

**Fishery Management Report No. 06-11**

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**Annual Management Report For The  
Commercial Weathervane Scallop Fisheries In  
Alaska's Westward Region, 2003/04**

by

**Jeffrey P. Barnhart**

March 2006

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Alaska Department of Fish and Game

Divisions of Sport Fish and Commercial Fisheries





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WEATHERVANE SCALLOP FISHERIES IN ALASKA'S  
WESTWARD REGION, 2003/04**

by

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March 2006

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# TABLE OF CONTENTS

	<b>Page</b>
LIST OF TABLES.....	ii
LIST OF FIGURES.....	ii
ABSTRACT.....	1
INTRODUCTION.....	1
MANAGEMENT HISTORY.....	2
Historic Management Measures.....	2
CURRENT MANAGEMENT.....	3
Observer Program.....	5
Industry.....	5
KODIAK REGISTRATION AREA.....	6
Historic Background.....	6
2003/04 Fishery.....	6
Northeast District.....	6
Stock Status.....	7
Shelikof District.....	7
Stock Status.....	8
Semidi District.....	8
Stock Status.....	8
ALASKA PENINSULA REGISTRATION AREA.....	9
Historic Background.....	9
2003/04 Fishery.....	9
Stock Status.....	9
BERING SEA REGISTRATION AREA.....	9
Historic Background.....	9
2003/04 Fishery.....	10
Stock Status.....	10
DUTCH HARBOR REGISTRATION AREA.....	11
Historic Background.....	11
2003/04 Fishery.....	11
Stock Status.....	11
ADAK REGISTRATION AREA.....	11
Historic Background.....	12
2003/04 Fishery.....	12
Stock Status.....	12
ACKNOWLEDGEMENTS.....	12
REFERENCES CITED.....	13
TABLES AND FIGURES.....	15

## LIST OF TABLES

<b>Table</b>	<b>Page</b>
1. Historic statewide commercial weathervane scallop catch, number of vessels, and number of landings, 1967-2003/04. ....	16
2. Federal and State Weathervane Scallop Permits, 2003. ....	17
3. Statewide crab bycatch limits, in percent of the crab abundance estimate or number of crab. ....	18
4. Historic commercial catch, effort, and value of weathervane scallops, Kodiak Management Area, 1967 through 2003/04. ....	19
5. Kodiak Registration Area, Northeast District, scallop fishery summary statistics. ....	20
6. Commercial harvest, average shell height from retained catch, and catch per unit effort from observer data, Westward Region, 1993/94 through 2003/04. ....	21
7. Estimated round weight of the retained commercial scallop catch and catch per unit effort, Westward Region, 1993/94 through 2003/04. ....	22
8. Kodiak Registration Area, Shelikof District, scallop fishery summary statistics. ....	23
9. Kodiak Registration Area, Semidi District, scallop fishery summary statistics. ....	24
10. Historic commercial catch, effort and value of weathervane scallops, Alaska Peninsula Registration Area, 1975 through 2003/04. ....	25
11. Alaska Peninsula Registration Area scallop fishery summary statistics. ....	26
12. Historic commercial catch, effort and value of weathervane scallops, Bering Sea Registration Area, 1987 through 2003/04. ....	27
13. Bering Sea Registration Area scallop fishery summary statistics. ....	28
14. Historic commercial catch, effort, and value of weathervane scallops, Dutch Harbor Registration Area, 1982 through 2003/04. ....	29
15. Dutch Harbor Registration Area scallop fishery summary statistics. ....	30

## LIST OF FIGURES

<b>Figure</b>	<b>Page</b>
1. Major weathervane scallop fishing locations in coastal waters of Alaska. ....	31
2. State of Alaska weathervane scallop fishing registration areas. ....	32
3. Kodiak weathervane scallop fishing registration area and closed waters. ....	33
4. Northeast District scallop shell heights from resampling observer data, 1996/97-2003/04. ....	34
5. Weathervane scallop harvest by round weight, shucked meat weight, dredge hours, and CPUE, Northeast District, Kodiak Registration Area, 1993/94 through 2003/04. ....	35
6. Kodiak Shelikof District scallop shell heights from resampling observer data, 1996/97-2003/04. ....	36
7. Weathervane scallop harvest by round weight, shucked meat weight, dredge hours, and CPUE, Shelikof District, Kodiak Registration Area, 1993/94 through 2003/04. ....	37
8. Alaska Peninsula weathervane scallop fishing registration area and closed waters. ....	38
9. Bering Sea weathervane scallop fishing registration area and closed waters. ....	39
10. Bering Sea Registration Area scallop shell heights from resampling observer data, 1996/97-2003/04. ....	40
11. Weathervane scallop harvest by round weight, shucked meat weight, dredge hours, and CPUE, Bering Sea Registration Area, 1993/94 through 2003/04. ....	41
12. Dutch Harbor weathervane scallop fishing registration area and closed waters. ....	42
13. Adak weathervane scallop fishing registration area and closed waters. ....	43

## ABSTRACT

The Alaska Department of Fish and Game (ADF&G), Westward Region, includes all waters of the Territorial Sea and Exclusive Economic Zone (EEZ) in the Gulf of Alaska south of Cape Douglas (58°51.10' N lat.) and west of 149° W long. and the Bering Sea to the U.S.-U.S.S.R. Maritime Boundary Agreement Line of 1990. This report presents details on the commercial weathervane scallop *Patinopecten caurinus* fishery including harvest, participation, and value for fisheries occurring in the Kodiak, Alaska Peninsula, Bering Sea, Dutch Harbor, and Adak Registration Areas. Historic and present day fishery management measures, a synopsis of the 2003/04 fishing season and stock status are discussed for each registration area in the Westward Region.

The Alaska Scallop Fishery Management Plan of 1993 provided for 100% onboard observer coverage on all commercial scallop vessels. Observers on board fishing vessels greatly enhance management, primarily by facilitating information gathering and by improving regulatory compliance. Management relies heavily on observer-collected data to help manage the weathervane scallop fishery.

Key words: Weathervane scallop, Westward Region, fishery observer, Kodiak, Alaska Peninsula, Bering Sea, Dutch Harbor, Adak, Aleutian Islands, Fishery Management Plan, crab bycatch

## INTRODUCTION

Alaskan weathervane scallop *Patinopecten caurinus* populations were first evaluated for commercial potential in the early 1950s by both government and private sector research (Kaiser 1986). However, it was not until the late 1960s as scallop catches declined in United States and Canadian scallop fisheries on Georges Bank, that interest in a fishery off Alaska began to take shape (Orensanz 1968). Initial commercial fishing effort occurred in 1967 when two vessels harvested weathervane scallops from fishing grounds off the eastside of Kodiak Island. By the following year, 19 vessels consisting of New England type scallop vessels, converted Alaskan crab boats, salmon seiners, halibut longliners, and shrimp trawlers entered the fishery (Kaiser 1986). The commercial fishery progressed through several developmental phases. From 1967 through 1973 virgin scallop beds throughout the state were identified and exploited. This was followed by a period of declining scallop harvests from 1974 to the end of the decade. A smaller, more stable harvest followed through the 1980s (Shirley and Kruse 1995). In the early 1990s, the fishery again expanded with an influx of scallop boats from the east coast of the United States (Table 1).

In 1997, participation in the weathervane scallop fishery was limited by vessel moratoria in both federal and state waters. By 2001, a federal license limitation program (LLP) replaced the federal moratorium permanently limiting participation in the exclusive economic zone (EEZ). During the same year, some vessel owners formed a fishing cooperative. The result of these actions, associated with a conservative management approach by Alaska Department of Fish and Game (ADF&G), has been a decline in the statewide scallop harvest since the late 1990s (Table 1).

The fishery changed in the 1990s from one distinguished by short trips with numerous deliveries each season to one of long trips with fewer deliveries as the majority of the fleet converted from icing to freezing of the product on board the vessel (Barnhart 2000). Between the 1990 and 1994/95 seasons when product was iced on board and delivered fresh, the fleet averaged 136 deliveries per year (Table 1). Of the 136 deliveries, 114 were made by vessels participating in the statewide fishery (outside of Cook Inlet). By 1996, all the scallop catcher boats participating exclusively in the statewide fishery (outside of Cook Inlet) were converted to catcher-processors with freezing capability. Freezing product onboard allowed longer trips. As a result, the annual average number of deliveries between 1996/97 and 2002/03 for the catcher-processor fleet

operating exclusively in the statewide fishery (outside of Cook Inlet), decreased to 20. However, the average annual number of deliveries over the same time period, including the Cook Inlet fishery, was 27. During the 2003/04 season, the catcher-processor fleet operating exclusively in the statewide fishery, made 18 deliveries. If the Cook Inlet fishery is included, the number of deliveries increases to 32.

Variable quantities of weathervane scallops are found in patchy distribution along the continental shelf from Southeast Alaska to the Bering Sea and Aleutian Islands. Scallop “beds” are typically elongated and oriented in a north-south direction consistent with prevailing currents parallel to Alaska’s coastline. Major scallop fishing locations in Alaska coastal waters are shown in Figure 1. Scallops are typically found at depths of 20–125 fathoms (120 feet to 750 feet), with the majority of the fishing effort occurring between 40 and 60 fathoms (240 feet to 360 feet; Barnhart and Rosenkranz 2000). Statewide, during the 2003/04 scallop season, a maximum of 122 nmi<sup>2</sup> were fished as calculated by area swept estimates. Bottom substrate types inhabited by weathervanes are variable throughout the state and include mud, clay, silt, sand, and pebble. The scallop fishery does not occur on any areas designated as Habitat Areas of Particular Concern (HAPC).

There are nine scallop fishing registration areas in Alaska (Figure 2). Unless otherwise indicated, this report describes fisheries within the ADF&G Westward Region (Registration Area J), including scallop registration areas K, M, O, Q, and R. Registration Area J includes all waters of the Territorial Sea and Exclusive Economic Zone (EEZ) in the Gulf of Alaska south of Cape Douglas (58°51.10' N lat.), west of 149° W long. and the Bering Sea and Aleutian Islands to the U.S.-U.S.S.R. Maritime Boundary Agreement Line of 1990.

## **MANAGEMENT HISTORY**

### **HISTORIC MANAGEMENT MEASURES**

Prior to the influx of vessels from the east coast of the U. S. into the Alaska weathervane scallop fishery in the early 1990s, the fishery was open year-round in many parts of the state, without harvest restrictions. 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. By 1993, scallop fishery management changed in response to increased effort. The fishery was declared to be a high impact and emerging fishery on May 21, 1993 by the Commissioner of the Alaska Department of Fish and Game (ADF&G) and was closed until a conservative management plan could be developed by the department. The resulting interim Alaska Scallop Fishery Management Plan approved by the ADF&G Commissioner in 1993 and established as regulation 5 AAC 38.076 by the Alaska Board of Fisheries (BOF) in 1994 included (1) a requirement for 100% onboard observer coverage, (2) regulations that limit efficiency and slow the pace of fishing, (3) gear regulations that reduce the capture rate of small scallops, and (4) crab bycatch limits.

Regulations prohibited the use of mechanical shucking machines, restricted the number and size of dredges, required a minimum ring size, and limited the number of crew members. At the BOF meeting in March 1994, the Westward Region regulatory season was established as July 1 through February 15. At the March 1997 BOF meeting, the regulatory season in all registration areas of the state, except the Cook Inlet Registration Area, was also established as July 1 through February 15. Although season dates were established to protect molting and mating crab, they

have the added benefit of not disturbing scallops prior to and during their spawning period. In 1997, the Alaska Legislature enacted a temporary moratorium, AS 16.43.906, on vessels for the state waters and Area H weathervane scallop fisheries.

Federal regulatory actions also changed the fishery. In January 1995, the captain of a scallop vessel returned his 1995 scallop interim use permit card to the Commercial Fisheries Entry Commission (CFEC) in Juneau and proceeded to harvest scallops in the EEZ with disregard to harvest limits, observer coverage, and all other regulatory and management measures. In response to the uncontrolled fishing for scallops in the EEZ by this single vessel outside the jurisdiction of the state of Alaska, the fishery was closed from February 23, 1995 to August 1, 1996. Fishing in the EEZ was initially closed by emergency rule (60 FR 11054); however, subsequent to expiration of the emergency rule, the North Pacific Fisheries Management Council (NPFMC) adopted a Fisheries Management Plan (FMP) that closed the fishery while a federal scallop management program was developed. Amendment 2 to the Fishery Management Plan for the Scallop Fishery Off Alaska was approved on April 11, 1997 (62 FR 17749). Amendment 2 established a federal moratorium on the entry of new vessels into the fishery. The vessel moratorium remained in effect until June 30, 2000. The moratorium was replaced by the LLP. In 1998, Amendment 3 to the federal FMP delegated authority to the state of Alaska to manage all aspects of the scallop fishery in federal waters, except limited access (Barnhart 2000). This included the authority to regulate vessels not registered under the laws of Alaska. There have been a total of nine amendments to the scallop FMP.

## **CURRENT MANAGEMENT**

The weathervane scallop fishery, in both state and federal waters, is managed by the ADF&G. Vessels eligible to fish in the EEZ are limited by the LLP, while vessels in state waters (0-3 nautical miles) are limited by an Alaska legislative moratorium, AS 16.43.906, (Table 2). In 1997, the Alaska legislature enacted a temporary moratorium on vessels fishing in state waters. In 2001, the legislature authorized a 3-year extension of the moratorium, with an expiration date of July 1, 2004.

The regulatory fishing season is from July 1 through February 15 or until closed by emergency order. Scallop guideline harvest ranges (GHRs) and crab bycatch limits for the 2003/04 season were announced by news release on June 20, 2003. The upper limit of the GHRs in the Westward Region totaled 450,000 lbs.

Bycatch of crabs in the scallop fishery is controlled through the use of Crab Bycatch Limits (CBLs) based on individual crab stock abundance. Crab bycatch limits (CBLs) were first instituted by the state in July 1993. Methods used to determine CBLs in 1993 and 1994 were approved by the BOF and the NPFMC and, with few exceptions, remain unchanged. Annual CBLs are established pre-season by ADF&G based on the most current crab resource abundance information. However, in some registration areas or districts, the CBL is a fixed number of crabs and is not adjusted seasonally.

In the Kodiak, Alaska Peninsula, and Dutch Harbor Registration Areas, the CBLs are set at 0.5% or 1.0% of the total crab stock abundance estimate based on the most recent survey data (Table 3). In registration areas or districts where red king crab or Tanner crab abundance is sufficient to support a commercial crab fishery, the cap is set at 1.0% of the most recent red king crab or Tanner crab abundance estimate. In registration areas or districts where the red king crab

or Tanner crab abundance is insufficient to support a commercial fishery, the CBL is set at 0.5% of the most recent red king crab or Tanner crab abundance estimate. Bycatch caps are expressed in numbers of crabs and include all sizes of crabs caught in the scallop fishery.

In the Kamishak District of the Cook Inlet Registration Area, the Tanner crab bycatch limit is set at 0.5% of the total crab stock abundance and the red king crab limit is fixed at 60 crabs. In the Prince William Sound Registration Area the CBL for Tanner crab is fixed at 0.5% of the total crab stock abundance, although this is a recent change from a fixed number of crabs.

CBLs in the Bering Sea (registration Area Q) have evolved from fixed numbers in 1993 to a three tier approach used in the current fishery. In 1993, Bering Sea CBLs were set by ADF&G to allow the fleet adequate opportunity to explore and harvest scallop stocks while protecting the crab resource. CBLs were established at 260,000 *Chionoecetes* spp. and 17,000 red king crabs. In 1995, ADF&G recommended that CBLs be established at 0.003176 percent of the best available estimate of *C. opilio* (snow crab) and 0.13542 percent of the best available estimate of Tanner crab abundance in Registration Area Q. That equated to about 300,000 snow and 260,000 Tanner crabs based on 1994 crab abundance estimates in Registration area Q. In Amendment 1 of the federal scallop FMP, the NPFMC approved the CBLs established by ADF&G. The NPFMC also recommended that king crab bycatch limits be set within a range of 500 to 3,000 annually. Beginning with the 1996/97 fishing season, ADF&G took a conservative approach and set the red king crab limit in Registration Area Q at 500 red king crabs annually.

From the 1996/97 through 1998/99 scallop fishing seasons, the CBL for *Chionoecetes* sp. in the Bering Sea was established annually by applying the percentages established for snow and Tanner crab limits in Amendment 1 of the FMP. In 1998, consistent with the Tanner crab rebuilding plan in the Bering Sea, crab bycatch limits were modified utilizing a three tier approach.

The current three tier approach was established utilizing the bycatch limits established in Amendment 1 of the FMP, 300,000 snow crab and 260,000 Tanner crab. The three tiers include (1) Tanner crab spawning biomass above minimum stock size threshold (MSST); bycatch limit is set at 260,000 crabs, (2) Tanner crab spawning biomass below MSST; bycatch limit is set at 130,000 crabs, and (3) Tanner crab spawning biomass is below MSST and the commercial fishing season is closed; Tanner crab limit is set at 65,000 crabs. A similar three tier approach was taken with the snow crab bycatch caps. The three tiers include (1) snow crab spawning biomass above the MSST; bycatch limit is set at 300,000 crabs, (2) snow crab spawning biomass below MSST; bycatch limit is set at 150,000 crabs, and (3) snow crab spawning biomass below MSST and the commercial fishing season is closed; the snow crab limit is set at 75,000 crabs.

Closures based on the fleet reaching crab bycatch limits have decreased over the years since inception of CBLs in 1993, possibly due to decreased crab abundance (Barnhart and Rosenkranz 2003). During the 1993/94 season, four statewide areas were closed due to crab bycatch. Since the 2000/01 season one area has closed due to crab bycatch.

One management tool used by ADF&G when setting annual GHRs is evaluation of catch per unit effort (CPUE) data. Fishery-dependent data such as CPUE is affected by many variables and therefore must be used with caution. CPUE is expressed in two ways, scallop round weight and scallop meat weight, standardized to a dredge-hour, which is defined as one dredge towed for 60 minutes. Round weight represents the retained weight in pounds of the live or whole animals. The round weight of retained scallops is estimated by the vessel operator for each tow by

counting the number of bushels of retained scallops and multiplying by an estimated average weight per bushel. Processed product (scallop meat in the form of adductor muscles) is typically weighed directly during the case-up process. Therefore, CPUE based on scallop meat weight versus an estimate of round weight, provides a more standard measure of fishery performance across the fleet. However, estimated round weight is used in conjunction with weighed scallop meats to determine estimated recovery rates, thus helping assure the accuracy of reported data.

## **OBSERVER PROGRAM**

The Alaska Scallop Fishery Management Plan, 5 AAC 38.076 (g), allows ADF&G to require a vessel, in a scallop fishery with a guideline harvest range established by regulation, to carry an onboard observer unless the department determines that carrying an observer in that fishery will not serve the purpose of the onboard observer program. The primary purposes of the onboard scallop observer program are to collect a variety of biological and fishery-based data, monitor bycatch, and provide for regulatory enforcement. Data are collected on crab and halibut bycatch, discarded scallop catch, retained scallop catch, catch composition, catch per unit effort (CPUE), scallop meat-weight recovery, and location, area and depth fished (Barnhart and Rosenkranz 2003). Onboard observers report scallop harvest, number of tows, area fished, and crab bycatch to ADF&G tri-weekly during the season by radio or email. Observer-collected data are used to manage the fishery in-season and to set GHRs for the following season. Data are provided to local advisory committees, BOF, NPFMC, NMFS, and the public to help answer a myriad of questions pertaining to the weathervane scallop fishery. These data have been invaluable for preparing Essential Fish Habitat (EFH) and Habitat Areas of Particular Concern (HAPC) documents. For analyzing fine-scale spatial impacts of the fishery, observer data are critical.

Onboard observer coverage is funded by industry through direct payments to independent contracting agents (Barnhart 2003). Independent contracting agents provide personnel that are trained at the University of Alaska North Pacific Fisheries Observer Training Center (OTC) in Anchorage, Alaska.

## **INDUSTRY**

Prior to the 2000/01 regulatory season, six of the nine LLP owners formed a voluntary cooperative under authority of the Fishermen's Cooperative Marketing Act, 48 Stat. 1213 (1934), 15 U.S.C. § 521. No federal or state regulations established the cooperative, nor is it managed by the ADF&G or any federal agency. Within the cooperative, vessel owners allocated themselves shares based on previous fishing history. Some owners opted to remove their boats from the fishery and arranged for their coop shares to be caught by others members of the cooperative. The formation of the cooperative extended fishing effort over a longer time period compared to the pre-cooperative fishery that was typically characterized by short seasons.

Vessel owners and operators, within the cooperative, have taken an active role in developing measures aimed at reducing crab bycatch. Vessel operators provide their confidential inseason fishing information to an independent consulting company contracted by the cooperative. The independent consultant reviews the crab bycatch data, fishing location information, and scallop harvest, allowing for real time identification of any high crab abundance areas discovered during the fishery. If at any time, an area of high crab abundance is identified, the coop fleet is provided with location information and directed to avoid fishing in that area. This mechanism only works if vessel operators submit their fishing data and crab bycatch to the consultant in a timely fashion.

Vessel operators voluntarily release their confidential fishing information to ADF&G so that it can be used in this and other reports to help agencies make informed decisions on management issues in areas where few fishermen participate.

## **KODIAK REGISTRATION AREA**

The Kodiak Registration Area (Area K) includes the waters of the Pacific Ocean south of the latitude of Cape Douglas (58° 51.10' N lat.), east of the longitude of Cape Kumlik (157° 27' W long.) and west of 149° W long. (Figure 3). The Kodiak Registration Area is comprised of the Northeast, Shelikof, and Semidi Districts. Extensive areas are closed to scallop fishing to protect crab habitat.

### **HISTORIC BACKGROUND**

In 1967, when commercial fishing for weathervane scallops began in Alaska, vessel operators targeted fishing grounds along the eastside of Kodiak Island. In 1968, 734,084 lbs of scallop meats were landed from eight vessels (Table 4). The Kodiak scallop fishery peaked in 1970 when 1.4 million lbs of scallop meats were landed from seven vessels. Catches declined by the mid-1970s with no participation in 1977 or 1978. Since 1979, landings have fluctuated from 24,826 lbs to 689,497 lbs of scallop meats, excluding 1995/96 when the scallop season was closed by federal emergency rule.

When the Alaska weathervane scallop fishery began in 1967, there were no closed seasons. Within two years from inception of the scallop fishery, concerns about dredging impacts on crab resources, specifically red king crab *Paralithodes camtschaticus*, began to develop. In 1969, by emergency order, ADF&G closed extensive areas off the south end of Kodiak Island as well as Marmot Bay at the north end of Kodiak Island, to scallop fishing. These areas were closed due to concerns about crab bycatch and conflict with other gear types. Subsequently, the BOF adopted the department's recommendation, and closed both areas by regulation. During the early 1970s, to protect spawning, molting, or softshell red king crab, regulatory season opening dates of either June 1 or July 15 (depending upon geographical area) through March 31 were established by the BOF (Barnhart 2003). In 1990, to protect depressed red king and Tanner crab *Chionoecetes bairdi* populations, the BOF closed scallop fishing in Kodiak's westside bays which had been previously closed to non-pelagic trawling. With development of the Alaska Scallop Fishery Management Plan in 1993, crab bycatch limits were developed for the Kodiak Area.

### **2003/04 FISHERY**

The 2003/04 scallop fishing season was open July 1, 2003 through February 15, 2004. Two catcher-processors fished in the Kodiak Registration Area. To facilitate distribution of fishing effort and crab bycatch limits, king crab districts as described in 5 AAC 34.405 were utilized.

#### **Northeast District**

The Northeast District (Figure 3) of the Kodiak Registration Area as applied to the scallop fishery includes all waters northeast of a line extending 180° from the easternmost tip of Cape Barnabas, east of a line from the northernmost tip of Inner Point on Kodiak Island to the southernmost tip of Afognak Point, east of 152° 30' W long in Shuyak Strait, and east of the longitude of the northernmost tip of Shuyak Island at 152° 20' W. long.

The GHR for the Northeast District was set at zero to 80,000 lbs of shucked scallop meats (Table 5). For the first time, the GHR for the Northeast District of the Kodiak Registration Area was

subdivided into harvest caps by individual statistical area or group of statistical areas. The harvest cap in statistical area 525702 was 40,000 lbs of shucked meats while the harvest cap in statistical area 525630 was 20,000 lbs of shucked meats. The remaining 20,000 lbs of the overall GHR could be harvested in any other waters open to scallop fishing in the Northeast District.

Two catcher-processors participated in the fishery with initial effort in late-July. Based on inseason observer reports, an estimated 18,000 Tanner crabs and no red king crabs were caught from a bycatch limit of 606,991 Tanner crabs and 17 red king crabs. Based on indications from observer reports that upper end harvest caps would be met, statistical area 525630 was closed on August 2, 2003, statistical area 525702 was closed on August 3, 2003 and the remainder of the district was closed on November 15, 2003. The Northeast District scallop harvest, as reported on fish tickets, totaled 79,965 lbs of shucked meats (Table 5).

Figure 4 depicts the estimated shell height (SH) distributions of the retained and discarded scallop catch in the Northeast District, based on statistical resampling of the discarded and retained SH measurements in equal proportion. There appears to be continued recruitment to the Northeast District scallop population based on the estimated frequency of scallops <115 mm SH in the size distribution. The average SH of retained scallops in the Northeast District has steadily increased from a minimum of 127 mm in the 1998/99 season to a maximum of 145 mm in the 2003/04 season (Table 6).

A summary of the scallop catch in round weight (lbs) of retained scallops, shucked meat weight (lbs) of retained scallops, dredge hours, and CPUE expressed in lbs of shucked scallop meats per dredge-hour (meat lb/drg-hr) from the 1993/94 through 2003/04 seasons is depicted in Figure 5. Since the 1999/2000 season, the fishery in this district is characterized by steady effort (dredge hours), level harvest and increasing to stable fishery performance as measured by CPUE in meat lb/drg-hr.

### **Stock Status**

The weathervane scallop population in the Northeast District of the Kodiak Registration Area is not currently surveyed and no estimate of abundance has been made. There are currently no plans to survey this population. Since the 1999/2000 season, the commercial catch has remained level, ranging from 77,000 to 80,000 lbs of shucked meats (Table 5). Over the same time period, the estimated round weight of the retained scallop catch ranged from 681,192 lbs to 952,972 lbs, averaging 815,142 lbs annually (Table 7).

### **Shelikof District**

The Shelikof District of the Kodiak Registration Area includes all waters north of a line from the westernmost tip of Cape Ikolik to the southernmost tip of Cape Kilokak, west of a line from the northernmost tip of Inner Point on Kodiak Island to the southernmost tip of Afognak Point, west of 152° 30' W long. in Shuyak Strait, and west of the longitude of the northernmost tip of Shuyak Island at 152° 20' W long. (Figure 3).

The GHR for the Shelikof District was set at zero to 180,000 lbs of shucked meats (Table 8). Two catcher-processors participated in the fishery with initial effort in mid-August. Based on inseason observer reports, an estimated 42,000 Tanner crabs and no red king crabs were caught from a bycatch limit of 93,139 Tanner crabs and 25 red king crabs. Inseason observer reports also indicated that the upper end of the GHR would be achieved prompting an emergency order

closing the Shelikof District to scallop fishing on January 13, 2004. The Shelikof District scallop harvest as reported on fish tickets, totaled 180,011 lbs of shucked meats (Table 8).

Figure 6 depicts the estimated SH distributions of the retained and discarded scallop catch in the Shelikof District, based on statistical resampling of the discarded and retained SH measurements in equal proportion. A range of scallop sizes supports the fishery and there appears to be continued recruitment to the population as evidenced by the frequency of scallops <115 mm SH in the size distribution. The average SH of retained scallops in the Shelikof District during the 2003/04 season of 135 mm was similar to the average SH of 138 mm recorded the previous season. Since the 1993/94 season, the average SH of retained scallops has ranged from 128 mm to 140 mm (Table 6).

A summary of the scallop catch in round weight (lbs) of retained scallops, shucked meat weight (lbs) of retained scallops, dredge hours, and CPUE (meat lb/drg-hr) in the Shelikof District from 1993/94 through 2003/04 is depicted in Figure 7. Between 1993/94 and 2003/04 CPUE has ranged from 36 meat lb/drg-hr to 63 meat lb/drg-hr (Table 8). Between the 1993/94 and 1999/2000 seasons, CPUE averaged 44 meat lb/drg-hr annually. Over the last four seasons (2000/01 to 2003/04), CPUE has increased to an average 54 meat lb/drg-hr annually.

### **Stock Status**

The weathervane scallop population in the Shelikof District of the Kodiak Registration Area is not currently surveyed and no estimate of abundance has been made. A scallop video stock assessment is planned for 2004. Since the 1998/1999 season, the commercial catch has remained level, ranging from 177,000 to 180,000 lbs of shucked meats (Table 8). Over the same time period, the estimated round weight of the retained scallop catch ranged from 1,724,498 lbs to 2,129,025 lbs, averaging 1,868,829 lbs annually (Table 5).

### **Semidi District**

The Semidi District of the Kodiak Registration Area includes all Pacific Ocean waters west of the longitude of Cape Kilokak (156° 20.22' W long.) and east of the longitude of Cape Kumlik at 157° 27' W long. (Figure 3). A guideline harvest range has not been developed for this district.

State waters of the Semidi District were closed to scallop dredging by the BOF at the March 2000 meeting; however, federal waters remain open. No fishing activity occurred in the Semidi District during the 2003/04 fishing season, although it was open from July 1, 2003 to February 15, 2004.

Since the 1993/94 season, harvest in the Semidi District has ranged from zero to 55,487 lbs of scallop meats (Table 9). For years when fishing occurred, CPUE ranged from 16 to 37 meat lb/drg-hr, which is lower than any other registration area or district within the Westward Region (Table 6).

### **Stock Status**

The weathervane scallop population in the Semidi District is not surveyed and no estimate of abundance has been made. There are currently no plans to survey this population. Although weathervane scallops are known to occur in federal waters, no fishing effort has occurred in the Semidi District since the BOF closed state waters to scallop fishing in 2000.

## **ALASKA PENINSULA REGISTRATION AREA**

The Alaska Peninsula Registration Area (Area M) includes waters of the Pacific Ocean west of the longitude of Cape Kumlik (157° 27' W long.) and east of the longitude of Scotch Cap Light at 164° 44' W long. (Figure 8).

Areas closed to fishing include all state waters and offshore waters of Unimak Bight and Mitrofanina Island. The justification for the Unimak Bight closure, adopted in the early 1970s, was to protect king crab habitat. The Mitrofanina Island closure was adopted in the mid-1980s to protect Tanner crabs.

### **HISTORIC BACKGROUND**

Historic fishing effort for scallops in the Alaska Peninsula Registration Area was sporadic. Most catch and effort information prior to 1993 is confidential because few fishermen participated in any given year. However, the average annual harvest during the nine years of participation prior to 1993 was 41,888 lbs of scallop meats. The highest harvest occurred in 1982 when a reported 205,691 lbs of shucked meats were landed from six vessels (Table 10). Since the 1993/94 season, CPUE has ranged from 24 to 61 meat lb/drg-hr (Table 11). Commercial harvest data from this registration area was misreported in the 1980s as evidenced in logbooks seized by Fish and Wildlife Protection agents. The extent of misreporting in the 1980s is unknown, but may have lead to artificially high catch data attributed to the Alaska Peninsula Registration Area in some years.

### **2003/04 FISHERY**

In the Alaska Peninsula Registration Area, the historically important scallop grounds between 160° W long. and 161° W long. remained closed for stock conservation during the 2003/04 fishery. The remainder of the Alaska Peninsula Registration Area opened with a GHR of 0-10,000 lbs.

### **STOCK STATUS**

The weathervane scallop population in the Alaska Peninsula Registration Area is not currently surveyed and no estimate of abundance has been made. There are currently no plans to survey this population.

## **BERING SEA REGISTRATION AREA**

The Bering Sea Registration Area (Area Q) includes waters of the Bering Sea north of a line extending from the latitude of Cape Sarichef at 54° 36' N lat. to 171° W long., north to 55° 30' and west to the U.S.-U.S.S.R. Maritime Boundary Agreement Line of 1990 (Figure 9). Waters closed to scallop fishing have been established to protect king crab stocks and juvenile Pacific halibut nursery areas.

### **HISTORIC BACKGROUND**

ADF&G records indicate that scallops were first harvested from the Bering Sea in 1987, and then again in 1990 and 1991 (Table 12). During those years, few fishermen participated in any given year, so catch and effort information is confidential. However, the average annual catch for the three confidential years was 68,189 lbs of shucked meats. No additional landings were made from this area until calendar year 1993 (January 1-June 30, 1993 and 1993/94 regulatory seasons

combined) when 605,953 lbs of scallop meats were landed from 10 different vessels. During the 1994/95 fishery, 505,439 lbs of shucked meats were landed from eight different vessels. The 1995/96 fishery was closed by federal emergency rule. Between the 1996/97 and 1999/2000 regulatory seasons, scallop catches were constrained by Tanner crab or snow crab *Chionoecetes opilio* bycatch limits, averaging 127,000 lbs of shucked meats per year. In the 2000/01 season, 205,520 lbs of shucked meats, slightly more than the 200,000 lbs GHR upper limit, was landed from three vessels. That was the first season since 1994 the scallop harvest reached the upper limit of the GHR without being constrained by crab bycatch limits.

## **2003/04 FISHERY**

The GHR for the Bering Sea Registration Area was set at zero to 105,000 lbs of shucked meats (Table 13). Two catcher-processors participated in the Bering Sea fishery with initial effort on July 1 when the season opened. Inseason observer reports showed that an estimated 31,805 *C. bairdi* crabs, 16,564 *C. opilio* and hybrid crabs and zero red king crabs were caught from a bycatch limit of 65,000 *C. bairdi* crabs, 150,000 *C. opilio* and hybrid crabs and 500 red king crabs. The 2003/04 fishery closed by emergency regulation on July 15, 2003 due to poor fishery performance and high crab bycatch rates. The Bering Sea scallop harvest, as reported on fish tickets, totaled 42,590 lbs of shucked meats (Table 13).

Figure 10 depicts the estimated SH distributions of the retained and discarded scallop catch in the Bering Sea Registration Area, based on statistical resampling of the discarded and retained SH measurements in equal proportion. With exception of the 1998/99 season, there has been little recruitment to the population. Predominately large, old animals support the fishery. Since the 1993/94 season when onboard observers began collecting data, scallop SH has ranged from 141 mm to 151 mm in the Bering Sea. They are some of the largest scallops harvested in the Westward Region. The average SH of retained scallops during the 2003/04 season was 148 mm compared to the previous year at 149 mm SH (Table 6).

A summary of the scallop catch in round weight (lbs) of retained scallops, shucked meat weight (lbs) of retained scallops, dredge hours, and CPUE (meat lb/drg-hr) is depicted in Figure 11. CPUE at 42 meat lb/drg-hr in the 2003/04 season was similar to that of the previous season at 45 meat lb/drg-hr (Table 13).

## **STOCK STATUS**

A video stock assessment of the weathervane scallop population in the Bering Sea was conducted in May 2003. The video stock assessment survey methodology is in a developmental phase; however, there are some interesting results with regard to scallop distribution in the Bering Sea. Typically, scallop beds in the Gulf of Alaska are elongated, have well defined borders and are oriented in a north-south direction consistent with the prevailing coastal currents. However, the Bering Sea scallop bed does not exhibit those same characteristics. The borders are not well defined; nor is it oriented in a north-south direction. The scallops are widely distributed over a large area at low densities; at least one weathervane scallop was counted from each video tow. Small scale aggregations of weathervane scallops, necessary for successful broadcast spawning, were infrequently observed on the video. This is consistent with data collected from the onboard observer program that questions the reproductive viability of the population.

The 2003/04 harvest of 42,590 lbs of scallop meats is the lowest on record (Table 13). The highest catch occurred in calendar year 1993 when 605,953 lbs of scallop meats were harvested. This total includes the pre-Scallop Management Plan harvest of 321,539 lbs taken

from January 1, 1993 – June 30, 1993 and the post-Scallop Management Plan harvest of 284,414 lbs beginning July 1, 1993 (recorded as the 1993/94 regulatory season).

Since inception of the onboard observer program in July 1993, the estimated round weight of the retained scallop catch ranged from 537,552 lbs in 2003/04 to 5,942,912 lbs in 1994/95 (Table 5).

## **DUTCH HARBOR REGISTRATION AREA**

The Dutch Harbor Registration Area (Area O) includes Aleutian Island waters west of the longitude of Scotch Cap Light (164° 44' W long.), east of 171°W. long. and south of the latitude of Cape Sarichef at 54° 36' N lat. (Figure 12).

### **HISTORIC BACKGROUND**

In the Dutch Harbor Registration Area, closed waters were established in 1986 to protect crab nursery areas (Figure 12). Prior to the 1993 season, the registration area was open year-round to scallop dredging. At the March 1994 BOF meeting, the regulatory season was changed to July 1 through February 15.

The first harvest of weathervane scallops from the Dutch Harbor Registration Area was in 1982 when 62,105 lbs of scallop meats were landed from five vessels (Table 14). Catch data for most years between 1985 and 1992 is confidential, because few vessels participated; however, the average annual catch for those years was 203,695 lbs of scallop meats. Commercial harvest data from this registration area was also misreported in the 1980s as evidenced in logbooks seized by Fish and Wildlife Protection agents. The extent of misreporting in the 1980s is unknown, but may have lead to artificially high catch data attributed to the Dutch Harbor Registration Area in some years. In addition, productive grounds that contributed significantly to the overall harvest were closed by 1986. Since the 1993/94 season, catches have ranged from zero to 46,432 lbs of scallop meats per regulatory season (Table 15). Scallop fishing was limited to state waters during the 1995/96 season because the EEZ was closed by federal emergency rule. The fishery was closed in 2000/01 and 2001/02, for stock conservation (Table 15). The fishery opened for the 2002/03 season; however, fishery performance continued to be low, averaging 33 meat lb/drg-hr.

### **2003/04 FISHERY**

The Dutch Harbor Registration Area remained closed for stock conservation reasons. ADF&G may keep the Dutch Harbor Registration Area closed for a maximum of five years before opening the area with a conservative annual GHR.

### **STOCK STATUS**

The weathervane scallop population in the Dutch Harbor Registration Area is not surveyed and no estimate of abundance has been made. There are currently no plans to survey this population.

## **ADAK REGISTRATION AREA**

The Adak Registration Area (Area R) includes Aleutian Island and Bering Sea waters west of 171°W. long., and east of the U.S.-U.S.S.R. Maritime Boundary Agreement Line of 1990 and south of 55° 30' N. lat. (Figure 13).

## **HISTORIC BACKGROUND**

ADF&G records indicate that scallops were first harvested from the Adak Registration Area in 1979, and then again in 1992, and 1995. During those years few fishermen participated in any given year, so catch and effort information is confidential.

The Petrel Bank, between 51°30' N lat. and 54° 30' N lat., west of 179° W long. and east of 179° E long. was closed by emergency order on March 21, 1991 due to concerns about king crab bycatch in the *Chlamys* (pink scallop) fishery. On November 1, 1991, before the initial emergency order expired, a second emergency order was issued closing this area until June 1, 1994. This allowed time for ADF&G to bring the conservation concerns to the attention of the BOF. In 1993, the BOF adopted the department's recommendation, and closed the area by regulation (Figure 15).

## **2003/04 FISHERY**

The 2003/04 fishery opened July 1, 2003 and closed by regulation on February 15, 2004. A GHR of zero to 75,000 lbs was announced by news release. No vessels participated in the fishery during 2003/04 season.

## **STOCK STATUS**

Little is known about scallop populations in this area; however, the continental shelf adjacent to the Aleutian Islands is narrow, providing limited weathervane scallop habitat. The weathervane scallop population in the Adak Registration Area is not surveyed and no estimate of abundance has been made. There are currently no plans to survey this population.

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## **TABLES AND FIGURES**

**Table 1.**—Historic statewide commercial weathervane scallop catch, number of vessels, and number of landings, 1967-2003/04.

Year	Number Vessels	Number Landings <sup>a</sup>	Commercial Catch <sup>b</sup>
1967	2	6	778 <sup>c</sup>
1968	19	125	1,677,268
1969	19	157	1,849,947
1970	7	137	1,440,338
1971	5	60	931,151
1972	5	65	1,167,034
1973	5	45	1,109,405
1974	3	29	504,438
1975	4	56	435,672
1976	7	21	264,788
1977		No Effort	
1978		No Effort	
1979	1	4	24,826
1980	8	56	616,717 <sup>c</sup>
1981	18	101	924,441
1982	13	120	913,996
1983	5	30	192,310
1984	6	52	383,512
1985	7	47	615,564
1986	8	74	667,258
1987	4	54	599,947 <sup>d</sup>
1988	4	47	341,070
1989	7	55	534,763
1990	9	144	1,481,136
1991	6	136	1,136,649
1992	8	136	1,785,673
1993 <sup>e</sup>	7	51	568,077
1993/94	15	111	984,583
1994/95	15	104	1,240,775
1995/96	10	29	410,743 <sup>d</sup>
1996/97	9	30	732,424
1997/98	9	31	818,913
1998/99	8	35	822,096
1999/2000	10	22	837,971
2000/01	8	20	750,617
2001/02	6	26	572,838
2002/03	6	28	509,455
2003/04	4	32	500,379

<sup>a</sup> Prior to and including 1994/95, reported number of landings (deliveries) equals number of fish tickets. After 1995/96, the reported number of landings equals number of off-loads. An off-load typically includes multiple fish tickets, normally one fish ticket per week.

<sup>b</sup> Pounds of shucked scallop meats.

<sup>c</sup> Deliveries of unshucked scallops were converted to shucked meats using a 10% conversion factor.

<sup>d</sup> Includes illegal harvest.

<sup>e</sup> January 1 through June 30.

**Table 2.-Federal and State Weathervane Scallop Permits, 2003.**

<u>Federal Scallop License Limitation Permits</u>		
<u>License Holder</u>	<u>MLOA<sup>a</sup></u>	<u>Gear Restrictions</u>
Ocean Fisheries, LLC <sup>b</sup>	95	None
Alaska Scallop, LLC <sup>c</sup>	96	None
Forum Star, Inc.	97	None
Hogan, Thomas C.	75	Single dredge with an opening of not more than six feet in width
Hulse, Max et al.	79	Single dredge with an opening of not more than six feet in width
Ocean Fisheries, LLC	100	None
Gilmartin, Thomas <sup>d</sup>	70	None
Provider, Inc	124	None
Pursuit, Inc	101	None
<u>State Scallop Vessel Moratorium Permits<sup>e</sup></u>		
<u>Vessel Name</u>	<u>Statewide Permit</u>	<u>Cook Inlet Permit</u>
Alaska Beauty	Yes	Yes
Arctic Queen (formerly Jacqueline & Joseph)	Yes	
Carolina Boy	Yes	
La Brisa	Yes	Yes
Northern Explorer	Yes	Yes
Provider	Yes	
Pursuit	Yes	
Rush	Yes	
Trade Wind	Yes	

<sup>a</sup> Maximum length overall measured in feet.

<sup>b</sup> Original permit holder was Carolina Boy, Inc.

<sup>c</sup> Original permit holder was Carolina Girl, Inc.

<sup>d</sup> Original permit holder was Oceanic Research Services.

<sup>e</sup> No gear restriction associated with vessel moratorium permit.

**Table 3.**-Statewide crab bycatch limits, in percent of the crab abundance estimate or number of crab.

Scallop Registration Areas	Red King Crab <sup>a</sup>	<i>C. bairdi</i> <sup>a</sup>	<i>C. opilio</i> <sup>a</sup>
Yakutat (D)			
District 16	NA	NA	NA
Remainder of Area D	NA	NA	NA
Prince William Sound (E)			
Eastern Section of outside District	NA	0.5% <sup>b</sup>	NA
Cook Inlet (H)			
Kamishak District	0.5% <sup>b</sup>	60 crabs <sup>b</sup>	NA
Outer/Easter/Barren Island Districts	NA	NA	NA
Kodiak (K)			
Northeast District	0.5% or 1.0%	0.5% or 1.0%	NA
Shelikof District	0.5% or 1.0%	0.5% or 1.0%	NA
Semidi District	Regulated inseason	Regulated inseason	NA
Alaska Peninsula (M)	0.5% or 1.0%	0.5% or 1.0%	NA
Bering Sea (Q)	500 crabs <sup>b</sup>	Three Tier Approach	Three Tier Approach
Dutch Harbor (O)	0.5% or 1.0%	0.5% or 1.0%	NA
Adak (R)	50 <sup>c</sup>	10,000 <sup>c</sup>	NA

<sup>a</sup> Not applicable.

<sup>b</sup> Fixed CBL.

<sup>c</sup> Bycatch limit set to allow scallop fleet adequate opportunity to explore and harvest scallop stocks while protecting the crab resource.

**Table 4.-Historic commercial catch, effort, and value of weathervane scallops, Kodiak Management Area, 1967 through 2003/04.**

Year	Commercial		Average	First Wholesale			
	Number Vessels	Number Landings <sup>a</sup>	Catch (lb) <sup>b</sup>	Landing (lb) <sup>b</sup>	Average Price/lb	Est. Value (dollars)	Number Tows
1967 <sup>c</sup>	2	6	778	130	0.70	545	d
1968 <sup>c</sup>	8	89	734,084	8,248	0.85	623,971	d
1969	11	86	1,012,860	11,777	0.85	861,000	d
1970	7	102	1,417,612	13,898	1.00	1,500,000	d
1971	5	48	841,211	17,525	1.05	883,000	d
1972	5	68	1,038,793	15,276	1.15	1,200,000	d
1973	4	42	935,705	22,279	1.20	1,123,000	d
1974	3	14	147,945	10,568	1.30	192,000	d
1975	3	29	294,142	10,143	1.40	412,000	d
1976	1	6	75,245	12,541	1.59	119,000	d
1977				No Effort			
1978				No Effort			
1979	1	4	24,826	6,206	2.78	69,000	d
1980 <sup>c</sup>	7	33	355,200	10,763	3.60	1,278,720	d
1981	15	62	439,804	7,094	4.00	1,759,216	d
1982	8	62	435,645	7,026	3.25	1,416,000	d
1983	4	24	147,747	6,156	5.00	739,000	d
1984	7	37	309,502	8,365	4.00	1,238,000	d
1985	3	10	46,971	4,697	4.00	188,000	d
1986	5	21	180,600	8,600	4.25	767,550	d
1987	3	25	253,451	10,138	3.45	874,406	d
1988	3	21	195,811	9,324	3.68	720,584	d
1989	5	29	242,557	8,364	3.87	938,696	d
1990	7	73	689,497	9,445	3.43	2,364,974	10,950
1991	4	61	514,348	8,432	3.82	1,964,809	12,884
1992	3	43	389,854	9,066	3.96	1,543,822	8,328
1993 <sup>e,f</sup>	4	16	88,279	5,517	5.15	454,637	1,708
1993/94	10	48	315,626	6,576	5.15	1,625,474	7,028
1994/95	10	32	355,628	11,113	5.79	2,052,543	6,449
1995/96				Closed			
1996/97	4	13	268,545	20,657	6.30	1,691,833	2,760
1997/98	5	14	360,339	25,739	6.50	2,342,203	4,757
1998/99	8	12	301,600	25,133	6.40	1,930,240	3,515
1999/2000	6	9	266,012	29,557	6.25	1,662,575	2,673
2000/01	5	7	260,052	37,150	5.50	1,430,286	1,989
2001/02	4	8	257,582	32,459	5.50	1,428,196	2,439
2002/03	3	11	260,580	23,689	5.20	1,355,016	2,779
2003/04	2	13	259,976	19,998	5.25	1,364,874	2,397

<sup>a</sup> Prior to 1995/96, reported number of landings equals number of fish tickets. After 1995/96, the reported number of landings equals number of off-loads.

<sup>b</sup> Pounds of shucked scallop meats.

<sup>c</sup> Deliveries of unshucked were converted to shucked meats using a 10% conversion factor.

<sup>d</sup> Not available.

<sup>e</sup> January 1 - June 30.

<sup>f</sup> Includes harvest from exploratory fishery.

**Table 5.-Kodiak Registration Area, Northeast District, scallop fishery summary statistics.**

Season	Number vessels	GHR ceiling <sup>a</sup> (lb meat)	Dredge hours	Catch (lb meat)	CPUE (lb meat per dredge hr)
1993/94	10	NA	6,940	155,187	22
1994/95	7	NA	1,773	35,517	20
1995/96		Closed			
1996/97	3	NA	581	11,430	20
1997/98	3	NA	2,604	95,858	37
1998/99	4	NA	2,749	120,010	44
1999/2000	3	75,000	1,384	77,119	56
2000/01	4	80,000	1,101	79,965	73
2001/02	3	80,000	1,142	80,470	70
2002/03	2	80,000	1,350	80,000	59
2003/04	2	80,000	1,248	79,965	64

<sup>a</sup> Not applicable. A GHR ceiling was not established.

**Table 6.-**Commercial harvest, average shell height from retained catch, and catch per unit effort from observer data, Westward Region, 1993/94 through 2003/04.

Year	REGISTRATION AREA/DISTRICT <sup>a</sup>																	
	Kodiak Area									Alaska Peninsula			Bering Sea			Dutch Harbor		
	Northeast District			Shelikof District			Semidi District			Harvest <sup>b</sup>	SH <sup>c</sup>	CPUE <sup>d</sup>	Harvest <sup>b</sup>	SH <sup>c</sup>	CPUE <sup>d</sup>	Harvest <sup>b</sup>	SH <sup>c</sup>	CPUE <sup>d</sup>
1993/94	155,187	144	22	105,017	128	42	55,487	145	32	112,087	119	61	284,414	146	49	38,731	128	46
1994/95	35,517	151	20	313,741	131	36	<sup>e</sup>	153	<sup>e</sup>	65,282	127	39	505,439	147	45	1,931	158	24
1995/96	Closed			Closed			Closed			Closed			Closed			26,950	134	26
1996/97	11,430	144	20	219,305	136	63	37,810	154	37	12,560	126	38	150,295	147	65	No Effort		
1997/98	95,858	140	37	258,346	139	47	6,135	147	18	51,616	135	29	97,002	151	43	5,790	127	34
1998/99	120,010	127	44	179,870	137	44	1,720	151	16	63,290	128	39	96,795	147	42	46,432	128	45
1999/2000	77,119	131	56	187,963	130	44	930	152	21	75,535	124	37	164,929	145	50	6,465	134	24
2000/01	79,965	135	73	180,087	134	62	No Effort			7,660	119	24	205,520	142	61	Closed		
2001/02	80,470	140	70	177,112	140	52	No Effort			Closed			140,871	141	46	Closed		
2002/03	80,000	140	59	180,580	138	48	No Effort			Closed			92,240	149	45	6,000	133	33
2003/04	79,965	145	64	180,011	135	55	No Effort			No Effort			42,590	148	42	Closed		

<sup>a</sup> Confidential data voluntarily released by vessel operators.

<sup>b</sup> Harvest in pounds of shucked meats.

<sup>c</sup> Average scallop shell height (SH) in mm.

<sup>d</sup> Catch per unit effort (CPUE) in pounds of shucked scallop meats per dredge hour.

<sup>e</sup> Confidential.

**Table 7.-**Estimated round weight of the retained commercial scallop catch and catch per unit effort, Westward Region, 1993/94 through 2003/04.

Year	REGISTRATION AREA/DISTRICT <sup>a</sup>											
	Kodiak Area						Alaska Peninsula		Bering Sea		Dutch Harbor	
	Northeast District		Shelikof District		Semidi District		Harvest <sup>b</sup>	CPUE <sup>c</sup>	Harvest <sup>b</sup>	CPUE <sup>c</sup>	Harvest <sup>b</sup>	CPUE <sup>c</sup>
1993/94	2,214,427	319	1,169,664	467	579,836	319	1,061,925	575	3,447,681	598	432,970	517
1994/95	389,202	220	3,522,517	404	<sup>d</sup>	<sup>d</sup>	619,473	372	5,942,912	535	23,590	291
1995/96	Closed		Closed		Closed		Closed		Closed		289,398	276
1996/97	147,269	253	1,878,268	537	288,117	283	130,235	398	1,432,160	619	No Effort	
1997/98	1,143,926	439	3,101,152	565	61,320	176	654,960	374	1,082,825	482	55,725	326
1998/99	1,365,836	497	2,129,025	522	15,806	149	617,120	383	1,193,071	514	427,422	417
1999/2000	952,972	689	1,903,345	442	11,310	253	781,596	386	1,851,620	562	68,070	249
2000/01	681,192	619	1,768,376	608	No Effort		95,510	299	2,376,601	708	Closed	
2001/02	822,110	720	1,830,265	539	No Effort		Closed		1,700,578	554	Closed	
2002/03	871,918	646	1,857,466	489	No Effort		Closed		952,958	468	59,116	322
2003/04	747,517	600	1,724,498	529	No Effort		No Effort		537,552	527	Closed	

<sup>a</sup> Confidential data voluntarily released by vessel operators.

<sup>b</sup> Harvest in pounds of round scallops.

<sup>c</sup> Catch per unit effort (CPUE) in estimated round weight of retained scallops per dredge-hour.

<sup>d</sup> Confidential.

**Table 8.-Kodiak Registration Area, Shelikof District, scallop fishery summary statistics.**

Season	Number vessels	GHR ceiling <sup>a</sup> (lb meat)	Dredge hours	Catch (lb meat)	CPUE (lb meat per dredge hr)
1993/94	5	NA	2,491	105,017	42
1994/95	11	NA	8,662	314,051	36
1995/96		Closed			
1996/97	3 <sup>b</sup>	NA	3,491	219,305	63
1997/98	4	NA	5,492	258,346	47
1998/99	8	NA	4,081	179,870	44
1999/2000	6	180,000	4,304	187,963	44
2000/01	5	180,000	2,907	180,087	62
2001/02	4	180,000	3,398	177,112	52
2002/03	3	180,000	3,799	180,580	48
2003/04	2	180,000	3,258	180,011	55

<sup>a</sup> Not applicable. A GHR ceiling was not established.

<sup>b</sup> One additional vessel fished but data are not available.

**Table 9.-Kodiak Registration Area, Semidi District, scallop fishery summary statistics.**

Season	Number vessels	GHR ceiling <sup>a</sup> (lb meat)	Dredge hours	Catch (lb meat)	CPUE (lb meat per dredge hr)
1993/94	6 <sup>b</sup>	NA	1,819	55,487	32
1994/95	2	NA	272	Confidential	
1995/96		Closed			
1996/97	3	NA	1,017	37,810	37
1997/98	1	NA	349	6,135	18
1998/99	2	NA	106	1,720	16
1999/2000	1	NA	45	930	21
2000/01		NA		No Effort	
2001/02		NA		No Effort	
2002/03		NA		No Effort	
2003/04		NA		No Effort	

<sup>a</sup> Not applicable. A GHR ceiling was not established.

<sup>b</sup> Two additional vessels registered but did not fish.

**Table 10.**-Historic commercial catch, effort and value of weathervane scallops, Alaska Peninsula Registration Area, 1975 through 2003/04.

Year	Number Vessels	Number Landings <sup>a</sup>	Commercial Catch (lb) <sup>b</sup>	Average Landing (lb) <sup>b</sup>	Average Price/lb	First Wholesale Est. Value (dollars)	Number Tows <sup>c</sup>
1975	1	1	2,508	2,508	1.40	3,511	<sup>c</sup>
1976			No Effort				
1977			No Effort				
1978			No Effort				
1979			No Effort				
1980			No Effort				
1981			Confidential				
1982	6	20	205,691	10,284	3.35	689,064	<sup>c</sup>
1983			Confidential				
1984			No Effort				
1985			Confidential				
1986			No Effort				
1987			Confidential				
1988			Confidential				
1989			No Effort				
1990			Confidential				
1991			Confidential				
1992			No Effort				
1993 <sup>d</sup>			Confidential				
1993/94	8	7	112,152	16,012	5.15	577,583	949
1994/95	7	11	65,282	5,935	5.79	377,983	1,006
1995/96			Closed				
1996/97	2 <sup>e</sup>	2	12,560	6,280	6.30	79,128	185
1997/98	4	6	51,616	8,603	6.50	335,504	1,054
1998/99	4	4	63,290	15,822	6.40	405,056	684
1999/200	5	5	75,535	15,107	6.25	472,094	1,107
2000/01	3	3	7,660	2,553	5.50	42,130	189
2001/02			Closed				
2002/03			Closed				
2003/04			No Effort				

<sup>a</sup> Prior to 1995/96, the reported number of landings equals number of fish tickets. After 1995/96, the reported number of landings equals the number of off-loads.

<sup>b</sup> Pounds of shucked scallop meats.

<sup>c</sup> Not available.

<sup>d</sup> January 1-June 30.

<sup>e</sup> Vessel operators released confidential data.

**Table 11.**-Alaska Peninsula Registration Area scallop fishery summary statistics.

Season	Number vessels	GHR ceiling <sup>a</sup> (lb meat)	Dredge hours	Catch (lb meat)	CPUE (lb meat per dredge hr)
1993/94	8	NA	1,847	112,152	61
1994/95	7	NA	1,664	65,282	39
1995/96		Closed			
1996/97	2	200,000	327	12,560	38
1997/98	4	200,000	1,752	51,616	29
1998/99	4	200,000	1,612	63,290	39
1999/2000	5	200,000	2,025	75,535	37
2000/01	3	33,000	320	7,660	24
2001/02		Closed			
2002/03		Closed			
2003/04 <sup>b</sup>		10,000			

<sup>a</sup> Not applicable. A GHR ceiling was not established.

<sup>b</sup> The area between 160° W long. and 161° W long. was closed. The remainder of the registration area was open to fishing.

**Table 12.-**Historic commercial catch, effort and value of weathervane scallops, Bering Sea Registration Area, 1987 through 2003/04.

Year	Number Vessels	Number Landings <sup>a</sup>	Commercial Catch (lb) <sup>b</sup>	Average Landing (lb) <sup>b</sup>	Average Price/lb	First Wholesale Est. Value (dollars)	Number Tows
1987				Confidential			
1988				No Effort			
1989				No Effort			
1990				Confidential			
1991				Confidential			
1992				No Effort			
1993 <sup>c</sup>	6	22	321,539	14,615	5.22	1,678,434	3,711
1993/94	9	16	284,414	17,776	5.22	1,484,641	3,578
1994/95	8	29	505,439	17,429	6.00	3,032,634	6,619
1995/96				Closed			
1996/97	1 <sup>d</sup>	2	150,295	75,147	NA	NA	952
1997/98	2 <sup>d</sup>	5	97,002	19,400	7.05	683,864	1,276
1998/99	4	4	96,795	24,198	6.30	609,808	1,175
1999/2000	2 <sup>d</sup>	4	164,929	41,232	6.25	1,030,806	1,736
2000/01	3	4	205,520	51,380	5.50	1,130,360	1,608
2001/02	3	5	140,871	28,174	5.25	739,572	1,406
2002/03	2 <sup>d</sup>	5	92,240	18,448	5.20	479,648	1,012
2003/04	2 <sup>d</sup>	3	42,590	14,197	5.25	223,597	517

<sup>a</sup> Prior to 1995/96, reported number of landings is equal to number of fish tickets. After 1995/96, the reported number of landings is equal to the number of off-loads.

<sup>b</sup> Pounds of shucked scallop meats.

<sup>c</sup> January 1 - June 30.

<sup>d</sup> Vessel operators released confidential data.

**Table 13.-Bering Sea Registration Area scallop fishery summary statistics.**

Season	Number vessels	GHR ceiling <sup>a</sup> (lb meat)	Dredge hours	Catch (lb meat)	CPUE (lb meat per dredge hr)
1993/94	9	NA	5,764	284,414	49
1994/95	8	NA	11,113	505,439	45
1995/96		Closed			
1996/97	1	600,000	2,313	150,295	65
1997/98	2	600,000	2,246	97,002	43
1998/99	4	400,000	2,319	96,795	42
1999/2000	2	400,000	3,294	164,929	50
2000/01	3	200,000	3,355	205,520	61
2001/02	3	200,000	3,072	140,871	46
2002/03	2	105,000	2,038	92,240	45
2003/04	2	105,000	1,020	42,590	42

<sup>a</sup> Not applicable. A GHR ceiling was not established.

**Table 14.-**Historic commercial catch, effort, and value of weathervane scallops, Dutch Harbor Registration Area, 1982 through 2003/04.

Year	Number Vessels	Number Landings <sup>a</sup>	Commercial Catch (lb) <sup>b</sup>	Average Landings (lb) <sup>b</sup>	Average Price/lb	First Wholesale Est. Value (dollars)	Number Tows <sup>d</sup>
1982	5	8	62,105	7,763	3.11	193,147	
1983				No Effort			
1984				No Effort			
1985				Confidential			
1986	5	37	406,642	10,990	3.50	1,423,247	8,752
1987				Confidential			
1988				Confidential			
1989				Confidential			
1990				Confidential			
1991				Confidential			
1992				Confidential			
1993/94	3	6	39,346	6,558	d	d	572
1994/95	3	3	1,931	644	d	d	52
1995/96	1 <sup>c</sup>	2	26,650	13,475	d	d	747
1996/97				No Effort			
1997/98	1 <sup>c</sup>	1	5,790	5,790	7.05	40,819	105
1998/99	4	5	46,432	9,286	6.30	295,522	479
1999/2000	1 <sup>c</sup>	1	6,465	6,465	6.25	40,500	167
2000/01				Closed			
2001/02				Closed			
2002/03	1 <sup>c</sup>	1	6,000	6,000	5.20	31,200	115
2003/04				Closed			

<sup>a</sup> Prior to 1995/96, reported number of landings is equal to number of fish tickets. After 1995/96, the reported number of landings is equal to the number of off-loads.

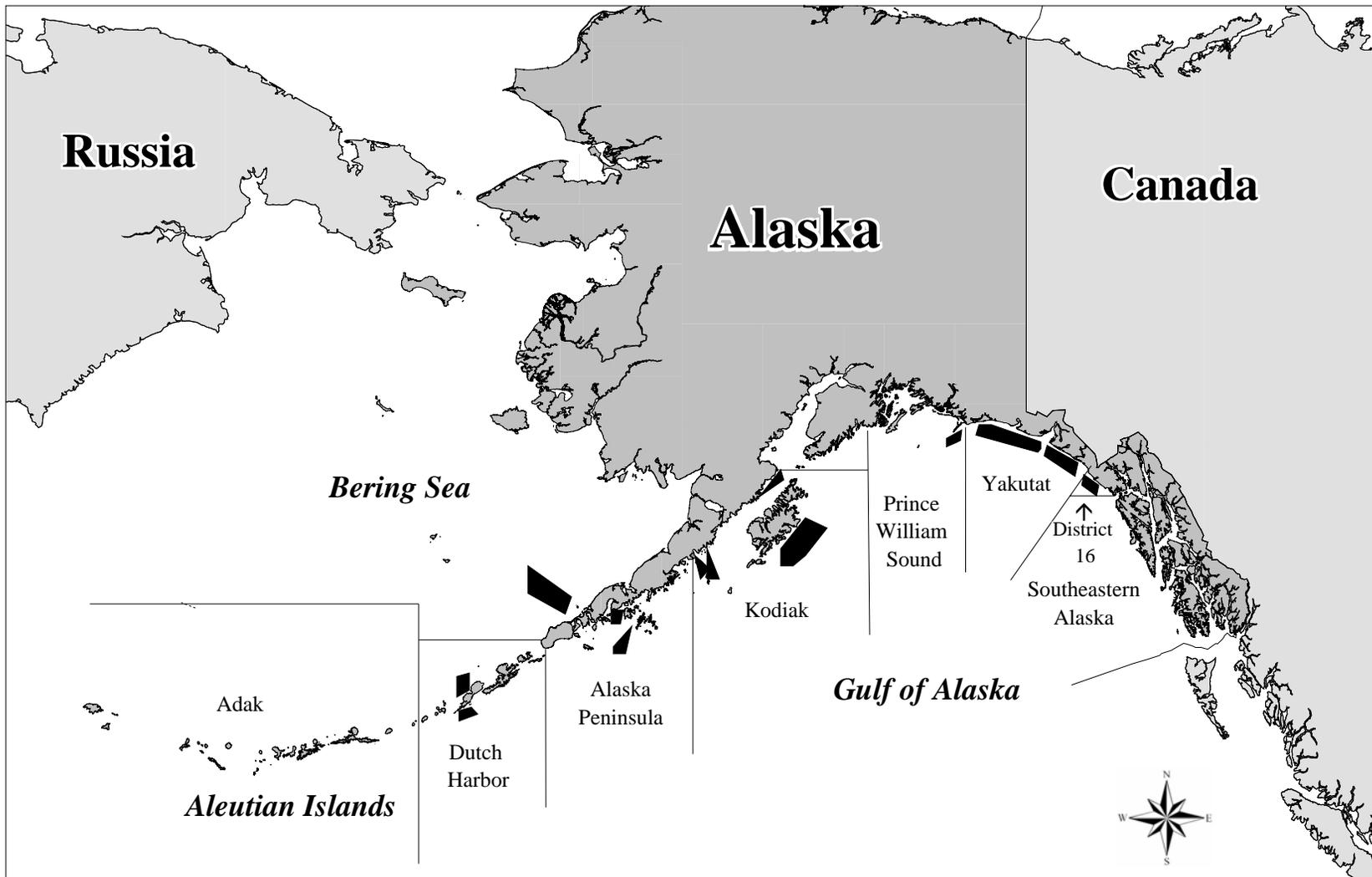
<sup>b</sup> Pounds of shucked scallop meats.

<sup>c</sup> Vessel operator released confidential data.

<sup>d</sup> Not available.

**Table 15.-Dutch Harbor Registration Area scallop fishery summary statistics.**

Season	Number vessels	GHR ceiling (lb meat)	Dredge hours	Catch (lb meat)	CPUE (lb meat per dredge hr)
1993/94	3	170,000	838	39,346	46
1994/95	3	170,000	81	1,931	24
1995/96	1	170,000	1,047	26,950	26
1996/97		170,000		No Effort	
1997/98	1	170,000	171	5,790	34
1998/99	4	110,000	1,025	46,432	45
1999/2000	1	110,000	273	6,465	24
2000/01		Closed			
2001/02		Closed			
2002/03	1	10,000	184	6,000	33
2003/04		Closed			



**Figure 1.**—Major weathervane scallop fishing locations in coastal waters of Alaska.

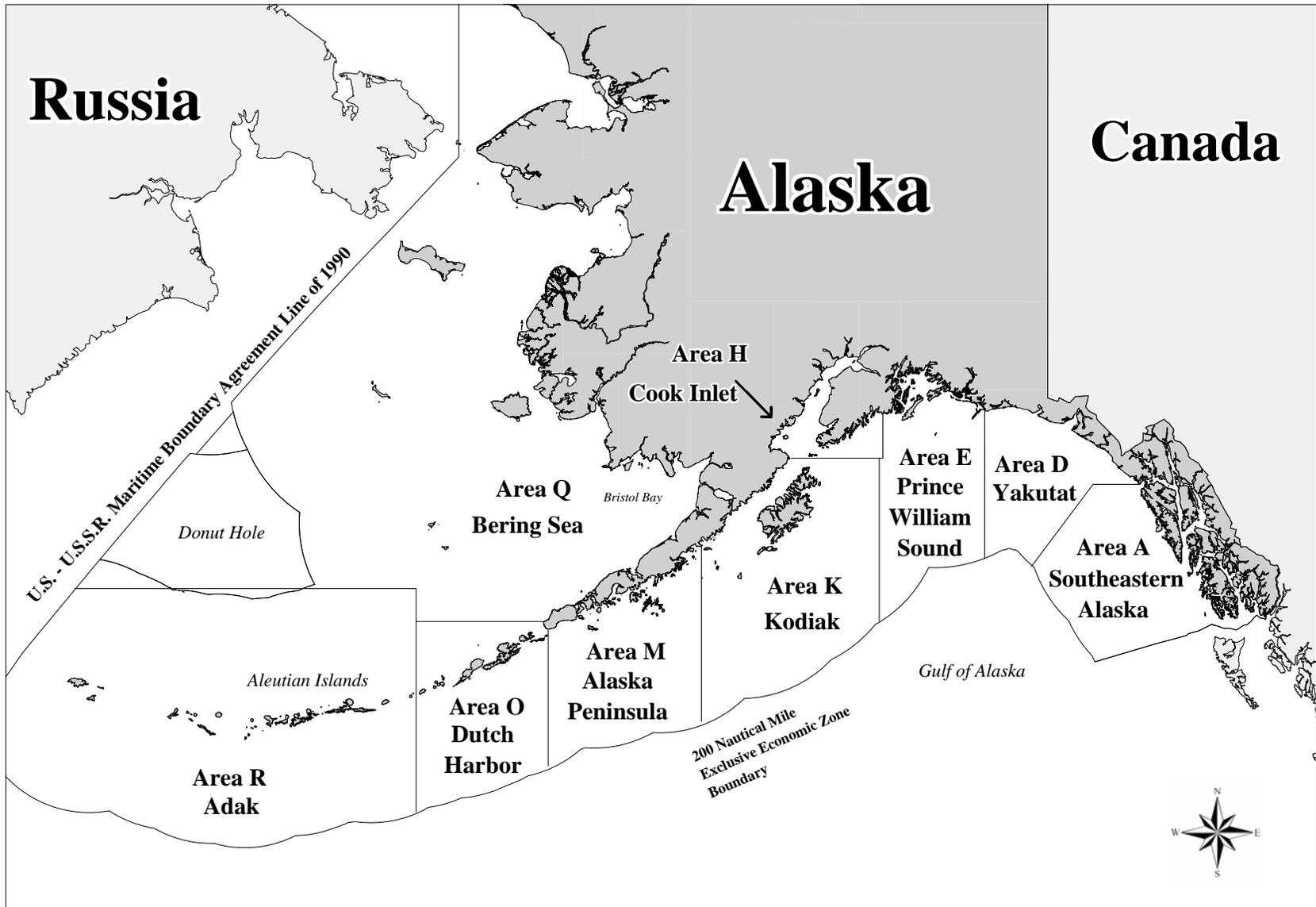


Figure 2.-State of Alaska weathervane scallop fishing registration areas.

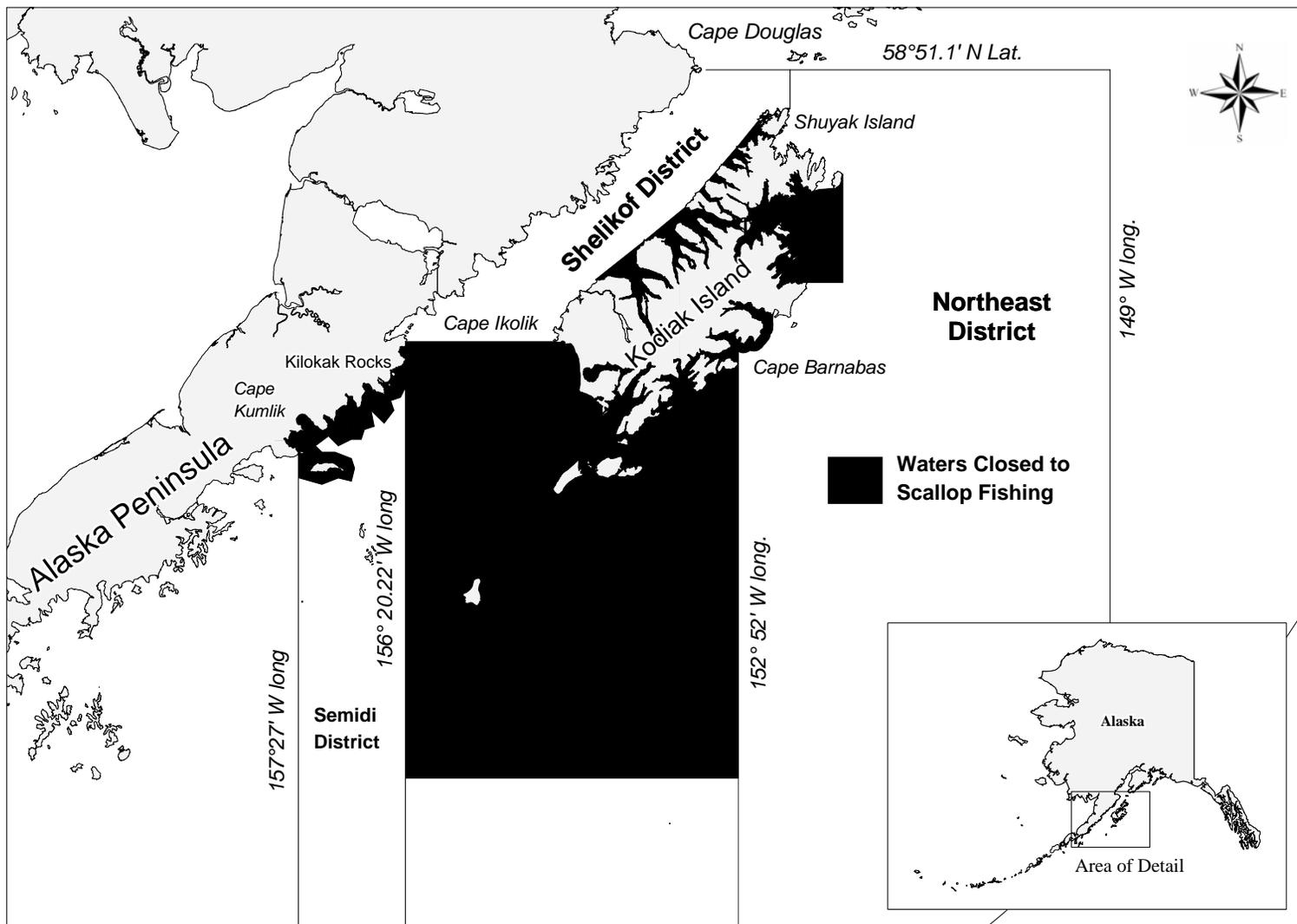
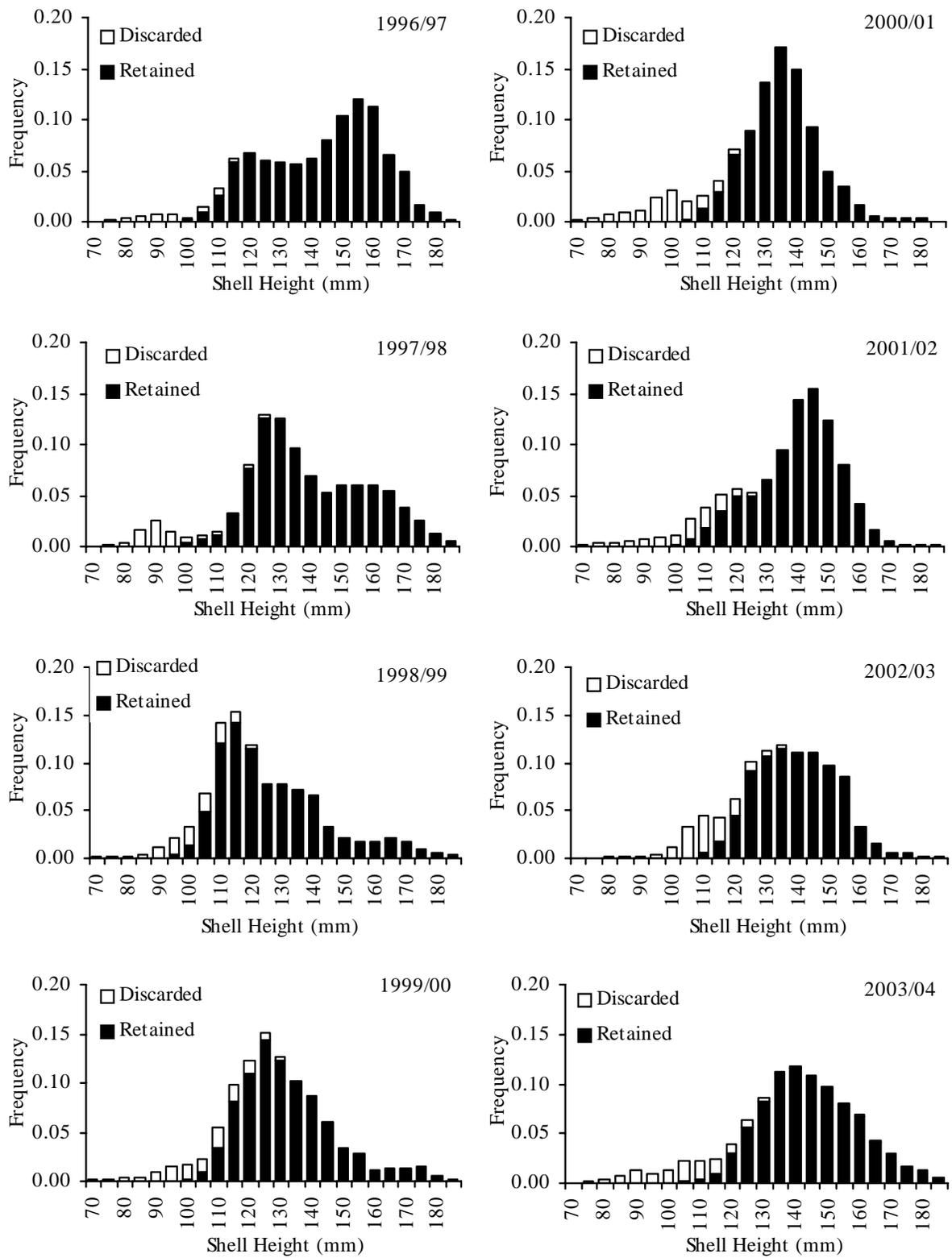
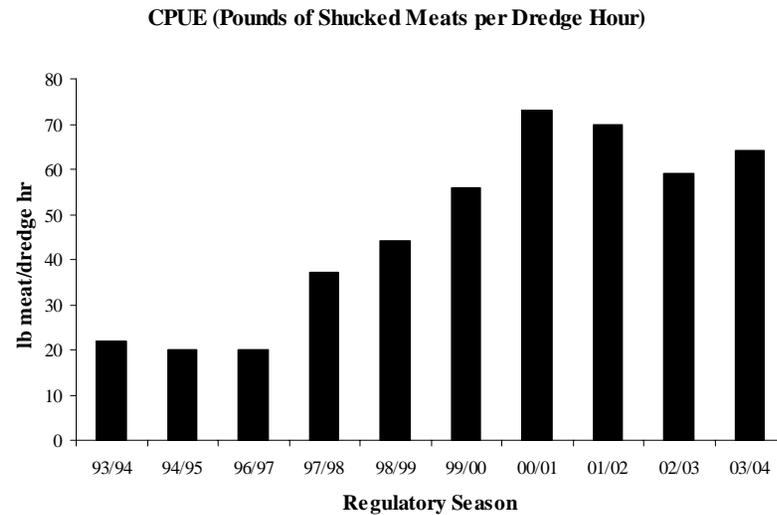
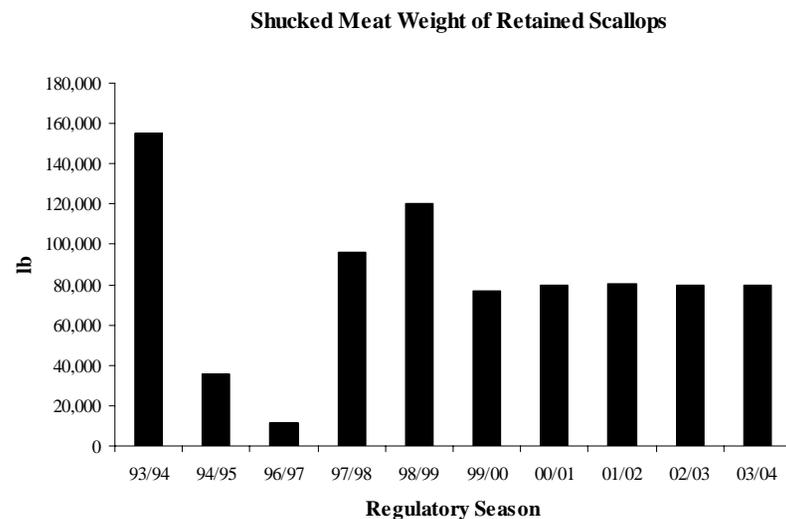
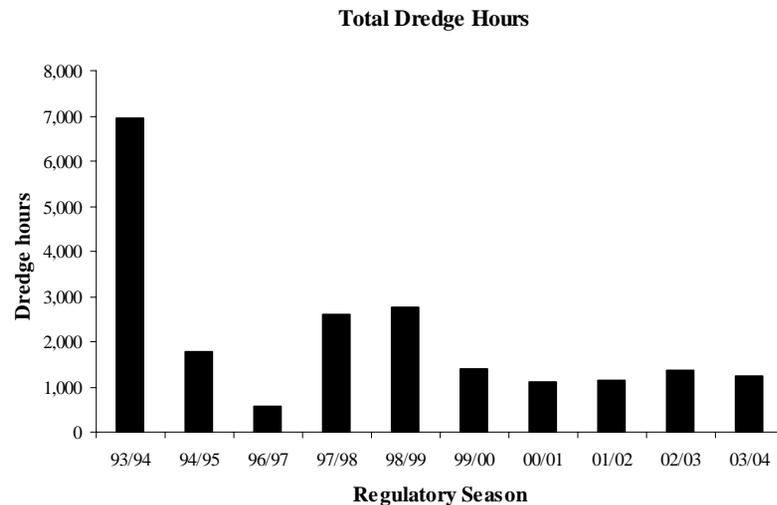
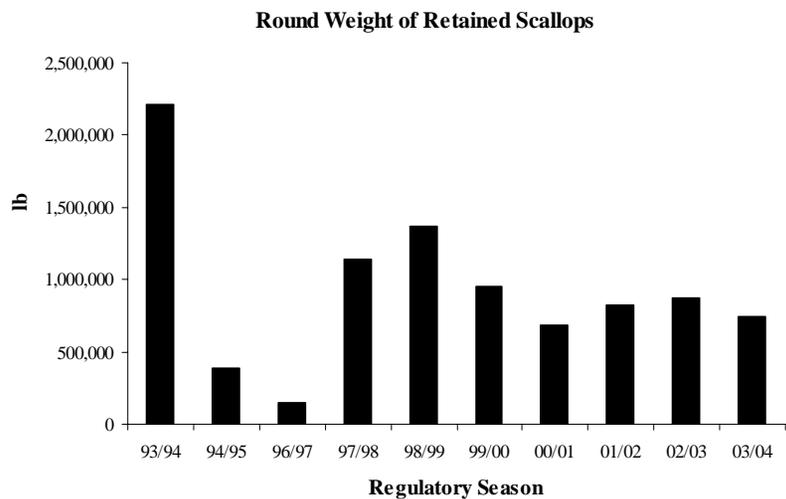


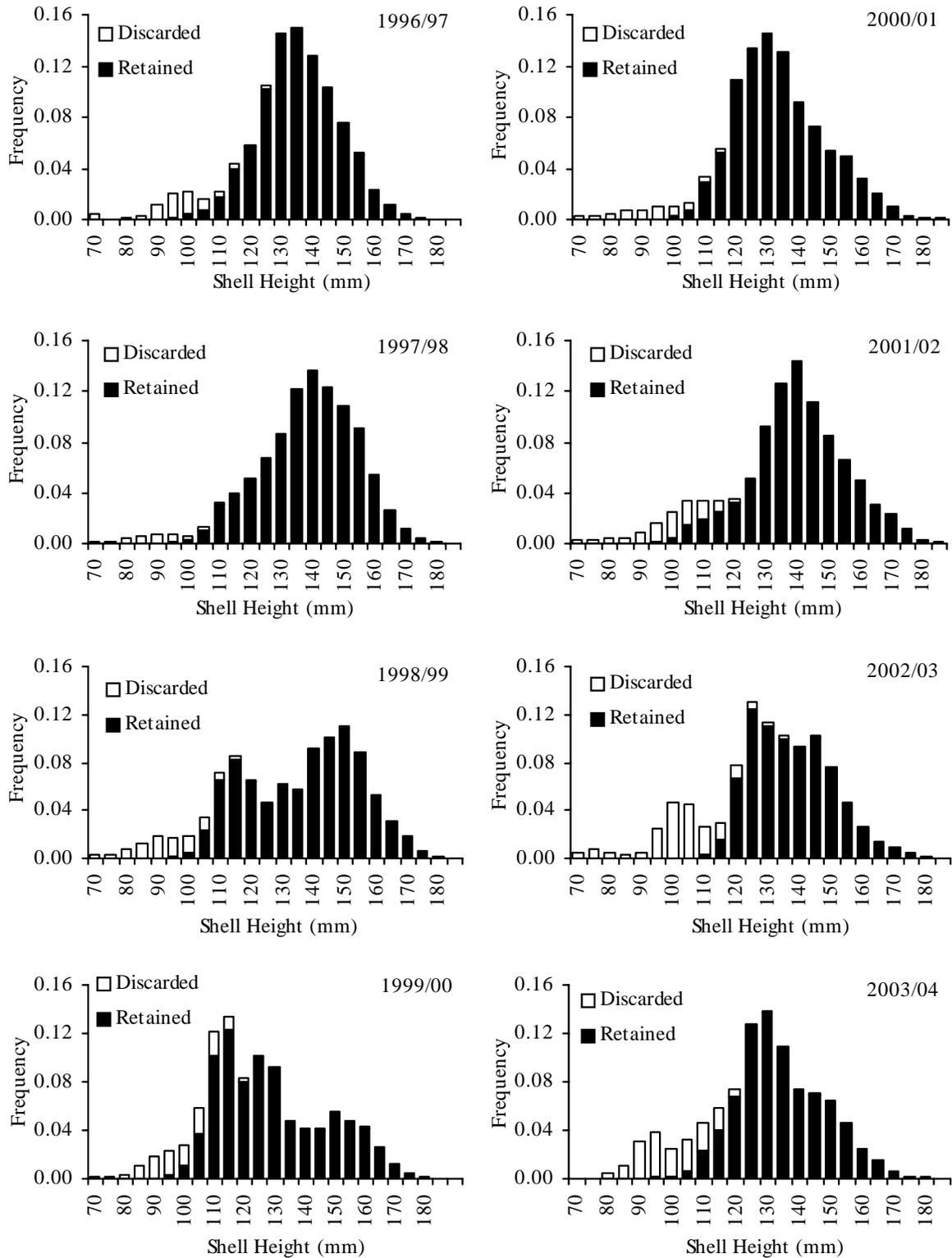
Figure 3.-Kodiak weathervane scallop fishing registration area and closed waters.



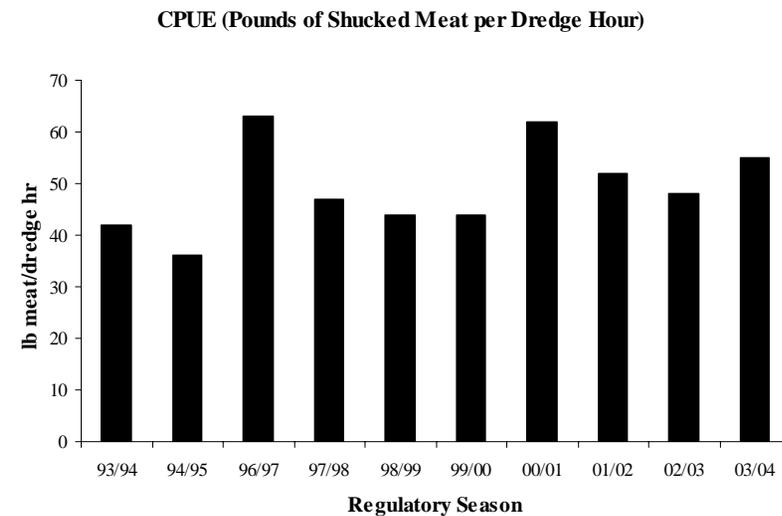
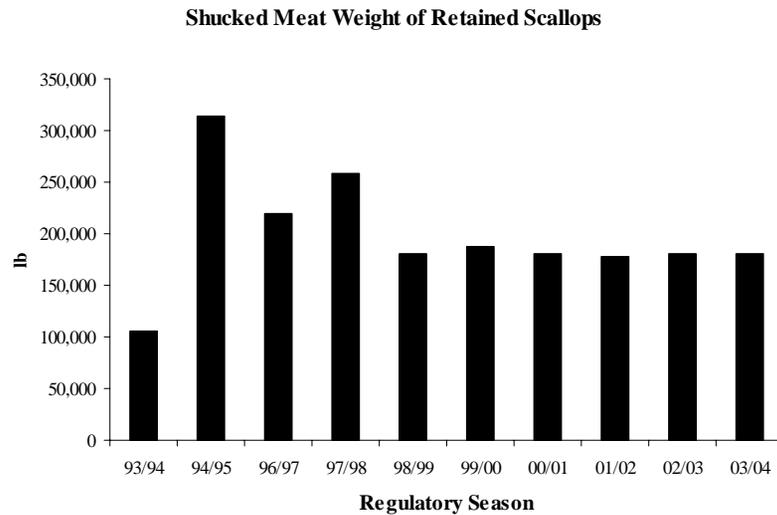
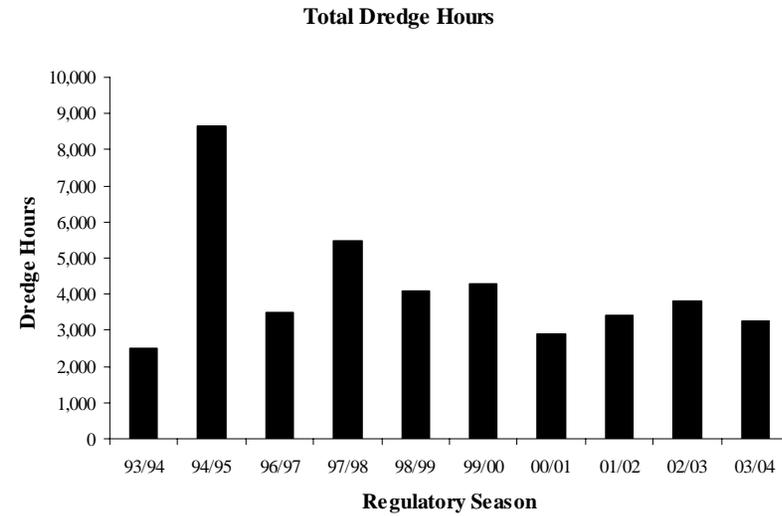
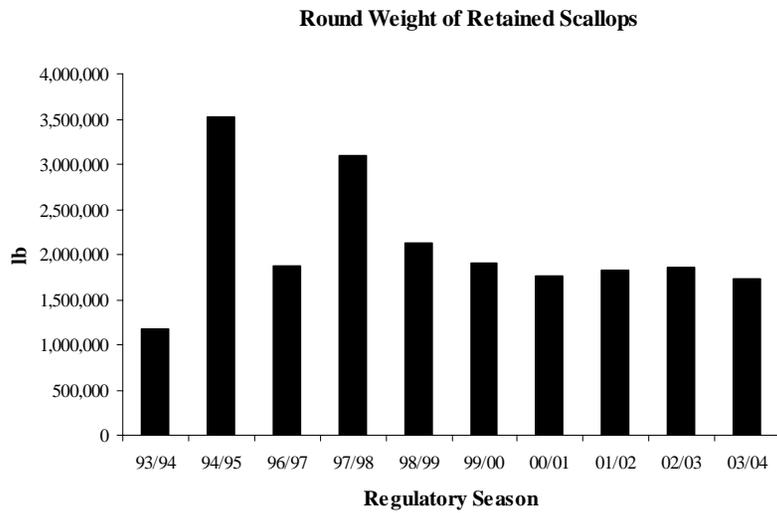
**Figure 4.**-Northeast District scallop shell heights from resampling observer data, 1996/97-2003/04.



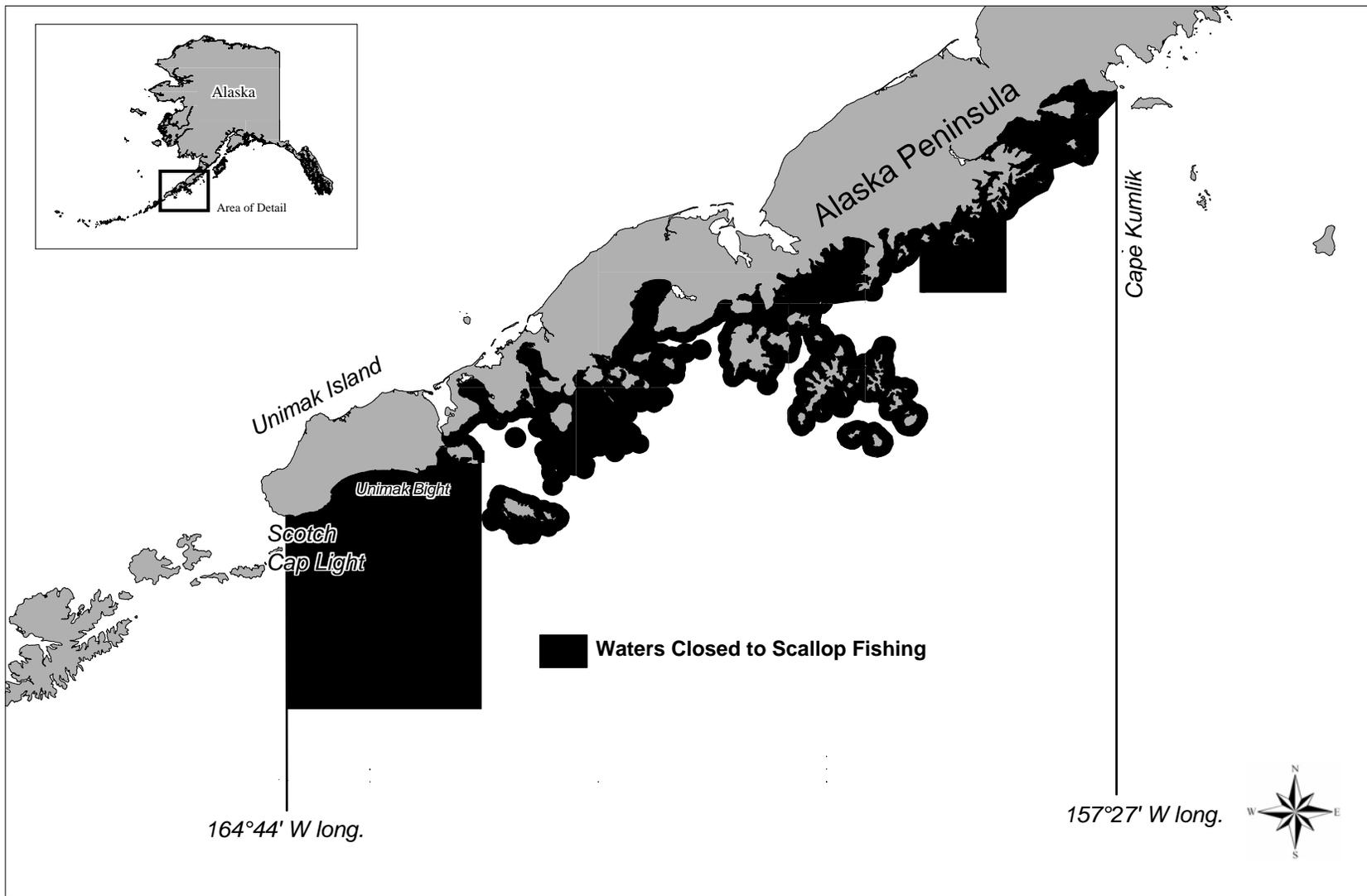
**Figure 5.**-Weathervane scallop harvest by round weight, shucked meat weight, dredge hours, and CPUE, Northeast District, Kodiak Registration Area, 1993/94 through 2003/04.



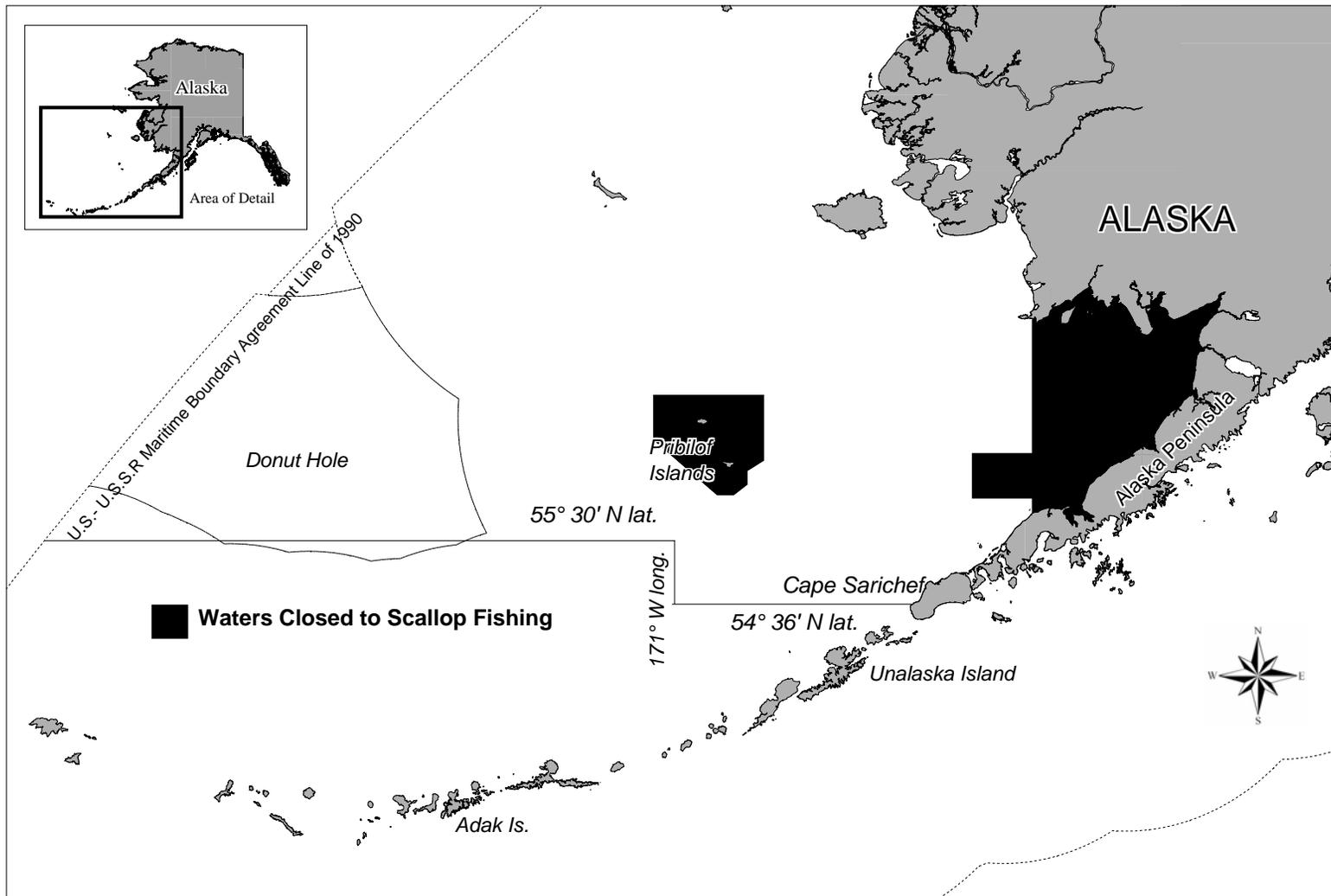
**Figure 6.-**Kodiak Shelikof District scallop shell heights from resampling observer data, 1996/97-2003/04.



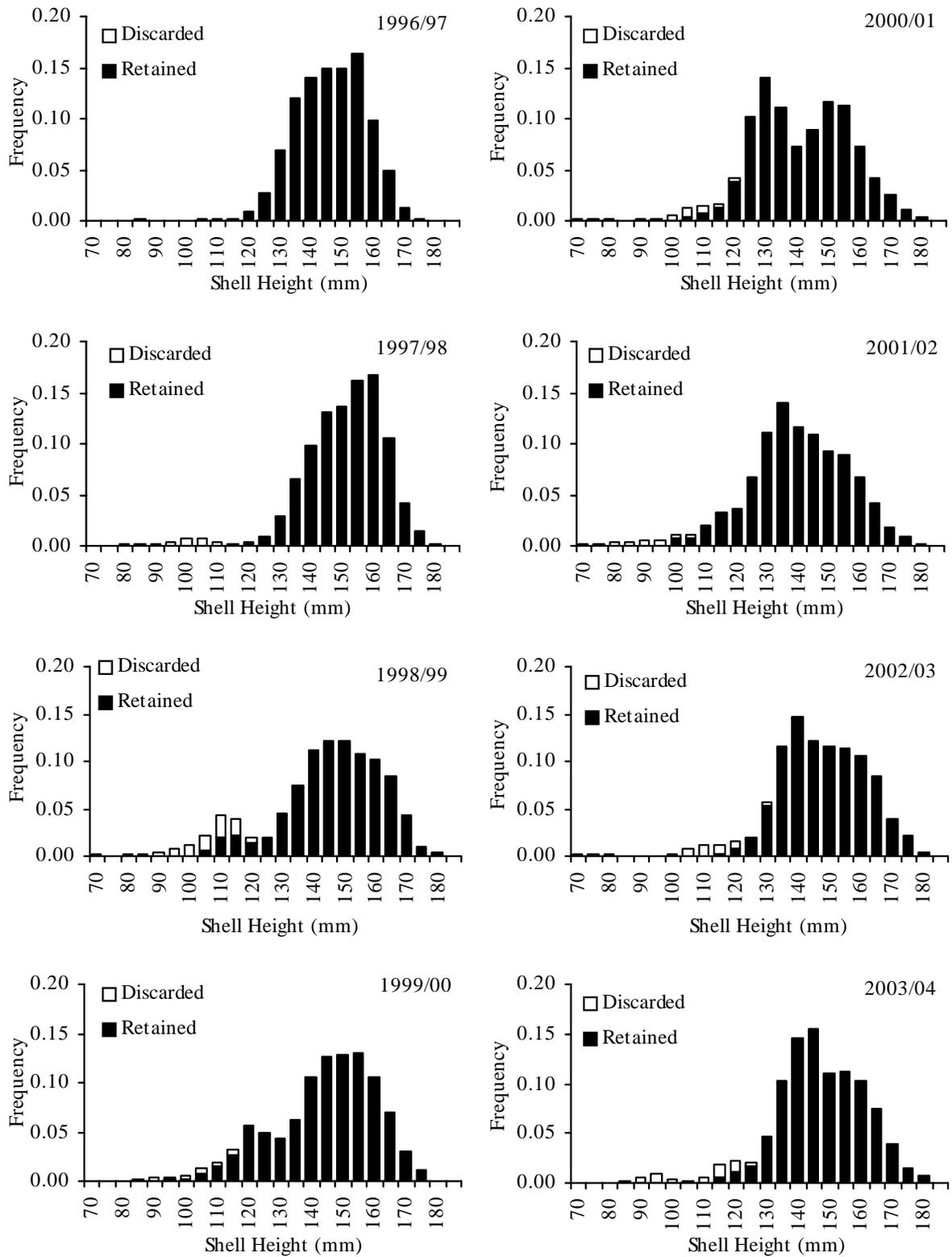
**Figure 7.-**Weathervane scallop harvest by round weight, shucked meat weight, dredge hours, and CPUE, Shelikof District, Kodiak Registration Area, 1993/94 through 2003/04.



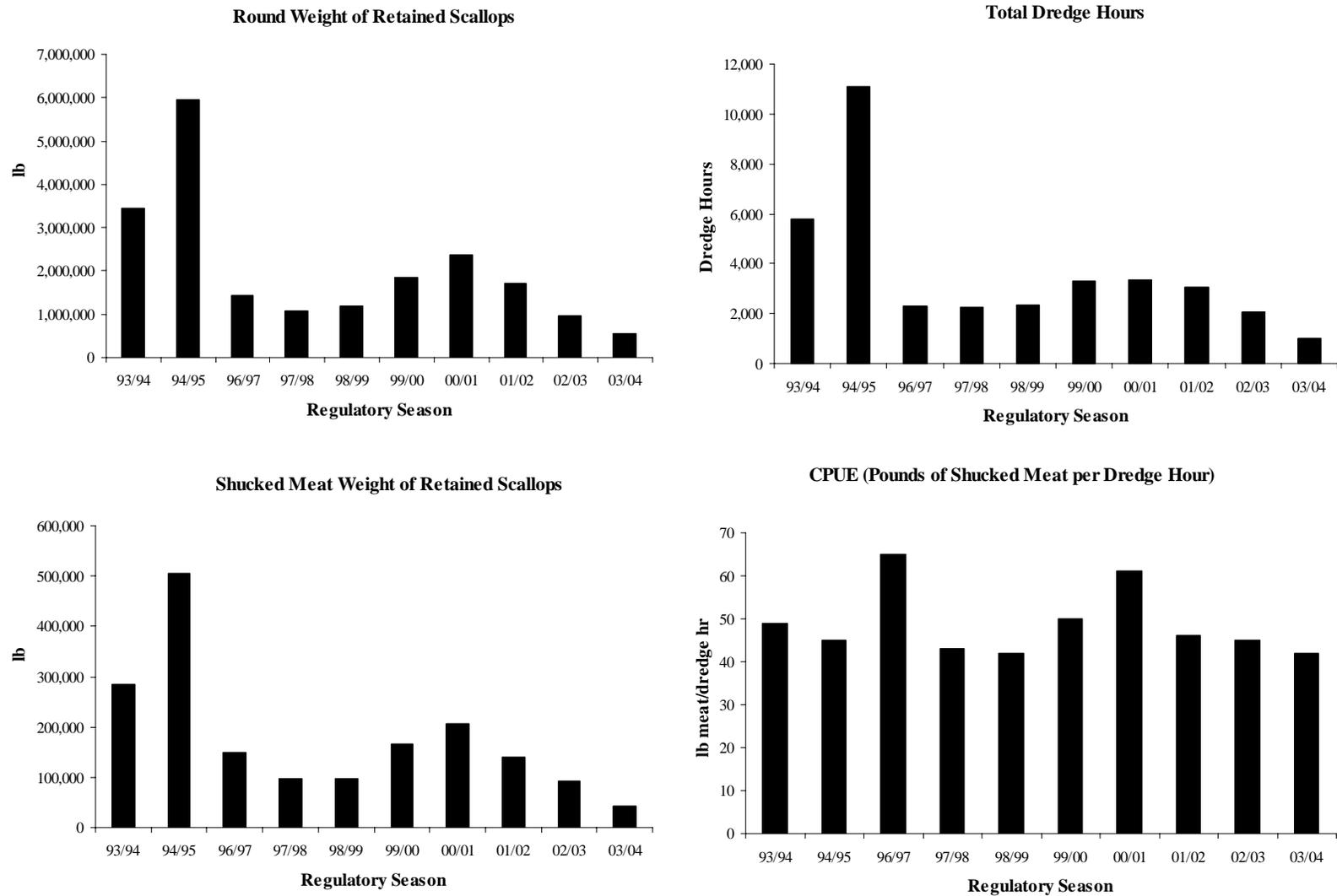
**Figure 8.**-Alaska Peninsula weathervane scallop fishing registration area and closed waters.



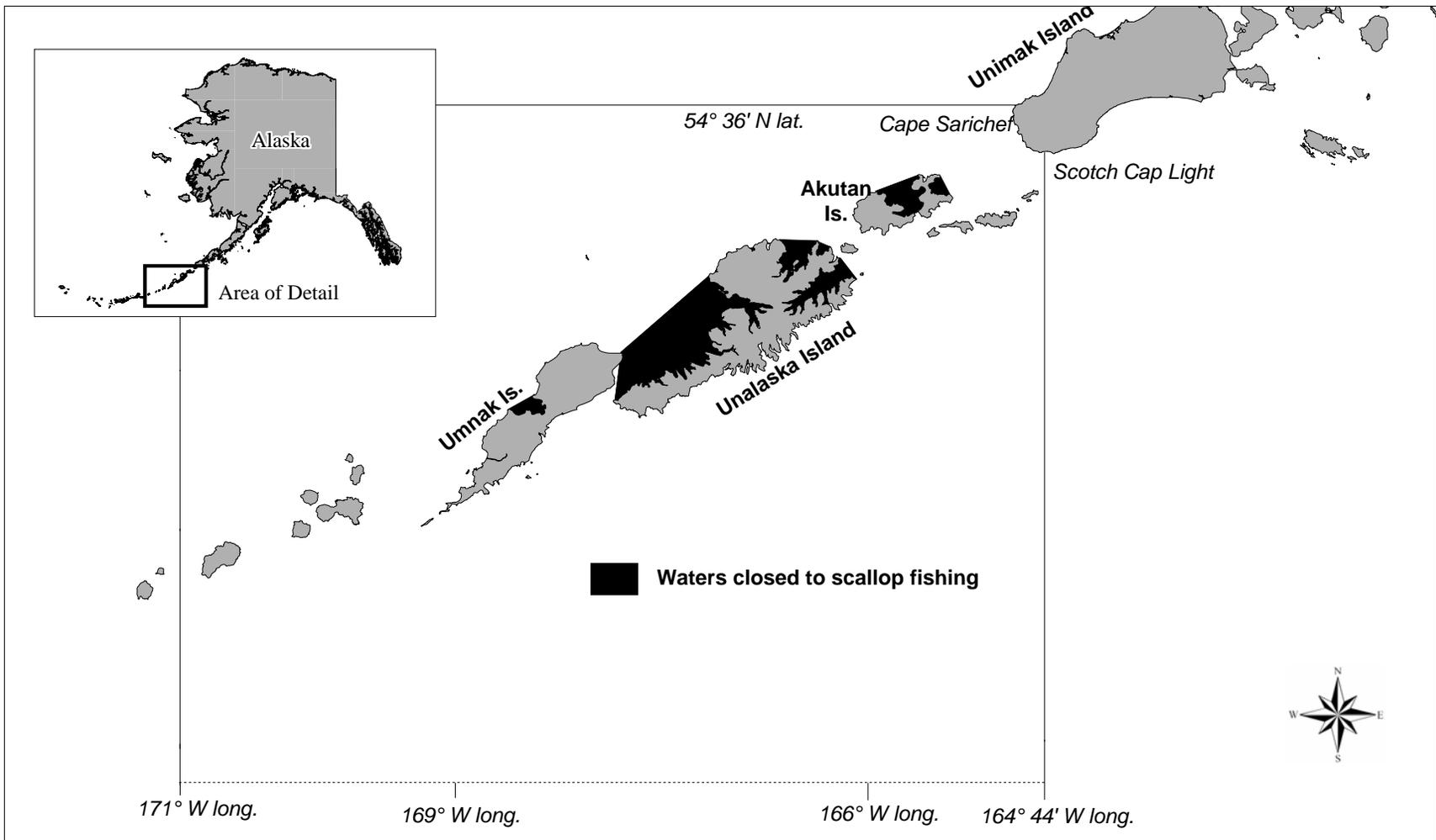
**Figure 9.**-Bering Sea weathervane scallop fishing registration area and closed waters.



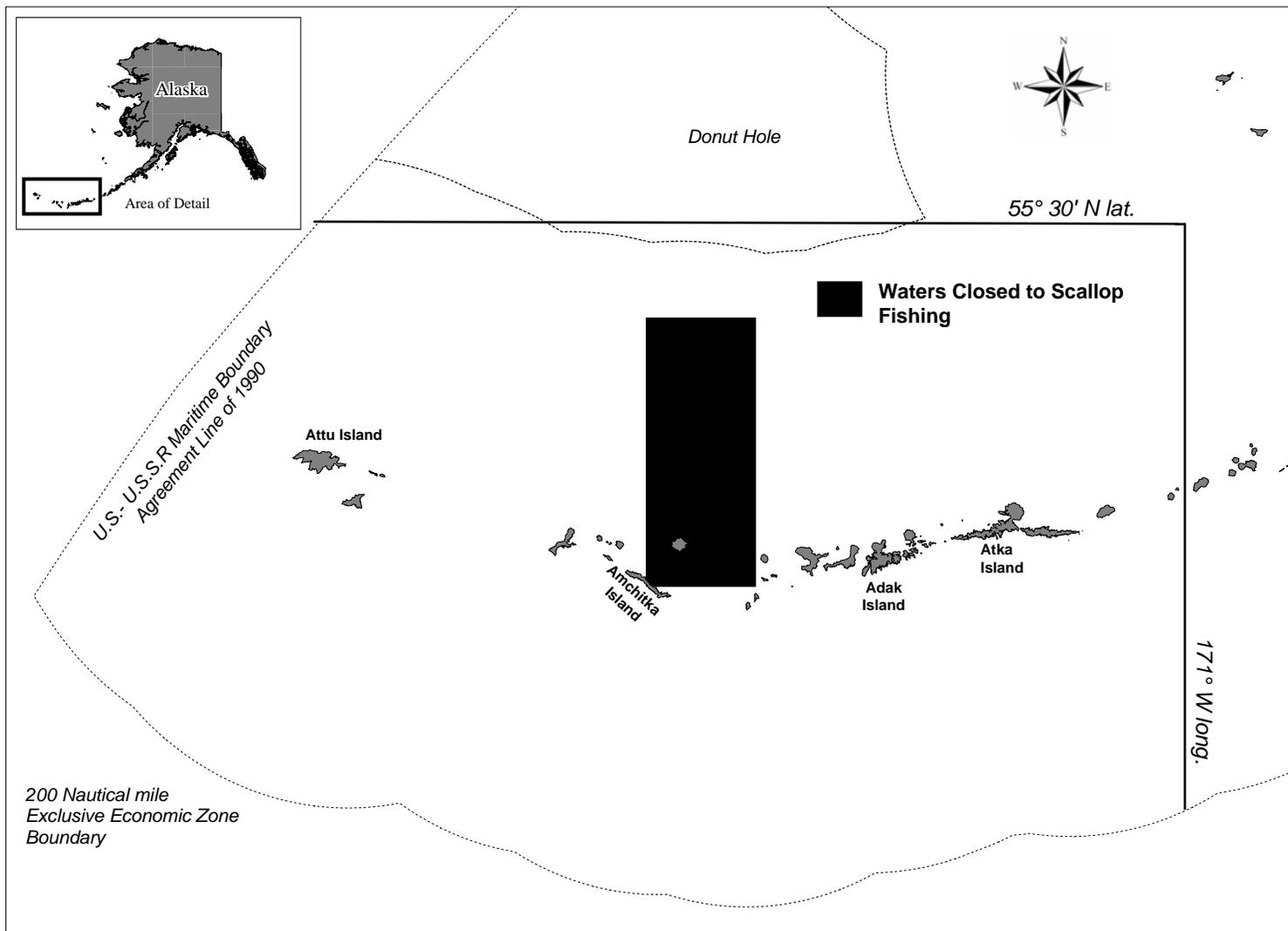
**Figure 10.-**Bering Sea Registration Area scallop shell heights from resampling observer data, 1996/97-2003/04.



**Figure 11.**—Weathervane scallop harvest by round weight, shucked meat weight, dredge hours, and CPUE, Bering Sea Registration Area, 1993/94 through 2003/04.



**Figure 12.-**Dutch Harbor weathervane scallop fishing registration area and closed waters.



**Figure 13.-**Adak weathervane scallop fishing registration area and closed waters.