

Fishery Management Report No. 08-73

**Annual Management Report for the Commercial
and Subsistence Shellfish Fisheries of the Aleutian
Islands, Bering Sea and the Westward Region's
Shellfish Observer Program, 2007/08**

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December 2008

Alaska Department of Fish and Game

Divisions of Sport Fish and Commercial Fisheries



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OBSERVER PROGRAM, 2007/08**

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December 2008

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

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This document should be cited as:

Bowers, F. R., M. Schwenzfeier, K. Milani, K. Herring, M. Salmon, E. Russ, J. Shaishnikoff, R. Burt, and H. Barnhart. 2008. Annual management report for the commercial and subsistence shellfish fisheries of the Aleutian Islands, Bering Sea and the Westward Region's Shellfish Observer Program, 2007/08. Alaska Department of Fish and Game, Fishery Management Report No. 08-73, Anchorage.

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ABSTRACT

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

In 2007, three species of king crabs, snow crabs, Tanner crabs, Dungeness crabs, and giant Pacific octopus were taken in the Bering Sea and Aleutian Islands (BSAI) commercial and subsistence fisheries.

This report presents details on the commercial and subsistence harvest, participation and value of shellfish fisheries in the Bering Sea and Aleutian Island Area (BSAI). Historical and current fishery management practices, a summary of the most recent commercial fishery and stock status information are presented for each fishery. The 2007/08 Bering Sea king and Tanner crab Community Development Quota (CDQ) and individual fishing quota (IFQ) crab fisheries are summarized.

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

Key words: Tanner crab, *Chionoecetes bairdi*, snow crab, *C. opilio*, *C. tanneri*, Dungeness crab, *Cancer magister*, golden king crab, *Lithodes aequispinus*, red sea cucumber, *Parastichopus californicus*, red king crab *Paralithodes camtschaticus*, Pacific octopus, *Octopus dofleini*, Community Development Quota, CDQ, Crab Rationalization, CR, individual fishing quota, IFQ, catch per unit effort, CPUE, Exclusive Economic Zone, EEZ, subsistence, guideline harvest level, GHL, Board of Fisheries, BOF, National Marine Fisheries Service, NMFS, Bering Sea, Aleutian Islands, North Peninsula, Area, District, deploy, observer-days, catcher-processor, C/P, catcher-vessel, C/V, floater-processor, F/P, bycatch, University of Alaska Anchorage, UAA, North Pacific Fisheries Observer Training Center, OTC, National Oceanic and Atmospheric Administration, NOAA, North Pacific Groundfish Observer Program, NPGOP, legal tallies, confidential interviews, CIF, United States Coast Guard, USCG, Commercial Fishing Vessel Safety Examination, CFVSE, Crab Observer Oversight 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 in Dutch Harbor is tasked with management of all commercial, subsistence and personal use shellfish fisheries occurring in the Territorial Sea and EEZ of the Aleutian Islands west of Scotch Cap Light (164° 44' W long.) and all Bering Sea waters of the Territorial Sea and EEZ north of Cape Sarichef (58° 39' N lat.). King crab in the Bering Sea north of Cape Romanzof and Tanner crab in Norton Sound are managed by ADF&G's Arctic-Yukon-Kuskokwim Region. The waters of the Bering Sea and Aleutian Islands (BSAI) support the largest and most valuable commercial crab fisheries in Alaska.

The BSAI area is divided into several registration areas for king crab management, whereas districts are utilized for Tanner crab, Dungeness crab and miscellaneous shellfish management. The major BSAI king and Tanner crab fisheries are managed under a federal fisheries management plan (FMP) that establishes a cooperative management structure deferring king and Tanner crab management to the state of Alaska with federal oversight. The Bering Sea hair crab

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

Species commercially harvested during 2007/08 season in waters of the BSAI include red king crabs *Paralithodes camtschaticus*, golden king crabs *Lithodes aequispinus*, scarlet king crabs *Lithodes couesi*, snow crabs *Chionoecetes opilio*, Tanner crabs *C. bairdi*, Dungeness crabs *Cancer magister*, and giant Pacific octopus *Octopus dofleini*. Historically, waters of the BSAI have supported commercial harvests of blue king crabs *P. platypus*, grooved Tanner crabs *C. tanneri*, triangle Tanner crabs *C. angulatus*, green sea urchins *Strongylocentrotus droebachiensis*, pandalid shrimp, hair crab *Erimacrus isenbeckii*, and sea snails of several species, however these fisheries are currently either closed due to low abundance or are not being commercially pursued. In addition, a fishery for weathervane scallops *Patinoplectin caurinus* occurs in the BSAI, however it is summarized in a separate report.

In 2007/08, 93 catcher vessels, five catcher processors, one floating processor and 15 shorebased processors were involved in harvesting and processing non-scallop shellfish resources in the BSAI. BSAI shellfish landings totaled approximately 91.0 million pounds generating an approximate exvessel value of \$198.2 million.

The Bering Sea snow crab fishery was the largest shellfish fishery in Alaska with a total harvest of 63 million pounds, followed by the Bristol Bay red king crab fishery with a total harvest of 20.3 million pounds, the Aleutian Islands golden king crab fishery with a total harvest of 5.5 million pounds and the Bering Sea Tanner crab fishery with a harvest of 2.1 million pounds.

In addition to the fisheries previously mentioned, fisheries for golden king crabs in the Pribilof District (0.15 million pounds guideline harvest level (GHL)) and grooved Tanner crabs in the Bering Sea and Aleutian Islands were open with (0.2 million pounds GHL), however there was no participation in these fisheries. Scarlet king crabs were taken incidentally in the Aleutian Islands golden king crab fishery. Fisheries for red and blue king crabs in the Pribilof District, for blue king crabs in the Saint Matthew Island Section and for red king crabs in the eastern and western Aleutian Islands were closed due to low abundance. The Saint Matthew Island Section blue king crab stock was designated as overfished in 1999. The Pribilof blue king crab stock is in overfished condition.

Both the Bering Sea snow and Tanner crab fisheries were open in 2007/08. Snow crab harvest increased to the highest level since 1999, however the Tanner crab harvest was below the long-term average. Bering Sea Tanner crab stock status improved and is no longer considered overfished. The Eastern Aleutian District Tanner crab fishery was open for a small harvest in 2008.

Dungeness crab harvests in the BSAI have historically been small. Two vessels registered to fish for Dungeness crab during the 2007 season in the Aleutian Islands and North Peninsula Districts, harvests for both areas are confidential.

Relative to other portions of the Westward Region, shrimp harvests in the BSAI area have been lower and there was no shrimp harvest in the BSAI during 2007.

There was only minor participation during 2007 in most BSAI fisheries for miscellaneous shellfish species. The Bering Sea hair crab fishery was closed due to low abundance and there

was no effort targeting green sea urchins or sea cucumbers. Giant Pacific octopus were harvested incidentally in BSAI groundfish fisheries.

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

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

ANNUAL MANAGEMENT REPORT FOR THE COMMERCIAL AND SUBSISTENCE SHELLFISH FISHERIES OF THE ALEUTIAN ISLANDS, 2007/08

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December 2008

ALEUTIAN ISLANDS KING CRAB MANAGEMENT AREA

DESCRIPTION OF AREA

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

ALEUTIAN ISLANDS RED KING CRAB

Historical Background

Historically, the red king crab *Paralithodes camtschaticus* resource in the Aleutian Islands was harvested in two registration areas. The Adak Registration Area (Area R) consisted of those waters in the Aleutian Islands west of 172° W long., while the Dutch Harbor Registration Area (Area O) encompassed waters east of 172° W long., the line separating the Adak and Dutch Harbor areas was changed to 171° W longitude prior to the 1984/85 season (ADF&G 1985a; Figure 1-2). In addition, as the fleet moved westward, a third Registration Area (Area S) was established for the waters around Amchitka Island and the Petrel Bank. Area S was created in 1967 and was merged into Area R in 1978 (ADF&G 1991). In March of 1996, the Alaska Board of Fisheries (BOF) established the Aleutian Islands king crab Registration Area (Area O) by combining the existing Dutch Harbor and Adak Registration areas. The BOF adopted this change to improve management of the increasingly important golden king crab *Lithodes aequispinus* resource in the Aleutian Islands. Combining the Adak and Dutch Harbor areas was not expected to impact management of red king crabs in the Aleutian Islands (ADF&G 1999a).

Domestic fisheries for red king crabs in both the Adak and Dutch Harbor Registration areas began in 1961, with effort and harvest rapidly increasing in both areas. The Adak Area reached a peak harvest of 21 million pounds in 1964/65, while the Dutch Harbor Area reached maximum production of 33 million pounds in 1966/67 (Table 1-1). The Aleutian Islands red king crab fishery had a maximum fishery value of nearly \$21 million in the 1980/81 season (Table 1-2).

In the late 1970s, 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 26 million pounds for Dutch Harbor and from 0.5 million to 3.0 million pounds in Adak (ADF&G 1978). GHLs were often modified in season based on fishery performance (Table 1-2).

Fluctuating harvest levels from one year to the next characterized the fisheries in the Dutch Harbor and Adak areas, and by the 1982/83 season the Dutch Harbor fishery had declined to a harvest of 430,000 pounds. Commercial fishing for red king crabs in the Dutch Harbor Area was closed on an annual basis after the 1982/83 season. The Adak fishery remained open through the 1995/96 season when only 39,000 pounds were harvested. After the 1995/96 season the fishery was closed for several years. Portions of the area were opened during the 1998/99, 2000/01, and 2001/02 seasons in order to assess the status of red king crab stocks (Figure 1-3). In 2002 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-processor vessels since 1988 and on catcher vessels targeting red or golden king crabs in the Aleutian Islands since 1995. Observer coverage on golden king crab vessels provides red king crab incidental harvest data from that fishery, although red king crab bycatch in golden king crab gear is minimal due to the limited overlap in distribution of the two species. Observer coverage also provides data on retained and non-retained golden king crabs as well as information related to fishing patterns.

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

In 1996 and 1997, a catcher-processor vessel was permitted to target red king crabs on the Petrel Bank in conjunction with their directed golden king crab fishing. The goals of this project were to enumerate, tag, and collect biological data from all red king crabs captured and to recapture tagged individuals. During this two-year period, a total of 926 crabs were tagged along the north side of Amchitka Island and along the south side of Semisopochnoi Island. Of the tagged crabs, 440 were legal males and 160 were females; 89% of legal crabs were new shell. Recovery efforts yielded 15 tagged crabs, six of which were legal males. While the tagging was too limited to provide quantitative stock assessment data, it did provide some information related to migration, molting cycle, and seasonal distribution (Byersdorfer 1998).

In order to assess the status of red king crab stocks in two areas of the Aleutian Islands without recent abundance information, a limited commercial fishery was opened on November 1, 1998 with the provision that crabs not harvested be tagged and released. In addition, vessel operators were required to document all red king crab fishing activities in a pilothouse logbook. East of 179° W long., a GHL of 5,000 pounds was established and west of 179° E long., a GHL of 10,000 pounds was set; these GHLS were set using historic catch information. Closed waters included the Petrel Bank (the area between 179° E long. and 179° W long.). The Alaska Department of Fish and Game (ADF&G) did not open the Petrel Bank area in 1998/99 since prior efforts had provided some population data from that area (Byersdorfer 1998).

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

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

Capture of red king crabs from both 2001 surveys in the Petrel Bank area indicated healthy levels of legal males. 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). Sublegal male and female CPUE for the combined surveys was two and three, respectively.

Size composition data from the 2001 surveys were comparable to the size composition of catches prior to the 1995/96 fishery closure. The size composition and shell condition data indicated that approximately 61% of the sampled legal-size crabs were post recruits. Of the crabs sampled 77% were new-shell. Similar to the surveys conducted in the mid 1990s, very few sublegal crabs were captured during the 2001 surveys.

The surveys conducted in 2001 indicated that legal male abundance increased since the fishery was closed, however, red king crab female and sublegal abundance remained low. Given the legal male abundance, a limited commercial fishery on the Petrel Bank was opened during the 2002 and 2003 seasons with a GHL of 500,000 pounds. Based on expected effort, this was considered the minimum GHL that could be managed inseason. Because of the uncertainty in the status of sublegal and female red king crabs and to provide for overall stock protection, ADF&G adopted a management strategy that would close the fishery prior to achieving the GHL if legal male CPUE drops below 10 crabs per pot. Establishing a low GHL with a moderate CPUE threshold level should help prevent the stock from declining to levels seen in the mid-90s. Trends in fishery performance were used to evaluate GHLS and having a defined threshold for closing the fishery permitted clearer understanding of the management strategy.

Thirty-three vessels participated in the 2002 Petrel Bank red king crab fishery. The fleet pulled 3,786 pots, an average of 115 pots per vessel. CPUE for the Petrel Bank fishery was 18 legal crabs per pot lift and the fleet harvested a total of 505,642 pounds (Table 1-1). Exvessel price averaged \$6.51 per pound and the 2002 Petrel Bank fishery had a total value of over \$3.29 million (Table 1-2).

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

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

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

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

To address conservation concerns for the eastern Aleutian Islands red king crab stock, the State of Alaska Board of Fisheries (BOF) took action at the March 1999 meeting regarding the subsistence and sport king crab fisheries in the Aleutian Islands between 168° and 164° 44' W long. Regulations were adopted by the BOF that closed the sport fishery and reduced the daily bag limit of subsistence king crabs from six to one per person per day. The BOF also adopted regulations requiring that subsistence king and Tanner crab *Chionoecetes bairdi* fishers

operating in the Aleutian Islands between 168° and 164° 44' W long. obtain a subsistence permit before fishing.

Subsistence logsheet information has been collected by ADF&G for the past eight years. An average of 217 permits are issued each year and approximately 70 percent are returned. The returned permits accounted for an average annual harvest of 908 king crabs (Table 1-3), with harvest ranging from 0 to 150 king crabs per permit. These harvest figures are substantially less than estimates generated by a 1994 survey of 15.1% of households in Unalaska, where 6,892 king crabs were estimated to have been taken (ADF&G 1999b).

2007/08 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 2007/08 season due to low stock abundance.

2007/08 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 2007/08 season due to low stock abundance.

2007/08 Commercial Fishery West of 179° W Longitude (Petrel Bank)

The red king crab fishery in the Aleutian Islands Registration Area O west of 179° W long. was not opened during the 2007/08 season due to low stock abundance.

2007 Subsistence Fishery

In 2007, ADF&G issued 203 subsistence permits and harvest logsheets, of which 122, or 60%, have been returned. The returned permits account for a reported harvest of 1,359 king crabs (Table 1-3). Estimates generated from the subsistence harvest logsheets indicate that approximately 2,265 king crabs were taken with harvest ranging from 0 to 118 king crabs per permit. The majority of subsistence caught king crabs in the Unalaska Island area are taken with pot gear.

Fishery Management and Stock Status East of 171° W Longitude

A vessel may not be registered to fish in the commercial red king crab and golden king crab fisheries concurrently east of 171° W longitude. This red king crab fishery remains open access and was not included in crab rationalization. Regulations do not allow vessels to retain IFQ and non-IFQ species concurrently.

Most shellfish research in the Aleutian Islands has been directed at crab stocks inhabiting the eastern Aleutian Islands. Recent bottom trawl surveys by ADF&G have not captured many king crabs. The eastern Aleutian Islands were surveyed by bottom trawl during the summers of 2000 and 2003-07. A single red king crab was captured during 2000, 2003, and 2005 and none were captured during the 2004 survey (Spalinger 2006 and Worton 2001). While the five that were captured during the 2006 and the three during 2007 survey (Spalinger 2007) are an increase over the 2000 and 2003-2005 survey catches, the red king crab population in the eastern Aleutian Islands remains severely depressed.

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

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

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

A vessel 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. This red king crab fishery remains open access and was not included in crab rationalization. Regulations do not allow vessels to retain IFQ and non-IFQ species concurrently.

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

Ten vessels conducted 1,085 pot lifts in a total of 61 stations. Survey catches were poor and only four legal males were captured during the entire survey. Due to poor survey catches and high operation costs, many vessels were unable to fulfill their survey commitment and only 34% of the survey was completed. The portion of the survey that was completed indicates that the red king crab stocks around Adak, Atka, and Amlia Islands continue to be severely depressed (Granath 2003). Therefore, the department does not expect a commercial red king crab fishery to open in this area in the near future.

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

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

Shell-condition and size composition data from the 2001, 2002 and 2003 fisheries in the Petrel Bank area indicate that primarily older, post-recruit crabs supported these fisheries. Proportions of sublegal and female red king crabs did not change significantly from the 2001 surveys to the 2002 or 2003 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 and up to 8.0 pounds and 168 mm in 2003. A mode of sublegal crab seen in 2003 (centered at 86 – 90 mm CL) is approximately three molts from attaining legal size.

Cumulative fishery CPUE did not drop below the benchmark of 10 during the 2003 fishery, although fish ticket data indicate that the fishery CPUE was 10 crabs per pot. 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 combined survey CPUE of 28 and 2002 fishery CPUE of 18, performance during the 2003 fishery was not promising.

The harvest based approach using only legal-male CPUE as a threshold was developed to help maintain multiple size and age classes on the grounds to promote rebuilding. Using a threshold of legal-male CPUE alone does not protect the stock. Because survey catch of sublegal and female crab was low, thresholds were not developed for those stock components. After the 2001 surveys, staff expressed concern about overall stock status. While legal-male catch was encouraging, the lack of sublegal and female crab was disappointing. ADF&G now has two additional years of fishery information that have 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. Following the 2003 fishery, ADF&G made the decision to close the Petrel Bank red king crab fishery until the next survey was conducted in the fall of 2006.

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 and 2003 commercial fisheries to evaluate current stock status. Because of differences in fishing practices between the 2001 survey, the 2002 and 2003 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 provides no expectation for significant recruitment of legal males in the immediate future. Although males that were estimated to be new recruits to legal size accounted for 36% of the 2006 survey catch of legal crabs, recruitment occurring since the 2001 survey has been insufficient to rebuild legal male abundance to levels of the early 2000s. Spatial distribution of legal males during the 2006 survey decreased from the 2001 survey distribution and was limited to the northwestern portion of the Petrel Bank. Distribution of red king crabs was also restricted relative to harvest location during the last two commercial fisheries. Given the limited distribution and low relative abundance of legal male red king crab on Petrel Bank and the lack of projected recruitment to the legal size class in the near future, a harvestable surplus of red king crab is not currently available.

The implementation of Crab Rationalization designated a portion of the western Aleutian Islands (west of 179° W long.) red king crab fishery as an IFQ fishery. Individual fishing quota shares will allow harvesters to prosecute this fishery at any time during the biological season opening. Prior to rationalization, the overall pot limit in the Western Aleutian Islands red king crab fishery was 1,250 pots to be divided evenly among participants. Currently, regulations stipulate a pot limit of 250 pots per vessel. Observer coverage requirements remain at 100% of fishing activity.

ALEUTIAN ISLANDS GOLDEN KING CRAB

Historic Background

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

Historically, golden king crabs were taken as incidental harvest during red king crab fisheries in the Adak (Area R) and Dutch Harbor (Area O) Registration areas. One landing of golden king crabs was reported from the Adak Area during the 1975/76 season, but directed fishing for golden king crabs did not occur in either management area until the 1981/82 season (ADF&G 1984). From the 1981/82 season through the 1995/96 season, the golden king crab resource in the Aleutian Islands was harvested in separate directed fisheries occurring in the Adak and Dutch Harbor Registration areas.

During the 1981/82 season, 14 vessels landed 1.2 million pounds of golden king crabs in 76 deliveries from the Adak Area (Table 1-4). By the following season, harvest had reached 8.0 million pounds with 99 vessels participating in the fishery. Between 1981 and 1995, an average of 50 vessels participated in the Adak golden king crab fishery, harvesting an average of 6.9 million pounds annually. Peak harvest in the Adak Area fishery occurred during the 1986/87 season when 12.9 million pounds of golden king crabs were harvested for an exvessel value of \$37.6 million (Table 1-5). Initially, the fishery was managed based on size, sex, and season restrictions as no stock assessment of the golden king crab population was performed in the Adak Area. Catches were monitored 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); however, significant harvest also occurred in the remainder of the Western Aleutian District.

From the 1981/82 season to the 1995/96 season, the average weight of golden king crabs harvested in the Adak Area fishery declined from 5.5 to 4.3 pounds and CPUE declined from nine to five legal crabs per pot lift (Figure 1-4). In July 1985, the BOF adopted a regulation reducing the minimum legal size for golden king crabs from 6.5 to 6.0 inches in carapace width (CW). Decreasing the legal size for golden king crabs in this area resulted in the expected decrease in average weight of legal crabs harvested after 1985/86 and an increased catch during the 1985/86 and 1986/87 seasons. This regulation change did not, however, reverse the trend of slowly declining catch rates in the area west of 171° W long.

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

In general, the average weight of golden king crabs harvested in the Dutch Harbor Area declined during the period from 1981 to 1995, ranging from a high of 7.6 pounds during the 1983/84 season to 4.2 pounds during the 1992/93 season (Figure 1-5). In 1984, the BOF adopted an ADF&G proposal to lower the legal size for golden king crabs in the Dutch Harbor Area from 6.5 inches to 6.0 inches CW, which would affect average weight, and to establish the area as a permit fishery. CPUE has slowly declined throughout the history of this fishery, reaching a peak

of 14 legal crabs per pot during the 1984/85 season and declining to 6 crabs during the 1994/95 season. The golden king crab stock in the Dutch Harbor Area was not surveyed for abundance prior to 1991 and the fishery was managed based on a historical average catch of 1.6 million pounds annually (ADF&G 1999a).

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

In 1996, 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. Compared to the combined Adak and Dutch Harbor Area fisheries from prior years, there was reduced effort and harvest during the 1996/97 fishery. Eighteen vessels harvested 5.9 million pounds, down from 28 vessels taking 6.9 million pounds in 1995/96. This reduction in effort was likely due to the departure of vessels for the 1996 Bristol Bay red king crab season, which re-opened to commercial fishing for the first time since 1993. The eastern portion of Area O closed by emergency order on December 25, with a harvest of 3.3 million pounds, while the western portion was open for the entire registration year with a harvest of 2.5 million pounds.

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

Since the 1996/97 season, effort and harvest in the Aleutian Islands east of 174° W long. have remained relatively stable. During the 1997/98 season, 15 vessels harvested 3.5 million pounds in an 84-day season. CPUE averaged seven legal crabs per pot lift and harvested crabs averaged 4.5 pounds each. The fishery west of 174° W long. has experienced greater variability in catch and effort. During the 1997/98 season, nine vessels participated in the fishery and harvested 2.4 million pounds. 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 an exvessel value of \$12.5 million.

Prior to the 1998/99 season, the Aleutian Islands golden king crab GH 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 GH reduction for the area east of 174° W

long. was necessary in order to comply with the overfishing definition specified in the Fishery Management Plan (FMP) for the king and Tanner crab fisheries of the Bering Sea and Aleutian Islands (NPFMC 1998).

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

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

In 2000/01, the fishery east of 174° W long. continued the stable trend seen in the previous four years. Fifteen vessels registered and harvested 3.1 million pounds. The CPUE was 10 legal crabs per pot, with a 4.4-pound average weight per crab. 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. With an exvessel 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). With the adoption of longline gear in 1986, vessels became more specialized in fishing for golden king crabs and were able to more efficiently operate gear. In recent years, with shorter Bristol Bay red king and Bering Sea snow crab *Chionoecetes opilio* fisheries, longline vessels that also fish in the Bering Sea have increased their effort in the Aleutian Islands. While the total number of vessels registered has remained relatively low since the early 1990s, the amount of time relative to other crab fisheries that these vessels spend fishing in the Aleutian Islands has increased, resulting in shorter golden king crab fisheries. The expansion of processing facilities in Adak has also contributed to the shorter seasons, especially in the western Aleutians. Vessels could deliver

closer to the fishing grounds, saving approximately a week in transit time for each delivery. The implementation of Crab Rationalization in 2005 decreased participation further with the consolidation of quota onto fewer vessels. Under rationalization the season is open from August 15 to May 15 of the following year.

Effort in the rationalized golden king crab fishery has remained low relative to historic levels. In the 2006/07 fishery seven vessels participated in harvesting 4.69 million pounds of the 5.13 million pound IFQ total allowable catch (TAC). Catch rates were among the highest on record at 23 legal crabs per pot lift.

2007/08 Fishery

The 2007/08 Aleutian Islands golden king crab fishery opened by regulation at noon on August 15 with a TAC of 5.7 million pounds (5.13 million pounds IFQ, 0.57 million pounds CDQ/ACA); 3.0 million pounds of which was apportioned to the area east of 174° W long. and further subdivided between the IFQ (2.7 million pounds) and CDQ (300,000 pounds) fisheries, and 2.7 million pounds apportioned to the area west of 174° W long. further subdivided into the IFQ (2.43 million pounds) and Adak Community Allocation (ACA) fishery (270,000 pounds). This was the third season under rationalization regulations, including the CDQ fishery for golden king crab, and the ACA fishery. Five vessels participated in the IFQ fishery and landed 4.94 million pounds. The fleet averaged 24 legal crabs per pot lift, a slight increase from the prior season, and landed crabs averaged 4.5 pounds each, the same as the 2006/07 season (Table 1-4).

East of 174° W long. (IFQ)

With the implementation of Crab Rationalization, the golden king crab fleet has been reduced to less than half of the pre-rationalization fleet size. A total of four vessels participated in the Aleutian Islands golden king crab commercial fishery east of 174° W long. The fleet registered 4,200 pots, or 1,050 pots per vessel, a decrease from the more than 1,300 pots per vessel used during the 2006/07 season. Harvest peaked during the third week of September and was largely concluded by the end of November (Table 1-6). Most fishing effort was concentrated around Yunaska Island, Islands of Four Mountains, and in Seguam and Amukta Passes. Catch rates tended to be highest in Amukta and Seguam Passes, with the most productive grounds yielding over 40 legal crabs per pot lift, (Table 1-7). The average catch rate for the entire eastern portion was 28 legal crabs per pot lift, a nearly 17% increase from the previous season. The average weight of legal crabs was 4.8 pounds, a 4.3% increase from the prior season, with the largest crabs encountered west of 172° W long. (Table 1-7).

The IFQ fleet harvested 2.69 million pounds of golden king crabs during the season. Three shorebased processors in Dutch Harbor and one catcher-processor processed golden king crabs from the eastern Aleutian Islands. Exvessel price paid for live, whole crabs averaged \$2.11 per pound, leading to a fishery value of \$5.63 million, an increase of \$0.92 million from the 2006/07 fishery (Table 1-5).

West of 174° W long. (IFQ)

Three vessels participated in the IFQ fishery west of 174° W long. The fleet registered 4,800 pots, an average of 1,600 pots per vessel, 20% fewer pots than were registered in the 2006/07 season (Table 1-4). Weekly harvest peaked in early November (Table 1-8). Fishing effort was concentrated around the Delarof Islands, Amchitka Pass and the Petrel Bank. Weekly catch rates ranged from a low of 15 to a high of 34 legal crabs per pot lift and averaged 21, a 5% increase

from the prior season. The average weight of legal crabs was 4.2 pounds, a slight decrease from 2006/07.

The fleet harvested 2.25 million pounds of golden king crab. Golden king crabs were purchased and processed by one catcher-processor and by three shorebased processors, one in Adak and two in Dutch Harbor. Exvessel price averaged \$1.63 per pound for live, whole crabs, yielding a total fishery value of \$3.63 million, well below the previous 5-years' average fishery value of \$6.99 million (Table 1-5).

Fishery Management and Stock Status

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

The department surveyed a small portion of the golden king crab habitat in the Aleutian Islands during the summer of 1997 (Blau et al. 1998). Prior to that, the department performed the only survey of this area in 1991 (Blau and Pengilly 1994). Only a small portion of the area in which golden king crabs are commercially important is currently surveyed. Mark-recapture data from the 1997 survey suggested that the commercial fishery was annually removing a minimum of 20% of the legal male crabs present in the area surveyed. The FMP for king and Tanner crabs in the Bering Sea and Aleutian Islands specifies that the golden king crab stock in the Aleutian Islands is considered overfished when fishing mortality (F) exceeds 0.2 (NPFMC 1998). A fishing rate of $F=0.2$ corresponds to an annual mature male removal rate of approximately 18%. During the 1997/98 season, the GHL of 3.2 million pounds in the area east of 174° W long. was exceeded by approximately 300,000 pounds. Therefore, to maintain a long-term average harvest at 3.2 million pounds, the 1998/99 GHL in this area was reduced to 3.0 million pounds (D. Pengilly, ADF&G, Kodiak, personal communication).

The 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).

In order to operate their gear more efficiently, fishers tend to utilize the shallowest waters in which crabs may be found in abundance. Distribution of legal males extends to depths greater than those fished, so the entire depth range distribution of legal males is not exploited.

Additionally, the area surveyed receives more fishing pressure than many other areas in the entire Aleutian Islands, so golden king crabs in less heavily fished locales may have a lower harvest rate. Even though the harvest rates are at or near the allowable maximum in some areas, the Aleutian Islands golden king crab population is believed to be healthy.

Recent fishery data also indicates that the stock is healthy. The average size of crabs harvested has remained nearly constant for the last six seasons. Average weight has been between 4.3 and 4.5 pounds per legal crab for the last ten years. CPUE has increased with rationalization and has been above the 10-year average during the last five seasons. All this information suggests that the 3.0 million-pound harvest level has provided a stable fishery and protects against overfishing as defined in the FMP. Currently, the department intends to survey the area around Amukta and Yunaska Islands every three years, with the next survey scheduled for the summer of 2009.

No surveys are conducted in the Aleutian Islands west of 174° W long. The 2.7 million-pound harvest level, in effect since the 1996/97 season, was determined on the basis of the preceding 5-year average harvest in the waters west of 174° W long. Fishery and observer data do not demonstrate a compelling reason to change the harvest level from 2.7 million pounds as fishery statistics, except those attributed to crab rationalization, have not markedly changed since the harvest level was developed for the 1996/97 season.

ALEUTIAN ISLANDS SCARLET KING CRAB

Historic Background

Scarlet king crabs are currently harvested under authority of a permit issued by the commissioner of ADF&G and authorized in 5 AAC 34.082. PERMITS FOR *LITHODES COUESI* KING CRAB. These permits are usually issued in conjunction with an Aleutian Islands golden king crab registration. Scarlet king crabs are typically found in waters deeper than 200 fathoms and have been taken as incidental harvest in the golden king crab and deepwater Tanner crab fisheries in the Aleutian Islands. Limited directed fishing has occurred and does not indicate that a large biomass is present. Since 1992, annual harvest of scarlet king crabs in the Aleutian Islands has ranged from less than 5,000 pounds to a peak of nearly 63,000 pounds in 1995, when eight vessels made 25 landings. Exvessel value was at a maximum in 1995 when the fishery was worth approximately \$186,500 (Table 1-9). Since 1996, effort and harvest in this fishery have been minimal and catch information has been confidential in all years except 1997 when 6,720 pounds were harvested.

2007 Fishery

One vessel was registered to incidentally harvest scarlet king crab during either the 2007 grooved Tanner *Chionoecetes tanneri* or golden king crab fisheries.

Fishery Management and Stock Status

No surveys are conducted, nor are any estimates of population abundance made for scarlet king crabs in the Aleutian Islands; consequently, stock status and distribution are not well known. Scarlet king crab males larger than or equal to five and one-half inches in CW may be taken as incidental harvest under the conditions of a commissioner's permit. No directed fishing for scarlet king crabs is currently permitted. Observer coverage on each vessel registered for the king crab fisheries of the Aleutian Islands has provided biological information that will be used by the department to develop future management measures for scarlet king crab. The implementation of Crab Rationalization did not impart any changes to the management of the

Aleutian Islands scarlet king crab fishery. However, scarlet king crab is no longer permissible as an incidental species retained in the Aleutian Islands golden king crab fishery due to vessels being unable to retain both rationalized and non-rationalized crab species at the same time. In December 2007 the North Pacific Fishery Management Council amended the Federal Fishery Management Plan for Bering Sea and Aleutian Islands King and Tanner Crabs adopting new overfishing definitions for BSAI crabs and removing Aleutian Islands scarlet king crab from the FMP and providing the state with sole jurisdiction over the fishery.

EASTERN ALEUTIAN TANNER CRAB DISTRICT

DESCRIPTION OF DISTRICT

The Eastern Aleutian Tanner crab District (EAD) encompasses all waters of Registration Area J between the longitude of Scotch Cap Light at 164° 44' W long., west to 172° W long., and south of the latitude of Cape Sarichef at 54°36' N lat. (Figure 1-8). Area J encompasses both waters of the Territorial Sea (0-3 nautical miles) and waters of the Exclusive Economic Zone (3-200 nautical miles).

TANNER CRAB

Historic Background

The EAD has not supported harvests of Tanner crabs as large as those recorded in other districts of Area J. Tanner crabs are found only in a few major bays and inlets of the eastern Aleutian Islands and the directed fishery was relatively small in volume and geographically limited until the late 1970s. The fishery began in Akutan and Unalaska Bays and subsequently expanded to include all areas of known Tanner crab distribution in the EAD. Harvest of Tanner crabs over the last 26 years has typically remained under one million pounds per year. Only in the three consecutive seasons from 1976/77 to 1978/79 did the harvest exceed one million pounds, reaching a peak of 2.5 million pounds in the 1977/78 season (Table 1-10). Vessel participation was low in 1973/74, with only six vessels registered and reached a high of 31 vessels in 1982 when the fishery was in decline. Vessel participation declined in 1991 to five vessels and consequently the harvest reached a low of 50,038 pounds. The EAD Tanner crab fishery reached a maximum exvessel value of approximately \$950,000 in 1977/78 (Table 1-11). Commercial fishing for Tanner crabs was not permitted in the EAD between 1994 and 2003 due to low stock abundance. The 2004 fishery opened in two areas, Makushin/Skan Bay (GHL of 87,891 pounds) and Unalaska Bay (GHL of 47,219 pounds), but harvest information is confidential because less than three processors purchased the crab. Unalaska Bay opened in 2005 with a GHL of 35,304 pounds of Tanner crab. Twenty-five vessels participated with 79 landings, harvesting 96.4% of the quota (Table 1-10).

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

The 2007 EAD Tanner crab fishery opened on January 15 in Akutan and Unalaska Bays with GHLs of 49,000 pounds in Unalaska Bay and 35,000 pounds in Akutan Bay. Preseason

registrations were received from 22 vessels and based on this level of effort and the fishery limit of 300 pots, pot limits were set at 13 pots per vessel. Thirteen vessels participated in the fishery and used 167 total pots during the fishery. The fishery in Unalaska Bay closed on January 19, however the GHL was not met in the Akutan area and the fishery remained open until the regulatory closure on March 31. Because of limited processor participation in the fishery most catch data from the fishery is confidential.

Subsistence harvest limit reductions applied to the Eastern Aleutian Islands red king crab fishery in 1999 were not applied to Tanner crabs. However, the permit and reporting requirements for subsistence harvest were reinstated. Between 1988 and 1994, an average of 15 subsistence permits per year were returned and accounted for approximately 121 Tanner crabs annually. A survey of 15.1% of Unalaska households in 1994 generated an estimated total subsistence Tanner crab harvest of 10,957 crabs (ADF&G 1999b). ADF&G issued 179 subsistence permits in 1999, of which 80 were returned. Returned permits accounted for a Tanner crab harvest of 1,432 crabs and the estimated total harvest was 3,204 crabs (Table 1-3).

During the past eight years, ADF&G in Dutch Harbor has issued an average of 217 subsistence permits and harvest logsheets. On average, nearly 69% or 149 are returned. The returned permits account for an average annual reported harvest of 2,694 Tanner crabs and annual harvest ranged from 0 to 914 crabs per permit. Estimates generated from the subsistence harvest logsheets indicate an average of 3,928 Tanner crabs were harvested annually between 1999 and 2007 (Table 1-3).

2007 Subsistence Fishery

In 2007, ADF&G issued 203 subsistence permits and harvest logsheets, of which 122, or 60%, have been returned. The returned permits account for a reported harvest of 1,542 Tanner crabs (Table 1-3). Estimates generated from the subsistence harvest logsheets indicate that approximately 2,570 Tanner crabs were taken with harvest ranging from 0 to 631 Tanner crabs per permit. Most subsistence Tanner crabs harvested in the EAD are taken with pot gear.

2008 Commercial Fishery

The 2008 commercial Tanner crab fishery in the EAD opened on January 15 in Unalaska Bay with a GHL of 60,000 pounds. Minimum GHLs were not met in Akutan and Makushin Bays thus they were not opened in 2008. The GHL calculated from the harvest strategy using trawl survey abundance estimates was approximately 87,000 pounds, however the department chose to set a lower GHL because the calculated GHL increase was due mainly to an increase in mature rather than legal-sized males and the 2007 fishery had not performed as well as expected. In addition there was an unexpected decrease in sublegal males between the 2006 and 2007 surveys.

Fourteen vessels were preseason registered for the 2008 fishery resulting in a pot limit of 21 pots per vessel. Eleven vessels actually participated in the fishery. Due to limited processor participation most harvest information is confidential. The fishery closed on January 29.

Dockside Sampling, 2008 Commercial Fishery

Tanner crabs were sampled by dockside sampling staff at a Dutch Harbor processor during the course of the 2008 EAD Tanner crab fishery. Confidential interviews were conducted with vessel

captains to acquire detailed information regarding areas fished, effort and fishery performance. Biological data collected consisted of average weights, CW and shell-condition.

Eleven vessels made a total of 48 landings, of which all deliveries were contacted by dockside sampling staff for confidential interviews and biological data during offloads. Average weight for Tanner crabs harvested in the EAD fishery was 2.4 pounds, a slight decrease from the 2007 Unalaska Bay average weight of 2.5 pounds. From the biological data collected, 27% of the crabs measured were new-shell, a slight decrease from 2007 when 31% of the landed catch was classified as new-shell.

Fishery Management and Stock Status

In 2002 the BOF adopted new management measures for the Eastern Aleutian Tanner crab District including pot limits, daily fishing periods and reporting requirements. A total of 300 pots are allowed in the fishery with no more than 50 pots per vessel. Pots may be operated to take Tanner crab only from 8:00 AM. until 5:59 PM. with a soak time of 14 hours from 6:00 AM. until 7:59 PM. Fishers must report daily the number of pot lifts, number of crab retained and any other information considered necessary for the management and conservation of the fishery. In the EAD, the waters of Unalaska Bay enclosed by a line from Cape Cheerful (54° N lat., 166° 40.33' W long.) to Priest Rock (54° N lat., 166° 22.50' W long.) are closed to harvest of Tanner crab by vessels over 58 feet in overall length. In 2005 the BOF expanded vessel length restrictions in the EAD Tanner crab fishery restricting the harvest of Tanner crab in the Eastern Aleutian District to vessels under 58 feet overall length when the GHL for Tanner crabs in the EAD is 1,000,000 pounds or less. Although crab rationalization was implemented in 2005 by the BOF for several Bering Sea and Aleutian Islands crab fisheries, the EAD Tanner crab fishery remains open access.

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

In March 2008 the Alaska Board of Fisheries adopted proposals implementing a harvest strategy for EAD Tanner crab. The proposals placed the existing interim harvest strategy in regulation and subdivided the EAD into sections allowing for greater management precision. The proposals adopted by the board were identical to the management measure 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 zero to 250,000 pounds (ADF&G 1983b). Since 1990, trawl surveys have been used to estimate abundance and are used in conjunction with fishery data for management purposes.

Trawl surveys in 1990 and 1991 indicated that a surplus of 100,000 pounds of Tanner crab were available for harvest. Commercial fisheries that opened in 1991 and 1992 based on those surveys resulted in legal male harvests of 50,038 and 98,703 pounds respectively (Table 1-10). A 1994 trawl survey of the same location revealed an 87% decrease in abundance of Tanner crabs since 1991. Results of the 1994 survey prompted the department to issue an emergency order closing

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

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

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

A commissioner's-permit survey using pot gear, similar in design to the pot surveys for red king crab in the western Aleutians, was conducted in the EAD during January/February of 2003. The survey focused on areas of historic Tanner crab abundance in Unalaska Bay, Beaver Inlet and Akutan Bay. The pot survey included areas that are inaccessible to the trawl survey. Results from the 2003 pot survey show an increase in the abundance of Tanner crabs in Unalaska Bay and Akutan Bay when compared to historic catch at the same survey locations (Bon and Bowers 2006).

The 2003 trawl survey estimated total abundance at 6.4 million crabs, the third largest abundance estimate since 1990. Population estimates for legal males, post-recruit males, and adult females were the highest on record (Spalinger 2004). A portion of the area was again surveyed by trawl gear in 2004. Total estimated abundance for the area surveyed was 5.2 million crabs (Spalinger 2005). In 2005 the portion of the EAD surveyed indicated an estimated abundance of 5.4 million crabs (Spalinger 2006). Total estimated abundance from the 2006 survey was 5.6 million Tanner crabs for the EAD (Spalinger 2007).

The Akutan, Unalaska, Makushin/Skan and Pumicestone Bay sections of the EAD were surveyed in August 2007 using the ADF&G research vessel Resolution. Total estimated abundance for the area surveyed was 13.5 million crabs which is a 143% increase from the 2006 estimated abundance and the highest total Tanner crab abundance since the trawl survey began in 1990.

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

The 2007 population estimate of legal males, 0.54 million, is the fourth highest in the trawl survey time series. The legal male estimate is due to the second largest estimate of post-recruits on record; however a 32% decrease from the 2006 estimate of legal males. The estimate of recruit crab increased 66% from the 2006 estimate but was below the higher recruitment levels during 1999-2005. The prerecruit size classes increased 94% and are the highest on record.

Legal-male Tanner crab abundance in the EAD continues to be above average relative to the trawl survey time series beginning in 1990. Current abundances of recruit and sublegal males greater than 114 mm CW are close to recent levels, and increases in the sublegal male populations less than 114 mm CW are encouraging for continued stability. Total female abundance is the highest since the trawl survey began in 1990.

GROOVED TANNER CRAB

Historic Background

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

Limited data has been collected regarding the abundance, distribution, and stock status of deep-water crab species in the Bering Sea and Aleutian Islands. During the 1993 season, ADF&G utilized data collected by onboard observers to restrict harvest to males of five inches or greater CW. In 1994, pursuant to permit provisions described in 5 AAC 35.511, PERMITS FOR TANNER AND ANGULATUS TANNER CRAB IN REGISTRATION AREA J, the department required that vessels registered for this fishery carry an observer for all of their fishing activities. Data collected by observers has documented incidental harvest as well as fishing practices and has aided the department in developing further management measures.

In 1997, ADF&G established GHLS for grooved Tanner crabs in the Eastern Aleutian, Bering Sea, and Alaska Peninsula districts where most historical harvests had occurred. Harvest levels in this fishery were derived using catch information from previous seasons and data collected by onboard observers. A GHLS 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).

2007 Fishery

No vessels registered to harvest grooved Tanner crabs in the EAD during 2007.

Fishery Management and Stock Status

The grooved Tanner crab population in the EAD is not surveyed; consequently, no estimates of population abundance are available for this stock. Fishery data from the mid 1990s is the primary source of information regarding abundance and stock status. Catch per unit of effort declined from 15 legal crabs per pot lift in 1993 to two in 1996 and catches decreased from over 850,000 pounds in 1995 to under 105,000 pounds in 1996. In addition, fishing effort was concentrated in three statistical areas immediately to the south of Unalaska Island. This information indicates that at least in the area historically fished, the population was heavily exploited.

Given poor fishery performance and declining harvests of the mid 1990s, ADF&G re-evaluated deepwater Tanner crab harvest levels in 2000. A GHLS range of 50,000 to 200,000 pounds was established for the EAD. The GHLS 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 GHJ 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 GHJ requirements, ADF&G specified that four 4.5-inch escape rings be placed on the lower third of each pot and required that pots be fished over multiple depth strata. Observers required on all vessels registered for the fishery will collect biological and fishery data.

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

TRIANGLE TANNER CRAB

Historic Background

In the Eastern Aleutian District triangle Tanner crabs are harvested under a permit authorized in 5 AAC 35.511. PERMITS FOR TANNER AND ANGULATUS TANNER CRAB IN REGISTRATION AREA J. Triangle Tanner crabs were incidentally harvested in the eastern Aleutian grooved Tanner crab fishery, where the species has occurred in small numbers. Prior to 1995 and the beginning of the directed fishery, no harvest of triangle Tanner crabs was reported on fish tickets; however, shellfish observers stationed on board vessels participating in the grooved Tanner crab fishery observed small numbers of triangle crabs harvested in 1994 (ADF&G 1999a). Two vessels targeted triangle Tanner crabs in the EAD during the 1995 and 1996 seasons, thus harvest information from those fisheries is confidential (Table 1-13). From 1997 to 2000, and 2002 to 2005, no vessels registered to harvest triangle Tanner crabs in the EAD. One vessel registered to participate in 2001, thus harvest information is confidential.

2007 Fishery

No vessels registered to harvest triangle Tanner crabs in the EAD during 2007.

Fishery Management and Stock Status

Surveys of population abundance are not conducted for triangle Tanner crabs; thus the status of this stock is unknown. Because of the paucity of population level data for this species and the history of the fishery, additional fishing for triangle Tanner crabs in the Eastern Aleutian District will be limited to incidental harvest during the grooved Tanner crab fishery. Vessels registered to fish for grooved Tanner crabs will be permitted to harvest triangle Tanner crabs at up to 50% of the weight of the target species. This harvest level is consistent with the historic development of the fishery and allows retention of a deepwater species that is believed to have a high mortality rate when taken incidentally in pot gear.

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

WESTERN ALEUTIAN TANNER CRAB DISTRICT

DESCRIPTION OF DISTRICT

The Western Aleutian District of Registration Area J includes all waters west of 172° W long., east of the United States-Russia Maritime Boundary Line of 1990, and south of 54° 36' N lat. (Figure 1-8). Area J encompasses both waters of the Territorial Sea (0-3 nautical miles) and waters of the Exclusive Economic Zone (3-200 nautical miles).

TANNER CRAB

Historic Background

Harvest of Tanner crabs from the Western Aleutian District has, in general, been incidental to the directed red king crab fishery in that area. Commercial harvest has ranged from a high of 839,000 pounds during the 1981/82 season to less than 8,000 pounds in 1991/92 (Table 1-14). No commercial harvest of Tanner crabs has occurred in the Western Aleutian District since 1995/96. The Western Aleutian District Tanner crab fishery reached a maximum value of just over \$1 million in the 1981/82 season (Table 1-15). Tanner crab abundance in the Western Aleutian District is probably limited by available habitat. Most of the historical harvest occurred within a few bays in the vicinity of Adak and Atka Islands.

2007/08 Fishery

The Western Aleutian District Tanner crab fishery may be opened by emergency order on November 1, however, the fishery was not opened during the 2007/08 season. The fishery was not opened because there is no management plan in place, nor has sufficient population data been collected to develop a GHL.

Fishery Management and Stock Status

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

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

GROOVED TANNER CRAB

Historic Background

In the Western Aleutian District, harvest of grooved Tanner crab first occurred in conjunction with the developing golden king crab fishery in the Adak king crab management area during the late 1970s. Effort in this fishery has been minimal with two or fewer vessels participating during most years. Only in 1995 did significant fishing effort occur, when six vessels harvested approximately 146,000 pounds of grooved Tanner crabs (Table 1-16).

To prevent overharvest of this population where little abundance information is available, ADF&G restricted harvest to males of five inches or greater CW in 1993. In addition, beginning in 1994, and according to provisions provided in 5 AAC 35.511 PERMITS FOR TANNER AND

ANGULATUS TANNER CRAB IN AREA J, all vessels registered for the fishery were required to carry an onboard observer for all of their fishing activities. Using information collected by onboard observers and historic catch information, the department established GHs for grooved Tanner crabs in the Western Aleutian District in 1997. The GH was set at 100,000 pounds; this level was believed to be adequate to allow for exploratory fishing and incidental harvest (ADF&G 1999a). Since 1997, the department has reevaluated harvest levels for deepwater Tanner crabs. Because commercial fishing for grooved Tanner crabs in the Western Aleutian District has only occurred during four seasons and no survey data is available, confidence was not as high in the GH for this district as in other districts where grooved Tanner crab harvest has occurred. In order to prevent overharvest of this stock, no GH was set in 2000 when new deepwater Tanner crab GHs were announced and the fishery will remain closed until further notice.

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

2007 Fishery

The Western Aleutian District was not open to commercial fishing for grooved Tanner crabs in 2007.

Fishery Management and Stock Status

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

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

ALEUTIAN DISTRICT DUNGENESS CRAB

DESCRIPTION OF DISTRICT

The Aleutian District for Dungeness crab *Cancer magister* management includes all waters of Registration Area J west of the longitude of Scotch Cap Light (164° 44' W long.), south of the latitude of Cape Sarichef (54° 36' N lat.), and east of the United States-Russia Maritime Boundary Line of 1990 (Figure 1-9). Area J encompasses both waters of the Territorial Sea (0-3 nautical miles) and waters of the Exclusive Economic Zone (3-200 nautical miles).

HISTORIC BACKGROUND

Islands in the Aleutian Chain are separated by deep passes with swift currents and are closely bordered on the north by the Aleutian Basin and to the south by the Aleutian Trench. Dungeness crabs inhabit bays, estuaries, and other shallow water habitats, areas that are sparse and widely

dispersed in the Aleutian Islands. Therefore, populations of Dungeness crabs are small and fishing effort has been low within the district.

The Aleutian District Dungeness crab fishery has occurred primarily as a small-vessel, summer fishery in the vicinity of Unalaska Island. Some larger-vessel effort has occurred in other locales within the district, but fishing in these areas has been sporadic throughout the history of the fishery. Interest and activity in this fishery has been erratic from year to year, with the first reliable reports of harvest made in 1970. Since 1974, harvests have ranged from 0 pounds, to a peak of over 91,000 pounds in 1984/85 (Table 1-17). Four vessels operated that year, with over 80% of their catch coming from Unalaska and Makushin Bays. In addition to commercial harvest, Dungeness crabs have also been taken in subsistence and sport fisheries occurring in the vicinity of Unalaska Island. Subsistence harvest reports returned to ADF&G between 1988 and 1994 indicate that Dungeness crab harvests were larger than those documented for both red king and Tanner crabs. On average, 15 harvest reports were returned per year and Dungeness crab harvest averaged 686 crabs per year with a range of 5 to 1,906 crabs per year (ADF&G 1999b). No estimate of current Dungeness harvest by sport or subsistence users is available, but it is believed to be small.

2007/08 FISHERY

One vessel registered to harvest Dungeness crabs during the 2007/08 season, therefore all harvest information is confidential.

FISHERY MANAGEMENT AND STOCK STATUS

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

ALEUTIAN DISTRICT SHRIMP

DESCRIPTION OF DISTRICT

The Aleutian District of Registration Area J, as described for shrimp, includes all Bering Sea and Pacific Ocean waters west of the longitude of Cape Sarichef at 164° 55' W long. and east of the United States-Russia Maritime Boundary Line of 1990 (Figure 1-10). Area J encompasses both waters of the Territorial Sea (0-3 nautical miles) and waters of the Exclusive Economic Zone (3-200 nautical miles). The Aleutian District includes four sections: Unalaska Bay, Makushin Bay, Usof Bay, and Beaver Inlet.

HISTORIC BACKGROUND

Commercial fishing for shrimp in the Aleutian District began in the 1960s with Russian and Japanese participation. Most harvests occurred northwest of the Pribilof Islands, with some harvests as large as 30,000 metric tons per year (NMFS 1999). In 1972 a domestic trawl fishery began targeting northern pink shrimp *Pandalus borealis* in the vicinity of Unalaska Island. Catch and effort increased and harvest peaked in 1977/78 at 6.8 million pounds (Table 1-18). Sharp declines in catches after 1978 led to a reduction in season length. Between 1983 and 1991 no

fishing occurred; however, in 1992 four catcher-processors targeted shrimp northwest of the Pribilof Islands. Low concentrations of shrimp were located and all four vessels departed the fishery after making a total of six landings for 72,133 pounds. Since 1992, interest in fishing for shrimp in the Aleutian District has remained at a very low level. Several vessels registered to fish, but made no landings until 1999. In 1999, the first commercial harvest of shrimp in the Aleutian District occurred since 1992. Only two vessels registered for the fishery; therefore, catch information is confidential. Initial catches were composed primarily of northern pink shrimp. As the fishery progressed, sidestriped shrimp *Pandalopsis dispar* became the dominant species in the catch. The fishery was closed on July 9, 1999, because ADF&G did not possess adequate information regarding the abundance and distribution of these species and it was not possible to prosecute the trawl fishery in accordance with 5 AAC 39.210. MANAGEMENT PLAN FOR HIGH IMPACT EMERGING FISHERIES.

2007 FISHERY

No vessels registered to participate in the 2007 trawl shrimp fishery. There is no closed season for shrimp fishing with pots in the Aleutian Islands and there was no participation during the 2007 season.

FISHERY MANAGEMENT AND STOCK STATUS

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

ALEUTIAN DISTRICT MISCELLANEOUS SHELLFISH SPECIES

DESCRIPTION OF DISTRICT

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

INTRODUCTION

Shellfish species included in this section are those which have been harvested in relatively small amounts compared to the commercial king and Tanner crab fisheries which occur in the Aleutian Islands. Miscellaneous shellfish species include hair crabs *Erimacrus isenbeckii*, sea urchins *Strongylocentrotus spp*, red sea cucumbers *Parastichopus californicus*, snails, *Paralomis multispina* (cherry) crab, and octopi. Prior to 1999, it was ADF&G's policy to register vessels for exploratory fishing in these new and emerging fisheries under authority of a commissioner's permit described in 5 AAC 38.062. PERMITS FOR OCTOPI, SQUID, HAIR CRAB, SEA URCHINS, SEA CUCUMBERS, SEA SNAILS, AND OTHER MARINE INVERTEBRATES. Typically, permit conditions were general and not fully developed on an individual species basis. Fisheries for these species were conducted without prior knowledge of stock abundance or distribution and no harvest limits were established.

2007 FISHERIES

Octopus

In 2007, directed fishing for octopi was permitted in the Aleutian Islands under the authority of a commissioner's permit. Two vessels registered for the fishery using pot gear, however, neither vessel made a landing.

Incidental harvest may also be retained at up to 20% of the weight of the target species. In 2007, 39 vessels made 101 landings of octopi totaling 46,782 pounds from the Aleutian Islands (Table 1-19).

Red Sea Cucumber and Sea Urchin

In September, ADF&G issued a news release announcing the GHL for red sea cucumbers and sea urchins in the Westward Region. The 2007 season opened under a commissioner's permit with a GHL of 5,000 pounds each of eviscerated product for sea cucumbers and whole animal weight for sea urchins in the Aleutian Islands. The small GHLs were established to permit conservative commercial exploration of areas that lacked historic harvest data and to allow ADF&G to collect critical information for future management purposes. However, no vessels or divers registered or fished for either of these fisheries in the Aleutian Islands in 2007.

Other Miscellaneous Shellfish Species

No vessels were registered for any other miscellaneous shellfish species in the Aleutian Islands in 2007.

FISHERY MANAGEMENT AND STOCK STATUS

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

REFERENCES CITED

- Alaska Department of Fish and Game (ADF&G). 1978. Westward region shellfish report to the Alaska Board of Fisheries. Alaska Department of Fish and Game, Division of Commercial Fisheries, Kodiak.
- Alaska Department of Fish and Game (ADF&G). 1983a. Westward Region king crab survey results for 1983. Alaska Department of Fish and Game, Division of Commercial Fisheries, Kodiak.
- Alaska Department of Fish and Game (ADF&G). 1983b. 1983 Westward Region Tanner Crab population surveys. Alaska Department of Fish and Game, Westward Region, Kodiak.
- Alaska Department of Fish and Game (ADF&G). 1984. Westward Region Shellfish Report to the BOF. Alaska Department of Fish and Game, Division of Commercial Fisheries, Kodiak.
- Alaska Department of Fish and Game (ADF&G). 1985a. Westward region shellfish report to the Alaska Board of Fisheries. Alaska Department of Fish and Game, Division of Commercial Fisheries, Kodiak.
- Alaska Department of Fish and Game (ADF&G). 1985b. Westward region Tanner crab survey results for 1985. Alaska Department of Fish and Game, Division of Commercial Fisheries, Kodiak.
- Alaska Department of Fish and Game (ADF&G). 1991. Westward region shellfish report to the Alaska Board of Fisheries. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K91-4, Kodiak.
- Alaska Department of Fish and Game (ADF&G). 1999a. Annual management report for the shellfish fisheries of the Westward Region, 1998. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K99-49, Kodiak.
- Alaska Department of Fish and Game (ADF&G). 1999b. Customary and traditional use worksheet for marine invertebrates, including king and Tanner crab; Alaska Peninsula-Aleutian Islands Area. [In]: Westward region report to the Alaska Board of Fisheries 1999, Kodiak.
- Blau, S. F. and D. Pengilly. 1994. Findings from the 1991 golden king crab survey in the Dutch Harbor and Adak management areas including analysis of recovered tagged crabs. Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Regional Information Report 4K94-35, Kodiak.
- Blau, S. F., D. Pengilly, and D. T. Tracy. 1996. Distribution of golden king crabs by sex, size, and depth zones in the eastern Aleutian Islands, Alaska. Pages 167-185 in High Latitude Crabs: Biology Management and Economics. Alaska Sea Grant College Program Report no. 96-02, University of Alaska Fairbanks.
- Blau, S. F., L. J. Watson and I. Vining. 1998. The 1997 Aleutian Islands golden king crab survey. Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Regional Information Report 4K98-30, Kodiak.
- Bon, M., and F. Bowers. 2006. Results of the 2003 Eastern Aleutian District Tanner crab commissioner's-permit pot survey. Alaska Department of Fish and Game, Fishery Data Series No. 06-24, Anchorage.
- Bowers, F. R., W. Donaldson, and D. Pengilly. 2002. Analysis of the January-February and November 2001 Petrel Bank red king crab commissioner's-permit surveys. Alaska Department of Fish and Game, Commercial Fisheries Division, Regional Information Report 4K02-11, Kodiak.
- Byersdorfer, S. 1998. A summary of tagging data collected by observers on board the F/V Patricia Lee during the Aleutians brown king crab fishery from November 1996 to February 1997. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K98-22, Kodiak.
- Gish, R. K. 2007. The 2006 Petrel Bank red king crab survey. Alaska Department of Fish and Game, Fishery Management Report No. 07-44, Anchorage.
- Granath, K. 2003. Analysis of the November 2002 Adak, Atka, and Amlia Islands red king crab commissioner's permit survey. Alaska Department of Fish and Game, Commercial Fisheries Division, Regional Information Report 4K03-33, Kodiak.
- Hoff, G. R. and L. L. Britt. 2003. The 2002 eastern Bering Sea upper continental slope survey of groundfish and invertebrate resources. U.S. Department of Commerce, NOAA Tech. Memo. NMFS-AFSC-141, 261p.

REFERENCES CITED (Continued)

- NMFS. 1999. Our Living Oceans. Report on the status of U.S. living marine resources, 1999. U.S. Department of Commerce, NOAA Tech. Memo. NMFS-F/SPO-41, on-line version, <http://wpo.nwr.noaa.gov/unit20.pdf>.
- NPFMC. 1998. Fisheries Management Plan for the King and Tanner Crab Fisheries of the Bering Sea and Aleutian Islands.
- Spalinger, K. 2004. Bottom trawl survey of crab and groundfish: Kodiak, Chignik, South Peninsula, and Eastern Aleutians Management Districts, 2003. Alaska Department of Fish and Game, Regional Information Report 4K04-32, Kodiak.
- Spalinger, K. 2005. Bottom trawl survey of crab and groundfish: Kodiak, Chignik, South Peninsula, and Eastern Aleutians Management Districts, 2004. Alaska Department of Fish and Game, Fishery Management Report No. 05-48, Anchorage.
- Spalinger, K. 2006. Bottom trawl survey of crab and groundfish: Kodiak, Chignik, South Peninsula, and Eastern Aleutian Management Districts, 2005. Alaska Department of Fish and Game, Commercial Fisheries Division, Fishery Management Report No. 06-43, Kodiak.
- Spalinger, K. 2007. Bottom trawl survey of crab and groundfish: Kodiak, Chignik, South Peninsula, and Eastern Aleutians Management Districts, 2006. Alaska Department of Fish and Game, Commercial Fisheries Division, Fishery Management Report No. 07-52, Anchorage.
- 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.
- Urban, D. 1996. Bottom trawl survey of crab and groundfish: Kodiak Island Chignik, and Eastern Aleutian areas, 1995. Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Regional Information Report 4K96-39, 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.
- Worton, C. 2000. Bottom trawl survey of crab and groundfish: Kodiak Island, Chignik, South Alaska Peninsula, and Eastern Aleutian areas, 1999. Alaska Department of Fish and Game, Commercial Fisheries Division, Regional Information Report 4K00-58, Kodiak.
- Worton, C. 2001. Bottom trawl survey of crab and groundfish: Kodiak Island, Chignik, South Alaska Peninsula, and Eastern Aleutian areas, 2000. Alaska Department of Fish and Game, Commercial Fisheries Division, Regional Information Report 4K01-58, Kodiak.

TABLES AND FIGURES

Table 1-1.—Aleutian Islands, Area O, red king crab commercial fishery data, 1960/61 - 2007/08.

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

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Table 1-1.-Page 2 of 6.

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

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Table 1-1.-Page 3 of 6.

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

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Table 1-1.-Page 4 of 6.

Season	Locale	Number of				Harvest ^{b,c}	Average			Deadloss ^c
		Vessels ^a	Landings	Crabs ^b	Pots Lifted		Weight ^c	CPUE ^d	Length ^e	
1980/81	East of 172° W	114	830	2,772,287	231,607	17,660,620 ^f	6.4	12	NA	NA
	East of 172° W	54	120	182,349	30,000	1,392,923 ^h	7.6	6		
	West of 172° W	17	52	254,390	20,914	1,419,513	5.6	12	149	54,360
	TOTAL		1,002	3,209,026	282,521	20,473,056	6.4	11		
1981/82	East of 172° W	92	683	741,966	220,087	5,155,345	6.9	3	NA	NA
	West of 172° W	46	106	291,311	40,697	1,648,926	5.7	7	148.3	8,759
	TOTAL		789	1,033,277	260,784	6,804,271	6.6	4		
1982/83	East of 172° W	81	278	64,380	72,924	431,179	6.7	1		
	West of 172° W	72	191	284,787	66,893	1,701,818	6.0	4	150.8	7,855
	TOTAL		469	349,167	139,817	2,132,997	6.1	3		
1983/84	East of 172° W	F I S H E R Y C L O S E D								
	West of 172° W	106	248	298,958	60,840	1,981,579	6.6	5	157.3	3,833
1984/85	East of 171° W	F I S H E R Y C L O S E D								
	West of 171° W	64	106	196,276	48,642	1,296,385	6.6	4	155.1	0
1985/86	East of 171° W	F I S H E R Y C L O S E D								
	West of 171° W	35	82	156,097	29,095	868,828	5.6	5	152.2	0
1986/87	East of 171° W	F I S H E R Y C L O S E D								
	West of 171° W	33	69	126,204	29,189	712,543	5.7	4	NA	800
1987/88	East of 171° W	F I S H E R Y C L O S E D								
	West of 171° W	71	103	211,692	43,433	1,213,892	5.7	5	148.5	6,900

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Table 1-1.-Page 5 of 6.

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

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Table 1-1.–Page 6 of 6.

Season	Locale	Number of				Harvest ^{b,c}	Average			Deadloss ^c
		Vessels ^a	Landings	Crabs ^b	Pots Lifted		Weight ^c	CPUE ^d	Length ^e	
1998/99	West of 174° W	3	6	749	102	5,900	7.9	7	NA	0
1999/2000	F I S H E R Y C L O S E D									
2000/01 ⁱ	Petrel Bank ^j	1	3	11,299	496	76,562	6.8	23	161.0	0
2001/02 ^k	Petrel Bank ^j	4	5	22,080	564	153,961	7.0	39	159.5	82
2002/03	Petrel Bank ^j	33	35	68,300	3,786	505,642	7.4	18	162.4	1,311
2003/04	Petrel Bank ^j	30	31	59,828	5,774	479,113	8.0	10	167.9	2,617
2004/05 - 2007/08	F I S H E R Y C L O S E D									

Note: NA = Not available.

^a Many vessels fished both east and west of 171° W long., thus total number of vessels reflects registrations for entire Aleutian Islands.

^b Deadloss included.

^c In pounds.

^d Number of legal crabs per pot lift.

^e Carapace length in millimeters.

^f Split season based on 6.5 inch minimum legal size.

^g Split season based on 8 inch minimum legal size.

^h Split season based on 7.5 inch minimum legal size.

ⁱ January/February 2001 Petrel Bank survey (fish ticket harvest code 15).

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

^k November 2001 Petrel Bank survey (fish ticket harvest code 15).

Table 1-2.—Aleutian Islands, Area O, red king crab fishery economic performance data, 1973/74 - 2007/08.

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

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Table 1-2.-Page 2 of 3.

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

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Table 1-2.–Page 3 of 3.

Year	Locale	GHL ^a	Value		Season Length	
			Exvessel ^b	Total	Days	Dates
1998/99	West of 174° W	0.015	CONFIDENTIAL			
1999/2000			FISHERY CLOSED			
2000/01			FISHERY CLOSED			
2001/02			FISHERY CLOSED			
2002/03	Petrel Bank ^h	0.5	\$6.51	\$3,291,729	2	10/25 - 10/27
2003/04	Petrel Bank ^h	0.5	\$5.14	\$2,449,189	4	10/25 - 10/29
2004/05 - 2007/08			FISHERY CLOSED			

Notes: "Confidential" = Less than three vessels or processors participated in fishery, and "NA" = Not available.

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

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

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

^d Split season based on 6.5 inch minimum legal size.

^e Split season based on 8.0 inch minimum legal size.

^f Split season based on 7.5 inch minimum legal size.

^g The harvest strategy was to take 40% of the estimated population of legal size male king crab.

No survey was conducted in Area O in 1982, and a preseason harvest estimate of 2 - 3 millions pounds was based on the 1981 survey and fishery.

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

Table 1-3.—Eastern Aleutian Islands, west of Scotch Cap Light and east of 168° W long., subsistence king and Tanner crab harvest, 1999-2007.

Year	Number of Permits		Percentage Returned	Harvest ^a			
	Issued	Returned		King crab reported	King crab estimated	Tanner crab reported	Tanner crab estimated
1999	179	80	44.7	787	1,761	1,432	3,204
2000	193	137	71.0	523	737	916	1,290
2001	200	153	76.5	1,149	1,502	1,703	2,226
2002	231	179	77.5	1,080	1,394	2,451	3,163
2003	229	160	69.9	387	554	4,600	6,584
2004	225	144	64.0	225	352	4,714	7,366
2005	241	182	75.5	866	1,147	5,447	7,213
2006	256	185	72.3	1,796	2,485	1,439	1,991
2007	203	122	60.0	1,359	2,265	1,542	2,570
1999 - 2007 Average	217	149	68.6	908	1,324	2,694	3,928

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

Table 1-4.—Aleutian Islands golden king crab commercial fishery data, 1981/82 - 2007/08.

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

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Table 1-4.—Page 2 of 4.

Season	Locale	Number of			Harvest ^{b,c}	Number of Pots		Average			Deadloss ^c
		Vessels ^a	Landings	Crabs ^b		Registered	Lifted	Weight ^c	CPUE ^d	Length ^e	
1988/89	East of 171° W.	21	57	323,783	1,546,113	4,215	41,371	4.8	8	154	23,960
	West of 171° W.	74	455	2,164,650	9,080,929	23,627	280,556	4.2	8	149	125,500
	TOTAL		512	2,488,433	10,627,042	27,842	321,927	4.3	8		149,460
1989/90	East of 171° W.	13	70	424,067	1,852,249	5,635	43,346	4.4	10	151	17,421
	West of 171° W.	65	505	2,478,846	10,169,803	14,724	314,457	4.1	8	149	99,866
	TOTAL		575	2,902,913	12,022,052	20,359	357,803	4.1	8		117,287
1990/91	East of 171° W.	16	67	391,135	1,699,675	5,225	53,592	4.3	7	148	42,800
	West of 171° W.	13	167	1,312,116	5,250,687	7,380	160,960	4.0	8	145	176,583
	TOTAL	24	234	1,703,251	6,950,362	12,605	214,552	4.1	8		219,383
1991/92	East of 171° W.	11	53	346,176	1,490,830	3,760	42,600	4.3	8	148	45,100
	West of 171° W.	16	206	1,494,595	6,185,362	7,635	191,626	4.1	8	145	96,848
	TOTAL	20	259	1,840,771	7,676,192	11,395	234,226	4.2	8		141,948
1992/93	East of 171° W.	10	46	337,559	1,404,452	4,222	38,348	4.2	9	148	37,200
	West of 171° W.	18	128	1,190,769	4,886,745	8,236	164,873	4.1	7	147	104,215
	TOTAL	22	174	1,528,328	6,291,197	12,458	203,221	4.1	8		141,415
1993/94	East of 171° W.	4	14	217,788	915,460	2,334	22,490	4.2	10	149	7,324
	West of 171° W.	21	148	1,179,742	4,635,683	11,970	212,164	3.9	6	148	165,358
	TOTAL	21	162	1,397,530	5,551,143	14,304	234,654	4.0	6		172,682
1994/95	East of 171° W.	14	45	384,353	1,750,267	7,378	67,537	4.6	6	148	29,908
	West of 171° W.	34	247	1,539,866	6,378,030	15,604	319,006	4.1	5	150	242,065
	TOTAL	35	292	1,924,219	8,128,297	22,982	386,543	4.2	5		271,973

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Table 1-4.—Page 3 of 4.

Season	Locale	Number of			Harvest ^{b,c}	Number of Pots		Average			Deadloss ^c
		Vessels ^a	Landings	Crabs ^b		Registered	Lifted	Weight ^c	CPUE ^d	Length ^e	
1995/96	East of 171° W.	17	42	431,867	1,993,980	10,325	65,030	4.6	7	150	67,027
	West of 171° W.	25	141	1,150,466	4,966,426	14,213	227,991	4.3	5	147	248,108
	TOTAL	28	183	1,582,333	6,960,406	24,538	293,021	4.4	5		315,135
1996/97	East of 174° W.	14	71	731,909	3,290,862	9,040	113,460	4.5	6		185,203
	West of 174° W.	13	99	602,968	2,524,910	8,805	99,267	4.2	6		75,506
	TOTAL	18	170	1,334,877	5,815,772	17,845	212,727	4.4	6	147	260,709
1997/98	East of 174° W.	15	74	780,610	3,501,055	9,720	106,403	4.5	7	147	131,481
	West of 174° W.	9	160	569,550	2,444,628	5,240	86,811	4.3	6	148	79,564
	TOTAL	15	234	1,350,160	5,945,683	14,960	193,214	4.4	7	147	211,045
1998/99	East of 174° W.	14	55	740,011	3,247,863	8,295	83,378	4.4	9	148	82,113
	West of 174° W.	3	44	409,531	1,691,385	1,930	35,920	4.1	11	146	21,218
	TOTAL	16	99	1,149,542	4,939,248	10,225	119,298	4.3	10	147	103,331
1999/00	East of 174° W.	15	60	709,332	3,069,886	9,514	79,129	4.3	9	147	67,574
	West of 174° W.	17	113	676,558	2,768,902	10,564	107,040	4.1	6	147	104,675
	TOTAL	17	173	1,385,890	5,838,788	20,078	186,169	4.2	7	147	172,249
2000/01	East of 174° W.	15	50	704,702	3,134,079	10,598	71,551	4.4	10	147	55,999
	West of 174° W.	12	100	705,613	2,884,682	8,910	101,239	4.1	7	145	53,158
	TOTAL	17	150	1,410,315	6,018,761	19,508	172,790	4.3	8	146	109,157
2001/02	East of 174° W.	19	45	730,030	3,178,652	12,927	62,639	4.4	12	147	50,030
	West of 174° W.	9	90	686,738	2,740,054	8,491	105,512	4.0	7	145	43,519
	TOTAL	21	135	1,416,768	5,918,706	21,418	168,151	4.2	8	146	93,549

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Table 1-4.–Page 4 of 4.

Season	Locale	Number of			Harvest ^{b,c}	Number of Pots		Average			Deadloss ^c
		Vessels ^a	Landings	Crabs ^b		Registered	Lifted	Weight ^c	CPUE ^d	Length ^e	
2002/03	East of 174° W.	19	43	643,886	2,821,851	11,834	52,042	4.4	12	148	55,425
	West of 174° W.	6	73	664,823	2,640,604	6,225	78,979	4.0	8	146	32,101
	TOTAL	22	116	1,308,709	5,462,455	18,059	131,021	4.2	10	147	87,526
2003/04	East of 174° W.	18	37	643,074	2,977,055	12,518	58,883	4.6	11	149	76,006
	West of 174° W.	6	60	676,633	2,688,773	7,140	66,236	4.0	10	146	49,321
	TOTAL	21	97	1,319,707	5,665,828	19,658	125,119	4.3	11	147	125,327
2004/05	East of 174° W.	19	32	637,536	2,886,817	13,165	34,848	4.5	18	148	43,576
	West of 174° W.	6	51	685,465	2,688,234	7,240	56,846	3.9	12	146	43,560
	TOTAL	22	83	1,323,001	5,575,051	20,405	91,694	4.2	14	147	87,136
2005/06 ^f	East of 174° W.	7	33	560,906	2,567,781	8,833	21,898	4.6	25	151	23,791
	West of 174° W.	3	43	571,014	2,384,567	4,800	27,503	4.2	21	148	26,500
	TOTAL	8	72^g	1,131,920	4,952,348	9,833^g	49,401	4.4	23	149	50,291
2006/07 ^f	East of 174° W.	6	32	585,676	2,692,010	8,150	23,839	4.6	24	152	31,311
	West of 174° W.	3	32	462,529	2,002,190	6,000	22,694	4.3	20	150	19,768
	TOTAL	7	63^g	1,048,205	4,694,200	9,300^g	46,533	4.5	23	150	51,079
2007/08 ^f	East of 174° W.	4	36	566,838	2,689,997	4,200	20,496	4.8	28	153	21,042
	West of 174° W.	3	35	524,894	2,248,103	4,800	25,287	4.3	21	149	23,183
	TOTAL	5	66^g	1,091,732	4,938,100	7,600^g	45,783	4.5	24	151	44,225

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

^b Deadloss included.

^c In pounds.

^d Number of legal crabs per pot lift.

^e Carapace length in millimeters, from observer database.

^f Individual Fishing Quota (IFQ) does not include Community Development Quota (CDQ)

^g Some vessels participated on both East and West fishery

Table 1-5.—Aleutian Islands golden king crab fishery economic performance data, 1981/82 - 2007/08.

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

Table 1-5.–Page 2 of 3.

Year		GHL ^a	Value		Season Length	
			Exvessel ^b	Total ^c	Days	Dates
1994/95	East of 171° W.	NA	\$4.00	\$6.88	57	09/01-10/28
	West of 171° W.		\$3.33	\$20.43	288	11/01-08/15
	Total		\$3.48	\$27.31		
1995/96	East of 171° W.	1.5	\$2.60	\$5.15	38	09/01-10/09
	West of 171° W.	5.0 - 6.0	\$2.10	\$9.57	289	11/01-08/15
	Total	-	\$2.25	\$14.72		
1996/97	East of 174° W.	3.2	\$2.23	\$6.93	115	09/01-12/25
	West of 174° W.	2.7	\$2.23	\$5.60	365	09/01-08/31
	Total	5.9	\$2.23	\$12.53		
1997/98	East of 174° W.	3.2	\$2.25	\$7.58	84	09/01-11/24
	West of 174° W.	2.7	\$2.10	\$4.96	365	09/01-08/31
	Total	5.9	\$2.19	\$12.54		
1998/99	East of 174° W.	3.0	\$1.87	\$5.92	68	09/01-11/07
	West of 174° W.	2.7	\$2.04	\$3.41	365	09/01-08/31
	Total	5.7	\$1.92	\$9.33		
1999/00	East of 174° W.	3.0	\$3.26	\$9.78	55	09/01-10/25
	West of 174° W.	2.7	\$3.09	\$8.23	348	09/01-8/14
	Total	5.7	\$3.15	\$18.01		
2000/01	East of 174° W.	3.0	\$3.50	\$10.77	40	08/15-09/24
	West of 174° W.	2.7	\$3.09	\$8.75	286	08/15-05/28
	Total	5.7	\$3.33	\$19.52		
2001/02	East of 174° W.	3.0	\$3.30	\$10.26	26	08/15-09/10
	West of 174° W.	2.7	\$2.93	\$7.87	227	08/15-03/30
	Total	5.7	\$3.16	\$18.13		
2002/03	East of 174° W.	3.0	\$3.30	\$9.13	23	08/15-09/07
	West of 174° W.	2.7	\$3.50	\$9.13	205	08/15-03/08
	Total	5.7	\$3.38	\$18.26		
2003/04	East of 174° W.	3.0	\$3.46	\$10.05	24	08/15-09/08
	West of 174° W.	2.7	\$3.83	\$10.11	175	08/15-02/06
	Total	5.7	\$3.61	\$20.16		
2004/05	East of 174° W.	3.0	\$3.18	\$9.05	14	8/15-8/29
	West of 174° W.	2.7	\$3.09	\$8.16	141	8/15-1/03
	Total	5.7	\$3.14	\$17.23		
2005/06 ^e	East of 174° W.	2.7	\$2.53	\$6.50	273	8/15-5/15
	West of 174° W.	2.43	\$2.05	\$4.89	273	8/15-5/15
	Total	5.13	\$2.32	\$11.39		

-continued-

Table 1-5.–Page 3 of 3.

Year		GHL ^a	Value		Season Length	
			Exvessel ^b	Total ^c	Days	Dates
2006/07 ^e	East of 174° W.	2.7	\$1.77	\$4.71	273	8/15-5/15
	West of 174° W.	2.43	\$1.33	\$2.64	273	8/15-5/15
	Total	5.13	\$1.58	\$7.35		
2007/08 ^e	East of 174° W.	2.7	\$2.11	\$5.63	273	8/15-5/15
	West of 174° W.	2.43	\$1.63	\$3.63	273	8/15-5/15
	Total	5.13	\$1.89	\$9.26		

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

^b Average price per pound.

^c Millions of dollars.

^d GHL includes all king crab species.

^e Individual fishing quota (IFQ), does not include CDQ or ACA fisheries.

Table 1-6.—Eastern Aleutian Islands golden king crab Individual Fishing Quota (IFQ) catch by statistical week, 2007/08.

Week Ending	Statistical Week ^a	Number of			Harvest ^{b,c}	Average		Deadloss ^c
		Landings	Crab ^b	Pots lifted		Weight ^c	CPUE ^d	
19-Aug	33				CONFIDENTIAL			
2-Sep	35				CONFIDENTIAL			
9-Sep	36	3	69,161	2,074	316,164	4.6	33	2,113
23-Sep	38	4	80,143	2,214	378,367	4.7	36	1,901
30-Sep	39				CONFIDENTIAL			
14-Oct	41	4	75,548	2,388	355,129	4.7	32	2,586
21-Oct	42	4	31,786	1,285	161,291	5.1	25	2,587
28-Oct	43	4	58,625	2,091	276,221	4.7	28	2,909
11-Nov	45				CONFIDENTIAL			
18-Nov	46				CONFIDENTIAL			
25-Nov	47				CONFIDENTIAL			
2-Dec	48				CONFIDENTIAL			
30-Dec	52				CONFIDENTIAL			
27-Jan	04				CONFIDENTIAL			
10-Feb	06				CONFIDENTIAL			
Total		36	566,838	20,496	2,689,997	4.8	28	21,042

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

^b Deadloss included.

^c In pounds.

^d Number of legal crabs per pot lift.

Table 1-7.—Aleutian Islands golden king crab Individual Fishing Quota (IFQ) catch by statistical area, 2007/08.

Locale	Statistical Area	Number of			Harvest ^{a,b}	Average		Deadloss ^b
		Landings	Crab ^a	Pots lifted		Weight ^b	CPUE ^c	
North Yunaska Is.	705232	24	92,115	3,628	436,787	4.7	25	3,023
Amukta Pass	715202	25	94,601	3,623	450,662	4.8	26	3,758
SE Amchitka Is.	805103	15	16,902	695	71,144	4.2	24	1,397
Oglala Canyon	805132	21	43,486	1,801	191,057	4.4	24	1,738
Other ^d		496	844,628	36,036	3,788,451	4.5	23	34,309
Total		581	1,091,732	45,783	4,938,100	4.5	24	44,225

^a Deadloss included.

^b In pounds.

^c Number of legal crabs per pot lift.

^d Combination of 65 statistical areas in which landings were made by fewer than three vessels.

Table 1-8.—Western Aleutian Islands golden king crab Individual Fishing Quota (IFQ) catch by statistical week, 2007/08.

Week Ending	Statistical Week ^a	Number of			Harvest ^{b,c}	Average		Deadloss ^c
		Landings	Crab ^b	Pots lifted		Weight ^c	CPUE ^d	
2-Sep	35				CONFIDENTIAL			
23-Sep	38				CONFIDENTIAL			
30-Sep	39				CONFIDENTIAL			
7-Oct	40				CONFIDENTIAL			
14-Oct	41	4	56,788	2,534	237,737	4.2	22	3,535
28-Oct	43				CONFIDENTIAL			
4-Nov	44				CONFIDENTIAL			
11-Nov	45				CONFIDENTIAL			
18-Nov	46				CONFIDENTIAL			
25-Nov	47				CONFIDENTIAL			
2-Dec	48				CONFIDENTIAL			
9-Dec	49				CONFIDENTIAL			
7-Jan	01				CONFIDENTIAL			
14-Jan	02				CONFIDENTIAL			
21-Jan	03				CONFIDENTIAL			
28-Jan	04				CONFIDENTIAL			
11-Feb	06				CONFIDENTIAL			
18-Feb	07				CONFIDENTIAL			
25-Feb	08				CONFIDENTIAL			
25-Mar	12				CONFIDENTIAL			
8-Apr	14				CONFIDENTIAL			
22-Apr	16				CONFIDENTIAL			
13-May	19				CONFIDENTIAL			
Total		35	524,894	25,287	2,248,103	4.3	21	23,183

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

^b Deadloss included.

^c In pounds.

^d Number of legal crabs per pot lift.

Table 1-9.—Aleutian Islands scarlet king crab fishery data, 1992-2007.

Year	Area	Number of				Harvest ^{a,b}	Average		Value		Deadloss ^b
		Vessels	Landings	Crabs ^a	Pots lifted		Weight ^b	CPUE ^c	Exvessel ^d	Total ^e	
1992	Dutch Harbor	0				NO LANDINGS					
	Adak	1				CONFIDENTIAL					
1993	Dutch Harbor	0				NO LANDINGS					
	Adak	0				NO LANDINGS					
1994	Dutch Harbor	1				CONFIDENTIAL					
	Adak	5	9	6,613	7,370	21,269	3.2	1	\$1.24	\$26.4	10,829
	Total	6				CONFIDENTIAL					
1995	Dutch Harbor	3	7	6,270	5,706	13,871	2.2	1	\$3.01	\$41.8	1,755
	Adak	6	18	19,544	15,046	49,126	2.5	1	\$2.95	\$144.9	2,066
	Total	8	25	25,814	20,752	62,997	2.4	1	\$2.96	\$186.5	3,821
1996	Dutch Harbor	3	10	9,967	8,071	20,538	2.1	1	\$1.78	\$37.1	3,911
	Adak	4	13	10,199	18,547	24,161	2.4	<1	\$1.80	\$43.5	1,861
	Total	7	23	20,166	26,618	44,699	2.2	<1	\$1.79	\$80.6	5,772
1997	Aleutian Islands	3	12	2,698	21,217	6,720	2.5	<1	\$1.40	\$9.4	408
1998	Aleutian Islands	2				CONFIDENTIAL					
1999	Aleutian Islands	1				CONFIDENTIAL					
2000	Aleutian Islands	2				CONFIDENTIAL					
2001	Aleutian Islands	2				CONFIDENTIAL					
2002	Aleutian Islands	2				CONFIDENTIAL					
2003	Aleutian Islands	2				CONFIDENTIAL					
2004	Aleutian Islands	2				CONFIDENTIAL					
2005	Aleutian Islands	0				NO LANDINGS					
2006	Aleutian Islands	0				NO LANDINGS					
2007	Aleutian Islands	1				CONFIDENTIAL					

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

^a Deadloss included.

^b In pounds.

^c Number of legal crabs per pot lift.

^d Average price per pound.

^e Thousands of dollars.

Table 1-10.--Eastern Aleutian District Tanner crab fishery data, 1973/74 - 2008.

Season	Locale	Number of				GHL	Harvest ^{a,b}	Average		Deadloss ^b
		Vessels	Landings	Crabs	Pots lifted			Weight ^b	CPUE ^c	
1973/74		6	14	210,539	NA	NA	498,836	2.4	60	0
1974/75		CONFIDENTIAL								
1975/76		8	13	219,166	4,646	NA	534,295	2.4	47	0
1976/77		12	35	544,755	9,640	NA	1,239,569	2.3	57	0
1977/78		15	198	1,104,631	29,855	NA	2,494,631	2.3	37	0
1978/79		20	174	542,081	18,618	NA	1,280,115	2.4	29	0
1979/80		18	107	352,819	18,040	NA	886,487	2.5	20	NA
1981		29	119	264,238	21,771	NA	654,514	2.5	12	NA
1982		31	138	332,260	30,109	NA	739,694	2.2	11	NA
1983		23	107	250,774	22,168	NA	547,830	2.2	11	NA
1984		16	91	104,761	11,069	NA	239,585	2.3	9	NA
1985		7	56	78,930	6,295	NA	181,407	2.3	13	60
1986		8	37	73,187	10,244	NA	167,339	2.3	7	400
1987		8	65	72,098	5,915	NA	162,097	2.2	12	115
1988		20	130	129,478	11,011	NA	309,918	2.4	12	2,000
1989		12	108	144,593	14,615	NA	326,196	2.3	10	2,300
1990		10	75	68,859	6,858	NA	155,648	2.3	10	0
1991		5	27	21,511	1,849	NA	50,038	2.3	12	0
1992		4	29	42,096	2,963	NA	98,703	2.3	14	0
1993		7	34	51,441	3,530	NA	118,609	2.3	15	0
1994		8	119	71,760	6,303	NA	166,080	2.3	11	40
1995-2002		FISHERY CLOSED								
2003 ^d		3	10	6,695	191		15,138	2.3	35	9
2004	Unalaska Bay	10	36	*	*	47,219	*	2.3	*	*
	Makushin/Skan	9	14	*	*	87,891	*	2.3	*	*
	Total	14	50	*	*	135,110	*	2.3	*	*
2005	Unalaska Bay	25	79	14,249	696	35,304	34,022	2.4	20	0
2006	Makushin/Skan	10	32	*	*	87,241	*	2.4	*	*
2007	Akutan Bay	3	7	*	*	35,000	*	2.2	*	*
	Unalaska Bay	12	41	*	*	49,000	*	2.5	*	*
	Total	13	48	*	*	84,000	*	2.4	*	*
2008	Unalaska Bay	11	48	*	*	60,000	*	2.4	*	*

Notes: "*" = Confidential: less than three vessels or processors participated in fishery, and "NA" = Not Available.

^a Deadloss included beginning 1980.

^b In pounds.

^c Number of legal crabs per pot lift.

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

Table 1-11.—Eastern Aleutian District Tanner crab fishery economic performance data, 1973/74 - 2008.

Season	Date		Value		
	Opened	Closed	Exvessel ^a	Total ^b	
1973/74	1-Oct	31-Jul	NA		
1974/75	18-Jan	15-Oct	NA		
1975/76	20-Jan	15-Oct	\$0.20	\$0.11	
1976/77	7-Nov	15-Jun	\$0.30	\$0.38	
1977/78	1-Nov	15-Jun	\$0.38	\$0.95	
1978/79	1-Nov	15-Jun	\$0.52	\$0.67	
1979/80	1-Nov	15-Jun	\$0.52	\$0.46	
1981	15-Jan	15-Jun	\$0.58	\$0.38	
1982	15-Feb	15-Jun	\$1.25	\$0.92	
1983	15-Feb	15-Jun	\$1.20	\$0.66	
1984	15-Feb	15-Jun	\$0.98	\$0.23	
1985	15-Jan	15-Jun	\$0.96	\$0.17	
1986	15-Jan	15-Jun	\$1.66	\$0.28	
1987	15-Jan	15-Jun	\$2.03	\$0.33	
1988	15-Jan	10-Apr	\$2.18	\$0.67	
1989	15-Jan	7-May	\$2.72	\$0.88	
1990	15-Jan	9-Apr	\$1.97	\$0.31	
1991	15-Jan	31-Mar	\$1.25	\$0.06	
1992	15-Jan	31-Mar	\$2.07	\$0.20	
1993	15-Jan	31-Mar	\$1.70	\$0.20	
1994	15-Jan	31-Mar	\$2.11	\$0.35	
1995-2003	FISHERY CLOSED				
2004	Unalaska Bay	15-Jan	19-Jan	*	*
	Makushin/Skan Bay	15-Jan	3-Feb	*	*
2005		15-Jan	18-Jan	\$2.58	\$0.09
2006		15-Jan	21-Jan	*	*
2007	Akutan Bay	15-Jan	31-Mar	*	*
	Unalaska Bay	15-Jan	19-Jan	*	*
2008		15-Jan	29-Jan	*	*

Notes: "NA" = Not Available, and "*" = Confidential: less than three vessels or processors participated in fishery.

^a Average price per pound.

^b Millions of dollars.

Table 1-12.—Eastern Aleutian District grooved Tanner crab fishery data, 1993 - 2007.

Year	Number of				Harvest ^{a,b}	Average		Value		Deadloss ^b
	Vessels	Landings	Crabs ^a	Pots lifted		Weight ^b	CPUE ^c	Ex-vessel ^d	Total ^e	
1993	1				C O N F I D E N T I A L					
1994	4	28	429,777	37,246	754,983	1.8	11	\$1.72	\$1.3	19,151
1995	8	55	511,125	77,443	879,386	1.7	6	\$1.57	\$1.4	30,348
1996	3	25	54,903	21,994	104,680	1.9	2	\$0.99	\$0.1	7,496
1997-2000					N O L A N D I N G S					
2001	1				C O N F I D E N T I A L					
2002 - 2007					N O L A N D I N G S					

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

^a Deadloss included.

^b In pounds.

^c Number of legal crabs per pot lift.

^d Average price per pound.

^e Millions of dollars.

Table 1-13.—Eastern Aleutian District triangle Tanner crab fishery data, 1993 - 2007.

Year	Number of				Harvest	Average		Value		Deadloss
	Vessels	Landings	Crabs	Pots lifted		Weight	CPUE	Ex-vessel	Total	
1993	0				NO LANDINGS					
1994	0				NO LANDINGS					
1995	2				CONFIDENTIAL					
1996	2				CONFIDENTIAL					
1997 - 2000	0				NO LANDINGS					
2001	1				CONFIDENTIAL					
2002 - 2007	0				NO LANDINGS					

Table 1-14.—Western Aleutian District Tanner crab fishery data, 1973/74 - 2007/08.

Year	Number of				Harvest ^{a,b}	Average		Deadloss ^b
	Vessels	Landings	Crabs ^a	Pots lifted		Weight ^b	CPUE ^c	
1973/74	7	12	31,079	2,390	71,887	2.3	13	NA
1974/75	C O N F I D E N T I A L							
1975/76	C O N F I D E N T I A L							
1976/77	N O L A N D I N G S							
1977/78	6	7	103,190	2,700	237,512	2.3	38	NA
1978/79	6	9	84,129	4,730	197,244	2.3	18	0
1979/80	10	12	147,843	5,952	337,297	2.3	25	NA
1980/81	9	23	95,102	7,327	220,716	2.3	13	0
1981/82	17	43	364,164	21,910	838,697	2.3	17	6,470
1982/83	61	125	225,491	40,450	488,399	2.2	6	7,662
1983/84	31	86	171,576	20,739	384,146	2.2	8	200
1984/85	31	41	75,009	13,416	163,460	2.2	6	1,000
1985/86	15	30	98,089	7,999	206,814	2.1	12	0
1986/87	8	24	19,874	10,878	42,761	2.1	2	200
1987/88	15	37	63,545	7,453	141,390	2.2	9	200
1988/89	36	77	69,280	18,906	148,997	2.1	4	233
1989/90	12	30	22,937	6,204	48,746	2.1	4	3,810
1990/91	5	21	6,901	1,309	14,779	2.1	5	125
1991/92	8	8	3,483	986	7,825	2.2	4	NA
1992/93	2	C O N F I D E N T I A L						
1993/94	N O L A N D I N G S							
1994/95	N O L A N D I N G S							
1995/96	1	C O N F I D E N T I A L						
1996/97 - 2007/08	F I S H E R Y C L O S E D							

Notes: "Confidential" = Less than three vessels or processors participated in fishery, and "NA" = Not available.

^a Deadloss included.

^b In pounds.

^c Number of legal crabs per pot lift.

Table 1-15.-Western Aleutian District commercial Tanner crab fishery economic data, 1973/74 - 2007/08.

Year	Value	
	Ex-vessel ^a	Total
1973/74	NOT AVAILABLE	
1974/75	CONFIDENTIAL	
1975/76	CONFIDENTIAL	
1976/77	NO LANDINGS	
1977/78	\$0.38	\$90,255
1978/79	\$0.53	\$104,539
1979/80	\$0.52	\$175,394
1980/81	\$0.54	\$119,187
1981/82	\$1.30	\$1,081,895
1982/83	\$1.27	\$610,536
1983/84	\$0.95	\$364,749
1984/85	\$1.30	\$211,198
1985/86	\$1.40	\$289,540
1986/87	\$1.50	\$63,842
1987/88	\$2.10	\$296,499
1988/89	\$1.00	\$148,764
1989/90	\$1.00	\$44,936
1990/91	\$1.25	\$18,318
1991/92	\$1.00	\$7,825
1992/93	CONFIDENTIAL	
1993/94	NO LANDINGS	
1994/95	NO LANDINGS	
1995/96	CONFIDENTIAL	
1996/97 - 2007/08	FISHERY CLOSED	

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

^a Average price per pound.

Table 1-16.—Western Aleutian District grooved Tanner crab fishery data, 1992 - 2007.

Year	Number of		Harvest ^{a,b}	Average		Value		Deadloss ^b
	Vessels	Pots lifted		Weight ^b	CPUE ^c	Ex-vessel ^d	Total ^e	
1992	1			CONFIDENTIAL				
1993	0			NO LANDINGS				
1994	2			CONFIDENTIAL				
1995	6	17,749	145,795	1.9	4	\$2.45	\$0.36	17,190
1996	1			CONFIDENTIAL				
1997-1999				NO LANDINGS				
2000-2007				FISHERY CLOSED				

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

^a Deadloss included.

^b In pounds.

^c Number of legal crabs per pot lift.

^d Average price per pound.

^e Millions of dollars.

Table 1-17.--Aleutian District Dungeness crab fishery data, 1974 – 2007/2008.

Year	Season Dates	Number of				Harvest ^{a,b}	Average		
		Vessels	Landings	Crabs ^a	Pots Lifted		Weight ^b	CPUE ^c	Price/pound
1974	01/01-12/31	3	13	24,459	3,399	60,517	2.4	8	NA
1975	01/01-12/31					CONFIDENTIAL			
1976/77	05/01-01/01	0				NOLANDINGS			
1977/78	05/01-01/01	0				NOLANDINGS			
1978/79	05/01-01/01					CONFIDENTIAL			
1979/80	05/01-01/01					CONFIDENTIAL			
1980/81	05/01-01/01	0				NOLANDINGS			
1981/82	05/01-01/01	0				NOLANDINGS			
1982/83	05/01-01/01					CONFIDENTIAL			
1983/84	05/01-01/01					CONFIDENTIAL			
1984/85	05/01-01/01	4	50	40,128	13,555	91,739	2.3	3	\$1.35
1985/86	05/01-01/01	4	19	8,590	1,706	17,830	2.1	5	NA
1986/87	05/01-01/01	2				CONFIDENTIAL			
1987/88	05/01-01/01	5	43	13,247	2,987	26,627	2.0	4	\$0.95
1988/89	05/01-01/01	6	45	10,814	2,581	22,634	2.1	4	\$0.90
1989/90	05/01-01/01	4	31	5,165	2,078	11,124	2.1	2	\$0.90
1990/91	05/01-01/01	3	11	8,379	1,345	17,365	2.1	6	\$0.90
1991/92	05/01-01/01	4	14	3,654	732	7,412	2.0	5	\$1.25
1992/93	05/01-01/01	4	13	2,854	555	5,649	2.0	5	\$0.83
1993/4	05/01-01/01	5	12	3,448	797	7,531	2.2	4	\$0.78
1994/95-2000/01	05/01-01/01	0				NOLANDINGS			
2001/02	05/01-01/01	1				CONFIDENTIAL			
2002/03	05/01-01/01	1				CONFIDENTIAL			
2003/04	05/01-01/01	0				NOLANDINGS			
2004/05	05/01-01/01	0				NOLANDINGS			
2005/06	05/01-01/01	1				CONFIDENTIAL			
2006/07	05/01-01/01	1	^d			NOLANDINGS			
2007/08	05/01-01/01	1				CONFIDENTIAL			

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

^a Deadloss included.

^b In pounds.

^c Number of legal crabs per pot lift.

^d Vessel registered but did not fish.

Table 1-18.—Aleutian Islands District trawl shrimp fishery data, 1972 - 2007.

Year	Season Dates	Number of			Harvest ^a	Value	
		Vessels	Landings	Tows		Ex-vessel ^b	Total ^c
1972	1/1 - 12/1				CONFIDENTIAL		
1973	1/1 - 12/1				CONFIDENTIAL		
1974	1/1 - 12/1	7	88	721	5,749,407	NA	NA
1975	1/1 - 12/1	4	14	54	467,196	NA	NA
1976	1/1 - 12/1	8	66	689	3,670,609	\$0.07	\$0.26
1977/78	2/1 - 3/1	7	93	1,372	6,800,393	\$0.12	\$0.82
1978/79	4/1 - 3/1	7	74	1,007	4,946,350	\$0.15	\$0.74
1979/80	4/1 - 2/1	7	68	799	3,292,049	\$0.20	\$0.66
1980	3/1 - 12/1	4	60	711	2,454,829	\$0.23	\$0.56
1981	3/1 - 12/2	6	45	551	2,185,326	\$0.22	\$0.48
1982	5/1 - 6/1				CONFIDENTIAL		
1983-1991		0			NO LANDINGS		
1992	1/1 - 12/1	4	6	94	72,133	NA	NA
1993-1998		0			NO LANDINGS		
1999	1/1 - 7/9	2			CONFIDENTIAL		
2000-2007					NO LANDINGS		

Notes: "Confidential" = Less than three vessels or processors participated in fishery, and "NA" = Not available.

^a In pounds.

^b Average price per pound.

^c Millions of dollars.

Table 1-19.—Aleutian Islands miscellaneous shellfish fishery data 1996 - 2007.

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

-continued-

Table 1-19.--Page 2 of 3.

Year	Fishery	Number of		Harvest ^a	
		Vessels	Landings		
2002	Octopus ^c	56	186	96,585	
	Sea Urchins	NO LANDINGS			
	Sea Cucumbers	NO LANDINGS			
	Hair Crab	NO LANDINGS			
	Snails	NO LANDINGS			
	<i>Paralomis multispina</i>	NO LANDINGS			
2003	Octopus ^c	70	313	242,946	
	Sea Urchins	NO LANDINGS			
	Sea Cucumbers	NO LANDINGS			
	Hair Crab	NO LANDINGS			
	Snails	NO LANDINGS			
	<i>Paralomis multispina</i>	NO LANDINGS			
2004	Octopus ^c	72	401	720,997	
	Octopus, state-waters ^d	14	31	Confidential	
	Total	86	432	Confidential	
	Sea Urchins	NO LANDINGS			
	Sea Cucumbers	NO LANDINGS			
	Hair Crab	NO LANDINGS			
	Snails	NO LANDINGS			
	<i>Paralomis multispina</i>	NO LANDINGS			
	2005	Octopus ^c	55	334	438,794
		Octopus, state-waters ^d	1	2	Confidential
Total		56	336	Confidential	
Sea Urchins		NO LANDINGS			
Sea Cucumbers		NO LANDINGS			
Hair Crab		NO LANDINGS			
Snails		NO LANDINGS			
<i>Paralomis multispina</i>		NO LANDINGS			
2006		Octopus ^c	33	113	182,353
		Octopus, state-waters ^d	2	0	0
	Total	35	113	182,353	
	Sea Urchins	NO LANDINGS			
	Sea Cucumbers	NO LANDINGS			
	Hair Crab	NO LANDINGS			
	<i>Paralomis multispina</i>	NO LANDINGS			

-continued-

Table 1-19.—Page 3 of 3.

Year	Fishery	Number of		Harvest ^a
		Vessels	Landings	
2007	Octopus ^c	39	101	46,782
	Octopus, state-waters ^d	0	0	0
	Total	39	101	46,782
	Sea Urchins	NO LANDINGS		
	Sea Cucumbers	NO LANDINGS		
	Hair Crab	NO LANDINGS		
	Snails	NO LANDINGS		
	<i>Paralomis multispina</i>	NO LANDINGS		

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

^a In pounds. Deadloss included.

^b Dives.

^c Octopus incidental harvest in Pacific cod fishery.

^d Commissioner's permit fishery.

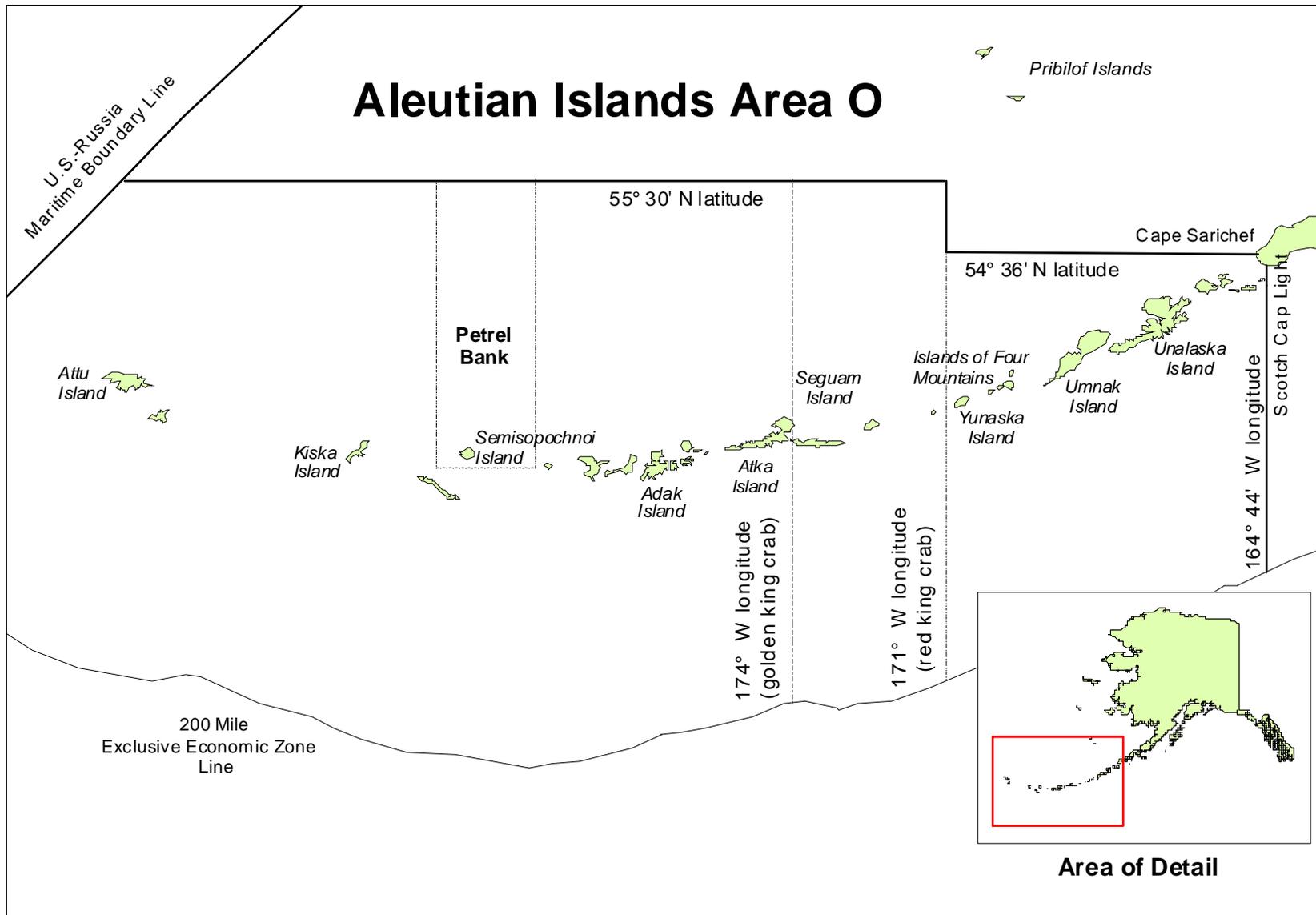


Figure 1-1.—Aleutian Islands, Area O, red and golden king crab management area.

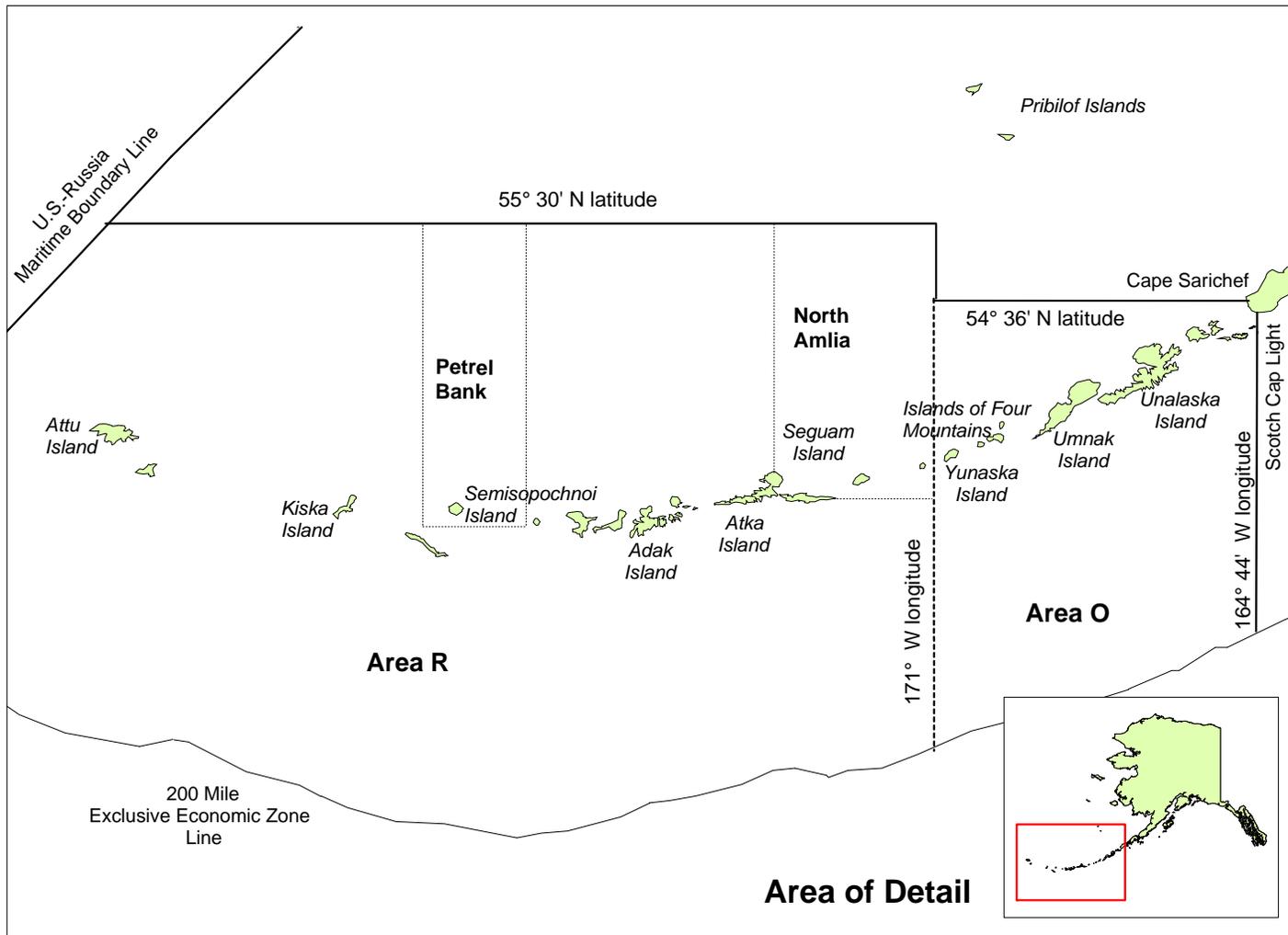


Figure 1-2.—Adak (Area R) and Dutch Harbor (Area O) king crab Registration Areas and Districts 1981/82 – 1996/97.

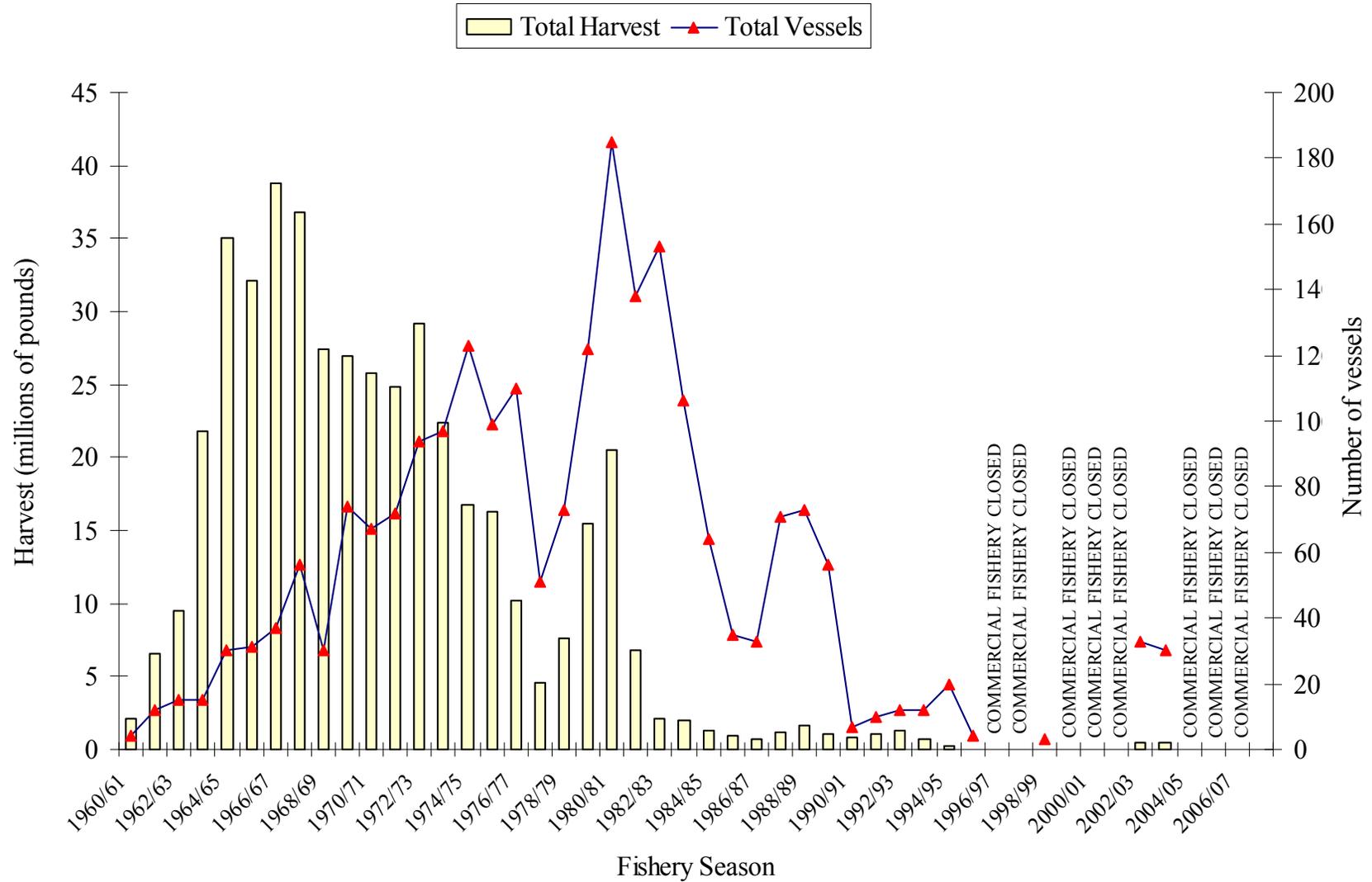


Figure 1-3.—Aleutian Islands red king crab fishery harvest and vessel effort, 1960/61 – 2007/08.

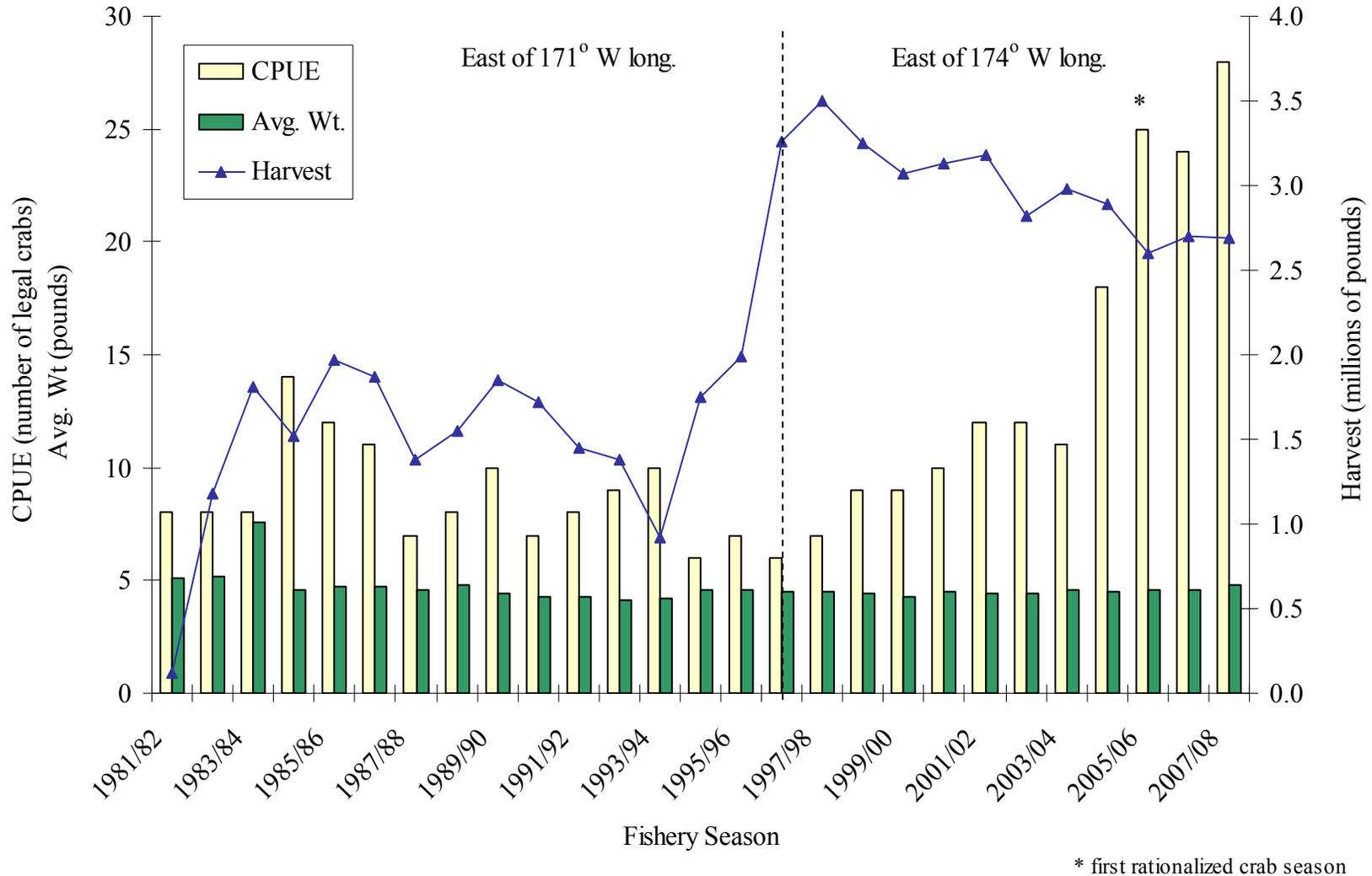


Figure 1-4.-Western Aleutian Islands golden king crab fishery harvest, fishery performance and average weight data for the 1981/82 – 2007/08 seasons, does not include Adak Community Allocation (west of 174° W long.) fishery.

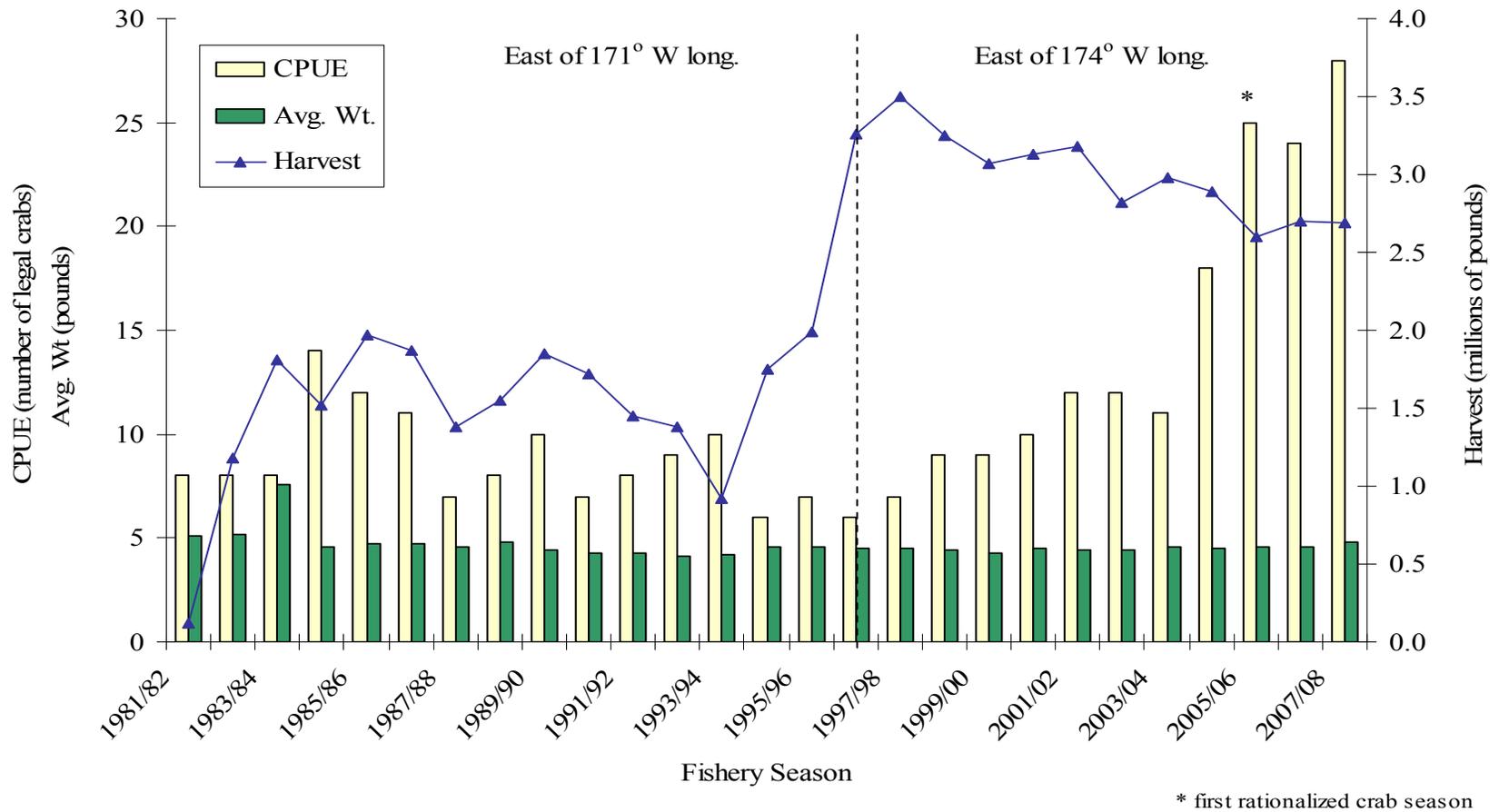


Figure 1-5.—Eastern Aleutian Islands golden king crab fishery harvest, fishery performance and average weight data for the 1981/82 – 2007/08 seasons, does not include Community Development Quota (east of 174° W long.) fishery.

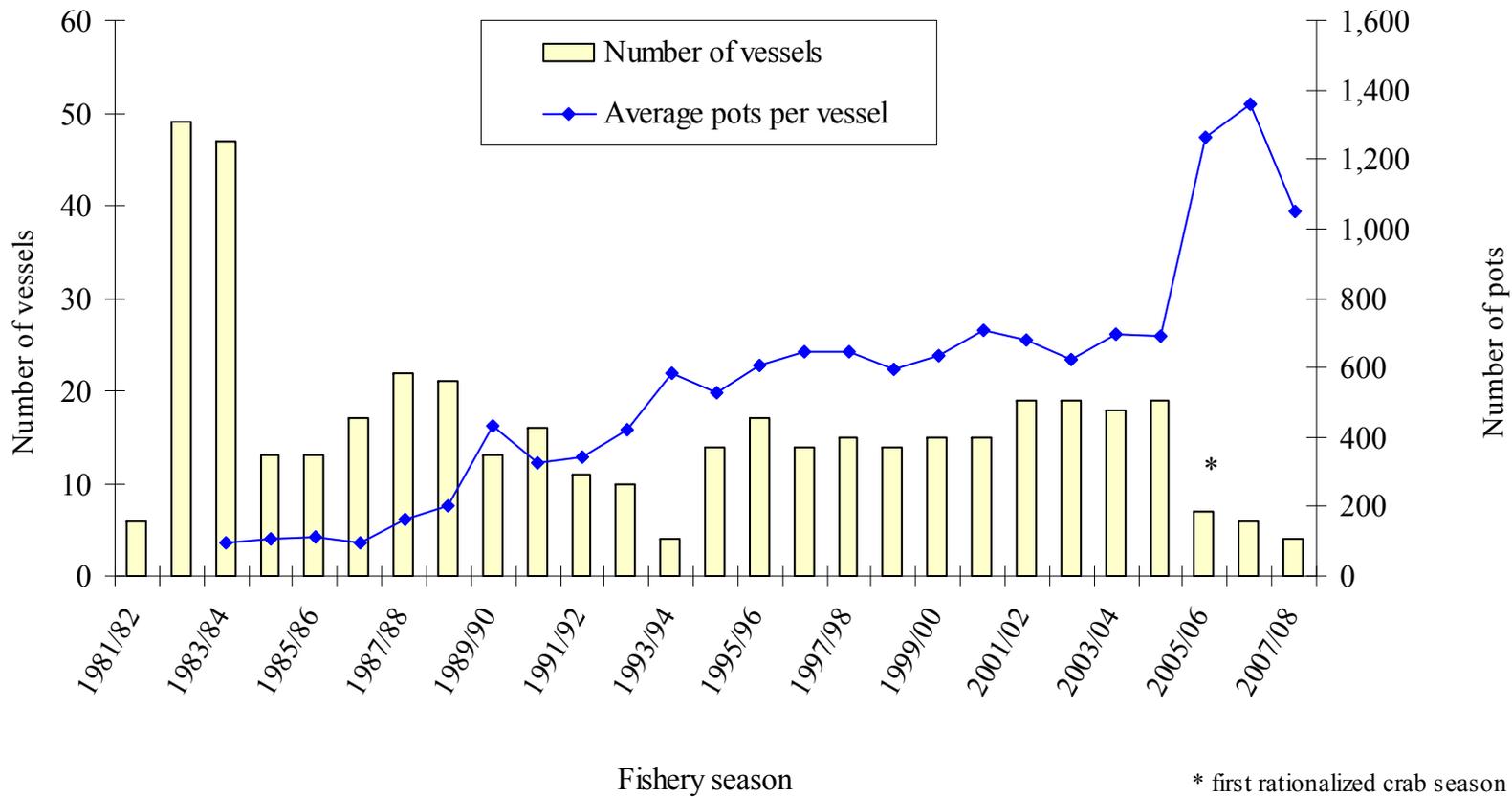


Figure 1-6.—Eastern Aleutian Islands golden king crab fishery vessel registrations and average number of pots per vessel 1981/82 - 2007/08, includes Community Development Quota (east of 174° W long.) fishery.

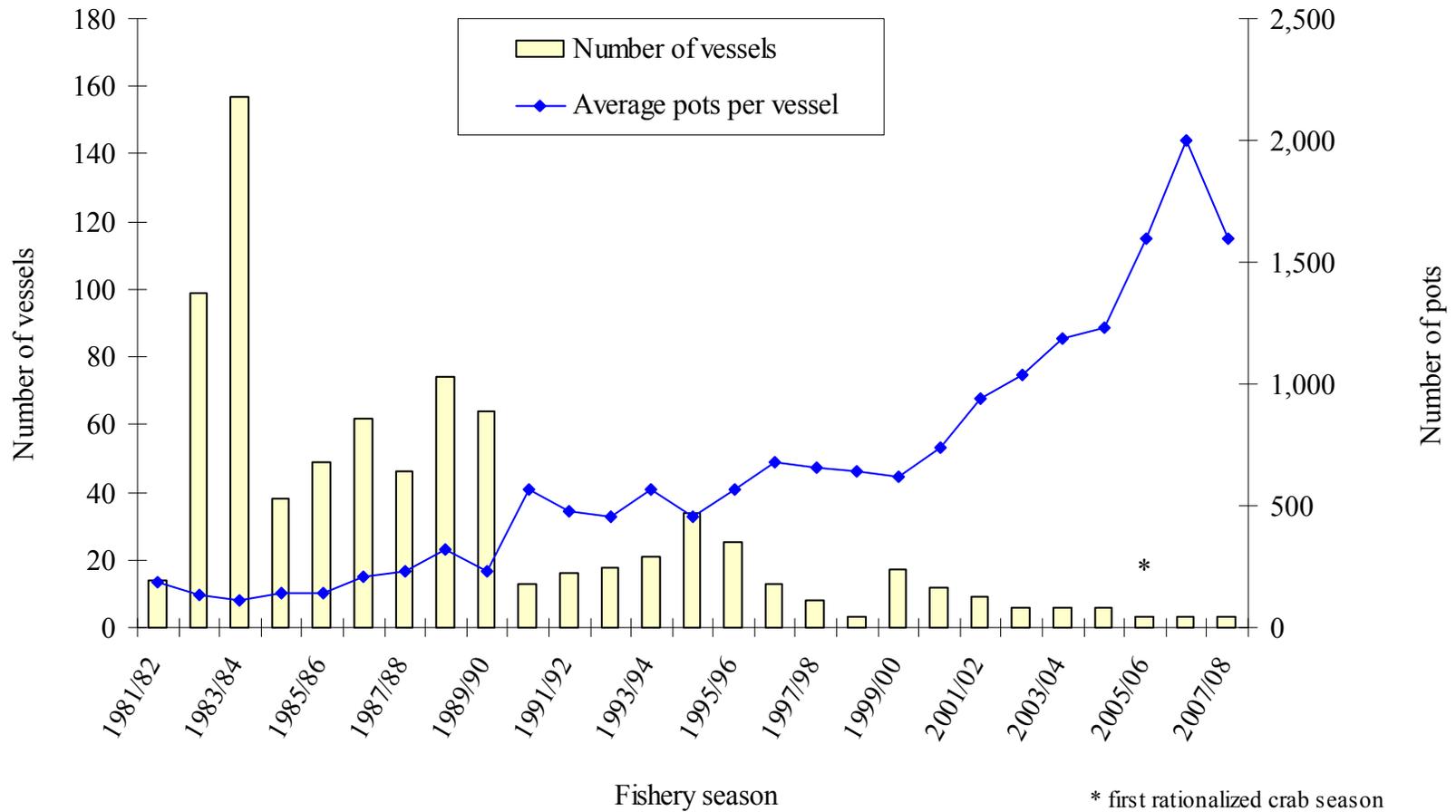


Figure 1-7.-Western Aleutian Islands golden king crab fishery vessel registrations and average number of pots per vessel 1981/82 - 2007/08, includes Adak Community Allocation (west of 174° W long) fishery.

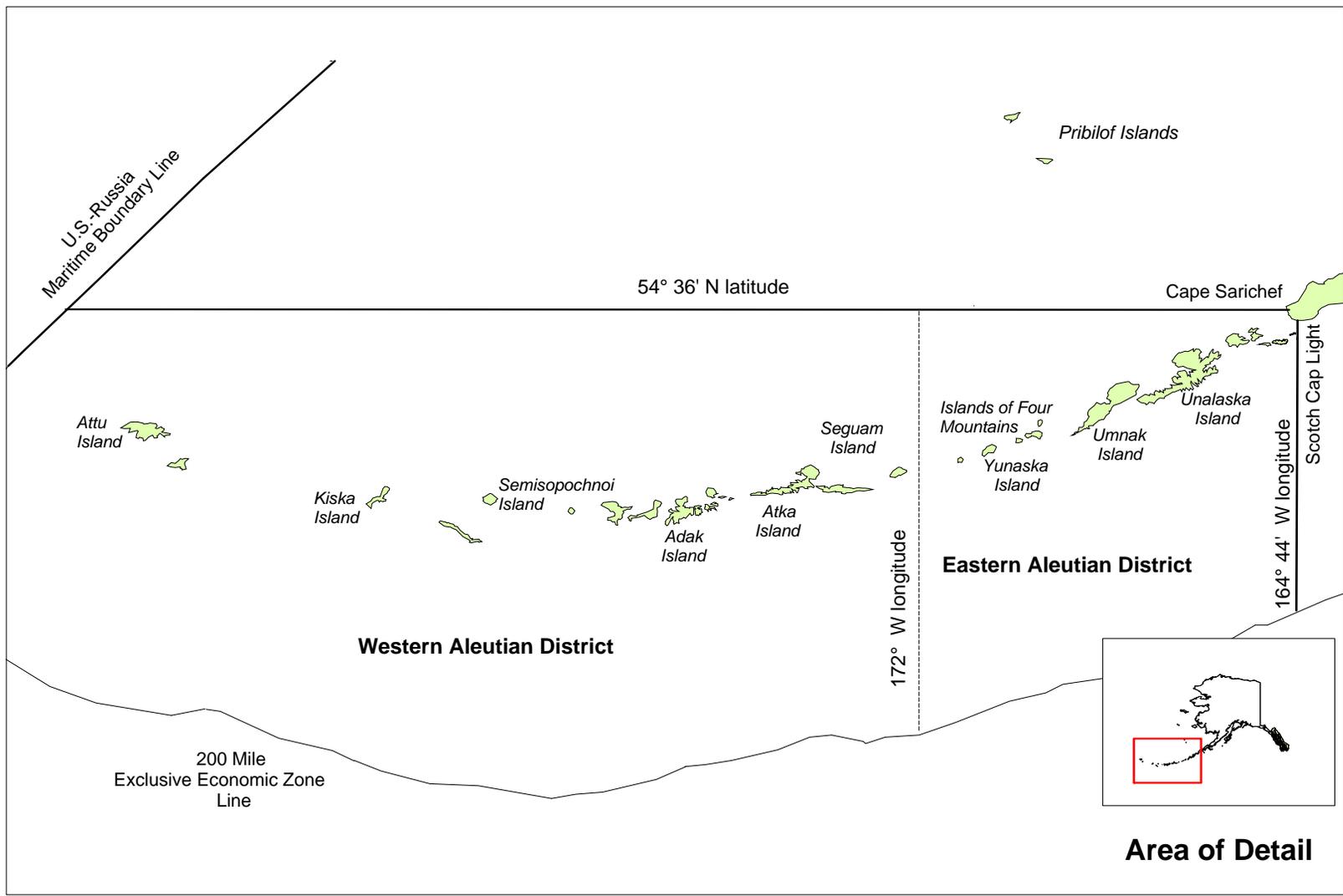


Figure 1-8.—Eastern and Western Aleutian Districts of Tanner crab Registration Area J.

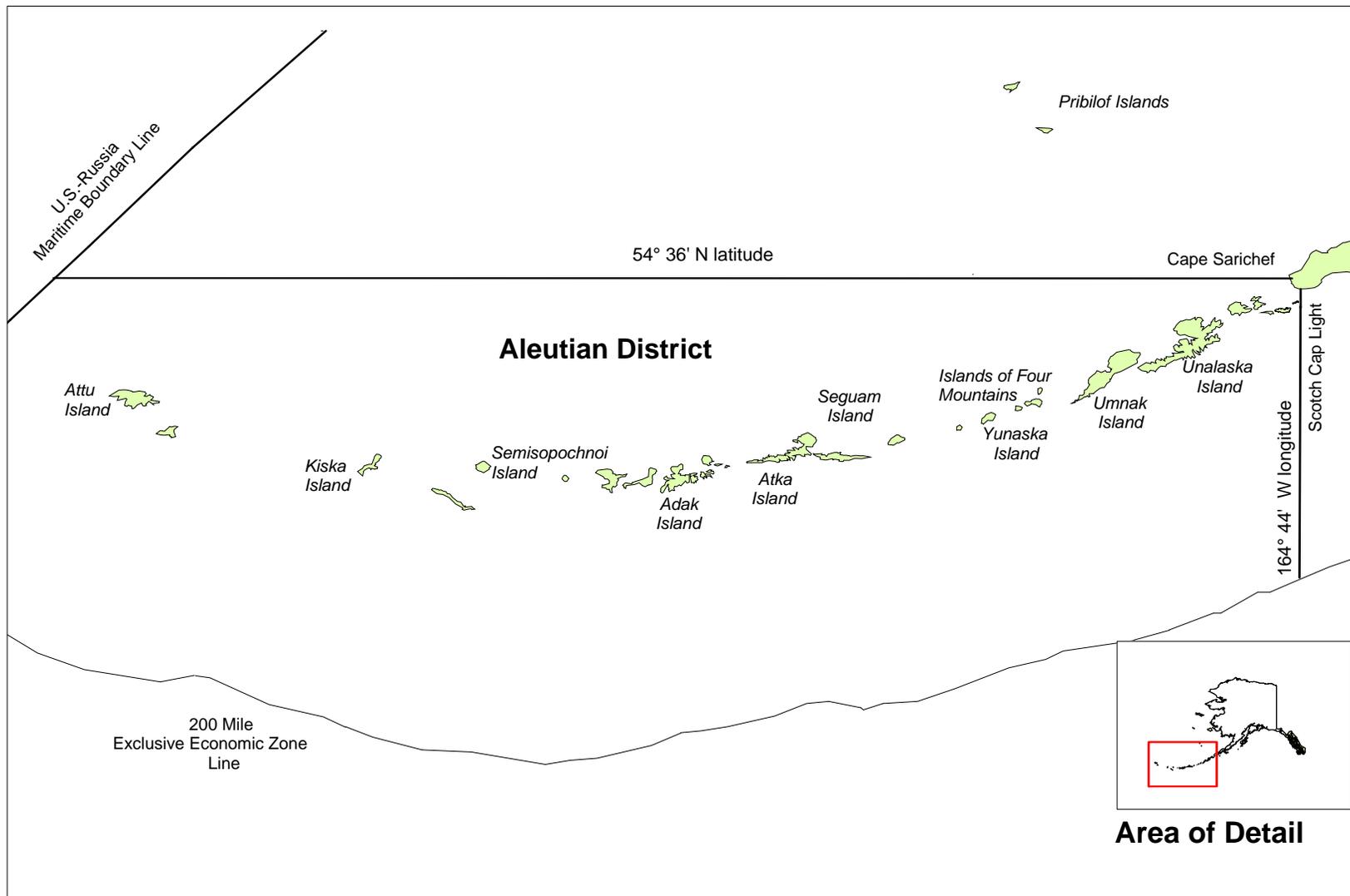


Figure 1-9.—Aleutian District for Dungeness crab management.

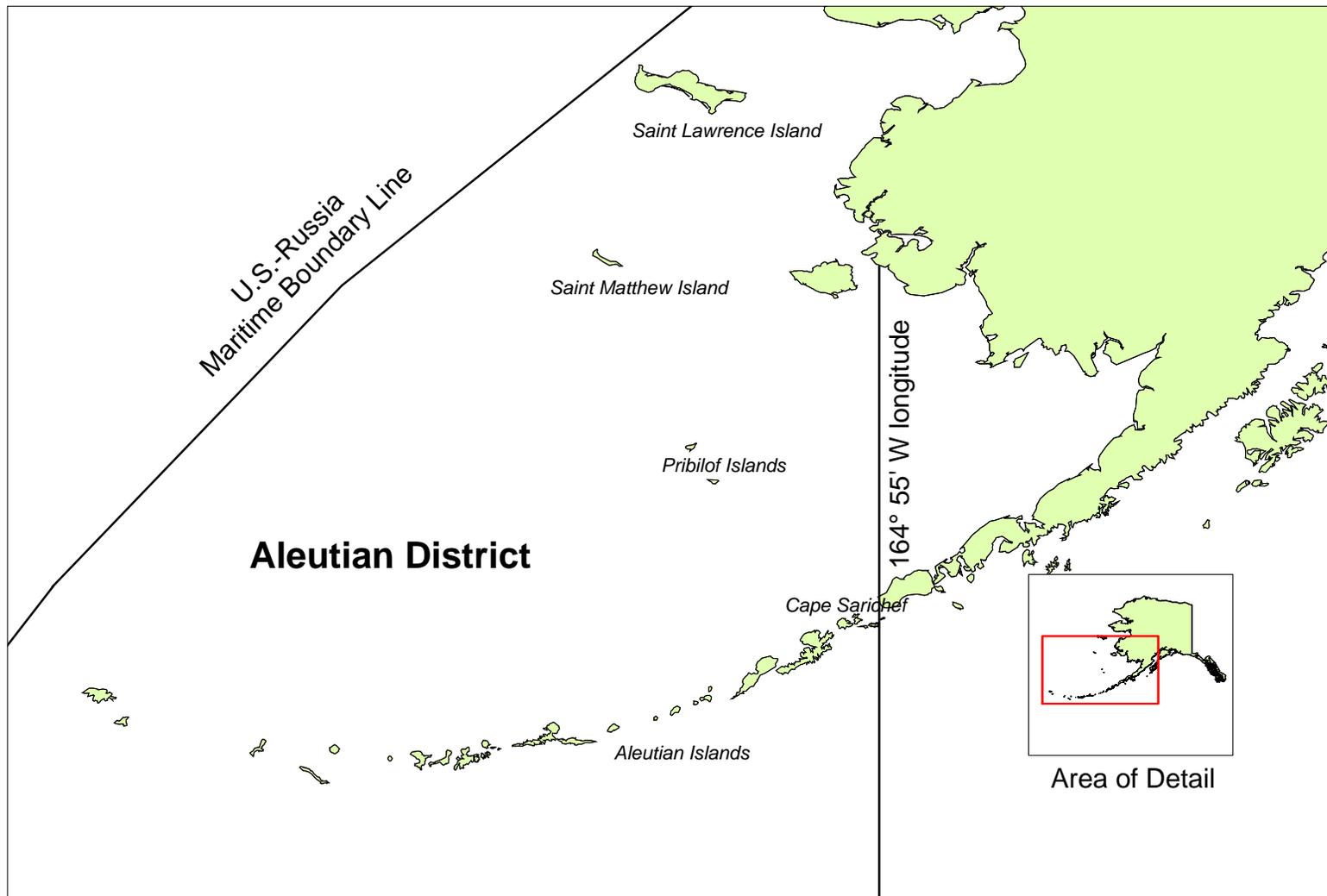


Figure 1-10.—Aleutian District for shrimp management.

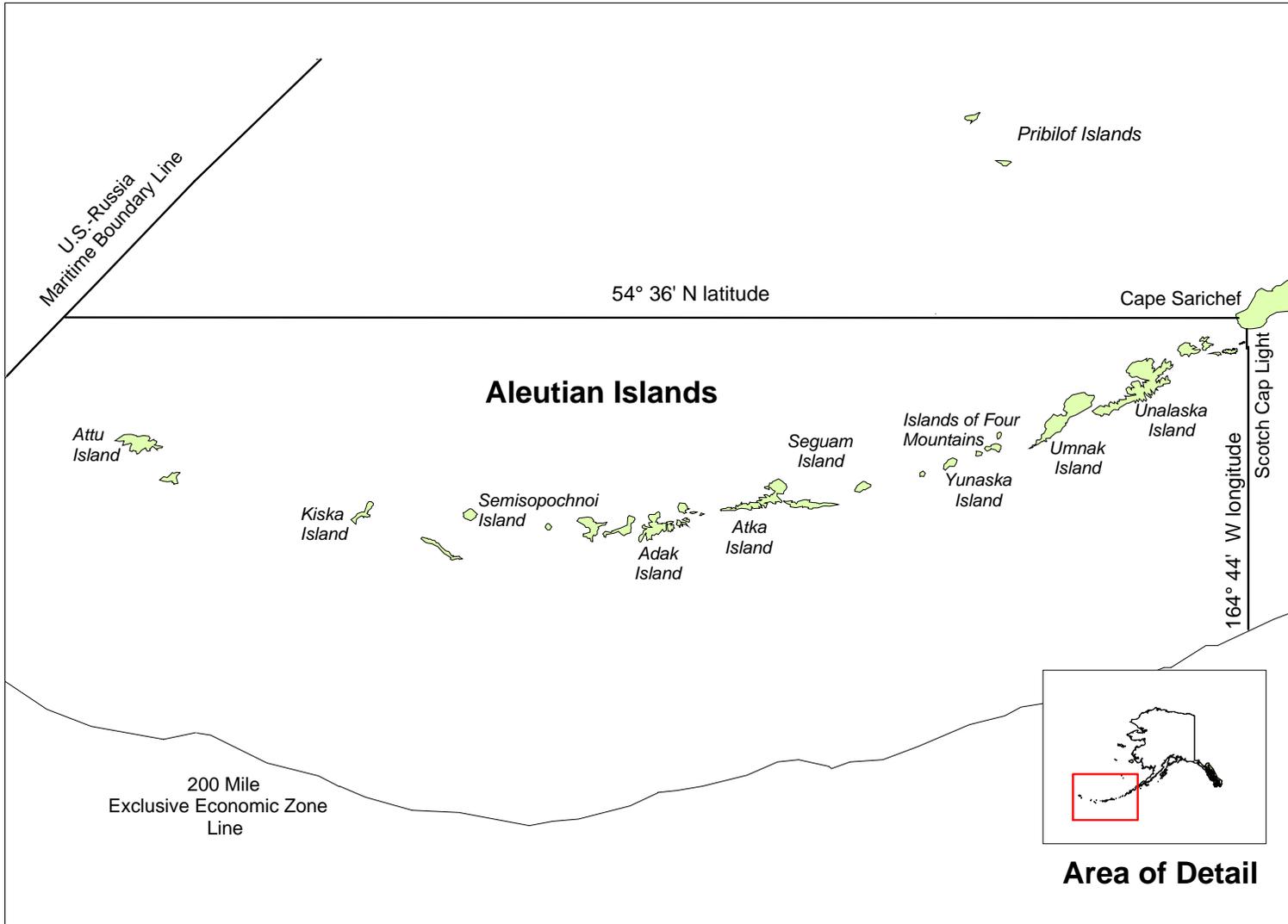


Figure 1-11.—Aleutian Islands District portion of miscellaneous shellfish Registration Area J.

ANNUAL MANAGEMENT REPORT FOR THE COMMERCIAL SHELLFISH FISHERIES OF THE BERING SEA, 2007/08

by
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December 2008

KING CRAB REGISTRATION AREA T BRISTOL BAY

DESCRIPTION OF AREA

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

HISTORIC BACKGROUND

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

The red king crab fishery in the eastern Bering Sea traditionally harvested crabs from waters north of Unimak Island and the Alaska Peninsula from Cape Sarichef to Port Heiden. With the decline of king crab stocks in other areas of the state, U.S. effort in the eastern Bering Sea increased beginning in 1966 with a peak harvest of 129.9 million pounds in 1980 (Table 2-1, Figure 2-2). Since 1980, king crab stocks throughout Alaska, including Bristol Bay, declined sharply and have not recovered to pre-1980 levels, leading to closures of the Bristol Bay red king crab (BBRKC) fishery in 1983, 1994, and 1995. From 1980 to 2007/08, economic value of the BBRKC fishery ranged from \$8.9 million in 1982 to a high of \$115.3 million in 1980 (Table 2-2, Figure 2-3). Exvessel price ranged from \$0.90 per pound in 1980 to a high of \$6.26 per pound in 1999.

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

The National Marine Fisheries Service (NMFS) has conducted annual trawl abundance index surveys of the eastern Bering Sea since 1968. This multi-species (crab and groundfish) survey is conducted during the summer months and the resulting area-swept estimates of abundance are published annually. In 1983, the NMFS trawl survey of the Bering Sea indicated a record low number of legal male crabs and the lowest total king crab population since the survey began in 1968. Small female crabs carrying fewer eggs and high predator abundance were also noted. Consequently, the fishery was closed for the 1983 season. The fishery reopened in 1984 and catches slowly increased to over 20.4 million pounds in 1990. Due to the large number of catcher-processors and floating-processors in the fishery and the inability of the Alaska Department of Fish and Game (ADF&G) to monitor these catches, an onboard observer program was initiated in 1988.

Fishing effort increased dramatically from 89 vessels in 1984 to 302 vessels in 1991 (Table 2-1, Figure 2-3). The number of pots used by the fleet also increased, with almost 90,000 pots registered for the 1991 fishery compared to just under 22,000 pots registered in 1984. Due to the increased

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

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

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

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

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

Results from the LBA incorporating the 1996 NMFS survey data indicated increased abundance in all size classes of males and females compared to the 1995 estimate (Zheng et al. 1996). Of major importance was an increase in the number of large females in 1996 to 10.2 million crabs, which was well above the threshold of 8.4 million large female crabs necessary to allow a fishery. This was a significant increase relative to the prior two years where fishery closures occurred due to insufficient numbers of large female crabs. Based on a 10% mature male exploitation rate, the 1996 guideline harvest level (GHL) was set at 5.0 million pounds. The 1996 fishery lasted four days and a total of 8.4 million pounds were harvested, exceeding the GHL by 68%.

To address the difficulty in managing this fishery at low 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 BBRKC fishery from 24 to 30 hours and allowed fishers to leave baited pots on the fishing grounds when a fishery closure announcement is made with less than 24 hours of advance notice. New pot limits were based on vessel overall length, the preseason 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, to provide for reevaluation at the 1999 BOF meeting.

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

Analysis of the 1998 NMFS survey data indicated the abundance of pre-recruit male red king crabs increased by 85%, resulting in an increase in the fishable stock of mature male crabs for the 1998 season. The abundance of large females (>89 mm carapace length (CL)) increased by 42% (Stevens et al. 1998a). Effective spawning biomass was estimated to be over 55 million pounds, resulting in a 15% harvest rate on mature male crabs. The first year that the GHG was split into Community Development Quota (CDQ) and general fishery components was 1998 (CDQ fishery information is summarized later in this report). The GHG for the 1998 general fishery was 15.8 million pounds. Because the GHG was in excess of 12 million pounds, the preseason registration requirement was waived and pot limits were set at 200 for vessels less than or equal to 125 feet in length and 250 for vessels greater than 125 feet in length. Total harvest in the 1998 fishery, which lasted five days, was 14.29 million pounds.

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

The LBA, including the 1999 NMFS survey data, indicated that while the abundance of legal and mature male red king crabs in Bristol Bay increased, all other classes decreased from the 1998 level: small males by 57%, pre-recruit males by 27%, and large females by 7% (Zheng and Kruse 1999). The LBA estimates resulted in an ESB of 47.0 million pounds. By applying an

exploitation rate of 10% to the mature male population, a general fishery GHL of 10.1 million pounds was set. The 1999 season lasted five days, with a total harvest of 11.1 million pounds.

The LBA, including the 2000 NMFS survey data, indicated that the abundance of almost all size-classes of the Bristol Bay red king crab stock decreased from levels observed in 1999, with the exception of small males, which increased by 192%. All other size-classes decreased: pre-recruit males by 23%, mature males by 14%, legal males by 3%, and large females also decreased by 10% (Zheng and Kruse 2000). The 2000 ESB was estimated to be 39.9 million pounds, a decrease of 11% compared to 1999. At 39.9 million pounds, ESB was above the threshold for a fishery opening with a 10% exploitation rate on mature males. The 10% exploitation rate on mature males resulted in a general fishery GHL of 7.7 million pounds. The 2000 fishery opened at 4:00 p.m. on October 16 after a 24-hour delay to allow strong winds in the Bristol Bay area to diminish. A total of 239 catcher-only vessels and seven catcher-processors participated. A total of 7.5 million pounds of red king crabs was harvested in the 4-day fishery, which was closed by emergency order at 9:00 p.m. on October 20.

Results of the NMFS stock assessment survey and LBA in 2001 gave an estimated ESB of 40.6 million pounds and a mature male abundance estimate of nearly 11 million crabs. When the harvest strategy was applied to these estimates, a general fishery GHL of 6.6 million pounds was the result of using a 10% exploitation rate applied to the mature male abundance estimate. The 2001 fishery opened at 4:00 p.m. on October 15 with 230 vessels participating. The fishery closed at 11:59 p.m. on October 18 after approximately 7.8 million pounds were harvested.

In 2002, survey results provided an estimated ESB of 37.7 million pounds and a mature male abundance estimate of 14.3 million crabs. A 10% exploitation rate was applied to the mature male abundance resulting in a general fishery GHL of 8.56 million pounds. The 2002 fishery opened at 4:00 p.m. on October 15 with 242 vessels registered. The fishery closed at noon on October 18 after approximately 8.9 million pounds were harvested.

In 2003, the BOF modified the BBRKC harvest strategy. The BOF maintained the existing 10% and 15% harvest rates on mature males and implemented a 12.5% harvest rate on mature males when the ESB is greater than or equal to 34.75 million pounds but less than 55 million pounds. NMFS survey and LBA results for 2003 indicated that the stock was above the fishery threshold with an estimated abundance of 29.7 million mature females and an estimated ESB of 60.7 million pounds. Both of these estimates represented substantial increases from those generated in 2002. Since ESB was estimated to be greater than 55.0 million pounds, the harvest strategy specifies an exploitation rate of 15% on mature males. Given an estimated mature male abundance of 16.4 million crabs and an average weight of 6.4 pounds per legal crab, the 2003 GHL was set at 14.5 million pounds, 1.2 million pounds of which were allocated to the CDQ fishery. A total of 252 vessels participated in the 122 hour general fishery and harvested 14,529,124 pounds, or 99.9% of the general fishery GHL.

Preseason vessel registration for the 2004 fishery was required by 5:00 p.m. September 24, 2004. Based on the 252 preseason vessel registrations received prior to that deadline and the 14.27 million pound general fishery GHL, pot limits were set at 200 pots for vessels less than or equal to 125 feet in overall length and 250 pots for vessels greater than 125 feet in overall length. In addition, preseason vessel registrations were used to select catcher vessels to carry onboard observers during the fishery; 21 catcher vessels were selected. Eight catcher processors and one

floating processor registered for the fishery. A total of 251 harvesting vessels registered for the fishery.

The 2004 Bristol Bay red king crab fishery was 80 hours in length, a 34% decrease from the 2003 season length of 122 hours. Only the 2002 season at 68 hours was shorter (Table 2-2). The 2004 legal male CPUE was 23, an increase from the 2003 catch rate of 18 legal crabs per pot lift and the highest legal male CPUE since the 1980 season (Table 2-1). Catch rates were highest north of 56° 30' N lat. Catches were distributed over a broader geographic area in 2004 than in 2003. Harvests of 1.0 million pounds or more were recorded from six ADF&G statistical areas in 2004 compared to four in 2003 and five in 2002. In general, the highest catch rates during the 2004 fishery occurred to the north of the most productive areas in the 2003 fishery. The fleet pulled 90,976 pots to harvest 14,112,438 pounds.

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

The 2005/06 Bristol Bay red king crab fishery opened on October 15, 2005 and closed on January 15, 2006. The 2005/06 season was the first to operate under the Crab Rationalization (CR) program. Under the CR program 90% of the Total Allowable Catch (TAC) is available to the individual fishing quota (IFQ) fishery, 10% is available for CDQ harvest, the fishing season was expanded to run from October 15 until January 15, pot limits were increased to 450 pots per vessel, and vessel operators may authorize another person to operate their pot gear. Eighty-nine vessels participated in the fishery making 264 landings for a total harvest of 16.48 million pounds from a 16.5 million pound total allowable catch (TAC). Deadloss was less than 1% of the total harvest.

The fleet pulled just under 100,000 pots and had a retained CPUE of 25 legal crabs per pot. In addition, approximately 20% of the legal male red king crab caught during the 2005/06 season were discarded at sea primarily due to shell condition (Barnard and Pengilly 2006). Vessel operators used an average of 177 pots each and had an average soak time for the 2005/2006 season of 65 hours as compared to averages of 18 to 31 hours soak time for the 1999-2004 general fisheries.

Approximately two-thirds of the 2005/06 harvest had occurred by mid-November, however, fishing effort continued until the regulatory closure in January. On average each participating vessel was registered for 26 days.

Bristol Bay red king crabs were delivered in Saint Paul, Sitka, Kodiak, Akutan, King Cove and Dutch Harbor. Harvesters were paid an average price of \$4.24 per pound for a total fishery value of \$69.5 million.

The 2006/07 season opened on October 15, 2006 and closed on January 15, 2007 with 81 vessels participating in 187 landings. The IFQ TAC for the 2006/07 season was 13.9 million pounds. A total of 13.89 million pounds were harvested during the 2006/2007 season, including deadloss, which accounted for less than 1% of the harvest.

Total effort for the 2006/07 season was approximately 64,000 pot lifts. Average weight of harvested crabs was 6.4 pounds, which was below the average weight for the 2005/06 season and slightly greater than the average weight estimate that was used to compute the TAC (6.25 pounds). Although most of the harvest was taken by mid-November 2006, the last deliveries were made in the first week of December 2006. On average each vessel participating in the

fishery was registered for 21 days. Harvests in the 2006/07 season were reported from 20 different statistical areas, however, 90% of the total pot lifts and total harvest during the IFQ fishery occurred in seven statistical areas.

Total fishery CPUE for retained legal crabs was 34 crabs per pot, which is the highest for any season since 1981. Discarding of legal males during the 2006/07 did not occur on the scale estimated to have occurred during the 2005/06 season. The estimate from observer data is that 4% of captured legal males were not retained during the 2006/07 season.

Bristol Bay red king crabs were delivered in Saint Paul, Kodiak, Akutan, King Cove and Dutch Harbor. Harvesters were paid an average price of \$3.48 per pound for a total fishery value of \$48.0 million.

2007/08 SEASON

The 2007/08 Bristol Bay red king crab fishery opened on October 15 with an IFQ TAC of 18.3 million pounds. Seventy-four vessels participated in the fishery and harvested a total of 18.3 million pounds of which less than 1% was deadloss.

Catch per unit of effort in terms of number of legal crabs retained per pot lift dropped from the 2006/07 level of 34 to 28, although despite this drop the 2007/08 CPUE ranks among the highest seasonal catch rates estimates for the last 25 years. Increased harvest rates during the CR fisheries is likely attributable to changes in fishing practices that have maximized efficiency and slight increases in legal male abundance estimates during the last three years. Increased legal male discards due to shell condition first observed during the 2005/06 season were not observed during the 2007/08 season.

Even though the fishery was open through January 15, over 80% of the harvest had occurred by mid-November (Table 2-3). Harvest during the first month of the season takes advantage of favorable weather and market conditions.

Harvest during the 2007/08 season was spread over 27 ADF&G statistical areas and over half of the catch occurred west of 163° W long. (Table 2-4). Fishing effort shifted slightly northward during the 2007/08 season with nearly 2.7 million pounds harvested north of 57° 30' W long.

The fleet registered 11,885 pots or 161 pots per vessel. Total effort for the 2007/08 fishery was approximately 102,000 pot lifts, a 58% increase from the 2006/07 fishery. The average vessel was active in the fishery for 26 days compared to 21 days during the 2006/07 season.

In addition to the IFQ fishery, ADF&G conducted cost recovery fishing operations during the first three weeks of October. Cost recovery harvest was just over 145,000 pounds (Table 2-6) generating approximately \$583,000 (Table 2-6).

IFQ harvesters were paid an average price of \$4.19 per pound for a total exvessel fishery value of \$76.2 million making the 2007/08 Bristol Bay red king crab fishery the most valuable since 1990 (Table 2-2).

AMERICAN FISHERIES ACT

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

management plan requiring ADF&G to manage AFA vessels with a harvest cap equally apportioned between all AFA qualified vessels or through a cooperative fishery when 100% of AFA qualified participants agree to the cooperative. The harvest cap specified by the AFA was implemented for the first time in the 2000 BBRKC fishery and was set at 10.96% of the general fishery GHL. The AFA harvest cap was in effect for the 2000 to 2004 seasons and was never exceeded. AFA sideboard restrictions were eliminated with the implementation of the CR program in 2005.

PORT SAMPLING

Red king crabs were sampled at dockside from deliveries during the 2007/08 Bristol Bay red king crab fishery. Vessels without observer coverage delivering to shore-based processors in King Cove, Akutan, Kodiak, Saint Paul and Dutch Harbor were sampled by ADF&G personnel. Confidential interviews were conducted with vessel captains to acquire detailed information regarding statistical areas fished, effort and fishery performance. Interview data was supplemented with daily fishing log (DFL) records. Red king crab biological data collected consists of carapace length measurement, average weight, and shell condition determination.

ADF&G port samplers collected data from 194 fishing trips during the 2007/08 season. Landed crabs averaged 6.5 pounds, an increase of 0.1 pound per crab from the 2006/07 fishery average weight. Less than 1% of the crabs delivered were sampled for size and shell condition. Sampling indicated that nearly 68% of the crabs measured were new-shell, compared to over 73% new-shell in 2006/07 (Table 2-7). The decrease in frequency of new-shelled crabs in the landed catch is supported by a small increase in average weight during the 2007/08 season. Average carapace length was 151 mm, the same as during the 2006/07 season. The percentage of recruit-sized crabs in the commercial harvest dropped from 65% in 2006/07 to 57% in 2007/08, also consistent with increased average weight over the prior season.

STOCK STATUS

The status of the Bristol Bay red king crab stock and fishery are evaluated through the use of abundance-based thresholds. When the total mature biomass (TMB) of red king crabs in Bristol Bay falls below the 44.8 million pound minimum stock size threshold (MSST), the stock is considered overfished.

The state harvest strategy for Bristol Bay red king crabs establishes three thresholds that must be met prior to a fishery opening. The first is a threshold abundance level of 8.4 million mature females, the second is an effective spawning biomass (ESB) threshold of 14.5 million pounds, and the third is a minimum TAC threshold of 4.0 million pounds for the IFQ fishery.

The stock has been above MSST for all years that TMB has been computed during 1980-2007 and was above the maximum sustained yield (MSY) biomass level specified in the FMP every year during 1997-2007 except for 2001. Estimated TMB in 2007 (183.9 million pounds) is up slightly from the estimate for 2006 (157.2 million pounds), but comparable to the annual estimates for 2003–2005.

The LBA estimates for mature-sized males and females in 2007 are both slightly higher than for 2006, continuing an increasing trend from the early-to-mid 1990s. The LBA model for 2007 has adjusted downward the estimate for mature-sized female abundance made by the LBA model in 2006 (from 40.469 million crabs as estimated by the 2006 LBA model to 33.383 million as

estimated by the 2007 LBA model). Countering this reduction, the 2007 LBA model estimates that the abundances of male size classes in 2007 were higher than were estimated by the 2006 LBA model. Although far below the levels estimated to have existed in the late 1970s, the 2007 LBA model estimates that abundance of mature males, legal males, and mature females and ESB are each at their highest levels since the early 1980s.

A mode of juvenile-sized crabs centered at approximately 72.5mm CL in the 2005 male and female size frequency distributions and which tracked to a mode centered at approximately 87.5mm CL in the size frequency distribution for each sex in 2006 was anticipated to provide some recruitment to the mature female size class (≥ 90 mm CL) in 2007, but not to provide strong recruitment to the mature male size class (≥ 120 mm CL) until at least 2008. The mode for females did largely recruit to the mature female size class in 2007, whereas the mode for males remains at least one molt away from the mature male size class. However, the 2007 survey data shows little indication of juvenile crabs. Representation of juvenile crabs < 70 mm CL was noted to be poor for both sexes in the 2006 survey as compared to the 2002-2005 surveys and, for the second survey year in a row, the 2007 survey captured few juveniles < 70 mm CL. In fact, the 2007 survey captured few males or females < 90 mm CL relative to the two previous surveys. Hence poor recruitment to the mature female size class for at least the next two years, followed by at least two years of poor recruitment to the mature male size class is anticipated.

KING CRAB REGISTRATION AREA Q BERING SEA

DESCRIPTION OF AREA

The Bering Sea king crab Registration Area Q has as its southern boundary a line from 54° 36' N lat., 168° W long., to 54° 36' N lat., 171° W long., to 55° 30' N lat., 171° W. long., to 55° 30' N lat., 173° 30' E long., as its northern boundary the latitude of Point Hope (68° 21' N lat.), as its eastern boundary a line from 54° 36' N lat., 168° W long., to 58° 39' N lat., 168° W long., to Cape Newenham (58° 39' N lat.), and as its western boundary the United States-Russia Maritime Boundary Line of 1990 (Figure 2-4). Area Q is divided into the Pribilof District, which includes waters south of Cape Newenham, and the Northern District, which incorporates all waters north of Cape Newenham. The Northern District is subdivided into three sections: the Saint Matthew Island Section, which includes waters north of Cape Newenham and south of Cape Romanzof; the Norton Sound Section, which includes all waters north of Cape Romanzof, and south of 66° N lat. and the Kotzebue Sound Section, which encompasses all remaining waters of the district. Registration Area Q includes waters of both the Territorial Sea and EEZ.

PRIBILOF DISTRICT RED AND BLUE KING CRAB

Historic Background

The king crab fishery in the Pribilof District began in 1973, when vessels targeted blue king crabs in the vicinity of Saint George and Saint Paul Islands. The first reported catch in this area was 1.3 million pounds taken by eight vessels between July 1973 and October 1974. The average weight of crabs harvested was 7.3 pounds and CPUE was 26 legal crabs per pot lift. By the 1980/81 season, fishing effort had increased to 110 vessels, that harvested 11.0 million pounds, the highest catch on record. However, by that time the fishery CPUE had dropped to nine legal crabs per pot lift and continued declining to a low of two crabs per pot by the end of the 1986/87 season. Consequently, the harvest dropped to 260,000 pounds, taken by 16 vessels (Table 2-8,

Figure 2-5). Due to this six-year decline in harvest and concurrently low annual population estimates, the blue king crab fishery was closed beginning with the 1988/1989 season and remained closed through the 1994 season (Table 2-9).

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

The 1993 NMFS summer trawl survey of the Bering Sea indicated a marked increase in the abundance of red king crabs around the Pribilof Islands. Although no threshold abundance level for opening the fishery was established for Pribilof District red king crabs, survey results indicated a harvestable surplus of legal-sized male crabs. Consequently, a red king crab fishery in the Pribilof District opened for the first time in September 1993 with a GHL of 3.4 million pounds, however only 2.6 million pounds was taken. In 1994, the Pribilof District was again opened to the commercial harvest of red king crabs with a GHL of 2.0 million pounds, however only 1.3 million pounds was taken by 104 participating vessels.

In 1995, an increase in blue king crab abundance and a continued harvestable surplus of red king crabs resulted in a combined red and blue king crab GHL of 2.5 million pounds. Subsequent declines in red and blue king crab abundance over the next three years resulted in a combined GHL for 1998 of 1.3 million pounds including the CDQ fishery. Poor fishery performance during those seasons resulted in annual harvests below the fishery GHL. From 1999 to 2006/07, blue king crab abundance continued to decline and the Pribilof fishery was not opened.

The economic value of the Pribilof District red king crab fishery peaked at \$13.0 million in 1993 with an exvessel price of \$4.98 per pound, the second highest on record. The value of the Pribilof District blue king crab fishery peaked at \$13.6 million in 1981/1982, with an exvessel price of \$1.50 per pound. Since 1995, the exvessel price of red or blue king crabs has not exceeded \$3.37 per pound. Total value of the fishery declined from \$6.8 million in 1995 to \$2.4 million in 1998 (Table 2-9, Figure 2-6).

ADF&G conducted pot surveys targeting red and blue king crab in the Pribilof District in 2003 and 2005. The objectives of the surveys were to determine the distribution and relative abundance of red and blue king crab in the District and in 2003 to conduct cost-recovery fishing to cover the costs of the surveys and related expenses. A total of 696 pots were pulled during the 2003 survey with an overall legal male red and blue king crab CPUE of less than one crab per pot lift. An additional 202 pots were pulled as part of the cost-recovery effort. Only 146 legal male red king crab were caught and sold for cost-recovery from the Pribilof District, thus the chartered vessel was directed to Registration Area T for the remainder of the cost-recovery efforts. Results of the 2003 pot survey suggest that the highest catches of blue king crabs occurred at stations with low red king crab catches and stations with high red king crab catches had low blue king crab catches. Distribution of red and blue king crabs in the Pribilof District is patchy and stations with high blue king crab catches were interspersed among stations showing greater red king crab abundance. Catches of red and blue during the 2005 survey were lower than those of the 2003 survey.

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

2007/08 Season

The blue king crab fishery in the Pribilof District was not opened in 2007/08 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 2007/08 season.

Stock Status

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

The Pribilof District blue king crab stock remains in “overfished” condition for the sixth year in a row. To be considered rebuilt, the estimated total mature biomass for this stock would need to increase from the current estimate (1.3 million pounds) to 13.2 million pounds. However, this depressed stock continues to show declines with little indications for recovery. Estimated total mature biomass in 2007 is lower than in 2006 and is the second lowest estimate on record. The ADF&G catch-survey analysis (CSA) estimates for abundance of legal males and mature females in 2007 are the lowest estimated for the period 1975-2007; the 2007 CSA estimate for mature-sized males is the second lowest on record. From the results of the 2007 survey, a continued decline in mature male and female abundance should be expected for at least the next two years. Although relatively high numbers of small crab (< 70 mm CL) were caught, mainly at one haul, during the 2005 trawl survey, there was very little representation of those crabs or of any new juvenile crabs in the 2006 or 2007 surveys.

Given the continued low abundance of blue king crabs in the Pribilof District and distribution of the stock ADF&G statistical areas 685700, 685730, 695700, and 695730 were closed to all crab fishing during the 2007/08 season to protect blue king crab. Five of the six haul locations that captured blue king crab in the 2007 NMFS trawl survey were within or on the borders of those four statistical areas.

Because estimated total mature biomass in 2007 is <13.2 million pounds, the stock can not meet the state harvest strategy criteria for opening the fishery in the 2008/09 season.

No formal harvest strategy has been developed for Pribilof District red king crab. The stock has been closed to fishing since close of the 1998 season due to imprecision of abundance estimates and concerns about bycatch of blue king crab. Past fishery and trawl survey data have indicated the potential for significant bycatch of blue king crab during a directed fishery on the Pribilof red king crab stock. Pot surveys performed by ADF&G in 2003 and 2005 and an attempt at cost-recovery fishing on Pribilof red king crab by ADF&G in 2003 corroborated 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 without risking significant bycatch of Pribilof blue king crab.

In general, confidence in the estimates of red king crab abundance in the Pribilof District is low. The low confidence in red king crab abundance estimates in the Pribilof District coupled with the potential for blue king crab bycatch in a red king crab fishery, the lack of a formal harvest

strategy for red king crabs and poor performance of prior red king crab fisheries has contributed to the closure of the red king crab fishery (NPFMC 2004).

SAINT MATHEW ISLAND SECTION BLUE KING CRAB

Historic Background

The commercial blue king crab fishery in the Saint Matthew Island Section of the Northern District was first prosecuted in 1977, resulting in a commercial harvest of 1.2 million pounds. In 1978, the catch increased to almost 2.0 million pounds (Table 2-10). Catches decreased in 1979 and 1980 due to lack of effort. In 1981, several vessels returned to the Saint Matthew Island Section during the Norton Sound Section fishery. Catches were strong, and after the Norton Sound Section closed, additional vessels moved into the Saint Matthew Section, taking 4.6 million pounds of blue king crabs. Catch and effort increased to a peak harvest of 9.5 million pounds in 1983 when 164 vessels participated. In subsequent seasons, catches remained below 4.7 million pounds (Figure 2-7).

NMFS trawl surveys from 1983 to 1998 in the Saint Matthew Island Section indicated a harvestable surplus of blue king crabs ranging from 1.7 to 8.0 million pounds. In 1998, the legal male abundance decreased by 21% from the 1997 level, resulting in a GHL of 4.0 million pounds. The 1998 season closed due to poor fishery performance and observer information indicating a relatively high incidental capture rate of sublegal male and female crabs. The harvest in 1998 was 2.9 million pounds. The CPUE was seven crabs per pot lift, the second lowest CPUE on record. The 1998 season lasted 11 days, the longest since a 17-day opening in 1983 (Table 2-12), when 9.5 million pounds were harvested. From 1999 to 2005/06, abundance estimates for the Saint Matthew Island Section blue king crab stock were low and the fishery remained closed because harvest strategy abundance thresholds were not met.

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

The exvessel price for Saint Matthew blue king crab during the last open season, 1998, averaged \$1.87 per pound, the lowest on record since 1984 and 1985, when fishers received \$1.75 and \$1.60 per pound, respectively. Total value for this fishery peaked in 1983 at \$25.8 million, and since 1994, has not been higher than \$15.0 million (Table 2-11, Figure 2-8). In contrast, the number of vessels participating has generally increased, from 87 in 1994 to 131 in 1998. Average weight per crab has ranged from 4.0 to 5.0 pounds, depending on the percentage of new recruits entering the fishery each year. The average weight per crab during the last fishery, 1998, was 4.7 pounds (Table 2-10).

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

2007/08 Season

The 2007/08 Saint Matthew Island Section blue king crab fishery remained closed because the TAC, calculated from criteria in the BOF harvest strategy, was below the minimum TAC threshold specified in regulation.

Stock Status

The 2007 total mature biomass (TMB) of Saint Matthew Island Section blue king crab was estimated to be 15.6 million pounds, the highest level since the stock was declared overfished in 1999. Although the stock remains below the FMP rebuilt level of 22.0 million pounds, 2007 is the second year in a row that TMB has been estimated as above MSST (11.0 million pounds) and the survey results in 2007 put the stock in the FMP status of “rebuilding,” but not “rebuilt.”

The area-swept and catch-survey analysis (CSA) estimates in 2007 show a continued increase from 2006 of mature-sized male abundance. Males 80 to 104 mm CL that were noted to have appeared in the 2006 survey apparently provided recruitment to the sublegal, mature-sized class (105–119 mm CL) in 2007. The ADF&G CSA estimate of sublegal, mature-sized male abundance increased steadily from 0.369 million crabs in 2005 to 1.646 million crabs in 2007 and the CSA estimates for legal-sized males (≥ 120 mm CL) increased from 0.748 million crabs in 2005 to 1.321 million crabs in 2007. Blue king crabs in the Saint Matthew Island Section are notoriously difficult to survey and apparent trends in abundance may not always track from one year to the next. Abundance estimates can be heavily influenced by the catch in relatively few tows and precision of Saint Matthew blue king crab abundance estimates is generally poor. However, the size-frequency distribution of males in 2007 suggests that an increase in legal-sized male abundance and recruitment to the sublegal, mature-sized males would be expected in 2008. Males were more widely distributed during the trawl survey of 2007 than in recent years; 334 males (55 legal, 90 mature-sublegal, and 189 sublegal-immature) were captured in 30 hauls during the 2007 survey.

ADF&G performs a triennial pot survey for Saint Matthew Island blue king crabs, which can sample areas of important habitat for blue king crabs, particularly females, that the NMFS trawl survey cannot sample. The most recent triennial ADF&G pot survey was completed in August 2007 and preliminary data reported from that survey in comparison with data from the 2004 pot survey corroborate the increasing trend in male abundance indicated by the 2007 trawl survey data. CPUE of legal and sublegal males during the 2007 pot survey were each reported as roughly four times greater than during the 2004 pot survey. Results for females in the 2007 pot survey were particularly notable. High densities (>40 crabs per pot lift) of mature ovigerous females were reported south of Saint Matthew Island in waters <20 fathoms during the 2007 pot survey and the CPUE of females reported from the 2007 pot survey was nine times greater than that for the 2004 pot survey.

PRIBILOF DISTRICT GOLDEN KING CRAB

Historic Background

Golden king crabs are found in commercial concentrations in only a few deep canyons in the Bering Sea and have never sustained large harvests when compared to other Bering Sea king crab fisheries. As with many other crab fisheries in the Bering Sea, the fishery for golden king crabs was pioneered by foreign fishing fleets. A domestic fishery developed during the 1982/83

season after BOF directed ADF&G to regulate fishing for golden king crabs in the Pribilof District by emergency order (ADF&G 1984). By the 1984 season, BOF directed ADF&G to manage the Area Q golden king crab fishery under authority of a commissioner's permit that allowed the fishery to develop and expand into new areas (ADF&G 1985).

The first domestic harvest of golden king crabs in the Bering Sea occurred in June of 1982 when two vessels fished in the Pribilof District. Effort increased to 10 vessels during the following season with a harvest of nearly 70,000 pounds. The size limit for golden king crabs in the Pribilof District was reduced from six and one-half inches to five and one-half inches in 1983. Effort in the Pribilof District peaked during the 1983/84 season when 50 vessels harvested 856,000 pounds of golden king crabs. From 1984 to 1992, no more than two vessels participated each year. Since the 1983/84 season, annual harvest has not exceeded 350,000 pounds (Table 2-13). The Pribilof District golden king crab fishery reached a maximum exvessel value of just over \$1.1 million in 1995, and the highest price fishers received per pound was \$3.99 in 1994 (Table 2-14). During the last nine years in the Pribilof District fishery an average of five vessels have annually harvested an average of 166,000 pounds. CPUE has averaged seven legal crabs per pot lift with an average weight of 4.0 pounds. Most harvest in the Pribilof District has occurred in the area immediately to the south of the Pribilof Islands.

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

In 2000, the Pribilof District golden king crab fishery opened with a 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 the king and Tanner crab fisheries of the Bering Sea and Aleutian Islands and is based on the average harvest from 1983 to 1997. Seven vessels harvested 127,000 pounds in 2000. The 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 crabs, Pacific halibut *Hippoglossus stenolepis*, Pacific cod *Gadus macrocephalus* and snow crabs *Chionoecetes opilio*.

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

The 2003 Pribilof District golden king crab fishery opened on January 1 with a GHLL of 150,000 pounds. Three vessels registered for the fishery and began fishing in late March. A fourth vessel registered in April but did not fish. Because only two processors participated in the fishery, most

harvest information is confidential. The majority of the harvest in 2003 occurred south of Saint George Island near the Pribilof Canyon.

Five vessels registered for the 2004 Pribilof District golden king crab fishery. Fishing effort began in late February and the fishery was closed by emergency order on March 12. Most of the 2004 harvest information is confidential because only two processors purchased the harvest. Catch rates during the 2004 fishery were among the highest on record and the fishery was the shortest ever at approximately three weeks in duration. Most of the 2004 harvest occurred immediately to the south of Saint George Island in the vicinity of the Pribilof Canyon.

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

2007 Season

No vessels registered for the 2007 Pribilof District golden king crab.

Stock Status

The golden king crab population in the Pribilof District is not surveyed and no estimate of abundance has been made. There are no plans to survey this population, nor has a formal harvest strategy been developed. Population size is believed to be limited by the amount of available habitat in the Pribilof District. The fishery is currently managed using a GHL set from the long-term average harvest. Data collected by onboard observers in conjunction with data from the landed catch are used to annually evaluate the status of the stock. Since 2002, the average size of legal male golden king crab taken during the commercial fishery has decreased while CPUE has increased suggesting recruitment to the legal male portion of the stock. Management of the Pribilof 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 adopting new overfishing definitions for BSAI crabs. The new overfishing levels will be implemented for Pribilof District golden king crab beginning with the 2009 season.

NORTHERN DISTRICT GOLDEN KING CRAB

Historic Background

A domestic fishery for golden king crabs in the Saint Matthew Island Section of the Northern District also began in the 1982/83 season. Effort and harvest in the Northern District has been sporadic. Since the initial fishery, harvest has only been documented during ten seasons. Harvest peaked during the 1987 season when 10 vessels harvested over 414,000 pounds (Table 2-15). Since 1988, no more than five vessels have participated during any season. The majority of the golden king crab harvest in the Northern District has occurred west of Saint Matthew Island. There has been no documented harvest of golden king crabs in the Northern District outside of the Saint Matthew Island Section.

At its March 1993 meeting, BOF developed pot limits for all king crab fisheries in the Bering Sea. Current pot limits in the Northern District are set at 60 pots for vessels 125 feet or less in length and 75 pots for vessels greater than 125 feet in length. These pot limits are significantly

lower than the average number of pots fished per vessel in the Aleutian Islands golden king crab fishery, which has no pot limit in place. The Northern District fishery has never been closed by emergency order (Table 2-16).

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

2007 season

The fishery opened January 1 with a GHL range of 10,000 to 20,000 pounds and closed December 31, 2007. No vessels registered to fish for golden king crabs in the Northern District of Area Q in 2007.

Stock Status

The golden king crab population in the Northern District is not surveyed and no estimate of abundance has been made. There are no plans to survey this population, nor has a formal harvest strategy been developed. Population size is believed to be limited by the amount of available habitat in the Northern District. The current GHL range of 10,000 to 20,000 pounds is designed to allow for some exploratory fishing and data gathering. Management of Northern District golden king crabs 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 removed Northern District golden king crab from the FMP providing the state with sole jurisdiction over the fishery.

BERING SEA SCARLET KING CRAB

Historic Background

Scarlet king crabs are harvested under authority of a permit issued by the commissioner of ADF&G authorized in 5 AAC 34.082 PERMITS FOR LITHODES COUESI KING CRAB. Harvest of scarlet king crabs in the Bering Sea has primarily occurred as incidental harvest in the grooved Tanner crab and golden king crab fisheries. Although vessels first registered to fish for Bering Sea scarlet king crabs in 1992, no commercial landings occurred prior to 1995. In 1995, four vessels harvested 26,684 pounds (Table 2-17) and were paid an exvessel price of \$2.45 per pound. Scarlet king crab incidental harvest has been permitted since the species was first commercially exploited by the domestic fleet, however since 2000 incidental harvest has been capped at a rate of 50% of the weight of the target species. Only two vessels participated in 1996, consequently all catch information is confidential. No vessels registered to fish for scarlet king crabs from 1997 to 1999. A single vessel was permitted to retain scarlet king crabs as incidental harvest during the grooved Tanner crab fishery in 2000 and 2001. No vessels registered to retain incidental catch of scarlet king crab in 2002. One vessel registered to retain scarlet king crabs as incidental harvest in 2003 and three registered in 2004 during the Bering

Sea golden king and deep-water Tanner crab fisheries. A single vessel registered for scarlet king crabs during 2005. Due to limited participation in recent incidental fisheries for scarlet king crabs, all harvest information is confidential.

2007 Season

No vessels registered for Bering Sea scarlet king crabs in 2007.

Fishery Management and Stock Status

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

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

BERING SEA TANNER CRAB MANAGEMENT DISTRICT

DESCRIPTION OF AREA

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

BERING SEA TANNER CRAB

Historic Background

The first reported U.S. harvest of Tanner crabs occurred in 1968, incidental to the harvest of red king crabs in Bristol Bay. In 1974, a directed Tanner crab fishery began. Harvest peaked at 66.6 million pounds during the 1977/78 season (Table 2-18). In the fall of 1978, NMFS predicted sharp declines in Tanner crab abundance beginning with the 1978/79 fishing season. As anticipated, Tanner crab stocks declined, and by 1984 the commercial harvest fell to 1.2 million pounds (Figure 2-10). Further stock declines led to a fishery closure during the 1986 and 1987 seasons.

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

to a maximum of 200 pots, while vessels longer than 125 feet in overall length were limited to a maximum of 250 pots.

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

During the 1994 and 1995 seasons, the Bristol Bay red king crab fishery did not open due to low stock abundance. As a result, the Tanner crab fishery opened on November 1 in the Eastern Subdistrict west of 163° W long. The commercial Tanner crab harvest in 1994 was 6.2 million pounds; in 1995 the harvest declined to 4.2 million pounds (Table 2-19).

The GHL for the 1996 Tanner crab fishery was 6.2 million pounds (Table 2-20). Due to poor fishery performance, the fishery was closed before the GHL was reached; a total of 1.8 million pounds was harvested. The average size of crabs harvested in 1996 was 152 mm carapace width (CW). This compares to an average of 149 mm CW observed in 1995.

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

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

When establishing a harvest level, no more than 50% of the exploitable legal-size male abundance may be harvested. Exploitable legal-size male abundance is 100% of new shell and 32% of old-shell male crabs greater than 140 mm CW. The current management plan establishes separate harvest levels for the areas east and west of 166° W long. The BOF eliminated the minimum harvest level for this fishery in spring 2006. If the fishery is not opened because it did not meet threshold requirements, the fishery may reopen the following season, but only half of

the calculated TAC may be taken that year. This safeguard was established to protect against survey bias in the year following a closure due to low stock abundance.

Pre-recruit crab abundance began increasing in 1998 and 1999, but this trend reversed in 2000 and 2001. In addition, the stock remained below fishery threshold level established in the harvest strategy and the fishery was closed from 1999 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° W long. with the TAC set at 1.5 million pounds for the IFQ fishery. In computing the TAC for the area west of 166° W long., the abundance of exploitable legal male Tanner crabs estimated for statistical area 695700 was not included in the TAC computation; although this statistical area accounted for approximately 27% of the exploitable legal male Tanner crabs west of 166° W long. estimated from the 2005 trawl survey, the area was closed to commercial fishing to protect the Pribilof blue king crab stock. The 2005/06 season did not open in the area east of 166° W long. because the TAC as calculated according to the harvest strategy (1.02 million pounds) was below the minimum 4.0 million pound TAC that was in regulation at that time for the area east of 166° W long. Forty-three vessels harvested Tanner crab during the 2005/06 season, but only six of those fished directly on Tanner crab with Tanner crab gear; the remainder harvested incidentally captured legal Tanner crab while directing their fishing on snow crab with snow crab gear. Only 0.791 million pounds of the TAC for 2005/06 was harvested, apparently due to the fact that many harvesters were unaware that the Tanner crab season closed more than a month earlier than the snow crab season.

The 2005/06 season was the first CR Tanner crab fishery. The CR program resulted in a substantial reduction in fleet size compared to the pre-CR fisheries in the early 1990s and a lengthened fishing season. As part of the CR program the pot limit for Bering Sea Tanner crab was raised to 450 pots per vessel however the average vessel operator used less than 200 pots.

After the 2005/06 season the BOF eliminated the minimum TAC for Bering Sea Tanner crabs. The 2006/07 Bering Sea Tanner crab IFQ TAC was set at 1.69 million pounds for the area east of 166° W long. and 0.99 million pounds for the area west of 166° W long. Although the 2006/07 fishery opened on October 15, 2006, most catch and effort in the area east of 166° W long. occurred during January through March 2007. Thirty-seven vessels harvested 1.27 million pounds during the IFQ fishery. Average weight of landed catch in the IFQ fishery in the area east of 166° W long. was 2.4 pounds. Vessels fishing for Tanner crabs east of 166° W long. could direct effort on Tanner crabs with Tanner crab gear or retain Tanner crabs that were captured in king crab gear while directing fishing on Bristol Bay red king crabs, making summaries of catch per unit effort, size frequencies, or bycatch for the entire 2006/07 season difficult to produce or to interpret.

Like the fishery for the area east of 166° W long., most catch and effort in the area west of 166° W long. occurred during January through March 2007, with only limited catch and effort during October and November 2006. Thirty-eight vessels harvested 0.633-million pounds during the IFQ fishery. Average weight of landed catch in the area west of 166° W long. was 2.1 pounds. Vessels fishing for Tanner crabs in the area west of 166° W long. could direct effort on Tanner crabs with Tanner crab gear or retain Tanner crabs that were captured in snow crab gear while directing fishing on snow crabs, making summaries of catch per unit effort, size frequencies, or bycatch for the entire 2006/07 season difficult to produce or to interpret.

Harvesters were paid an average price of \$1.29 per pound for Bering Sea Tanner crabs for a total fishery value of \$2.4 million for the 2006/07 season.

2007/08 Season

The 2007/08 Bering Sea Tanner crab TAC was set at 3.10 million pounds for the area east of 166° W long. and 1.96 million pounds for the area west of 166° W long. The fishery opened on October 15 and closed by regulation on March 31. Most fishing effort occurred in January through March with limited effort before January 1, 2008.

Twenty vessels harvested 1.4-million pounds during the IFQ fishery east of 166° W long. Average weight of landed catch in the IFQ fishery in the area east of 166° W long. was 2.3 pounds and average CPUE was 20 legal crabs per pot lift. Vessels fishing for Tanner crabs in the area east of 166° W long. could direct effort on Tanner crabs with Tanner crab gear or retain Tanner crabs that were captured in king crab gear while directing fishing on Bristol Bay red king crabs, making summaries of catch per unit effort, size frequencies, or bycatch for the entire 2007/08 season difficult to produce or to interpret. The most productive fishing areas for Tanner crabs east of 166° W long. were found in southwestern Bristol Bay.

Timing of the fishery in the area west of 166° W long. was similar to that of the eastern fishery with most harvest occurring January through March. The fleet of 31 vessels harvested 0.47 million pounds. CPUE was 11 legal crab per pot and the average weight of retained crabs was 2.2 pounds. The most productive fishing grounds in the western area were found immediately to the south of the Pribilof Islands and further southeast along the 166th parallel (Table 2-21).

Total Bering Sea Tanner crab harvest during the 2007/08 season was only 1.9 million pounds, or less than one half of the TAC. Harvesters were paid an average exvessel price of \$1.68 per pound for a total fishery value of \$3.2 million. Limited harvest during the Bering Sea Tanner crab fishery is likely due to several factors including season overlap with the more valuable snow crab fishery and low catch rates relative to that fishery.

Port Sampling

Bering Sea Tanner crabs taken during the 2007/08 season were delivered in Dutch Harbor, Akutan and King Cove. ADF&G port samplers collected data from 37 Tanner crab landings. Landed crabs averaged 2.3 pounds, the same as during the 2006/07 season. Average size and shell condition information from the 2007/08 season are not currently available (Table 2-22).

Stock Status

Estimated TMB for the Bering Sea Tanner crab stock in 2007 is 251.1 million pounds, which is similar to the 2006 estimate. The estimates of TMB for 2006 and 2007 are the two highest since 1994 and represent a sharp increase from the estimates for 2005 (162.0 million pounds) and 2004 (87.5-million pounds). Both the 2006 and 2007 estimates of TMB are above the rebuilt level of 189.6-million pounds.

ADF&G's area-swept estimates of mature-sized (>79mm CW) females in 2007 is 50.536 million crabs. That estimate is below the estimate for 2006 (65.500 million crabs), but is well above the estimates for 1996–2004. The ADF&G area-swept estimate of legal-sized males in 2007 (9.166 million crabs) is slightly lower than the estimates for 2005 (10.954 million crabs) and 2006 (11.141 million crabs), but is well above those for 1997–2004. ADF&G's area-swept estimate of mature-

sized (>112 mm CW) males in 2007 (64.772 million crabs) is comparable to that for 2006 (65.793 million crabs), but above those for 1996–2005, particularly for the period 1997–2002.

From 1996 through 2003, most of the mature-sized (>112 mm CW) males occurred in the area east of 166° W long. Since 2004, however, a majority of the estimated abundance of mature-sized males has occurred west of 166° W long. In 2007, the area west of 166° W long. accounted for 57% of the estimated abundance of mature-sized males. Legal-sized males, however, have been more evenly distributed relative to the 166° W longitude line and, in fact, the area east of 166° W long. accounted for the majority (58%) of the estimated abundance of the legal-sized males. Old-and-older shelled crabs, which presumably represent terminally-molted crabs, dominated the legal-sized males in the Eastern Subdistrict during the 2006 survey; approximately 80% of the legal males in 2006 were in old- or older-shell condition. During the 2007 survey, incidence of old- or older-shelled legal males was slightly lower: an estimated 60% of the legal males east of 166° W long., and 64% of the legal males west of 166° W long. were in old- or older-shell condition.

BERING SEA SNOW CRAB

Historic Background

The first commercial landings of snow crabs from the Bering Sea were recorded in 1977, incidental to the harvest of Tanner crabs. In 1981, a reduction in the Tanner crab harvest resulted in increased snow crab harvest. The harvest of snow crabs fell from 52.8 million pounds in 1981 to 26.1 million by 1983 (Table 2-23, Figure 2-11). In 1984, harvest increased slightly, and in 1985, 65.4 million pounds were landed. In 1986, the harvest increased to 97.7 million pounds. The commercial catch continued to increase annually to a high of 328.6 million pounds in 1991. Although the stock began to decline, the harvest of snow crabs remained over 100 million pounds through the 1994 season. In 1996, the harvest declined to 65.7 million pounds, the lowest since 1984. The GHL more than doubled in 1997 to 117.0 million pounds and the fleet harvested 119.5 million pounds. In the 1998 general fishery (non-CDQ snow crab fishery), 229 vessels harvested 243.5 million pounds.

The NMFS stock assessment survey in 1998 estimated large male snow crabs declined by 17% from the prior year's survey, resulting in a general fishery GHL of 186.2 million pounds. Two hundred and forty one vessels landed 184.7 million pounds during the 1999 general fishery, ending on March 22.

In 1999, the surveyed stock was 60% of the minimum stock size threshold, defined as half the long term average mature biomass established in the FMP for Bering Sea and Aleutian Islands king and Tanner Crab (NPFMC 1998). In response to significant stock decline, ADF&G initially reduced the 58% exploitation rate on 102 mm CW and larger male snow crabs by 50%. The revised 29% exploitation rate would still have resulted in a removal rate from the estimated mature biomass close to the long-term average. Thus, in accordance with NMFS guidelines for stock rebuilding, the harvest rate was reduced by an additional 25% to 22%, which also took into consideration handling mortality during the fishery and high natural mortality during the six month hiatus between the survey and the fishery opening. This reduction in exploitation rate resulted in a GHL of 28.5 million pounds for the 2000 season, with 26.4 million pounds available to the general fishery and 2.1 million pounds allocated to the CDQ fishery.

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

The 2000 general fishery opened at noon on April 1 and closed at noon on April 8 (Table 2-24). A total of 229 vessels, including nine catcher-processors, registered and received tank inspections in Akutan, Dutch Harbor, King Cove, and Saint Paul Island. In addition, five floating processors registered to purchase and process crabs on the grounds during the fishery. In 1999, 241 vessels, including 10 catcher-processors, participated along with 11 floating processors.

Due to the relatively small GHL, management of the 2000 fishery was based on daily inseason reports from fishers. A total of 75 vessel operators or 33% of the fleet reported numbers of pots fished and number of crabs retained daily. Reports were received via marine telex and over single side band radio every 24 hours and were used to generate inseason estimates of harvest.

The 2000 snow crab harvest of 30.77 million pounds exceeded the 26.4 million pound general fishery GHL by 17% and the fishery CPUE was 137 retained crabs per pot compared to 160 in 1999.

Based on inseason reports, fishers made a total of 170,064 pot pulls throughout the course of the seven-day 2000 fishery. The average number of pot pulls per day was 24,700 and ranged from 2,241 on the first day of the fishery to 43,905 on the day of the closure. In comparison, the 1999 fishery lasted 66 days and the average number of pots pulled per day was 13,621.

Harvest from the Eastern Subdistrict was 20.94 million pounds from 217 landings, or 68% of the total harvest (Table 2-25). In recent years the majority of the harvest has occurred in the Eastern Subdistrict. Total harvest from the Western Subdistrict was 9.83 million pounds from 92 landings. The majority of the Eastern Subdistrict harvest came from six statistical areas surrounding the Pribilof Islands. The majority of the harvest in the Western Subdistrict came from four statistical areas along the 100 fathom depth contour, between 173° and 174° W long. In both subdistricts the majority of the harvest came from areas which have, in recent years, contributed the majority of the harvest.

Analysis of observer and dockside sampling data indicated an average weight of 1.3 pounds for crabs landed during the 2000 fishery. New-shell crabs made up 95.2% of the harvest. In 1999, new-shell crabs made up 97.7% of the harvest and the overall average weight was 1.3 pounds. Crabs less than 102 mm CW made up 6.5 percent of the 2000 harvest (Table 2-26).

The exvessel price for snow crabs harvested in the 2000 fishery was two-tiered due to concerns for higher than normal old-shell crabs expected in the catch. Fishers were offered \$1.85 per pound for new-shell crabs and \$1.00 per pound for old-shell crabs. Fishers reported encountering high percentages of old-shell crabs in the first two days of the fishery, but thereafter located areas which contained predominantly new-shell crabs. As a result, less than 10% of crabs landed were old-shell animals. Based on an average exvessel price of \$1.81 per pound, the 2000 snow crab fishery was worth \$55.1 million. This compares to an exvessel price of \$0.88 per pound and an overall fishery value in excess of \$160 million in 1999 (Table 2-27).

Analysis of the 2000 National Marine Fisheries Service summer trawl survey of the Eastern Bering Sea indicated a 19% decrease in the abundance of large male (≥ 102 mm CW) crabs from the 1999 survey. However, small male (< 102 mm CW) and large female (≥ 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 crabs that is dependant on estimated spawning biomass and that would rebuild the stock. 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 27.3 million pounds with 25.3 available to the general fishery and 2.0 million pounds allocated to the CDQ fishery.

The 2001 Bering Sea snow crab general fishery opened by regulation at noon on January 15 and closed by emergency order at 11:59 p.m. on February 14. The fleet harvested 23,382,046 pounds, or 92% of the GHL. A total of 207 vessels, including 7 catcher-processors participated in the 2001 fishery. The average exvessel price per pound in 2001 was \$1.53, resulting in a total fishery value of \$32.1 million, a significant decrease from the 2000 fishery value of \$55.1 million.

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

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

The 2002 Bering Sea snow crab general fishery opened by regulation at noon on January 15 and closed by emergency order at noon on February 8. Total harvest was 30,233,494 pounds, exceeding the general fishery GHL by 1.7 million pounds (6.1%).

A total of 191 vessels, including eight catcher-processors, participated in the 2002 fishery. Three floating processors also registered and purchased crabs on the grounds during and after the fishery. A total of five shore-based processors in Dutch Harbor, two in Saint Paul, one in King

Cove and two in Kodiak also purchased and processed snow crabs. In addition, two catcher-processor vessels purchased snow crabs from catcher vessels after the fishery.

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

Given the estimated total mature biomass of 313.0 million pounds and harvest strategy requirements, the GHL was set using an 11.5% exploitation rate. The resultant 2003 Bering Sea snow crab GHL was 25.61 million pounds with 23.69 million pounds available to the general fishery. The remaining 1.92 million pounds were allocated to the CDQ fishery.

The 2003 Bering Sea snow crab general fishery opened by regulation at noon on January 15 and closed by emergency order at 6:00 a.m. on January 25. Fish ticket data indicate a harvest of 26.2 million pounds, which exceeds the general fishery GHL by 2.5 million pounds (10.6%). A total of 192 vessels, including five catcher processors participated in the 2003 fishery. Three floating processors also registered and purchased crabs on the grounds during and after the fishery. A total of six shore-based processors in Dutch Harbor, two in Saint Paul, one in King Cove and one in Kodiak also purchased and processed snow crabs. In addition, two catcher processor vessels purchased snow crabs from catcher vessels after the fishery.

The estimated average weight of crabs landed during the 2003 fishery was 1.2 pounds, a slight decrease from the 2002 average weight of 1.3 pounds. Port sampling data does not indicate a significant difference in average weight between crabs harvested in the Eastern and Western Subdistricts (Table 2-25). In 2003, relatively little of the snow crab harvest occurred in the Eastern Subdistrict, a sharp contrast to the fisheries of the 1990s when the majority of the harvest occurred east of 173° W long. During 2003, approximately 4.9 million pounds (19%) of snow crabs were harvested east of 173° W long.

As in 2002, representatives of the snow crab fleet voted to accept a price offer from processors prior to the start of tank inspections. The fleet voted to accept \$1.85 per pound for new-shell crabs that were four inch and greater CW, a substantial increase from the 2002 price of \$1.40 per pound. In contrast to 2002, the fleet did not encounter large numbers of old or very old shell crabs on the grounds (Table 2-26) resulting in an average exvessel price of \$1.83 per pound and a total exvessel value of nearly \$47.0 million, an increase from the 2002 exvessel value of \$44.2 million (Table 2-27).

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

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

Based upon the GHL, regulatory pot limits for vessels under 125 feet in overall length were limited to 70 pots and 90 pots for vessels over 125 feet in overall length. The fleet purchased a total of 14,460 buoy tags, which was a decrease from a total of 20,452 buoy tags purchased in 2003.

The 2004 Bering Sea snow crab general fishery opened by regulation at noon on January 15 and closed by emergency order at 10:00 p.m. on January 23. Fish ticket data indicate a harvest of 22.2 million pounds, exceeding the general fishery GHL of 19.27 million pounds by 2.9 million pounds (15%).

During the vessel tank inspection process over 50% of the fleet volunteered to make daily catch and effort reports to the department. A total of 189 vessels participated in the 2004 fishery. The overall CPUE was 157 crabs per pot lift from 110,087 pot lifts.

ADF&G dockside sampling staff was present at 112 of the landings made by vessels without observer coverage to collect confidential interviews and biological data during offloads. Approximately 2% of the crabs from the 2004 fishery were sampled generating an average estimate of 1.31 pounds per crab. Less than 1% of the crabs delivered were sampled for carapace width and shell condition. Average carapace width for sampled crabs was 110.4 mm, and 10.2% were less than 102 mm CW. Of the measured crabs, 86% were new shell, 13% old shell and 1 % very old shell.

Three floating processors registered and purchased crabs on the grounds during and after the fishery. Six shore-based processors in Dutch Harbor, two in Saint Paul, one in King Cove and two in Kodiak also purchased and processed snow crabs. In addition, two catcher processor vessels purchased snow crabs from catcher vessels after the fishery. Processors paid an average price of \$2.05 per pound for a total fishery value of \$44.99 million.

Analysis of the 2004 National Marine Fisheries Service summer trawl survey of the Eastern Bering Sea indicated a 4% increase in the abundance of large male (≥ 102 mm CW) crabs when compared to the 2003 survey. Small male (< 102 mm CW) abundance decreased 2% and large female (≥ 50 mm CW) abundance increased 32%. TMB of snow crab in the Bering Sea is estimated to be 343.7 million pounds which is below the minimum stock size threshold of 460.8 million pounds and is an increase from the 2003 TMB estimate of 306.2 million pounds.

Given the estimated total mature biomass of 343.7 million pounds and harvest strategy requirements, the GHL was set using an 11.5% exploitation rate. The 2005 Bering Sea snow crab GHL was 20.93 million pounds with 19.36 million pounds available to the general fishery. The remaining 1.57 million pounds were allocated to the CDQ fishery. The general fishery opened at noon on January 15 and closed by emergency order at 11:59 p.m. on January 20. Fish ticket data indicate a harvest of 23.04 million pounds, which exceeds the general fishery GHL by 3.67 million pounds (19%). Fishery CPUE was 239 retained crabs per pot, the highest on record.

A total of 169 vessels registered for the 2005 fishery. Two floating processors registered and purchased crabs on the grounds during and after the fishery. Six shore-based processors in Dutch Harbor, two in Saint Paul, one in King Cove, and one in Kodiak also purchased and processed snow crabs. In addition, one catcher processor vessel purchased snow crabs from catcher vessels after the fishery.

The fleet accepted \$1.80 per pound for new-shell crabs that were four inches and greater in carapace width, a decrease from the 2004 price of \$2.05 per pound. The fleet did not encounter

large numbers of old or very old shell crabs on the grounds resulting in an exvessel price of \$1.80 per pound and an exvessel fishery value of \$41 million, a slight decrease from the 2004 exvessel fishery value of \$45 million.

The first rationalized season for snow crab (2005/06) opened on October 15, 2005 with an IFQ TAC of 33.5 million pounds and 78 vessels participating. A total of 33.3 million pounds were harvested. Average weight of harvested crabs was 1.51 pounds, 11% greater than the preseason estimate (1.35 pounds) and greater than any average weight for this fishery since 1981. Harvests in the 2005/06 season were reported from more than 40 different statistical areas, but 82% of the total pot lifts and 89% of the total harvest occurred in just 10 statistical areas. The single statistical area with the greatest effort (18,823 pot lifts) and largest catch (5.84-million pounds) was statistical area 715630, which accounted for 16% of the season's total harvest. Harvest from the Eastern Subdistrict (i.e., east of 173° W long.) accounted for 62% of the total snow crab harvest and 71% of the harvest was from areas south of 58°30' N latitude. In general, harvest location has shifted to the southeast compared to the 2000-2005 seasons.

Total fishery CPUE for retained legal crabs in the 2005/06 fishery was 204 crabs per pot, which was lower than that for the pre-rationalized 2005 general fishery (239 crabs per pot), but which was otherwise the highest CPUE since the 1999 season. Estimated average soak time for the 2005/06 season was 65 hours (Barnard and Burt 2007) as compared to 21 hours for the pre-rationalized 2004 and 2005 general fishery seasons (Burt and Barnard 2006, Barnard and Burt 2006). Compared to the short (≤ 9 days) general fisheries of the pre-rationalized 2003-2005 seasons, the 2005/2006 season was prolonged and had varying levels of vessel participation, catch, effort, and catch rates over a 7.5-month period.

The 2006/07 season opened on October 15, 2006 with an IFQ TAC of 32.9 million pounds. Sixty nine vessels participated and harvested a total of 32.7 million pounds. Total effort was approximately 80,000 pot lifts for the IFQ fishery and the CPUE was 332 crabs per pot, a value more than 60% higher than that of the 2005/06 season and which is the highest in the record of the fishery. On average each vessel operator used 157 pots compared to 176 pots during the 2005/06 season. Estimated average soak time during the 2006/07 season was 63 hours, which was comparable to the estimated average soak time during the 2005/06 season (65 hours), but three times greater than the average soak times for the pre-rationalized 2004 and 2005 general fishery seasons (21 hours). First landings were made in early November 2006 and landings continued into early May 2007; most of the harvest occurred during mid-January through mid-April 2007. On average each snow crab vessel was registered for 36 days compared to 42 days during the 2005/06 season.

Processors paid an average price of \$1.40 per pound for Bering Sea snow crabs during the 2006/07 season for a total fishery value of \$36.85 million.

2007/08 Season

The 2007/08 Bering Sea snow crab season opened on January 15 with an IFQ TAC of 56.7 million pounds. Seventy eight vessels participated in the fishery and harvested 56.7 million pounds.

Catch rate during the 2007/08 season was the highest ever recorded at 349 retained crabs per pot lift. Catch rates in the snow crab fishery have increased since the beginning of the CR program

in 2005/06 and are likely due to changes in fishing practices that maximize efficiency as well as increasing snow crab abundance since 2005.

The snow crab fleet utilized 13,647 pots during the 2007/08 season, an average of 175 pots per vessel, a 11.5% increase from the 2006/07 level of 157 pots per vessel. Pot soak times have increased under the CR program and tend to average longer than two days in the snow crab fishery.

The average snow crab vessel was active in the fishery for 48 days during the 2007/08 season compared to 36 days in 2006/07. This increase is directly attributable to an increase in TAC from 2006/07 to 2007/08. Consistent with prior CR snow crab fisheries, peak harvest timing occurred in late January and continued through the end of February. Most fishing activity was concluded by early May (Table 2-28).

Average carapace width and shell condition data are not available for the 2007/08 season, however the average weight of landed crabs was 1.3 pounds, a 0.1 pound increase over the 2006/07 season. Snow crabs tended to be slightly smaller in the Western Subdistrict than the Eastern Subdistrict where over 90% of the harvest occurred (Table 2-29).

Harvesters were paid an average price of \$1.60 per pound for snow crabs generating a total exvessel fishery value of \$89.96 million making the 2007/08 Bering Sea snow crab fishery the most valuable since 1999.

Port Sampling

ADF&G port samplers stationed in Dutch Harbor, Saint Paul, Kodiak, and King Cove collected biological data from 256 landings during the 2007/08 snow crab fishery. Sampled crabs averaged 1.3 pounds live weight, a 0.1 pound increase from the 2006/07 average weight. Average size and shell condition data for the 2007/08 fishery are not currently available.

Stock Status

The area-swept estimate of Bering Sea snow crab TMB in 2007 (610.7-million pounds) was slightly above that for 2006 (547.6-million pounds), but is identical to that for 2005. The area-swept estimate of TMB in 2007 is below the rebuilt level, but shows a slowly increasing trend from below MSST in 2002 to values above MSST in 2005–2007. There is the hopeful sign from the 2007 survey that, since 1999, 2007 is the first year that estimated TMB has been above MSST for 3 years in a row.

The abundance estimate for males ≥ 4 inches CW in 2007 (150.9 million crabs) is comparable to the area-swept estimate for 2005 (143.9 million crabs). The estimate is the greatest since the stock was declared overfished in 1999 and is approximately two times greater than the annual estimates for 2000–2004, which ranged from 65.2 million crabs to 79.3 million crabs. The abundance estimate for males 78-101 mm in CW in 2007 (344.25 million crabs) is also the highest estimate for this sex-size class since the stock was declared overfished and compares to estimates of 288.4 million crabs in 2006, 284.1 million crabs in 2005, and 106.2 million crabs in 2004. Estimated abundance of males < 78 mm CW in 2007 (1,158.6 million crabs) is comparable to the estimate for 2006 (1,106.9 million crabs) but lower than the estimate for 2005 (1,911.2 million); although the 2007 estimate is greater than each of the annual estimates for 1997–2000 (ranging from 396.8 million crabs to 916.5 million crabs), it is lower than or comparable to 5 out of the 6 annual estimates for 2001–2006. The abundance estimate for females ≥ 50 mm CW in

2007 (1,244.4 million crabs) is slightly above that for 2006 (1,045.5 million crabs), but is low relative to that for 2005 (1,630.8 million crabs); during 1999–2006, estimated abundance of females ≥ 50 mm CW has ranged from 510.5 million (for 2002) to 1,630.8 million (for 2005). The abundance estimate of females < 50 mm CW in 2007 (434.05 million crabs) continues a four year declining trend in annual estimates for this sex-size class (from 1,869.2 million crabs in 2004, 1,381.5 million crabs in 2005, and 669.8 million crabs in 2006). Over the period 1986–2007, the estimated abundance of females < 50 mm CW in 2007 is lower than that for each annual estimate except those for 1999 (320.7 million crabs) and 2002 (180.5 million crabs).

The 2007 snow crab assessment model (Turnock and Rugolo 2007) estimates TMB, mature female biomass, mature male biomass, and abundance of males ≥ 4 inches (102 mm) CW to have steadily increased from 2003 through 2007 and each is at the highest level since 1999 or 2000. The model's "survey estimate" of TMB is 600 million pounds, or 65% of B_{MSY} (921.6 million pounds), and above MSST (460.8 million pounds). Additionally, the model projects total mature biomass to increase in the next few years. However, the model projects total mature biomass to subsequently decrease due to recent low recruitment of juveniles and the model projects that the stock would not reach the rebuilt level by 2010 under the harvest strategy currently in regulation or under two alternative harvest rules examined ($F_{35\%}$ and $F_{40\%}$).

BERING SEA GROOVED TANNER CRAB

Historic Background

In 1988, BOF established a special permit season for deepwater Tanner crabs. However, no commercial harvest of grooved Tanner crabs from the Bering Sea occurred until 1992. In 1993, ADF&G restricted the harvest to male crabs with a CW of 127 mm (5 inches) or greater. Six vessels harvested just under 659,000 pounds. The following year, differential pot limits, based on vessel size, were applied to vessels fishing for deepwater Tanner crabs in the Bering Sea. Effort and landings consequently decreased as four vessels harvested slightly over 322,000 pounds (Table 2-30).

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

In 1997, ADF&G set GHs for grooved Tanner crabs that were based on prior harvest information. In the past, the Bering Sea, Alaska Peninsula, and Eastern Aleutian districts supported the largest catches of grooved Tanner crabs. A GH of 200,000 pounds was

established for each of these districts. A GHL of 100,000 pounds was established in the Kodiak and Western Aleutian districts to allow for exploratory fishing. Additionally, due to concerns about handling mortality on undersized and female deepwater crabs caught and released, ADF&G began to require a minimum of two escape rings per pot with a minimum inside ring diameter of 4.5 inches.

Given fishery performance and declining harvests of the mid 1990s, the department reevaluated deepwater Tanner crab harvest levels in 1999. A GHL range of 50,000 to 200,000 pounds was established for the Bering Sea District. The GHL was set as a range to provide greater flexibility for inseason management and to better inform the public of the department's management goals for the fishery. The fishery is managed so that the upper end of the GHL range is reached only when catch rates similar to or greater than those documented prior to the harvest declines of the mid 1990s are observed. In addition to new GHL requirements, the department specified that four 4.5" escape rings be placed on the lower third of each pot and required that pots be fished over multiple depth strata. Since 1994, observers have been deployed to collect biological and fishery data on each vessel registered for the fishery.

2007 Fishery

There were no vessels registered to fish for grooved Tanner crab in the Bering Sea during 2007.

Stock Status

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

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

BERING SEA TRIANGLE TANNER CRAB

Historic Background

Historically, triangle Tanner crabs were taken as incidental harvest in the grooved Tanner crab fishery. Vessel operators have verbally reported retention of triangle Tanner crabs before 1994. To obtain biological information on grooved Tanner crabs, ADF&G implemented 100% onboard observer coverage in 1994. That year, onboard observers documented a single incidence of triangle Tanner crab bycatch, but prior to 1995, this species had not been commercially harvested. In 1995, four vessels registered to retain triangle Tanner crabs, and harvested 40,991 pounds for a total fishery value of \$60,000 (Table 2-31). In 1996, 2000, and 2001, only one vessel delivered triangle Tanner crabs as incidental harvest each year. No vessels registered to fish triangle Tanner crabs in the Bering Sea District in 1997, 1998, 1999, or 2002 (Table 2-31). Four vessels registered to retain triangle Tanner crab incidentally taken during the Pribilof District golden king and Bering Sea

grooved Tanner crab fisheries in 2004. There were no vessels registered to fish for triangle Tanner crabs in the Bering Sea District during 2005 and 2006.

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

2007 Fishery

There were no vessels registered to fish for triangle Tanner crabs in the Bering Sea District during 2007.

Stock Status

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

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

MISCELLANEOUS SHELLFISH SPECIES BERING SEA

DESCRIPTION OF AREA

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

INTRODUCTION

Miscellaneous shellfish species include hair crabs *Erimacrus isenbeckii*, green sea urchins *Strongylocentrotus droebachiensis*, red sea cucumbers *Parastichopus californicus*, snails *Neptunea* and *Buccinum* spp., octopus *Octopus dofleini*, and *Paralomis multispina*, a deepwater crab closely related to king crabs. These species have been harvested in relatively small amounts when compared to the commercial king and Tanner crab fisheries in the Bering Sea. Prior to 1999, commercial fishing for miscellaneous shellfish species was allowed under authority of a commissioner's permit described in 5 AAC 38.062. PERMITS FOR OCTOPI, SQUID, HAIR CRAB, SEA URCHINS, SEA CUCUMBERS, SEA SNAILS, CORAL, AND OTHER MARINE INVERTEBRATES. Typical permit conditions were general and not fully developed on an individual species basis. Fisheries for miscellaneous shellfish species occurred without prior knowledge of stock abundance or distribution and no harvest limits were established. More recently ADF&G has developed species-specific permit terms when sufficient information has been available to do so. ADF&G will only register vessels for those fisheries with an established GHL, or when sufficient data to develop a conservative GHL can be collected.

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

BERING SEA HAIR CRABS

Description of Area

The Bering Sea hair crab fishery is prosecuted in an area that includes all waters north of 54° 36' N lat., south of 60° N lat., east of the United States-Russia Maritime Boundary Line of 1990, and west of 168° W long. (Figure 2-13). There is no formal hair crab registration area established in regulation; rather, the fishing area is set using the terms of a commissioner's permit.

Historic Background

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

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

In 1996, due to a steady increase in the number of vessels participating in this fishery, the Alaska Legislature authorized the Commercial Fisheries Entry Commission (CFEC) to regulate vessel licenses in the Bering Sea hair crab fishery. Vessel qualification was based on participation in at least one of the qualifying years from 1992 to 1995. Licenses were issued to 23 vessels for those waters beyond five nautical miles of Saint George and Saint Paul Islands. Also included in this legislation were provisions which allow any vessel 58 feet and under to fish within five nautical miles of Saint George and Saint Paul Islands. In addition, it was the intent of the Legislature, expressed in the 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 in season. Catch reports from processors are used to verify estimates generated from observer data. Reports from fishers provide information regarding distribution of crabs, gear conflicts, weather, and other fishing conditions.

Participation and harvest in the Bering Sea hair crab fishery has varied greatly over the history of the U.S. fishery. Effort and harvest reached a peak of 67 vessels and 2.4 million pounds in 1980/81 when the fishery was prosecuted as an incidental harvest fishery during the Tanner crab season (Table 2-32, Figure 2-14). Between 1985 and 1990, effort was minimal due to low stock abundance.

Since the 1996 CFEC moratorium, effort dropped from 19 participating vessels in 1996 to 3 vessels in 2000. In the 1990s, harvest reached a peak of 2.3 million pounds in the 1993/94 season. Total fishery value peaked in 1995 at \$5.7 million (Table 2-33). Since 1995, both effort and GHL have been declining. During the 2000 season, only 1,546 pounds of hair crabs were harvested, for a fishery value of \$5,000.

Since the establishment of the year-round permit fishery in the Bering Sea in 1984, average weight and CPUE have also fluctuated significantly. The highest CPUE of 10 crabs per pot was recorded in 1991, while CPUE dropped to less than one crab per pot during the spring 1993 and 2000 seasons. Average weight of retained hair crabs was highest during the early years of the U.S. fishery at 2.1 pounds, but decreased to 0.9 pound in 1991. In the late 1990s, the average weight of retained hair crabs was approximately 1.6 pounds (Table 2-32).

Beginning in 1993, the hair crab fishing season opening date was set at November 1, which conflicted with the Bristol Bay red king crab fishery. In 1998, ADF&G solicited comments from industry regarding a new opening date. A consensus was reached that the fishery would open 10 days after the closure of the Pribilof District or Saint Matthew Island Section king crab fisheries, whichever closed later. The fishery opened on October 8 in 1998. In 1999, BOF changed the Bristol Bay red king crab season opening to October 15; thus the hair crab fishery was again in conflict. Consensus was reached with industry to conduct the fishery 10 days after the closure of the Bristol Bay red king crab fishery. Subsequently, in 1999 and 2000, the hair crab season opened on October 30. No fisheries for hair crab have occurred since the start of the Crab Rationalization (CR) program. It is likely that future fisheries for hair crab in the Bering Sea would open on October 15 and may continue until March 31.

The GHL for Bering Sea hair crabs is established using results of the NMFS Bering Sea trawl survey. Since there are no registration areas, districts, or sections established in regulation for hair crabs, survey results are described in terms of Bering Sea king crab registration areas, districts and sections (Figure 2-4). Because confidence in the results of this survey is relatively low, a 20% fishery exploitation on large males rate has been used to determine the GHL. Male hair crabs ≥ 83 mm in CW are defined as legal crabs in the commissioner's permit for this fishery.

Typically, the majority of legal-sized male hair crabs encountered during the trawl survey have been found in the vicinity of the Pribilof Islands and the fishery harvest has occurred primarily in the area east of Saint Paul Island. During the 1999 survey, however, 65% of the large male hair crab population in the Bering Sea was found in the Northern District instead of the traditional Pribilof District. Subsequently, in 2000, the Pribilof District was closed to commercial hair crab fishing due to low stock abundance, and for the first time, a directed hair crab fishery was opened in the Northern District of king crab Registration Area Q. Given the experimental nature of the fishery, the low abundance of small male crabs found during the 2000 survey, the relative size of the stock, and lack of fishery data from the Northern District, the harvest rate was set conservatively at 10% of the estimated large male hair crab abundance. As a result of low stock abundance, the Bering Sea was closed to hair crab fishing from 2001 to 2005.

In 2003, CFEC instituted a vessel-based limited entry program for the Bering Sea hair crab fishery and issued hair crab permits to qualified vessel owners. Thirteen permits have been issued and three others may be issued to qualified entities. The existing vessel-based limited entry program is due to sunset on December 30, 2008, however, legislation is pending in the Alaska Legislature.

2007 Season

The 2007 Bering Sea hair crab fishery was closed in both the Northern and Pribilof Districts due to low stock abundance.

Stock Status

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

Population trends observed during the last eight years and weak performance of the most recent commercial fisheries indicate that the Bering Sea hair crab population is severely depressed and is unable to sustain a commercial fishery. Precise estimates of total female and small male hair crab abundance have never been available from current trawl survey data. In general, the biology and habitat usage of hair crabs makes them difficult to survey with trawl gear. Large male abundance is thought to be better estimated because general recruitment trends can be followed in the survey results and fishery harvests.

BERING SEA OCTOPUS

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

Since 1995, registered vessels for incidental octopus harvest in the BSAI has ranged from 22 vessels in 1999 to a high of 92 vessels in 2004. Landed octopus harvest ranged from 409 pounds in 1999 with a peak of 143,798 pounds in 2005. Total annual octopus harvest has varied since its inception as incidental harvest in other BSAI fisheries. In 2007, only 4 vessels participated and landed just under 2,000 pounds, a 97% decrease from 2006 (Table 2-34).

Verbal reports from fishers and processors indicate that market interest in octopuses increased in the 2002-2004 period and that some fishers operated to increase their incidental harvest of octopuses while remaining below the maximum retainable amount. The department intends to closely monitor effort in the octopus fishery as well as the spatial and temporal distribution of the incidental harvest.

PARLOMIS MULTISPINA

Fishing for *P. multispina* is managed under the terms of a commissioner's permit. Although one vessel was registered to fish for *P. multispina* in 1995, no commercial harvest was reported. One vessel, for which landing data is confidential, participated in the 1996 fishery. No vessels requested commissioner's permits to fish for *P. multispina* in the Bering Sea District from 1997 through 2007. Given the lack of available data on this stock, the department will not issue permits allowing harvest of *P. multispina*.

SEA CUCUMBERS AND SEA URCHINS

ADF&G annually issues a news release announcing the GHL for red sea cucumbers and green sea urchins in the Westward Region. The season in the Bering Sea Area opens October 1 under terms of a commissioner's permit with a GHL of 5,000 pounds of eviscerated red sea cucumbers and 5,000 pounds round weight for green sea urchins. The small GHLs were established to permit conservative commercial exploration of areas that lacked historic harvest data and to allow ADF&G to collect 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 2007, the GHL for the Bering Sea Area was set at 5,000 pounds each, for red sea cucumbers and green sea urchins. No divers registered to harvest green sea urchins or red sea cucumbers in 2007.

SNAILS

Historic Background

Commercial fishing for snails in the Bering Sea was initiated by the Japanese fleet in 1971 and continued until 1987, little information is available from this early fishery, however. The Fishery Conservation and Management Act of 1976 required that foreign nations provide the United States with records concerning fisheries occurring inside the U.S. EEZ and the Japanese began to provide fishing records following the passage of the act (MacIntosh 1979). NMFS recorded 14 vessels participating in 1971, five vessels in 1972, no vessels in 1973, and six vessels in 1974. No fishing occurred in 1975 and 1976. In 1977, records indicate that participation in the fishery increased to three vessels (MacIntosh 1980). In the 1980s all fishing was conducted by catcher-processor vessels. The majority of the retained catch during this early fishery was composed of Pribilof Neptune *Neptunea pribiloffensis*. Smaller components of the retained catch were composed of *Buccinum 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 long-lined in depths from 100 to 150 fathoms. Data from the Foreign Fisheries Observer Program showed the Japanese vessels pulled an average of 2,779 pots per day with an average soak time of 50 hours while the Russian vessels averaged just 1,219 pot lifts per day with an average soak time of 80 hours.

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

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

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

In the 1997 fishery, average CPUE was 16 snails per pot, equal to the CPUE from vessels fishing northwest of the Pribilof Islands in the 1996 fishery. The majority of the catch for the 1997 season was composed of the genera *Neptunea* and *Buccinum*. Catches increased from 313,000 pounds in 1993 to 3,570,000 pounds in 1996 and then declined to 932,000 pounds in 1997 (Table 2-35). The value of the fishery increased from \$125 thousand in 1993 to over \$1.05 million in 1996 and then dropped to \$308 thousand in 1997 (Table 2-36). From 1998 to 2006, no fishing effort for snails occurred in the Bering Sea.

2007 Season

No vessels registered to harvest snails from the Bering Sea in 2007.

Stock Status

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

NORTH PENINSULA DISTRICT

DESCRIPTION OF AREA

The North Peninsula District for shrimp management includes all Bering Sea waters of both the Territorial Sea and the EEZ east of the long. of Cape Sarichef at 164° 55'30' W long. (Figure 2-15).

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

SHRIMP

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

DUNGENESS CRABS

Fishing effort for Dungeness crabs in the North Peninsula District has been sporadic, with few vessels participating. Typically the fishery has occurred north of Unimak Island. In 1995, six vessels made 19 deliveries for a harvest of 134,407 pounds. Catch information from 1996 to 1998 is confidential, as less than three vessels participated in each of those years. The average annual harvest in the three-year period from 1996-1998 was approximately 48,000 pounds. No vessels registered to fish in 1999. One vessel, for which landings are confidential, participated in the 2000 fishery. No vessels registered in 2001. In 2002, three vessels registered and harvested less than 22,000 pounds (Table 2-37). In 2003 no vessels registered. A single vessel registered in 2004 and all harvest information is confidential. No vessels registered in 2005 or 2006. A single vessel registered in 2007 and all harvest information is confidential.

Stock Status

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

BERING SEA AND ALEUTIAN ISLANDS KING AND TANNER CRAB

BUOY IDENTIFICATION PROGRAM

Introduction and Background

Early 1990s Bering Sea and Aleutian Islands (BSAI) crab fisheries were characterized by increased fishing effort, decreased GHFs, and shorter fishing seasons than prior years. In response to these changes, the BSAI crab industry submitted a petition regarding pot limits to the BOF. The petition was supported by data from ADF&G indicating impaired conservation and management during low GHF fisheries due in part to the amount of gear fishing on the grounds. On March 20, 1991 the BOF proposed an agenda change request regarding this issue and subsequently adopted BSAI pot limit regulations. Effective August 1, 1992 these regulations limited the number of pots a vessel may operate while harvesting BSAI king and Tanner crabs. The buoy identification program was created to help implement these regulations and as per Alaska State statute designed to be completely self-supportive by generating funds.

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

interim basis August 27, 1997. The regulations created an 11-tier pot limit system dependent on fishery GHL and anticipated fleet size. The tiered system was made permanent March 1999. With the implementation of crab rationalization in 2005, the BOF revised regulation to allow a maximum of 450 pots per vessel regardless of vessel length for Bering Sea King and Tanner crab fisheries (Table 2-38). In 2007 CDQ fishers 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.

Implementation

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

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

Replacement Tags

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

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

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

Buoy Identification Tag Refunds

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

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

Vessel Length Verification

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

Administration of the Buoy Identification Program

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

2007/08 Buoy Tag Sales

Several of the Bering Sea crab fisheries were not open to commercial harvest because stocks did not meet minimum threshold levels. The Pribilof Island red king and blue king crab and Saint Matthew Island blue king crab fisheries were closed for the 2007/08 seasons. Tags for these fisheries are stored in Dutch Harbor ready for issue when needed. The 2007/08 Petrel Bank red king crab fishery was not open to commercial harvest because stocks did not meet minimum threshold levels.

There were no new tags procured for the 2007/08 Bristol Bay red king crab fishery. Tag sales for this fishery are as follows: from Dutch Harbor 52 vessels purchased 10,245 tags, in Kodiak 21 vessels purchased 4,230 tags. Seventy-three vessels purchased a total of 14,475 tags.

There were no tags procured for the 2007/08 Bering Sea snow crab fishery. Tag sales for this fishery are as follows: from Dutch Harbor 70 vessels purchased 14,510 tags and in Kodiak eight vessels purchased 1,607 tags for a total of 15,617 total tags (Table 2-39).

There were no tags procured for the 2007/08 Bering Sea Tanner crab fishery. Tag sales for this fishery are as follows: from Dutch Harbor 27 vessels purchased 4,408 tags and in Kodiak seven vessels purchased 1,000 tags. Thirty-four vessels purchased a total of 5,408 tags.

There were no tags procured for the 2007 Eastern Aleutian District Tanner crab fishery. Fourteen vessels purchased 182 tags.

REFERENCES CITED

- Alaska Department of Fish and Game (ADF&G). 1984. Westward Region Shellfish Report to the Alaska Board of Fisheries. Alaska Department of Fish and Game, Division of Commercial Fisheries, Kodiak.
- Alaska Department of Fish and Game (ADF&G). 1985. Westward Region Shellfish Report to the Alaska Board of Fisheries. Alaska Department of Fish and Game, Division of Commercial Fisheries, Kodiak.
- Alaska Department of Fish and Game (ADF&G). 1996. Annual management report for the shellfish fisheries of the Westward Region, 1994. Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Regional Informational Report 4K96-37, Kodiak.
- Alaska Department of Fish and Game (ADF&G). 1998. Annual management report for the shellfish fisheries of the Westward Region, 1997. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Informational Report 4K98-39, Kodiak.
- Barnard, D.R. and R. Burt. 2006. Alaska Department of Fish and Game Summary of the 2005 Mandatory Shellfish Observer Program Database for the Non-rationalized Bering Sea Crab Fisheries. Alaska Department of Fish and Game, Fishery Data Series No. 06-36, Anchorage.
- Barnard, D.R. and D. Pengilly. 2006. Estimates of red king crab bycatch during the 2005/2006 Bristol Bay red king crab fishery with comparisons to the 199-2004 seasons. Alaska Department of Fish and Game, Fishery Data Series No. 06-23, Anchorage.
- Barnard, D.R. and R. Burt. 2007. Alaska Department of Fish and Game Summary of the 2005/2006 Mandatory Shellfish Observer Program Database for the Rationalized Crab Fisheries. Alaska Department of Fish and Game, Fishery Data Series No. 07-02, Anchorage.
- Burt, R., and D.R. Barnard. 2006. Alaska Department of Fish and Game Summary of the 2004 Mandatory Shellfish Observer Program Database for the General and CDQ Fisheries. Alaska Department of Fish and Game, Fishery Data Series No. 06-03, Anchorage.
- Gish, R. K. 2006. The 2005 Pribilof District king crab survey. Alaska Department of Fish and Game, Fishery Management Report No. 06-60, Anchorage.
- Gish, R.K, and D. Pengilly. 2004. The 2003 Pribilof District king crab survey. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K04-41, Kodiak.
- MacIntosh, R. 1979. Alaska's snail resource. Alaska Seas and Coasts Vol. 6. No. 5.
- MacIntosh, R. 1980. The snail resource of the eastern Bering Sea and its fishery. Marine Fisheries Review 42:15-20.
- North Pacific Fishery Management Council (NPFMC). 1998. Fisheries Management Plan for the King and Tanner Crab Fisheries of the Bering Sea and Aleutian Islands. North Pacific Fishery Management Council. Anchorage.

REFERENCES CITED (Continued)

- North Pacific Fishery Management Council (NPFMC). 2000. A Rebuilding Plan for the Saint Matthew Blue King Crab Stock. North Pacific Fishery Management Council, Anchorage.
- North Pacific Fishery Management Council (NPFMC). 2003. Stock Assessment and Fishery Evaluation Report for the King and Tanner Crab Fisheries of the Bering Sea and Aleutian Islands Regions. North Pacific Fishery Management Council, Anchorage.
- North Pacific Fishery Management Council (NPFMC). 2004. Stock Assessment and Fishery Evaluation Report for the King and Tanner Crab Fisheries of the Bering Sea and Aleutian Islands: 2004 Crab SAFE. North Pacific Fishery Management Council, Anchorage.
- North Pacific Fishery Management Council (NPFMC). 2006. Stock Assessment and Fishery Evaluation Report for the King and Tanner Crab Fisheries of the Bering Sea and Aleutian Islands: 2006 Crab SAFE. North Pacific Fishery Management Council, Anchorage.
- Ruccio, M., and Jackson, D. 2000. Management plan for the Red Sea Cucumber and Green Sea Urchin Commercial Fisheries for the Westward Region, 2000-01. Alaska Department of Fish and Game, Commercial Fisheries Division, Regional Information Report 4K00-59, Kodiak.
- Stevens, B. G., J. A. Haaga, and R. A. MacIntosh. 1998a. Report to Industry on the 1998 Eastern Bering Sea Crab Survey. AFSC Processed Report 98-07.
- Stevens, B. G., R. S. Otto, J. A. Haaga, and R. A. MacIntosh. 1998b. Report to Industry on the 1997 Eastern Bering Sea Crab Survey. Alaska Fisheries Science Center (AFSC) Processed Report 98-02.
- Tracy, D. 1995. Alaska Department of Fish and Game biological summary of the 1993 mandatory shellfish observer program database. Alaska Department of Fish and Game, Commercial Fisheries Management and Development, Regional Information Report 4K95-14, Kodiak.
- Watson, L.J. 2005. The 2004 triennial St. Matthew Island blue king crab survey and comparisons to the 1995, 1998, and surveys. Alaska Department of Fish and Game, Fishery Management Report No. 05-22, Anchorage.
- Zheng, J., M. C. Murphy, and G. H. Kruse. 1995. Overview of population estimation methods and robust long-term harvest strategy for red king crabs in Bristol Bay. Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Regional Information Report 5J95-21, Juneau.
- Zheng, J., G. H. Kruse, and M. C. Murphy. 1996. Stock status of Bristol Bay red king crabs in 1996. Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Regional Information Report 5J96-12, Juneau.
- Zheng, J., G. H. Kruse, and M. C. Murphy. 1997. Status of king crab stocks in the eastern Bering Sea in 1997. Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Regional Information Report 5J97-13, Juneau.
- Zheng, J., and G. H. Kruse. 1999. Status of king crab stocks in the Eastern Bering Sea in 1999. Alaska Department of Fish and Game, Commercial Fisheries Division, Regional Information Report 5J99-09, Juneau.
- Zheng, J., and G. H. Kruse. 2000. Status of king crab stocks in the Eastern Bering Sea in 2000. Alaska Department of Fish and Game, Commercial Fisheries Division, Regional Information Report 5J00-09, Juneau.
- Zheng, J., and D. Pengilly. 2003. Evaluation of alternative rebuilding strategies for Pribilof Islands blue king crabs. Alaska Department of Fish and Game, Commercial Fisheries Division, Regional Information Report 5J03-10, Juneau.

TABLES AND FIGURES

Table 2-1.-Bristol Bay commercial red king crab fishery harvest data, 1966 - 2007/08.

Season	Number of			Harvest ^{b,c}	Number of Pots		CPUE ^d	Deadloss ^c
	Vessels ^a	Landings	Crabs ^b		Registered	Pulled		
1966	9	15	140,554	997,321	NA	2,720	52	NA
1967	20	61	397,307	3,102,443	NA	10,621	37	NA
1968	59	261	1,278,592	8,686,546	NA	47,496	27	NA
1969	65	377	1,749,022	10,403,283	NA	98,426	18	NA
1970	51	309	1,682,591	8,559,178	NA	96,658	17	NA
1971	52	394	2,404,681	12,955,776	NA	118,522	20	NA
1972	64	611	3,994,356	21,744,924	NA	205,045	19	NA
1973	67	441	4,825,963	26,913,636	NA	194,095	25	NA
1974	104	605	7,710,317	42,266,274	NA	212,915	36	NA
1975	102	592	8,745,294	51,326,259	NA	205,096	43	1,639,483
1976	141	984	10,603,367	63,919,728	NA	321,010	33	875,327
1977	130	1,020	11,733,101	69,967,868	NA	451,273	26	730,279
1978	162	926	14,745,709	87,618,320	NA	406,165	36	1,273,037
1979	236	889	16,808,605	107,828,057	NA	315,226	53	3,555,891
1980	236	1,251	20,845,350	129,948,463	78,352	567,292	37	1,858,668
1981	177	1,013	5,273,530	33,372,832	75,756	536,646	10	706,489
1982	89	253	538,925	2,990,082	36,166	140,492	4	95,834
1983				FISHERY CLOSED				
1984	89	133	793,046	4,083,612	21,762	107,406	7	35,101
1985	128	130	780,791	4,090,305	30,117	84,443	9	6,436
1986	159	229	2,083,496	11,306,084	32,468	175,753	12	284,126
1987	236	311	2,122,341	12,289,067	63,000	220,971	10	120,388
1988	200	201	1,231,731	7,361,026	50,099	146,179	8	23,537
1989	211	287	1,667,405	10,156,849	55,000	205,528	8	81,334

-continued-

Table 2-1.-Page 2 of 2.

Season	Number of			Harvest ^{b,c}	Number of Pots		CPUE ^d	Deadloss ^c
	Vessels ^a	Landings	Crabs ^b		Registered	Pulled		
1990	240	331	3,134,082	20,443,043	69,906	262,761	12	141,067
1991	302	322	2,597,994	16,971,365	89,068	227,555	12	106,853
1992	281	288	1,189,443	7,996,040	68,189	206,172	6	6,000
1993	292	360	2,254,989	14,587,704	58,881	253,794	9	133,314
1994	FISHERY CLOSED							
1995	FISHERY CLOSED							
1996	196	198	1,249,005	8,405,614	39,461	76,433	16	24,166
1997	256	265	1,315,969	8,756,490	27,499	90,427	15	13,771
1998	274	284	2,140,604	14,290,271	56,420	141,707	15	53,716
1999	257	268	1,812,357	11,070,729	42,403	146,997	12	44,132
2000	246	256	1,166,796	7,546,145	26,352	98,694	12	32,118
2001	230	238	1,196,469	7,786,446	24,571	63,242	19	57,294
2002	242	254	1,377,922	8,856,828	25,833	68,328	20	32,177
2003	252	275	2,344,436	14,529,124	46,964	128,430	18	228,270
2004	251	270	2,075,622	14,112,438	49,506	90,976	23	160,563
2005/06 ^e	89	264	2,460,856	16,478,458	15,713	99,573	25	77,507
2006/07 ^e	81	187	2,186,967	13,892,044	14,685	64,325	34	98,720
2007/08 ^e	74	246	2,817,766	18,327,780	11,885	101,734	28	131,954

Note: "NA" = Not available.

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

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

^c In pounds.

^d Number of legal crabs per pot lift.

^e IFQ fishery beginning in 2005.

Table 2-2.—Bristol Bay commercial red king crab fishery economic data, 1980-2007/08.

Season	GHL/TAC ^a	Value		Season Length	
		Exvessel ^b	Total ^c	Days	Dates
1980	70-120	\$0.90	\$115.3	40	09/10-10/20
1981	40-100	\$1.50	\$49.3	91	09/10-12/15
1982	10-20 ^d	\$3.05	\$8.9	30	09/10-10/10
1983			FISHERY CLOSED		
1984	2.5- 6.0	\$2.60	\$10.8	15	10/01-10/16
1985	3.0-5.0	\$2.90	\$12.1	8	09/25-10/02
1986	6.0-13.0	\$4.05	\$45.0	13	09/25-10/07
1987	8.5-17.7	\$4.00	\$48.7	12	09/25-10/06
1988	7.5	\$5.10	\$37.6	8	09/25-10/02
1989	16.5	\$5.00	\$50.9	12	09/25-10/06
1990	17.1	\$5.00	\$101.2	12	11/01-11/13
1991	18.0	\$3.00	\$51.2	7	11/01-11-08
1992	10.3	\$5.00	\$40.2	7	11/01-11/08
1993	16.8	\$3.80	\$55.1	9	11/01-11/10
1994			FISHERY CLOSED		
1995			FISHERY CLOSED		
1996	5.0	\$4.01	\$33.6	4	11/01-11/05
1997	7.0	\$3.26	\$28.5	4	11/01-11/05
1998	15.8	\$2.64	\$37.4	5	11/01-11/06
1999	10.1	\$6.26	\$69.1	5	10/15-10/20
2000 ^e	7.7	\$4.81	\$36.0	4	10/16-10/20
2001	6.6	\$4.81	\$37.5	3	10/15-10/18
2002	8.6	\$6.14	\$54.2	3	10/15-10/18
2003	14.5	\$5.08	\$72.7	5	10/15-10/20
2004	14.3	\$4.71	\$65.7	3	10/15-10/18
2005/06	16.5	\$4.24	\$69.5	93	10/15-1/15
2006/07	13.9	\$3.48	\$48.0	93	10/15-1/15
2007/08	18.3	\$4.19	\$76.2	93	10/15-1/15

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

^b Average price per pound.

^c Millions of dollars.

^d Inseason revision to 4.7 million pounds.

^e Delayed start due to weather.

Table 2-3.—Bristol Bay commercial red king crab IFQ fishery harvest and effort by week, 2007/08.

Week ending	Number of			Harvest ^{a,b}	Pot pulls	CPUE ^c	Deadloss ^b
	Vessels	Landings	Crabs ^a				
21-Oct	58	65	1,012,909	6,436,969	37,809	27	45,539
28-Oct	29	38	397,208	2,557,596	13,106	30	17,679
4-Nov	44	54	706,438	4,649,747	23,715	30	39,531
11-Nov	23	31	253,043	1,699,175	8,637	29	10,444
18-Nov	17	23	199,733	1,335,196	7,446	27	9,521
25-Nov	14	18	132,052	884,234	5,425	24	7,021
2-Dec	7	8	74,306	489,076	3,149	24	1,452
9-Dec	5	7	37,323	246,481	2,139	17	767
16-Dec	1			CONFIDENTIAL			
14-Jan	1			CONFIDENTIAL			
Total	74 ^d	246	2,817,766	18,327,780	101,734	28	131,954

^a Deadloss included. Does not include CDQ.

^b In pounds.

^c Number of legal crabs per pot lift.

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

Table 2-4.–Bristol Bay commercial red king crab IFQ fishery catch by statistical area, 2007/08.

Statistical Area	Number of			Harvest ^{a,b}	Average		Deadloss ^b
	Landings	Crabs ^a	Pots Lifted		Weight ^b	CPUE ^c	
615601	9	25,982	686	159,066	6.1	38	3,424
615630	31	349,287	11,181	2,269,389	6.5	31	14,329
615700	24	259,029	8,588	1,747,669	6.7	30	20,021
615730	5	12,933	675	89,137	6.9	19	298
625531	14	25,477	1,200	165,928	6.5	21	1,818
625600	32	269,242	9,398	1,679,669	6.2	29	18,294
625630	41	282,325	10,340	1,820,333	6.4	27	9,742
625700	27	44,324	1,975	283,182	6.4	22	1,826
635530	20	321,096	11,482	2,072,129	6.5	28	7,983
635600	28	41,129	2,153	261,682	6.4	19	1,660
635630	31	108,445	4,822	695,328	6.4	22	3,668
635700	40	585,336	20,621	3,799,813	6.5	28	27,652
635730	30	152,867	5,185	1,008,257	6.6	29	6,513
645530	3	9,133	216	59,097	6.5	42	25
645600	7	2,518	158	16,234	6.4	16	69
645630	13	15,431	981	103,470	6.7	16	562
645700	19	65,503	3,756	437,614	6.7	17	3,120
645730	22	238,162	7,771	1,599,002	6.7	31	10,637
Other ^d	18	9,547	546	60,781	6.4	17	312
Total	414 ^e	2,817,766	101,734	18,327,780	6.5	28	131,954

^a Deadloss included.

^b In pounds.

^c Number of legal crabs per pot lift.

^d Combination of nine statistical areas from which less than three vessels made landings in each statistical area.

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

Table 2-5.—Bristol Bay red king crab cost-recovery harvest data, 1990 - 2007.

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

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

^b Deadloss included.

^c In pounds.

^d Number of legal crabs per pot lift.

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

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

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

Table 2-6.—Bristol Bay red king crab cost-recovery economic performance data, 1990 - 2007.

Year ^a	Harvest ^b	Value		Charter dates	Charter length ^d
		Exvessel ^c	Total		
1990	56,161	\$5.10	\$286,421	8/7-9/7	30
1991	193,034	\$3.75	\$723,878	9/2-10/7	35
1992	71,089	\$5.24	\$372,506	10/8-10/23	15
1993	52,400	\$6.57	\$344,268	8/20-9/20	31
1994	88,836	\$5.21	\$462,836	9/25-10/25	30
1995	77,819	\$6.65	\$517,496	8/1-8/31	31
1996	106,037	\$4.53	\$480,348	8/1-8/31	31
1997	136,699	\$3.55	\$485,281	7/25-8/21	28
1998	155,612	\$3.25	\$505,739	8/1-8/28	28
1999 ^e	185,944	\$6.18	\$1,148,695	9/25-10/11,10/25-11/10	34
2000 ^f	85,871	\$5.82	\$499,769	9/20-10/04	15
2001 ^e	120,297	\$5.18	\$623,138	9/22-10/10, 10/23-11/8	36
2002 ^e	96,087	\$6.45	\$619,761	9/23-10/9, 10/17-10/27	27
2003 ^{f,g}	33,674	\$5.56	\$187,227	9/1-10/4	34
2004 ^e	200,941	\$4.98	\$1,000,686	10/21-10/25,10/23-10/31,10/27-11/01	20
2005 ^e	208,828	\$5.07	\$1,051,153	11/12-12/2	19
2006 ^e	300,563	\$2.15	\$646,210	9/23-10/23	31
2007 ^e	145,150	\$4.02	\$583,503	10/2-10/23	22

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

^b In pounds. Deadloss not included.

^c Average price per pound.

^d In days.

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

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

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

Table 2-7.—Bristol Bay commercial red king crab general/IFQ fishery harvest composition by fishing season, 1973 - 2007/08.

Season	Percent		Size	Average		% Old
	Recruit	Postrecruit ^a	Limit ^b	Weight ^c	Length ^d	Shell
1973	63	37	6¼	5.6	NA	NA
1974	60	40	6¼	5.5	NA	NA
1975 ^e	21	79	6¼	5.7	NA	NA
1976	56	44	6½	6.0	148	27.4
1977	67	33	6½	5.9	148	13.0
1978	75	25	6½	5.9	147	6.9
1979	47	53	6½	6.4	152	10.4
1980	44	56	6½	6.2	151	11.0
1981 ^f	14	86	6½	6.3	151	47.4
1982	68	32	6½	5.5	145	24.6
1983			FISHERY CLOSED			
1984	59	41	6½	5.2	142	26.5
1985	66	34	6½	5.2	142	25.8
1986	65	35	6½	5.4	142	25.5
1987	77	23	6½	5.8	145	19.0
1988	59	41	6½	6.0	147	15.1
1989	58	42	6½	6.1	148	17.7
1990	49	51	6½	6.5	152	14.7
1991	44	56	6½	6.5	152	12.1
1992	33	67	6½	6.7	153	22.3
1993	33	67	6½	6.5	152	15.2
1994			FISHERY CLOSED			
1995			FISHERY CLOSED			
1996	31	69	6½	6.7	153	24.3
1997	28	72	6½	6.7	152	11.0
1998	40	60	6½	6.7	152	19.1
1999	72	28	6½	6.1	148	6.3
2000	65	35	6½	6.5	151	16.3
2001	54	46	6½	6.5	151	22.3
2002	61	39	6½	6.4	151	22.2
2003	72	28	6½	6.2	149	21.9
2004	52	48	6½	6.8	154	21.2
2005/06	57	43	6½	6.7	152	21.4
2006/07	65	35	6½	6.4	151	26.5
2007/08	57	43	6½	6.5	151	32.2

Note: "NA" = Not available.

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

^b Minimum carapace width in inches.

^c In pounds.

^d Carapace length in millimeters.

^e 6½ inches after 11/01.

^f 7 inches after 10/20.

Table 2-8.--Pribilof District commercial red and blue king crab fishery data, 1973/74 - 2007/08.

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

-continued-

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

Season ^a	Number of			Harvest ^{b,c}	Number of Pots		Average			Deadloss ^c
	Vessels	Landings	Crabs ^b		Registered	Pulled	Weight ^c	CPUE ^d	Length ^e	
1997 ^f	53	110	90,641	756,818		28,458	8.4	3	164.3	18,807
1997 ^g	51	105	68,603	512,374		27,652	7.5	3	163.6	16,747
1997 ^h	53	110	159,244	1,269,192	2,230	30,400	8.0	5		35,554
1998 ^f	57	84	68,129	510,365		23,381	7.5	3	158.8	8,703
1998 ^g	57	83	68,419	516,306		22,965	7.5	3	156.1	21,599
1998 ^h	57	84	136,548	1,026,671	2,398	23,381	7.5	6		30,302
1999 - 2007/08	FISHERY CLOSED									

Note: "NA" = Not available.

^a Blue king crab, 1973 - 1988.

^b Deadloss included.

^c In pounds

^d Number of legal crabs per pot lift.

^e Carapace length in millimeters.

^f Red king crab.

^g Blue king crab.

^h Blue and red king crab fisheries combined.

Table 2-9.—Harvest level, economic performance and season length summary for the Pribilof District commercial red and blue king crab fishery, 1980/81 - 2007/08.

Season ^a	GHL/TAC ^b	Value		Season Length	
		Exvessel ^c	Total ^d	Days	Dates
1980/81	5.0-8.0	\$0.90	\$9.6	60	09/15-11/15
1981/82	5.0-8.0	\$1.50	\$13.6	47	09/10-10/28
1982/83	5.0-8.0	\$3.05	\$13.4	15	09/10-09/25
1983/84	4.0	\$3.00	\$6.6	10	09/01-09/11
1984/85	0.5-1.0	\$2.50	\$0.1	15	09/01-09/16
1985/86	0.3-0.8	\$2.90	\$1.4	26	09/25-10/21
1986/87	0.3-0.8	\$4.05	\$1.2	55	09/25-11/20
1987/88	0.3-1.7	\$4.00	\$2.8	86	09/25-12/20
1988/89 - 1992/93		FISHERY CLOSED			
1993 ^e	3.4	\$4.98	\$13.0	6	09/15-09/21
1994 ^e	2.0	\$6.45	\$8.6	6	09/15-09/21
1995 ^e	2.5 ^g	\$3.37	\$2.9	7	09/15-09/22
1995 ^f	2.5 ^g	\$2.92	\$3.9	7	09/15-09/22
1996 ^e	1.8 ^g	\$2.76	\$0.6	11	09/15-09/26
1996 ^f	1.8 ^g	\$2.65	\$2.4	11	09/15-09/26
1997 ^e	1.5 ^g	\$3.09	\$2.3	14	09/15-09/29
1997 ^f	1.5 ^g	\$2.82	\$1.4	14	09/15-09/29
1998 ^e	1.25 ^g	\$2.39	\$1.2	13	09/15-09/28
1998 ^f	1.25 ^g	\$2.34	\$1.2	13	09/15-09/28
1999 - 2007/08		FISHERY CLOSED			

^a Blue king crab, 1980-1988.

^b Guideline harvest level, millions of pounds. Total allowable catch for IFQ fishery beginning in 2005/06.

^c Average price per pound.

^d Millions of dollars.

^e Red king crab.

^f Blue king crab.

^g Combined red and blue king crab.

Table 2-10.—Saint Matthew Island Section commercial blue king crab fishery data, 1977 - 2007/08.

Season	Number of			Harvest ^{a,b}	Number of Pots		Percent Recruits	Average			Deadloss ^b
	Vessels	Landings	Crabs ^a		Registered	Pulled		Weight ^b	CPUE ^c	Length ^d	
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	CONFIDENTIAL										
1981	31	119	1,045,619	4,627,761	NA	58,550	NA	4.4	18	NA	53,355
1982	96	269	1,935,886	8,844,789	NA	165,618	20	4.6	12	135.1	142,973
1983	164	235	1,931,990	9,454,323	38,000	133,944	27	4.8	14	137.2	828,994
1984	90	169	841,017	3,764,592	14,800	73,320	34	4.5	11	135.5	31,983
1985	79	103	441,479	2,200,781	13,000	47,748	9	5.0	9	139	2,613
1986	38	43	219,548	1,003,162	5,600	22,073	10	4.6	10	134.3	32,560
1987	61	62	227,447	1,039,779	9,370	28,230	5	4.6	8	134.1	600
1988	46	46	302,098	1,325,185	7,780	23,058	65	4.4	30	133.3	10,160
1989	69	69	247,641	1,166,258	11,983	30,803	9	4.7	8	134.6	3,754
1990	31	38	391,405	1,725,349	6,000	26,264	4	4.4	15	134.3	17,416
1991	68	69	726,519	3,372,066	13,100	37,104	12	4.6	20	134.1	216,459
1992	174	179	545,222	2,475,916	17,400	56,630	9	4.6	10	134.1	1,836
1993	92	136	630,353	3,003,089	5,895	58,647	6	4.8	11	135.4	3,168
1994	87	133	827,015	3,764,262	5,685	60,860	60	4.6	14	133.3	46,699
1995	90	111	666,905	3,166,093	5,970	48,560	45	4.8	14	135	90,191
1996	122	189	660,665	3,078,959	8,010	91,085	47	4.7	7	134.6	36,892
1997	117	166	939,822	4,649,660	7,650	81,117	31	4.9	12	139.5	209,490
1998	131	255	612,440	2,869,655	8,561	89,500	46	4.7	7	135.8	15,107
1999-2007/08	FISHERY CLOSED										

Note: "NA" = Not available.

^a Deadloss included.

^b In pounds.

^c Number of legal crabs per pot lift.

^d Carapace length in millimeters.

Table 2-11.—Harvest level, economic performance and season length summary for the Saint Matthew Island Section commercial blue king crab fishery, 1983 - 2007/08.

Season	GHL/TAC ^a	Value		Season Length	
		Exvessel ^b	Total ^c	Days	Dates
1983	8	\$3.00	\$25.80	17	08/20-09/06
1984	2.0-4.0	\$1.75	\$6.50	7	09/01-09/08
1985	0.9-1.9	\$1.60	\$3.80	5	09/01-09/06
1986	0.2-0.5	\$3.20	\$3.20	5	09/01-09/06
1987	0.6-1.3	\$2.85	\$3.10	4	09/01-09/05
1988	0.7-1.5	\$3.10	\$4.00	4	09/01-09/05
1989	1.7	\$2.90	\$3.50	3 ^d	09/01-09/04
1990	1.9	\$3.35	\$5.70	6	09/01-09/07
1991	3.2	\$2.80	\$9.00	4	09/16-09/20
1992	3.1	\$3.00	\$7.40	3 ^d	09/04-09/07
1993	4.4	\$3.23	\$9.70	6	09/15-09/21
1994	3.0	\$4.00	\$15.00	7	09/15-09/22
1995	2.4	\$2.32	\$7.10	5	09/15-09/20
1996	4.3	\$2.20	\$6.70	8	09/15-09/23
1997	5.0	\$2.21	\$9.80	7	09/15-09/22
1998	4.0 ^e	\$1.87	\$5.34	11	09/15-09/26
1999-2007/08		FISHERY CLOSED			

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

^b Average price per pound.

^c Millions of dollars.

^d Actual length - 60 hours.

^e General fishery only.

Table 2-12.—Commercial harvest of blue king crabs by season for the Saint Matthew Island Section, 1977 - 2007/08.

Season	Date		Harvest ^a	Minimum Size ^b	Price per Pound
	Opened	Closed			
1977	Jun-07	Aug. 16	1,202,066	5 1/2	\$1.00
1978	Jul-15	Sept. 3	1,984,251	5 1/2	\$0.95
1979	Jul-15	Aug. 24	210,819	5 1/2	\$0.70
1980	Jul-15	Sept. 3	CONFIDENTIAL	5 1/2	CONFIDENTIAL
1981	Jul-15	Aug. 21	4,627,761	5 1/2	\$0.90
1982	Aug-01	Aug. 16	8,844,789	5 1/2	\$2.00
1983 ^{c,d}	Aug-20	Sept. 6 ^c	9,506,880 ^d	5 1/2	\$3.00
1984	Aug-01	Sept. 8	3,764,592	5 1/2	\$1.75
1985	Sep-01	Sept. 6	2,200,781	5 1/2	\$1.60
1986	Sep-01	Sept. 6	1,003,162	5 1/2	\$3.20
1987	Sep-01	Sept-05	1,039,779	5 1/2	\$2.85
1988	Sep-01	Sept-05	1,325,185	5 1/2	\$3.10
1989	Jan-01	Sept-04	1,166,258	5 1/2	\$2.90
1990	Sep-01	Sept-07	1,725,349	5 1/2	\$3.35
1991	Sep-16	Sept-20	3,372,066	5 1/2	\$2.80
1992	Sep-04	Sept-07	2,475,916	5 1/2	\$3.00
1993	Sep-15	Sept-21	3,003,089	5 1/2	\$3.23
1994	Sep-15	Sept-22	3,764,262	5 1/2	\$4.00
1995	Sep-15	Sept-22	3,166,093	5 1/2	\$2.32
1996	Sep-15	Sept-16	3,078,959	5 1/2	\$2.20
1997	Sep-15	Sept-22	4,649,660	5 1/2	\$2.21
1998	Sep-15	Sept-26	2,869,655	5 1/2	\$1.87
1999-2007/08	FISHERY CLOSED				

^a In pounds, deadloss included.

^b Carapace width in inches.

^c Part of Northern District open until September 20.

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

Table 2-13.--Pribilof District golden king crab fishery harvest data, 1981/82 - 2007 seasons.

Season	Number of				Harvest ^{a,b}	Average			Deadloss ^b
	Vessels	Landings	Crabs ^a	Pots lifted		Weight ^b	CPUE ^c	Length ^d	
1981/82	2				CONFIDENTIAL				
1982/83	10	19	15,330	5,252	69,970	4.6	3	151	570
1983/84	50	115	253,162	26,035	856,475	3.4	10	127	20,041
1984	0				NO LANDINGS				
1985	1				CONFIDENTIAL				
1986	0				NO LANDINGS				
1987	1				CONFIDENTIAL				
1988	2				CONFIDENTIAL				
1989	2				CONFIDENTIAL				
1990	0				NO LANDINGS				
1991	0				NO LANDINGS				
1992	0				NO LANDINGS				
1993	5	15	17,643	15,395	67,458	3.8	1	NA	0
1994	3	5	21,477	1,845	88,985	4.1	12	NA	730
1995	7	22	82,489	9,551	341,908	4.1	9	NA	716
1996	6	32	91,947	9,952	329,009	3.6	9	NA	3,570
1997	7	23	43,305	4,673	179,249	4.1	9	NA	5,554
1998	3	9	9,205	1,530	35,722	3.9	6	NA	474
1999	3	9	44,098	2,995	177,108	4.0	15	NA	319
2000	7	19	29,145	5,450	127,217	4.4	5	NA	4,599
2001	6	14	33,723	4,262	145,876	4.3	8	143	8,227
2002	8	20	34,860	5,279	150,434	4.3	6	144	8,984
2003	3				CONFIDENTIAL				
2004	5				CONFIDENTIAL				
2005	4				CONFIDENTIAL				
2006-2007	0				NO LANDINGS				

Notes: "Confidential" = Less than three vessels or processors participated in the fishery, and "NA" = Not available.

^a Deadloss included.

^b In pounds.

^c Number of legal crabs per pot lift.

^d Carapace length in millimeters.

Table 2-14.--Pribilof District golden king crab fishery economic data, 1991 -2007 seasons.

Season	GHL ^a	Value		Season Length	
		Ex vessel ^b	Total	Days	Dates
1991		NO LANDINGS		365	1/1-12/31
1992		NO LANDINGS		365	1/1-12/31
1993		\$2.42	\$163,248	365	1/1-12/31
1994		\$3.99	\$355,050	365	1/1-12/31
1995		\$3.23	\$1,104,363	365	1/1-12/31
1996		\$2.10	\$690,919	365	1/1-12/31
1997		\$2.23	\$387,340	365	1/1-12/31
1998		\$2.06	\$72,611	365	1/1-12/31
1999	200,000	\$2.34	\$413,686	162	1/1-6/10
2000	150,000	\$3.22	\$392,436	365	1/1-12/31
2001	150,000	\$3.12	\$429,464	105	1/1-4/15
2002	150,000	\$3.10	\$438,495	134	1/1-5/14
2003	150,000	CONFIDENTIAL		121	1/1-5/1
2004	150,000	CONFIDENTIAL		72	1/1-3/12
2005	150,000	CONFIDENTIAL		365	1/1-12/31
2006-2007	150,000	NO LANDINGS		365	1/1-12/31

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

^a Guideline harvest level in pounds.

^b Average price per pound.

Table 2-15.—Saint Matthew Island Section commercial golden king crab fishery harvest data, 1982/83 - 2007 seasons.

Season	Number of				Harvest ^{a,b}	Average			Dead loss ^b
	Vessels	Landings	Crabs ^a	Pots lifted		Weight ^b	CPUE ^c	Length ^d	
1982/83	22	30	51,714	7,825	193,507	3.7	7	138	957
1983/84	0			NO LANDINGS					
1985	0			NO LANDINGS					
1986	0			NO LANDINGS					
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			CONFIDENTIAL					
1990	0			NO LANDINGS					
1991	0			NO LANDINGS					
1992	1			CONFIDENTIAL					
1993	0			NO LANDINGS					
1994	1			CONFIDENTIAL					
1995	5	5	212	313	992	4.7	1	NA	0
1996	1			CONFIDENTIAL					
1997-2000	0			NO LANDINGS					
2001	1			CONFIDENTIAL					
2002	0			NO LANDINGS					
2003	1			CONFIDENTIAL					
2004-2007	0			NO LANDINGS					

Notes: "Confidential" = Less than three vessels or processors participated in the fishery, and "NA" = Not available.

^a Deadloss included.

^b In pounds.

^c Number of legal crabs per pot lift.

^d Carapace length in millimeters.

Table 2-16.–Saint Matthew Island Section commercial golden king crab fishery economic data, 1991-2007 seasons.

Season	Value		Season Length	
	Exvessel ^a	Total	Days	Dates
1991	NO LANDINGS		365	1/1-12/31
1992	CONFIDENTIAL		365	1/1-12/31
1993	NO LANDINGS		365	1/1-12/31
1994	CONFIDENTIAL		365	1/1-12/31
1995	\$2.77	\$2,748	365	1/1-12/31
1996	CONFIDENTIAL		365	1/1-12/31
1997	CONFIDENTIAL		365	1/1-12/31
1998	CONFIDENTIAL		365	1/1-12/31
1999	CONFIDENTIAL		365	1/1-12/31
2000	NO LANDINGS		365	1/1-12/31
2001	CONFIDENTIAL		365	1/1-12/31
2002	NO LANDINGS		365	1/1-12/31
2003	CONFIDENTIAL		365	1/1-12/31
2004-2007	NO LANDINGS		365	1/1-12/31

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

^a Average price per pound.

Table 2-17.--King crab Registration Area Q commercial scarlet king crab fishery data, 1992 - 2007.

Season	Number of		Harvest ^{a,b}	Average		Value		Deadloss ^a
	Vessels	Pots Lifted		Weight ^a	CPUE ^c	Exvessel ^d	Total ^e	
1992-1994	0		NO LANDINGS					
1995	4	24,551	26,684	2.4	1	\$2.45	\$65.38	465
1996	2		CONFIDENTIAL					
1997- 1999	0		NO LANDINGS					
2000 ^f	1		CONFIDENTIAL					
2001 ^f	1		CONFIDENTIAL					
2002 ^f	0		NO LANDINGS					
2003 ^f	1		CONFIDENTIAL					
2004 ^f	3		CONFIDENTIAL					
2005 ^f	1		CONFIDENTIAL					
2006-2007	0		NO LANDINGS					

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

^a In pounds.

^b Deadloss included.

^c Number of legal crabs per pot lift.

^d Average price per pound.

^e Thousands of dollars.

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

Table 2-18.--Bering Sea District commercial Tanner crab fishery harvest data, 1969 - 2007/08.

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

-continued-

Table 2-18.--Page 2 of 2.

Season	Number of			Harvest ^{ab}	Number of Pots		CPUE ^c	Deadloss ^b
	Vessels	Landings	Crabs ^a		Registered	Pulled		
1992/93	294	2,084	15,265,865	35,130,831	71,481	1,200,385	13	343,955
1993/94	296	862	7,235,898	16,892,320	116,039	576,464	13	259,389
1994	183	349	3,351,639	7,766,886	38,670	249,536	13	132,780
1995	196	256	1,877,303	4,233,061	40,827	247,853	8	44,508
1996 ^d	196	347	734,296	1,806,077	68,602	149,275	5	14,608
1997 to 2004	FISHERY CLOSED							
2005/06 ^{e,f}	43	77	368,292	791,315	545	29,693	12	14,563
2006/07 ^{d,e}	52	122	829,242	1,900,183	4,140	49,192	17	27,449
2007/08 ^{d,e}	41	109	838,683	1,906,711	3,102	49,901	17	19,796

Note: "NA" = Not available.

^a Deadloss included. Does not include CDQ.

^b In pounds.

^c Number of legal crabs per pot lift.

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

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

^f First Crab Rationalization fishery.

Table 2-19.--Bering Sea District commercial Tanner crab fishery catch by subdistrict, 1974/75 - 2007/08.

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

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Table 2-19.--Page 2 of 4.

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

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Table 2-19.--Page 3 of 4.

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

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Table 2-19.--Page 4 of 4.

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

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

^b Deadloss included. Does not include CDQ.

^c In pounds.

^d Number of legal crabs per pot lift.

^e Incidental harvest in Bristol Bay red king crab fishery.

^f Directed Tanner crab fishery.

^g First Crab Rationalization fishery.

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

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

Table 2-20.—Bering Sea District commercial Tanner crab general/IFQ fishery economic data, 1979/80 - 2007/08.

Season	GHL/TAC ^a	Value		Season Length	
		Exvessel ^b	Total ^c	Days	Dates
1979/80	28-36	\$0.52	\$19.0	189	11/01-05/11
1981	28-36	\$0.58	\$17.2	88	01/15-04/15
1982	12-16	\$1.06	\$11.5	118	02/15-06/15
1983	5.6	\$1.20	\$6.2	118	02/15-06/15
1984	7.1	\$0.95	\$1.1	118	02/15-06/15
1985	3	\$1.40	\$4.3	149	01/15-06/15
1986		FISHERY CLOSED			
1987		FISHERY CLOSED			
1988	5.6	\$2.17	\$4.8	93	01/15-04/20
1989	13.5	\$2.90	\$20.3	110	01/15-05/07
1990 ^d	29.5	\$1.85	\$45.3	89	01/15-04/24
1990/91	42.8	\$1.12	\$44.5	126	11/20-03/25
1991/92	32.8	\$1.50	\$47.3	137	11/15-03/31
1992/93	39.2	\$1.69	\$58.8	137	11/15-03/31
1993 ^e	10.7	\$1.90	\$7.6	10	11/01-11/10
1993/94 ^f	9.1	\$1.90	\$24.0	42	11/20-01/01
1994 ^f	7.5	\$3.75	\$28.5	20	11/01-11/21
1995 ^f	5.5	\$2.80	\$11.7	15	11/01-11/16
1996 ^e	2.2	\$2.51	\$2.5	4	11/01-11/05
1996 ^f	6.2	\$2.48	\$2.0	12	11/15-11/27
1997 to 2004		FISHERY CLOSED			
2005/06	1.5	\$1.28	\$0.9	168	10/15-3/31
2006/07	2.7	\$1.29	\$2.4	168	10/15-3/31
2007/08	5.1	\$1.68	\$3.2	168	10/15-3/31

^a Guideline harvest level (total allowable catch from 2005/06 forward), millions of pounds.

^b Average price per pound.

^c Millions of dollars.

^d Winter fishery.

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

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

Table 2-21.—Bering Sea District commercial Tanner crab IFQ fishery harvest by statistical area, 2007/08 season.

Statistical area	Number of			Harvest ^{bc}	Average		Deadloss ^c
	Landings ^a	Crabs ^b	Pots Lifted		Weight ^c	CPUE ^d	
Eastern Subdistrict							
625531	6	19	110	35	1.8	<1	0
625600	3	24	65	63	2.6	<1	0
635504	10	58,981	1,837	139,635	2.4	32	1,269
635530	21	11,170	5,831	25,219	2.3	2	561
635600	7	277	417	593	2.1	1	17
635630	4	45	408	94	2.1	<1	0
645501	28	270,116	9,286	622,040	2.3	29	6,951
645530	20	29,206	1,690	66,308	2.3	17	856
645600	3	97	186	232	2.4	1	9
655430	8	8,557	436	19,150	2.2	20	300
655500	21	215,958	8,362	498,933	2.3	26	5,271
655530	13	29,034	1,545	67,077	2.3	19	396
Western Subdistrict							
665430	5	7,428	462	16,181	2.2	16	163
665500	13	56,568	3,038	124,912	2.2	19	770
665530	11	45,064	1,980	101,075	2.2	23	408
675600	4	102	276	237	2.3	<1	25
695600	4	4,621	194	9,754	2.1	24	66
695631	10	45,575	1,440	95,495	2.1	32	654
705600	6	14,301	407	28,988	2.0	35	479
705630	14	20,055	1,285	41,633	2.1	16	575
705701	5	174	375	383	2.2	<1	57
715630	22	3,819	4,390	7,849	2.1	1	463
715700	9	361	1,061	742	2.1	<1	60
725630	13	62	1,260	107	1.7	<1	107
725700	8	67	963	139	2.1	<1	43
Other ^e	24	17,002	2,597	39,838	2.3	7	296
Total	292	838,683	49,901	1,906,711	2.3	17	19,796

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

^b Deadloss included.

^c In pounds.

^d Number of legal crabs per pot lift.

^e Combination of 15 statistical areas where less than three vessels made landings.

Table 2-22.—Bering Sea District commercial Tanner crab general/IFQ fishery harvest composition by fishing season, 1972 - 2007/08.

Season	Average		% New
	Weight ^a	Width ^b	Shell
1972 ^c	2.6	NA	NA
1973 ^c	2.5	NA	NA
1974 ^c	2.0	NA	NA
1974/75	2.5	NA	NA
1975/76	2.5	NA	NA
1976/77	2.5	NA	NA
1977/78	2.5	152.8	88.0
1978/79	2.5	152.7	95.0
1979/80	2.5	151.4	90.0
1981	2.5	149.4	86.6
1982	2.3	148.8	85.4
1983 ^d	2.3	148.8	70.5
1984	2.3	146.5	40.0
1985	2.4	150.0	65.0
1986	FISHERY CLOSED		
1987	FISHERY CLOSED		
1988	2.5	143.5	70.2
1989	2.4	149.4	80.8
1990	2.3	148.1	96.5
1990/91	2.4	149.7	95.3
1991/92	2.5	150.4	93.2
1992/93	2.3	148.0	90.5
1993/94	2.4	150.7	93.9
1994	2.3	150.0	92.5
1995	2.3	149.3	58.6
1996	2.5	152.1	46.6
1997 to 2004	FISHERY CLOSED		
2005/06 ^e	2.2	144.5	92.1
2006/07	2.3	150.0	35.9
2007/08	2.3	147.5	74.8

Note: "NA" = Not available.

^a In pounds.

^b Carapace width in millimeters.

^c Incidental to the king crab fishery.

^d Partial Bering Sea closure.

^e First Crab Rationalization fishery.

Table 2-23.—Bering Sea District commercial snow crab fishery harvest data, 1978/79 - 2007/08.

Season	GHL/TAC ^a	Number of			Pots Lifted	Harvest ^{b,c}	CPUE ^d	Deadloss ^e
		Vessels ^h	Landings	Crabs ^b				
1978/79		102	490	22,118,498	190,746	32,187,039	116	759,137
1979/80		134	597	25,286,777	255,102	39,572,668	99	228,345
1981	39.5-91.0	153	867	34,415,322	435,742	52,750,034	79	2,269,979
1982	16.0-22.0	122	803	24,089,562	469,091	29,355,374	51	1,092,655
1983 ^e	15.8	109	461	23,853,647	287,127	26,128,410	83	1,324,466
1984 ^e	49.0	52	367	24,009,935	173,591	26,813,074	138	798,795
1985 ^e	98.0	75	718	52,394,686	370,082	65,362,866	142	1,060,784
1986 ^e	57.0	88	992	76,319,307	542,346	97,684,139	141	1,378,533
1987 ^e	56.4	103	1,038	81,307,659	616,113	101,903,388	132	978,449
1988 ^e	110.7	171	1,285	105,933,542	747,395	134,241,728	142	3,424,021
1989 ^e	132.0	168	1,300	112,704,215	665,242	148,306,262	169	1,940,482
1990 ^e	139.8	189	1,563	128,931,026	911,303	161,765,415	141	1,796,664
1991 ^e	315.0	220	2,788	265,123,960	1,391,463	328,647,269	191	3,464,036
1992	333.0	250	2,763	227,376,582	1,281,796	315,302,034	177	2,325,852
1993	207.2	254	1,835	169,535,617	970,646	230,754,253	175	1,573,952
1994	105.8	272	1,293	114,810,186	716,524	149,792,718	160	1,799,763
1995	55.7	253	870	60,658,899	507,603	75,309,187	120	1,289,169
1996	50.7	234	771	52,892,320	520,671	65,696,173	102	1,333,015
1997	117.0	226	1,127	100,013,816	754,140	119,543,024	133	2,351,555
1998 ^f	225.9	229	1,767	186,643,538	891,219	243,492,577	209	2,896,374
1999 ^f	186.2	241	1,631	143,469,440	899,308	184,735,011	160	1,828,540
2000 ^f	26.4	229	288	23,265,802	170,064	30,774,838	137	330,896
2001 ^f	25.3	207	293	17,185,523	176,930	23,382,046	97	429,884
2002 ^f	28.5	191	403	23,281,441	308,132	30,233,494	76	585,288
2003 ^{f,g}	23.7	192	256	21,504,969	139,279	26,198,024	154	662,409
2004 ^f	19.3	189	240	17,331,514	110,087	22,170,150	157	224,377
2005 ^f	19.4	169	196	16,684,751	69,863	23,036,287	239	224,193
2005/06 ⁱ	33.5	78	310	22,080,235	108,320	33,256,146	204	322,595
2006/07 ⁱ	32.9	69	274	26,633,212	80,112	32,699,874	332	379,132
2007/08 ⁱ	56.7	78	460	45,204,477	129,457	56,724,730	349	500,156

^a Guideline harvest level, millions of pounds. Total allowable catch from 2005/06 forward.

^b Deadloss included.

^c In pounds.

^d Number of legal crabs per pot lift.

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

^f General fishery only, does not include CDQ.

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

^h Vessel totals are vessels that registered but may not have actively participated in the fishery.

ⁱ IFQ fishery only, no CDQ.

Table 2-24.--Bering Sea District commercial snow crab fishery season dates and area closures, 1977/78 - 2007/08.

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

-continued-

Table 2-24.--Page 2 of 2.

Season	Opened	Closed	Comments
1987	01/15/87	06/22/87	Northern Subdistrict north of 60°30' N lat. and west of 178° W. long. closure
1988	01/15/88	03/29/88	Bering Sea District closure (Western Subdistrict to assist in an orderly closure)
	05/15/88	06/30/88	Western Subdistrict reopen and closure
1989	01/15/89	03/26/89	Eastern Subdistrict closure
		05/07/89	Western Subdistrict closure
1990	01/15/90	04/09/90	Eastern Subdistrict east of 165° W. long. closure
		04/24/90	Eastern Subdistrict west of 165° W. long. closure
		06/12/90	Western Subdistrict closure
1991	01/15/91	05/05/91	Eastern Subdistrict closure
		06/23/91	Western Subdistrict closure
1992	01/15/92	04/22/92	Bering Sea District closure
1993	01/15/93	03/15/93	Bering Sea District closure
1994	01/15/94	03/01/94	Bering Sea District closure
1995	01/15/95	02/17/95	Bering Sea District closure
1996	01/15/96	02/29/96	Bering Sea District closure
1997	01/15/97	03/21/97	Bering Sea District closure
1998	01/15/98	03/20/98	Bering Sea District closure
1999	01/15/99	03/22/99	Bering Sea District closure
2000	04/01/00	04/08/00	Bering Sea District closure
2001	01/15/01	02/14/01	Bering Sea District closure
2002	01/15/02	02/08/02	Bering Sea District closure
2003	01/15/03	01/25/03	Bering Sea District closure
2004	01/15/04	01/23/04	Bering Sea District closure
2005	01/15/05	01/20/05	Bering Sea District closure
Crab Rationalization Began			
2005/06 ^c	10/15/05	05/15/06	Eastern Subdistrict closure
		05/31/06	Western Subdistrict closure
2006/07	10/15/06	05/15/07	Eastern Subdistrict closure
		05/31/07	Western Subdistrict closure
2007/08	10/15/07	05/15/08	Eastern Subdistrict closure
		05/31/08	Western Subdistrict closure

^a State managed domestic fishery.

^b Concurrent state and federal date.

^c Crab Rationalization begins.

Table 2-25.--Bering Sea District commercial snow crab harvest by season and subdistrict, 1977/78 - 2007/08.

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

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Table 2-25.--Page 2 of 5.

Season	Subdistrict	Number of				Average		Deadloss ^e	
		Vessels ^{a,b}	Landings ^c	Crabs ^d	Pots Lifted	Harvest ^{d,e}	Weight ^e		CPUE ^f
1984	Southeastern	NA	76	3,534,370	33,091	3,990,621	1.1	107	54,678
	Pribilof	NA	230	17,909,096	112,078	19,727,493	1.1	160	708,706
	Northern	NA	61	2,566,469	28,422	3,094,960	1.2	90	35,411
	TOTAL	52	367	24,009,935	173,591	26,813,074	1.1	138	798,795
1985	Southeastern	55	301	21,963,882	158,819	27,373,232	1.4	138	461,001
	Pribilof	60	301	24,089,526	142,937	29,804,093	1.2	169	505,146
	Northern	24	116	6,849,838	70,289	8,821,550	1.3	97	98,037
	TOTAL	75	718	52,903,246	372,045	65,998,875	1.3	142	1,064,184
1986	Southeastern	47	112	8,491,694	63,889	10,957,578	1.3	133	44,755
	Pribilof	80	508	39,851,767	281,337	50,525,150	1.3	142	472,342
	Northern	67	372	28,155,662	198,518	36,501,811	1.3	142	861,436
	TOTAL	88	992	76,499,123	543,744	97,984,539	1.3	141	1,378,533
1987	Southeastern	28	64	4,116,778	24,619	5,106,473	1.2	167	24,619
	Pribilof	94	458	38,604,802	261,337	47,676,734	1.2	148	261,337
	Northern	99	516	38,586,079	330,157	49,120,181	1.2	117	330,157
	TOTAL	103	1,038	81,307,659	616,113	101,903,388	1.2	132	978,449
1988	Eastern	162	771	60,019,586	423,919	75,926,942	1.3	142	740,976
	Western	151	518	45,913,956	323,476	58,314,786	1.3	142	2,501,693
	TOTAL	171	1,285	105,933,542	747,395	134,241,728	1.3	142	3,424,021
1989	Eastern	164	872	77,717,813	393,251	103,163,307	1.3	198	1,137,971
	Western	127	470	34,986,402	271,991	45,142,955	1.3	129	802,511
	TOTAL	168	1,300	112,704,215	665,242	148,306,262	1.3	169	1,940,482

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Table 2-25.--Page 3 of 5.

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

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Table 2-25.--Page 4 of 5.

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

-continued-

Table 2-25.—Page 5 of 5.

Season	Subdistrict	Number of				Average		Deadloss ^e	
		Vessels ^{a,b}	Landings ^c	Crabs ^d	Pots Lifted	Harvest ^{d,e}	Weight ^e		CPUE ^f
2004 ^g	Eastern	59	75	2,127,631	16,539	2,764,695	1.3	129	28,211
	Western	170	209	15,203,883	93,548	19,405,455	1.3	163	196,166
	TOTAL	189	240	17,331,514	110,087	22,170,150	1.3	157	224,377
2005 ^g	Eastern	61	84	5,505,532	18,822	7,798,629	1.4	293	54,539
	Western	128	136	11,179,219	51,041	15,237,658	1.4	219	169,654
	TOTAL	169	196	16,684,751	69,863	23,036,287	1.4	239	224,193
2005/06 ^j	Eastern	66	566	14,193,844	77,311	21,741,637	1.5	184	202,154
	Western	50	263	7,886,391	31,009	11,514,505	1.5	254	120,440
	TOTAL	78	829	22,080,235	108,320	33,256,142	1.5	204	322,594
2006/07 ^j	Eastern	65	488	23,262,299	69,884	28,398,217	1.2	333	325,374
	Western	23	110	3,370,913	10,228	4,301,657	1.3	330	53,758
	TOTAL	69	598	26,633,212	80,112	32,699,874	1.2	332	379,132
2007/08 ^j	Eastern	78	410	42,346,121	121,957	53,151,860	1.3	347	482,784
	Western	7	50	2,858,356	7,500	3,572,870	1.2	381	17,372
	TOTAL	78	460	45,204,477	129,457	56,724,730	1.3	349	500,156

Note: "NA" = Not Available.

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

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

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

^d Deadloss included.

^e In pounds.

^f Number of legal crabs per pot lift.

^g General fishery only, no CDQ.

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

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

^j IFQ fishery only, no CDQ.

Table 2-26.—Bering Sea District commercial snow crab general/IFQ fishery harvest composition by fishing season, 1978/79 - 2007/08.

Season	Average		Percent new shell	Percent <102 mm cw landed
	Weight ^a	Width ^b		
1978/79	1.5	113.1	83.0	NA
1979/80	1.6	118.1	90.0	NA
1981	1.5	117.0	79.2	NA
1982	1.2	109.4	78.0	NA
1983 ^c	1.1	NA	NA	NA
1984 ^c	1.1	105.4	78.0	NA
1985 ^c	1.3	108.0	80.0	NA
1986 ^c	1.3	109.5	73.7	NA
1987 ^c	1.2	108.9	84.0	NA
1988 ^c	1.3	109.5	71.2	NA
1989 ^c	1.3	111.2	85.2	NA
1990 ^c	1.3	109.1	97.4	NA
1991 ^c	1.2	110.2	95.1	NA
1992	1.4	111.7	97.6	NA
1993	1.4	111.6	92.5	NA
1994	1.3	110.4	93.1	11.3
1995	1.2	108.6	89.6	17.2
1996	1.2	107.5	75.8	19.7
1997	1.2	107.3	96.5	17.3
1998	1.3	111.1	97.0	7.3
1999	1.3	110.3	97.7	8.0
2000	1.3	111.3	95.2	6.5
2001	1.4	111.3	95.2	5.3
2002	1.3	110.4	69.0	12.2
2003	1.2	107.2	83.8	10.2
2004	1.3	110.4	86.0	10.2
2005	1.4	113.6	88.1	7.9
2005/06 ^d	1.5	116.6	81.4	1.8
2006/07	1.2	109.1	88.3	9.2
2007/08	1.3	109.4	94.3	2.9

Note: "NA" = Not available.

^a In pounds.

^b Carapace width in millimeters.

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

^d Crab Rationalization begins.

Table 2-27.—Bering Sea District commercial snow crab fishery economic data 1979/80 - 2007/08.

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

^a Average price per pound.

^b Millions of dollars.

^c Prior to 1992 includes Tanner crab gear.

^d In days.

^e Partial district and subdistrict closures, see Table 2-24.

^f Crab Rationalization begins.

Table 2-28.—Bering Sea commercial snow crab IFQ fishery harvest and effort by week, 2007/08 season.

Week ending	Number of			Harvest ^{a,b}	Pot pulls	CPUE ^c	Deadloss ^b
	Vessels	Landings	Crabs ^a				
18-Nov	1			CONFIDENTIAL			
25-Nov	1			CONFIDENTIAL			
2-Dec	1			CONFIDENTIAL			
9-Dec	1			CONFIDENTIAL			
16-Dec	1			CONFIDENTIAL			
23-Dec	1			CONFIDENTIAL			
30-Dec	1			CONFIDENTIAL			
7-Jan	4	4	495,060	621,179	1,203	412	2,682
14-Jan	17	23	3,143,700	3,995,042	7,778	404	24,456
21-Jan	23	28	2,868,831	3,641,973	7,554	380	30,287
28-Jan	29	38	4,582,063	5,773,333	11,680	392	48,999
4-Feb	37	40	4,809,942	6,154,550	14,554	330	56,025
11-Feb	36	45	4,734,265	5,925,607	12,735	372	67,829
18-Feb	30	36	4,039,215	5,002,035	10,010	404	53,365
25-Feb	35	42	4,120,405	5,149,941	12,023	343	51,434
4-Mar	30	39	3,771,514	4,659,329	11,546	327	43,982
11-Mar	27	36	2,951,990	3,706,911	11,114	266	27,358
18-Mar	21	26	1,950,768	2,434,788	8,371	233	25,576
25-Mar	13	13	641,889	813,342	2,957	217	6,185
1-Apr	1			CONFIDENTIAL			
8-Apr	6	8	797,408	969,687	2,203	362	5,775
15-Apr	12	16	1,738,123	2,202,791	3,339	521	23,322
22-Apr	17	26	2,171,104	2,678,134	5,545	392	21,090
29-Apr	12	14	1,111,453	1,384,459	3,231	344	7,353
6-May	11	16	652,866	820,799	1,675	390	4,037
13-May	2	2	118,798	146,509	361	329	210
Total	78	460	45,204,477	56,724,730	129,457	349	500,156

^a Deadloss included.

^b In Pounds.

^c Number of legal crabs per pot lift.

Table 2-29.—Bering Sea District commercial snow crab fishery catch by statistical area, 2007/08.

Statistical Area	Number of			Harvest ^{b,c}	Average		Deadloss ^c
	Landings ^a	Crabs ^b	Pots Lifted		Weight ^c	CPUE ^d	
EASTERN SUBDISTRICT STATISTICAL AREAS							
665430	3	1,128	243	1,540	1.4	5	69
665500	8	5,803	1,769	7,657	1.3	3	531
665530	7	695	1,093	879	1.3	1	7
675500	6	1,311	140	1,629	1.2	9	16
675530	10	21,803	368	27,883	1.3	59	256
675600	6	88,894	354	115,489	1.3	251	832
695631	6	525	908	665	1.3	1	4
705600	54	786,674	3,265	1,003,590	1.3	241	9,008
705630	72	1,439,910	5,426	1,818,468	1.3	265	17,655
705701	52	1,895,134	4,613	2,507,520	1.3	411	21,790
715600	70	1,416,080	5,133	1,784,007	1.3	276	18,819
715630	284	17,170,077	47,795	21,510,650	1.3	359	204,768
715700	134	7,457,121	18,778	9,412,923	1.3	397	91,940
725630	131	5,948,354	16,413	7,313,168	1.2	362	65,696
725700	84	3,673,197	9,587	4,592,919	1.3	383	33,347
725730	29	2,198,933	5,061	2,750,092	1.3	434	16,487
Other ^e	22	240,482	1,011	302,783	1.3	238	1,559
Subtotal	978	42,346,121	121,957	53,151,862	1.3	347	482,784
WESTERN SUBDISTRICT STATISTICAL AREAS							
735630	8	3,300	105	4,063	1.2	31	12
735700	12	413,061	1,276	513,986	1.2	324	3,233
735730	19	1,879,027	4,366	2,336,005	1.2	430	14,127
Other ^f	11	562,968	1,753	718,814	1.3	321	0
Subtotal	50	2,858,356	7,500	3,572,868	1.2	381	17,372
Total	1,028	45,204,477	129,457	56,724,730	1.3	349	500,156

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

^b Deadloss included.

^c In pounds.

^d Number of legal crabs per pot lift.

^e Includes 12 statistical areas where less than three vessels made landings.

^f Includes two statistical areas where less than three vessels made landings.

Table 2-30.—Bering Sea District commercial grooved Tanner crab fishery harvest data, 1992 - 2007.

Year	Number of			Harvest ^{a,b}	Average		Value		Deadloss ^b
	Vessels	Crabs ^a	Pots Lifted		Weight ^b	CPUE ^c	Exvessel ^d	Total ^e	
1992				CONFIDENTIAL					
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			NO LANDINGS					
2000	1			CONFIDENTIAL					
2001	1			CONFIDENTIAL					
2002	0			NO LANDINGS					
2003	1			CONFIDENTIAL					
2004	4			CONFIDENTIAL					
2005	1			CONFIDENTIAL					
2006 - 2007	0			NO LANDINGS					

^a Deadloss included.

^b In pounds.

^c Number of legal crabs per pot lift.

^d Average price per pound.

^e Millions of dollars.

Table 2-31.—Bering Sea District commercial triangle Tanner crab fishery harvest data, 1992 - 2007.

Year	Number of			Harvest ^{a,b}	Average		Value		Dead loss ^b
	Vessels	Crabs ^a	Pots Lifted		Weight ^b	CPUE ^c	Exvessel ^d	Total ^e	
1992-1994	0			NO LANDINGS					
1995	4	35,236	21,070	40,991	1.2	1	\$1.45	\$0.06	11,943
1996	1			CONFIDENTIAL					
1997-1999	0			NO LANDINGS					
2000 ^f	1			CONFIDENTIAL					
2001 ^f	1			CONFIDENTIAL					
2002 ^f	0			NO LANDINGS					
2003 ^f	1			CONFIDENTIAL					
2004 ^f	4			CONFIDENTIAL					
2005 - 2007 ^f	0			NO LANDINGS					

^a Deadloss included.

^b In pounds.

^c Number of legal crabs per pot lift.

^d Average price per pound.

^e Millions of dollars.

^f Restricted to incidental harvest during grooved Tanner crab fishery.

Table 2-32.--Bering Sea commercial hair crab fishery data, 1979 - 2007.

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

-continued-

Table 2-32.--Page 2 of 2.

Season	Number of			Harvest ^{a,b}	Pots		Average		Deadloss
	Vessels	Landings	Crabs ^a		Registered	Pulled	CPUE ^c	Weight ^b	
1996 ^d	19	99	485,735	745,804	20,680	410,548	1	1.5	32,495
1997 ^d	16	52	420,121	668,096	18,180	211,970	2	1.6	17,522
1998 ^d	12	31	188,784	307,739	14,330	128,495	2	1.6	17,392
1999 ^d	8	27	139,894	221,656	9,840	92,333	1	1.6	4,677
2000 ^d	3	3	1,058	1,546	3,900	3,300	<1	1.5	0
2001-2007 ^d	FISHERY CLOSED								

^a Deadloss included.

^b In pounds.

^c Number of legal crabs retained per pot pull.

^d Permit fishery.

^e Spring fishery.

^f Fall fishery.

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

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

Table 2-33.—Bering Sea commercial hair crab fishery economic performance data, 1979 - 2007.

Season	GHL ^a	Value		Season	
		Exvessel ^b	Total ^c	Days	Dates
1979		\$0.54	\$0.003	257	04/19-12/31
1980		\$0.75	\$0.04	244	01/01-08/30
1980/81		\$0.80	\$1.7	242	11/01-06/30
1981/82		\$0.55	\$0.5	288	11/01-08/15
1982/83		\$0.65	\$0.7	297	10/08-08/01
1983/84		\$1.20	\$0.5	335	08/01-06/30
1984		\$1.60	\$0.6	184	07/01-12/31
1985		\$1.60	\$0.1	365	01/01-12/31
1986		\$1.15	\$0.2	365	01/01-12/31
1987		CONFIDENTIAL		365	01/01-12/31
1988-90		NO LANDINGS		365	01/01-12/31
1991		\$3.08	\$1.2	365	01/01-12/31
1992		\$2.25	\$0.5	32	01/01-06/04
1992		\$2.46	\$2.8	156	10/01-11/01
1993		NA	NA	45	04/01-05/15
1993/94	3.0	\$2.42	\$5.3	171	11/01-04/20
1994	1.1	\$3.55	\$4.0	41	11/01-12/12
1995	1.8	\$2.87	\$5.7	25	11/01-11/26
1996	0.9	\$2.65	\$1.9	31	11/01-12/02
1997	0.8	\$2.97	\$1.9	25	11/01-11/25
1998	0.4	\$2.70	\$0.8	16	10/08-10/23
1999	0.3	\$3.20	\$0.7	37	10/30-12/07
2000	0.3	\$3.84	\$0.005	7	10/30-11/05
2001-2007		FISHERY CLOSED			

Note: "NA" = Not Available.

^a Guideline harvest level, millions of pounds.

^b Price per pound.

^c In millions of dollars.

Table 2-34.—Bering Sea commercial octopus incidental harvest in groundfish fisheries, 1995 - 2007.

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

^a All landings incidental to other fisheries.

^b Harvest data from state groundfish fish tickets (Neptune database), in pounds.

^c Discards at sea included.

^d The 1995 directed fishery data is confidential, and is not included in this table.

Table 2-35.--Bering Sea commercial snail catch data, 1992 - 2007.

Year	Number of		Number of Pots		Harvest ^{a,b}	CPUE ^c	Pounds	Deadloss ^b
	Vessels	Landings	Registered	Pulled			Per Pot ^d	
1992				CONFIDENTIAL				
1993	4	10	13,800	44,686	312,876	25	7	NA
1994	4	42	14,850	279,349	2,027,328	21	7.3	62,571
1995	4	38	18,800	262,096	2,352,825	28	9	22,371
1996	5	67	31,300	741,326	3,572,992	16	4.8	62,494
1997	3	17	14,500	191,893	932,048	16	4.9	77,131
1998-2007				NO LANDINGS				

Note: "NA" = Not available.

^a Deadloss included.

^b In pounds.

^c Number of snails per pot pull.

^d Whole weight.

Table 2-36.—Bering Sea commercial snail fishery economic performance data, 1992 - 2007.

Year	Harvest ^a	Number of		Value	
		Vessels	Landings	Exvessel ^b	Total
1992			CONFIDENTIAL		
1993	312,876	4	10	\$0.40	\$125,150
1994	1,964,757	4	42	\$0.34	\$668,017
1995	2,330,454	4	38	\$0.30	\$699,136
1996	3,510,498	5	67	\$0.30	\$1,053,149
1997	854,917	3	17	\$0.36	\$307,770
1998-2007			NO LANDINGS		

^a In pounds. Deadloss not included.

^b Price per pound.

Table 2-37.--North Peninsula District commercial Dungeness crab fishery data, 1992 - 2007.

Year	Number of		Harvest ^{a,b}	Pots Pulled	Value		Average		Deadloss ^b
	Vessels	Crabs ^a			Exvessel ^c	Total ^d	Weight ^b	CPUE ^e	
1992	0					NO LANDINGS			
1993	2					CONFIDENTIAL			
1994	2					CONFIDENTIAL			
1995	6	63,732	134,407	34,499	\$1.32	\$0.18	2.1	4	367
1996	1					CONFIDENTIAL			
1997	2					CONFIDENTIAL			
1998	1					CONFIDENTIAL			
1999	0					NO LANDINGS			
2000	1					CONFIDENTIAL			
2001	0					NO LANDINGS			
2002	3	11,173	21,871	2,431	\$1.78	\$0.04	2.0	5	236
2003	0					NO LANDINGS			
2004	1					CONFIDENTIAL			
2005	0					NO LANDINGS			
2006	0					NO LANDINGS			
2007	1					CONFIDENTIAL			

^a Deadloss included.

^b In pounds.

^c Price per pound.

^d Millions of dollars.

^e Number of legal crabs per pot pull.

Table 2-38.—Pot Limits for Bering Sea and Aleutian Islands king and Tanner crab Fisheries, 2007/08.

Fishery	Vessel Length	Pot Limit
Bering Sea District snow crab	-	450
Bering Sea District Tanner crab	-	450
St. Matthew Island Section blue king crab	-	250
St. Matthew Island Section golden king crab	<= 125'	60
	> 125'	75
Pribilof District red/blue king crab	-	250
Pribilof District golden king crab	<= 125'	40
	> 125'	50
Bristol Bay red king crab	-	450
Eastern Aleutian Tanner crab	-	Total fishery pot limit 300
Petrel Bank red king crab	-	

Table 2-39.--Number of Bering Sea and Aleutian Islands buoy tags printed and issued by fishery, 2007/08.

Fishery	Number of Tags Ordered ^a	Tag Sets Issued		Total Sets	Tags Issued		Tags Replaced	Total Tags
		<= 125' ^b	> 125' ^b		<= 125' ^b	> 125' ^b		
Bristol Bay red king crab	Surplus Tags	47	26	73	8,005	6,470	0	14,475
Bering Sea snow crab	Surplus Tags	49	29	78	8,740	6,877	0	15,617
Bering Sea Tanner crab	Surplus Tags	23	11	34	3,748	1,660	0	5,408
Eastern Aleutian District Tanner	Surplus Tags	14	0	14	182	0	0	182
Total		133	66	199	20,675	15,007	0	35,682

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

^b Overall vessel length.

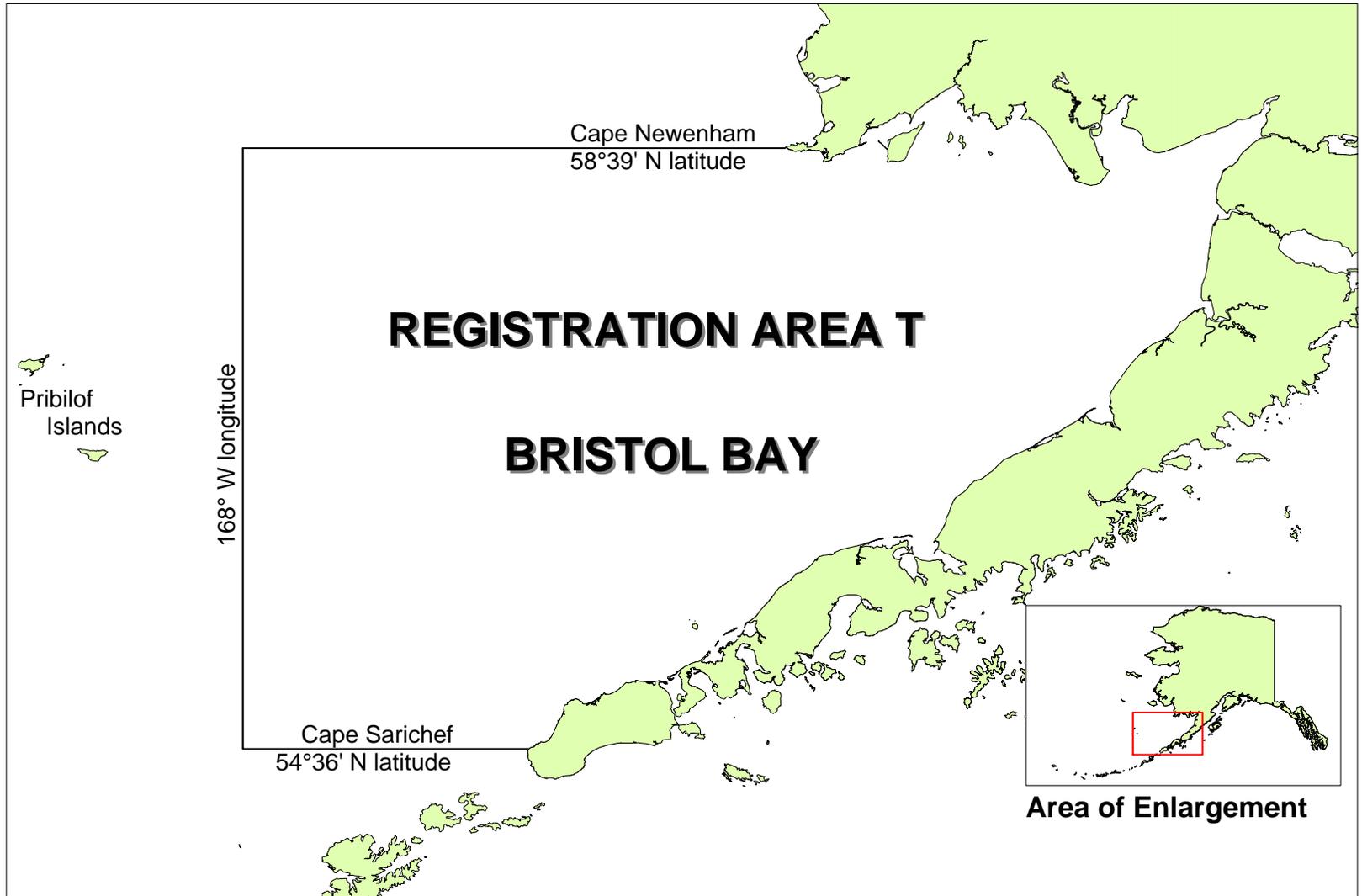


Figure 2-1.—King crab Registration Area T (Bristol Bay).

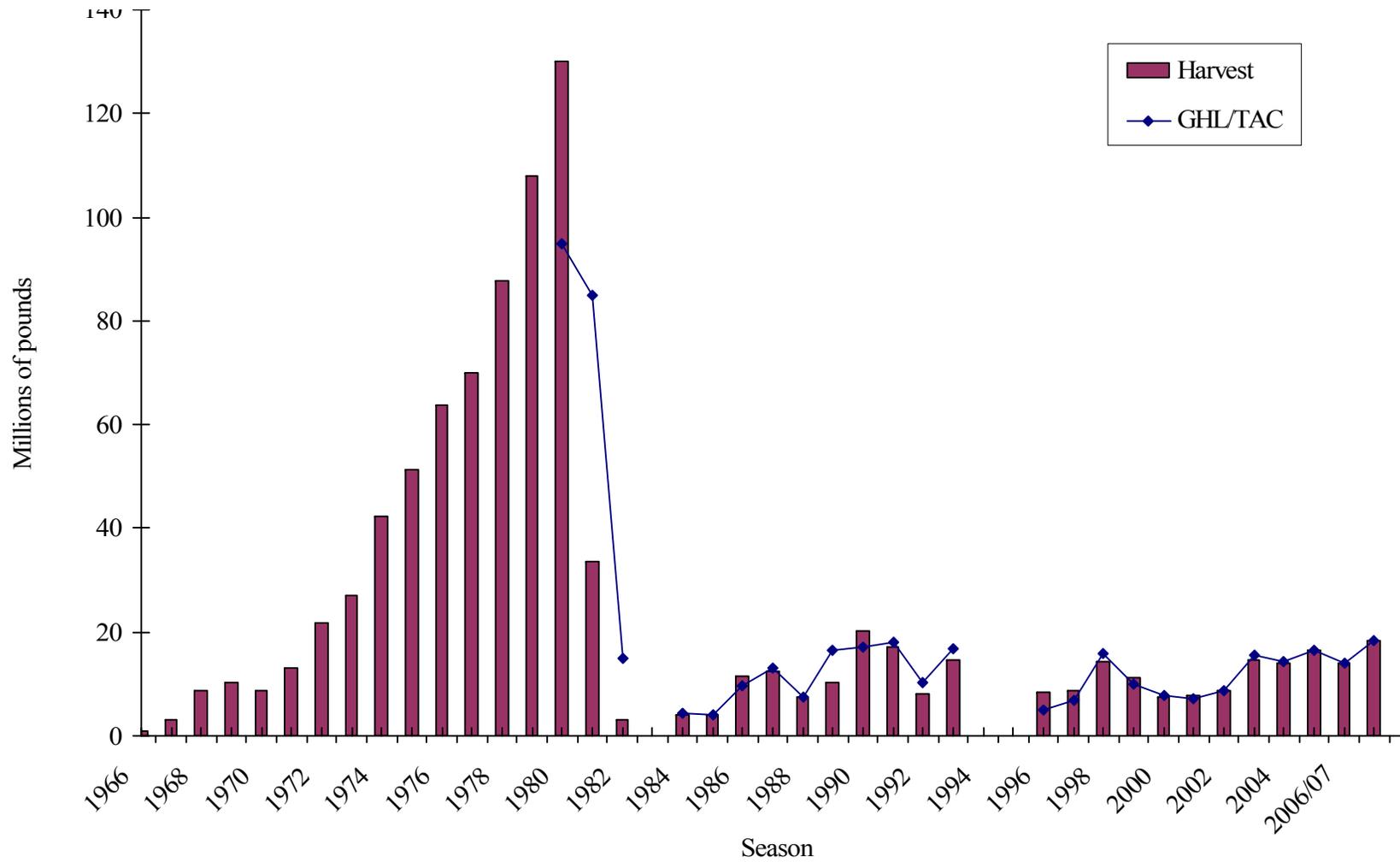


Figure 2-2.—Bristol Bay commercial red king crab general/IFQ fishery harvest and GH/L/TAC, 1966 - 2007/08.

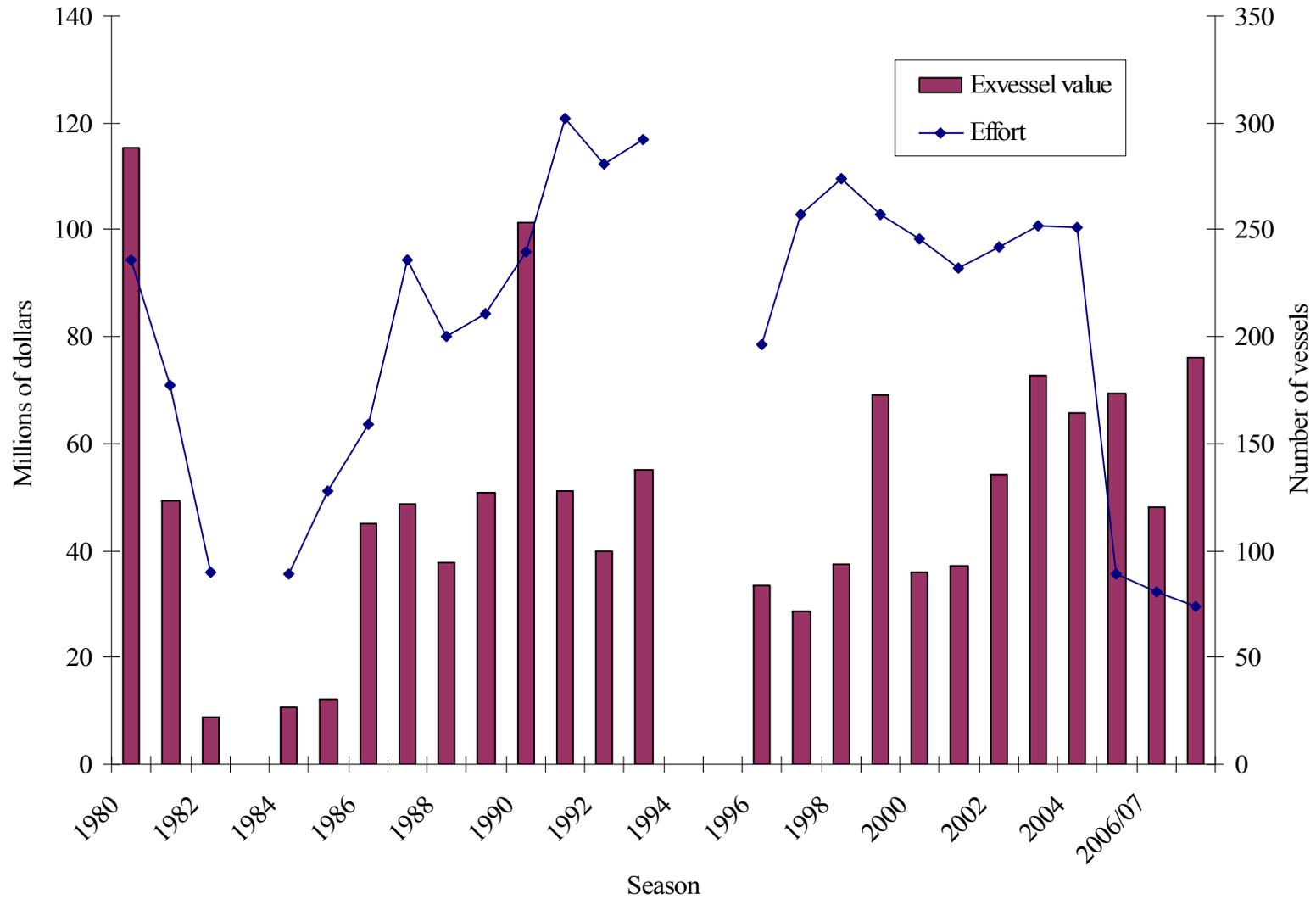


Figure 2-3.—Bristol Bay commercial red king crab general/IFQ fishery effort and exvessel value, 1980 - 2007/08.

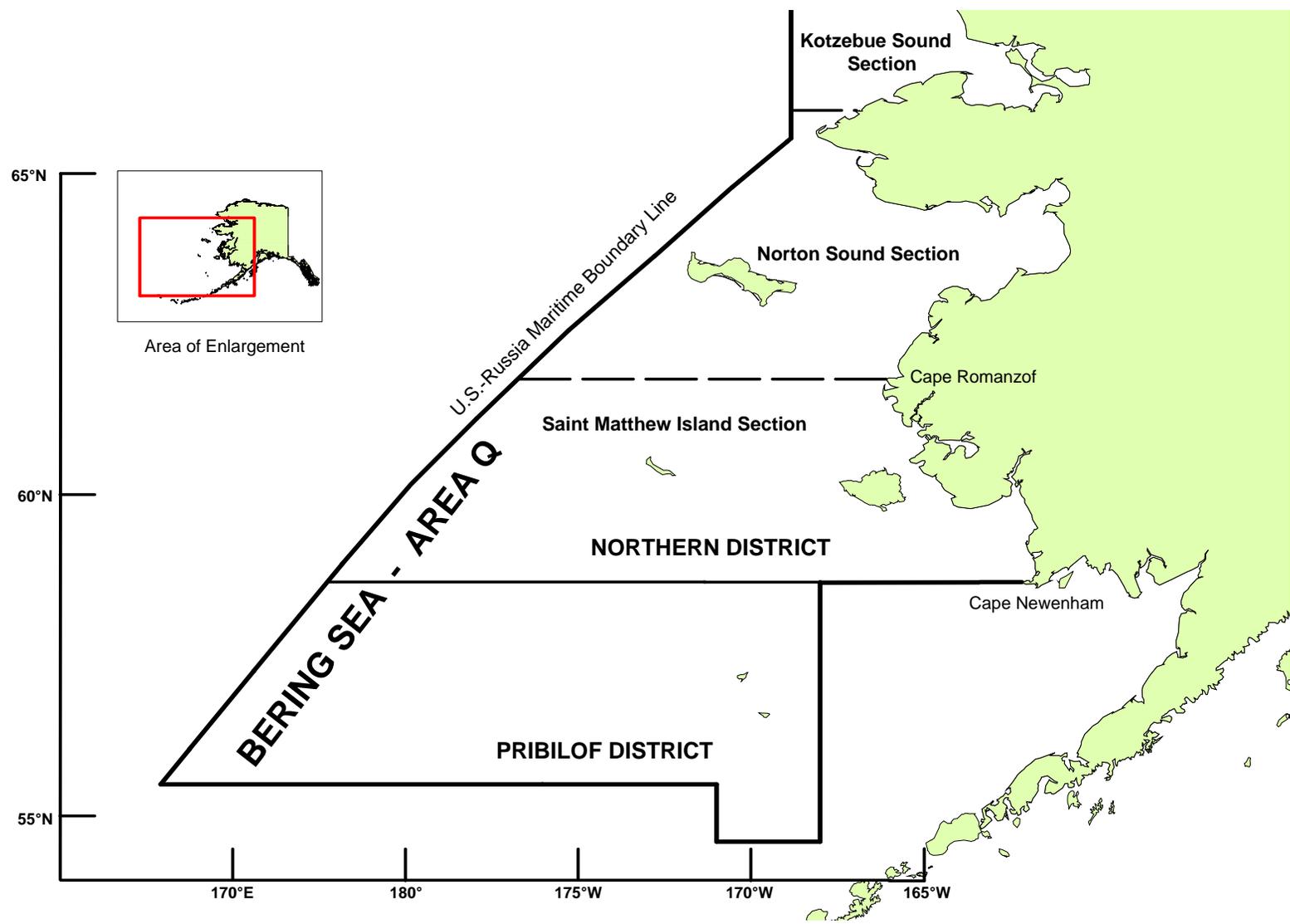


Figure 2-4.—King crab Registration Area Q (Bering Sea).

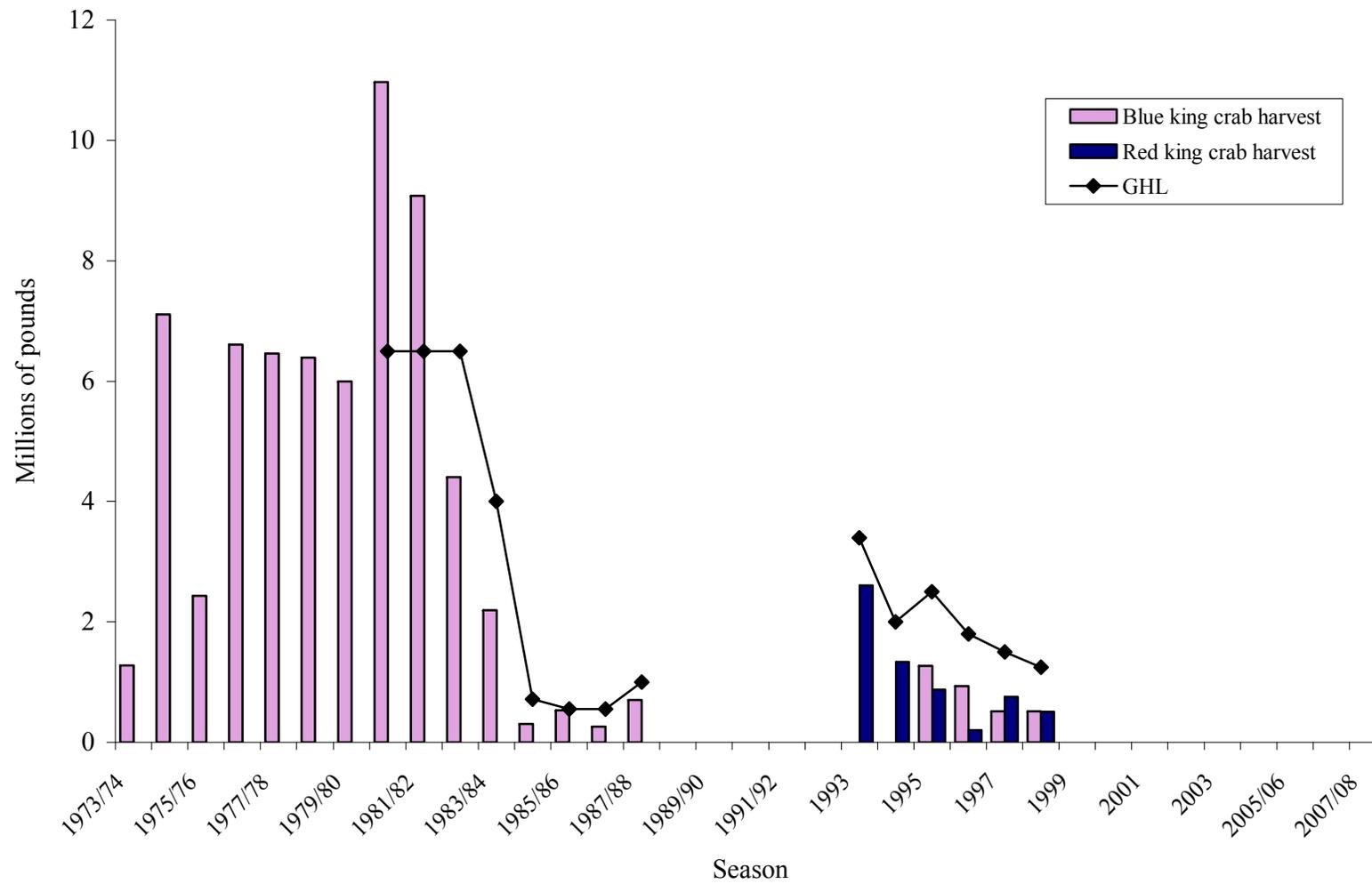


Figure 2-5.—Pribilof District red and blue king crab harvest and GHL 1973 - 2007/08. GHL for red and blue king crab is combined from 1995 onward.

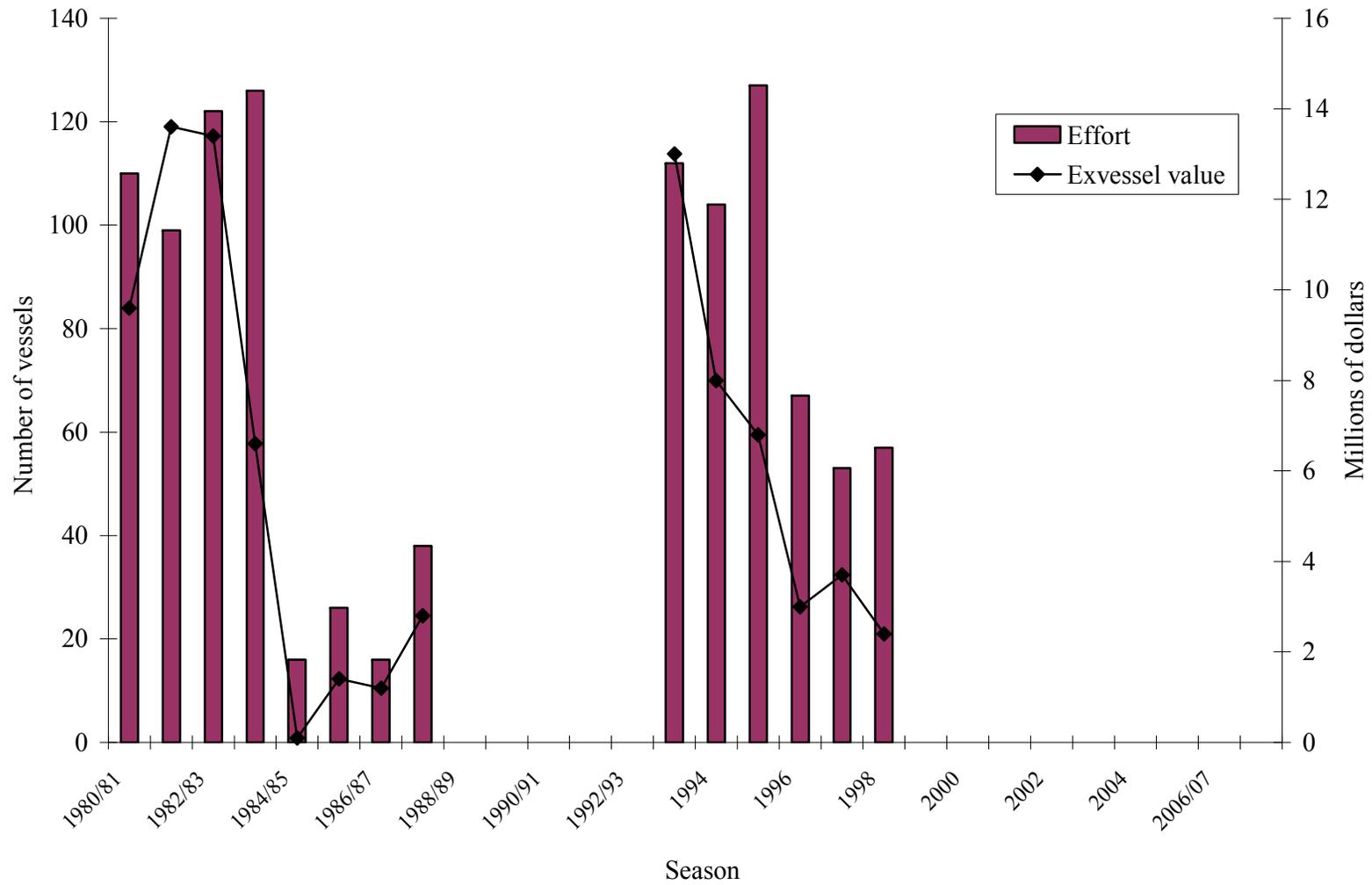


Figure 2-6.—Pribilof District commercial red and blue king crab fishery effort and exvessel value, 1980 - 2007/08.

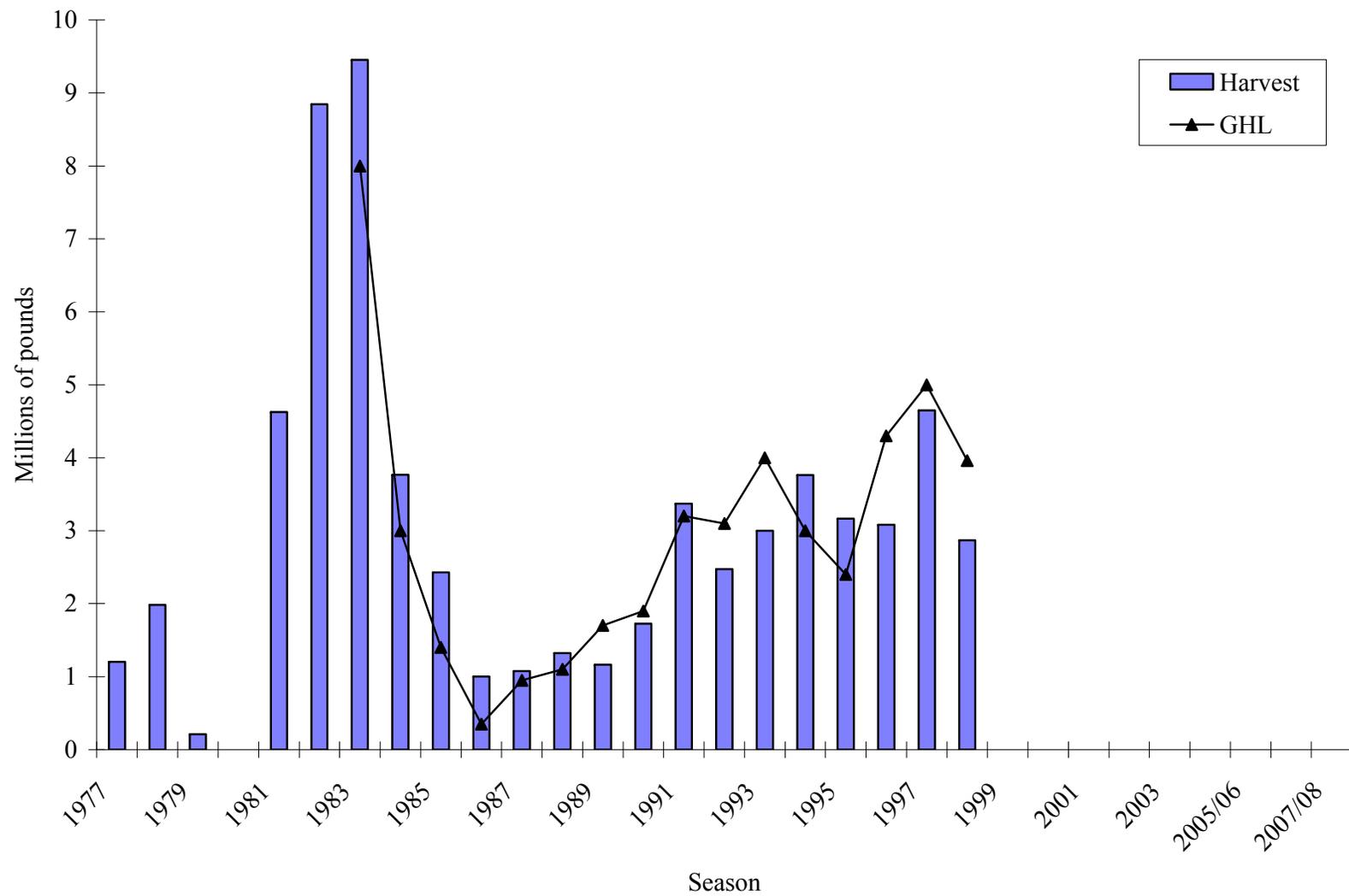


Figure 2-7.—Saint Matthew Island Section commercial blue king crab fishery harvest and GHL, 1977 - 2007/08.

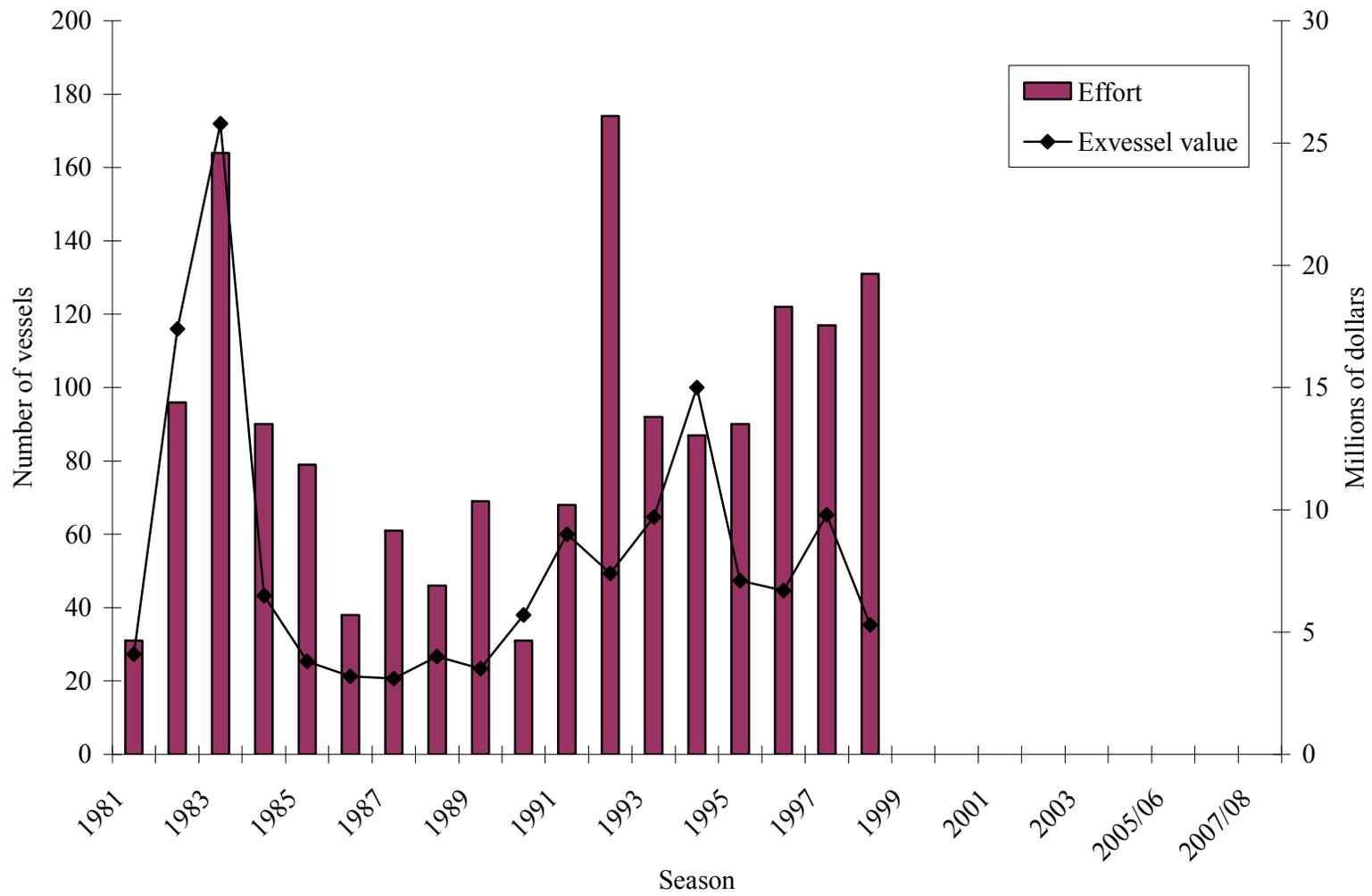


Figure 2-8.—Saint Matthew Island Section commercial blue king crab fishery effort and exvessel value, 1981 - 2007/08.

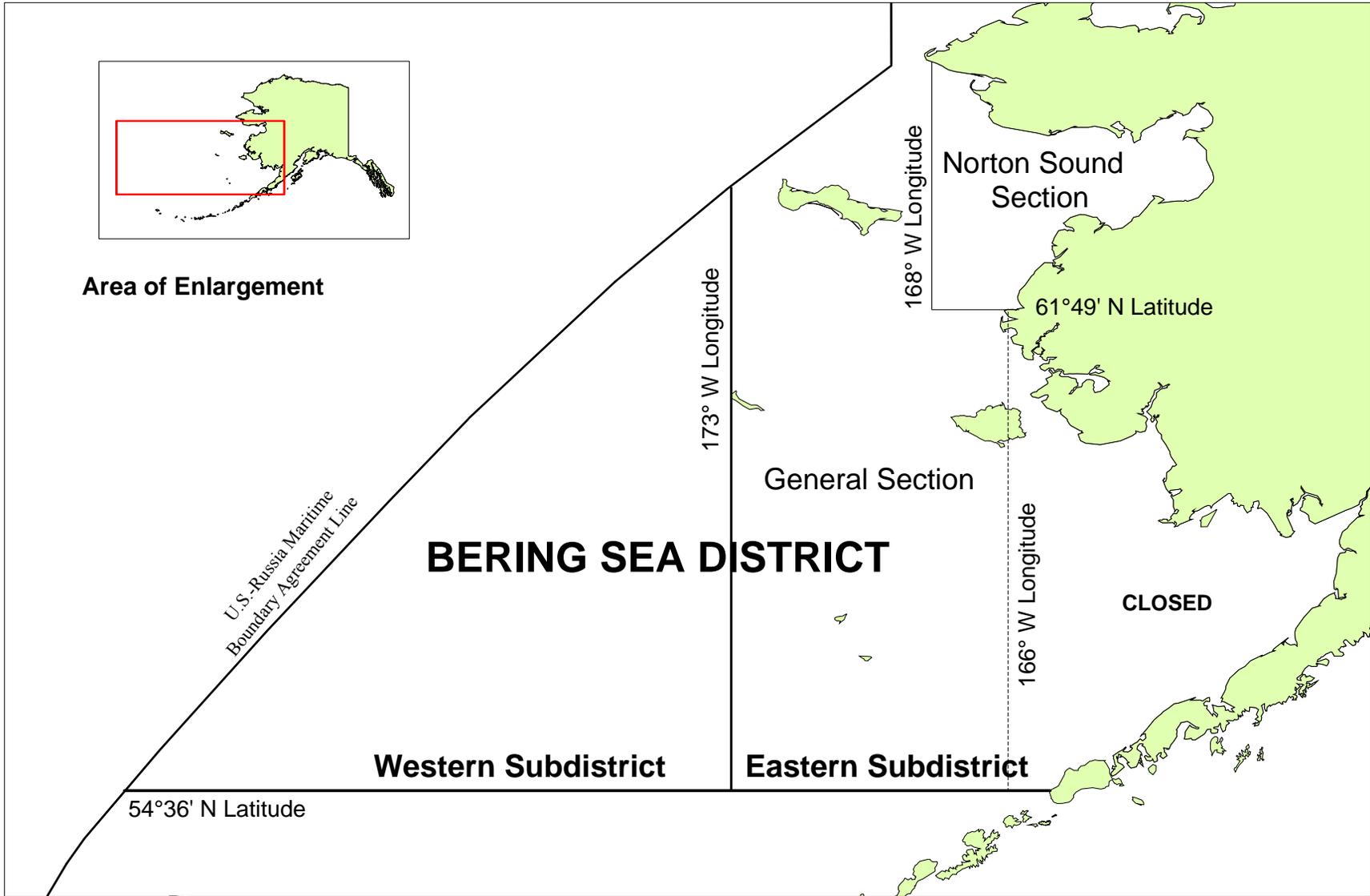


Figure 2-9.—Bering Sea District of Tanner crab Registration Area J including subdistricts and sections.

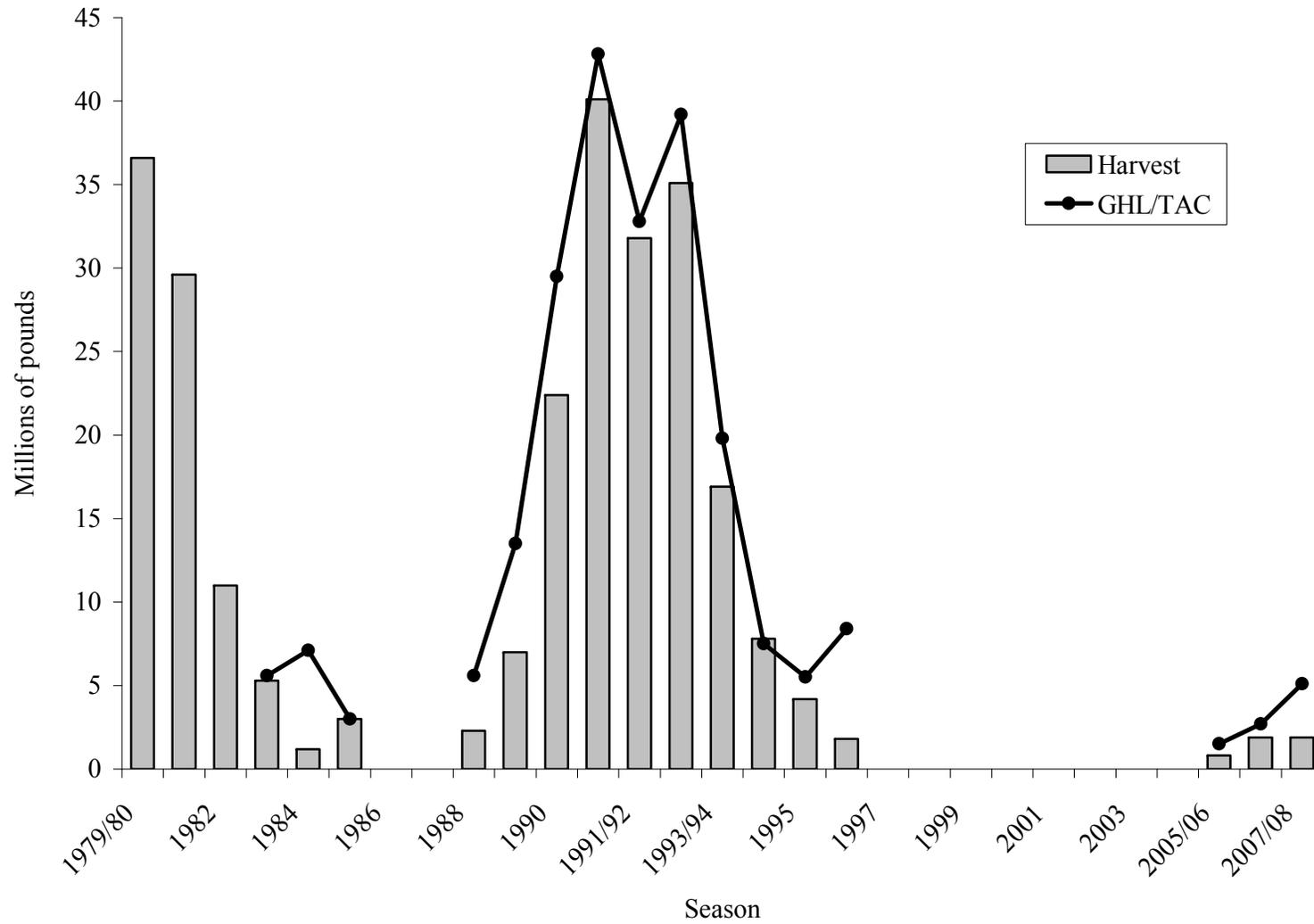


Figure 2-10.—Bering Sea District commercial Tanner crab general/IFQ fishery harvest and GHL/TAC, 1979 - 2007/08.

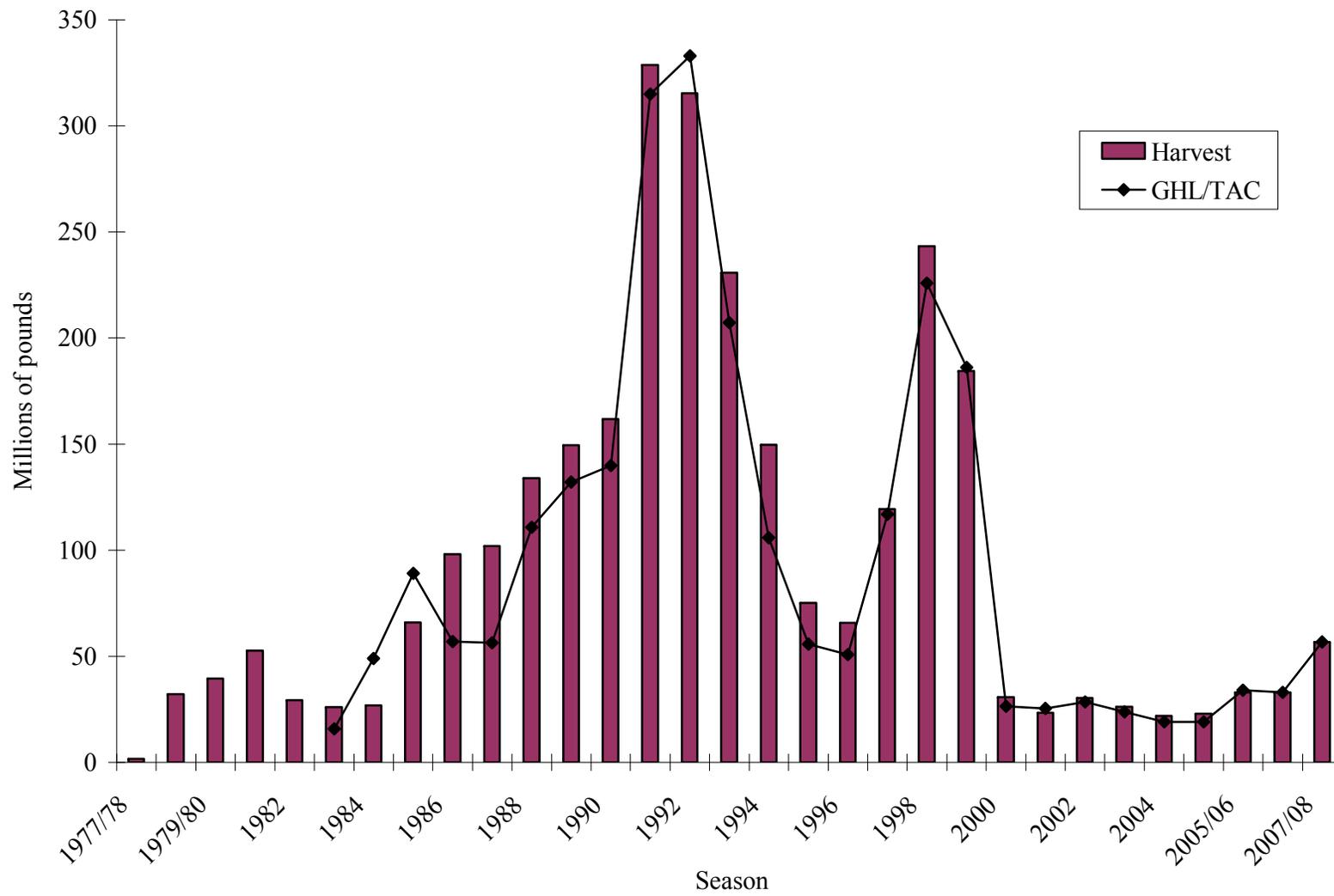


Figure 2-11.—Bering Sea District commercial snow crab general/IFQ fishery harvest and GHL/TAC, 1977 - 2007/08.

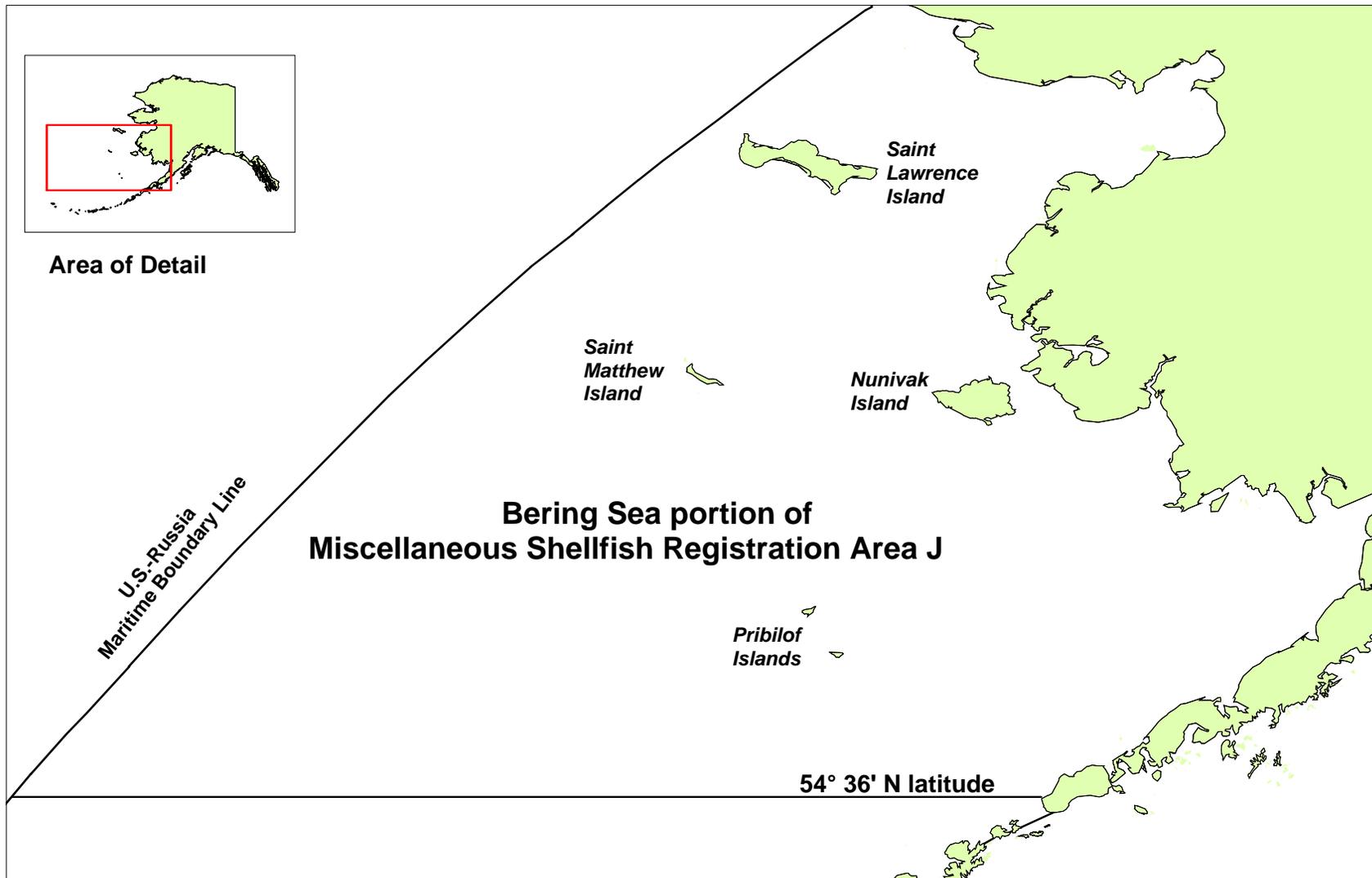


Figure 2-12. Bering Sea portion of miscellaneous shellfish Registration Area J.

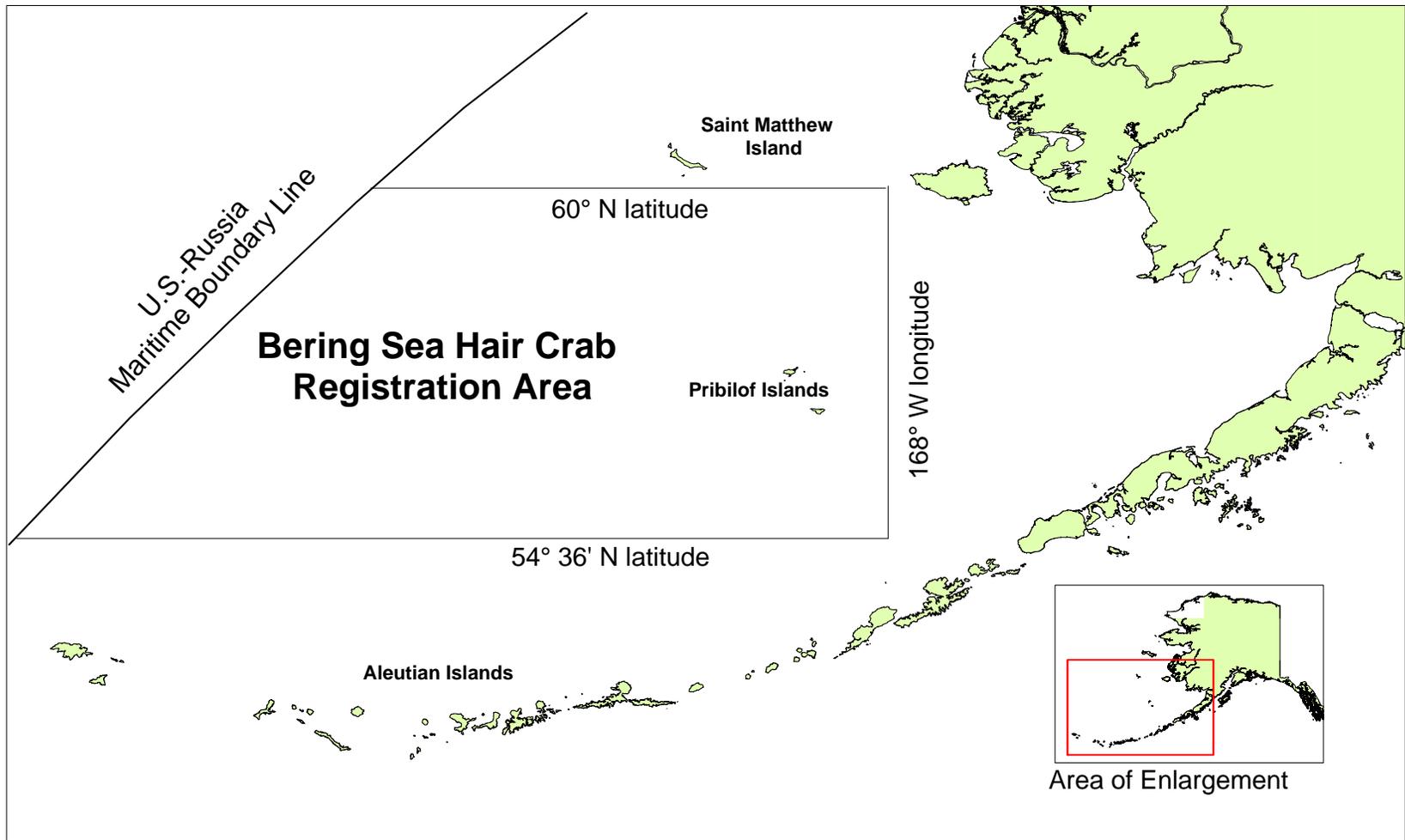


Figure 2-13.—Bering Sea hair crab fishing area of miscellaneous shellfish Registration Area J.

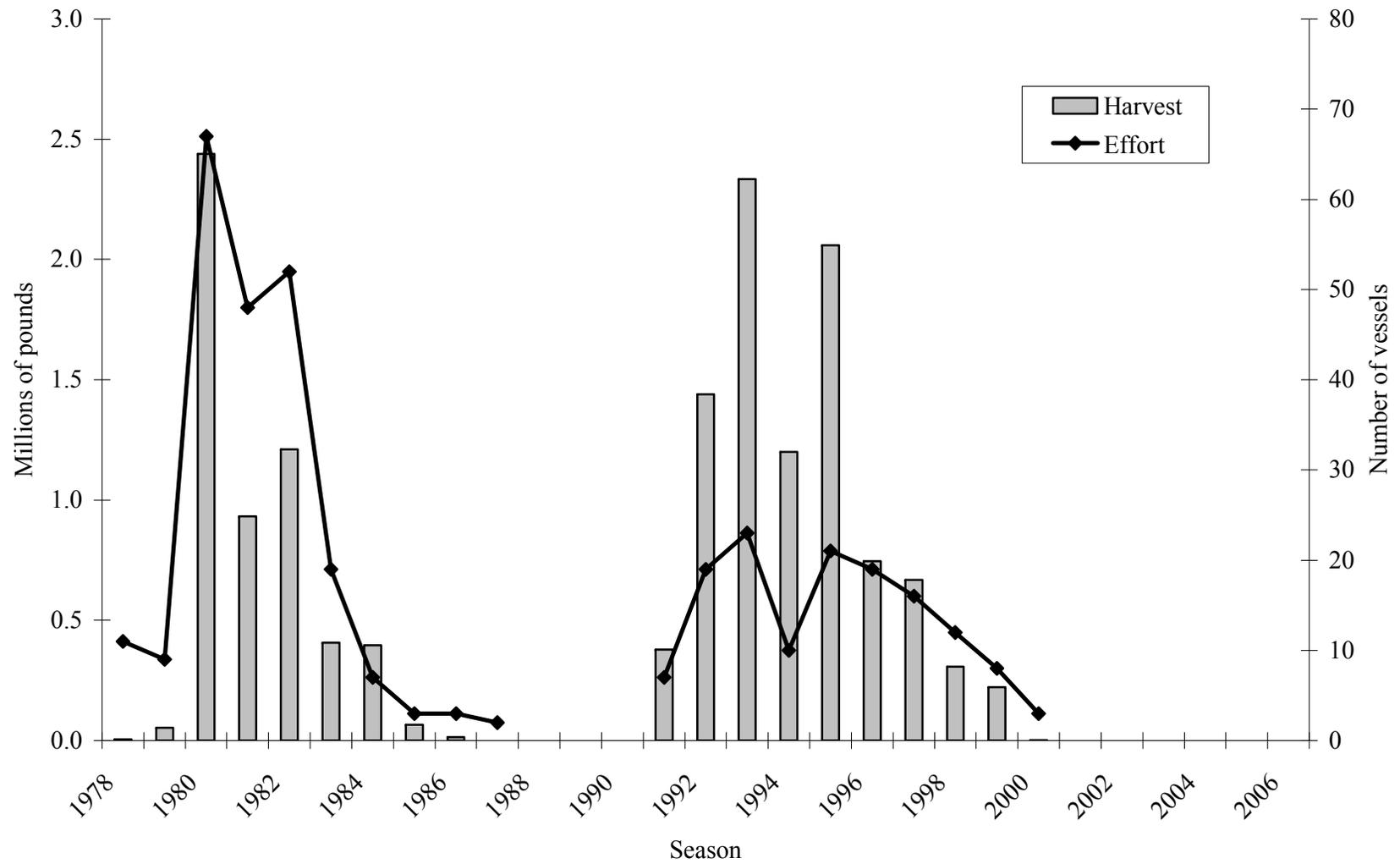


Figure 2-14.—Bering Sea commercial hair crab fishery harvest and effort, 1978 - 2006.

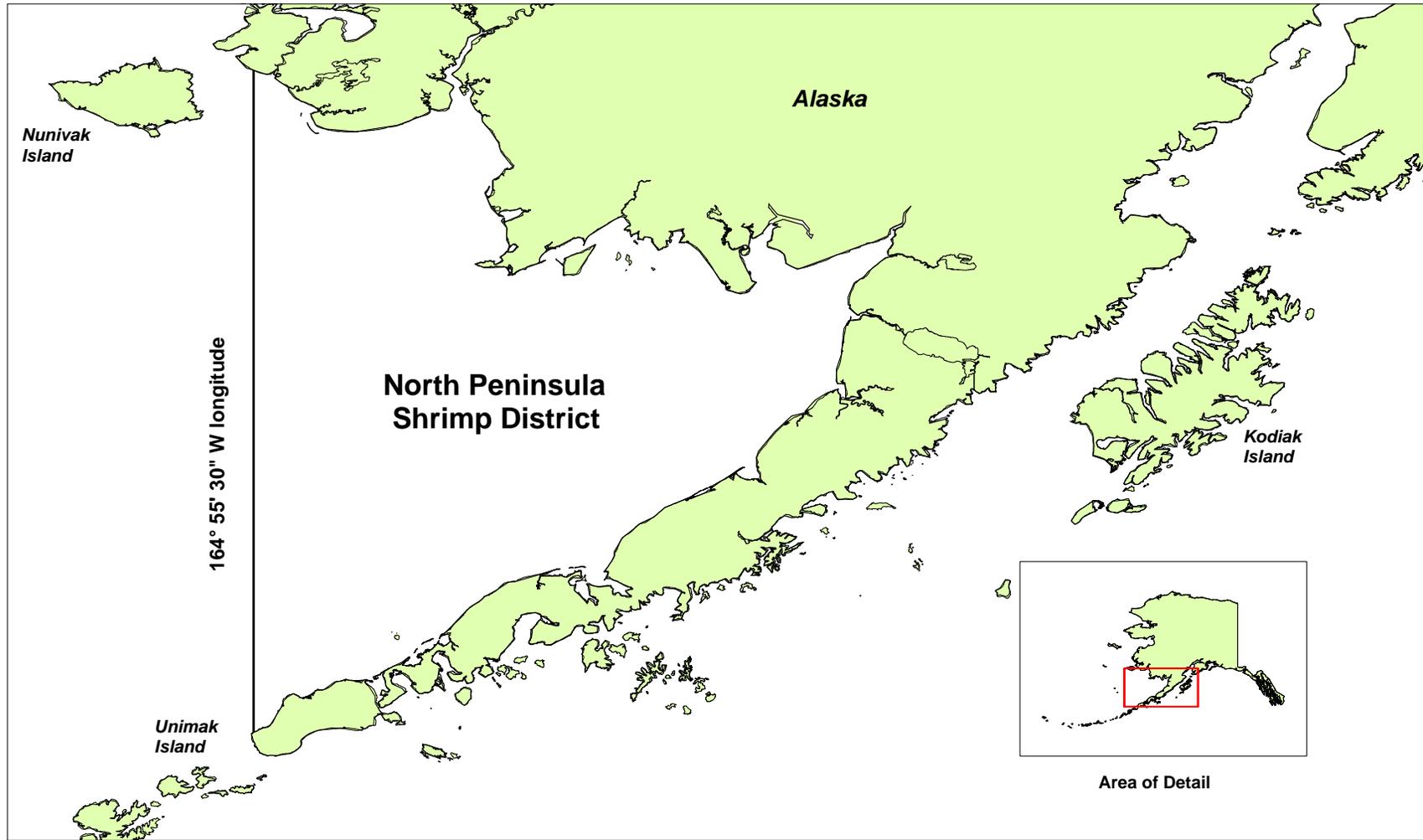


Figure 2-15.—North Peninsula District of shrimp Registration Area J.

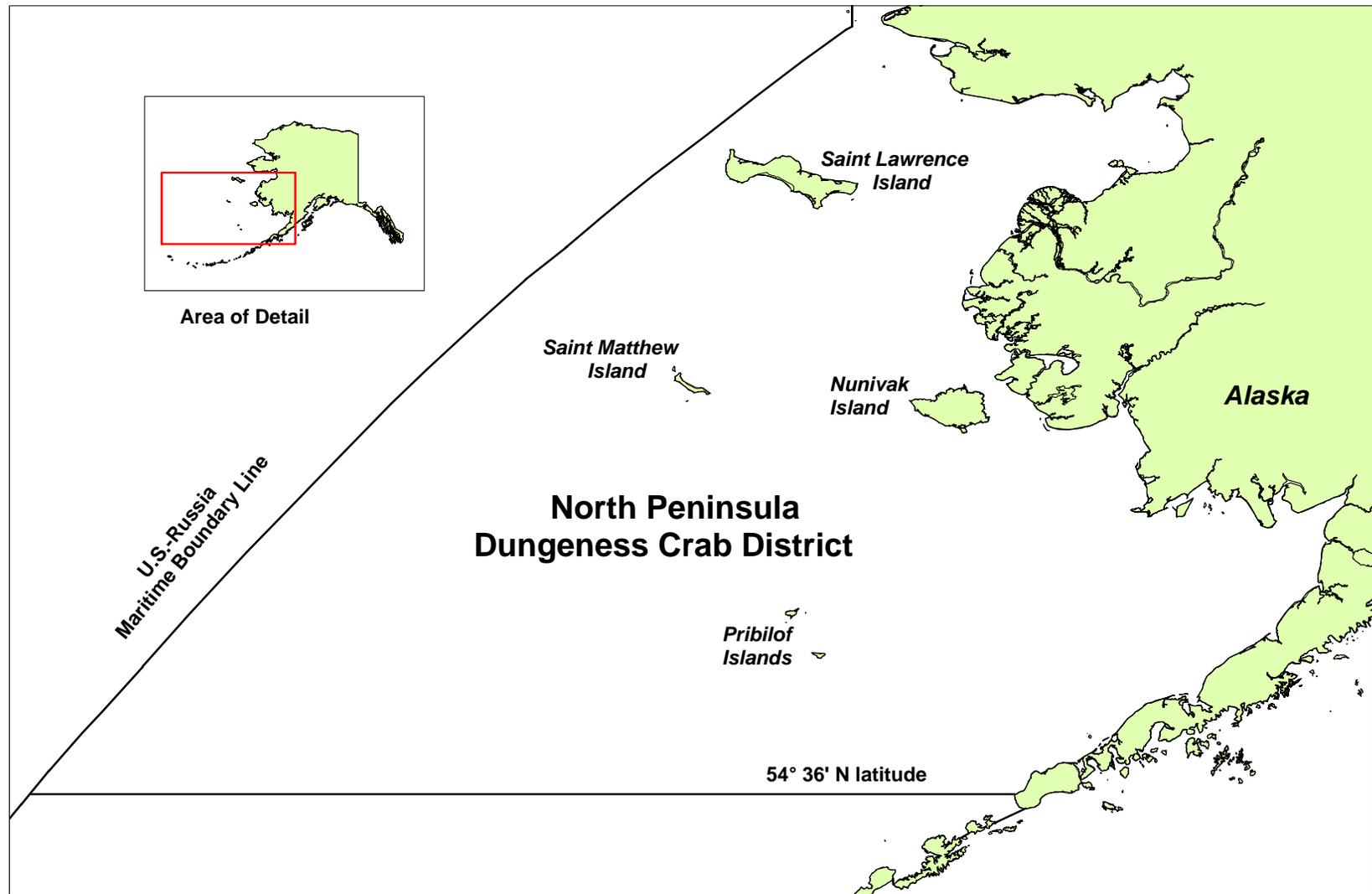


Figure 2-16.—North Peninsula District of Dungeness crab Registration Area J.

**ANNUAL MANAGEMENT REPORT FOR THE
COMMUNITY DEVELOPMENT QUOTA AND ADAK
COMMUNITY ALLOCATION CRAB FISHERIES IN
THE BERING SEA AND ALEUTAIN ISLANDS, 2007/08**

by
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December 2008

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

DESCRIPTION OF AREA

The Bering Sea Community Development Quota (CDQ) crab fisheries occur within waters of the Territorial Sea (0-3 nautical miles) and Exclusive Economic Zone (3-200 nautical miles from shore) north of Cape Sarichef (54° 36' N lat.), south of Cape Prince of Wales (65° 49' N lat.), and east of the U.S.-Russia Maritime Boundary Line, including the waters of Bristol Bay. For those CDQ 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 (Area O) CDQ fisheries have as their eastern boundary the longitude of Scotch Cap Light (164° 44' W long.), their northern boundary a line from Cape Sarichef (54° 36' N lat.) to 171° W long., north to 55° 30' N lat., and as its western boundary the U.S.-Russia Maritime Boundary Agreement Line. The Adak Community Allocation (ACA) fishery occurs in Area O west of 174° W long. Area O encompasses both the waters of the Territorial Sea (0-3 nautical miles) and waters of the Exclusive Economic Zone (3-200 nautical miles) (Figure 3-2).

CDQ PROGRAM BACKGROUND

The North Pacific Fishery Management Council (NPFMC) established the CDQ Program in 1992 for walleye pollock and it was later expanded to sablefish and Pacific halibut. In 1995 the NPFMC included certain Bering Sea king and Tanner crab stocks in the CDQ Program. The Alaska Board of Fisheries (BOF) adopted regulations for the Bering Sea/Aleutian Islands king and Tanner crab CDQ fisheries in 1997, which were implemented in 1998. With the advent of Crab Rationalization, the BOF adopted regulations in 2005 to implement changes to the CDQ management program, including the addition of Aleutian Islands red *Paralithodes camtschaticus* (west of 179° W longitude) and Aleutian Islands golden king crab *Lithodes aequispinus* east of 174° W long. which were not previously included in the CDQ program. The ADF&G manages the crab CDQ fisheries.

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

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

The CDQ groups receive allocations for the following Aleutian Islands and Bering Sea crab fisheries: Norton Sound red king crab, Bristol Bay red king crab, Pribilof red and blue king *Paralithodes platypus* crab, St. Matthew blue king crab, Bering Sea snow *Chionoecetes opilio* crab, Bering Sea Tanner *Chionoecetes bairdi* crab, Aleutian Islands golden king crab (east of 174° W long.), and Aleutian Islands red king crab (west of 179° W long.). To be eligible as a CDQ crab fishery, the crab stock must have an established Total Allowable Catch (TAC) and be managed under the Fishery Management Plan (FMP) for Bering Sea/Aleutian Islands (BSAI) king and Tanner crabs. The CDQ allocation percentage as specified in the BSAI crab FMP is based on the total actual harvest each year. The annual CDQ allocations for crab were phased in over a three-year period (3.5% of the total allowable fishery harvest for 1998, 5.0% for 1999, and reaching a maximum of 7.5% for 2000 and subsequent years), however with the implementation of Crab Rationalization, the percentage of the TAC allocated to CDQ groups increased to 10% beginning in the 2005/06 season. The individual CDQ group allocation varies in each fishery (Table 3-1). This report addresses all CDQ crab fisheries except the Norton Sound CDQ red king crab fishery, which is managed by ADF&G's Arctic-Yukon-Kuskokwim (AYK) region

ACA PROGRAM BACKGROUND

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

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

FISHERY HISTORY

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

Prior to Crab Rationalization all CDQ crab fishing seasons opened after the general fishery season, and all CDQ vessels participated in the prior general fishery. Before vessel operators were allowed to register for the CDQ fishery, ADF&G generated an estimate of the general fishery harvest. Fishers were required to obtain CDQ buoy tags for all gear fished, and if required, carry an onboard observer. All pot gear had to be tagged with CDQ buoy tags before being deployed in the fishery.

Under Crab Rationalization, implemented in August of 2005, CDQ and IFQ crab may be, and often is, harvested concurrently. The CDQ allocation for each rationalized crab stock is set at

10% of the TAC for each fishery. Fishers generally use the same gear to harvest IFQ and CDQ crab, however they are limited to a single species compliment of pots.

Each of the six CDQ groups participate in at least one CDQ fishery every year, however each group does not necessarily have an allocation for each fishery (Table 3-1). Groups may choose not to participate or transfer their allocation to another group. Although all CDQ groups have received an allocation for the Bering Sea snow crab CDQ fishery, in 2005 only five groups participated because one group transferred its allocation to another group. All six groups participated in the snow crab fishery in all other years. From 1998 to 2000 only five groups received an allocation and participated in the Bristol Bay red king crab fishery. However, in 2001 the allocations were reconfigured to include all six CDQ groups and all have participated since that time. Only five groups received an allocation for the St. Matthew Island Section CDQ blue king crab fishery and one group has the sole allocation for the Pribilof red and blue king CDQ fishery. In 1998, the only year CDQ fisheries occurred on the St. Matthew and Pribilof king crab stocks, all groups with an allocation participated in each fishery. All six groups have had an allocation for Bering Sea Tanner crab; however no CDQ Tanner crab fishery occurred until 2005/06 due to low stock abundance. During the 2005/06 season all groups participated in the Bering Sea Tanner crab fishery. One group transferred their entire eastern and western allocation during the 2006/07 season.

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

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

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. In the Bristol Bay CDQ red king crab fishery, coverage remained at one observer per vessel. Observer coverage in the 2000 CDQ snow crab fishery was increased from one observer per group to two per group. In the 2001 CDQ Bristol Bay red king crab fishery observer coverage requirements were reduced to one per group. With the implementation of Crab Rationalization in August 2005 there was no longer a temporal difference in fishing for IFQ and CDQ crab. Almost all CDQ crab is harvested concurrently with IFQ fishing. As a result CDQ fisheries no longer have separate observer coverage requirements. Observer coverage for CDQ vessels has been incorporated in the overall fleet coverage. Observers collect biological data and document the fishing practices of the IFQ and CDQ fleet.

2007/08 CDQ AND ACA FISHERIES

Bristol Bay CDQ Red King Crab Fishery

The 2007/08 Bristol Bay CDQ red king crab fishery allocation based on 10% of the overall TAC, was 2,038,300 pounds (Table 3-2). All six CDQ groups participated in this fishery. The fishery opened concurrently with the IFQ Bristol Bay red king crab fishery on October 15. Permits were issued to each CDQ group before fishing began. The permit stated the group's allocation, which is determined by a percentage set forth for each CDQ group by the ADCCED. The permit listed the vessel(s) requested by the group and authorized by ADF&G to participate in the fishery, and stated that those vessels must comply with requirements such as dates of operation, pot limits, buoy tags, and observer coverage. Vessel registration could begin as soon as the group permits were issued.

Deliveries began October 20, and the final delivery was made December 5, although the season officially closed on January 15. Ten vessels made 35 landings for an overall harvest of 2,038,285 pounds (Table 3-2) and a fishery value of approximately 7.8 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. One group went over their allocation.

The fishery average CPUE was 28 (Table 3-2), the same as the CPUE for the general fishery. Average weight of crabs in the CDQ fishery was 6.3 pounds (Table 3-3), slightly less than the 6.5 pound average weight from the IFQ fishery. Three of the groups used two vessels to harvest their allocation, two groups used one vessel, and the remaining group used three vessels. One vessel fished for two different groups.

Prior to 2001, all CDQ vessels for this fishery were required to carry onboard observers. During the 2001 to 2004 seasons, only one observer was required per CDQ group. However, with the implementation of Crab Rationalization in 2005, observer coverage is based on the overall number of vessels pre-season registered to participate in the IFQ and CDQ crab fisheries; for Bristol Bay red king crab, twenty percent of the vessels have observer coverage for one hundred percent of the time. Based on this level of coverage, four of the ten vessels that harvested CDQ crab were observed, accounting for 51% of the CDQ harvest. During the fishery observers collected biological data, provided inseason harvest rates to the department, and documented fishing practices of the fleet.

Pribilof District CDQ Red And Blue King Crab Fishery

No CDQ harvest of Pribilof District red or blue king crab occurred in 2007/08 due to closure of the commercial fishery Bering Sea CDQ Snow Crab Fishery.

Saint Matthew Island Section CDQ Blue King Crab Fishery

No CDQ harvest of Saint Matthew Island Section blue king crab occurred in 2007/08 due to closure of the commercial fishery.

Bering Sea CDQ Snow Crab Fishery

The 2007/08 Bering Sea CDQ snow crab fishery opened concurrently with the IFQ fishery on October 15, 2007. The allocation of 6,303,400 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 percent allocation, which is determined by a percentage set forth for each CDQ group by the ADCCED. The permit listed the vessel(s) requested by the group and authorized by ADF&G to participate in the fishery, and stated that those vessels must comply with requirements such as dates of operation, pot limits, buoy tags, and observer coverage. Vessel registration could begin as soon as the group permits were issued.

Although the fishery opened in October, the first delivery was not until January 5 and the last delivery was on May 1. Fifteen vessels made 52 landings with a total harvest of 6,303,306 pounds and a fishery value of approximately 10.3 million dollars (Table 3-2 and 3-3). The value of the Bering Sea snow crab fishery to the CDQ groups is estimated to be 40-60% of the exvessel fishery value. One group went over their allocation.

The average weight was 1.2 pounds (Table 3-3), the same as the IFQ fishery. The average CPUE was 356 (Table 3-2), slightly higher than the average CPUE of 349 from the IFQ fishery. The groups used anywhere from one to five vessels to harvest their allocations.

Prior to Crab Rationalization, two observers were required if two or more vessels participated for the group. However, with rationalization, observer coverage is set based on the overall number of vessels pre-season registered to participate in the IFQ and CDQ crab fisheries; for Bering Sea snow crab, thirty percent of the vessels have observer coverage for one hundred percent of the time. Based on this level of coverage, six of the fifteen vessels that harvested CDQ snow crab carried observers, accounting for 38% of the CDQ harvest. During the fishery observers collected biological data, provided inseason harvest rates to the department, and documented fishing practices of the fleet.

Eastern Aleutian Islands CDQ Golden King Crab Fishery

The 2007/08 Aleutian Islands (east of 174° W long.) CDQ golden king crab fishery allocation was based on 10% of the overall TAC. The TAC was divided between the six CDQ groups with a total allocation of 300,000 pounds. All CDQ groups were allocated a harvest, but only three fished. The remaining three groups transferred their quotas to other CDQ groups.

The eastern Aleutian Islands CDQ golden king crab fishery opened concurrently with the Aleutian Islands golden king crab IFQ fishery on August 15. Permits were issued to each CDQ group before fishing began. The permit stated the group's allocation, which is determined by a percentage set forth for each CDQ group by the ADCCED. The permit listed the vessel(s)

requested by the group and authorized by ADF&G to participate in the fishery, and stated that those vessels must comply with requirements such as dates of operation, pot limits, buoy tags, and observer coverage. Vessel registration could begin as soon as the group permits were issued.

Deliveries began September 27, and the final delivery was made October 25, although the season officially closed on May 15. Three vessels made six landings for an overall harvest of 300,000 pounds (Table 3-2) and a fishery value of approximately 650,000 dollars (Table 3-3). No group went over their allocation.

The average CPUE was 31 (Table 3-2), higher than the CPUE of 28 for the general fishery. Average weight of crabs in the CDQ fishery was 4.5 pounds (Table 3-3), slightly less than the 4.8 pound average weight from the IFQ fishery. Each group used one vessel to harvest their allocation.

Each vessel fishing for Aleutian Islands golden king crab was required to carry an observer for 50% of the harvest in each of three trimesters (August 15–November 15, November 16–February 15 and February 16–May 15) regardless if they were fishing CDQ or IFQ. Two of the CDQ vessels carried observers during all their CDQ fishing and observers covered 79% of the total harvest. During the fishery, observers collected biological data, provided inseason harvest rates to the department, and documented fishing practices of the fleet.

Western Aleutian Islands ACA Golden King Crab Fishery

The 2007/08 western Aleutian Islands ACA golden king crab fishery opened concurrently with the 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 270,000 pounds (Table 3-2). A permit was issued to ACDC before fishing began. The permit stated the group's allocation, the vessel(s) requested by the group and authorized by ADF&G to participate in the fishery, and stated that those vessels must comply with requirements such as dates of operation and observer coverage. Vessel registration could begin as soon as the group permit was issued.

One vessel registered to fish. All vessels fishing for Aleutian Islands golden king crab were required to carry an observer for 50% of the harvest in each of three trimesters (August 15–November 15, November 16–February 15 and February 16–May 15) regardless if they were fishing ACA or IFQ. All information regarding Aleutian Islands golden king crab for the 2007/08 fishery is confidential due to a limited number of participating processors and vessels.

Western Aleutian Islands CDQ Red King Crab Fishery

No CDQ harvest of Western Aleutian Islands king crab occurred in 2007/08 due to closure of the commercial fishery.

Bering Sea CDQ Tanner Crab Fishery

The 2007/08 Bering Sea CDQ Tanner crab season opened October 15, 2007 with TAC available both east and west of 166° W long. CDQ groups received Tanner crab allocations in both areas. The 2007/08 season was the second time the eastern portion of the Bering Sea Tanner crab fishery opened since the establishment of the CDQ fishery in 1998, and the third season for the western portion. The CDQ fishery allocation was 10 percent of the total 2007/08 Tanner crab TAC, with separate TACs east and west of 166° W long. The CDQ fishery allocation east of 166° W long. was 344,500 pounds and west of 166° W long. was 217,600 pounds (Table 3-2).

Six CDQ groups were eligible to participate in the CDQ fishery. One group transferred 75% of both their eastern and western allocations to another group. Three groups did not participate in the eastern fishery. In the western fishery one group did not participate and three additional groups only reported Tanner crab as deadloss caught incidentally during the CDQ snow crab fishery.

Permits were issued to each CDQ group before fishing began. The permit stated the group's allocation, which is determined by a percentage set forth for each CDQ group by the ADCED. The permit listed the vessel(s) requested by the group and authorized by ADF&G to participate in the fishery, and stated that those vessels must comply with requirements such as dates of operation, pot limits, buoy tags, and observer coverage. Vessel registration could begin as soon as the group permits were issued.

Deliveries began on November 16 and the final delivery was made on March 10. Three CDQ vessels fishing east of 166° W long. made seven landings for a harvest of 143,424 pounds (Table 3-2), or forty-two percent of the eastern fishery CDQ allocation. West of 166° W long. six CDQ vessels made eight landings and harvested 56,520 pounds (Table 3-2) which accounted for twenty-six percent of the western fishery CDQ allocation.

None of the CDQ groups harvested their entire allocation for the eastern or western portions of the fishery. CDQ groups reported that it was difficult to develop harvest strategies for such small quotas. In addition, fishers had difficulty harvesting the western quota in part due to sea ice covering a large portion of the fishing grounds in March.

The average weight of the Tanner crab during the CDQ fishery was 2.3 pounds, the same as the average for the IFQ fishery. The CPUE was 16 which was slightly lower than the IFQ fishery CPUE of 17. The CDQ fishery value was approximately \$348,000 (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.

Observer coverage is set based on the overall number of vessels pre-season registered to participate in the IFQ and CDQ crab fisheries; for Bering Sea Tanner crab, thirty percent of the vessels have observer coverage for one hundred percent of the time. In the eastern area all of the CDQ vessels carried an observer the entire time. In the western area three CDQ vessels carried observers, covering 62% of the western harvest. During the fishery, observers collected biological data, provided inseason harvest rates to the department, and documented fishing practices of the fleet.

TABLES AND FIGURES

Table 3-1.–The 2003-2007/08 Community Development Quota (CDQ) Program percent allocation by fishery to each CDQ group.

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

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

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

Table 3-2– The 1998 - 2007/08 Community Development Quota (CDQ) and Adak Community Allocation (ACA) program crab fisheries statistics.

Season	% of overall GHL/TAC ^a allocated to CDQ	Allocation ^b	Number of			Harvest ^{b,c}	Deadloss ^b	CPUE ^d
			Vessels	Landings	Crabs ^c			
Bristol Bay Red King Crab								
1998	3.5%	525,115	7			Confidential		23
1999	5.0%	580,641	10			Confidential		29
2000	7.5%	610,265	11			Confidential		20
2001	7.5%	617,623	10			Confidential		29
2002	7.5%	714,239	10			Confidential		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
Pribilof Red King Crab								
1998	3.5%	35,958 ^e	1			Confidential		6
1999-2007/08		Fishery Closed						
Pribilof Blue King Crab								
1998	3.5%	35,958 ^e	1			Confidential		6
1999-2007/08		Fishery Closed						
St. Matthew Blue King Crab								
1998	3.5%	99,512	2			Confidential		10
1999-2007/08		Fishery Closed						
Bering Sea Snow Crab								
1998	3.5%	8,886,634	20	86	6,975,242	8,846,977	134,898	176
1999	5.0%	9,674,326	23	104	7,747,876	9,670,084	92,871	167
2000	7.5%	2,518,760	13			Confidential		144
2001	7.5%	1,878,070	11			Confidential		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

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Season	% of overall GHL/TAC ^a	Allocation ^b	Number of			Harvest ^{b,c}	Deadloss ^b	CPUE ^d
			Vessels	Landings	Crabs ^c			
Eastern Aleutian Islands Golden King Crab (east of 174° W longitude)								
2005/06	10.0%	300,000	3			Confidential		23
2006/07	10.0%	300,000	3			Confidential		27
2007/08	10.0%	300,000	3	6	66,667	300,000	516	31
Western Aleutian Islands Golden King Crab (west of 174° W longitude), ACA Fishery								
2005/06	10.0%	270,000	1			Confidential		26
2006/07	10.0%	270,000	2			Confidential		15
2007/08	10.0%	270,000	1			Confidential		16
Western Aleutian Islands Red King Crab (west of 179° W longitude)								
2005/06-2007/08		Fishery Closed						
Eastern Bering Sea Tanner Crab (east of 166° W longitude)								
1998-2005/06		Fishery Closed						
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
Western Bering Sea Tanner Crab (west of 166° W longitude)								
1998-2004		Fishery Closed						
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

^a Guideline Harvest Level (GHL) 1998 - 2005, Total Allowable Catch (TAC) 2005/06-2007/08.

^b In pounds.

^c Deadloss included.

^d Number of legal crabs per pot pull.

^e 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 - 2007/08 crab Community Development Quota (CDQ) and Adak Community Allocation (ACA) program economic overview

Season	Harvest ^{ab}	Exvessel Value ^c	Fishery Value	Average Weight ^a	Pots Registered	Pots Lifted
Bristol Bay Red King Crab						
1998-2002			Confidential			
2003	1,164,465	\$ 4.67	\$ 5,438,052	6.7	2,470	5,704
2004	1,130,464	\$ 3.97	\$ 4,487,942	6.8	2,258	5,359
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
Pribilof Red King Crab						
1998			Confidential			
1999-2007/08			Fishery Closed			
Pribilof Blue King Crab						
1998			Confidential			
1999-2007/08			Fishery Closed			
St. Matthew Blue King Crab						
1998			Confidential			
1999-2007/08			Fishery Closed			
Bering Sea Snow Crab						
1998	8,712,079	\$ 0.54	\$ 4,704,523	1.3	4,016	39,575
1999	9,577,213	\$ 0.85	\$ 8,140,631	1.2	5,250	46,490
2000-2001			Confidential			
2002	2,326,159	\$ 1.33	\$ 3,093,791	1.3	2,100	18,786
2003	2,100,521	\$ 1.80	\$ 3,780,938	1.2	1,670	14,583
2004	1,748,023	\$ 1.99	\$ 3,478,566	1.3	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
Eastern Aleutian Islands Golden King Crab (east of 174° W longitude)						
2005/06-2006/07			Confidential			
2007/08	299,484	\$ 2.18	\$ 652,875	4.5	4,350	2,157
Western Aleutian Islands Golden King Crab (west of 174° W longitude), ACA Fishery						
2005/06-2007/08			Confidential			

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Table 3-3.—Page 2 of 2

Season	Harvest ^{ab}	Exvessel Value ^c	Fishery Value	Average Weight ^a	Pots Registered	Pots Lifted
Western Aleutian Islands Red King Crab (west of 179° W longitude)						
2005/06-2007/08			Fishery Closed			
Eastern Bering Sea Tanner Crab (east of 166° W longitude)						
1998-2005/06			Fishery Closed			
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
Western Bering Sea Tanner Crab (west of 166° W longitude)						
1998-2004			Fishery Closed			
2005/06	160,961	\$ 1.25	\$ 201,201	2.1	170 ^d	2,024
2006/07	86,286	\$ 1.61	\$ 138,920	2.1	150 ^d	2,691
2007/08	56,007	\$ 1.65	\$ 92,412	2.1	390 ^d	2,728

^a In pounds.

^b Deadloss not included.

^c Average price per pound.

^d Pots registered include Tanner pots only; some fishers utilized snow crab gear to harvest Tanner crab.

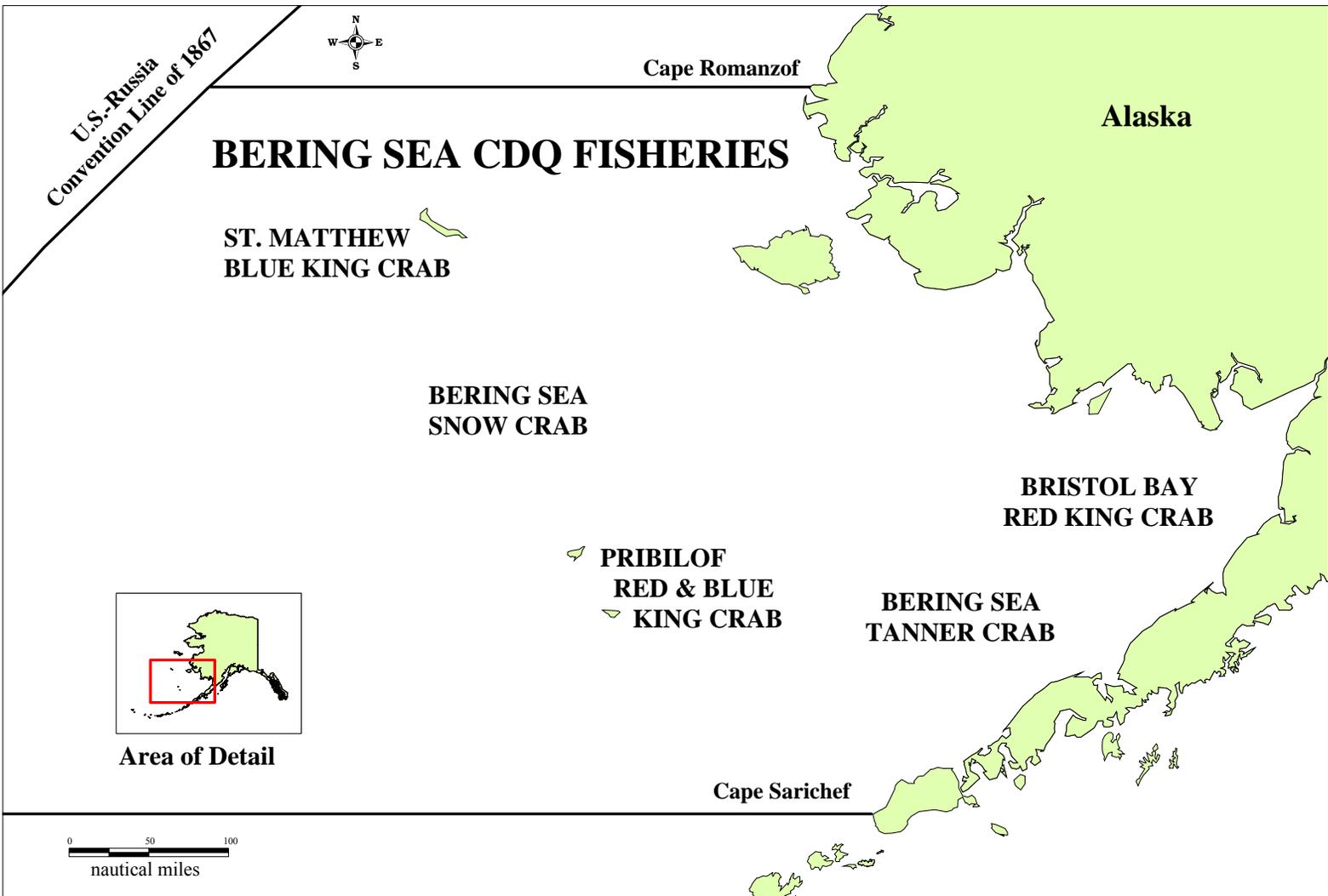


Figure 3-1.—Bering Sea Community Development Quota Program crab fisheries managed by the Westward Region.

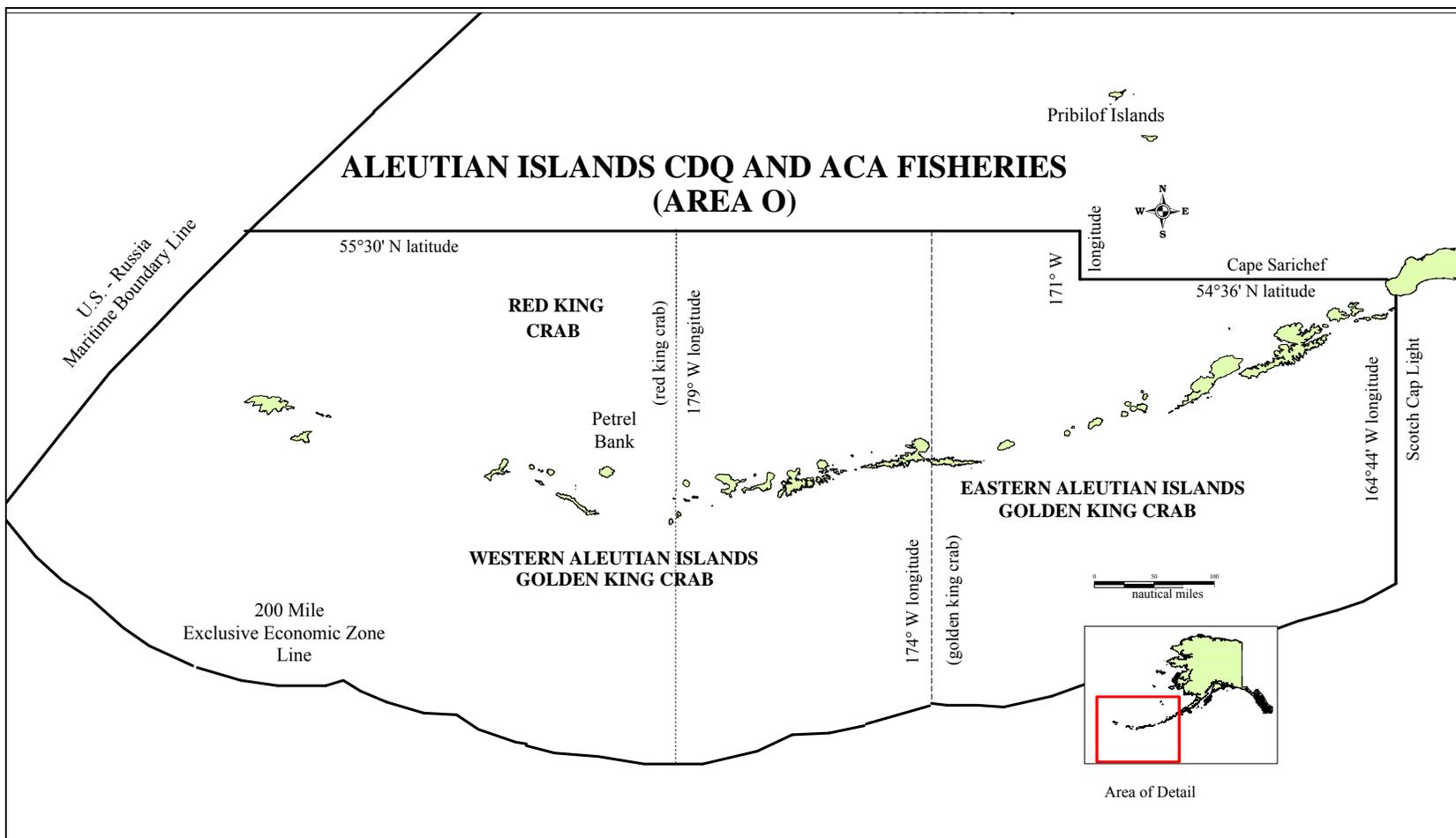


Figure 3-2.—Aleutian Islands Community Development Quota Program and Adak Community Allocation crab fisheries managed by the Westward Region.

**ANNUAL REPORT OF THE ONBOARD OBSERVER
PROGRAM FOR THE BERING SEA AND ALEUTIAN
ISLANDS CRAB AND STATEWIDE SCALLOP
FISHERIES, 2007/2008**

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December 2008

ABSTRACT

The use of observer data has become imperative to the management of the BSAI crab fisheries to help meet the Magnuson-Stevens Fishery Conservation and Management Act fishery management accountability measures and annual catch limit requirements to define overfishing limits. The ADF&G shellfish observer program has been in place since 1988. Varying levels of observer coverage are required for each crab fishery and observers are deployed on catcher vessels, catcher-processors, and floating-processors. Details of the program's history and current structure, and the 2007/08 observer coverage levels and observer sampling efforts achieved for observed BSAI crab and statewide scallop fisheries are detailed in this report.

Key words: Tanner crab, *Chionoecetes bairdi*, snow crab, *C. opilio*, *C. tanneri*, Dungeness crab, *Cancer magister*, golden king crab, *Lithodes aequispinus*, red sea cucumber, *Parastichopus californicus*, red king crab *Paralithodes camtschaticus*, blue king crab, *Paralithodes platypus*, Pacific octopus, *Octopus dolpheni*, Community Development Quota, CDQ, crab rationalization, CR, Individual Fishing Quota, IFQ, Adak Community Allocation, ACA, catch per unit effort, CPUE, exclusive economic zone, EEZ, subsistence, guideline harvest level, GHL, Alaska Board of Fisheries, BOF, National Marine Fisheries Service, NMFS, Bering Sea, Aleutian Islands, BSAI, North Peninsula, Area, District, deploy, 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, species composition sample, size frequencies, United States Coast Guard, USCG, Commercial Fishing Vessel Safety Examination, CFVSE, Crab Observer Oversight Taskforce, COOTF, Magnuson-Stevens Fishery Conservation and Management Act, MSA, The Fishery Management Plan for the Commercial King and Tanner Crab Fisheries in the Bering Sea/Aleutian Islands, FMP .

INTRODUCTION

Onboard observer data collection and fishery monitoring is an integral component of fisheries management. The Magnuson-Stevens Fishery Conservation and Management Act (MSA) states in Findings (8) "The collection of reliable data is essential to the effective conservation, management, and scientific understanding of the fishery resources of the United States" (U.S. Department of Commerce 2007).

The State of Alaska Shellfish Onboard Observer Program has evolved to help meet the MSA National Standard 1 that requires all Fishery Management Plans required under MSA to comply with new annual catch limit (ACL) and accountability measure (AC) requirements and end all overfishing by 2011. The State of Alaska commercial shellfish fishing regulation 5 AAC 39.645. SHELLFISH ONBOARD OBSERVER PROGRAM, states that onboard observers afford the only practical mechanism of gathering essential biological and management data in particular fisheries, and provide the only effective means to enforce regulations that protect the shellfish resource.

This report summarizes the history of the program, the program structure, and crab and scallop observer sampling efforts during the 2007/08 Bering Sea and Aleutian Islands (BSAI) crab and statewide scallop fisheries.

HISTORY OF THE SHELLFISH ONBOARD OBSERVER PROGRAM

CRAB OBSERVER PROGRAM

The Alaska Board of Fisheries (BOF) adopted regulations in 1988 requiring observers on all vessels that process king crabs including red king *Paralithodes camtschaticus*, blue king *P.*

platypus, and golden king *Lithodes aequispinus* crabs and Tanner *Chionoectes bairdi* crabs within waters under the jurisdiction of the state. The observer requirement was prompted by catch information collected by the Alaska Department of Fish and Game (ADF&G), which suggested illegal processing of undersize and female crabs by catcher-processors (C/Ps) in the BSAI fisheries. The primary goals of the Shellfish Onboard Observer Program were to monitor compliance of sex and size regulations of retained crabs and collect data for inseason management of BSAI crab fisheries.

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

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

An amendment to the MSA in 1996 provided for the development and implementation of a Community Development Quota (CDQ) program for specific crab fisheries in the Bering Sea. The CDQ fisheries were incorporated into the existing state-managed shellfish fisheries in 1998, when six CDQ groups were designated for participation in the Bering Sea and Bristol Bay crab fisheries. From 1998 until rationalization of the crab fisheries in 2005, CDQ crab fisheries were opened after the general fishery closed for the year. The 1998 CDQ fisheries prosecuted were the Pribilof red and blue king crab, Saint Matthew Island blue king crab, Bristol Bay red king crab, and Bering Sea snow crab fisheries. Between 1999 and 2005 Bristol Bay red king crab CDQ and Bering Sea snow crab CDQ fisheries were the only CDQ fisheries opened. Observer coverage requirements in those fisheries fluctuated during that time. Observer coverage in the Bristol Bay red king crab CDQ fishery was set at 100% of all fishing operations on all vessels during 1998 through 2000. In 2001 through 2004 the coverage was reduced to one catcher vessel (C/V) per group at any time CDQ crab were being harvested. Observer coverage requirements for the Bering Sea CDQ snow crab fishery were set at 100% of all C/V fishing operations in 1998. In 1999 observer coverage for CDQ snow crab was reduced to one observer per CDQ group, where each group's observer would deploy for at least one trip on each C/V in the group. In 2000 through 2005 the observer requirement was increased to two C/Vs per group at any time CDQ crab were being harvested. All C/Ps participating in CDQ crab harvest are required to carry an observer during 100% of their fishing. Within 10 years of the inception of the observer program, the number of C/Ps participating in various BSAI crab fisheries had decreased significantly, reducing the total number of deployed observers. Consequently, observer data no longer provided a representative sample of the fleet's activities in those fisheries, which restricted the department's ability to adequately monitor fleet-wide harvest and bycatch information. In 1999,

the BOF granted ADF&G full authority and responsibility for deploying observers on any vessel participating in BSAI crab fisheries. The BOF also established a 15-member Crab Observer Oversight Task Force (COOTF) comprised of crab industry representatives to provide recommendations for the observer program to ADF&G. In addition to the pay-as-you-go funding mechanism where vessels secure and pay for observer coverage, the BOF endorsed funding for additional observer deployments through ADF&G cost-recovery fishing under State of Alaska test-fishery authority (Boyle and Schwenzfeier 2000). The test-fishery funded portion of the program began July 1, 2000.

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

The State of Alaska rationalization regulations for the BSAI crab fisheries were passed by the BOF during their March 2005 meeting. Changes to the crab observer program regulations due to crab rationalization resulted in decreased C/V observer coverage in the Aleutian Islands golden king crab fishery and increased observer coverage on C/Vs for the Bristol Bay red king crab, St. Matthew Island blue king crab, Pribilof District king crab, and Bering Sea Tanner and snow crab fisheries. There were no changes made to observer coverage levels in the non-quota BSAI crab fisheries. Observer coverage, for all BSAI quota fisheries are addressed in the shellfish fishery regulation, 5 AAC 39.645. Quota fisheries that require observer coverage are the Adak Community Allocation (ACA), CDQ, and Individual Fishing Quota (IFQ) fisheries. The ACA fishery was created by the North Pacific Fishery Management Council (NPFMC) with the rationalization of the BSAI crab fisheries. The Aleutian Islands golden king crab fishery has an ACA quota component.

With the implementation of crab rationalization in August 2005, CDQ, ACA, and IFQ crab fishery season dates are now identical and crab for both quotas are often harvested together on the same vessel. Crab fisheries currently included in the CDQ program are Aleutian Islands golden king crab east of 174° W longitude, Western Aleutian Islands red king crab (W of 179° W. long.), Bristol Bay red king crab, Norton Sound red king crab, St. Matthew Island blue king crab, Pribilof District red and blue king crab, and Bering Sea Tanner and snow crab. Observer coverage for CDQ vessels has been incorporated into the fleet-wide observer coverage requirements (Table 4-1).

Observer coverage is implemented in two ways for C/Vs in the BSAI crab quota fisheries. For the Aleutian Islands golden king crab fishery, a percentage of the total harvest weight of each C/V is observed. Catcher vessel observer coverage in the Bristol Bay and Bering Sea crab quota fisheries may be met by either requiring that a percentage of the harvest weight on each vessel be observed, or the department may select a certain percentage of the registered vessels to carry observers for 100% of their fishing time. Observer requirements for all catcher and floater processing vessels in all BSAI crab fisheries remains at 100% coverage.

SCALLOP OBSERVER PROGRAM

From the inception of the Alaska weathervane scallop fishery in 1967 until the influx of scallop boats from the east coast of the U.S. in the early 1990s, the fishery was open year-round in many parts of the state, without harvest restrictions (Barnhart 2006). However, vessels were registered to fish under a commissioner's permit which could stipulate location and duration of harvest, limit gear and other harvest procedures, and require periodic or annual reporting. Closed waters and fishing seasons were established to protect crabs and crab habitat. As catches declined in one scallop bed, vessels moved to better grounds. While this may have been generally acceptable for a sporadic low intensity scallop fishery, increased participation led to boom and bust cycles.

By 1993, scallop fishery management changed in response to increased effort. Concerns from industry and the ADF&G about crab bycatch and over harvest of the scallop resource prompted the commissioner of ADF&G, under 5 AAC 39.210, to designate the weathervane scallop fishery a high impact emerging fishery on May 21, 1993. This action required ADF&G to close the fishery and implement an interim management plan prior to reopening. The interim management plan contained provisions for king and Tanner crab bycatch limits for most areas within the Westward Region. Since then, crab bycatch limits have been established for other registration areas within the state. The interim management plan also included a provision for 100% onboard observer coverage to monitor crab bycatch and to collect biological and fishery-based data. The commissioner adopted the regulations and reopened the fishery on June 17, 1993. In March 1994, the BOF adopted the interim regulations identified as the Alaska Scallop Fishery Management Plan, 5 AAC 38.076 (Barnhart and Rosenkranz 2006).

The majority of the weathervane scallop fishery vessel owners formed a vessel cooperative program prior to the 2000/01 regulatory season. Within this cooperative, vessel owners allocate vessel shares based primarily on fishing history. Some owners opted to remove their boats from the fishery and arranged for their coop shares to be caught by other vessels within the cooperative. Not all vessel owners are members of the cooperative. The cooperative has led to fewer vessels in the fishery, so it is important that all remaining vessels have 100% observer coverage in order to collect adequate data to manage the fishery and ascertain its impacts.

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

SHELLFISH ONBOARD OBSERVER PROGRAM REGULATIONS AND GUIDELINES

The Shellfish Onboard Observer Program regulations were originally adopted at the 1988 BOF meeting. During the ongoing development of the state's shellfish onboard observer program, the BOF and state legislature, through public processes have adopted and placed observer program related regulations and statutes into law. The current statutes and regulations that define the responsibilities of each group (ADF&G, observer companies, observers, and vessels) that the observer program involves can be found in the Alaska Statutes Title 16, AS 16.05.050 POWERS AND DUTIES OF THE COMMISSIONER, AS 16.05.055 ON-BOARD OBSERVER PROGRAM, AS 16.05.251 REGULATIONS OF THE BOARD OF FISHERIES, Alaska Administrative Code, 5 AAC 39.141 ONBOARD OBSERVER PROGRAM, 5 AAC 39.142 CONFLICT OF INTEREST STANDARDS FOR ONBOARD OBSERVERS AND INDEPENDENT CONTRACTING AGENTS, 5 AAC 39.143 ONBOARD OBSERVER CERTIFICATION AND DECERTIFICATION, 5 AAC 39.144 ONBOARD OBSERVER INDEPENDENT CONTRACTING AGENT CERTIFICATION AND DECERTIFICATION, 5 AAC 39.146 ONBOARD OBSERVER BRIEFING AND DEBRIEFING, 5 AAC 39.645 SHELLFISH ONBOARD OBSERVER PROGRAM, and 5 AAC 39.646 SHELLFISH ONBOARD OBSERVER TRAINEE PROGRAM QUALIFICATIONS AND REQUIREMENTS.

ALASKA DEPARTMENT OF FISH AND GAME RESPONSIBILITIES

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

INDEPENDENT CONTRACTING AGENT RESPONSIBILITIES

Independent 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 owners or the department, depending on the funding source for observer coverage. In 2007, five independent contracting agents were authorized to provide onboard observers: Alaskan Observers Inc. (AOI), Marine Resources Assessment Group Americas (MRAG), Northwest Observers (NWO), Saltwater Incorporated (SWI) and TechSea International (TSI).

OBSERVER RESPONSIBILITIES

Observer qualifications include a minimum of a Bachelor's degree in the science of biology or any branch of biology or limnology, 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 department biologist position. Crab observer candidates are required to undergo ADF&G-approved training and must demonstrate 90% proficiency on the ADF&G crab observer examination. As part of their instruction, crab observers must also participate in a practical training exercise administered by the observer program staff. As representatives of ADF&G, observers are required to adhere to a detailed set of professional standards outlined in regulation. Prior to 1991, observer companies

trained the department's crab observers. Currently the University of Alaska Anchorage North Pacific Fisheries Observer Training Center (OTC) located in Anchorage trains all BSAI crab, statewide scallop, and a large percentage of the North Pacific and BSAI groundfish observers. The OTC is supported with federal funds.

VESSEL OWNER AND OPERATOR RESPONSIBILITIES

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

The MSA and ADF&G commercial shellfish fishing regulations require that each vessel carrying an observer meets United States Coast Guard (USCG) commercial fishing vessel safety standards and possesses a current Commercial Fishing Vessel Safety Examination (CFVSE) decal. Whenever possible before a fishery, USCG personnel will board and examine safety equipment on vessels that carry observers. Even though a vessel may possess a current CFVSE decal, the safety equipment may not meet the USCG requirements at the time an observer boards the vessel if equipment currency dates have expired since the CFVSE was last conducted on the vessel.

SHELLFISH OBSERVER DUTIES

Crab fisheries observers are tasked with an important and serious job. They are required to accomplish duties that no one else on their vessel is assigned to do. Observers must have the ability to successfully and objectively complete independent work assignments under sometimes harsh and potentially dangerous conditions.

Crab observers conduct species composition sampling of retained catch and bycatch, and record data on catch, fishing effort and location. Reports on vessel and observer activity are coded and periodically sent to ADF&G via single-side-band radio, facsimile, e-mail, or telephone.

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

Crab observers regularly monitor fishing operations for regulatory compliance. The department's Criminal Justice Planner along with the Alaska Wildlife Troopers (AWT) assist 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, a trooper will interview the observer and may request a written statement from the observer.

Observers are required to confirm that the vessel is displaying a current CFVSE decal and that safety equipment on the vessel is current and in usable condition. This inspection is conducted when the observer first boards the vessel.

Instructions and protocols for crab observers are thoroughly outlined and explained in the Crab Observer Training and Deployment Manual (Alaska Department of Fish and Game Shellfish Observer Program 2008).

CRAB CATCHER-PROCESSOR VESSELS

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

CRAB FLOATING PROCESSOR VESSELS

Crab F/P observer sampling duties are conducted on each vessel delivering to the processor. Daily duties specific to floating processor (F/P) vessels require each observer to 1) interview the delivering vessel's captain for confidential catch and effort information, 2) determine average weight of retained crabs, 3) conduct size frequency sampling of 100 retained crabs for carapace size and shell condition distributions, 4) obtain size, sex, and species data for a legal tally of 600 retained crabs during the offload.

CRAB CATCHER-ONLY VESSELS

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

SCALLOP CATCHER-PROCESSOR VESSEL

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

2007/2008 OBSERVER PROGRAM ACTIVITY

OBSERVER PROGRAM TEST FISHERY

ADF&G reports annually to the BOF appointed COOTF with a review of test-fishery funded expenditures in various BSAI fisheries. The COOTF is advisory to the BOF and interacts with and

is also advisory to ADF&G with regard to test-fishery expenditures and observer coverage levels in specific fisheries. During the March 2005 BOF meeting, observer coverage levels for all quota fisheries were established in the state's commercial shellfish fishing regulations (Table 4-1).

The Shellfish Onboard Observer Program has utilized test-fishery funding for a portion of the costs of BSAI crab observer coverage since 1999. The test fishery authority was originally capped at \$650,000. Funds not entirely spent in one fiscal year are available the following fiscal year.

The ADF&G observer program test fishery budget allocation cap was increased to \$875,000 for Fiscal Year (FY) 2006 from \$650,000 in FY05 to aid in funding the increased catcher vessel observer coverage costs as a result of crab rationalization. A percentage of randomly selected catcher vessels in specific fisheries are required to carry observers during 100% of their fishing. These observers are provided and funded through a State of Alaska professional service contract agreement with a state certified observer company.

The program's test fishery harvested 78,670 pounds of Bristol Bay red king crab in October 2007 and generated \$315,000 in revenue (Tables 4-2 and 4-3). The test fishery harvest and sale of crab was contracted to the highest bidder responding to the department's publicly solicited Invitation to Bid (ITB).

OBSERVER DEPLOYMENTS BY FISHERY

2007/08 ALEUTIAN ISLANDS GOLDEN KING CRAB FISHERY OBSERVER ACTIVITY

The 2007/08 Aleutian Islands golden king crab season opened to fishing on August 15, 2007 with a Total Allowable Catch (TAC) of 5.7 million pounds. Five vessels participated in the fishery, including four C/Vs and one C/P.

Observer coverage requirements implemented with crab rationalization in 2005 for all C/Vs harvesting IFQ, CDQ, and ACA crab is mandatory for 50% of each vessel's total golden king crab harvest. An observer must be onboard and acting in the capacity of an onboard observer during 50% of the crab weight harvested by each catcher vessel in each management area east and west of 174° W longitude, in each of three trimesters (August 15 to November 15, November 16 to February 15, and February 16 to May 15). Catcher-vessel observers were secured and paid for directly by the participating vessels.

Observer coverage required for C/Ps and F/Ps is set at 100% and observers were secured and paid for directly by the participating vessels.

Observers placed on C/Vs fishing east of 174° W longitude were assigned a species composition sampling goal of four measurement and 10 count pots per fishing day. In the western management area, observers on C/Vs were assigned a species composition sampling goal of six measurement and four count pots per fishing day.

Observers on the C/P were assigned a species composition sampling goal of four measurement and five count pots per fishing day in the eastern management area and five measurement pots per fishing day in the western management area.

Observers in both management areas reported harvest information every Monday by e-mail, fax, phone, or radio. Observers deployed in the eastern management area reported all tagged golden

king crab recovered, and those participating in the western management area were required to measure and document red king crab bycatch from all pots lifted.

Catcher vessels delivered 4,262,005 pounds of golden king crab with 59 percent or 2,519,252 pounds of the weight was harvested while observers were onboard acting in the capacity of crab fisheries observers. The one C/P made 24 deliveries and harvest information for the vessel is confidential. The entire fleet lifted a total of 52,603 pots, 35,772 of which were observed lifted while an observer was onboard. (Table 4-4 and 4-5).

Observers sampled 2,088 pots in the eastern and western management areas for a 4.0% sample rate of all pots lifted. Observers on C/Vs sampled 1,662 of the pots lifted and completed 25 legal tallies and 25 size frequency samples. Observers on the C/P sampled 426 pots and completed 109 legal tallies and 109 size frequency samples (Table 4-5).

A total of 2,343 pot lifts from 12 statistical areas had less than 50% observer coverage, and 147 pot lifts in seven of those statistical areas were not observed. In five statistical areas 2,196 pot lifts were between 30 and 47 percent observed. A total of 50,260 pots were lifted in the other 59 statistical areas where golden king crabs were harvested and they were between 50 and 100 percent observed (Table 4-6).

Four out of 5 catcher vessels maintained a 50% or greater observer coverage level for each trimester. No fishing activities or harvest were observed during the first two weeks of the fishery from August 15 until the first week in September (statistical weeks 33 through 35), and likewise for the final weeks of the fishery from the first week of April through May 15 (statistical weeks 15 - 20), (Figure 4-1).

2007 ALEUTIAN ISLANDS SCARLET KING CRAB FISHERY OBSERVER ACTIVITY

No vessels were registered to harvest scarlet king crab in 2007. Historic observer activity data for this fishery are not available because harvest of scarlet king crab has been minimal and incidental to golden king crab harvest. This fishery was not rationalized and scarlet king crab may no longer be harvested at the same time as golden king crab in the Aleutian Islands. Observer coverage requirements in this fishery are not set in regulation and are determined at the time a special fishery permit is issued. Because little is known about scarlet king crab stocks, observer coverage is most likely to be set at 100% of all fishing activities.

2007/08 BRISTOL BAY RED KING CRAB FISHERY OBSERVER ACTIVITY

The 2007/08 Bristol Bay red king crab season opened to fishing on October 15, 2007. Seventy-six vessels participated in the fishery, including 73 catcher-only vessels and three catcher-processors. No floating processors took deliveries for the 2007/08 season. Twenty percent (nineteen vessels) of the 2007/08 Bristol Bay red king crab preseason registered C/Vs were randomly selected to carry observers for 100% of their fishing activity. Catcher vessel deployments were paid for with test fishery and federal funds. One hundred percent observer coverage was mandatory for the processing vessels and the processing-vessel observers were secured and paid for directly by the vessels.

Observers on C/Ps and C/Vs were assigned a daily species composition sampling goal of five and 10 measurement pots, respectively. All observers reported harvest information weekly.

The 2007/08 Bristol Bay red king crab season closed to all fishing activity on January 15, 2008. Nineteen of the 73 C/Vs that registered for Bristol Bay red king crab carried observers accounting for 26% of the C/V fleet.

The fleet lifted a total of 113,214 pots, made 281 deliveries and landed 20,366,065 pounds of crab from a TAC of 20,383,000 pounds. All observed vessels lifted 34,085 pots and landed 5,880,250 pounds of crab. Observers were onboard and acting in the capacity of crab fisheries observers during 25.8% of catcher vessel harvest and during 26.5% of the C/V pot lifts (Table 4-7 and 4-8).

Observers sampled a total of 1,918 pots, accounting for 5.3% of pots lifted on observed vessels. Catcher vessel observers sampled 1,708 (5.7%) of 28,797 pots lifted on observed C/Vs and conducted 46 size frequency samples and 47 legal tallies. Observers on C/Ps sampled 210 (3.5%) of the pots lifted on C/Ps and conducted 52 size frequency samples and 49 legal tallies. Observers on all vessels sampled 1.7% of all pots lifted by the fleet (Table 4-8).

A total of 21,531 pot lifts from 11 statistical areas had less than 20% observer coverage, of that 1,262 pot lifts in nine statistical areas were not observed and 20,269 pot lifts in two statistical areas were between 12 and 18 percent observed. A total of 91,683 pots were lifted in the other 16 statistical areas where red king crabs were harvested and they were between 20 and 100 percent observed (Table 4-9).

With the exception of the fishing effort during the second and last weeks in November (statistical weeks 46 and 48) and the second week in December (statistical week 50), observer coverage levels were maintained at 28% of the harvest or better during each week of fishing activity (Figure 4-2).

2007/08 BERING SEA TANNER CRAB FISHERY OBSERVER ACTIVITY

The 2007/08 Bering Sea Tanner crab season opened to fishing both east and west of 166° W longitude on October 15, 2007 with a TAC of 3.445 million pounds for the east and 2.176 million pounds for the west.

During the 2005/06 - 2007/08 Bering Sea Tanner crab fisheries ADF&G required 100 percent observer coverage on 30 to 100 percent of the catcher vessels that engaged in directed harvest of Tanner crab. ADF&G covers the cost of observer coverage for catcher vessels selected to carry an observer in this fishery. Because the Tanner crab season dates coincide with a portion of the Bristol Bay red king crab and Bering Sea snow crab fishery seasons, vessels could harvest Tanner crab as incidental catch during those fisheries if properly registered. Observed Tanner harvest statistics in this report reflect a combination of vessels that engaged in directed fishing of Tanner crab, vessels that harvested Tanner crab incidental to red king crab fishing, and vessels that harvested Tanner crab incidental to snow crab fishing.

ADF&G's selection of catcher vessels for observer coverage in the Bristol Bay red king crab and Bering Sea snow and Tanner crab fisheries relies on the preseason registration process completed by 5:00 p.m. September 24 of each year. Participation and harvest that may occur during the Bering Sea Tanner crab fishery between October 15 and March 31 cannot be predicted using the preseason vessel registrations because those vessels that are preseason registered for the rationalized Tanner crab fishery include vessels that wish to retain Tanner crab incidental to harvest in other crab fisheries, vessels that wish to engage in directed harvest of Tanner crab, and vessels that want the option to both directly and incidentally harvest Tanner crab. Additionally,

the preseason registration process is not an indicator of a vessel's intended harvest of quota east or west of 166° W longitude in the Bering Sea District. These factors make it difficult to place observers on vessels for adequate temporal and spatial data collection.

Fishing effort in the Tanner fishery is unpredictable throughout the season, and largely dependent on the industry's business decisions. Recent effort levels in the fishery have been low with a portion of the TAC left unharvested.

Table 4-10 shows that during the 2005/06, 2006/07, and 2007/08 fisheries, the percentage of observed Bering Sea Tanner crab deliveries observed was between 34 and 63 percent of directed fishery or incidental catch deliveries. ADF&G policy has been to place observers on between 30 and 100 percent of the vessels primarily targeting Tanner crab.

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

The 2007/08 Bering Sea Tanner crab season closed to all fishing activity on March 31, 2008. Out of 63 catcher vessels that pre-season registered, 40 catcher vessels and one catcher-processor harvested Tanner crab (Tables 4-10 and 4-11).

The fleet lifted a total of 55,453 pots for the entire Tanner fishery, made 124 deliveries and landed 2,106,654 pounds of crab from a TAC of 5.621 million pounds for both east and west of 166° West longitude. The observed catcher vessel trips lifted 33,349 pots and landed 1,299,040 pounds of crab. Observed vessels landed 61.7% of the total pounds harvested and pulled 60% of the total pots lifted. Observer sampling effort data is not available at this time (Tables 4-11 and 4-12).

A total of 4,333 pot lifts from eight statistical areas had less than 30% observer coverage, of that 1,564 pot lifts in four statistical areas were not observed and 2,769 pot lifts in four statistical areas were between 12 and 29 percent observed. A total of 51,120 pots were lifted in the other 34 statistical areas where Tanner crabs were harvested and were between 30 and 100 percent observed (Table 4-13).

Tanner harvest observed was less than 30% for 5 of the 22 weeks of the fishery at 5% during the third week in October (statistical week 43), and 12%, 25%, 9%, and 0% during the last two weeks in January, first week in February, and the last week in March respectively (statistical weeks 4, 5, 6, and 14). Harvest during all other weeks ranged from 45 to 100 percent observed (Figure 4-3).

2007/08 BERING SEA SNOW CRAB FISHERY OBSERVER ACTIVITY

The 2007/08 Bering Sea snow crab season opened to fishing on October 15, 2007 with a TAC of 63.034 million pounds. Eighty-nine vessels participated in the fishery, including 85 C/Vs and four C/Ps. On F/P purchased crab.

Thirty percent (29 C/Vs) were randomly selected from the 2007/08 Bering Sea snow crab preseason registrants to carry observers for 100% of their fishing activity. Costs were covered using test fishery funds and federal funds. One hundred percent observer coverage was mandatory for C/Ps and F/Ps and observers were secured and paid for by the vessels.

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

The fleet lifted a total of 143,842 pots for the entire fishery, made 512 deliveries and landed 63,028,036 pounds of crab. Observed vessels landed 21,390,512 pounds of crab or 33.9% of the total pounds harvested, compared to 20%, 26%, 41%, and 41% in 2004, 2005, 2005/06, 2006/07, and 2007/08 respectively (Table 4-14).

Observed vessels lifted 51,522 pots (35.8%) out of a total of 143,842 pots lifted by the fleet. Observer sampling effort data is not available at this time (Table 4-15).

A total of 59,256 pot lifts from nine statistical areas had less than 30% observer coverage, of that 416 pot lifts in three statistical areas were not observed and 58,840 pot lifts in six statistical areas were between 11 and 29 percent observed. A total of 84,586 pots were lifted in the other 25 statistical areas where snow crabs were harvested and they were between 30 and 100 percent observed (Table 4-16).

Bering Sea snow crab west of 166° W longitude closed to fishing on May 15 in the Eastern Subdistrict and on May 30 in the Western Subdistrict. The snow crab harvest started the second week in November (statistical week 46) and continued through the middle of May (statistical week 20). Observer coverage rates dipped below 30% of the harvest at 22%, 24%, 29%, 25%, and 23% for five weeks during the first and third weeks of January, the third week in February, the second week in March, and the second week in April respectively (statistical weeks 2, 4, 8, 11, and 16). During the other 22 statistical weeks 31 to 77% of the harvest was observed (Figure 4-4).

2007 BERING SEA GOLDEN KING CRAB FISHERY OBSERVER ACTIVITY

No vessels registered for Bering Sea golden king crab fishing in either the Pribilof District or the Saint Matthew Island Section during 2007. The observer coverage requirement in this fishery is set at 100% for all vessels (Table 4-1). Historic observer activity in this permit fishery can be found in Table 4-17.

2007/08 ALEUTIAN ISLANDS RED KING CRAB FISHERY OBSERVER ACTIVITY

Aleutian Islands red king crab fisheries were closed during 2007/08 because of low stock abundance. The observer coverage requirements for these fisheries are set at 100% for all vessels (Table 4-1). Historic observer activity information for the 2001 through 2003 Aleutian Islands red king crab fishery west of 179° W longitude are in Table 4-18.

2007 BERING SEA GROOVED TANNER CRAB FISHERY OBSERVER ACTIVITY

No vessels registered to harvest Bering Sea grooved Tanner crab in 2007. The observer coverage requirement in this fishery is set at 100% for all vessels (Table 4-1). Historic observer activity in this permit fishery can be found in Table 4-19.

2007 BERING SEA TRIANGLE TANNER CRAB FISHERY OBSERVER ACTIVITY

No vessels registered to harvest Bering Sea triangle Tanner crab in 2007. Harvest of triangle crab is typically incidental to grooved Tanner crab catch. The observer coverage requirement in this fishery is set at 100% for all vessels (Table 4-1). Historic observer activity data for this permit fishery are confidential.

2007 ALEUTIAN ISLANDS GROOVED TANNER CRAB FISHERY OBSERVER ACTIVITY

No vessels registered to harvest grooved Tanner crab in 2007. The observer coverage requirement in this fishery is set at 100% for all vessels (Table 4-1). Historic observer activity in this fishery can be found in Table 4-19.

2007 ALEUTIAN ISLANDS TRIANGLE TANNER CRAB FISHERY OBSERVER ACTIVITY

No vessels registered to harvest triangle Tanner crab in 2007. Harvest of triangle crab is typically incidental to grooved Tanner crab catch. The observer coverage requirement in this fishery is set at 100% for all vessels (Table 4-1). Historic observer activity data for this fishery are not available because harvest of triangle Tanner crab was minimal and incidental to grooved Tanner crab harvest.

2007 SOUTH PENINSULA GROOVED TANNER CRAB FISHERY OBSERVER ACTIVITY

No vessels registered to harvest grooved Tanner crab in 2007. The observer coverage requirement in this fishery is set at 100% for all vessels (Table 4-1). Historic observer activity in this fishery can be found in Table 4-19.

2007/08 ST. MATTHEW ISLAND SECTION BLUE KING CRAB FISHERY OBSERVER ACTIVITY

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

2007/08 PRIBILOF DISTRICT RED AND BLUE KING CRAB FISHERY OBSERVER ACTIVITY

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

2007/08 BERING SEA HAIR CRAB FISHERY OBSERVER ACTIVITY

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

2007/08 BERING SEA *PARALOMIS MULTISPINUS* CRAB FISHERY OBSERVER ACTIVITY

Historic observer activity data for this permit fishery are confidential. Future harvest of *P. multispinus* will unlikely be allowed by the department due to lack of available stock data.

2007/08 BRISTOL BAY GOLDEN KING CRAB FISHERY OBSERVER ACTIVITY

This fishery occurred once in 2004. The one participant harvested golden king crab during March of 2004. Observer coverage was required during all fishing activities. Data are confidential for this permit fishery due to low participation.

2007/08 WEATHERVANE SCALLOP FISHERY OBSERVER ACTIVITY

The 2007/08 scallop season opened on July 1, 2007 in all state and federal waters, except in the Cook Inlet Registration Area, which opened August 15. Throughout the 7.5-month regulatory season, three C/Ps fished in four registration areas, including Yakutat, Prince William Sound, Kodiak and the Bering Sea. All vessels were required to carry onboard observers 100% of the time except in Cook Inlet where the third-party observer requirement was waived provided the participants accommodate an ADF&G observer when requested. Observers were secured and paid for by vessel operators through independent contracting agents. During the 2007/08 scallop season, AOI and SWI provided all observers for the 13 deployments throughout the season.

Scallop C/Ps normally engage in fishing activity 24 hours per day. Two dredges are fished simultaneously, one on the port side and one on the starboard side. Observers were assigned a goal of sampling one dredge from six different tows per day. Of the six sampled tows, the daily goal was to sample a single dredge from one tow for haul composition sampling and a single dredge from five different tows for crab and Pacific halibut bycatch and discarded/retained scallop catch monitoring. Observers reported scallop harvest, crab bycatch, fishing effort and location information to ADF&G on a tri-weekly basis. Bycatch of Tanner crabs, snow crabs, Dungeness crabs, red king crabs, and Pacific halibut are estimated from observer data.

For the 2007/08 regulatory season, there were 13 observer deployments, accounting for 14.3 deployment months (Table 4-20). Three deployments were in the Yakutat registration area accounting for 26.6% of the total observer months, two deployments were in the Prince William Sound registration area accounting for 10.5% of the total observer months and eight of the deployments were in Westward Region registration areas accounting for 62.9% of the total observer months (Table 4-21). Observers sampled 1,227 of the 4,611 tows completed in the fishery for a sample rate of 26.6% (Table 4-22).

OBSERVER DATA USE AND ANALYSIS

The MSA mandates collection of reliable data for fisheries conservation and management. Although ADF&G continues to collect retained catch data shore-side, it relies heavily on data collected by at-sea observers who are in a unique position to collect specific data on the fishing

grounds during the commercial crab harvest. The crab observer database has accumulated enough data to become an important source of information for fisheries management and research. Some of the applications of this data are discussed in Schwenzfeier et al., (2000). The observer program database staff annually summarizes the biological data collected by crab observers. The most recent summary and analysis of BSAI crab observer-collected data is available in Barnard and Burt (2008).

Scallop observer-collected data are used to manage the fishery inseason and to set guideline harvest levels (GHL) for the following season. Data are provided to local advisory committees, BOF, North Pacific Fishery Management Council (NPFMC), NMFS, and the public. These data have been invaluable for preparing Essential Fish Habitat (EFH) and Habitat Areas of Particular Concern (HAPC) documents. The most recent summary and analysis of statewide scallop observer-collected data is available in Barnhart and Rosenkranz (2006).

REFERENCES CITED

- Alaska Department of Fish and Game Shellfish Observer Program (ADF&G). *Unpublished*. 2008 Crab Observer Training and Deployment Manual. Alaska Department of Fish and Game, Division of Commercial Fisheries.
- Barnard, D. R., and R. Burt. 2008. Alaska Department of Fish and Game summary of the 2006/2007 mandatory shellfish observer program database for the rationalized crab fisheries. Alaska Department of Fish and Game, Division of Commercial Fisheries, Fishery Data Series No. 08-17, Anchorage.
- Barnhart, J. P. 2006. Annual management report for the commercial weathervane scallop fisheries in Alaska's Westward Region, 2004/05. Alaska Department of Fish and Game, Fishery Management Report No. 06-41, Anchorage.
- Barnhart, J. P. and G. E. Rosenkranz. 2006. Summary and analysis of onboard observer-collected data from the 2002/03 statewide commercial weathervane scallop fishery. Alaska Department of Fish and Game, Fishery Management Report No. 06-39, Anchorage.
- Barnhart, J.P. and University of Alaska Anchorage North Pacific Fisheries Observer Training Center. 2004. Weathervane scallop observer manual. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 4K04-39, Kodiak.
- Boyle, L., and M. Schwenzfeier. 2000. Alaska's Mandatory Shellfish Observer Program, 1988 - 2000. *[In]* 2002. A.J. Paul, E.B. Dawe, R. Elner, G.S. Jamieson, G.H. Kruse, R. S. Otto, B. Sainte-Marie, T.C. Shirley, and D. Woodby (eds.). Crabs in Cold Water Regions: Biology, Management, and Economics. University of Alaska Sea Grant, AK-SG-02-01, Fairbanks. 876 pp.
- 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. 876 pp.
- U.S. Department of Commerce. 2007. Magnuson-Stevens Fishery Conservation and Management Act as amended by the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act (P.L. 109-479). NOAA. May 2007 printing.

TABLES AND FIGURES

Table 4-1. Observer coverage levels in the 2007/08 fishery seasons for the Bering Sea and Aleutian Islands, IFQ, CDQ, ACA, and permit crab fisheries.

Fishery	Preseason Registration Deadline ^a	Catcher Vessels		At-Sea Processors	
		Observer Coverage	Observer Costs Subsidized ^b	Observer Coverage	Observer Costs Subsidized
St. Matthew blue king crab	none	100%	no	100%	no
Pribilof red and blue king crab	none	100%	no	100%	no
Bristol Bay red king crab	24-Sep	20% ^c	yes	100%	no
Bering Sea Tanner crab	24-Sep	30% ^c	yes	100%	no
Bering Sea snow crab	24-Sep	30% ^c	yes	100%	no
St. Matthew golden king crab	none	100%	no	100%	no
Pribilof golden king crab	none	100%	no	100%	no
Bering Sea hair crab	none	100%	no	100%	no
BSAI grooved and triangle Tanner crab	none	100%	no	100%	no
Aleutain Islands golden king crab	none	50% ^d	no	100%	no
Aleutian Islands red king crab	none	100%	no	100%	no

^a When the preseason vessel registration deadline occurs on a weekend or holiday, the deadline is extended to the next business day.

^b Observer coverage is funded with test fishery revenue and federal grant.

^c For Bristol Bay red king crab and Bering Sea Tanner and snow crab the observer coverage level in each of those fisheries is a percentage of pre-season registered vessels. Observer deployment costs are paid for with test fishery and federal grant.

^d For Aleutian Islands golden king crab the coverage is set at a percentage of the harvest on each vessel in each of three trimesters.

Table 4-2. Shellfish onboard observer program test fishery harvest statistics, 1999–2007.

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

^a In pounds.

^b Deadloss included.

^c Number of legal crabs per pot lift.

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

^e Contracted vessel harvested IFQ crab in conjunction with test-fishery crab.

Table 4-3.—Economic performance of the shellfish onboard observer program test-fishery harvest, 1999–2007.

Year	Targeted Species	Harvest ^a	Exvessel Value			Charter Dates	Total Charter Days	Vessel Charter Cost
			Test-fish ^b	General Fishery ^b	Total			
1999	Bristol Bay red king crab	105,934	\$6.32	\$6.26	\$669,500	10/25-11/10	17	\$40,800
2000	Bristol Bay red king crab				No cost-recovery fishing			
2001	Bristol Bay red king crab	90,048	\$5.12	\$4.81	\$461,045	10/23-11/08	17	\$46,925
2002	Bristol Bay red king crab	71,527	\$6.41	\$6.14	\$458,488	10/17-10/27	10	\$32,900
2003	Bristol Bay red king crab				No cost-recovery fishing			
2004	Bristol Bay red king crab	116,512	\$5.13	\$4.71	\$598,245	10/21-11/01	14	\$49,900
2005	Bristol Bay red king crab	128,165	\$5.07	\$4.22	\$649,999	11/12 - 12/4 ^c	23 ^c	\$69,900
2006	Bristol Bay red king crab	186,047	\$3.12	\$3.40	\$400,000	9/22 - 10/11	17	no expenditure ^d
2007	Bristol Bay red king crab	78,360	\$4.02	\$4.35	\$315,000	10/2 - 10/12	10	no expenditure ^d

^a In pounds, deadloss not included.

^b Price per pound.

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

^d No vessel charter expenditures for department; bidder was responsible for all crab harvest costs, resulting in the department receiving a lower price per pound than previous years.

Table 4-4.–Aleutian Islands golden king crab fishing effort by vessel type, 2003/04 - 2007/08.

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

^a Includes deadloss.

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

Table 4-5.—Aleutian Islands golden king crab observer sampling efforts for bycatch and retained catch by vessel type, 1996/97 - 2007/08.

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

- Continued -

Table 4-5.–Page 2 of 2.

Year	Vessel Type	Number of ^a			Number of						Number of		
		Total Vessels	Obs. Vessels	% Obs. Coverage	Observer Deployments	Observer Months	Pot Lifts Sampled	Pot Lifts on all Vessels by Type	Pot Lifts on all Obs Vessels by Type	% Pot Lifts Sampled by Vessel Type	% Pot Lifts Sampled by Obs. Vessel Type	Size Freq. ^b	Legal Tallies ^c
2003/04	C/V	20	20	100.0	28	40.5	6,744	106,011	106,011	6.4	6.4	73	73
	C/P	1	1	100.0	3	6.1	550	19,108	19,108	2.9	2.9	115	115
	F/P	0	0	NA	0	0.0	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
2004/05	C/V	21	21	100.0	25	45.8	4,408	75,814	75,814	5.8	5.8	61	63
	C/P	1	1	100.0	2	4.9	417	15,880	15,880	2.6	2.6	100	100
	F/P	0	0	NA	0	0	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 ^d	C/V	7	7	50.0 ^e	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	NA	2	2	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 ^d	C/V	6	6	50.0 ^e	11	11.2	1,793	43,087	29,440	4.2	6.1	30	25
	C/P	1	1	100.0	2	6.1	493	9,978	9,978	4.9	4.9	110	109
	F/P	0	0	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 ^d	C/V	4	4	50.0 ^e	6	9.4	1,662	41,244	24,413	4.0	6.8	25	25
	C/P	1	1	100.0	2	5.9	426	11,359	11,359	3.8	3.8	109	109
	F/P	0	0	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

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

^b Size frequency sample taken on retained catch; each data set typically consists of 100 crab.

^c Each legal tally typically consists of 600 crab.

^d Data includes IFQ, CDQ, and ACA. 2005/06 is the first year of crab rationalization and the first year CDQ and ACA quotas were assigned to this fishery.

^e All catcher vessels were observed for at least 50% of their harvest in each of three trimesters.

NA = not applicable.

Table 4-6.--Pot lifts observed and non-observed for each statistical area fished during the Aleutian Islands golden king crab fishery, 2007/08.

Stat area	C/V pots lifted		C/P pots lifted		Total No. Observed Pots ^a	Total Pots Lifted	% Pots Observed ^a
	Observed ^a	Non-observed	Observed ^a	Non-observed			
695200	452	0	0	0	452	452	100.0
695301	295	199	0	0	295	494	59.7
695302	0	40	0	0	0	40	0.0
705200	839	596	416	0	1,255	1,851	67.8
705232	2,205	1,361	447	0	2,652	4,013	66.1
705233	0	12	0	0	0	12	0.0
705300	777	455	121	0	898	1,353	66.4
715130	190	149	0	0	190	339	56.0
715201	216	33	0	0	216	249	86.7
715202	2,438	1,528	0	0	2,438	3,966	61.5
715231	1,819	778	0	0	1,819	2,597	70.0
715232	813	449	52	0	865	1,314	65.8
725201	2,061	1,660	0	0	2,061	3,721	55.4
725203	144	223	0	0	144	367	39.2
725230	847	225	0	0	847	1,072	79.0
735201	39	0	0	0	39	39	100.0
735230	774	0	0	0	774	774	100.0
745131	0	25	0	0	0	25	0.0
755201	30	21	0	0	30	51	58.8
755202	30	30	0	0	30	60	50.0
755209	0	9	0	0	0	9	0.0
765132	31	0	0	0	31	31	100.0
765141	0	25	0	0	0	25	0.0
765144	25	50	0	0	25	75	33.3
765203	25	25	0	0	25	50	50.0
765204	25	0	0	0	25	25	100.0
775131	971	746	0	0	971	1,717	56.6
775132	0	6	0	0	0	6	0.0
775133	378	280	0	0	378	658	57.4
775134	156	125	0	0	156	281	55.5
775135	32	74	0	0	32	106	30.2
775137	143	90	0	0	143	233	61.4
775138	42	36	0	0	42	78	53.8
775200	0	30	0	0	0	30	0.0
785101	71	42	0	0	71	113	62.8
785102	2,180	1,768	0	0	2,180	3,948	55.2
785103	129	102	0	0	129	231	55.8

- Continued -

Table 4-6.--Page 2 of 2.

Stat area	C/V pots lifted		C/P pots lifted		Total No. Observed Pots ^a	Total Pots Lifted	% Pots Observed ^a
	Observed ^a	Non-observed	Observed ^a	Non-observed			
785131	1,976	1,690	0	0	1,976	3,666	53.9
785132	236	209	0	0	236	445	53.0
785134	318	234	0	0	318	552	57.6
785135	785	697	0	0	785	1,482	53.0
795101	76	99	0	0	76	175	43.4
795102	695	564	0	0	695	1,259	55.2
795131	573	469	0	0	573	1,042	55.0
795132	692	781	0	0	692	1,473	47.0
795200	45	0	702	0	747	747	100.0
795230	0	0	28	0	28	28	100.0
805101	30	27	0	0	30	57	52.6
805102	25	0	0	0	25	25	100.0
805103	260	272	204	0	464	736	63.0
805131	0	0	635	0	635	635	100.0
805132	293	343	1,249	0	1,542	1,885	81.8
805133	75	60	90	0	165	225	73.3
805201	0	0	1,173	0	1,173	1,173	100.0
805230	0	0	33	0	33	33	100.0
815100	0	0	204	0	204	204	100.0
815131	0	35	321	0	321	356	90.2
815132	25	69	312	0	337	406	83.0
815134	0	0	71	0	71	71	100.0
815136	0	0	36	0	36	36	100.0
825132	0	0	164	0	164	164	100.0
825201	1	45	618	0	619	664	93.2
825202	0	0	150	0	150	150	100.0
825203	0	0	112	0	112	112	100.0
835130	0	0	198	0	198	198	100.0
835200	44	45	1,257	0	1,301	1,346	96.7
845130	0	0	324	0	324	324	100.0
845201	0	0	78	0	78	78	100.0
845202	87	0	1,586	0	1,673	1,673	100.0
855200	0	0	628	0	628	628	100.0
855231	0	0	150	0	150	150	100.0
Totals	24,413	16,831	11,359	0	35,622	52,603	

^a Observer present and acting in the capacity of an onboard observer during harvest.

Table 4-7.–Bristol Bay red king crab fishing effort by vessel type, 2003 - 2007/08.

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

^a Includes deadloss.

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

Table 4-8.—Bristol Bay red king crab observer sampling efforts for bycatch and retained catch by vessel type, 1988 – 2007/08.

Year	Vessel Type	Number of ^a			% Obs Coverage	Number of					% Pot Lifts Sampled on Obs Vessel by Type ^b	Number of	
		Total Vessels	Obs Vessels	Observer Deployments		Observer Months	Pot Lifts Sampled	Pot Lifts on all Vessels by Type ^b	Pot Lifts on all Obs Vessels by Type ^b	% Pot Lifts Sampled by Vessel Type ^b		Size Freq. ^c	Legal Tallies ^{b,d}
1988	C/V	180	0	0.0	0	0.0	NA	-	NA	NA	NA	NA	NA
	C/P	20	20	100.0	20	8.4	31	-	-	-	-	0	-
	F/P	5	5	100.0	5	1.9	NA	NA	NA	NA	NA	0	-
	FLEET	205	25	12.2	25	10.3	31	146,179	-	<.1	-	0	-
1989	C/V	193	0	0.0	0	0.0	NA	-	NA	NA	NA	NA	NA
	C/P	18	18	100.0	18	10.9	94	-	-	-	-	110	-
	F/P	12	12	100.0	12	6.8	NA	NA	NA	NA	NA	101	-
	FLEET	223	30	13.5	30	17.6	94	205,528	-	<.1	-	211	-
1990	C/V	220	0	0.0	0	0.0	NA	-	NA	NA	NA	NA	NA
	C/P	20	20	100.0	20	11.9	140	-	-	-	-	-	-
	F/P	15	15	100.0	15	8.9	NA	NA	NA	NA	NA	-	-
	FLEET	255	35	13.7	35	20.8	140	262,761	-	0.1	-	-	-
1991	C/V	277	0	0.0	0	0.0	NA	-	NA	NA	NA	NA	NA
	C/P	25	25	100.0	26	14.2	272	-	-	-	-	163	-
	F/P	14	14	100.0	14	7.4	NA	NA	NA	NA	NA	130	-
	FLEET	316	39	12.3	40	21.5	272	226,999	-	0.1	-	293	-
1992	C/V	263	0	0.0	0	0.0	NA	-	NA	NA	NA	NA	NA
	C/P	18	18	100.0	19	9.0	290	-	-	-	-	99	-
	F/P	6	6	100.0	6	3.0	NA	NA	NA	NA	NA	80	-
	FLEET	287	24	8.4	25	12.0	290	206,172	-	0.1	-	179	-

- Continued -

Table 4-8.—Page 2 of 4.

Year	Vessel Type	Number of ^a			Number of						Number of		
		Total Vessels	Obs Vessels	% Obs Coverage	Observer Deployments	Observer Months	Pot Lifts Sampled	Pot Lifts on all Vessels by Type ^b	Pot Lifts on all Obs Vessels by Type ^b	% Pot Lifts Sampled by Vessel Type ^b	% Pot Lifts Sampled on Obs Vessel by Type ^b	Size Freq. ^c	Legal Tallies ^{b,d}
1993	C/V	275	0	0.0	0	0.0	NA	-	NA	NA	NA	NA	NA
	C/P	17	17	100.0	19	10.6	558	-	-	-	-	124	-
	F/P	7	7	100.0	7	4.5	NA	NA	NA	NA	NA	112	-
	FLEET	299	24	8.0	26	15.1	558	252,739	-	0.2	-	236	-
1994	NO COMMERCIAL FISHERY												
1995	NO COMMERCIAL FISHERY												
1996	C/V	192	0	0.0	0	0.0	0	73,908	NA	NA	NA	NA	NA
	C/P	4	4	100.0	7	2.0	84	2,525	2,525	3.3	3.3	19	19
	F/P	2	2	100.0	2	0.8	NA	NA	NA	NA	NA	26	62
	FLEET	197	5	2.5	9	2.8	84	76,433	2,525	0.1	3.3	45	81
1997	C/V	248	0	0.0	0	0.0	0	86,885	NA	NA	NA	NA	NA
	C/P	8	8	100.0	12	3.9	146	3,542	3,542	4.1	4.1	28	28
	F/P	3	3	100.0	3	1.6	NA	NA	NA	NA	NA	52	56
	FLEET	259	11	4.2	15	5.5	146	90,427	3,542	0.2	3.9	80	84
1998	C/V	263	0	0.0	0	0.0	0	131,757	NA	NA	NA	NA	NA
	C/P	11	11	100.0	19	6.7	131	6,614	6,614	2.0	2.0	48	52
	F/P	5	5	100.0	3	1.8	NA	NA	NA	NA	NA	37	52
	CDQ	7	7	100.0	7	3.1	193	3,326	3,326	5.8	5.8	9	10
	FLEET	284	21	7.4	29	11.6	324	141,697	9,940	0.2	3.3	94	114

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Table 4-8.—Page 3 of 4.

Year	Vessel Type	Number of ^a			Number of						Number of		
		Total Vessels	Obs Vessels	% Obs Coverage	Observer Deployments	Observer Months	Pot Lifts Sampled	Pot Lifts on all Vessels by Type ^b	Pot Lifts on all Obs Vessels by Type ^b	% Pot Lifts Sampled by Vessel Type ^b	% Pot Lifts Sampled on Obs Vessel by Type ^b	Size Freq. ^c	Legal Tallies ^{b,d}
1999	C/V	249	0	0.0	0	0.0	0	138,322	NA	NA	NA	NA	NA
	C/P	8	8	100.0	10	4.6	135	5,699	5,699	2.4	2.4	46	56
	F/P	3	3	100.0	1	1.0	NA	NA	NA	NA	NA	22	26
	CDQ	10	10	100.0	10	3.5	263	2,976	2,976	8.8	8.8	9	12
	FLEET	268	19	7.1	21	9.1	398	146,997	8,675	0.3	4.6	77	94
2000	C/V ^e	214	11	5.1	11	5.1	403	82,453	4,429	0.5	9.1	10	11
	AFA C/V	25	3	12.0	3	1.1	88	8,340	1,024	1.1	8.6	3	3
	C/P	7	7	100.0	9	3.4	156	3,238	3,238	4.8	4.8	28	29
	F/P	2	2	100.0	3	0.6	NA	NA	NA	NA	NA	14	17
	CDQ	11	11	100.0	11	4.4	423	4,663	4,663	9.1	9.1	1	0
	FLEET	258	33	12.8	37	14.6	1,070	98,694	13,354	1.1	8.0	56	60
2001	C/V ^e	193	20	10.4	20	9.5	359	51,624	5,746	0.7	6.2	19	19
	AFA C/V	31	3	9.7	3	1.0	48	6,662	682	0.7	7.0	3	3
	C/P	6	6	100.0	7	2.3	97	1,776	1,776	5.5	5.5	13	13
	F/P	3	3	100.0	3	1.2	NA	NA	NA	NA	NA	19	19
	CDQ	10	6	60.0	6	2.9	166	3,130	2,516	5.3	6.6	9	9
	FLEET	241	36	14.9	39	16.9	670	63,192	10,720	1.1	6.3	63	63
2002	C/V ^e	204	17	8.3	17	7.1	330	56,448	5,236	0.6	6.3	16	18
	AFA C/V	31	3	9.7	3	1.3	37	5,776	551	0.6	6.7	3	3
	C/P	7	7	100.0	8	2.3	144	2,591	2,591	5.6	5.6	21	21
	F/P	3	3	100.0	3	1.0	NA	NA	NA	NA	NA	9	9
	CDQ	10	6	60.0	6	2.7	242	3,513	2,875	6.9	8.4	9	9
	FLEET	253	34	13.4	37	14.5	753	68,328	11,253	1.1	6.7	58	60

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Table 4-8.—Page 4 of 4.

Year	Vessel Type	Number of ^a			Number of					% Pot Lifts		Number of	
		Total Vessels	Obs. Vessels	% Obs. Coverage	Observer Deployments	Observer Months	Pot Lifts Sampled	Pot Lifts on all Vessels by Type ^b	Pot Lifts on all Obs Vessels by Type ^b	% Pot Lifts Sampled by Vessel Type ^b	% Pot Lifts Sampled by Vessel Type ^b	Obs. Vessel Type ^b	Size Freq. ^c
2003	C/V ^e	211	19	9.0	20	10.0	485	110,531	10,531	0.4	4.6	11	11
	AFA C/V	32	3	9.4	3	1.2	71	12,913	911	0.5	7.8	1	1
	C/P	8	8	100.0	10	3.6	175	4,986	4,986	3.5	3.5	35	32
	F/P	4	4	100.0	4	1.6	NA	NA	NA	NA	NA	16	18
	CDQ	13	8	61.5	9	3.7	279	5,704	4,372	4.9	6.4	22	12
	FLEET	264	39	14.8	46	20.1	1010	134,134	20,800	0.8	4.9	85	74
2004	C/V ^e	211	17	8.1	17	6.6	339	79,513	6,304	0.4	5.4	16	16
	AFA C/V	32	3	9.4	3	1.1	67	8,093	842	0.8	8.0	3	3
	C/P	8	8	100.0	9	2.8	130	3,370	3,370	3.9	3.9	17	17
	F/P	4	4	100.0	4	1.4	NA	NA	NA	NA	NA	31	33
	CDQ	12	8	66.7	9	4.7	226	5,359	4,312	4.2	5.2	23	23
	FLEET	263	37	14.0	42	16.6	762	96,335	14,828	0.8	5.1	90	92
2005/06 ^f	C/V	85	20	23.5	22	19.5	1,390	103,538	25,283	1.3	5.5	50	48
	C/P	4	4	100.0	4	5.0	465	11,411	11,411	4.1	4.1	90	90
	F/P	1	1	100.0	2	2.0	NA	NA	NA	NA	NA	7	7
	FLEET	90	25	27.8	28	26.5	1,855	114,949	36,694	1.6	5.1	144	142
2006/07 ^f	C/V	80	19	23.8	21	16.6	1,074	67,929	18,972	1.6	5.7	44	39
	C/P	3	3	100.0	3	3.1	140	3,811	3,811	3.7	3.7	38	38
	F/P	1	1	100.0	1	1.3	NA	NA	NA	NA	NA	0	0
	FLEET	83	22	26.5	25	21.1	1,214	71,740	22,783	1.7	5.3	82	77
2007/08 ^f	C/V	73	19	26.0	20	18.5	1,708	107,926	28,797	1.6	5.7	46	47
	C/P	3	3	100.0	3	2.7	210	5,288	5,288	3.5	3.5	52	49
	F/P	0	0	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

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

^b Information is not available for 1988-1993.

^c Size frequency sample taken on retained catch; each data set typically consists of 100 crab. Information is not available for 1990.

^d Each legal tally typically consists of 600 crab.

^e Non-AFA catcher vessels.

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

NA = not

Table 4-9.—Pot lifts observed and non-observed for each statistical area fished during the Bristol Bay red king crab fishery, 2007/08.

Stat area	C/V pots lifted		C/P pots lifted		Total No. Observed Pots ^a	Total Pots Lifted	% Pots Observed ^a
	Observed ^a	Non-observed	Observed ^a	Non-observed			
605630	21	0	0	0	21	21	100.0
605700	0	12	0	0	0	12	0.0
615601	570	116	0	0	570	686	83.1
615630	1,755	9,608	318	0	2,073	11,681	17.7
615700	984	7,604	0	0	984	8,588	11.5
615730	0	675	0	0	0	675	0.0
625531	199	1,236	226	0	425	1,661	25.6
625600	4,766	4,310	1,578	0	6,344	10,654	59.5
625630	2,155	9,038	420	0	2,575	11,613	22.2
625700	303	1,606	102	0	405	2,011	20.1
625730	0	1	0	0	0	1	0.0
635504	0	15	0	0	0	15	0.0
635530	2,875	8,673	1,538	0	4,413	13,086	33.7
635600	798	1,891	498	0	1,296	3,187	40.7
635630	966	4,180	389	0	1,355	5,535	24.5
635700	6,853	15,658	154	0	7,007	22,665	30.9
635730	1,527	4,013	0	0	1,527	5,540	27.6
645501	0	39	0	0	0	39	0.0
645530	0	217	0	0	0	217	0.0
645600	101	108	59	0	160	268	59.7
645630	453	893	6	0	459	1,352	33.9
645700	1,579	2,832	0	0	1,579	4,411	35.8
645730	2,736	6,101	0	0	2,736	8,837	31.0
645800	0	45	0	0	0	45	0.0
655530	156	0	0	0	156	156	100.0
655730	0	65	0	0	0	65	0.0
655800	0	193	0	0	0	193	0.0
Totals	28,797	79,129	5,288	0	34,085	113,214	

^a Observer present and acting in the capacity of an onboard observer during harvest.

Table 4-10.—Comparison of the number of vessels that preseason registered to harvest Tanner crab to the number of vessels that harvested Tanner crab, and the percentage of all vessels that harvested Tanner crab that were observed during the Bering Sea Tanner crab fishery, 2005/06, 2006/07, and 2007/08.

Year	Catcher vessels that pre-season registered for Tanner crab	Catcher vessels that delivered Tanner crab ^a	Catcher vessels that harvested Tanner crab that carried observers ^{a, b}	Percent of catcher-vessel Tanner crab deliveries observed ^{a, c}
2005/06	106	41	14	34.1%
2006/07	83	55	20	36.4%
2007/08	63	41	26	63.4%

^a Includes vessels that incidentally harvested Tanner crab, vessels that engaged in directed harvest of Tanner crab, and vessels that both incidentally and directly harvested Tanner crab.

^b Many vessels carried observers for only a portion of their Tanner crab harvest

^c Observer present and acting in the capacity of an onboard observer during harvest and delivery.

Table 4-11.—Bering Sea Tanner crab fishing effort by vessel type, 2005/06 – 2007/08.

Year	Vessel Type	Number of			Pounds Delivered ^b	Observed	% Observed
		Vessels ^a	Pot Lifts	Deliveries		Pounds Delivered ^a	Pounds Delivered
2005/06 ^c	C/V	41	31,394	85	927,674	377,978	41.9
	C/P	1	323	2	25,213	25,213	100.0
	TOTAL	42	31,717	87	952,887	403,191	42.3
2006/07 ^c	C/V	55	50,621	126	1,986,778	855,345	43.1
	C/P	3	2,893	10	135,811	135,811	100.0
	TOTAL	58	53,514	136	2,122,589	991,156	46.7
2007/08 ^c	C/V	40	50,110	111	1,933,681	1,126,097	58.2
	C/P	1	5,343	13	172,973	172,973	100.0
	TOTAL	41	55,453	124	2,106,654	1,299,070	61.7

^a Some vessels fished observed and unobserved and are counted twice in total vessel number.

^b Includes deadloss.

^c Data includes IFQ and CDQ. 2005/06 is the first year of crab rationalization.

Table 4-12.—Bering Sea Tanner crab observer sampling efforts for bycatch and retained catch by vessel type, 2005/06 - 2007/08.

Year	Vessel Type ^a	Number of		Pot Lifts Sampled	% Pot Lifts Sampled	Number of Deliveries	Pounds Delivered ^b
		Vessels	Pot Lifts				
2005/06 ^c	Unobserved Vessels	27	19,330	NA	NA	52	549,696
	Observed Vessels ^{c, d}	15	12,387	1,629	13.2	35	403,191
	TOTAL	42	31,717	1,629	5.1	87	952,887
2006/07 ^c	Unobserved Vessels	36	33,068	NA	NA	85	1,131,433
	Observed Vessels ^e	24	20,446	421	2.1	51	991,156
	TOTAL	58	53,514	421	0.8	136	2,122,589
2007/08 ^c	Unobserved Vessels	29	22,104	data unavailable at this time		54	807,584
	Observed Vessels ^f	27	33,349	data unavailable at this time		70	1,299,070
	TOTAL	56	55,453			124	2,106,654

^a Some vessels fished observed and unobserved and are counted twice in total vessel number.

^b Includes deadloss.

^c Data includes IFQ and CDQ. 2005/06 is the first year of crab rationalization.

^d Includes 14 catcher vessels and 1 catcher processor.

^e Includes 23 catcher vessels and 1 catcher-processor.

^f Includes 26 catcher vessels and 1 catcher-processor.

Table 4-13.--Pot lifts observed and non-observed for each statistical area fished during the Bering Sea Tanner crab fishery, 2007/08.

Stat area	C/V pots lifted		C/P pots lifted		Total No. Observed Pots ^a	Total Pots Lifted	% Pots Observed ^a
	Observed ^a	Non-observed	Observed ^a	Non-observed			
625531	45	34	31	0	76	110	69.1
625600	0	2	63	0	63	65	96.9
625630	18	0	0	0	18	18	100.0
625700	69	0	0	0	69	69	100.0
635504	430	1,407	0	0	430	1,837	23.4
635530	1,889	3,137	805	0	2,694	5,831	46.2
635600	175	43	199	0	374	417	89.7
635630	34	0	374	0	408	408	100.0
635700	176	0	38	0	214	214	100.0
635730	177	0	0	0	177	177	100.0
645434	0	0	10	0	10	10	100.0
645501	6,107	3,619	811	0	6,918	10,537	65.7
645530	1,086	610	0	0	1,086	1,696	64.0
645600	127	0	59	0	186	186	100.0
645630	34	0	6	0	40	40	100.0
655430	380	213	0	0	380	593	64.1
655500	6,403	1,357	1,723	0	8,126	9,483	85.7
655530	1,251	365	208	0	1,459	1,824	80.0
665430	122	330	10	0	132	462	28.6
665500	980	1,664	394	0	1,374	3,038	45.2
665530	1,208	764	8	0	1,216	1,980	61.4
665600	91	0	0	0	91	91	100.0
675500	10	0	0	0	10	10	100.0
675530	0	118	0	0	0	118	0.0
675600	40	236	0	0	40	276	14.5
675630	0	9	0	0	0	9	0.0
685600	0	886	0	0	0	886	0.0
685630	36	7	0	0	36	43	83.7
695600	24	170	0	0	24	194	12.4
695631	612	1,149	565	0	1,177	2,326	50.6
705600	234	173	0	0	234	407	57.5
705630	821	464	39	0	860	1,324	65.0
705701	330	45	0	0	330	375	88.0
705703	20	0	0	0	20	20	100.0
715600	0	551	0	0	0	551	0.0
715630	1,996	2,843	0	0	1,996	4,839	41.2
715700	856	205	0	0	856	1,061	80.7
725600	433	0	0	0	433	433	100.0
725630	1,135	1,070	0	0	1,135	2,205	51.5
725700	565	633	0	0	565	1,198	47.2
735700	28	0	0	0	28	28	100.0
735730	64	0	0	0	64	64	100.0
Totals	28,006	22,104	5,343	0	33,285	55,453	

^a Observer present and acting in the capacity of an onboard observer during harvest.

Table 4-14.—Bering Sea snow crab fishing effort by vessel type, 2004 - 2007/08.

Year	Vessel Type	Number of			Pounds	Observed	% Observed
		Vessels	Pot Lifts	Deliveries	Delivered ^a	Pounds Delivered ^a	Pounds Delivered
2004	C/V	183	106,144	229	21,504,123	2,421,672	11.3
	C/P	6	3,943	11	666,027	666,027	100.0
	CDQ	10	13,622	25	1,772,222	1,772,222	100.0
	TOTAL	199	123,709	265	23,942,372	4,859,921	20.3
2005	C/V	162	66,712	184	22,066,179	3,674,096	16.7
	C/P	6	3,151	12	970,108	970,108	100.0
	CDQ	9	3,345	23	1,855,841	1,855,841	100.0
	TOTAL	177	73,208	219	24,892,128	6,500,045	26.1
2005/06 ^b	C/V	76	105,508	306	33,650,679	11,979,880	35.6
	C/P	4	15,004	44	3,323,211	3,323,211	100.0
	TOTAL	80	120,512	350	36,973,890	15,303,091	41.4
2006/07 ^b	C/V	67	78,611	272	32,525,172	11,206,761	34.5
	C/P	4	10,808	35	3,830,477	3,830,477	100.0
	TOTAL	71	89,419	307	36,355,649	15,037,238	41.4
2007/08 ^b	C/V	85	130,008	468	57,488,538	15,851,014	27.6
	C/P	4	13,834	44	5,539,498	5,539,498	100.0
	TOTAL	89	143,842	512	63,028,036	21,390,512	33.9

^a Includes deadloss.

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

Table 4-15.—Bering Sea snow crab observer sampling efforts for bycatch and retained catch by vessel type, 1995 – 2007/08.

Year	Vessel Type	Number of ^a			% Obs. Coverage	Number of					% Pot Lifts Sampled by Vessel Type ^b	% Pot Lifts Sampled by Obs. Vessel Type ^b	Number of	
		Total Vessels	Obs. Vessels	Observer Deployments		Observer Months	Pot Lifts Sampled	Pot Lifts on all Vessels by Type ^b	Pot Lifts on all Obs Vessels by Type ^b	Size Freq. ^c			Legal Tallies ^d	
1995	C/V	234	0	0.0	NA	NA	NA	-	NA	NA	NA	NA	NA	NA
	C/P	19	19	100.0	36	31.6	1,574	-	-	-	-	465	475	
	F/P	15	15	100.0	17	22.5	NA	NA	NA	NA	NA	-	-	
	FLEET	268	34	12.7	53	54.1	1,574	506,802	-	0.3	-	465	475	
1996	C/V	219	0	0.0	NA	NA	NA	-	NA	NA	NA	NA	NA	
	C/P	15	15	100.0	35	31.3	1,412	-	-	-	-	479	494	
	F/P	13	13	100.0	15	25.1	NA	NA	NA	NA	NA	246	292	
	FLEET	247	28	11.3	50	56.4	1,412	520,651	-	0.3	-	725	786	
1997	C/V	216	0	0.0	NA	NA	NA	680,725	NA	NA	NA	NA	NA	
	C/P	14	14	100.0	24	33.5	1,728	73,415	73,415	2.4	2.4	607	621	
	F/P	11	11	100.0	17	26.5	NA	NA	NA	NA	NA	440	447	
	FLEET	237	25	10.5	41	60.0	1,728	754,140	73,415	0.2	2.4	1,047	1,068	
1998	C/V	217	0	0.0	NA	NA	NA	825,832	NA	NA	NA	NA	NA	
	C/P	12	12	100.0	21	30.7	5,872	65,436	65,436	9.0	9.0	598	609	
	F/P	11	11	100.0	14	26.9	NA	NA	NA	NA	NA	751	762	
	CDQ	20	20	100.0	60	34.0	1,726	930,843	105,011	4.4	4	1,429	1,453	
	FLEET	260	43	16.5	35	91.6	7,598	891,268	65,436	0.9	11.6	1,349	1,371	
1999	C/V	231	0	0.0	NA	NA	NA	846,163	NA	NA	NA	NA	NA	
	C/P	10	10	100.0	15	24.6	1,593	52,880	52,880	3.0	3.0	694	8	
	F/P	11	11	100.0	12	26.3	NA	NA	NA	NA	NA	736	683	
	CDQ	276	22	91.7	28	12.1	789	46,490	14,131	1.7	6	59	46	
	FLEET	252	43	17.1	55	63.0	2,382	945,533	67,011	0.3	3.6	1,489	737	

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Table 4-15.-Page 2 of 3.

Year	Vessel Type	Number of ^a		% Obs. Coverage	Number of					% Pot Lifts Sampled by Vessel Type ^b	% Pot Lifts Sampled by Obs. Vessel Type ^b	Number of	
		Total Vessels	Obs. Vessels		Observer Deployments	Observer Months	Pot Lifts Sampled	Pot Lifts on all Vessels by Type ^b	Pot Lifts on all Obs Vessels by Type ^b			Size Freq. ^c	Legal Tallies ^d
2000	C/V	220	0	0.0	NA	NA	NA	161,579	NA	NA	NA	NA	NA
	C/P	9	9	100.0	10	5.7	202	8,485	8,485	2.4	2.4	76	60
	F/P	5	5	100.0	5	3.5	NA	NA	NA	NA	NA	111	91
	CDQ	13	12	92.3	12	8.5	629	12,570	12,185	5.0	5	32	26
	FLEET	247	26	10.5	27	17.7	831	182,634	20,670	0.5	4.0	219	177
2001	C/V	200	7	3.5	7	9.6	241	159,438	4,663	0.2	5.2	7	6
	C/P	7	7	100.0	10	9.4	487	17,492	17,492	2.8	2.8	162	83
	F/P	3	3	100.0	3	4.3	NA	NA	NA	NA	NA	74	64
	CDQ	11	11	100.0	11	9.9	771	14,270	14,270	5.4	5.4	33	11
	FLEET	221	28	12.7	31	33.2	1499	191,200	36,425	0.8	4.1	276	164
2002	C/V	183	10	5.5	12	11.8	809	292,846	16,021	0.3	5.0	29	21
	C/P	8	8	100.0	9	8.0	509	14,820	14,820	3.4	3.4	170	121
	F/P	5	5	100.0	5	4.0	NA	NA	NA	NA	NA	192	105
	CDQ	11	11	100.0	15	16.0	1,098	18,845	17,264	5.8	6.3	12	10
	FLEET	205	32	15.6	41	39.8	2,416	326,511	48,105	0.7	5.0	403	257
2003	C/V	188	18	9.6	19	14.1	741	136,280	12,813	0.5	5.8	20	20
	C/P	5	5	100.0	5	3.0	129	3,623	3,623	3.6	3.6	47	47
	F/P	5	5	100.0	6	3.5	NA	NA	NA	NA	NA	61	61
	CDQ	10	9	90.0	10	10.4	746	14,583	13,519	5.1	5.5	61	61
	FLEET	206	35	17.0	40	31.0	1,616	154,486	29,955	1.0	5.4	189	189
2004	C/V	183	19	10.4	19	13.7	688	106,144	11,067	0.6	6.2	19	19
	C/P	6	6	100.0	7	3.2	159	3,943	3,943	4.0	4.0	44	44
	F/P	5	5	100.0	5	3.2	NA	NA	NA	NA	NA	58	59
	CDQ	10	10	100.0	10	11.0	780	13,622	13,622	5.7	5.7	61	56
	FLEET	202	38	18.8	41	31.1	1,627	123,709	28,632	1.3	5.7	182	178

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Table 4-15.–Page 3 of 3.

Year	Vessel Type	Number of ^a		% Obs. Coverage	Number of					% Pot Lifts Sampled by Vessel Type ^b	% Pot Lifts Sampled by Obs. Vessel Type ^b	Number of	
		Total Vessels	Obs. Vessels		Observer Deployments	Observer Months	Pot Lifts Sampled	Pot Lifts on all Vessels by Type ^b	Pot Lifts on all Obs Vessels by Type ^b			Size Freq. ^c	Legal Tallies ^d
2005	C/V	162	13	8.0	13	8.1	336	66,712	5,571	0.5	6.0	18	17
	C/P	6	6	100.0	6	3.0	91	3,151	3,151	2.9	2.9	32	26
	F/P	3	3	100.0	4	1.9	NA	NA	NA	NA	NA	37	38
	CDQ	9	9	100.0	9	6.5	210	3,345	3,345	6.3	6.3	48	39
	FLEET	179	31	17.3	32	19.5	637	73,208	12,067	0.9	5.3	135	120
2005/06 ^e	C/V	76	28	36.8	31	40.4	1,997	105,508	37,256	1.9	5.4	104	95
	C/P	4	4	100.0	7	11.0	586	15,004	15,004	3.9	3.9	208	197
	F/P	2	2	100.0	3	5.1	NA	NA	NA	NA	NA	32	32
	FLEET	82	34	41.5	41	56.5	2,583	120,512	52,260	2.1	4.9	344	324
2006/07 ^e	C/V	67	24	35.8	31	31.8	870	78,611	28,201	1.1	3.1	80	70
	C/P	4	4	100.0	9	10.0	248	10,808	10,808	2.3	2.3	181	157
	F/P	2	2	100.0	3	4.1	NA	NA	NA	NA	NA	49	56
	FLEET	73	30	41.1	43	45.9	1,118	89,419	39,009	1.3	2.9	310	283
2007/08 ^e	C/V	85	29	34.1	35	34.9	unavailable	130,008	37,688	data unavailable at this time			
	C/P	4	4	100.0	4	10.0	unavailable	13,834	13,834	data unavailable at this time			
	F/P	1	1	100.0	1	1.9	NA	NA	NA	NA	NA	NA	NA
	FLEET	90	34	37.8	40	46.8	unavailable	143,842	51,522	data unavailable at this time			

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

^b Information is not available for 1995 - 1996.

^c Size frequency sample taken on retained catch; each data set typically consists of 100 crab. Information is not available for 1995.

^d Each legal tally typically consists of 600 crab. Information is not available for 1995.

^e Data includes IFQ and CDQ. 2005/06 is the first year of crab rationalization.

NA = not applicable.

Table 4-16.—Pot lifts observed and non-observed for each statistical area fished during the Bering Sea snow crab fishery, 2007/08.

Stat area	C/V pots lifted		C/P pots lifted		Total No. Observed Pots ^a	Total Pots Lifted	% Pots Observed ^a
	Observed ^a	Non-observed	Observed ^a	Non-observed			
665430	122	121	10	0	132	253	52.2
665500	740	1,029	394	0	1,134	2,163	52.4
665530	329	764	8	0	337	1,101	30.6
665600	40	0	0	0	40	40	100.0
675500	122	18	0	0	122	140	87.1
675530	97	271	0	0	97	368	26.4
675600	40	314	0	0	40	354	11.3
675630	0	9	0	0	0	9	0.0
685530	58	0	88	0	146	146	100.0
685600	0	383	0	0	0	383	0.0
685630	36	7	0	0	36	43	83.7
695600	24	153	0	0	24	177	13.6
695631	321	647	0	0	321	968	33.2
695632	14	0	0	0	14	14	100.0
705600	1,437	1,885	641	0	2,078	3,963	52.4
705630	1,881	3,847	602	0	2,483	6,330	39.2
705701	2,542	2,206	54	0	2,596	4,802	54.1
705703	20	40	0	0	20	60	33.3
705730	0	0	45	0	45	45	100.0
715530	0	24	0	0	0	24	0.0
715600	1,559	3,805	490	0	2,049	5,854	35.0
715630	11,583	37,972	2,714	0	14,297	52,269	27.4
715700	6,034	12,164	1,796	0	7,830	19,994	39.2
715730	0	39	24	0	24	63	38.1
725600	95	0	0	0	95	95	100.0
725630	4,837	13,652	1,679	0	6,516	20,168	32.3
725700	3,593	5,986	863	0	4,456	10,442	42.7
725730	1,762	2,229	1,078	0	2,840	5,069	56.0
735630	0	63	43	0	43	106	40.6
735700	284	919	102	0	386	1,305	29.6
735730	118	3,773	476	0	594	4,367	13.6
735800	0	0	12	0	12	12	100.0
745830	0	0	1,866	0	1,866	1,866	100.0
755830	0	0	849	0	849	849	100.0
Totals	37,688	92,320	13,834	0	51,522	143,842	

^a Observer present and acting in the capacity of an onboard observer during harvest.

Table 4-17.—Bering Sea golden king crab observer sampling efforts for bycatch and retained catch by vessel type, 1989 – 2007.

Year	Vessel Type	Number of		% Obs. Coverage	Number of				% Sample Pot Pulls by Vessel Type ^a	Number of	
		Total Vessels	Obs. Vessels		Observer Trips	Observer Months	Sample Pots ^a	Pot Pulls by Vessel Type ^a		Size Freq. ^{a,b}	Legal Tallies ^{a,c}
1989	C/V	0	0	100.0	0	0.0	NA	NA	NA	NA	NA
	C/P	2	2	100.0	2	1.5	-	-	-	-	-
	TOTAL	2	2	100.0	2	1.5	-	-	-	-	-
1992	C/V	0	0	100.0	0	0.0	NA	NA	NA	NA	NA
	C/P	2	2	100.0	2	1.3	-	-	-	-	-
	TOTAL	2	2	100.0	0	1.3	-	-	-	-	-
2001	C/V	6	6	100.0	9	10.5	1,356	4,513	30.0	13	14
	C/P	0	0	100.0	0	0.0	NA	NA	NA	NA	NA
	TOTAL	6	6	100.0	9	10.5	1,356	4,513	30.0	13	14
2002	C/V	8	8	100.0	11	11.4	1,505	5,464	27.5	9	10
	C/P	0	0	100.0	0	0.0	NA	NA	NA	NA	NA
	TOTAL	8	8	100.0	11	11.4	1,505	5,464	27.5	9	10
2003	C/V	3	3	100.0	3	4.6	593	confidential	confidential	6	6
	C/P	0	0	100.0	0	0	NA	NA	NA	NA	NA
	TOTAL	3	3	100.0	3	4.6	593	confidential	confidential	6	6
2004	C/V	5	5	100.0	5	3.4	551	2,312	23.8	7	7
	C/P	0	0	100.0	0	0	NA	NA	NA	NA	NA
	TOTAL	5	5	100.0	5	3.4	551	2,312	23.8	7	7
2005 - 2007		No vessels participated in the fishery									

^a Information is not available for 1989 and 1992.

^b Size frequency sample taken on retained catch; each data set typically consists of 100 crab.

^c Each legal tally typically consists of 600 crab.

Table 4-18.—Aleutian Islands red king crab west of 179° W longitude observer sampling efforts for bycatch and retained catch by vessel type, 2001 - 2007/08.

Year	Vessel Type	Number of ^a		% Obs. Coverage	Number of				% Sample Pot Pulls by Vessel Type	% Sample Pot Pulls of Total Fleet	Number of	
		Total Vessels	Obs. Vessels		Observer Trips	Observer Months	Sample Pots	Pot Pulls by Vessel Type			Size Freq. ^b	Legal Tallies ^c
2001 ^d	C/V	3	3	100.0	4	3.3	105	524	20.0	8.8	3	3
	C/P	1	1	100.0	2	5.1	133	671	19.8	11.1	5	5
	F/P	0	0	NA	0	0.0	NA	NA	NA	NA	0	0
	TOTAL	4	4	100.0	6	8.4	238	1,195	NA	19.9	8	8
2002	C/V	31	30	96.8	30	11.9	579	confidential	confidential	confidential	21	22
	C/P	2	2	100.0	2	1.2	18	confidential	confidential	confidential	3	3
	F/P	1	1	100.0	1	0.6	NA	NA	NA	NA	0	0
	TOTAL	33	32	97.0	33	13.6	597	3,782	NA	15.8	24	25
2003	C/V	28	28	100	28	10.9	884	confidential	confidential	confidential	25	25
	C/P	2	2	100	2	0.6	47	confidential	confidential	confidential	4	4
	F/P	1	1	100	1	0.07	NA	NA	NA	NA	0	0
	TOTAL	30	30	100.0	31	11.6	931	5,774	NA	16.1	29	29
2004 - 2007/08		Fishery closed										

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

^b Size frequency sample taken on retained catch; each data set typically consists of 100 crab.

^c Each legal tally typically consists of 600 crab.

^d A survey in 2001 was conducted during the months of January and November.

NA = not applicable

Table 4-19.—Statewide including South Peninsula, Bering Sea, and Aleutian Islands grooved Tanner crab fisheries observer sampling efforts for bycatch and retained catch by vessel type, 1994 – 2007.

Year	Vessel Type	Number of		% Obs. Coverage	Number of			% Sample Pot Pulls by Vessel Type	Number of		
		Total Vessels	Obs. Vessels		Observer Trips	Observer Months	Sample Pots		Pot Pulls by Vessel Type	Size Freq. ^a	Legal Tallies ^b
1994	C/V	6	6	100.0	14	16.6	1782	confidential	confidential	58	30
	C/P	2	2	100.0	3	2.3	336	confidential	confidential	46.0	45.0
	TOTAL	8	8	100.0	17	18.8	2118	55,433	3.8	104	75
1995	C/V	16	16	100.0	47	55.2	10343	confidential	confidential	155	145
	C/P	2	2	100.0	8	6.2	620	confidential	confidential	66.0	85.0
	TOTAL	18	18	100.0	55	61.3	10963	163,462	6.7	221	230
1996	C/V	9	9	100.0	20	26.3	4469	73,960	6.0	40	62
	C/P	0	0	100.0	0	0.0	NA	NA	NA	NA	NA
	TOTAL	9	9	100.0	20	26.3	4469	73,960	6.0	40	62
1997	No vessels participated in the fishery										
1998	No vessels participated in the fishery										
1999	No vessels participated in the fishery										
2000	C/V	1	1	100.0	1	1.4	164	confidential	confidential	3.0	3.0
	C/P	2	2	100.0	2	0.7	17	confidential	confidential	5	0
	TOTAL	3	3	100.0	3	2.0	181	confidential	confidential	8	3
2001	C/V	2	2	100.0	4	2.7	258	confidential	confidential	15	15
	C/P	0	0	100.0	0	0.0	NA	NA	NA	NA	NA
	TOTAL	2	2	100.0	4	2.7	258	confidential	confidential	15	15
2002	No vessels participated in the fishery										

-Continued-

Table 4-19.—Page 2 of 2.

Year	Vessel Type	Number of		% Obs. Coverage	Number of			% Sample	Number of		
		Total Vessels	Obs. Vessels		Observer Trips	Observer Months	Sample Pots		Pot Pulls by Vessel Type	Pot Pulls by Vessel Type	Size Freq. ^a
2003	C/V	1	1	100.0	2	3.2	393	confidential	confidential	11	10
	C/P	0	0	100.0	0.0	0.0	NA	NA	NA	NA	NA
	TOTAL	1	1	100.0	2	3.2	393	confidential	confidential	11	10
2004	C/V	2	2	100.0	4	5.0	628	confidential	confidential	18	14
	C/P	0	0	100.0	0.0	0.0	NA	NA	NA	NA	NA
	TOTAL	2	2	100.0	4	5.0	628	confidential	confidential	18	14
2005 - 2007					No vessels participated in the fishery						

^a Size frequency sample taken on retained catch; each data set typically consists of 100 crab.

^b Each legal tally typically consists of 600 crab.

Table 4-20.—Yearly summary by region of observed scallop vessels, number of observer deployments, and observer months at sea for Alaska weathervane scallop fisheries excluding Cook Inlet, 1993 - 2007/08.

Year	Yakutat ^a			Prince William Sound			Westward ^c			Total		
	Vessel ^b	Deploy-ments	Months	Vessel ^b	Deploy-ments	Months	Vessel ^b	Deploy-ments	Months	Vessel ^b	Deploy-ments	Months
1993	7	8	4.1	7	7	2.3	11	62	35.0	10	77	41.4
1994/95	10	15	6.8	0	0	0.0	12	50	35.2	12	65	42.0
1995/96	8	9	8.1	2	2	1.0	1	4	2.4	8	15	11.5
1996/97	4	7	5.7	0	0	0.0	5	12	11.7	5	19	17.4
1997/98	4	4	4.2	1	1	0.4	6	20	17.0	6	25	21.6
1998/99	8	10	7.7	2	2	0.7	8	28	18.0	8	40	26.5
1999/00	3	4	6.1	2	2	0.5	7	21	15.1	8	27	21.7
2000/01	3	10	8.4	3	3	1.4	6	14	10.4	7	27	20.2
2001/02	2	4	3.8	1	2	1.0	4	11	9.9	4	17	14.7
2002/03	2	2	3.9	2	2	0.9	3	13	10.0	4	17	14.8
2003/04	2	3	4.3	1	2	0.7	2	8	7.9	2	13	12.9
2004/05	2	4	3.8	3	3	1.6	2	5	5.9	3	12	11.3
2005/06	2	6	7.1	3	3	2.9	3	8	6.9	4	17	16.9
2006/07	2	5	4.1	2	2	1.3	3	9	8.1	3	16	13.5
2007/08	2	3	3.8	2	2	1.5	3	8	9.0	3	13	14.3
Average	4	6	5.5	2	2	1.1	5	18	13.5	6	27	20.0

^a Includes District 16.

^b Number of unique vessels.

^c Includes Kodiak, Alaska Peninsula, Dutch Harbor, Adak, and Bering Sea registration areas.

Table 4-21.—Scallop observer activity by registration area, 2006/07 and 2007/08.

2006/07					
Area	Number of Vessels ^a	Observer Deployments		Observer Months	Percent of Total Observer Months
		Number	Percent		
Yakutat	2	5	31.3	4.1	30.4
Prince William Sound	2	2	12.5	1.3	9.6
Kodiak	3	6	37.5	6.0	44.4
Alaska Peninsula	2	2	12.5	0.5	3.7
Bering Sea	1	1	6.3	1.6	11.9
Total	3	16	100.0	13.5	100.0

2007/08					
Area	Number of Vessels ^a	Observer Deployments		Observer Months	Percent of Total Observer Months
		Number	Percent		
Yakutat	2	3	23.1	3.8	26.6
Prince William Sound	2	2	15.4	1.5	10.5
Kodiak	3	6	46.2	7.4	51.7
Bering Sea	2	2	15.4	1.6	11.2
Total	3	13	100.0	14.3	100.0

^a Number of unique vessels.

Table 4-22.--Statewide scallop fishing and sampling effort excluding Cook Inlet, 1993/94 - 2007/08.

Regulatory Season	Number of		Total of Completed Tows	% of Tows Sampled	Pounds Delivered	Observed Pounds Delivered	% Observed Pounds Delivered
	Vessels	Sampled Tows					
1993/94	12	5,048	15,083	33.5%	964,468	964,468	100.0
1994/95	12	6,165	18,436	33.4%	1,220,344	1,220,344	100.0
1995/96	8	524	1,596	32.8%	410,743	410,743	100.0
1996/97	5	2,662	8,212	32.4%	704,196	704,196	100.0
1997/98	6	2,118	7,158	29.6%	798,577	798,577	100.0
1998/99	8	2,947	8,489	34.7%	804,849	804,849	100.0
1999/00	8	2,651	7,569	35.0%	817,656	817,656	100.0
2000/01	7	1,905	6,288	30.3%	730,101	730,101	100.0
2001/02	4	1,573	5,249	30.0%	552,741	552,741	100.0
2002/03	4	1,373	5,359	25.6%	500,864	500,864	100.0
2003/04	2	1,216	4,765	25.5%	484,536	484,536	100.0
2004/05	2	1,157	4,241	27.3%	425,477	425,477	100.0
2005/06	4	1,460	5,733	25.5%	525,357	525,357	100.0
2006/07	3	1,224	4,493	27.2%	486,599	486,599	100.0
2007/08	3	1,227	4,611	26.6%	448,413	448,413	100.0

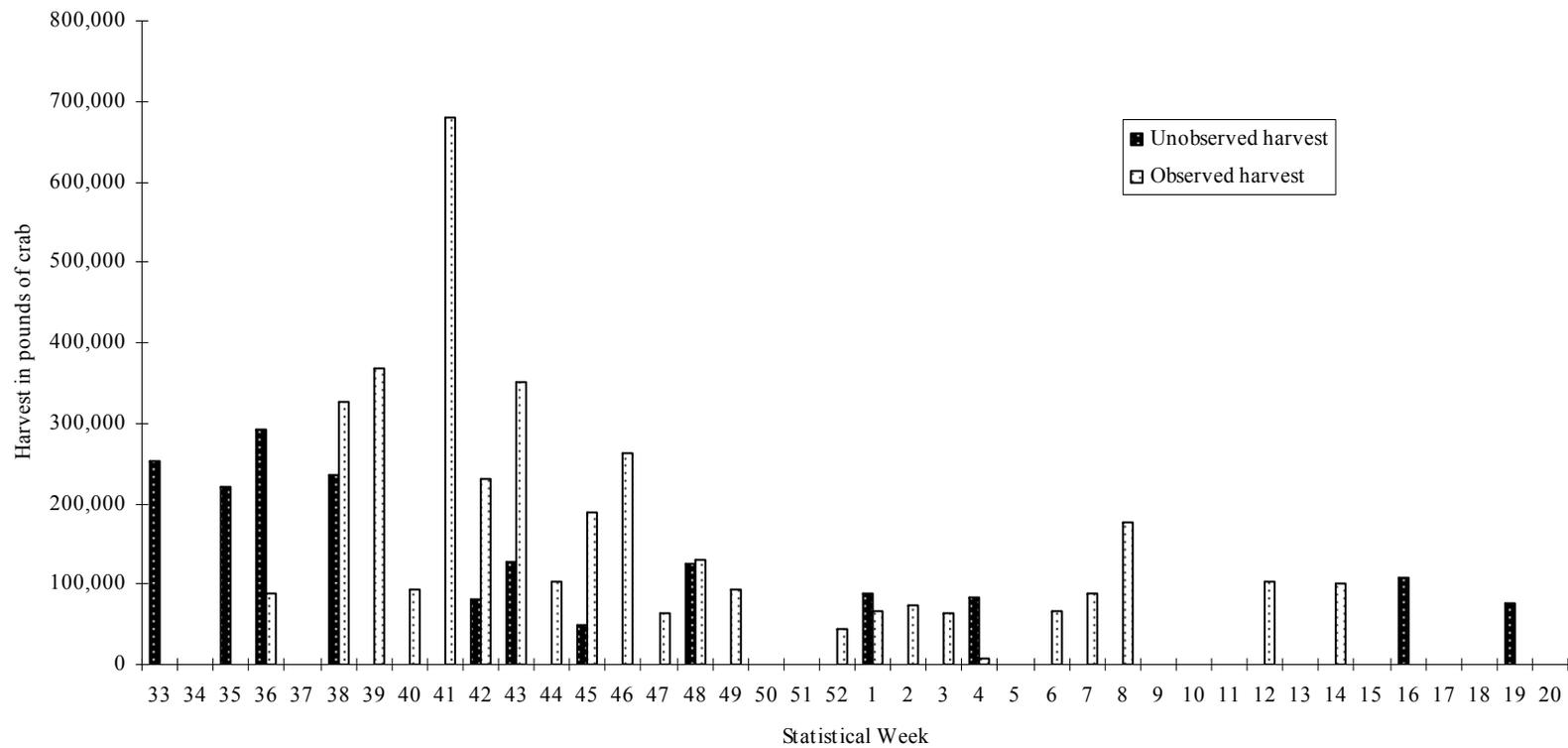


Figure 4-1.—Comparison of observed harvest to unobserved harvest during statistical weeks dated August 15, 2007 through May 15, 2008 combining harvest from both east and west of 174° W longitude in the Aleutian Islands golden king crab fishery, 2007/08.

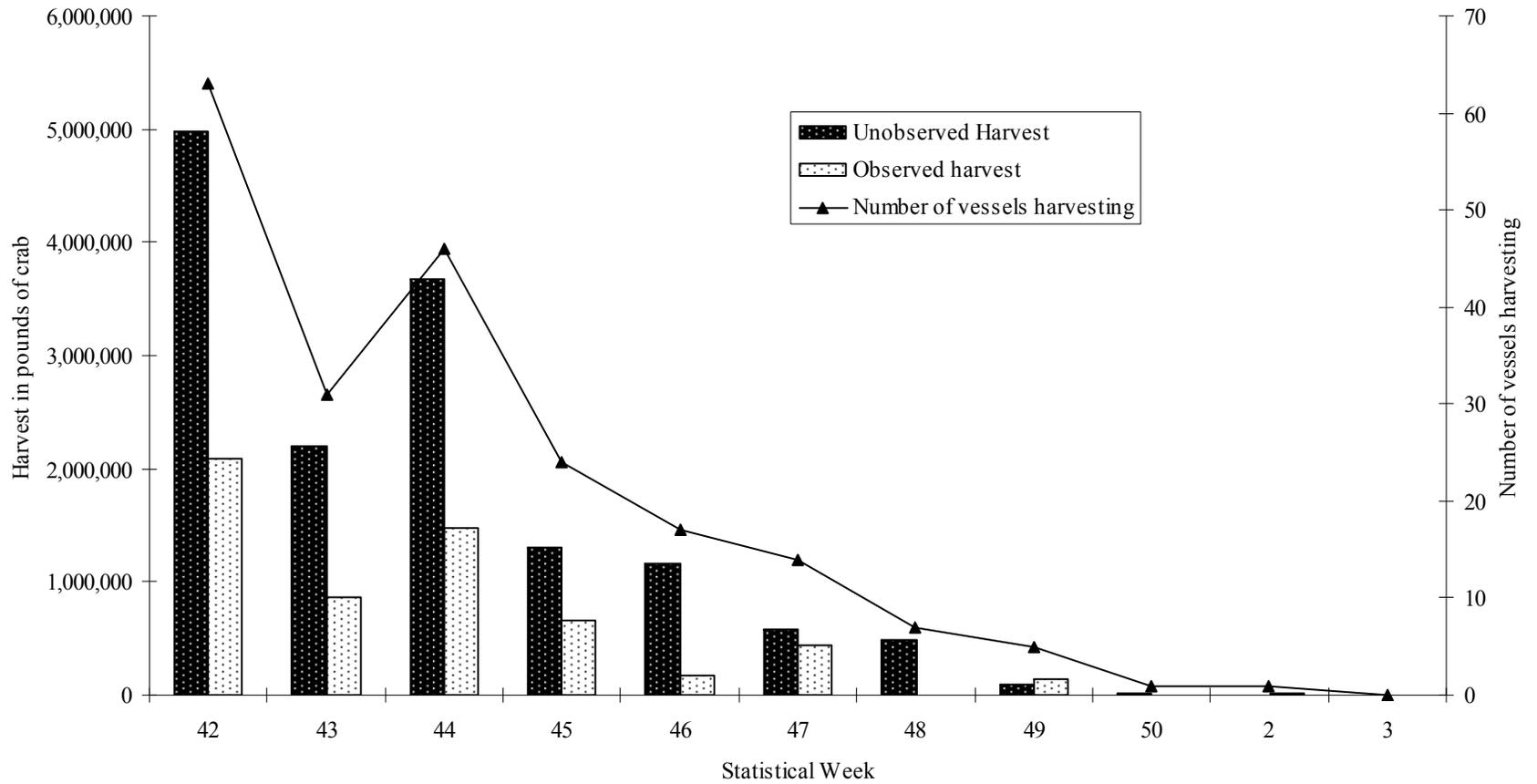


Figure 4-2.—Comparison of observed harvest to unobserved harvest, and total vessels harvesting during statistical weeks dated October 15, 2007 through January 15, 2008 in the Bristol Bay red king crab fishery, 2007/08

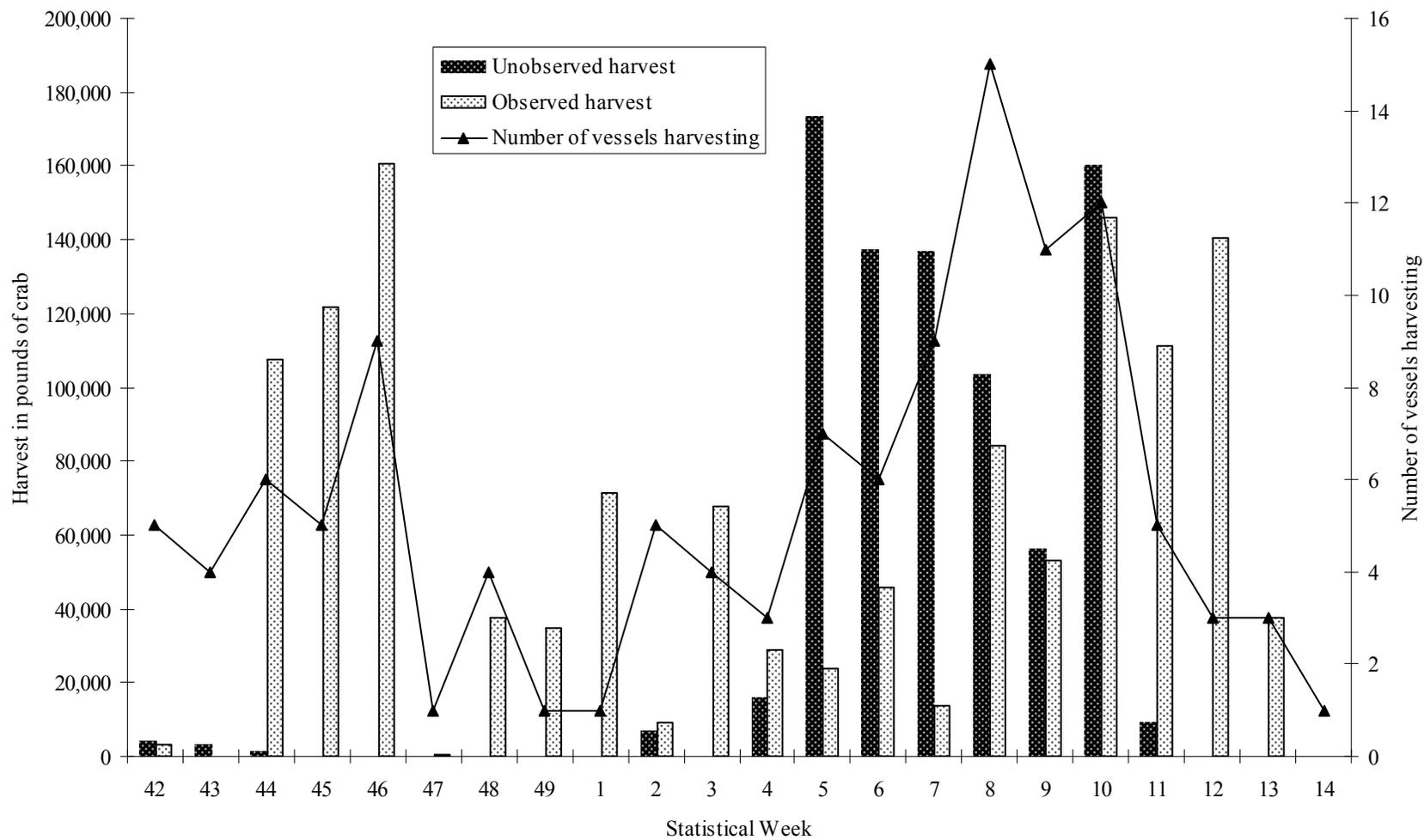


Figure 4-3.—Comparison of observed harvest to unobserved harvest, and total vessels harvesting during statistical weeks dated October 15, 2007 through March 31, 2008 in the Bering Sea Tanner crab fishery, 2007/08.

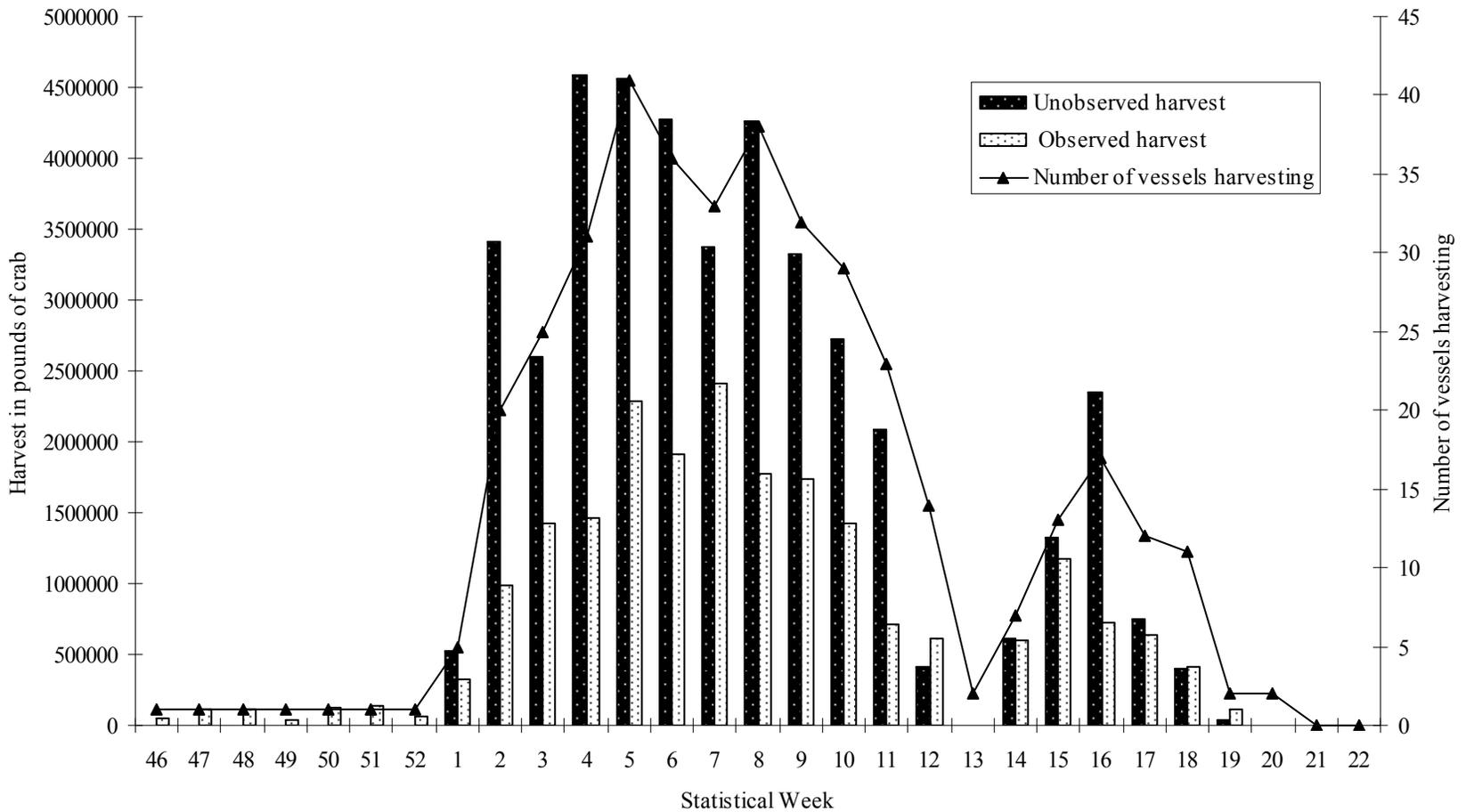


Figure 4-4.—Comparison of observed harvest to unobserved harvest, and total vessels harvesting during statistical weeks dated November 11, 2007 through May 31, 2008 in the Bering Sea snow crab fishery, 2007/2008.