

**Annual Management Report for the Commercial and  
Subsistence Shellfish Fisheries of the Aleutian Islands,  
Bering Sea and the Westward Region's Shellfish  
Observer Program, 2009/10**

by

**Forrest R. Bowers,**

**Mary Schwenzfeier,**

**Kathleen Herring,**

**Melissa Salmon,**

**Janis Shaishnikoff,**

**Heather Fitch,**

**Jeanette Alas,**

and

**Britta Baechler**

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Alaska Department of Fish and Game

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**ANNUAL MANAGEMENT REPORT FOR THE COMMERCIAL AND  
SUBSISTENCE SHELLFISH FISHERIES OF THE ALEUTIAN ISLANDS,  
BERING SEA, AND THE WESTWARD REGION'S SHELLFISH  
OBSERVER PROGRAM, 2009/10**

by

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

and

Kathleen Herring, Melissa Salmon, Janis Shaishnikoff, Heather Fitch, Jeanette Alas, and 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

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

*and*

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

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## ABSTRACT

Alaska Department of Fish and Game's (ADF&G) Westward Region is tasked with management of all commercial and subsistence shellfish fisheries occurring in the Territorial Sea and Exclusive Economic Zone (EEZ) of the Aleutian Islands west of Scotch Cap Light (164°44' W long) and 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 and in Norton Sound.

In 2009/10, three species of king crab, snow crab, Tanner crab, Dungeness crab, and giant Pacific octopus were taken in the Bering Sea and Aleutian Islands (BSAI) commercial and subsistence fisheries.

This report presents details on commercial and subsistence harvest, participation, and value of shellfish fisheries in the BSAI area. Historical and current fishery management practices, a summary of the most recent commercial fishery and general stock status information are presented for each fishery. The 2009/10 Bering Sea king and Tanner crab Community Development Quota (CDQ) and Individual Fishing Quota (IFQ) fisheries are summarized separately.

Observer-collected data is a key component for management of BSAI crab fisheries. The ADF&G shellfish observer program was created in 1988. Observer coverage is required for crab fisheries. Observers deploy on catcher-only, catcher-processor, and floating processor vessels. Details of the program's history and structure, and the 2009/10 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 *Cancer magister*, giant Pacific octopus *Octopus dofleini*, blue king crab *P. platypus*, grooved Tanner crab *C. tanneri*, triangle Tanner crab *C. angulatus*, green sea urchins *Strongylocentrotus droebachiensis*, pandalid shrimp, hair crab *Erimacrus isenbeckii*, sea snails, Community Development Quota, CDQ, Crab Rationalization, CR, Individual Fishing Quota, IFQ, catch per unit effort, CPUE, Exclusive Economic Zone, EEZ, subsistence, guideline harvest level, GHL, Board of Fisheries, BOF, National Marine Fisheries Service, NMFS, Bering Sea, Aleutian Islands, North Peninsula, Area, District, deployment, observer-days, catcher-processor, C/P, catcher vessel, C/V, floating processor, F/P, bycatch, University of Alaska Anchorage, UAA, North Pacific Fisheries Observer Training Center, OTC, National Oceanic and Atmospheric Administration, NOAA, North Pacific Groundfish Observer Program, NPGOP, legal tallies, confidential interviews, CIF, United States Coast Guard, USCG, 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 and in 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, whereas districts are utilized for Tanner crab, Dungeness crab, and miscellaneous shellfish management. The major BSAI king and Tanner crab fisheries are managed under a federal fisheries management plan (FMP) that establishes a cooperative management structure deferring king and

Tanner crab management to the state of Alaska with federal oversight. The Bering Sea hair crab fishery is managed solely under state jurisdiction, as are other crab and miscellaneous shellfish fisheries. Beginning with the 2005/06 season, major BSAI crab fisheries were managed under the crab rationalization (CR) program. The CR program has resulted in consolidation of harvesting and processing sectors and greatly lengthened fishing seasons.

Species commercially harvested during the 2009/10 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 *Cancer 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. In addition, a fishery for weathervane scallops *Patinopectin caurinus* occurs in the BSAI, however, it is summarized in a separate report.

In 2009/10, 85 catcher vessels, two catcher-processors, two floating processors, and 11 shorebased processors were involved in harvesting and processing non-scallop shellfish resources in the BSAI. BSAI shellfish landings totaled approximately 72.1 million pounds generating an approximate exvessel value of \$132.6 million.

The Bering Sea snow crab fishery was the largest shellfish fishery in Alaska with a total harvest of 48.0 million pounds, followed by the Bristol Bay red king crab fishery with a total harvest of 15.9 million pounds, the Aleutian Islands golden king crab fishery with a total harvest of 5.9 million pounds, the Bering Sea Tanner crab fishery with a harvest of 1.3 million pounds, and the Saint Matthew Island Section blue king crab fishery with a harvest of 0.5 million pounds.

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

The Bering Sea snow crab, and Bering Sea Tanner crab east of 166° W long fisheries were open in 2009/10. Snow crab harvest has greatly increased relative to the period after the post-1999 fishing season collapse; however, Tanner crab harvest was below the long-term average. Bering Sea Tanner crab stock status east of 166° W long improved and is no longer considered overfished. The Bering Sea Tanner crab fishery west of 166° W was closed in 2009/10 due to estimated high bycatch and mortality rates of Tanner crab in the snow crab and directed Tanner crab fisheries. The Eastern Aleutian District Tanner crab fishery was open for a small harvest in 2010. Saint Matthew Island Section blue king crab opened in 2009/10 after a 10-year closure.

Dungeness crab harvests in the BSAI are historically small. One vessel registered to fish for North Peninsula District Dungeness crab in 2009; harvest is confidential for this area. No fishermen registered to fish for Dungeness crab during the 2009 season in the Aleutian Islands District.

Relative to other portions of the Westward Region, shrimp harvests in the BSAI area are low and there was no shrimp harvest in the BSAI during 2010.

There was limited or no participation during 2009 in most BSAI fisheries for miscellaneous shellfish species. The Bering Sea hair crab fishery was closed due to low abundance and there was no effort targeting green sea urchins or sea cucumbers. The giant Pacific octopus was harvested incidentally in BSAI groundfish fisheries.

Both state and federal management agencies and the public utilize data collected by shellfish observers. All vessels that process crabs at sea are required to be observed and catcher-vessel observer coverage is either full or partial depending on the fishery. Vessels that process at-sea pay for observer coverage, while catcher vessels, depending on the fishery, either pay for coverage or the department pays for the coverage with test fish funds or with federal reimbursement fees.

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



# **ANNUAL MANAGEMENT REPORT FOR THE COMMERCIAL AND SUBSISTENCE SHELLFISH FISHERIES OF THE ALEUTIAN ISLANDS, 2009/10**

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

and

Forrest R. Bowers, Kathleen Herring, Janis Shaishnikoff, Heather Fitch, and 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

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# **ALEUTIAN ISLANDS KING CRAB MANAGEMENT AREA**

## **DESCRIPTION OF AREA**

The Aleutian Islands king crab Registration Area O 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 longitude 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 of 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. The BOF adopted this change to improve management of the increasingly important golden king crab *Lithodes aequispinus* resource in the Aleutian Islands. Combining the Adak and Dutch Harbor areas has not impacted management of red king crabs in the Aleutian Islands (ADF&G 1999a).

Domestic fisheries for red king crabs in both the Adak and Dutch Harbor Registration areas began in 1961 and rapidly developed. 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).

Fluctuating harvest levels from one year to the next characterized fisheries in the Dutch Harbor and Adak areas, and by the 1982/83 season the Dutch Harbor fishery harvest declined to 430,000 pounds. Commercial fishing for red king crabs in the Dutch Harbor Area has been closed since the 1982/83 season. The 1995/96 season Adak fishery harvest was only 39,000 pounds. After the 1995/96 season the fishery was closed for several years. Portions of the area were opened during the 1998/99, 2000/01, and 2001/02 seasons in order to assess the status of red king crab stocks (Figure 1-3). In 2002/03 the Petrel Bank portion of Area O was reopened to commercial fishing with a GHL of 500,000 pounds.

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

Pot surveys in the western Aleutian Islands were conducted from 1975 to 1977 to provide catch per unit of effort (CPUE), fecundity, and relative abundance information of red king crabs (ADF&G 1978). Pot surveys were conducted on an annual basis in the Dutch Harbor Area until 1990 when trawl surveys were implemented to survey larger areas in a more timely fashion and to reduce gear selectivity inherent to pot fishing activities (Urban 1992).

In 1996 and 1997, a catcher-processor vessel was permitted to target red king crabs on Petrel Bank in conjunction with their directed golden king crab fishing. The goals of this project were to enumerate, tag, and collect biological data from all red king crabs captured and to recapture tagged crabs. During this two-year period, a total of 926 crabs were tagged along the north side of Amchitka Island and along the south side of Semisopochnoi Island. While tagging was too limited to provide quantitative stock assessment data, it provided information on migration, molting cycle, and seasonal distribution (Byersdorfer 1998).

In order to assess status of red king crab stocks in two areas of the Aleutian Islands without recent abundance information, a limited commercial fishery was opened on November 1, 1998. East of 179° W long, a GHLL of 5,000 pounds was established and west of 179° E long, a GHLL of 10,000 pounds was set; these GHLLs were set using historic catch information. During the limited fishery crabs 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 area between 179° E long and 179° W long) was not opened based on prior work that provided population data from that area (Byersdorfer 1998).

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

In order to gain information on red king crab abundance in the Petrel Bank area, two surveys were conducted in January/February and November, 2001. Due to budget constraints, the surveys were designed so fishermen could retain and sell all legal male red king crabs captured to cover survey expenses. The commissioner's permit specified stations to be fished, soak times, and effort levels. Capture of red king crabs from both 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 GHLL of 500,000 pounds. Based on expected effort, this was considered the minimum GHLL that could be managed inseason. Because of uncertainty in status of sublegal and female red king crabs and to provide for overall stock protection, ADF&G adopted a management strategy that would close the fishery prior to achieving the GHLL if legal male CPUE dropped below 10 crabs per pot.

Thirty-three vessels participated in the 2002/03 Petrel Bank red king crab fishery. CPUE for the Petrel Bank fishery was 18 legal crabs per pot lift and the fleet harvested 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 crabs 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 crabs 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 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. Observer coverage is set at 100% for all fishing operations.

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

To address conservation concerns for the eastern Aleutian Islands red king crab stock, the BOF took action at the March 1999 meeting regarding the subsistence and sport king crab fisheries in the Aleutian Islands between 168° W long and 164°44' W long. Regulations were adopted by the BOF that closed the sport fishery and reduced the subsistence daily bag limit of king crabs from six to one per person per day. The BOF also adopted regulations requiring that subsistence king and Tanner crab *Chionoecetes bairdi* fishermen operating in the Aleutian Islands between 168° 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 11 years. An average of 220 permits have been issued annually with an approximate 70% return rate. The returned permits accounted for an average annual harvest of 909 king crabs (Table 1-3), with harvest ranging from 0 to 150 king crabs per permit. Harvest estimates generated from the subsistence harvest logsheets indicate an average of 1,304 king crabs were harvested annually between 1999 and 2009. These harvest figures are substantially less than estimates generated by a 1994 survey of 15.1% of households in Unalaska, where 6,892 king crabs were estimated to have been taken (ADF&G 1999b).

### **2009/10 Commercial Fishery East of 171° W Longitude**

The red king crab fishery in the Aleutian Islands Registration Area O east of 171° W long was not opened during the 2009/10 season due to low stock abundance.

### **2009/10 Commercial Fishery 171° W Longitude to 179° W Longitude**

The red king crab fishery in the Aleutian Islands Registration Area O between 171° W long and 179° W long was not opened during the 2009/10 season due to low stock abundance.

### **2009/10 IFQ Fishery West of 179° W Longitude (Petrel Bank)**

The red king crab fishery in the Aleutian Islands Registration Area O west of 179° W long was not opened during the 2009/10 season due to low stock abundance.

### **2009 Subsistence Fishery**

In 2009, ADF&G issued 219 subsistence permits and harvest logsheets, of which 168, or 77%, were returned. Returned permits reported a harvest of 641 king crabs (Table 1-3) with harvest ranging from 0 to 69 king crabs per permit. Estimates generated from the subsistence harvest logsheets indicate that approximately 836 king crabs were taken. The majority of subsistence-caught king crabs in the Unalaska Island area are taken with pot gear, though some king crabs are taken using SCUBA gear.

### **Fishery Management and Stock Status East of 171° W Longitude**

The red king crab fishery in this area was not included in crab rationalization (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.

Most shellfish research in the Aleutian Islands has concentrated on eastern Aleutian Islands crab stocks. Recent bottom trawl surveys by ADF&G have not captured many king crabs. A portion of the eastern Aleutian Islands were surveyed by bottom trawl during the summers of 2000 and 2003–2009. Survey results showed a severely depressed population with only zero to five crabs captured in any year.

The 2009 survey captured 30 red king crabs, the most caught during this survey since 1999. Red king crab catch consisted of 10 juvenile females, 2 adult females, and 18 juvenile males. Ninety-three percent of the red king crabs were caught at one station in Beaver Inlet. Although the 2009 survey produced higher catches of red king crab than recent surveys, the population remains at historic low levels (Spalinger 2006-2010).

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) adopting new overfishing definitions for BSAI crabs and removing eastern Aleutian Islands red king crab from the FMP and providing the state with sole jurisdiction over the fishery.

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

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

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 areas of historic red king crab abundance in the Adak, Atka, and Amlia Islands areas that have been closed to commercial red king crab fishing since the 1998/99 season and had not been previously surveyed. The 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% of the survey was completed. The completed portion of the survey indicates that red king crab around Adak, Atka, and Amlia Islands were severely depressed (Granath 2003). Therefore, the department does not expect a commercial red king crab fishery to open in this area in the near future.

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

West of 179° W longitude a vessel may be registered to fish in the commercial red king crab and golden king crab fisheries concurrently; however, only single-line pots may be operated in areas open to red king crab fishing and only longline pots may be operated in areas open to golden king crab fishing. Likewise, red king crab may only be retained from single-line pots and golden king crab may only be retained from longline pots. Golden king crab fisheries in the Aleutian Islands do not have pot limits. In the Petrel Bank red king crab fishery each vessel is restricted to 250 pots.

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

Cumulative fishery CPUE was 10 legal crabs per pot during the 2003/04 fishery and did not drop below the 10 legal crabs per pot benchmark. Fishery CPUE climbed during the first 36 hours from 8.5 to 15.0 crabs per pot and steadily dropped for the remainder of the fishery with the exception of the morning of October 28, when most pots had soaked for an additional 12 hours. Compared to the 2001 combined survey CPUE of 28 and 2002/03 fishery CPUE of 18, performance during the 2003/04 fishery was 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 crabs was low, thresholds were not developed for those stock components. After the 2001 surveys, staff expressed concern about overall stock status. While legal-male catch was encouraging, the lack of sublegal and female crab was disappointing. Two additional years of fishery information failed to indicate healthy levels of those stock components. Based on fishery performance and the lack of recruitment of legal-sized crabs, it was likely that the fishery would

fail to stay above the threshold criteria of 10 crabs per pot if a fishery were prosecuted in 2004/05. Following the 2003/04 fishery, ADF&G closed the Petrel Bank red king crab fishery.

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

ADF&G conducted a survey of the red king crab stock on the Petrel Bank area 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. Red king crab catches in 2009 were 85% of legal-sized male crabs, 43% of females, and 15% of sublegal males as compared to the 2006 survey for those stations fished in common. 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% of the catch of all red king crabs 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 Registration Area O, 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. Given the flexibility of the project, 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 crabs 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 crabs necessitate the use of longline rather than single-pot gear. No other major king crab fisheries in Alaska exist where longline pot gear is the only legal gear type.

Historically, golden king crabs were taken as incidental harvest during red king crab fisheries in the Adak (Area R) and Dutch Harbor (Area O) Registration Areas. One landing of golden king crabs was reported from the Adak Area during the 1975/76 season, but directed fishing for golden king crabs did not occur in either management area until the 1981/82 season (ADF&G 1984). From the 1981/82 season through the 1995/96 season, 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 crabs in 76 deliveries from the Adak Area (Table 1-4). By the following season, harvest had reached 8.0 million pounds with 99 vessels participating in the fishery. Between 1981 and 1995, an average of 50 vessels participated in the Adak golden king crab fishery, harvesting an average of 6.9 million pounds annually. Peak harvest in the Adak Area fishery occurred during the 1986/87 season when nearly 12.9 million pounds of golden king crabs were harvested for an exvessel value of \$37.6 million (Table 1-5). Initially, the fishery was managed based on size, sex, and season restrictions as no stock assessment of the golden king crab population was performed in the Adak Area. Catches were monitored 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 crabs harvested in the Adak Area were taken in the North Amlia and Petrel Bank Districts (Figure 1-2).

Initial catches of golden king crabs in the Dutch Harbor Area were similar to those observed in the Adak Area fishery (ADF&G 1984). Harvest was incidental to the red king crab fishery and effort in the fishery only increased as red king crab stocks decreased in abundance. Six vessels harvested approximately 116,000 pounds of golden king crabs during the 1981/82 Dutch Harbor red king crab season (Table 1-4). The following season, 49 vessels participated in the directed golden king crab fishery, harvesting 1.2 million pounds. Between 1981 and 1995, an average of 18 vessels harvested approximately 1.5 million pounds of golden king crabs annually (Table 1-4). Peak golden king crab harvest in the Dutch Harbor Area occurred during the 1995/96 season when 2.0 million pounds were harvested for a total value of \$5.2 million (Table 1-5). The Dutch Harbor Area harvest was primarily from the Islands of Four Mountains and Yunaska Island area (Figure 1-1). The golden king crab stock in the Dutch Harbor Area was not surveyed for abundance prior to 1991 and the fishery was managed based on a historical average catch of 1.6 million pounds annually (ADF&G 1999a).

The average weight of golden king crabs harvested in both the Dutch Harbor and Adak Areas declined during the period from 1981 to 1995, ranging from a high of 7.6 pounds during the 1983/84 season to 4.2 pounds during the 1992/93 season in the Dutch Harbor Area and 5.5 pounds to 4.3 pounds in the Adak Area (Figures 1-4 and 1-5). In 1984, the BOF adopted an

ADF&G proposal to lower the legal size for golden king crabs in the Aleutian Islands from 6.5 inches to 6.0 inches 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 crabs per pot during the 1984/85 season and declining to 6 crabs during the 1994/95 season in the Dutch Harbor area and from 9 legal crabs per pot to 5 crabs in the Adak Area.

At the March 1996 meeting, the BOF chose to restructure management of king crabs in the Aleutian Islands. Formerly, the Aleutian Islands king crab populations had been managed using the Adak and Dutch Harbor Registration areas that were established for red king crab fisheries. However, during the 1970s and 1980s, red king crab fisheries declined in the Aleutian Islands while the golden king crab fishery gained 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, elected to replace Adak and Dutch Harbor areas with the newly created Aleutian Islands Registration Area O and directed ADF&G to manage golden king crab in the areas east and west of 174° W long as two distinct stocks. It also stipulated that a conservative management plan be initiated and that all vessels registered for the fishery continue to carry an onboard observer for all fishing activities.

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

Since the 1996/97 season, effort and harvest in the Aleutian Islands east of 174° W long remained relatively stable. During the 1997/98 season, 15 vessels harvested 3.5 million pounds in an 84-day season. CPUE averaged seven legal crabs per pot lift and crabs averaged 4.5 pounds each. The fishery west of 174° W long has experienced greater variability in catch and effort. During the 1997/98 season nine vessels harvested 2.4 million pounds (Table 1-4). The GH west of 174° W long was not reached and the fishery was not closed. The fleet averaged six legal crabs per pot lift with landed crabs averaging 4.3 pounds. The 1997/98 Aleutian Islands golden king crab fishery had a total value of \$12.5 million (Table 1-5).

Prior to the 1998/99 season opening, the Aleutian Islands golden king crab GHL east of 174° W long was reduced from 3.2 million pounds to 3.0 million pounds. Fishery performance trends and data from tag recoveries indicated that the 200,000 pound GHL reduction for the area east of 174° W long was necessary in order to comply with the overfishing definition specified in the 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 crabs per pot lift with an average weight of 4.4 pounds per crab. West of 174° W long, effort declined significantly from the prior two seasons. A fleet of three vessels harvested 1.7 million pounds, or 63% of the GHL. The fleet averaged 11 legal crabs per pot lift with an average weight of 4.1 pounds per crab (Table 1-4). The 1998/99 fishery had a total value of \$9.3 million, the lowest in 14 years (Table 1-5).

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

These stable trends continued through the 2003/04 fishery. In the area east of 174° W long, since the 2001/02 season, 18 to 19 vessels participated and harvested an average of 2.99 million pounds per year. The CPUE and average weight have remained relatively stable with a CPUE ranging from 11 to 12 crab per pot lift and legal males averaging 4.4 to 4.6 pounds. In the area west of 174° W long, six to nine vessels harvested an average of 2.69 million pounds per year (Table 1-4). Legal males averaged 4.0 pounds and in 2001/02 and 2002/03 CPUE ranged from seven to eight crabs per pot lift. Catch rates rose during the 2003/04 fishery when average CPUE increased to 10 legal crabs per pot lift.

The number of vessels fishing and the average number of pots per vessel in the eastern portion of the Aleutian Islands golden king crab fishery remained fairly constant from the 1994/95 season to the 2004/05 season (Figure 1-6). In the western portion of the Aleutian Islands golden king crab fishery, there has been a decrease in the number of vessels registered per season with a dramatic increase in the number of pots registered per vessel (Figure 1-7). The 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 crabs 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 crabs per pot lift. CR regulations require that 10% of the overall TAC in the area east of 174° W long is allocated to the CDQ program and 10% 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% 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% 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).

### **2009/10 IFQ Fishery**

The 2009/10 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 5.31 million pounds. The fleet averaged 25 legal crabs per pot lift, similar to the 2008/09 season, and average weight was 4.5 pounds, similar to the 2008/09 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, an increase of 400 pots from the 2007/08 and 2008/09 seasons. Harvest data is confidential for all weeks because fewer than three vessels fished except for the weeks of September 19 and October 3 when 408,715 pounds and 416,246 pounds were harvested, respectively. Fishing operations were completed the second week in January. Most fishing effort concentrated around Amukta Pass (Table 1-6). The average CPUE for the entire eastern portion was 26 legal crabs per pot lift, one lower than the previous season. The average weight of legal crabs was 4.6 pounds, a decrease from the prior two seasons (Table 1-4).

The IFQ fleet exceeded the 2.84 million pound TAC by 474 pounds. Three shorebased processors located in Dutch Harbor processed golden king crabs from the eastern Aleutian Islands. Exvessel price paid for live, whole crabs averaged \$1.96 per pound, leading to a fishery value of \$5.50 million, nearly a 41% decrease from the 2008/09 fishery (Table 1-5).

### ***West of 174° W long***

Three vessels participated in the IFQ fishery west of 174° W long. The fleet registered 5,050 pots, an increase of 150 pots from the 2008/09 season (Table 1-4). 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 15 to a high of 43 legal crabs per pot lift and averaged 25, an increase from the 2008/09 season average CPUE of 23. The average weight of legal crabs was 4.4 pounds, an increase from 4.3 pounds during the 2008/09 season (Table 1-4).

The fleet harvested 2.48 million pounds or 97% of the TAC. Golden king crabs were purchased and processed by one catcher-processor and two shorebased processors, both in Dutch Harbor. Exvessel price averaged \$1.93 per pound yielding a total fishery value of \$4.72 million, a 13% 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. The GHL has been changed to a TAC. Qualified participants are issued IFQ shares which they may harvest at any time while the season is open. Harvesters may use gear cooperatively, transporting and fishing another vessel's gear if registered to do so. Additionally, observer coverage requirements have decreased. Prior to rationalization, vessels harvesting golden king crab in the Aleutian Islands were required to carry an observer during 100% of their fishing activities. Current regulations stipulate that onboard observers are required for 50% of the total golden king crab weight harvested by each catcher vessel during each of the three trimesters and 100% 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% of the legal male crabs 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%. 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 crabs 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 crabs were tagged in 2000 than in 1997. Harvest rates as indicated by tag returns in the 2000/01 season were similar to those in 1997/98. Shell condition composition data indicated the stock was healthy, while size composition of the retained catch has changed very little (Watson and Gish 2002). Results from the 2003 survey indicate that overall approximately 22% fewer crab were tagged compared to the 2000 survey although numbers of tagged legal males were similar (Watson 2005). Approximately 14% fewer crabs were tagged during the 2006 survey than the

2003 survey, although numbers of tagged legal males increased. Results from the 2006 survey and tag recovery data are available in Fishery Management Report No. 07-07 (Watson 2007). No surveys have been conducted since 2006.

A stock assessment model is currently being developed for Aleutian Islands golden king crab. When completed and if adopted by 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 crabs are 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 crabs are typically found in waters deeper than 200 fathoms and have been taken as incidental harvest in the golden king crab and deepwater Tanner crab fisheries in the Aleutian Islands. Limited directed fishing has occurred and does not indicate the presence of a large biomass. Since 1992, annual harvest of scarlet king crabs in the Aleutian Islands has ranged from less than 5,000 pounds to a peak of nearly 63,000 pounds in 1995, when eight vessels made 25 landings. Exvessel value 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.

### **2009 Fishery**

No vessels registered to harvest scarlet king crab in the Aleutian Islands in 2009.

### **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 with sole jurisdiction over the fishery. No surveys are conducted, nor are any estimates of population abundance made for scarlet king crabs in the Aleutian Islands; consequently, stock status and distribution are not well known. Scarlet king crab males 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 crabs as large as those recorded in other districts of Area J. Tanner crabs are found only in a few major bays and inlets of the eastern Aleutian Islands and the directed fishery was relatively small in volume and geographically limited until the late 1970s. The fishery began in Akutan and Unalaska Bays and subsequently expanded to include all areas of known Tanner crab distribution in the EAD. Harvest of Tanner crabs over the last 26 years has typically remained under one million pounds per year. Only in the three consecutive seasons from 1976/77 to 1978/79 did 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 reached a low of 50,038 pounds in 1991. Between 1973/74 and 1994 vessel participation ranged from 4 vessels in 1992 to 31 vessels in 1982. Commercial fishing for Tanner crabs was not permitted in the EAD from 1995 through 2003 due to low stock abundance.

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 2010 is confidential because less than three processors purchased crab. Vessel participation since 2004 ranged from 10 vessels in 2006 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 crabs annually. A survey of 15.1% of Unalaska households in 1994 generated an estimated total subsistence Tanner crab harvest of 10,957 crabs (ADF&G 1999b). 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 crabs and the estimated total harvest was 3,204 crabs (Table 1-3).

During the past 11 years, ADF&G in Dutch Harbor has issued an average of 220 subsistence permits and harvest logsheets annually. On average, approximately 70% or 153 are returned. The returned permits account for an average annual reported harvest of 2,468 Tanner crabs and annual harvest ranged from 0 to 914 crabs per permit holder. Harvest estimates generated from the subsistence harvest logsheets indicate an average of 3,539 Tanner crabs were harvested annually between 1999 and 2009 (Table 1-3).

### **2010 Commercial Fishery**

The 2010 commercial Tanner crab fishery in the EAD opened on January 15 with a GHL of 74,000 pounds in the Unalaska/Kalekta Bay Section and 45,000 pounds in the Akutan Section. The minimum GHL for the Makushin/Skan Bay Section was not met and therefore was not opened to commercial fishing. Nine vessels preseason registered for the 2010 fishery resulting in a limit of 33 pots per vessel; eight vessels participated in the fishery. Due to limited processor participation, harvest information is confidential. The fishery closed on February 10 in the Unalaska/Kalekta Bay Section without reaching the GHL due to low catch rates and staff concerns that the post-recruit portion of the stock was being depleted. The Akutan Section closed by regulation on March 31 without attaining the GHL.

## **Dockside Sampling, 2010 Commercial Fishery**

Tanner crabs were sampled by dockside sampling staff at a Dutch Harbor processor during the 2010 EAD Tanner crab fishery. Confidential interviews were conducted with vessel captains to acquire detailed information regarding areas fished, effort, and fishery performance. Biological data collected consisted of average crab weight, CW, and shell condition.

All landings made by the eight participating vessels were sampled by dockside sampling staff during 2010. Average weight for Tanner crabs harvested in the EAD fishery was 2.2 pounds. In the Unalaska Bay Section average weight increased from 2.2 pounds in 2009 to 2.3 pounds in 2010. From the biological data collected, 85% of the crabs measured were new-shell, an increase from the past two seasons where 57% in 2009 and 27% in 2008 of the landed catch was classified as new-shell.

## **2009 Subsistence Fishery**

In 2009, ADF&G issued 219 subsistence permits and harvest logsheets, of which 168, or 77%, were returned. The returned permits account for a reported harvest of 2,014 Tanner crabs (Table 1-3). Estimates generated from the subsistence harvest logsheets indicate that approximately 2,625 Tanner crabs were taken with harvest ranging from 0 to 321 Tanner crabs per permit. Most subsistence Tanner crabs harvested in the EAD in 2009 was taken with pot 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 a.m. until 5:59 p.m. with a soak time of 14 hours from 6:00 p.m. until 7:59 a.m. 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 crabs is 1,000,000 pounds or less. The federal CR program was implemented in 2005, but the EAD Tanner crab fishery was not included in that program, 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 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 proposals adopted by the board were identical to the management measures that the department had implemented on an interim basis in recent years.

Prior to 1990, sporadic pot surveys were utilized to generate a Tanner crab abundance index in the eastern Aleutian Islands (Urban 1992). The pot surveys were not utilized to generate a GHL;

instead they were used to monitor trends in abundance and recruitment. Pot surveys and fishery data were used to establish harvest levels of 0 to 250,000 pounds (ADF&G 1983b). Since 1990, trawl surveys and occasional pot surveys have been used to estimate abundance and are used in conjunction with fishery data for management purposes.

In 2009 the Akutan Bay, Unalaska/Kalekta Bay, Makushin/Skan Bay, Pumicestone Bay, and Beaver Inlet sections of the EAD were surveyed using the ADF&G research vessel Resolution (Spalinger 2010). Total estimated abundance for the area surveyed was 7.8 million crabs, a 1% increase from the 2008 survey but a 42% decrease from the 2007 survey. Most of the decrease in abundance from the 2007 survey can be explained by lower abundance estimates of immature females and prerecruit II – IV males in Makushin/Skan Bay and Akutan Bay.

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

The 2009 legal-male population estimate for areas surveyed, 0.39 million crabs, represents a decrease of 5% from 2008. This is consistent with a declining trend that began in the 2007 survey. The number of recruit-sized legal males increased nearly 32.8% while the post-recruit estimate decreased by 24.0%. The abundance estimate for post-recruits larger than 165 mm CW is among the lowest on record suggesting that the legal-male size class is composed primarily of crabs that have recently reached recruit size.

The 2009 legal-male Tanner crab abundance is just above average relative to the trawl survey time series from 1990 to 2008. The 2009 survey abundance estimate of recruit and sublegal males 92–114 mm CW increased from the 2008 survey. All other sublegal male size classes decreased from the 2008 survey, notably those in the 70–91 mm CW range which declined 57% from the 2008 survey. Total female abundance increased nearly 11% from the 2008 survey. Based on trawl survey estimates, the EAD Tanner crab stock appears capable of supporting a small harvest in 2010.

## **GROOVED TANNER CRAB**

### **Historical Background**

Similar to other deepwater crab fisheries in the Aleutian Islands, the first harvest of grooved Tanner crabs in the EAD occurred in the early 1980s as incidental harvest in the Dutch Harbor golden king crab fishery. Directed fishing for this species did not begin until 1993, when 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 crabs in the EAD in 2001; data is confidential due to limited participation. From 2002 to 2009 there was no grooved Tanner crab effort in the EAD.

Limited data has been collected regarding abundance, distribution, and stock status of deepwater 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 GHGs for grooved Tanner crabs 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 GHG 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).

## **2009 Fishery**

No vessels registered to harvest grooved Tanner crabs in the EAD during 2009.

## **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 GHG range of 50,000 to 200,000 pounds was established for the EAD. The GHG 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 GHG 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 GHG 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 15 legal crabs per pot lift in 1993 to 2 legal crabs in 1996 and catches decreased from over 850,000 pounds in 1995 to less than 105,000 pounds in 1996. 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 with sole jurisdiction over the fishery.

## **TRIANGLE TANNER CRAB**

### **Historical Background**

Triangle Tanner crabs 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 crabs was reported on fish tickets; however, shellfish observers stationed on board vessels participating in the grooved Tanner crab fishery observed small numbers of triangle crabs harvested in 1994 (ADF&G 1999a). Two vessels targeted triangle Tanner crabs in the EAD during the 1995 and 1996 seasons; harvest information

from those fisheries is confidential (Table 1-11). From 1997 to 2000, and 2002 to 2008, no vessels registered to harvest triangle Tanner crabs in the EAD. One vessel participated in 2001; harvest information is confidential.

### **2009 Fishery**

No vessels registered to harvest triangle Tanner crabs in the EAD during 2009.

### **Fishery Management and Stock Status**

In the Eastern Aleutian District triangle Tanner crabs are harvested under a permit authorized in 5 AAC 35.511. Permits for *tanneri* and *angulatus* Tanner crab in Registration Area J. Surveys of population abundance are not conducted for triangle Tanner crabs; thus the status of this stock is unknown. Because of the paucity of population data for this species and the history of the fishery, additional fishing for triangle Tanner crabs in the Eastern Aleutian District is limited to incidental harvest during the grooved Tanner crab fishery. Vessels registered to fish for grooved Tanner crabs are permitted to retain triangle Tanner crabs up to 50% 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 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 crabs 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 crabs 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.

#### **2009/10 Fishery**

The WAD Tanner crab fishery may be opened by emergency order on November 1; however, the fishery was not opened during the 2009/10 season because there is no management plan in place, nor has sufficient data been collected to set a GHLL.

## **Fishery Management and Stock Status**

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

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 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 crabs 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 GHGs for grooved Tanner crabs in the WAD in 1997. The GHG was set at 100,000 pounds; this level was believed to be adequate to allow for exploratory fishing and incidental harvest (ADF&G 1999a). Since 1997, the department has re-evaluated harvest levels for deepwater Tanner crabs. Because commercial fishing for grooved Tanner crabs in the WAD has only occurred during four seasons and no survey data is available, confidence was not as high in the GHG for this district as in other districts where grooved Tanner crab harvest has occurred. In order to prevent overharvest of this stock, no GHG was set in 2000 when new deepwater Tanner crab GHGs were announced and the fishery will remain closed until further notice.

In addition to harvests of Tanner crabs and grooved Tanner crabs, fishermen have reported incidental triangle Tanner crab catch during the grooved Tanner crab and golden king crab fisheries in the WAD. Currently, there is no directed fishery for triangle Tanner crab.

### **2009 Fishery**

The WAD was not open to commercial fishing for grooved Tanner crabs in 2009.

## **Fishery Management and Stock Status**

No stock assessment surveys have been conducted for grooved Tanner crabs 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 adopting new overfishing definitions for BSAI crabs and removing Aleutian Islands grooved Tanner crab from the FMP and providing the state with sole jurisdiction over the fishery.

# **ALEUTIAN DISTRICT DUNGENESS CRAB**

## **DESCRIPTION OF DISTRICT**

The Aleutian District for Dungeness crab *Cancer magister* management includes all waters of Registration Area J west of the longitude of Scotch Cap Light (164°44' W long), south of the latitude of Cape Sarichef (54°36' N lat), and east of the United States-Russia Maritime Boundary Line of 1990 (Figure 1-9). Area J encompasses 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 crabs inhabit bays, estuaries, and other shallow water habitats, areas that are sparsely and widely dispersed in the Aleutian Islands. Therefore, populations of Dungeness crabs are small and fishing effort has been low within the district.

The Aleutian District Dungeness crab fishery has occurred primarily as a small-vessel, summer fishery in the vicinity of Unalaska Island. Some larger-vessel effort has occurred in other locales within the district, but fishing in these areas has been sporadic. The first reliable reports of commercial harvests of Dungeness crab were in 1970. Since 1974, harvests have ranged from 0 pounds, 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 crabs have also been taken in subsistence and sport fisheries occurring in the vicinity of Unalaska Island. Subsistence harvest reports returned to ADF&G between 1988 and 1994 indicate that Dungeness crab harvests were larger than those documented for both red king and Tanner crabs. On average, 15 harvest reports were returned per year and Dungeness crab harvest averaged 686 crabs per year with a range of 5 to 1,906 crabs per year (ADF&G 1999b). No estimate of current Dungeness harvest by sport or subsistence users is available, but it is believed to be small relative to subsistence harvest of king and Tanner crabs.

## **2009/10 FISHERY**

No vessels registered to harvest Dungeness crabs during the 2009/10 season.

## **FISHERY MANAGEMENT AND STOCK STATUS**

The Aleutian Islands Dungeness crab fishery is managed using size, sex, and season restrictions. Only male Dungeness crabs 6.5 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 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 only two vessels registered for the fishery; therefore, catch information is confidential. Initial catches were composed primarily of northern pink shrimp. As the fishery progressed, sidestriped shrimp *Pandalopsis dispar* became the dominant species in the catch. The fishery was closed on July 9, 1999, because ADF&G did not possess adequate information regarding the abundance and distribution of these species and it was not possible to prosecute the trawl fishery in accordance with 5 AAC 39.210. Management Plan for High Impact Emerging Fisheries. This fishery has remained closed for trawl gear since that time.

## **2009 FISHERY**

The Aleutian District was not open to commercial fishing for shrimp with trawl gear in 2009. There is no closed season for shrimp fishing with pots in the Aleutian Islands and there was no participation during the 2009 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 *P. goniurus*, which are usually found in waters less than 100 meters.

## **ALEUTIAN DISTRICT MISCELLANEOUS SHELLFISH SPECIES**

### **DESCRIPTION OF DISTRICT**

The Aleutian Islands portion of miscellaneous shellfish Registration Area J, includes all waters south of the latitude of Cape Sarichef (54°36' N lat), west of the longitude of Scotch Cap Light (164°44' W long), and east of the United States-Russia Maritime Boundary Line of 1990 (Figure 1-11). Area J encompasses waters of the Territorial Sea (0–3 nautical miles) and waters of the Exclusive Economic Zone (3–200 nautical miles). Area J is not divided into districts for commercial miscellaneous shellfish fisheries.

### **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 crabs *Erimacrus isenbeckii*, sea urchins *Strongylocentrotus spp*, red sea cucumbers *Parastichopus californicus*, snails, *Paralomis multispina* (cherry) crab, and octopi. 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. However, permit conditions were often general and not fully developed for each species. As a result, miscellaneous shellfish fisheries were conducted without prior knowledge of stock abundance or distribution and no harvest limits were established. Since 1999, requests for commissioner's permits have decreased in frequency and ADF&G does not issue permits for species where no stock status information is available. When permits have been issued, permit terms have been crafted to promote data gathering.

### **2009 FISHERIES**

#### **Octopus**

In 2009, 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.

Incidental harvest may be retained at up to 20% of the weight of the target species. In 2009, 8,782 pounds of octopus were retained subsequent to other commercial fisheries in the Aleutian Islands (Table 1-17).

#### **Red Sea Cucumber and Sea Urchin**

The 2009 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 2009.

### **Other Miscellaneous Shellfish Species**

No vessels were registered for any other miscellaneous shellfish species in the Aleutian Islands in 2009.

### **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% 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 BOF. Alaska Department of Fish and Game, Division of Commercial Fisheries, Kodiak.
- Alaska Department of Fish and Game (ADF&G). 1985a. Westward region shellfish report to the Alaska Board of Fisheries. Alaska Department of Fish and Game, Division of Commercial Fisheries, Kodiak.
- Alaska Department of Fish and Game (ADF&G). 1985b. Westward region Tanner crab survey results for 1985. Alaska Department of Fish and Game, Division of Commercial Fisheries, Kodiak.
- Alaska Department of Fish and Game (ADF&G). 1991. Westward region shellfish report to the Alaska Board of Fisheries. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K91-4, Kodiak.
- Alaska Department of Fish and Game (ADF&G). 1999a. Annual management report for the shellfish fisheries of the Westward Region, 1998. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K99-49, Kodiak.
- Alaska Department of Fish and Game (ADF&G). 1999b. Customary and traditional use worksheet for marine invertebrates, including king and Tanner crab; Alaska Peninsula-Aleutian Islands Area. [In]: Westward region report to the Alaska Board of Fisheries 1999, Kodiak.
- Blau, S. F. and D. Pengilly. 1994. Findings from the 1991 golden king crab survey in the Dutch Harbor and Adak management areas including analysis of recovered tagged crabs. Alaska Department of Fish and Game, Division of Commercial Fisheries Management and Development, Regional Information Report 4K94-35, Kodiak.
- Blau, S. F., D. Pengilly, and D. T. Tracy. 1996. Distribution of golden king crabs by sex, size, and depth zones in the eastern Aleutian Islands, Alaska. Pages 167-185 in High Latitude Crabs: Biology Management and Economics. Alaska Sea Grant College Program Report no. 96-02, University of Alaska Fairbanks.
- Blau, S. F., L. J. Watson and I. Vining. 1998. The 1997 Aleutian Islands golden king crab survey. Alaska Department of Fish and Game, Division of Commercial Fisheries Management and Development, 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, Division of Commercial Fisheries, 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, Commercial Fisheries Division, Regional Information Report 4K03-33, Kodiak.
- Hoff, G. R. and L. L. Britt. 2003. The 2002 eastern Bering Sea upper continental slope survey of groundfish and invertebrate resources. U.S. Department of Commerce, NOAA Technical Memo NMFS-AFSC-141.

## 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 Technical Memo NMFS-F/SPO-41. <http://spo.nwr.noaa.gov/olo99.htm>
- NPFMC. 1998. Fisheries Management Plan for the King and Tanner Crab Fisheries of the Bering Sea and Aleutian Islands.
- Spalinger, K. 2006. Bottom trawl survey of crab and groundfish: Kodiak, Chignik, South Peninsula, and Eastern Aleutian Management Districts, 2005. Alaska Department of Fish and Game, Fishery Management Report No. 06-43, Kodiak.
- Spalinger, K. 2007. Bottom trawl survey of crab and groundfish: Kodiak, Chignik, South Peninsula, and Eastern Aleutians Management Districts, 2006. Alaska Department of Fish and Game, Fishery Management Report No. 07-52, Anchorage.
- Spalinger, K. 2009. Bottom trawl survey of crab and groundfish: Kodiak, Chignik, South Peninsula, and Eastern Aleutians Management Districts, 2008. Alaska Department of Fish and Game, Fishery Management Report No. 09-25, Anchorage.
- Spalinger, K. 2010. Bottom trawl survey of crab and groundfish: Kodiak, Chignik, South Peninsula, and Eastern Aleutians Management Districts, 2009. Alaska Department of Fish and Game, Fishery Management Report No. 10-23, 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, 1960/61–2009/10.

Season	Location	Number of				GHL/TAC <sup>b</sup>	Harvest <sup>a,c</sup>	Average			Deadloss <sup>c</sup>
		Vessels	Landings	Crabs <sup>a</sup>	Pots lifted			Weight <sup>c</sup>	CPUE <sup>d</sup>	Length <sup>e</sup>	
1960/61	East of 172° W	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	West of 172° W	4	41	NA	NA	2,074,000	NA	NA	NA	NA	
	<b>TOTAL</b>										
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	
	<b>TOTAL</b>		<b>287</b>			<b>6,647,000</b>					
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	
	<b>TOTAL</b>		<b>350</b>			<b>9,542,000</b>					
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	
	<b>TOTAL</b>		<b>769</b>			<b>21,797,000</b>					
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	
	<b>TOTAL</b>		<b>778</b>			<b>34,954,000</b>					
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	
	<b>TOTAL</b>		<b>986</b>			<b>32,111,000</b>					
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	
	<b>TOTAL</b>		<b>983</b>			<b>38,735,000</b>					

-continued-

Table 1-1.-Page 2 of 6.

Season	Location	Number of				GHL/TAC <sup>b</sup>	Harvest <sup>a,c</sup>	Average			Deadloss <sup>c</sup>
		Vessels	Landings	Crabs <sup>a</sup>	Pots lifted			Weight <sup>c</sup>	CPUE <sup>d</sup>	Length <sup>e</sup>	
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
	<b>TOTAL</b>		<b>1,252</b>				<b>36,840,000</b>				
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
	<b>TOTAL</b>						<b>27,400,000</b>				
1969/70	East of 172° W	41	375	NA	72,683		8,950,000	NA	NA	NA	NA
	West of 172° W	33	435	NA	115,929		18,016,000	6.5	NA	NA	NA
	<b>TOTAL</b>		<b>810</b>		<b>188,612</b>		<b>26,966,000</b>				
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
	<b>TOTAL</b>		<b>646</b>		<b>180,433</b>		<b>25,709,000</b>				
1971/72	East of 172° W	32	210	1,447,692	31,531		9,391,615	7	46	NA	NA
	West of 172° W	40	166	NA	46,011		15,475,940	NA	NA	NA	NA
	<b>TOTAL</b>		<b>376</b>		<b>77,542</b>		<b>24,867,555</b>				
1972/73	East of 172° W	51	291	1,500,904	34,037		10,450,380	7	44		
	West of 172° W	43	313	3,461,025	81,133		18,724,140	5.4	43	NA	NA
	<b>TOTAL</b>		<b>604</b>	<b>4,961,929</b>	<b>115,170</b>		<b>29,174,520</b>	<b>5.9</b>	<b>43</b>		
1973/74	East of 172° W	56	290	1,780,673	41,840	10.0 <sup>f</sup>	12,722,660	7.1	43	NA	NA
	West of 172° W	41	239	1,844,974	70,059	20.0 <sup>f</sup>	9,741,464	5.3	26	148.6	NA
	<b>TOTAL</b>		<b>529</b>	<b>3,625,647</b>	<b>111,899</b>		<b>22,464,124</b>	<b>6.2</b>	<b>32</b>		

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Season	Location	Number of				GHL/TAC <sup>b</sup>	Harvest <sup>a,c</sup>	Average			Deadloss <sup>c</sup>
		Vessels	Landings	Crabs <sup>a</sup>	Pots lifted			Weight <sup>c</sup>	CPUE <sup>d</sup>	Length <sup>e</sup>	
1974/75	East of 172° W	87	372	1,812,647	71,821	11.5 <sup>f</sup>	13,991,190	7.7	25		
	West of 172° W	36	97	532,298	32,620	20.0 <sup>f</sup>	2,774,963	5.2	16	148.6	NA
	<b>TOTAL</b>		<b>469</b>	<b>2,344,945</b>	<b>104,441</b>		<b>16,766,153</b>	<b>7.1</b>	<b>22</b>		
1975/76	East of 172° W	79	369	2,147,350	86,874	14.5 <sup>f</sup>	15,906,660	7.4	25		
	West of 172° W	20	25	79,977	8,331	15.0 <sup>f</sup>	411,583	5.2	10	147.2	NA
	<b>TOTAL</b>		<b>394</b>	<b>2,227,327</b>	<b>95,205</b>		<b>16,318,243</b>	<b>7.3</b>	<b>23</b>		
1976/77	East of 172° W <sup>g</sup>	72	226	1,273,298	65,796	14.5 <sup>f</sup>	9,367,965	7.4	19		
	East of 172° W <sup>h</sup>	38	61	86,619	17,298		830,458	9.6	5	NA	NA
	West of 172° W	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
	<b>TOTAL</b>		<b>287</b>	<b>1,359,917</b>	<b>83,094</b>		<b>10,198,423</b>	<b>7.5</b>	<b>16</b>		
1977/78	East of 172° W <sup>g</sup>	33	227	539,656	46,617		3,658,860	6.8	12		
	East of 172° W <sup>i</sup>	6	7	3,096	812	8.0 - 14.5 <sup>f</sup>	25,557	8.3	4	NA	NA
	West of 172° W	12	18	160,343	7,269	0.25 - 2.5	905,527	5.7	22	152.2	NA
	<b>TOTAL</b>		<b>252</b>	<b>703,095</b>	<b>54,698</b>		<b>4,589,944</b>	<b>6.5</b>	<b>13</b>		
1978/79	East of 172° W	60	300	1,233,758	51,783	5.0 - 13.0 <sup>f</sup>	6,824,793	5.5	24	NA	NA
	West of 172° W	13	27	149,491	13,948	0.5 - 3.0	807,195	5.4	11	NA	1,170
	<b>TOTAL</b>		<b>327</b>	<b>1,383,249</b>	<b>65,731</b>		<b>7,631,988</b>	<b>5.5</b>	<b>21</b>		
1979/80	East of 172° W	104	542	2,551,116	120,554	17.0 - 25.0 <sup>f</sup>	15,010,840	5.9	21	NA	NA
	West of 172° W	18	23	82,250	9,757	0.5 - 3.0	467,229	5.7	8	152	24,850
	<b>TOTAL</b>		<b>565</b>	<b>2,633,366</b>	<b>130,311</b>		<b>15,478,069</b>	<b>5.9</b>	<b>20</b>		

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Season	Location	Number of				GHL/TAC <sup>b</sup>	Harvest <sup>a,c</sup>	Average			Deadloss <sup>c</sup>
		Vessels	Landings	Crabs <sup>a</sup>	Pots lifted			Weight <sup>c</sup>	CPUE <sup>d</sup>	Length <sup>e</sup>	
1980/81	East of 172° W <sup>g</sup>	114	830	2,772,287	231,607	7.0 - 17.0 <sup>f</sup>	17,660,620	6.4	12	NA	NA
	East of 172° W <sup>1</sup>	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	5.6	12	149	54,360
	<b>TOTAL</b>		<b>1,002</b>	<b>3,209,026</b>	<b>282,521</b>		<b>20,473,056</b>	<b>6.4</b>	<b>11</b>		
1981/82	East of 172° W	92	683	741,966	220,087	7.0 - 17.0 <sup>f</sup>	5,155,345	6.9	3	NA	NA
	West of 172° W	46	106	291,311	40,697	0.5 - 3.0	1,648,926	5.7	7	148.3	8,759
	<b>TOTAL</b>		<b>789</b>	<b>1,033,277</b>	<b>260,784</b>		<b>6,804,271</b>	<b>6.6</b>	<b>4</b>		
1982/83	East of 172° W	81	278	64,380	72,924	2.0 - 3.0 <sup>j</sup>	431,179	6.7	1		
	West of 172° W	72	191	284,787	66,893	0.5 - 3.0	1,701,818	6.0	4	150.8	7,855
	<b>TOTAL</b>		<b>469</b>	<b>349,167</b>	<b>139,817</b>		<b>2,132,997</b>	<b>6.1</b>	<b>3</b>		
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	6.6	5	157.3	3,833
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	6.6	4	155.1	0
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	5.6	5	152.2	0
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	5.7	4	NA	800
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	5.7	5	148.5	6,900

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Table 1-1.-Page 5 of 6.

Season	Location	Number of				GHL/TAC <sup>b</sup>	Harvest <sup>a,c</sup>	Average			Deadloss <sup>c</sup>
		Vessels	Landings	Crabs <sup>a</sup>	Pots lifted			Weight <sup>c</sup>	CPUE <sup>d</sup>	Length <sup>e</sup>	
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	5.9	4	153.1	557
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	5.7	4	151.5	759
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	5.6	14	148.1	0
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	5.8	10	149.8	0
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	6.0	14	151.5	5,000
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	5.9	9	154.6	7,402
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	6.5	2	157.5	1,430
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	5.7	3	153.6	235
1996/97		FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
1997/98		FC	FC	FC	FC	FC	FC	FC	FC	FC	FC

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Table 1-1.–Page 6 of 6.

Season	Location	Number of				GHL/TAC <sup>b</sup>	Harvest <sup>a,c</sup>	Average			Deadloss <sup>c</sup>
		Vessels	Landings	Crabs <sup>a</sup>	Pots lifted			Weight <sup>c</sup>	CPUE <sup>d</sup>	Length <sup>e</sup>	
1998/99	West of 174° W	1	CF	CF	CF	0.015	CF	CF	CF	CF	CF
1999/2000		FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
2000/01 <sup>k</sup>	Petrel Bank <sup>l</sup>	1	3	11,299	496	FC	76,562	6.8	23	161.0	0
2001/02 <sup>m</sup>	Petrel Bank <sup>l</sup>	4	5	22,080	564	FC	153,961	7.0	39	159.5	82
2002/03	Petrel Bank <sup>l</sup>	33	35	68,300	3,786	0.5	505,642	7.4	18	162.4	1,311
2003/04	Petrel Bank <sup>l</sup>	30	31	59,828	5,774	0.5	479,113	8.0	10	167.9	2,617
2004/05 - 2009/10		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.

<sup>a</sup> Deadloss included.

<sup>b</sup> Guideline harvest level (GHL), millions of pounds. Will be total allowable catch (TAC) for Petrel Bank only after 2005/06 if fishery reopens.

<sup>c</sup> In pounds.

<sup>d</sup> Number of legal crabs per pot lift.

<sup>e</sup> Carapace length in millimeters.

<sup>f</sup> GHL includes all king crab species. Golden king crab primarily harvested incidental to red king crab. Individual species harvest not available.

<sup>g</sup> 6.5 inch minimum legal size for this portion of the season.

<sup>h</sup> 8.0 inch minimum legal size for this portion of the season.

<sup>i</sup> 7.5 inch minimum legal size for this portion of the season.

<sup>j</sup> 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.

<sup>k</sup> January/February Petrel Bank survey (fish ticket harvest code 15, exploratory shellfish harvest).

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

<sup>m</sup> 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, 1973/74–2009/10.

Year	Location	Value		Season length	
		Exvessel <sup>a</sup>	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
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
1976/77	East of 172° W <sup>b</sup>	\$0.64	\$5,995,497	37	11/01 - 12/07
	East of 172° W <sup>c</sup>	\$0.79	\$656,061	31	12/13 - 01/13
	West of 172° W	FC	FC	FC	FC
1977/78	East of 172° W <sup>b</sup>	\$0.99	\$3,622,271	84	09/15 - 12/08
	East of 172° W <sup>d</sup>	\$1.35	\$34,502	28	12/08 - 01/05
	West of 172° W	\$1.36	\$1,231,517	NA	NA
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
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
1980/81	East of 172° W <sup>b</sup>	\$1.02	\$18,013,832	73	11/01 - 01/12
	East of 172° W <sup>d</sup>	\$1.03	\$1,434,711	31	01/15 - 02/15
	West of 172° W	\$0.92	\$1,305,952	72	01/15 - 03/28
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
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
1983/84	East of 172° W	FC	FC	FC	FC
	West of 172° W	\$3.53	\$6,796,816	340	11/10 - 12/16

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Table 1-2.-Page 2 of 3.

Year	Location	Value		Season length	
		Exvessel <sup>a</sup>	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		FC	FC	FC	FC
1997/98		FC	FC	FC	FC

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Table 1-2.–Page 3 of 3.

Year	Location	Value		Season length	
		Exvessel <sup>a</sup>	Total	Days	Dates
1998/99	West of 174° W	CF	CF	272	11/01 - 7/31
1999/2000		FC	FC	FC	FC
2000/01		FC	FC	FC	FC
2001/02		FC	FC	FC	FC
2002/03	Petrel Bank <sup>e</sup>	\$6.51	\$3,291,729	2	10/25 - 10/27
2003/04	Petrel Bank <sup>e</sup>	\$5.14	\$2,449,189	4	10/25 - 10/29
2004/05 - 2009/10		FC	FC	FC	FC

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

<sup>a</sup> Average price per pound. No economic data available prior to 1973.

<sup>b</sup> 6.5 inch minimum legal size for this portion of the season.

<sup>c</sup> 8.0 inch minimum legal size for this portion of the season.

<sup>d</sup> 7.5 inch minimum legal size for this portion of the season.

<sup>e</sup> Those waters of king crab Registration Area O between 179° E long, 179° W long, and north of 51°45' N lat.

Table 1-3.—Eastern Aleutian Islands, west of Scotch Cap Light and east of 168° W long, subsistence king and Tanner crab harvest, 1999–2009.

Year	Number of permits		Percent returned	Harvest <sup>a</sup>			
	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
<b>1999 - 2009 Average</b>	<b>220</b>	<b>153</b>	<b>70</b>	<b>909</b>	<b>1,304</b>	<b>2,468</b>	<b>3,539</b>

<sup>a</sup> Harvest estimate, in numbers of crab, from waters surrounding Unalaska Island (no reported harvest elsewhere in permit area).

Table 1-4.—Aleutian Islands golden king crab commercial fishery data, 1981/82–2009/10.

Season	Locale	Number of			GHL/TAC <sup>c</sup>	Harvest <sup>b,d</sup>	Number of pots		Average			Deadloss <sup>d</sup>
		Vessels <sup>a</sup>	Crabs <sup>b</sup>				Registered	Lifted	Weight <sup>d</sup>	CPUE <sup>e</sup>	Length <sup>f</sup>	
1981/82	East of 172° W	6	16	22,666	7.0 - 17.0 <sup>g</sup>	115,715	0	2,906	5.1	8	158	8,752
	West of 172° W	14	76	217,700	NA	1,194,046	2,647	24,627	5.5	9	160	22,064
	<b>TOTAL</b>		<b>92</b>	<b>240,458</b>	<b>-</b>	<b>1,319,761</b>	<b>2,647</b>	<b>27,533</b>	<b>5.4</b>	<b>9</b>		<b>30,816</b>
1982/83	East of 172° W	49	136	227,471	NA	1,184,971	NA	29,369	5.2	8	158	47,479
	West of 172° W	99	501	1,509,001	NA	8,006,274	13,111	150,103	5.3	10	158	220,743
	<b>TOTAL</b>		<b>637</b>	<b>1,737,109</b>		<b>9,191,245</b>	<b>13,111</b>	<b>179,472</b>	<b>5.3</b>	<b>10</b>		<b>268,222</b>
1983/84	East of 172° W	47	132	238,353	NA	1,810,973	4,514	29,595	7.6	8	NA	45,268
	West of 172° W	157	1,002	1,534,909	NA	8,128,029	17,406	226,798	5.3	7	NA	171,021
	<b>TOTAL</b>		<b>1,134</b>	<b>1,773,262</b>		<b>9,939,002</b>	<b>21,920</b>	<b>256,393</b>	<b>5.6</b>	<b>7</b>		<b>216,289</b>
1984/85	East of 171° W	13	67	327,440	NA	1,521,142	1,394	24,044	4.6	14	161	70,362
	West of 171° W	38	85	643,597	NA	3,180,095	5,270	64,777	4.9	10	157	125,073
	<b>TOTAL</b>		<b>152</b>	<b>971,274</b>		<b>4,701,237</b>	<b>6,664</b>	<b>88,821</b>	<b>4.8</b>	<b>11</b>		<b>195,435</b>
1985/86	East of 171° W	13	59	364,097	NA	1,733,878	1,479	25,223	4.8	14	156	25,223
	West of 171° W	53	386	2,452,216	NA	11,024,759	7,057	205,279	4.5	12	151	197,753
	<b>TOTAL</b>		<b>445</b>	<b>2,816,313</b>		<b>12,758,637</b>	<b>8,536</b>	<b>230,502</b>	<b>4.5</b>	<b>12</b>		<b>222,976</b>
1986/87	East of 171° W	17	71	400,389	NA	1,869,180	1,575	37,585	4.7	11	NA	9,510
	West of 171° W	62	528	2,940,238	NA	12,869,564	12,958	395,435	4.4	7	150	276,741
	<b>TOTAL</b>		<b>599</b>	<b>3,340,627</b>		<b>14,738,744</b>	<b>14,533</b>	<b>433,020</b>	<b>4.4</b>	<b>8</b>		<b>286,251</b>
1987/88	East of 171° W	23	77	301,227	NA	1,388,983	3,591	42,867	4.6	7	150	25,060
	West of 171° W	57	380	1,873,349	NA	7,868,022	10,687	263,863	4.2	7	147	167,110
	<b>TOTAL</b>		<b>457</b>	<b>2,174,576</b>		<b>9,257,005</b>	<b>14,278</b>	<b>306,730</b>	<b>4.3</b>	<b>7</b>		<b>192,170</b>
1988/89	East of 171° W	21	57	323,783	NA	1,546,113	4,215	41,371	4.8	8	154	23,960
	West of 171° W	74	455	2,164,650	NA	9,080,929	23,627	280,556	4.2	8	149	125,500
	<b>TOTAL</b>		<b>512</b>	<b>2,488,433</b>		<b>10,627,042</b>	<b>27,842</b>	<b>321,927</b>	<b>4.3</b>	<b>8</b>		<b>149,460</b>

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Table 1-4.-Page 2 of 4.

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

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

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

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Table 1-4.--Page 4 of 4.

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

Note: NA = not available.

<sup>a</sup> Many vessels fished both east and west of 174° W long, thus total number of vessels reflects registrations for entire Aleutian Islands.

<sup>b</sup> Deadloss included.

<sup>c</sup> 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.

<sup>d</sup> In pounds.

<sup>e</sup> Number of legal crabs per pot lift.

<sup>f</sup> Carapace length in millimeters, from observer database.

<sup>g</sup> GHL includes all king crab species.

<sup>h</sup> Individual Fishing Quota (IFQ) harvest does not include Community Development Quota (CDQ) harvest, or Adak Community Allocation (ACA) harvest.

<sup>i</sup> Beginning in 2005/06 some vessels participated in both East and West fishery.

Table 1-5.—Aleutian Islands golden king crab fishery economic performance data, 1981/82–2009/10.

Year	Locale	Value		Season length	
		Exvessel <sup>a</sup>	Total <sup>b</sup>	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
	<b>Total</b>	<b>\$2.06</b>	<b>\$2.63</b>		
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
	<b>Total</b>	<b>\$3.01</b>	<b>\$26.85</b>		
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
	<b>Total</b>	<b>\$2.94</b>	<b>\$28.62</b>		
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
	<b>Total</b>	<b>\$1.79</b>	<b>\$8.07</b>		
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
	<b>Total</b>	<b>\$2.43</b>	<b>\$31.66</b>		
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
	<b>Total</b>	<b>\$2.98</b>	<b>\$42.86</b>		
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
	<b>Total</b>	<b>\$2.98</b>	<b>\$27.38</b>		
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
	<b>Total</b>	<b>\$3.17</b>	<b>\$33.23</b>		
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
	<b>Total</b>	<b>\$3.08</b>	<b>\$36.61</b>		
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
	<b>Total</b>	<b>\$3.00</b>	<b>\$20.25</b>		
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
	<b>Total</b>	<b>\$2.41</b>	<b>\$18.20</b>		
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
	<b>Total</b>	<b>\$2.15</b>	<b>\$13.16</b>		

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Table 1-5.-Page 2 of 3.

Year	Locale	Value		Season length	
		Exvessel <sup>a</sup>	Total <sup>b</sup>	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
	<b>Total</b>	<b>\$2.44</b>	<b>\$13.13</b>		
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
	<b>Total</b>	<b>\$3.48</b>	<b>\$27.31</b>		
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
	<b>Total</b>	<b>\$2.25</b>	<b>\$14.72</b>		
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
	<b>Total</b>	<b>\$2.23</b>	<b>\$12.53</b>		
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
	<b>Total</b>	<b>\$2.19</b>	<b>\$12.54</b>		
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
	<b>Total</b>	<b>\$1.92</b>	<b>\$9.33</b>		
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
	<b>Total</b>	<b>\$3.15</b>	<b>\$18.01</b>		
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
	<b>Total</b>	<b>\$3.33</b>	<b>\$19.52</b>		
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
	<b>Total</b>	<b>\$3.16</b>	<b>\$18.13</b>		
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
	<b>Total</b>	<b>\$3.38</b>	<b>\$18.26</b>		
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
	<b>Total</b>	<b>\$3.61</b>	<b>\$20.16</b>		
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
	<b>Total</b>	<b>\$3.14</b>	<b>\$17.23</b>		

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Table 1-5.--Page 3 of 3.

Year	Locale	Value		Season length	
		Exvessel <sup>a</sup>	Total <sup>b</sup>	Days	Dates
2005/06 <sup>c</sup>	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
	<b>Total</b>	<b>\$2.32</b>	<b>\$11.39</b>		
2006/07 <sup>c</sup>	East of 174° W	\$1.77	\$4.71	273	8/15-5/15
	West of 174° W	\$1.33	\$2.64	273	8/15-5/15
	<b>Total</b>	<b>\$1.58</b>	<b>\$7.35</b>		
2007/08 <sup>c</sup>	East of 174° W	\$2.11	\$5.63	273	8/15-5/15
	West of 174° W	\$1.63	\$3.63	273	8/15-5/15
	<b>Total</b>	<b>\$1.89</b>	<b>\$9.26</b>		
2008/09 <sup>c</sup>	East of 174° W	\$3.32	\$9.31	273	8/15-5/15
	West of 174° W	\$1.87	\$4.17	273	8/15-5/15
	<b>Total</b>	<b>\$2.68</b>	<b>\$13.49</b>		
2009/10 <sup>c</sup>	East of 174° W	\$1.96	\$5.50	273	8/15-5/15
	West of 174° W	\$1.93	\$4.72	273	8/15-5/15
	<b>Total</b>	<b>\$1.95</b>	<b>\$10.24</b>		

<sup>a</sup> Average price per pound.

<sup>b</sup> Millions of dollars.

<sup>c</sup> Individual Fishing Quota (IFQ); does not include Community Development Quota (CDQ), or Adak Community Allocation (ACA) quota.

Table 1-6.—Aleutian Islands golden king crab Individual Fishing Quota (IFQ) catch by statistical area, 2009/10.

Locale	Statistical area	Number of			Harvest <sup>a,b</sup>	Average		Deadloss <sup>b</sup>
		Landings	Crab <sup>a</sup>	Pots lifted		Weight <sup>b</sup>	CPUE <sup>c</sup>	
Amukta Pass	715202	26	148,430	6,045	689,289	4.6	25	7,393
Other <sup>d</sup>		NA	1,024,589	40,143	4,624,498	4.5	26	57,298
<b>Total</b>		<b>70</b>	<b>1,173,019</b>	<b>46,188</b>	<b>5,313,787</b>	<b>4.5</b>	<b>25</b>	<b>64,691</b>

Note: NA = not available.

<sup>a</sup> Deadloss included.

<sup>b</sup> In pounds.

<sup>c</sup> Number of legal crabs per pot lift.

<sup>d</sup> 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, 1992–2009.

Year	Area	Number of				Harvest <sup>a,b</sup>	Average		Value		Deadloss <sup>b</sup>
		Vessels	Landings	Crabs <sup>a</sup>	Pots lifted		Weight <sup>b</sup>	CPUE <sup>c</sup>	Exvessel <sup>d</sup>	Total <sup>e</sup>	
1992	Dutch Harbor	0	0	0	0	0	0	0	0	0	0
	Adak	1	CF	CF	CF	CF	CF	CF	CF	CF	CF
1993	Dutch Harbor	0	0	0	0	0	0	0	0	0	0
	Adak	0	0	0	0	0	0	0	0	0	0
1994	Dutch Harbor	1	CF	CF	CF	CF	CF	CF	CF	CF	CF
	Adak	5	9	6,613	7,370	21,269	3.2	1	\$1.24	\$26.4	10,829
	<b>Total</b>	6	CF	CF	CF	CF	CF	CF	CF	CF	CF
1995	Dutch Harbor	3	7	6,270	5,706	13,871	2.2	1	\$3.01	\$41.8	1,755
	Adak	6	18	19,544	15,046	49,126	2.5	1	\$2.95	\$144.9	2,066
	<b>Total</b>	<b>8</b>	<b>25</b>	<b>25,814</b>	<b>20,752</b>	<b>62,997</b>	<b>2.4</b>	<b>1</b>	<b>\$2.96</b>	<b>\$186.5</b>	<b>3,821</b>
1996	Dutch Harbor	3	10	9,967	8,071	20,538	2.1	1	\$1.78	\$37.1	3,911
	Adak	4	13	10,199	18,547	24,161	2.4	<1	\$1.80	\$43.5	1,861
	<b>Total</b>	<b>7</b>	<b>23</b>	<b>20,166</b>	<b>26,618</b>	<b>44,699</b>	<b>2.2</b>	<b>&lt;1</b>	<b>\$1.79</b>	<b>\$80.6</b>	<b>5,772</b>
1997	Aleutian Islands	3	12	2,698	21,217	6,720	2.5	<1	\$1.40	\$9.4	408
1998	Aleutian Islands	2	CF	CF	CF	CF	CF	CF	CF	CF	CF
1999	Aleutian Islands	1	CF	CF	CF	CF	CF	CF	CF	CF	CF
2000	Aleutian Islands	2	CF	CF	CF	CF	CF	CF	CF	CF	CF
2001	Aleutian Islands	2	CF	CF	CF	CF	CF	CF	CF	CF	CF
2002	Aleutian Islands	2	CF	CF	CF	CF	CF	CF	CF	CF	CF
2003	Aleutian Islands	2	CF	CF	CF	CF	CF	CF	CF	CF	CF
2004	Aleutian Islands	2	CF	CF	CF	CF	CF	CF	CF	CF	CF

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Table 1-7.--Page 2 of 2.

Year	Area	Number of				Harvest <sup>a,b</sup>	Average		Value		Deadloss <sup>b</sup>
		Vessels	Landings	Crabs <sup>a</sup>	Pots lifted		Weight <sup>b</sup>	CPUE <sup>c</sup>	Exvessel <sup>d</sup>	Total <sup>e</sup>	
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

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

<sup>a</sup> Deadloss included.

<sup>b</sup> In pounds.

<sup>c</sup> Number of legal crabs per pot lift.

<sup>d</sup> Average price per pound.

<sup>e</sup> Thousands of dollars.

Table 1-8.—Eastern Aleutian District Tanner crab fishery data, 1973/74–2010.

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

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Table 1-8.--Page 2 of 2.

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

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

<sup>a</sup> Deadloss included beginning 1980.

<sup>b</sup> In pounds.

<sup>c</sup> Number of legal crabs per pot lift.

<sup>d</sup> January/February survey (fish ticket harvest code 15, exploratory shellfish harvest).

<sup>e</sup> Vessel(s) participated in multiple sections.

Table 1-9.—Eastern Aleutian District Tanner crab fishery economic performance data, 1973/74–2010.

Season	Location	Date		Value	
		Opened	Closed	Exvessel <sup>a</sup>	Total <sup>b</sup>
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

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

<sup>a</sup> Average price per pound.

<sup>b</sup> Millions of dollars.

Table 1-10.—Eastern Aleutian District grooved Tanner crab fishery data, 1993–2009.

Year	Number of				Harvest <sup>a,b</sup>	Average		Value		Deadloss <sup>b</sup>
	Vessels	Landings	Crabs <sup>a</sup>	Pots lifted		Weight <sup>b</sup>	CPUE <sup>c</sup>	Exvessel <sup>d</sup>	Total <sup>e</sup>	
1993	1	CF	CF	CF	CF	CF	CF	CF	CF	CF
1994	4	28	429,777	37,246	754,983	1.8	11	\$1.72	\$1.30	19,151
1995	8	55	511,125	77,443	879,386	1.7	6	\$1.57	\$1.40	30,348
1996	3	25	54,903	21,994	104,680	1.9	2	\$0.99	\$0.10	7,496
1997-2000	0	0	0	0	0	0	0	0	0	0
2001	1	CF	CF	CF	CF	CF	CF	CF	CF	CF
2002 - 2009	0	0	0	0	0	0	0	0	0	0

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

<sup>a</sup> Deadloss included.

<sup>b</sup> In pounds.

<sup>c</sup> Number of legal crabs per pot lift.

<sup>d</sup> Average price per pound.

<sup>e</sup> Millions of dollars.

Table 1-11.—Eastern Aleutian District triangle Tanner crab fishery data, 1993–2009.

Year	Number of				Harvest <sup>a,b</sup>	Average		Value		
	Vessels	Landings	Crabs <sup>a</sup>	Pots lifted		Weight <sup>b</sup>	CPUE <sup>c</sup>	Exvessel <sup>d</sup>	Total <sup>e</sup>	Deadloss <sup>b</sup>
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 - 2009	0	0	0	0	0	0	0	0	0	0

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

<sup>a</sup> Deadloss included.

<sup>b</sup> In pounds.

<sup>c</sup> Number of legal crabs per pot lift.

<sup>d</sup> Average price per pound.

<sup>e</sup> Millions of dollars.

Table 1-12.—Western Aleutian District Tanner crab fishery data, 1973/74–2009/10.

Year	Number of				Harvest <sup>a,b</sup>	Average		Deadloss <sup>b</sup>
	Vessels	Landings	Crabs <sup>a</sup>	Pots lifted		Weight <sup>b</sup>	CPUE <sup>c</sup>	
1973/74	7	12	31,079	2,390	71,887	2.3	13	NA
1974/75		CF	CF	CF	CF	CF	CF	CF
1975/76		CF	CF	CF	CF	CF	CF	CF
1976/77	0	0	0	0	0	0	0	0
1977/78	6	7	103,190	2,700	237,512	2.3	38	NA
1978/79	6	9	84,129	4,730	197,244	2.3	18	0
1979/80	10	12	147,843	5,952	337,297	2.3	25	NA
1980/81	9	23	95,102	7,327	220,716	2.3	13	0
1981/82	17	43	364,164	21,910	838,697	2.3	17	6,470
1982/83	61	125	225,491	40,450	488,399	2.2	6	7,662
1983/84	31	86	171,576	20,739	384,146	2.2	8	200
1984/85	31	41	75,009	13,416	163,460	2.2	6	1,000
1985/86	15	30	98,089	7,999	206,814	2.1	12	0
1986/87	8	24	19,874	10,878	42,761	2.1	2	200
1987/88	15	37	63,545	7,453	141,390	2.2	9	200
1988/89	36	77	69,280	18,906	148,997	2.1	4	233
1989/90	12	30	22,937	6,204	48,746	2.1	4	3,810
1990/91	5	21	6,901	1,309	14,779	2.1	5	125
1991/92	8	8	3,483	986	7,825	2.2	4	NA
1992/93	2	CF	CF	CF	CF	CF	CF	CF
1993/94	0	0	0	0	0	0	0	0
1994/95	0	0	0	0	0	0	0	0
1995/96	1	CF	CF	CF	CF	CF	CF	CF
1996/97 - 2009/10	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.

<sup>a</sup> Deadloss included.

<sup>b</sup> In pounds.

<sup>c</sup> Number of legal crabs per pot lift.

Table 1-13.—Western Aleutian District commercial Tanner crab fishery economic data, 1973/74–2009/10.

Year	Value	
	Exvessel <sup>a</sup>	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 - 2009/10	FC	FC

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

<sup>a</sup> Average price per pound.

Table 1-14.—Western Aleutian District grooved Tanner crab fishery data, 1992–2009.

Year	Number of		Harvest <sup>a,b</sup>	Average		Value		Deadloss <sup>b</sup>
	Vessels	Pots lifted		Weight <sup>b</sup>	CPUE <sup>c</sup>	Exvessel <sup>d</sup>	Total <sup>e</sup>	
1992	1	CF	CF	CF	CF	CF	CF	CF
1993	0	0	0	0	0	0	0	0
1994	2	CF	CF	CF	CF	CF	CF	CF
1995	6	17,749	145,795	1.9	4	\$2.45	\$0.36	17,190
1996	1	CF	CF	CF	CF	CF	CF	CF
1997-1999	0	0	0	0	0	0	0	0
2000-2009		FC	FC	FC	FC	FC	FC	FC

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

<sup>a</sup> Deadloss included.

<sup>b</sup> In pounds.

<sup>c</sup> Number of legal crabs per pot lift.

<sup>d</sup> Average price per pound.

<sup>e</sup> Millions of dollars.

Table 1-15.--Aleutian District Dungeness crab fishery data, 1974–2009/10.

Year <sup>a</sup>	Number of				Average		Exvessel value	
	Vessels	Landings	Crabs <sup>b</sup>	Pots lifted	Harvest <sup>b,c</sup>	Weight <sup>c</sup>		CPUE <sup>d</sup>
1974	3	13	24,459	3,399	60,517	2.4	8	NA
1975		CF	CF	CF	CF	CF	CF	CF
1976/77	0	0	0	0	0	0	0	0
1977/78	0	0	0	0	0	0	0	0
1978/79		CF	CF	CF	CF	CF	CF	CF
1979/80		CF	CF	CF	CF	CF	CF	CF
1980/81	0	0	0	0	0	0	0	0
1981/82	0	0	0	0	0	0	0	0
1982/83		CF	CF	CF	CF	CF	CF	CF
1983/84		CF	CF	CF	CF	CF	CF	CF
1984/85	4	50	40,128	13,555	91,739	2.3	3	\$1.35
1985/86	4	19	8,590	1,706	17,830	2.1	5	NA
1986/87	2	CF	CF	CF	CF	CF	CF	CF
1987/88	5	43	13,247	2,987	26,627	2.0	4	\$0.95
1988/89	6	45	10,814	2,581	22,634	2.1	4	\$0.90
1989/90	4	31	5,165	2,078	11,124	2.1	2	\$0.90
1990/91	3	11	8,379	1,345	17,365	2.1	6	\$0.90
1991/92	4	14	3,654	732	7,412	2.0	5	\$1.25
1992/93	4	13	2,854	555	5,649	2.0	5	\$0.83
1993/94	5	12	3,448	797	7,531	2.2	4	\$0.78
1994/95-2000/01	0	0	0	0	0	0	0	0
2001/02	1	CF	CF	CF	CF	CF	CF	CF
2002/03	1	CF	CF	CF	CF	CF	CF	CF
2003/04	0	0	0	0	0	0	0	0
2004/05	0	0	0	0	0	0	0	0

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Year <sup>a</sup>	Number of				Average			Exvessel value
	Vessels	Landings	Crabs <sup>b</sup>	Pots lifted	Harvest <sup>b,c</sup>	Weight <sup>c</sup>	CPUE <sup>d</sup>	
2005/06	1	CF	CF	CF	CF	CF	CF	CF
2006/07	1 <sup>e</sup>	0	0	0	0	0	0	0
2007/08	1 <sup>e</sup>	0	0	0	0	0	0	0
2008/09	0	0	0	0	0	0	0	0
2009/10	0	0	0	0	0	0	0	0

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

<sup>a</sup> Season dates 1/1–12/31 in 1974 and 1975. Season dates 5/1–1/1 beginning in 1976/77.

<sup>b</sup> Deadloss included.

<sup>c</sup> In pounds.

<sup>d</sup> Number of legal crabs per pot lift.

<sup>e</sup> Vessel registered but did not fish.

Table 1-16.—Aleutian Islands District trawl shrimp fishery data, 1972–2009.

Year	Season dates	Number of			Harvest <sup>a</sup>	Value	
		Vessels	Landings	Tows		Exvessel <sup>b</sup>	Total <sup>c</sup>
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
2000-2009 <sup>d</sup>		0	0	0	0	0	0

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

<sup>a</sup> In pounds.

<sup>b</sup> Average price per pound.

<sup>c</sup> Millions of dollars.

<sup>d</sup> Pot gear only; fishery closed to trawl gear.

Table 1-17.—Aleutian Islands miscellaneous shellfish fishery data 1996–2009.

Year	Fishery	Number of		Harvest <sup>a</sup>
		Vessels	Landings	
1996	Octopus	35	119	62,214
	Sea Urchins	6	15 <sup>b</sup>	3,701
	Sea Cucumbers	0	0	0
	Hair Crab	0	0	0
	Snails	0	0	0
	<i>Paralomis multispina</i>	0	0	0
1997	Octopus <sup>c</sup>	38	107	73,472
	Sea Urchins	0	0	0
	Sea Cucumbers	0	0	0
	Hair Crab	0	0	0
	Snails	0	0	0
	<i>Paralomis multispina</i>			
1998	Octopus	CF	CF	CF
	Octopus <sup>c</sup>	24	75	29,360
	Sea Urchins	0	0	0
	Sea Cucumbers	0	0	0
	Hair Crab	0	0	0
	Snails	0	0	0
	<i>Paralomis multispina</i>	0	0	0
1999	Octopus <sup>c</sup>	34	95	115,322
	Sea Urchins	0	0	0
	Sea Cucumbers	0	0	0
	Hair Crab	0	0	0
	Snails	0	0	0
	<i>Paralomis multispina</i>	0	0	0
2000	Octopus <sup>c</sup>	31	91	21,265
	Sea Urchins	0	0	0
	Sea Cucumbers	0	0	0
	Hair Crab	0	0	0
	Snails	0	0	0
	<i>Paralomis multispina</i>	0	0	0
2001	Octopus <sup>c</sup>	25	51	13,097
	Sea Urchins	0	0	0
	Sea Cucumbers	0	0	0
	Hair Crab	0	0	0
	Snails	0	0	0
	<i>Paralomis multispina</i>	0	0	0

-continued-

Table 1-17.--Page 2 of 3.

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

-continued-

Table 1-17.–Page 3 of 3.

Year	Fishery	Number of		Harvest <sup>a</sup>
		Vessels	Landings	
2007	Octopus <sup>c</sup>	39	101	46,782
	Octopus, state-waters <sup>d</sup>	0	0	0
	<b>Total</b>	<b>39</b>	<b>101</b>	<b>46,782</b>
	Sea Urchins	0	0	0
	Sea Cucumbers	0	0	0
	Hair Crab	0	0	0
	Snails	0	0	0
<i>Paralomis multispina</i>	0	0	0	
2008	Octopus <sup>c</sup>	27	46	36,218
	Octopus, state-waters <sup>d</sup>	0	0	CF
	<b>Total</b>	<b>27</b>	<b>46</b>	<b>36,218</b>
	Sea Urchins	0	0	0
	Sea Cucumbers	0	0	0
	Hair Crab	0	0	0
	Snails	0	0	0
<i>Paralomis multispina</i>	0	0	0	
2009	Octopus <sup>c</sup>	13	21	8,782
	Octopus, state-waters <sup>d</sup>	0	0	0
	<b>Total</b>	<b>13</b>	<b>21</b>	<b>8,782</b>
	Sea Urchins	0	0	0
	Sea Cucumbers	0	0	0
	Hair Crab	0	0	0
	Snails	0	0	0
<i>Paralomis multispina</i>	0	0	0	

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

<sup>a</sup> In pounds. Deadloss included for all species other than Octopus. Octopus discards at sea included.

<sup>b</sup> Dives.

<sup>c</sup> Octopus incidental harvest in Pacific cod fishery.

<sup>d</sup> Commissioner's permit fishery.

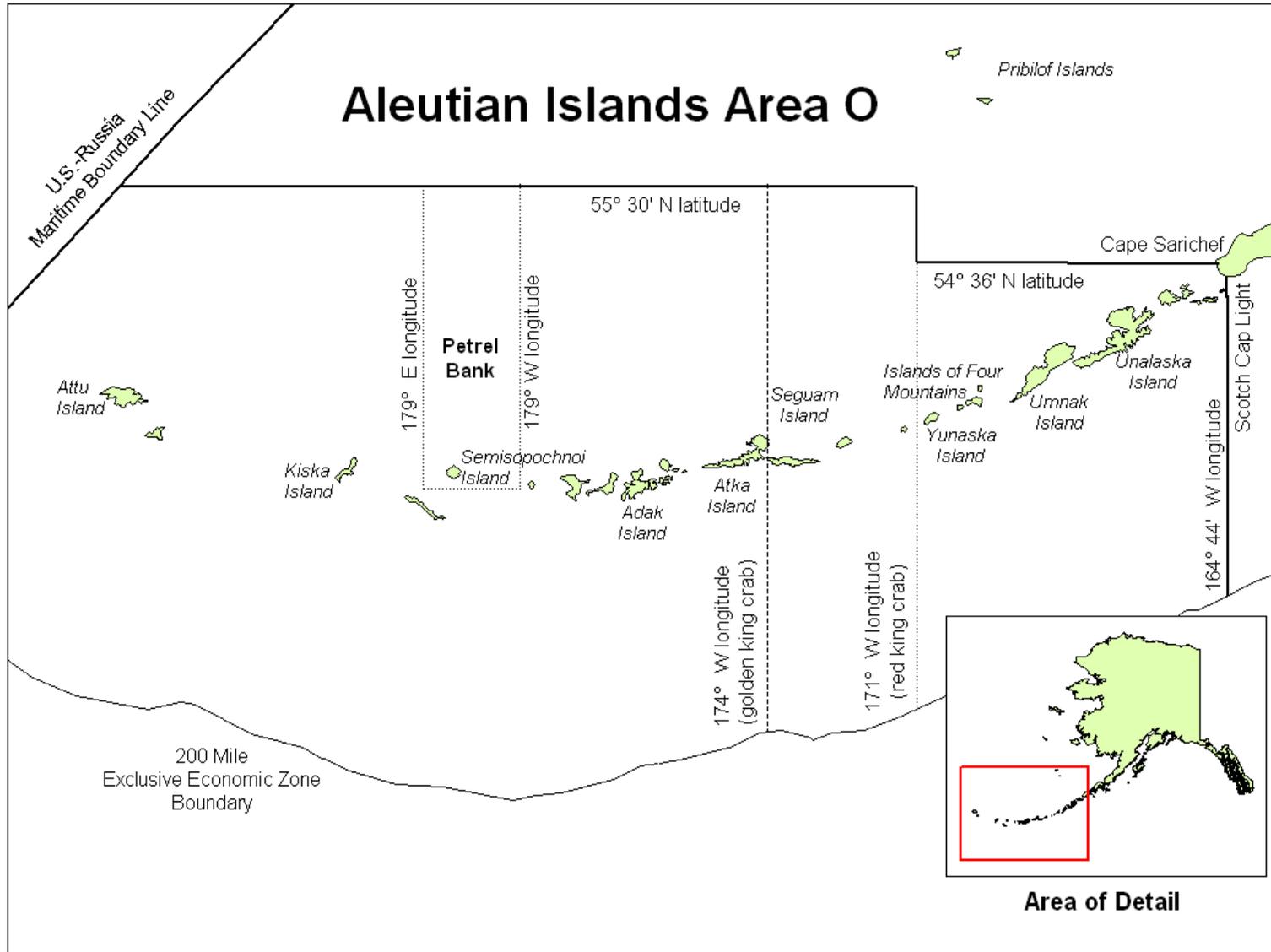


Figure 1-1.—Aleutian Islands, Area O, red and golden king crab management area.

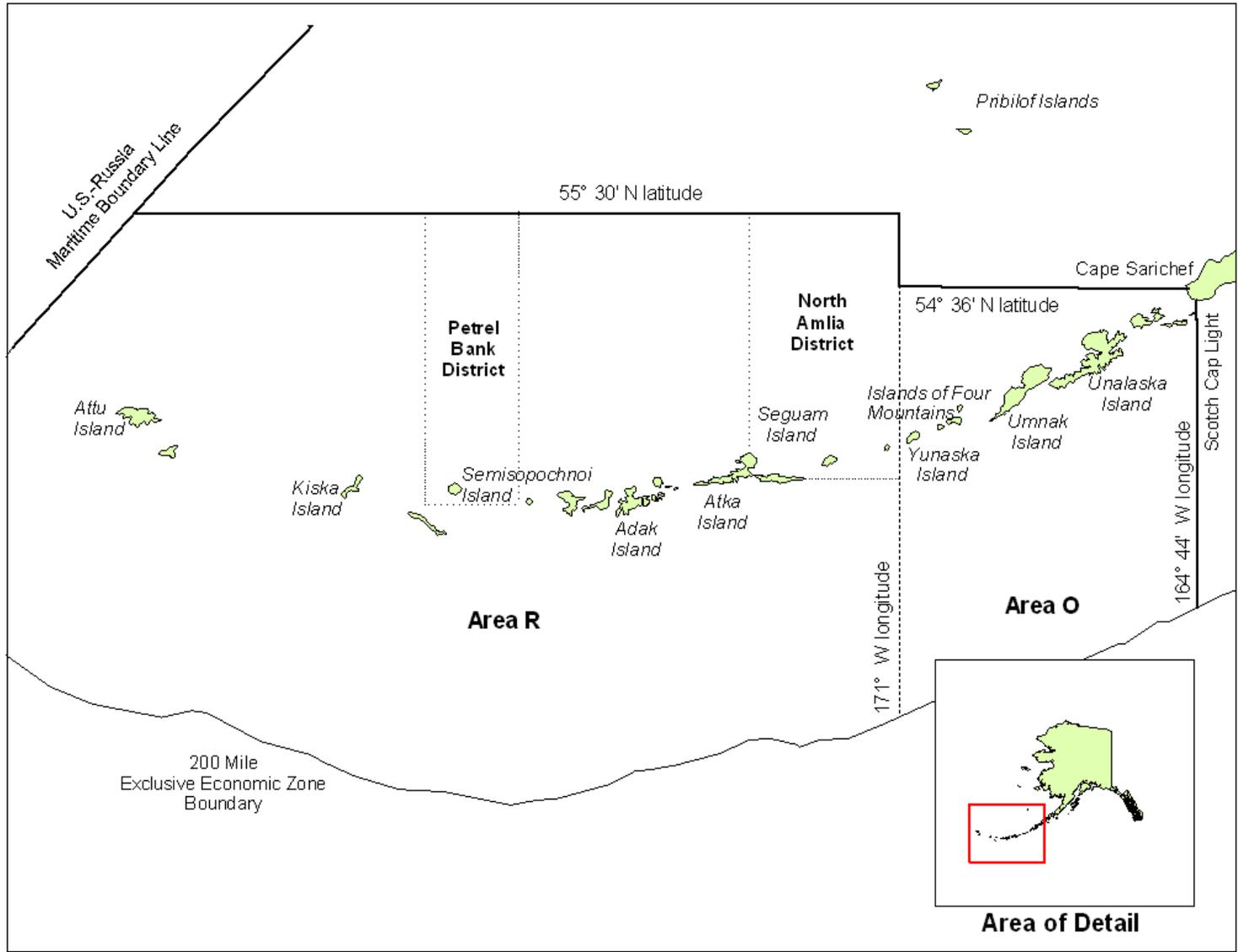


Figure 1-2.-Adak (Area R) and Dutch Harbor (Area O) king crab Registration Areas and Districts 1984/85–1996/97.

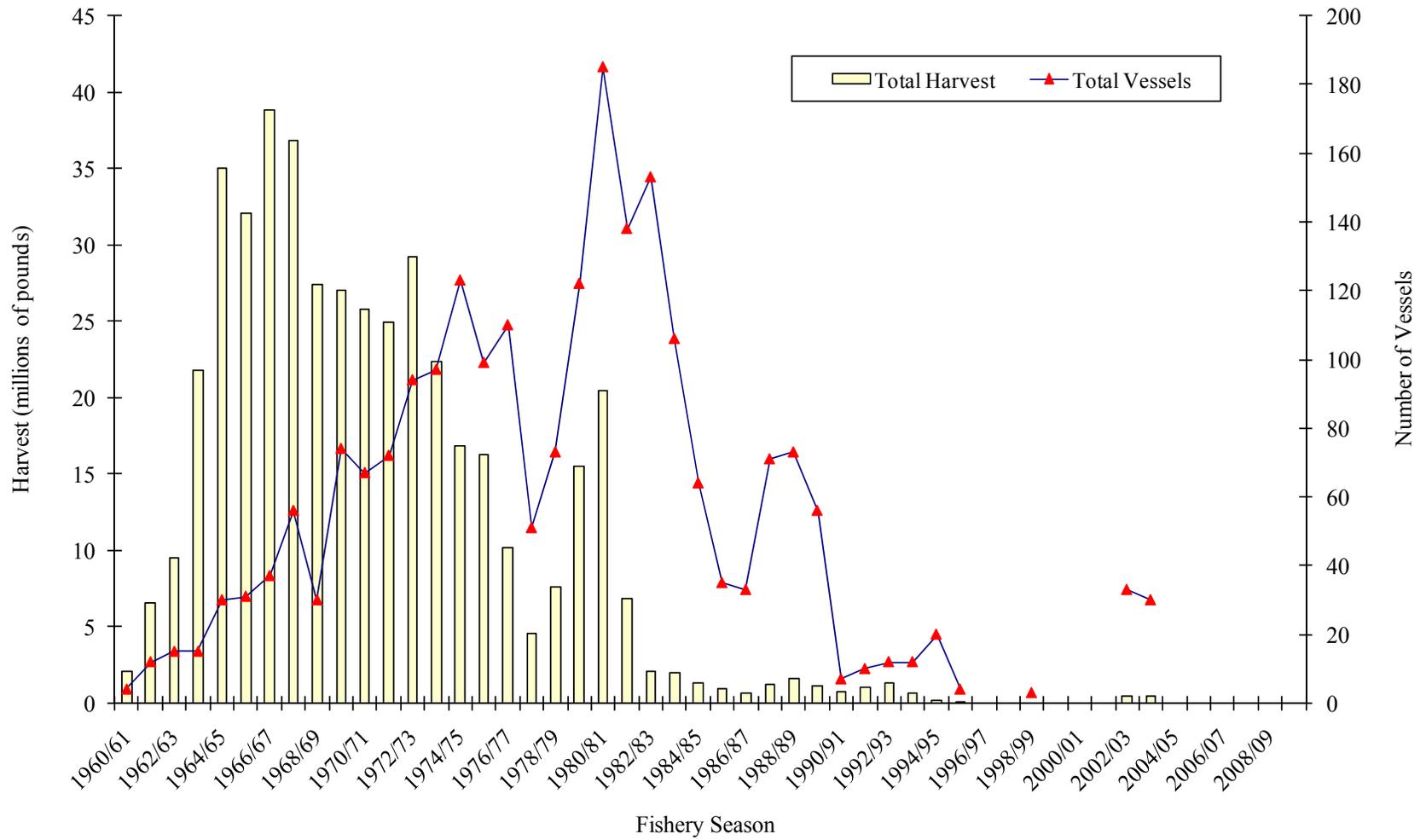
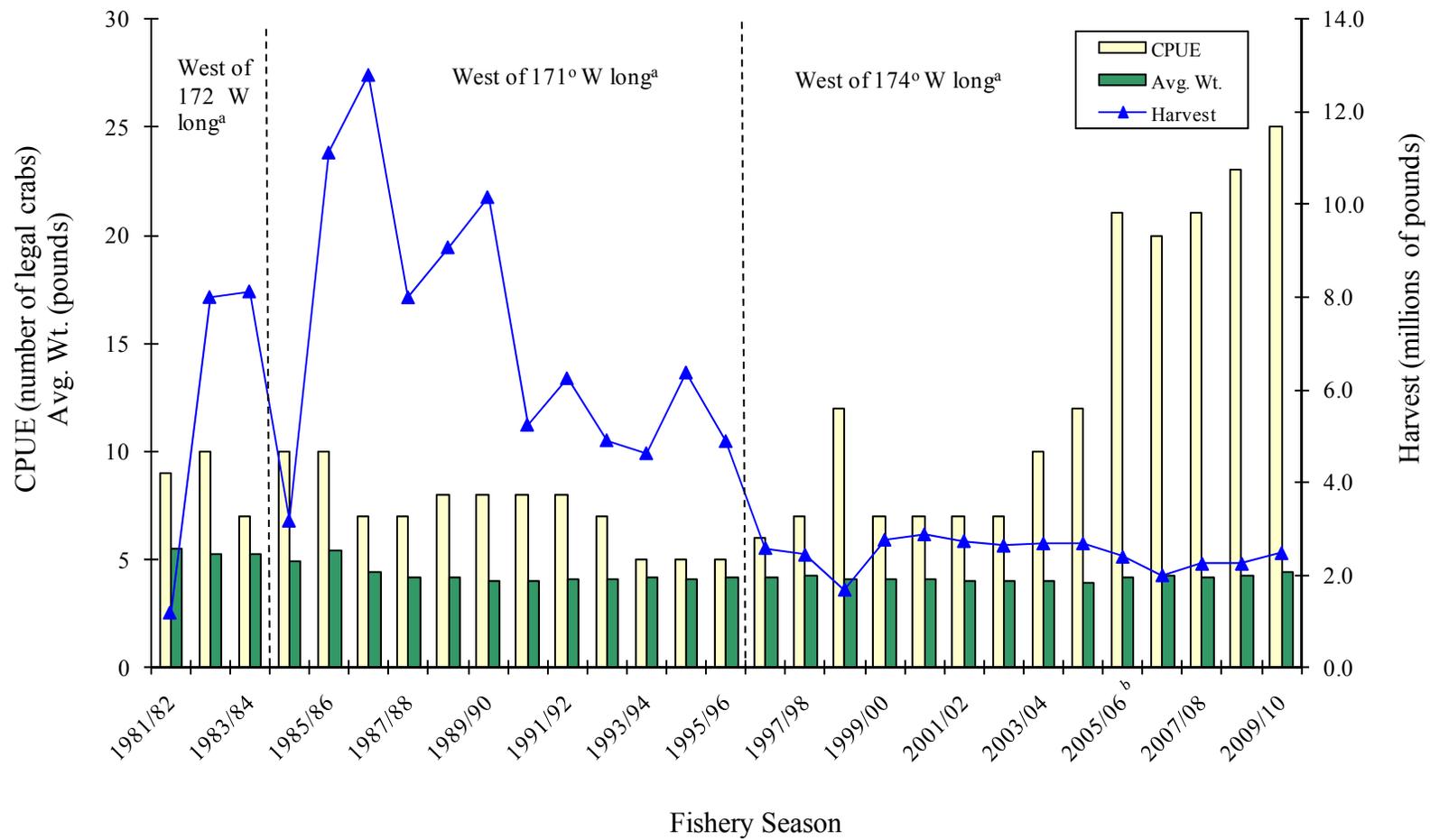


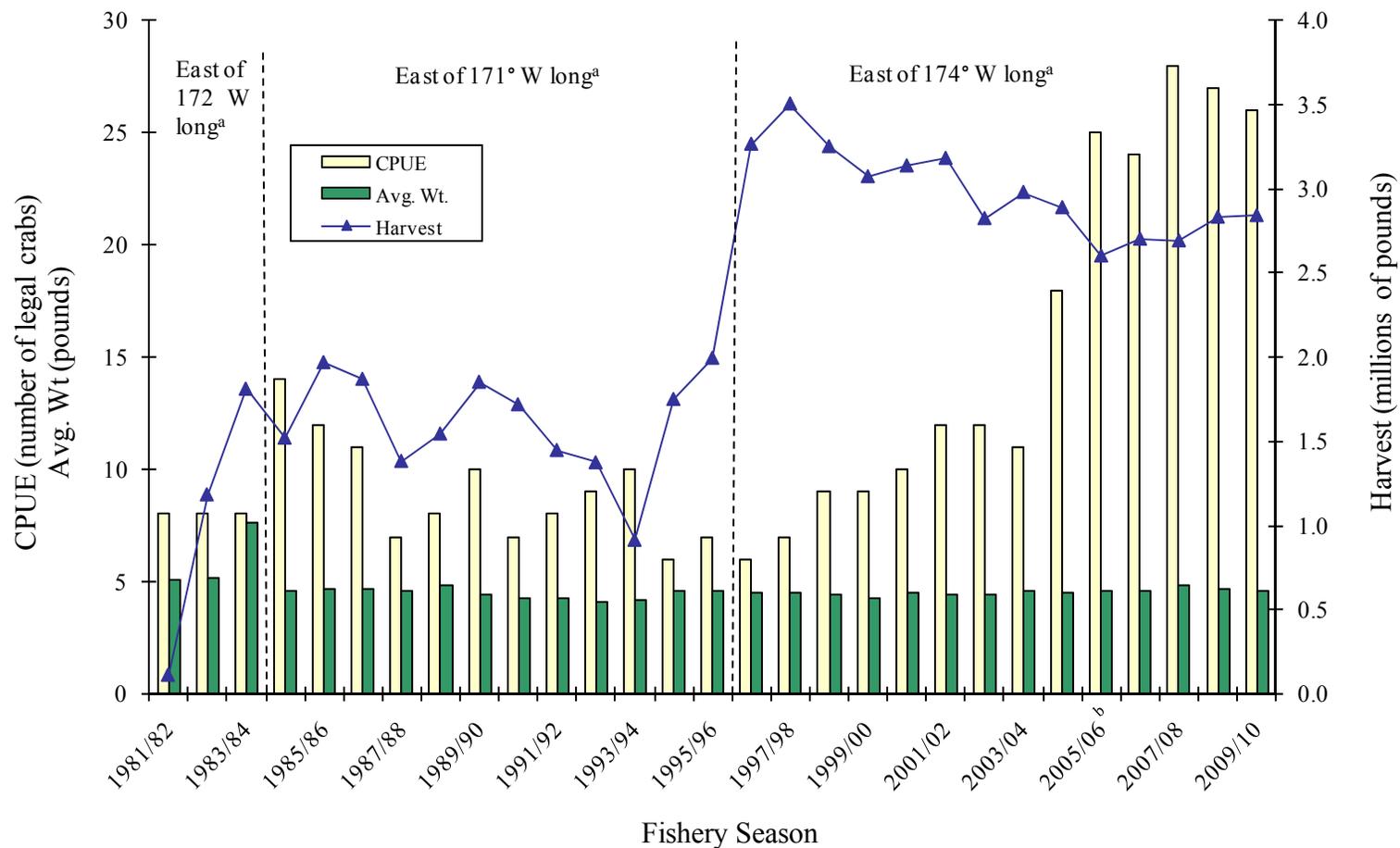
Figure 1-3.—Aleutian Islands red king crab fishery harvest and vessel effort, 1960/61–2009/10.



<sup>a</sup> Eastern boundary of the fishery as it changed prior to 1984/85 and 1996/97 seasons.

<sup>b</sup> First rationalized crab season.

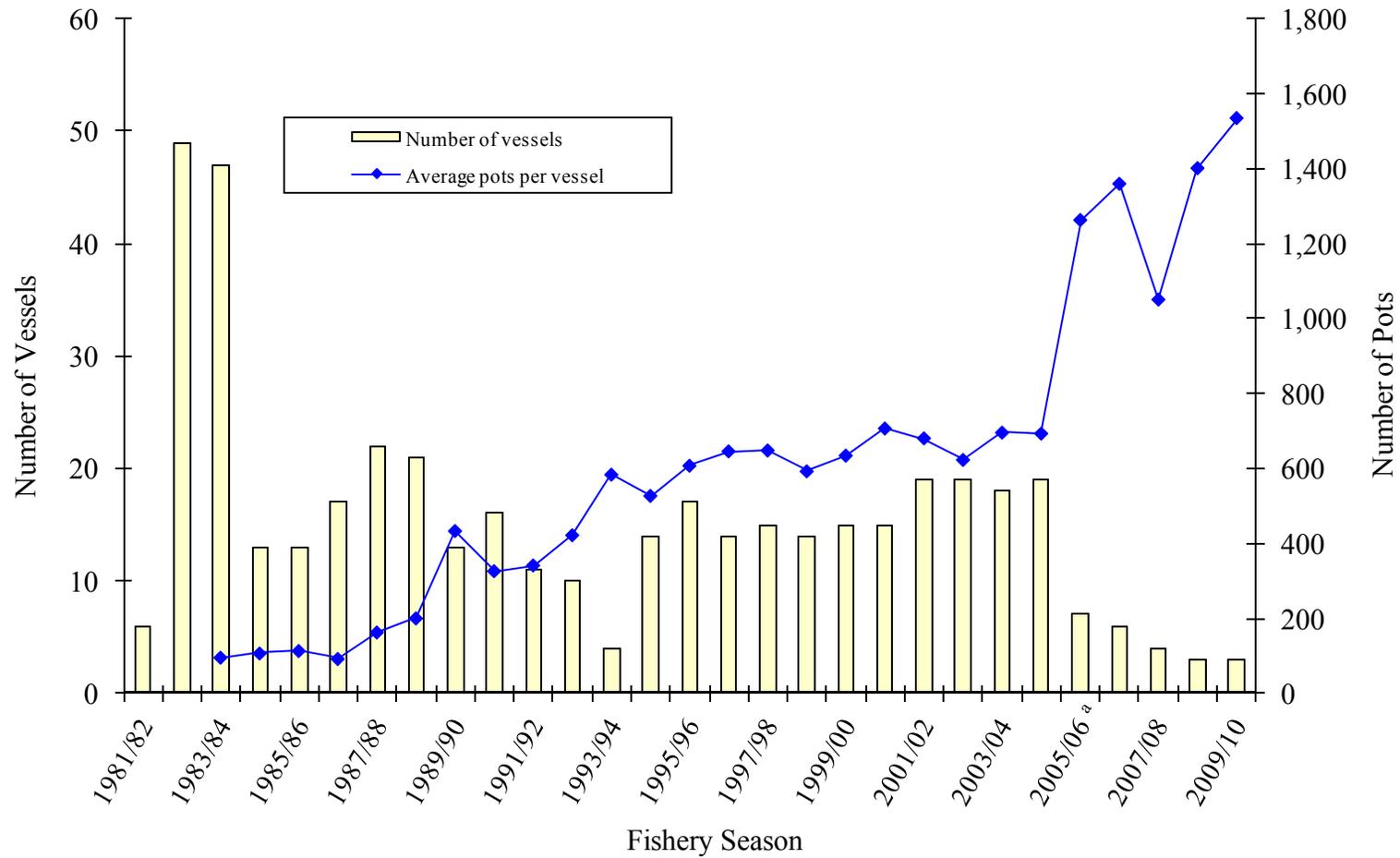
Figure 1-4.—Western Aleutian Islands golden king crab fishery harvest, fishery performance and average weight data for the 1981/82–2009/10 seasons, does not include Adak Community Allocation (west of 174° W long) fishery.



<sup>a</sup> Western boundary of the fishery as it changed prior to 1984/85 and 1996/97 seasons.

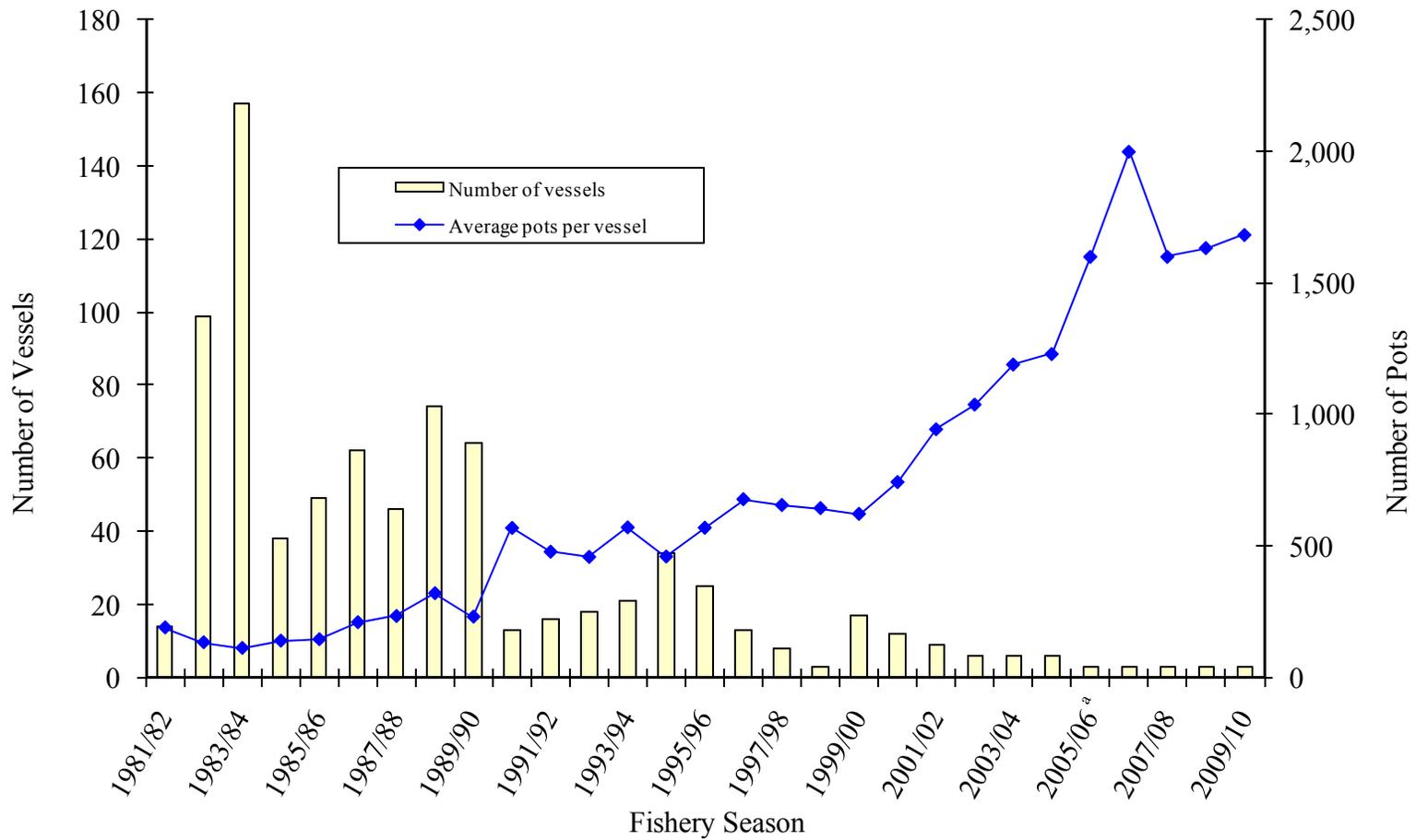
<sup>b</sup> First rationalized crab season.

Figure 1-5.—Eastern Aleutian Islands golden king crab fishery harvest, fishery performance and average weight data for the 1981/82–2009/10 seasons, does not include Community Development Quota (east of 174° W long) fishery.



<sup>a</sup> First rationalized crab season.

Figure 1-6.—Eastern Aleutian Islands golden king crab fishery vessel registrations and average number of pots per vessel 1981/82–2009/10, includes Community Development Quota (east of 174° W long) fishery.



<sup>a</sup> First rationalized crab season.

Figure 1-7.—Western Aleutian Islands golden king crab fishery vessel registrations and average number of pots per vessel 1981/82–2009/10, includes Adak Community Allocation (west of 174° W long) fishery.

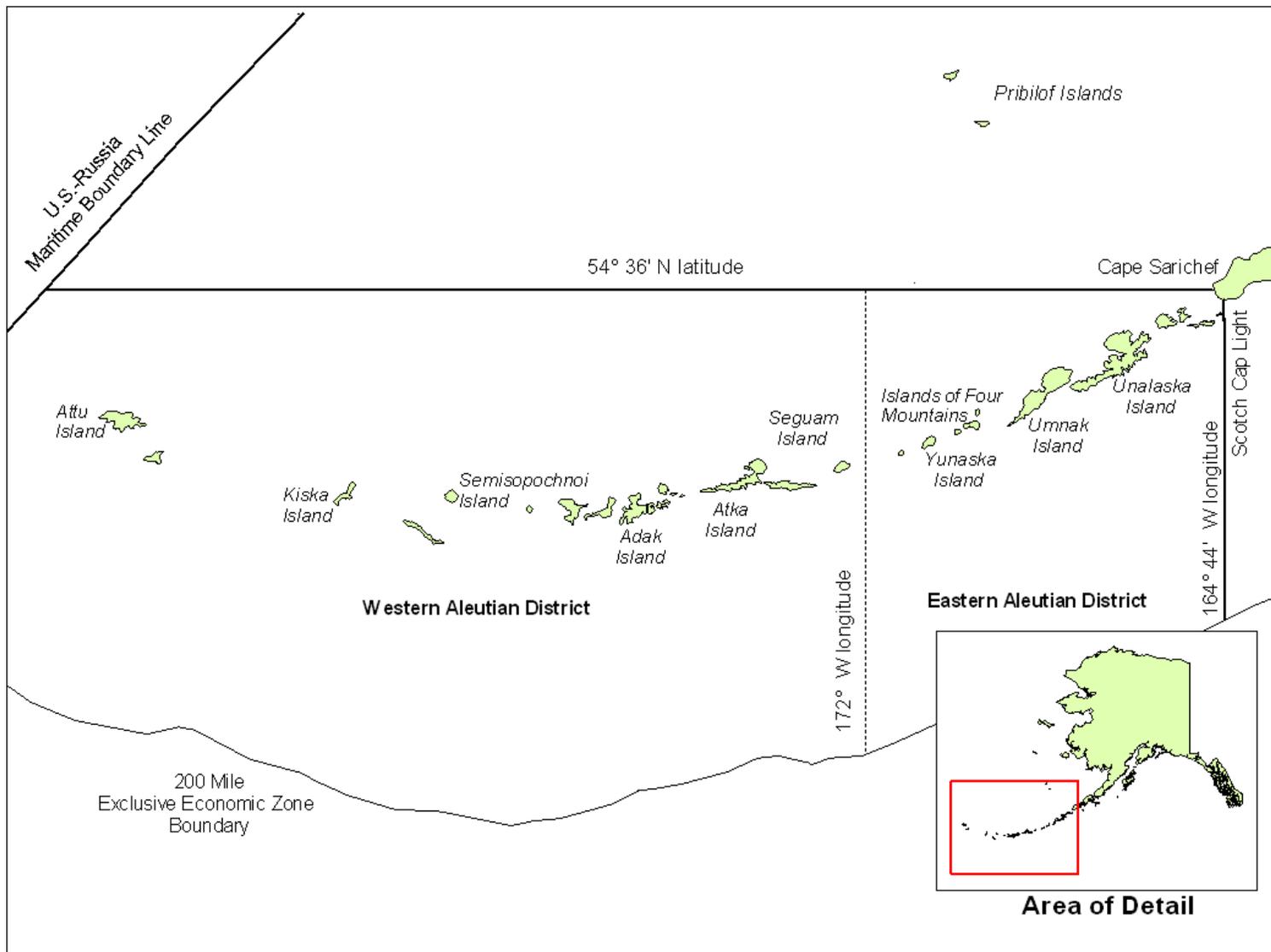


Figure 1-8.—Eastern and Western Aleutian Districts of Tanner crab Registration Area J.

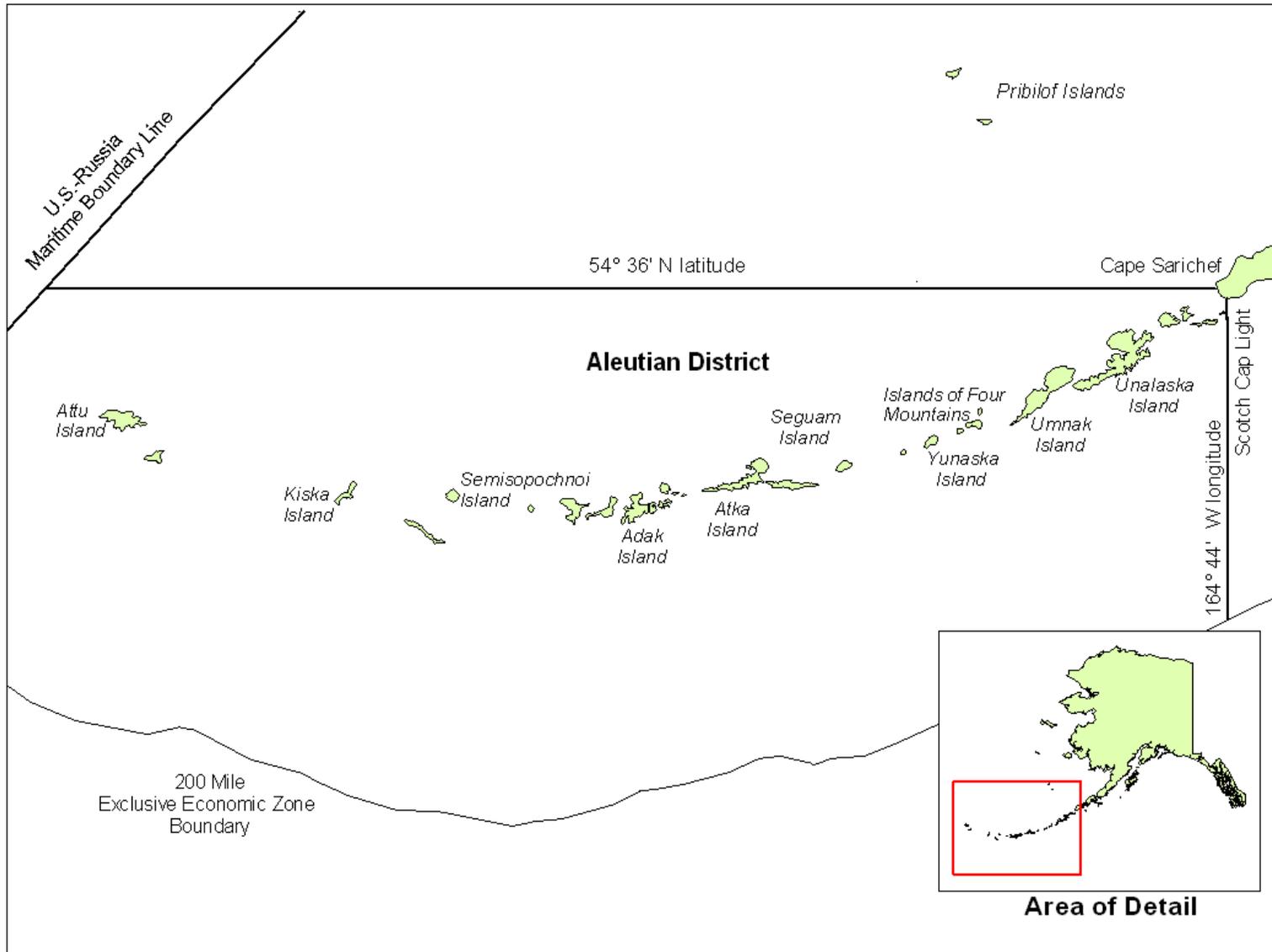


Figure 1-9.—Aleutian District for Dungeness crab management.

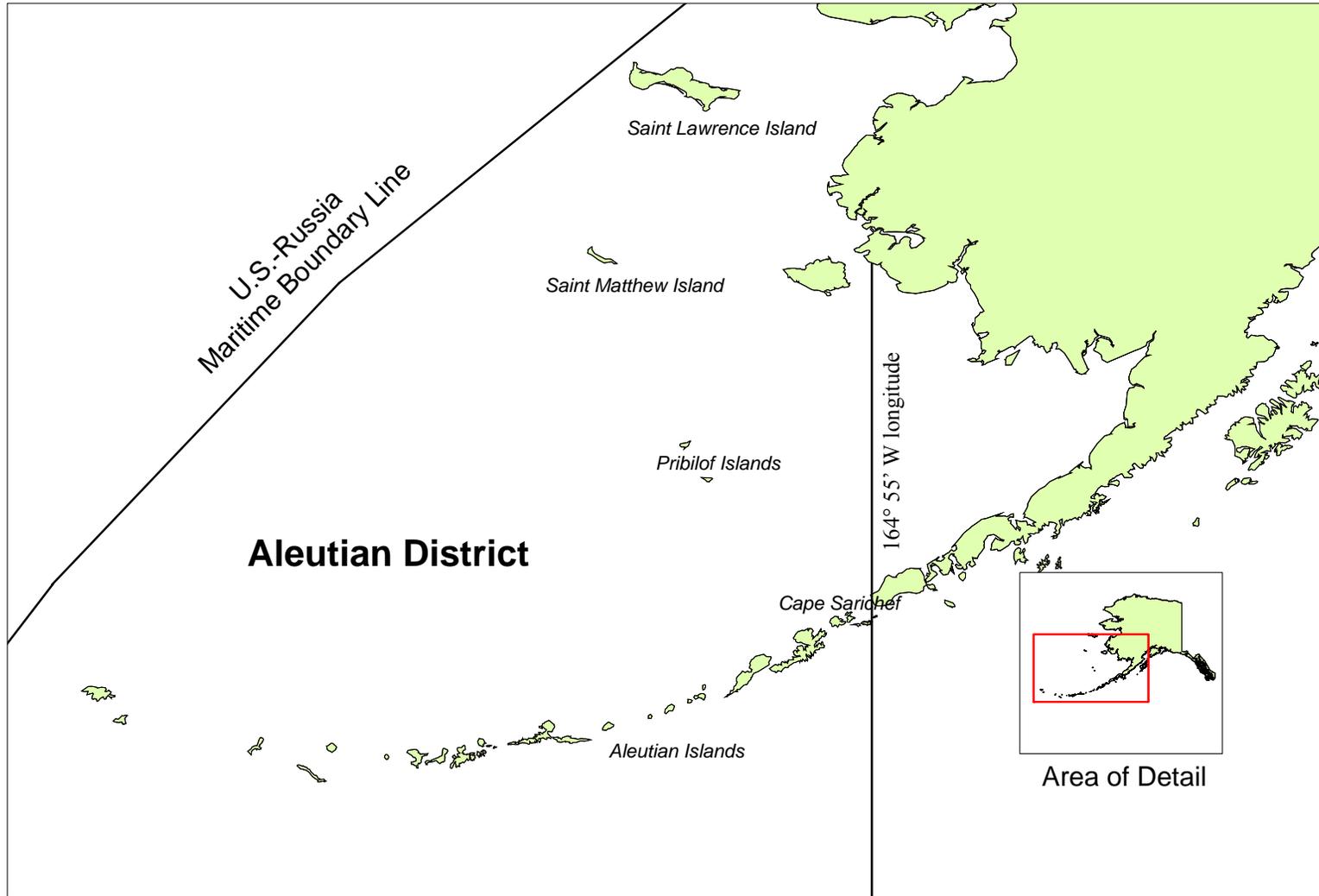


Figure 1-10.—Aleutian District for shrimp management.

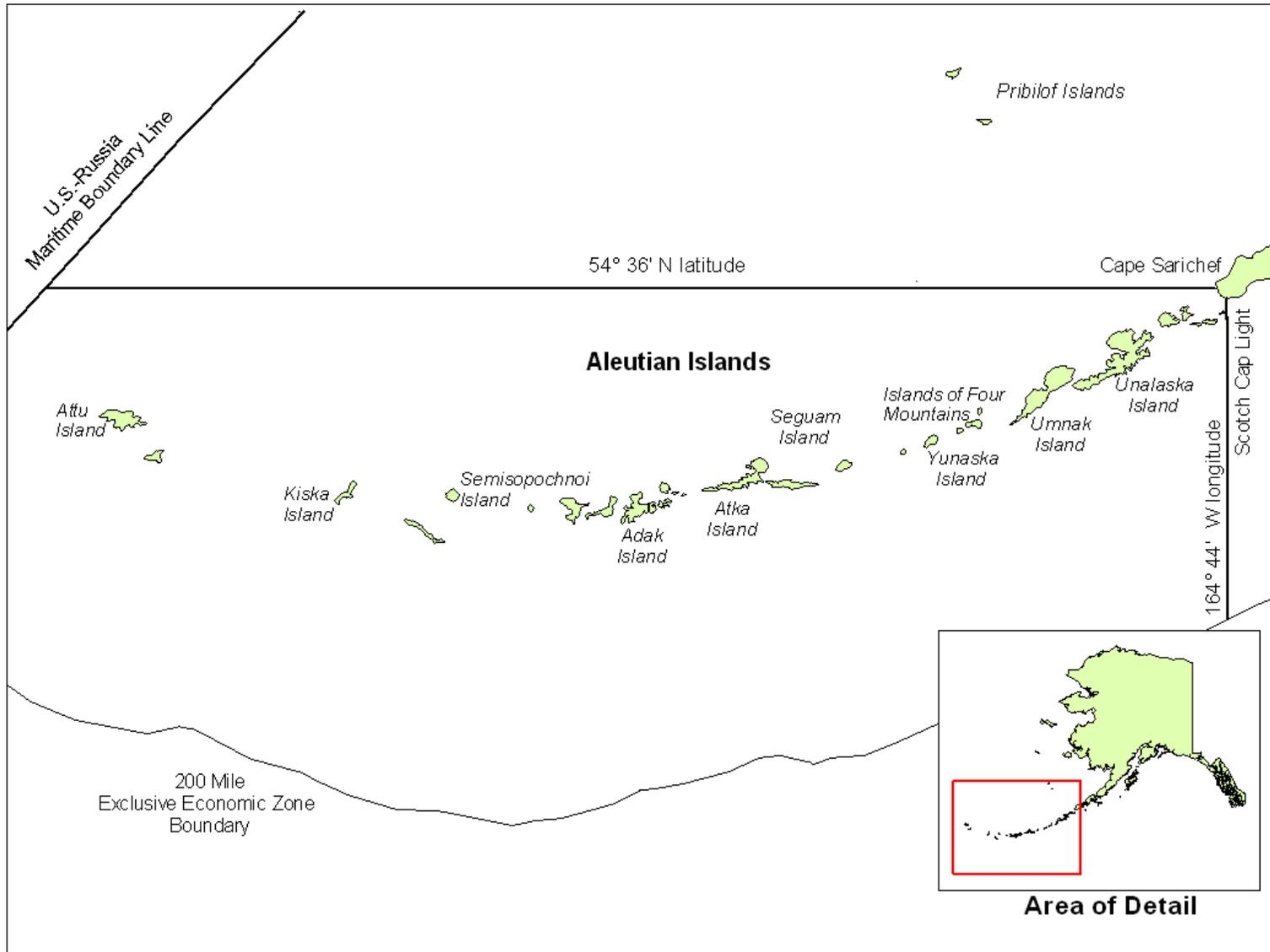


Figure 1-11.—Aleutian Islands District of miscellaneous shellfish Registration Area J.

# **ANNUAL MANAGEMENT REPORT FOR COMMERCIAL SHELLFISH FISHERIES OF THE BERING SEA, 2009/10**

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by

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

and

Kathleen Herring, Janis Shaishnikoff, Jeanette Alas, Britta Baechler, and Ian Fo  
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

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

The red king crab fishery in the eastern Bering Sea traditionally harvested crab from waters north of Unimak Island and the Alaska Peninsula from Cape Sarichef to Port Heiden. With the decline of king crab stocks in other areas of the state, U.S. effort in the eastern Bering Sea increased beginning in 1966 with a peak harvest of 129.9 million pounds in 1980 (Table 2-1, Figure 2-2). Since 1980, king crab stocks throughout Alaska, including Bristol Bay, declined sharply and have not recovered to pre-1980 levels, leading to closures of the Bristol Bay red king crab (BBR) fishery in 1983, 1994, and 1995. From 1980 to 2009/10, economic value of the BBR fishery ranged from \$8.9 million in 1982 to a high of \$115.3 million in 1980 (Table 2-2, Figure 2-3). Exvessel price ranged from \$0.90 per pound in 1980 to a high of \$6.26 per pound in 1999 (Table 2-2).

In 1980, the Alaska Board of Fisheries (BOF) defined that portion of the Bering Sea south of Cape Newenham and east of 168° W long as the Bristol Bay King Crab Registration Area T, an exclusive registration area. During any king crab registration year, vessels registering for this area are prohibited from fishing in any other exclusive or super-exclusive king crab registration area. Only non-exclusive areas may be fished once a vessel is registered in Area T 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 and the resulting area-swept estimates of abundance are published annually. In 1983, the NMFS trawl survey of the Bering Sea indicated a record low number of legal male king crab and the lowest total 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 over 20.4 million pounds in 1990. Due to the large number of catcher-processors and floating processors in the fishery and the inability of the Alaska Department of Fish and Game (ADF&G) to monitor these catches, an onboard observer program was initiated in 1988.

Fishing effort increased dramatically from 89 vessels in 1984 to 302 vessels in 1991 (Table 2-1, Figure 2-3). The number of pots 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 manageability of the fishery by extending the length of the season as well as reducing the potential for pot loss and gear conflict.

Immediately following the 1992 BBR fishery, the 250-pot limit was repealed by NMFS. This action was taken because of 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 in excess of 125 feet in overall length were limited to 250 pots and vessels 125 feet and under in overall length were allowed a maximum of 200 pots. Pot limits were administered through a buoy tag program from the Dutch Harbor and Kodiak ADF&G offices.

Results of the 1994 NMFS summer trawl survey of the eastern Bering Sea indicated declines in all size-classes of both male and female red king crabs in the Bristol Bay area. Compared to observations made during the 1993 survey, the abundance index of large male crabs decreased 25%. Based on 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 method, used for the first time prior to the 1995 season, incorporates a variety of data sources including dockside sampler and observer-collected data, as well as data collected on the 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% to 10% at stock levels below the maximum sustainable yield (MSY) level, 55 million pounds of effective spawning biomass (ESB), or 15% when the stock is considered at or above MSY.

Results from the LBA incorporating the 1996 NMFS survey data indicated increased abundance in all size classes of males and females compared to the 1995 estimate (Zheng et al. 1996). 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% mature male exploitation rate, the 1996 guideline harvest level (GHL) was set at 5.0 million pounds. The 1996 fishery lasted four days and a total of 8.4 million pounds were harvested, exceeding the GHL by 68%.

To address difficulty in managing this fishery at low GHGs, the BOF held a special meeting in August of 1997 implementing new pot limits and vessel preseason registration requirements. Also adopted were regulations that extended the tank inspection window for the 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. New pot limits were based on vessel overall length, the preseason GHG, and the number of vessels preseason registered for the fishery. These new pot limit regulations were adopted with a sunset provision of December 31, 1998 and made permanent at the 1999 BOF meeting. The GHG for the 1998 fishery was 15.8 million pounds; because the GHG was in excess of 15 million pounds, the preseason registration requirements were waived. The 1998 fishery was the first year the GHG 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 king crab fishery if they operated pot, longline, or trawl gear in that portion of Registration Area T north of 55°30' N lat and east of 164° W long during the 30 days immediately prior to the opening of the king crab season. However, an exception was made for vessels participating in a directed walleye pollock *Theragra chalcogramma* fishery with trawl gear in Area T north of 55°30' N lat and east of 164° W long during the 14 days prior to the red king crab season. These vessels were provided access to the BBR fishery if they delivered to an offshore processor or had 100 percent federal groundfish onboard observer coverage for the entire 14 days prior to the opening. The BOF also adopted a regulation moving the opening date of the commercial red king crab fishery from November 1 to October 15. The change to an earlier opening was intended to improve fleet and industry efficiency by reducing the hiatus between the BBR fishery and Bering Sea king crab fisheries, opening on September 15.

Using LBA, the 1999 through 2002 fisheries had a 10% exploitation rate, with ESB ranging from a low of 37.7 million pounds in 2002 to a high of 47.0 million pounds in 1999. The BOF modified the BBR harvest strategy at their 2003 meeting, maintaining the existing 10% and 15% harvest rates on mature males and implementing a 12.5% harvest rate on mature males when 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% 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 2005/06 season was the first to operate under the Crab Rationalization (CR) program. Under the CR program 90% of the total allowable catch (TAC) is available to individual fishing quota (IFQ) share holders, 10% is available for CDQ harvest. The fishing season was expanded to run from October 15 until January 15, pot limits were increased to 450 pots per vessel, and vessel operators could authorize 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 total harvest of 16.48 million pounds from a 16.5 million pound TAC. During the 2005/06 season approximately 20% of the legal male red king crab caught were discarded at sea primarily due to undesirable shell condition (Barnard and Pengilly 2006); this pattern was not seen in following seasons. The fleet size decreased the following two seasons to 81 vessels in 2006/07 and 74 vessels 2007/08. The number of landings ranged from 187 in 2006/07 to 246 in 2007/08.

In 2006/07 13.89 million pounds were harvested from a 13.9 million pound IFQ TAC. The 18.3 million pound TAC in 2007/08 was exceeded by just under 30,000 pounds.

In most years the majority of harvest occurs by mid-November, however, some fishing effort typically continues until the season closure in January. Vessel registration over the past three seasons averaged 26 days. Fleet-wide pot effort during CR has ranged from 64,000 pots in 2006/07 to just under 125,000 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 to 28 in the 2007/08 season. A further reduction in CPUE occurred during the 2008/09 season, with 22 legal crab per pot lift. 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).

## **2009/10 SEASON**

The 2009/10 Bristol Bay red king crab fishery opened October 15 with an IFQ TAC of 14.4 million pounds. There were 70 vessels in the fishery that harvested a total of 14.3 million pounds, of which less than 1% was deadloss.

CPUE in terms of number of legal crab retained per pot lift dropped from the 2008/09 level of 22 to 21, lower than in 2004, prior to CR. Despite the decline, the 2009/10 CPUE ranks among the highest catch rate estimates for the last 29 years.

Even though the fishery was open through January 15, roughly 96% of the harvest occurred by mid-November (Table 2-3). Harvest during the first month of the season takes advantage of favorable weather and market conditions.

Harvest during the 2009/10 season was spread over 16 ADF&G statistical areas and 82% of the catch occurred east of 163° W long (Table 2-4). Most fishing effort occurred south of 57°30' N lat.

Landed crab averaged 6.3 pounds, a decrease of 0.3 pounds per crab from the 2008/09 fishery average weight. Less than 1% of crab delivered were sampled for size and shell condition. Sampling indicated that just under 88% of the crab measured were new-shell, compared to 82% new-shell in 2008/09 (Table 2-5). Average carapace length was 150 mm, a decrease of 1% from the previous season. The percentage of recruit-sized crab in the commercial harvest increased from 48% in 2008/09 to 64% in 2009/10.

The 2009/10 fleet registered 14,977 pots, or an average of 214 pots per vessel. Total effort for the 2009/10 fishery was approximately 107,058 pot lifts, decreasing just over 14% from the 2008/09 fishery. The average vessel was active in the fishery for 25 days. IFQ harvesters were paid an average price of \$4.44 per pound for an IFQ exvessel fishery value of \$63.1 million (Table 2-2).

In 2009, a cost recovery fishery was conducted by ADF&G on Bristol Bay red king crab and 100,400 pounds were harvested (Table 2-6). At an exvessel price of \$4.27 per pound, the total value of the cost recovery fishery was \$426,731 (Table 2-7). The 18-day charter occurred from September 25, 2009 to October 12, 2009.

## **AMERICAN FISHERIES ACT**

The American Fisheries Act (AFA), passed in 1998 by Congress, gave walleye pollock fishermen exclusive fishing privileges in the Bering Sea/Aleutian Islands (BSAI) pollock fishery. To protect the interests of fishermen not directly benefited by the AFA, sideboards were established for AFA fishermen qualified to participate in BSAI crab fisheries. To implement the sideboards, the BOF developed a management plan requiring ADF&G to manage AFA vessels with a harvest cap equally apportioned between all AFA qualified vessels or through a cooperative fishery when 100% of AFA qualified participants agree to the cooperative. The harvest cap specified by the AFA was implemented for the first time in the 2000 BBR fishery and was set at 10.96% of the general fishery GHL. The AFA harvest cap was in effect for the 2000 to 2004 seasons and was never exceeded. AFA sideboard restrictions were eliminated with the implementation of the CR program in 2005.

## **PORT SAMPLING**

Red king crab were sampled dockside from deliveries during the 2009/10 BBR. Vessels without observer coverage delivering to shorebased processors in King Cove, Akutan, Kodiak, Saint Paul, and Dutch Harbor were sampled by ADF&G personnel. Confidential interviews were conducted with vessel captains to acquire detailed information regarding statistical areas fished, effort, and fishery performance. Interview data was supplemented with daily fishing log (DFL) records obtained from vessel operators. Red king crab biological data consists of carapace length measurement, average weight, and shell condition. During the 2009/10 Bristol Bay red king crab season, ADF&G port samplers collected data from 145 of the 210 landings.

## **STOCK STATUS**

Based on 2009 NMFS trawl survey data (Chilton et al. 2009), pre-recruit sized male red king crab abundance decreased 23% from the 2008 estimate and small males decreased 52%. Legal male abundance was 8.5 million crab which is 19% lower than the 2008 estimated abundance.

Estimated large female abundance decreased 16% from the 2008 level while small females decreased 52%. The initial 2009 survey was conducted in early June; however, 32 of the standard 166 Bristol Bay stations were resurveyed in late July due to low counts of newly molted females with clutches of uneyed embryos. During the second survey, 94% of females captured were mature and 99% of these mature females had extruded uneyed eggs.

Further information on the Bristol Bay red king crab harvest strategy may be found in 5 AAC 34.816 Bristol Bay Red King Crab Harvest Strategy. Additional stock status information and details on federal overfishing levels (OFL) for Bristol Bay red king crab may be found in the 2009 Stock Assessment and Fishery Evaluation Report for the King and Tanner Crab Fisheries of the Bering Sea and Aleutian Islands Regions (NPFMC 2009).

## **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 incorporates all waters north of Cape Newenham. The Northern District is subdivided into three sections: the Saint Matthew Island Section, which includes waters north of Cape Newenham and south of Cape Romanzof; the Norton Sound Section, which includes all waters north of Cape Romanzof, and south of 66° N lat and the Kotzebue Sound Section, which encompasses all remaining waters of the district. Registration Area Q includes waters of both the Territorial Sea and EEZ. It should be noted that the Norton Sound Section red king crab fishery is not addressed in this report.

## **PRIBILOF DISTRICT RED AND BLUE KING CRAB**

### **Historical Background**

The king crab fishery in the Pribilof District 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 had increased to 110 vessels that harvested 11.0 million pounds, the largest catch on record. However, fishery CPUE dropped 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 population estimates, the blue king crab fishery was closed beginning with the 1988/1989 season and remained closed through the 1994 season (Table 2-9).

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

The 1993 NMFS summer trawl survey of the Bering Sea indicated a marked increase in the abundance of red king crab around the Pribilof Islands. Although no threshold abundance level for opening the fishery was established for Pribilof District red king crab, survey results indicated a harvestable surplus of legal-sized male crab. Consequently, a red king crab fishery in the Pribilof District opened for the first time in September 1993 with a GHF of 3.4 million pounds, however only 2.6 million pounds were taken. In 1994, the Pribilof District again opened to red king crab with a GHF 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 GHF of 2.5 million pounds. Subsequent declines in red and blue king crab abundance over the next three years resulted in a combined GHF for 1998 of 1.3 million pounds including the CDQ fishery. Poor fishery performance during those seasons resulted in annual harvests below the fishery GHF. From 1999 to 2008/09, blue king crab abundance declined and the Pribilof fishery was closed.

The economic value of the Pribilof District red king crab fishery peaked at \$13.0 million in 1993 with an exvessel price of \$4.98 per pound, the second highest on record. The value of the Pribilof District blue king crab fishery peaked at \$13.6 million in 1981/82, with an exvessel price of \$1.50 per pound. Since 1995, the exvessel price of red or blue king crab has not exceeded \$3.37

per pound. Total value of the fishery declined from \$6.8 million in 1995 to \$2.4 million in 1998 (Table 2-9, Figure 2-6).

ADF&G conducted pot surveys targeting red and blue king crabs in the Pribilof District in 2003 and 2005. The objectives of the surveys were to determine the distribution and relative abundance of red and blue king 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 the 2003 pot survey suggest the highest catches of blue king crab occurred at stations with low red king crab catches and stations with high red king crab catches had low blue king crab catches. Distribution of red and blue king crabs in the Pribilof District is patchy and stations with high blue king crab catches were interspersed among stations showing greater red king crab abundance. Catches of red and blue king crabs during the 2005 survey were lower than those of the 2003 survey (Gish 2006).

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

### **2009/10 Season**

The blue king crab fishery in the Pribilof District was not opened in 2009/10 due to continued low blue king crab abundance. The stock remains below the threshold level of abundance required for a fishery opening. Due to significant uncertainty surrounding estimated red king crab abundance and concerns for blue king crab bycatch in a directed red king crab fishery, the red king crab fishery also remained closed for the 2009/10 season.

### **Stock Status**

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

The Pribilof District blue king crab stock remained below the minimum threshold for a fishery opening in the 2009 season. The 2009 Pribilof blue king crab stock is still considered overfished. NMFS trawl survey indicated that Pribilof District blue king crab were caught at only 6 of the 41 trawl survey stations. Though male abundance estimates are imprecise due to a small number of tows yielding crab, the legal-size male abundance estimate was 0.07 million crab, falling well below the most recent 20 year average abundance of 0.6 million crab but increasing from the 2008 estimate of 0.02 million crab (Chilton et al. 2009).

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 were closed to all crab fishing during the 2009/10 season to protect blue king crab. The majority of haul locations that captured blue king crab in the 2009 NMFS trawl survey were within or on the borders of those four statistical areas.

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

No formal harvest strategy has been developed for Pribilof District red king crab and the fishery has been closed since the 1999 season due to imprecision of abundance estimates and concerns about bycatch of blue king crab. Past fishery and trawl survey data have indicated the potential for 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 commercial blue king crab fishery in the Saint Matthew Island Section of the Northern District was first prosecuted in 1977, resulting in a commercial harvest of 1.2 million pounds. In 1978, the catch increased to almost 2.0 million pounds (Table 2-10). Catches decreased in 1979 and 1980 due to lack of effort. In 1981, several vessels returned to the Saint Matthew Island Section during the Norton Sound Section fishery. Catches were strong and after the Norton Sound Section closed additional vessels moved into the Saint Matthew Section taking 4.6 million pounds of blue king 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).

NMFS trawl surveys from 1983 to 1998 in the Saint Matthew Island Section indicated a harvestable surplus of blue king crab ranging from 1.7 to 8.0 million pounds. In 1998, legal male abundance decreased by 21% from the 1997 level, resulting in a GHL of 4.0 million pounds (Table 2-10). The 1998 season closed due to poor fishery performance and observer information indicated a relatively high incidental capture rate of sublegal male and female crab. The harvest in 1998 was 2.9 million pounds. 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, abundance estimates for the Saint Matthew Island Section blue king crab stock were low and the fishery remained closed because harvest strategy abundance thresholds were not met.

In 1993, 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.

The exvessel price for Saint Matthew blue king crab in 1998 averaged \$1.87 per pound, the lowest since 1984 and 1985, when fishermen received \$1.75 and \$1.60 per pound, respectively (Table 2-13). Total 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 new recruits entering the fishery. The average weight per crab in 1998 was 4.7 pounds (Table 2-10).

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

### **2009/10 Season**

After a fishery closure lasting from 1999 until 2008/09, the Saint Matthew Island Section blue king crab fishery opened for the 2009/10 season on October 15 with an IFQ TAC of 1.05 million pounds. ADF&G model estimates indicated the 2009 mature male abundance increased 39% from the 2008 estimate and mature male biomass exceeded the minimum required to open the fishery.

Seven vessels participated in the fishery and harvested 460,859 pounds, of which roughly 2% was deadloss in 2009/10.

CPUE was 10, greater than the 7 legal crab per pot lift in 1998 prior to CR, but 2 less than the average over the past 10 years when the fishery was open.

Although the fishery was open through February 1, all of the harvest occurred by late November with 14 of 30 landings taking place the week of November 8.

Harvest during the 2009/10 season was spread over 10 ADF&G statistical areas. Most fishing effort occurred south of 60°31' N lat. Sixty-nine percent of harvest occurred within statistical area 735930, 23% of harvest occurred in area 725930, and 5% of harvest occurred in area 736001 (Table 2-12). Three percent of harvest occurred in seven additional statistical areas. Fishing information for these seven areas is confidential, as fewer than three vessels made landings in each of those seven additional areas.

The pot limit for the 2009/10 season was 250 pots per vessel. By regulation, buoy tags were required to be affixed to all pots. The fleet registered 1,022 pots, or an average of 146 pots per vessel. Total effort for the 2009/10 fishery was approximately 10,697 pot lifts. The average vessel was active in the fishery for 24 days, though the fishery was open for 110 days.

IFQ harvesters were paid an average price of \$2.19 per pound for an IFQ exvessel fishery value of \$1 million (Table 2-11).

### **Port Sampling**

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

### **Stock Status**

Blue king crabs were captured at 38 of 56 trawl survey stations during the 2009 NMFS bottom trawl survey (Chilton et al. 2009). Legal male abundance estimate decreased 18% from the 2008

estimate while pre-recruit sized males increased 244% during the same time interval. The small male abundance estimate decreased 19% from the 2008 level. While legal-male blue king crab abundance in the Saint Matthew Island Section continues to improve, it remains below the most recent 20 year average abundance estimate.

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

Based on 2009 NMFS area swept abundance estimates the Saint Matthew Island blue king crab stock reached the rebuilt level. Determination by NMFS that the stock was rebuilt allowed the Alaska Board of Fisheries to take action removing the minimum TAC from the harvest strategy for this stock (NPFMC 2009).

## **PRIBILOF DISTRICT GOLDEN KING CRAB**

### **Historical Background**

Golden king crab are found in commercial concentrations in a few deep canyons in the Bering Sea and have never sustained large harvests when compared to other Bering Sea king crab fisheries. As with many other crab fisheries in the Bering Sea, the fishery for golden king 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. 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 in 1983. 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 2-14). The Pribilof District golden king crab fishery reached a maximum exvessel value of just over \$1.1 million in 1995, and the highest price fishermen received per pound was \$3.99 in 1994 (Table 2-15). 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 GHLL of 150,000 pounds (Table 2-14), which was 50,000 pounds less than the 1999 GHLL. This adjustment 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 GHLL was not reached; thus the fishery remained open until the end of the year. In 2001, six vessels harvested 146,000 pounds and the fishery was closed by emergency order on April 15 (Table 2-14).

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

The 2002 fishery opened January 1 with a GHL of 150,000 pounds, and closed by emergency order on May 14. The harvest was 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 (Table 2-14). 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 2-15).

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. Fishing effort began in late February and the fishery was 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.

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 in 2006 through 2008 (Table 2-14).

## **2009 Season**

No vessels registered to fish for golden king crab in the Pribilof District during 2009.

## **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 North Pacific Fishery Management Council amended the Federal Fishery Management Plan for Bering Sea and Aleutian Islands King and Tanner Crabs adopting new overfishing definitions for BSAI crab. Overfishing levels for this stock are based on historic catch and generally will not constrain the GHL. The Pribilof District golden king crab fishery was not included in the CR program.

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

Stock biomass of golden king crab in the Pribilof Canyon area has been estimated using the area-swept technique applied to NMFS trawl survey catch 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.

## **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. Effort and harvest in the Northern District has been sporadic. Since the initial fishery, harvest has only been documented during ten seasons. Harvest peaked during the 1987 season when 10 vessels harvested over 414,000 pounds (Table 2-16). Since 1988, no more than five vessels have participated during any season. The majority of the golden king crab harvest in the Northern District has occurred west of Saint Matthew Island. There has been no documented harvest of golden king 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. These pot limits are lower than the average number of pots fished per vessel in the Aleutian Islands golden king crab fishery, which has no pot limit in place.

The golden king crab fishery in the Bering Sea is managed using inseason catch reports provided by processors and observers. Starting in 2001, 100% observer coverage was required for each vessel registered for the fishery in order to provide fishery and biological data that has not previously been available. In addition, vessel logbooks issued with the commissioner's permit provide location of fishing operations, effort, and estimates of bycatch that supplement data collected by observers. Primary bycatch species include non-retained golden king crab, Pacific halibut, Pacific cod, and snow crab. Fishing is restricted to depths of 100 fathoms or greater. The Northern District fishery GHL has never been fully utilized (Table 2-16). Many of the fishery's exvessel and total values are confidential, as less than three vessels or processors have participated in the fishery each year since 1991 (Table 2-17).

### **2009 Season**

The fishery opened January 1 with a GHL range of 10,000 to 20,000 pounds and closed December 31, 2009. No vessels registered to fish for golden king crab in the Northern District in 2009.

### **Stock Status**

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

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

## **BERING SEA SCARLET KING CRAB**

### **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 2-18) and were paid an exvessel price of \$2.45 per pound. Scarlet king crab incidental harvest has been permitted since the species was first commercially exploited by the domestic fleet, however since 2000 incidental harvest has been capped at a rate of 50% of the weight of the target species. Only two vessels participated in 1996, consequently all harvest information is confidential. No vessels registered to fish for scarlet king 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.

### **2009 Season**

No vessels registered to fish for Bering Sea scarlet king crab in 2009.

### **Fishery Management and Stock Status**

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

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

## **BERING SEA TANNER CRAB MANAGEMENT DISTRICT**

### **DESCRIPTION OF AREA**

The Bering Sea District of Tanner crab Registration Area J includes all waters of the Bering Sea north of Cape Sarichef at 54°36' N lat and east of the U.S.-Russia Maritime Boundary Line of 1990. This district is divided into the Eastern and Western subdistricts at 173° W long. The Eastern Subdistrict is further divided into the Norton Sound Section north of the latitude of Cape Romanzof and east of 168° W long and the General Section to the south and west of the Norton Sound Section (Figure 2-9).

## **BERING SEA TANNER CRAB**

### **Historical Background**

The first reported U.S. harvest of Tanner crab occurred in 1968 as incidental harvest during the red king crab fishery in Bristol Bay. In 1974 a directed Tanner crab fishery began. Harvest peaked at 66.6 million pounds during the 1977/78 season (Table 2-19). 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 all participating vessels to fishing a maximum of 250 pots. In 1993, in order to comply with federal law regarding application of pot limits in a nondiscriminatory manner, differential pot limits based on vessel length were implemented. Vessels 125 feet or less in overall length were limited to a maximum of 200 pots, while vessels longer than 125 feet in overall length were limited to a maximum of 250 pots.

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

During the 1994 and 1995 seasons, the Bristol Bay red king crab fishery did not open due to low stock abundance. As a result, the Tanner crab fishery opened on November 1 in the Eastern Subdistrict west of 163° W long. The commercial Tanner crab harvest in 1994 was 7.77 million pounds; in 1995 the harvest declined to 4.23 million pounds (Table 2-19).

The GHL for the 1996 Tanner crab fishery was 6.2 million pounds (Table 2-19). Due to poor fishery performance, the fishery was closed before the GHL was reached; a total of 1.8 million pounds was harvested. The average size of crab harvested in 1996 was 152 mm carapace width (CW). This compares to an average of 149 mm CW observed in 1995.

Based on poor fishery performance in 1996 and the 1997 NMFS survey indicating significant 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 further decline in Tanner crab abundance and the fishery did not open in 1998. 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  $\geq 80$  mm CW. No directed crab fishery is prosecuted when female biomass is below that threshold. When the mature female biomass is between 21.0 million and 45.0 million pounds, a maximum harvest rate of 10% is applied to “molting mature males”, or those mature male crab likely to continue to grow, defined as 100% of new-shell and 15% of old-shell males greater than 112 mm CW. When the mature female biomass is above 45.0 million pounds the harvest rate is set at a maximum of 20% of molting mature males, or 50% of the exploitable legal male abundance, whichever is less.

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

From results of the 2005 NMFS survey, the stock was estimated to be above the minimum mature female biomass threshold and the fishery opened for the 2005/06 season in the area west of  $166^{\circ}$  W long with the TAC set at 1.5 million pounds for the IFQ fishery. In computing the TAC for the area west of  $166^{\circ}$  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% of the exploitable legal male Tanner crab west of  $166^{\circ}$  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  $166^{\circ}$  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  $166^{\circ}$  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 directing their fishing on snow crab with snow crab gear. Only 0.791 million pounds of the TAC for 2005/06 was harvested, apparently due to the fact that many harvesters were unaware that the Tanner crab season closed more than a month earlier than the snow crab season.

After the 2005/06 season the BOF eliminated the minimum TAC for Bering Sea Tanner crab. The 2006/07 Bering Sea Tanner crab IFQ TAC was set at 1.69 million pounds for the area east of  $166^{\circ}$  W long and 0.99 million pounds for the area west of  $166^{\circ}$  W long. TACs were increased in 2007/08 to 3.10 million pounds east of  $166^{\circ}$  W long and 1.96 million pounds west of  $166^{\circ}$  W long. In 2008/09, the IFQ TAC was 2.49 million pounds east of  $166^{\circ}$  W long and 1.38 million pounds west of  $166^{\circ}$  W long.

Although the fishery opens on October 15, in recent years most catch and effort in the area east of  $166^{\circ}$  W long occurred during 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 2-20).

Like the fishery for the area east of  $166^{\circ}$  W long, most catch and effort in the area west of  $166^{\circ}$  W long occurs during January through March, with only limited catch and effort during October and November. Thirty-eight vessels harvested 0.63 million pounds during the 2006/07 IFQ fishery. The 2007/08 fleet size and harvest was slightly smaller, 31 vessels harvested 0.47 million pounds. In 2008/09, just over 0.1 million pounds were brought in by 39 vessels (Table 2-20).

Vessels fishing for Tanner crab in the 2006/07, 2007/08, and 2008/09 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, 2007/08, and 2008/09 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 the directed Tanner crab fishery using Tanner crab pots or retain up to 5% Tanner crab while targeting red king crab or snow crab.

Harvesters were paid an average price of \$1.29 per pound for Bering Sea Tanner crab for a total fishery value of \$2.4 million for the 2006/07 season. In 2007/08 harvesters were paid \$1.68 per pound for a total fishery value of \$3.2 million, the highest since 1995. Average price per pound in the 2008/09 season was \$1.49, for a total fishery value of \$2.5 million (Table 2-21).

### **2009/10 Season**

The 2009/10 Bering Sea Tanner crab IFQ TAC was set at 1.2 million pounds for the area east of 166° W long, and was closed due to high Tanner crab bycatch and associated mortality in the area west of 166° W long. The fishery opened on October 15 and closed by regulation on March 31. Fishing effort was highest in October and November, with no effort in December and 31% of effort occurring January through February. This contrasted the 2008/09 season where fishing was least in October and December and most in November and January through March.

Seventeen vessels harvested 1.19 million pounds during the directed IFQ fishery east of 166° W long. (Table 2-22). Average weight of landed catch in the IFQ fishery in the area east of 166° W long was 2.8 pounds and average CPUE was 28 legal crabs per pot lift (Table 2-20). Ten vessels participated in the directed fishery and accounted for nearly 72% of landings.

Total Bering Sea Tanner crab harvest during the 2009/10 season was 1.19 million pounds, only slightly less than the IFQ TAC of 1.22 million pounds (Table 2-19). Harvesters were paid an average exvessel price of \$1.64 per pound for a total fishery value of \$1.9 million (Table 2-21).

### **Port Sampling**

Bering Sea Tanner crab taken during the 2009/10 season were delivered in Dutch Harbor, Akutan, King Cove, St. Paul, and Kodiak. ADF&G port samplers did not collect data from fishing trips in the directed Bering Sea Tanner crab fishery east of 166° W long, as 100% of vessels had observer coverage. Of the 56 trips in which Tanner crab were retained incidentally, ADF&G samplers collected data from 32 trips. Landed crab averaged 2.8 pounds, an increase of 0.5 pounds per crab from the 2008/09 season. Average size was 157 mm CW, 8 mm greater than in 2008/09. Ninety-eight percent of sampled crab were new shell, compared to 90% in 2008/09 and 63% in 2007/08 (Table 2-23).

### **Stock Status**

Estimated mature male biomass for the 2009 Bering Sea Tanner crab stock decreased to 87.6 million pounds, which was 36.8% lower than 2008 estimates. The stock met rebuilding criteria of two consecutive years above the rebuilt level in 2008/09; however, in 2009 it was projected that the stock would be nearing overfished status in 2010.

Estimated 2009 legal-male Tanner crab abundance in the Bering Sea was 6.9 million crab (Chilton et al. 2009). Fifty-four percent of legal-sized male crab occurred east of 166° W long, a

decrease from 2008 when the legal-sized male abundance east of 166° W long was 69%. The larger male size-classes continue to be dominated by old and very old shell category crabs. An estimated 54% of the large female Tanner crab abundance and 30% of the small female abundance occurred east of 166° W long. The majority of female Tanner crab examined carried newly extruded embryos. Further information on Tanner crab stock status and federal overfishing levels may be found in NPFMC 2009.

## **BERING SEA SNOW CRAB**

### **Historical Background**

The first commercial landings of snow crab from the Bering Sea were recorded in 1977, incidental to the 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 from 1986 to 1991 when harvest reached an all-time high of 328.6 million pounds. 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 2-24, Figure 2-11).

In 1999, the NMFS trawl survey stock estimate was 60% of the minimum stock size threshold, defined as half the long term average mature biomass established in the FMP for Bering Sea and Aleutian Islands king and Tanner Crabs (NPFMC 1998). In response to significant stock decline, ADF&G initially reduced the 58% exploitation rate on 102 mm CW and larger male snow crab by 50%. The revised 29% exploitation rate would still have resulted in a removal rate from the estimated mature biomass close to the long-term average. Thus, in accordance with NMFS guidelines for stock rebuilding, the harvest rate was reduced by an additional 25% to 22% of the mature male biomass estimate, which also took into consideration handling mortality during the fishery and high natural mortality during the six month hiatus between the survey and the fishery opening. This reduction in exploitation rate resulted in a GHLL of 26.4 million pounds available to the 2000 general fishery.

In collaboration with the United States Coast Guard (USCG) and industry, the 2000 snow crab season was delayed from January 15 to April 1 due to sea ice covering the majority of the fishing grounds (Table 2-25). Because of the relatively small GHLL, management of the 2000 fishery was based on daily inseason reports from fishermen. The 2000 snow crab harvest of 30.77 million pounds exceeded the 26.4 million pound general fishery GHLL by 17% and the fishery CPUE was 137 retained crabs per pot compared to 160 in 1999 (Table 2-24). Harvest from the Eastern Subdistrict was 20.94 million pounds from 217 landings, or 68% of the total harvest (Table 2-26). In prior years, the majority of the harvest occurred in the Eastern Subdistrict. Total harvest from the Western Subdistrict was 9.83 million pounds from 92 landings.

The exvessel price for snow 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% of crabs landed were old-shell crab (Table 2-27). Based on an average exvessel price of \$1.81 per pound, the 2000 snow crab fishery was worth \$55.1 million. This compares to an exvessel price of \$0.88 per pound and an overall fishery value in excess of \$160 million in 1999 (Table 2-28).

Analysis of the 2000 NMFS summer trawl survey of the Eastern Bering Sea indicated a 19% decrease in the abundance of large male ( $\geq 102$  mm CW) crab from the 1999 survey. However, small male ( $< 102$  mm CW) and large female ( $\geq 50$  mm CW) abundance increased 100% and 212%, respectively. Due to the large increase in both small male and large female abundance, the spawning biomass, estimated at 472.7 million pounds, was slightly above the minimum stock size threshold of 460.8 million pounds. In the spring of 2000, the BOF adopted a harvest strategy specifying a stepped harvest rate on mature male crab that is dependent on estimated spawning biomass. The rebuilding plan specifies an exploitation rate of 16.875% of the mature male biomass when the spawning biomass is between 460.8 and 921.6 million pounds, resulting in a GHL for the 2001 season of 25.3 million pounds available to the general fishery (Table 2-24).

The 2001 Bering Sea snow crab general fishery opened on January 15 and closed on February 14 (Table 2-25). The fleet harvested 24.4 million pounds, or 92% of the GHL. The average exvessel price per pound in 2001 was \$1.53, resulting in a total fishery value of \$32.1 million, a significant decrease from the 2000 fishery value of \$55.1 million (Table 2-28).

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

The 2003 Bering Sea snow crab fishery harvest of 26.2 million pounds exceeded the general fishery GHL by 10.6%. Relatively little of the snow crab harvest occurred in the Eastern Subdistrict, a sharp contrast to the fisheries of the 1990s when the majority of the harvest occurred east of  $173^\circ$  W long. During 2003, approximately 4.9 million pounds (19%) of snow crab were harvested east of  $173^\circ$  W long. In contrast to 2002, the fleet did not encounter large numbers of old or very old shell crabs on the grounds (Table 2-27). In the 2004 fishery, a harvest of 22.2 million pounds exceeded the general fishery GHL of 19.27 million pounds by 15%. A similar pattern followed in the 2005 fishery, where the 23.0 million pound harvest exceeded the GHL by 19%. The 2005 fishery CPUE was 239 retained crab per pot, higher than any previous year (Table 2-24).

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% greater than the preseason estimate of 1.35 pounds and greater than any average weight for this fishery since 1981. Harvest from the Eastern Subdistrict accounted for 62% of the total snow crab harvest and 71% of the harvest was from areas south of  $58^\circ 30'$  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 2-26). 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 2-25).

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, seventy-seven 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% higher than that of 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 (Table 2-24).

Vessels averaged 157 pots in 2006/07, 175 pots in 2007/08, and 163 pots in 2008/09. Pot limits were repealed by the BOF at the April 2008 meeting, though average number of pots deployed per vessel in the 2008/09 season remained unchanged from the prior season.

Since the snow crab fishery was rationalized, soak times average longer than 2 days which is 3 times greater than the average soak times for the pre-rationalized 2004 and 2005 general fishery seasons (21 hours) (Burt and Barnard 2006; Barnard and Burt 2007). 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. The 2007/08 fishery value was \$90 million, making it the most valuable snow crab fishery since 1999. The value of the fishery decreased in 2008/09 to \$71.5 million (Table 2-28).

### **2009/10 Season**

The 2009/10 Bering Sea snow crab season opened on October 15 with an IFQ TAC of 43.2 million pounds. Sixty-nine vessels harvested 43.2 million pounds (Table 2-24).

Catch rates during the 2009/10 season were lower than the previous two seasons at 255 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 11,804 pots during the 2009/10 season, and averaged 171 pots per vessel.

The average snow crab vessel was active in the fishery for 40 days during the 2009/10 season, as compared to the 50 days seen in the 2008/09 season. Consistent with prior CR snow crab fisheries, peak harvest timing occurred in late January and continued through the end of February. Fishing activity was concluded by early May (Table 2-29).

Average crab carapace width was 113 mm, similar to the 110 mm CW average in 2008/09 and 109 mm CW average in 2007/08. Retained catch was 95% new shell. The average weight of landed crab was 1.4 pounds, which was 0.1 pound higher than the average weight in 2008/09 and 2007/08 (Table 2-27). Snow crab tended to be slightly smaller in the Western Subdistrict than the Eastern Subdistrict. Eighty-seven percent of harvest occurred in the Eastern Subdistrict, with only 13% coming from the Western Subdistrict, contrasting the 2008/09 harvest which was much more evenly split (Table 2-30).

Harvesters were paid an average price of \$1.13 per pound for snow crab generating a total exvessel fishery value of \$48.27 million, a 33% decrease from the 2008/09 fishery value, but still on par with fishery value of the prior eight seasons (Table 2-28).

### **Port Sampling**

ADF&G port samplers stationed in Dutch Harbor, Saint Paul, Kodiak, and King Cove collected data from 138 of the 325 landings during the 2009/10 snow crab fishery.

## **Stock Status**

The 2009 Bering Sea legal-male snow crab abundance estimate increased 1% from the 2008 estimate. Approximately 32% of the legal-male abundance estimate was comprised of males greater than or equal to four inches CW, which remained constant from 2008 (Chilton et al. 2009). Seventy-nine percent of the 2009 legal-male snow crab abundance was found in the Eastern Subdistrict, an increase of 7% from 2008. Pre-recruit male snow crab abundance decreased 6% from 2008 with just over 52% of the pre-recruit sized males occurring in the Eastern Subdistrict.

The Bering Sea snow crab stock was not considered overfished during the 2009/10 season, it was considered to be rebuilding (NPFMC 2009).

## **BERING SEA GROOVED TANNER CRAB**

### **Historical Background**

In 1988, BOF established a special permit season 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 restricted harvest to male crab with CW of 127 mm (5 inches) or greater. Six vessels harvested just under 659,000 pounds. The following year, differential pot limits, based on vessel size, were applied to vessels fishing for deepwater Tanner crab in the Bering Sea. Effort and landings consequently decreased as 4 vessels harvested slightly over 322,000 pounds (Table 2-31).

At the March 1995 meeting, BOF determined that pot limits would not apply to the deepwater permit fisheries of the Westward Region. Effort increased significantly that year when 8 vessels harvested close to 985,000 pounds with a fishery value exceeding \$2.0 million. Since 1995, the number of vessels registered for Bering Sea District grooved Tanner crab has not exceeded 4 vessels for any year. Catch per unit effort was highest in 1994 at 11 legal crab per pot lift and declined to 4 in 1996. Harvest decreased to 96,000 pounds in 1996. No vessels registered to fish grooved Tanner crab in the Bering Sea District from 1997 to 1999, while only 1 vessel registered each year in 2000 and 2001. Four vessels registered for the directed Bering Sea grooved Tanner crab fishery in 2004 (Table 2-31). Two additional vessels registered to retain grooved Tanner crab incidentally taken during the Pribilof District golden king crab fishery, but did not harvest any grooved Tanner crab. The Bering Sea District grooved Tanner crab harvest in 2004 was confidential because only one processor participated in the fishery. There was one vessel registered to fish for grooved Tanner crab in the Bering Sea during 2005. Historically, fishing effort has been concentrated in a few statistical areas south of Saint George Island.

In 1997, ADF&G set GHLS for grooved Tanner crab that were based on prior harvest information. In the past, the Bering Sea, Alaska Peninsula, and Eastern Aleutian districts supported the largest catches of grooved Tanner crab. A GHLS of 200,000 pounds was established for each of these districts. A GHLS 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, the department reevaluated deepwater Tanner crab harvest levels in 1999. A GHLS range of 50,000 to 200,000 pounds was established for the Bering Sea District. The GHLS was set as a range to provide greater flexibility

for inseason management and to better inform the public of the department's management goals for the fishery. The upper end of the GHM range is reached only when catch rates similar to or greater than those catch rates documented prior to the harvest decline of the mid-1990s are observed. In addition to the new GHM range, the department 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. Since 1994, observers have been deployed to collect biological and fishery data on each vessel registered in the fishery.

## **2009 Fishery**

There were no vessels registered to fish for grooved Tanner crab in the Bering Sea during 2009.

## **Stock Status**

The grooved Tanner crab stock in the Bering Sea District is not surveyed; subsequently, no estimates of population abundance are available. Fishery data is the primary source of information regarding abundance and 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 North Pacific Fishery Management Council amended the Federal Fishery Management Plan for Bering Sea and Aleutian Islands King and Tanner Crabs and removed Bering Sea grooved Tanner crab from the FMP providing the state with sole jurisdiction over the fishery.

## **BERING SEA TRIANGLE TANNER CRAB**

### **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, ADF&G implemented 100% onboard observer coverage in 1994. That year, onboard observers documented a single incidence of triangle Tanner crab bycatch, but prior to 1995 this species had not been commercially harvested. In 1995, four vessels registered to retain triangle Tanner crab, and harvested 40,991 pounds for a total fishery value of \$60,000 (Table 2-32). No vessels registered to fish triangle Tanner crab in the Bering Sea District in 1997, 1998, 1999, or 2002 (Table 2-32). In 1996, 2000, and 2001, only 1 vessel delivered triangle Tanner crab as incidental harvest each year. Four vessels registered to retain triangle Tanner crab incidentally taken during the Pribilof District golden king and Bering Sea grooved Tanner crab fisheries in 2004. 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 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 at up to 50% of the weight of grooved Tanner crab. In the Pribilof District golden king crab fishery, incidentally taken triangle Tanner crabs may be retained up to 5% of the weight of the golden king crab onboard the vessel. This harvest level is consistent with the historic catches and allows for limited

retention of this deepwater species that is believed to experience significant handling mortality when caught and released.

### **2009 Fishery**

There were no vessels registered to fish for triangle Tanner crab in the Bering Sea District during 2009.

### **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.

## **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*, 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. ADF&G will only register vessels for those fisheries with an established GHL, or when sufficient data to develop a conservative GHL can be collected.

Those species of current or historic interest in the Bering Sea include *P. multispina*, hair and Dungeness crab *Cancer magister*, octopus, and snails. North Peninsula District shrimp do not fall under the miscellaneous species category, but are included in this portion of the report due to low or infrequent annual 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 which 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% 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 2-33, 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 3 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 GHV have been declining. During the 2000 season, only 1,546 pounds of hair crab were harvested, for a fishery value of \$5,000 (Table 2-34).

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 2-33).

Beginning in 1993, the hair crab fishing season opening date was set at November 1, which conflicted with the Bristol Bay red king crab fishery. In 1998, ADF&G solicited comments from industry regarding a new opening date. A consensus was reached that the fishery would open 10 days after the closure of the Pribilof District or Saint Matthew Island Section king crab fisheries, whichever closed later. The fishery opened on October 8 in 1998. In 1999, BOF changed the Bristol Bay red king crab season opening to October 15; thus the hair crab fishery was again in conflict. Consensus was reached with industry to conduct the fishery 10 days after the closure of the Bristol Bay red king crab fishery. Subsequently, in 1999 and 2000, the hair crab season opened on October 30. It is likely that future fisheries for hair crab in the Bering Sea would open on October 15 and may continue until March 31.

The GHL for Bering Sea hair 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 results of this survey is relatively low, a 20% fishery exploitation rate on large males has been used to determine the GHL. Male hair crabs  $\geq 3.25''$  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% of the large male hair crab population in the Bering Sea was found in the Northern District instead of the traditional Pribilof District. Subsequently, in 2000, the Pribilof District was closed to commercial hair crab fishing due to low stock abundance, and for the first time a directed hair crab fishery was opened in the Northern District of king crab Registration Area Q. Given the experimental nature of the fishery, the low abundance of small male crabs found during the 2000 survey, the relative size of the stock, and lack of fishery data from the Northern District, the harvest rate was set conservatively at 10% of the estimated large male hair crab abundance. Three vessels participated in the fishery and harvested approximately 1,500 pounds. As a result of low stock abundance, the Bering Sea was closed to hair crab fishing from 2001 to 2007.

In 2003, 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).

### **2009 Season**

The 2009 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, and large male abundance is currently near historic low levels and survey data do not indicate that recruitment to the large male size-class is likely in the near term. Estimates of abundance for the Bristol Bay and Northern District portion of the stock are larger than those for the Pribilof District, but show considerable variability from one year to the next.

Population trends observed during the last eight years and weak performance of the most recent commercial fisheries indicate that the Bering Sea hair crab population is severely depressed and is unable to sustain a commercial fishery. Precise estimates of total female and small male hair crab abundance have never been available from current trawl survey data. In general, the biology and habitat usage of hair 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.

## **BERING SEA OCTOPUS**

The last directed fishery for octopus in the Bering Sea occurred in 1995, with areas fished covering both Aleutian Islands and Bering Sea waters. Less than 3 vessels made landings; therefore, harvest information is confidential. Since 1995, all reported harvests in the Bering Sea have been incidental to other fisheries. A vessel registered for groundfish in the Westward Region using a miscellaneous finfish permit may retain incidentally caught octopus up to 20% of the weight of the target species.

Since 1995, the number of vessels registered for incidental octopus harvest in the Bering Sea has ranged from 22 vessels in 1999 to a high of 92 vessels in 2004. Landed octopus harvest ranged from 409 pounds in 1999 to a peak of 143,798 pounds in 2005. In 2008, only 5 vessels participated and landed just under 7,000 pounds, a 77% increase from 2007 (Table 2-35).

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

## ***PARALOMIS MULTISPINA***

Fishing for *P. multispina* is managed under the terms of a commissioner’s permit 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 2009. 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 GHGs 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 with a GHG of 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 GHGs were established to permit conservative commercial exploration of areas that lacked historic harvest data and to allow ADF&G to collect critical information for future management purposes (Ruccio and Jackson 2000). No commercial harvest of either species occurred in the Bering Sea District in 2001. In 2002, a separate guideline harvest range of 30,000 to 60,000 pounds was established for the waters around Saint George Island. This harvest level was based on abundance estimates obtained from dive survey data and marketing

factors. One diver harvested green sea urchins in the Saint George Island area in 2002, therefore all harvest information is confidential.

In 2009, the GHL for the Bering Sea Area was set at 5,000 pounds each, for red sea cucumbers and green sea urchins. No divers have registered to harvest green sea urchins or red sea cucumbers since 2002.

## **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, 5 vessels in 1972, no vessels in 1973, and 6 vessels in 1974. No fishing occurred in 1975 and 1976. In 1977, records indicate that participation in the fishery increased to 3 vessels (MacIntosh 1980). In the 1980s, all fishing was conducted by catcher-processor vessels. The majority of the retained catch during this early fishery was composed of Pribilof Neptune *Neptunea pribiloffensis*. Smaller components of the retained catch were composed of *Buccinum angulosum* 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 2 vessels registered to fish for snails. One vessel harvested snails as incidental harvest in the Tanner crab fishery and the second participated in a directed fishery for snails after the June closure of the hair crab fishery. Fishing for snails was limited to waters of the Bering Sea District west of 168° W long from 1994 to 1996. In 1997, snail fishing was limited to waters west of 164° W long.

Observer coverage was required as a condition of the commissioner's permit issued in 1993 under 5 AAC 39.210 (h) Management Plan for High Impact Emerging Fisheries. Minimal crab bycatch was observed in the area west of 168° W long. Bycatch of legal sized king crab was less than 1 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 2 vessel operators expressed interest in fishing east of 168° W long. Vessels were restricted to grounds west of 164° W long and north of 54°36' N lat. These restrictions were conditions of the permit issued under 5 AAC 38.062 Permits for Octopi, Squid, Hair Crab, Sea Urchins, Sea Cucumbers, Sea Snails, Coral, and Other Marine Invertebrates. There was no bycatch of red or blue king crabs; however, bycatch of

Tanner crabs was observed. An estimated 17,300 female and 2,100 sublegal male Tanner 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 2-36). The value of the fishery increased from \$125 thousand in 1993 to over \$1.05 million in 1996 and then dropped to \$308 thousand in 1997 (Table 2-37). From 1998 to 2007, no fishing effort for snails occurred in the Bering Sea.

### **2009 Season**

No vessels registered to harvest snails from the Bering Sea in 2009.

### **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**

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, 6 vessels made 19 deliveries harvesting 134,407 pounds. Catch information from 1996 to 1998 is confidential, as less than 3 vessels participated in each of those years. The average annual harvest in the three-year period from 1996 to 1998 was approximately 48,000 pounds. No vessels registered to fish in 1999. One vessel, for which landings are confidential, participated in the 2000 fishery. No vessel registered in 2001. In 2002, three vessels registered and harvested less than 22,000 pounds (Table 2-38). In 2003 no vessels registered. A single vessel registered in 2004 and all harvest information is confidential. No vessels registered in 2005 or 2006. A single vessel registered in 2007 and all harvest information is confidential. No fishermen registered for North Peninsula District Dungeness in 2008. Catch information for 2009 is confidential, as only one vessel registered for North Peninsula District Dungeness.

## **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 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% 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 (Table 2-39). In 2007, CDQ fishermen were allowed to use the same tags purchased for the corresponding IFQ fishery. In March 2008, the BOF eliminated pot limits and tag requirements for the Bristol Bay red king crab, Bering Sea Tanner and snow crab fisheries.

### **2009/10 Buoy Tag Sales**

Several of the Bering Sea crab fisheries requiring buoy tags were not open to commercial harvest during the 2009/10 season because stocks did not meet minimum threshold levels.

In the 2010 EAD Tanner crab fishery, 8 vessels purchased 241 tags, including 3 replacement tags. Tags were also purchased for the 2010 St. Matthew Island section blue king crab fishery where 8 vessels purchased 1,252 tags, including 5 replacement tags (Table 2-40).

## 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. 2009. 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.
- Gish, R. K. 2006. The 2005 Pribilof District king crab survey. Alaska Department of Fish and Game, Fishery Management Report No. 06-60, Anchorage.
- 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.
- 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.

## **REFERENCES CITED (Continued)**

- 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, 1966–2009/10.

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

-continued-

Table 2-1.—Page 2 of 2.

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

Note: NA = not available, FC = fishery closed

<sup>a</sup> General fishery only, does not include CDQ fishery. Includes AFA fishery 2000–2004. Deadloss included.

<sup>b</sup> Guideline harvest level for general fishery only, millions of pounds. Total allowable catch for IFQ fishery beginning in 2005/06. Does not include CDQ fishery.

<sup>c</sup> In pounds.

<sup>d</sup> Number of legal crabs per pot lift.

<sup>e</sup> Inseason revision to 4.7 million pounds.

<sup>f</sup> IFQ fishery beginning in 2005.

Table 2-2.—Bristol Bay commercial red king crab general/ IFQ fishery economic data, 1980–2009/10.

Season	Value		Season length	
	Exvessel <sup>a</sup>	Total <sup>b</sup>	Days	Dates
1980	\$0.90	\$115.3	40	09/10-10/20
1981	\$1.50	\$49.3	91	09/10-12/15
1982	\$3.05	\$8.9	30	09/10-10/10
1983	FC	FC	FC	FC
1984	\$2.60	\$10.8	15	10/01-10/16
1985	\$2.90	\$12.1	8	09/25-10/02
1986	\$4.05	\$45.0	13	09/25-10/07
1987	\$4.00	\$48.7	12	09/25-10/06
1988	\$5.10	\$37.6	8	09/25-10/02
1989	\$5.00	\$50.9	12	09/25-10/06
1990	\$5.00	\$101.2	12	11/01-11/13
1991	\$3.00	\$51.2	7	11/01-11-08
1992	\$5.00	\$40.2	7	11/01-11/08
1993	\$3.80	\$55.1	9	11/01-11/10
1994	FC	FC	FC	FC
1995	FC	FC	FC	FC
1996	\$4.01	\$33.6	4	11/01-11/05
1997	\$3.26	\$28.5	4	11/01-11/05
1998	\$2.64	\$37.4	5	11/01-11/06
1999	\$6.26	\$69.1	5	10/15-10/20
2000 <sup>c</sup>	\$4.81	\$36.0	4	10/16-10/20
2001	\$4.81	\$37.5	3	10/15-10/18
2002	\$6.14	\$54.2	3	10/15-10/18
2003	\$5.08	\$72.7	5	10/15-10/20
2004	\$4.71	\$65.7	3	10/15-10/18
2005/06	\$4.24	\$69.5	93	10/15-01/15
2006/07	\$3.48	\$48.0	93	10/15-01/15
2007/08	\$4.19	\$76.2	93	10/15-01/15
2008/09	\$4.98	\$90.3	93	10/15-01/15
2009/10	\$4.44	\$63.1	93	10/15-01/15

Note: FC = fishery closed

<sup>a</sup> Average price per pound.

<sup>b</sup> Millions of dollars.

<sup>c</sup> Delayed start due to weather.

Table 2-3.—Bristol Bay commercial red king crab IFQ fishery harvest and effort by week, 2009/10.

Week ending	Number of			Harvest <sup>a,b</sup>	Pot pulls	CPUE <sup>c</sup>	Deadloss <sup>b</sup>
	Vessels	Landings	Crabs <sup>a</sup>				
17-Oct	59	68	1,011,682	6,319,721	41,941	24	55,618
24-Oct	8	10	116,323	741,422	5,435	21	8,172
31-Oct	53	62	684,690	4,305,666	32,706	21	32,524
7-Nov	20	20	157,573	999,494	9,562	16	6,160
14-Nov	24	29	215,660	1,372,528	11,792	18	6,856
21-Nov	13	17	78,657	509,829	3,930	20	1,425
28-Nov	2	CF	CF	CF	CF	CF	CF
5-Dec	1	CF	CF	CF	CF	CF	CF
9-Jan	1	CF	CF	CF	CF	CF	CF
Total	70 <sup>d</sup>	210	2,277,434	14,331,803	107,058	21	111,467

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

<sup>a</sup> Deadloss included. Does not include CDQ.

<sup>b</sup> In pounds.

<sup>c</sup> Number of legal crabs per pot lift.

<sup>d</sup> 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, 2009/10.

Statistical Area	Number of			Harvest <sup>a,b</sup>	Average		Deadloss <sup>b</sup>
	Landings	Crabs <sup>a</sup>	Pots lifted		Weight <sup>b</sup>	CPUE <sup>c</sup>	
605630	22	23,611	1,664	145,603	6.2	14	1,980
605700	23	41,660	1,854	268,123	6.4	22	1,381
605730	8	6,611	261	43,810	6.6	25	155
615601	60	211,606	8,624	1,312,283	6.2	25	10,046
615630	130	792,999	34,401	4,933,515	6.2	23	34,789
615700	75	380,426	17,292	2,451,287	6.4	22	22,855
615730	6	5,908	273	37,032	6.3	22	330
625531	43	148,094	7,582	935,245	6.3	20	6,847
625600	69	121,266	6,511	758,459	6.3	19	5,981
625630	61	65,450	4,547	416,141	6.4	14	3,309
625700	27	71,098	3,448	451,803	6.4	21	3,521
635530	64	235,172	12,497	1,473,661	6.3	19	11,750
635600	14	3,527	311	22,429	6.4	11	67
635630	6	329	158	2,093	6.3	2	4
635700	4	2,582	191	16,824	6.5	14	85
645530	41	156,717	7,029	997,818	6.4	22	7,943
Other <sup>d</sup>	-	10,378	415	65,680	6.3	25	425
<b>Total</b>	<b>210<sup>e</sup></b>	<b>2,277,434</b>	<b>107,058</b>	<b>14,331,803</b>	<b>6.3</b>	<b>21</b>	<b>111,467</b>

<sup>a</sup> Deadloss included.

<sup>b</sup> In pounds.

<sup>c</sup> Number of legal crabs per pot lift.

<sup>d</sup> Combination of 7 statistical areas from which less than 3 vessels made landings in each statistical area.

<sup>e</sup> 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, 1973–2009/10.

Season	Percent		Size limit <sup>b</sup>	Average		% New shell
	Recruit	Postrecruit <sup>a</sup>		Weight <sup>c</sup>	Length <sup>d</sup>	
1973	63	37	6¼	5.6	NA	NA
1974	60	40	6¼	5.5	NA	NA
1975 <sup>e</sup>	21	79	6¼	5.7	NA	NA
1976	56	44	6½	6.0	148	72.6
1977	67	33	6½	5.9	148	87
1978	75	25	6½	5.9	147	93.1
1979	47	53	6½	6.4	152	89.6
1980	44	56	6½	6.2	151	89
1981 <sup>f</sup>	14	86	6½	6.3	151	52.6
1982	68	32	6½	5.5	145	75.4
1983	FC	FC	FC	FC	FC	FC
1984	59	41	6½	5.2	142	73.5
1985	66	34	6½	5.2	142	74.2
1986	65	35	6½	5.4	142	74.5
1987	77	23	6½	5.8	145	81
1988	64	36	6½	6.0	147	84.9
1989	66	32	6½	6.1	148	82.3
1990	46	54	6½	6.5	152	85.3
1991	55	45	6½	6.5	152	87.9
1992	44	56	6½	6.7	153	77.7
1993	57	43	6½	6.5	152	84.8
1994	FC	FC	FC	FC	FC	FC
1995	FC	FC	FC	FC	FC	FC
1996	49	51	6½	6.7	153	75.7
1997	51	49	6½	6.7	152	89
1998	44	56	6½	6.7	152	80.9
1999	69	31	6½	6.1	148	93.7
2000	50	50	6½	6.5	151	83.7
2001	47	53	6½	6.5	151	77.7
2002	56	44	6½	6.4	151	77.8
2003	53	47	6½	6.2	149	78.1
2004	42	58	6½	6.8	154	78.8
2005/06 <sup>g</sup>	38	62	6½	6.7	152	78.6
2006/07	60	40	6½	6.4	151	73.5
2007/08	48	52	6½	6.5	151	67.8
2008/09	48	52	6½	6.6	153	82.3
2009/10	64	36	6½	6.3	150	87.8

Note: NA = not available, FC = fishery closed

<sup>a</sup> Legal sized old and new shell greater than 153 mm carapace length.

<sup>b</sup> Minimum carapace width in inches.

<sup>c</sup> In pounds.

<sup>d</sup> Carapace length in millimeters.

<sup>e</sup> 6½ inches after 11/01.

<sup>f</sup> 7 inches after 10/20.

<sup>g</sup> General fishery 1973-2004, IFQ began with 2005/06 fishery.

Table 2-6.—Bristol Bay red king crab cost-recovery harvest data, 1990–2009.

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

<sup>a</sup> All cost recovery from 1990 to 1998 was conducted to fund the Bering Sea and Aleutian Islands shellfish research program.

<sup>b</sup> Deadloss included.

<sup>c</sup> In pounds.

<sup>d</sup> Number of legal crabs per pot lift.

<sup>e</sup> Bering Sea and Aleutian Islands shellfish research and observer program cost recovery.

<sup>f</sup> Bering Sea and Aleutian Islands shellfish research program cost recovery.

<sup>g</sup> Includes 1,222 pounds harvested in the Pribilof District.

<sup>h</sup> No cost recovery effort.

Table 2-7.—Bristol Bay red king crab cost-recovery economic performance data, 1990–2009.

Year	Harvest <sup>b</sup>	Value		Charter dates	Charter length <sup>d</sup>
		Exvessel <sup>c</sup>	Total		
1990 <sup>a</sup>	56,161	\$5.10	\$286,421	8/7-9/7	30
1991 <sup>a</sup>	193,034	\$3.75	\$723,878	9/2-10/7	35
1992 <sup>a</sup>	71,089	\$5.24	\$372,506	10/8-10/23	15
1993 <sup>a</sup>	52,400	\$6.57	\$344,268	8/20-9/20	31
1994 <sup>a</sup>	88,836	\$5.21	\$462,836	9/25-10/25	30
1995 <sup>a</sup>	77,819	\$6.65	\$517,496	8/1-8/31	31
1996 <sup>a</sup>	106,037	\$4.53	\$480,348	8/1-8/31	31
1997 <sup>a</sup>	136,699	\$3.55	\$485,281	7/25-8/21	28
1998 <sup>a</sup>	155,612	\$3.25	\$505,739	8/1-8/28	28
1999 <sup>e</sup>	185,944	\$6.18	\$1,148,695	9/25-10/11,10/25-11/10	34
2000 <sup>f</sup>	85,871	\$5.82	\$499,769	9/20-10/04	15
2001 <sup>e</sup>	120,297	\$5.18	\$623,138	9/22-10/10, 10/23-11/8	36
2002 <sup>e</sup>	96,087	\$6.45	\$619,761	9/23-10/9, 10/17-10/27	27
2003 <sup>fg</sup>	33,674	\$5.56	\$187,227	9/1-10/4	34
2004 <sup>e</sup>	200,941	\$4.98	\$1,000,686	10/21-10/25,10/23-10/31,10/27-11/01	20
2005 <sup>e</sup>	208,828	\$5.07	\$1,051,153	11/12-12/2	19
2006 <sup>e</sup>	300,563	\$2.15	\$646,210	9/23-10/23	31
2007 <sup>e</sup>	145,150	\$4.02	\$583,503	10/2-10/23	22
2008	0	\$0.00	\$0	No cost recovery effort	0
2009 <sup>e</sup>	99,937	\$4.27	\$426,731	9/25-10/12	18

<sup>a</sup> All cost recovery from 1990 to 1998 was conducted to fund the Bering Sea and Aleutian Islands shellfish research program.

<sup>b</sup> In pounds. Deadloss not included.

<sup>c</sup> Average price per pound.

<sup>d</sup> In days.

<sup>e</sup> Bering Sea and Aleutian Islands shellfish research and observer program cost recovery.

<sup>f</sup> Bering Sea and Aleutian Islands shellfish research program cost recovery.

<sup>g</sup> Includes 1,204 pounds harvested in the Pribilof District.

Table 2-8.—Pribilof District commercial red and blue king crab general/IFQ fishery data, 1973/74–2009/10.

Season <sup>a</sup>	Number of			GHL/TAC <sup>c</sup>	Harvest <sup>b,d</sup>	Number of pots		Average			Deadloss <sup>d</sup>
	Vessels	Landings	Crabs <sup>b</sup>			Registered	Pulled	Weight <sup>d</sup>	CPUE <sup>e</sup>	Length <sup>f</sup>	
1973/74	8	13	174,420		1,276,533	NA	6,814	7.3	26	NA	NA
1974/75	70	101	908,072		7,107,294	NA	45,518	7.8	20	157.8	NA
1975/76	20	54	314,931		2,433,714	NA	16,297	7.7	19	159.1	NA
1976/77	47	113	855,505		6,611,084	NA	71,738	7.7	12	158.1	NA
1977/78	34	104	807,092		6,456,738	NA	106,983	7.9	8	158.9	159,269
1978/79	58	154	797,364		6,395,512	NA	101,117	8.1	8	159.3	63,140
1979/80	46	115	815,557		5,995,231	NA	83,527	7.7	10	155.9	284,555
1980/81	110	258	1,497,101	5.0-8.0	10,970,346	31,636	167,684	7.3	9	155.7	287,285
1981/82	99	312	1,202,499	5.0-8.0	9,080,729	25,408	176,168	7.6	7	158.2	250,699
1982/83	122	281	587,908	5.0-8.0	4,405,353	34,429	127,728	7.5	5	159.8	51,703
1983/84	126	221	276,364	4.00	2,193,395	36,439	86,428	7.9	3	159.9	4,562
1984/85	16	25	40,427	0.5-1.0	306,699	3,122	15,147	7.6	3	155.5	NA
1985/86	26	49	76,945	0.3-0.8	528,164	6,038	23,062	6.9	3	146.5	7,500
1986/87	16	25	36,988	0.3-0.8	258,939	4,376	15,740	7.0	2	NA	5,450
1987/88	38	68	95,130	0.3-1.7	701,337	9,594	40,707	7.4	2	152.7	9,910
1988/89-92/93	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
1993 <sup>g</sup>	112	135	380,286	3.40	2,608,106	4,860	35,942	6.9	11	154.4	472
1994 <sup>g</sup>	104	121	167,520	2.0	1,338,953	4,675	28,976	8.0	6	162.1	2,929
1995 <sup>g</sup>	117	151	110,834		897,979		34,885	8.1	3	162.5	15,348
1995 <sup>h</sup>	119	152	190,951		1,384,674		36,878	7.3	5	NA	71,333
1995 <sup>i</sup>	127	162	301,785	2.5 <sup>i</sup>	2,282,653	5,400	37,643	NA	8		86,681
1996 <sup>g</sup>	66	90	25,383		200,304		29,411	7.9	<1	161.0	319
1996 <sup>h</sup>	66	92	127,712		937,032		30,607	7.3	4	153.1	14,997
1996 <sup>i</sup>	66	92	153,095	1.8 <sup>i</sup>	1,137,336	2,730	30,607	7.4	5		15,316

-continued-

Table 2-8.–Page 2 of 2.

Season <sup>a</sup>	Number of			GHL/TAC <sup>c</sup>	Harvest <sup>b,d</sup>	Number of pots		Average			Deadloss <sup>d</sup>
	Vessels	Landings	Crabs <sup>b</sup>			Registered	Pulled	Weight <sup>d</sup>	CPUE <sup>e</sup>	Length <sup>f</sup>	
1997 <sup>g</sup>	53	110	90,641		756,818		28,458	8.4	3	164.3	18,807
1997 <sup>h</sup>	51	105	68,603		512,374		27,652	7.5	3	163.6	16,747
1997 <sup>i</sup>	53	110	159,244	1.5 <sup>i</sup>	1,269,192	2,230	30,400	8.0	5		35,554
1998 <sup>g</sup>	57	84	68,129		510,365		23,381	7.5	3	158.8	8,703
1998 <sup>h</sup>	57	83	68,419		516,306		22,965	7.5	3	156.1	21,599
1998 <sup>i</sup>	57	84	136,548	1.3 <sup>i</sup>	1,026,671	2,398	23,381	7.5	6		30,302
1999 - 2009/10	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC

Note: NA = not available, FC = fishery closed

<sup>a</sup> Blue king crab, 1973/74–1987/88.

<sup>b</sup> Deadloss included.

<sup>c</sup> Guideline harvest level (GHL), millions of pounds prior to 2005/06 season. Total allowable catch (TAC), millions of pounds beginning in 2005/06 season.

<sup>d</sup> In pounds.

<sup>e</sup> Number of legal crabs per pot lift.

<sup>f</sup> Carapace length in millimeters.

<sup>g</sup> Red king crab.

<sup>h</sup> Blue king crab.

<sup>i</sup> Blue and red king crab fisheries combined.

Table 2-9.—Economic performance and season length summary for the Pribilof District commercial red and blue king crab fishery, 1980/81–2009/10.

Season <sup>a</sup>	Value		Season length	
	Exvessel <sup>b</sup>	Total <sup>c</sup>	Days	Dates
1980/81	\$0.90	\$9.6	60	09/15-11/15
1981/82	\$1.50	\$13.6	47	09/10-10/28
1982/83	\$3.05	\$13.4	15	09/10-09/25
1983/84	\$3.00	\$6.6	10	09/01-09/11
1984/85	\$2.50	\$0.1	15	09/01-09/16
1985/86	\$2.90	\$1.4	26	09/25-10/21
1986/87	\$4.05	\$1.2	55	09/25-11/20
1987/88	\$4.00	\$2.8	86	09/25-12/20
1988/89 - 1992/93	FC	FC	FC	FC
1993 <sup>d</sup>	\$4.98	\$13.0	6	09/15-09/21
1994 <sup>d</sup>	\$6.45	\$8.6	6	09/15-09/21
1995 <sup>d</sup>	\$3.37	\$2.9	7	09/15-09/22
1995 <sup>e</sup>	\$2.92	\$3.9	7	09/15-09/22
1996 <sup>d</sup>	\$2.76	\$0.6	11	09/15-09/26
1996 <sup>e</sup>	\$2.65	\$2.4	11	09/15-09/26
1997 <sup>d</sup>	\$3.09	\$2.3	14	09/15-09/29
1997 <sup>e</sup>	\$2.82	\$1.4	14	09/15-09/29
1998 <sup>d</sup>	\$2.39	\$1.2	13	09/15-09/28
1998 <sup>e</sup>	\$2.34	\$1.2	13	09/15-09/28
1999 - 2009/10	FC	FC	FC	FC

Note: FC = fishery closed

<sup>a</sup> Blue king crab, 1980–1988.

<sup>b</sup> Average price per pound.

<sup>c</sup> Millions of dollars.

<sup>d</sup> Red king crab.

<sup>e</sup> Blue king crab.

Table 2-10.—Saint Matthew Island Section commercial blue king crab general/IFQ fishery data, 1977–2009/10.

Season	Number of			GHL/TAC <sup>b</sup>	Harvest <sup>a,c</sup>	Number of pots		Percent Recruits	Average			Deadloss <sup>c</sup>
	Vessels	Landings	Crabs <sup>a</sup>			Registered	Pulled		Weight <sup>c</sup>	CPUE <sup>d</sup>	Length <sup>e</sup>	
1977	10	24	281,665	-	1,202,066	NA	17,370	7	4.3	16	130.4	129,148
1978	22	70	436,126	-	1,984,251	NA	43,754	NA	4.5	10	132.2	116,037
1979	18	25	52,966	-	210,819	NA	9,877	81	4.0	5	128.8	128.8
1980	CF	CF	CF	-	CF	CF	CF	CF	CF	CF	CF	CF
1981	31	119	1,045,619	-	4,627,761	NA	58,550	NA	4.4	18	NA	53,355
1982	96	269	1,935,886	-	8,844,789	NA	165,618	20	4.6	12	135.1	142,973
1983	164	235	1,931,990	8	9,454,323	38,000	133,944	27	4.8	14	137.2	828,994
1984	90	169	841,017	2.0-4.0	3,764,592	14,800	73,320	34	4.5	11	135.5	31,983
1985	79	103	441,479	0.9-1.9	2,200,781	13,000	47,748	9	5.0	9	139	2,613
1986	38	43	219,548	0.2-0.5	1,003,162	5,600	22,073	10	4.6	10	134.3	32,560
1987	61	62	227,447	0.6-1.3	1,039,779	9,370	28,230	5	4.6	8	134.1	600
1988	46	46	302,098	0.7-1.5	1,325,185	7,780	23,058	65	4.4	30	133.3	10,160
1989	69	69	247,641	1.7	1,166,258	11,983	30,803	9	4.7	8	134.6	3,754
1990	31	38	391,405	1.9	1,725,349	6,000	26,264	4	4.4	15	134.3	17,416
1991	68	69	726,519	3.2	3,372,066	13,100	37,104	12	4.6	20	134.1	216,459
1992	174	179	545,222	3.1	2,475,916	17,400	56,630	9	4.6	10	134.1	1,836
1993	92	136	630,353	4.4	3,003,089	5,895	58,647	6	4.8	11	135.4	3,168
1994	87	133	827,015	3.0	3,764,262	5,685	60,860	60	4.6	14	133.3	46,699
1995	90	111	666,905	2.4	3,166,093	5,970	48,560	45	4.8	14	135	90,191
1996	122	189	660,665	4.3	3,078,959	8,010	91,085	47	4.7	7	134.6	36,892
1997	117	166	939,822	5.0	4,649,660	7,650	81,117	31	4.9	12	139.5	209,490
1998	131	255	612,440	4.0 <sup>f</sup>	2,869,655	8,561	89,500	46	4.7	7	135.8	15,107
1999 - 2008/09	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
2009/10	7	30	103,376	1.1	460,859	1,022	10,697	59	4.5	10	130.0	10,484

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

<sup>a</sup> Deadloss included.

<sup>b</sup> Guideline harvest level (GHL) in millions of pounds for general fishery prior to 2005/06. Total allowable catch (TAC) in millions of pounds for IFQ fishery beginning in 2005/06.

<sup>c</sup> In pounds.

<sup>d</sup> Number of legal crabs per pot lift.

<sup>e</sup> Carapace length in millimeters.

<sup>f</sup> General fishery only.

Table 2-11.—Economic performance and season length summary for the Saint Matthew Island Section commercial blue king crab fishery, 1983–2009/10.

Season	Value		Season length	
	Exvessel <sup>a</sup>	Total <sup>b</sup>	Days	Dates
1983	\$3.00	\$25.8	17	08/20-09/06
1984	\$1.75	\$6.5	7	09/01-09/08
1985	\$1.60	\$3.8	5	09/01-09/06
1986	\$3.20	\$3.2	5	09/01-09/06
1987	\$2.85	\$3.1	4	09/01-09/05
1988	\$3.10	\$4.0	4	09/01-09/05
1989	\$2.90	\$3.5	3 <sup>c</sup>	09/01-09/04
1990	\$3.35	\$5.7	6	09/01-09/07
1991	\$2.80	\$9.0	4	09/16-09/20
1992	\$3.00	\$7.4	3 <sup>c</sup>	09/04-09/07
1993	\$3.23	\$9.7	6	09/15-09/21
1994	\$4.00	\$15.0	7	09/15-09/22
1995	\$2.32	\$7.1	5	09/15-09/20
1996	\$2.20	\$6.7	8	09/15-09/23
1997	\$2.21	\$9.8	7	09/15-09/22
1998	\$1.87	\$5.3	11	09/15-09/26
1999 - 2008/09	FC	FC	FC	FC
2009/10	\$2.19	\$1.0	110	10/15-02/01

Note: FC = fishery closed

<sup>a</sup> Average price per pound.

<sup>b</sup> Millions of dollars.

<sup>c</sup> Actual length - 2.5 days.

Table 2-12.--Saint Matthew Island Section commercial blue king crab IFQ fishery catch by statistical area, 2009/10.

Statistical Area	Number of			Harvest <sup>a,b</sup>	Average		
	Landings	Crabs <sup>a</sup>	Pots lifted		Weight <sup>b</sup>	CPUE <sup>c</sup>	Deadloss <sup>b</sup>
725930	24	23,710	2,341	106,507	4.5	10	1,528
735930	30	71,156	6,702	317,118	4.5	11	4,758
736001	11	5,085	828	22,404	4.4	6	2,804
Other <sup>d</sup>	20	3,425	826	14,830	4.3	4	1,394
Total	30 <sup>e</sup>	103,376	10,697	460,859	4.5	10	10,484

<sup>a</sup> Deadloss included.

<sup>b</sup> In pounds.

<sup>c</sup> Number of legal crabs per pot lift.

<sup>d</sup> Combination of 7 statistical areas from which less than 3 vessels made landings in each statistical area.

<sup>e</sup> 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.—Commercial harvest of blue king crabs by season for the Saint Matthew Island Section, 1977–2009/10.

Season	Date		Harvest <sup>a</sup>	Price per pound
	Opened	Closed		
1977	Jun-07	Aug-16	1,202,066	\$1.00
1978	Jul-15	Sep-03	1,984,251	\$0.95
1979	Jul-15	Aug-24	210,819	\$0.70
1980	Jul-15	Sep-03	CF	CF
1981	Jul-15	Aug-21	4,627,761	\$0.90
1982	Aug-01	Aug-16	8,844,789	\$2.00
1983 <sup>b,c</sup>	Aug-20	Sep-06 <sup>b</sup>	9,506,880 <sup>c</sup>	\$3.00
1984	Aug-01	Sep-08	3,764,592	\$1.75
1985	Sep-01	Sep-06	2,200,781	\$1.60
1986	Sep-01	Sep-06	1,003,162	\$3.20
1987	Sep-01	Sep-05	1,039,779	\$2.85
1988	Sep-01	Sep-05	1,325,185	\$3.10
1989	Sep-01	Sep-04	1,166,258	\$2.90
1990	Sep-01	Sep-07	1,725,349	\$3.35
1991	Sep-16	Sep-20	3,372,066	\$2.80
1992	Sep-04	Sep-07	2,475,916	\$3.00
1993	Sep-15	Sep-21	3,003,089	\$3.23
1994	Sep-15	Sep-22	3,764,262	\$4.00
1995	Sep-15	Sep-22	3,166,093	\$2.32
1996	Sep-15	Sep-16	3,078,959	\$2.20
1997	Sep-15	Sep-22	4,649,660	\$2.21
1998	Sep-15	Sep-26	2,869,655	\$1.87
1999 - 2008/09	FC	FC	FC	FC
2009/10	Oct-15	Feb-01	460,859	\$2.19

*Note:* CF = confidential, less than three vessels or processors participated in fishery, FC = fishery closed

<sup>a</sup> In pounds, deadloss included.

<sup>b</sup> Part of Northern District open until September 20.

<sup>c</sup> Saint Lawrence Island harvest of 52,557 pounds included.

Table 2-14.–Pribilof District golden king crab fishery harvest data, 1981/82–2009 seasons.

Season	Number of				GHL <sup>b</sup>	Harvest <sup>a,c</sup>	Average			Deadloss <sup>c</sup>
	Vessels	Landings	Crabs <sup>a</sup>	Pots lifted			Weight <sup>c</sup>	CPUE <sup>d</sup>	Length <sup>e</sup>	
1981/82	2	CF	CF	CF	-	CF	CF	CF	CF	CF
1982/83	10	19	15,330	5,252	-	69,970	4.6	3	151	570
1983/84	50	115	253,162	26,035	-	856,475	3.4	10	127	20,041
1984	0	0	0	0	-	0	0	0	0	0
1985	1	CF	CF	CF	-	CF	CF	CF	CF	CF
1986	0	0	0	0	-	0	0	0	0	0
1987	1	CF	CF	CF	-	CF	CF	CF	CF	CF
1988	2	CF	CF	CF	-	CF	CF	CF	CF	CF
1989	2	CF	CF	CF	-	CF	CF	CF	CF	CF
1990	0	0	0	0	-	0	0	0	0	0
1991	0	0	0	0	-	0	0	0	0	0
1992	0	0	0	0	-	0	0	0	0	0
1993	5	15	17,643	15,395	-	67,458	3.8	1	NA	0
1994	3	5	21,477	1,845	-	88,985	4.1	12	NA	730
1995	7	22	82,489	9,551	-	341,908	4.1	9	NA	716
1996	6	32	91,947	9,952	-	329,009	3.6	9	NA	3,570
1997	7	23	43,305	4,673	-	179,249	4.1	9	NA	5,554
1998	3	9	9,205	1,530	-	35,722	3.9	6	NA	474
1999	3	9	44,098	2,995	200,000	177,108	4.0	15	NA	319
2000	7	19	29,145	5,450	150,000	127,217	4.4	5	NA	4,599
2001	6	14	33,723	4,262	150,000	145,876	4.3	8	143	8,227
2002	8	20	34,860	5,279	150,000	150,434	4.3	6	144	8,984
2003	3	CF	CF	CF	150,000	CF	CF	CF	CF	CF
2004	5	CF	CF	CF	150,000	CF	CF	CF	CF	CF
2005	4	CF	CF	CF	150,000	CF	CF	CF	CF	CF
2006-2009	0	0	0	0	150,000	0	0	0	0	0

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

<sup>a</sup> Deadloss included.

<sup>b</sup> Guideline harvest level in pounds.

<sup>c</sup> In pounds.

<sup>d</sup> Number of legal crabs per pot lift.

<sup>e</sup> Carapace length in millimeters.

Table 2-15.—Pribilof District golden king crab fishery economic data, 1991–2009 seasons.

Season	Value		Season length	
	Exvessel <sup>a</sup>	Total	Days	Dates
1991	\$0.00	\$0	365	1/1-12/31
1992	\$0.00	\$0	365	1/1-12/31
1993	\$2.42	\$163,248	365	1/1-12/31
1994	\$3.99	\$355,050	365	1/1-12/31
1995	\$3.23	\$1,104,363	365	1/1-12/31
1996	\$2.10	\$690,919	365	1/1-12/31
1997	\$2.23	\$387,340	365	1/1-12/31
1998	\$2.06	\$72,611	365	1/1-12/31
1999	\$2.34	\$413,686	162	1/1-6/10
2000	\$3.22	\$392,436	365	1/1-12/31
2001	\$3.12	\$429,464	105	1/1-4/15
2002	\$3.10	\$438,495	134	1/1-5/14
2003	CF	CF	121	1/1-5/1
2004	CF	CF	72	1/1-3/12
2005	CF	CF	365	1/1-12/31
2006-2009	\$0.00	\$0	365	1/1-12/31

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

<sup>a</sup> Average price per pound.

Table 2-16.—Saint Matthew Island Section commercial golden king crab fishery harvest data, 1982/83–2009 seasons.

Season	Number of				Harvest <sup>a,b</sup>	Average			Deadloss <sup>b</sup>
	Vessels	Landings	Crabs <sup>a</sup>	Pots lifted		Weight <sup>b</sup>	CPUE <sup>c</sup>	Length <sup>d</sup>	
1982/83	22	30	51,714	7,825	193,507	3.7	7	138	957
1983/84	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0
1987	10	28	99,101	13,825	414,034	4.2	7	142	12,750
1988	10	22	36,470	11,672	160,441	4.4	3	150	14,000
1989	2	CF	CF	CF	CF	CF	CF	CF	CF
1990	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0
1992	1	CF	CF	CF	CF	CF	CF	CF	CF
1993	0	0	0	0	0	0	0	0	0
1994	1	CF	CF	CF	CF	CF	CF	CF	CF
1995	5	5	212	313	992	4.7	1	NA	0
1996	1	CF	CF	CF	CF	CF	CF	CF	CF
1997-2000	0	0	0	0	0	0	0	0	0
2001	1	CF	CF	CF	CF	CF	CF	CF	CF
2002	0	0	0	0	0	0	0	0	0
2003	1	CF	CF	CF	CF	CF	CF	CF	CF
2004-2009	0	0	0	0	0	0	0	0	0

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

<sup>a</sup> Deadloss included.

<sup>b</sup> In pounds.

<sup>c</sup> Number of legal crabs per pot lift.

<sup>d</sup> Carapace length in millimeters.

Table 2-17.--Saint Matthew Island Section commercial golden king crab fishery economic data, 1991-2009 seasons.

Season	Value		Season length	
	Exvessel <sup>a</sup>	Total	Days	Dates
1991	\$0.00	\$0	365	1/1-12/31
1992	CF	CF	365	1/1-12/31
1993	\$0.00	\$0	365	1/1-12/31
1994	CF	CF	365	1/1-12/31
1995	\$2.77	\$2,748	365	1/1-12/31
1996	CF	CF	365	1/1-12/31
1997	CF	CF	365	1/1-12/31
1998	CF	CF	365	1/1-12/31
1999	CF	CF	365	1/1-12/31
2000	\$0.00	\$0	365	1/1-12/31
2001	CF	CF	365	1/1-12/31
2002	\$0.00	\$0	365	1/1-12/31
2003	CF	CF	365	1/1-12/31
2004-2009	\$0.00	\$0	365	1/1-12/31

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

<sup>a</sup> Average price per pound.

Table 2-18.—King crab Registration Area Q commercial scarlet king crab fishery data, 1992–2009.

Season	Number of		Harvest <sup>a,b</sup>	Average		Value		Deadloss <sup>a</sup>
	Vessels	Pots Lifted		Weight <sup>a</sup>	CPUE <sup>c</sup>	Exvessel <sup>d</sup>	Total <sup>e</sup>	
1992-1994	0	0	0	0	0	\$0.00	\$0.00	0
1995	4	24,551	26,684	2.4	1	\$2.45	\$65.38	465
1996	2	CF	CF	CF	CF	CF	CF	CF
1997- 1999	0	0	0	0	0	\$0.00	\$0.00	0
2000 <sup>f</sup>	1	CF	CF	CF	CF	CF	CF	CF
2001 <sup>f</sup>	1	CF	CF	CF	CF	CF	CF	CF
2002	0	0	0	0	0	\$0.00	\$0.00	0
2003 <sup>f</sup>	1	CF	CF	CF	CF	CF	CF	CF
2004 <sup>f</sup>	3	CF	CF	CF	CF	CF	CF	CF
2005 <sup>f</sup>	1	CF	CF	CF	CF	CF	CF	CF
2006-2009	0	0	0	0	0	\$0.00	\$0.00	0

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

<sup>a</sup> In pounds.

<sup>b</sup> Deadloss included.

<sup>c</sup> Number of legal crabs per pot lift.

<sup>d</sup> Average price per pound.

<sup>e</sup> Thousands of dollars.

<sup>f</sup> Restricted to incidental harvest during Bering Sea golden king and grooved Tanner crab fisheries.

Table 2-19.—Bering Sea District commercial Tanner crab general/IFQ fishery harvest data, 1969–2009/10.

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

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

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

<sup>a</sup> Deadloss included. Does not include CDQ harvest.

<sup>b</sup> Guideline harvest level for general fishery prior to 2005/06 in millions of pounds. Total allowable catch for IFQ fishery beginning in 2005/06 in millions of pounds. Does not include CDQ fishery.

<sup>c</sup> In pounds.

<sup>d</sup> Number of legal crabs per pot lift.

<sup>e</sup> Includes incidental harvest with Bristol Bay red king crab and directed Tanner crab fishery.

<sup>f</sup> Includes incidental harvest with Bering Sea snow crab and directed Tanner crab fishery.

<sup>g</sup> First Crab Rationalization fishery (IFQ).

<sup>h</sup> Includes deadloss from Bering Sea snow crab only; directed Tanner crab fishery west of 166° W was closed.

Table 2-20.—Bering Sea District commercial Tanner crab general/IFQ fishery catch by subdistrict, 1974/75–2009/10.

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

-continued-

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Season	Subdistrict <sup>a</sup>	Number of				Harvest <sup>b,c</sup>	Average		Deadloss <sup>c</sup>
		Vessels	Landings	Crabs <sup>b</sup>	Pots lifted		Weight <sup>c</sup>	CPUE <sup>d</sup>	
1981	Southeastern		674	10,532,007	496,751	26,684,956	2.5	21	97,398
	Pribilofs		87	1,313,951	62,875	2,945,536	2.5	21	4,196
	<b>TOTAL</b>	<b>165</b>	<b>761</b>	<b>11,845,958</b>	<b>559,626</b>	<b>29,630,492</b>	<b>2.5</b>	<b>21</b>	<b>101,594</b>
1982	Southeastern		539	3,825,433	322,634	8,812,302	2.3	12	69,829
	Pribilofs		252	1,005,547	167,465	2,196,477	2.2	6	68,330
	<b>TOTAL</b>	<b>125</b>	<b>791</b>	<b>4,830,980</b>	<b>490,099</b>	<b>11,008,779</b>	<b>2.3</b>	<b>10</b>	<b>138,159</b>
1983	Northern		10	29,478	5,950	48,454	1.7	5	167
	Southeastern		287	1,984,673	192,538	4,633,354	2.3	10	52,879
	Pribilofs		151	272,505	83,528	592,073	2.2	3	6,983
	<b>TOTAL</b>	<b>108</b>	<b>448</b>	<b>2,286,756</b>	<b>282,006</b>	<b>5,273,881</b>	<b>2.3</b>	<b>8</b>	<b>60,029</b>
1984	Southeastern		91	470,181	44,546	1,099,142	2.3	11	4,688
	Pribilofs		43	46,759	16,811	109,081	2.3	3	337
	<b>TOTAL</b>	<b>41</b>	<b>134</b>	<b>516,877</b>	<b>61,357</b>	<b>1,208,223</b>	<b>2.3</b>	<b>8</b>	<b>5,025</b>
1985	Southeastern	38	143	1,266,567	85,926	3,023,193	2.4	13	14,096
	Pribilofs	15	23	5,934	8,606	13,742	2.3	1	0
	<b>TOTAL</b>	<b>44</b>	<b>166</b>	<b>1,272,501</b>	<b>94,532</b>	<b>3,036,935</b>	<b>2.4</b>	<b>12</b>	<b>14,096</b>
1986		FC	FC	FC	FC	FC	FC	FC	FC
1987		FC	FC	FC	FC	FC	FC	FC	FC

-continued-

Table 2-20.--Page 3 of 5.

Season	Subdistrict <sup>a</sup>	Number of				Harvest <sup>b,c</sup>	Average		Deadloss <sup>c</sup>
		Vessels	Landings	Crabs <sup>b</sup>	Pots lifted		Weight <sup>c</sup>	CPUE <sup>d</sup>	
1988	Eastern	98	248	957,318	114,384	2,294,997	2.5	8	10,724
	Western	0	0	0	0	0	0	0	0
	<b>TOTAL</b>	<b>98</b>	<b>248</b>	<b>957,318</b>	<b>114,384</b>	<b>2,294,997</b>	<b>2.5</b>	<b>8</b>	<b>10,724</b>
1989	Eastern	109	359	2,894,480	183,692	6,982,865	2.4	16	34,664
	Western	0	0	0	0	0	0	0	0
	<b>TOTAL</b>	<b>109</b>	<b>359</b>	<b>2,894,480</b>	<b>183,692</b>	<b>6,982,865</b>	<b>2.4</b>	<b>16</b>	<b>34,664</b>
1990	Eastern		1,105	972,788	647,993	22,399,091	2.3	15	82,443
	Western		17	7,975	9,548	17,956	2.3	1	0
	<b>TOTAL</b>	<b>179</b>	<b>1,032</b>	<b>980,763</b>	<b>657,541</b>	<b>22,417,047</b>	<b>2.3</b>	<b>15</b>	<b>82,443</b>
1990/91	Eastern	255	1,756	16,608,625	883,391	40,081,555	2.4	19	210,769
	Western	0	0	0	0	0	0	0	0
	<b>TOTAL</b>	<b>255</b>	<b>1,756</b>	<b>16,608,625</b>	<b>883,391</b>	<b>40,081,555</b>	<b>2.4</b>	<b>19</b>	<b>210,769</b>
1991/92	Eastern	285	2,339	12,924,102	1,224,899	31,794,382	2.5	10	279,741
1992/93	Eastern	293	2,011	15,074,069	1,150,334	34,821,008	2.3	13	340,955
	Western	70	96	191,796	50,051	309,823	1.6	4	3,000
	<b>TOTAL</b>	<b>294</b>	<b>2,084</b>	<b>15,265,865</b>	<b>1,200,385</b>	<b>35,130,831</b>	<b>2.3</b>	<b>13</b>	<b>343,955</b>
1993/94	East of 168° W <sup>e</sup>	283	347	1,696,830	250,501	4,115,949	2.4	7	104,715
	163° W to 173° W <sup>f</sup>	261	515	5,539,068	325,963	12,776,371	2.3	17	154,674
	<b>TOTAL</b>	<b>296</b>	<b>862</b>	<b>7,235,898</b>	<b>576,464</b>	<b>16,892,320</b>	<b>2.3</b>	<b>13</b>	<b>259,389</b>

-continued-

Table 2-20.—Page 4 of 5.

Season	Subdistrict <sup>a</sup>	Number of				Harvest <sup>b,c</sup>	Average		Deadloss <sup>c</sup>
		Vessels	Landings	Crabs <sup>b</sup>	Pots lifted		Weight <sup>c</sup>	CPUE <sup>d</sup>	
1994	163° W to 173° W	183	349	3,351,639	249,536	7,766,886	2.3	13	132,780
1995	163° W to 173° W	196	256	1,877,303	247,853	4,233,061	2.3	8	44,508
1996	East of 168° W <sup>e</sup>	192	195	393,257	75,753	994,776	2.5	5	8,464
	163° W to 173° W <sup>f</sup>	135	152	341,039	73,522	811,301	2.4	5	6,144
	<b>TOTAL</b>	<b>196</b>	<b>347</b>	<b>734,296</b>	<b>149,275</b>	<b>1,806,077</b>	<b>2.5</b>	<b>5</b>	<b>14,608</b>
1997 - 2004		FC	FC	FC	FC	FC	FC	FC	FC
2005/06 <sup>g,h</sup>	West of 166° W	43	77	368,292	29,693	791,315	2.2	12	14,563
2006/07	East of 166° W <sup>i</sup>	37	58	529,766	26,351	1,266,286	2.4	20	8,416
	West of 166° W <sup>h</sup>	38	64	299,476	22,841	633,897	2.1	13	19,033
	<b>TOTAL</b>	<b>52</b>	<b>122</b>	<b>829,242</b>	<b>49,192</b>	<b>1,900,183</b>	<b>2.3</b>	<b>17</b>	<b>27,449</b>
2007/08	East of 166° W <sup>i</sup>	20	58	623,508	30,691	1,439,435	2.3	20	15,633
	West of 166° W <sup>h</sup>	31	51	215,175	19,210	467,276	2.2	11	4,163
	<b>TOTAL</b>	<b>41</b>	<b>109</b>	<b>838,683</b>	<b>49,901</b>	<b>1,906,711</b>	<b>2.3</b>	<b>17</b>	<b>19,796</b>

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Table 2-20.—Page 5 of 5.

Season	Subdistrict <sup>a</sup>	Number of				Harvest <sup>b,c</sup>	Average		Deadloss <sup>c</sup>
		Vessels	Landings	Crabs <sup>b</sup>	Pots lifted		Weight <sup>c</sup>	CPUE <sup>d</sup>	
2008/09	East of 166° W <sup>i</sup>	21	60	660,962	33,827	1,553,773	2.4	20	11,935
	West of 166° W <sup>h</sup>	39	74	51,145	26,531	109,111	2.1	2	3,296
	<b>TOTAL</b>	<b>46</b>	<b>134</b>	<b>712,107</b>	<b>60,358</b>	<b>1,662,884</b>	<b>2.3</b>	<b>12</b>	<b>15,231</b>
2009/10	East of 166° W <sup>i</sup>	17	46	433,319	15,467	1,189,574	2.8	28	7,122
	West of 166° W <sup>j</sup>	29	54	2,257	22,659	3,374	1.5	<1	3,374
	<b>TOTAL</b>	<b>40</b>	<b>100</b>	<b>435,576</b>	<b>38,126</b>	<b>1,192,948</b>	<b>2.7</b>	<b>11</b>	<b>10,496</b>

Note: FC = fishery closed

<sup>a</sup> Prior to 1988, the subdistricts were: Southeastern, Pribilof, and Northern (includes the Norton Sound and General Sections).

<sup>b</sup> Deadloss included. Does not include CDQ.

<sup>c</sup> In pounds.

<sup>d</sup> Number of legal crabs per pot lift.

<sup>e</sup> Incidental harvest in Bristol Bay red king crab fishery.

<sup>f</sup> Directed Tanner crab fishery.

<sup>g</sup> General fishery prior to 2005/06, IFQ fishery beginning with crab rationalization in 2005/06. Does not include CDQ harvests.

<sup>h</sup> Includes incidental harvest with Bering Sea snow crab and directed Tanner crab fishery.

<sup>i</sup> Includes incidental harvest with Bristol Bay red king crab and directed Tanner crab fishery.

<sup>j</sup> Includes deadloss from Bering Sea snow crab only; directed Tanner crab fishery west of 166° W was closed.

Table 2-21.—Bering Sea District commercial Tanner crab general/IFQ fishery economic data, 1979/80–2009/10.

Season	Value		Season length	
	Exvessel <sup>a</sup>	Total <sup>b</sup>	Days	Dates
1979/80	\$0.52	\$19.0	189	11/01-05/11
1981	\$0.58	\$17.2	88	01/15-04/15
1982	\$1.06	\$11.5	118	02/15-06/15
1983	\$1.20	\$6.2	118	02/15-06/15
1984	\$0.95	\$1.1	118	02/15-06/15
1985	\$1.40	\$4.3	149	01/15-06/15
1986	FC	FC	FC	FC
1987	FC	FC	FC	FC
1988	\$2.17	\$4.8	93	01/15-04/20
1989	\$2.90	\$20.3	110	01/15-05/07
1990 <sup>c</sup>	\$1.85	\$45.3	89	01/15-04/24
1990/91	\$1.12	\$44.5	126	11/20-03/25
1991/92	\$1.50	\$47.3	137	11/15-03/31
1992/93	\$1.69	\$58.8	137	11/15-03/31
1993 <sup>d</sup>	\$1.90	\$7.6	10	11/01-11/10
1993/94 <sup>e</sup>	\$1.90	\$24.0	42	11/20-01/01
1994 <sup>e</sup>	\$3.75	\$28.5	20	11/01-11/21
1995 <sup>e</sup>	\$2.80	\$11.7	15	11/01-11/16
1996 <sup>d</sup>	\$2.51	\$2.5	4	11/01-11/05
1996 <sup>e</sup>	\$2.48	\$2.0	12	11/15-11/27
1997 - 2004	FC	FC	FC	FC
2005/06 <sup>f</sup>	\$1.28	\$0.9	168	10/15-3/31
2006/07	\$1.29	\$2.4	168	10/15-3/31
2007/08	\$1.68	\$3.2	168	10/15-3/31
2008/09	\$1.49	\$2.5	168	10/15-3/31
2009/10 <sup>g</sup>	\$1.64	\$1.9	168	10/15-3/31

Note: FC = fishery closed

<sup>a</sup> Average price per pound.

<sup>b</sup> Millions of dollars.

<sup>c</sup> Winter fishery.

<sup>d</sup> East of 168° W long (incidental to Bristol Bay red king crab).

<sup>e</sup> 163°–173° W long (directed fishery).

<sup>f</sup> General fishery prior to 2005/06, IFQ fishery beginning with crab rationalization in 2005/06. Does not include CDQ harvests.

<sup>g</sup> 163°–166° W only; directed Tanner crab fishery west of 166° W was closed.

Table 2-22.—Bering Sea District commercial Tanner crab IFQ fishery harvest by statistical area, 2009/10 season.

Statistical area	Number of			Harvest <sup>b,c,f</sup>	Average		Deadloss <sup>c</sup>
	Landings <sup>a</sup>	Crabs <sup>b</sup>	Pots lifted		Weight <sup>c</sup>	CPUE <sup>d</sup>	
Eastern Subdistrict							
615601	6	73	1,113	188	2.6	<1	0
615630	5	742	1,624	1,790	2.4	<1	67
625531	5	221	483	624	2.8	<1	0
625600	6	28	568	75	2.7	<1	5
635504	27	288,634	3,291	795,372	2.8	88	4,386
635530	28	94,646	6,218	263,660	2.8	15	1,982
645501	6	46,436	638	120,982	2.6	73	607
645530	13	1,984	1,113	5,666	2.9	2	56
675530	18	285	2,933	434	1.5	<1	434
675600	14	292	2,568	438	1.5	<1	438
675630	3	7	49	10	1.4	<1	10
685600	17	884	3,974	1,318	1.5	<1	1,318
685630	3	3	131	4	1.3	<1	4
705600	5	24	584	36	1.5	<1	36
705630	9	58	1,106	86	1.5	<1	86
715600	6	20	494	31	1.6	<1	31
715630	19	231	3,053	342	1.5	<1	342
715700	6	74	1,020	111	1.5	<1	111
725630	15	187	3,871	278	1.5	<1	278
725700	10	98	1,189	145	1.5	<1	145
Other <sup>e</sup>	15	631	1,047	1,330	2.1	1	131
Western Subdistrict <sup>f</sup>							
735630	3	11	198	17	1.6	<1	17
Other <sup>g</sup>	3	7	861	12	1.7	<1	12
<b>Total</b>	<b>100</b>	<b>435,576</b>	<b>38,126</b>	<b>1,192,948</b>	<b>2.7</b>	<b>11</b>	<b>10,496</b>

Note: IFQ= individual fishing quota

<sup>a</sup> Number of statistical area landings is greater than the total number of landings because a single vessel may fish in several statistical areas.

<sup>b</sup> Deadloss included.

<sup>c</sup> In pounds.

<sup>d</sup> Number of legal crabs per pot lift.

<sup>e</sup> Combination of 13 statistical areas where less than three vessels made landings.

<sup>f</sup> Western Subdistrict includes deadloss from Bering Sea snow crab fishery only; directed Tanner crab fishery closed.

<sup>g</sup> Combination of three statistical areas where less than three vessels made landings.

Table 2-23.—Bering Sea District commercial Tanner crab general/IFQ fishery harvest composition by fishing season, 1972–2009/10.

Season	Average		% New
	Weight <sup>a</sup>	Width <sup>b</sup>	Shell
1972 <sup>c</sup>	2.6	NA	NA
1973 <sup>c</sup>	2.5	NA	NA
1974 <sup>c</sup>	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 <sup>d</sup>	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 <sup>e</sup>	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 <sup>f</sup>	2.8	157	98.0

Note: NA = not available, FC = fishery closed

<sup>a</sup> In pounds.

<sup>b</sup> Carapace width in millimeters.

<sup>c</sup> Incidental to the king crab fishery.

<sup>d</sup> Partial Bering Sea closure.

<sup>e</sup> General fishery prior to 2005/06, IFQ fishery beginning with crab rationalization in 2005/06. Does not include CDQ harvests.

<sup>f</sup> 163° W–166° W only; directed Tanner crab fishery west of 166° W closed.

Table 2-24.—Bering Sea District commercial snow crab general/IFQ fishery harvest data, 1978/79–2009/10.

Season	Number of				GHL/TAC <sup>b</sup>	Harvest <sup>a,c</sup>	CPUE <sup>d</sup>	Deadloss <sup>c</sup>
	Vessels	Landings	Crabs <sup>a</sup>	Pots lifted				
1978/79	102	490	22,118,498	190,746	-	32,187,039	116	759,137
1979/80	134	597	25,286,777	255,102	-	39,572,668	99	228,345
1981	153	867	34,415,322	435,742	39.5-91.0	52,750,034	79	2,269,979
1982	122	803	24,089,562	469,091	16.0-22.0	29,355,374	51	1,092,655
1983 <sup>e</sup>	109	461	23,853,647	287,127	15.8	26,128,410	83	1,324,466
1984 <sup>e</sup>	52	367	24,009,935	173,591	49.0	26,813,074	138	798,795
1985 <sup>e</sup>	75	718	52,394,686	370,082	98.0	65,362,866	142	1,060,784
1986 <sup>e</sup>	88	992	76,319,307	542,346	57.0	97,684,139	141	1,378,533
1987 <sup>e</sup>	103	1,038	81,307,659	616,113	56.4	101,903,388	132	978,449
1988 <sup>e</sup>	171	1,285	105,933,542	747,395	110.7	134,241,728	142	3,424,021
1989 <sup>e</sup>	168	1,300	112,704,215	665,242	132.0	148,306,262	169	1,940,482
1990 <sup>e</sup>	189	1,563	128,931,026	911,303	139.8	161,765,415	141	1,796,664
1991 <sup>e</sup>	220	2,788	265,123,960	1,391,463	315.0	328,647,269	191	3,464,036
1992	250	2,763	227,376,582	1,281,796	333.0	315,302,034	177	2,325,852
1993	254	1,835	169,535,617	970,646	207.2	230,754,253	175	1,573,952
1994	272	1,293	114,810,186	716,524	105.8	149,792,718	160	1,799,763
1995	253	870	60,658,899	507,603	55.7	75,309,187	120	1,289,169
1996	234	771	52,892,320	520,671	50.7	65,696,173	102	1,333,015
1997	226	1,127	100,013,816	754,140	117.0	119,543,024	133	2,351,555
1998 <sup>f</sup>	229	1,767	186,643,538	891,219	225.9	243,492,577	209	2,896,374
1999 <sup>f</sup>	241	1,631	143,469,440	899,308	186.2	184,735,011	160	1,828,540
2000 <sup>f</sup>	229	288	23,265,802	170,064	26.4	30,774,838	137	330,896
2001 <sup>f</sup>	207	293	17,185,523	176,930	25.3	23,382,046	97	429,884
2002 <sup>f</sup>	191	403	23,281,441	308,132	28.5	30,233,494	76	585,288
2003 <sup>fg</sup>	192	256	21,504,969	139,279	23.7	26,198,024	154	662,409
2004 <sup>f</sup>	189	240	17,331,514	110,087	19.3	22,170,150	157	224,377
2005 <sup>f</sup>	169	196	16,684,751	69,863	19.4	23,036,287	239	224,193
2005/06 <sup>h</sup>	78	310	22,080,235	108,320	33.5	33,256,146	204	322,595
2006/07 <sup>h</sup>	69	274	26,633,212	80,112	32.9	32,699,874	332	379,132
2007/08 <sup>h</sup>	78	461	45,204,759	129,527	56.7	56,724,730	352	500,156
2008/09 <sup>h</sup>	77	431	41,326,795	148,220	52.7	52,693,167	279	402,679
2009/10 <sup>h</sup>	69	325	31,751,359	124,661	43.2	43,212,583	255	500,049

<sup>a</sup> Deadloss included.

<sup>b</sup> Guideline harvest level, millions of pounds. Total allowable catch from 2005/06 forward.

<sup>c</sup> In pounds.

<sup>d</sup> Number of legal crabs per pot lift.

<sup>e</sup> Partial district and subdistrict closures, see Table 2-26.

<sup>f</sup> Guideline harvest level for general fishery prior to 2005/06 in millions of pounds. Total allowable catch for IFQ fishery beginning in 2005/06 in millions of pounds. Does not include CDQ fishery.

<sup>g</sup> Includes 181,457 pounds illegally taken in Russian waters.

<sup>h</sup> IFQ fishery only, does not include CDQ.

Table 2-25.—Bering Sea District commercial snow crab fishery season dates and area closures, 1977/78–2009/10.

Season	Opened	Closed	Comments
1977/78	09/15/77	09/23/78	Bering Sea District closure <sup>a</sup>
1978/79	11/01/78	09/03/79	Bering Sea District closure <sup>a</sup>
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 <sup>b</sup>
1982	02/15/82	08/01/82	Bering Sea District closure <sup>b</sup>
1983	02/15/83	05/22/83	Bering Sea District closure south of 57°30' N. lat. <sup>b</sup>
		08/01/83	Bering Sea District closure north of 57°30' N. lat. <sup>b</sup>
1984	02/15/84	08/01/84	Bering Sea District closure south of 58° N. lat. <sup>b</sup>
		08/22/84	Bering Sea District closure north of 58° N. lat. to allow an orderly start to king crab season <sup>b</sup>
1985	01/15/85	05/08/85	Pribilof Subdistrict closure south of 58° N. lat. <sup>b</sup>
		08/01/85	Bering Sea District closure south of 58°39' N. lat. <sup>b</sup>
1986	01/15/86	08/22/85	Northern Subdistrict closure to allow an orderly start to king crab season <sup>b</sup>
		10/09/85	*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
1987	01/15/87	04/21/86	Southeastern Subdistrict closure west of 164° W long. <sup>b</sup>
		06/01/86	Pribilof Subdistrict closure <sup>b</sup>
		08/01/86	Northern Subdistrict closure east of 175° W. long. <sup>b</sup>
		08/24/86	Northern Subdistrict closure west of 175° W. long. <sup>b</sup>
1988	01/15/87	04/12/87	Southeastern Subdistrict west of 164° W. long., and Pribilof Subdistrict closure
		06/01/87	Northern Subdistrict south of 60°30' N lat. and east of 178° W. long. closure

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Table 2-25.--Page 2 of 2.

Season	Opened	Closed	Comments
1987	01/15/87	06/22/87	Northern Subdistrict north of 60°30' N lat. and west of 178° W. long. closure
1988	01/15/88	03/29/88	Bering Sea District closure (Western Subdistrict to assist in an orderly closure)
	05/15/88	06/30/88	Western Subdistrict reopen and closure
1989	01/15/89	03/26/89	Eastern Subdistrict closure
		05/07/89	Western Subdistrict closure
1990	01/15/90	04/09/90	Eastern Subdistrict east of 165° W. long. closure
		04/24/90	Eastern Subdistrict west of 165° W. long. closure
		06/12/90	Western Subdistrict closure
1991	01/15/91	05/05/91	Eastern Subdistrict closure
		06/23/91	Western Subdistrict closure
1992	01/15/92	04/22/92	Bering Sea District closure
1993	01/15/93	03/15/93	Bering Sea District closure
1994	01/15/94	03/01/94	Bering Sea District closure
1995	01/15/95	02/17/95	Bering Sea District closure
1996	01/15/96	02/29/96	Bering Sea District closure
1997	01/15/97	03/21/97	Bering Sea District closure
1998	01/15/98	03/20/98	Bering Sea District closure
1999	01/15/99	03/22/99	Bering Sea District closure
2000	04/01/00	04/08/00	Bering Sea District closure
2001	01/15/01	02/14/01	Bering Sea District closure
2002	01/15/02	02/08/02	Bering Sea District closure
2003	01/15/03	01/25/03	Bering Sea District closure
2004	01/15/04	01/23/04	Bering Sea District closure
2005	01/15/05	01/20/05	Bering Sea District closure
2005/06 <sup>c</sup>	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

<sup>a</sup> State-managed domestic fishery.

<sup>b</sup> Concurrent state and federal date.

<sup>c</sup> Crab Rationalization begins.

Table 2-26.—Bering Sea District commercial snow crab general/IFQ harvest by season and subdistrict, 1977/78–2009/10.

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

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Table 2-26.--Page 2 of 5.

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

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Table 2-26.--Page 3 of 5.

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

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Table 2-26.--Page 4 of 5.

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

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Table 2-26.--Page 5 of 5.

Season	Subdistrict	Number of				Average		Deadloss <sup>d</sup>	
		Vessels <sup>a</sup>	Landings <sup>b</sup>	Crabs <sup>c</sup>	Pots lifted	Harvest <sup>c,d</sup>	Weight <sup>d</sup>		CPUE <sup>e</sup>
2005 <sup>f</sup>	Eastern	63	94	5,505,532	18,822	7,798,629	1.4	293	54,539
	Western	128	136	11,179,219	51,041	15,237,658	1.4	219	169,654
	<b>TOTAL</b>	<b>168</b>	<b>206</b>	<b>16,684,751</b>	<b>69,863</b>	<b>23,036,287</b>	<b>1.4</b>	<b>239</b>	<b>224,193</b>
2005/06	Eastern	66	566	14,193,844	77,311	21,741,637	1.5	184	202,154
	Western	50	263	7,886,391	31,009	11,514,505	1.5	254	120,440
	<b>TOTAL</b>	<b>78</b>	<b>310</b>	<b>22,080,235</b>	<b>108,320</b>	<b>33,256,142</b>	<b>1.5</b>	<b>204</b>	<b>322,594</b>
2006/07	Eastern	65	488	23,262,299	69,884	28,398,217	1.2	333	325,374
	Western	23	110	3,370,913	10,228	4,301,657	1.3	330	53,758
	<b>TOTAL</b>	<b>69</b>	<b>274</b>	<b>26,633,212</b>	<b>80,112</b>	<b>32,699,874</b>	<b>1.2</b>	<b>332</b>	<b>379,132</b>
2007/08	Eastern	77	450	42,346,403	122,027	53,151,860	1.3	350	482,782
	Western	10	40	2,858,356	7,500	3,572,870	1.3	382	17,374
	<b>TOTAL</b>	<b>78</b>	<b>461</b>	<b>45,204,759</b>	<b>129,527</b>	<b>56,724,730</b>	<b>1.3</b>	<b>352</b>	<b>500,156</b>
2008/09	Eastern	73	297	21,912,978	84,528	28,225,180	1.3	259	214,873
	Western	51	232	19,413,817	63,692	24,467,987	1.3	305	187,806
	<b>TOTAL</b>	<b>77</b>	<b>431</b>	<b>41,326,795</b>	<b>148,220</b>	<b>52,693,167</b>	<b>1.3</b>	<b>279</b>	<b>402,679</b>
2009/10	Eastern	69	309	27,524,406	109,911	37,633,900	1.4	250	462,329
	Western	26	75	4,226,953	14,750	5,578,682	1.3	287	37,720
	<b>TOTAL</b>	<b>69</b>	<b>325</b>	<b>31,751,359</b>	<b>124,661</b>	<b>43,212,583</b>	<b>1.4</b>	<b>255</b>	<b>500,049</b>

Note: NA = not available.

<sup>a</sup> Vessels by subdistrict are vessels that actively participated in the fishery.

<sup>b</sup> Number of subdistrict landings is greater than the total number of vessel landings because a single vessel may fish in several statistical areas.

<sup>c</sup> Deadloss included.

<sup>d</sup> In pounds.

<sup>e</sup> Number of legal crabs per pot lift.

<sup>f</sup> General fishery prior to 2005/06, IFQ fishery beginning with crab rationalization in 2005/06. Does not include CDQ harvest.

<sup>g</sup> Total harvest includes 30,919 pounds taken from an unidentified statistical area.

<sup>h</sup> Includes 181,457 pounds illegally taken in Russian waters.

Table 2-27.—Bering Sea District commercial snow crab general/IFQ fishery harvest composition by fishing season, 1978/79–2009/10.

Season	Average		Percent new shell	Percent <102 mm cw landed
	Weight <sup>a</sup>	Width <sup>b</sup>		
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 <sup>c</sup>	1.1	NA	78.0	27.1
1984 <sup>c</sup>	1.1	105	82.4	11.7
1985 <sup>c</sup>	1.3	108	73.6	15.0
1986 <sup>c</sup>	1.3	110	71.9	18.7
1987 <sup>c</sup>	1.2	109	83.7	20.8
1988 <sup>c</sup>	1.3	110	76.3	16.4
1989 <sup>c</sup>	1.3	111	85.2	13.8
1990 <sup>c</sup>	1.3	109	97.4	18.8
1991 <sup>c</sup>	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 <sup>d</sup>	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

Note: NA = Not available.

<sup>a</sup> In pounds.

<sup>b</sup> Carapace width in millimeters.

<sup>c</sup> Partial district and subdistrict closures, see Table 2-24.

<sup>d</sup> Crab Rationalization begins.

Table 2-28.—Bering Sea District commercial IFQ snow crab fishery economic data 1979/80–2009/10.

Season	Value		Registered pots <sup>c</sup>	Season length <sup>d</sup>
	Exvessel <sup>a</sup>	Total <sup>b</sup>		
1979/80	\$0.21	\$82.50	35,503	307
1981	\$0.26	\$13.10	39,789	229
1982	\$0.73	\$20.70	35,522	167
1983 <sup>e</sup>	\$0.35	\$8.70	15,396	120
1984 <sup>e</sup>	\$0.30	\$7.80	12,493	320
1985 <sup>e</sup>	\$0.30	\$19.50	15,325	333
1986 <sup>e</sup>	\$0.60	\$60.00	13,750	252
1987 <sup>e</sup>	\$0.75	\$75.70	19,386	158
1988 <sup>e</sup>	\$0.77	\$100.70	38,765	120
1989 <sup>e</sup>	\$0.75	\$110.70	43,607	112
1990 <sup>e</sup>	\$0.64	\$102.30	46,440	148
1991 <sup>e</sup>	\$0.50	\$162.60	76,056	159
1992	\$0.50	\$156.50	77,858	97
1993	\$0.75	\$171.90	65,081	59
1994	\$1.30	\$192.40	54,837	45
1995	\$2.43	\$180.00	53,707	33
1996	\$1.33	\$85.60	50,169	45
1997	\$0.79	\$92.60	47,036	65
1998	\$0.56	\$134.65	47,909	64
1999	\$0.88	\$160.78	50,173	66
2000	\$1.81	\$55.09	43,407	7
2001	\$1.53	\$32.12	40,379	30
2002	\$1.49	\$44.20	37,807	24
2003	\$1.83	\$46.98	20,452	9
2004	\$2.05	\$44.99	14,444	8
2005	\$1.80	\$41.47	12,840	6
2005/06 <sup>f</sup>	\$0.84	\$27.66	13,734	229
2006/07	\$1.40	\$36.85	10,851	229
2007/08	\$1.60	\$89.96	13,647	229
2008/09	\$1.37	\$71.49	12,549	229
2009/10	\$1.13	\$48.27	11,804	229

<sup>a</sup> Average price per pound.

<sup>b</sup> Millions of dollars.

<sup>c</sup> Prior to 1992 includes Tanner crab gear.

<sup>d</sup> In days.

<sup>e</sup> Partial district and subdistrict closures, see Table 2-24.

<sup>f</sup> Individual fishing quota (IFQ) program begins with crab rationalization.

Table 2-29.—Bering Sea commercial snow crab IFQ fishery harvest and effort by week, 2009/10.

Week ending	Number of			Harvest <sup>a,b</sup>	Pot pulls	CPUE <sup>c</sup>	Deadloss <sup>b</sup>
	Vessels	Landings	Crabs <sup>a</sup>				
17-Oct	2	CF	CF	CF	CF	CF	CF
2-Jan	1	CF	CF	CF	CF	CF	CF
9-Jan	15	18	2,466,829	3,333,971	7,549	326.78	13,446
16-Jan	23	26	2,709,550	3,750,633	9,045	299.56	17,395
23-Jan	27	32	3,814,913	5,210,705	14,571	261.82	31,020
30-Jan	30	37	4,025,921	5,453,695	14,364	280.28	34,712
6-Feb	36	40	3,971,937	5,369,945	15,204	261.24	44,506
13-Feb	36	46	4,711,680	6,459,588	19,678	239.44	51,581
20-Feb	22	29	2,571,526	3,432,332	9,845	261.20	26,188
27-Feb	26	39	2,540,294	3,387,720	10,209	248.83	31,416
6-Mar	7	8	607,123	855,024	3,126	194.22	85,657
13-Mar	10	11	1,191,847	1,643,233	6,633	179.68	14,731
20-Mar	10	12	870,400	1,190,476	4,689	185.63	126,315
27-Mar	6	10	760,665	1,030,638	2,592	293.47	6,417
3-Apr	5	5	560,752	782,508	2,018	277.88	6,415
10-Apr	4	4	379,119	546,399	2,186	173.43	5,968
17-Apr	2	CF	CF	CF	CF	CF	CF
24-Apr	1	CF	CF	CF	CF	CF	CF
1-May	1	CF	CF	CF	CF	CF	CF
Total	69	325	31,751,359	43,212,583	124,661	255	500,049

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

<sup>a</sup> Deadloss included.

<sup>b</sup> In pounds.

<sup>c</sup> Number of legal crabs per pot lift.

Table 2-30.—Bering Sea District commercial IFQ snow crab fishery catch by statistical area, 2009/10.

Statistical Area	Number of			Harvest <sup>b,c</sup>	Average		Deadloss <sup>c</sup>
	Landings <sup>a</sup>	Crabs <sup>b</sup>	Pots lifted		Weight <sup>c</sup>	CPUE <sup>d</sup>	
<b>EASTERN SUBDISTRICT STATISTICAL AREAS</b>							
675500	10	150,609	904	221,060	1.5	167	3,170
675530	48	1,863,835	9,359	2,695,711	1.4	199	98,114
675600	42	1,149,910	5,092	1,599,241	1.4	226	14,126
675630	6	20,190	118	26,905	1.3	171	143
685530	9	42,817	497	59,510	1.4	86	635
685600	44	2,157,212	6,909	2,829,547	1.3	312	70,543
685630	13	227,083	990	304,476	1.3	229	78,803
705600	29	416,533	2,133	566,161	1.4	195	4,135
705630	40	870,465	4,348	1,186,720	1.4	200	9,236
705701	6	19,738	67	26,116	1.3	295	138
715600	35	640,078	2,160	886,078	1.4	296	5,128
715630	139	6,074,535	25,124	8,281,422	1.4	242	50,015
715700	51	1,793,810	6,517	2,464,609	1.4	275	14,453
725600	7	100,344	344	140,510	1.4	292	1,333
725630	141	7,752,490	28,767	10,563,256	1.4	269	67,120
725700	90	3,569,367	12,881	4,864,172	1.4	277	37,026
725730	29	641,343	2,737	867,869	1.4	234	7,707
Other <sup>e</sup>	-	34,047	964	50,538	1.5	35	504
Subtotal	309	27,524,406	109,911	37,633,900	1.4	250	462,329
<b>WESTERN SUBDISTRICT STATISTICAL AREAS</b>							
735630	21	197,298	806	269,304	1.4	245	1,620
735700	34	1,033,924	3,962	1,386,758	1.3	261	12,235
735730	37	1,415,725	5,156	1,841,638	1.3	275	10,208
735800	14	665,999	2,212	875,952	1.3	301	6,070
745800	13	382,899	1,179	503,306	1.3	325	3,564
Other <sup>f</sup>	-	CF	CF	CF	CF	CF	CF
Subtotal	75	4,226,953	14,750	5,578,682	1.3	287	37,720
<b>Total</b>	<b>325</b>	<b>31,751,359</b>	<b>124,661</b>	<b>43,212,583</b>	<b>1.4</b>	<b>255</b>	<b>500,049</b>

Note: IFQ= individual fishing quota. CF = confidential, less than three vessels participated in fishery.

<sup>a</sup> Number of statistical area landings is greater than the total number of landings because a single vessel may fish in several statistical areas.

<sup>b</sup> Deadloss included.

<sup>c</sup> In pounds.

<sup>d</sup> Number of legal crabs per pot lift.

<sup>e</sup> Includes twelve statistical areas where less than three vessels made landings.

<sup>f</sup> Includes two statistical areas. In one statistical area, less than three vessels made landings.

Table 2-31.—Bering Sea District commercial grooved Tanner crab fishery harvest data, 1992–2009.

Year	Number of			Harvest <sup>a,b</sup>	Average		Value		
	Vessels	Crabs <sup>a</sup>	Pots lifted		Weight <sup>b</sup>	CPUE <sup>c</sup>	Exvessel <sup>d</sup>	Total <sup>e</sup>	Deadloss <sup>b</sup>
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 - 2009	0	0	0	0	0	0	\$0.00	\$0.00	0

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

<sup>a</sup> Deadloss included.

<sup>b</sup> In pounds.

<sup>c</sup> Number of legal crabs per pot lift.

<sup>d</sup> Average price per pound.

<sup>e</sup> Millions of dollars.

Table 2-32.—Bering Sea District commercial triangle Tanner crab fishery harvest data, 1992–2009.

Year	Number of			Harvest <sup>a,b</sup>	Average		Value		Deadloss <sup>b</sup>
	Vessels	Crabs <sup>a</sup>	Pots lifted		Weight <sup>b</sup>	CPUE <sup>c</sup>	Exvessel <sup>d</sup>	Total <sup>e</sup>	
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 <sup>f</sup>	1	CF	CF	CF	CF	CF	CF	CF	CF
2001 <sup>f</sup>	1	CF	CF	CF	CF	CF	CF	CF	CF
2002 <sup>f</sup>	0	0	0	0	0	0	\$0.00	\$0.00	0
2003 <sup>f</sup>	1	CF	CF	CF	CF	CF	CF	CF	CF
2004 <sup>f</sup>	4	CF	CF	CF	CF	CF	CF	CF	CF
2005 - 2009 <sup>f</sup>	0	0	0	0	0	0	\$0.00	\$0.00	0

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

<sup>a</sup> Deadloss included.

<sup>b</sup> In pounds.

<sup>c</sup> Number of legal crabs per pot lift.

<sup>d</sup> Average price per pound.

<sup>e</sup> Millions of dollars.

<sup>f</sup> Restricted to incidental harvest during grooved Tanner crab fishery.

Table 2-33.—Bering Sea commercial hair crab fishery data, 1979–2009.

Season	Number of			GHL <sup>b</sup>	Harvest <sup>a,c</sup>	Pots		Average		Deadloss <sup>c</sup>
	Vessels	Landings	Crabs <sup>a</sup>			Registered	Pulled	CPUE <sup>d</sup>	Weight <sup>c</sup>	
1979	11	16	2,457	-	5,213		9,908	<1	2.1	0
1980	9	17	25,417	-	53,914		14,506	2	2.1	0
1980/81	67	192	1,127,309	-	2,439,483		172,695	7	2.2	265,369
1981/82	48	159	466,560	-	932,584		117,518	4	2	29,749
1982/83	52	161	575,453	-	1,211,420		84,346	7	2.1	122,456
1983/84	19	48	200,670	-	406,538		20,414	10	2	28,062
1984 <sup>e</sup>	7	26	197,209	-	396,630		22,392	9	2	19,436
1985 <sup>e</sup>	3	9	34,410	-	66,042		3,905	9	2	593
1986	3	7	7,289	-	14,835		4,720	2	2	500
1987 <sup>f</sup>	2	CF	CF	-	CF	CF	CF	CF	CF	CF
1988-90 <sup>c</sup>	0	0	0	-	0	0	0	0	0	0
1991 <sup>c</sup>	7	42	441,533	-	377,708		44,444	10	0.9	0
1992 <sup>e,f</sup>	9	20	203,758	-	240,767		38,808	5	1.2	11,495
1992 <sup>e,g</sup>	10	47	1,127,948	-	1,198,590		125,943	9	1.1	65,674
1993 <sup>e,f</sup>	4	5	2,347	-	3,038		9,345	<1	1.3	0
1993/94 <sup>e,g,h,i</sup>	19	129	1,936,795	3.0	2,331,686		585,913	3	1.2	124,596
1994 <sup>e,g</sup>	10	55	897,070	1.1	1,199,246	13,350	287,954	3	1.3	49,275
1995 <sup>e,g</sup>	21	81	1,485,097	1.8	2,059,988	25,750	441,494	3	1.4	73,882

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Table 2-33.--Page 2 of 2.

Season	Number of			GHL <sup>b</sup>	Harvest <sup>a,c</sup>	Pots		Average		Deadloss <sup>c</sup>
	Vessels	Landings	Crabs <sup>a</sup>			Registered	Pulled	CPUE <sup>d</sup>	Weight <sup>e</sup>	
1996 <sup>e</sup>	19	99	485,735	0.9	745,804	20,680	410,548	1	1.5	32,495
1997 <sup>e</sup>	16	52	420,121	0.8	668,096	18,180	211,970	2	1.6	17,522
1998 <sup>e</sup>	12	31	188,784	0.4	307,739	14,330	128,495	2	1.6	17,392
1999 <sup>e</sup>	8	27	139,894	0.3	221,656	9,840	92,333	1	1.6	4,677
2000 <sup>e</sup>	3	3	1,058	0.3	1,546	3,900	3,300	<1	1.5	0
2001-2009 <sup>e</sup>	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

<sup>a</sup> Deadloss included.

<sup>b</sup> Guideline harvest level, millions of pounds.

<sup>c</sup> In pounds.

<sup>d</sup> Number of legal crabs retained per pot pull.

<sup>e</sup> Permit fishery.

<sup>f</sup> Spring fishery.

<sup>g</sup> Fall fishery.

<sup>h</sup> Fishery opened November 1, 1993 and closed April 20, 1994.

<sup>i</sup> Includes seven vessels that landed hair crab incidental to Tanner crab.

Table 2-34.—Bering Sea commercial hair crab fishery economic performance data, 1979–2009.

Season	Value		Season	
	Exvessel <sup>a</sup>	Total <sup>b</sup>	Days	Dates
1979	\$0.54	\$0.003	257	04/19-12/31
1980	\$0.75	\$0.04	244	01/01-08/30
1980/81	\$0.80	\$1.70	242	11/01-06/30
1981/82	\$0.55	\$0.50	288	11/01-08/15
1982/83	\$0.65	\$0.70	297	10/08-08/01
1983/84	\$1.20	\$0.50	335	08/01-06/30
1984	\$1.60	\$0.60	184	07/01-12/31
1985	\$1.60	\$0.10	365	01/01-12/31
1986	\$1.15	\$0.20	365	01/01-12/31
1987	CF	CF	365	01/01-12/31
1988-90	\$0.00	\$0.00	365	01/01-12/31
1991	\$3.08	\$1.20	365	01/01-12/31
1992	\$2.25	\$0.50	32	01/01-06/04
1992	\$2.46	\$2.80	156	10/01-11/01
1993	NA	NA	45	04/01-05/15
1993/94	\$2.42	\$5.30	171	11/01-04/20
1994	\$3.55	\$4.00	41	11/01-12/12
1995	\$2.87	\$5.70	25	11/01-11/26
1996	\$2.65	\$1.90	31	11/01-12/02
1997	\$2.97	\$1.90	25	11/01-11/25
1998	\$2.70	\$0.80	16	10/08-10/23
1999	\$3.20	\$0.70	37	10/30-12/07
2000	\$3.84	\$0.005	7	10/30-11/05
2001-2009	FC	FC	FC	FC

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

<sup>a</sup> Price per pound.

<sup>b</sup> In millions of dollars.

Table 2-35.—Bering Sea commercial octopus incidental harvest in groundfish fisheries, 1995–2009.

Year	Number of		Harvest <sup>b</sup>	
	Vessels	Landings <sup>a</sup>	Total <sup>c</sup>	Landed
1995 <sup>d</sup>	30	76	17,730	11,967
1996	63	191	26,343	5,199
1997	44	92	12,202	6,997
1998	47	81	8,204	2,580
1999	22	56	6,994	409
2000	78	272	39,915	16,304
2001	62	158	49,641	8,425
2002	68	187	56,078	39,450
2003	80	236	122,423	94,663
2004	92	279	88,534	63,007
2005	80	271	156,381	143,798
2006	88	304	93,624	68,904
2007	4	6	1,946	1,571
2008	5	7	7,177	6,973
2009	CF	CF	CF	CF

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

<sup>a</sup> All landings incidental to other groundfish fisheries.

<sup>b</sup> Harvest data from state groundfish fish tickets (Neptune database), in pounds.

<sup>c</sup> Discards at sea included.

<sup>d</sup> The 1995 directed fishery data is confidential, and is not included in this table.

Table 2-36.—Bering Sea commercial snail catch data, 1992–2009.

Year	Number of		Number of pots		Harvest <sup>a,b</sup>	CPUE <sup>c</sup>	Pounds per pot <sup>d</sup>	Deadloss <sup>b</sup>
	Vessels	Landings	Registered	Pulled				
1992	CF	CF	CF	CF	CF	CF	CF	CF
1993	4	10	13,800	44,686	312,876	25	7	NA
1994	4	42	14,850	279,349	2,027,328	21	7.3	62,571
1995	4	38	18,800	262,096	2,352,825	28	9	22,371
1996	5	67	31,300	741,326	3,572,992	16	4.8	62,494
1997	3	17	14,500	191,893	932,048	16	4.9	77,131
1998-2009	0	0	0	0	0	0	0	0

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

<sup>a</sup> Deadloss included.

<sup>b</sup> In pounds.

<sup>c</sup> Number of snails per pot pull.

<sup>d</sup> Whole weight.

Table 2-37.—Bering Sea commercial snail fishery economic performance data, 1992–2009.

Year	Harvest <sup>a</sup>	Number of		Value	
		Vessels	Landings	Exvessel <sup>b</sup>	Total
1992	CF	CF	CF	CF	CF
1993	312,876	4	10	\$0.40	\$125,150.00
1994	1,964,757	4	42	\$0.34	\$668,017.00
1995	2,330,454	4	38	\$0.30	\$699,136.00
1996	3,510,498	5	67	\$0.30	\$1,053,149.00
1997	854,917	3	17	\$0.36	\$307,770.00
1998-2009	0	0	0	\$0.00	\$0.00

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

<sup>a</sup> In pounds. Deadloss not included.

<sup>b</sup> Price per pound.

Table 2-38.—North Peninsula District commercial Dungeness crab fishery data, 1992–2009.

Year	Number of		Harvest <sup>a,b</sup>	Pots pulled	Value		Average		Deadloss <sup>b</sup>
	Vessels	Crabs <sup>a</sup>			Exvessel <sup>c</sup>	Total <sup>d</sup>	Weight <sup>b</sup>	CPUE <sup>e</sup>	
1992	0	0	0	0	\$0.00	\$0.00	0	0	0
1993	2	CF	CF	CF	CF	CF	CF	CF	CF
1994	2	CF	CF	CF	CF	CF	CF	CF	CF
1995	6	63,732	134,407	34,499	\$1.32	\$0.18	2.1	4	367
1996	1	CF	CF	CF	CF	CF	CF	CF	CF
1997	2	CF	CF	CF	CF	CF	CF	CF	CF
1998	1	CF	CF	CF	CF	CF	CF	CF	CF
1999	0	0	0	0	\$0.00	\$0.00	0	0	0
2000	1	CF	CF	CF	CF	CF	CF	CF	CF
2001	0	0	0	0	\$0.00	\$0.00	0	0	0
2002	3	11,173	21,871	2,431	\$1.78	\$0.04	2.0	5	236
2003	0	0	0	0	\$0.00	\$0.00	0	0	0
2004	1	CF	CF	CF	CF	CF	CF	CF	CF
2005	0	0	0	0	\$0.00	\$0.00	0	0	0
2006	0	0	0	0	\$0.00	\$0.00	0	0	0
2007	1	CF	CF	CF	CF	CF	CF	CF	CF
2008	0	0	0	0	\$0.00	\$0.00	0	0	0
2009	1	CF	CF	CF	CF	CF	CF	CF	CF

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

<sup>a</sup> Deadloss included.

<sup>b</sup> In pounds.

<sup>c</sup> Price per pound.

<sup>d</sup> Millions of dollars.

<sup>e</sup> Number of legal crabs per pot pull.

Table 2-39.--Pot limits for Bering Sea and Aleutian Islands king and Tanner crab fisheries, 2009/10.

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 <sup>a</sup>
Petrel Bank red king crab	All vessels	250

<sup>a</sup> Pot limit is for entire fishery and is divided among participating vessels.

Table 2-40.—Number of Bering Sea and Aleutian Islands buoy tags printed and issued by fishery, 2009/10.

Fishery	Number of tags ordered <sup>a</sup>	Tag sets issued		Total sets	Tags issued		Tags replaced	Total tags
		≤ 125' <sup>b</sup>	> 125' <sup>b</sup>		≤ 125' <sup>b</sup>	> 125' <sup>b</sup>		
Eastern Aleutian District Tanner	Surplus Tags	8	-	8	238	-	3	241
St. Matthew Section Blue King Crab	Surplus Tags	7	1	8	1,097	150	5	1,252
<b>Total</b>		<b>15</b>	<b>1</b>	<b>16</b>	<b>1,335</b>	<b>150</b>	<b>8</b>	<b>1,493</b>

<sup>a</sup> Tags ordered in sets of 200, then separated for each fishery pot limit.

<sup>b</sup> Overall vessel length.

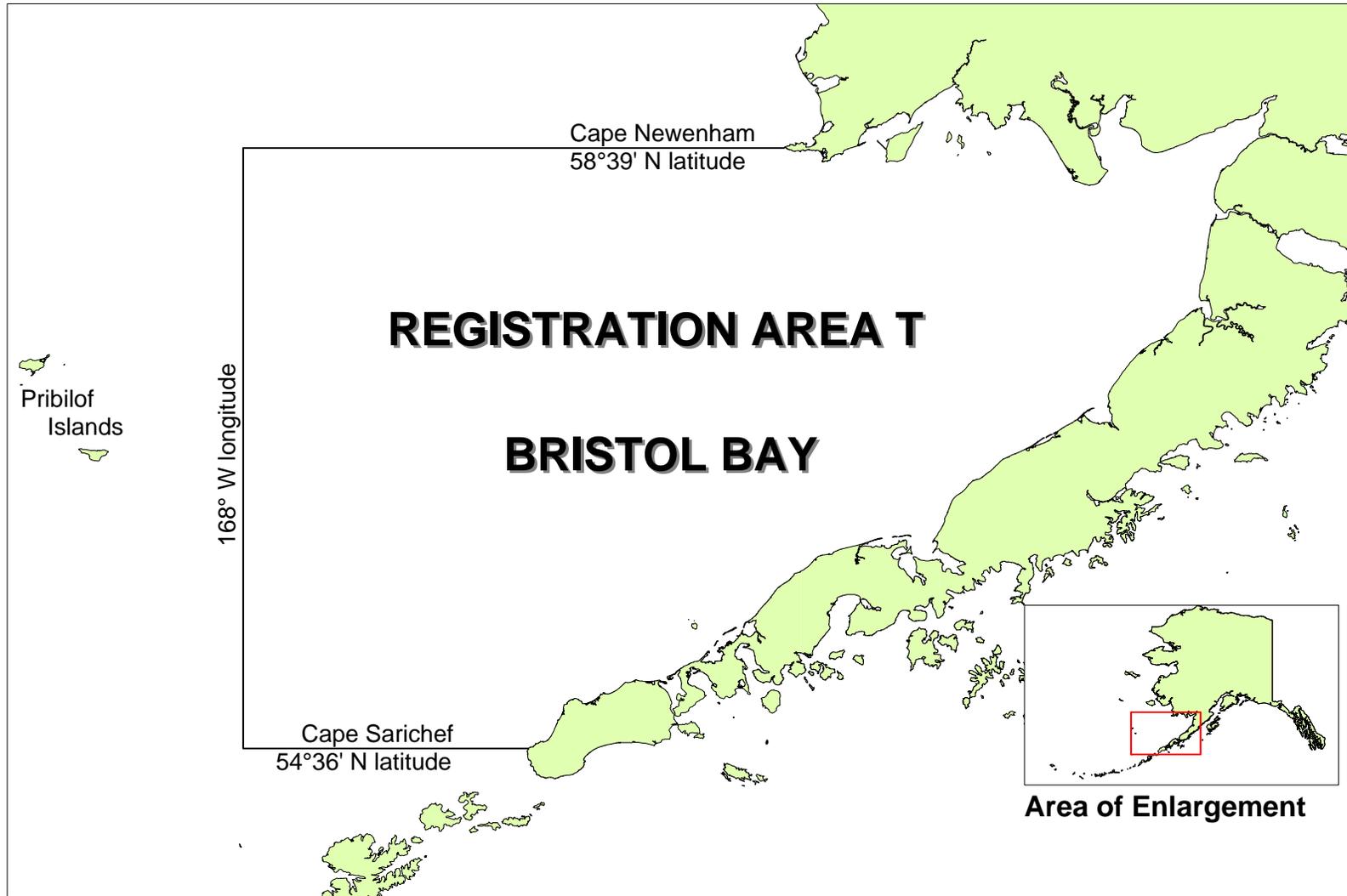


Figure 2-1.—King crab Registration Area T (Bristol Bay).

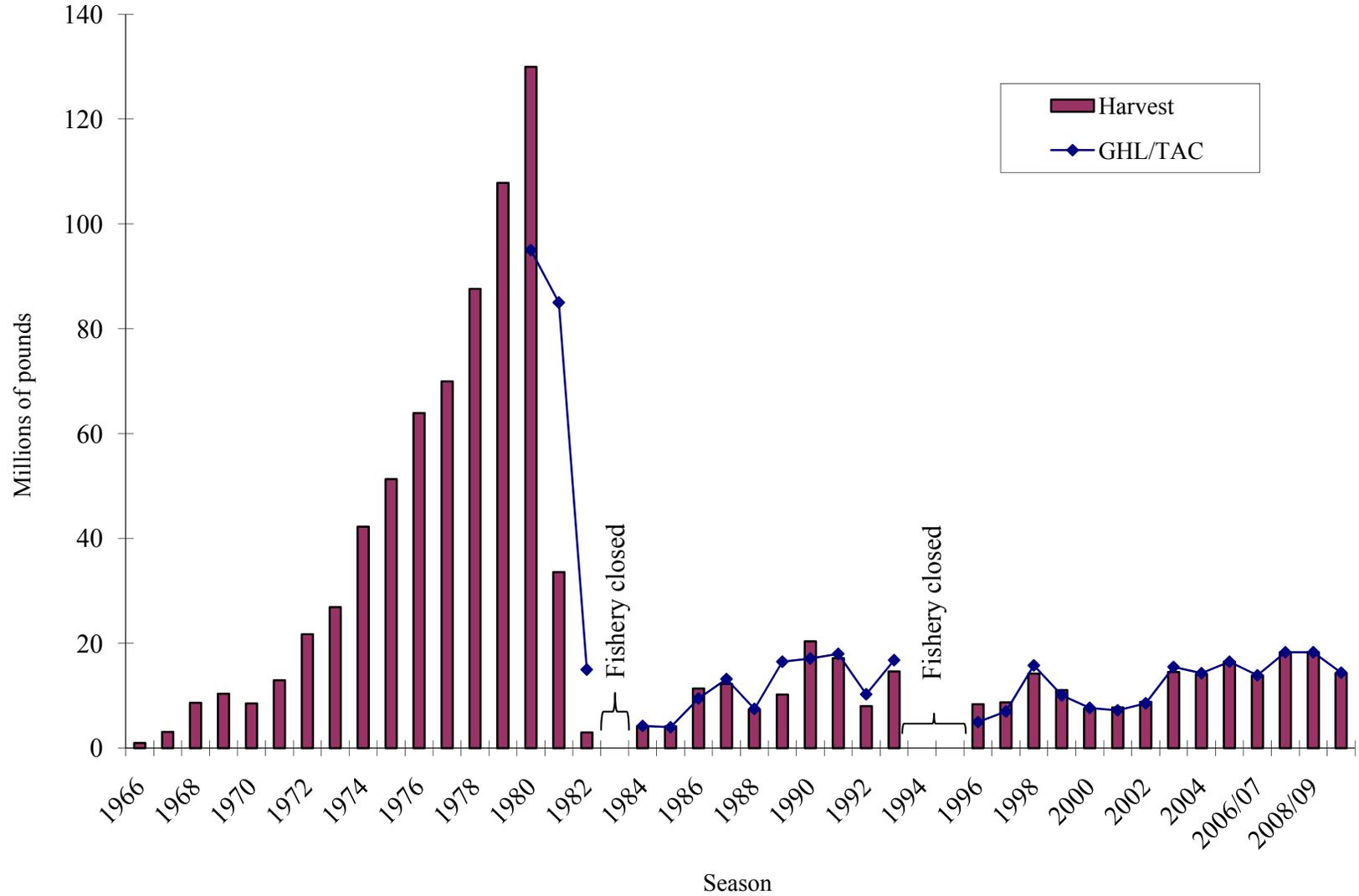


Figure 2-2.—Bristol Bay commercial red king crab general/IFQ fishery harvest and GHL/TAC, 1966–2009/10.

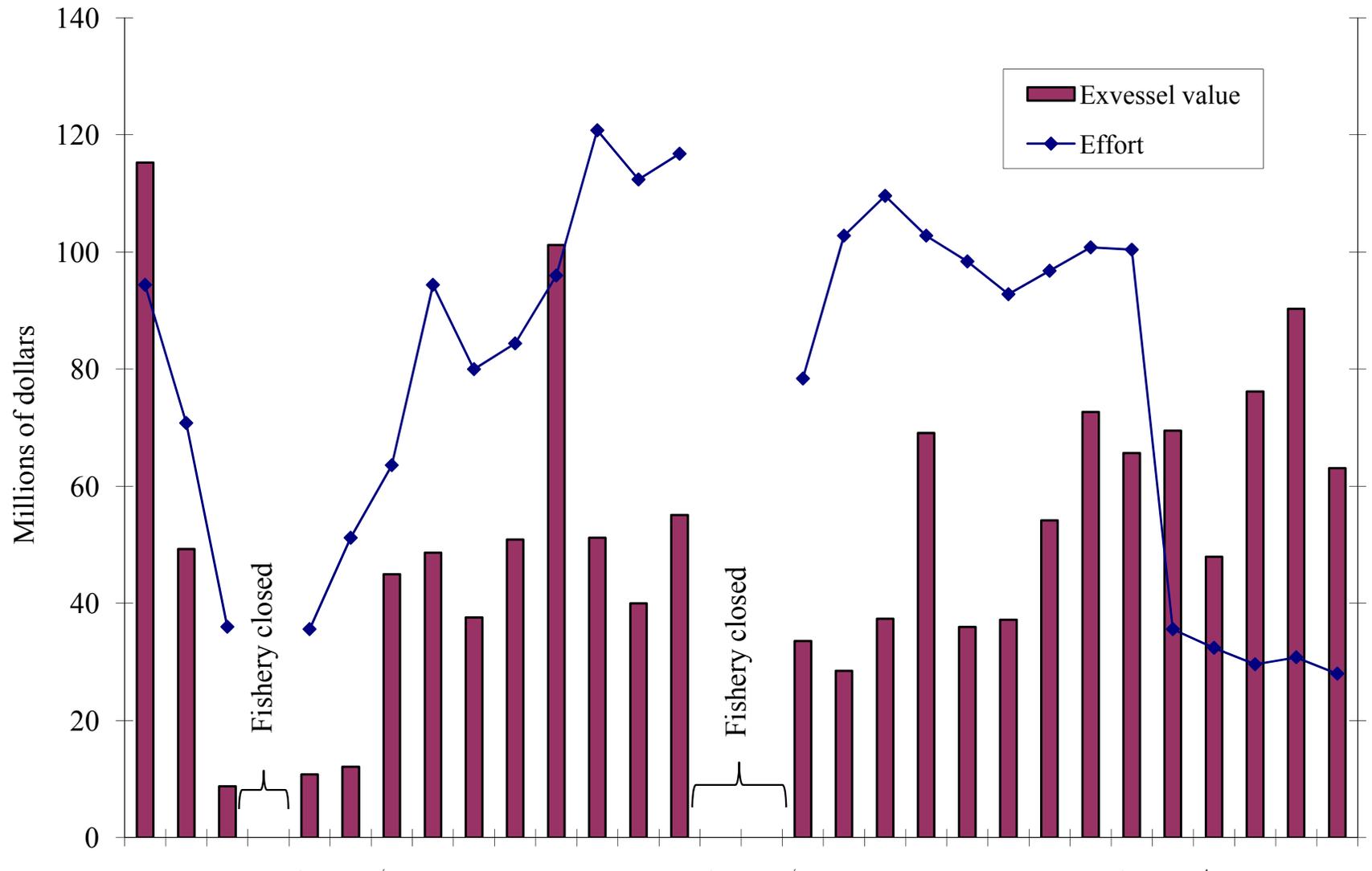


Figure 2-3.—Bristol Bay commercial red king crab general/IFQ fishery effort and exvessel value, 1980–2009/10.

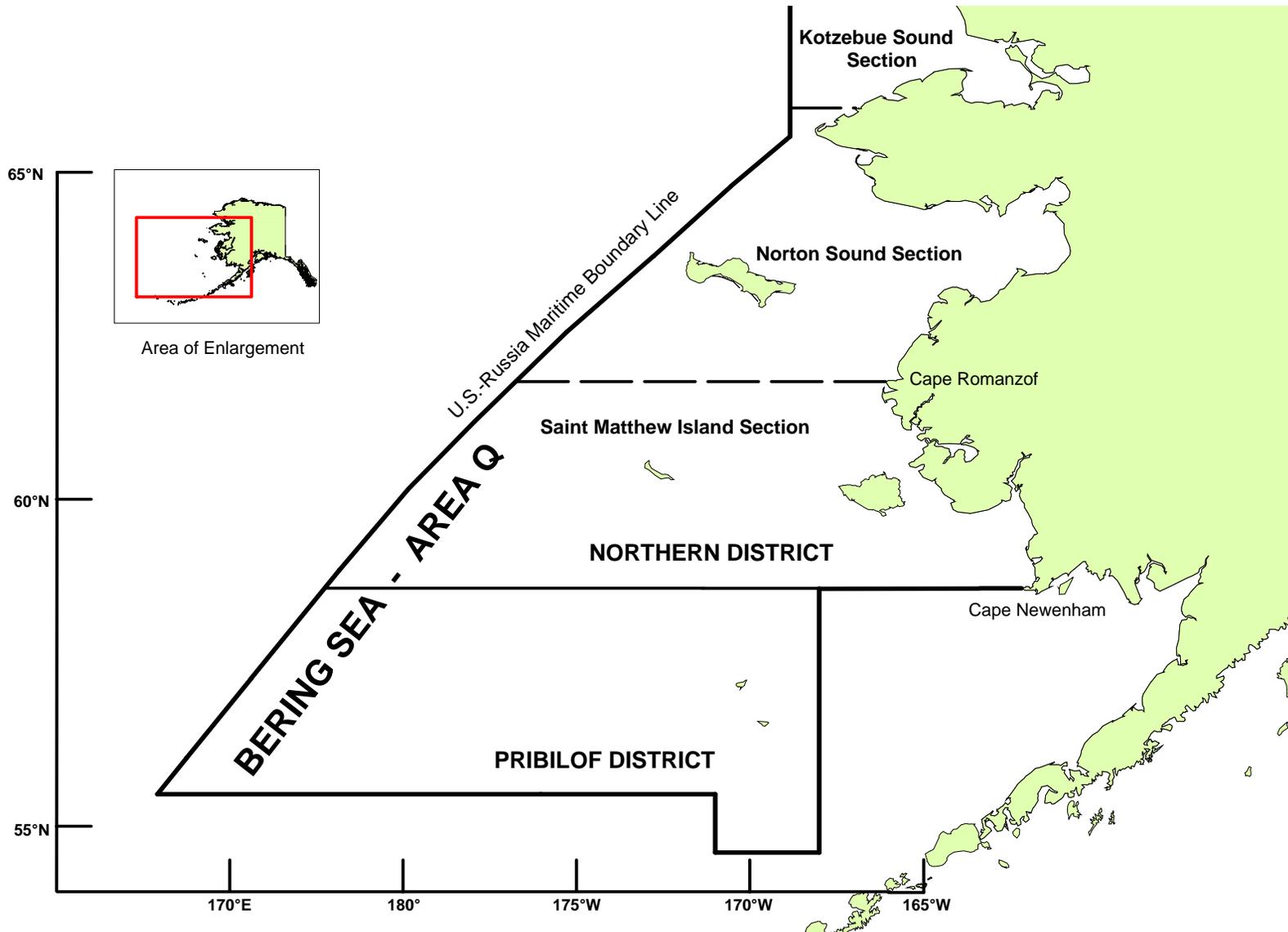


Figure 2-4.-King crab Registration Area Q (Bering Sea).

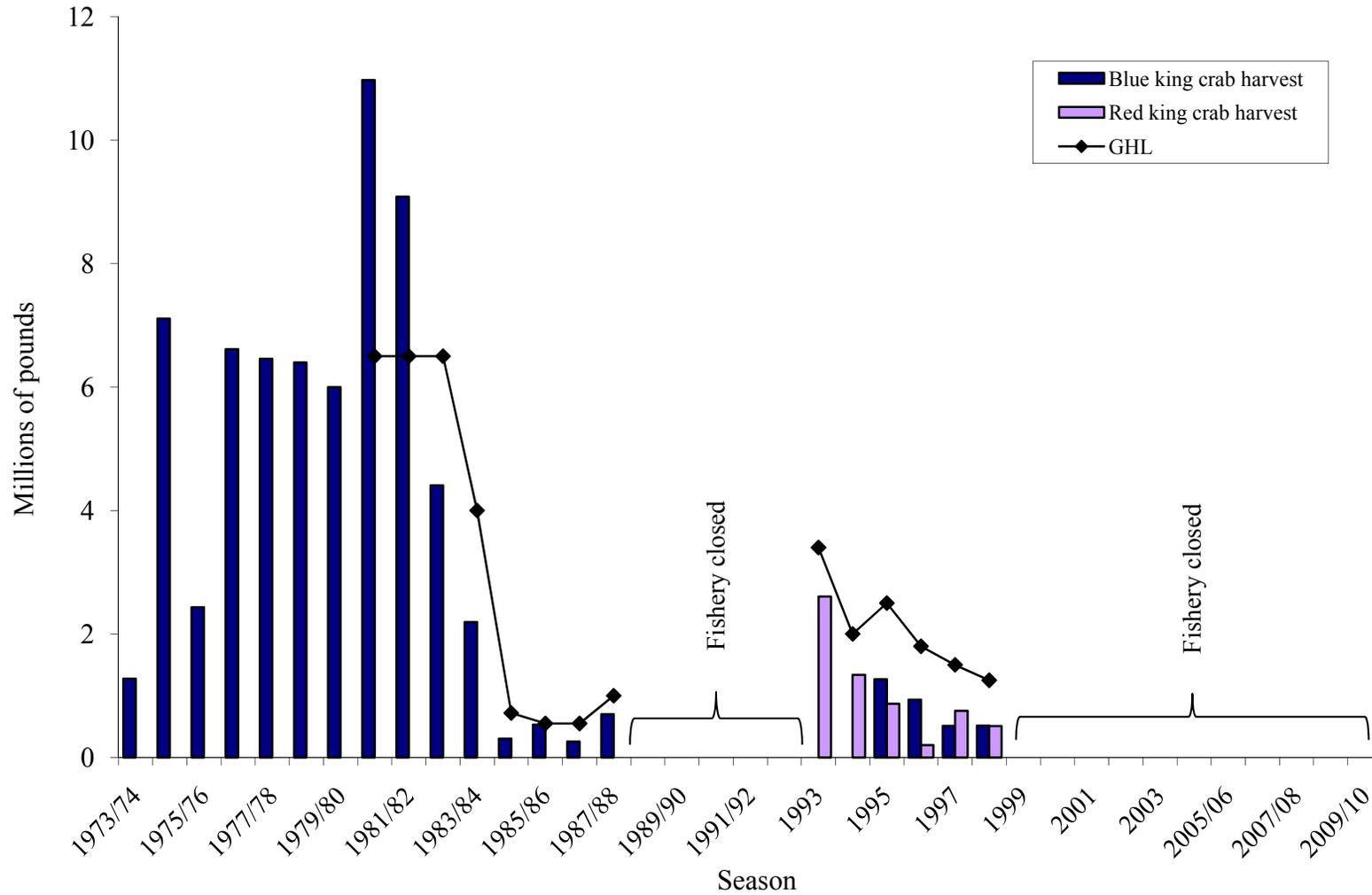


Figure 2-5.—Pribilof District red and blue king crab harvest and GHL 1973/74–2009/10. GHL for red and blue king crab is combined from 1973/74–1987/88.

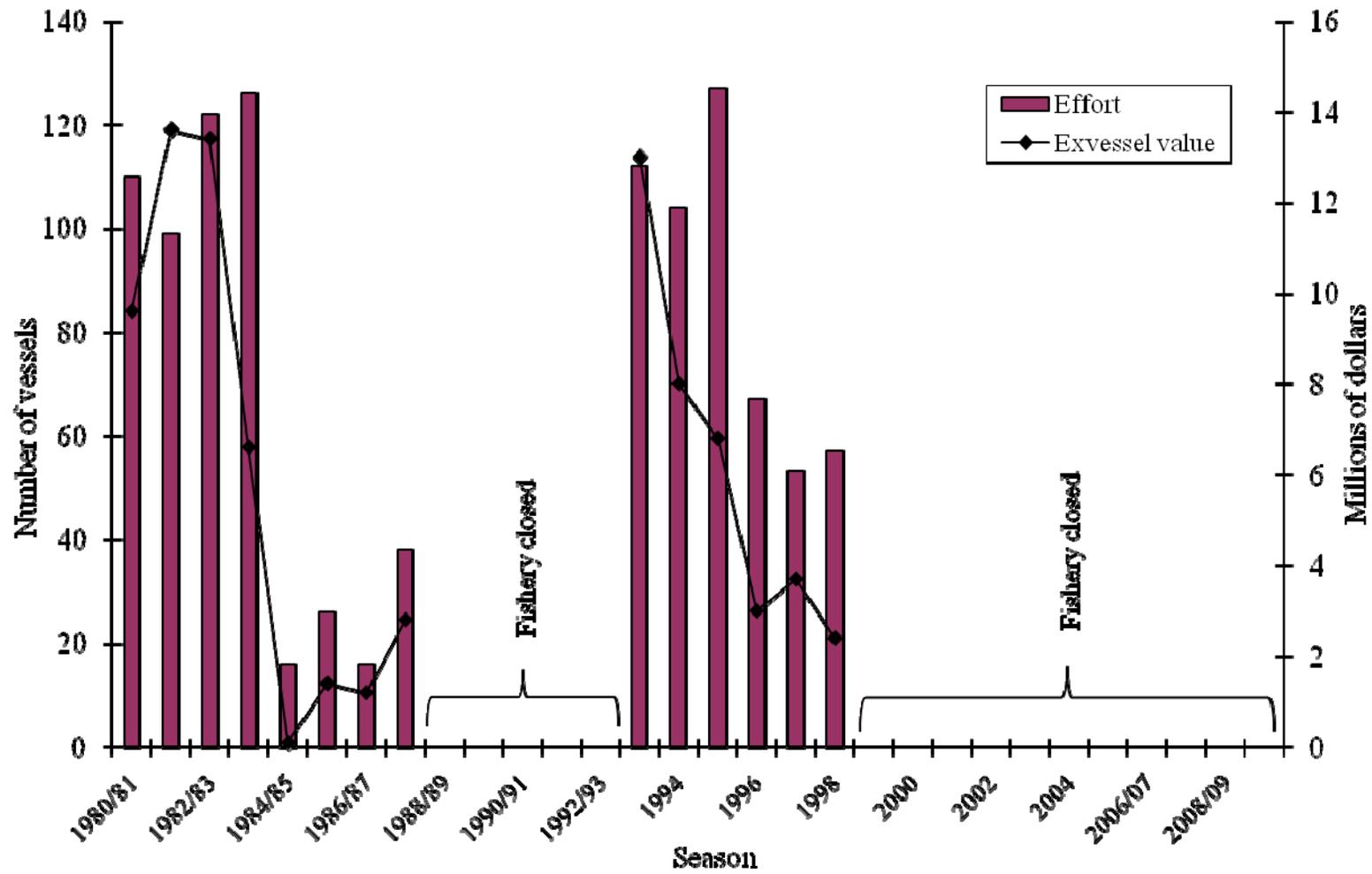


Figure 2-6.—Pribilof District commercial red and blue king crab fishery effort and exvessel value, 1980–2009/10.

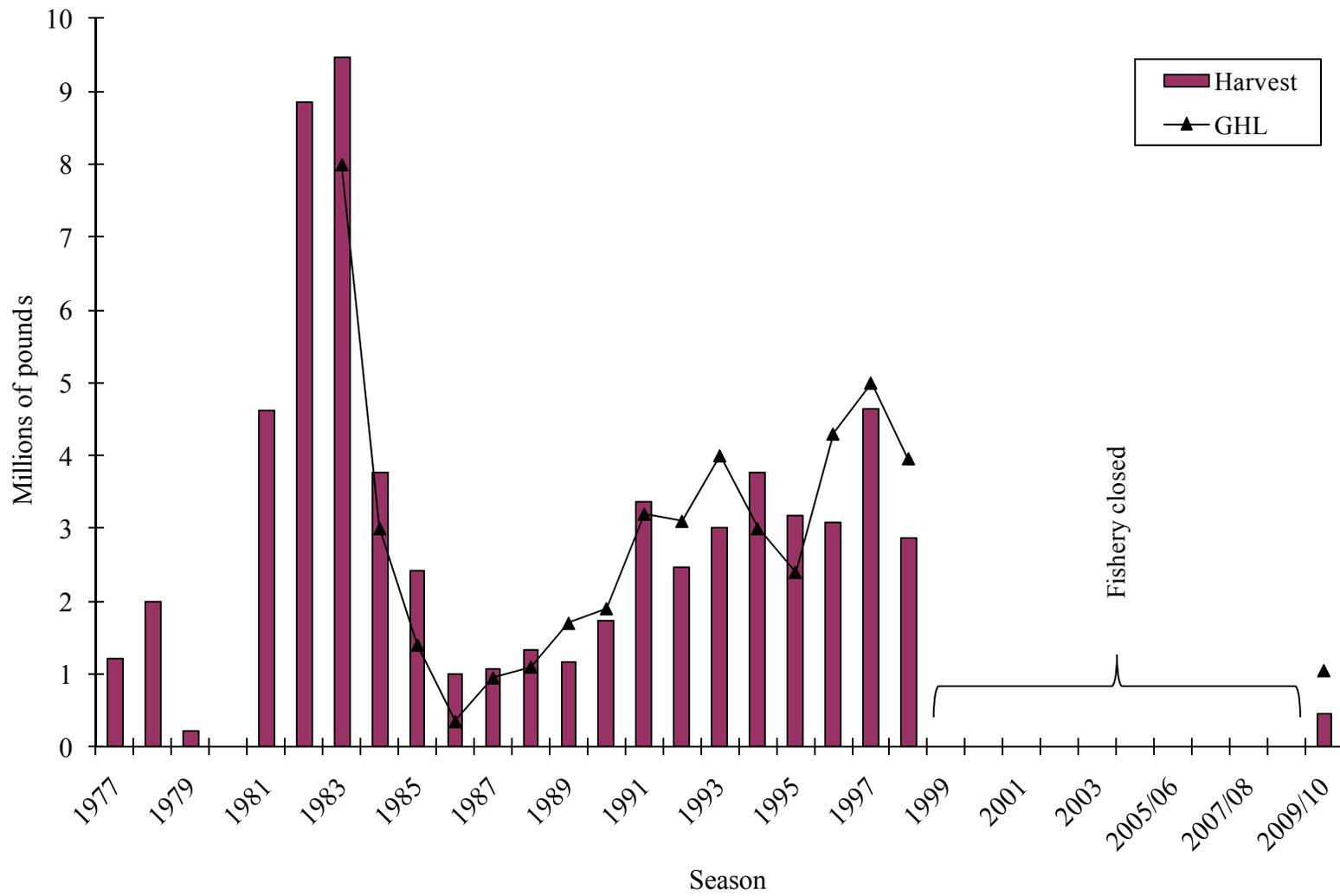


Figure 2-7.—Saint Matthew Island Section commercial blue king crab fishery harvest and GHL, 1977–2009/10.

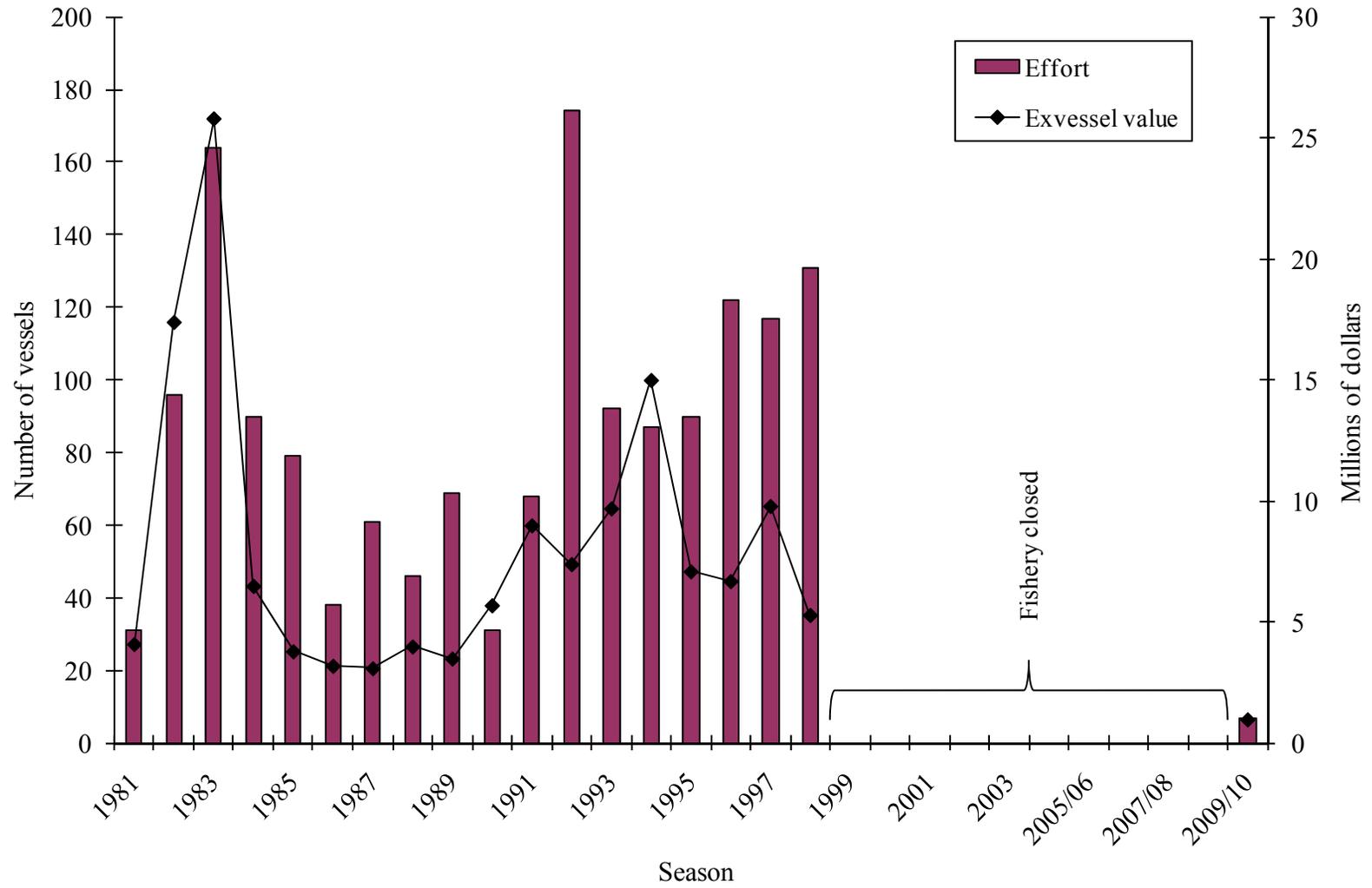


Figure 2-8.—Saint Matthew Island Section commercial blue king crab fishery effort and exvessel value, 1981–2009/10.

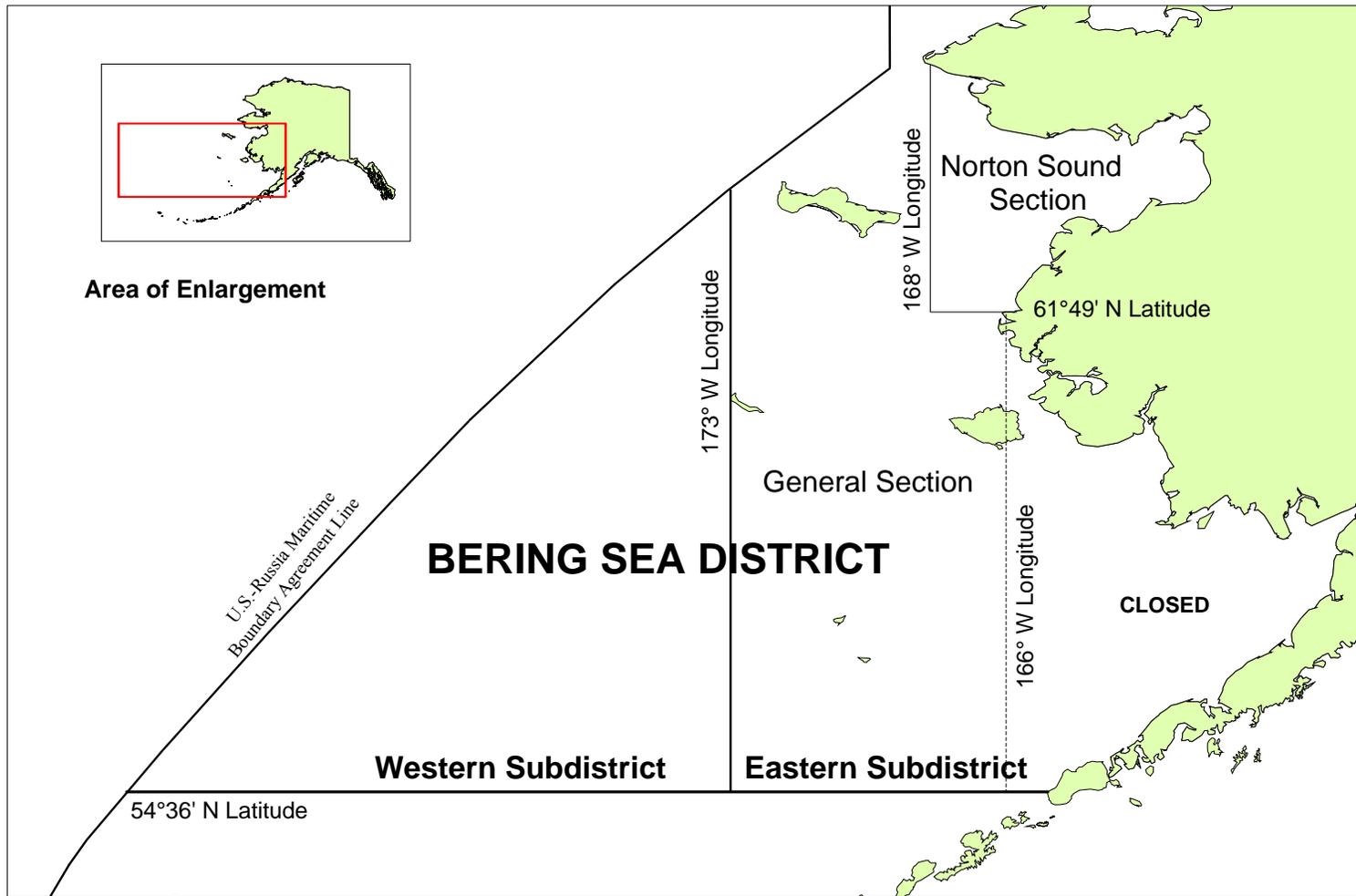


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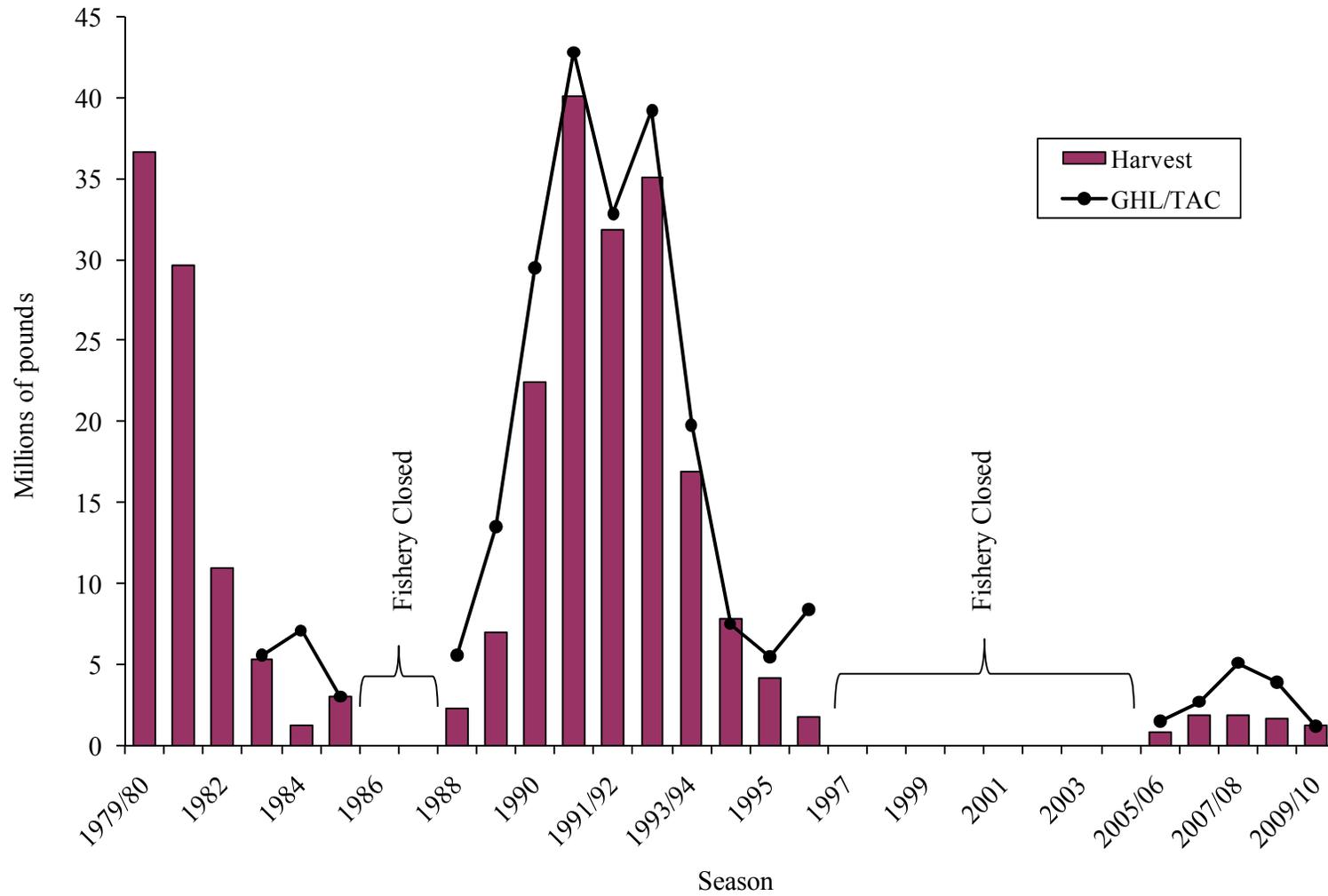


Figure 2-10.—Bering Sea District commercial Tanner crab general/IFQ fishery harvest and GH/L/TAC, 1979/80–2009/10.

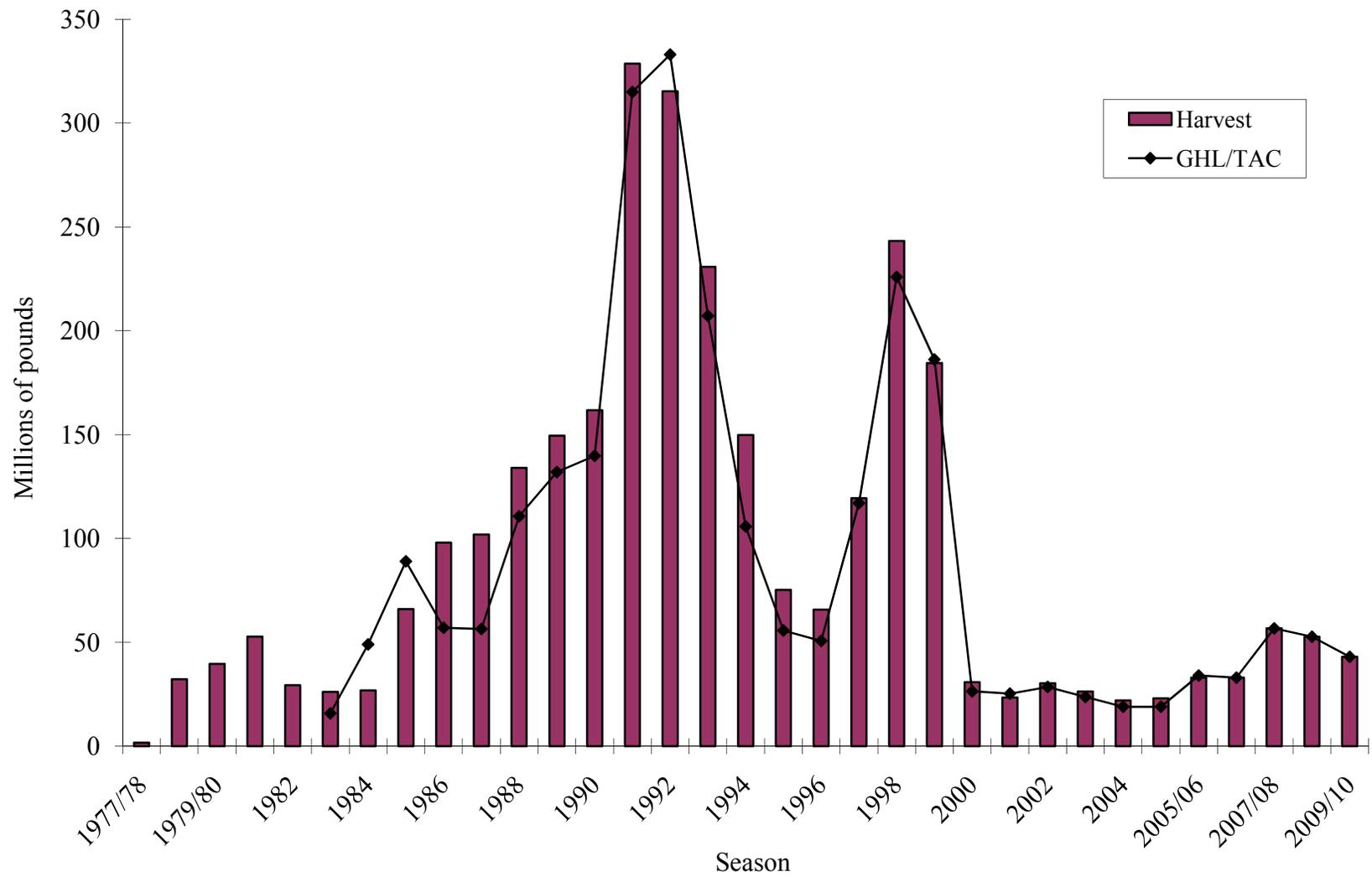


Figure 2-11.—Bering Sea District commercial snow crab general/IFQ fishery harvest and GH/L/TAC, 1977/78–2009/10.

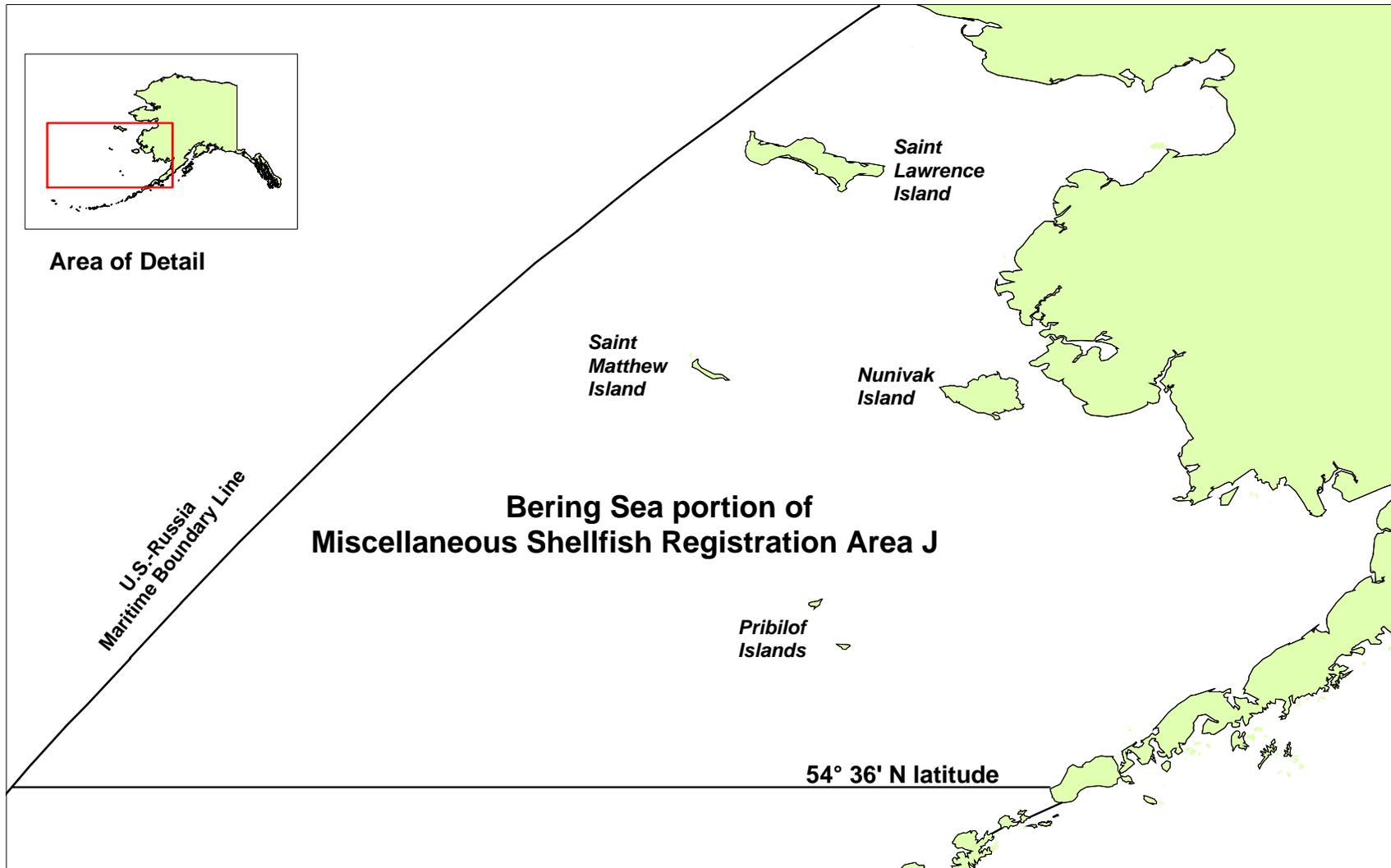


Figure 2-12.—Bering Sea portion of miscellaneous shellfish Registration Area J.

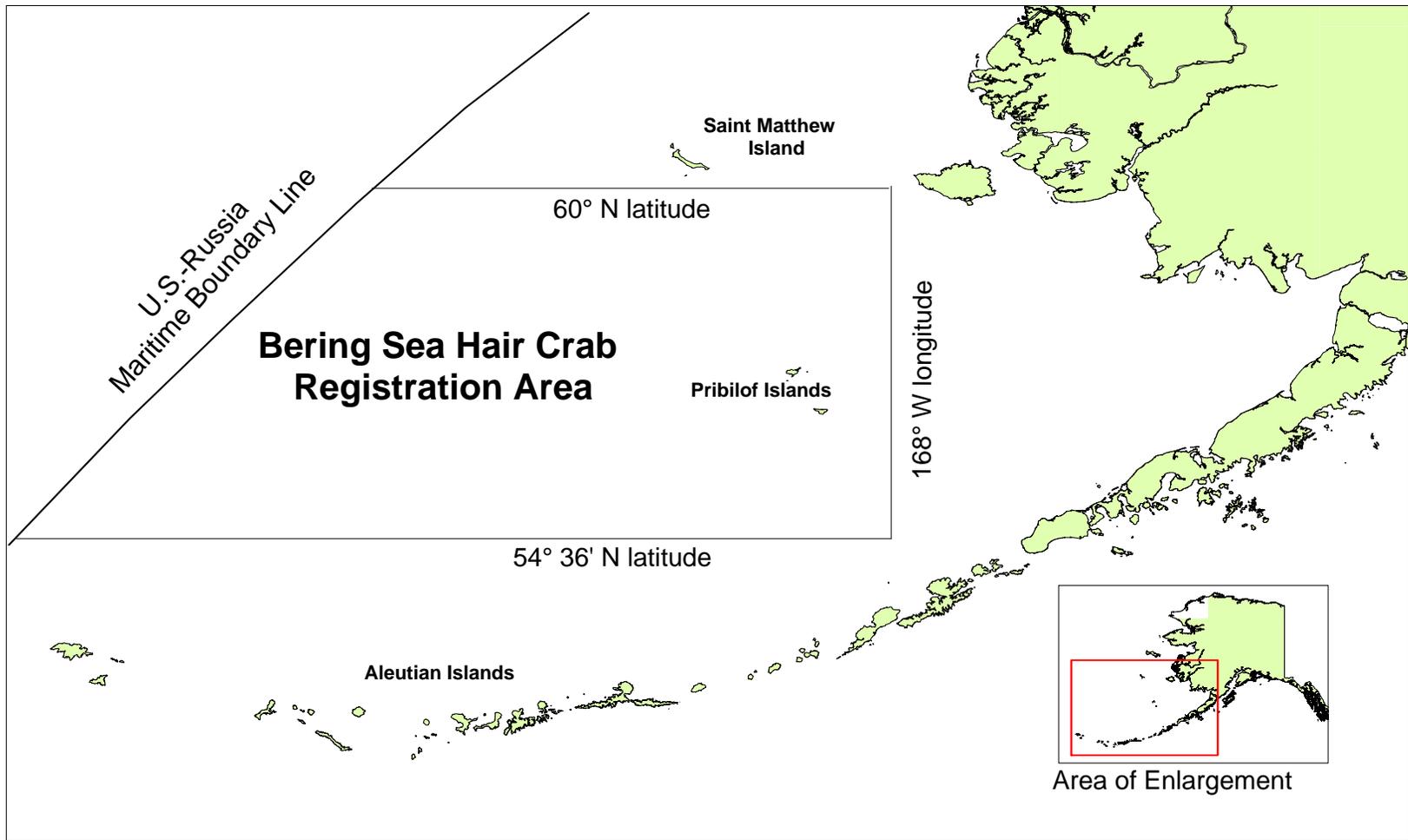


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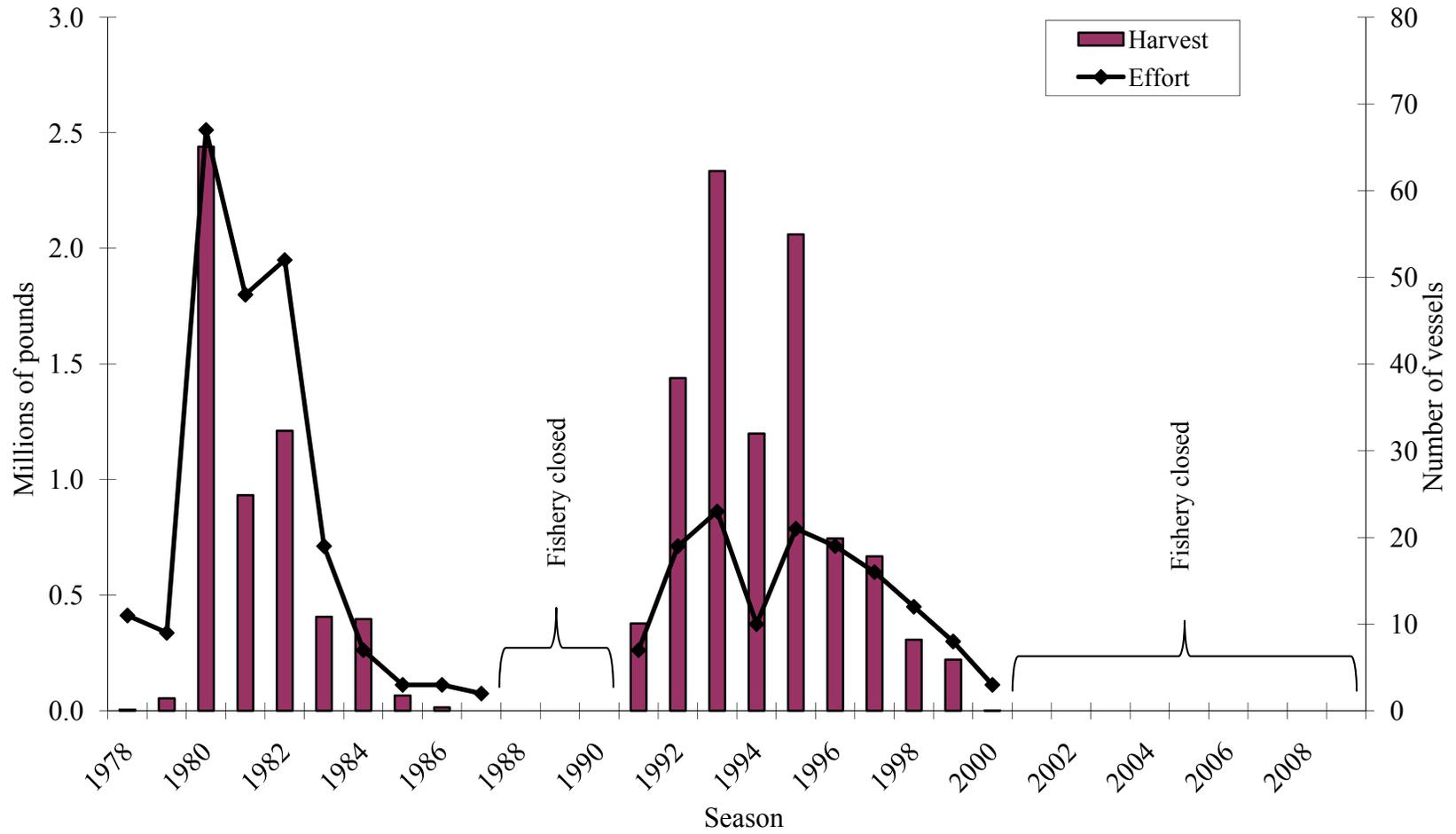


Figure 2-14.—Bering Sea commercial hair crab fishery harvest and effort, 1978–2009.

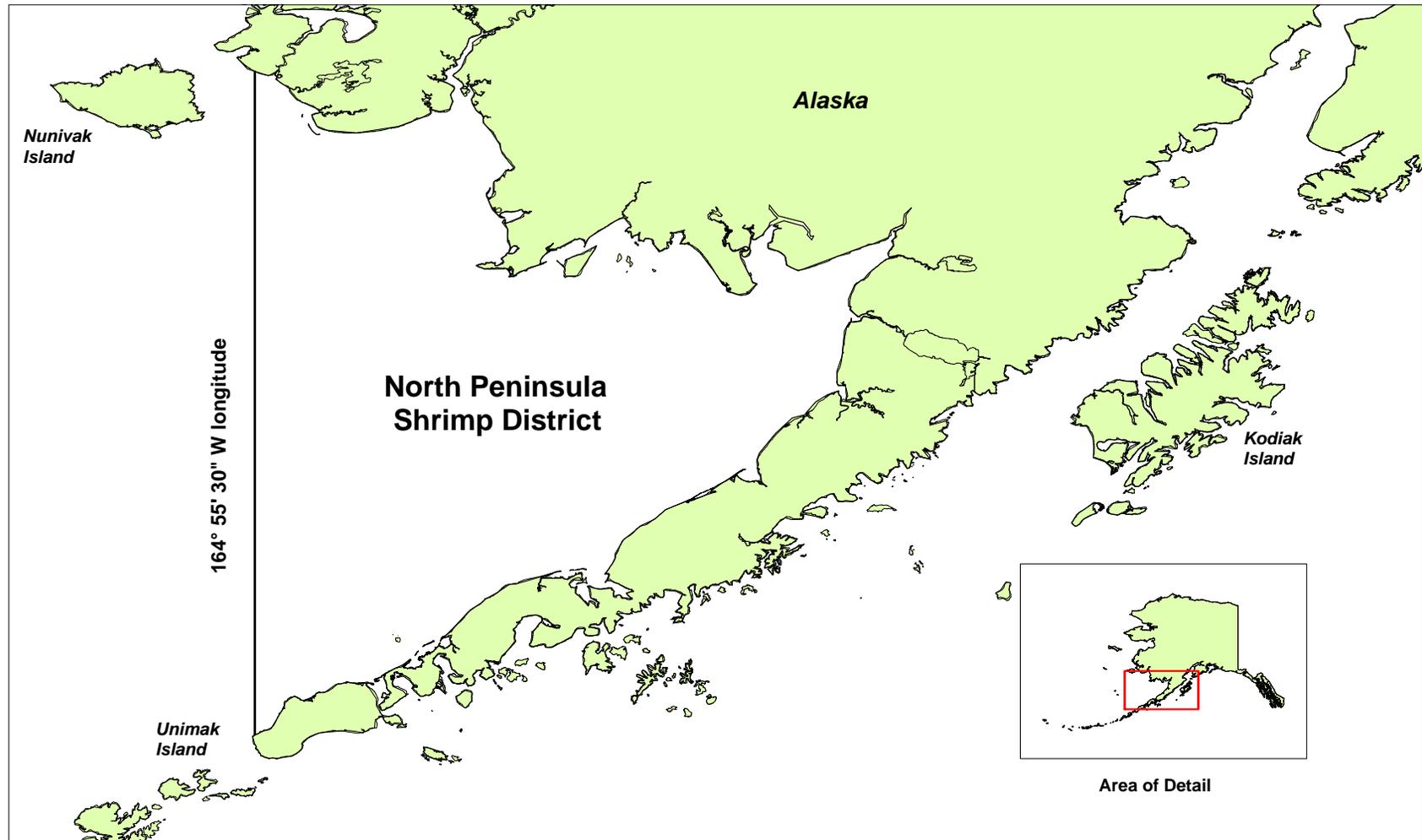


Figure 2-15.—North Peninsula District of shrimp Registration Area J.

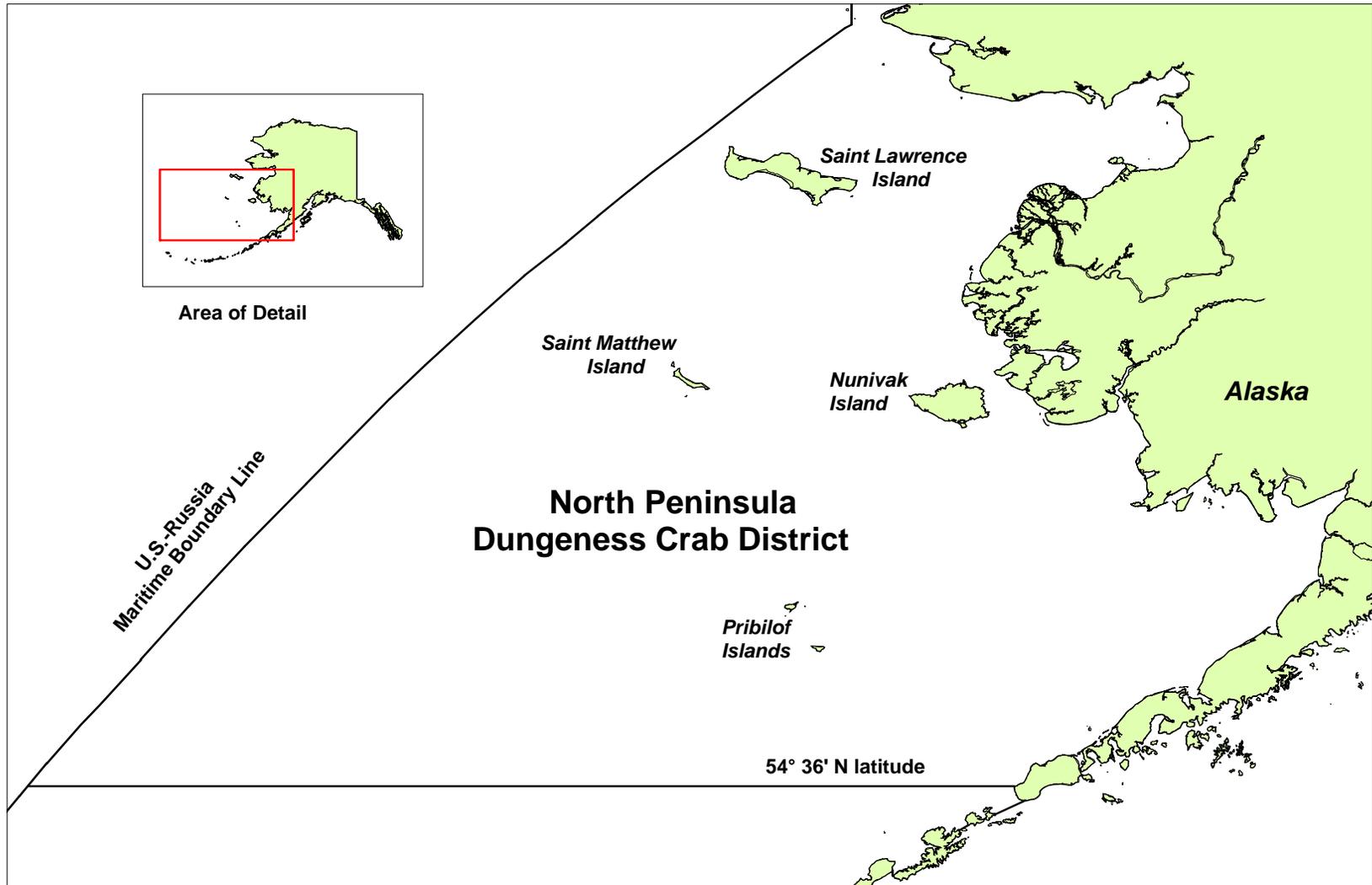


Figure 2-16.—North Peninsula District of Dungeness crab Registration Area J.

**ANNUAL MANAGEMENT REPORT FOR THE  
COMMUNITY DEVELOPMENT QUOTA AND ADAK  
COMMUNITY ALLOCATION CRAB FISHERIES IN  
THE BERING SEA AND ALEUTIAN ISLANDS, 2009/10**

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by  
Heather Fitch

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

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

## **DESCRIPTION OF AREA**

The Bering Sea Community Development Quota (CDQ) crab fisheries occur within waters of the Territorial Sea (0–3 nautical miles) and Exclusive Economic Zone (3–200 nautical miles from shore) north of Cape Sarichef (54°36' N lat), south of Cape Prince of Wales (65°49' N lat), and east of the U.S.-Russia Maritime Boundary Line, including the waters of Bristol Bay. For CDQ crab fisheries managed by the Alaska Department of Fish and Game (ADF&G) Westward Region, Cape Romanzof (61°49' N lat) is the northern boundary (Figure 3-1).

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

## **CDQ PROGRAM BACKGROUND**

The North Pacific Fishery Management Council (NPFMC) established the CDQ Program in 1992 for walleye pollock, and the CDQ program was later expanded to sablefish and Pacific halibut. In 1995 the NPFMC included certain Bering Sea king and Tanner crab stocks in the CDQ Program. The Alaska Board of Fisheries (BOF) adopted regulations for 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 (CR) in 2005, the BOF adopted regulations to implement changes to the CDQ management program, 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. CDQ funds vary widely between groups. Most plans include fishing-related investments, scholarships, training, employment services, and other projects which are intended to benefit the communities and regions the CDQ groups represent. Some groups buy equity in fishing vessels that harvest crab in both CDQ and individual fishing quota (IFQ) fisheries.

The 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). 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 to 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 with the implementation of Crab Rationalization the CDQ allocation is a fixed percentage of the TAC. The annual CDQ allocations for crab were phased in over a three-year period: 3.5% of the total allowable fishery harvest for 1998, 5.0% for 1999, and 7.5% for 2000–2005. The percentage of the TAC allocated to CDQ groups increased to 10% beginning in the 2005/06 season with the implementation of the CR program. In March 2006, the 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.

The individual CDQ group allocation varies in each fishery (Table 3-1). Each of the six CDQ groups participate in at least one CDQ fishery every year. 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.

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 regulation for an ACA Western Aleutian Islands golden king crab fishery. The program was established to benefit the community of Adak, who created a group called the Adak Community Development Corporation (ACDC). ACDC is a non-profit entity that represents the community of Adak and has a board of directors elected by the residents of Adak. The ACA crab allocation is not a CDQ fishery as Adak is not a CDQ community. The group must submit a comprehensive plan to DCED 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 allocation is set at 10% of the TAC of 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 with an allocation of 270,000 pounds.

## **FISHERY HISTORY**

The CDQ groups are required to submit preseason fishery harvesting plans to the department 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 general fishery harvest in order to calculate an estimated allocation for each CDQ group. However, the department changed permitting procedures after several CDQ groups exceeded their allocation in the snow crab fishery in 1998 and 1999. Because vessel permits were issued before the actual harvest limit for the CDQ fishery was known, they did not reference the CDQ group's harvest allocation. Permits were henceforth issued to both the vessels

and the CDQ groups. Prior to the CR 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 now issued with the actual 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. This would have allowed CDQ groups to harvest part of their 1999 allocation of snow crab in the fall of 1998. The National Marine Fisheries Service (NMFS) determined that the federal CDQ regulatory language did not allow for 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 pre-season. The compromise was adopted into regulation. The new regulation would have allowed a CDQ king or Tanner crab fishery prior to the general fishery only when the GHF was 50 million pounds or more, and a maximum of 30% of the CDQ allocation was allowed to be harvested pre-season. However, no 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 fishing for IFQ and CDQ crab. Almost all CDQ harvest is taken concurrently with IFQ harvest. Fishermen generally use the same gear to harvest IFQ and CDQ crabs, however fisheries with pot limits are limited to a single compliment 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 crabs are now harvested concurrently, 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% of vessels have observer coverage for 100% of their fishing time. For Bering Sea snow crab, 30% of vessels have observer coverage for 100% of their fishing time. During the Bering Sea Tanner crab fishery 30% to 100% of the vessels are required to have observer coverage for 100% of their fishing time. Each vessel fishing for Aleutian Islands golden king crab is required to carry an observer for 50% 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. All 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. No CDQ groups transferred any allocation after harvesting occurred. 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% of the weight of the Bering Sea Tanner crab on board the vessel or Bering Sea Tanner crab up to 5% 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.

## **2009/10 CDQ AND ACA FISHERIES**

### **Bristol Bay CDQ Red King Crab Fishery**

The 2009/10 Bristol Bay CDQ red king crab fishery allocation based on 10% of the overall TAC was 1,600,900 pounds (Table 3-2). Five of the 6 CDQ groups participated in this fishery. The remaining group transferred their entire allocation to another group. The fishery opened concurrently with the IFQ Bristol Bay red king crab fishery on October 15, 2009. Permits were issued to each CDQ group before fishing began. The permit stated the group's allocation, the vessel(s) allowed by the group and authorized by ADF&G to participate in the fishery, and stated that those vessels must register with the department prior to fishing. Vessel registration could begin as soon as the group permits were issued and within 72 hours of the fishery opening.

Deliveries began October 17 and the final delivery was made November 24, although the season closed by regulation on January 15. Eleven vessels made 23 landings for an overall harvest of 1,600,851 pounds (Table 3-2) and a fishery value of approximately 7.0 million dollars (Table 3-3). The value of the Bristol Bay red king crab fishery to the CDQ groups is estimated to be 50–75% of the exvessel fishery value. No groups exceeded their allocation.

The fishery average catch per unit effort (CPUE) was 23 legal crabs per pot lift (Table 3-2), higher than the CPUE of 21 reported for the IFQ fishery. Average weight of crabs in the CDQ fishery was 6.2 pounds (Table 3-3), slightly lower than the 6.3 pound average weight from the IFQ fishery. Four groups used 2 vessels to harvest their allocation, and one group used 3 vessels. One vessel did not participate in the IFQ fishery. Two of the 11 vessels that harvested CDQ crab were observed, accounting for 20% of the CDQ harvest.

### **Pribilof District CDQ Red And Blue King Crab Fishery**

No CDQ harvest of Pribilof District red or blue king crab occurred in 2009/10 because the commercial fishery was closed.

### **Saint Matthew Island Section CDQ Blue King Crab Fishery**

No CDQ harvest of Saint Matthew Island Section blue king crab occurred in 2009/10. The fishery opened concurrently with the IFQ fishery on October 15, 2009. Group permits were issued to 3 groups. One group transferred their entire quota to one other group, another group did not have an allocation for this fishery, and the remaining group did not submit a fishing plan for a group permit. Two vessels registered to fish for 1 CDQ group. Neither vessel made CDQ landings, however both vessels made IFQ landings.

### **Bering Sea CDQ Snow Crab Fishery**

The 2009/10 Bering Sea CDQ snow crab fishery opened concurrently with the IFQ fishery on October 15, 2009. The allocation of 4,801,700 pounds (Table 3-2) was based on 10% of the overall TAC. All of the CDQ groups participated in the fishery. Permits were issued to each CDQ group before fishing began. The permit stated the group's allocation, the vessel(s) allowed by the group and authorized by ADF&G to participate in the fishery, and stated that those vessels must register with the department prior to fishing. Vessel registration could begin as soon as the group permits were issued and within 72 hours of the fishery opening.

Although the fishery opened in October, the first delivery was not made until January 16, 2010 and the last delivery was on March 14. Eleven vessels made 29 landings with a total harvest of 4,801,506 pounds and a fishery value of approximately 5.3 million dollars (Tables 3-2 and 3-3). The value of the Bering Sea snow crab fishery to the CDQ groups is estimated to be 40–60% of the exvessel fishery value. No groups exceeded their allocation.

The average weight was 1.4 pounds (Table 3-3), the same as the IFQ fishery. The average CPUE was 286 (Table 3-2), slightly higher than the average CPUE of 255 from the IFQ fishery. Two of the groups each used one vessel to harvest their allocation, 3 groups each used 2 vessels, and the remaining group used 3 vessels. Five of the 11 vessels that harvested CDQ snow crab carried observers, accounting for 33% of the CDQ harvest.

### **Eastern Aleutian Islands CDQ Golden King Crab Fishery**

The 2009/10 Eastern Aleutian Islands (east of 174° W long) CDQ golden king crab fishery allocation was based on 10% of the overall TAC. The TAC was divided between the 6 CDQ groups with a total allocation of 315,000 pounds. All CDQ groups were allocated a portion of the harvest, but only 4 groups participated. The remaining 2 groups transferred their quotas to other CDQ groups.

The eastern Aleutian Islands CDQ golden king crab fishery opened concurrently with the Aleutian Islands golden king crab IFQ fishery on August 15, 2009. Permits were issued to each CDQ group before fishing began. The permit stated the group's allocation, the vessel(s) allowed by the group and authorized by ADF&G to participate in the fishery, and stated that those vessels must register with the department prior to fishing. The permit listed the vessel(s) allowed by the group and authorized by ADF&G to participate in the fishery and stated that those vessels must register with the department prior to fishing. Vessel registration could begin as soon as the group permits were issued and within 72 hours of the fishery opening.

Each group used one vessel to harvest their allocation. One vessel harvested for 2 groups. Harvest information is confidential due to limited processor participation.

### **Western Aleutian Islands ACA Golden King Crab Fishery**

The 2009/10 Western Aleutian Islands ACA golden king crab fishery opened concurrently with the Western Aleutian Islands golden king crab IFQ fishery on August 15. ACDC was issued 10% of the western portion (west of 174° W) of the Aleutian Islands golden king crab TAC for an allocation of 283,500 pounds (Table 3-2). A permit was issued to ACDC before fishing began and listed the ACA allocation. The permit listed the vessel(s) allowed by the group and authorized by ADF&G to participate in the fishery and stated that those vessels must register with the department prior to fishing. Vessel registration could begin as soon as the group permits were issued and within 72 hours of the fishery opening.

One vessel registered to fish. 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 2009/10 due to closure of the commercial fishery.

### **Bering Sea CDQ Tanner Crab Fishery**

The 2009/10 Bering Sea CDQ Tanner crab season opened October 15, 2009 with TAC available east of 166° W long only. The CDQ fishery allocation was 10% of the total 2009/10 Tanner crab TAC. The CDQ fishery allocation east of 166° W long was 135,000 pounds (Table 3-2). Both the IFQ and CDQ fisheries west of 166° W long were closed, though 3 groups reported a small amount of illegally retained Tanner crab deadloss during the Bering Sea snow crab fishery.

Six CDQ groups were eligible to participate in the Eastern Bering Sea CDQ fishery. Two groups transferred their entire allocation to other CDQ groups. Permits were issued to each CDQ group before fishing began. The permit stated the group's allocation, the vessel(s) allowed by the group and authorized by ADF&G to participate in the fishery, and stated that those vessels must register with the department prior to fishing. Vessel registration could begin as soon as the group permits were issued and within 72 hours of the fishery opening.

Deliveries began on October 22, 2009 and the final delivery was made on February 10, 2010. Five vessels made 5 landings for a harvest of 135,004 pounds (Table 3-2). All 4 participating groups harvested the entire CDQ allocation. One group went over their allocation. A small amount of Tanner crab from the eastern portion of the fishery was reported as deadloss caught incidentally in the Bristol Bay red king crab fishery.

The average weight of the Tanner crab during the CDQ fishery was 2.7 pounds, compared to 2.8 pounds in the IFQ fishery. The CPUE was 38 which was higher than the IFQ fishery CPUE of 29. The CDQ fishery value was approximately \$220,000 (Table 3-3). The value of the Bering Sea Tanner crab fishery to the CDQ groups is estimated to be 20–30% of the exvessel fishery value. In the eastern area all of the CDQ vessels carried an observer the entire time.

## **TABLES AND FIGURES**

Table 3-1.—The 2003–2009/10 Community Development Quota (CDQ) Program and Adak Community Allocation (ACA) percent allocation by fishery to each group.

Fishery	Percent allocation by group <sup>a</sup>						
	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.) <sup>b</sup>	8	18	21	18	21	14	0
Eastern Aleutian Islands Golden King Crab (east of 174° W long.) <sup>b</sup>	8	18	21	18	21	14	0
Western Aleutian Islands Golden King Crab (west of 174° W long.) <sup>c</sup>	0	0	0	0	0	0	100

<sup>a</sup> 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).

<sup>b</sup> 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.

<sup>c</sup> Western Aleutian Islands golden king crab west of 174° W long is only available under the ACA program which began with Crab Rationalization in the 2005/06 season.

Table 3-2.—The 1998–2009/10 Community Development Quota (CDQ) and Adak Community Allocation (ACA) program crab fisheries statistics.

Season	% of overall GHL/TAC <sup>a</sup> allocated to CDQ/ACA <sup>b</sup>	Allocation <sup>c</sup>	Number of			Harvest <sup>c,d</sup>	Deadloss <sup>c</sup>	CPUE <sup>e</sup>
			Vessels	Landings	Crabs <sup>d</sup>			
<b>Bristol Bay Red King Crab</b>								
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
<b>Pribilof Red King Crab</b>								
1998	3.5%	35,958 <sup>f</sup>	1	CF	CF	CF	CF	6
1999 - 2009/10	FC	FC	FC	FC	FC	FC	FC	FC
<b>Pribilof Blue King Crab</b>								
1998	3.5%	35,958 <sup>f</sup>	1	CF	CF	CF	CF	6
1999 - 2009/10	FC	FC	FC	FC	FC	FC	FC	FC
<b>St. Matthew Blue King Crab</b>								
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
<b>Bering Sea Snow Crab</b>								
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

-continued-

Table 3-2.–Page 2 of 2.

Season	% of overall GHL/TAC <sup>a</sup> allocated to CDQ/ACA <sup>b</sup>	Allocation <sup>c</sup>	Number of			Harvest <sup>c,d</sup>	Deadloss <sup>c</sup>	CPUE <sup>e</sup>
			Vessels	Landings	Crabs <sup>d</sup>			
<b>Eastern Aleutian Islands Golden King Crab (east of 174° W longitude)</b>								
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
<b>Western Aleutian Islands Golden King Crab (west of 174° W longitude), ACA Fishery</b>								
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
<b>Western Aleutian Islands Red King Crab (west of 179° W longitude)</b>								
2005/06 - 2009/10	FC	FC	FC	FC	FC	FC	FC	FC
<b>Eastern Bering Sea Tanner Crab (east of 166° W longitude)</b>								
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
<b>Western Bering Sea Tanner Crab (west of 166° W longitude)</b>								
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

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

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

<sup>b</sup> Only Western Aleutian Islands golden king crab is associated with the ACA fishery.

<sup>c</sup> In pounds.

<sup>d</sup> Deadloss included.

<sup>e</sup> Average number of legal crabs per pot pull.

<sup>f</sup> Fishery was executed with an overall quota for both Pribilof red and blue king crab; harvest was tracked by species.

Table 3-3.—The 1998–2009/10 crab Community Development Quota (CDQ) and Adak Community Allocation (ACA) program economic overview.

Season	Harvest <sup>a,b</sup>	Exvessel Value <sup>c</sup>	Fishery Value	Average Weight <sup>a</sup>	Pots	
					Registered	Lifted
<b>Bristol Bay Red King Crab</b>						
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
<b>Pribilof Red King Crab</b>						
1998	CF	CF	CF	CF	CF	CF
1999 - 2009/10	FC	FC	FC	FC	FC	FC
<b>Pribilof Blue King Crab</b>						
1998	CF	CF	CF	CF	CF	CF
1999 - 2009/10	FC	FC	FC	FC	FC	FC
<b>St. Matthew Blue King Crab</b>						
1998	CF	CF	CF	CF	CF	CF
1999 - 2008/09	FC	FC	FC	FC	FC	FC
2009/10	0	0	0	NA	0	0
<b>Bering Sea Snow Crab</b>						
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

-continued-

Table 3-3.–Page 2 of 2.

Season	Harvest <sup>a,b</sup>	Exvessel Value <sup>c</sup>	Fishery Value	Average Weight <sup>a</sup>	Pots	
					Registered	Lifted
<b>Eastern Aleutian Islands Golden King Crab (east of 174° W longitude)</b>						
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
<b>Western Aleutian Islands Golden King Crab (west of 174° W longitude), ACA Fishery</b>						
2005/06 - 2009/10	CF	CF	CF	CF	CF	CF
<b>Western Aleutian Islands Red King Crab (west of 179° W longitude)</b>						
2005/06 - 2009/10	FC	FC	FC	FC	FC	FC
<b>Eastern Bering Sea Tanner Crab (east of 166° W longitude)</b>						
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
<b>Western Bering Sea Tanner Crab (west of 166° W longitude)</b>						
1998 - 2004	FC	FC	FC	FC	FC	FC
2005/06	160,961	\$1.25	\$201,201	2.1	170 <sup>d</sup>	2,024
2006/07	86,286	\$1.61	\$138,920	2.1	150 <sup>d</sup>	2,691
2007/08	56,007	\$1.65	\$92,412	2.1	390 <sup>d</sup>	2,728
2008/09	0	\$0.00	\$0	1.4	670 <sup>e</sup>	3,477
2009/10	FC	FC	FC	FC	FC	FC

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

<sup>a</sup> In pounds.

<sup>b</sup> Deadloss not included.

<sup>c</sup> Average price per pound.

<sup>d</sup> Pots registered include Tanner pots only; some fishermen utilized snow crab gear to harvest Tanner crab.

<sup>e</sup> 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.

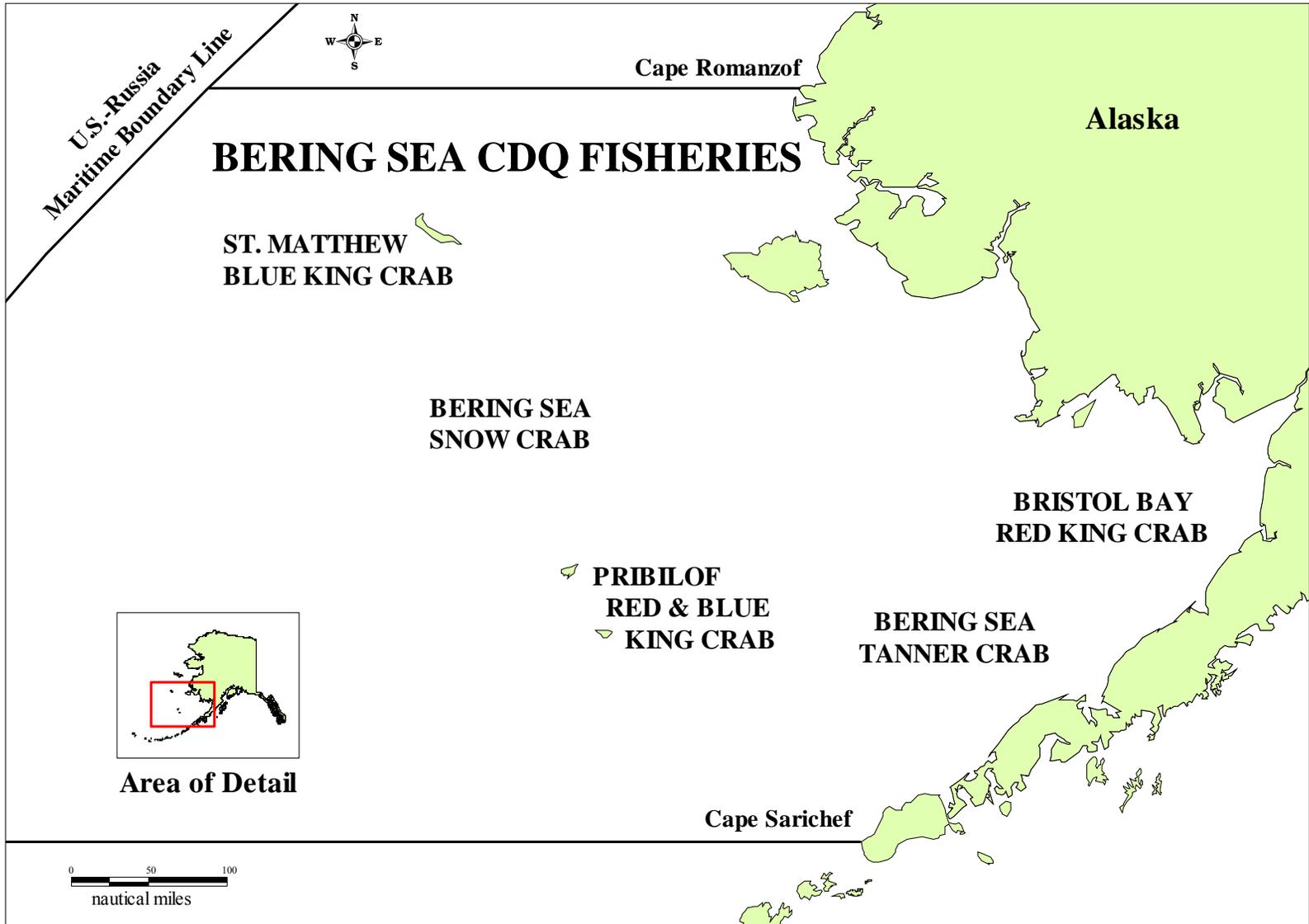


Figure 3-1.—Bering Sea Community Development Quota (CDQ) Program crab fisheries managed by ADF&G, Westward Region.

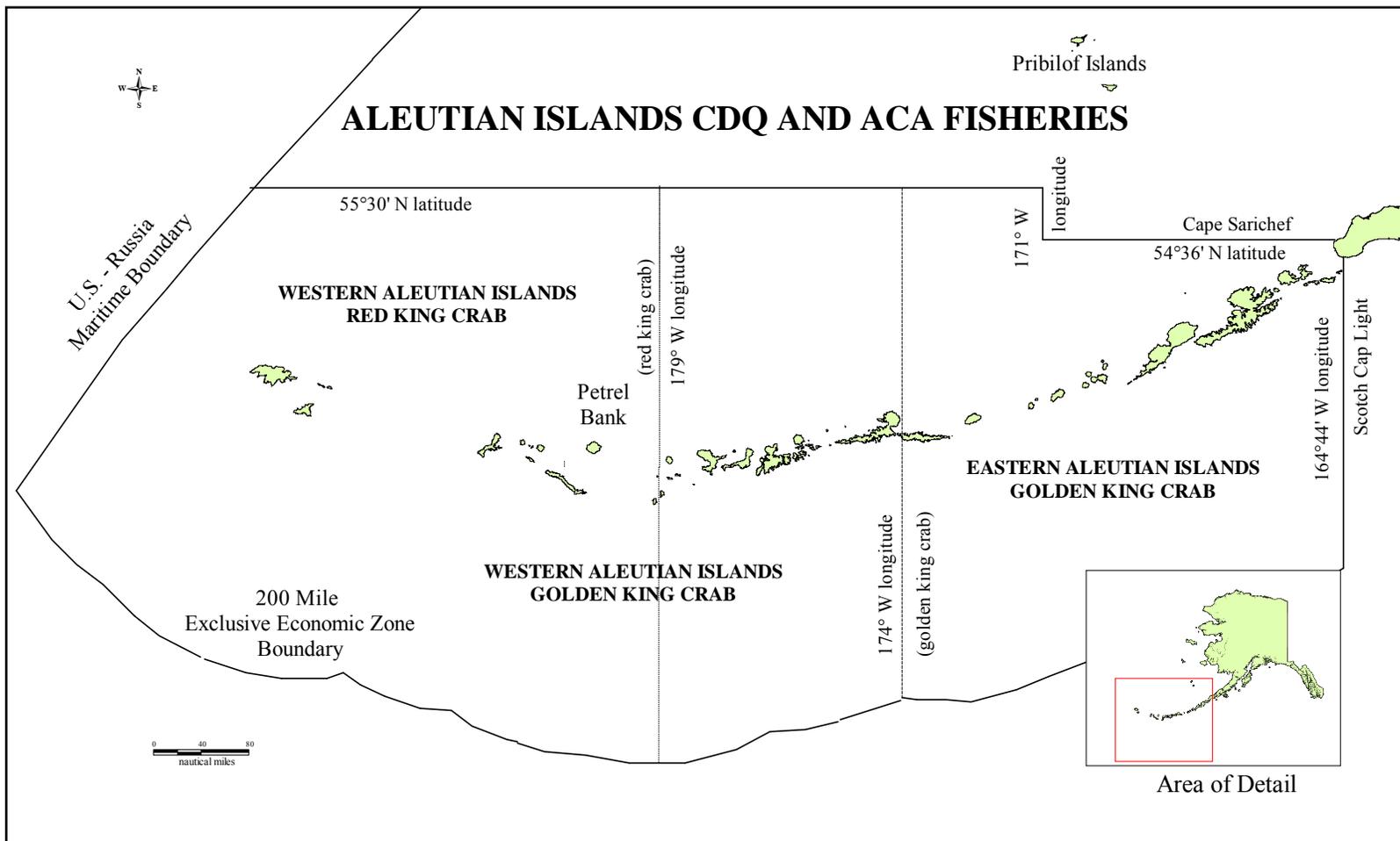


Figure 3-2.—Aleutian Islands Community Development Quota (CDQ) Program and Adak Community Allocation (ACA) crab fisheries managed by ADF&G.

# **ANNUAL REPORT OF THE ONBOARD OBSERVER PROGRAM FOR THE BERING SEA AND ALEUTIAN ISLANDS CRAB FISHERIES, 2009/2010**

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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

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## INTRODUCTION

The onboard observer data collection and fishery monitoring program is an integral component of Bering Sea–Aleutian Islands (BSAI) shellfish fisheries management. The Magnuson-Stevens Fishery Conservation and Management Act (MSA) states in Findings (8) “The collection of reliable data is essential to the effective conservation, management, and scientific understanding of the fishery resources of the United States” (DOC 2007). 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 State of Alaska commercial fishing regulation 5 AAC 39.645 Shellfish Onboard Observer Program states that onboard observers afford the only practical mechanism of gathering essential biological and management data in particular fisheries, and provide the only effective means to enforce regulations that protect the shellfish resource.

This report summarizes the observer program’s history and structure, and documents observer coverage levels, sampling efforts and data collection during the 2009, and 2009/10 BSAI crab fisheries seasons.

## HISTORY OF THE SHELLFISH ONBOARD OBSERVER PROGRAM

The Alaska Board of Fisheries (BOF) adopted regulations in 1988 requiring observers 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 waters under the jurisdiction of the state. 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. Initially all required observer coverage had to be secured and 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 BOF broadened observer coverage to include vessels processing snow crab *C. opilio*. Snow crab observer coverage was considered necessary based on reports of undersize Tanner crab processed and labeled as snow crab. ADF&G proposed and the BOF adopted regulations defining observer qualification standards and responsibilities. In the fall of 1991, the BOF adopted into regulation the observer certification and decertification standards proposed by ADF&G.

1992 was the first year that observers deployed during a Bering Sea hair crab fishery. That year three vessels volunteered for observer coverage. Beginning in 1993 ADF&G requires, as a condition of a commissioner’s permit, 100% 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. House Bill 538 specifically requires 100% observer coverage on all vessels that fish hair crab in the Bering Sea (ADF&G 1998).

King and Tanner crab regulations, 5 AAC 34.082 (5) and 5 AAC 35.112 (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 red king crab and golden king crab.

Within 10 years of the inception of the observer program in 1988, the number of C/Ps participating in various BSAI crab fisheries had decreased significantly, from 10% 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 information. In 1999, the BOF granted ADF&G full authority and responsibility for deploying observers on any vessel participating in BSAI crab fisheries. The BOF also established a 15-member Crab Observer Oversight Task Force (COOTF) comprised of crab industry representatives to provide recommendations for the observer program to ADF&G. In addition to 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 funded 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. Test fishery authority is structured as a revolving fund; if funds generated are not expended in one fiscal year those funds will be available in the following fiscal year.

With a marked increase in observer coverage on catcher vessels (C/V) beginning in 2000, observer training and logistic efforts could not keep pace. 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 from 90 days to 120 days in fisheries greater than 75 days in length. The BOF also increased the duration that a crab observer may be a trainee because of problems with observer retention when employment was only available for short periods of time during derby-style fishing seasons. Regulation 5 AAC 39.143(c)(1)(B) allows ADF&G to extend crab observer trainee permits an additional 365 days, at the discretion of ADF&G, so that a trainee observer may gain needed experience to obtain full certification.

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% of all fishing operations on all vessels during 1998 through 2000, and from 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% 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, observer coverage was increased to two C/Vs per group at any time CDQ snow crab were harvested. All processing vessels participating in CDQ crab fisheries are required to carry an observer 100% of the time they are operating. 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 for major BSAI crab fisheries. The North Pacific Fishery Management Council (NPFMC) created three 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).

As of August 2005 due to CR, observer coverage for all BSAI IFQ, CDQ and ACA crab harvest had been incorporated into the overall BSAI onboard shellfish observer requirements. BSAI crab fishery seasons lengthened from derby-style seasons of less than a month in most cases, to CR seasons of 90 or more days where crab harvesters may fish IFQ and CDQ or ACA catch-shares simultaneously.

With the advent of CR, 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) decreased from 100% to 50%. Every C/V must carry an observer during at least 50% of the harvest brought aboard and landed in each of three observer-coverage trimesters. Observer coverage for Aleutian Islands golden king crab fisheries are pay-as-you-go (Table 4-1).

Due to CR, C/V observer coverage levels increased from 10% to 20% for Bristol Bay red king crab (BBR) and from 10% to 30% for Bering Sea snow crab (BSS). Observer coverage levels for BSAI crab fisheries that remained closed as of 2005 due to low stock abundance were set at 100% for Saint Matthew Island Section blue king crab (SMB), Pribilof District red and blue king crab (PIK), and Western Aleutian Islands red king crab (WAI), and 30%–100% for Eastern Bering Sea Tanner crab (EBT) and Western Bering Sea Tanner crab (WBT; Table 4-1).

Observer program regulations adopted by BOF at the same time as 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%. ADF&G may select a percentage of the registered vessels to carry observers for 100% of their fishing time or require that a percentage of the harvest on each vessel be observed; 5 AAC 39.645.

Funding for C/V observer deployments in BBR, EBT, WBT and BSS, and corresponding CDQ fisheries has been provided through cost-recovery test fishing and a crab rationalization grant to ADF&G from federal 3% CR landing tax proceeds. Annually, ADF&G randomly selects a percentage of registered vessels in each fishery (BBR, EBT, WBT, and BSS) to carry observers during 100% of their fishing for the season. SMB and PIK observer funding is pay-as-you-go.

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

may not select vessels for observer coverage. In a pay-as-you-go system, selection of only a portion of the registered vessels to carry observers would unfairly require some and not other harvesters to pay for their observer coverage. In fisheries where observer funding is pay-as-you-go, each harvester is required to carry an observer during a designated 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**

During the development of the state's shellfish observer program, the BOF and state legislature, through public processes, have adopted and placed observer program regulations and statutes into law. The statutes and regulations that define responsibilities for ADF&G, observer companies, observers, and vessels can be found in Alaska Statutes Title 16, AS 16.05.050 Powers and Duties of the Commissioner, AS 16.05.055 On-board observer program, AS 16.05.251 Regulations of the Board of Fisheries, and Alaska Administrative Code, 5 AAC 39.141 Onboard observer program, 5 AAC 39.142 Conflict of interest standards for onboard observers and independent contracting agents, 5 AAC 39.143 Onboard observer certification and decertification, 5 AAC 39.144 Onboard observer independent contracting agent certification and decertification, 5 AAC 39.146 Onboard observer briefing and debriefing, 5 AAC 39.645 Shellfish onboard observer program, and 5 AAC 39.646 Shellfish onboard observer trainee program qualifications and requirements.

### **ALASKA DEPARTMENT OF FISH AND GAME RESPONSIBILITIES**

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

### **INDEPENDENT CONTRACTING AGENT RESPONSIBILITIES**

Independent observer contracting agents (also referred to as observer providers, observer companies or observer contractors) are required by regulation to hire, train, deploy, and logistically support their observers with food, accommodations, sampling equipment, and transportation. Observer companies secure contracts for observer services directly with vessel agents or ADF&G, depending on the funding source for observer coverage. In 2009/10, six independent contracting agents were authorized 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% proficiency on the ADF&G observer examination. As part of their instruction, observers must also participate in a practical training exercise administered by ADF&G. As representatives of ADF&G, observers are required to adhere to a detailed set of professional standards outlined throughout program regulations listed in this section. Since 1991 the University of Alaska Anchorage North Pacific Fisheries Observer Training Center (OTC) trains 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 communicating with ADF&G. Depending on available funding, some harvesters are required to secure and pay for their observer coverage (pay-as-you-go).

The MSA and ADF&G commercial shellfish fishing regulations require that each vessel carrying an observer meet United States Coast Guard (USCG) commercial fishing vessel safety standards and possess a current Commercial Fishing Vessel Safety Examination (CFVSE) decal. Whenever possible before a fishery, USCG personnel will board and examine safety equipment on vessels that carry observers.

## **CRAB OBSERVER DUTIES**

Fisheries observers are tasked with an important and serious job. Observers are required to accomplish duties that no one else on the vessel is assigned to do 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, measures and assesses biological conditions of all organisms in the selected pot. A count-pot sample identifies, counts and assesses biological conditions of all organisms in the pot. Observers also interview vessel captains for fishing effort, catch and location, and observers sample retained catch at the time of delivery. Observers report vessel and observer activities to the ADF&G observer program office via single-side band radio, fax, e-mail, or telephone. Instructions and protocols for crab observers are described in-depth in the September 2009 Crab Observer Training and Deployment Manual available through the ADF&G office in Dutch Harbor.

Fisheries observers regularly monitor fishing operations for regulatory compliance. The Division of Alaska Wildlife Troopers (AWT) assists OTC and ADF&G staff with instruction of observers for evidence collection, documentation, and proper chain-of-custody procedures. In the event that a potential violation is encountered, troopers will interview the observer and may request a written statement. Observers are also required to confirm 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 crab aging studies, facilitating tag recovery studies, documenting specific seabird and marine mammal observations, recording data on biotwine endurance-to-breakage, and assessing crab reflex behavior for mortality studies.

### **CRAB CATCHER-ONLY VESSEL**

Crab observer duties on C/Vs include 1) interview the vessel's captain daily 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) during delivery, determine the average weight of retained crabs, 4) during delivery, conduct size frequency sampling of up to 100 randomly selected retained crabs for carapace size and shell condition, 5) during delivery monitor size, sex, and species for a legal tally of 600 retained crabs, and 6) regularly report information to ADF&G.

### **CRAB CATCHER-PROCESSOR VESSEL**

Crab observer duties on C/Ps include 1) interview the vessel's captain daily 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 crabs are processed, obtain an average weight from a specified number of retained crabs, 4) on a daily basis before crab are processed, conduct size frequency sampling of up to 100 randomly selected retained crabs for carapace size and shell condition, 5) on a daily basis before crabs are processed, monitor size, sex, and species for a legal tally of 100 - 600 retained crabs, and 6) regularly report information to ADF&G.

### **CRAB FLOATING PROCESSOR VESSEL**

Floating processor (F/P) observers sample the retained catch from each crab vessel delivering to the floating processor. Observer duties on F/Ps include 1) interview the delivering vessel's captain for confidential catch, effort, and location information, 2) determine average weight of retained crabs, 3) conduct size frequency sampling of 100 retained crabs for carapace size and shell condition, 4) monitor size, sex, and species for a legal tally of 600 retained crabs during the offload, and 5) report information to ADF&G for each delivery.

## **2009/2010 OBSERVER PROGRAM ACTIVITY**

### **OBSERVER PROGRAM TEST FISHERY**

The 2009 test fishery harvest was 97,190 live pounds of Bristol Bay red king crab in October 2009 and generated \$415,000 in revenue (Table 4-2). The 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 20, 2009. Test fishery red king crabs were purchased for \$4.27 per pound, including the cost to harvest (Table 4-3). Vessels that harvest test fishery crab must have an ADF&G representative onboard and are also required to carry an observer during their corresponding IFQ or CDQ harvest.

## **2009/10 ALEUTIAN ISLANDS GOLDEN KING CRAB FISHERY OBSERVER ACTIVITY**

The 2009/10 Aleutian Islands golden king crab fishery season opened on August 15, 2009 with a TAC of 5.985 million pounds. TAC for EAG was 3.15 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 50% of each vessel's total golden king crab harvest by weight in each management area, during each of three trimesters (August 15 to November 15, November 16 to February 15, and February 16 to May 15). Observed harvest is defined as having an observer onboard and acting in the capacity of a fisheries observer while the vessel is operating fishing gear and retaining crab for sale. Observer coverage requirements for C/Ps and F/Ps are set at 100%. All observer coverage in EAG and WAG is pay as you-go (Table 4-1).

Five vessels participated in the fishery, including four C/Vs and one C/P. To preserve confidentiality, 2009/10 information for EAG and WAG has been combined for this report.

Observers on C/Vs were assigned a species composition sampling goal of seven measurement-pots per fishing day, and C/P observers were assigned a species composition sampling goal of four measurement-pots per fishing day. Observers reported harvest information to ADF&G every Monday morning. Observers deployed in EAG reported all tagged golden king crab recovered, and those deployed in WAG were required to measure and document 100% of the red king crab bycatch.

The 2009/10 Aleutian Islands golden king crab season closed May 15, 2010. Catcher vessels made 62 deliveries and observed C/Vs delivered 56.6% of the EAG and WAG C/V harvest. One C/P made 18 deliveries and harvest information for the vessel is confidential (Table 4-4).

Observers sampled 1,305 (2.5%) of the 52,787 pots lifted in the fishery. Catcher vessel observers sampled 982 (3.9%) of the 25,194 pots lifted on observed C/Vs and completed 25 legal tallies and 25 size frequency samples. Catcher processor observers sampled 323 (3.9%) of the 8,253 C/P pots lifted and completed 84 legal tallies and 84 size frequency samples (Table 4-5).

A total of 3,289 (6.2%) of all pot lifts from 11 statistical areas had less than 50% observer coverage; of those 107 pot lifts from three statistical areas were not observed. The remaining 49,498 (93.8%) of pot lifts in the other 53 statistical areas where golden king crabs were harvested were between 50% and 100% observed (Table 4-6).

All but one C/V that harvested Aleutian Islands golden king crab maintained a 50% or greater observer coverage level for each management area and trimester. Fishing commenced the first week of the season and continued through the second 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 through the first week in May (statistical week 19; Figure 4-1).

## **2009/10 ALEUTIAN ISLANDS PETREL BANK AREA RED KING CRAB FISHERY OBSERVER ACTIVITY**

The 2009/10 Aleutian Islands Petrel Bank area (between 179° E long and 179° W long) red king crab fishery was closed during 2009/10. The observer coverage requirement is set at 100% for all

vessels and is pay-as-you-go (Table 4-1). Historic observer activity information for the 2001 through 2003 Petrel Bank red king crab fishery is in Table 4-7.

### **2009 ALEUTIAN ISLANDS SCARLET KING CRAB FISHERY OBSERVER ACTIVITY**

No vessels registered to harvest scarlet king crab in 2009. Historic 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 and are determined at the time that a commissioner's permit is issued. Because little is known about scarlet king crab, 100% observer coverage would likely be required during all fishing activities and is pay-as-you-go (Table 4-1).

### **2009 ALEUTIAN ISLANDS GROOVED TANNER CRAB FISHERY OBSERVER ACTIVITY**

No vessels registered to harvest grooved Tanner crab in 2009. Because little is known about grooved Tanner crab, 100% observer coverage is required during all fishing activities and is pay-as-you-go (Table 4-1). Historic observer activity is combined for all grooved Tanner crab fisheries and can be found in Table 4-8.

### **2009 ALEUTIAN ISLANDS TRIANGLE TANNER CRAB FISHERY OBSERVER ACTIVITY**

No vessels registered to harvest triangle Tanner crab in 2009. Harvest of triangle crab is typically incidental to grooved Tanner crab. Because little is known about triangle Tanner crab, 100% observer coverage is required during all fishing activities and is pay-as-you-go (Table 4-1).

### **2009/10 BRISTOL BAY RED KING CRAB FISHERY OBSERVER ACTIVITY**

The 2009/10 BBR season opened on October 15, 2009 with a TAC of 16.009 million pounds. ADF&G paid the cost of C/V observer deployments. The observer coverage requirement for C/Ps and F/Ps is set at 100% and is pay-as-you-go (Table 4-1).

Seventy vessels participated in the fishery, including 68 C/Vs and 2 C/Ps. Twenty percent (18 vessels) of the 90 C/Vs preseason registered were randomly selected to carry observers for 100% of their fishing activity. Nineteen (27.9%) of the 68 C/Vs that registered carried observers throughout the season.

Observers on C/Vs were assigned a species composition sampling goal of 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 2009/10 Bristol Bay red king crab season closed January 15, 2010. Catcher vessels made 220 deliveries and observed C/Vs delivered 26.8% of the BBR C/V harvest (Table 4-9). Observers sampled a total of 1,952 (1.6%) of the 118,521 pots lifted in the fishery. Catcher vessel observers sampled 1,823 (5.7%) of the 32,063 pots lifted on observed C/Vs and conducted 50 size frequency samples and 47 legal tallies. Catcher processor observers sampled 129 (2.4%)

of the 5,346 C/P pots lifted and conducted 36 size frequency samples and 36 legal tallies (Table 4-10).

A total of 5,827 pot lifts (4.9%) from eight statistical areas had less than 20% observer coverage, of that, 333 pot lifts in five statistical areas were not observed. The remaining 112,694 (95.0%) pot lifts in 15 statistical areas where red king crabs were harvested were between 20% and 100% observed (Table 4-11).

Observer coverage fell below 20% of the harvest during the third week in November (statistical week 48), the last week of November (statistical week 49), and first part of January (statistical week 2; Figure 4-2).

### **2009 BRISTOL BAY GOLDEN KING CRAB FISHERY OBSERVER ACTIVITY**

Harvest of Bristol Bay golden king crab occurred once by one harvester during March of 2004. One hundred percent observer coverage is required and is pay-as-you-go. Data are confidential for this permit fishery due to low participation.

### **2009/10 SAINT MATTHEW ISLAND SECTION BLUE KING CRAB FISHERY OBSERVER ACTIVITY**

The 2009/10 Saint Matthew Island Section blue king crab season opened on October 15, 2009 with a TAC of 1.167 million pounds. One hundred percent observer coverage is required and is pay-as-you-go (Table 4-1).

Seven C/Vs participated in the fishery. Observers on C/Vs were assigned a daily species composition sampling goal of 14 measurement-pots. All observers reported harvest information to ADF&G three times a week.

The 2009/10 Saint Matthew Island blue king crab season closed on February 1, 2010. The fleet made 30 deliveries and landed 460,859 pounds of crab. All harvest was observed (Table 4-12). Observers sampled a total of 989 (9.2%) of the 10,697 pots lifted during the fishery. Fifteen size frequency samples and 15 legal tallies were conducted by observers. Observers were on vessels during all pot lifts (Tables 4-13 and 4-14).

Vessels commenced fishing during the third week of October (statistical week 42) and continued fishing through November (statistical week 48; Figure 4-3).

### **2009/10 PRIBILOF DISTRICT RED AND BLUE KING CRAB FISHERY OBSERVER ACTIVITY**

The 2009/10 Pribilof District Red and Blue king crab fishery has been closed since 1999 due to low stock abundance. The observer coverage requirement in this fishery is set at 100% for all vessels and is pay-as-you-go (Table 4-1).

### **2009/10 EASTERN BERING SEA TANNER CRAB FISHERY OBSERVER ACTIVITY**

The 2009/10 Eastern Bering Sea Tanner crab season opened on October 15, 2009 with a TAC of 1.350 million pounds. ADF&G required 100% observer coverage. ADF&G covers costs of observer coverage for C/Vs in this fishery. The observer coverage requirement for C/Ps and F/Ps is set at 100% and is pay-as-you-go (Table 4-1).

Seventy-six C/Vs preseason registered with intent to fish EBT; 10 C/Vs registered and harvested EBT and all 10 vessels carried observers. No C/Ps registered for directed EBT harvest and no F/Ps took deliveries during the 2009/10 season.

Observers on C/Vs were assigned a species composition sampling goal of three measurement-pots and three count-pots per fishing day. Observers reported harvest information to ADF&G every Monday morning.

The 2009/10 Eastern Bering Sea Tanner crab season closed on March 31, 2010. The fleet made 38 deliveries and landed 1,310,742 pounds of crab. All harvest was observed (Table 4-15). Observers sampled a total of 354 (4.3%) of the 8,170 pots lifted during the directed fishery. Twenty-two size frequency samples and 18 legal tallies were conducted by observers. Observers were on vessels during all pot lifts for the directed Tanner crab harvest (Table 4-16).

Tanner crab harvest incidental to BBR harvest occurred in statistical areas where less than 100% of the pot lifts were observed. A total of 12,231 pot lifts from 11 statistical areas had less than 100% observer coverage, of that 429 pot lifts in five statistical areas were not observed (Table 4-17).

Eastern Bering Sea Tanner crab harvest commenced the third week of October (statistical week 42) and continued through February (statistical week 9). All directed EBT harvest was observed (Figure 4-4).

## **2009/10 WESTERN BERING SEA TANNER CRAB FISHERY OBSERVER ACTIVITY**

The 2009/10 Western Bering Sea Tanner crab season was closed.

ADF&G requires observer coverage on 30% to 100% of the C/Vs during 100% 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% and is pay-as-you-go (Table 4-1). The 2008/09 WBT observer activity is found in Tables 4-18 and 4-19.

## **2009/10 BERING SEA SNOW CRAB FISHERY OBSERVER ACTIVITY**

The 2009/10 Bering Sea snow crab season opened on October 15, 2009 with a TAC of 48.017 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 set at 100% and is pay-as-you-go (Table 4-1).

Seventy-one vessels participated in the fishery, including 67 C/Vs, 2 C/Ps, and 2 F/Ps. Twenty-seven (30%) of the 91 C/Vs preseason registered were randomly selected to carry observers for 100% of their fishing activity and 26 (38.8%) of the 67 registered C/Vs carried observers during the season. Observers on C/Vs were assigned a species composition sampling goal of 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 2009/10 BSS season in the eastern sub district east of 173° W long closed May 15 and in the western sub district west of 173° W long closed May 31. Catcher vessels made 342 deliveries and the C/V harvest was 36.7% observed (Table 4-20). Observers sampled 1,738 (1.3%) of the 137,081 pots lifted in the fishery. Catcher vessel observers sampled 1,608 (3.2%) of 49,516 pots

lifted on observed C/Vs and conducted 102 size frequency samples and 101 legal tallies. Catcher processor observers sampled 130 (2.8%) of the 4,700 pots lifted on C/Ps and conducted 54 size frequency samples and 54 legal tallies (Table 4-21).

The fleet lifted a total of 137,018 pots in 34 statistical areas during the fishery and 54,216 (39.6%) pots in 26 statistical areas were observed. 50,403 (36.8%) of the total pot lifts in 17 statistical areas had less than 30% observer coverage, of that, 934 (<1%) pot lifts in eight statistical areas were not observed and 49,469 (36%) pot lifts in nine statistical areas were between 7% and 29% observed. The remaining 86,615 (63.2%) pot lifts in the other 17 statistical areas where snow crabs were harvested were between 30% and 100% observed (Table 4-22).

Snow crab harvest commenced the last week of December and first two days of January (statistical week 1) and continued through the last week of April (statistical week 18). Observer coverage rates were below 30% the first week of January, and third and fourth weeks in April (statistical weeks 1, 17, 18). Vessel trips peaked the last week in January and the first week in February (statistical weeks 5 and 7; Figure 4-5).

### **2009 BERING SEA REGISTRATION AREA GOLDEN KING CRAB FISHERY OBSERVER ACTIVITY**

No vessels registered to harvest either Saint Matthew Island Section or the Pribilof District golden king crab during 2009. One hundred percent observer coverage is required and is pay-as-you-go (Table 4-1). Historic observer activity is found in Table 4-23.

### **2009 BERING SEA DISTRICT GROOVED TANNER CRAB FISHERY OBSERVER ACTIVITY**

No vessels registered to harvest grooved Tanner crab in 2009. Because little is known about grooved Tanner crab, 100% observer coverage is required and is pay-as-you-go (Table 4-1). Historic observer activity is combined for all grooved Tanner crab fisheries and can be found in Table 4-8.

### **2009 BERING SEA DISTRICT TRIANGLE TANNER CRAB FISHERY OBSERVER ACTIVITY**

No vessels registered to harvest triangle Tanner crab in 2009. Triangle crab is typically harvested incidental to grooved Tanner crab. Because little is known about triangle Tanner crab, 100% observer coverage is required and is pay-as-you-go (Table 4-1).

### **2009 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 required for this fishery is 100% and is pay-as-you-go (Table 4-1).

### **2009 SOUTH PENINSULA DISTRICT GROOVED TANNER CRAB FISHERY OBSERVER ACTIVITY**

No vessels registered to harvest grooved Tanner crab in 2009. Because little is known about grooved Tanner crab, 100% observer coverage is required and is pay-as-you-go (Table 4-1). Historic observer activity is combined for all grooved Tanner crab fisheries and can be found in Table 4-8.

## OBSERVER-COLLECTED DATA USE AND ANALYSIS

The observer-collected BSAI crab data are used to generate estimates of crab bycatch and bycatch mortality in directed 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. Observer-collected data are used in reports generated by the NPFMC, NMFS, and are provided to the public.

Applications of crab observer-collected data are discussed in Schwenzfeier et al., (2000). ADF&G annually summarizes biological data collected by crab observers. The most recent summary and analysis of observer-collected BSAI crab fisheries data is available in Gaeuman 2010.

## 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.
- 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. 2010. Summary of the 2008/2009 mandatory shellfish observer program database for the rationalized crab fisheries. Alaska Department of Fish and Game, Fishery Data Series No. 10-01, 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.
- Schwenzfeier, M., H. Moore, R. Burt, and R. Alinsunurin. 2000. Inquiry for application of data collected by observers deployed in the eastern Bering Sea crab fisheries. [In] 2002. A. J. Paul, E. B. Dawe, R. Elner, G. S. Jamieson, G. H. Kruse, R. S. Otto, B. Sainte-Marie, T. C. Shirley, and D. Woodby (eds.). Crabs in Cold Water Regions: Biology, Management, and Economics. University of Alaska Sea Grant, AK-SG-02-01, Fairbanks.



## **TABLES AND FIGURES**

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

Fishery	Pre-season registration deadline <sup>a</sup>	Catcher vessels		At-sea processors	
		Observer coverage	Observer costs funded <sup>b</sup>	Observer coverage	Observer costs funded <sup>b</sup>
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% <sup>c</sup>	yes	100%	no
Eastern Bering Sea Tanner crab (EBT)	Sep-24	30–100% <sup>c</sup>	yes	100%	no
Western Bering Sea Tanner crab (WBT)	Sep-24	30–100% <sup>c</sup>	yes	100%	no
Bering Sea snow crab (BSS)	Sep-24	30% <sup>c</sup>	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% <sup>d</sup>	no	100%	no
Western Aleutian Islands golden king crab (WAG)	none	50% <sup>d</sup>	no	100%	no
Aleutian Islands red king crab (WAI)	none	100%	no	100%	no

<sup>a</sup> When the pre-season vessel registration deadline occurs on a weekend or holiday, the deadline is extended to the next business day.

<sup>b</sup> C/V observer coverage is funded with test-fishery revenue and a federal-fee reimbursement grant.

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

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

Table 4-2.—Economic performance of the shellfish onboard observer program test fishery, 1999–2009.

Year	Targeted species	Harvest <sup>a</sup>	Exvessel value			Charter dates	Charter days	Vessel charter cost
			Test-fish <sup>b</sup>	Fishery <sup>b,c</sup>	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 <sup>d</sup>	\$69,900
2006	Bristol Bay red king crab	186,047	\$2.15	\$3.40	\$400,000	9/22–10/11	17	no expenditure <sup>e</sup>
2007	Bristol Bay red king crab	78,360	\$4.02	\$4.19	\$315,000	10/02–10/12	10	no expenditure <sup>e</sup>
2008	No test fishery							
2009	Bristol Bay red king crab	97,190	\$4.27	\$4.44	\$415,000	9/25–10/12	18	no expenditure <sup>e</sup>

<sup>a</sup> Live pounds, deadloss not included.

<sup>b</sup> Price per pound.

<sup>c</sup> General fishery up to 2004 and Individual Fishing Quota (IFQ) fishery beginning in 2005.

<sup>d</sup> Harvest of both test-fishery and IFQ crab.

<sup>e</sup> 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, 1999–2009.

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

<sup>a</sup> Deadloss included.

<sup>b</sup> In pounds.

<sup>c</sup> Cost-recovery fishing occurred after the Bristol Bay red king crab general fishery.

<sup>d</sup> 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, 2003/04–2009/10.

Year	Vessel type	Number of			Observed harvest <sup>a,c</sup>	Percent observed harvest <sup>c</sup>
		Vessels	Deliveries	Harvest <sup>a,b</sup>		
2003/04	C/V	20	74	CF	CF	100.0
	C/P	1	22	CF	CF	100.0
	Total	21	96	CF	CF	CF
2004/05	C/V	21	64	CF	CF	100.0
	C/P	1	19	CF	CF	100.0
	Total	22	83	CF	CF	CF
2005/06 <sup>c</sup>	C/V	7	60	CF	CF	69.9
	C/P	1	22	CF	CF	100.0
	Total	8	82	CF	CF	CF
2006/07 <sup>c</sup>	C/V	6	51	CF	CF	69.1
	C/P	1	24	CF	CF	100.0
	Total	7	75	CF	CF	CF
2007/08 <sup>c</sup>	C/V	4	57	CF	CF	59.1
	C/P	1	24	CF	CF	100.0
	Total	5	81	CF	CF	CF
2008/09 <sup>c</sup>	C/V	4	59	CF	CF	61.9
	C/P	1	20	CF	CF	100.0
	Total	5	79	CF	CF	CF
2009/10 <sup>c</sup>	C/V	4	62	CF	CF	56.6
	C/P	1	18	CF	CF	100.0
	Total	5	80	CF	CF	CF

*Note:* East and west of 174° W long combined for reporting purposes to preserve data confidentiality.

C/V = Catcher vessel, C/P = Catcher-processor vessel, CF = Confidential

<sup>a</sup> In pounds.

<sup>b</sup> Includes deadloss.

<sup>c</sup> Observer onboard during harvest.

<sup>d</sup> 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 fisheries observer sampling efforts by vessel type, 1996/97–2009/10.

Year	Vessel type	Number of <sup>a</sup>			Observer deploy-ments	Observer months	Number of			Percent pot lifts sampled	Percent lifts sampled on observed vessels	Number of	
		Vessels	Observed vessels	Percent observer coverage			Pot lifts sampled <sup>b</sup>	Pot lifts on all vessels	Pot lifts on observed vessels			Size freq. <sup>c</sup>	Legal tallies <sup>d</sup>
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	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fleet	18	18	100.0	55	88.6	12,230	119,749	119,749	10.2	10.2	329	368
1997/98	C/V	11	11	100.0	41	62.0	7,481	161,761	161,761	4.6	4.6	83	94
	C/P	4	4	100.0	12	18.8	1,105	26,152	26,152	4.2	4.2	267	259
	F/P	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fleet	15	15	100.0	53	80.8	8,586	187,913	187,913	4.6	4.6	350	353
1998/99	C/V	13	13	100.0	17	29.0	4,273	99,928	99,928	4.3	4.3	43	47
	C/P	3	3	100.0	7	13.0	694	25,501	25,501	2.7	2.7	230	233
	F/P	1	1	100.0	1	1.0	NA	NA	NA	NA	NA	4	4
	Fleet	17	17	100.0	25	43.0	4,967	125,429	125,429	4.0	4.0	277	284
1999/00	C/V	15	15	100.0	49	69.0	7,610	168,109	168,109	4.5	4.5	97	121
	C/P	1	1	100.0	5	11.2	820	18,060	18,060	4.5	4.5	228	230
	F/P	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fleet	16	16	100.0	54	80.2	8,430	186,169	186,169	4.5	4.5	325	351
2000/01	C/V	16	16	100.0	47	63.5	9,023	149,319	149,319	6.0	6.0	102	106
	C/P	1	1	100.0	5	9.2	711	23,471	23,471	3.0	3.0	183	174
	F/P	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fleet	17	17	100.0	52	72.7	9,734	172,790	172,790	5.6	5.6	285	280
2001/02	C/V	20	20	100.0	44	58.7	8,382	145,154	145,154	5.7	5.7	100	102
	C/P	1	1	100.0	4	7.7	700	22,997	22,997	3.0	3.0	146	147
	F/P	1	1	100.0	1	0.1	NA	NA	NA	NA	NA	1	1
	Fleet	21	21	100.0	49	66.5	9,082	168,151	168,151	5.4	5.4	247	250
2002/03	C/V	21	21	100.0	31	44.3	5,835	106,675	106,675	5.5	5.5	81	81
	C/P	1	1	100.0	2	7.0	660	24,345	24,345	2.7	2.7	144	146
	F/P	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fleet	22	22	100.0	33	51.3	6,494	131,021	131,021	5.0	5.0	225	227
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	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fleet	21	21	100.0	31	46.6	7,294	125,119	125,119	5.8	5.8	188	188

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Year	Vessel type	Number of <sup>a</sup>		Percent observer coverage	Observer		Number of			Percent pot lifts sampled	Percent pot lifts on observed vessels	Number of	
		Vessels	Observed vessels		deploy-ments	Observer months	Pot lifts sampled <sup>b</sup>	Pot lifts on all vessels	Pot lifts on observed vessels			Size freq. <sup>c</sup>	Legal tallies <sup>d</sup>
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	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fleet	22	22	100.0	27	50.7	4,825	91,694	91,694	5.3	5.3	161	163
2005/06 <sup>e</sup>	C/V	7	7	50.0 <sup>f</sup>	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	NA	NA	NA	NA	NA	3	4
	Fleet	9	9	NA	14	22.9	2,567	54,685	40,783	4.7	6.3	149	150
2006/07 <sup>e</sup>	C/V	6	6	50.0 <sup>f</sup>	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	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fleet	7	7	NA	13	17.3	2,286	53,065	39,418	4.3	5.8	140	134
2007/08 <sup>e</sup>	C/V	4	4	50.0 <sup>f</sup>	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	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fleet	5	5	NA	8	15.3	2,088	52,603	35,772	4.0	5.8	134	134
2008/09 <sup>e</sup>	C/V	4	4	50.0 <sup>f</sup>	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	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fleet	5	5	NA	10	16.4	1,585	50,666	32,694	3.1	4.8	118	113
2009/10 <sup>e</sup>	C/V	4	4	50.0 <sup>f</sup>	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	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fleet	5	5	NA	9	16.7	1,305	52,787	33,447	2.5	3.9	109	109

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, NA = Not applicable

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

<sup>b</sup> All pot contents sampled for species composition and biological conditions.

<sup>c</sup> Size frequency and shell condition sampling conducted on retained catch; each data set typically consists of 100 crabs.

<sup>d</sup> Each legal tally typically consists of 600 crabs.

<sup>e</sup> 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.

<sup>f</sup> All catcher vessels are required to have an observer onboard during 50% of their harvest in each of three trimesters.

Table 4-6.—Pot lifts observed and non-observed for each statistical area fished during the Eastern and Western Aleutian Islands golden king crab fisheries, 2009/10.

Statistical area	Pots lifted		Total pots lifted	Percent pot lifts observed <sup>a</sup>
	Observed <sup>a</sup>	Non-observed		
695200	37	221	258	14.3
695238	237	8	245	96.7
695239	0	61	61	0.0
695301	407	329	736	55.3
695302	100	56	156	64.1
705200	1,525	1,307	2,832	53.8
705232	2,378	1,943	4,321	55.0
705300	650	1,012	1,662	39.1
715130	78	38	116	67.2
715201	223	98	321	69.5
715202	4,302	2,347	6,649	64.7
715231	1,027	953	1,980	51.9
715232	936	763	1,699	55.1
725201	2,391	1,744	4,135	57.8
725203	208	170	378	55.0
725230	517	186	703	73.5
735201	0	37	37	0.0
735202	0	9	9	0.0
775131	555	473	1,028	54.0
775132	3	0	3	100.0
775133	84	49	133	63.2
775137	75	25	100	75.0
775138	14	25	39	35.9
775139	1	14	15	6.7
785101	50	45	95	52.6
785102	1,264	744	2,008	62.9
785103	85	66	151	56.3
785131	963	678	1,641	58.7
785132	25	25	50	50.0
785134	257	194	451	57.0
785135	334	374	708	47.2
795101	83	32	115	72.2
795102	274	197	471	58.2
795131	355	238	593	59.9

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Statistical area	Pots lifted		Total pots lifted	Percent pot lifts observed <sup>a</sup>
	Observed <sup>a</sup>	Non-observed		
795132	518	370	888	58.3
795200	717	172	889	80.7
795230	122	72	194	62.9
805101	105	97	202	52.0
805102	138	241	379	36.4
805103	1,490	735	2,225	67.0
805131	622	143	765	81.3
805132	1,627	684	2,311	70.4
805133	169	52	221	76.5
805201	1,099	294	1,393	78.9
805230	56	0	56	100.0
815100	702	372	1,074	65.4
815131	880	433	1,313	67.0
815132	364	161	525	69.3
815134	29	56	85	34.1
815136	67	0	67	100.0
825132	287	0	287	100.0
825134	24	0	24	100.0
825201	546	0	546	100.0
825202	148	0	148	100.0
825203	95	0	95	100.0
835130	481	28	509	94.5
835200	746	111	857	87.0
845130	306	80	386	79.3
845201	259	62	321	80.7
845202	1,764	324	2,088	84.5
855200	441	200	641	68.8
855231	177	173	350	50.6
855232	10	26	36	27.8
855234	13	0	13	100.0
Totals	33,440	19,347	52,787	63.3

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

<sup>a</sup> Observer onboard during harvest.

Table 4-7.--Aleutian Islands Petrel Bank area red king crab observer sampling efforts by vessel type, 2001–2009/10.

Year	Vessel type	Number of			Percent observer coverage	Number of				Number of	
		Vessels	Observed vessels	Observer trips		Observer months	Pot lifts sampled <sup>a</sup>	Pot lifts on all vessels	Percent pot lifts sampled	Size freq. <sup>b</sup>	Legal tallies <sup>c</sup>
2001 <sup>d</sup>	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	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fleet	4	4	100.0	6	8.4	238	1,195	19.9	8	8
2002 <sup>e</sup>	C/V	31	30	96.8	30	11.9	579	3,513	16	21	22
	C/P	2	2	100.0	2	1.2	18	273	7	3	3
	F/P	1	1	100.0	1	0.6	NA	NA	NA	0	0
	Fleet	33	32	97.0	33	13.6	597	3,786	15.7	24	25
2003	C/V	28	28	100	28	10.9	884	5,459	16.0	25	25
	C/P	2	2	100	2	0.6	47	315	15.0	4	4
	F/P	1	1	100	1	0.07	NA	NA	NA	0	0
	Fleet	30	30	100.0	31	11.6	931	5,774	16.1	29	29
2004 - 2009/10	FC										

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

<sup>a</sup> All pot contents sampled for species composition and biological conditions.

<sup>b</sup> Size frequency and shell condition sampling conducted on retained catch; each data set typically consists of 100 crabs.

<sup>c</sup> Each legal tally typically consists of 600 crabs.

<sup>d</sup> A survey in 2001 was conducted during the months of January and November.

<sup>e</sup> In 2002, one catcher vessel received an observer coverage waiver due to circumstances beyond their control.

Table 4-8.–Bering Sea, Aleutian Islands, Kodiak District, South Peninsula, and Yakutat grooved Tanner crab observer sampling efforts by vessel type, 1994–2009.

Year	Vessel Type	Number of			Number of			Number of			
		Vessels	Observed Vessels	Percent Observer Coverage	Observer Deployments	Observer Months	Pot Lifts Sampled <sup>a</sup>	Pot Lifts On All Vessels	Percent Pot Lifts Sampled	Size Freq. <sup>b</sup>	Legal Tallies <sup>c</sup>
1994	C/V	6	6	100	14	16.6	1,782	52,062	3.4	58	30
	C/P	2	2	100	3	2.3	336	1,582	21.2	46	45
	Fleet	8	8	100	17	18.8	2,118	53,644	3.8	104	75
1995	C/V	16	16	100	47	55.2	10,343	158,461	6.5	155	145
	C/P	2	2	100	8	6.2	620	5,824	1.1	66	85
	Fleet	18	18	100	55	61.3	10,963	164,285	6.7	221	230
1996	C/V	9	9	100	20	26.3	4,469	73,960	6.0	40	62
	C/P	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fleet	9	9	100	20	26.3	4,469	73,960	6.0	40	62
1997 - 1999		0	NA	NA	NA	NA	NA	NA	NA	NA	NA
2000	C/V	1	1	100	1	1.4	164	2,160	7.6	3	3
	C/P	2	2	100	2	0.7	17	205	8.3	5	0
	Fleet	3	3	100	3	2.0	181	2,365	7.7	8	3
2001	C/V	2	2	100	4	2.7	258	3,181	8.1	15	15
	C/P	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fleet	2	2	100	4	2.7	258	3,181	8.1	15	15
2002		0	NA	NA	NA	NA	NA	NA	NA	NA	NA
2003	C/V	1	1	100	2	3.2	393	4,772	8.2	11	10
	C/P	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fleet	1	1	100	2	3.2	393	4,772	8.2	11	10
2004	C/V	2	2	100	4	5.0	628	10,046	6.3	18	14
	C/P	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fleet	2	2	100	4	5.0	628	10,046	6.3	18	14
2005 - 2009		0	NA	NA	NA	NA	NA	NA	NA	NA	NA

Note: C/V = Catcher vessel, C/P = Catcher-processor vessel, UA = Unavailable, NA = Not applicable

<sup>a</sup> All pot contents sampled for species composition and biological conditions.

<sup>b</sup> Size frequency and shell condition sampling conducted on retained catch; each data set typically consists of 100 crabs.

<sup>c</sup> Each legal tally typically consists of 600 crabs.

Table 4-9.—Bristol Bay red king crab harvest by vessel type and percent harvest observed, 2003–2009/10.

Year	Vessel Type	Number of			Harvest <sup>a,b</sup>	Observed harvest <sup>a,c</sup>	Percent observed harvest <sup>c</sup>
		Vessels	Deliveries				
2003	C/V	243	262	13,849,554	1,412,963	10.2	
	C/P	8	13	680,694	680,694	100.0	
	CDQ	13	20	1,166,662	813,392	69.7	
	Fleet	264	295	15,696,910	2,907,049	18.5	
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	
	Fleet	263	291	15,245,451	2,676,072	17.6	
2005/06 <sup>d</sup>	C/V	85	270	17,284,281	4,453,697	25.8	
	C/P	4	26	1,025,054	1,025,054	100.0	
	Fleet	89	296	18,309,335	5,478,751	29.9	
2006/07 <sup>d</sup>	C/V	80	201	14,882,355	4,099,757	27.5	
	C/P	3	12	561,822	561,822	100.0	
	Fleet	83	213	15,444,177	4,661,579	30.2	
2007/08 <sup>d</sup>	C/V	73	266	19,519,828	5,034,013	25.8	
	C/P	3	15	846,237	846,237	100.0	
	Fleet	76	281	20,366,065	5,880,250	28.9	
2008/09 <sup>d</sup>	C/V	75	268	19,498,303	4,745,026	24.3	
	C/P	3	21	831,099	831,099	100.0	
	Fleet	78	289	20,329,402	5,576,125	27.4	
2009/10 <sup>d</sup>	C/V	68	220	CF	CF	26.8	
	C/P	2	13	CF	CF	100.0	
	Fleet	70	233	CF	CF	CF	

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

CF = Confidential

<sup>a</sup> In pounds.

<sup>b</sup> Includes deadloss.

<sup>c</sup> Observer onboard during harvest.

<sup>d</sup> 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, 1988–2009/10.

Year	Vessel type	Number of <sup>a</sup>			Number of					Number of			
		Vessels	Observed vessels	Percent observer coverage	Observer deployments	Observer months	Pot lifts sampled <sup>b</sup>	Pot lifts on all vessels	Pot lifts on observed vessels	Percent pot lifts sampled	Percent pot lifts sampled on observed vessels	Size freq. <sup>c</sup>	Legal tallies
1988	C/V	180	0	0.0	0	0.0	NA	UA	NA	NA	NA	NA	NA
	C/P	20	20	100.0	20	8.4	31	UA	UA	UA	UA	UA	UA
	F/P	5	5	100.0	5	1.9	NA	NA	NA	NA	NA	UA	UA
	Fleet	205	25	12.2	25	10.3	31	146,179	UA	<0.1	UA	UA	UA
1989	C/V	193	0	0.0	0	0.0	NA	UA	NA	NA	NA	NA	NA
	C/P	18	18	100.0	18	10.9	94	UA	UA	UA	UA	110	UA
	F/P	12	12	100.0	12	6.8	NA	NA	NA	NA	NA	101	UA
	Fleet	223	30	13.5	30	17.6	94	205,528	UA	<0.1	UA	211	UA
1990	C/V	220	0	0.0	0	0.0	NA	UA	NA	NA	NA	NA	NA
	C/P	20	20	100.0	20	11.9	140	UA	UA	UA	UA	UA	UA
	F/P	15	15	100.0	15	8.9	NA	NA	NA	NA	NA	UA	UA
	Fleet	255	35	13.7	35	20.8	140	262,761	UA	0.1	UA	UA	UA
1991	C/V	277	0	0.0	0	0.0	NA	UA	NA	NA	NA	NA	NA
	C/P	25	25	100.0	26	14.2	272	UA	UA	UA	UA	163	UA
	F/P	14	14	100.0	14	7.4	NA	NA	NA	NA	NA	130	UA
	Fleet	316	39	12.3	40	21.5	272	226,999	UA	0.1	UA	293	UA
1992	C/V	263	0	0.0	0	0.0	NA	UA	NA	NA	NA	NA	NA
	C/P	18	18	100.0	19	9.0	290	UA	UA	UA	UA	99	UA
	F/P	6	6	100.0	6	3.0	NA	NA	NA	NA	NA	80	UA
	Fleet	287	24	8.4	25	12.0	290	206,172	UA	0.1	UA	179	UA
1993	C/V	275	0	0.0	0	0.0	NA	UA	NA	NA	NA	NA	NA
	C/P	17	17	100.0	19	10.6	558	UA	UA	UA	UA	124	UA
	F/P	7	7	100.0	7	4.5	NA	NA	NA	NA	NA	112	UA
	Fleet	299	24	8.0	26	15.1	558	252,739	UA	0.2	UA	236	UA
1994 - 1995	FC												

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Year	Vessel type	Number of <sup>a</sup>			Number of						Number of		
		Vessels	Observed vessels	Percent observer coverage	Observer deployments	Observer months	Pot lifts sampled <sup>b</sup>	Pot lifts on all vessels	Pot lifts on observed vessels	Percent pot lifts sampled	Percent pot lifts sampled on observed vessels	Size freq. <sup>c</sup>	Legal tallies <sup>d</sup>
1996	C/V	192	0	0.0	0	0.0	NA	73,908	NA	NA	NA	NA	NA
	C/P	4	4	100.0	7	2.0	84	2,525	2,525	3.3	3.3	19	19
	F/P	2	2	100.0	2	0.8	NA	NA	NA	NA	NA	26	62
	Fleet	197	5	2.5	9	2.8	84	76,433	2,525	0.1	3.3	45	81
1997	C/V	248	0	0.0	0	0.0	NA	86,885	NA	NA	NA	NA	NA
	C/P	8	8	100.0	12	3.9	146	3,542	3,542	4.1	4.1	28	28
	F/P	3	3	100.0	3	1.6	NA	NA	NA	NA	NA	52	56
	Fleet	259	11	4.2	15	5.5	146	90,427	3,542	0.2	3.9	80	84
1998	C/V	263	0	0.0	0	0.0	NA	131,757	NA	NA	NA	NA	NA
	C/P	11	11	100.0	19	6.7	131	6,614	6,614	2.0	2.0	48	52
	F/P	5	5	100.0	3	1.8	NA	NA	NA	NA	NA	37	52
	CDQ	7	7	100.0	7	3.1	193	3,326	3,326	5.8	5.8	9	10
1999	Fleet	284	21	7.4	29	11.6	324	141,697	9,940	0.2	3.3	94	114
	C/V	249	0	0.0	0	0.0	NA	138,322	NA	NA	NA	NA	NA
	C/P	8	8	100.0	10	4.6	135	5,699	5,699	2.4	2.4	46	56
	F/P	3	3	100.0	1	1.0	NA	NA	NA	NA	NA	22	26
2000	CDQ	10	10	100.0	10	3.5	263	2,976	2,976	8.8	8.8	9	12
	Fleet	268	19	7.1	21	9.1	398	146,997	8,675	0.3	4.6	77	94
	C/V <sup>c</sup>	214	11	5.1	11	5.1	403	82,453	4,429	0.5	9.1	10	11
	AFA C/V	25	3	12.0	3	1.1	88	8,340	1,024	1.1	8.6	3	3
	C/P	7	7	100.0	9	3.4	156	3,238	3,238	4.8	4.8	28	29
	F/P	2	2	100.0	3	0.6	NA	NA	NA	NA	NA	14	17
	CDQ	11	11	100.0	11	4.4	423	4,663	4,663	9.1	9.1	1	0
Fleet	258	33	12.8	37	14.6	1,070	98,694	13,354	1.1	8.0	56	60	

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Year	Vessel type	Number of <sup>a</sup>		Number of						Number of			
		Vessels	Observed vessels	Percent observer coverage	Observer deployments	Observer months	Pot lifts sampled <sup>b</sup>	Pot lifts on all vessels	Pot lifts on observed vessels	Percent pot lifts sampled	Percent pot lifts sampled on observed vessels	Size freq. <sup>c</sup>	Legal tallies <sup>d</sup>
2001	C/V <sup>e</sup>	193	20	10.4	20	9.5	359	51,624	5,746	0.7	6.2	19	19
	AFA C/V	31	3	9.7	3	1.0	48	6,662	682	0.7	7.0	3	3
	C/P	6	6	100.0	7	2.3	97	1,776	1,776	5.5	5.5	13	13
	F/P	3	3	100.0	3	1.2	NA	NA	NA	NA	NA	19	19
	CDQ	10	6	60.0	6	2.9	166	3,130	2,516	5.3	6.6	9	9
	Fleet	241	36	14.9	39	16.9	670	63,192	10,720	1.1	6.3	63	63
2002	C/V <sup>e</sup>	204	17	8.3	17	7.1	330	56,448	5,236	0.6	6.3	16	18
	AFA C/V	31	3	9.7	3	1.3	37	5,776	551	0.6	6.7	3	3
	C/P	7	7	100.0	8	2.3	144	2,591	2,591	5.6	5.6	21	21
	F/P	3	3	100.0	3	1.0	NA	NA	NA	NA	NA	9	9
	CDQ	10	6	60.0	6	2.7	242	3,513	2,875	6.9	8.4	9	9
	Fleet	253	34	13.4	37	14.5	753	68,328	11,253	1.1	6.7	58	60
2003	C/V <sup>e</sup>	211	19	9.0	20	10.0	485	110,531	10,531	0.4	4.6	11	11
	AFA C/V	32	3	9.4	3	1.2	71	12,913	911	0.5	7.8	1	1
	C/P	8	8	100.0	10	3.6	175	4,986	4,986	3.5	3.5	35	32
	F/P	4	4	100.0	4	1.6	NA	NA	NA	NA	NA	16	18
	CDQ	13	8	61.5	9	3.7	279	5,704	4,372	4.9	6.4	22	12
	Fleet	264	39	14.8	46	20.1	1010	134,134	20,800	0.8	4.9	85	74
2004	C/V <sup>e</sup>	211	17	8.1	17	6.6	339	79,513	6,304	0.4	5.4	16	16
	AFA C/V	32	3	9.4	3	1.1	67	8,093	842	0.8	8.0	3	3
	C/P	8	8	100.0	9	2.8	130	3,370	3,370	3.9	3.9	17	17
	F/P	4	4	100.0	4	1.4	NA	NA	NA	NA	NA	31	33
	CDQ	12	8	66.7	9	4.7	226	5,359	4,312	4.2	5.2	23	23
	Fleet	263	37	14.0	42	16.6	762	96,335	14,828	0.8	5.1	90	92

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Year	Vessel type	Number of <sup>a</sup>			Number of						Number of		
		Vessels	Observed vessels	Percent observer coverage	Observer deployments	Observer months	Pot lifts sampled <sup>b</sup>	Pot lifts on all vessels	Pot lifts on observed vessels	Percent pot lifts sampled	Percent pot lifts sampled on observed vessels	Size freq. <sup>c</sup>	Legal tallies <sup>d</sup>
2005/06 <sup>f</sup>	C/V	85	20	23.5	22	19.5	1,390	103,538	25,283	1.3	5.5	50	48
	C/P	4	4	100.0	4	5.0	465	11,411	11,411	4.1	4.1	90	90
	F/P	1	1	100.0	2	2.0	NA	NA	NA	NA	NA	7	7
	Fleet	90	25	27.8	28	26.5	1,855	114,949	36,694	1.6	5.1	144	142
2006/07 <sup>f</sup>	C/V	80	19	23.8	21	16.6	1,074	67,929	18,972	1.6	5.7	44	39
	C/P	3	3	100.0	3	3.1	140	3,811	3,811	3.7	3.7	38	38
	F/P	1	1	100.0	1	1.3	NA	NA	NA	NA	NA	NA	NA
	Fleet	83	22	26.5	25	21.1	1,214	71,740	22,783	1.7	5.3	82	77
2007/08 <sup>f</sup>	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	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fleet	76	22	26.5	23	21.2	1,918	113,214	34,085	1.7	5.3	98	96
2008/09 <sup>i</sup>	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	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fleet	78	21	26.9	22	24.5	1,820	139,939	39,101	1.3	4.7	104	98
2009/10 <sup>i</sup>	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	129	5,346	5,346	2.4	2.4	36	36
	F/P	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fleet	70	21	30.0	23	20.8	1,952	118,521	37,409	1.6	5.2	86	83

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

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

<sup>b</sup> All pot contents sampled for species composition and biological conditions.

<sup>c</sup> Size frequency and shell condition sampling conducted on retained catch; each data set typically consists of 100 crabs.

<sup>d</sup> Each legal tally typically consists of 600 crabs.

<sup>e</sup> Non-American Fisheries Act catcher vessels.

<sup>f</sup> 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.—Pot lifts observed and non-observed for each statistical area fished during the Bristol Bay red king crab fishery, 2009/10.

Statistical area	Pots lifted		Total pots lifted	Percent pot lifts observed <sup>a</sup>
	Observed <sup>a</sup>	Non-observed		
605630	461	1,203	1,664	27.7
605700	972	882	1,854	52.4
605730	214	47	261	82.0
615534	0	46	46	0.0
615601	3,054	6,900	9,954	30.7
615630	9,059	28,899	37,958	23.9
615700	4,618	12,882	17,500	26.4
615730	5	268	273	1.8
625531	3,037	5,253	8,290	36.6
625600	2,295	5,476	7,771	29.5
625630	914	4,116	5,030	18.2
625700	976	2,862	3,838	25.4
625730	0	56	56	0.0
635504	72	0	72	100.0
635530	8,649	6,780	15,429	56.1
635600	170	159	329	51.7
635630	33	125	158	20.9
635700	10	181	191	5.2
645501	10	0	10	100.0
645530	2,860	4,746	7,606	37.6
645600	0	40	40	0.0
645630	0	182	182	0.0
655430	0	9	9	0.0
Totals	37,409	81,112	118,521	31.6

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

<sup>a</sup> Observer onboard during harvest.

Table 4-12.—Saint Matthew Island blue king crab harvest by vessel type and percent harvest observed, 2009/10.

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

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Year	Vessel type	Number of			Observed harvest <sup>a,c</sup>	Percent observed harvest <sup>c</sup>
		Vessels	Deliveries	Harvest <sup>a,b</sup>		
1996	C/V	116	UA	UA	UA	UA
	C/P	3	UA	UA	UA	UA
	F/P	3	UA	UA	UA	UA
	Fleet	122	189	3,080,916	UA	UA
1997	C/V	113	UA	UA	UA	UA
	C/P	1	UA	UA	UA	UA
	F/P	3	UA	UA	UA	UA
	Fleet	117	166	4,649,660	UA	UA
1998	C/V	126	UA	UA	UA	UA
	C/P	2	UA	UA	UA	UA
	F/P	3	UA	UA	UA	UA
	Fleet	131	255	2,868,965	UA	UA
1999 - 2008/09	FC					
2009/10 <sup>d</sup>	C/V	7	30	460,859	460,859	100
	C/P	0	NA	NA	NA	NA
	F/P	0	NA	NA	NA	NA
	Fleet	7	30	460,859	460,859	100

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

<sup>a</sup> In pounds.

<sup>b</sup> Includes deadloss.

<sup>c</sup> Observer onboard during harvest.

<sup>d</sup> Data includes Individual Fishing Quota 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, 1989–2009/10.

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

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Year	Vessel type	Number of			Number of			Pot lifts on all vessels	Pot lifts on observed vessels	Percent pot lifts sampled	Percent pot lifts sampled	Percent pot lifts sampled on observed vessels	Number of	
		Vessels	Observed vessels	Percent observer coverage	Observer deployments	Observer months	Pot lifts sampled <sup>a</sup>						Size freq. <sup>b</sup>	Legal tallies <sup>c</sup>
1996	C/V	116	0	0.0	0	0.0	NA	UA	NA	NA	NA	NA	NA	NA
	C/P	3	4	100.0	3	1.9	96	UA	UA	UA	UA	UA	UA	UA
	F/P	3	3	100.0	3	1.9	NA	NA	NA	NA	NA	NA	UA	UA
	Fleet	122	7	5.7	7	3.8	96	UA	UA	UA	UA	UA	UA	UA
1997	C/V	113	0	0.0	0	0.0	NA	UA	NA	NA	NA	NA	NA	NA
	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	NA	NA	NA	NA	NA	41	49	
	Fleet	117	4	3.4	4	2.4	43	UA	607	UA	UA	48	53	
1998	C/V	126	1	2.4	1	0.5	61	UA	UA	UA	UA	1	1	
	C/P	2	2	100.0	2	1.2	73	1,413	1,413	5.2	UA	16	18	
	F/P	3	3	100.0	3	2.3	NA	NA	NA	NA	NA	UA	60	
	Fleet	131	8	6.1	6	4.0	134	UA	UA	UA	UA	UA	79.0	
1999 - 2008/09 2009/10 <sup>d</sup>	FC													
	C/V	7	7	100.0	8	7.2	989	10,697	10,697	9.2	9.2	15	15	
	C/P	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	F/P	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Fleet	7	7	100.0	8	7.2	989	10,697	10697	9.2	9.2	15	15		

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

<sup>a</sup> All pot contents sampled for species composition and biological conditions.

<sup>b</sup> Each legal tally typically consists of 600 crabs.

<sup>c</sup> Size frequency and shell condition sampling conducted on retained catch; each data set typically consists of 100 crabs.

<sup>d</sup> 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.—Pot lifts observed and non-observed for each statistical area fished during the Saint Matthew Island blue king crab fishery, 2009/10.

Statistical area	Pots lifted		Total pots lifted	Percent pot lifts observed <sup>a</sup>
	Observed <sup>a</sup>	Non-observed		
705900	30	0	30	100.0
715930	30	0	30	100.0
725900	20	0	20	100.0
725930	2,341	0	2,341	100.0
726001	307	0	307	100.0
726031	102	0	102	100.0
735930	6,702	0	6,702	100.0
736001	828	0	828	100.0
736031	310	0	310	100.0
746000	27	0	27	100.0
Totals	10,697	0	10,697	100.0

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

<sup>a</sup> Observer onboard during harvest.

Table 4-15.—Eastern Bering Sea Tanner crab harvest by vessel type and percent harvest observed, 2008/09–2009/10.

Year	Vessel type	Number of		Harvest <sup>a,b</sup>	Observed harvest <sup>a,c</sup>	Percent observed harvest <sup>c</sup>
		Vessels	Deliveries			
2008/09 <sup>d</sup>	C/V	12	40	1,785,317	1,500,388	84.0
	C/P	0	NA	NA	NA	NA
	Fleet	12	40	1,785,317	1,500,388	84.0
2009/10 <sup>d</sup>	C/V	10	38	1,310,742	1,310,742	100.0
	C/P	0	NA	NA	NA	NA
	Fleet	10	38	1,310,742	1,310,742	100.0

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

<sup>a</sup> In pounds.

<sup>b</sup> Includes deadloss.

<sup>c</sup> Observer onboard during harvest.

<sup>d</sup> 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, 2008/09–2009/10.

Year	Vessel type	Number of			Observer deployments	Number of				Percent pot lifts sampled on observed vessels	Number of		
		Vessels	Observed vessels	Percent observer coverage		Observer months	Pot lifts sampled <sup>a</sup>	Pot Lifts on all vessels	Pot lifts on observed vessels		Percent pot lifts sampled	Size freq. <sup>b</sup>	Legal tallies <sup>c</sup>
2008/09 <sup>d</sup>	C/V	12	8	66.7	11	8.0	608	21,400	13,508	2.8	4.5	22	22
	C/P	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	F/P	1	1	100.0	1	0.03	NA	NA	NA	NA	NA	1	1
	Fleet	13	9	69.2	12	8.03	608	21,400	13,508	2.8	4.5	23	23
2009/10 <sup>d</sup>	C/V	10	10	100.0	11	5.2	354	8,170	8,170	4.3	4.3	22	18
	C/P	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	F/P	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fleet	10	10	100.0	11	5.2	354	8,170	8,170	4.3	4.3	22	18

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

<sup>a</sup> All pot contents sampled for species composition and biological conditions.

<sup>b</sup> Size frequency and shell condition sampling conducted on retained catch; each data set typically consists of 100 crabs.

<sup>c</sup> Each legal tally typically consists of 600 crabs.

<sup>d</sup> 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 with snow crab gear.

Table 4-17.—Pot lifts observed and non-observed for each statistical area fished during the Eastern Bering Sea Tanner crab fishery, 2009/10.

Statistical area	Pots lifted		Total pots lifted <sup>b</sup>	Percent pot lifts observed <sup>a</sup>
	Observed <sup>a</sup>	Non-observed <sup>b</sup>		
605630	0	23	23	0.0
615601	464	649	1,113	41.7
615630	119	1,505	1,624	7.3
615700	0	235	235	0.0
615730	0	20	20	0.0
625531	477	68	545	87.5
625600	337	376	713	47.3
625630	0	116	116	0.0
635504	3,860	0	3,860	100.0
635530	6,204	502	6,706	92.5
635600	0	35	35	0.0
645434	10	0	10	100.0
645501	642	0	642	100.0
645530	674	427	1,101	61.2
645830	27	0	27	100.0
Totals	12,814	3,956	16,770	76.4

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

<sup>a</sup> Observer onboard during harvest.

<sup>b</sup> Includes Bristol Bay Red king crab pot lifts with incidental Eastern Bering Sea Tanner catch.

Table 4-18.—Western Bering Sea Tanner crab harvest by vessel type and percent harvest observed, 2003–2009/10.

Year	Vessel type	Number of		Harvest <sup>a,b</sup>	Observed harvest <sup>a,c</sup>	Percent observed harvest <sup>c</sup>
		Vessels	Deliveries			
2008/09 <sup>d</sup>	C/V	5	10	104,319	85,592	82.0
	C/P	0	NA	NA	NA	NA
	Fleet	5	10	104,319	85,592	82.0
2009/10 <sup>d</sup>	FC					

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

<sup>a</sup> In pounds.

<sup>b</sup> Includes deadloss.

<sup>c</sup> Observer onboard during harvest.

<sup>d</sup> 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.–Western Bering Sea Tanner crab observer sampling efforts by vessel type, 2008/09–2009/10.

Year	Vessel type	Number of			Observer deployments	Number of				Percent pot lifts sampled	Number of		
		Vessels	Observed vessels	Percent observer coverage		Observer months	Pot lifts sampled <sup>a</sup>	Pot lifts on all vessels	Pot lifts on observed vessels		Percent pot lifts sampled	lifts sampled on observed vessels	Size freq. <sup>b</sup>
2008/09 <sup>d</sup>	C/V	6	5	83.3	6	2.3	78	3342	1,869	2.3	4.2	4	4
	C/P	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	F/P	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fleet	6	5	83.3	6	2.3	78	3342	1,869	2.3	4.2	4	4
2009/10 <sup>d</sup>	FC												

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

<sup>a</sup> All pot contents sampled for species composition and biological conditions.

<sup>b</sup> Size frequency and shell condition sampling conducted on retained catch; each data set typically consists of 100 crabs.

<sup>c</sup> Each legal tally typically consists of 600 crabs.

<sup>d</sup> 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 4-20.—Bering Sea snow crab harvest by vessel type and percent harvest observed, 2004–2009/10.

Year	Vessel type	Number of			Observed harvest <sup>a,c</sup>	Percent observed harvest <sup>c</sup>
		Vessels	Deliveries	Harvest <sup>a,b</sup>		
2004	C/V	183	229	21,504,123	2,421,672	11.3
	C/P	6	11	666,027	666,027	100.0
	CDQ	10	25	1,772,222	1,772,222	100.0
	Fleet	199	265	23,942,372	4,859,921	20.3
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
	Fleet	177	219	24,892,128	6,500,045	26.1
2005/06 <sup>d</sup>	C/V	76	306	33,650,679	11,979,880	35.6
	C/P	4	44	3,323,211	3,323,211	100.0
	Fleet	80	350	36,973,890	15,303,091	41.4
2006/07 <sup>d</sup>	C/V	67	272	32,525,172	11,206,761	34.5
	C/P	4	35	3,830,477	3,830,477	100.0
	Fleet	71	307	36,355,649	15,037,238	41.4
2007/08 <sup>d</sup>	C/V	85	468	57,488,538	15,851,014	27.6
	C/P	4	44	5,539,498	5,539,498	100.0
	Fleet	89	512	63,028,036	21,390,512	33.9
2008/09 <sup>d</sup>	C/V	73	443	53,729,804	14,345,187	26.7
	C/P	4	44	4,818,045	4,818,045	100.0
	Fleet	77	487	58,547,849	19,163,232	32.7
2009/10 <sup>d</sup>	C/V	67	342	CF	CF	36.7
	C/P	2	12	CF	CF	100.0
	Fleet	69	354	CF	CF	CF

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

<sup>a</sup> In pounds.

<sup>b</sup> Includes deadloss.

<sup>c</sup> Observer onboard during harvest.

<sup>d</sup> 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 observer sampling efforts by vessel type, 1995–2009/10.

Year	Vessel type	Number of <sup>a</sup>			Observer deployments	Observer months	Number of			Percent pot lifts sampled	Percent pot lifts on observed vessels	Number of	
		Vessels	Observed vessels	Percent observer coverage			Pot lifts sampled <sup>b</sup>	Pot lifts on all vessels	Pot lifts on observed vessels			Size freq. <sup>c</sup>	Legal tallies <sup>d</sup>
1995	C/V	234	0	0.0	0	0.0	NA	UA	NA	NA	NA	NA	NA
	C/P	19	19	100.0	36	31.6	1,574	UA	UA	UA	UA	465	475
	F/P	15	15	100.0	17	22.5	NA	NA	NA	NA	NA	UA	UA
	Fleet	268	34	12.7	53	54.1	1,574	506,802	UA	0.3	UA	465	475
1996	C/V	219	0	0.0	0	0.0	NA	UA	NA	NA	NA	NA	NA
	C/P	15	15	100.0	35	31.3	1,412	UA	UA	UA	UA	479	494
	F/P	13	13	100.0	15	25.1	NA	NA	NA	NA	NA	246	292
	Fleet	247	28	11.3	50	56.4	1,412	520,651	UA	0.3	UA	725	786
1997	C/V	216	0	0.0	0	0.0	NA	680,725	NA	NA	NA	NA	NA
	C/P	14	14	100.0	24	33.5	1,728	73,415	73,415	2.4	2.4	607	621
	F/P	11	11	100.0	17	26.5	NA	NA	NA	NA	NA	440	447
	Fleet	237	25	10.5	41	60.0	1,728	754,140	73,415	0.2	2.4	1,047	1,068
1998	C/V	217	0	0.0	0	0.0	NA	825,832	NA	NA	NA	NA	NA
	C/P	12	12	100.0	21	30.7	5,872	65,436	65,436	9.0	9.0	598	609
	F/P	11	11	100.0	14	26.9	NA	NA	NA	NA	NA	751	762
	CDQ	20	20	100.0	60	34.0	1,726	930,843	105,011	4.4	4.4	1,429	1,453
	Fleet	260	43	16.5	35	91.6	7,598	891,268	65,436	0.9	11.6	1,349	1,371
1999	C/V	231	0	0.0	0	0.0	NA	846,163	NA	NA	NA	NA	NA
	C/P	10	10	100.0	15	24.6	1,593	52,880	52,880	3.0	3.0	694	8
	F/P	11	11	100.0	12	26.3	NA	NA	NA	NA	NA	736	683
	CDQ	276	22	91.7	28	12.1	789	46,490	14,131	1.7	5.6	59	46
	Fleet	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	NA	161,579	NA	NA	NA	NA	NA
	C/P	9	9	100.0	10	5.7	202	8,485	8,485	2.4	2.4	76	60
	F/P	5	5	100.0	5	3.5	NA	NA	NA	NA	NA	111	91
	CDQ	13	12	92.3	12	8.5	629	12,570	12,185	5.0	5.1	32	26
	Fleet	247	26	10.5	27	17.7	831	182,634	20,670	0.5	4.0	219	177

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Table 4-21.-Page 2 of 3.

Year	Vessel type	Number of <sup>a</sup>			Percent observer coverage	Number of				Percent pot lifts sampled on observed vessels	Number of		
		Vessels	Observed vessels	Observer deployments		Observer months	Pot lifts sampled <sup>b</sup>	Pot lifts on all vessels	Pot lifts on observed vessels		Percent pot lifts sampled	Size freq. <sup>c</sup>	Legal tallies <sup>d</sup>
2001	C/V	200	7	3.5	7	9.6	241	159,438	4,663	0.2	5.2	7	6
	C/P	7	7	100.0	10	9.4	487	17,492	17,492	2.8	2.8	162	83
	F/P	3	3	100.0	3	4.3	NA	NA	NA	NA	NA	74	64
	CDQ	11	11	100.0	11	9.9	771	14,270	14,270	5.4	5.4	33	11
	Fleet	221	28	12.7	31	33.2	1499	191,200	36,425	0.8	4.1	276	164
2002	C/V	183	10	5.5	12	11.8	809	292,846	16,021	0.3	5.0	29	21
	C/P	8	8	100.0	9	8.0	509	14,820	14,820	3.4	3.4	170	121
	F/P	5	5	100.0	5	4.0	NA	NA	NA	NA	NA	192	105
	CDQ	11	11	100.0	15	16.0	1,098	18,845	17,264	5.8	6.3	12	10
	Fleet	205	32	15.6	41	39.8	2,416	326,511	48,105	0.7	5.0	403	257
2003	C/V	188	18	9.6	19	14.1	741	136,280	12,813	0.5	5.8	20	20
	C/P	5	5	100.0	5	3.0	129	3,623	3,623	3.6	3.6	47	47
	F/P	5	5	100.0	6	3.5	NA	NA	NA	NA	NA	61	61
	CDQ	10	9	90.0	10	10.4	746	14,583	13,519	5.1	5.5	61	61
	Fleet	206	35	17.0	40	31.0	1,616	154,486	29,955	1.0	5.4	189	189
2004	C/V	183	19	10.4	19	13.7	688	106,144	11,067	0.6	6.2	19	19
	C/P	6	6	100.0	7	3.2	159	3,943	3,943	4.0	4.0	44	44
	F/P	5	5	100.0	5	3.2	NA	NA	NA	NA	NA	58	59
	CDQ	10	10	100.0	10	11.0	780	13,622	13,622	5.7	5.7	61	56
	Fleet	202	38	18.8	41	31.1	1,627	123,709	28,632	1.3	5.7	182	178
2005	C/V	162	13	8.0	13	8.1	336	66,712	5,571	0.5	6.0	18	17
	C/P	6	6	100.0	6	3.0	91	3,151	3,151	2.9	2.9	32	26
	F/P	3	3	100.0	4	1.9	NA	NA	NA	NA	NA	37	38
	CDQ	9	9	100.0	9	6.5	210	3,345	3,345	6.3	6.3	48	39
	Fleet	179	31	17.3	32	19.5	637	73,208	12,067	0.9	5.3	135	120

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Table 4-21.--Page 3 of 3.

Year	Vessel type	Number of <sup>a</sup>			Percent observer coverage	Number of				Percent pot lifts sampled on observed vessels	Number of		
		Vessels	Observed vessels	Observer deployments		Observer months	Pot lifts sampled <sup>b</sup>	Pot lifts on all vessels	Pot lifts on observed vessels		Percent pot lifts sampled	Size freq. <sup>c</sup>	Legal tallies <sup>d</sup>
2005/06 <sup>e</sup>	C/V	76	28	36.8	31	40.4	1,997	105,508	37,256	1.9	5.4	104	95
	C/P	4	4	100.0	7	11.0	586	15,004	15,004	3.9	3.9	208	197
	F/P	2	2	100.0	3	5.1	NA	NA	NA	NA	NA	32	32
	Fleet	82	34	41.5	41	56.5	2,583	120,512	52,260	2.1	4.9	344	324
2006/07 <sup>e</sup>	C/V	67	24	35.8	31	31.8	870	78,611	28,201	1.1	3.1	80	70
	C/P	4	4	100.0	9	10.0	248	10,808	10,808	2.3	2.3	181	157
	F/P	2	2	100.0	3	4.1	NA	NA	NA	NA	NA	49	56
	Fleet	73	30	41.1	43	45.9	1,118	89,419	39,009	1.3	2.9	310	283
2007/08 <sup>e</sup>	C/V	85	29	34.1	35	34.9	1,297	130,008	37,688	1.0	3.4	92	90
	C/P	4	4	100.0	4	10.0	416	13,834	13,834	3.0	3.0	136	132
	F/P	1	1	100.0	1	1.9	NA	NA	NA	NA	NA	44	29
	Fleet	90	34	37.8	40	46.8	1,713	143,842	51,522	1.2	3.3	272	251
2008/09 <sup>e</sup>	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	NA	NA	NA	NA	NA	24	24
	Fleet	78	30	38.5	34	49.9	1,713	163,536	56,424	1.0	3.0	317	306
2009/10 <sup>e</sup>	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	NA	NA	NA	NA	NA	44	44
	Fleet	71	30	42.3	37	42.5	1,738	137,018	54,216	1.3	3.2	200	199

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

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

<sup>b</sup> All pot contents sampled for species composition and biological conditions.

<sup>c</sup> Size frequency and shell condition sampling conducted on retained catch; each data set typically consists of 100 crabs.

<sup>d</sup> Each legal tally typically consists of 600 crabs.

<sup>e</sup> Data includes Individual Fishing Quota and Community Development Quota. 2005/06 is the first year of crab rationalization.

Table 4-22.—Pot lifts observed and non-observed for each statistical area fished during the Bering Sea snow crab fishery, 2009/10.

Statistical area	Pots lifted		Total pots lifted	Percent pot lifts observed <sup>a</sup>
	Observed <sup>a</sup>	Non-observed		
635530	0	111	111	0.0
635600	0	18	18	0.0
645530	0	412	412	0.0
665500	5	60	65	7.7
665530	0	305	305	0.0
675500	645	379	1,024	63.0
675530	4,164	6,261	10,425	39.9
675600	1,649	5,766	7,415	22.2
675630	16	126	142	11.3
675700	0	9	9	0.0
685530	134	364	498	26.9
685600	3,366	4,213	7,579	44.4
685630	265	884	1,149	23.1
695600	0	10	10	0.0
695631	18	0	18	100.0
705600	1,020	1,245	2,265	45.0
705630	3,263	1,560	4,823	67.7
705701	0	67	67	0.0
715600	1,783	807	2,590	68.8
715630	13,439	13,277	26,716	50.3
715700	2,125	4,929	7,054	30.1
715730	26	0	26	100.0
725600	109	235	344	31.7
725630	9,187	21,613	30,800	29.8
725700	4,888	8,634	13,522	36.1
725730	332	2,405	2,737	12.1
735630	192	1,025	1,217	15.8
735700	2,663	1,323	3,986	66.8
735730	1,547	3,899	5,446	28.4
735800	1,655	814	2,469	67.0
745800	900	651	1,551	58.0
745830	767	1,341	2,108	36.4
745900	0	2	2	0.0
755830	58	57	115	50.4
Totals	54,216	82,802	137,018	39.6

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

<sup>a</sup> Observer onboard during harvest.

Table 4-23.–Bering Sea golden king crab observer sampling efforts by vessel type, 1989–2009.

Year	Vessel type	Number of			Number of					Number of	
		Vessels	Observed vessels	Percent observer coverage	Observer trips	Observer months	Pot lifts sampled <sup>a</sup>	Pot lifts on all vessels	Percent pot lifts sampled	Size freq. <sup>b</sup>	Legal tallies <sup>c</sup>
1989	C/V	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C/P	2	2	100	2	1.5	UA	UA	UA	UA	UA
	Fleet	2	2	100	2	1.5	UA	UA	UA	UA	UA
1990-1991		0	NA	NA	NA	NA	NA	NA	NA	NA	NA
1992	C/V	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	C/P	2	2	100	2	1.3	UA	UA	UA	UA	UA
	Fleet	2	2	100	0	1.3	UA	UA	UA	UA	UA
1993-2000		0	NA	NA	NA	NA	NA	NA	NA	NA	NA
2001	C/V	6	6	100	9	10.5	1,356	4,513	30.0	13	14
	C/P	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fleet	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	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fleet	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	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fleet	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	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Fleet	5	5	100	5	3.4	551	2,312	23.8	7	7
2005 - 2009		0	NA	NA	NA	NA	NA	NA	NA	NA	NA

Note: C/V = Catcher vessel, C/P = Catcher-processor vessel, NA = Not applicable, UA = Unavailable, CF = Confidential

<sup>a</sup> All pot contents sampled for species composition and biological conditions.

<sup>b</sup> Size frequency and shell condition sampling conducted on retained catch; each data set typically consists of 100 crabs.

<sup>c</sup> Each legal tally typically consists of 600 crabs.

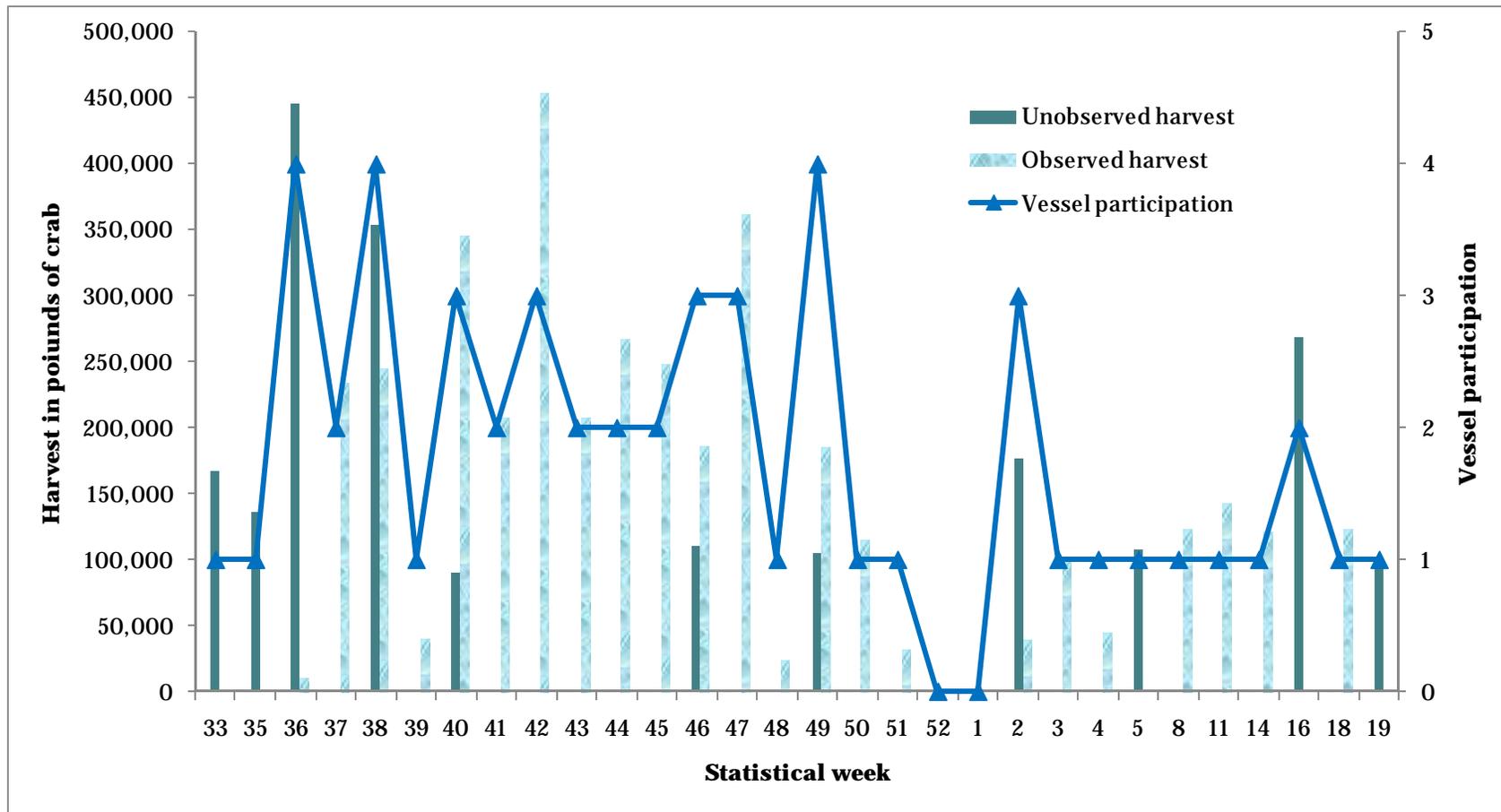


Figure 4-1.—Comparison of observed harvest to unobserved harvest, and total vessel participation by statistical week between August 15, 2009 and May 15, 2010 combining harvest from both east and west of 174° W long in the Aleutian Islands golden king crab fishery, 2009/10.

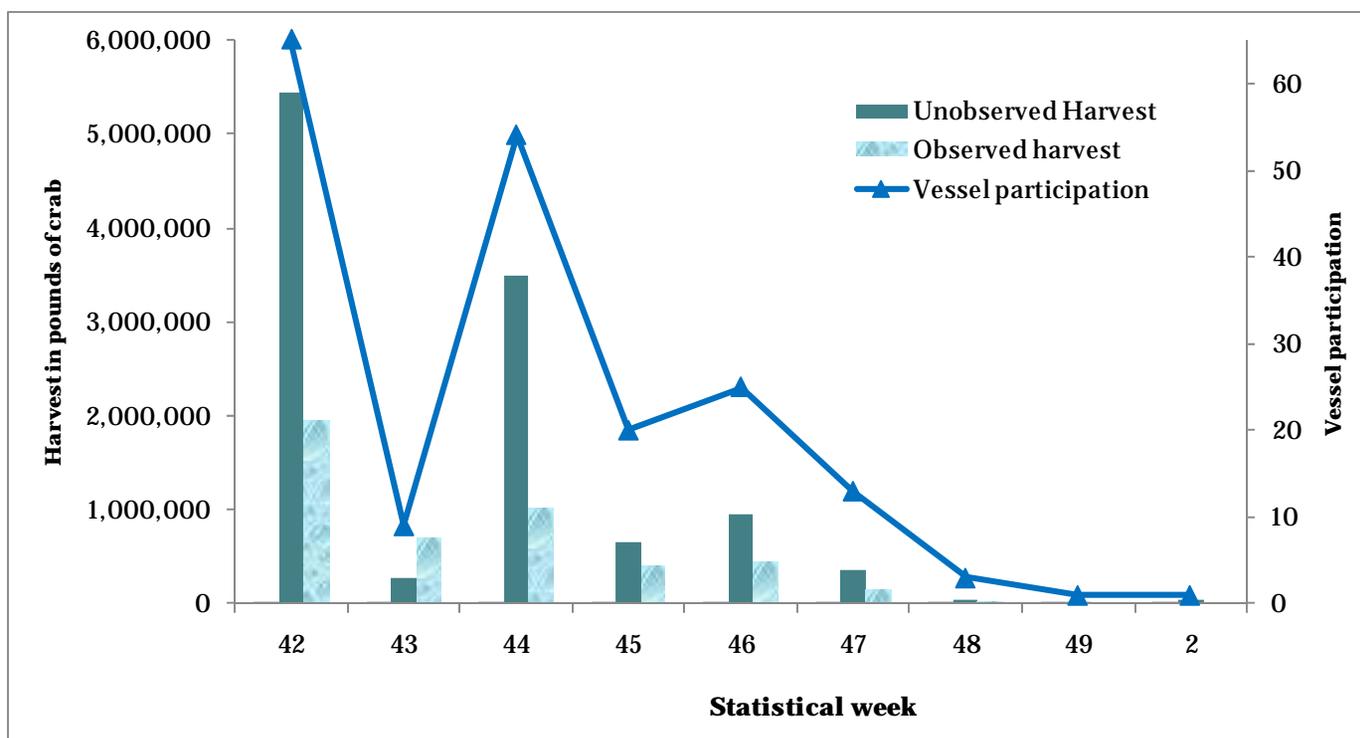


Figure 4-2.—Comparison of observed harvest to unobserved harvest, and total vessel participation by statistical week between October 15, 2009 and January 9, 2010 in the Bristol Bay red king crab fishery, 2009/10.

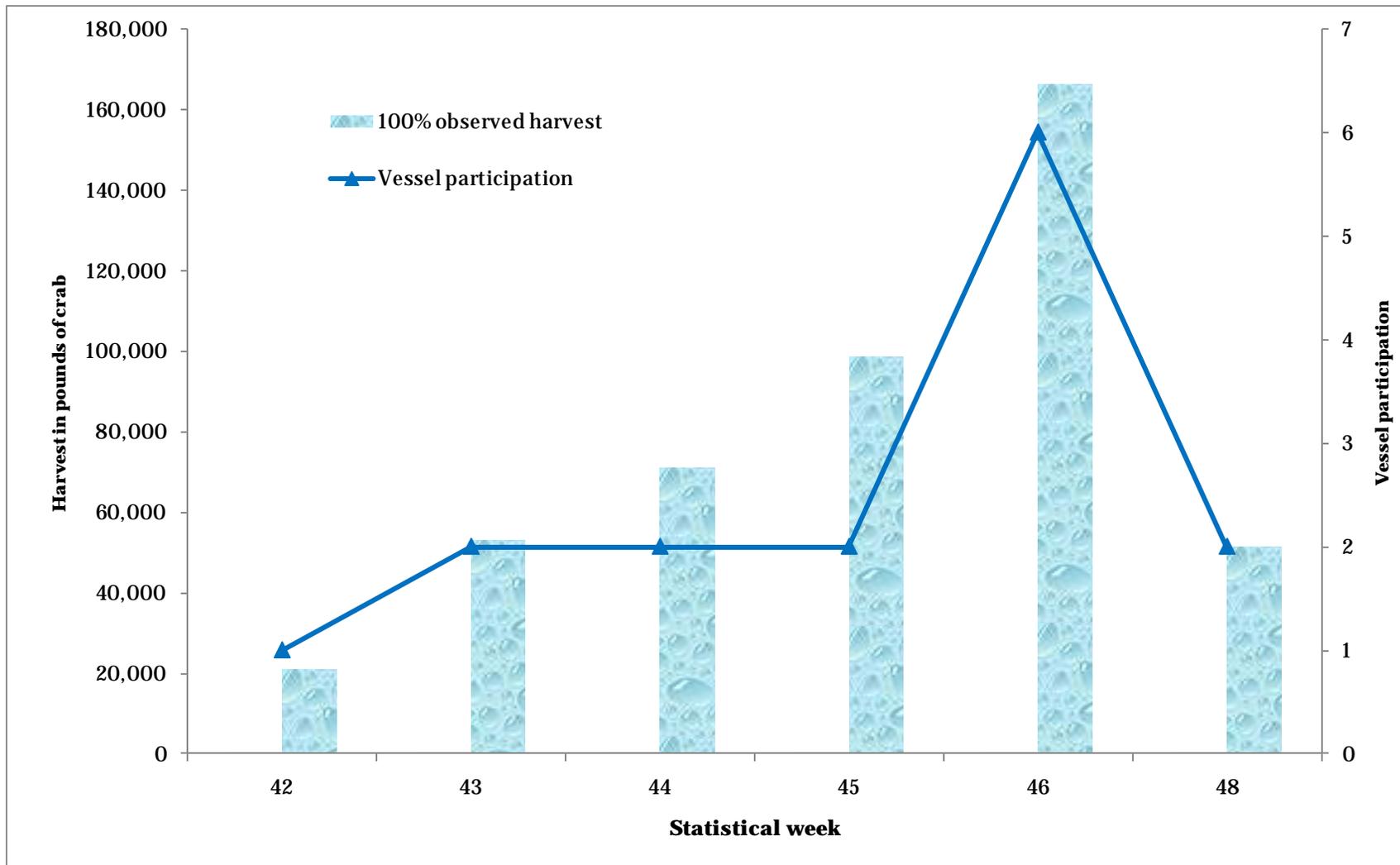


Figure 4-3.—Harvest and total vessel participation by statistical week between October 15, 2009 and November 28, 2009 in the Saint Matthew Island blue king crab fishery, 2009/10.

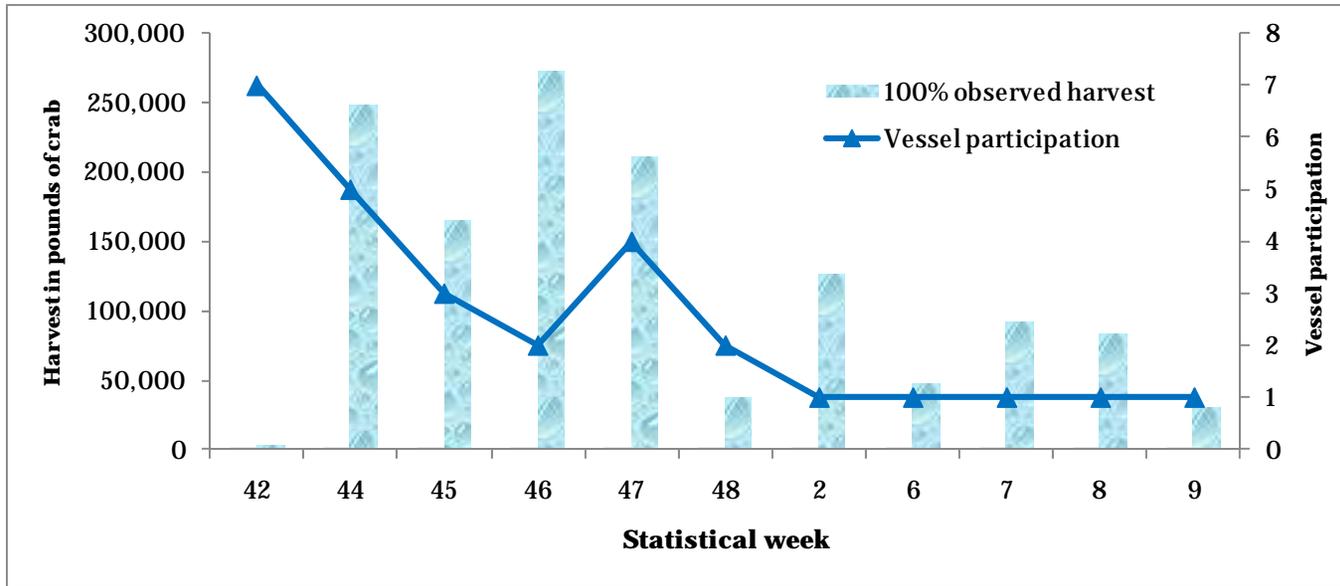


Figure 4-4.—Harvest and total vessel participation by statistical week between October 15, 2009 and February 27, 2010 in the Eastern Bering Sea Tanner crab fishery, 2009/10.

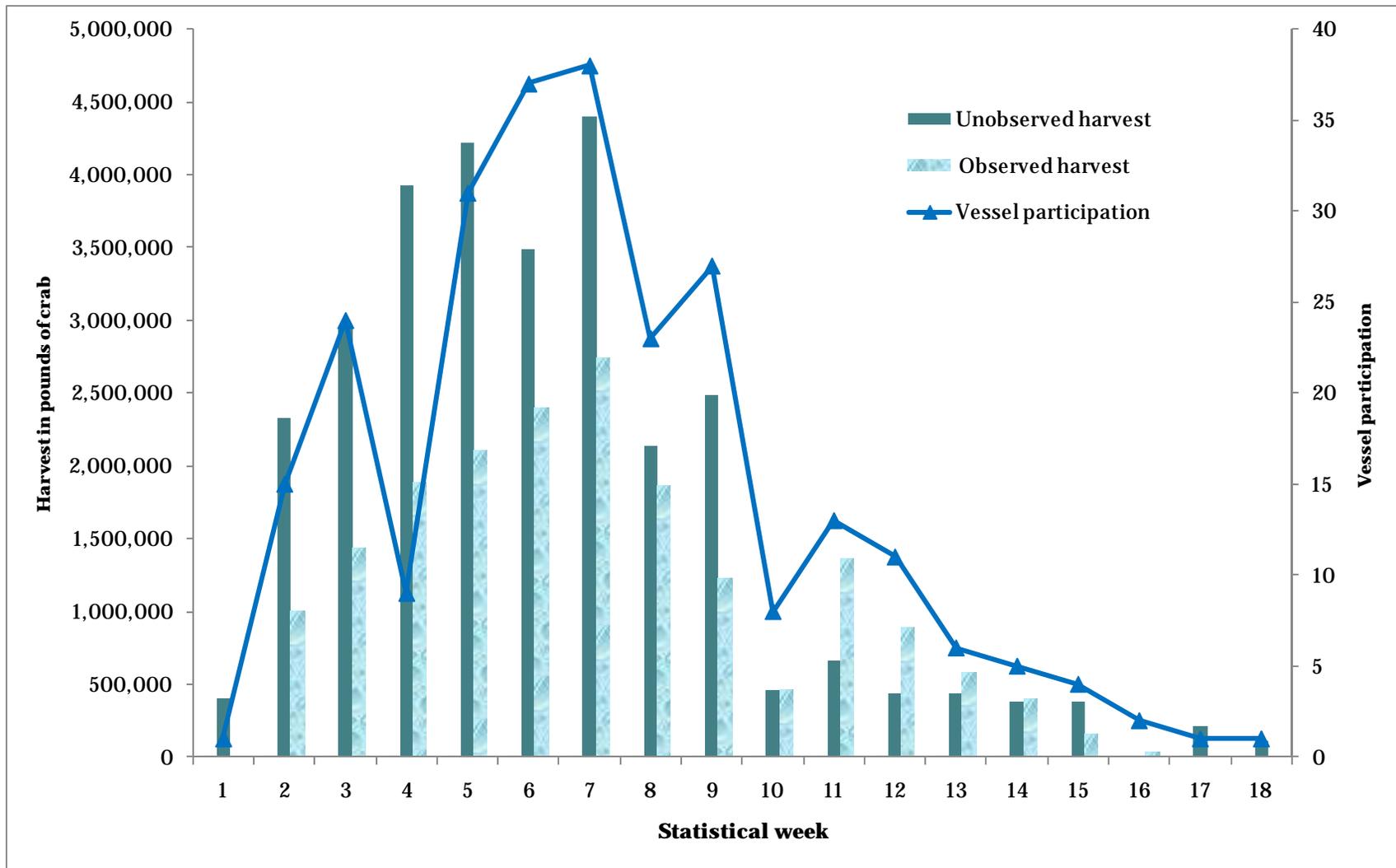


Figure 4-5.—Comparison of observed harvest to unobserved harvest, and total vessel participation by statistical week between December 27, 2009 and May 1, 2010 in the Bering Sea snow crab fishery, 2009/2010.