14,528	277	96,221	181	6.6	52
2003[d,f]	1	5,327	584	33,817	143	6.4	9
2004[e]	3	29,733	1,286	201,579	638	6.8	23
2005[e]	4	30,585	1,376	208,828	1,500	6.8	22
2006[e]	4	47,215	1,067	303,867	3,313	6.4	44
2007[e]	4	22,951	734	145,619	469	6.3	31
2008[g]	0	0	0	0	0	-	-
2009[e]	3	15,726	646	100,400	463	6.4	24
2010[e]	3	11,462	556	72,787	69	6.4	21

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crab per pot lift.

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

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

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

[g] No cost recovery effort.

Table 2-7.–Bristol Bay red king crab cost-recovery economic performance data, 1990–2010.

		Value		Charter length	
Year	Harvest[a,b]	Exvessel[c]	Total	Days	Dates
1990[d]	56,161	$5.10	$286,421	30	08/07-09/07
1991[d]	193,034	$3.75	$723,878	35	09/02-10/07
1992[d]	71,089	$5.24	$372,506	15	10/08-10/23
1993[d]	52,400	$6.57	$344,268	31	08/20-09/20
1994[d]	88,836	$5.21	$462,836	30	09/25-10/25
1995[d]	77,819	$6.65	$517,496	31	08/01-08/31
1996[d]	106,037	$4.53	$480,348	31	08/01-08/31
1997[d]	136,699	$3.55	$485,281	28	07/25-08/21
1998[d]	155,612	$3.25	$505,739	28	08/01-08/28
1999[g]	185,534	$6.18	$1,148,695	34	09/25-10/11,10/25-11/10
2000[d]	85,871	$5.82	$499,769	15	09/20-10/04
2001[e]	120,297	$5.18	$623,138	36	09/22-10/10, 10/23-11/08
2002[e]	96,040	$6.45	$619,761	27	09/23-10/09, 10/17-10/27
2003[d,f]	33,674	$5.56	$187,227	34	09/01-10/04
2004[e]	200,941	$4.98	$1,000,686	20	10/21-10/25, 10/23-10/31, 10/27-11/01
2005[e]	207,328	$5.07	$1,051,153	19	11/12-12/02
2006[e]	300,554	$2.15	$646,210	31	09/23-10/23
2007[e]	145,150	$4.02	$583,503	22	10/02-10/23
2008[g]	0	$0.00	$0	0	No cost recovery effort
2009[e]	99,937	$4.27	$426,731	18	09/25-10/12
2010[e]	72,718	$5.50	$399,949	25	09/27-10/20

[a] Sold weight (deadloss not included).

[b] In pounds.

[c] Average price per pound.

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

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

[f] Includes harvest from the Pribilof District.

[g] No cost recovery effort.

Table 2-8.–Pribilof District commercial red and blue king crab general/IFQ fishery data, 1973/74–2010/11.

		Number of						Number of pots		Average		
Season	Species	Vessels	Landings	Crab[a]	GHL/TAC[b]	Harvest[a,c]	Deadloss[c]	Registered	Pulled	Weight[c]	CPUE[d]	Length[e]
1973/74	Blue king crab	8	13	174,420	-	1,276,533	NA	NA	6,814	7.3	26	NA
1974/75	Blue king crab	70	101	908,072	-	7,107,294	NA	NA	45,518	7.8	20	157.8
1975/76	Blue king crab	20	54	314,931	-	2,433,714	NA	NA	16,297	7.7	19	159.1
1976/77	Blue king crab	47	113	855,505	-	6,611,084	NA	NA	71,738	7.7	12	158.1
1977/78	Blue king crab	34	104	807,092	-	6,456,738	159,269	NA	106,983	7.9	8	158.9
1978/79	Blue king crab	58	154	797,364	-	6,395,512	63,140	NA	101,117	8.1	8	159.3
1979/80	Blue king crab	46	115	815,557	-	5,995,231	284,555	NA	83,527	7.7	10	155.9
1980/81	Blue king crab	110	258	1,497,101	5.0-8.0	10,970,346	287,285	31,636	167,684	7.3	9	155.7
1981/82	Blue king crab	99	312	1,202,499	5.0-8.0	9,080,729	250,699	25,408	176,168	7.6	7	158.2
1982/83	Blue king crab	122	281	587,908	5.0-8.0	4,405,353	51,703	34,429	127,728	7.5	5	159.8
1983/84	Blue king crab	126	221	276,364	4.0	2,193,395	4,562	36,439	86,428	7.9	3	159.9
1984/85	Blue king crab	16	25	40,427	0.5-1.0	306,699	NA	3,122	15,147	7.6	3	155.5
1985/86	Blue king crab	26	49	76,945	0.3-0.8	528,164	7,500	6,038	23,062	6.9	3	146.5
1986/87	Blue king crab	16	25	36,988	0.3-0.8	258,939	5,450	4,376	15,740	7.0	2	NA
1987/88	Blue king crab	38	68	95,130	0.3-1.7	701,337	9,910	9,594	40,707	7.4	2	152.7
1988/89 - 1992/93		FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
1993	Red king crab	112	135	380,286	3.40	2,608,106	472	4,860	35,942	6.9	11	154.4
1994	Red king crab	104	121	167,520	2.0	1,338,953	2,929	4,675	28,976	8.0	6	162.1
1995	Red king crab	117	151	110,834	-	897,979	15,348	-	34,885	8.1	3	162.5
	Blue king crab	119	152	190,951	-	1,384,674	71,333	-	36,878	7.3	5	NA
	TOTAL	**127**	**162**	**301,785**	**2.5**	**2,282,653**	**86,681**	**5,400**	**37,643**	**NA**	**8**	**-**
1996	Red king crab	66	90	25,383	-	200,304	319	-	29,411	7.9	<1	161.0
	Blue king crab	66	92	127,712	-	937,032	14,997	-	30,607	7.3	4	153.1
	TOTAL	**66**	**92**	**153,095**	**1.8**	**1,137,336**	**15,316**	**2,730**	**30,607**	**7.4**	**5**	**-**

-continued-

Table 2-8.–Page 2 of 2.

Season	Species	Number of Vessels	Number of Landings	Number of Crab[a]	GHL/TAC[b]	Harvest[a,c]	Deadloss[c]	Number of pots Registered	Number of pots Pulled	Average Weight[c]	Average CPUE[d]	Average Length[e]
1997	Red king crab	53	110	90,641	-	756,818	18,807	-	28,458	8.4	3	164.3
	Blue king crab	51	105	68,603	-	512,374	16,747	-	27,652	7.5	3	163.6
	TOTAL	**53**	**110**	**159,244**	**1.5**	**1,269,192**	**35,554**	**2,230**	**30,400**	**8.0**	**5**	**-**
1998	Red king crab	57	84	68,129	-	510,365	8,703	-	23,381	7.5	3	158.8
	Blue king crab	57	83	68,419	-	516,306	21,599	-	22,965	7.5	3	156.1
	TOTAL	**57**	**84**	**136,548**	**1.3**	**1,026,671**	**30,302**	**2,398**	**23,381**	**7.5**	**6**	**-**
1999 - 2010/11		FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC

Note: NA = not available, FC = fishery closed. Individual Fishing Quota (IFQ) beginning in 2005/06 season.

[a] Deadloss included.

[b] Millions of pounds.

[c] In pounds.

[d] Number of legal crab per pot lift.

[e] Carapace length in millimeters.

Table 2-9.–Economic performance and season length summary for the Pribilof District commercial red and blue king crab fishery, 1980/81–2010/11.

			Value		Season length	
Season	Species	Harvest[a,b]	Exvessel[c]	Total[d]	Days	Dates
1980/81	Blue king crab	10,683,061	$0.90	$9.6	60	09/15-11/15
1981/82	Blue king crab	8,830,030	$1.50	$13.6	47	09/10-10/28
1982/83	Blue king crab	4,353,650	$3.05	$13.4	15	09/10-09/25
1983/84	Blue king crab	2,188,833	$3.00	$6.6	10	09/01-09/11
1984/85	Blue king crab	306,699	$2.50	$0.1	15	09/01-09/16
1985/86	Blue king crab	520,664	$2.90	$1.4	26	09/25-10/21
1986/87	Blue king crab	253,489	$4.05	$1.2	55	09/25-11/20
1987/88	Blue king crab	691,427	$4.00	$2.8	86	09/25-12/20
1988/89 - 1992/93		FC	FC	FC	FC	FC
1993	Red king crab	2,607,634	$4.98	$13.0	6	09/15-09/21
1994	Red king crab	1,336,024	$6.45	$8.6	6	09/15-09/21
1995	Red king crab	882,631	$3.37	$2.9	-	-
	Blue king crab	1,313,341	$2.92	$3.9	-	-
	TOTAL	**2,195,972**	**-**	**$6.8**	**7**	**09/15-09/22**
1996	Red king crab	199,985	$2.76	$0.6	-	-
	Blue king crab	922,035	$2.65	$2.4	-	-
	TOTAL	**1,122,020**	**-**	**$3.0**	**11**	**09/15-09/26**
1997	Red king crab	738,011	$3.09	$2.3	-	-
	Blue king crab	495,627	$2.82	$1.4	-	-
	TOTAL	**1,233,638 0**	**-**	**$3.7**	**14**	**09/15-09/29**
1998	Red king crab	501,662	$2.39	$1.2	-	-
	Blue king crab	494,707	$2.34	$1.2	-	-
	TOTAL	**996,369 0**	**-**	**$2.4**	**13**	**09/15-09/28**
1999 - 2010/11	FC	FC	FC	FC	FC	FC

Note: FC = fishery closed. Individual Fishing Quota (IFQ) beginning in 2005/06 season.

[a] Sold weight (deadloss not included).

[b] In pounds.

[c] Average price per pound.

[d] Millions of dollars.

Table 2-10.–Saint Matthew Island Section commercial blue king crab general/IFQ fishery data, 1977–2010/11.

	Number of						Number of pots		Average			Percent
Season	Vessels	Landings	Crab[a]	GHL/TAC[b]	Harvest[a,c]	Deadloss[c]	Registered	Pulled	Weight[c]	CPUE[d]	Length[e]	Recruits
1977	10	24	281,665	-	1,202,066	129,148	NA	17,370	4.3	16	130.4	7
1978	22	70	436,126	-	1,984,251	116,037	NA	43,754	4.5	10	132.2	NA
1979	18	25	52,966	-	210,819	128.8	NA	9,877	4.0	5	128.8	81
1980	2	CF	CF	-	CF	CF	CF	CF	CF	CF	CF	CF
1981	31	119	1,045,619	-	4,627,761	53,355	NA	58,550	4.4	18	NA	NA
1982	96	269	1,935,886	-	8,844,789	142,973	NA	165,618	4.6	12	135.1	20
1983	164	235	1,931,990	8.0	9,454,323	828,994	38,000	133,944	4.8	14	137.2	27
1984	90	169	841,017	2.0-4.0	3,764,592	31,983	14,800	73,320	4.5	11	135.5	34
1985	79	103	441,479	0.9-1.9	2,200,781	2,613	13,000	47,748	5.0	9	139.0	9
1986	38	43	219,548	0.2-0.5	1,003,162	32,560	5,600	22,073	4.6	10	134.3	10
1987	61	62	227,447	0.6-1.3	1,039,779	600	9,370	28,230	4.6	8	134.1	5
1988	46	46	302,098	0.7-1.5	1,325,185	10,160	7,780	23,058	4.4	30	133.3	65
1989	69	69	247,641	1.7	1,166,258	3,754	11,983	30,803	4.7	8	134.6	9
1990	31	38	391,405	1.9	1,725,349	17,416	6,000	26,264	4.4	15	134.3	4
1991	68	69	726,519	3.2	3,372,066	216,459	13,100	37,104	4.6	20	134.1	12
1992	174	179	545,222	3.1	2,475,916	1,836	17,400	56,630	4.6	10	134.1	9
1993	92	136	630,353	4.4	3,003,089	3,168	5,895	58,647	4.8	11	135.4	6
1994	87	133	827,015	3.0	3,764,262	46,699	5,685	60,860	4.6	14	133.3	60
1995	90	111	666,905	2.4	3,166,093	90,191	5,970	48,560	4.8	14	135.0	45
1996	122	189	660,665	4.3	3,078,959	36,892	8,010	91,085	4.7	7	134.6	47
1997	117	166	939,822	5.0	4,649,660	209,490	7,650	81,117	4.9	12	139.5	31
1998	131	255	612,440	4.0	2,869,655	15,107	8,561	89,500	4.7	7	135.8	46
1999 - 2008/09	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
2009/10	7	30	103,376	1.1	460,859	10,484	1,022	10,697	4.5	10	130.0	59
2010/11	11	63	261,502	1.4	1,107,668	9,253	1,615	25,301	4.2	10	129.3	61

Note: NA = not available, CF = confidential, FC = fishery closed. Individual Fishing Quota (IFQ) beginning in 2005/06 season.

[a] Deadloss included.

[b] Millions of pounds.

[c] In pounds.

[d] Number of legal crab per pot lift.

[e] Carapace length in millimeters.

Table 2-11.–Economic performance and season length summary for the Saint Matthew Island Section commercial blue king crab fishery, 1977–2010/11.

		Value		Season Length	
Season	Harvest[a,b]	Exvessel[c]	Total[d]	Days	Dates
1977	1,072,918	$1.00	$1.10	70	06/07-08/16
1978	1,868,214	$0.95	$1.80	50	07/15-09/03
1979	210,690	$0.70	$0.10	40	07/15-08/24
1980	CF	CF	CF	50	07/15-09/03
1981	4,574,406	$0.90	$4.10	37	07/15-08/21
1982	8,701,816	$2.00	$17.40	15	08/01-08/16
1983[e,f]	8,625,329	$3.00	$25.8	17	08/20-08/06
1984	3,732,609	$1.75	$6.5	7	08/01-09/08
1985	2,198,168	$1.60	$3.8	5	09/01-09/06
1986	970,602	$3.20	$3.2	5	09/01-09/06
1987	1,039,179	$2.85	$3.1	4	09/01-09/05
1988	1,315,025	$3.10	$4.0	4	09/01-09/05
1989	1,162,504	$2.90	$3.5	2.5	09/01-09/04
1990	1,707,933	$3.35	$5.7	6	09/01-09/07
1991	3,155,607	$2.80	$9.0	4	09/16-09/20
1992	2,474,080	$3.00	$7.4	2.5	09/04-09/07
1993	2,999,921	$3.23	$9.7	6	09/15-09/21
1994	3,717,563	$4.00	$15.0	7	09/15-09/22
1995	3,075,902	$2.32	$7.1	5	09/15-09/22
1996	3,042,067	$2.20	$6.7	8	09/15-09/16
1997	4,440,170	$2.21	$9.8	7	09/15-09/22
1998	2,854,548	$1.87	$5.3	11	09/15-09/26
1999 - 2008/09	FC	FC	FC	FC	FC
2009/10	450,375	$2.19	$1.0	110	10/15-02/01
2010/11	1,098,415	$4.11	$4.5	110	10/15-02/01

Note: CF = confidential, FC = fishery closed. Individual Fishing Quota (IFQ) beginning in 2005/06 season.

[a] Sold weight (deadloss not included).

[b] In pounds.

[a] Average price per pound.

[b] Millions of dollars.

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

[d] Saint Lawrence Island harvest included.

Table 2-12.–Saint Matthew Island Section commercial blue king crab IFQ fishery catch by statistical area, 2010/11.

Statistical	Number of					Average	
Area	Landings	Crab[a]	Pots lifted	Harvest[a,b]	Deadloss[b]	Weight[b]	CPUE[c]
725930	39	66,887	6,911	285,945	1,637	4.3	10
726001	25	19,795	2,680	85,352	427	4.3	7
735930	48	127,169	10,925	548,416	6,206	4.3	12
736001	23	23,021	2,608	96,049	583	4.2	9
736031	7	22,285	2,126	91,202	400	4.1	11
Other[d]	-	164	51	704	0	4.2	5
Total	63[e]	261,502	25,301	1,107,668	9,253	4.2	10

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crab per pot lift.

[d] Combination of three 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 2-13.–Pribilof District golden king crab fishery harvest data, 1981/82–2010 seasons.

	Number of							Average		
Season	Vessels	Landings	Crab[a]	Pots pulled	GHL[b]	Harvest[a,c]	Deadloss[c]	Weight[c]	CPUE[d]	Length[e]
1981/82	2	CF	CF	CF	-	CF	CF	CF	CF	CF
1982/83	10	19	15,330	5,252	-	69,970	570	4.6	3	151
1983/84	50	115	253,162	26,035	-	856,475	20,041	3.4	10	127
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	0	3.8	1	NA
1994	3	5	21,477	1,845	-	88,985	730	4.1	12	NA
1995	7	22	82,489	9,551	-	341,908	716	4.1	9	NA
1996	6	32	91,947	9,952	-	329,009	3,570	3.6	9	NA
1997	7	23	43,305	4,673	-	179,249	5,554	4.1	9	NA
1998	3	9	9,205	1,530	-	35,722	474	3.9	6	NA
1999	3	9	44,098	2,995	0.20	177,108	319	4.0	15	NA
2000	7	19	29,145	5,450	0.15	127,217	4,599	4.4	5	NA
2001	6	14	33,723	4,262	0.15	145,876	8,227	4.3	8	143
2002	8	20	34,860	5,279	0.15	150,434	8,984	4.3	6	144
2003	3	CF	CF	CF	0.15	CF	CF	CF	CF	CF
2004	5	CF	CF	CF	0.15	CF	CF	CF	CF	CF
2005	4	CF	CF	CF	0.15	CF	CF	CF	CF	CF
2006-2009	0	0	0	0	0.15	0	0	0	0	0
2010	1	CF	CF	CF	0.15	CF	CF	CF	CF	CF

Note: CF = confidential.

[a] Deadloss included.

[b] Guideline harvest level in pounds.

[c] In pounds.

[d] Number of legal crab per pot lift.

[e] Carapace length in millimeters.

Table 2-14.–Pribilof District golden king crab fishery economic data, 1991–2010 seasons.

		Value		Season length	
Season	Harvest[a,b]	Exvessel[c]	Total[d]	Days	Dates
1991	0	$0.00	$0.00	365	01/01-12/31
1992	0	$0.00	$0.00	365	01/01-12/31
1993	67458	$2.42	$0.16	365	01/01-12/31
1994	88255	$3.99	$0.36	365	01/01-12/31
1995	341192	$3.23	$1.10	365	01/01-12/31
1996	325439	$2.10	$0.69	365	01/01-12/31
1997	173695	$2.23	$0.39	365	01/01-12/31
1998	35248	$2.06	$0.07	365	01/01-12/31
1999	176789	$2.34	$0.40	162	01/01-06/10
2000	122618	$3.22	$0.39	365	01/01-12/31
2001	137649	$3.12	$0.43	105	01/01-04/15
2002	141450	$3.10	$0.44	134	01/01-05/14
2003	CF	CF	CF	121	01/01-05/01
2004	CF	CF	CF	72	01/01-03/12
2005	CF	CF	CF	365	01/01-12/31
2006-2009	0	$0.00	$0.00	365	01/01-12/31
2010	CF	CF	CF	365	01/01-12/31

Note: CF = confidential. No vessel effort in 2006-2009.

[a] Sold weight (deadloss not included).

[b] In pounds.

[c] Average price per pound.

[d] Millions of dollars.

Table 2-15.–Saint Matthew Island Section commercial golden king crab fishery harvest and economic data, 1982/83–2010 seasons.

	Number of						Average			Value	
Season	Vessels	Landings	Crab[a]	Pots pulled	Harvest[a,b]	Deadloss[b]	Weight[b]	CPUE[c]	Length[d]	Exvessel[e]	Total
1982/83	22	30	51,714	7,825	193,507	957	3.7	7	138	$2.00	$385,100
1983/84	0	0	0	0	0	0	0	0	0	$0.00	$0
1985	0	0	0	0	0	0	0	0	0	$0.00	$0
1986	0	0	0	0	0	0	0	0	0	$0.00	$0
1987	10	28	99,101	13,825	414,034	12,750	4.2	7	142	$2.60	$1,043,338
1988	10	22	36,470	11,672	160,441	14,000	4.4	3	150	$3.10	$453,967
1989	2	CF	CF	CF	CF	CF	CF	CF	CF	CF	CF
1990	0	0	0	0	0	0	0	0	0	$0.00	$0
1991	0	0	0	0	0	0	0	0	0	$0.00	$0
1992	1	CF	CF	CF	CF	CF	CF	CF	CF	CF	CF
1993	0	0	0	0	0	0	0	0	0	$0.00	$0
1994	1	CF	CF	CF	CF	CF	CF	CF	CF	CF	CF
1995	5	5	212	313	992	0	4.7	1	NA	$2.77	$2,748
1996	1	CF	CF	CF	CF	CF	CF	CF	CF	CF	CF
1997-2000	0	0	0	0	0	0	0	0	0	$0.00	$0
2001	1	CF	CF	CF	CF	CF	CF	CF	CF	CF	CF
2002	0	0	0	0	0	0	0	0	0	$0.00	$0
2003	1	CF	CF	CF	CF	CF	CF	CF	CF	CF	CF
2004-2010	0	0	0	0	0	0	0	0	0	$0.00	$0

Note: CF = confidential.

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crab per pot lift.

[d] Carapace length in millimeters.

[e] Average price per pound.

Table 2-16.–King crab Registration Area Q commercial scarlet king crab fishery data, 1992–2010.

	Number of					Average		Value	
Season	Vessels	Pots pulled	Crab[a]	Harvest[a,b]	Deadloss[b]	Weight[b]	CPUE[c]	Exvessel[d]	Total[e]
1992-1994	0	0	0	0	0	0	0	$0.00	$0.00
1995	4	24,551	11,048	26,684	465	2.4	1	$2.45	$0.06
1996	2	CF	CF	CF	CF	CF	CF	CF	CF
1997- 1999	0	0	0	0	0	0	0	$0.00	$0.00
2000[f]	1	CF	CF	CF	CF	CF	CF	CF	CF
2001[f]	1	CF	CF	CF	CF	CF	CF	CF	CF
2002	0	0	0	0	0	0	0	$0.00	$0.00
2003[f]	1	CF	CF	CF	CF	CF	CF	CF	CF
2004[f]	3	CF	CF	CF	CF	CF	CF	CF	CF
2005[f]	1	CF	CF	CF	CF	CF	CF	CF	CF
2006-2010	0	0	0	0	0	0	0	$0.00	$0.00

Note: CF = confidential.

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crab per pot lift.

[d] Average price per pound.

[e] Thousands of dollars.

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

Table 2-17.–Bering Sea District commercial Tanner crab general/IFQ fishery harvest data, 1969–2010/11.

	Number of						Number of Pots		
Season	Vessels	Landings	Crab[a]	GHL/TAC[b]	Harvest[a,c]	Deadloss[c]	Registered	Pulled	CPUE[d]
1969	NA	131	353,300	-	1,008,900	NA	NA	29,800	12
1970	NA	66	482,300	-	1,014,700	NA	NA	16,400	29
1971	NA	22	61,300	-	166,100	NA	NA	7,300	8
1972	NA	14	42,061	-	107,761	NA	NA	4,260	10
1973	NA	44	93,595	-	231,668	NA	NA	15,730	6
1974	NA	69	2,531,825	-	5,044,197	NA	NA	22,014	115
1974/75	28	80	2,773,770	-	7,028,378	NA	NA	38,462	72
1975/76	66	304	8,956,036	-	22,358,107	NA	NA	141,206	63
1976/77	83	541	20,251,508	-	51,455,221	NA	NA	297,471	68
1977/78	120	861	26,350,688	-	66,648,954	218,099	NA	516,350	51
1978/79	144	817	16,726,518	-	42,547,174	76,000	NA	402,697	42
1979/80	152	804	14,685,611	28-36	36,614,315	56,446	40,273	488,434	30
1981	165	761	11,845,958	28-36	29,630,492	101,594	42,910	559,626	21
1982	125	791	4,830,980	12-16	11,008,779	138,159	36,396	490,099	10
1983	108	448	2,286,756	5.6	5,273,881	60,029	15,255	282,006	8
1984	41	134	516,877	7.1	1,208,223	5,025	9,851	61,357	8
1985	44	166	1,272,501	3	3,036,935	14,096	15,325	94,532	12
1986	FC	FC	FC	FC	FC	FC	FC	FC	FC
1987	FC	FC	FC	FC	FC	FC	FC	FC	FC
1988	98	248	957,318	5.6	2,294,997	10,724	38,765	114,384	8
1989	109	359	2,894,480	13.5	6,982,865	34,664	43,607	183,692	16
1990	179	1,032	9,800,763	29.5	22,417,047	82,443	46,440	657,541	15
1990/91	255	1,756	16,608,625	42.8	40,081,555	210,769	75,356	883,391	19
1991/92	285	2,339	12,924,102	32.8	31,794,382	279,741	85,401	1,244,899	10

-continued-

Table 2-17.–Page 2 of 2.

Season	Number of Vessels	Number of Landings	Number of Crab[a]	GHL/TAC[b]	Harvest[a,c]	Deadloss[c]	Number of Pots Registered	Number of Pots Pulled	CPUE[d]
1992/93	294	2,084	15,265,865	39.2	35,130,831	343,955	71,481	1,200,385	13
1993/94	296	862	7,235,898	9.1	16,892,320	259,389	116,039	576,464	13
1994	183	349	3,351,639	7.5	7,766,886	132,780	38,670	249,536	13
1995	196	256	1,877,303	5.5	4,233,061	44,508	40,827	247,853	8
1996[e]	196	347	734,296	6.2	1,806,077	14,608	68,602	149,275	5
1997 - 2004	FC	FC	FC	FC	FC	FC	FC	FC	FC
2005/06[f]	43	77	368,292	1.5	791,315	14,563	545	29,693	12
2006/07[e,f]	52	122	829,242	2.7	1,900,183	27,449	4,140	49,192	17
2007/08[e,f]	41	109	838,683	5.1	1,906,711	19,796	3,102	49,901	17
2008/09[e,f]	46	134	712,107	3.9	1,662,884	15,231	3,561	60,358	12
2009/10[e,g]	40	100	435,576	1.2	1,192,948	10,496	1,771	38,126	11
2010/11[h]	49	92	1,690	FC	2,545	2,545	FC	39,332	<1

Note: NA = not available, FC = fishery closed. Individual Fishing Quota (IFQ) fishery beginning in 2005/06 season.

[a] Deadloss included.

[b] Millions of pounds.

[c] In pounds.

[d] Number of legal crab per pot lift.

[e] Includes incidental harvest during Bristol Bay red king crab and directed Tanner crab fishery.

[f] Includes incidental harvest during Bering Sea snow crab and directed Tanner crab fishery.

[g] Includes deadloss from Bering Sea snow crab only; directed Tanner crab fishery west of 166° W long closed.

[h] Directed fishery closed both east and west of 166° W long. Deadloss from Bering Sea snow crab fishery only shown.

Table 2-18.–Bering Sea District commercial Tanner crab general/IFQ fishery catch by subdistrict, 1974/75–2010/11.

		Number of						Pots		Average	
Season	Location[a]	Vessels	Landings	Crab[b]	GHL/TAC	Harvest[b,c]	Deadloss[c]	Registered	Pulled	Weight[c]	CPUE[d]
1968	-	NA	7	6,400	-	17,900	NA	NA	1,400	2.8	12
1969	-	NA	131	353,300	-	1,008,900	NA	NA	29,800	2.9	12
1970	-	NA	66	482,300	-	1,014,700	NA	NA	16,400	2.9	29
1971	-	NA	22	61,300	-	166,100	NA	NA	7,300	2.7	8
1972	-	NA	14	42,061	-	107,761	NA	NA	4,260	2.6	10
1973	-	NA	44	93,595	-	231,668	NA	NA	15,730	2.5	6
1974	-	NA	69	2,531,825	-	5,044,197	NA	NA	22,014	2.0	115
1974/75	Southeastern	NA	72	2,526,687	-	6,504,984	0	NA	32,275	2.6	78
	Pribilofs	NA	8	247,083	-	523,394	0	NA	3,923	2.1	63
	TOTAL	**28**	**80**	**2,773,770**	**-**	**7,028,378**	**0**	**NA**	**38,462**	**2.5**	**72**
1975/76	Southeastern	NA	230	6,682,232	-	16,643,194	0	NA	106,445	2.5	63
	Pribilofs	NA	74	2,273,804	-	5,714,913	0	NA	34,761	2.5	65
	TOTAL	**66**	**304**	**8,956,036**	**-**	**22,358,107**	**0**	**NA**	**141,206**	**2.5**	**63**
1976/77	Southeastern	NA	437	16,089,057	-	41,007,736	0	NA	233,667	2.6	69
	Pribilofs	NA	104	4,162,451	-	10,447,485	0	NA	63,804	2.5	65
	TOTAL	**83**	**541**	**20,251,508**	**-**	**51,455,221**	**0**	**NA**	**297,471**	**2.5**	**68**
1977/78	Southeastern	NA	706	21,055,527	-	53,278,012	0	NA	408,437	2.5	52
	Pribilofs	NA	155	5,210,170	-	13,152,843	0	NA	107,913	2.5	48
	TOTAL	**120**	**861**	**26,350,688**	**-**	**66,648,954**	**218,099**	**NA**	**516,350**	**2.5**	**51**
1978/79	Southeastern	NA	758	15,601,891	-	39,694,205	75,400	NA	356,594	2.5	44
	Pribilofs	NA	59	1,124,627	-	2,852,969	600	NA	46,103	2.5	24
	TOTAL	**144**	**817**	**16,726,518**	**-**	**42,547,174**	**76,000**	**NA**	**402,697**	**2.5**	**42**

-continued-

Table 2-18.–Page 2 of 4.

Season	Location[a]	Number of Vessels	Number of Landings	Number of Crab[b]	GHL/TAC	Harvest[b,c]	Deadloss[c]	Pots Registered	Pots Pulled	Average Weight[c]	Average CPUE[d]
1979/80	Southeastern	NA	789	14,329,889	-	35,724,003	56,446	-	476,410	2.5	30
	Pribilofs	NA	15	355,722	-	890,312	0	-	12,024	2.5	30
	TOTAL	**152**	**804**	**14,685,611**	**28-36**	**36,614,315**	**56,446**	**40,273**	**488,434**	**2.5**	**30**
1980/81	Southeastern	NA	674	10,532,007	-	26,684,956	97,398	-	496,751	2.5	21
	Pribilofs	NA	87	1,313,951	-	2,945,536	4,196	-	62,875	2.5	21
	TOTAL	**165**	**761**	**11,845,958**	**28-36**	**29,630,492**	**101,594**	**42,910**	**559,626**	**2.5**	**21**
1981/82	Southeastern	NA	539	3,825,433	-	8,812,302	69,829	-	322,634	2.3	12
	Pribilofs	NA	252	1,005,547	-	2,196,477	68,330	-	167,465	2.2	6
	TOTAL	**125**	**791**	**4,830,980**	**12-16**	**11,008,779**	**138,159**	**36,396**	**490,099**	**2.3**	**10**
1982/83	Northern	NA	10	29,478	-	48,454	167	-	5,950	1.7	5
	Southeastern	NA	287	1,984,673	-	4,633,354	52,879	-	192,538	2.3	10
	Pribilofs	NA	151	272,505	-	592,073	6,983	-	83,528	2.2	3
	TOTAL	**108**	**448**	**2,286,756**	**5.6**	**5,273,881**	**60,029**	**15,255**	**282,006**	**2.3**	**8**
1983/84	Southeastern	NA	91	470,181	-	1,099,142	4,688	-	44,546	2.3	11
	Pribilofs	NA	43	46,759	-	109,081	337	-	16,811	2.3	3
	TOTAL	**41**	**134**	**516,877**	**7.1**	**1,208,223**	**5,025**	**9,851**	**61,357**	**2.3**	**8**
1985	Southeastern	38	143	1,266,567	-	3,023,193	14,096	-	85,926	2.4	13
	Pribilofs	15	23	5,934	-	13,742	0	-	8,606	2.3	1
	TOTAL	**44**	**166**	**1,272,501**	**3.0**	**3,036,935**	**14,096**	**15,325**	**94,532**	**2.4**	**12**
1986 - 1987		FC	FC	FC	FC	FC	FC	FC	FC	FC	FC

-continued-

Table 2-18.–Page 3 of 4.

Season	Location[a]	Number of Vessels	Number of Landings	Number of Crab[b]	GHL/TAC	Harvest[b,c]	Deadloss[c]	Pots Registered	Pots Pulled	Average Weight[c]	Average CPUE[d]
1988	Eastern subdistrict	98	248	957,318	-	2,294,997	10,724	-	114,384	2.5	8
	Western subdistrict	0	0	0	-	0	0	-	0	0	0
	TOTAL	**98**	**248**	**957,318**	**5.6**	**2,294,997**	**10,724**	**38,765**	**114,384**	**2.5**	**8**
1989	Eastern subdistrict	109	359	2,894,480	-	6,982,865	34,664	-	183,692	2.4	16
	Western subdistrict	0	0	0	-	0	0	-	0	0	0
	TOTAL	**109**	**359**	**2,894,480**	**13.5**	**6,982,865**	**34,664**	**43,607**	**183,692**	**2.4**	**16**
1990	Eastern subdistrict	179	1,105	9,781,262	-	22,399,091	82,443	-	647,993	2.3	15
	Western subdistrict	15	17	7,975	-	17,956	0	-	9,548	2.3	1
	TOTAL	**179**	**1,032**	**9,789,103**	**29.5**	**22,417,047**	**82,443**	**46,440**	**657,541**	**2.3**	**15**
1990/91	Eastern subdistrict	255	1,756	16,608,625	42.8	40,081,555	210,769	-	883,391	2.4	19
	Western subdistrict	0	0	0		0	0	-	0	0	0
	TOTAL	**255**	**1,756**	**16,608,625**	**42.8**	**40,081,555**	**210,769**	**75,356**	**883,391**	**2.4**	**19**
1991/92	Eastern subdistrict	285	2,339	12,924,102	32.8	31,794,382	279,741	85,401	1,224,899	2.5	10
1992/93	Eastern subdistrict	293	2,011	15,074,069	-	34,821,008	340,955	-	1,150,334	2.3	13
	Western subdistrict	70	96	191,796	-	309,823	3,000	-	50,051	1.6	4
	TOTAL	**294**	**2,084**	**15,265,865**	**39.2**	**35,130,831**	**343,955**	**71,481**	**1,200,385**	**2.3**	**13**
1993/94	East of 168° W[e]	283	347	1,696,830	10.7	4,115,949	104,715	-	250,501	2.4	7
	163° W to 173° W	261	515	5,539,068	9.1	12,776,371	154,674	-	325,963	2.3	17
	TOTAL	**296**	**862**	**7,235,898**	**19.8**	**16,892,320**	**259,389**	**116,039**	**576,464**	**2.3**	**13**
1994/95	163° W to 173° W	183	349	3,351,639	7.5	7,766,886	132,780	38,670	249,536	2.3	13
1995/96	163° W to 173° W	196	256	1,877,303	5.5	4,233,061	44,508	40,827	247,853	2.3	8
1996/97	East of 168° W[e]	192	195	393,257	2.2	994,776	8,464	38,300	75,753	2.5	5
	163° W to 173° W	135	152	341,039	6.2	811,301	6,144	59,910	73,522	2.4	5
	TOTAL	**196**	**347**	**734,296**	**8.4**	**1,806,077**	**14,608**	**68,602**	**149,275**	**2.5**	**5**

-continued-

Table 2-18.–Page 4 of 4.

Season	Location[a]	Number of Vessels	Number of Landings	Number of Crab[b]	GHL/TAC	Harvest[b,c]	Deadloss[c]	Pots Registered	Pots Pulled	Average Weight[c]	Average CPUE[d]
1997 - 2004		FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
2005/06	West of 166° W	43	77	368,292	1.5	791,315	14,563	545	29,693	2.2	12
2006/07	East of 166° W	37	58	529,766	1.7	1,266,286	8,416	-	26,351	2.4	20
	West of 166° W	38	64	299,476	1.0	633,897	19,033	-	22,841	2.1	13
	TOTAL	**52**	**122**	**829,242**	**2.7**	**1,900,183**	**27,449**	**3,178**	**49,192**	**2.3**	**17**
2007/08	East of 166° W	20	58	623,508	3.1	1,439,435	15,633	-	30,691	2.3	20
	West of 166° W	31	51	215,175	2.0	467,276	4,163	-	19,210	2.2	11
	TOTAL	**41**	**109**	**838,683**	**5.1**	**1,906,711**	**19,796**	**4,125**	**49,901**	**2.3**	**17**
2008/09	East of 166° W	21	60	660,962	2.8	1,553,773	11,935	1,852	33,827	2.4	20
	West of 166° W	39	74	51,145	1.4	109,111	3,296	2,121	26,531	2.1	2
	TOTAL	**46**	**134**	**712,107**	**3.9**	**1,662,884**	**15,231**	**3,561**	**60,358**	**2.3**	**12**
2009/10	East of 166° W	17	46	433,319	1.2	1,189,574	7,122	1,771	15,467	2.8	28
	West of 166° W[f]	29	54	2,257	FC	3,374	3,374	FC	22,659	1.5	<1
	TOTAL	**40**	**100**	**435,576**	**1.2**	**1,192,948**	**10,496**	**1,771**	**38,126**	**2.7**	**11**
2010/11	East of 166° W[e]	1	1	1	FC	1	1	FC	218	1.0	<1
	West of 166° W[f]	49	91	1,689	FC	2,544	2,544	FC	39,114	1.5	<1
	TOTAL	**49**	**92**	**1,690**	**FC**	**2,545**	**2,545**	**FC**	**39,332**	**1.5**	**<1**

Note: FC = fishery closed, CF = confidential. Individual Fishing Quota (IFQ) beginning in 2005/06 season.

[a] From 1974/75 through 1985, Bering Sea Tanner crab subdistricts were: Southeastern, Pribilof, and Northern (includes the Norton Sound and General Sections). From 1988 through 1992/93 harvest subdistricts were divided east and west of 173° W long. From 1993/94 through 1996/97 fishery east of 168° W long is incidental to the Bristol Bay red king crab fishery and the fishery from 163° W long to 173° W long is the directed Tanner crab fishery, from 2005/06 to current the fishery is divided east and west of 166° W long.

[b] Deadloss included.

[c] In pounds.

[d] Number of legal crab per pot lift.

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

[f] Incidental Tanner crab harvest in Bering Sea snow crab fishery.

Table 2-19.–Bering Sea District commercial Tanner crab general/IFQ fishery economic data, 1979/80–2010/11.

		Value		Season length	
Season	Harvest[a]	Exvessel[b]	Total[c]	Days	Dates
1979/80	36,557,869	$0.52	$19.0	189	11/01-05/11
1981	29,528,898	$0.58	$17.2	88	01/15-04/15
1982	10,870,620	$1.06	$11.5	118	02/15-06/15
1983	5,213,852	$1.20	$6.2	118	02/15-06/15
1984	1,203,198	$0.95	$1.1	118	02/15-06/15
1985	3,022,839	$1.40	$4.3	149	01/15-06/15
1986 - 1987	FC	FC	FC	FC	FC
1988	2,284,273	$2.17	$4.8	93	01/15-04/20
1989	6,948,201	$2.90	$20.3	110	01/15-05/07
1990[d]	22,334,604	$1.85	$45.3	89	01/15-04/24
1990/91	39,870,786	$1.12	$44.5	126	11/20-03/25
1991/92	31,514,641	$1.50	$47.3	137	11/15-03/31
1992/93	34,786,876	$1.69	$58.8	137	11/15-03/31
1993[e]	N/A	$1.90	$7.6	10	11/01-11/10
1993/94[f]	16,632,931	$1.90	$24.0	42	11/20-01/01
1994[f]	N/A	$3.75	$28.5	20	11/01-11/21
1995[f]	7,634,106	$2.80	$11.7	15	11/01-11/16
1996[e]	4,188,553	$2.51	$2.5	4	11/01-11/05
1996[f]	1,791,469	$2.48	$2.0	12	11/15-11/27
1997 - 2004	FC	FC	FC	FC	FC
2005/06	776,752	$1.28	$0.9	168	10/15-03/31
2006/07	1,872,734	$1.29	$2.4	168	10/15-03/31
2007/08	1,886,915	$1.68	$3.2	168	10/15-03/31
2008/09	1,647,653	$1.49	$2.5	168	10/15-03/31
2009/10[g]	1,182,452	$1.64	$1.9	168	10/15-03/31
2010/11	FC	FC	FC	FC	FC

Note: FC = fishery closed. Individual Fishing Quota (IFQ) beginning in 2005/06 season.

[a] Sold weight (deadloss not included).

[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).

[g] 163°–166° W only; directed Tanner crab fishery west of 166° W closed.

Table 2-20.–Bering Sea District commercial Tanner crab IFQ fishery harvest by statistical area, 2010/11 season.

	Number of					Average	
Statistical area	Landings	Crab[a]	Pots lifted	Harvest[a,b]	Deadloss[b]	Weight[b]	CPUE[c]
Eastern Subdistrict	CF	CF	CF	CF	CF	CF	CF
Western Subdistrict							
675530	7	68	1,381	103	103	1.51	< 1
675600	15	218	3,198	324	324	1.49	< 1
685600	23	477	4,571	729	729	1.53	< 1
685630	11	236	796	354	354	1.50	< 1
715630	26	178	6,040	277	277	1.55	< 1
715700	7	31	1,035	44	44	1.42	< 1
725630	34	165	7,504	242	242	1.47	< 1
725700	23	91	5,269	132	132	1.45	< 1
725730	10	76	2,506	111	111	1.46	< 1
735630	8	18	902	24	24	1.33	< 1
735700	12	44	2,358	72	72	1.64	< 1
735730	13	72	2,185	112	112	1.56	< 1
Other[d]	15	15	1,369	20	20	1.15	< 1
Total	85[e]	1,651	36,529	2,486	2,486	1.51	<1

Note: Directed fishery closed, includes only deadloss incidentally harvested.

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crab per pot lift.

[d] Combination of ten statistical areas where less than three vessels made landings.

[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 2-21.–Bering Sea District commercial Tanner crab general/IFQ fishery harvest composition by fishing season, 1972–2010/11.

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	99.8
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	89.0
1982	2.3	149	91.8
1983[d]	2.3	149	70.6
1984	2.3	147	40.5
1985	2.4	150	64.9
1986	FC	FC	FC
1987	FC	FC	FC
1988	2.5	144	89.0
1989	2.4	149	79.3
1990	2.3	148	96.5
1990/91	2.4	150	95.3
1991/92	2.5	150	93.0
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	2.2	145	92.1
2006/07	2.3	150	35.8
2007/08	2.3	148	62.8
2008/09	2.3	149	90.1
2009/10[e]	2.8	157	98.0
2010/11	FC	FC	FC

Note: NA = not available, FC = fishery closed. Individual Fishing Quota (IFQ) beginning in 2005/06 season.

[a] In pounds.

[b] Carapace width in millimeters.

[c] Incidental to the king crab fishery.

[d] Partial Bering Sea closure.

[e] 163° W–166° W only; directed Tanner crab fishery west of 166° W closed.

Table 2-22.–Bering Sea District commercial snow crab general/IFQ harvest by season and subdistrict, 1977/78–2010/11.

Season	Subdistrict	Number of			GHL/TAC[g]	Harvest[b,c]	Deadloss[c]	Pots		Average	
		Vessels	Landings[a]	Crab[b]				Registered	Pulled	Weight[c]	CPUE[d]
1977/78	Southeastern	NA	33	1,063,872	-	1,439,959	NA	NA	11,560	1.4	92
	Pribilof	NA	5	203,674	-	276,165	NA	NA	1,687	1.4	121
	TOTAL	**15**	**38**	**1,267,546**	**-**	**1,716,124**	**NA**	**NA**	**13,247**	**1.4**	**96**
1978/79	Southeastern	101	476	21,279,794	-	31,102,832	659,137	NA	184,491	1.5	115
	Pribilof	10	14	838,704	-	1,084,039	100,000	NA	6,225	1.5	135
	TOTAL	**102**	**490**	**22,118,498**	**-**	**32,187,039**	**759,137**	**NA**	**190,746**	**1.5**	**116**
1979/80	Southeastern	133	561	23,199,446	-	36,406,391	187,945	-	237,375	1.6	98
	Pribilof	19	36	2,087,331	-	3,166,777	40,400	-	17,727	1.5	118
	TOTAL	**134**	**597**	**25,286,777**	**-**	**39,572,668**	**228,345**	**35,503**	**255,102**	**1.6**	**99**
1981	Southeastern	NA	624	24,498,642	-	37,866,229	1,475,078	-	309,304	1.6	79
	Pribilof	NA	243	9,916,617	-	14,886,705	794,901	-	126,438	1.5	78
	TOTAL	**153**	**867**	**34,415,322**	**39.5-91.0**	**52,750,034**	**2,269,979**	**39,789**	**435,742**	**1.5**	**79**
1982	Southeastern	NA	468	10,207,174	-	13,079,583	422,979	-	257,193	1.3	40
	Pribilof	NA	335	13,882,388	-	16,276,421	669,676	-	211,898	1.2	66
	TOTAL	**122**	**803**	**24,089,562**	**16.0-22.0**	**29,355,374**	**1,092,655**	**35,522**	**469,091**	**1.2**	**51**
1983	Southeastern	NA	153	3,553,281	-	4,197,304	165,298	-	94,470	1.2	38
	Pribilof	NA	239	19,076,553	-	20,514,000	1,078,643	-	153,458	1.0	124
	Northern	NA	69	1,223,813	-	1,417,106	80,525	-	39,199	1.1	31
	TOTAL	**109**	**461**	**23,853,647**	**15.8**	**26,128,410**	**1,324,466**	**15,396**	**287,127**	**1.1**	**83**
1984	Southeastern	NA	76	3,534,370	-	3,990,621	54,678	-	33,091	1.1	107
	Pribilof	NA	230	17,909,096	-	19,727,493	708,706	-	112,078	1.1	160
	Northern	NA	61	2,566,469	-	3,094,960	35,411	-	28,422	1.2	90
	TOTAL	**52**	**367**	**24,009,935**	**49.0**	**26,813,074**	**798,795**	**12,493**	**173,591**	**1.1**	**138**

-continued-

Table 2-22.–Page 2 of 5.

Season	Subdistrict	Number of Vessels	Number of Landings[a]	Number of Crab[b]	GHL/TAC[g]	Harvest[b,c]	Deadloss[c]	Pots Registered	Pots Pulled	Average Weight[c]	Average CPUE[d]
1985	Southeastern	55	301	21,963,882	-	27,373,232	461,001	-	158,819	1.4	138
	Pribilof	60	301	24,089,526	-	29,804,093	505,146	-	142,937	1.2	169
	Northern	24	116	6,849,838	-	8,821,550	98,037	-	70,289	1.3	97
	TOTAL	**75**	**718**	**52,903,246**	**98.0**	**65,998,875**	**1,064,184**	**15,325**	**372,045**	**1.3**	**142**
1986	Southeastern	47	112	8,491,694	-	10,957,578	44,755	-	63,889	1.3	133
	Pribilof	80	508	39,851,767	-	50,525,150	472,342	-	281,337	1.3	142
	Northern	67	372	28,155,662	-	36,501,811	861,436	-	198,518	1.3	142
	TOTAL	**88**	**992**	**76,499,123**	**57.0**	**97,984,539**	**1,378,533**	**13,750**	**543,744**	**1.3**	**141**
1987	Southeastern	28	64	4,116,778	-	5,106,473	24,619	-	24,619	1.2	167
	Pribilof	94	458	38,604,802	-	47,676,734	261,337	-	261,337	1.2	148
	Northern	99	516	38,586,079	-	49,120,181	330,157	-	330,157	1.2	117
	TOTAL	**103**	**1,038**	**81,307,659**	**56.4**	**101,903,388**	**978,449**	**19,386**	**616,113**	**1.2**	**132**
1988	Eastern	162	771	60,019,586	-	75,926,942	740,976	-	423,919	1.3	142
	Western	151	518	45,913,956	-	58,314,786	2,501,693	-	323,476	1.3	142
	TOTAL	**171**	**1,285**	**105,933,542**	**110.7**	**134,241,728**	**3,424,021**	**38,765**	**747,395**	**1.3**	**142**
1989	Eastern	164	872	77,717,813	-	103,163,307	1,137,971	-	393,251	1.3	198
	Western	127	470	34,986,402	-	45,142,955	802,511	-	271,991	1.3	129
	TOTAL	**168**	**1,300**	**112,704,215**	**132.0**	**148,306,262**	**1,940,482**	**43,607**	**665,242**	**1.3**	**169**
1990	Eastern	177	956	76,285,217	-	94,775,962	1,010,755	-	511,949	1.2	149
	Western	152	659	52,645,809	-	66,989,453	785,909	-	399,354	1.3	132
	TOTAL	**189**	**1,563**	**128,931,026**	**139.8**	**161,765,415**	**1,796,664**	**46,440**	**911,303**	**1.3**	**141**

-continued-

Table 2-22.–Page 3 of 5.

Season	Subdistrict	Number of Vessels	Number of Landings[a]	Number of Crab[b]	GHL/TAC[g]	Harvest[b,c]	Deadloss[c]	Pots Registered	Pots Pulled	Average Weight[c]	Average CPUE[d]
1991	Eastern	218	2,013	190,139,612	-	240,090,666	1,593,021	-	912,631	1.3	208
	Western	185	867	74,984,348	-	88,556,603	1,871,015	-	478,832	1.2	157
	TOTAL	**220**	**2,788**	**265,123,960**	**315.0**	**328,647,269**	**3,464,036**	**76,056**	**1,391,463**	**1.2**	**191**
1992	Eastern	248	2696	217,376,231	-	302,364,005	2,269,467	-	1,228,280	1.4	177
	Western	55	152	10,000,351	-	12,938,029	56,385	-	56,385	1.3	187
	TOTAL	**250**	**2,763**	**227,376,582**	**333.0**	**315,302,034**	**2,325,852**	**77,858**	**2,325,852**	**1.4**	**177**
1993	Eastern	250	1,383	110,756,768	-	151,324,024	1,108,520	-	675,936	1.4	164
	Western	185	632	58,778,849	-	79,430,229	465,432	-	294,710	1.4	199
	TOTAL	**254**	**1,835**	**169,535,617**	**207.2**	**230,754,253**	**1,573,952**	**65,081**	**970,646**	**1.4**	**175**
1994	Eastern	219	820	56,012,433	-	72,008,424	901,674	-	375,928	1.3	149
	Western	171	586	58,797,753	-	77,784,294	898,089	-	340,596	1.3	173
	TOTAL	**273**	**1,293**	**114,810,186**	**105.8**	**149,792,718**	**1,799,763**	**54,837**	**716,524**	**1.3**	**160**
1995	Eastern	217	628	32,677,836	-	39,793,496	659,051	-	314,711	1.2	104
	Western	153	357	27,981,053	-	35,515,691	630,118	-	192,892	1.3	145
	TOTAL	**253**	**870**	**60,658,899**	**55.7**	**75,309,187**	**1,289,169**	**53,707**	**659,051**	**1.2**	**120**
1996	Eastern	161	465	23,663,995	-	28,232,574	555,326	-	252,159	1.2	94
	Western	146	354	29,228,325	-	37,463,599	777,689	-	268,512	1.3	109
	TOTAL	**234**	**771**	**52,892,320**	**50.7**	**65,696,173**	**1,333,015**	**50,169**	**520,671**	**1.2**	**102**
1997	Eastern	225	1,041	88,524,929	-	105,695,147	2,115,217	-	649,319	1.2	136
	Western	83	164	11,488,887	-	13,894,192	236,338	-	104,821	1.2	110
	TOTAL	**226**	**1,127**	**100,013,816**	**117.0**	**119,543,024**	**2,351,555**	**47,036**	**754,140**	**1.2**	**133**

-continued-

Table 2-22.–Page 4 of 5.

Season	Subdistrict	Number of Vessels	Number of Landings[a]	Number of Crab[b]	GHL/TAC[g]	Harvest[b,c]	Deadloss[c]	Pots Registered	Pots Pulled	Average Weight[c]	Average CPUE[d]
1998	Eastern	229	1,808	177,994,288	-	232,772,054	2,789,721	-	855,869	1.3	208
	Western	43	87	8,649,250	-	8,649,250	106,653	-	35,350	1.2	245
	TOTAL	**229**	**1,767**	**186,643,538**	**225.9**	**186,643,538**	**2,896,374**	**47,909**	**891,219**	**1.3**	**209**
1999	Eastern	236	1,490	103,230,699	-	135,454,092	1,237,997	-	656,541	1.3	157
	Western	121	388	40,238,741	-	49,280,919	590,543	-	242,767	1.2	166
	TOTAL	**241**	**1,631**	**143,469,440**	**186.2**	**184,735,011**	**1,828,540**	**50,173**	**899,308**	**1.3**	**160**
2000	Eastern	170	217	15,269,109	-	20,941,389	196,610	-	110,127	1.4	139
	Western	82	92	7,996,693	-	9,833,449	134,286	-	59,937	1.2	133
	TOTAL	**229**	**288**	**23,265,802**	**26.4**	**30,774,838**	**330,896**	**43,407**	**170,064**	**1.3**	**137**
2001	Eastern	162	218	8,864,497	-	12,557,788	223,861	-	113,954	1.4	78
	Western	85	115	8,321,026	-	10,824,258	206,023	-	62,976	1.3	132
	TOTAL	**207**	**293**	**17,185,523**	**25.3**	**23,382,046**	**429,884**	**40,379**	**176,930**	**1.4**	**97**
2002	Eastern	144	274	10,403,159	-	13,554,037	300,716	-	162,729	1.3	64
	Western	108	192	12,878,282	-	16,679,457	284,572	-	145,403	1.3	89
	TOTAL[e]	**191**	**403**	**23,281,441**	**28.5**	**30,233,494**	**585,288**	**37,807**	**308,132**	**1.3**	**76**
2003	Eastern	58	75	391,324	-	4,856,607	106,594	-	29,305	1.2	134
	Western	159	216	17,573,645	-	21,341,417	555,815	-	109,974	1.2	160
	TOTAL[f]	**192**	**256**	**21,504,969**	**23.7**	**26,198,024**	**662,409**	**20,452**	**139,279**	**1.2**	**154**
2004	Eastern	59	75	2,127,631	-	2,764,695	28,211	-	16,539	1.3	129
	Western	170	209	15,203,883	-	19,405,455	196,166	-	93,548	1.3	163
	TOTAL	**189**	**240**	**17,331,514**	**19.3**	**22,170,150**	**224,377**	**14,444**	**110,087**	**1.3**	**157**

-continued-

Table 2-22.–Page 5 of 5.

Season	Subdistrict	Number of Vessels	Number of Landings[a]	Number of Crab[b]	GHL/TAC[g]	Harvest[b,c]	Deadloss[c]	Pots Registered	Pots Pulled	Average Weight[c]	Average CPUE[d]
2005	Eastern	63	94	5,505,532	-	7,798,629	54,539	-	18,822	1.4	293
	Western	128	136	11,179,219	-	15,237,658	169,654	-	51,041	1.4	219
	TOTAL	**168**	**206**	**16,684,751**	**19.4**	**23,036,287**	**224,193**	**12,840**	**69,863**	**1.4**	**239**
2005/06	Eastern	66	566	14,193,844	-	21,741,637	202,154	-	77,311	1.5	184
	Western	50	263	7,886,391	-	11,514,505	120,440	-	31,009	1.5	254
	TOTAL	**78**	**310**	**22,080,235**	**33.5**	**33,256,142**	**322,594**	**13,734**	**108,320**	**1.5**	**204**
2006/07	Eastern	65	488	23,262,299	-	28,398,217	325,374	-	69,884	1.2	333
	Western	23	110	3,370,913	-	4,301,657	53,758	-	10,228	1.3	330
	TOTAL	**69**	**274**	**26,633,212**	**32.9**	**32,699,874**	**379,132**	**10,851**	**80,112**	**1.2**	**332**
2007/08	Eastern	77	450	42,346,403	-	53,151,860	482,782	-	122,027	1.3	350
	Western	10	40	2,858,356	-	3,572,870	17,374	-	7,500	1.3	382
	TOTAL	**78**	**461**	**45,204,759**	**56.7**	**56,724,730**	**500,156**	**13,647**	**129,527**	**1.3**	**352**
2008/09	Eastern	73	297	21,912,978	-	28,225,180	214,873	-	84,528	1.3	259
	Western	51	232	19,413,817	-	24,467,987	187,806	-	63,692	1.3	305
	TOTAL	**77**	**431**	**41,326,795**	**52.7**	**52,693,167**	**402,679**	**12,549**	**148,220**	**1.3**	**279**
2009/10	Eastern	69	309	27,524,406	-	37,633,900	462,329	-	109,911	1.4	250
	Western	26	75	4,226,953	-	5,578,682	37,720	-	14,750	1.3	287
	TOTAL	**69**	**325**	**31,751,359**	**43.2**	**43,212,583**	**500,049**	**11,804**	**124,661**	**1.4**	**255**
2010/11	Eastern	66	316	26,223,597	-	38,077,687	239,073	-	105,893	1.5	248
	Western	32	101	7,740,160	-	10,774,765	75,432	-	28,006	1.4	276
	TOTAL	**68**	**348**	**33,963,757**	**48.9**	**48,852,452**	**314,505**	**11,604**	**133,899**	**1.4**	**254**

Note: NA = not available. Individual Fishing Quota (IFQ) beginning 2005/06 season.

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

[b] Deadloss included.

[c] In pounds.

[d] Number of legal crab per pot lift.

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

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

[g] Millions of pounds. Guideline harvest level (GHL) for general fishery, total allowable catch for IFQ fishery.

Table 2-23.–Bering Sea District commercial snow crab fishery season dates and area closures, 1977/78–2010/11.

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
	01/15/87	06/22/87	Northern Subdistrict north of 60°30' N lat. and west of 178° W. long. closure

-continued-

Table 2-23.–Page 2 of 2.

Season	Opened	Closed	Comments
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
2009/10	10/15/09	05/15/10	Eastern Subdistrict closure
		05/31/10	Western Subdistrict closure
2010/11	10/15/10	05/15/11	Eastern Subdistrict closure
		05/31/11	Western Subdistrict closure

[a] State-managed domestic fishery.

[b] Concurrent state and federal date.

[c] Crab Rationalization begins.

Table 2-24.–Bering Sea District commercial snow crab general/IFQ fishery harvest composition by fishing season, 1979/80–2010/11.

Season	Average Weight[a]	Average Width[b]	Percent new shell	Percent <102 mm cw
1978/79	1.5	113	83.8	6.3
1979/80	1.6	118	90.2	2.1
1981	1.5	117	77.7	19.2
1982	1.2	109	84.5	31.8
1983[c]	1.1	NA	78.0	27.1
1984[c]	1.1	105	82.4	11.7
1985[c]	1.3	108	73.6	15.0
1986[c]	1.3	110	71.9	18.7
1987[c]	1.2	109	83.7	20.8
1988[c]	1.3	110	76.3	16.4
1989[c]	1.3	111	85.2	13.8
1990[c]	1.3	109	97.4	18.8
1991[c]	1.2	110	99.9	2.0
1992	1.4	112	97.6	10.1
1993	1.4	112	92.5	10.7
1994	1.3	110	93.1	14.0
1995	1.2	109	89.6	21.5
1996	1.2	108	75.8	24.0
1997	1.2	107	96.5	20.9
1998	1.3	111	97.7	9.7
1999	1.3	110	97.5	10.4
2000	1.3	111	95.2	8.6
2001	1.4	111	91.5	7.2
2002	1.3	110	69.0	12.1
2003	1.2	107	83.8	20.6
2004	1.3	110	86.0	10.1
2005	1.4	114	88.1	7.9
2005/06[d]	1.5	117	81.4	1.8
2006/07	1.2	109	88.4	9.2
2007/08	1.3	109	85.9	9.0
2008/09	1.3	110	89.5	9.6
2009/10	1.4	113	95.3	4.8
2010/11	1.4	115	96.9	2.6

Note: NA = not available.

[a] In pounds.

[b] Carapace width in millimeters.

[c] Partial district and subdistrict closures, see Table 2-23.

[d] Crab Rationalization begins.

Table 2-25.–Bering Sea District commercial general/IFQ snow crab fishery economic data and season length, 1979/80–2010/11.

Season	Harvest[a,b]	Value		Season length[e]
		Exvessel[c]	Total[d]	
1979/80	31,427,902	$0.21	$82.50	307
1981	39,344,323	$0.26	$13.10	229
1982	50,480,055	$0.73	$20.70	167
1983[e]	28,262,719	$0.35	$8.70	120
1984[e]	24,803,944	$0.30	$7.80	320
1985[e]	26,014,279	$0.30	$19.50	333
1986[e]	64,302,082	$0.60	$60.00	252
1987[e]	96,305,606	$0.75	$75.70	158
1988[e]	100,924,939	$0.77	$100.70	120
1989[e]	130,817,707	$0.75	$110.70	112
1990[e]	146,365,780	$0.64	$102.30	148
1991[e]	159,968,751	$0.50	$162.60	159
1992	325,183,233	$0.50	$156.50	97
1993	312,976,182	$0.75	$171.90	59
1994	229,180,301	$1.30	$192.40	45
1995	147,992,955	$2.43	$180.00	33
1996	74,020,018	$1.33	$85.60	45
1997	64,363,158	$0.79	$92.60	65
1998	117,191,469	$0.56	$134.65	64
1999	240,596,203	$0.88	$160.78	66
2000	182,906,471	$1.81	$55.09	7
2001	30,443,942	$1.53	$32.12	30
2002	22,952,162	$1.49	$44.20	24
2003	29,648,206	$1.83	$46.98	9
2004	25,535,615	$2.05	$44.99	8
2005	21,945,773	$1.80	$41.47	6
2005/06[f]	22,812,094	$0.84	$27.66	229
2006/07	32,933,551	$1.40	$36.85	229
2007/08	32,320,742	$1.60	$89.96	229
2008/09	56,224,574	$1.37	$71.49	229
2009/10	52,290,488	$1.13	$48.27	229
2010/11	42,712,534	$2.14	$103.87	229

Note: NA = not available.

[a] Sold weight (deadloss not included).

[b] In pounds.

[c] Average price per pound.

[d] Millions of dollars.

[e] Partial district and subdistrict closures, see Table 2-23.

[f] Crab Rationalization begins.

Table 2-26.–Bering Sea commercial snow crab IFQ fishery harvest and effort by week, 2010/11.

	Number of						
Week ending	Vessels	Landings	Crab[a]	Harvest[a,b]	Pot pulls	CPUE[c]	Deadloss[b]
20-Nov	1	CF	CF	CF	CF	CF	CF
11-Dec	1	CF	CF	CF	CF	CF	CF
18-Dec	1	CF	CF	CF	CF	CF	CF
25-Dec	1	CF	CF	CF	CF	CF	CF
8-Jan	12	12	1,359,504	2,040,327	5,728	237	15,046
15-Jan	28	32	3,585,817	5,267,511	14,878	241	28,482
22-Jan	28	30	3,388,683	4,910,925	13,729	247	41,962
29-Jan	37	42	5,106,259	7,256,125	19,563	261	48,870
5-Feb	41	51	5,135,439	7,342,870	20,168	255	45,414
12-Feb	36	46	4,279,501	6,057,245	17,048	251	34,450
19-Feb	31	43	3,313,883	4,771,603	12,164	272	31,416
26-Feb	26	35	2,772,971	3,998,711	10,629	261	29,843
5-Mar	22	28	2,749,052	3,889,614	10,621	259	27,171
12-Mar	9	9	912,752	1,333,378	3,710	246	5,933
19-Mar	9	11	809,246	1,175,084	2,994	270	4,818
26-Mar	4	4	221,402	334,435	834	265	945
2-Apr	1	CF	CF	CF	CF	CF	CF
Total	68	348	33,963,757	48,852,452	133,899	254	314,505

Note: IFQ = individual fishing quota. CF = confidential.

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crab per pot lift.

Table 2-27.–Bering Sea District commercial IFQ snow crab fishery catch by statistical area, 2010/11.

Statistical Area	Number of				Average		
	Landings[a]	Crab[b]	Pots lifted	Harvest[b,c]	Weight[c]	CPUE[d]	Deadloss[c]
EASTERN SUBDISTRICT STATISTICAL AREAS							
675530	19	1,210,651	5,212	1,896,617	1.6	232	18,215
675600	53	2,108,716	7,888	3,136,895	1.5	267	21,592
685600	88	4,539,573	14,950	6,609,744	1.5	304	41,665
685630	37	688,764	3,767	1,019,750	1.5	183	4,037
705600	9	174,847	532	247,985	1.4	329	1,765
705630	9	34,127	228	48,799	1.4	150	208
715600	11	254,982	943	363,689	1.4	270	2,335
715630	101	4,336,927	19,661	6,274,394	1.5	221	35,412
715700	34	869,692	3,933	1,229,409	1.4	221	6,994
725630	114	6,482,804	25,778	9,405,026	1.5	251	54,959
725700	88	3,473,547	15,271	4,987,618	1.4	227	30,654
725730	58	1,810,606	6,753	2,476,946	1.4	269	16,902
Other[e]	-	238,132	995	380,485	1.5	169	4,338
Subtotal	316	26,223,597	105,893	38,077,687	1.5	248	239,073
WESTERN SUBDISTRICT STATISTICAL AREAS							
735630	17	411,882	1,814	610,306	1.5	227	4,165
735700	41	1,202,820	5,537	1,758,938	1.5	217	17,403
735730	59	3,667,918	11,962	4,977,740	1.4	307	31,398
735800	21	1,061,377	3,605	1,466,378	1.4	294	10,749
735830	8	107,124	368	146,563	1.4	291	1,045
745800	15	566,049	2,161	786,312	1.4	262	3,536
745830	15	714,547	2,474	1,016,707	1.4	289	7,084
Other[f]	-	CF	CF	CF	CF	CF	CF
Subtotal	101	7,740,160	28,006	10,774,764	1.4	276	75,432
Total	348	33,745,330	133,899	48,852,452	1.4	254	314,505

Note: IFQ = individual fishing quota. CF = confidential.

[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 crab per pot lift.

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

[f] Includes two statistical areas. In one statistical area, less than three vessels made landings.

Table 2-28.–Bering Sea District commercial grooved Tanner crab fishery harvest data, 1992–2010.

	Number of				Average		Value		
Year	Vessels	Crab[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 - 2010	0	0	0	0	0	0	$0.00	$0.00	0

Note: CF = confidential.

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crab per pot lift.

[d] Average price per pound.

[e] Millions of dollars.

Table 2-29.–Bering Sea District commercial triangle Tanner crab fishery harvest data, 1992–2010.

	Number of				Average		Value		
Year	Vessels	Crab[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 - 2010[f]	0	0	0	0	0	0	$0.00	$0.00	0

Note: CF = confidential.

[a] Deadloss included.

[b] In pounds.

[c] Number of legal crab per pot lift.

[d] Average price per pound.

[e] Millions of dollars.

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

Table 2-30.–Bering Sea commercial hair crab fishery data, 1979–2010.

	Number of						Pots		Average	
Season	Vessels	Landings	Crab[a]	GHL[b]	Harvest[a,c]	Deadloss[c]	Registered	Pulled	CPUE[d]	Weight[c]
1979	11	16	2,457	-	5,213	0	NA	9,908	<1	2.1
1980	9	17	25,417	-	53,914	0	NA	14,506	2	2.1
1980/81	67	192	1,127,309	-	2,439,483	265,369	NA	172,695	7	2.2
1981/82	48	159	466,560	-	932,584	29,749	NA	117,518	4	2
1982/83	52	161	575,453	-	1,211,420	122,456	NA	84,346	7	2.1
1983/84	19	48	200,670	-	406,538	28,062	NA	20,414	10	2
1984[e]	7	26	197,209	-	396,630	19,436	NA	22,392	9	2
1985[e]	3	9	34,410	-	66,042	593	NA	3,905	9	2
1986	3	7	7,289	-	14,835	500	NA	4,720	2	2
1987[f]	2	CF	CF	-	CF	CF	CF	CF	CF	CF
1988-90[e]	0	0	0	-	0	0	0	0	0	0
1991[e]	7	42	441,533	-	377,708	0	NA	44,444	10	.9
1992[e,f]	9	20	203,758	-	240,767	11,495	NA	38,808	5	1.2
1992[e,g]	10	47	1,127,948	-	1,198,590	65,674	NA	125,943	9	1.1
1993[e,f]	4	5	2,347	-	3,038	0	NA	9,345	<1	1.3
1993/94[e,g,h,i]	19	129	1,936,795	3.0	2,331,686	124,596	NA	585,913	3	1.2
1994[e,g]	10	55	897,070	1.1	1,199,246	49,275	13,350	287,954	3	1.3
1995[e,g]	21	81	1,485,097	1.8	2,059,988	73,882	25,750	441,494	3	1.4

-continued-

Table 2-30.–Page 2 of 2.

Season	Number of Vessels	Number of Landings	Crab[a]	GHL[b]	Harvest[a,c]	Deadloss[c]	Pots Registered	Pots Pulled	Average CPUE[d]	Average Weight[c]
1996[e]	19	99	485,735	0.9	745,804	32,495	20,680	410,548	1	1.5
1997[e]	16	52	420,121	0.8	668,096	17,522	18,180	211,970	2	1.6
1998[e]	12	31	188,784	0.4	307,739	17,392	14,330	128,495	2	1.6
1999[e]	8	27	139,894	0.3	221,656	4,677	9,840	92,333	1	1.6
2000[e]	3	3	1,058	0.3	1,546	0	3,900	3,300	<1	1.5
2001-2010[e]	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC

Note: CF = confidential, FC = fishery closed

[a] Deadloss included.

[b] Guideline harvest level, millions of pounds.

[c] In pounds.

[d] Number of legal crab retained per pot pull.

[e] Permit fishery.

[f] Spring fishery.

[g] Fall fishery.

[h] Fishery opened November 1, 1993 and closed April 20, 1994.

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

Table 2-31.–Bering Sea commercial hair crab fishery economic performance data, 1979–2010.

		Value		Season	
Season	Harvest[a,b]	Exvessel[c]	Total[d]	Days	Dates
1979	5,213	$0.54	$0.003	257	04/19-12/31
1980	53,914	$0.75	$0.04	244	01/01-08/30
1980/81	2,174,114	$0.80	$1.70	242	11/01-06/30
1981/82	902,835	$0.55	$0.50	288	11/01-08/15
1982/83	1,088,964	$0.65	$0.70	297	10/08-08/01
1983/84	378,476	$1.20	$0.50	335	08/01-06/30
1984	377,194	$1.60	$0.60	184	07/01-12/31
1985	65,449	$1.60	$0.10	365	01/01-12/31
1986	14,335	$1.15	$0.20	365	01/01-12/31
1987	CF	CF	CF	365	01/01-12/31
1988-90	0	$0.00	$0.00	365	01/01-12/31
1991	377,708	$3.08	$1.20	365	01/01-12/31
1992	229,272	$2.25	$0.50	32	01/01-06/04
1992	1,132,916	$2.46	$2.80	156	10/01-11/01
1993	3,038	NA	NA	45	04/01-05/15
1993/94	2,207,090	$2.42	$5.30	171	11/01-04/20
1994	1,149,971	$3.55	$4.00	41	11/01-12/12
1995	1,986,106	$2.87	$5.70	25	11/01-11/26
1996	713,309	$2.65	$1.90	31	11/01-12/02
1997	650,574	$2.97	$1.90	25	11/01-11/25
1998	290,347	$2.70	$0.80	16	10/08-10/23
1999	216,979	$3.20	$0.70	37	10/30-12/07
2000	1,546	$3.84	$0.005	7	10/30-11/05
2001-2010	FC	FC	FC	FC	FC

Note: CF = confidential, NA = not available, FC = fishery closed.

[a] Sold weight (deadloss not included).

[b] In pounds.

[c] Price per pound.

[d] In millions of dollars.

Table 2-32.–Bering Sea commercial octopus incidental harvest in groundfish fisheries, 1995–2010.

	State waters			State and federal waters				
Year	Vessels	Landings	Whole weight[a]	Vessels	Landings	Whole weight[a]	At-sea discards[a]	Exvessel Value[b]
1995[c]	5	12	2,252	49	135	17,554	5,587	$0.14
1996	6	10	1,195	63	191	26,343	21,144	$0.33
1997	3	3	59	44	92	12,202	5,205	$0.20
1998	4	8	673	47	81	8,204	5,624	$0.03
1999	2	CF	CF	22	56	7,002	6,593	$0.00
2000	4	6	551	78	272	39,915	23,611	$0.03
2001	2	CF	CF	62	158	49,641	41,215	$0.03
2002	2	CF	CF	68	187	56,078	16,628	$0.05
2003	4	7	4,064	80	237	122,443	27,780	$0.63
2004	4	6	4,615	92	279	88,534	25,527	$0.39
2005	5	19	4,033	80	271	156,381	12,583	$0.65
2006	6	8	1,004	88	304	93,624	5,310	$0.63
2007	4	6	1,946	110	375	102,128	37,436	$0.45
2008	5	7	7,177	82	252	66,742	14,071	$0.47
2009	1	CF	CF	67	144	20,107	7,858	$0.30
2010	1	CF	CF	81	201	67,187	35,477	$0.24

Note: CF = confidential.

[a] Weight in round pounds, discards included.

[b] Average price per pound, based on landed weight.

[c] The 1995 directed fishery data is confidential, and is not included in this table.

Table 2-33.–Bering Sea commercial snail harvest and economic performance data, 1992–2010.

	Number of		Number of pots					Pounds	Value	
Year	Vessels	Landings	Registered	Pulled	Harvest[a,b]	Deadloss[b]	CPUE[c]	per pot[d]	Exvessel[e]	Total[f]
1992	CF	CF	CF	CF	CF	CF	CF	CF	CF	CF
1993	4	10	13,800	44,686	312,876	NA	25	7	$0.40	$0.13
1994	4	42	14,850	279,349	2,027,328	62,571	21	7.3	$0.34	$0.67
1995	4	38	18,800	262,096	2,352,825	22,371	28	9	$0.30	$0.70
1996	5	67	31,300	741,326	3,572,992	62,494	16	4.8	$0.30	$1.10
1997	3	17	14,500	191,893	932,048	77,131	16	4.9	$0.36	$0.31
1998-2010	0	0	0	0	0	0	0	0	$0.00	$0.00

Note: CF = confidential, NA = not available.

[a] Deadloss included.

[b] In pounds.

[c] Number of snails per pot pull.

[d] Whole weight.

[e] Average price per pound.

[f] Millions of dollars.

Table 2-34.–North Peninsula District commercial Dungeness crab fishery data, 1992–2010.

	Number of					Pots	Average		Value	
Year	Vessels	Landings	Crab[a]	Harvest[a,b]	Deadloss[b]	pulled	Weight[b]	CPUE[e]	Exvessel[c]	Total[d]
1992	0	0	0	0	0	0	0	0	$0.00	$0.00
1993	2	CF	CF	CF	CF	CF	CF	CF	CF	CF
1994	2	CF	CF	CF	CF	CF	CF	CF	CF	CF
1995	6	18	63,732	134,407	367	34,499	2.1	4	$1.32	$0.18
1996	1	CF	CF	CF	CF	CF	CF	CF	CF	CF
1997	2	CF	CF	CF	CF	CF	CF	CF	CF	CF
1998	1	CF	CF	CF	CF	CF	CF	CF	CF	CF
1999	0	0	0	0	0	0	0	0	$0.00	$0.00
2000	1	CF	CF	CF	CF	CF	CF	CF	CF	CF
2001	0	0	0	0	0	0	0	0	$0.00	$0.00
2002	2	CF	CF	CF	CF	CF	CF	CF	CF	CF
2003	0	0	0	0	0	0	0	0	$0.00	$0.00
2004	1	CF	CF	CF	CF	CF	CF	CF	CF	CF
2005	0	0	0	0	0	0	0	0	$0.00	$0.00
2006	0	0	0	0	0	0	0	0	$0.00	$0.00
2007	1	CF	CF	CF	CF	CF	CF	CF	CF	CF
2008	0	0	0	0	0	0	0	0	$0.00	$0.00
2009	1	CF	CF	CF	CF	CF	CF	CF	CF	CF
2010	5	24	391,849	795,392	10,414	60,985	2.0	6	$1.73	$1.36

Note: CF = confidential

[a] Deadloss included.

[b] In pounds.

[c] Price per pound.

[d] Millions of dollars.

[e] Number of legal crab per pot pull.

Table 2-35.–Pot limits for Bering Sea and Aleutian Islands king and Tanner crab fisheries, 2010/11.

Fishery	Vessel length	Pot limit
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
Eastern Aleutian Tanner crab	-	300 [a]
Petrel Bank red king crab	All vessels	250

[a] Pot limit is for entire fishery and is divided among participating vessels.

Table 2-36.–Number of Bering Sea and Aleutian Islands buoy tags printed and issued by fishery, 2010/11.

Fishery	Number of tags ordered[a]	Tag sets issued		Total sets issued	Tags issued		Tags replaced	Total tags issued
		≤ 125' [b]	> 125' [b]		≤ 125' [b]	> 125' [b]		
Eastern Aleutian District Tanner	Surplus Tags	3	-	3	93	-	0	93
St. Matthew Section Blue King Crab	Surplus Tags	10	1	11	1,475	140	0	1,615
Pribilof Golden King Crab	Surplus Tags	2	-	2	80	-	0	80
Total		15	1	16	1,648	140	0	1,788

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

[b] Overall vessel length.

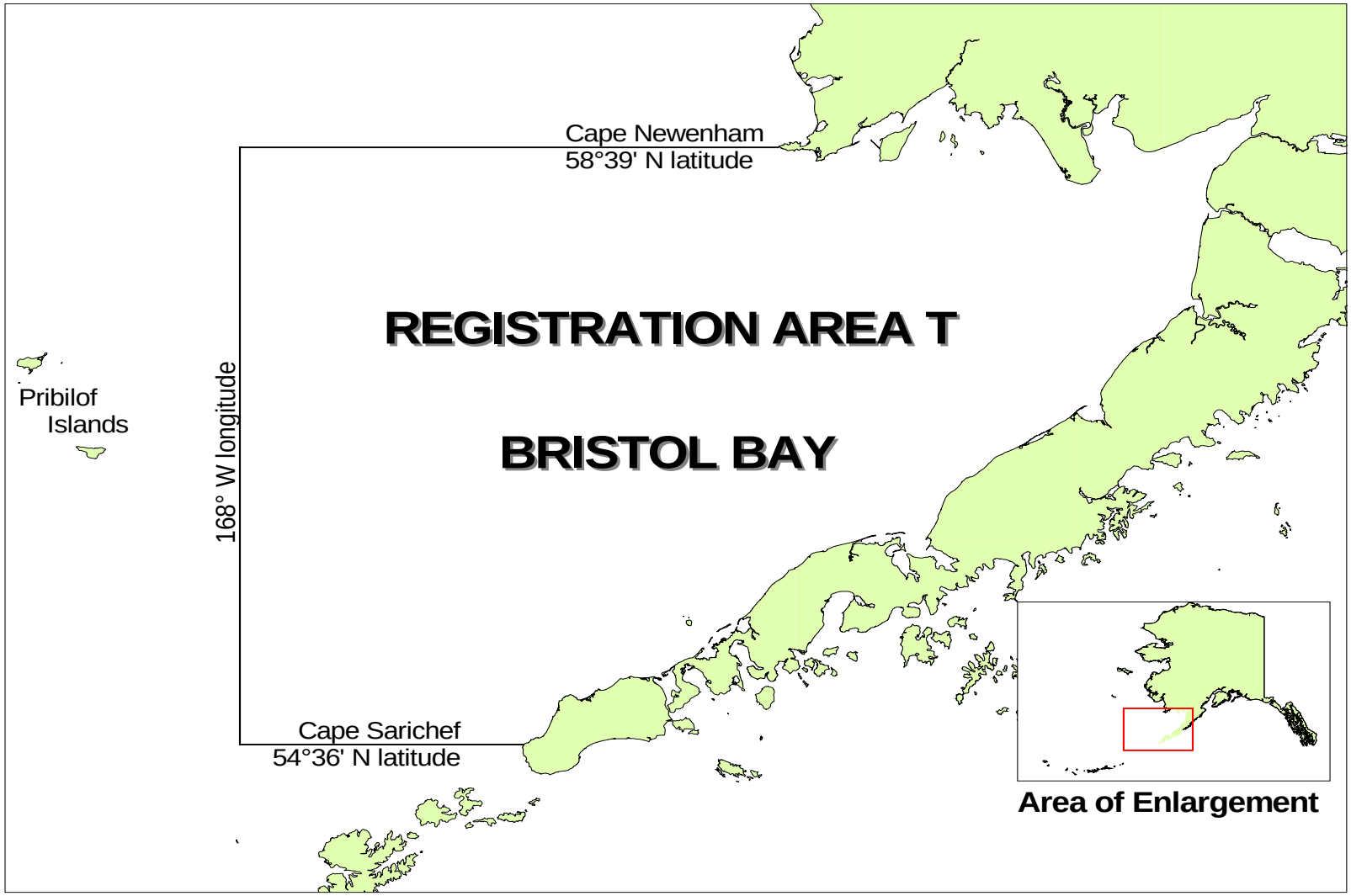


Figure 2-1.–King crab Registration Area T (Bristol Bay).

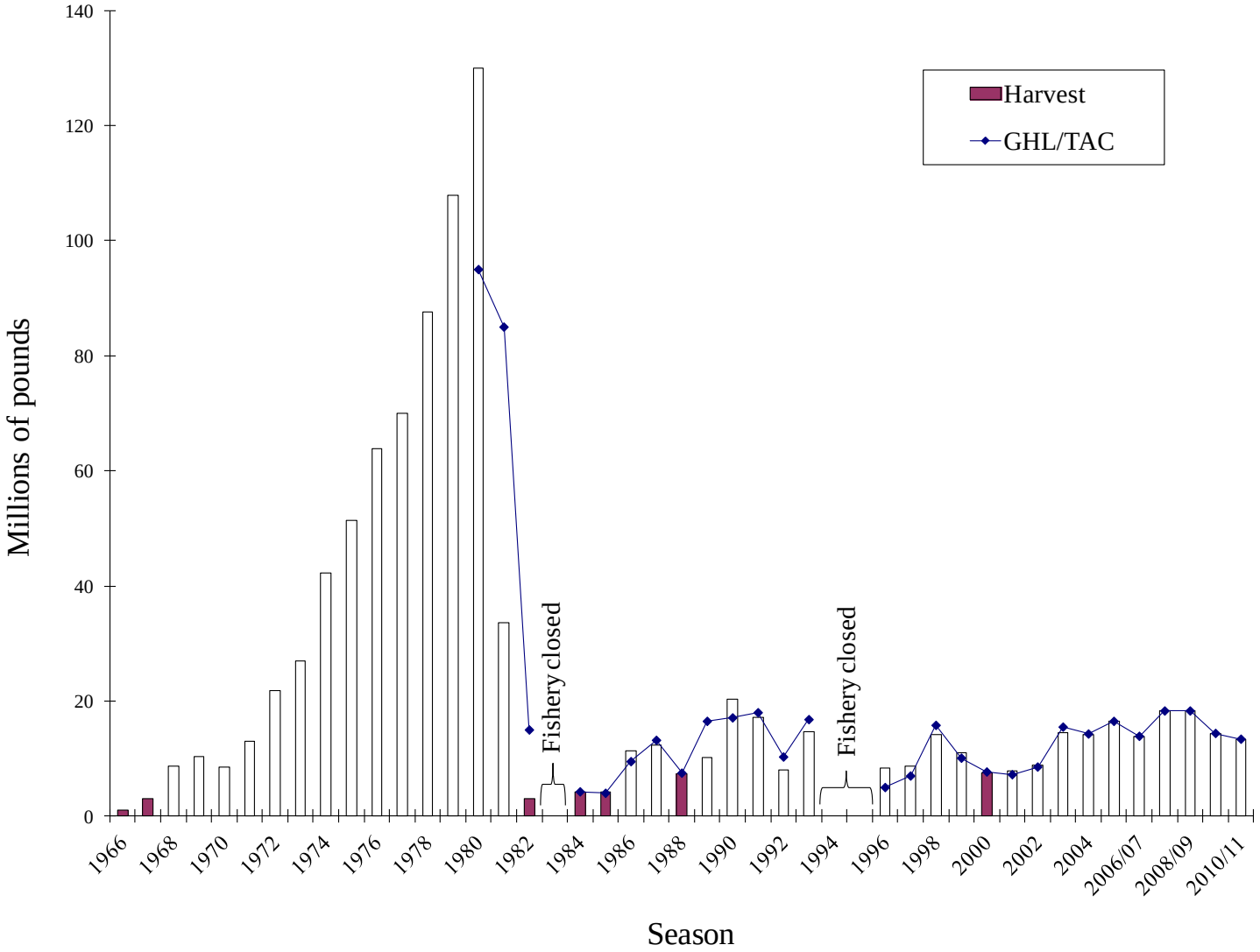


Figure 2-2.–Bristol Bay commercial red king crab general/IFQ fishery harvest and GHL/TAC, 1966–2010/11.

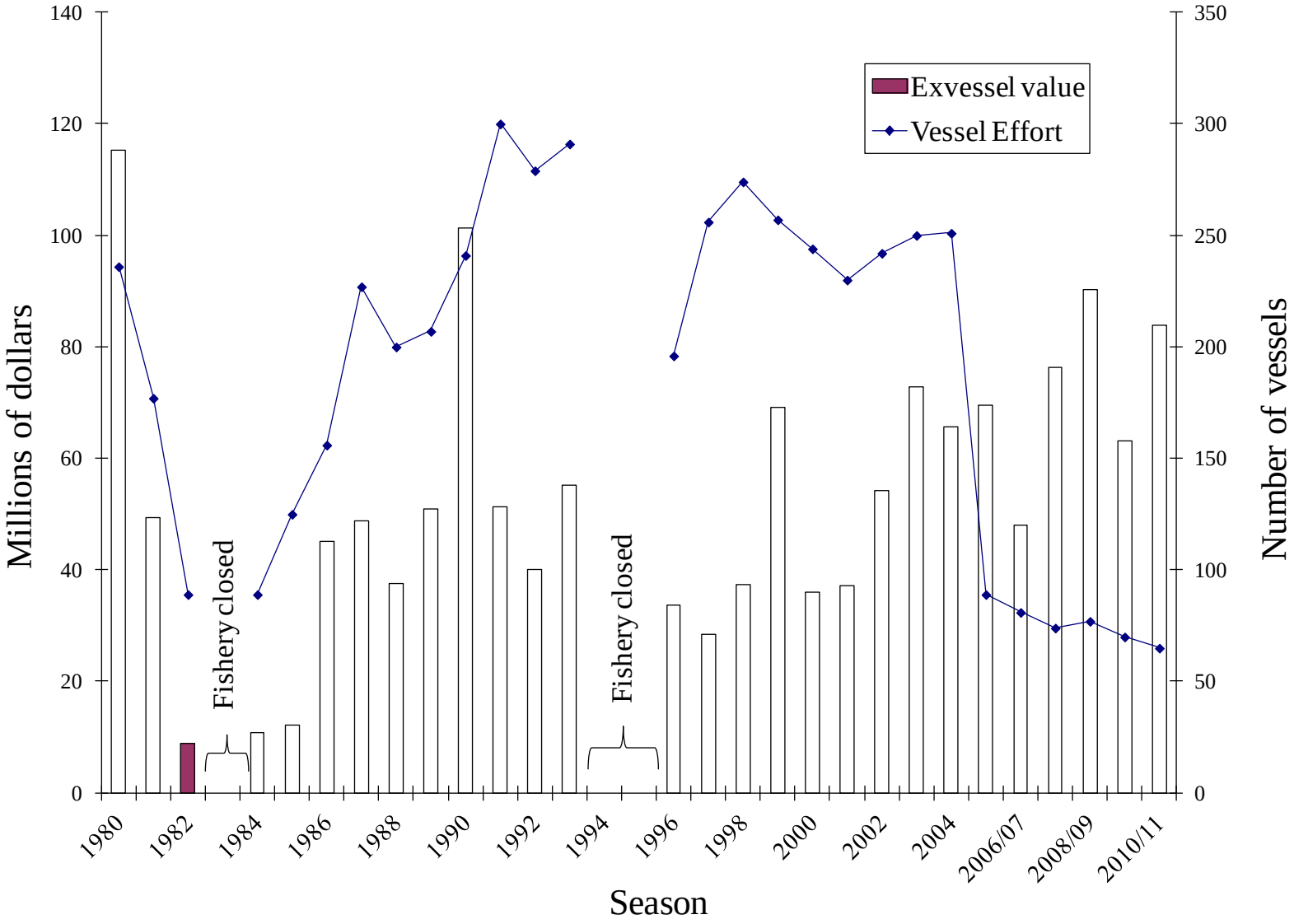


Figure 2-3.–Bristol Bay commercial red king crab general/IFQ fishery effort and exvessel value, 1980–2010/11.

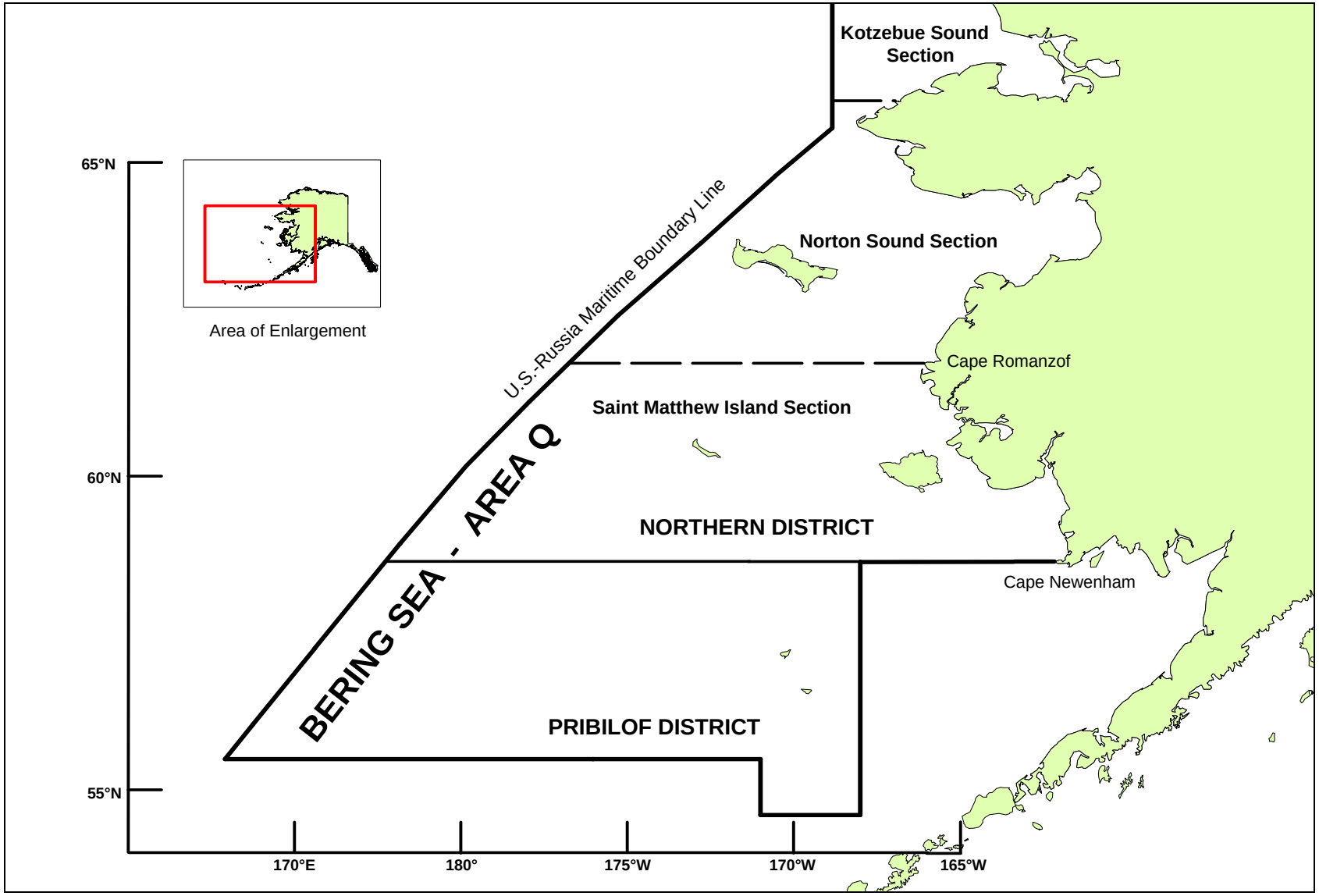


Figure 2-4.–King crab Registration Area Q (Bering Sea).

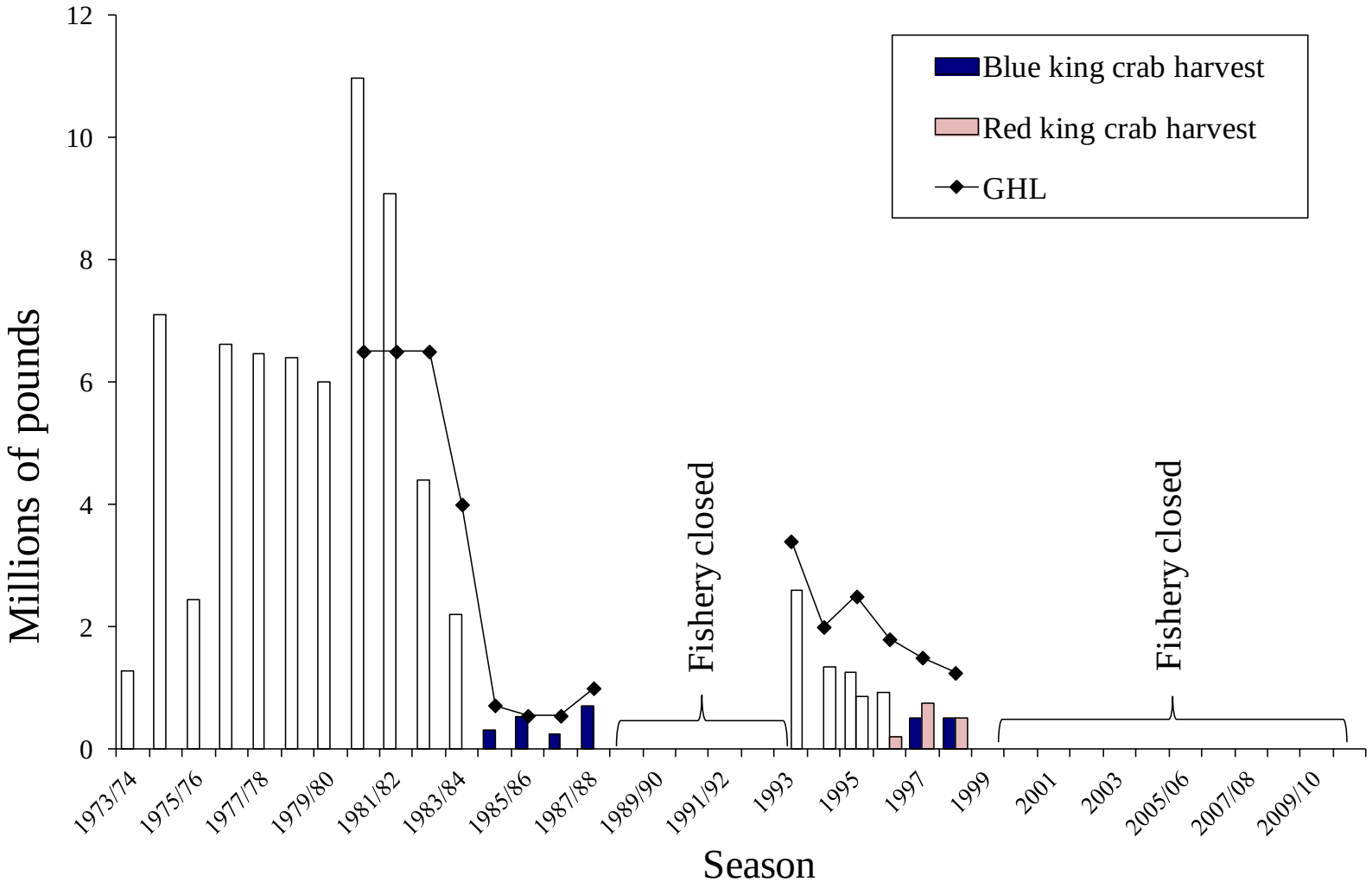


Figure 2-5.–Pribilof District red and blue king crab harvest and GHL 1973/74–2010/11. GHL for red and blue king crab is combined from 1995–1987/88.

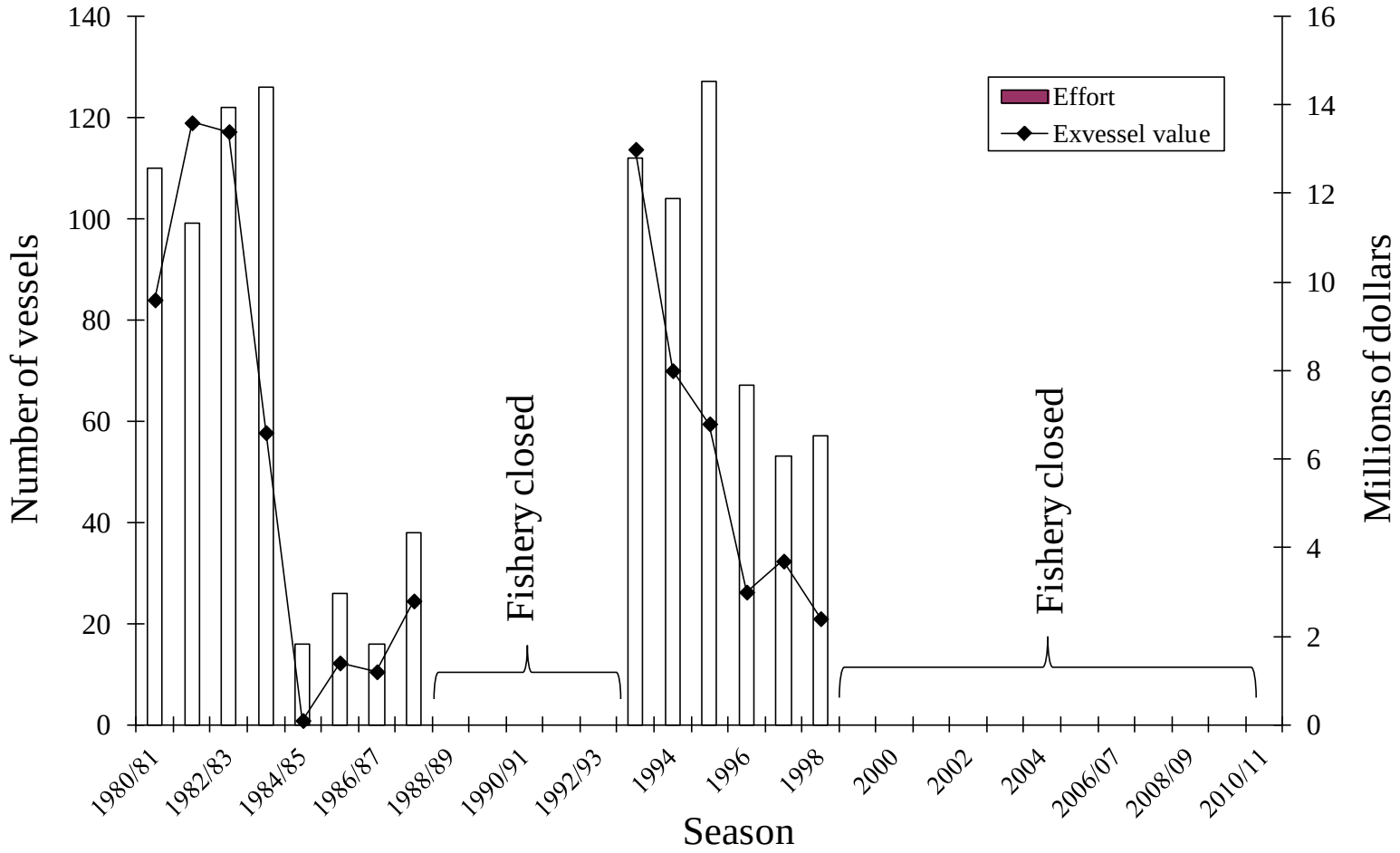


Figure 2-6.–Pribilof District commercial red and blue king crab fishery effort and exvessel value, 1980–2010/11.

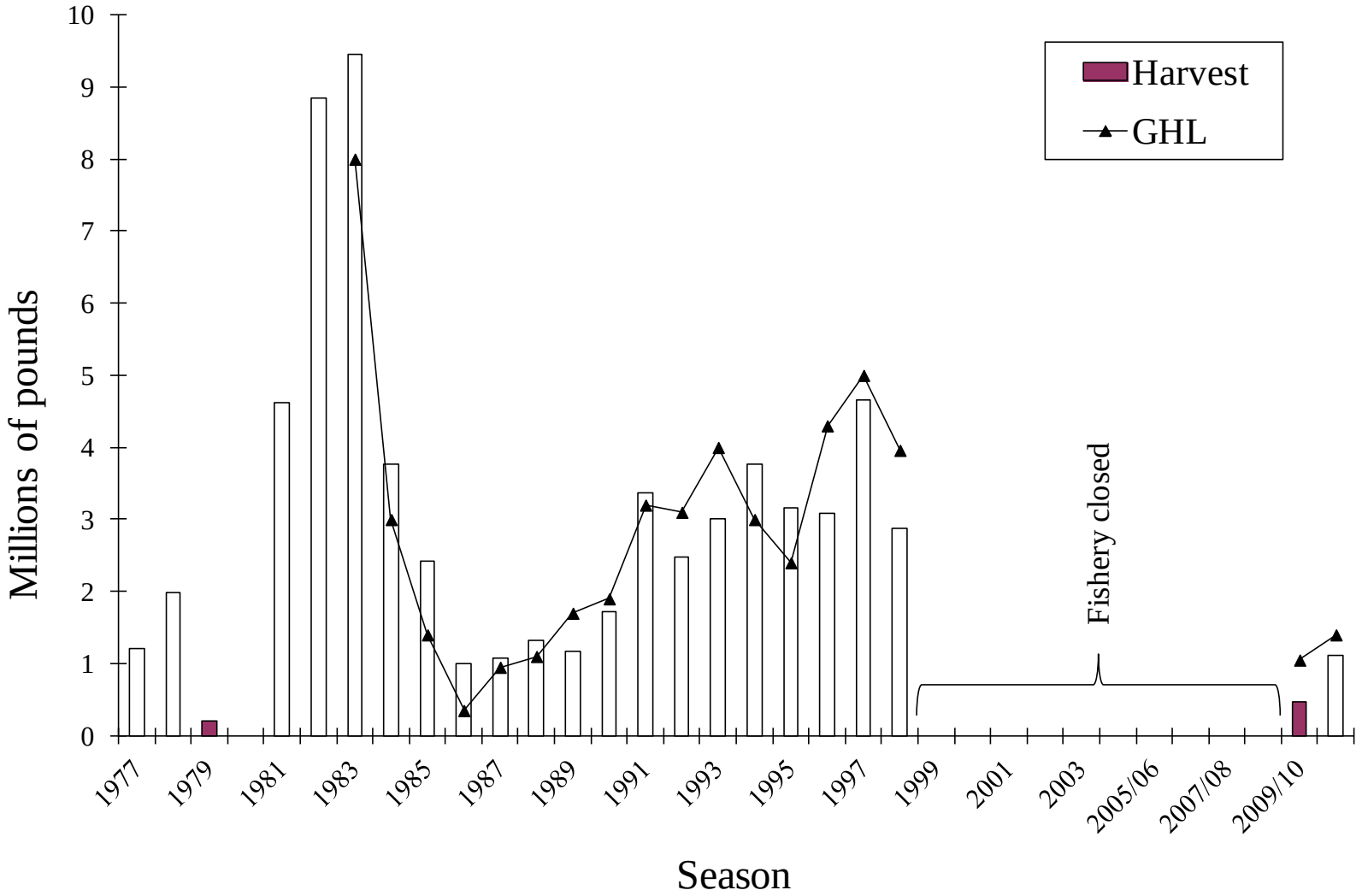


Figure 2-7.–Saint Matthew Island Section commercial blue king crab fishery harvest and GHL, 1977–2010/11.

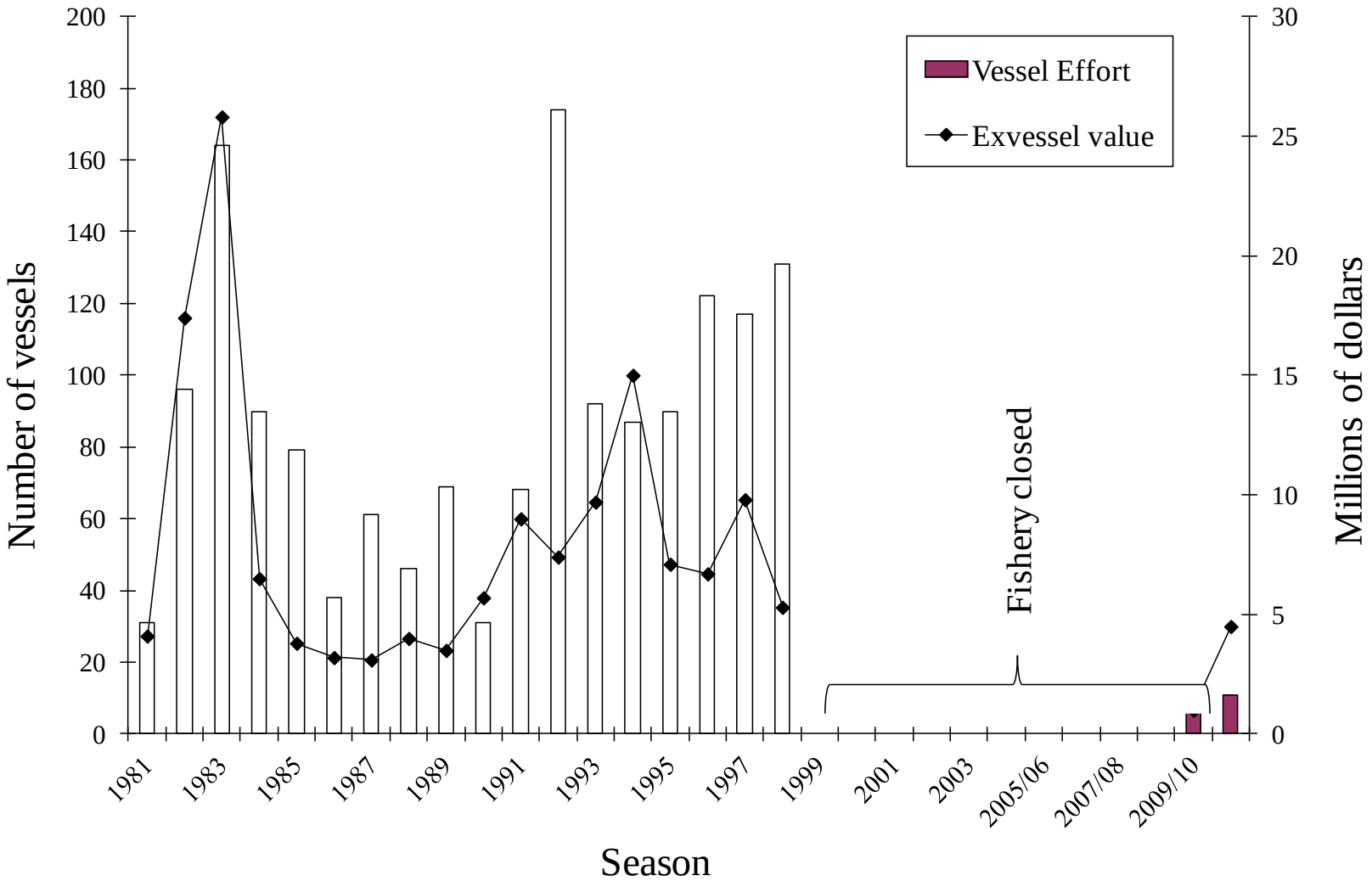


Figure 2-8.–Saint Matthew Island Section commercial blue king crab fishery effort and exvessel value, 1981–2010/11.

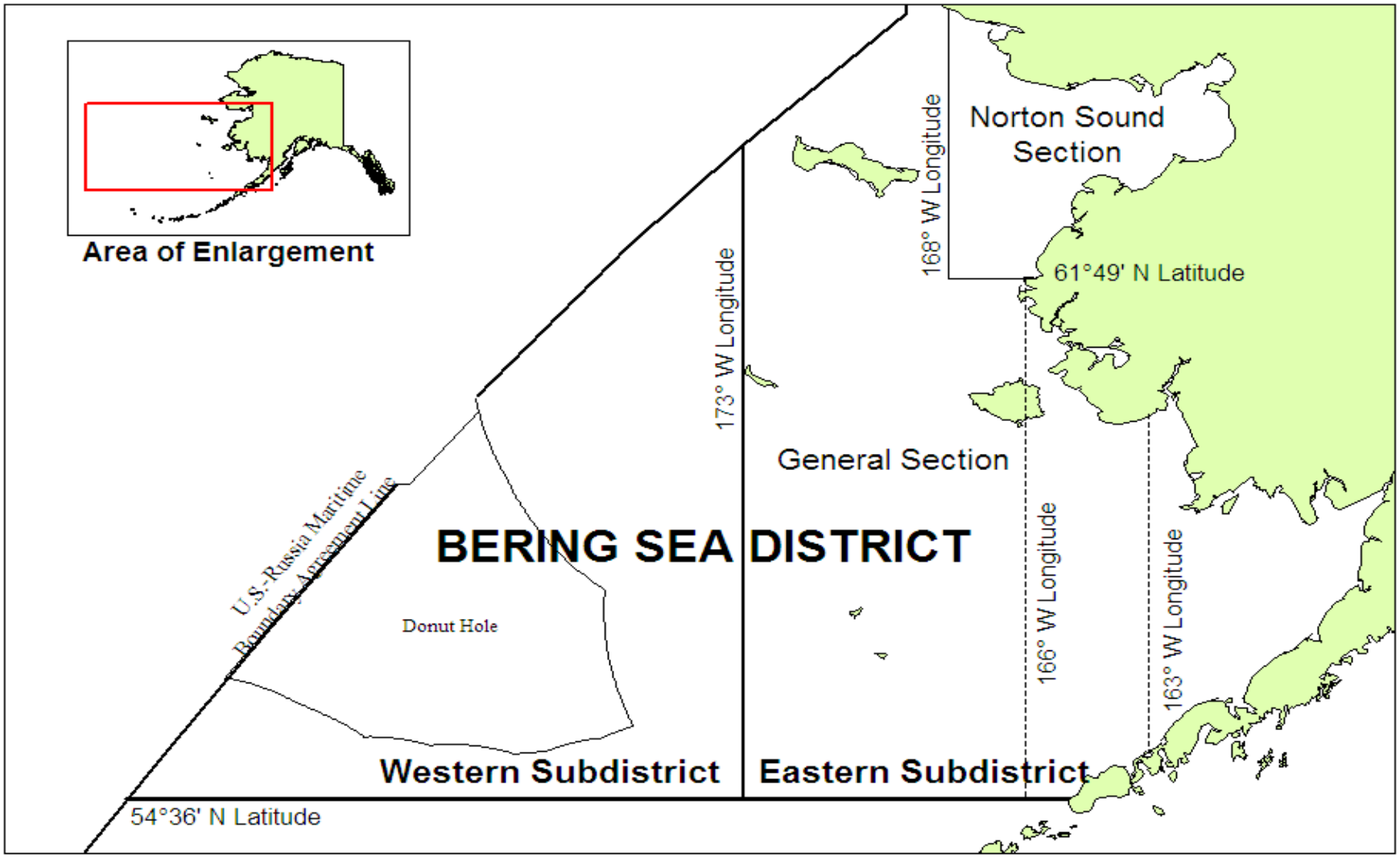


Figure 2-9.–Bering Sea District of Tanner crab Registration Area J including subdistricts and sections.

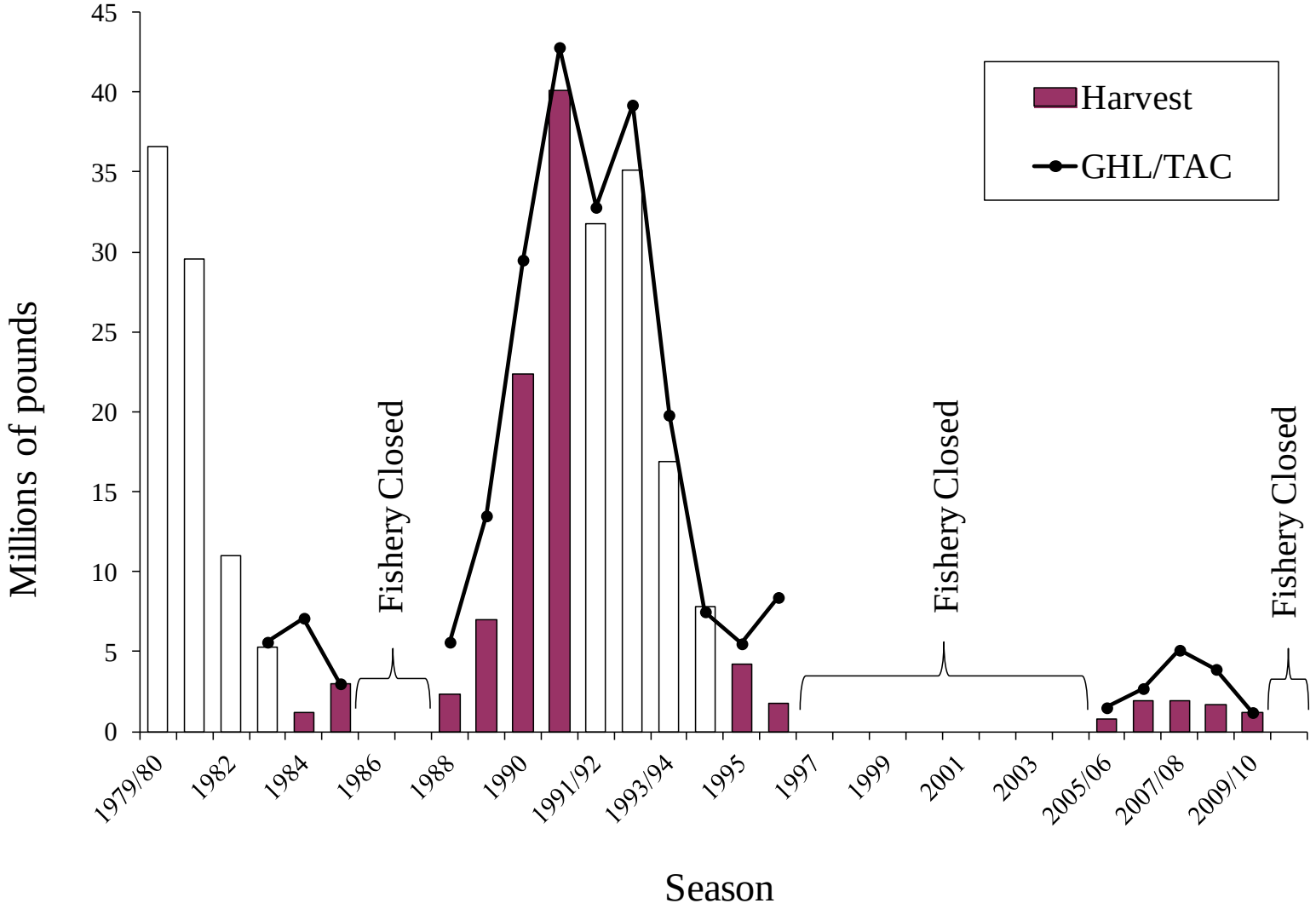


Figure 2-10.–Bering Sea District commercial Tanner crab general/IFQ fishery harvest and GHL/TAC, 1979/80–2010/11.

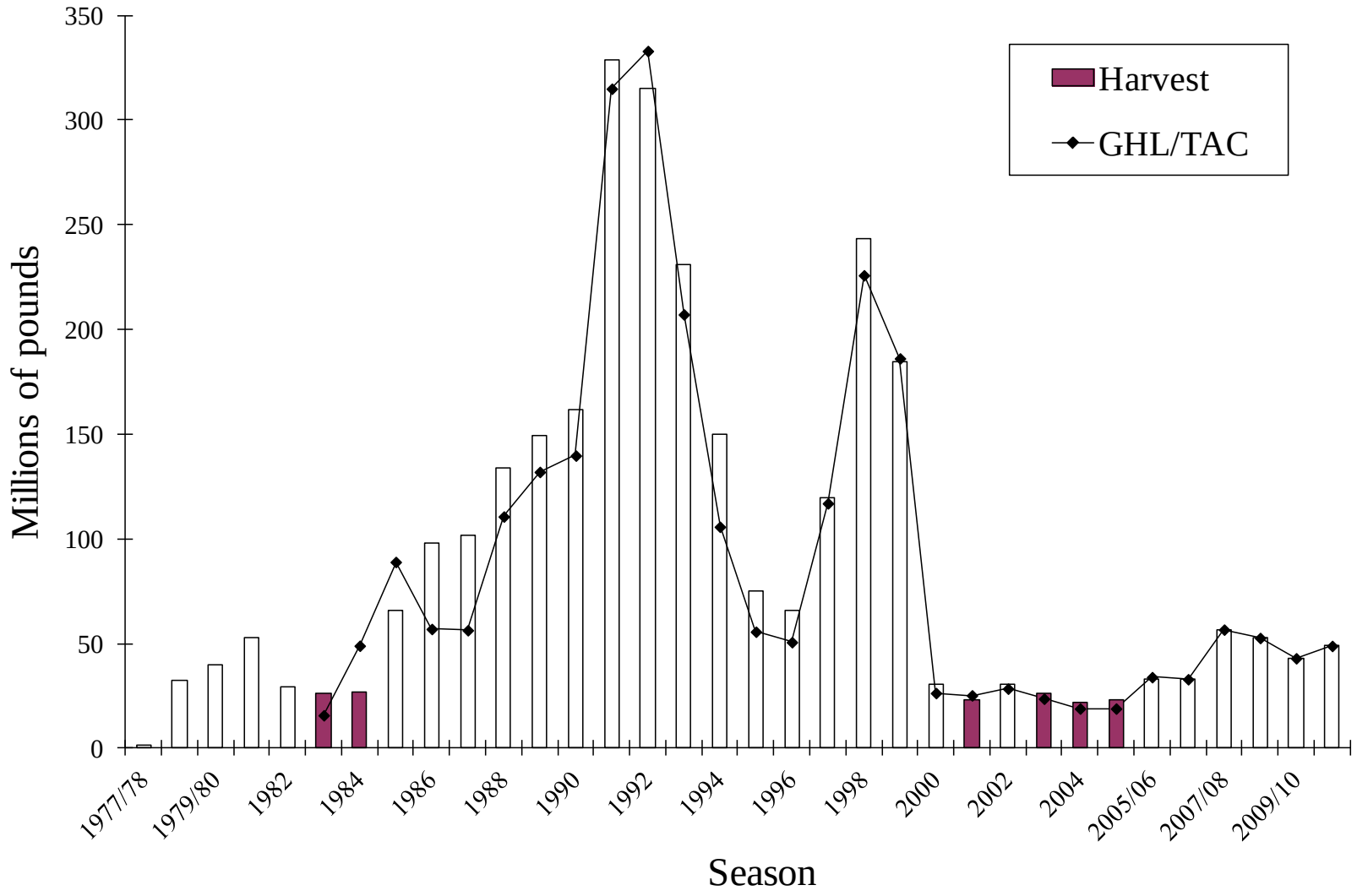


Figure 2-11.–Bering Sea District commercial snow crab general/IFQ fishery harvest and GHL/TAC, 1977/78–2010/11.

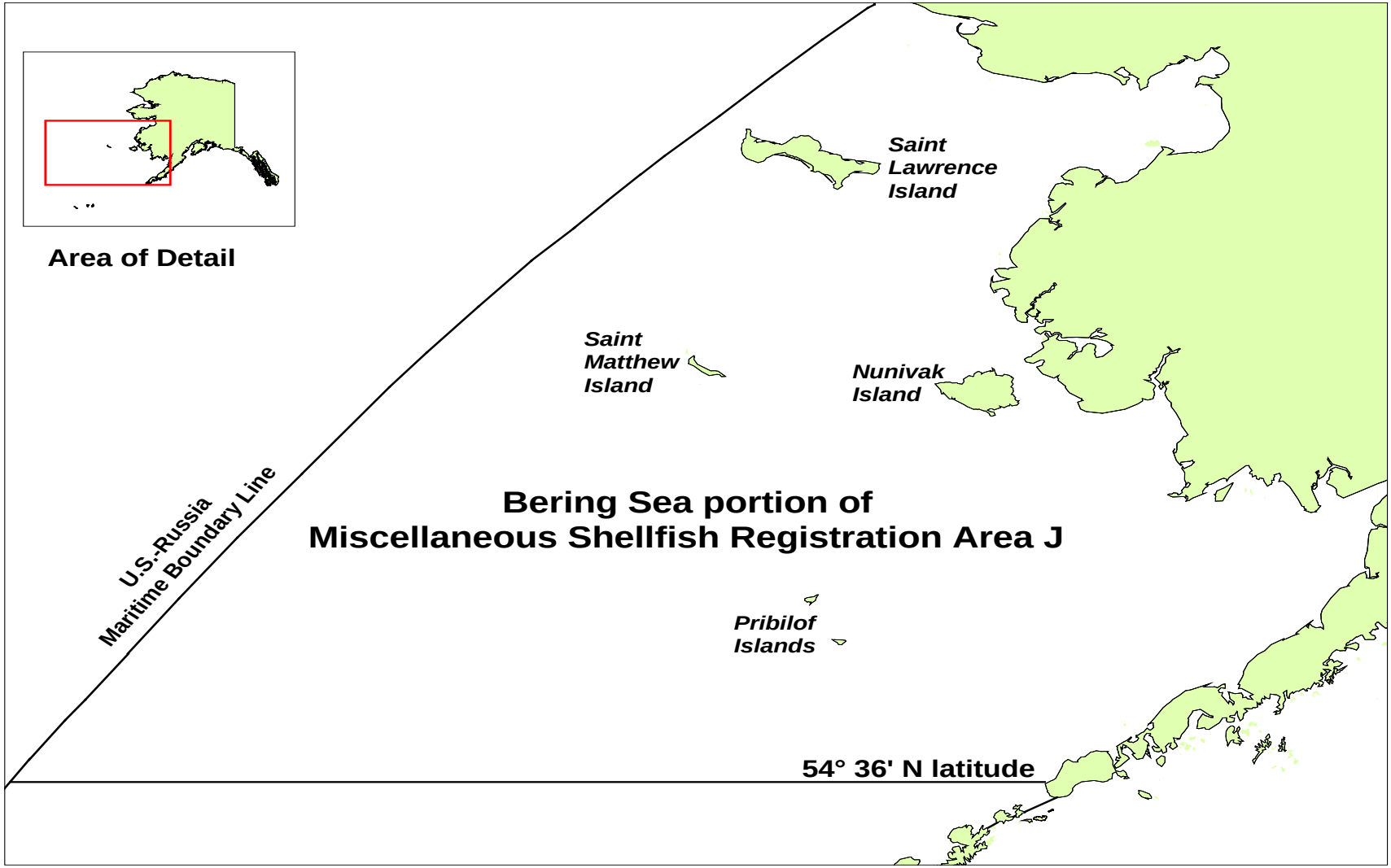


Figure 2-12.–Bering Sea portion of miscellaneous shellfish Registration Area J.

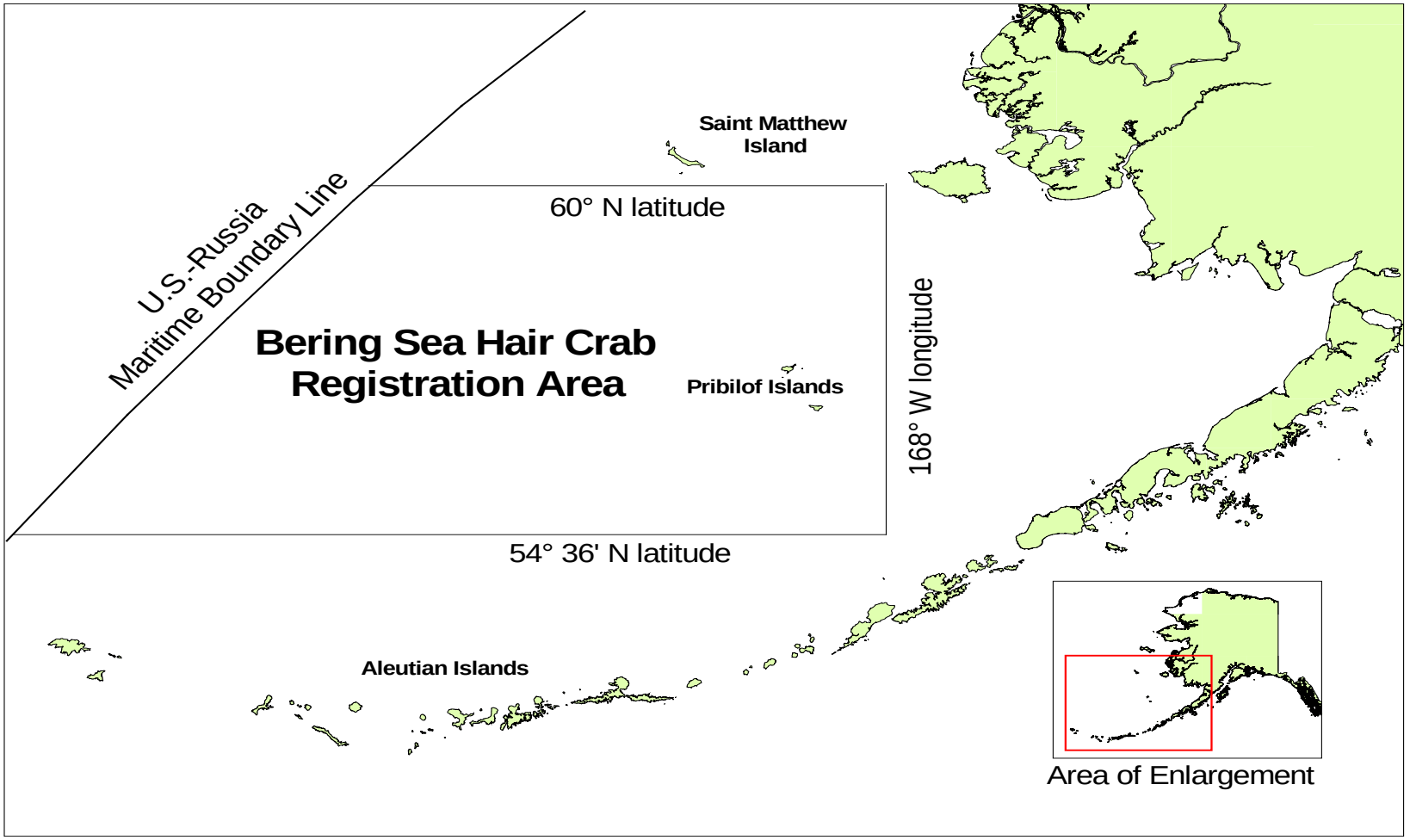


Figure 2-13.–Bering Sea hair crab fishing area of miscellaneous shellfish Registration Area J.

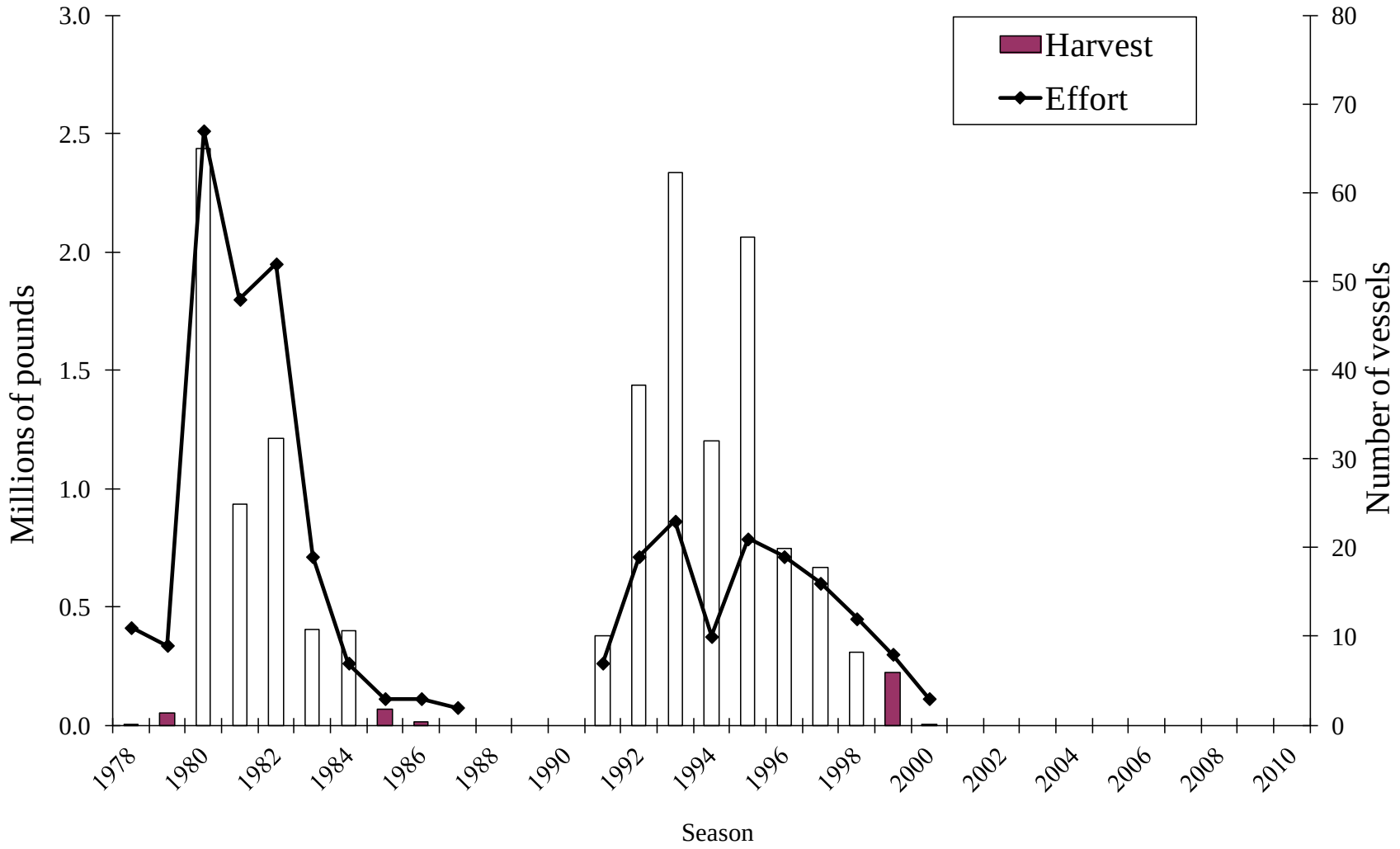


Figure 2-14.–Bering Sea commercial hair crab fishery harvest and effort, 1978–2010.

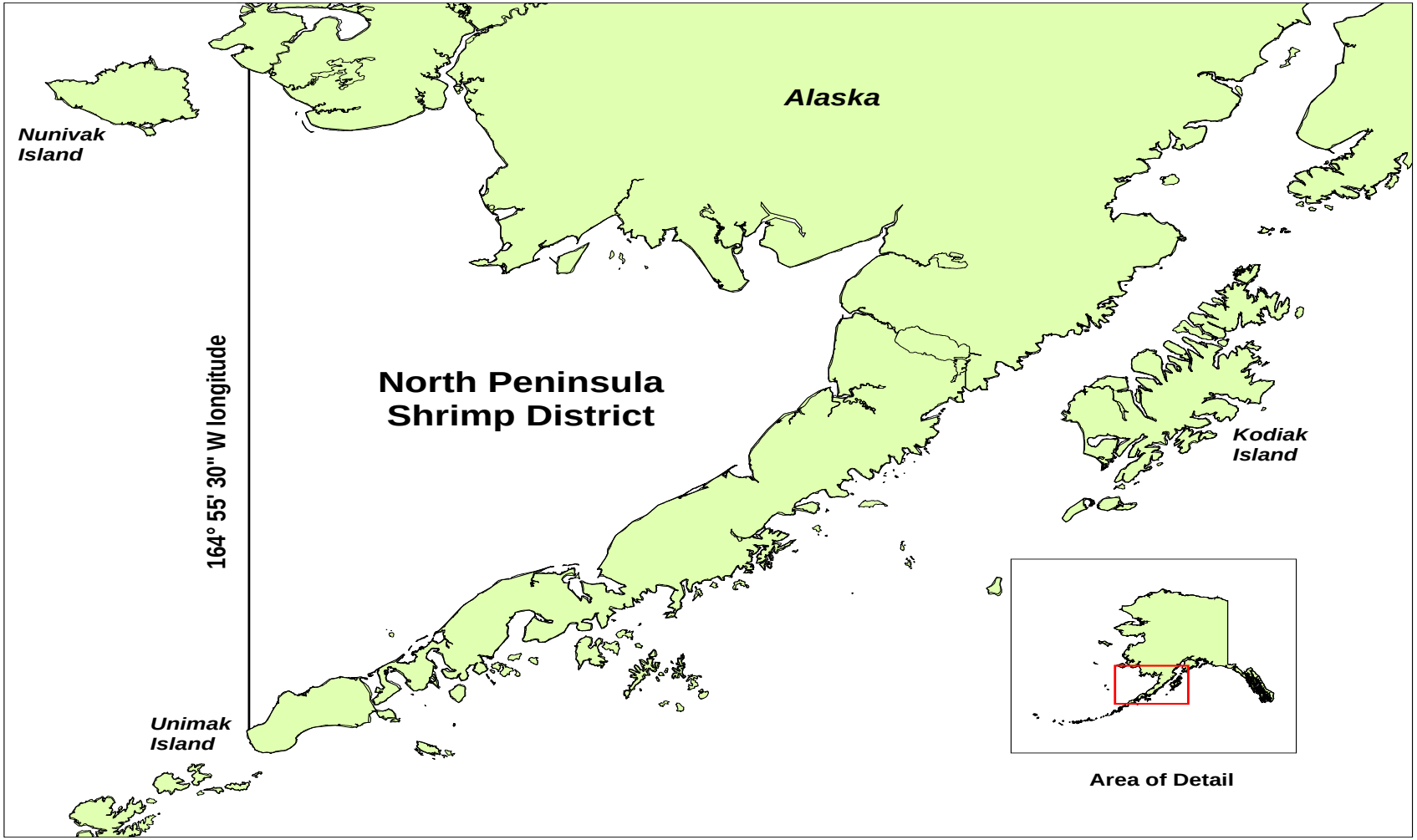


Figure 2-15.–North Peninsula District of shrimp Registration Area J.

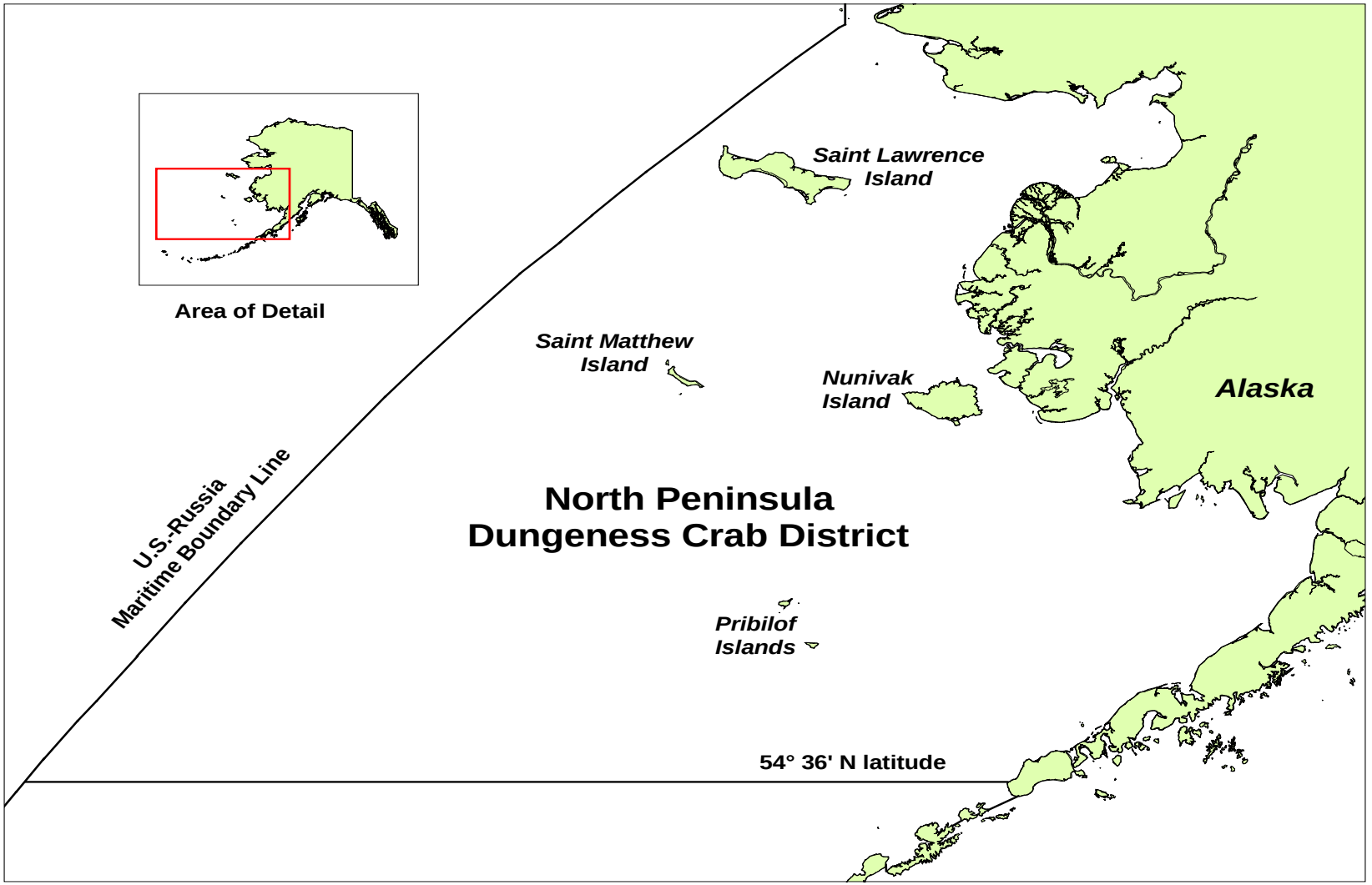


Figure 2-16.–North Peninsula District of Dungeness crab Registration Area J.

ANNUAL MANAGEMENT REPORT FOR THE COMMUNITY DEVELOPMENT QUOTA AND ADAK COMMUNITY ALLOCATION CRAB FISHERIES IN THE BERING SEA AND ALEUTIAN ISLANDS, 2010/11

by
Trent Hartill

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

May 2012

TABLE OF CONTENTS

Page

LIST OF TABLES

LIST OF FIGURES

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

DESCRIPTION OF AREA

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 waters of Bristol Bay. For CDQ crab fisheries managed by the Alaska Department of Fish and Game (ADF&G) Dutch Harbor office, Cape Romanzof (61°49’ N lat) is the northern boundary (Figure 3-1).

Aleutian Islands CDQ and Adak Community Allocation (ACA) crab fisheries encompass 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), the northern boundary from Cape Sarichef (54°36’ N lat) to 171° W long, then north to 55°30’ N lat, and the western boundary the U.S.-Russia Maritime Boundary Agreement Line. The ACA fishery occurs west of 174° W long.

CDQ PROGRAM BACKGROUND

The North Pacific Fishery Management Council (NPFMC) established the CDQ Program in 1992 for walleye pollock *Theragra chalcogramma* and was later expanded to sablefish *Anoplopoma fimbria* and Pacific halibut *Hippoglossus stenolepis*. 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 Bering Sea/Aleutian Islands (BSAI) king and Tanner crab CDQ fisheries in 1997 and the first CDQ crab fisheries took place in 1998. With the implementation of Crab Rationalization in 2005, the BOF adopted regulations to implement changes to the CDQ management program (5 AAC 39.690), including the addition of certain Aleutian Islands crab fisheries to the CDQ crab program. ADF&G manages the CDQ crab fisheries with federal oversight.

Sixty-five western Alaska 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 Region Fund (CVRF), Norton Sound Economic Development Corporation (NSEDC), and Yukon Delta Fisheries Development Association (YDFDA).

CDQ groups are non-profit entities, which may have for-profit subsidiaries. Use of CDQ funds vary widely between groups, but often 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 purchase equity in fishing vessels that harvest crab in both CDQ and individual fishing quota (IFQ) fisheries.

Each of the six CDQ groups participate in at least one CDQ fishery every year, although 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. CDQ groups receive allocations for the following BSAI crab fisheries: Norton Sound red king crab *Paralithodes camtschaticus*, Bristol Bay red king crab, Pribilof red and blue king crab *Paralithodes platypus*, St. Matthew blue king crab, Bering Sea snow crab *Chionoecetes opilio*, Bering Sea Tanner crab *Chionoecetes bairdi*, Aleutian Islands golden king crab *Lithodes aequispinus* (east of 174° W long), and Aleutian Islands red king crab (west of 179° W long; Table 3.1). To be eligible as a CDQ crab fishery, the crab stock must have an established Total Allowable Catch (TAC) and be managed under the federal BSAI crab fishery management plan (FMP). From 1998–2004 the CDQ allocation as specified in the BSAI crab FMP was based on a fixed percentage of the total CDQ and non-CDQ harvest each year, however, since implementation of Crab Rationalization, CDQ allocations have been a fixed percentage of the TAC. The annual CDQ allocations for crab were phased in over a three-year period: 3.5 percent of the total fishery harvest for 1998, 5.0 percent for 1999, and 7.5 percent for 2000–2005. The percentage of the TAC allocated to CDQ groups increased to 10 percent beginning in the 2005/06 season with the implementation of the CR program. In March 2006, the U.S. Secretary of Commerce authorized fixed percentages to each CDQ group for each fishery. Individual CDQ group allocations will undergo decennial review by the State of Alaska beginning in 2012 (DOC 2007).

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, in conjunction with the CR program, the BOF adopted regulations 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 ACA crab allocation is not a CDQ fishery, as Adak is not a CDQ community. ACDC must submit a comprehensive plan to the Alaska Department of Community and Economic Development on the intended use of the ACA funds derived from harvesting the ACA golden king crab. The funds are intended for fisheries related purposes and other projects to benefit the community of Adak.

The ACA is set at 10 percent of the TAC of the western Aleutian Islands (west of 174° W long) golden king crab fishery (Table 3-1). The fishery opened for the first time in August 2005.

FISHERY HISTORY

CDQ groups are required to submit preseason fishery harvesting plans to ADF&G prior to each CDQ crab fishery. Plans include participating vessels and their contact information, intended delivery locations, and the group allocation, including transfers.

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 fishery harvest in order to calculate an estimated allocation for each CDQ group. However, ADF&G changed permitting procedures after several CDQ groups exceeded their allocation in the snow crab fishery in 1998 and 1999. Because vessel permits were issued before the actual harvest limit for the CDQ fishery was known, the permit not reference the CDQ group's harvest allocation. Permits were henceforth issued to both vessels and CDQ groups. Prior to the Crab Rationalization program, CDQ group permits initially stated the estimated

allocation for the group. Once the final general fishery harvest was known, an addendum was made to each group permit stating the actual pounds allocated to the group. Under Crab Rationalization the final TAC for CDQ fisheries is established before the season begins so group permits are issued with the known allocation.

CDQ regulations before Crab Rationalization authorized CDQ harvest prior to the general fishery; however, in 1998 the department did not allow CDQ harvest before the general fishery. A full understanding of the impact of new CDQ fisheries and adequate staff to handle the increased management was needed before allowing CDQ fisheries to occur prior to the general fisheries. National Marine Fisheries Service (NMFS) determined that the federal CDQ regulatory language did not allow for harvest of the allocation outside of the calendar year to which it was assigned. The federal CDQ regulations were revised, but not in time for harvest of the 1999 allocation of snow crab to occur in the fall of 1998. The BOF addressed an agenda change request at the March 1999 meeting that would prohibit CDQ harvest prior to the general fishery. Due to concerns that CDQ crabs on the market prior to the general fishery would be detrimental to the value of the general fishery, the BOF directed stakeholders to develop a plan for managing CDQ fisheries preseason. A compromise was adopted into regulation. The new regulation would allow 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 CDQ fishing ever occurred before the general fishery.

With the implementation of the CR program in 2005/06 there was no longer a temporal difference in IFQ and CDQ crab fisheries. Almost all CDQ harvest is taken concurrently with IFQ harvest. Fishermen generally use the same gear to harvest IFQ and CDQ crab, however fisheries with pot limits are limited to a single fishery complement of pots.

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, then in 2000 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. Because CDQ and IFQ crab are harvested concurrently under Crab Rationalization, 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, 20 percent of vessels have observer coverage for 100 percent of their fishing time. For Bering Sea snow crab, 30 percent of vessels have observer coverage for 100 percent of their fishing time. During the Bering Sea Tanner crab fishery, 30 percent to 100 percent of the vessels are required to have observer coverage for 100 percent of their fishing time. Each vessel fishing for Aleutian Islands golden king crab is required to carry an observer for 50 percent of their 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 (MSA) 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 MSA, the BOF adopted a new regulation in March 2008 allowing a CDQ group to transfer quota to another CDQ group after crab has been harvested (5 AAC 39.690(e)(6)(D)). All crab transfers must be completed by June 30 of the current allocation year. Prior to this regulation if a CDQ

group went over their allocation, all proceeds from the overage were surrendered to the State of Alaska. In the 2009/10 season, NMFS began allowing transfers of IFQ quota; one CDQ group transferred CDQ harvest post-season to IFQ quota.

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 fishermen 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 regulations during the March 2008 meeting prohibiting fishermen from participating simultaneously in the Bering Sea snow crab and Western Bering Sea Tanner crab fisheries or the Bristol Bay red king crab and Eastern Bering Sea Tanner crab fisheries. New regulations allow vessels to retain Bering Sea snow crab up to 5 percent of the weight of the Bering Sea Tanner crab on board the vessel or Bering Sea Tanner crab up to 5 percent of the weight of the Bering Sea snow crab or Bristol Bay red king 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.

2010/11 CDQ AND ACA FISHERIES

Bristol Bay CDQ Red King Crab Fishery

The 2010/11 Bristol Bay CDQ red king crab fishery allocation was 1,483,900 pounds, slightly lower than the 2009/10 allocation of 1,600,900 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 Bristol Bay IFQ red king crab fishery on October 15, 2010.

Deliveries began October 20 and the final delivery was made December 2. Ten vessels made 18 landings for an overall harvest of 1,483,899 pounds (Table 3-2) for a fishery value of approximately $9.3 million (Table 3-3). No group exceeded their allocation.

The fishery average catch per unit effort (CPUE) was 18 legal crab per pot lift (Table 3-2), which was the same as the CPUE reported for the IFQ fishery. Average weight of crab in the CDQ fishery was 6.2 pounds (Table 3-3); the same as the average weight from the IFQ fishery. The five groups that participated each used two vessels to harvest their allocation. Three of the 10 vessels that harvested CDQ crab were observed, accounting for 33 percent of the CDQ harvest, which met the required 20 percent observer coverage.

Pribilof District CDQ Red and Blue King Crab Fishery

No CDQ harvest of Pribilof District red or blue king crab occurred in 2010/11 because the commercial fishery was closed.

Saint Matthew Island Section CDQ Blue King Crab Fishery

The 2010/11 Saint Matthew Island Section CDQ blue king crab allocation was 160,000 pounds, higher than the 2009/10 allocation of 116,700 pounds (Table 3-2). The fishery opened concurrently with the IFQ fishery on October 15. Group permits were issued to four groups. One group transferred their entire quota to another group and two other groups did not have an

allocation for this fishery. Three vessels made a total of seven landings, harvesting 156,314 pounds worth $647,140.

Bering Sea CDQ Snow Crab Fishery

The 2010/11 Bering Sea CDQ snow crab allocation was 5,428,100 pounds, higher than the 2009/10 allocation of 4,801,700 pounds. The fishery opened concurrently with the IFQ fishery on October 15, however, the first delivery was not until January 9, 2011 and the last delivery was on April 21. Fourteen vessels made 38 landings for a total harvest of 5,410,748 pounds and a fishery value of approximately $11.6 million (Tables 3-2 and 3-3). All CDQ groups participated in the fishery and none exceeded their allocation. Nine of the 14 vessels that harvested CDQ snow crab carried observers, accounting for 64 percent of the CDQ harvest, meeting the observer requirement of 30 percent.

The average CPUE of 284 was higher than the average CPUE of 253 from the IFQ fishery. Historically, CPUE in the CDQ snow crab fishery has varied, however in general was low from 1998 through 2004 and increased from 2005 through 2010/11 (Table 3-2). This is likely due to the combination of the number of vessels participating and available allocation; beginning in 2005/06 fishery allocations were nearly double that of 2000–2005, however, the number of vessels participating increased only modestly.

Eastern Aleutian Islands CDQ Golden King Crab Fishery

The 2010/11 Eastern Aleutian Islands (east of 174° W long) CDQ golden king crab allocation was 315,000 pounds, the same as the previous two years. All CDQ groups were allocated a portion of the harvest, but only four groups participated. The remaining two groups transferred their quotas to other CDQ groups. Each participating group used one vessel to harvest their allocation. One vessel harvested for two groups. Harvest information is confidential due to limited processor participation.

Western Aleutian Islands ACA Golden King Crab Fishery

The 2010/11 Western Aleutian Islands golden king crab ACA, issued to ACDC, was 283,500 pounds, the same as the previous two years (Tables 3-1 and 3-2). The fishery opened concurrently with the Western Aleutian Islands golden king crab IFQ fishery on August 15, however no landings occurred until February 2011; the final landing occurred in March 2011.

One vessel participated in the fishery. Harvest information 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 2010/11 due to closure of the commercial fishery.

Bering Sea CDQ Tanner Crab Fishery

No CDQ harvest of Bering Sea Tanner crab occurred in 2010/11 due to closure of the commercial fishery.

REFERENCES CITED

DOC (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 3-1.–The 2003–2010/11 Community Development Quota (CDQ) and Adak Community Allocation (ACA) percent allocation by crab 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
Eastern Bering Sea Tanner Crab	10	19	19	17	18	17	0
Western 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.)	0	0	0	0	0	0	100

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

[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.

Table 3-2.–The 1998–2010/11 Community Development Quota (CDQ) and Adak Community Allocation (ACA) 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
2009/10	10.0	1,600,900	11	23	259,787	1,600,851	10,740	23
2010/11	10.0	1,483,900	10	18	241,284	1,483,899	7,262	18
Pribilof Red King Crab								
1998	3.5	35,958[f]	1	CF	CF	CF	CF	6
1999 - 2010/11	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 - 2010/11	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
2009/10	10.0	116,700	0	0	0	0	0	NA
2010/11	10.0	160,000	3	7	37,129	156,314	953	9
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
2009/10	10.0	4,801,700	11	29	3,537,664	4,801,506	36,639	286
2010/11	10.0	5,428,100	14	38	3,783,740	5,410,748	37,883	284

-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
2009/10	10.0	315,000	3	CF	CF	CF	CF	24
2010/11	10.0	315,000	3	CF	CF	CF	CF	31
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
2009/10	10.0	283,500	1	CF	CF	CF	CF	18
2010/11	10.0	283,500	1	CF	CF	CF	CF	19
Western Aleutian Islands Red King Crab (west of 179° W longitude)								
2005/06 - 2010/11	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
2009/10	10.0	135,000	5	5	50,100	135,004	1,254	38
2010/11	FC	FC	FC	FC	FC	FC	FC	FC
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
2009/10	FC	FC	FC	FC	FC	FC	FC	FC
2010/11	FC	FC	FC	FC	FC	FC	FC	FC

Note: CF = confidential, FC = fishery closed, NA = not applicable.

[a] Guideline Harvest Level (GHL) 1998–2005, Total Allowable Catch (TAC) 2005/06–2009/10.

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

[c] In pounds.

[d] Deadloss included.

[e] Average number of legal crabs per pot lift.

[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 1998–2010/11 Community Development Quota (CDQ) and Adak Community Allocation (ACA) crab 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
2009/10	1,590,111	$4.43	$7,044,192	6.2	3,067	11,463
2010/11	1,476,637	$6.28	$9,273,280	6.2	3,446	13,169
Pribilof Red King Crab						
1998	CF	CF	CF	CF	CF	CF
1999 - 2010/11	FC	FC	FC	FC	FC	FC
Pribilof Blue King Crab						
1998	CF	CF	CF	CF	CF	CF
1999 - 2010/11	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
2009/10	0	0	0	NA	0	0
2010/11	155,361	$4.14	$643,195	4.2	745	4,045
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
2009/10	4,764,867	$1.12	$5,336,651	1.4	1,993	12,357
2010/11	5,372,865	$2.14	$11,497,931	1.4	2,368	13,345

-continued-

Table 3-3.–Page 2 of 2.

Season	Harvest[a,b]	Exvessel Value[c]	Fishery Value	Average Weight[a]	Pots	
					Registered	Lifted
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
2009/10	CF	CF	CF	CF	CF	CF
2010/11	CF	CF	CF	CF	CF	CF
Western Aleutian Islands Golden King Crab (west of 174° W longitude), ACA Fishery						
2005/06 - 2010/11	CF	CF	CF	CF	CF	CF
Western Aleutian Islands Red King Crab (west of 179° W longitude)						
2005/06 - 2010/11	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
2009/10	133,750	$1.65	$220,688	2.7	576	1,303
2010/11	FC	FC	FC	FC	FC	FC
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
2009/10	FC	FC	FC	FC	FC	FC
2010/11	FC	FC	FC	FC	FC	FC

Note: CF = confidential, FC = fishery closed, NA = not applicable.

[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.

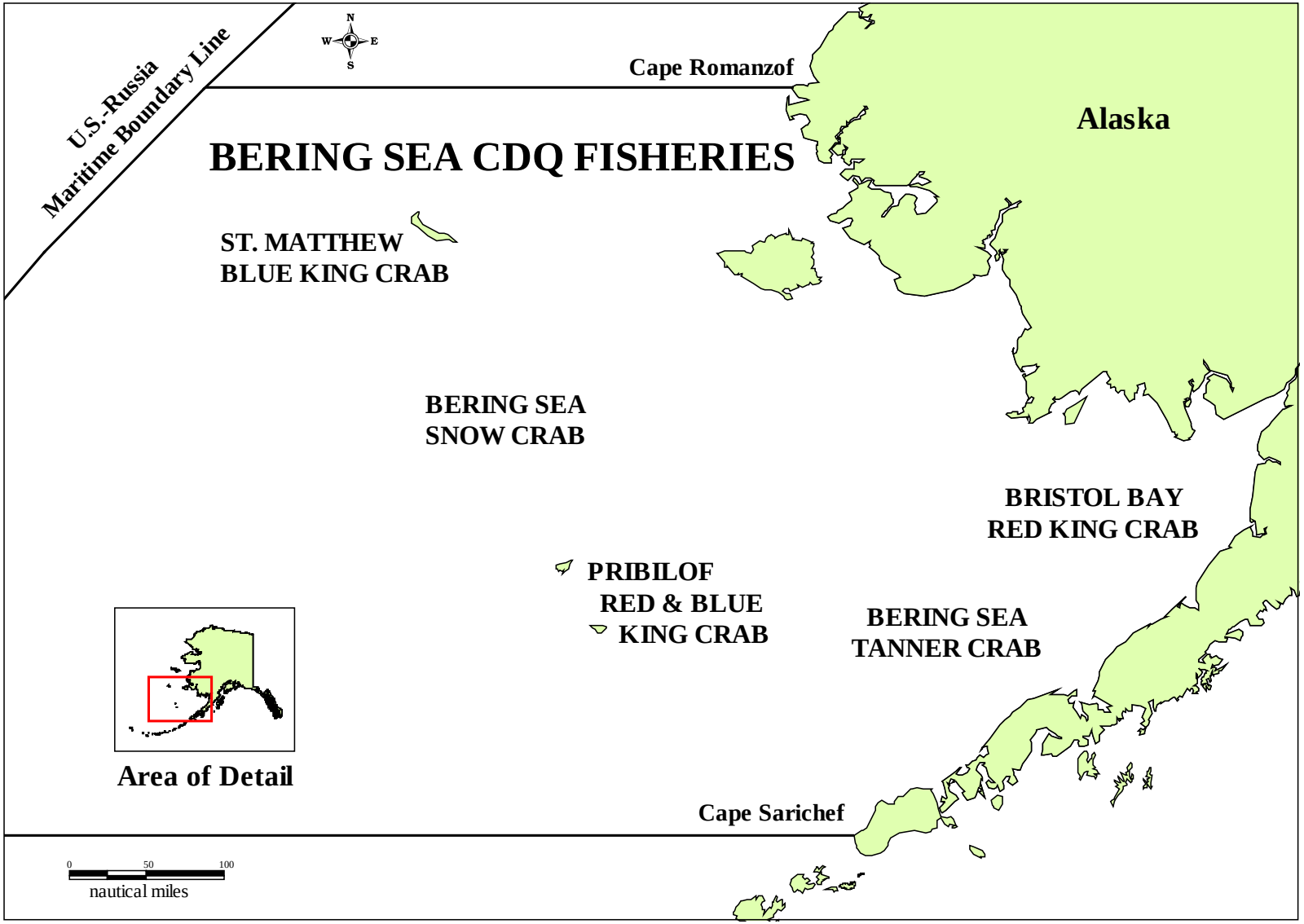


Figure 3-1.–Bering Sea Community Development Quota (CDQ) Program crab fisheries managed by ADF&G, Westward Region.

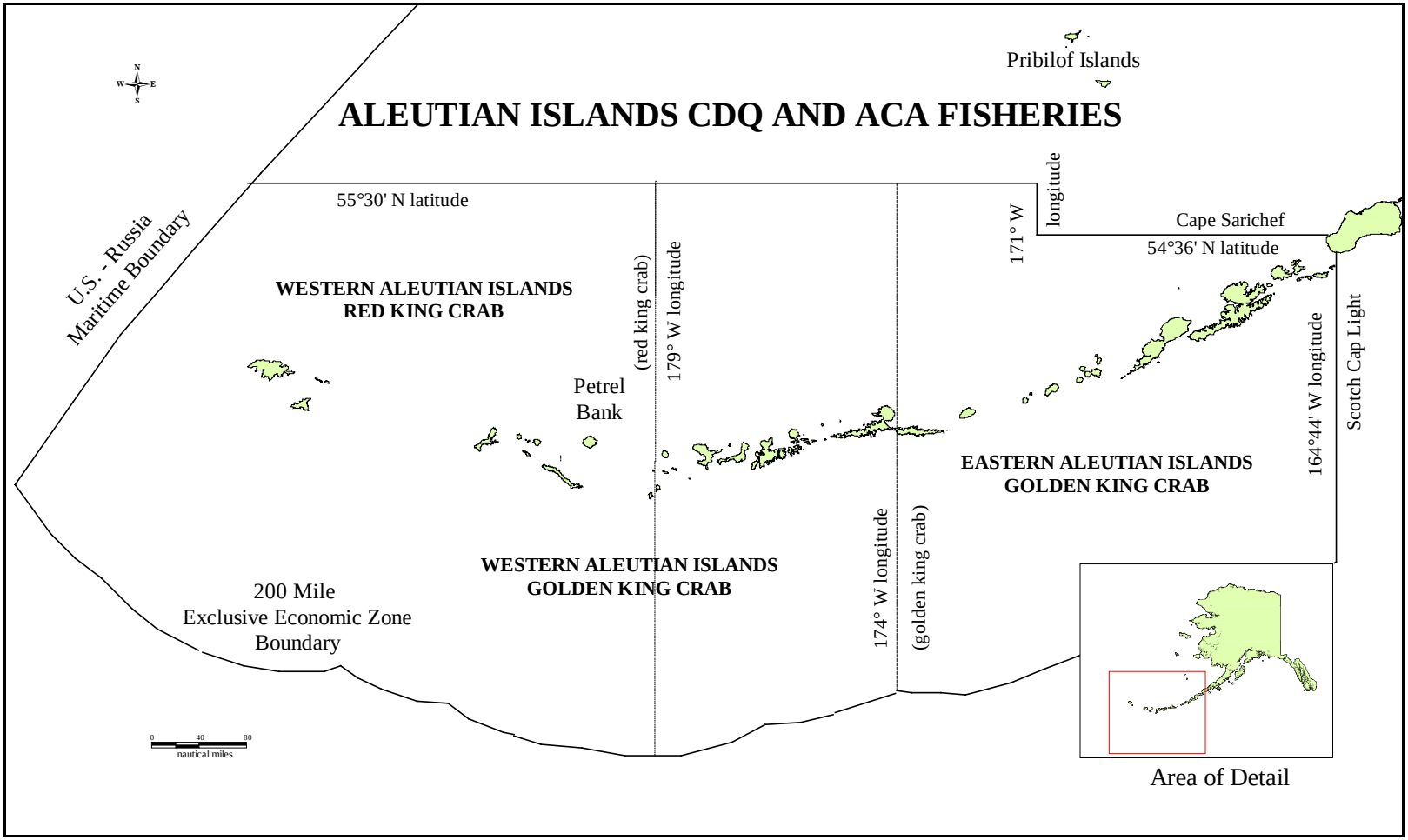


Figure 3-2.–Aleutian Islands Community Development Quota (CDQ) Program and Adak Community Allocation (ACA) crab fisheries managed by ADF&G.

ANNUAL REPORT OF THE ONBOARD OBSERVER PROGRAM FOR THE BERING SEA AND ALEUTIAN ISLANDS CRAB FISHERIES, 2010/2011

by
Mary Schwenzfeier

and

Melissa Salmon, Eric Evans, Edward Henry, and Lily Wald

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

May 2012

TABLE OF CONTENTS

Page

LIST OF TABLES

LIST OF FIGURES

INTRODUCTION

The state's shellfish onboard observer data collection and fishery monitoring program is an integral component of Bering Sea and Aleutian Islands (BSAI) shellfish fisheries management. Observer-collected data are used in annual crab stock assessments, in setting Total Allowable Catch (TAC) limits and help to evaluate the impact of various management actions.

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" (DOC 2007).

The State of Alaska commercial fishing regulation 5 AAC 39.645 *Shellfish Onboard Observer Program* states, that, onboard observers are the only practical data-gathering mechanism for these [Bering Sea and Aleutian Islands shellfish] fisheries without unduly disrupting the operation of these fisheries.

This report summarizes the observer program's development, historical observer coverage levels, and sampling efforts and data collection during the 2010, and 2010/11 BSAI crab fisheries seasons.

HISTORY OF THE STATE OF ALASKA'S SHELLFISH ONBOARD OBSERVER PROGRAM

Beginning in 1988 observers have been required by regulation on all vessels that process red king crab *Paralithodes camtschaticus*, blue king crab *P. platypus*, golden king crab *Lithodes aequispinus*, and Tanner crab *Chionoecetes bairdi* within the Exclusive Economic Zone. The observer requirement was prompted by catch information ADF&G collected suggesting illegal processing of undersize and female crab by catcher-processors (C/P) 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; was paid for by the harvester (pay-as-you-go).

The first crab observer deployments occurred in September 1988 during the Bristol Bay red king crab fishery. In 1990, the Alaska Board of Fisheries (BOF) broadened observer coverage to include vessels processing snow crab *C. opilio*. Snow crab observer coverage was included based on reports of undersize Tanner crab processed and labeled as snow crab. The BOF adopted ADF&G-proposed observer qualification standards and responsibilities. In the fall of 1991, the BOF adopted ADF&G-proposed observer certification and decertification standards.

During 1992, observers deployed on three vessels during the Bering Sea hair crab *Erimacrus isenbeckii* fishery. Beginning in 1993 ADF&G required, as a condition of a commissioner's permit, 100 percent observer coverage on vessels in the Bering Sea hair crab fishery. During the 1996 session of the Alaska Legislature, House Bill 538 passed authorizing the Commercial Fisheries Entry Commission to regulate vessel licenses for the Bering Sea hair crab fishery. 5 AAC 39.645 (d) (5) (C) provides ADF&G the authority to determine observer coverage on all vessels that fish hair crab. ADF&G has exempted vessels under 44 feet in length from mandatory observer coverage for observer safety considerations (ADF&G 1998).

King and Tanner crab regulations, 5 AAC 34.082 (d) (5) and 5 AAC 35.112 (d) (5), implemented in 1994 allow ADF&G to require, as a condition of the commissioner's permit, observer coverage on vessels targeting scarlet king crab *L. couesi*, grooved Tanner crab *C. tanneri*, and

triangle Tanner crab *C. angulatus*. Management and research of these fisheries rely on observers to collect 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 (AI) red and golden king crabs. After the BSAI crab fisheries were rationalized, observer coverage requirements were reduced to 50 percent of the harvest on each vessel for the AI golden king crab fisheries.

By 1999, the number of C/Ps participating in various BSAI crab fisheries had decreased from 10 percent of the fleet in 1988 to three percent of the fleet in 1999. Observer-collected data no longer provided sufficient information about fleet-wide activities and restricted the department's ability to adequately monitor bycatch. 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 pay-as-you-go observer coverage, the BOF endorsed funding of 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. ADF&G reports annually to the BOF-appointed COOTF with a review of test-fishery expenditures in BSAI crab fisheries. COOTF is advisory to the BOF and ADF&G with regard to test fishery expenditures for crab observer deployments.

The shellfish onboard observer program has utilized test fishery funding for a portion of the costs of BSAI crab observer coverage since 1999. The test fishery program is structured to allow test-fishery revenues to be carried across fiscal years.

With a marked increase in observer coverage on catcher vessels (C/V) beginning in 2000, observer training and logistic efforts could not keep pace. With the demand for observers in 2002, to address observer shortages, the BOF relaxed conflict of interest standards by increasing the number of days an observer may be deployed on a single vessel during 12 consecutive months, 5AAC 39.142 *Conflict of Interest Standards for Onboard Observers and Independent Contracting Agents* (a) (8), from 90 days to 120 days in fisheries greater than 75 days in length. The BOF also increased the duration a crab observer may be a trainee. Crab observer deployment was only available for derby-style crab fishing seasons; therefore the BOF allowed ADF&G to extend crab observer trainee permits an additional 365 days, at the discretion of ADF&G, to allow trainee observers time to gain experience needed to obtain full certification; 5 AAC 39.143 *Onboard Observer Certification and Decertification* (c) (1) (B).

An amendment to the MSA in 1996 provided for development and implementation of a Community Development Quota (CDQ) program for specific Bering Sea crab fisheries. In 1998 the crab CDQ fisheries were incorporated into existing state managed shellfish fisheries and are managed by the State of Alaska. CDQ fisheries were established for Bristol Bay red king crab, Bering Sea snow crab, Saint Matthew Island Section blue king crab, and Pribilof District red and blue king crab, where six CDQ groups received Bering Sea crab fisheries allocations.

Observer coverage requirements for Bristol Bay red king crab, Saint Matthew Island Section blue king crab, and Pribilof District red and blue king crab CDQ fisheries were set at 100 percent of all fishing operations on all vessels from 1998 through 2000, and 2001 through 2004 observer coverage was reduced to one C/V per group at any time CDQ king crab were harvested. The observer coverage requirement for Bering Sea snow crab CDQ was set at 100 percent 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. Between 2000 and 2005, CDQ snow crab observer coverage was increased to two C/Vs per group. All processing vessels participating in CDQ crab fisheries are required to carry an observer 100 percent of the time. All CDQ observer coverage was pay-as-you-go.

In March 2005, the BOF adopted regulations to accommodate changes in fishing practices instituted with the Crab Rationalization Program (CR), including implementation of an individual fishing quota (IFQ) fisheries management plan (5 AAC 39.670) for major BSAI crab fisheries. The North Pacific Fishery Management Council (NPFMC) created three CDQ-type crab fisheries as part of CR in 2005; Aleutian Islands CDQ golden king crab east of 174° W long, Aleutian Islands CDQ red king crab west of 179° W long, and Aleutian Islands Adak Community Allocation (ACA) golden king crab fishery west of 174° W long (Milani 2010).

Beginning August 2005, observer coverage for BSAI IFQ, CDQ and ACA crab harvest had been incorporated into 5 AAC 39.645. BSAI crab fishery seasons lengthened from the shorter derby-style seasons to seasons of 90 or more days where crab harvesters may fish IFQ and CDQ or ACA catch shares simultaneously.

Observer program regulations adopted by BOF in conjunction with the CR management plan allow ADF&G to implement observer coverage requirements in two ways for Bering Sea crab C/Vs where mandatory observer coverage is less than 100 percent. ADF&G may select a percentage of the registered vessels to carry observers for 100 percent of their fishing time or require a percentage of harvest on each vessel be observed (5 AAC 39.645).

Regulations for C/V observer coverage for Aleutian Islands golden king crab east of 174° W long (EAG), and Aleutian Islands golden king crab fishery west of 174° W long (WAG) require every C/V to carry an observer during at least 50 percent of the harvest brought aboard and landed in each of three observer coverage trimesters dated August 15 through November 15, November 16 through February 15, and February 16 through May 15 during each registration year. Observer coverage for Aleutian Islands golden king crab fisheries is pay-as-you-go (Table 4-1).

Regulation requirements for C/V observer coverage levels are 20 percent for Bristol Bay red king crab (BBR), 30 percent for Bering Sea snow crab (BSS), 100 percent for Saint Matthew Island Section blue king crab (SMB), 100 percent for Pribilof District red and blue king crab (PIK), 100 percent for Western Aleutian Islands red king crab (WAI), and 30 percent to 100 percent for Eastern Bering Sea Tanner crab (EBT) and Western Bering Sea Tanner crab (WBT; Table 4-1).

Funding for observer deployments on C/Vs in BBR, EBT, WBT and BSS, and corresponding CDQ fisheries has been provided through cost-recovery test fishing and funds granted to ADF&G from proceeds generated by a federal 3 percent CR tax. Annually, ADF&G randomly selects a percentage of registered vessels in each fishery (BBR, EBT, WBT, and BSS) to carry state-funded observers during 100 percent of their fishing for the season. SMB and PIK observer deployments are pay-as-you-go and observer coverage is set at 100 percent.

ADF&G and COOTF determined that for fisheries where observer coverage is less than 100 percent and funding for observer costs is provided, randomly selecting vessels is the most cost effective and efficient manner in which to meet data collection needs in crab fisheries. In a pay-

as-you-go system, selection of only a portion of the registered vessels to carry observers would unfairly require some harvesters to pay for observer coverage. In fisheries where observer funding is pay-as-you-go, each harvester is required to carry an observer during a designated minimum percentage of their harvest as outlined in regulation, 5 AAC 39.645 (d)(4).

For more on the history of Alaska's mandatory shellfish observer program see Boyle and Schwenzfeier 2000.

SHELLFISH ONBOARD OBSERVER PROGRAM REGULATIONS AND GUIDELINES

Regulatory responsibilities for ADF&G, observer companies, observers, and vessels are found in Alaska Statutes Title 16, AS 16.05.050 *Powers and Duties of the Commissioner*, AS 16.05.055 *Onboard Observer Program*, AS 16.05.251 *Regulations of the Board of Fisheries*, and in the 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 to implement regulations addressing certification and decertification of contracting agents and observers. To promote data consistency and reliability, ADF&G developed observer training standards, and briefing, debriefing and sampling protocols.

INDEPENDENT CONTRACTING AGENT RESPONSIBILITIES

Independent observer contracting agents 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 agents or ADF&G, depending on the funding source for observer coverage. In 2010/11, six independent contracting agents were certified by ADF&G to provide onboard observers: Alaskan Observers Inc. (AOI), East-West Technical Services LLC (EWTS), 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, or 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 percent proficiency on the final 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 report. Since 1991, the University of Alaska Anchorage North Pacific Fisheries Observer Training Center (OTC) has trained all BSAI crab observers. The OTC is supported with university, federal, and ADF&G funds.

VESSEL OWNER AND OPERATOR RESPONSIBILITIES

BSAI crab harvesters procure observers through a certified observer contractor. Observers must be provided with food and accommodations equal to that of the vessel's crew. A dedicated and safe work area must be provided for catch sampling, and necessary totes to hold the entire contents of each sample pot. Observers must have the opportunity and time to adequately sample the catch according to specific ADF&G data collection requirements. Harvesters are responsible for providing observers with accurate fishing effort, location, and harvest data, and access to communication equipment for contacting ADF&G. Depending on available funding, some harvesters are required to secure and pay for their observer coverage (pay-as-you-go).

ADF&G regulation requires 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.

CRAB OBSERVER DUTIES

Fisheries observers are tasked with an important job. Observers are required to accomplish duties that no one else on the vessel is assigned and must have the ability to successfully and objectively complete independent work assignments under oftentimes harsh and potentially dangerous conditions. Crab observers conduct species composition sampling on the entire contents of crab pots using two possible methods; measurement-pot or count-pot samples. A measurement-pot sample identifies all organisms and commercially important species are measured, and biological conditions and legal status are determined. A count-pot sample identifies all organisms and commercially important crab species are counted, and biological conditions and legal status are determined. Observers interview vessel captains for fishing effort, and catch and location information, and retained catch is sampled at time of landing. Observers report vessel and observer activities to the ADF&G observer program office via single side band radio, fax, email, or telephone. Instructions and protocols for crab observers are described in-depth in the September 2010 Crab Observer Training and Deployment Manual available through the ADF&G office in Dutch Harbor.

In addition to species composition sampling, observers 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 violation is suspected by an observer, troopers will interview the observer and may request a written statement. Observers are also required to confirm the vessel is displaying a current CFVSE decal, and safety equipment on the vessel is current and in usable condition. This inspection is conducted when observers first board their vessel.

Observers are additionally assigned miscellaneous data collection 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 growth maturity, facilitating tag recovery, documenting specific seabird and marine mammal observations,

collecting crab pot biotwine degradation information, and assessing crab reflex behavior for mortality studies.

CRAB CATCHER VESSEL

Crab observer duties on C/Vs include 1) daily, interview vessel's captain for confidential catch, effort, and location information, 2) during each fishing day, collect data on the entire contents of a specified number of randomly selected pots including species composition and catch location, 3) at time of landing, (a) determine the average weight of retained crab, (b) conduct size-frequency samples of 100 randomly selected retained crab for species, sex, biological measurements, legal status and shell condition, (c) conduct legal tally samples of 600 randomly selected retained crab for species, sex and legal status, 4) summarize fishing and landing information such as catch and effort per statistical area, average weights, deadloss weights, partial deliveries, personal use, and rail-dumped and lost pots, and 5) regularly report information to ADF&G.

CRAB CATCHER-PROCESSOR VESSEL

Crab observer duties on C/Ps include 1) daily, interview vessel's captain for confidential catch, effort, and location information, 2) during each fishing day, collect data on the entire contents of a specified number of randomly selected pots including species composition and catch location, 3) on a daily basis before crab are processed, (a) determine an average weight from a specified number of retained crab, (b) conduct size-frequency samples of 100 randomly selected retained crab for species, sex, biological measurements, legal status and shell condition, (c) conduct legal tally samples of 100–600 randomly selected retained crab for species, sex and legal status, 4) summarize fishing and landing information such as catch and effort per statistical area, average weights, personal use, and rail-dumped and lost pots, and 5) regularly report information to ADF&G.

CRAB FLOATING PROCESSOR VESSEL

Floating processor (F/P) observers sample the retained catch from crab vessels at each landing to the floating processor. Observer duties on F/Ps include 1) at time of landing, (a) interview vessel's captain for confidential catch, effort, and location information, (b) determine the average weight of retained crab, (c) summarize fishing and landing information such as catch and effort per statistical area, average weights, deadloss weights, partial deliveries, personal use, and rail-dumped and lost pots, (d) conduct size-frequency samples of 100 randomly selected retained crab for species, sex, biological measurements, legal status and shell condition, and (e) conduct legal tally samples of 600 randomly selected retained crab for species, sex and legal status, and 2) report information to ADF&G for each landing.

2010/2011 OBSERVER PROGRAM ACTIVITY

OBSERVER PROGRAM TEST FISHERY

The 2010 observer program test fishery harvest was 52,718 live pounds of Bristol Bay red king crab. The test fishery occurred in October 2010 and generated $289,949 in revenue with an ADF&G representative onboard. Test fishery harvest and sale of crab was contracted to the highest bidder responding to the department's publicly solicited Invitation to Bid on July 23,

2010. Test fishery red king crab were purchased from ADF&G for $5.50 per pound and the cost to harvest was absorbed by the purchaser (Tables 4-2 and 4-3).

2010/11 Aleutian Islands Golden King Crab Fishery Observer Activity

The 2010/11 Aleutian Islands golden king crab fishery season opened on August 15, 2010. The TAC for EAG was 3.150 million pounds and TAC for WAG was 2.835 million pounds.

Catcher vessels in EAG and WAG management areas are required to carry observers for a minimum of 50 percent of each vessel's total golden king crab harvest by weight in each management area, during each of three trimesters. Observed harvest is defined as having an observer onboard while the vessel is operating fishing gear and retaining crab. Observer coverage requirements for C/Ps and F/Ps are set at 100 percent. All observer coverage in EAG and WAG is pay-as-you-go (Table 4-1).

Five vessels participated in the Aleutian Islands golden king crab fishery, including four C/Vs and one C/P. To preserve confidentiality, 2010/11 information for EAG and WAG management areas has been combined in this report.

Observers on C/Vs were assigned seven measurement pots per fishing day, and C/P observers were assigned four measurement pots per fishing day for species composition sampling. Observers reported harvest information to ADF&G every Monday morning. Observers deployed in EAG reported tagged golden king crab recovered, and those deployed in WAG were required to measure and document red king crab bycatch.

The 2010/11 Aleutian Islands golden king crab season closed by regulation on May 15, 2011. Catcher vessels made 55 landings and observed C/Vs landed 57.2 percent of the EAG and WAG C/V harvest. One C/P made 18 landings and harvest information for the vessel is confidential (Table 4-4).

Observers sampled 1,303 (2.3 %) of the 55,795 pots lifted in the fishery. Catcher vessel observers sampled 992 (3.7 %) of the 26,462 pots lifted on observed C/Vs and completed 25 size-frequency samples and 19 legal tallies. Catcher-processor observers sampled 311 (3.4 percent) of the 9,035 C/P pots lifted and completed 82 size-frequency samples and 82 legal tallies (Table 4-5).

Fishing occurred in 72 statistical areas. There were 5,005 pot lifts in 17 statistical areas that had less than 50 percent observer coverage; of those, 250 pot lifts from five statistical areas were not observed. The other 50,790 pot lifts in 55 statistical areas were between 50 percent and 100 percent observed (Table 4-6).

All C/Vs that harvested Aleutian Islands golden king crab maintained a 50 percent or greater observer coverage level for each management area and trimester. Fishing commenced the first week of the season and continued into the third week of December (statistical week 51). No vessels fished EAG or WAG between December 21 and January 2 (statistical weeks 52 and 1). Fishing resumed again the first full week in January (statistical week 1) and continued into mid-March (statistical week 10; Figure 4-1).

2010/11 Aleutian Islands Red King Crab Fishery West of 179° W Longitude (Petrel Bank area)

The 2010/11 Aleutian Islands red king crab fishery west of 179° W long (Petrel Bank) was closed during 2010/11. The observer coverage requirement is set at 100 percent, as pay-as-you-go, for all vessels (Table 4-1). Historical observer activity information for the 2001 through 2003 Petrel Bank red king crab fishery is in Table 4-7.

2010 Aleutian Islands Scarlet King Crab Fishery Observer Activity

No vessels registered to harvest scarlet king crab in 2010. Historical observer activities 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. Because little is known about scarlet king crab, 100 percent, as pay-as-you-go, observer coverage would likely be required during all fishing activities (Table 4-1).

2010 Aleutian Islands Grooved Tanner Crab Fishery Observer Activity

No vessels registered to harvest grooved Tanner crab in 2010. Because little is known about grooved Tanner crab, 100 percent, as pay-as-you-go, observer coverage is required during all fishing activities (Table 4-1). Historical observer activity for grooved Tanner crab fisheries is located in Table 4-8.

2010 Aleutian Islands Triangle Tanner Crab Fishery Observer Activity

No vessels registered to harvest triangle Tanner crab in 2010. Harvest of triangle crab is typically incidental to grooved Tanner crab. Because little is known about triangle Tanner crab, 100 percent, as pay-as-you-go, observer coverage is required during all fishing activities (Table 4-1).

2010/11 Bristol Bay Red King Crab Fishery Observer Activity

The 2010/11 BBR season opened on October 15, 2010 with a TAC of 14.839 million pounds. ADF&G paid the cost of C/V observer deployments. The observer coverage requirement for C/Ps and F/Ps is 100 percent as pay-as-you-go (Table 4-1).

Sixty-five vessels participated in the fishery, including 63 C/Vs and 2 C/Ps. Sixteen (20 %) of the 81 C/Vs that preseason registered were randomly selected to carry observers for 100 percent of their fishing activity. Fourteen (22.2 %) of the 63 C/Vs that registered to fish carried observers throughout the season.

Observers on C/Vs were assigned seven measurement pots per fishing day, and observers on C/Ps were assigned four measurement pots per fishing day for species composition sampling. Observers reported harvest information to ADF&G every Monday morning.

The 2010/11 BBR season closed by regulation on January 15, 2011. Catcher vessels made 240 landings and observed C/Vs landed 23.4 percent of the BBR C/V harvest (Table 4-9). Observers

sampled a total of 1,942 (1.5 %) of the 131,627 pots lifted in the fishery. Catcher vessel observers sampled 1,733 (5.8 %) of the 30,107 pots lifted on observed C/Vs and conducted 46 size-frequency samples and 42 legal tallies. Catcher-processor observers sampled 209 (3.2 %) of the 6,487 C/P pots lifted and conducted 41 size-frequency samples and 41 legal tallies (, 4-10).

Fishing occurred in 19 statistical areas with a total of 131,627 pot lifts. There were 7,018 pot lifts in eight statistical areas that had less than 20 percent observer coverage; of those 214 pot lifts from four statistical areas were not observed. The other 124,609 pot lifts in 11 statistical areas were between 20 percent and 100 percent observed (Table 4-11).

The C/V observer coverage level was maintained at 20 percent or greater throughout the season (Figure 4-2).

2010/11 Saint Matthew Island Section Blue King Crab Fishery Observer Activity

The 2010/11 SMB season opened on October 15, 2010 with a TAC of 1.6 million pounds. Observer coverage is 100 percent as pay-as-you-go (Table 4-1).

Eleven C/Vs participated in the fishery. Observers on C/Vs were assigned 10 measurement pots for species composition sampling. All observers reported harvest information to ADF&G three times a week.

The 2010/11 SMB season closed by regulation on February 1, 2011. The fleet made 70 landings and landed 1,263,982 pounds of crab. All harvest was observed (Table 4-12). Observers sampled a total of 2,410 (8.2 %) of the 29,346 pots lifted during the fishery. Thirty-six size-frequency samples and 35 legal tallies were conducted by observers. Observers were on vessels during all pot lifts in all statistical areas (Tables 4-13 and 4-14).

Vessels commenced fishing during the third week of October (statistical week 42) and continued fishing through first week of December (statistical week 49; Figure 4-3).

2010/11 Pribilof District Red and Blue King Crab Fishery Observer Activity

The 2010/11 PIK fishery has been closed since 1999 due to low stock abundance. The observer coverage requirement is 100 percent as pay-as-you-go for all vessels (Table 4-1).

2010/11 Eastern Bering Sea Tanner Crab Fishery Observer Activity

The 2010/11 EBT crab season was closed.

ADF&G requires observer coverage on 30 percent to 100 percent of the C/Vs during 100 percent of their fishing. ADF&G covers the cost of observers for C/Vs in this fishery. The observer coverage requirement for C/Ps and F/Ps is 100 percent as pay-as-you-go (Table 4-1). The 2008/09, and 2009/10 EBT observer activity is located in Tables 4-15 and 4-16.

2010/11 Western Bering Sea Tanner Crab Fishery Observer Activity

The 2010/11 WBT crab season was closed.

ADF&G requires observer coverage on 30 percent to 100 percent of the C/Vs during 100 percent of their fishing. ADF&G covers the cost of observers for C/Vs in this fishery. The observer coverage requirement for C/Ps and F/Ps is 100 percent as pay-as-you-go (Table 4-1). The 2008/09 WBT observer activity is located in Tables 4-17 and 4-18.

2010/11 Bering Sea Snow Crab Fishery Observer Activity

The 2010/11 BSS crab season opened on October 15, 2010 with a TAC of 54.281 million pounds. ADF&G paid the cost of observer deployments on C/Vs selected to carry observers. The observer coverage requirement for C/Ps and F/Ps is 100 percent as pay-as-you-go (Table 4-1).

Seventy vessels participated in the fishery, including 66 C/Vs, 2 C/Ps, and 2 F/Ps. Twenty-four (30%) of the 81 C/Vs preseason registered were randomly selected to carry observers for 100 percent of their fishing activity and 24 (36.4%) of the 66 C/Vs that registered to fish carried observers during the season.

Observers on C/Vs were assigned one measurement pot and three count pots per fishing day, and observers on C/Ps were assigned one measurement pot and two count pots per fishing day for species composition sampling. Observers reported harvest information to ADF&G every Monday morning.

The 2010/11 BSS season in the eastern subdistrict (east of 173° W long) closed by regulation on May 15 and in the western subdistrict (west of 173° W long) closed May 31. Catcher vessels made 362 landings and the C/V harvest was 46.6 percent observed (Table 4-19). Observers sampled 2,137 (2.8%) of the 147,244 pots lifted in the fishery. Catcher vessel observers sampled 1,925 (2.8%) of 67,758 pots lifted on observed C/Vs and conducted 121 size-frequency samples and 118 legal tallies. Catcher-processor observers sampled 212 (2.6%) of the 8,250 pots lifted on C/Ps and conducted 91 size-frequency samples and 91 legal tallies, and observers on F/Ps and conducted 38 size-frequency samples and 38 legal tallies (Table 4-20).

Fishing occurred in 31 statistical areas with a total of 147,244 pot lifts. There were 28,039 pot lifts in 11 statistical areas that had less than 30 percent observer coverage; of those, 77 pot lifts in four statistical areas were not observed. The other 119,205 pot lifts in 20 statistical areas were between 30 percent and 100 percent observed (Table 4-21).

One vessel harvested snow crab during the third week in November (statistical week 47). No vessels harvested snow crab the last week in November or the first week of December (statistical weeks 48 and 49). Harvest began again during the second week of December and continued through the second week of April (statistical weeks 50–15). Except for the first and last weeks of harvest, observer coverage level was greater than 30 percent (Figure 4-4).

2010 Bering Sea Registration Area Golden King Crab Fishery Observer Activity

One catcher vessel registered to harvest Pribilof District golden king crab during 2010. The observer coverage requirement is 100 percent as pay-as-you-go (Table 4-1). Harvest occurred between April 8 through May 18 and September 8 through September 30. Observers sampled 483 (26.5%) of the 1,823 pots lifted, and conducted three size-frequency samples and three legal tallies (Table 4-22).

2010 BERING SEA HAIR CRAB FISHERY OBSERVER ACTIVITY

The Bering Sea hair crab fishery has been closed since 2001 due to low stock abundance. Observer coverage requirement is 100 percent as pay-as-you-go (Table 4-1). Historical observer activity is located in Tables 4-23 and 4-24.

2010 BERING SEA DISTRICT GROOVED TANNER CRAB FISHERY OBSERVER ACTIVITY

No vessels registered to harvest Bering Sea District grooved Tanner crab in 2010. Because little is known about grooved Tanner crab, the observer coverage requirement is 100 percent as pay-as-you-go (Table 4-1). Historical observer activity is combined for all grooved Tanner crab fisheries and can be located in Table 4-8.

2010 BERING SEA DISTRICT TRIANGLE TANNER CRAB FISHERY OBSERVER ACTIVITY

No vessels registered to harvest triangle Bering Sea District Tanner crab in 2010. Triangle crab is typically harvested incidental to grooved Tanner crab. Because little is known about triangle Tanner crab, the observer coverage requirement is 100 percent as pay-as-you-go (Table 4-1).

2010 SOUTH PENINSULA DISTRICT GROOVED TANNER CRAB FISHERY OBSERVER ACTIVITY

No vessels registered to harvest South Peninsula District grooved Tanner crab in 2010. Because little is known about grooved Tanner crab, the observer coverage requirement is 100 percent as pay-as-you-go (Table 4-1). Historical observer activity is combined for all grooved Tanner crab fisheries and is located in Table 4-8.

OBSERVER-COLLECTED DATA USE AND ANALYSIS

Observer-collected crab data are used to generate estimates of crab bycatch and bycatch mortality in BSAI crab fisheries. In addition, observer-collected data are used to characterize size composition of the retained catch and to document fishing practices and fleet behavior. Applications of observer-collected crab data are discussed in Schwenzfeier et al. 2000. ADF&G annually summarizes biological data collected by crab observers. Observer-collected data are used in reports generated by ADF&G, NPFMC, NMFS, and are provided to the public. The most recent summary and analysis of observer-collected BSAI crab fisheries data is available in Gaeuman 2011.

REFERENCES CITED

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. Burt, and H. Moore. 2001. Alaska Department of Fish and Game summary of the 2000 mandatory shellfish observer program database for the open access fisheries. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K01-39, Kodiak.

Boyle, L., and M. Schwenzfeier. 2000. Alaska's Mandatory Shellfish Observer Program, 1988 - 2000. [*In*] 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.). 2002. Crabs in Cold Water Regions: Biology, Management, and Economics. University of Alaska Sea Grant, AK-SG-02-01, Fairbanks.

DOC (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.

Gaeuman, W. B. 2011. Summary of the 2009/2010 mandatory shellfish observer program database for the rationalized crab fisheries. Alaska Department of Fish and Game, Fishery Data Series No. 11-04, Anchorage.

Milani, K. 2010. Annual management report for the Community Development Quota and Adak Community Allocation crab fisheries in the Bering Sea and Aleutian Islands, 2008/2009. [*In*] 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.

Moore, H., L.C. Byrne, and M.C. Schwenzfeier. 2000. Alaska Department of Fish and Game summary of the 1999 mandatory shellfish observer program database for the open access fisheries. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K00-50, Kodiak.

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*] 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.). 2002. Crabs in Cold Water Regions: Biology, Management, and Economics. University of Alaska Sea Grant, AK-SG-02-01, Fairbanks.

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		At-sea processors	
		Percent observer coverage	Observer costs funded [b]	Percent observer coverage	Observer costs funded
Saint Matthew Island 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
Saint Matthew Island 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
Area J grooved and 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

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

[b] Catcher vessel observer coverage is funded with test-fishery revenue and a federal-fee reimbursement grant.

[c] For Bristol Bay red king crab, and Eastern and Western Bering Sea Tanner and Bering Sea snow crab, the catcher vessel coverage is the percentage of randomly selected catcher vessels pre-season registered in each fishery where catcher vessel observer deployment costs are paid for with test-fishery revenues and federal funds.

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

Table 4-2.–Economic performance of the shellfish onboard observer program test fishery, 1999–2010.

Year	Targeted species	Harvest [a]	Exvessel value			Charter dates	Charter days	Vessel charter cost
			Test-fish [b]	Fishery [b, c]	Total			
1999	Bristol Bay red king crab	105,934	$6.32	$6.26	$669,500	10/25–11/10	17	$40,800
2000	No test fishery							
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 test fishery							
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	11/12–12/04	23 [d]	$69,900
2006	Bristol Bay red king crab	186,047	$2.15	$3.40	$400,000	9/22–10/11	17 [d]	0 [e]
2007	Bristol Bay red king crab	78,360	$4.02	$4.19	$315,000	10/02–10/12	10 [d]	0 [e]
2008	No test fishery							
2009	Bristol Bay red king crab	97,190	$4.27	$4.44	$415,000	9/25–10/12	18 [d]	0 [e]
2010	Bristol Bay red king crab	52,718	$5.50	$6.28	$289,949	9/26-10/15	19 [d]	0 [e]

[a] Live pounds, deadloss not included.

[b] Price per pound.

[c] General fishery up to 2004 and Individual Fishing Quota (IFQ) fishery beginning in 2005.

[d] Harvest of both test-fishery and IFQ crab.

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

Table 4-3.–Shellfish onboard observer program test fishery harvest statistics, 1999–2010.

Year	Targeted species	Number of Landings	Number of Crab [a]	Harvest [a,b]	Number of pots lifted	CPUE	Average weight [b]	Deadloss [b]
1999 [c]	Bristol Bay red king crab	2	16,930	106,179	541	31.0	6.3	245
2000	No test fishery							
2001 [c]	Bristol Bay red king crab	2	13,065	90,151	463	28.2	6.9	103
2002 [c]	Bristol Bay red king crab	1	10,837	71,661	198	54.7	6.6	134
2003	No test fishery							
2004 [c]	Bristol Bay red king crab	2	17,145	116,583	650	26.4	6.8	62
2005 [d]	Bristol Bay red king crab	2	18,610	128,412	1,130	16.5	6.9	247
2006 [d]	Bristol Bay red king crab	2	29,720	188,495	837	34.9	6.4	2,448
2007 [d]	Bristol Bay red king crab	2	12,292	78,670	356	34.5	6.4	310
2008	No test fishery							
2009 [d]	Bristol Bay red king crab	2	15,295	97,643	646	23.7	6.4	453
2010 [d]	Bristol Bay red king crab	2	8,600	52,787	556	15.5	6.3	69

[a] Deadloss included.

[b] In pounds.

[c] Test fishing occurred after the Bristol Bay red king crab general fishery.

[d] Contracted vessel harvested Individual Fishing Quota crab in conjunction with test-fishery crab.

Table 4-4.–Eastern and Western Aleutian Islands golden king crab harvest by vessel type and percent harvest observed, 2004/05–2010/11.

Season	Vessel type	Number of Vessels	Number of Landings	Percent observed harvest [a]
2003/04	C/V	20	74	100.0
	C/P	1	22	100.0
	Total	21	96	100.0
2004/05	C/V	21	64	100.0
	C/P	1	19	100.0
	Total	22	83	100.0
2005/06 [b]	C/V	7	60	69.9
	C/P	1	22	100.0
	Total	8	82	76.1
2006/07 [b]	C/V	6	51	69.1
	C/P	1	24	100.0
	Total	7	75	75.7
2007/08 [b]	C/V	4	57	59.1
	C/P	1	24	100.0
	Total	5	81	68.4
2008/09 [b]	C/V	4	59	61.9
	C/P	1	20	100.0
	Total	5	79	69.8
2009/10 [b]	C/V	4	62	56.6
	C/P	1	18	100.0
	Total	5	80	65.2
2010/11 [b]	C/V	4	55	57.2
	C/P	1	18	100.0
	Total	5	73	65.6

Note: East and west of 174° W long combined for reporting purposes to preserve data confidentialitv.
C/V = Catcher vessel, C/P = Catcher-processor vessel, CF = Confidential

[a] Observer onboard during harvest.

[b] Data includes Individual Fishing Quota (IFQ), Community Development Quota, and Adak Community Allocation (ACA). 2005/06 is the first year of Crab Rationalization and IFQ and ACA harvest.

Table 4-5.–Eastern and Western Aleutian Islands golden king crab fishery observer sampling efforts by vessel type, 1996/97–2010/11.

		Number of [a]			Number of							Percent pot	Number of	
Season	Vessel type	Vessels	Observed vessels	Percent observer coverage	Observer deploy-ments	Observer months	Pot lifts sampled [b]	Total pot lifts	Pot lifts on observed vessels	Percent pot lifts sampled	lifts sampled on observed vessels	Size freq. [c]	Legal tallies [d]
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	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	Total	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	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	Total	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	0	0	0	0.0	0.0	4	4
	Total	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	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	Total	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	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	Total	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	0	0	0	0.0	0.0	1	1
	Total	21	21	100.0	49	66.5	9,082	168,151	168,151	5.4	5.4	247	250

- continued -

Table 4-5.–Page 2 of 3.

Season	Vessel type	Number of [a] Vessels	Observed vessels	Percent observer coverage	Number of Observer deploy-ments	Observer months	Pot lifts sampled [b]	Total pot lifts	Pot lifts on observed vessels	Percent pot lifts sampled	Percent pot lifts sampled on observed vessels	Number of Size freq. [c]	Legal tallies [d]
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	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	Total	22	22	100.0	33	51.3	6,494	131,021	131,021	5.0	5.0	225	227
2003/04	C/V	20	20	100.0	28	40.5	6,744	106,011	106,011	6.4	6.4	73	73
	C/P	1	1	100.0	3	6.1	550	19,108	19,108	2.9	2.9	115	115
	F/P	0	0	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	Total	21	21	100.0	31	46.6	7,294	125,119	125,119	5.8	5.8	188	188
2004/05	C/V	21	21	100.0	25	45.8	4,408	75,814	75,814	5.8	5.8	61	63
	C/P	1	1	100.0	2	4.9	417	15,880	15,880	2.6	2.6	100	100
	F/P	0	0	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	Total	22	22	100.0	27	50.7	4,825	91,694	91,694	5.3	5.3	161	163
2005/06 [e]	C/V	7	7	50.0 [f]	10	14.7	2,058	41,553	27,651	5.0	7.4	32	31
	C/P	1	1	100.0	2	6.2	509	13,132	13,132	3.9	3.9	114	115
	F/P	1	1	100.0	2	2.0	0	0	0	0.0	0.0	3	4
	Total	9	9	-	14	22.9	2,567	54,685	40,783	4.7	6.3	149	150
2006/07 [e]	C/V	6	6	50.0 [f]	11	11.2	1,793	43,087	29,440	4.2	6.1	30	25
	C/P	1	1	100.0	2	6.1	493	9,978	9,978	4.9	4.9	110	109
	F/P	0	0	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	Total	7	7	-	13	17.3	2,286	53,065	39,418	4.3	5.8	140	134
2007/08 [e]	C/V	4	4	50.0 [f]	6	9.4	1,662	41,244	24,413	4.0	6.8	25	25
	C/P	1	1	100.0	2	5.9	426	11,359	11,359	3.8	3.8	109	109
	F/P	0	0	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	Total	5	5	-	8	15.3	2,088	52,603	35,772	4.0	5.8	134	134
2008/09 [e]	C/V	4	4	50.0 [f]	8	10.8	1,258	40,888	22,916	3.1	5.5	24	19
	C/P	1	1	100.0	2	5.6	327	9,778	9,778	3.3	3.3	94	94
	F/P	0	0	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	Total	5	5	-	10	16.4	1,585	50,666	32,694	3.1	4.8	118	113

- continued -

Table 4-5.–Page 3 of 3.

Season	Vessel type	Number of [a] Vessels	Observed vessels	Percent observer coverage	Number of Observer deploy-ments	Observer months	Pot lifts sampled [b]	Total pot lifts	Pot lifts on observed vessels	Percent pot lifts sampled	Percent pot lifts sampled on observed vessels	Number of Size freq. [c]	Legal tallies [d]
2009/10 [e]	C/V	4	4	50.0 [f]	7	10.6	982	44,534	25,194	2.2	3.9	25	25
	C/P	1	1	100.0	2	5.1	323	8,253	8,253	3.9	3.9	84	84
	F/P	0	0	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	Total	5	5	-	9	16.7	1,305	52,787	33,447	2.5	3.9	109	109
2010/11 [e]	C/V	4	4	50.0 [f]	9	9.8	992	46,760	26,462	2.1	3.7	25	19
	C/P	1	1	100.0	3	5.2	311	9,035	9,035	3.4	3.4	82	82
	F/P	0	0	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	Total	5	5	-	12	15.0	1,303	55,795	35,497	2.3	3.7	107	101

Note: East and West of 174° W long combined for reporting purposes to preserve confidentiality.
C/V = Catcher vessel, C/P = Catcher-processor vessel, F/P = Floating processor vessel

[a] Some vessels participated as both a C/P and F/P, and are counted once in the total number of vessels.

[b] Pot contents sampled for species composition and biological measurements and conditions.

[c] Size-frequency and shell-condition sampling conducted on retained catch; each data set typically consists of 100 crab.

[d] Each legal tally typically consists of 600 crab.

[e] Data includes Individual Fishing Quota (IFQ), Community Development Quota, and Adak Community Allocation (ACA). 2005/06 is the first year of Crab Rationalization, and IFQ and ACA harvest.

[f] All catcher vessels are required to have an observer onboard during 50% of their harvest in each of three trimesters.

Table 4-6.–Eastern and Western Aleutian Islands golden king crab fisheries pot lifts on observed and non-observed vessels for each statistical area fished, 2010/11.

Statistical area	Pots lifted			Percent of total pot lifts observed [a]
	Observed vessels [a]	Non-observed vessels	Total pots lifted	
685304	30	0	30	100.0
695200	377	405	782	48.2
695238	371	8	379	97.9
695239	0	43	43	0.0
695240	22	0	22	100.0
695301	406	274	680	59.7
695302	74	100	174	42.5
705200	1,327	1,240	2,567	51.7
705232	2,163	1,646	3,809	56.8
705234	21	23	44	47.7
705300	794	480	1,274	62.3
715130	0	126	126	0.0
715201	200	113	313	63.9
715202	3,638	2,256	5,894	61.7
715231	1,100	917	2,017	54.5
715232	637	923	1,560	40.8
725130	45	0	45	100.0
725201	2,203	1,630	3,833	57.5
725203	241	94	335	71.9
725230	557	387	944	59.0
735201	111	122	233	47.6
735230	498	249	747	66.7
775131	343	315	658	52.1
775135	0	30	30	0.0
775139	16	4	20	80.0
785101	14	0	14	100.0
785102	1,132	920	2,052	55.2
785103	43	25	68	63.2
785131	988	843	1,831	54.0
785132	0	15	15	0.0
785134	151	235	386	39.1
785135	358	266	624	57.4
795101	64	60	124	51.6
795102	298	386	684	43.6
795131	339	333	672	50.4
795132	600	540	1,140	52.6
795200	721	444	1,165	61.9
795230	0	36	36	0.0
805101	36	12	48	75.0

-continued-

Table 4-6.–Page 2 of 2.

Statistical area	Pots lifted			Percent of total pot lifts observed [a]
	Observed vessels [a]	Non-observed vessels	Total pots lifted	
805102	16	223	239	6.7
805103	1,193	526	1,719	69.4
805131	747	191	938	79.6
805132	1,767	737	2,504	70.6
805133	128	65	193	66.3
805201	1,309	282	1,591	82.3
815100	679	359	1,038	65.4
815131	767	311	1,078	71.2
815132	248	150	398	62.3
815134	30	90	120	25.0
815135	18	35	53	34.0
815136	58	46	104	55.8
815201	204	75	279	73.1
815202	238	147	385	61.8
815230	45	0	45	100.0
825132	359	35	394	91.1
825134	19	0	19	100.0
825201	725	92	817	88.7
825202	229	18	247	92.7
825203	149	34	183	81.4
835130	840	0	840	100.0
835200	1,305	248	1,553	84.0
845130	247	80	327	75.5
845201	217	24	241	90.0
845202	2,644	349	2,993	88.3
855200	438	179	617	71.0
855231	158	21	179	88.3
875200	281	0	281	100.0
875232	160	239	399	40.1
875301	40	40	80	50.0
875302	80	40	120	66.7
885300	40	41	81	49.4
895230	201	121	322	62.4
Totals	35,497	20,298	55,795	63.6

Note: Catcher vessel and catcher-processor vessel information has been combined for reporting purposes to preserve data confidentiality.

[a] Observer onboard during harvest.

Table 4-7.–Aleutian Islands red king crab fishery west of 179° W long (Petrel Bank area) observer sampling efforts by vessel type, 2001/2002–2010/11.

Season	Vessel type	Number of Vessels	Number of Observed vessels	Percent observer coverage	Number of Observer deploy-ments	Number of Observer months	Number of Pot lifts sampled [a]	Number of Total pot lifts	Percent pot lifts sampled	Number of Size freq. [b]	Number of Legal tallies [c]
2000/2001 [d]	C/V	0	0	0.0	CF	CF	CF	CF	CF	CF	CF
	C/P	1	1	100.0	CF	CF	CF	CF	CF	CF	CF
	F/P	0	0	0.0	CF	CF	CF	CF	CF	CF	CF
	Total	1	1	100.0	CF	CF	CF	CF	CF	CF	CF
2001/2002 [d]	C/V	3	3	100.0	4	3.3	105	524	20.0	3	3
	C/P	1	1	100.0	2	5.1	133	671	19.8	5	5
	F/P	0	0	0.0	0	0.0	0	0	0.0	0	0
	Total	4	4	100.0	6	8.4	238	1,195	19.9	8	8
2002/2003 [e]	C/V	31	30	96.8	30	11.9	579	3,513	16.4	21	22
	C/P	2	2	100.0	2	1.2	18	273	6.6	3	3
	F/P	1	1	100.0	1	0.6	0	0	0.0	0	0
	Total	33	32	97.0	33	13.6	597	3,786	15.7	24	25
2003/2004	C/V	28	28	100.0	28	10.9	884	5,459	16.0	25	25
	C/P	2	2	100.0	2	0.6	47	315	15.0	4	4
	F/P	1	1	100.0	1	0.07	0	0	0.0	0	0
	Total	30	30	100.0	31	11.6	931	5,774	16.1	29	29
2004/2005 - 2010/11	FC										

Note: C/V = Catcher vessel, C/P = Catcher-processor vessel, F/P = Floating processor vessel, FC = Fishery closed, CF = Confidential

[a] Pot contents sampled for species composition and biological measurements and conditions.

[b] Size-frequency and shell-condition sampling conducted on retained catch; each data set typically consists of 100 crab.

[c] Each legal tally typically consists of 600 crab.

[d] Surveys in 2001 were conducted during the months of January and November.

[e] In 2002, one catcher vessel received an observer coverage waiver due to circumstances beyond their control.

Table 4-8.–Bering Sea District, Aleutian Islands District, Kodiak District, South Peninsula District, and Yakutat District grooved Tanner crab observer sampling efforts by vessel type, 1994–2010.

	Number of				Number of				Percent pot lifts sampled on observed vessels	Number of	
Season	Vessel type	Vessels	Observed vessels	Percent observer coverage	Observer deployments	Observer months	Pot lifts sampled [a]	Total pot lifts		Size freq. [b]	Legal tallies [c]
1994	C/V	6	6	100.0	14	16.6	1,782	52,062	3.4	58	30
	C/P	2	2	100.0	3	2.3	336	1,582	21.2	46	45
	Total	8	8	100.0	17	18.8	2,118	53,644	3.8	104	75
1995	C/V	16	16	100.0	47	55.2	10,343	158,461	6.5	155	145
	C/P	2	2	100.0	8	6.2	620	5,824	1.1	66	85
	Total	18	18	100.0	55	61.3	10,963	164,285	6.7	221	230
1996	C/V	9	9	100.0	20	26.3	4,469	73,960	6.0	40	62
	C/P	0	0	0.0	0	0.0	0	0	0.0	0	0
	Total	9	9	100.0	20	26.3	4,469	73,960	6.0	40	62
1997 - 1999		0	0	0.0	0	0.0	0	0	0.0	0	0
2000	C/V	1	1	100.0	1	1.4	164	2,160	7.6	3	3
	C/P	2	2	100.0	2	0.7	17	205	8.3	5	0
	Total	3	3	100.0	3	2.0	181	2,365	7.7	8	3
2001	C/V	2	2	100.0	4	2.7	258	3,181	8.1	15	15
	C/P	0	0	0.0	0	0.0	0	0	0.0	0	0
	Total	2	2	100.0	4	2.7	258	3,181	8.1	15	15
2002		0	0	0.0	0	0.0	0	0	0.0	0	0
2003	C/V	1	1	100.0	2	3.2	393	4,772	8.2	11	10
	C/P	0	0	0.0	0	0.0	0	0	0.0	0	0
	Total	1	1	100.0	2	3.2	393	4,772	8.2	11	10
2004	C/V	2	2	100.0	4	5.0	628	10,046	6.3	18	14
	C/P	0	0	0.0	0	0.0	0	0	0.0	0	0
	Total	2	2	100.0	4	5.0	628	10,046	6.3	18	14
2005 - 2010		0	0	0.0	0	0.0	0	0	0.0	0	0

Note: C/V = Catcher vessel, C/P = Catcher-processor vessel, NA = Not available

[a] Pot contents sampled for species composition and biological measurements and conditions.

[b] Size-frequency and shell-condition sampling conducted on retained catch; each data set typically consists of 100 crab.

[c] Each legal tally typically consists of 600 crab.

Table 4-9.–Bristol Bay red king crab harvest by vessel type and percent harvest observed, 2004–2010/11.

Season	Vessel type	Number of Vessels	Number of Landings	Harvest [a,b]	Observed harvest [a,b,c]	Percent observed harvest [c]
2004	C/V	243	256	13,506,397	1,165,737	8.6
	C/P	8	14	606,041	606,041	100.0
	CDQ	12	21	1,133,013	904,294	79.8
	Total	263	291	15,245,451	2,676,072	17.6
2005/06 [d]	C/V	85	270	17,284,281	4,453,697	25.8
	C/P	4	26	1,025,054	1,025,054	100.0
	Total	89	296	18,309,335	5,478,751	29.9
2006/07 [d]	C/V	80	201	14,882,355	4,099,757	27.5
	C/P	3	12	561,822	561,822	100.0
	Total	83	213	15,444,177	4,661,579	30.2
2007/08 [d]	C/V	73	266	19,519,828	5,034,013	25.8
	C/P	3	15	846,237	846,237	100.0
	Total	76	281	20,366,065	5,880,250	28.9
2008/09 [d]	C/V	75	268	19,498,303	4,745,026	24.3
	C/P	3	21	831,099	831,099	100.0
	Total	78	289	20,329,402	5,576,125	27.4
2009/10 [d]	C/V	68	220	CF	CF	26.8
	C/P	2	13	CF	CF	100.0
	Total	70	233	CF	CF	CF
2010/11 [d]	C/V	63	240	CF	CF	23.4
	C/P	2	14	CF	CF	100.0
	Total	65	254	CF	CF	CF

Note: C/V = Catcher vessel, C/P = Catcher-processor vessel, CDQ = Community Development Quota
CF = Confidential

[a] In pounds.

[b] Includes deadloss.

[c] Observer onboard during harvest.

[d] Data includes Individual Fishing Quota (IFQ) and Community Development Quota. 2005/06 is the first year of Crab Rationalization and IFQ harvest.

Table 4-10.–Bristol Bay red king crab observer sampling efforts by vessel type, 1988–2010/11.

Season	Vessel type	Number of [a]		Percent observer coverage	Number of					Percent pot lifts sampled	Percent pot lifts sampled on observed vessels	Number of	
		Vessels	Observed vessels		Observer deploy-ments	Observer months	Pot lifts sampled [b]	Total pot lifts	on observed vessels			Size freq. [c]	Legal tallies [d]
1988	C/V	180	0	0.0	0	0.0	0	NA	0	0.0	0.0	0	0
	C/P	20	20	100.0	20	8.4	31	NA	NA	NA	NA	NA	NA
	F/P	5	5	100.0	5	1.9	0	0	0	0.0	0.0	NA	NA
	Total	205	25	12.2	25	10.3	31	146,179	NA	<0.1	NA	NA	NA
1989	C/V	193	0	0.0	0	0.0	0	NA	0	0.0	0.0	0	0
	C/P	18	18	100.0	18	10.9	94	NA	NA	NA	NA	110	NA
	F/P	12	12	100.0	12	6.8	0	0	0	0.0	0.0	101	NA
	Total	223	30	13.5	30	17.6	94	205,528	NA	<0.1	NA	211	NA
1990	C/V	220	0	0.0	0	0.0	0	NA	0	0.0	0.0	0	0
	C/P	20	20	100.0	20	11.9	140	NA	NA	NA	NA	NA	NA
	F/P	15	15	100.0	15	8.9	0	0	0	0.0	0.0	NA	NA
	Total	255	35	13.7	35	20.8	140	262,761	NA	0.1	NA	NA	NA
1991	C/V	277	0	0.0	0	0.0	0	NA	0	0.0	0.0	0	0
	C/P	25	25	100.0	26	14.2	272	NA	NA	NA	NA	163	NA
	F/P	14	14	100.0	14	7.4	0	0	0	0.0	0.0	130	NA
	Total	316	39	12.3	40	21.5	272	226,999	NA	0.1	NA	293	NA
1992	C/V	263	0	0.0	0	0.0	0	NA	0	0.0	0.0	0	0
	C/P	18	18	100.0	19	9.0	290	NA	NA	NA	NA	99	NA
	F/P	6	6	100.0	6	3.0	0	0	0	0.0	0.0	80	NA
	Total	287	24	8.4	25	12.0	290	206,172	NA	0.1	NA	179	NA
1993	C/V	275	0	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	C/P	17	17	100.0	19	10.6	558	NA	NA	NA	NA	124	NA
	F/P	7	7	100.0	7	4.5	0	0	0	0.0	0.0	112	NA
	Total	299	24	8.0	26	15.1	558	252,739	NA	0.2	NA	236	NA
1994-199[5]	FC												

- continued -

Table 4-10.–Page 2 of 4.

Season	Vessel type	Number of [a] Vessels	Observed vessels	Percent observer coverage	Number of Observer deploy-ments	Observer months	Pot lifts sampled [b]	Total pot lifts	on observed vessels	Percent pot lifts sampled	Percent pot lifts sampled on observed vessels	Number of Size freq. [c]	Legal tallies [d]
1996	C/V	192	0	0.0	0	0.0	0	73,908	0	0.0	0.0	0	0
	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	0	0	0	0.0	0.0	26	62
	Total	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	0	0.0	0.0	0	0
	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	0	0	0	0.0	0.0	52	56
	Total	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	0	0.0	0.0	0	0
	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	0	0	0	0.0	0.0	37	52
	CDQ	7	7	100.0	7	3.1	193	3,326	3,326	5.8	5.8	9	10
	Total	284	21	7.4	29	11.6	324	141,697	9,940	0.2	3.3	94	114
1999	C/V	249	0	0.0	0	0.0	0	138,322	0	0.0	0.0	0	0
	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	0	0	0	0.0	0.0	22	26
	CDQ	10	10	100.0	10	3.5	263	2,976	2,976	8.8	8.8	9	12
	Total	268	19	7.1	21	9.1	398	146,997	8,675	0.3	4.6	77	94
2000	C/V	214	11	5.1	11	5.1	403	82,453	4,429	0.5	9.1	10	11
	AFA C/V [e]	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	0	0	0	0.0	0.0	14	17
	CDQ	11	11	100.0	11	4.4	423	4,663	4,663	9.1	9.1	1	0
	Total	258	33	12.8	37	14.6	1,070	98,694	13,354	1.1	8.0	56	60

- continued -

Table 4-10.–Page 3 of 4.

Season	Vessel type	Number of [a] Vessels	Observed vessels	Percent observer coverage	Number of Observer deploy-ments	Observer months	Pot lifts sampled [b]	Total pot lifts	on observed vessels	Percent pot lifts sampled	Percent pot lifts sampled on observed vessels	Number of Size freq. [c]	Legal tallies [d]
2001	C/V	193	20	10.4	20	9.5	359	51,624	5,746	0.7	6.2	19	19
	AFA C/V[e]	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	0	0	0	0.0	0.0	19	19
	CDQ	10	6	60.0	6	2.9	166	3,130	2,516	5.3	6.6	9	9
	Total	241	36	14.9	39	16.9	670	63,192	10,720	1.1	6.3	63	63
2002	C/V	204	17	8.3	17	7.1	330	56,448	5,236	0.6	6.3	16	18
	AFA C/V[e]	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	0	0	0	0.0	0.0	9	9
	CDQ	10	6	60.0	6	2.7	242	3,513	2,875	6.9	8.4	9	9
	Total	253	34	13.4	37	14.5	753	68,328	11,253	1.1	6.7	58	60
2003	C/V	211	19	9.0	20	10.0	485	110,531	10,531	0.4	4.6	11	11
	AFA C/V[e]	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	0	0	0	0.0	0.0	16	18
	CDQ	13	8	61.5	9	3.7	279	5,704	4,372	4.9	6.4	22	12
	Total	264	39	14.8	46	20.1	1,010	134,134	20,800	0.8	4.9	85	74
2004	C/V	211	17	8.1	17	6.6	339	79,513	6,304	0.4	5.4	16	16
	AFA C/V[e]	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	0	0	0	0.0	0.0	31	33
	CDQ	12	8	66.7	9	4.7	226	5,359	4,312	4.2	5.2	23	23
	Total	263	37	14.0	42	16.6	762	96,335	14,828	0.8	5.1	90	92

- continued -

Table 4-10.–Page 4 of 4.

Season	Vessel type	Number of [a] Vessels	Observed vessels	Percent observer coverage	Number of Observer deploy-ments	Observer months	Pot lifts sampled [b]	Total pot lifts	Pot lifts on observed	Percent pot lifts sampled	Percent pot lifts sampled on observed vessels	Number of Size freq. [c]	Legal tallies [d]
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	0	0	0	0.0	0.0	7	7
	Total	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	0	0	0	0.0	0.0	0	0
	Total	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	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	Total	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	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	Total	78	21	26.9	22	24.5	1,820	139,939	39,101	1.3	4.7	104	98
2009/10 [f]	C/V	68	19	27.9	21	18.8	1,823	113,175	32,063	1.6	5.7	50	47
	C/P	2	2	100.0	2	2.0	129	5,346	5,346	2.4	2.4	36	36
	F/P	0	0	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	Total	70	21	30.0	23	20.8	1,952	118,521	37,409	1.6	5.2	86	83
2010/11 [f]	C/V	63	14	22.2	17	16.7	1,733	125,140	30,107	1.4	5.8	46	42
	C/P	2	2	100.0	2	2.4	209	6,487	6,487	3.2	3.2	41	41
	F/P	0	0	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	Total	65	16	24.6	19	19.1	1,942	131,627	36,594	1.5	5.3	87	83

Note: C/V = Catcher vessel, C/P = Catcher-processor vessel, F/P = Floating processor vessel, NA = Not available, FC = Fishery closed, CDQ = Community Development Quota

[a] Some vessels participated as both a C/P and F/P and are only counted once in the total number of vessels.

[b] Pot contents sampled for species composition and biological measurements and conditions.

[c] Size-frequency and shell-condition sampling conducted on retained catch; each data set typically consists of 100 crab.

[d] Each legal tally typically consists of 600 crab.

[e] American Fisheries Act catcher vessels.

[f] Data includes Individual Fishing Quota (IFQ) and Community Development Quota. 2005/06 is the first year of Crab Rationalization and IFQ harvest.

Table 4-11.–Bristol Bay red king crab fishery pot lifts on observed and non-observed vessels for each statistical area fished, 2010/11.

Statistical area	Pots lifted			Percent of total pot lifts observed [a]
	Observed vessels [a]	Non-observed vessels	Total pots lifted	
605630	621	3,588	4,209	14.8
605700	157	971	1,128	13.9
615601	2,266	4,614	6,880	32.9
615630	11,610	40,579	52,189	22.2
615700	7,564	14,816	22,380	33.8
615730	191	917	1,108	17.2
615800	0	44	44	0.0
625531	446	273	719	62.0
625600	4,697	8,538	13,235	35.5
625630	1,316	3,147	4,463	29.5
625700	2,184	1,691	3,875	56.4
625730	20	339	359	5.6
635530	2,300	6,194	8,494	27.1
635600	1,748	5,788	7,536	23.2
635700	0	86	86	0.0
645501	0	6	6	0.0
645530	1,444	3,364	4,808	30.0
645700	30	0	30	100.0
655530	0	78	78	0.0
Totals	36,594	95,033	131,627	38.5

Note: Catcher vessel and catcher-processor vessel information have been combined for reporting purposes to preserve data confidentiality.

[a] Observer onboard during harvest.

Table 4-12.–Saint Matthew Island blue king crab harvest by vessel type and percent harvest observed, 1989–2010/11.

Season	Vessel type	Number of Vessels	Number of Landings	Harvest [a,b]	Observed harvest [a,b,c]	Percent observed harvest [c]
1989	C/V	48	NA	NA	NA	NA
	C/P	15	NA	NA	NA	NA
	F/P	6	NA	0	0	0.0
	Total	69	69	1,166,258	NA	NA
1990	C/V	21	NA	NA	NA	NA
	C/P	7	NA	NA	NA	NA
	F/P	3	NA	0	0	0.0
	Total	31	38	1,725,349	NA	NA
1991	C/V	57	NA	NA	NA	NA
	C/P	9	NA	NA	NA	NA
	F/P	2	NA	0	0	0.0
	Total	68	69	3,372,066	NA	NA
1992	C/V	159	NA	NA	NA	NA
	C/P	8	NA	NA	NA	NA
	F/P	7	NA	0	0	0.0
	Total	174	179	2,474,080	NA	NA
1993	C/V	85	NA	NA	NA	NA
	C/P	3	NA	NA	NA	NA
	F/P	4	NA	0	0	0.0
	Total	92	136	2,999,921	NA	NA
1994	C/V	80	NA	NA	NA	NA
	C/P	6	NA	NA	NA	NA
	F/P	1	NA	0	0	0.0
	Total	87	133	3,764,262	NA	NA
1995	C/V	85	NA	NA	NA	NA
	C/P	4	NA	NA	NA	NA
	F/P	1	NA	0	0	0.0
	Total	90	111	3,166,093	NA	NA

-continued-

Table 4-12.–Page 2 of 2.

Season	Vessel type	Number of Vessels	Number of Landings	Harvest [a,b]	Observed harvest [a,b,c]	Percent observed harvest [c]
1996	C/V	116	NA	NA	NA	NA
	C/P	3	NA	NA	NA	NA
	F/P	3	NA	0	0	0.0
	Total	122	189	3,080,916	NA	NA
1997	C/V	113	NA	NA	NA	NA
	C/P	1	NA	NA	NA	NA
	F/P	3	NA	0	0	0.0
	Total	117	166	4,649,660	NA	NA
1998	C/V	126	NA	NA	NA	NA
	C/P	2	NA	NA	NA	NA
	F/P	3	NA	0	0	0.0
	Total	131	255	2,868,965	NA	NA
1999 - 2008/09	FC					
2009/10 [d]	C/V	7	30	460,859	460,859	100.0
	C/P	0	0	0	0	0.0
	F/P	0	0	0	0	0.0
	Total	7	30	460,859	460,859	100.0
2010/11 [d]	C/V	11	70	1,263,982	1,263,982	100.0
	C/P	0	0	0	0	0.0
	F/P	0	0	0	0	0.0
	Total	11	70	1,263,982	1,263,982	100.0

Note: C/V = Catcher vessel, C/P = Catcher-processor vessel, F/P = Floating processor vessel, FC = Fishery closed
NA = Not available

[a] In pounds.

[b] Includes deadloss.

[c] Observer onboard during harvest.

[d] Data includes Individual Fishing Quota (IFQ) and Community Development Quota. 2005/06 is the first year of Crab Rationalization and IFQ harvest.

Table 4-13.–Saint Matthew Island blue king crab observer sampling efforts by vessel type, 1989–2010/11.

Season	Vessel type	Number of Vessels	Number of Observed vessels	Percent observer coverage	Number of Observer deploy-ments	Number of Observer months	Number of Pot lifts sampled [a]	Number of Total pot lifts	Number of Pot lifts on observed vessels	Percent pot lifts sampled	Percent pot lifts sampled on observed vessels	Number of Size freq. [b]	Number of Legal tallies [c]
1989	C/V	48	0	0.0	0	0.0	0	NA	0	0.0	0.0	0	0
	C/P	15	15	100.0	15	6.8	NA	NA	NA	NA	NA	NA	NA
	F/P	6	6	100.0	6	2.3	0	0	0	0.0	0.0	NA	NA
	Total	69	21	30.4	21	9.1	NA	NA	NA	NA	NA	NA	NA
1990	C/V	21	0	0.0	0	0.0	0	NA	0	0.0	0.0	0	0
	C/P	7	7	100.0	7	2.9	NA	NA	NA	NA	NA	NA	NA
	F/P	3	3	100.0	3	1.2	0	0	0	0.0	0.0	NA	NA
	Total	31	10	32.3	10	4.1	NA	NA	NA	NA	NA	NA	NA
1991	C/V	57	0	0.0	0	0.0	0	NA	0	0.0	0.0	0	0
	C/P	9	9	100.0	9	4.0	NA	NA	NA	NA	NA	NA	NA
	F/P	2	2	100.0	2	1.3	0	0	0	0.0	0.0	NA	NA
	Total	68	11	16.2	11	5.3	NA	NA	NA	NA	NA	NA	NA
1992	C/V	159	0	0.0	0	0.0	0	NA	0	0.0	0.0	0	0
	C/P	8	8	100.0	9	3.0	NA	NA	NA	NA	NA	NA	NA
	F/P	7	7	100.0	7	3.0	0	0	0	0.0	0.0	NA	NA
	Total	174	15	8.6	16	6.0	NA	NA	NA	NA	NA	NA	NA
1993	C/V	85	0	0.0	0	0.0	0	NA	0	0.0	0.0	0	0
	C/P	3	3	100.0	3	1.4	NA	NA	NA	NA	NA	NA	NA
	F/P	4	4	100.0	4	2.2	0	0	0	0.0	0.0	NA	NA
	Total	92	7	7.6	7	3.6	NA	NA	NA	NA	NA	NA	NA
1994	C/V	80	0	0.0	0	0.0	0	NA	0	0.0	0.0	0	0
	C/P	6	6	100.0	6	3.1	NA	NA	NA	NA	NA	NA	NA
	F/P	1	1	100.0	1	0.5	0	0	0	0.0	0.0	NA	NA
	Total	87	7	8.0	7	3.6	NA	NA	NA	NA	NA	NA	NA
1995	C/V	85	1	1.2	1	0.5	NA	NA	NA	NA	NA	NA	NA
	C/P	4	4	100.0	4	2.3	NA	NA	NA	NA	NA	NA	NA
	F/P	1	1	100.0	1	0.3	0	0	0	0.0	0.0	NA	NA
	Total	90	6	6.7	6	3.1	NA	NA	NA	NA	NA	NA	NA

-continued-

Table 4-13.–Page 2 of 2

Season	Vessel type	Number of Vessels	Number of Observed vessels	Percent observer coverage	Number of Observer deploy-ments	Number of Observer months	Number of Pot lifts sampled [a]	Number of Total pot lifts	Number of Pot lifts on observed vessels	Percent pot lifts sampled	Percent pot lifts sampled on observed vessels	Number of Size freq. [b]	Number of Legal tallies [c]
1996	C/V	116	0	0.0	0	0.0	0	NA	0	0.0	0.0	0	0
	C/P	3	4	100.0	3	1.9	96	NA	NA	NA	NA	NA	NA
	F/P	3	3	100.0	3	1.9	0	0	0	0.0	0.0	NA	NA
	Total	122	7	5.7	7	3.8	96	NA	NA	NA	NA	NA	NA
1997	C/V	113	0	0.0	0	0.0	0	NA	0	0.0	0.0	0	0
	C/P	1	1	100.0	1	0.4	43	607	607	7.1	0.0	7	4
	F/P	3	3	100.0	3	2.0	0	0	0	0.0	0.0	41	49
	Total	117	4	3.4	4	2.4	43	NA	607	NA	NA	48	53
1998	C/V	126	1	2.4	1	0.5	61	NA	NA	NA	NA	1	1
	C/P	2	2	100.0	2	1.2	73	1,413	1,413	5.2	NA	16	18
	F/P	3	3	100.0	3	2.3	0	0	0	0.0	0.0	NA	60
	Total	131	8	6.1	6	4.0	134	NA	NA	NA	NA	NA	79
1999-2008/09	FC												
2009/10 [d]	C/V	7	7	100.0	8	7.2	989	10,697	10,697	9.2	9.2	15	15
	C/P	0	0	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	F/P	0	0	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	Total	7	7	100.0	8	7.2	989	10,697	10,697	9.2	9.2	15	15
2010/11 [d]	C/V	11	11	100.0	12	15.3	2,410	29,346	29,346	8.2	8.2	36	35
	C/P	0	0	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	F/P	0	0	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	Total	11	11	100.0	12	15.3	2,410	29,346	29,346	8.2	8.2	36	35

Note: C/V = Catcher vessel, C/P = Catcher-processor vessel, F/P = Floating processor vessel, NA = Not available, FC = Fishery closed

[a] Pot contents sampled for species composition and biological measurements and conditions.

[b] Size-frequency and shell-condition sampling conducted on retained catch; each data set typically consists of 100 crab.

[c] Each legal tally typically consists of 600 crab.

[d] Data includes Individual Fishing Quota (IFQ) and Community Development Quota. 2005/06 is the first year of Crab Rationalization and IFQ harvest.

Table 4-14.–Saint Matthew Island blue king crab fishery pot lifts on observed and non-observed vessels for each statistical area fished, 2010/11.

Statistical area	Pots lifted			Percent of total pot lifts observed [a]
	Observed vessels [a]	Non-observed vessels	Total pots lifted	
725930	8,072	0	8,072	100.0
726001	3,191	0	3,191	100.0
735900	10	0	10	100.0
735930	12,541	0	12,541	100.0
736001	3,057	0	3,057	100.0
736031	2,434	0	2,434	100.0
745930	28	0	28	100.0
746030	13	0	13	100.0
Totals	29,346	0	29,346	100.0

Note: Catcher vessel and catcher-processor vessel information has been combined for reporting purposes to preserve data confidentiality.

[a] Observer onboard during harvest.

Table 4-15.–Eastern Bering Sea Tanner crab harvest by vessel type and percent harvest observed, 2008/09–2010/11.

Season	Vessel type	Number of Vessels	Number of Landings	Harvest [a,b]	Observed harvest [a,b,c]	Percent observed harvest [c]
2008/09 [d]	C/V	12	40	1,785,317	1,500,388	84.0
	C/P	0	0	0	0	0.0
	Total	12	40	1,785,317	1,500,388	84.0
2009/10 [d]	C/V	10	38	1,310,742	1,310,742	100.0
	C/P	0	0	0	0	0.0
	Total	10	38	1,310,742	1,310,742	100.0
2010/11	FC					

Note: C/V = Catcher vessel, C/P = Catcher-processor vessel, FC = Fishery closed

[a] In pounds.

[b] Includes deadloss.

[c] Observer onboard during harvest.

[d] Data includes Individual Fishing Quota and Community Development Quota. Observer activity tracking data for previous years is not specifically available for this fishery because prior to 2008 vessels could harvest Tanner crab with snow crab gear.

Table 4-16.–Eastern Bering Sea Tanner crab sampling efforts by vessel type, 2008/09–2010/11.

Season	Vessel type	Number of Vessels	Number of Observed vessels	Percent observer coverage	Number of Observer deploy-ments	Number of Observer months	Number of Pot lifts sampled [a]	Number of Total pot lifts	Number of Pot lifts on observed vessels	Percent pot lifts sampled	Percent pot lifts sampled on observed vessels	Number of Size freq. [b]	Number of Legal tallies [c]
2008/09 [d]	C/V	12	8	66.7	11	8.0	608	21,400	13,508	2.8	4.5	22	22
	C/P	0	0	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	F/P	1	1	100.0	1	0.03	0	0	0	0.0	0.0	1	1
	Fleet	13	9	69.2	12	8.03	608	21,400	13,508	2.8	4.5	23	23
2009/10 [d]	C/V	10	10	100.0	11	5.2	354	8,170	8,170	4.3	4.3	22	18
	C/P	0	0	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	F/P	0	0	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	Fleet	10	10	100.0	11	5.2	354	8,170	8,170	4.3	4.3	22	18
2010/11	FC												

Note: C/V = Catcher vessel, C/P = Catcher-processor vessel, F/P = Floating processor vessel, FC = Fishery closed

[a] Pot contents sampled for species composition and biological measurements and conditions.

[b] Size-frequency and shell-condition sampling conducted on retained catch; each data set typically consists of 100 crab.

[c] Each legal tally typically consists of 600 crab.

[d] Data includes Individual Fishery Quota and Community Development Quota. Observer activity tracking data for previous years is not specifically available for this fishery because prior to 2008 vessels could harvest Tanner crab with snow crab gear.

Table 4-17.–Western Bering Sea Tanner crab harvest by vessel type and percent harvest observed, 2008/09–2010/11.

Season	Vessel type	Number of Vessels	Number of Landings	Harvest [a,b]	Observed harvest [a,b,c]	Percent observed harvest [c]
2008/09 [d]	C/V	5	10	104,319	85,592	82.0
	C/P	0	0	0	0	0.0
	Total	5	10	104,319	85,592	82.0
2009/10 - 2010/11	FC					

Note: C/V = Catcher vessel, C/P = Catcher-processor vessel, FC = Fishery closed

[a] In pounds.

[b] Includes deadloss.

[c] Observer onboard during harvest.

[d] Data includes Individual Fishing Quota and Community Development Quota. Observer activity tracking data for previous years is not specifically available for this fishery because prior to 2008 vessels could harvest Tanner crab with snow crab gear.

Table 4-18.–Western Bering Sea Tanner crab observer sampling efforts by vessel type, 2008/09–2010/11.

Season	Vessel type	Number of Vessels	Number of Observed vessels	Percent observer coverage	Number of Observer deploy-ments	Number of Observer months	Number of Pot lifts sampled [a]	Number of Total pot lifts	Number of Pot lifts on observed vessels	Percent pot lifts sampled	Pot lifts sampled on observed vessels	Number of Size freq. [b]	Number of Legal tallies [c]
2008/09 [d]	C/V	6	5	83.3	6	2.3	78	3,342	1,869	2.3	4.2	4	4
	C/P	0	0	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	F/P	0	0	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	Total	6	5	83.3	6	2.3	78	3,342	1,869	2.3	4.2	4	4
2009/10 - 2010/11	FC												

Note: C/V = Catcher vessel, C/P = Catcher-processor vessel , F/P = Floating processor vessel, FC = Fishery closed

[a] Pot contents sampled for species composition and biological measurements and conditions.

[b] Size-frequency and shell-condition sampling conducted on retained catch; each data set typically consists of 100 crab.

[c] Each legal tally typically consists of 600 crab.

[d] Data includes Individual Fishing Quota and Community Development Quota. Observer activity tracking data for previous years is not specifically available for this fishery because prior to 2008 vessels could harvest Tanner crab with snow crab gear.

Table 4-19.–Bering Sea snow crab harvest by vessel type and percent harvest observed, 2005–2010/11.

Season	Vessel type	Number of Vessels	Number of Landings	Harvest [a,b]	Observed harvest [a,b,c]	Percent observed harvest [c]
2005	C/V	162	184	22,066,179	3,674,096	16.7
	C/P	6	12	970,108	970,108	100.0
	CDQ	9	23	1,855,841	1,855,841	100.0
	Total	177	219	24,892,128	6,500,045	26.1
2005/06 [d]	C/V	76	306	33,650,679	11,979,880	35.6
	C/P	4	44	3,323,211	3,323,211	100.0
	Total	80	350	36,973,890	15,303,091	41.4
2006/07 [d]	C/V	67	272	32,525,172	11,206,761	34.5
	C/P	4	35	3,830,477	3,830,477	100.0
	Total	71	307	36,355,649	15,037,238	41.4
2007/08 [d]	C/V	85	468	57,488,538	15,851,014	27.6
	C/P	4	44	5,539,498	5,539,498	100.0
	Total	89	512	63,028,036	21,390,512	33.9
2008/09 [d]	C/V	73	443	53,729,804	14,345,187	26.7
	C/P	4	44	4,818,045	4,818,045	100.0
	Total	77	487	58,547,849	19,163,232	32.7
2009/10 [d]	C/V	67	342	CF	CF	36.7
	C/P	2	12	CF	CF	100.0
	Total	69	354	CF	CF	CF
2010/11 [d]	C/V	66	362	CF	CF	46.6
	C/P	2	24	CF	CF	100.0
	Total	68	386	CF	CF	49.2

Note: C/V = Catcher vessel, C/P = Catcher-processor vessel, CDQ = Community Development Quota, CF = Confidential

[a] In pounds.

[b] Includes deadloss.

[c] Observer onboard during harvest.

[d] Data includes Individual Fishing Quota (IFQ) and Community Development Quota. 2005/06 is the first year of Crab Rationalization and IFQ harvest.

Table 4-20.–Bering Sea snow crab observer sampling efforts by vessel type, 1995–2010/11.

Season	Vessel type	Number of [a]		Percent observer coverage	Number of					Percent pot lifts sampled	Percent pot lifts sampled on observed vessels	Number of	
		Vessels	Observed vessels		Observer deploy-ments	Observer months	Pot lifts sampled [b]	Total pot lifts	Pot lifts on observed vessels			Size freq. [c]	Legal tallies [d]
1995	C/V	234	0	0.0	0	0.0	0	NA	0	0.0	0.0	0	0
	C/P	19	19	100.0	36	31.6	1,574	NA	NA	NA	NA	465	475
	F/P	15	15	100.0	17	22.5	0	0	0	0.0	0.0	NA	NA
	Total	268	34	12.7	53	54.1	1,574	506,802	NA	0.3	NA	465	475
1996	C/V	219	0	0.0	0	0.0	0	NA	0	0.0	0.0	0	0
	C/P	15	15	100.0	35	31.3	1,412	NA	NA	NA	NA	479	494
	F/P	13	13	100.0	15	25.1	0	0	0	0.0	0.0	246	292
	Total	247	28	11.3	50	56.4	1,412	520,651	NA	0.3	NA	725	786
1997	C/V	216	0	0.0	0	0.0	0	680,725	0	0.0	0.0	0	0
	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	0	0	0	0.0	0.0	440	447
	Total	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	0	0.0	0	825,832	0	0.0	0.0	0	0
	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	0	0	0	0.0	0.0	751	762
	CDQ	20	20	100.0	60	34.0	1,726	930,843	105,011	4.4	4.4	1,429	1,453
	Total	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	0	0.0	0	846,163	0	0.0	0.0	0	0
	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	0	0	0	0.0	0.0	736	683
	CDQ	276	22	91.7	28	12.1	789	46,490	14,131	1.7	5.6	59	46
	Total	252	43	17.1	55	63.0	2,382	945,533	67,011	0.3	3.6	1,489	737
2000	C/V	220	0	0.0	0	0.0	0	161,579	0	0.0	0.0	0	0
	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	0	0	0	0.0	0.0	111	91
	CDQ	13	12	92.3	12	8.5	629	12,570	12,185	5.0	5.1	32	26
	Total	247	26	10.5	27	17.7	831	182,634	20,670	0.5	4.0	219	177

- continued -

Table 4-20.–Page 2 of 3.

Season	Vessel type	Number of [a] Vessels	Observed vessels	Percent observer coverage	Number of Observer deploy-ments	Observer months	Pot lifts sampled [b]	Total pot lifts	Pot lifts on observed vessels	Percent pot lifts sampled	Percent pot lifts sampled on observed vessels	Number of Size freq. [c]	Legal tallies [d]
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	0	0	0	0.0	0.0	74	64
	CDQ	11	11	100.0	11	9.9	771	14,270	14,270	5.4	5.4	33	11
	Total	221	28	12.7	31	33.2	1,499	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	0	0	0	0.0	0.0	192	105
	CDQ	11	11	100.0	15	16.0	1,098	18,845	17,264	5.8	6.3	12	10
	Total	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	0	0	0	0.0	0.0	61	61
	CDQ	10	9	90.0	10	10.4	746	14,583	13,519	5.1	5.5	61	61
	Total	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	0	0	0	0.0	0.0	58	59
	CDQ	10	10	100.0	10	11.0	780	13,622	13,622	5.7	5.7	61	56
	Total	202	38	18.8	41	31.1	1,627	123,709	28,632	1.3	5.7	182	178
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	0	0	0	0.0	0.0	37	38
	CDQ	9	9	100.0	9	6.5	210	3,345	3,345	6.3	6.3	48	39
	Total	179	31	17.3	32	19.5	637	73,208	12,067	0.9	5.3	135	120

- continued -

Table 4-20.–Page 3 of 3.

Season	Vessel type	Number of [a] Vessels	Number of [a] Observed vessels	Percent observer coverage	Number of Observer deploy-ments	Number of Observer months	Number of Pot lifts sampled [b]	Number of Total pot lifts	Number of Pot lifts on observed vessels	Percent pot lifts sampled	Percent pot lifts sampled on observed vessels	Number of Size freq. [c]	Number of Legal tallies [d]
2005/06	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	0	0	0	0.0	0.0	32	32
	Total	82	34	41.5	41	56.5	2,583	120,512	52,260	2.1	4.9	344	324
2006/07	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	0	0	0	0.0	0.0	49	56
	Total	73	30	41.1	43	45.9	1,118	89,419	39,009	1.3	2.9	310	283
2007/08	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	0	0	0	0.0	0.0	44	29
	Total	90	34	37.8	40	46.8	1,713	143,842	51,522	1.2	3.3	272	251
2008/09	C/V	73	25	34.2	26	38.1	1,297	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	0	0	0	0.0	0.0	24	24
	Total	78	30	38.5	34	49.9	1,713	163,536	56,424	1.0	3.0	317	306
2009/10	C/V	67	26	38.8	31	35.6	1,608	132,318	49,516	1.2	3.2	102	101
	C/P	2	2	100.0	3	3.0	130	4,700	4,700	2.8	2.8	54	54
	F/P	2	2	100.0	3	3.9	0	0	0	0.0	0.0	44	44
	Total	71	30	42.3	37	42.5	1,738	137,018	54,216	1.3	3.2	200	199
2010/11	C/V	66	24	36.4	30	43.6	1,925	138,994	59,508	1.4	3.2	121	118
	C/P	2	2	100.0	3	4.5	212	8,250	8,250	2.6	2.6	91	91
	F/P	2	2	100.0	2	3.6	0	0	0	0.0	0.0	38	38
	Total	70	28	40.0	35	51.7	2,137	147,244	67,758	1.5	3.2	250	247

Note: C/V = Catcher vessel, C/P = Catcher-processor vessel, F/P = Floating processor vessel, NA = Not available

[a] Some vessels participated as both a C/P and F/P and are only counted once in the total number of vessels.

[b] Pot contents sampled for species composition and biological measurements and conditions.

[c] Size-frequency and shell-condition sampling conducted on retained catch; each data set typically consists of 100 crab.

[d] Each legal tally typically consists of 600 crab.

[e] Data includes Individual Fishing Quota (IFQ) and Community Development Quota. 2005/06 is the first year of Crab Rationalization and IFQ harvest.

Table 4-21.–Bering Sea snow crab fishery pot lifts on observed and non-observed vessels for each statistical area fished, 2010/11.

Statistical area	Pots lifted			Percent of total pot lifts observed [a]
	Observed vessels [a]	Non-observed vessels	Total pots lifted	
655630	0	25	25	0.0
675500	11	31	42	26.2
675530	3,589	2,199	5,788	62.0
675600	3,813	5,149	8,962	42.5
675630	35	0	35	100.0
675730	779	0	779	100.0
685530	0	7	7	0.0
685600	7,905	8,749	16,654	47.5
685630	2,319	1,567	3,886	59.7
695631	4	5	9	44.4
705600	24	552	576	4.2
705630	12	231	243	4.9
705701	8	0	8	100.0
715600	9	990	999	0.9
715630	6,527	15,475	22,002	29.7
715700	909	3,164	4,073	22.3
715730	3	24	27	11.1
725600	0	29	29	0.0
725630	9,165	18,085	27,250	33.6
725700	8,282	7,915	16,197	51.1
725730	4,245	3,694	7,939	53.5
725800	141	0	141	100.0
735630	1,430	870	2,300	62.2
735700	4,983	2,195	7,178	69.4
735730	7,306	5,564	12,870	56.8
735800	2,364	1,332	3,696	64.0
735830	368	0	368	100.0
745730	0	16	16	0.0
745800	1,589	663	2,252	70.6
745830	1,890	934	2,824	66.9
755830	48	21	69	69.6
Totals	67,758	79,486	147,244	46.0

Note: Catcher vessel and catcher-processor vessel information has been combined for reporting purposes to preserve data confidentiality.

[a] Observer onboard during harvest.

Table 4-22.–Bering Sea golden king crab observer sampling efforts by vessel type, 1989–2010.

Season	Vessel type	Number of Vessels	Number of Observed vessels	Percent observer coverage	Number of Observer deploy-ments	Number of Observer months	Number of Pot lifts sampled [a]	Number of Total pot lifts	Percent pot lifts sampled	Number of Size freq. [b]	Number of Legal tallies [c]
1989	C/V	0	0	0	0	0.0	0	0	0.0	0	0
	C/P	2	2	100	2	1.5	NA	NA	NA	NA	NA
	Total	2	2	100	2	1.5	NA	NA	NA	NA	NA
1990-1991		0	0	0	0	0.0	0	0	0.0	0	0
1992	C/V	0	0	0	0	0.0	0	0	0.0	0	0
	C/P	2	2	100	2	1.3	NA	NA	NA	NA	NA
	Total	2	2	100	0	1.3	NA	NA	NA	NA	NA
1993-2000		0	0	0	0	0.0	0	0	0.0	0	0
2001	C/V	6	6	100	9	10.5	1,356	4,513	30.0	13	14
	C/P	0	0	0	0	0.0	0	0	0.0	0	0
	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	0	0	0.0	0	0	0.0	0	0
	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	3,192	18.6	6	6
	C/P	0	0	0	0	0.0	0	0	0.0	0	0
	Total	3	3	100	3	4.6	593	3,192	18.6	6	6
2004	C/V	5	5	100	5	3.4	551	2,312	23.8	7	7
	C/P	0	0	0	0	0.0	0	0	0.0	0	0
	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	0
2010	C/V	1	1	100	2	2.1	483	1,823	26.5	3	3
	C/P	0	0	0	0	0.0	0	0	0.0	0	0
	Total	1	1	100	2	2.1	483	1,823	26.5	3	3

Note: C/V = Catcher vessel, C/P = Catcher-processor vessel, NA = Not available

[a] Pot contents sampled for species composition and biological measurements and conditions.

[b] Size-frequency and shell-condition sampling conducted on retained catch; each data set typically consists of 100 crab.

[c] Each legal tally typically consists of 600 crab.

Table 4-23.–Bering Sea hair crab observer sampling efforts by vessel type, 1992–2010.

Season	Vessel type	Number of Vessels	Number of Observed vessels	Percent observer coverage	Number of Observer deploy-ments	Number of Observer months	Number of Pot lifts sampled [a]	Number of Total pot lifts	Number of Pot lifts on observed vessels	Percent pot lifts sampled	Percent pot lifts sampled on observed vessels	Number of Size freq. [b]	Number of Legal tallies [c]
1992	C/V	9	2	22.2	2	1.3	73	121,520	8,200	0.1	0.9	NA	NA
	C/P	1	1	100.0	1	0.6	45	9,743	9,743	0.5	0.5	NA	NA
	Total	10	3	30.0	3	1.9	118	131,263	17,943	0.1	0.7	NA	NA
1993	C/V	2	2	100.0	3	2.7	87	4,241	4,241	2.1	2.1	NA	NA
	C/P	0	0	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	Total	2	2	100.0	3	1.5	87	4,241	4,241	2.1	2.1	NA	NA
1993/94	C/V	19	12	63.2	27	32.5	9,213	585,913	581,649	1.6	1.6	138	114
	C/P	0	0	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	Total	19	12	63.2	27	32.5	9,213	585,913	581,649	1.6	1.6	138	114
1994	C/V	10	10	100.0	12	15.2	8,333	287,954	287,954	2.9	2.9	62	51
	C/P	0	0	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	Total	10	10	100.0	12	15.2	8,333	287,954	287,954	2.9	2.9	62	51
1995	C/V	21	21	100.0	22	21.5	10,166	441,494	441,494	2.3	2.3	72	77
	C/P	0	0	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	Total	21	21	100.0	22	21.5	10,166	441,494	441,494	2.3	2.3	72	77
1996	C/V	19	18	94.7	21	19.6	9,194	410,548	408,798	2.2	2.2	60	85
	C/P	0	0	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	Total	19	18	94.7	21	19.6	9,194	410,548	408,798	2.2	2.2	60	85
1997	C/V	16	16	100.0	16	11.6	5,464	211,970	211,970	2.6	2.6	42	48
	C/P	0	0	0.0	0	0.0	0	0	0.0	0.0	0.0	0	0
	Total	16	16	100.0	16	11.6	5,464	211,970	211,970	2.6	2.6	42	48
1998	C/V	12	12	100.0	12	6.8	2,947	128,495	128,495	2.3	2.3	27	26
	C/P	0	0	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	Total	12	12	100.0	12	6.8	2,947	128,495	128,495	2.3	2.3	27	26

-continued-

Table 4-23.–Page 2 of 2.

Season	Vessel type	Number of Vessels	Number of Observed vessels	Percent observer coverage	Number of Observer deploy-ments	Number of Observer months	Number of Pot lifts sampled [a]	Number of Total pot lifts	Number of Pot lifts on observed vessels	Percent pot lifts sampled	Percent pot lifts sampled on observed vessels	Number of Size freq. [b]	Number of Legal tallies [c]
1999	C/V	8	8	100.0	8	5.5	2,275	92,333	92,333	2.5	2.5	21	26
	C/P	0	0	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	Total	8	8	100.0	8	5.5	2,275	92,333	92,333	2.5	2.5	21	26
2000	C/V	3	3	100.0	3	1.0	192	3,300	3,300	5.8	5.8	2	2
	C/P	0	0	0.0	0	0.0	0	0	0	0.0	0.0	0	0
	Total	3	3	100.0	3	1.0	192	3,300	3,300	5.8	5.8	2	2
2001-2010	FC												

Note: C/V = Catcher vessel, C/P = Catcher-processor vessel, NA = Not available, FC = Fishery closed

[a] Pot contents sampled for species composition and biological measurements and conditions.

[b] Size-frequency and shell-condition sampling conducted on retained catch; each data set typically consists of 100 crab.

[c] Each legal tally typically consists of 600 crab.

Table 4-24.–Bering Sea hair crab harvest by vessel type and percent of harvest observed, 1992–2010.

Season	Vessel type	Number of Vessels	Number of Landings	Harvest [a,b]	Observed harvest [a,b,c]	Percent observed harvest [c]
1992	C/V	9	48	1,120,715	129,650	11.6
	C/P	1	1	71,975	71,975	100.0
	Total	10	72	1,192,690	201,625	16.9
1993	C/V	2	2	512	512	100.0
	C/P	0	0	0	0	0.0
	Total	2	2	512	512	100.0
1993/94	C/V	19	177	2,331,686	2,322,353	99.6
	C/P	0	0	0	0	0.0
	Total	19	177	2,331,686	2,322,353	99.6
1994	C/V	10	82	1,199,246	1,199,246	100.0
	C/P	0	0	0	0	0.0
	Total	10	82	1,199,246	1,199,246	100.0
1995	C/V	21	78	2,059,988	2,059,988	100.0
	C/P	0	0	0	0	0.0
	Total	21	78	2,059,988	2,059,988	100.0
1996	C/V	19	91	745,804	745,336	99.9
	C/P	0	0	0	0	0.0
	Total	19	91	745,804	745,336	99.9
1997	C/V	16	52	668,096	668,096	100.0
	C/P	0	0	0	0	0.0
	Total	16	52	668,096	668,096	100.0
1998	C/V	12	31	307,739	307,739	100.0
	C/P	0	0	0	0	0.0
	Total	12	31	307,739	307,739	100.0

-continued-

Table 4-24.–Page 2 of 2.

Season	Vessel type	Number of Vessels	Number of Landings	Harvest [a,b]	Observed harvest [a,b,c]	Percent observed harvest [c]
1999	C/V	8	27	221,656	221,656	100.0
	C/P	0	0	0	0	0.0
	Total	8	27	221,656	221,656	100.0
2000	C/V	3	3	1,546	1,546	100.0
	C/P	0	0	0	0	0.0
	Total	3	3	1,546	1,546	100.0
2001-2010	FC					

Note: C/V = Catcher vessel, C/P = Catcher-processor vessel, FC = Fishery closed

[a] In pounds.

[b] Includes deadloss.

[c] Observer onboard during harvest.

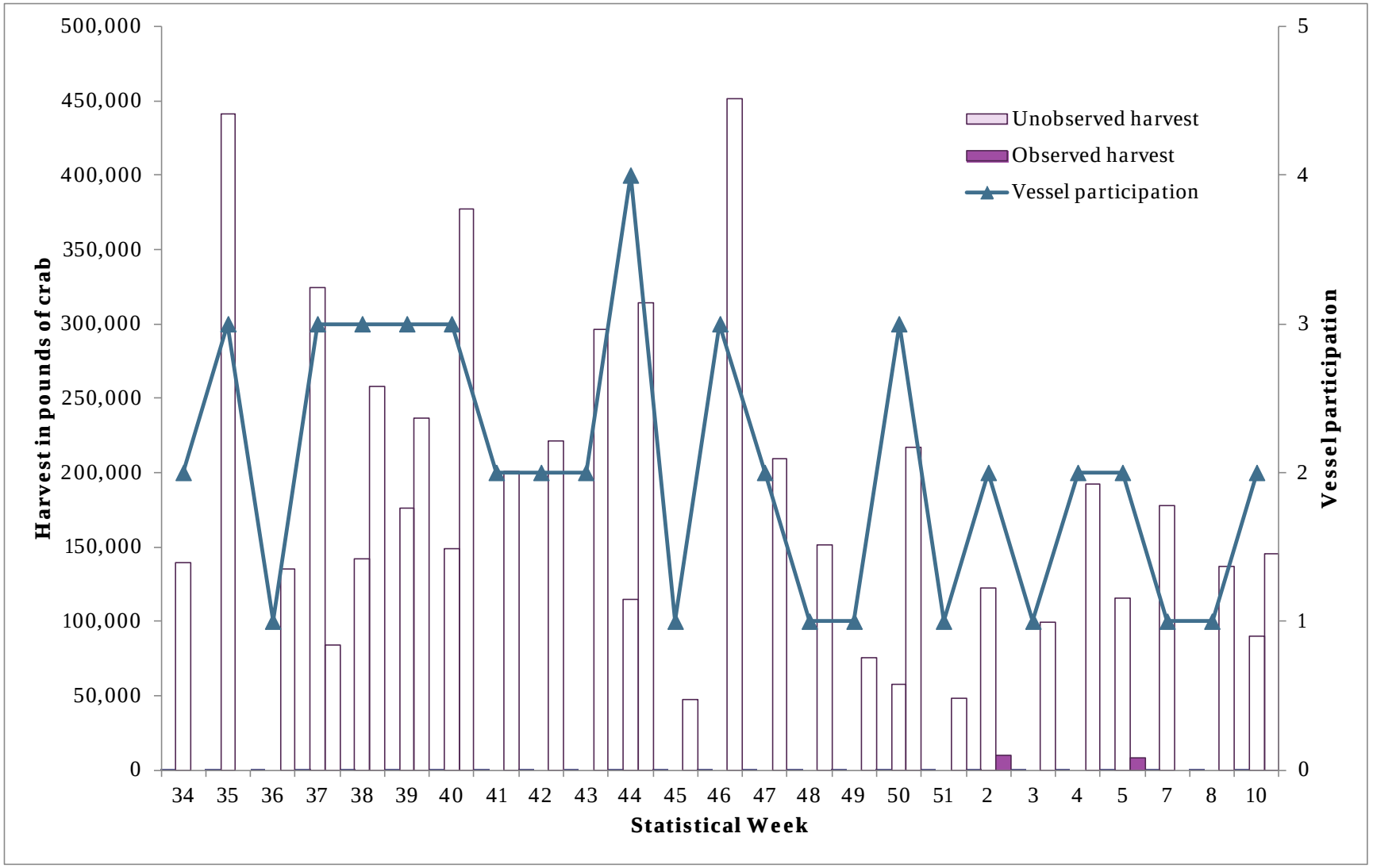


Figure 4-1.–Aleutian Islands golden king crab fishery comparison of observed harvest to unobserved harvest, and total vessel participation by statistical week between August 21, 2010 and March 13, 2011 combining harvest from both east and west of 174° W long, 2010/11.

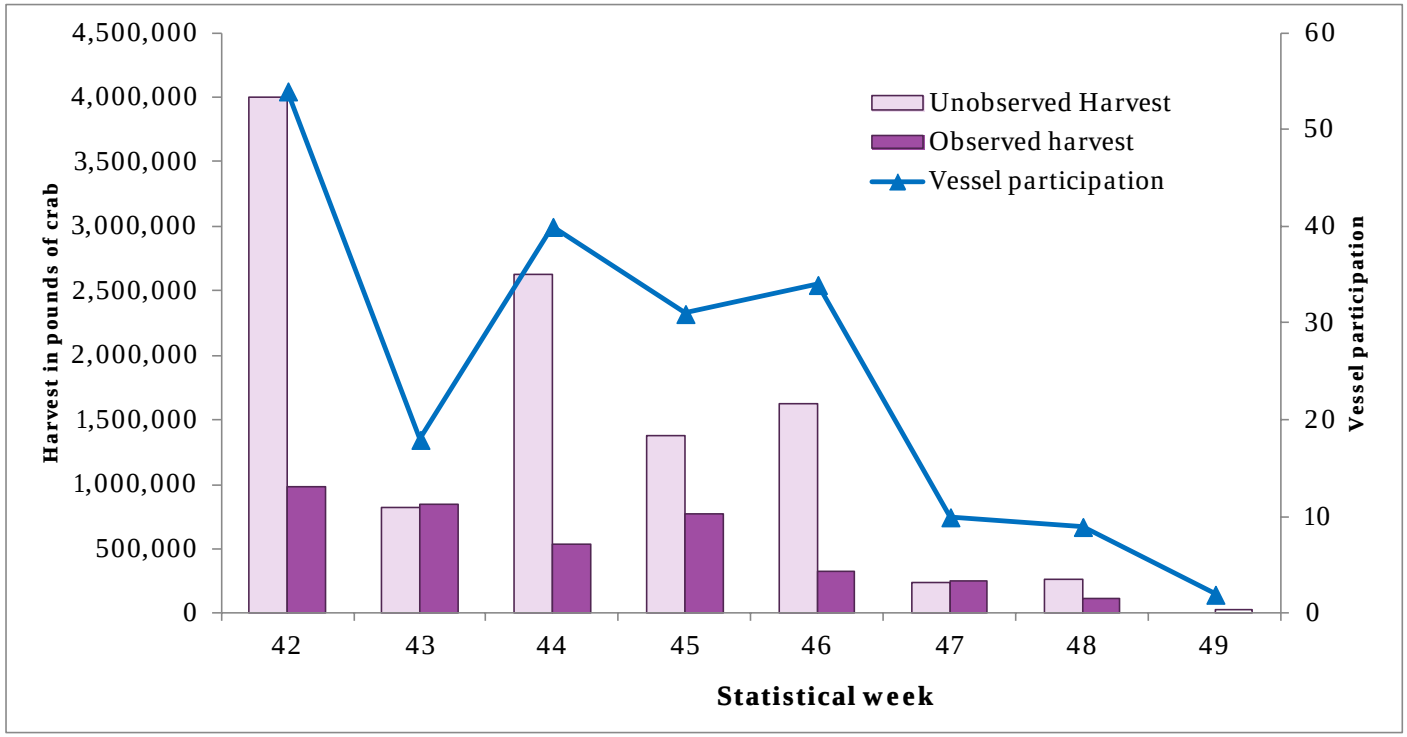


Figure 4-2.–Bristol Bay red king crab fishery comparison of observed harvest to unobserved harvest, and total vessel participation by statistical week between October 17, 2010 and December 11, 2010, 2010/11.

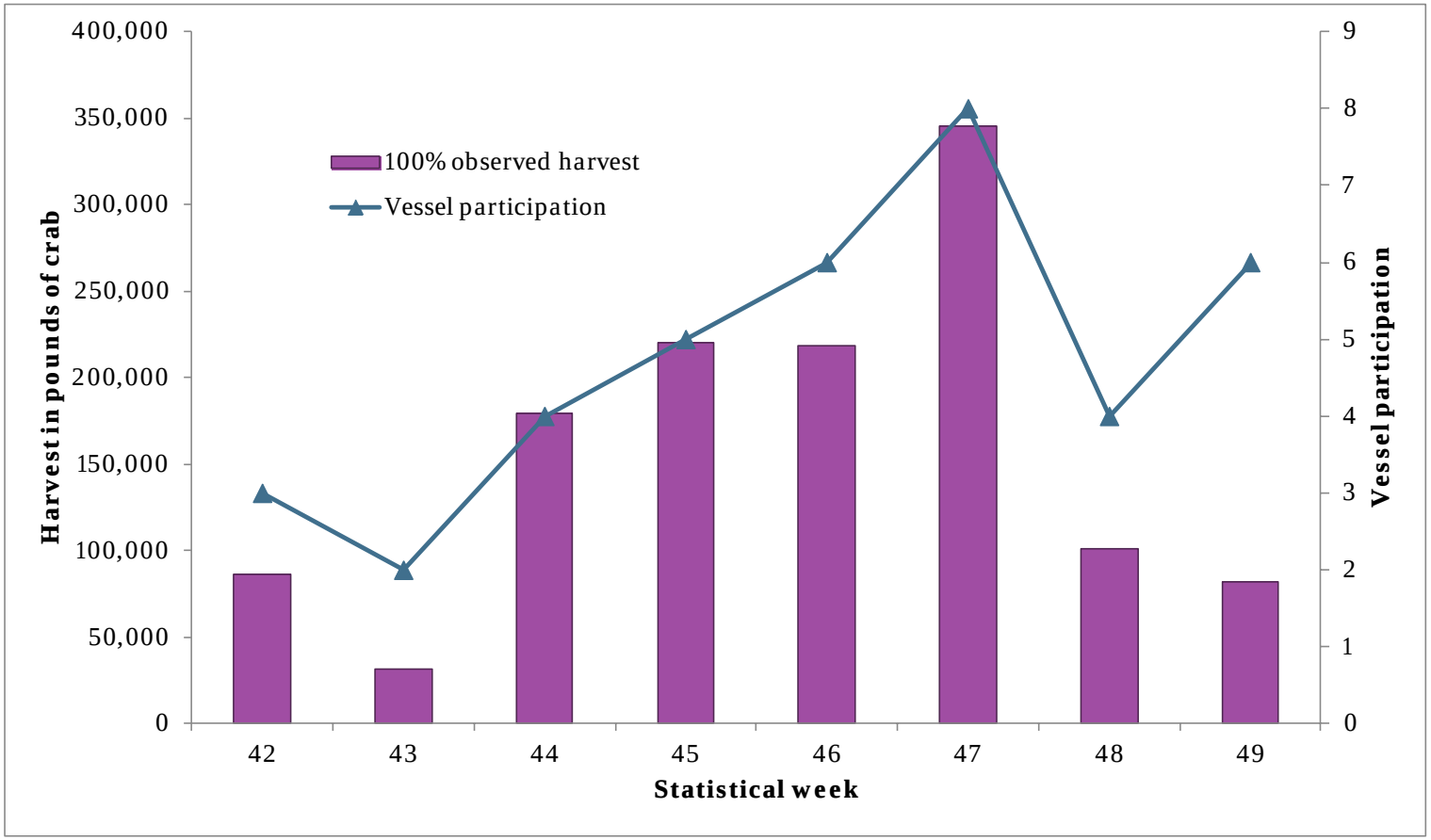


Figure 4-3.–Saint Matthew Island blue king crab fishery harvest and total vessel participation by statistical week between October 17, 2010 and December 11, 2010, 2010/11.

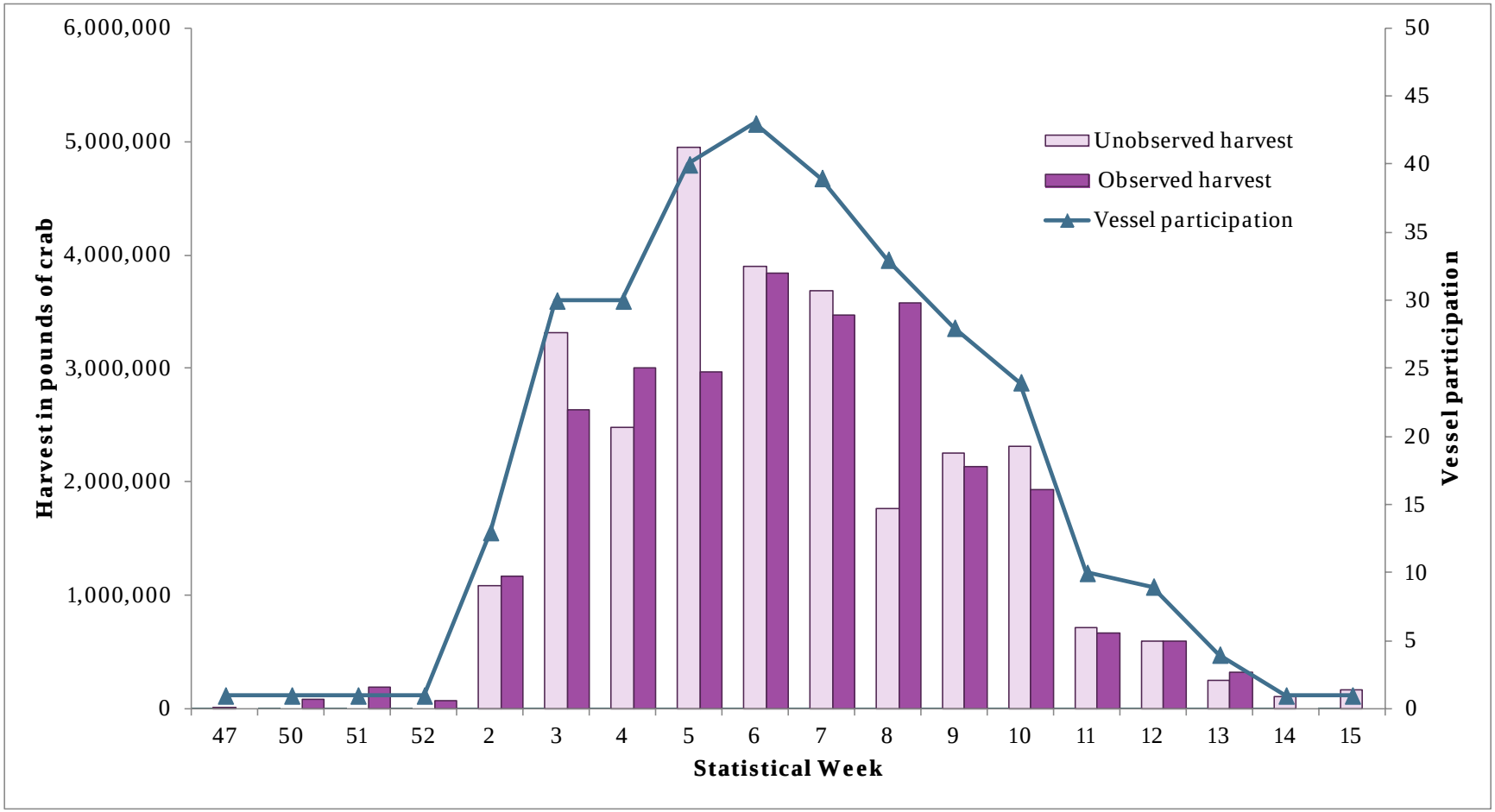


Figure 4-4.–Bering Sea snow crab fishery comparison of observed harvest to unobserved harvest, and total vessel participation by statistical week between November 21, 2010 and April 16, 2011, 2010/2011.