

**Summary and Analysis of Onboard Observer-  
Collected Data from the 2003/04 to 2005/06 Statewide  
Commercial Weathervane Scallop Fisheries**

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December 2007

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Alaska Department of Fish and Game

Divisions of Sport Fish and Commercial Fisheries





***FISHERY MANAGEMENT REPORT NO. 07-67***

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## ABSTRACT

The Alaska Scallop Fishery Management Plan, 5 AAC 38.076 (g), gives the Alaska Department of Fish and Game (ADF&G) the authority to require observers on board scallop vessels. Observers on board fishing vessels enhance management, primarily by facilitating information gathering and by improving regulatory compliance. ADF&G staff rely on observer-collected data to manage the weathervane scallop fishery.

The Alaska commercial weathervane scallop *Patinopecten caurinus* fishery occurs in waters of the Alaska Territorial Sea and the Exclusive Economic Zone (EEZ) bounded by Cape Spencer (58° 12' 45" N lat., 136° 39' 45" W long.) in Southeast Alaska through the Gulf of Alaska to the western boundary; the U.S.-U.S.S.R. Maritime Boundary Agreement Line of 1990 in the Bering Sea.

This report summarizes data collected by onboard observers in the Alaska weathervane scallop fishery including fishing effort, area fished, number of vessels, observer coverage, crab and halibut bycatch estimates, catch composition, crab mortality, and discarded and retained scallop catch.

Key words: Weathervane scallop fishery, *Patinopecten caurinus*, fishery observer, Kodiak, Alaska Peninsula, Bering Sea, Dutch Harbor, Aleutian Islands, Yakutat, Prince William Sound, bycatch

## INTRODUCTION

In 1953, Alaskan weathervane scallop *Patinopecten caurinus* populations were identified during resource surveys conducted by the U.S. Bureau of Commercial Fisheries, later named the National Marine Fisheries Service (NMFS) (Haynes and Powell 1968).

As the abundance of red king crab *Paralithodes camtschaticus* began to decline in Kodiak during the 1960s, a few fishermen considered diversify into other fisheries (Turk 2000). However, it was not until 1967 that a loss of fishing opportunities associated with the decline of red king crab led to initial efforts to establish a weathervane scallop fishery (Kruse et al. 2005)

In 1967, Kodiak-based vessels the F/V Cloverleaf and the F/V Virginia Santos, were converted to scallop dredging (Turk 2000). At this same time, scallop catches were declining in the U.S. and Canadian fisheries on Georges Bank and by 1968, a number of east coast vessels began fishing scallops in Alaska. The fishery expanded to 19 vessels consisting of New Bedford type scallop vessels, converted Alaska crab boats, salmon seiners, halibut longliners, and shrimp trawlers (Kaiser 1986).

The fishery developed from 1967 through 1973 as virgin scallop beds were identified and harvested (Shirley and Kruse 1995). This was followed by a period of declining scallop harvests from 1974 to the end of the decade. A smaller, more stable fishery followed through the 1980s.

After implementation of the passive management measures in the early 1970s, there were virtually no new regulations developed until the weathervane scallop fishery was designated a high impact emerging fishery on May 21, 1993 in response to increased fishing effort and was closed until a conservative management plan could be developed by the ADF&G (Barnhart 1997). The resulting Interim Management Plan for Commercial Scallop Fisheries in Alaska was approved by the ADF&G commissioner in 1993 and finalized as regulation 5 AAC 38.076 Alaska Scallop Fishery Management Plan by the Alaska Board of Fisheries (BOF) in 1994. It includes a provision for onboard observer coverage, measures designed to limit efficiency and slow the pace of fishing, gear regulations that reduce the capture rate of small scallops, and crab bycatch limits (Barnhart 2006)

There are nine scallop registration areas in Alaska (Figure 1). These include scallop Registration Area A (Southeastern Alaska), Area D (Yakutat), Area E (Prince William Sound), Area H (Cook Inlet), Area K (Kodiak), Area M (Alaska Peninsula), Area Q (Bering Sea), Area O (Dutch Harbor) and Area R (Adak). In all registration areas except Cook Inlet (Area H), the weathervane scallop regulatory fishing season is July 1 through February 15. State waters to three miles offshore and federal waters, three to 200 miles offshore, were open concurrently to weathervane scallop fishing. In this report, for simplicity, registration areas will be referred to as areas. Districts are subsets of registration areas.

Information contained in this report was collected from the 2003/04 to 2005/06 regulatory scallop fishing seasons in scallop registration areas D, E, K, M, and Q. It does not include the Cook Inlet Area (Area H), where onboard observer coverage is currently waived by ADF&G staff and the Southeastern Area, where there is no open season. This report also includes a summary of statewide weathervane scallop commercial fishery harvest statistics and observer data since inception of the observer program in 1993.

## **METHODS**

### **OBSERVER TRAINING AND DATA COLLECTION PROCEDURES**

#### **Training**

In 2003, to accommodate independent contracting agents requests for additional training classes, two observer training classes for the weathervane scallop fishery were conducted at the University of Alaska Anchorage, North Pacific Fisheries Observer Training Center. The first class was held between June 16 and June 25, and a second class was held between September 2 and September 12. Due to provider companies enrolling less than the minimum requirement of five students during the September 2003 class, the number of training classes was reduced to one the following year. In 2004, one scallop observer training class was held between June 14 and June 24. The same approach was used in 2005, when a single scallop observer training class was held between June 13 and June 23. Observers were trained in data collection following the sampling protocols described in the weathervane scallop observer manuals (Barnhart 2001, Barnhart 2004). Course material included:

1. history of the scallop observer program;
2. Alaska scallop fishery;
3. scallop and crab biology and identification;
4. finfish and invertebrate identification;
5. sampling procedures;
6. sampling forms;
7. use of vernier calipers;
8. safety;
9. onboard observer conduct;
10. shellfish regulations; and
11. documentation of violations.

Observers were trained in data collection following the sampling protocols described in the weathervane scallop observer manuals (Barnhart 2001, Barnhart 2004).

### **At-Sea Catch Sampling**

Scallop observers collected a variety of biological data on a daily basis. Observers were instructed to select tows for sampling as randomly as practical throughout each day, with the decision to sample the port or starboard dredge made prior to viewing its contents. Alaska scallop vessels usually tow two dredges simultaneously, but may tow a single dredge when fishing in unfamiliar areas, repairing a dredge, or when a winch is inoperable. Typically, fishing operations occur 24 hours/day and each vessel makes 15–20 tows/day. For haul composition (species) sampling, the daily goal was to sample a single dredge from one tow. For crab and Pacific halibut bycatch and discarded/retained scallop catch monitoring, the daily goal was to sample a single dredge from five different tows.

### **Haul Composition Sampling**

The purpose of the haul composition sampling was to document dredge contents by species weight from one dredge per day. Dredge contents were sorted into baskets by species and weighed. Small quantities were weighed entirely; large amounts were subsampled to estimate weight.

To estimate the weight of retained scallops in the haul composition sample, three baskets of scallops retained by the crew were weighed, and the weights were averaged. The total weight of retained scallops in the sampled dredge was then calculated by multiplying the average basket weight by the total number of baskets retained. All scallops not retained by the crew (discarded scallops) were weighed. Discarded and retained scallop weights were added together to obtain the total weight of scallops captured in the sampled dredge.

The protocol for estimating large volumes of other species encountered was similar to that for scallops, except the average weight of three baskets was multiplied by the observer's visual estimation of the number of baskets on deck.

All Pacific halibut *Hippoglossus stenolepis* were measured to the nearest centimeter (cm) from the tip of the nose to the end of the central rays of the caudal fin. Halibut weights were then determined from a length/weight conversion table.

Wood, rocks, and man-made debris items were collected and weighed. Man-made debris was counted and classified as plastics, fishing gear (including line), cans, or other.

### **Crab and Pacific Halibut Bycatch and Discarded/Retained Scallop Sampling**

From a single dredge sampled in five selected tows, observers identified, counted, and recorded the number and condition of crabs and Pacific halibut; collected/examined the discarded scallop catch; and examined the retained commercial scallop catch. In all sampled dredges, priority was given to return halibut as quickly as possible to the sea, after sampling.

For each sampled dredge, after the crew selected and removed the commercial scallop catch from the deck, observers were instructed to begin at one end of the remaining pile of dredge contents and select the first 20 each of red king crabs *Paralithodes camtschaticus*, Tanner *Chionoecetes* spp. (Tanner, snow, and *C. bairdi* x *C. opilio* (hybrid) crabs combined), and Dungeness crabs *Cancer magister*, for detailed examination. If a sampled dredge contained in excess of 20 crabs of a species or in the case of *Chionoecetes* in the Bering Sea, a genus, observers were instructed to count and identify them. From each crab selected for detailed

examination, carapace measurements, shell condition, sex, injuries, and mortality data were collected. Crabs that were crushed, dismembered, or exhibited no movement of body parts were considered dead. Moribund crabs which were nearly dead or severely injured and not likely to survive were also coded as dead. Carapace length (CL) was measured on all king crabs; carapace width (CW) was measured on all other crab species.

Observers examined the discarded scallop catch associated with each bycatch sampled tow. After the crew sorted and removed the retained scallop catch from the dredge contents on deck, observers collected all remaining scallops regardless of size. This discarded scallop catch consisted of small and/or broken scallops and larger scallops that were overlooked by the crew. One basket was further subdivided into intact scallops and broken/crushed scallops. If a broken/crushed scallop shell had 50% or more of the body tissue attached to it, it was counted as one scallop. Small pieces of crushed shell and soft body tissue were not counted. The broken/crushed sample was weighed to the nearest whole pound and the individuals were counted. The intact sample was also weighed to the nearest pound, all individuals were counted and shell heights (SH) were collected from 20 randomly selected scallops. The SH was measured to the nearest millimeter in a perpendicular line from the umbo to the most distant point on the outer shell margin using vernier calipers (Figure 2). Any additional baskets of unsorted discarded scallops were weighed to the nearest pound.

Observers also examined the retained scallop catch associated with each bycatch sampled tow. Twenty scallops from the retained catch in each of the sampled bycatch tows were randomly selected and measured. Observers collected the dorsal (left) valve of every tenth scallop examined, following the shell sampling protocol contained in the scallop observer manual (Barnhart 2004). Shells were cleaned of mud, flora, and fauna, then dried. The haul (tow) number, shell number from the scallop size frequency form, statistical area number, vessel ADF&G number, and date were written with a permanent black marker on the inside of each shell. Dried shells were stored in muslin bags. Observers were instructed to collect 10 to 15 dorsal valves from scallops <100 mm SH from each statistical area fished. These small shells typically have distinguishable first and second year annuli on the shell surface that are frequently worn away and less visible on older shells. These small shells help department staff confirm placement of the first and second annuli on older scallop shells. Typically, scallop fishermen do not retain scallops <100 mm SH, so these shells were collected from the discarded catch. Again, pertinent collection information similar to that associated with the retained scallop shell collection was recorded on the inside of each shell.

### **Vessel Operator Logbook**

Vessel operators maintained a fishing logbook provided by ADF&G. For each tow, the operator recorded the combined width of dredges towed, gear performance, date, haul number, set position, tow duration, average depth, average speed, estimated retained round weight in pounds of whole/live scallops, estimated discarded scallop catch in pounds, and ADF&G statistical area.

### **Data Collection Forms**

Examples of the data collection forms used during the 2003/04 season can be found in the 2001 scallop observer manual (Barnhart 2001). Examples of those forms used during the 2004/05 and 2005/06 seasons can be found in the 2004 scallop observer manual (Barnhart 2004).

## SCALLOP FISHING LOCATION MAPPING

Fishing locations were determined from data reported by vessel operators in the fishing logbook. Major fishing areas were plotted by outlining the highest concentration of fishing activity within a registration area. Specific fishing locations where fewer than three vessels participated remain confidential and were not mapped.

## ESTIMATION OF CRAB AND PACIFIC HALIBUT BYCATCH, AND DISCARDED SCALLOP CATCH

Bycatch of Dungeness crabs, red king crabs, snow crabs *Chionoecetes opilio*, Tanner crabs *Chionoecetes bairdi* and Pacific halibut was estimated from the observer data. The observer's daily goal was to randomly sample bycatch in a single dredge from each of five tows. The number of dredges sampled ranged from zero to five on each day when fishing occurred, due to weather conditions, observer health, and the vessel's daily fishing schedule.

For each fishing area, total bycatch ( $\hat{B}$ ) of each species was estimated by summing all daily bycatch estimates from each vessel, calculated as:

$$\hat{B} = \frac{c}{t} \cdot T \cdot D, \quad (1)$$

where:

$c$  = number counted in sampled dredges,

$t$  = sampled dredge·hours (dredge·hr = one dredge towed 60 minutes),

$T$  = total dredge·hours, and

$D$  = average number of dredges fished.

For days when no dredges were sampled, bycatch was estimated by multiplying the average catch rate (number/hour) for the same vessel in the same area by total dredge·hours and average number of dredges fished during the day for which no samples were taken. Ninety-five percent confidence intervals for the bycatch estimates were calculated by percentile-method bootstrapping (Barnhart et al. 1996).

Sampling effort for scallops discarded by the fleet also ranged from 0 to 5 dredges per day. Methods for estimating the number and weight of discarded scallops in each fishing area were similar to those used for crab and Pacific halibut bycatch. Number or weight ( $\hat{X}$ ) of intact (or broken) scallops in the sampled dredges on each vessel each fishing day were estimated by:

$$\hat{X} = \frac{x}{W} (W + R), \quad (2)$$

where:

$x$  = number (or weight) of intact (or broken) scallops in subsampled baskets,

$W$  = weight of subsampled baskets, and

$R$  = weight of remaining scallops in sampled dredges.

Estimates for each day were obtained by substituting  $\hat{X}$  for  $c$  in equation (1), and area estimates were obtained by summing over all vessels and days. Days with no sampling were handled as

above, using average catch rates (number or weight per hour) by the same vessel in the same area. Again, confidence intervals were calculated by percentile-method bootstrapping.

### **SCALLOP CATCH PER UNIT EFFORT**

Scallop catch-per-unit-effort (CPUE) is expressed as either, round weight or shucked meat weight, per dredge-hour (drg-hr). Round weight represents the weight in pounds of live/whole scallops retained by the crew. The round weight of retained scallops was estimated by the vessel operator for each tow by counting the number of retained scallop bushels and multiplying by an estimated weight per bushel. Shucked meat weight represents the actual, not estimated, weight in pounds of shucked scallop meats at the time of processing.

### **SHELL HEIGHT FREQUENCY DISTRIBUTIONS OF THE SCALLOP CATCH**

For areas with sufficiently large sample sizes (at least 200) of both retained and discarded scallop SHs, estimated SH distributions were obtained by resampling with replacement from the observer measurements. Resamples were drawn from either the retained or discarded SH measurements based on the estimated proportion of discards in the total catch for the area. After resampling 10,000 SH measurements, histograms based on 5 mm bins were created to depict the SH distribution.

## **RESULTS AND DISCUSSION**

During the 2003/04 season, five observers were deployed aboard two vessels for a total of 362 vessel days (total days from briefing to debriefing for all observers). A total of 34 briefings and debriefings were conducted by ADF&G staff statewide. One or more tows were sampled on 252 of the 288 vessel days on which fishing occurred. Of the 4,765 tows recorded in vessel operator logbooks, 1,216 (26%) were sampled.

During the 2004/05 season, five observers were deployed aboard three vessels for a total of 330 vessel days. A total of 30 briefings and debriefings were conducted by ADF&G staff statewide. One or more tows were sampled on 249 of the 283 vessel days on which fishing occurred. Of the 4,241 tows recorded in vessel operator logbooks, 1,157 (27%) were sampled.

During the 2005/06 season, five observers were deployed aboard four vessels for a total of 487 vessel days. A total of 43 briefings and debriefings were conducted by ADF&G staff statewide. One or more tows were sampled on 387 of the 487 vessel days on which fishing occurred. Of the 5,733 tows recorded in vessel operator logbooks, 1,460 (25%) were sampled.

### **COMMERCIAL SCALLOP FISHERY**

#### **Catch and Effort 2003/04 Season**

The scallop fleet fished 26 statistical areas extending from Yakutat to the Bering Sea (Figure 3).

Scallop dredges were towed a total of 24,846 nautical miles (nmi) and swept a maximum of 120.8 nmi<sup>2</sup> of the bottom during the 2003/04 season (Table 1). Dredges were towed 11,071 nmi in the Kodiak Area (54.0 nmi<sup>2</sup> swept), 8,291 nmi in the Yakutat Area (40.2 nmi<sup>2</sup> swept), 4,965 nmi in the Bering Sea Area (24.0 nmi<sup>2</sup> swept), and 519 nmi in the Prince William Sound Area (2.6 nmi<sup>2</sup> swept).

Average depth fished during the 2003/04 season was 45 fathoms and ranged from a minimum of 30 fathoms in Yakutat Area D to a maximum of 80 fathoms in the Shelikof District of the

Kodiak Area (Table 2). Average depth fished was greater in the Kodiak and Bering Sea Areas than in the Yakutat and Prince William Sound Areas.

Fishing effort during the 2003/04 season totaled 9,120 drg-hr (Table 3). The highest effort occurred in the Kodiak Area with 4,506 drg-hr followed by the Yakutat Area with 3,378 drg-hr, Bering Sea Area with 1,020 drg-hr, and the Prince William Sound Area with 216 drg-hr (Figure 4).

Total round weight of retained scallops during the 2003/04 season, as recorded in vessel operator's logbooks, was 5,227,071 lb (Table 3; Figure 5). The Kodiak Area accounted for the largest catch with 2,472,015 lb, followed by the Yakutat Area with 1,955,784 lb, Bering Sea Area with 537,552 lb, and Prince William Sound Area with 261,720 lb.

Scallop CPUE expressed in round weight of retained scallops per dredge-hour (lb/drg-hr), was highest in the Prince William Sound Area at 1,212 lb/drg-hr, followed by Yakutat District 16 with 839 lb/drg-hr, Northeast District of the Kodiak Area with 599 lb/drg-hr, Yakutat Area D with 577 lb/drg-hr, Shelikof District of the Kodiak Area at 529 lb/drg-hr and the Bering Sea Area with 527 lb/drg-hr. Statewide CPUE was 573 lb/drg-hr (Table 3; Figure 6)

Retained (shucked) scallop meats reported on fish tickets totaled 484,536 lb. The Kodiak Area harvest of 259,976 lb was the highest in the state followed by the Yakutat Area harvest of 161,990 lb, Bering Sea Area harvest of 42,590 lb, and the Prince William Sound Area harvest of 19,980 lb.

Scallop CPUE expressed in pounds of shucked (retained) scallop meats per dredge-hour (lb meat/drg-hr) was highest in the Prince William Sound Area at 93 lb meat/drg-hr, followed by 64 lb meat/drg-hr in the Northeast District of the Kodiak Area, 55 lb meat/drg-hr in the Shelikof District, 54 lb meat/drg-hr in Yakutat District 16, 48 lb meat/drg-hr in Yakutat Area D, and 42 lb meat/drg-hr in the Bering Sea Area. Statewide, CPUE averaged 53 meat lb/drg-hr.

### **Catch and Effort 2004/05 Season**

The scallop fleet fished 29 statistical areas extending from Yakutat to the Bering Sea during the 2004/05 season.

Scallop dredges were towed a total of 19,916 nmi and swept a maximum of 98.2 nmi<sup>2</sup> of the bottom (Table 1). Dredges were towed 11,576 nmi in the Kodiak Area (57.0 nmi<sup>2</sup> swept), 6,187 nmi in the Yakutat Area (30.6 nmi<sup>2</sup> swept), 1,491 nmi in the Prince William Sound Area (7.3 nmi<sup>2</sup> swept), and 662 nmi in the Bering Sea Area (3.3 nmi<sup>2</sup> swept).

Average depth fished during the 2004/05 season was 45 fathoms and ranged from a minimum of 25 fathoms in the Shelikof District of the Kodiak Area to a maximum of 75 fathoms, also in the Shelikof District (Table 2). The 2004/05 statewide average depth fished of 45 fathoms was the same as the 2003/04 season.

Effort totaled 8,135 drg-hr during the 2004/05 season (Table 4). Similar to the 2003/04 season, the highest effort occurred in the Kodiak Area with 4,694 drg-hr and the Yakutat Area with 2,552 drg-hr. This was followed by the Prince William Sound Area with 614 drg-hr and the Bering Sea Area with 275 drg-hr (Figure 4).

Total round weight of retained scallops during the 2004/05 season, as recorded in vessel operator's logbooks was 4,912,699 lb, approximately 314,000 lb less than the 2003/04 season catch (Table 4; Figure 5). This was a result of reduced scallop harvests in the Bering Sea Area

due to increased crab bycatch and in the Yakutat Area due to soft market conditions for the small-sized scallop meats commonly found in that area. The Kodiak Area accounted for the largest catch with 2,490,135 lb, followed by the Yakutat Area with 1,588,727 lb, Prince William Sound Area with 704,617 lb, and the Bering Sea Area with 129,220 lb.

Similar to the 2003/04 season, CPUE expressed in round weight of retained scallops per dredge-hour, continued to be highest in the Prince William Sound Area at 1,148 lb/drg-hr during the 2004/05 season. Prince William Sound was followed by Yakutat District 16 with 780 lb/drg-hr, Northeast District of the Kodiak Area with 692 lb/drg-hr, Yakutat Area D with 592 lb/drg-hr, Shelikof District of the Kodiak Area at 473 lb/drg-hr, and the Bering Sea Area with 470 lb/drg-hr. Statewide CPUE was 604 lb/drg-hr, similar to the 2003/04 season (Table 4; Figure 6)

Retained scallop meats as reported on fish tickets totaled 425,477 lb for the 2004/05 season. The Kodiak Area harvest of 254,727 lb was the highest in the state followed by the Yakutat Area harvest of 111,380 lb, Prince William Sound Area harvest of 49,320 lb, and the Bering Sea Area harvest of 10,050 lb.

Scallop CPUE expressed in pounds of shucked (retained) scallop meats per dredge-hour continued to be highest in the Prince William Sound Area at 80 lb meat/drg-hr. This was followed by a CPUE of 65 lb/ meat/drg-hr in the Northeast District of the Kodiak Area, 58 lb meat/drg-hr in Yakutat District 16, 50 lb meat/drg-hr in the Shelikof District of the Kodiak Area, 41 lb meat/drg-hr in Yakutat Area D, and 37 lb meat/drg-hr in the Bering Sea Area. Statewide, CPUE was 52 lb meat/drg-hr.

### **Catch and Effort 2005/06 Season**

The scallop fleet fished 26 different statistical areas extending from Yakutat to the Bering Sea. Scallop dredges were towed a total of 26,968 nmi and swept a maximum of 123.1 nmi<sup>2</sup> of the bottom during the 2005/06 season (Table 1). Dredges were towed 13,342 nmi in the Yakutat Area (65.8 nmi<sup>2</sup> swept), 10,302 nmi in the Kodiak Area (47 nmi<sup>2</sup> swept), 1,827 nmi in the Prince William Sound Area (2.9 nmi<sup>2</sup> swept), and 1,497 nmi in the Bering Sea Area (7.4 nmi<sup>2</sup> swept).

Average depth fished during the 2005/06 season was 46 fathoms and ranged from a minimum of 26 fathoms in Yakutat Area D to a maximum of 78 fathoms in the Shelikof District of the Kodiak Area (Table 2). The statewide average depth fished during the 2005/06 season was similar to the 2003/04 and 2004/05 seasons.

Total effort during the 2005/06 season was 10,620 drg-hr (Table 5). The highest effort occurred in the Yakutat Area with 5,496 drg-hr followed by the Kodiak Area with 4,039 drg-hr, Bering Sea Area with 602 drg-hr and the Prince William Sound Area with 491 drg-hr (Figure 4).

Total round weight of retained scallops for the season, as recorded in vessel operator's logbooks was 6,208,143 lb, an increase of 1.29 million pounds from the 2004/05 season (Table 5; Figure 5). This is a result of increased fishing effort in response to record setting first-wholesale prices for Alaska weathervane scallops. The Yakutat Area accounted for the largest catch with 2,871,518 lb, followed by the Kodiak Area with 2,286,184 lb, Prince William Sound Area with 818,741 lb, and the Bering Sea Area with 231,700 lb.

Similar to the 2003/04 and 2004/05 seasons, scallop CPUE expressed in round weight of retained scallops per dredge-hour (lb/drg-hr), was highest in the Prince William Sound Area at 1,667 lb/drg-hr. This was followed by the Shelikof District of the Kodiak Area at 638 lb/drg-hr, Yakutat Area D with 523 lb/drg-hr, Yakutat District 16 with 515 lb/drg-hr, Northeast District of



the Kodiak Area with 473 lb/drg-hr, and the Bering Sea Area with 385 lb/drg-hr. Statewide, CPUE was 584 lb/drg-hr, similar to the 2003/04 and 2004/05 seasons (Table 5; Figure 6).

Retained scallop meats as reported on fish tickets totaled 525,357 lb. The Kodiak Area harvest of 239,931 lb was the highest in the state followed by the Yakutat Area harvest of 213,001 lb, Prince William Sound Area harvest of 49,205 lb and the Bering Sea Area harvest of 23,220 lb.

Scallop CPUE, expressed in pounds of shucked (retained) scallop meats per dredge-hour (lb meat/drg-hr) was highest in the Prince William Sound Area at 100 lb meat/drg-hr, an increase from 80 lb meat/drg-hr during the 2004/05 season. This was followed by 70 lb meat/drg-hr in the Shelikof District of the Kodiak Area, 45 lb meat/drg-hr in the Northeast District of the Kodiak Area, 39 lb meat/drg-hr in the Bering Sea Area and Yakutat Area D, and 34 lb meat/drg-hr in Yakutat District. Statewide CPUE was 49 meat lb/drg-hr.

### **Discarded Scallop Catch 2003/04 Season**

During the 2003/04 season, observers counted and weighed a total of 196,039 discarded scallops consisting of 143,248 intact scallops and 52,791 broken scallops (Table 6). Estimates for the 2003/04 season indicate that a combined total of 3.9 million intact and broken-shell scallops weighing 0.997 million pounds were discarded (Table 7). Intact discards numbered 2.9 million scallops with a weight of 0.675 million pounds and the broken discards numbered 1.0 million scallops with a weight of 0.322 million pounds. Of the total statewide scallop catch by round weight, 16% was discarded. Nearly 68% of the discarded scallops by weight were intact.

Further examination of estimated weights of discarded scallops indicates that 52% of the total discards by weight were from the Kodiak Area, 40% from the Yakutat Area, 5% from the Prince William Sound Area, and 3% from the Bering Sea Area.

Average weight of individual discarded scallops (intact and broken scallops combined) for the 2003/04 season ranged from 0.24 lb in Yakutat District 16 to 0.38 lb in the Bering Sea Area (Table 6). Statewide average weight for combined broken and intact shell discards was 0.26 lb.

Of the 19,816 measured intact discarded scallops, average SHs ranged from 100 mm in the Shelikof District of the Kodiak Area to 113 mm in the Bering Sea Area (Table 8). Scallops larger than 100-110 mm SH are typically retained in the commercial fishery.

### **Discarded Scallop Catch 2004/05 Season**

During the 2004/05 season, observers counted and weighed a total of 143,714 discarded scallops consisting of 94,619 intact scallops and 49,095 broken scallops (Table 6). This is a decrease from the 2003/04 season total of 196,039 scallops counted and weighed. Estimates for the 2004/05 season indicate that a combined total of 3.64 million intact and broken-shell scallops weighing 1.02 million pounds were discarded (Table 9). Intact discards numbered 2.56 million scallops with a weight of 0.671 million pounds and the broken discards numbered 1.09 million scallops with a weight of 0.351 million pounds. Of the total statewide scallop catch by round weight, 17% was discarded. By weight, 66% of the discarded scallops were intact.

Further examination of estimated weights of discarded scallops indicates that 68% of the total discards by weight were from the Kodiak Area, 23% from the Yakutat Area, 8% from the Prince William Sound Area, and <1% from the Bering Sea Area.

Average weight of individual discarded scallops (intact and broken scallops combined) for the 2004/05 season ranged from 0.26 lb in Yakutat Area D to 0.37 lb in the Bering Sea Area (Table 6). Statewide average weight for combined broken and intact shell discards was 0.28 lb.

Of the 19,119 measured intact discarded scallops, average SHs ranged from 104 mm in Yakutat Area D, to 112 mm in Yakutat District 16 (Table 10).

### **Discarded Scallop Catch 2005/06 Season**

Observers counted and weighed a total of 178,410 discarded scallops consisting of 86,731 intact scallops and 91,679 broken scallops during the 2005/06 season (Table 6). This is an increase from the 143,714 discarded scallops sampled in 2004/05, but less than the 196,039 discarded scallops sampled in the 2003/04 season. Estimates from the 2005/06 season indicate that a combined total of 3.3 million intact and broken-shell scallops weighing 0.896 million pounds were discarded (Table 11). Intact discards numbered 1.76 million scallops with a weight of 0.432 million pounds and the broken discards numbered 1.52 million scallops with a weight of 0.464 million pounds. Of the total statewide scallop catch by round weight, 13% was discarded. Of the discarded scallops by weight, 48% were intact.

Further examination of estimated weights of discarded scallops indicates that 48% of the total discards by weight were from the Yakutat Area, 43% from the Kodiak Area, 7% from the Prince William Sound Area, and 2% from the Bering Sea Area.

Average weight of individual discarded scallops (intact and broken scallops combined) for the 2005/06 season ranged from 0.25 lb in Yakutat District 16 to 0.47 lb in the Bering Sea Area (Table 6). Statewide average weight for combined broken and intact shell discards was 0.28 lb.

Of the 19,791 measured intact discarded scallops, average SHs ranged from 92 mm in the Prince William Sound Area to 117 mm in the Bering Sea Area (Table 12).

### **Retained Scallop Catch 2003/04–2005/06 Seasons**

During the 2003/04 season, observers measured over 20,000 scallops from the retained catch (Table 8). Average SH was 135 mm statewide and ranged from 121 mm in Yakutat District 16 to 148 mm in the Bering Sea.

Statistics for the 2004/05 season were similar to the 2003/04 season. Observers again measured over 20,000 scallops from the retained catch (Table 10). Average SH was 134 mm statewide and ranged from 120 mm in Yakutat District 16 to 146 mm in the Bering Sea.

In the 2005/06 season, observers measured nearly 26,000 scallops from the retained catch (Table 12). The average statewide SH was 131 mm, a 3 mm decrease from the 2004/05 season. Similar to the 2003/04 and 2004/05 seasons, the smallest average SH was in Yakutat District 16 and the largest in the Bering Sea. Shell height ranged from 119 mm in Yakutat District 16 to 154 mm in the Bering Sea.

### **Combined Retained and Discarded Scallop Catch 2003/04–2005/06 Seasons**

Estimated shell height distributions for retained and discarded scallops caught in each management area/district where at least 200 measurements were available are depicted in Figures 7-12. Alaska weathervane scallop vessels are required to use scallop dredges with rings having an inside diameter of four inches (102 mm) or larger. The top of the ring bag is constructed of six-inch twine mesh. So, scallops <102 mm SH are presumably captured with lower efficiency

than larger scallops. Typically, scallops <100 mm SH are discarded, but decisions to retain or discard scallops are made by the individual operators and their crews.

Observers measured over 20,000 retained scallops and nearly 20,000 discarded scallops during the 2003/04 season (Table 8). In the 2004/05 season observers measured approximately 20,000 retained scallops and 19,000 discarded scallops (Table 10). During the 2005/06 season, observers measured nearly 26,000 retained scallops and 20,000 discarded scallops (Table 12).

Histograms of Yakutat District 16 SH distributions show that a large proportion of the catch in the 2004/05 and 2005/06 seasons was comprised of scallops  $\leq 125$  mm SH (Figure 7). In the 2004/05 season, the average sized scallop retained in the commercial catch was 120 mm SH compared to 119 mm SH in the 2005/06 season. The majority of the commercial catch in the 2004/05 and 2005/06 seasons was comprised of scallops in a limited size range between 105 to 135 mm SH. A cohort of scallops from 98 to 107 mm SH indicates there was some recruitment to the harvested population. Yakutat Area D SH distributions, show that a large proportion of the commercial catch was comprised of scallops  $\leq 135$  mm SH (Figure 8). The average size of scallops retained in the commercial catch declined from 126 mm SH in the 2003/04 season to 123 mm SH in the 2005/06 season. Commercial catches of scallops during the 2003/04 through 2005/06 seasons suggest continued recruitment to the harvested population as indicated by scallops <110 mm SH.

Histograms of Prince William Sound SH distributions show that fewer scallops were discarded in this fishery during the 2004/05 and 2005/06 seasons than in the 2003/04 season (Figure 9). Retained catches over the three seasons were predominated by scallops  $\geq 118$  mm SH. During the 2003/04 and 2004/05 seasons, the majority of the commercial catch was between 115 to 145 mm SH. However, in the 2005/06 season, the SH distribution of the commercial catch showed a narrowing in the sizes with the majority of the catch ranging from 125 to 140 mm SH. The average scallop retained in the commercial catch during the 2005/06 season was 131 mm SH compared to 134 mm SH for the 2004/05 season and 129 mm SH for the 2003/04 season. In the 2003/04 season, there was modest recruitment to the harvested population as evidenced by scallops  $\leq 110$  mm SH; however, recruitment appears to have declined during the 2004/05 and 2005/06 seasons.

Estimated SH distributions in the Kodiak Area show a wider range of scallop sizes than were found in the Yakutat and Prince William Sound Areas. Shell height distributions from the Northeast District of the Kodiak Area during the 2003/04 - 2005/06 seasons show wide size distributions each year (Figure 10). There appears to be recruitment each year as evidenced by scallops <110 mm SH. Average SH in the retained commercial catch during the 2003/04 season was 145 mm SH compared to 144 mm SH in the 2004/05 season. In the 2005/06 season, the average size declined to 139 mm SH. In the Shelikof District of the Kodiak Area, a wide range of scallop sizes supports the commercial fishery, and substantial recruitment to the harvested population in the 2003/04 and 2004/05 seasons was evidenced by scallops  $\leq 110$  mm SH (Figure 11). However, during the 2005/06 season, the estimated proportion of scallops <115 mm SH decreased substantially. This decrease is likely a result of scallop growth combined with reduced recruitment.

Bering Sea SH histograms from the 2003/04 to 2005/06 seasons show that catch was comprised of large scallops >130 mm SH with few discards (Figure 12). Average shell-heights were 148 mm in the 2003/04 season, 146 mm for the 2004/05 season, and 154 mm for the 2005/06 season.

A small proportion of scallops <130 mm is evident each season, indicating minor annual recruitment to the harvestable population.

### **SCALLOP FISHERY BYCATCH 2003/04–2005/06 SEASONS**

Detailed rankings of the top twenty species or items by percent weight of the total catch from sampled dredges for each registration area or district fished during the 2003/04–2005/06 seasons are presented in Tables 13-18. Although a variety of marine vertebrates, invertebrates, and natural or man-made debris (e.g., plastics and derelict fishing gear) are caught incidentally in scallop dredges, weathervane scallops predominated catches. In the Prince William Sound Area, weathervane scallops comprised the largest percentage of the catch by weight of any registration area in Alaska, ranging from 92 to 94% during the 2003/04–2005/06 seasons. In contrast, weathervane scallops comprised between 61 and 69% of the catch by weight over the same time period in the Northeast District of the Kodiak Area. Sunflower sea stars *Pycnopodia helianthoides*, a predator of weathervane scallops, generally ranked as the second most frequently caught species, and was never lower than the sixth most frequently caught species in the Gulf of Alaska during the 2003/04–2005/06 seasons.

Summaries of the 36 most frequently caught species, species groups, or items, by percent weight of the total catch in sampled dredges during the 2003/04–2005/06 seasons for each registration area or district are presented in Tables 19 – 21. In addition to weathervane scallops, other species or groups of species or items are categorized as (1) prohibited species bycatch, (2) other commercial species, and (3) miscellaneous species or items. Although sunflower sea stars are commonly caught by scallop gear in the Gulf of Alaska, they did not appear in Bering Sea catches. Yakutat District 16 had the least species diversity of any area over the three fishing seasons, with an average of 17 species or species groups represented in the table annually.

### **Crab Bycatch Estimates 2003/04–2005/06 Seasons**

The highest bycatch of *Chionoecetes* crabs during the 2003/04–2005/06 seasons occurred in the Kodiak Area, averaging 56,726 crabs per season. Tanner crab bycatch estimates for the Kodiak Area were 58,805 crabs in 2003/04, 64,055 crabs in 2004/05, and 47,319 crabs in the 2005/06 season (Tables 22 – 24).

Estimated annual average bycatch of *Chionoecetes* crabs in the Bering Sea during the 2003/04–2005/06 seasons was 29,136 crabs, about half that of the Kodiak Area. Approximately 71% of the estimated *Chionoecetes* crabs were Tanner crab and 29% were snow and *C. bairdi* x *C. opilio* (hybrid) crabs.

Estimated bycatch of Tanner crabs in other areas was much lower than in the Kodiak and Bering Sea Areas. Bycatch estimates in the Prince William Sound Area varied widely with 8 crabs in 2003/04, 524 crabs in 2004/05, and 465 crabs in 2005/06. Tanner crab bycatch estimates for the Yakutat Area were 1,650 crabs in the 2003/04 season, 863 crabs in the 2004/05 season and 5,364 crabs in the 2005/06 season.

Dungeness crabs were recorded in the bycatch from Yakutat District 16, Yakutat Area D, Prince William Sound, and the Shelikof District of the Kodiak Area. Total estimated Dungeness bycatch by area for the combined 2003/04, 2004/05, and 2005/06 seasons was 8 crabs in Prince William Sound, 191 crabs in Yakutat District 16, 1,522 crabs in Yakutat Area D, and 3,818 crabs in the Shelikof District of the Kodiak Area

Few red king crabs *Paralithodes camtschaticus* were reported taken as bycatch by the scallop fleet. During the 2004/05 season, one red king crab was caught in the Northeast District of the Kodiak Area and one in the Shelikof District of the Kodiak Area. During the 2005/06 season, two red king crabs were caught in the Bering Sea. As a condition of registering to participate in the weathervane scallop fishery, the vessel operator must agree to show every king crab caught to the observer for sampling, so king crab bycatch data presented in reports are counts rather than estimates.

### **Chionoecetes Crab Bycatch Mortality 2003/04–2005/06 Seasons**

Observed on-deck mortality of *Chionoecetes* crabs recorded by observers during the 2003/04 season ranged from 0% for Tanner crabs in the Prince William Sound Area, to 72% for Bering Sea snow and hybrid crabs. During the 2004/05 season, mortality ranged from 34% for Bering Sea Tanner crabs to 76% for Bering Sea snow and hybrid crabs. In the 2005/06 season, observed mortality ranged from 30% for Tanner crabs in the Prince William Sound Area to 58% for Tanner crabs in the Kodiak Area (Table 25).

Statewide, on-deck mortality of Tanner crabs recorded by observers averaged 48% in 2003/04, 65% in 2004/05, and 54% in 2005/06.

Size of *Chionoecetes* crabs incidentally caught in scallop dredges was shown to affect mortality rates (Urban et al., 1994; Barnhart et al., 1996). Incidence of observed mortality varied with crab size in a roughly “U-shaped” trend, with the highest observed-mortality rates occurring in crabs less than 35 mm CW, and larger than 100 mm CW while the lowest rates occurred in the intermediate size range, 80 – 100 mm CW.

### **Size Distribution of Tanner and Snow/hybrid Crab Bycatch 2003/04–2005/06 Seasons**

Size frequency plots of Gulf of Alaska Tanner crab bycatch between the 2003/04 and 2005/06 seasons indicate crab bycatch was comprised predominately of small immature males <70 mm CW and females, both immature <60 mm CW, and mature >60 mm CW (Figures 13-17). Note that sample sizes were too small to plot Yakutat District 16 for the 2003/04 and 2004/05 seasons. There were few documented legal-sized ( $\geq 140$  mm CW) male Tanner crab in the bycatch. Size frequency plots of Tanner crabs in the eastern Gulf of Alaska (Yakutat District 16, Yakutat Area D, and the Prince William Sound Area) show few Tanner crabs >70 mm CW. However, that is not the case in the western Gulf of Alaska (Northeast and Shelikof Districts of the Kodiak Area) where Tanner crab >70 mm CW are well represented in the plots.

Plots of incidentally caught Tanner crabs during the 2003/04 and 2005/06 Bering Sea Area scallop seasons show that few crabs <50 mm CW were caught (Figure 18). However, in 2004/05 a strong mode of both male and female Tanner crabs around 30 mm CW appear in the plots. The 2003/04 and 2004/05 plots show commercially legal ( $\geq 140$  mm CW) male Tanner crabs that do not appear in the 2005/06 season plot. Mature female Tanner crabs  $\geq 80$  mm CW are well represented in the 2003/04 and 2004/05 seasons and to a lesser extent in the 2005/06 season.

Size frequency plots of snow and hybrid crabs incidentally caught in the Bering Sea Area show a discrepancy between male and female sample sizes, with males predominating the bycatch (Figure 19). The number of female crabs identified ranged from 14 to 26 individuals per season, while the number of males ranged from 428 to 1,883 individuals.

### **Tanner and Snow Crab Bycatch Relative to the Scallop Harvest 2003/04–2005/06 Seasons**

The bycatch rate of *Chionoecetes* crabs per pound of retained scallop meats (crab/lb meat) is reported in Tables 26–37. For the 2003/04–2005/06 seasons the rate was highest in the Bering Sea Area, ranging from 0.9 to 1.9 crab/lb meat. Bycatch rates for Yakutat District 16, Yakutat Area D, and the Prince William Sound Area were all <0.1 crab/lb meat. The crab bycatch rate in the Northeast District of the Kodiak Area ranged from 0.2 to 0.4 crab/lb meat over the three seasons while the rate in the Shelikof District of the Kodiak Area ranged from 0.1 to 0.2 crab/lb meat.

### **Pacific Halibut Bycatch Estimates and Release Conditions 2003/04–2005/06 Seasons**

Estimated Pacific halibut bycatch in the 2003/04 season totaled 1,160 halibut and ranged from 2 in the Prince William Sound Area to 574 in the Shelikof District of the Kodiak Area (Table 3). Of 136 halibut in sampled tows, 22 (16%) were released in excellent condition, 39 (29%) were released in good condition, 24 (18%) were released in fair condition, 20 (15%) were released in poor condition, 22 (16%) were released dead, 6 (4%) were previously dead when caught (obviously not killed in the current haul) and 3 (2%) were not examined (Table 38).

Estimated Pacific halibut bycatch during the 2004/05 season totaled 1,135 halibut, ranging from 0 in the Bering Sea Area to 579 in the Shelikof District of the Kodiak Area (Table 4). Of 147 halibut in sampled tows, 22 (15%) were released in excellent condition, 54 (37%) were released in good condition, 19 (13%) were released in fair condition, 13 (9%) were released in poor condition, 33 (22%) were released dead, 4 (3%) were previously dead when caught (obviously not killed in the current haul) and 2 (1%) were not examined.

Estimated Pacific halibut bycatch during the 2005/06 season totaled 991 halibut and ranged from 0 in Yakutat District 16 to 518 in Yakutat Area D (Table 5). Of 128 halibut in sampled tows, 22 (17%) were released in excellent condition, 40 (31%) were released in good condition, 20 (16%) were released in fair condition, 17 (13%) were released in poor condition, 25 (19%) were released dead, 2 (2%) were previously dead when caught (obviously not killed in the current haul) and 2 (2%) were not examined.

## **SUMMARY TABLES**

Statewide commercial fishery statistics and observer data from the 1993 through the 2005/06 seasons are summarized in Tables 26–37 for all scallop registration areas and districts. The tables include season dates, effort levels, crab bycatch limits, crab and halibut bycatch estimates, scallop harvest, estimated number and weight of the discarded scallop catch, average size of the retained scallop catch, and observed Tanner crab mortality.

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## **TABLES AND FIGURES**

**Table 1.**—Distance towed and bottom area dredged, 2003/04-2005/06 weathervane scallop fishing seasons.

Registration Area	2003/04		2004/05		2005/06	
	Tow Miles <sup>a</sup>	Area Dredged <sup>b</sup>	Tow Miles <sup>a</sup>	Area Dredged <sup>b</sup>	Tow Miles <sup>a</sup>	Area Dredged <sup>b</sup>
Yakutat						
District 16	52	0.2	525	2.6	983	4.8
Area D	8,239	40.0	5,662	28.0	12,359	61.0
<b>Yakutat Area Total</b>	8,291	40.2	6,187	30.6	13,342	65.8
Prince William Sound	519	2.6	1,491	7.3	1,827	2.9
Kodiak						
Northeast District	3,117	15.0	3,041	15.0	4,744	20.0
Shelikof District	7,954	39.0	8,535	42.0	5,558	27.0
Semidi Island District	No Fishing		No Fishing		No Fishing	
<b>Kodiak Area Total</b>	11,071	54.0	11,576	57.0	10,302	47.0
Alaska Peninsula	No Fishing		No Fishing		No Fishing	
Bering Sea	4,965	24.0	662	3.3	1,497	7.4
Dutch Harbor	Season Closed		Season Closed		Season Closed	
<b>Statewide Total</b>	24,846	120.8	19,916	98.2	26,968	123.1

<sup>a</sup> Total distance towed in nautical miles (nmi).

<sup>b</sup> Maximum area dredged in square nautical miles (nmi<sup>2</sup>) if each tow was spatially separate from all others.

**Table 2.**—Minimum, maximum, and average depth fished, 2003/04-2005/06 weathervane scallop fishing seasons.

Registration Area	2003/04			2004/05			2005/06		
	Depth (fathoms)			Depth (fathoms)			Depth (fathoms)		
	Minimum	Maximum	Average	Minimum	Maximum	Average	Minimum	Maximum	Average
Yakutat									
District 16	32	39	36	30	42	34	31	42	37
Area D	30	59	39	30	58	37	26	75	40
<b>Yakutat Area Average</b>	30	59	38	30	58	37	26	75	40
Prince William Sound	34	40	38	31	65	39	29	55	49
Kodiak									
Northeast District	40	80	48	40	74	50	37	76	51
Shelikof District	31	76	50	25	75	50	32	78	54
Semidi Island District	No Fishing			No Fishing			No Fishing		
<b>Kodiak Area Average</b>	31	80	49	25	75	50	32	78	53
Alaska Peninsula	No Fishing			No Fishing			No Fishing		
Bering Sea	50	58	52	49	53	52	37	61	54
Dutch Harbor	Season Closed			Season Closed			Season Closed		
<b>Statewide Total</b>	30	80	45	25	75	45	26	78	46

**Table 3.**—Summary of commercial fishery statistics and scallop observer data from the 2003/04 weathervane scallop fishing season.

Registration Area	Season Dates <sup>a</sup>	Number of Vessels <sup>b</sup>	Number of Days Fishing Observed <sup>c</sup>	Dredge Hours <sup>d</sup>	lb of Retained Scallops <sup>e</sup> (Round lb)	CPUE <sup>f</sup>	lb of Retained Scallop Meats	CPUE <sup>g</sup>	Estimated Bycatch		% Scallops (by weight) in Samples <sup>h</sup>	Number of Tanners per lb of Retained Scallop Meats
									Tanner	Halibut		
Yakutat												
District 16	July 1-Feb 15	2	1	20	16,780	839	1,072	54	0	10	92	0.00
Area D	July 1-Feb 15	2	85	3,358	1,939,004	577	160,918	48	1,650	316	83	0.01
<b>Yakutat Area Total</b>		2	86	3,378	1,955,784	579	161,990	48	1,650	326	83	0.01
Prince William Sound	July 1-Jan 24	1	13	216	261,720	1,212	19,980	93	8	2	92	<0.01
Kodiak												
Northeast District	July 1-Nov 15	2	40	1,248	747,517	599	79,965	64	18,230	197	61	0.23
Shelikof District	July 1-Jan 13	2	88	3,258	1,724,498	529	180,011	55	40,575	574	80	0.23
Semidi Isl. District	July 1-Feb 15						No Fishing					
<b>Kodiak Area Total</b>		2	128	4,506	2,472,015	549	259,976	58	58,805	771	73	0.23
Alaska Peninsula	July 1-Feb 15						No Fishing					
Bering Sea	July 1-July 15	2	26	1,020	537,552	527	42,590	42	47,522 <sup>i</sup>	61	72	1.12
Dutch Harbor	Season Closed											
<b>Statewide Total</b> (excluding Cook Inlet)	July 1-Feb 15	2	252	9,120	5,227,071	573	484,536	53	107,985	1,160	78	0.22

<sup>a</sup> The regulatory season date is July 1-February 15 unless closed by emergency order.

<sup>b</sup> Vessel operators voluntarily released their confidential data.

<sup>c</sup> An observed day is a day with at least one sampled tow. Fishing may occur in several areas or districts within a registration area on the same day.

<sup>d</sup> Dredge hour = one dredge towed for 60 minutes.

<sup>e</sup> Vessel operator estimates.

<sup>f</sup> CPUE = lb (round weight) of retained scallops per dredge-hour.

<sup>g</sup> CPUE = lb of retained (shucked) scallop meats per dredge-hour.

<sup>h</sup> From direct haul composition samples only, not estimated.

<sup>i</sup> Includes 31,316 Tanner and 16,206 snow/*C. bairdi* x *C. opilio* (hybrid) crabs.

**Table 4.**—Summary of commercial fishery statistics and scallop observer data from the 2004/05 weathervane scallop fishing season.

Registration Area	Season Dates <sup>a</sup>	Number of Vessels <sup>b</sup>	Number of Days Fishing Observed <sup>c</sup>	Dredge Hours <sup>d</sup>	lb of Retained Scallops <sup>e</sup> (Round lb)	CPUE <sup>f</sup>	lb of Retained Scallop Meats	CPUE <sup>g</sup>	Estimated Bycatch		% Scallops (by weight) in Samples <sup>h</sup>	Number of Tanners per lb of Retained Scallop Meats
									Tanner	Halibut		
Yakutat												
District 16	July 1-Feb 15	2	18	418	326,228	780	24,430	58	0	110	77	0.00
Area D	July 1-Feb 15	2	74	2,134	1,262,499	592	86,950	41	863	247	75	0.01
<b>Yakutat Area Total</b>	July 1-Feb 15	2	78	2,552	1,588,727	623	111,380	44	863	357	75	0.01
Prince William Sound	July 1-Feb 15	2	26	614	704,617	1,148	49,320	80	524	90	91	0.01
Kodiak												
Northeast District	July 1-Aug 10	2	42	1,227	848,527	692	80,105	65	30,717	109	69	0.38
Shelikof District	July 1-Dec 9	2	96	3,467	1,641,608	473	174,622	50	33,338	579	74	0.19
Semidi Isl. District	July 1-Feb 15						No Fishing					
<b>Kodiak Area Total</b>	July 1-Feb 15	2	138	4,694	2,490,135	530	254,727	54	64,055	688	72	0.25
Alaska Peninsula	July 1-Feb 15						No Fishing					
Bering Sea	July 1-Feb 15	1	7	275	129,220	470	10,050	37	19,146 <sup>i</sup>	0	67	1.91
Dutch Harbor	Season Closed											
<b>Statewide Total</b> (excluding Cook Inlet)	July 1-Feb 15	2	249	8,135	4,912,699	604	425,477	52	84,588	1,135	76	0.20

<sup>a</sup> The regulatory season date is July 1 - February 15 unless closed by emergency order.

<sup>b</sup> Vessel operators voluntarily released their confidential data.

<sup>c</sup> An observed day is a day with at least one sampled tow. Fishing may occur in several areas or districts within a registration area on the same day.

<sup>d</sup> Dredge hour = one dredge towed for 60 minutes.

<sup>e</sup> Vessel operator estimates.

<sup>f</sup> CPUE = lb (round weight) of retained scallops per dredge-hour.

<sup>g</sup> CPUE = lb of retained (shucked) scallop meats per dredge-hour.

<sup>h</sup> From direct haul composition samples only, not estimated.

<sup>i</sup> Includes 15,303 Tanner and 3,843 snow/*C. bairdi* x *C. opilio* (hybrid) crabs.

**Table 5.**—Summary of commercial fishery statistics and scallop observer data from the 2005/06 weathervane scallop fishing season.

Registration Area	Season Dates <sup>a</sup>	Number of Vessels <sup>b</sup>	Number of Days Fishing Observed <sup>c</sup>	Dredge Hours <sup>d</sup>	lb of Retained Scallops <sup>e</sup> (Round lb)	CPUE <sup>f</sup>	lb of Retained Scallop Meats	CPUE <sup>g</sup>	Estimated Bycatch		% Scallops (by weight) in Samples <sup>h</sup>	Number of Tanners per lb of Retained Scallop Meats
									Tanner	Halibut		
Yakutat												
District 16	July 1-Feb 15	2	15	407	209,487	515	13,650	34	175	0	83	0.01
Area D	July 1-Jan 25	2	137	5,089	2,662,031	523	199,351	39	5,189	518	83	0.03
<b>Yakutat Area Total</b>	July 1-Feb 15	2	147	5,496	2,871,518	522	213,001	39	5,364	518	83	0.03
Prince William Sound	July 1-Aug 22	3	51	491	818,741	1,667	49,205	100	465	32	94	0.01
Kodiak												
Northeast District	July 1-Jan 17	3	53	1,759	831,378	473	79,990	45	29,264	211	65	0.37
Shelikof District	July 1-Dec 11	2	65	2,280	1,454,806	638	159,941	70	18,055	177	81	0.11
Semidi Isl. District	July 1-Feb 15						No Fishing					
<b>Kodiak Area Total</b>	July 1-Feb 15	3	118	4,039	2,286,184	566	239,931	59	47,319	388	74	0.20
Alaska Peninsula	July 1-Feb 15						No Fishing					
Bering Sea	July 1-Feb 15	1	18	602	231,700	385	23,220	39	20,770 <sup>i</sup>	53	72	0.89
Dutch Harbor	Season Closed											
<b>Statewide Total</b> (excluding Cook Inlet)	July 1-Feb 15	4	334	10,628	6,208,143	584	525,357	49	73,918	991	82	0.14

<sup>a</sup> The regulatory season date is July 1 - February 15 unless closed by emergency order.

<sup>b</sup> Vessel operators voluntarily released their confidential data.

<sup>c</sup> An observed day is a day with at least one sampled tow. Fishing may occur in several areas or districts within a registration area on the same day.

<sup>d</sup> Dredge hour = one dredge towed for 60 minutes.

<sup>e</sup> Vessel operator estimates.

<sup>f</sup> CPUE = lb (round weight) of retained scallops per dredge-hour.

<sup>g</sup> CPUE = lb of retained (shucked) scallop meats per dredge-hour.

<sup>h</sup> From direct haul composition samples only, not estimated.

<sup>i</sup> Includes 15,529 Tanner and 5,211 snow/ *C. bairdi* x *C. opilio* (hybrid) crabs.

**Table 6.**—Number and weight (lb) of discarded scallops sampled by observers, 2003/04–2005/06 weathervane scallop fishing seasons.

Registration Area	Season	Number Sampled		Weight of Sample (lb)		Average Weight		Overall
		Intact	Broken	Intact	Broken	Intact	Broken	
Yakutat								
District 16	2003/04	26	234	6	57	0.23	0.24	0.24
	2004/05	696	3,521	194	1,107	0.28	0.31	0.31
	2005/06	2,318	4,455	581	1,121	0.25	0.25	0.25
Area D	2003/04	57,142	21,919	12,758	6,167	0.22	0.28	0.24
	2004/05	21,699	19,268	4,924	5,852	0.23	0.30	0.26
	2005/06	35,236	53,478	7,903	15,282	0.22	0.29	0.26
<b>Yakutat Area Total</b>	2003/04	57,168	22,153	12,764	6,224	0.22	0.28	0.24
	2004/05	22,395	22,789	5,118	6,959	0.23	0.31	0.27
	2005/06	37,554	57,933	8,484	16,403	0.23	0.28	0.26
Prince William Sound	2003/04	744	2,225	297	936	0.40	0.42	0.42
	2004/05	5,101	5,509	1,532	1,995	0.30	0.36	0.33
	2005/06	669	10,366	209	3,904	0.31	0.38	0.37
Kodiak								
Northeast District	2003/04	11,620	9,695	2,972	3,698	0.26	0.38	0.31
	2004/05	15,806	6,876	4,150	2,350	0.26	0.34	0.29
	2005/06	15,143	10,383	4,253	3,553	0.28	0.34	0.31
Shelikof District	2003/04	67,720	13,171	15,495	4,366	0.23	0.33	0.25
	2004/05	50,678	12,752	13,361	4,579	0.26	0.36	0.28
	2005/06	31,342	10,795	7,128	3,703	0.23	0.34	0.26
Semidi Isl. District	2003/04			No Effort				
	2004/05			No Effort				
	2005/06			No Effort				
<b>Kodiak Area Total</b>	2003/04	79,340	22,866	18,467	8,064	0.23	0.35	0.26
	2004/05	66,484	19,628	17,511	6,929	0.26	0.35	0.28
	2005/06	46,485	21,178	11,381	7,256	0.24	0.34	0.28
Alaska Peninsula	2003/04			No Effort				
	2004/05			No Effort				
	2005/06			No Effort				

-continued-

**Table 6.**–Page 2 of 2.

Registration Area	Season	<u>Number Sampled</u>		<u>Weight of Sample (lb)</u>		<u>Average Weight</u>		
		Intact	Broken	Intact	Broken	Intact	Broken	Overall
Bering Sea	2003/04	5,996	5,547	1,906	2,448	0.32	0.44	0.38
	2004/05	639	1,169	213	463	0.33	0.40	0.37
	2005/06	2,023	2,202	811	1,172	0.40	0.53	0.47
Dutch Harbor	2003/04			Season Closed				
	2004/05			Season Closed				
	2005/06			Season Closed				
<b>Statewide Total</b>	2003/04	143,248	52,791	33,434	17,672	0.23	0.33	0.26
	2004/05	94,619	49,095	24,374	16,346	0.26	0.33	0.28
	2005/06	86,731	91,679	20,885	28,735	0.24	0.31	0.28



**Table 7.**—Estimated number and weight of discarded intact and broken scallops during the 2003/04 weathervane scallop fishing season.

Registration Area	Intact Number		Intact Weight <sup>a</sup>		Broken Number		Broken Weight <sup>a</sup>		Total Number	Total Weight <sup>a</sup>
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI		
Yakutat										
District 16	516	58 - 1,057	116	19 - 230	4,312	1,115 - 7,867	1,020	327 - 1,617	4,828	1,136
Area D	1,224,049	1,111,770 - 1,335,334	272,151	246,367 - 294,550	451,768	405,475 - 508,682	125,353	112,717 - 141,623	1,675,817	397,504
<b>Yakutat Area Total</b>	<b>1,224,565</b>	<b>1,111,828 - 1,336,391</b>	<b>272,267</b>	<b>246,386 - 294,780</b>	<b>456,080</b>	<b>406,590 - 516,549</b>	<b>126,373</b>	<b>113,044 - 143,240</b>	<b>1,680,645</b>	<b>398,640</b>
Prince William Sound	22,578	17,835 - 28,878	9,262	7,454 - 11,869	100,453	76,566 - 173,379	40,701	32,597 - 67,472	123,031	49,963
Kodiak										
Northeast District	217,377	167,767 - 245,928	58,141	44,970 - 64,899	147,171	126,064 - 168,334	54,882	46,175 - 63,451	364,548	113,023
Shelikof District	1,400,563	1,295,551 - 1,517,663	320,336	296,697 - 348,032	253,923	231,853 - 276,767	80,610	73,870 - 87,778	1,654,486	400,946
<b>Kodiak Area Total</b>	<b>1,617,940</b>	<b>1,463,318 - 1,763,591</b>	<b>378,477</b>	<b>341,667 - 412,931</b>	<b>401,094</b>	<b>357,917 - 445,101</b>	<b>135,492</b>	<b>120,045 - 151,229</b>	<b>2,019,034</b>	<b>513,969</b>
Bering Sea	48,497	41,863 - 55,996	15,178	13,136 - 17,458	44,199	38,706 - 50,593	19,424	16,874 - 21,885	92,696	34,602
Dutch Harbor					Season Closed					
<b>Statewide Total</b>	<b>2,913,580</b>	<b>2,634,844 - 3,184,856</b>	<b>675,184</b>	<b>608,643 - 737,038</b>	<b>1,001,826</b>	<b>879,779 - 1,185,622</b>	<b>321,990</b>	<b>282,560 - 383,826</b>	<b>3,915,406</b>	<b>997,174</b>

<sup>a</sup> Weight in pounds (lb) of unshucked scallops.

**Table 8.**—Mean shell height from observer-sampled retained and intact discarded scallop catch during the 2003/04 weathervane scallop fishing season.

Registration Area	Retained Sample		Intact Discarded Sample	
	Number Measured	Mean Shell Height (mm)	Number Measured	Mean Shell Height (mm)
Yakutat				
District 16	40	121	23	108
Area D	6,961	126	6,942	101
<b>Yakutat Area Total</b>	<b>7,001</b>		<b>6,965</b>	
Prince William Sound	460	129	377	108
Kodiak				
Northeast District	3,026	145	2,869	107
Shelikof District	7,627	135	7,533	100
Semidi Island District	No Fishing			
<b>Kodiak Area Total</b>	<b>10,653</b>		<b>10,402</b>	
Alaska Peninsula	No Fishing			
Bering Sea	2,481	148	2,072	113
Dutch Harbor	Season Closed			
Statewide	20,595	135	19,816	103

**Table 9.**—Estimated number and weight of discarded intact and broken scallops during the 2004/05 weathervane scallop fishing season.

Registration Area	Intact Number		Intact Weight <sup>a</sup>		Broken Number		Broken Weight <sup>a</sup>		Total Number	Total Weight <sup>a</sup>
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI		
Yakutat										
District 16	12,588	6,095 - 24,295	3,312	1,761 - 6,293	60,090	37,678 - 83,566	17,229	12,354 - 21,929	72,678	20,541
Area D	447,261	393,071 - 537,272	103,888	93,396 - 122,094	384,637	339,008 - 456,108	113,381	101,454 - 133,266	831,898	217,269
<b>Yakutat Area Total</b>	459,849	339,166 - 561,567	107,200	95,157 - 128,387	444,727	376,686 - 539,674	130,610	113,808 - 155,195	904,576	237,810
Prince William Sound	131,457	96,630 - 169,658	38,950	29,806 - 49,804	122,030	100,939 - 144,087	43,844	36,429 - 52,316	253,487	82,794
Kodiak										
Northeast District	669,053	540,333 - 820,908	180,451	148,230 - 219,632	240,526	201,301 - 291,422	81,061	67,736 - 96,347	909,579	261,512
Shelikof District	1,291,397	1,172,815 - 1,404,275	342,549	309,695 - 374,222	272,297	245,589 - 295,011	92,258	83,706 - 101,320	1,563,694	434,807
<b>Kodiak Area Total</b>	1,960,450	1,713,148 - 2,225,183	523,000	457,925 - 593,854	512,823	446,890 - 586,433	173,319	151,442 - 197,667	2,473,273	696,319
Bering Sea	5,364	3,914 - 6,695	1,792	1,273 - 2,259	9,712	7,710 - 12,010	3,830	3,019 - 4,697	15,076	5,622
Dutch Harbor					Season Closed					
<b>Statewide Total</b>	2,557,120	2,212,858 - 2,963,103	670,942	584,161 - 774,304	1,089,292	932,225 - 1,282,204	351,603	304,698 - 409,875	3,646,412	1,022,545

<sup>a</sup> Weight in pounds (lb) of unshucked scallops.

**Table 10.**—Mean shell height from observer-sampled retained and intact discarded scallop catch during the 2004/05 weathervane scallop fishing season.

Registration Area	Retained Sample		Intact Discarded Sample	
	Number Measured	Mean Shell Height (mm)	Number Measured	Mean Shell Height (mm)
Yakutat				
District 16	603	120	475	112
Area D	5,646	124	5,539	104
<b>Yakutat Area Total</b>	<b>6,249</b>		<b>6,014</b>	
Prince William Sound	1,680	134	1,519	111
Kodiak				
Northeast District	3,180	144	3,007	110
Shelikof District	8,370	137	8,147	107
Semidi Island District	No Fishing			
<b>Kodiak Area Total</b>	<b>11,550</b>		<b>11,154</b>	
Alaska Peninsula	No Fishing			
Bering Sea	633	146	432	110
Dutch Harbor	Season Closed			
Statewide	20,112	134	19,119	107

**Table 11.**—Estimated number and weight of discarded intact and broken scallops during the 2005/06 weathervane scallop fishing season.

Registration Area	Intact Number		Intact Weight <sup>a</sup>		Broken Number		Broken Weight <sup>a</sup>		Total Number	Total Weight <sup>a</sup>
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI		
Yakutat										
District 16	34,528	19,593 - 76,241	9,054	5,205 - 20,254	59,360	36,087 - 99,528	15,331	8,962 - 25,644	93,888	24,385
Area D	761,094	636,368 - 924,288	167,801	141,203 - 202,940	872,867	800,136 - 978,708	239,640	216,914 - 265,326	1,633,961	407,441
<b>Yakutat Area Total</b>	795,622	655,961 - 1,000,529	176,855	146,408 - 223,194	932,227	836,223 - 1,078,236	254,971	225,876 - 290,970	1,727,849	431,826
Prince William Sound	6,970	5,327 - 9,266	1,822	1,366 - 2,558	164,932	139,750 - 188,608	62,270	52,772 - 70,304	171,902	64,092
Kodiak										
Northeast District	453,976	374,909 - 538,555	128,429	105,678 - 151,911	262,172	215,099 - 300,377	88,926	73,766 - 100,312	716,148	217,355
Shelikof District	485,323	426,821 - 562,780	117,691	104,473 - 137,070	136,691	122,133 - 155,846	47,209	42,105 - 54,257	622,014	164,900
<b>Kodiak Area Total</b>	939,299	801,730 - 1,101,335	246,120	210,151 - 288,981	398,863	337,232 - 456,223	136,135	115,871 - 154,569	1,338,162	382,255
Bering Sea	17,964	14,466 - 22,643	7,201	5,841 - 9,050	19,146	15,951 - 23,148	10,181	8,199 - 12,422	37,110	17,382
Dutch Harbor					Season Closed					
<b>Statewide Total</b>	1,759,855	1,477,484 - 2,133,773	431,998	363,766 - 523,783	1,515,168	1,329,156 - 1,746,215	463,557	402,718 - 528,265	3,275,023	895,555

<sup>a</sup> Weight in pounds (lb) of unshucked scallops.

**Table 12.**—Mean shell height from observer-sampled retained and intact discarded scallop catch during the 2005/06 weathervane scallop fishing season.

Registration Area	Retained Sample		Intact Discarded Sample	
	Number Measured	Mean Shell Height (mm)	Number Measured	Mean Shell Height (mm)
Yakutat				
District 16	840	119	674	104
Area D	11,148	123	9,190	100
<b>Yakutat Area Total</b>	<b>11,988</b>		<b>9,864</b>	
Prince William Sound	3,499	131	542	92
Kodiak				
Northeast District	3,668	139	3,405	109
Shelikof District	5,183	136	4,922	100
Semidi Island District	No Fishing			
<b>Kodiak Area Total</b>	<b>8,851</b>		<b>8,327</b>	
Alaska Peninsula	No Fishing			
Bering Sea	1,491	154	1,058	117
Dutch Harbor	Season Closed			
Statewide	25,829	131	19,791	102

**Table 13.**—Twenty most frequently caught species by percent weight of total catch as recorded by scallop observers during the 2003/04-2005/06 Yakutat, District 16 weathervane scallop fishing seasons.

2003/04			
Rank	Species	Scientific Name	Total Catch
1	weathervane scallop	<i>Patinopecten caurinus</i>	91.57%
2	sunflower sea star	<i>Pycnopodia helianthoides</i>	1.83%
3	sand sea star	<i>Luidia foliolata</i>	1.55%
4	English sole	<i>Parophrys vetulus</i>	1.11%
5	weathervane scallop shell	<i>P. caurinus</i>	1.05%
6	debris - natural	NA	0.78%
7	big skate	<i>Raja binoculata</i>	0.72%
8	wolf-eel	<i>Anarrhichthys ocellatus</i>	0.44%
9	big skate egg case	<i>R. binoculata</i>	0.11%
10	Pacific sanddab	<i>Citharichthys sordidus</i>	0.06%
11	rex sole	<i>Glyptocephalus zachirus</i>	0.06%
12	Atka mackerel	<i>Pleurogrammus monopterygius</i>	0.06%
13	snake prickleback	<i>Lumpenus sagitta</i>	0.06%
14	Tanner crab	<i>Chionoecetes bairdi</i>	0.06%
15	Alaska hermit crab	<i>Pagurus ochotensis</i>	0.06%
16	sea anemone, unidentified	Order Actinaria	0.06%
17	sea mouse, unidentified	Family Aphroditidae	0.06%
18	longnose skate egg case	<i>Raja rhina</i>	0.06%
19	scarlet sea star	<i>Pseudarchaster parelii</i>	0.06%
20	arrowtooth flounder	<i>Atheresthes stomias</i>	0.06%

2004/05			
Rank	Species	Scientific Name	Total Catch
1	weathervane scallop	<i>Patinopecten caurinus</i>	76.93%
2	sunflower sea star	<i>Pycnopodia helianthoides</i>	5.69%
3	big skate	<i>Raja binoculata</i>	4.71%
4	sand sea star	<i>Luidia foliolata</i>	4.51%
5	weathervane scallop shell	<i>P. caurinus</i>	4.19%
6	butter sole	<i>Isopsetta isolepis</i>	0.66%
7	Pacific halibut	<i>Hippoglossus stenolepis</i>	0.66%
8	longnose skate	<i>Raja rhina</i>	0.53%
9	debris - natural	NA	0.35%
10	Pacific cod	<i>Gadus macrocephalus</i>	0.29%
11	arrowtooth flounder	<i>Atheresthes stomias</i>	0.24%
12	lingcod	<i>Ophiodon elongatus</i>	0.23%
13	English sole	<i>Parophrys vetulus</i>	0.18%
14	big skate egg case	<i>R. binoculata</i>	0.16%
15	starry flounder	<i>Platichthys stellatus</i>	0.13%
16	Pacific sanddab	<i>Citharichthys sordidus</i>	0.09%
17	sea anemone, unidentified	Order Actinaria	0.08%
18	hermit crab, unidentified	Family Paguridae	0.06%
19	debris - plastics	NA	0.06%
20	vermilion sea star	<i>Mediaster aequalis</i>	0.05%

-continued-

**Table 13.**–Page 2 of 2.

2005/06			
Rank	Species	Scientific Name	Total Catch
1	weathervane scallop	<i>Patinopecten caurinus</i>	82.79%
2	weathervane scallop shell	<i>P. caurinus</i>	4.09%
3	sunflower sea star	<i>Pycnopodia helianthoides</i>	3.94%
4	big skate	<i>Raja binoculata</i>	2.13%
5	big skate egg case	<i>R. binoculata</i>	1.98%
6	sand sea star	<i>Luidia foliolata</i>	1.38%
7	debris - natural	NA	1.27%
8	arrowtooth flounder	<i>Atheresthes stomias</i>	0.36%
9	longnose skate	<i>Raja rhina</i>	0.31%
10	English sole	<i>Parophrys vetulus</i>	0.28%
11	spiny dogfish	<i>Squalus acanthias</i>	0.28%
12	flathead sole	<i>Hippoglossoides elassodon</i>	0.27%
13	Pacific halibut	<i>Hippoglossus stenolepis</i>	0.14%
14	rock sole, unidentified	<i>Lepidopsetta</i> sp.	0.13%
15	notched brittle star	<i>Ophiura sarsi</i>	0.09%
16	Pacific cod	<i>Gadus macrocephalus</i>	0.06%
17	sea pen/sea whip, unidentified	<i>Halipteris</i> sp.	0.06%
18	sea anemone, unidentified	Order Actinaria	0.05%
19	vermilion sea star	<i>Mediaster aequalis</i>	0.04%
20	Dover sole	<i>Microstomus pacificus</i>	0.04%



**Table 14.**—Twenty most frequently caught species by percent weight of total catch as recorded by scallop observers during the 2003/04-2005/06 Yakutat, Area D weathervane scallop fishing seasons.

2003/04			
Rank	Species	Scientific Name	Total Catch
1	weathervane scallop	<i>Patinopecten caurinus</i>	83.12%
2	sunflower sea star	<i>Pycnopodia helianthoides</i>	4.38%
3	weathervane scallop shell	<i>P. caurinus</i>	3.62%
4	debris - natural	NA	2.14%
5	big skate	<i>Raja binoculata</i>	1.59%
6	sand sea star	<i>Luidia foliolata</i>	0.63%
7	big skate egg case	<i>R. binoculata</i>	0.59%
8	majestic sea star	<i>Pedicellaster magister</i>	0.57%
9	sea anemone, unidentified	Order Actinaria	0.33%
10	longnose skate	<i>Raja rhina</i>	0.30%
11	English sole	<i>Parophrys vetulus</i>	0.29%
12	notched brittle star	<i>Ophiura sarsi</i>	0.26%
13	spiny dogfish	<i>Squalus acanthias</i>	0.25%
14	Bathyraja skate, unidentified	<i>Bathyraja</i> sp.	0.21%
15	butter sole	<i>Isopsetta isolepis</i>	0.15%
16	arrowtooth flounder	<i>Atheresthes stomias</i>	0.12%
17	octopus, unidentified	Family Octopodidae	0.11%
18	rex sole	<i>Glyptocephalus zachirus</i>	0.11%
19	sea whip, unidentified	Family Virgularidae	0.11%
20	Pacific halibut	<i>Hippoglossus stenolepis</i>	0.09%

2004/05			
Rank	Species	Scientific Name	Total Catch
1	weathervane scallop	<i>Patinopecten caurinus</i>	75.03%
2	weathervane scallop shell	<i>P. caurinus</i>	5.14%
3	debris - natural	NA	4.94%
4	sunflower sea star	<i>Pycnopodia helianthoides</i>	4.48%
5	sand sea star	<i>Luidia foliolata</i>	2.30%
6	big skate	<i>Raja binoculata</i>	2.30%
7	big skate egg case	<i>R. binoculata</i>	2.10%
8	lingcod	<i>Ophiodon elongatus</i>	0.40%
9	longnose skate	<i>Raja rhina</i>	0.36%
10	Evasterias sea star, unidentified	<i>Evasterias</i> sp.	0.34%
11	notched brittle star	<i>Ophiura sarsi</i>	0.33%
12	sea anemone, unidentified	Order Actinaria	0.23%
13	spiny dogfish	<i>Squalus acanthias</i>	0.23%
14	Bathyraja skate, unidentified	<i>Bathyraja</i> sp.	0.23%
15	butter sole	<i>Isopsetta isolepis</i>	0.15%
16	Pacific halibut	<i>Hippoglossus stenolepis</i>	0.12%
17	English sole	<i>Parophrys vetulus</i>	0.12%
18	starry flounder	<i>Platichthys stellatus</i>	0.10%
19	arrowtooth flounder	<i>Atheresthes stomias</i>	0.09%
20	Pacific cod	<i>Gadus macrocephalus</i>	0.07%

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**Table 14.**–Page 2 of 2.

2005/06			
Rank	Species	Scientific Name	Total Catch
1	weathervane scallop	<i>Patinopecten caurinus</i>	83.07%
2	weathervane scallop shell	<i>P. caurinus</i>	4.10%
3	sunflower sea star	<i>Pycnopodia helianthoides</i>	3.40%
4	big skate	<i>Raja binoculata</i>	2.06%
5	debris - natural	NA	1.82%
6	sand sea star	<i>Luidia foliolata</i>	1.18%
7	notched brittle star	<i>Ophiura sarsi</i>	0.55%
8	spiny dogfish	<i>Squalus acanthias</i>	0.39%
9	lingcod	<i>Ophiodon elongatus</i>	0.38%
10	longnose skate	<i>Raja rhina</i>	0.37%
11	English sole	<i>Parophrys vetulus</i>	0.30%
12	arrowtooth flounder	<i>Atheresthes stomias</i>	0.30%
13	sea pen/sea whip, unidentified	<i>Halipteris</i> sp.	0.28%
14	sea anemone, unidentified	Order Actinaria	0.19%
15	Bering skate	<i>Bathyraja interrupta</i>	0.17%
16	sea mouse	<i>Aphrodita negligens</i>	0.12%
17	big skate egg case	<i>R. binoculata</i>	0.11%
18	Tanner crab	<i>Chionoecetes bairdi</i>	0.08%
19	longnose skate egg case	<i>R. rhina</i>	0.07%
20	Pacific halibut	<i>Hippoglossus stenolepis</i>	0.07%

**Table 15.**—Twenty most frequently caught species by percent weight of total catch as recorded by scallop observers during the 2003/04-2005/06 Prince William Sound Registration Area weathervane scallop fishing seasons.

2003/04			
Rank	Species	Scientific Name	Total Catch
1	weathervane scallop	<i>Patinopecten caurinus</i>	91.63%
2	sunflower sea star	<i>Pycnopodia helianthoides</i>	3.99%
3	weathervane scallop shell	<i>P. caurinus</i>	1.89%
4	big skate	<i>Raja binoculata</i>	0.75%
5	debris - natural	NA	0.48%
6	majestic sea star	<i>Pedicellaster magister</i>	0.42%
7	sea mouse, unidentified	Family Aphroditidae	0.15%
8	Bathyraja skate, unidentified	<i>Bathyraja</i> sp.	0.09%
9	English sole	<i>Parophrys vetulus</i>	0.09%
10	notched brittle star	<i>Ophiura sarsi</i>	0.07%
11	Pacific halibut	<i>Hippoglossus stenolepis</i>	0.04%
12	starfish, unidentified	Class Stelleroidea	0.04%
13	hermit crab, unidentified	Family Paguridae	0.04%
14	big skate egg case	<i>R. binoculata</i>	0.04%
15	snail shells, unidentified	Class Gastropoda	0.03%
16	spiny dogfish	<i>Squalus acanthias</i>	0.03%
17	arrowtooth flounder	<i>Atheresthes stomias</i>	0.03%
18	sea anemone, unidentified	Order Actinaria	0.03%
19	skate egg case, unidentified	Family Rajidae	0.02%
20	snail eggs, unidentified	Class Gastropoda	0.02%

2004/05			
Rank	Species	Scientific Name	Total Catch
1	weathervane scallop	<i>Patinopecten caurinus</i>	90.60%
2	sunflower sea star	<i>Pycnopodia helianthoides</i>	2.72%
3	weathervane scallop shell	<i>P. caurinus</i>	2.49%
4	ubiquitous brittle star	<i>Ophiopholis aculeata</i>	1.23%
5	big skate	<i>Raja binoculata</i>	0.67%
6	debris - natural	NA	0.25%
7	Evasterias sea star, unidentified	<i>Evasterias</i> sp.	0.24%
8	English sole	<i>Parophrys vetulus</i>	0.18%
9	sand sea star	<i>Luidia foliolata</i>	0.17%
10	spiny dogfish	<i>Squalus acanthias</i>	0.11%
11	Dover sole	<i>Microstomus pacificus</i>	0.10%
12	arrowtooth flounder	<i>Atheresthes stomias</i>	0.10%
13	Pacific halibut	<i>Hippoglossus stenolepis</i>	0.10%
14	barnacle, unidentified	Order Thoracica	0.10%
15	rex sole	<i>Glyptocephalus zachirus</i>	0.09%
16	notched brittle star	<i>Ophiura sarsi</i>	0.07%
17	Bathyraja skate, unidentified	<i>Bathyraja</i> sp.	0.07%
18	sea anemone, unidentified	Order Actinaria	0.06%
19	sea mouse	<i>Aphrodita negligens</i>	0.06%
20	big skate egg case	<i>R. binoculata</i>	0.05%

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**Table 15.**–Page 2 of 2.

2005/06			
Rank	Species	Scientific Name	Total Catch
1	weathervane scallop	<i>Patinopecten caurinus</i>	93.63%
2	sunflower sea star	<i>Pycnopodia helianthoides</i>	1.93%
3	weathervane scallop shell	<i>P. caurinus</i>	1.81%
4	debris - natural	NA	0.94%
5	basket star	<i>Gorgonocephalus eucnemis</i>	0.31%
6	notched brittle star	<i>Ophiura sarsi</i>	0.21%
7	Dover sole	<i>Microstomus pacificus</i>	0.20%
8	sand sea star	<i>Luidia foliolata</i>	0.10%
9	sea anemone, unidentified	Order Actinaria	0.06%
10	Bathyraja skate, unidentified	<i>Bathyraja</i> sp.	0.06%
11	Arctic moonshell	<i>Natica clausa</i>	0.05%
12	big skate egg case	<i>R. binoculata</i>	0.05%
13	sea mouse	<i>Aphrodita negligens</i>	0.04%
14	Tanner crab	<i>Chionoecetes bairdi</i>	0.03%
15	arrowtooth flounder	<i>Atheresthes stomias</i>	0.03%
16	hermit crab, unidentified	Family Paguridae	0.03%
17	big skate	<i>Raja binoculata</i>	0.03%
18	Oregon triton	<i>Fusitriton oregonensis</i>	0.03%
19	common mud star	<i>Ctenodiscus crispatus</i>	0.03%
20	debris - fishing gear	NA	0.03%

**Table 16.**—Twenty most frequently caught species by percent weight of total catch as recorded by scallop observers during the 2003/04-2005/06 Kodiak Registration Area, Northeast District weathervane scallop fishing seasons.

2003/04			
Rank	Species	Scientific Name	Total Catch
1	weathervane scallop	<i>Patinopecten caurinus</i>	61.30%
2	sunflower sea star	<i>Pycnopodia helianthoides</i>	20.09%
3	debris - natural	NA	4.82%
4	weathervane scallop shell	<i>P. caurinus</i>	3.43%
5	starfish, unidentified	Class Stelleroidea	1.80%
6	sea anemone, unidentified	Order Actinaria	1.61%
7	longnose skate	<i>Raja rhina</i>	1.51%
8	rock sole, unidentified	<i>Lepidopsetta</i> sp.	0.71%
9	Bathyrāja skate, unidentified	<i>Bathyrāja</i> sp.	0.51%
10	arrowtooth flounder	<i>Atheresthes stomias</i>	0.38%
11	Dover sole	<i>Microstomus pacificus</i>	0.33%
12	Tanner crab	<i>Chionoecetes bairdi</i>	0.27%
13	octopus, unidentified	Family Octopodidae	0.25%
14	notched brittle star	<i>Ophiura sarsi</i>	0.20%
15	basket star	<i>Gorgonocephalus eucnemis</i>	0.18%
16	striped sun sea star	<i>Solaster stimpsoni</i>	0.16%
17	Pacific halibut	<i>Hippoglossus stenolepis</i>	0.16%
18	Pacific cod	<i>Gadus macrocephalus</i>	0.15%
19	big skate	<i>Raja binoculata</i>	0.14%
20	sand sea star	<i>Luidia foliolata</i>	0.14%

2004/05			
Rank	Species	Scientific Name	Total Catch
1	weathervane scallop	<i>Patinopecten caurinus</i>	68.89%
2	sunflower sea star	<i>Pycnopodia helianthoides</i>	16.49%
3	debris - natural	NA	5.04%
4	weathervane scallop shell	<i>P. caurinus</i>	1.99%
5	sea anemone, unidentified	Order Actinaria	1.73%
6	notched brittle star	<i>Ophiura sarsi</i>	1.52%
7	arrowtooth flounder	<i>Atheresthes stomias</i>	0.53%
8	rock sole, unidentified	<i>Lepidopsetta</i> sp.	0.50%
9	Bathyrāja skate, unidentified	<i>Bathyrāja</i> sp.	0.43%
10	longnose skate	<i>Raja rhina</i>	0.42%
11	Tanner crab	<i>Chionoecetes bairdi</i>	0.41%
12	rex sole	<i>Glyptocephalus zachirus</i>	0.26%
13	Pacific halibut	<i>Hippoglossus stenolepis</i>	0.18%
14	sand sea star	<i>Luidia foliolata</i>	0.15%
15	Dover sole	<i>Microstomus pacificus</i>	0.14%
16	Oregon triton	<i>Fusitriton oregonensis</i>	0.13%
17	flathead sole	<i>Hippoglossoides elassodon</i>	0.11%
18	Pacific cod	<i>Gadus macrocephalus</i>	0.11%
19	butter sole	<i>Isopsetta isolepis</i>	0.10%
20	sun sea star, unidentified	<i>Solaster</i> sp.	0.09%

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**Table 16.**–Page 2 of 2.

2005/06			
Rank	Species	Scientific Name	Total Catch
1	weathervane scallop	<i>Patinopecten caurinus</i>	65.29%
2	sunflower sea star	<i>Pycnopodia helianthoides</i>	14.76%
3	debris - natural	NA	7.42%
4	weathervane scallop shell	<i>P. caurinus</i>	3.25%
5	sea anemone, unidentified	Order Actinaria	1.14%
6	longnose skate	<i>Raja rhina</i>	0.98%
7	spiny red sea star	<i>Hippasteria spinosa</i>	0.91%
8	rock sole, unidentified	<i>Lepidopsetta</i> sp.	0.77%
9	Bering skate	<i>Bathyraja interrupta</i>	0.71%
10	basket star	<i>Gorgonocephalus eucnemis</i>	0.37%
11	big skate	<i>Raja binoculata</i>	0.34%
12	evening sun sea star	<i>Solaster paxillatus</i>	0.30%
13	flathead sole	<i>Hippoglossoides elassodon</i>	0.29%
14	arrowtooth flounder	<i>Atheresthes stomias</i>	0.28%
15	Tanner crab	<i>Chionoecetes bairdi</i>	0.25%
16	Dover sole	<i>Microstomus pacificus</i>	0.22%
17	Pacific halibut	<i>Hippoglossus stenolepis</i>	0.21%
18	northern sun sea star	<i>Solaster endeca</i>	0.15%
19	Oregon triton	<i>Fusitriton oregonensis</i>	0.15%
20	rex sole	<i>Glyptocephalus zachirus</i>	0.12%

**Table 17.**—Twenty most frequently caught species by percent weight of total catch as recorded by scallop observers during the 2003/04-2005/06 Kodiak Registration Area, Shelikof District weathervane scallop fishing seasons.

2003/04			
Rank	Species	Scientific Name	Total Catch
1	weathervane scallop	<i>Patinopecten caurinus</i>	79.56%
2	debris - natural	NA	4.74%
3	weathervane scallop shell	<i>P. caurinus</i>	4.47%
4	Bathyrāja skate, unidentified	<i>Bathyrāja</i> sp.	2.33%
5	big skate	<i>Raja binoculata</i>	1.54%
6	sunflower sea star	<i>Pycnopodia helianthoides</i>	1.36%
7	sea anemone, unidentified	Order Actinaria	0.60%
8	longnose skate	<i>Raja rhina</i>	0.53%
9	Oregon triton	<i>Fusitriton oregonensis</i>	0.51%
10	Pacific halibut	<i>Hippoglossus stenolepis</i>	0.48%
11	Alaska plaice	<i>Pleuronectes quadrituberculatus</i>	0.47%
12	flathead sole	<i>Hippoglossoides elassodon</i>	0.39%
13	arrowtooth flounder	<i>Atheresthes stomias</i>	0.35%
14	octopus, unidentified	Family Octopodidae	0.29%
15	hermit crab, unidentified	Family Paguridae	0.16%
16	starry flounder	<i>Platichthys stellatus</i>	0.15%
17	Pacific lyre crab	<i>Hyas lyratus</i>	0.12%
18	sea mouse, unidentified	Family Aphroditidae	0.10%
19	Tanner crab	<i>Chionoecetes bairdi</i>	0.09%
20	Pacific cod	<i>Gadus macrocephalus</i>	0.08%

2004/05			
Rank	Species	Scientific Name	Total Catch
1	weathervane scallop	<i>Patinopecten caurinus</i>	73.74%
2	debris - natural	NA	8.27%
3	weathervane scallop shell	<i>P. caurinus</i>	4.02%
4	sunflower sea star	<i>Pycnopodia helianthoides</i>	2.84%
5	Bathyrāja skate, unidentified	<i>Bathyrāja</i> sp.	2.78%
6	big skate	<i>Raja binoculata</i>	1.24%
7	sea anemone, unidentified	Order Actinaria	0.83%
8	longnose skate	<i>Raja rhina</i>	0.78%
9	arrowtooth flounder	<i>Atheresthes stomias</i>	0.65%
10	flathead sole	<i>Hippoglossoides elassodon</i>	0.54%
11	longnose skate egg case	<i>R. rhina</i>	0.50%
12	Alaska plaice	<i>Pleuronectes quadrituberculatus</i>	0.49%
13	Oregon triton	<i>Fusitriton oregonensis</i>	0.45%
14	Pacific halibut	<i>Hippoglossus stenolepis</i>	0.31%
15	starry flounder	<i>Platichthys stellatus</i>	0.24%
16	Tanner crab	<i>Chionoecetes bairdi</i>	0.16%
17	debris - fishing gear	NA	0.14%
18	Pacific cod	<i>Gadus macrocephalus</i>	0.13%
19	spiny dogfish	<i>Squalus acanthias</i>	0.13%
20	hermit crab, unidentified	Family Paguridae	0.10%

-continued-

**Table 17.**—Page 2 of 2.

2005/06			
Rank	Species	Scientific Name	Total Catch
1	weathervane scallop	<i>Patinopecten caurinus</i>	81.01%
2	weathervane scallop shell	<i>P. caurinus</i>	3.76%
3	debris - natural	NA	3.02%
4	sunflower sea star	<i>Pycnopodia helianthoides</i>	1.84%
5	arrowtooth flounder	<i>Atheresthes stomias</i>	1.24%
6	longnose skate	<i>Raja rhina</i>	1.21%
7	Alaska plaice	<i>Pleuronectes quadrituberculatus</i>	0.90%
8	flathead sole	<i>Hippoglossoides elassodon</i>	0.87%
9	Bering skate	<i>Bathyraja interrupta</i>	0.83%
10	Oregon triton	<i>Fusitriton oregonensis</i>	0.75%
11	big skate	<i>Raja binoculata</i>	0.72%
12	sea anemone, unidentified	Order Actinaria	0.58%
13	Bathyraja skate, unidentified	<i>Bathyraja</i> sp.	0.48%
14	debris - fishing gear	NA	0.35%
15	Pacific halibut	<i>Hippoglossus stenolepis</i>	0.31%
16	Pacific cod	<i>Gadus macrocephalus</i>	0.20%
17	rock sole, unidentified	<i>Lepidopsetta</i> sp.	0.15%
18	sea mouse	<i>Aphrodita negligens</i>	0.13%
19	Tanner crab	<i>Chionoecetes bairdi</i>	0.10%
20	green sea urchin	<i>Strongylocentrotus droebachiensis</i>	0.09%



**Table 18.**—Twenty most frequently caught species by percent weight of total catch as recorded by scallop observers during the 2003/04-2005/06 Bering Sea Registration Area weathervane scallop fishing seasons.

2003/04			
Rank	Species	Scientific Name	Total Catch
1	weathervane scallop	<i>Patinopecten caurinus</i>	71.67%
2	Bathyrāja skate, unidentified	<i>Bathyrāja</i> sp.	5.10%
3	Tanner crab	<i>Chionoecetes bairdi</i>	2.92%
4	weathervane scallop shell	<i>P. caurinus</i>	2.60%
5	debris - natural	NA	1.96%
6	snail shells, unidentified	Class Gastropoda	1.88%
7	snow crabs and hybrids	<i>Chionoecetes opilio</i>	1.78%
8	hermit crab, unidentified	Family Paguridae	1.47%
9	Oregon triton	<i>Fusitriton oregonensis</i>	1.39%
10	yellowfin sole	<i>Limanda aspera</i>	1.14%
11	arrowtooth flounder	<i>Atheresthes stomias</i>	1.07%
12	sea anemone, unidentified	Order Actinaria	0.77%
13	snail, unidentified	Class Gastropoda	0.68%
14	basket star	<i>Gorgonocephalus eucnemis</i>	0.65%
15	flathead sole	<i>Hippoglossoides elassodon</i>	0.54%
16	sponge, unidentified	Phylum Porifera	0.49%
17	jellyfish, unidentified	Class Scyphozoa	0.44%
18	big skate	<i>Raja binoculata</i>	0.37%
19	Neptune whelk, unidentified	<i>Neptunea</i> sp.	0.30%
20	Aleutian hermit crab	<i>Pagurus aleuticus</i>	0.28%

2004/05			
Rank	Species	Scientific Name	Total Catch
1	weathervane scallop	<i>Patinopecten caurinus</i>	67.35%
2	Bathyrāja skate, unidentified	<i>Bathyrāja</i> sp.	8.18%
3	Tanner crab	<i>Chionoecetes bairdi</i>	4.74%
4	snail shells, unidentified	Class Gastropoda	2.12%
5	weathervane scallop shell	<i>P. caurinus</i>	1.90%
6	hermit crab, unidentified	Family Paguridae	1.82%
7	Oregon triton	<i>Fusitriton oregonensis</i>	1.74%
8	snow crabs and hybrids	<i>Chionoecetes opilio</i>	1.65%
9	arrowtooth flounder	<i>Atheresthes stomias</i>	1.38%
10	sea anemone, unidentified	Order Actinaria	1.07%
11	sea pen/sea whip, unidentified	<i>Halipteris</i> sp.	0.99%
12	yellowfin sole	<i>Limanda aspera</i>	0.96%
13	basket star	<i>Gorgonocephalus eucnemis</i>	0.94%
14	lyre whelk	<i>Neptunea lyrata</i>	0.85%
15	jellyfish, unidentified	Class Scyphozoa	0.58%
16	flathead sole	<i>Hippoglossoides elassodon</i>	0.52%
17	sculpin, unidentified	Family Cottidae	0.44%
18	rex sole	<i>Glyptocephalus zachirus</i>	0.41%
19	barrel sponge	<i>Halichondria panicea</i>	0.25%
20	Pacific lyre crab	<i>Hyas lyratus</i>	0.25%

-continued-

**Table 18.**–Page 2 of 2.

2005/06			
Rank	Species	Scientific Name	Total Catch
1	weathervane scallop	<i>Patinopecten caurinus</i>	72.18%
2	Tanner crab	<i>Chionoecetes bairdi</i>	3.52%
3	debris - fishing gear	NA	3.00%
4	weathervane scallop shell	<i>P. caurinus</i>	2.40%
5	debris - natural	NA	2.29%
6	sponge, unidentified	Phylum Porifera	2.10%
7	Bathyrāja skate, unidentified	<i>Bathyrāja</i> sp.	1.66%
8	hermit crab, unidentified	Family Paguridae	1.24%
9	sea anemone, unidentified	Order Actinaria	1.22%
10	sea pen/sea whip, unidentified	<i>Halipteris</i> sp.	1.19%
11	snail, unidentified	Class Gastropoda	1.18%
12	arrowtooth flounder	<i>Atheresthes stomias</i>	1.15%
13	snow crabs and hybrids	<i>Chionoecetes opilio</i>	0.93%
14	flathead sole	<i>Hippoglossoides elassodon</i>	0.84%
15	big skate	<i>Raja binoculata</i>	0.76%
16	Oregon triton	<i>Fusitriton oregonensis</i>	0.67%
17	octopus, unidentified	Family Octopodidae	0.60%
18	snail shells, unidentified	Class Gastropoda	0.49%
19	Aleutian skate	<i>Bathyrāja aleutica</i>	0.47%
20	Alaska skate	<i>Bathyrāja parmifera</i>	0.31%

**Table 19.**—Summary of the most frequently caught species, by percent weight, in sampled dredges during the 2003/04 weathervane scallop fishing season.

Species Category	Registration Area / District								
	Yakutat Area		PWS	Kodiak Area			Alaska Peninsula	Bering Sea	Dutch Harbor
	District 16	Area D		Northeast	Shelikof	Semidi			
weathervane scallops	91.57	83.12	91.63	61.30	79.56			71.67	
<b>PROHIBITED SPECIES BYCATCH</b>									
Dungeness crab	0	<0.1	<0.1	0	<0.1	No	No	0	Season
king crab	0	0	0	0	0	Fishing	Fishing	0	Closed
Snow crab <sup>a</sup> , <i>C. opilio</i>	0	0	0	0	0			1.78	
Tanner crab, <i>C. bairdi</i>	<0.1	<0.1	<0.1	0.27	<0.1			2.92	
Pacific halibut	0	<0.1	<0.1	0.16	0.48			<0.1	
<b>OTHER COMMERCIAL SPECIES</b>									
Alaska plaice	0	0	0	0	0.47			<0.1	
arrowtooth flounder	<0.1	0.12	<0.1	0.38	0.35			1.07	
bay scallops	0	<0.1	0	<0.1	<0.1			<0.1	
butter sole	0	0.15	0	<0.1	<0.1			0	
Dover sole	<0.1	<0.1	0	0.33	<0.1			0	
English sole	1.11	0.29	<0.1	<0.1	<0.1			0	
flathead sole	<0.1	<0.1	0	0.12	0.39			0.54	
Greenland turbot	0	0	0	0	0			0	
lingcod	0	<0.1	0	0	0			0	
octopus	0	0.11	0	0.25	0.29			0.24	
petrale sole	0	0	0	0	0			0	
Pacific cod	0	<0.1	0	0.15	<0.1			0.17	
rex sole	<0.1	0.11	0	0.12	0			0.25	
rock sole	0	<0.1	0	0.71	<0.1			0.12	
rock fish	0	<0.1	0	0	0			0	
sablefish	0	<0.1	0	0	0			0	
sea cucumber	0	0	0	<0.1	<0.1			0	
sea urchins	0	0	0	<0.1	<0.1			<0.1	
shrimp	0	<0.1	<0.1	<0.1	<0.1			0	
skates	0.72	2.1	0.84	2.28	4.41			5.47	
spiny dogfish	0	0.25	<0.1	0	<0.1			0	
starry flounder	0	<0.1	0	0	0.15			0	
walleye pollock	0	<0.1	0	0	<0.1			0.16	
yellowfin sole	0	0	0	0	<0.1			1.14	
<b>MISCELLANEOUS</b>									
brittle star	<0.1	<0.1	<0.1	0.27	<0.1			0	
sunflower sea star	1.83	4.38	3.99	20.09	1.36			0	
kelp, rocks, etc.	0.78	2.14	0.48	4.82	4.74			1.96	
man-made debris	<0.1	<0.1	<0.1	<0.1	<0.1			0.26	
starfish, misc	1.67	1.21	0.47	2.59	1.08			0.81	
weathervane shells	1.05	3.62	1.89	3.43	4.47			2.60	

<sup>a</sup> Includes all hybrid *Chionoecetes* crab.

**Table 20.**—Summary of the most frequently caught species, by percent weight, in sampled dredges during the 2004/05 weathervane scallop fishing season.

Species Category	Registration Area / District								
	Yakutat Area		PWS	Kodiak Area			Alaska Peninsula	Bering Sea	Dutch Harbor
	District 16	Area D		Northeast	Shelikof	Semidi			
weathervane scallops	76.93	75.03	90.60	68.89	73.74			67.35	
<b>PROHIBITED SPECIES BYCATCH</b>									
Dungeness crab	<0.1	<0.1	0	0	0	No	No	0	Season
king crab	0	0	0	0	0	Fishing	Fishing	0	Closed
Snow crab <sup>a</sup> , <i>C. opilio</i>	0	0	0	0	0			1.65	
Tanner crab, <i>C. bairdi</i>	0	<0.1	<0.1	0.41	0.16			4.74	
Pacific halibut	0.66	0.12	0.1	0.18	0.31			0	
<b>OTHER COMMERCIAL SPECIES</b>									
Alaska plaice	0	0	0	0	0.49			<0.1	
arrowtooth flounder	0.24	<0.1	0.1	0.53	0.65			1.38	
bay scallops	0	0	<0.1	<0.1	<0.1			<0.1	
butter sole	0.66	0.15	0	0.1	<0.1			0	
Dover sole	0	<0.1	0.1	0.14	<0.1			0	
English sole	0.18	0.12	0.18	0	<0.1			0	
flathead sole	0	<0.1	<0.1	0.11	0.54			0.52	
Greenland turbot	0	0	0	0	0			0	
lingcod	0.23	0.4	0	0	0			0	
octopus	0	<0.1	0	0	<0.1			<0.1	
petrale sole	0	0	<0.1	0	0			0	
Pacific cod	0.29	<0.1	<0.1	0.11	0.13			0.17	
rex sole	<0.1	<0.1	<0.1	0.26	<0.1			0.41	
rock sole	0	<0.1	0	0.5	0			0.22	
rock fish	0	<0.1	0	<0.1	<0.1			0	
sablefish	0	0	0	0	<0.1			0	
sea cucumber	0	0	0	<0.1	0			0	
sea urchins	0	0	0	<0.1	<0.1			<0.1	
shrimp	0	<0.1	<0.1	<0.1	<0.1			0	
skates	1.17	2.94	0.74	0.85	4.80			8.18	
spiny dogfish	0	0.23	0.11	0	0.13			0	
starry flounder	0.13	0.1	<0.1	0	0.24			0	
walleye pollock	<0.1	<0.1	0	0	<0.1			0.14	
yellowfin sole	0	0	0	0	<0.1			0.96	
<b>MISCELLANEOUS</b>									
brittle star	<0.1	0.33	1.3	1.52	<0.1			0	
sunflower sea star	5.69	4.48	2.72	16.49	2.84			0	
kelp, rocks, etc.	0.35	4.94	0.25	5.04	8.27			<0.1	
man-made debris	<0.1	<0.1	<0.1	<0.1	0.18			0.93	
starfish, misc	4.51	2.99	0.41	0.38	0.23			1.02	
weathervane shells	4.19	5.14	2.49	1.99	4.02			1.90	

<sup>a</sup> Includes all hybrid *Chionoecetes* crab.

**Table 21.**—Summary of the most frequently caught species, by percent weight, in sampled dredges during the 2005/06 weathervane scallop fishing season.

Species Category	Registration Area / District								
	Yakutat Area		PWS	Kodiak Area			Alaska Peninsula	Bering Sea	Dutch Harbor
	District 16	Area D		Northeast	Shelikof	Semidi			
weathervane scallops	82.79	83.07	93.63	65.29	81.01			72.18	
<b>PROHIBITED SPECIES BYCATCH</b>									
Dungeness crab	0	<0.1	0	0	<0.1	No	No	0	Season
king crab	0	0	0	0	0	Fishing	Fishing	0	Closed
Snow crab <sup>a</sup> , <i>C. opilio</i>	0	0	0	0	0			0.93	
Tanner crab, <i>C. bairdi</i>	0	<0.1	<0.1	0.25	0.1			3.52	
Pacific halibut	0.14	<0.1	<0.1	0.21	0.31			0.1	
<b>OTHER COMMERCIAL SPECIES</b>									
Alaska plaice	0	0	0	0	0.9			0.15	
arrowtooth flounder	0.36	0.3	<0.1	0.28	1.24			1.15	
bay scallops	<0.1	<0.1	<0.1	<0.1	<0.1			0	
butter sole	0	<0.1	0	<0.1	0			0	
Dover sole	<0.1	<0.1	0.2	0.22	<0.1			<0.1	
English sole	0.28	0.3	<0.1	<0.1	0			0	
flathead sole	0.27	<0.1	<0.1	0.29	0.87			0.84	
Greenland turbot	0	0	0	0	0			0	
lingcod	0	0.38	<0.1	0	0			0	
octopus	<0.1	<0.1	<0.1	<0.1	<0.1			0.6	
petrale sole	0	0	<0.1	0	0			0	
Pacific cod	<0.1	<0.1	0	<0.1	0.2			0	
rex sole	<0.1	<0.1	<0.1	0.12	0			<0.1	
rock sole	0.13	<0.1	0	0.77	0.15			0	
rock fish	<0.1	<0.1	0	<0.1	0			0	
sablefish	0	0	0	0	0			0	
sea cucumber	0	0	0	0	0			0	
sea urchins	0	0	0	<0.1	<0.1			<0.1	
shrimp	0	<0.1	<0.1	<0.1	<0.1			<0.1	
skates	2.44	2.60	<0.1	2.1	3.24			3.2	
spiny dogfish	0.28	0.39	<0.1	<0.1	<0.1			0	
starry flounder	0	<0.1	0	0	<0.1			0	
walleye pollock	0	<0.1	0	<0.1	<0.1			0.12	
yellowfin sole	0	0	0	0	0			<0.1	
<b>MISCELLANEOUS</b>									
brittle star	<0.1	0.55	0.22	0.15	<0.1			0	
sunflower sea star	3.94	3.4	1.93	14.76	1.84			0	
kelp, rocks, etc.	1.27	1.82	0.94	17.42	3.02			2.29	
man-made debris	<0.1	<0.1	<0.1	<0.1	0.38			3.08	
starfish, misc	1.42	1.23	0.46	2.01	0.10			0.18	
weathervane shells	4.09	4.1	1.81	3.25	3.76			2.40	

<sup>a</sup> Includes all hybrid *Chionoecetes* crab.

**Table 22.**—Estimated bycatch and associated confidence intervals for snow, *C. bairdi* x *C. opilio* (hybrid), Tanner, Dungeness, red king crabs and Pacific halibut from the 2003/04 weathervane scallop fishing season.

Registration Area	n <sup>a</sup>	Snow and hybrid crab		Tanner crab		Dungeness crab		King crab	Halibut	
		Estimated Number	95% CI	Estimated Number	95% CI	Estimated Number	95% CI	Number <sup>b</sup>	Estimated Number	95% CI
Yakutat										
District 16	3	NA	NA	0	NA	21	2 - 45	0	10	1 - 23
Area D	105	NA	NA	1,650	797 - 2,837	905	617 - 1,157	0	316	161 - 477
<b>Yakutat Area Total</b>	105	NA	NA	1,650	797 - 2,837	926	619 - 1,202	0	326	162 - 500
Prince William Sound	15	NA	NA	8	1 - 29	8	1 - 29	0	2	1 - 39
Kodiak										
Northeast District	42	NA	NA	18,230	13,134 - 23,463	0	NA	0	197	83 - 318
Shelikof District	95	NA	NA	40,575	30,361 - 54,303	904	634 - 1,256	0	574	401 - 798
Semidi Island District	0			No Fishing						
<b>Kodiak Area Total</b>	137			58,805	43,495 - 77,766	904	634 - 1,256	0	771	484 - 1,116
Alaska Peninsula	0			No Fishing						
Bering Sea	28	16,206	14,630 - 17,832	31,316	27,619 - 35,228	0	NA	0	61	15 - 127
Dutch Harbor	0			Season Closed						

<sup>a</sup> Number of days fishing occurred. Fishing may occur in several areas or districts within a registration area on the same day.

<sup>b</sup> Actual number caught, not an estimate.

NA = Not Applicable

**Table 23.**—Estimated bycatch and associated confidence intervals for snow, *C. bairdi* x *C. opilio* (hybrid), Tanner, Dungeness, red king crabs and Pacific halibut from the 2004/05 weathervane scallop fishing season.

Registration Area	n <sup>a</sup>	Snow and hybrid crab		Tanner crab		Dungeness crab		King crab	Halibut	
		Estimated Number	95% CI	Estimated Number	95% CI	Estimated Number	95% CI	Number <sup>b</sup>	Estimated Number	95% CI
Yakutat										
District 16	18	NA	NA	0	NA	170	90 - 265	0	110	48 - 155
Area D	88	NA	NA	863	341 - 1,950	223	122 - 379	0	247	133 - 355
<b>Yakutat Area Total</b>	88	NA	NA	863	341 - 1,950	393	212 - 644	0	357	181 - 510
Prince William Sound	28	NA	NA	524	98 - 1,293	0	NA	0	90	21 - 164
Kodiak										
Northeast District	42	NA	NA	30,717	19,891 - 41,072	0	NA	1	109	45 - 193
Shelikof District	100	NA	NA	33,338	25,978 - 42,471	1,647	1,188 - 2,274	1	579	377 - 837
Semidi Island District	0			No Fishing						
<b>Kodiak Area Total</b>	142			64,055	45,869 - 83,543	1,647	1,188 - 2,274	2	688	422 - 1,030
Alaska Peninsula	0	NA	NA	No Fishing						
Bering Sea	7	3,843	2,947 - 4,713	15,303	11,165 - 18,888	0	NA	0	0	NA
Dutch Harbor	0			Season Closed						

<sup>a</sup> Number of days fishing occurred. Fishing may occur in several areas or districts within a registration area on the same day.

<sup>b</sup> Actual number caught, not an estimate.

NA = Not Applicable

**Table 24.**—Estimated bycatch and associated confidence intervals for snow, *C. bairdi* x *C. opilio* (hybrid), Tanner, Dungeness, red king crabs and Pacific halibut from the 2005/06 weathervane scallop fishing season.

Registration Area	n <sup>a</sup>	Snow and hybrid crab		Tanner crab		Dungeness crab		King crab	Halibut	
		Estimated Number	95% CI	Estimated Number	95% CI	Estimated Number	95% CI	Number <sup>b</sup>	Estimated Number	95% CI
Yakutat										
District 16	16	NA	NA	175	32 - 633	0	NA	0	0	NA
Area D	162	NA	NA	5,189	3,198 - 7,595	394	207 - 648	0	518	306 - 862
<b>Yakutat Area Total</b>	171	NA	NA	5,364	3,230 - 8,228	394	207 - 648	0	518	306 - 862
Prince William Sound	56	NA	NA	465	184 - 927	0	NA	0	32	12 - 72
Kodiak										
Northeast District	63	NA	NA	29,264	21,399 - 40,473	0	NA	0	211	75 - 339
Shelikof District	70	NA	NA	18,055	13,809 - 23,931	1,267	674 - 2,444	0	177	100 - 278
Semidi Island District	0			No Fishing						
<b>Kodiak Area Total</b>	132			47,319	35,208 - 64,404	1,267	674 - 2,444	0	388	175 - 617
Alaska Peninsula	0			No Fishing						
Bering Sea	21	5,211	4,426 - 6,052	15,529	11,580 - 20,814	0	NA	2	53	21 - 105
Dutch Harbor	0			Season Closed						

<sup>a</sup> Number of days fishing occurred. Fishing may occur in several areas or districts within a registration area on the same day.

<sup>b</sup> Actual number caught, not an estimate.

NA = Not Applicable



**Table 25.**–Tanner crab bycatch mortality, 2003/04-2005/06 weathervane scallop fishing seasons.

Registration Area	NUMBER OF TANNER <sup>a</sup> CRABS MEASURED AND EXAMINED								
	2003/04			2004/05			2005/06		
	Dead	Alive	Percent Dead	Dead	Alive	Percent Dead	Dead	Alive	Percent Dead
Yakutat									
District 16	0	0	0	0	0	0	5	10	33
Area D	53	98	35	60	40	60	223	312	42
<b>Yakutat Area Total</b>	53	98	35	60	40	60	228	322	41
Prince William Sound	0	1	0	32	21	60	22	51	30
Kodiak									
Northeast District	438	689	39	833	358	70	974	693	58
Shelikof District	1,249	1,049	54	1,908	930	67	850	653	57
Semidi Island District	No Fishing			No Fishing			No Fishing		
<b>Kodiak Area Total</b>	1,687	1,738	49	2,741	1,288	68	1,824	1,346	58
Alaska Peninsula	No Fishing			No Fishing			No Fishing		
Bering Sea, snow and hybrid	1,034	394	72	107	34	76	215	225	49
Bering Sea, Tanner	531	1,327	29	147	283	34	432	409	51
Bering Sea, combined species	1,565	1,721	48	254	317	44	647	634	51
Dutch Harbor	Season Closed			Season Closed			Season Closed		
<b>Statewide Total</b>	3,305	3,558	48	3,087	1,666	65	2,721	2,353	54

<sup>a</sup> Tanner crab, except snow crab and *C. bairdi* x *C. opilio* (hybrid) are reported in the Bering Sea Area.

**Table 26.**—Summary of weathervane scallop commercial fishery statistics from Yakutat, District 16 and Yakutat, Area D, 1993-2005/06 fishing seasons.

Registration Area	Season Dates Beginning Ending		Number of				lb Retained Scallops (round weight) <sup>d</sup>	lb Retained Scallop Meats	% Retained Scallop Meat Recovery	Dredge Hours <sup>e</sup>	CPUE <sup>f</sup>	No. of Tanner Crab Per lb of Retained Scallop Meats
			Vessels	Vessel Days <sup>a</sup>	Days Fishing Occurred <sup>b</sup>	Days Fishing Observed <sup>c</sup>						
Yakutat, District 16												
1993	Fishing by Permit only		1	<sup>a</sup>	<sup>g</sup>	<sup>g</sup>	<sup>g</sup>	<sup>g</sup>	NA	<sup>g</sup>	<sup>g</sup>	<sup>g</sup>
1994	1/20/94	1/20/94	8	<sup>a</sup>	7	7	150,962	13,301	NA	276	547	<0.1
1994	7/1/94	10/31/94	2 <sup>h</sup>	<sup>a</sup>	4	3	<sup>h</sup>	<sup>h</sup>	NA	<sup>h</sup>	<sup>h</sup>	0
1995	1/10/95	2/13/95	7	<sup>a</sup>	42	35	447,469	33,302	NA	1,095	409	<0.1
1996	1/10/96	1/20/96	1	<sup>a</sup>	6	5	85,086	8,090	NA	167	509	<0.1
1996	8/1/96	11/29/96	2	<sup>a</sup>	23	21	336,978	25,970	9.0 <sup>i</sup>	750	449	<0.1
1997	1/10/97	2/23/97	4	<sup>a</sup>	27	20	265,882	22,890	9.9 <sup>i</sup>	561	474	<0.1
1998/99	7/1/98	10/6/98	3	<sup>a</sup>	33	24	384,286	34,153	8.5 <sup>i</sup>	702	547	<0.1
1999/2000	7/1/99	9/27/99	2	<sup>a</sup>	23	16	292,625	34,624	10.1 <sup>i</sup>	674	434	<0.1
2000/01	7/1/00	2/15/01	3	<sup>a</sup>	29	23	310,370	30,904	9.0 <sup>i</sup>	476	652	<0.1
2001/02	7/1/01	2/15/02	2	<sup>a</sup>	21	17	245,319	20,398	NA	417	588	<0.1
2002/03	7/1/02	2/15/03	2	<sup>a</sup>	6	4	60,928	3,685	NA	100	609	<0.1
2003/04	7/1/03	2/15/04	2	<sup>a</sup>	3	1	16,780	1,072	NA	20	839	<0.1
2004/05	7/1/04	2/15/05	2	<sup>a</sup>	18	18	326,228	24,430	NA	418	780	<0.1
2005/06	7/1/05	2/15/06	2	<sup>a</sup>	16	15	209,487	13,650	NA	407	515	<0.1
Yakutat, Area D												
1993	7/1/93	7/11/93	8	96	77	75	2,082,824	141,423	NA	1,999	1,042	<0.1
1994	1/10/94	1/18/94	11	119	88	83	2,085,942	158,660	NA	2,547	819	<0.1
1994	7/1/94	7/12/94	4	82	60	60	1,713,094	94,400	NA	1,715	999	<0.1
1995	1/10/95	2/2/95 <sup>j</sup>	10	235	166	134	3,214,968	242,491	NA	4,712	682	<0.1
1996	1/10/96	1/25/96	3	54	47	43	832,756	53,310	NA	1,142	721	<0.1
1996	8/1/96	9/4/96	3	116	82	80	2,362,498	185,426	9.0 <sup>i</sup>	2,840	832	<0.1
1997	1/10/97	2/18/97	4	172	144	129	3,282,860	242,940	9.0 <sup>i</sup>	3,956	830	<0.1
1998/99	7/1/98	7/29/98	8	232	160	148	3,475,996	241,678	7.8 <sup>i</sup>	4,192	829	<0.1
1999/2000	7/1/99	9/1/99	3	182	132	123	3,119,103	249,681	9.5 <sup>i</sup>	3,840	812	<0.1
2000/01	7/1/00	2/15/01	3	249	170	134	2,734,559	195,699	8.1 <sup>i</sup>	4,241	645	<0.1
2001/02	7/1/01	2/15/02	2	114	86	81	1,521,537	103,800	NA	2,406	632	<0.1
2002/03	7/1/02	2/15/03	2	117	83	77	1,541,867	122,718	NA	2,439	632	<0.1
2003/04	7/1/03	2/15/04	2	129	105	85	1,939,004	160,918	NA	3,358	577	<0.1
2004/05	7/1/04	2/15/05	2	113	88	74	1,262,499	86,950	NA	2,134	592	<0.1
2005/06	7/1/05	1/25/06	2	213	162	137	2,662,031	199,351	NA	5,089	523	<0.1

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- <sup>a</sup> All days between observer briefing and debriefing, District 16 vessel days included with Yakutat vessel days, because it is a single registration area.
  - <sup>b</sup> All days with at least one tow made by the vessel.
  - <sup>c</sup> All days with at least one sampled tow.
  - <sup>d</sup> Vessel operator estimates.
  - <sup>e</sup> Dredge-hour = one dredge towed for 60 minutes.
  - <sup>f</sup> CPUE = round weight of retained scallops per dredge-hour.
  - <sup>g</sup> Data not available because an observer waiver was granted.
  - <sup>h</sup> 2 vessels fished. One was granted an observer waiver (no data collected). Confidential data from the other vessel is combined with the Yakutat, Area D data.
  - <sup>i</sup> Five-year special observer project. Recovery rates determined by observer.
  - <sup>j</sup> Reopened February 13 (12 Noon) to February 14 (12 Noon).
- NA = Not Available

**Table 27.**—Summary of weathervane scallop observer data statistics from Yakutat, District 16 and Yakutat, Area D, 1993-2005/06 fishing seasons.

Registration Area	% of Scallops In Catch Samples (by weight)	Est. Number Of Discarded Scallops	Est. Weight Of Discarded Scallops	Retained Scallops		Crab Bycatch Limits		Bycatch Estimates				Observed Tanner Crab Mortality %
				Avg. Shell Height (mm)	Sample Size	Tanner	King	Tanner	King <sup>a</sup>	Dungeness	Halibut	
Yakutat, District 16												
1993	b	NA	NA	b	b	NE	NE	b	b	b	b	b
1994	72	NA	NA	147	196	NE	NE	10	0	4	48	67
1994	55	NA	NA	151	218	NE	NE	0	0	11	236	0
1995	65	NA	NA	132	2,347	NE	NE	469	0	93	719	28
1996	92	NA	NA	126	430	NE	NE	39	0	140	108	0
1996	81	707,236	159,899	133	1,821	NE	NE	669	0	1	68	47
1997	73	143,392	32,764	128	1,020	NE	NE	129	0	0	160	65
1998/99	79	119,414	25,292	123	2,198	NE	NE	273	0	0	24	8
1999/2000	83	216,600	57,718	125	1,276	NE	NE	48	0	0	111	20
2000/01	86	203,946	51,221	118	1,735	NE	NE	627	0	22	86	58
2001/02	79	164,073	48,879	119	1,171	NE	NE	833	0	32	86	50
2002/03	79	55,090	14,084	120	202	NE	NE	185	0	0	9	47
2003/04	92	4,828	1,136	121	40	NE	NE	0	0	21	10	0
2004/05	77	77,678	20,541	120	603	NE	NE	0	0	170	110	0
2005/06	83	93,888	24,385	119	840	NE	NE	175	0	0	0	33
Yakutat, Area D												
1993	78	NA	NA	118	5,651	NE	NE	1,700	40	351	99	54
1994	78	NA	NA	121	2,488	NE	NE	1,767	0	10	129	31
1994	81	NA	NA	122	4,903	NE	NE	603	0	169	522	56
1995	78	NA	NA	124	10,824	NE	NE	3,751	0	2,379	1,361	26
1996	82	NA	NA	121	4,310	NE	NE	2,591	0	2,320	237	27
1996	85	1,166,422	295,933	122	8,253	NE	NE	6,872	0	38	150	59
1997	81	1,575,369	299,843	119	7,790	NE	NE	5,884	0	277	353	32
1998/99	79	1,175,158	271,506	123	14,846	NE	NE	8,891	0	177	293	47
1999/2000	87	2,165,570	533,172	124	11,989	NE	NE	4,993	0	584	80	42
2000/01	88	2,129,885	588,981	123	10,237	NE	NE	17,395	0	313	65	56
2001/02	80	1,070,516	272,300	121	6,447	NE	NE	6,770	0	1,150	155	57
2002/03	80	1,366,856	359,010	123	6,679	NE	NE	8,423	0	779	291	56
2003/04	83	1,675,817	397,504	126	6,961	NE	NE	1,650	0	905	316	35
2004/05	75	831,898	217,269	124	5,646	NE	NE	863	0	223	247	60
2005/06	83	1,633,961	407,441	123	11,148	NE	NE	5,189	0	394	518	42

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<sup>a</sup> Actual count, not an estimate, beginning with the 1995/96 season.

<sup>b</sup> Data not available because an observer wavier was granted.

NA = Not Available, NE = Not Established

**Table 28.**—Summary of weathervane scallop commercial fishery statistics from the Prince William Sound Registration Area, 1993-2005/06 fishing seasons.

Registration Area	Season Dates		Number of				lb Retained Scallops (round weight) <sup>d</sup>	lb Retained Scallop Meats	% Retained Scallop Meat Recovery	Dredge Hours <sup>e</sup>	CPUE <sup>f</sup>	No. of Tanner Crab Per lb. of Retained Scallop Meats
	Beginning	Ending	Vessels	Vessel Days <sup>a</sup>	Days Fishing Occurred <sup>b</sup>	Days Fishing Observed <sup>c</sup>						
Prince William Sound												
1993	7/15/93	7/18/93	7	58	29	27	850,718	63,068	NA	638	1,333	<0.1
1994	Season Closed											
1995	1/10/95	1/26/95	2	29	21	21	Confidential	108,000 <sup>g</sup>	NA	Confidential		NA
1996	Season Closed											
1997	1/10/97	1/19/97	1	12	8	7	257,230	18,000	9.6 <sup>h</sup>	171	1,504	0
1998/99	7/1/98	7/4/98	2	22	8	8	334,152	19,650	7.9 <sup>h</sup>	179	1,867	0
1999/2000	7/1/99	7/4/99	2	14	8	6	211,140	20,410	9.4 <sup>h</sup>	149	1,417	<0.1
2000/01	7/1/00	8/2/00	3	43	30	28	361,032	30,266	9.0 <sup>h</sup>	221	1,634	<0.1
2001/02	7/1/01	2/11/02	1	29	21	18	511,761	30,090	NA	263	1,946	<0.1
2002/03	7/1/02	2/15/03	2	26	17	16	231,140	15,641	NA	122	1,895	<0.1
2003/04	7/1/03	1/24/04	1	22	15	13	261,720	19,980	NA	216	1,212	<0.1
2004/05	7/1/04	2/1/05	2	38	28	26	407,617	49,320	NA	614	1,148	<0.1
2005/06	7/1/05	8/22/06	3	87	56	51	818,741	49,205	NA	491	1,667	<0.1

<sup>a</sup> All days between observer briefing and debriefing.

<sup>b</sup> All days with at least one tow made by the vessel.

<sup>c</sup> All days with at least one sampled tow.

<sup>d</sup> Vessel operator estimates.

<sup>e</sup> Dredge-hour = one dredge towed for 60 minutes.

<sup>f</sup> CPUE = round weight of retained scallops per dredge-hour.

<sup>g</sup> Includes estimated illegal harvest of 59,720 lb.

<sup>h</sup> Four-year special observer project. Recovery rates determined by observer.

NA = Not Available

**Table 29.**—Summary of weathervane scallop observer data statistics from the Prince William Sound Registration Area, 1993-2005/06 fishing seasons.

Registration Area	% of Scallops In Catch Samples (by weight)	Est. Number Of Discarded Scallops	Est. Weight Of Discarded Scallops	Retained Scallops		Crab Bycatch Limits		Bycatch Estimates				Observed Tanner Crab Mortality %
				Avg. Shell Height (mm)	Sample Size	Tanner	King	Tanner	King <sup>a</sup>	Dungeness	Halibut	
Prince William Sound												
1993	90	NA	NA	124	1,628	500	NE	200	0	0	27	58
1994	Season Closed											
1995	98	NA	NA	125	1,010	500	NE	271	0	0	153	0
1996	Season Closed											
1997	97	NA	NA	123	743	500	NE	0	0	0	8	0
1998/99	91	15,457	12,789	132	540	500	NE	20	0	0	0	0
1999/2000	93	46,502	18,500	132	360	500	NE	6	0	0	0	0
2000/01	93	42,931	13,826	131	1,429	500	NE	467	0	3	9	56
2001/02	94	68,454	23,824	136	699	11,400	NE	43	0	0	5	50
2002/03	93	21,909	7,560	131	1,080	11,400	NE	369	0	0	10	97
2003/04	92	123,031	49,963	136	460	11,400	NE	8	0	8	2	0
2004/05	91	253,487	82,794	134	1,680	11,400	NE	524	0	0	90	60
2005/06	94	171,902	64,092	131	3,499	11,400	NE	465	0	0	32	30

<sup>a</sup> Actual count, not an estimated, beginning with the 1995/96 season.

NA = Not Available, NE = Not Established

**Table 30.**—Summary of weathervane scallop commercial fishery statistics, Northeast and Shelikof Districts of the Kodiak Registration Area, 1993/94- 2005/06 fishing seasons.

Registration Area	Season Dates		Number of				lb Retained Scallops (round weight) <sup>d</sup>	lb Retained Scallop Meats	% Retained Scallop Meat Recovery	Dredge Hours <sup>e</sup>	CPUE <sup>f</sup>	No. of Tanner Crab Per lb. of Retained Scallop Meats
			Vessels	Vessel Days <sup>a</sup>	Days Fishing Occurred <sup>b</sup>	Days Fishing Observed <sup>c</sup>						
	Beginning	Ending										
Kodiak												
Northeast District												
1993/94	7/1/93	11/24/93	10	<sup>g</sup>	272	237	2,214,427	155,122	NA	6,940	319	0.2
1994/95	7/1/94	2/15/95	7	<sup>g</sup>	77	68	389,202	35,207	NA	1,773	220	<0.1
1995/96	Season Closed											
1996/97	8/1/96	2/15/97	3	<sup>g</sup>	29	19	147,269	11,430	10.0 <sup>h</sup>	581	253	2.4
1997/98	7/1/97	11/19/97	3	<sup>g</sup>	95	86	1,143,926	95,858	10.1 <sup>h</sup>	2,603	439	0.1
1998/99	7/1/98	10/2/98	4	<sup>g</sup>	90	80	1,365,836	120,010	10.8 <sup>h</sup>	2,747	497	0.1
1999/2000	7/1/99	9/9/99	3	<sup>g</sup>	40	38	952,972	77,119	10.7 <sup>h</sup>	1,383	689	0.2
2000/01	7/1/00	9/26/00	4	<sup>g</sup>	40	37	681,192	79,965	11.2 <sup>h</sup>	1,101	619	0.2
2001/02	7/1/01	1/18/02	3	<sup>g</sup>	45	39	822,110	80,470	NA	1,142	720	0.3
2002/03	7/1/02	2/10/03	2	<sup>g</sup>	46	42	871,918	80,000	NA	1,350	646	0.3
2003/04	7/1/03	11/15/03	2	<sup>g</sup>	42	40	747,517	79,965	NA	1,248	599	0.2
2004/05	7/1/04	8/10/04	2	<sup>g</sup>	42	42	848,527	80,105	NA	1,227	692	0.4
2005/06	7/1/05	1/17/06	3	<sup>g</sup>	63	53	831,378	79,990	NA	1,757	473	0.4
Shelikof District												
1993/94	7/1/93	8/5/93	5	<sup>g</sup>	83	79	1,169,664	105,017	NA	2,504	467	0.5
1994/95	7/1/94	10/1/94	11	<sup>g</sup>	263	257	3,522,517	314,051	NA	8,720	404	0.2
1995/96	Season Closed											
1996/97	8/1/96	10/18/96	4	<sup>g</sup>	104	99	1,878,268	219,305	12.0 <sup>h</sup>	3,497	537	<0.1
1997/98	7/1/97	8/10/97	4	<sup>g</sup>	153	150	3,101,152	258,346	9.4 <sup>h</sup>	5,490	565	0.1
1998/99	7/1/98	8/21/98	8	<sup>g</sup>	121	112	2,129,025	179,870	9.3 <sup>h</sup>	4,081	522	0.1
1999/2000	7/1/99	9/6/99	6	<sup>g</sup>	117	111	1,903,345	187,963	11.1 <sup>h</sup>	4,304	442	0.2
2000/01	7/1/00	10/2/00	5	<sup>g</sup>	90	81	1,768,376	180,087	11.1 <sup>h</sup>	2,907	608	<0.1
2001/02	7/1/01	12/8/01	4	<sup>g</sup>	103	97	1,830,265	177,112	NA	3,398	539	0.2
2002/03	7/1/02	2/9/03	3	<sup>g</sup>	115	110	1,857,466	180,580	NA	3,799	489	<0.1
2003/04	7/1/03	1/13/04	2	<sup>g</sup>	95	88	1,724,498	180,011	NA	3,258	529	0.2
2004/05	7/1/04	12/9/04	2	<sup>g</sup>	100	96	1,641,608	174,622	NA	3,467	473	0.2
2005/06	7/1/05	12/11/05	2	<sup>g</sup>	70	65	1,454,806	159,941	NA	2,280	638	0.1

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- <sup>a</sup> All days between observer briefing and debriefing.
  - <sup>b</sup> All days with at least one tow made by the vessel.
  - <sup>c</sup> All days with at least one sampled tow.
  - <sup>d</sup> Vessel operator estimates.
  - <sup>e</sup> Dredge-hour = one dredge towed for 60 minutes.
  - <sup>f</sup> CPUE = round weight of retained scallops per dredge-hour.
  - <sup>g</sup> Included in Kodiak Area Combined, Table 32.
  - <sup>h</sup> Five-year special observer project. Recovery rates determined by observer.
- NA = Not Available

**Table 31.**—Summary of weathervane scallop observer data statistics, Northeast and Shelikof Districts of the Kodiak Registration Area, 1993/94-2005/06 fishing seasons.

Registration Area	% of Scallops In Catch Samples (by weight)	Est. Number Of Discarded Scallops	Est. Weight Of Discarded Scallops	Retained Scallops		Crab Bycatch Limits		Bycatch Estimates				Observed Tanner Crab Mortality %
				Avg. Shell Height (mm)	Sample Size	Tanner	King	Tanner	King <sup>a</sup>	Dungeness	Halibut	
<b>Kodiak</b>												
<b>Northeast District</b>												
1993/94	46	NA	NA	144	12,221	<sup>b</sup>	<sup>b</sup>	33,511	9	5	1,513	23
1994/95	44	NA	NA	151	4,171	143,000	123	2,054	190	0	577	34
1995/96	Season Closed											
1996/97	54	22,076	8,355	144	1,252	130,000	66	27,722	0	0	704	16
1997/98	58	193,776	41,615	140	7,300	91,600	50	11,914	0	0	58	28
1998/99	57	800,629	190,480	127	7,961	46,500	21	13,887	1	0	309	44
1999/2000	62	410,193	113,349	132	3,969	66,500	150	13,886	0	0	158	41
2000/01	80	351,100	113,422	136	3,302	81,000	200	13,311	0	0	47	24
2001/02	76	305,047	108,835	140	3,240	425,000	15	20,362	0	100	94	24
2002/03	71	486,634	165,976	140	3,593	1,100,000	15	22,821	0	0	175	27
2003/04	61	364,548	113,023	145	3,026	606,991	17	18,230	0	0	197	39
2004/05	69	909,579	261,512	144	3,180	527,388	40	30,717	1	0	109	70
2005/06	65	716,148	217,355	139	3,668	449,403	45	29,264	0	0	211	58
<b>Shelikof District</b>												
1993/94	71	NA	NA	128	6,599	<sup>b</sup>	<sup>b</sup>	51,560	0	122	226	13
1994/95	64	NA	NA	131	20,426	98,000	219	64,444	29	1,097	851	14
1995/96	Season Closed											
1996/97	77	753,292	197,174	136	10,615	16,100	22	11,285	0	515	440	37
1997/98	78	427,756	93,221	139	16,378	51,000	35	36,744	0	4,359	448	22
1998/99	78	1,054,711	216,354	137	11,967	33,500	196	22,707	0	33	502	40
1999/2000	64	1,144,593	289,867	130	12,353	42,500	250	38,893	0	100	493	45
2000/01	80	569,722	128,614	134	7,559	49,000	125	15,133	2	54	366	38
2001/02	78	722,636	239,459	140	9,057	59,000	50	29,114	1	451	247	33
2002/03	76	1,827,306	492,954	138	9,195	67,500	50	51,165	0	2,704	301	36
2003/04	80	1,654,486	400,946	135	7,627	93,139	25	40,575	0	904	574	54
2004/05	74	1,563,694	434,807	137	8,371	35,069	25	33,338	1	1,647	579	67
2005/06	81	622,014	164,900	136	5,183	51,822	1,345	18,055	0	1,267	177	57

<sup>a</sup> Actual count, not an estimate, beginning with the 1995/96 season.

<sup>b</sup> Included in Kodiak Area combined, Table 33.

NA = Not Available

**Table 32.**—Summary of weathervane scallop commercial fishery statistics from the Semidi Island District and Kodiak Registration Area combined, 1993/94-2005/06 fishing seasons.

Registration Area	Season Dates		Number of				lb Retained Scallops (round weight) <sup>d</sup>	lb Retained Scallop Meats	% Retained Scallop Meat Recovery	Dredge Hours <sup>e</sup>	CPUE <sup>f</sup>	No. of Tanner Crab Per lb. of Retained Scallop Meats
			Vessels	Vessel Days <sup>a</sup>	Days Fishing Occurred <sup>b</sup>	Days Fishing Observed <sup>c</sup>						
	Beginning	Ending										
<b>Kodiak</b>												
<b>Semidi Island District</b>												
1993/94	7/1/93	2/11/94	7	<sup>g</sup>	75	70	579,836	55,487	NA	1,819	319	1.1
1994/95	7/1/94	2/15/95	2	<sup>g</sup>	10	10	<sup>h</sup>	<sup>h</sup>	<sup>h</sup>	<sup>h</sup>	<sup>h</sup>	<sup>h</sup>
1995/96	Season Closed											
1996/97	8/1/96	2/15/97	3	<sup>g</sup>	37	32	288,117	37,810	12.0 <sup>i</sup>	1,017	283	0.2
1997/98	7/10/97	2/15/98	1	<sup>g</sup>	14	14	61,320	6,315	11.4 <sup>i</sup>	349	176	1.3
1998/99	7/1/98	10/2/98	2	<sup>g</sup>	5	5	15,806	1,720	11.8 <sup>i</sup>	106	149	0.5
1999/2000	7/1/99	2/15/00	1	<sup>g</sup>	4	1	11,310	930	NA	45	251	<0.1
2000/01	7/1/00	2/15/01	No Fishing									
2001/02	7/1/01	2/15/02	No Fishing									
2002/03	7/1/02	2/15/03	No Fishing									
2003/04	7/1/03	2/15/04	No Fishing									
2004/05	7/1/04	2/15/05	No Fishing									
2005/06	7/1/05	2/15/06	No Fishing									
<b>Kodiak Area combined</b>												
1993/94	7/1/93	2/11/94	10	597	430	386	3,963,927	315,626	NA	11,236	353	0.5
1994/95	7/1/94	2/15/95	11	474	350	333	3,911,719	355,628	NA	10,765	363	0.2
1995/96	Season Closed											
1996/97	7/1/96	2/15/97	5	237	170	150	2,313,654	268,545	12.0 <sup>i</sup>	5,095	454	0.2
1997/98	7/1/97	2/15/98	5	335	262	250	4,306,399	360,339	9.4 <sup>i</sup>	8,442	510	0.2
1998/99	7/1/98	10/2/98	8	316	216	197	3,510,667	301,600	9.9 <sup>i</sup>	6,934	506	0.1
1999/2000	7/1/99	2/15/00	6	203	159	150	2,867,627	266,012	10.9 <sup>i</sup>	5,732	500	0.2
2000/01	7/1/00	2/15/01	5	170	129	118	2,449,574	260,052	11.1 <sup>i</sup>	4,008	611	0.1
2001/02	7/1/01	2/15/02	4	191	148	136	2,652,375	257,582	NA	4,540	584	0.2
2002/03	7/1/02	2/15/03	3	200	161	152	2,729,384	260,580	NA	5,149	530	0.3
2003/04	7/1/03	2/15/04	2	169	137	128	2,472,015	259,976	NA	4,506	549	0.2
2004/05	7/1/04	2/15/05	2	166	142	138	2,490,135	254,727	NA	4,694	530	0.3
2005/06	7/1/05	2/15/06	3	152	132	118	2,286,184	239,931	NA	4,039	566	0.2

-continued-

- <sup>a</sup> All days between observer briefing and debriefing.
- <sup>b</sup> All days with at least one tow made by the vessel.
- <sup>c</sup> All days with at least one sampled tow.
- <sup>d</sup> Vessel operator estimates.
- <sup>e</sup> Dredge-hour = one dredge towed for 60 minutes.
- <sup>f</sup> CPUE = round weight of retained scallops per dredge-hour.
- <sup>g</sup> Included in Kodiak Area Combined, Table 32.
- <sup>h</sup> Confidential, combined with Shelikof, Table 30.
- <sup>i</sup> Five-year special observer project. Recovery rates determined by observers.

NA = Not Available

**Table 33.**—Summary of weathervane scallop observer data statistics from the Semidi Island District and Kodiak Registration Area combined, 1993/94-2005/06 fishing seasons.

Registration Area	% of Scallops In Catch Samples (by weight)	Est. Number Of Discarded Scallops	Est. Weight Of Discarded Scallops	Retained Scallops		Crab Bycatch Limits		Bycatch Estimates				Observed Tanner Crab Mortality %
				Avg. Shell Height (mm)	Sample Size	Tanner	King	Tanner	King <sup>a</sup>	Dungeness	Halibut	
<b>Kodiak</b>												
Semidi Island District												
1993/94	38	NA	NA	145	3,713	NE	NE	62,726	29	12,905	136	21
1994/95	49	NA	NA	153	767	NE	NE	984	22	64	21	28
1995/96	Season Closed											
1996/97	52	11,211	6,000	154	2,529	NE	NE	8,902	9	0	79	37
1997/98	21	5,831	2,716	147	1,066	NE	NE	8,500	1	856	21	43
1998/99	35	1,453	508	151	252	NE	NE	780	0	37	17	23
1999/2000	38	929	375	152	120	NE	NE	66	0	0	0	29
2000/01	No Fishing					NE	NE					
2001/02	No Fishing					NE	NE					
2002/03	No Fishing					NE	NE					
2003/04	No Fishing					NE	NE					
2004/05	No Fishing					NE	NE					
2005/06	No Fishing					NE	NE					
<b>Kodiak Area combined</b>												
1993/94	50	NA	NA	143	22,533	199,500	283	147,797	38	13,032	1,875	18
1994/95	60	NA	NA	135	25,364	241,000	342	67,482	241	1,161	1,449	15
1995/96	Season Closed											
1996/97	71	786,579	211,529	139	14,396	146,100	88	47,909	9	515	721	28
1997/98	73	1,727,874	308,719	139	24,744	142,600	85	57,158	1	5,215	157	26
1998/99	69	1,856,793	407,342	134	20,180	80,000	217	37,374	1	70	828	40
1999/2000	69	1,555,715	403,591	131	16,344	109,000	400	52,845	0	100	651	44
2000/01	80	920,722	242,036	135	10,858	130,000	325	28,444	0	54	413	33
2001/02	77	1,027,683	348,294	140	12,297	484,000	65	49,476	0	451	341	29
2002/03	73	2,313,940	658,930	139	12,788	1,167,500	65	73,986	0	2,704	476	31
2003/04	73	2,019,034	513,969	138	10,653	700,130	42	58,805	0	904	771	49
2004/05	72	2,473,273	696,319	139	11,551	562,457	65	64,055	2	1,647	688	68
2005/06	74	1,338,162	382,255	137	8,851	501,225	1,390	47,319	0	1,267	388	58

<sup>a</sup> Actual count, not an estimate, beginning with the 1995/96 season.

NA = Not Available, NE = Not Established

**Table 34.**—Summary of weathervane scallop commercial fishery statistics from the Alaska Peninsula and Bering Sea Registration Areas, 1993/94-2005/06 fishing seasons.

Registration Area	Season Dates		Number of				lb Retained Scallops (round lb) <sup>d</sup>	lb Retained Scallop Meats	% Retained Scallop Meat Recovery	Dredge Hours <sup>e</sup>	CPUE <sup>f</sup>	No. of Tanner Crab Per lb of Retained Scallop Meats
	Beginning	Ending	Vessels	Vessel Days <sup>a</sup>	Days Fishing Occurred <sup>b</sup>	Days Fishing Observed <sup>c</sup>						
Alaska Peninsula												
1993/94	7/1/93	10/21/93	8	136	75	69	1,061,925	112,152	NA	1,847	575	1.3
1994/95	7/1/95	9/22/95	7	137	80	70	619,473	65,282	NA	1,664	372	0.4
1995/96	Season Closed											
1996/97	8/1/96	10/31/96	2	34	13	12	130,235	12,560	11.0 <sup>g</sup>	327	398	1.5
1997/98	7/1/97	2/15/98	4	100	68	64	654,960	51,616	8.7 <sup>g</sup>	1,752	374	0.4
1998/99	7/1/98	9/19/98	4	65	48	46	617,120	63,290	11.0 <sup>g</sup>	1,612	383	0.8
1999/2000	7/1/99	9/29/99	5	108	73	65	781,596	75,535	10.3 <sup>g</sup>	2,025	386	0.4
2000/01	7/1/00	2/15/01	3	25	14	9	95,510	7,660	9.4 <sup>g</sup>	320	298	0.3
2001/02	Season Closed											
2002/03	Season Closed											
2003/04	7/1/03	2/15/04					No Fishing					
2004/05	7/1/04	2/15/05					No Fishing					
2005/06	7/1/05	2/15/06					No Fishing					
Bering Sea												
1993/94	7/1/93	9/5/93	9	275	174	168	3,447,681	284,414	NA	5,763	598	1.0
1994/95	7/1/94	9/7/94	8	382	312	309	5,942,912	505,439	NA	11,113	535	0.5
1995/96	Season Closed											
1996/97	8/1/96	2/15/97	1	79	63	54	1,432,160	150,295	10.0 <sup>g</sup>	2,313	619	0.8
1997/98	7/1/97	8/11/97	2	81	66	64	1,082,825	97,002	8.8 <sup>g</sup>	2,246	482	2.3
1998/99	7/1/98	9/4/98	4	106	73	64	1,193,071	96,795	8.7 <sup>g</sup>	2,319	514	2.8
1999/2000	7/1/99	8/30/99	2	120	94	81	1,851,620	164,929	9.1 <sup>g</sup>	3,294	562	1.4
2000/01	7/1/00	8/23/00	3	112	91	87	2,376,601	205,520	9.3 <sup>g</sup>	3,355	708	0.8
2001/02	7/1/01	10/31/01	3	106	84	82	1,700,578	140,871	NA	3,072	554	0.8
2002/03	7/1/02	2/15/03	2	106	61	56	952,958	92,240	NA	2,038	468	1.3
2003/04	7/1/03	2/15/04	2	42	28	26	537,552	42,590	NA	1,020	527	1.1
2004/05	7/1/04	2/15/05	1	13	7	7	129,220	10,050	NA	275	470	1.9
2005/06	7/1/05	2/15/06	1	35	21	18	231,700	23,220	NA	602	385	0.9

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- <sup>a</sup> All days between observer briefing and debriefing.
  - <sup>b</sup> All days with at least one tow made by the vessel.
  - <sup>c</sup> All days with at least one sampled tow.
  - <sup>d</sup> Vessel operator estimates.
  - <sup>e</sup> Dredge-hour = one dredge towed for 60 minutes.
  - <sup>f</sup> CPUE = round weight of retained scallops per dredge-hour.
  - <sup>g</sup> Five-year special observer project. Recovery rates determined by observer.
- NA = Not Available

**Table 35.**—Summary of weathervane scallop observer data statistics from the Alaska Peninsula and Bering Sea Registration Areas, 1993/94-2005/06 fishing seasons.

Registration Area	% Scallops In Catch Samples (by weight)	Est. Number Of Discarded Scallops	Est. lb Of Discarded Scallops	Retained Scallops		Crab Bycatch Limits			Bycatch Estimates					Observed Tanner Crab Mortality %	
				Avg. Shell Height (mm)	Sample Size	Snow	Tanner	King	Snow <sup>a</sup>	Tanner	King <sup>b</sup>	Dungeness	Halibut		
Alaska Peninsula															
1993/94	75	NA	NA	119	5,183	NA	52,530	85	NA	180,319	25	0	329	35	
1994/95	73	NA	NA	127	4,069	NA	44,000	119	NA	25,287	0	73	157	29	
1995/96	Season Closed														
1996/97	70	33,684	7,384	126	769	NA	22,000	435	NA	19,045	0	4	25	32	
1997/98	56	56,654	38,219	135	5,604	NA	45,300	79	NA	21,971	0	0	347	21	
1998/99	71	212,152	43,129	128	4,276	NA	48,500	900	NA	47,780	0	140	226	20	
1999/2000	66	256,592	59,077	129	6,046	NA	75,500	300	NA	28,160	1	2,349	178	32	
2000/01	73	18,633	4,538	119	699	NA	42,000	100	NA	2,636	1	0	8	28	
2001/02	Season Closed														
2002/03	Season Closed														
2003/04	No Fishing														
2004/05	No Fishing														
2005/06	No Fishing														
Bering Sea															
1993/94	NA	NA	NA	146	12,169	NA	260,000	17,000	15,000	290,913	207	0	165	12	
1994/95	77	NA	NA	147	26,451	NA	260,000	17,000	34,867	220,710	22	0	3,513	24	
1995/96	Season Closed														
1996/97	88	34,412	16,188	147	4,039	275,000	257,000	500	106,935	16,642	0	0	124	16	
1997/98	74	114,614	38,262	151	4,726	172,000	238,000	500	195,345	28,446	0	0	98	53	
1998/99	70	403,121	127,607	147	5,479	130,000	215,000	500	232,911	39,363	146	12	98	44	
1999/2000	69	157,289	68,406	145	8,751	300,000	65,000	500	159,656	62,268	2	0	106	22	
2000/01	81	298,483	97,994	142	8,418	150,000	65,000	500	103,350	52,505	2	0	50	30	
2001/02	80	180,075	76,261	141	7,316	300,000	65,000	500	68,458	48,718	2	0	76	41	
2002/03	78	135,276	55,165	149	4,807	300,000	65,000	500	70,795	48,053	2	0	85	35	
2003/04	72	92,696	34,602	148	2,481	150,000	65,000	500	16,206	31,316	0	0	61	48	
2004/05	67	15,076	5,622	146	633	150,000	65,000	500	3,843	15,303	0	0	0	44	
2005/06	72	37,110	17,382	154	1,491	150,000	65,000	500	5,211	15,529	2	0	53	51	

<sup>a</sup> Snow and *C. bairdi* x *C. opilio* (hybrid) crabs combined.

<sup>b</sup> Actual count, not an estimate, beginning with the 1995/96 season.

NA = Not Available



**Table 36.**—Summary of weathervane scallop commercial fishery statistics from the Dutch Harbor and Adak Registration Areas, 1993/94-2005/06 fishing seasons.

Registration Area	Season Dates		Number of				lb Retained Scallops (round lb) <sup>d</sup>	lb Retained Scallop Meats	% Retained Scallop Meat Recovery	Dredge Hours <sup>e</sup>	CPUE <sup>f</sup>	No. of Tanner Crab Per lb of Retained Scallop Meats
	Beginning	Ending	Vessels	Vessel Days <sup>a</sup>	Days Fishing Occurred <sup>b</sup>	Days Fishing Observed <sup>c</sup>						
Dutch Harbor												
1993/94	7/1/93	9/18/93	2	46	36	24	432,970	38,731	NA	838	517	1.8
1994/95	7/1/94	2/15/95	3	21	6	6	23,590	1,931	NA	81	291	0.4
1995/96	7/1/95	2/15/96	1	62	38	35	289,398	26,950	NA	1,047	276	0.2
1996/97	8/1/96	2/15/97	No Fishing									
1997/98	7/1/97	8/25/97	1	15	8	8	55,725	5,790	10.6 <sup>g</sup>	171	326	2.2
1998/99	7/1/98	2/15/99	4	84	37	34	427,422	46,432	10.5 <sup>g</sup>	1,025	417	0.1
1999/2000	7/1/99	10/1/99	1	16	13	10	68,070	6,465	11.8 <sup>g</sup>	273	249	0.7
2000/01	Season Closed											
2001/02	Season Closed											
2002/03	7/1/02	2/15/03	1	10	8	7	59,116	6,000	NA	184	321	0.5
2003/04	Season Closed											
2004/05	Season Closed											
2005/06	Season Closed											
Adak												
1993/94	Not established as a separate area, included with Bering Sea Area.											
1994/95	7/1/94	2/15/95	No Fishing									
1995/96	7/1/95	2/15/96	1	7	4	4	Confidential					
1996/97	8/1/96	2/15/97	No Fishing									
1997/98	7/1/97	2/15/98	No Fishing									
1998/99	7/1/98	2/15/99	No Fishing									
1999/2000	7/1/99	2/15/00	No Fishing									
2000/01	7/1/00	2/15/01	No Fishing									
2001/02	7/1/01	2/15/02	No Fishing									
2002/03	7/1/02	2/15/03	No Fishing									
2003/04	7/1/03	2/15/04	No Fishing									
2004/05	7/1/04	2/15/05	No Fishing									
2005/06	7/1/05	2/15/06	No Fishing									

- <sup>a</sup> All days between observer briefing and debriefing.
  - <sup>b</sup> All days with at least one tow made by the vessel.
  - <sup>c</sup> All days with at least one sampled tow.
  - <sup>d</sup> Vessel operator estimates.
  - <sup>e</sup> Dredge-hour = one dredge towed for 60 minutes.
  - <sup>f</sup> CPUE = round weight of retained scallops per dredge-hour.
  - <sup>g</sup> Three-year special observer project. Recovery rates determined by observer.
- NA = Not Available

**Table 37.**—Summary of weathervane scallop observer data statistics from the Dutch Harbor and Adak Registration Areas, 1993/94-2005/06 fishing seasons.

Registration Area	% Scallops In Catch Samples (by weight)	Est. Number Of Discarded Scallops	Est. lb Of Discarded Scallops	Retained Scallops		Crab Bycatch Limits			Bycatch Estimates					Observed Tanner Crab Mortality %	
				Avg. Shell Height (mm)	Sample Size	Snow	Tanner	King	Snow <sup>a</sup>	Tanner	King <sup>b</sup>	Dungeness	Halibut		
Dutch Harbor															
1993/94	NA	NA	NA	128	1,948	NA	50,500	45	NA	69,354	35	0	270	50	
1994/95	56	NA	NA	158	105	NA	87,000	47	NA	757	7	0	0	54	
1995/96	NA	NA	NA	134	3,026	NA	NA	NA	NA	5,980	0	0	37	22	
1996/97	No Fishing					NA	10,700								
1997/98	36	67,742	18,561	127	267	NA	10,700	10	NA	12,582	1	0	22	44	
1998/99	71	92,270	29,348	128	2,850	NA	10,700	10	NA	6,479	0	23	35	8	
1999/2000	54	11,459	4,284	135	1,008	NA	10,700	10	NA	4,274	0	0	39	47	
2000/01	Season Closed														
2001/02	Season Closed														
2002/03	60	12,705	4,346	133	537	NA	10,700	50	NA	2,744	0	29	0	31	
2003/04	Season Closed														
2004/05	Season Closed														
2005/06	Season Closed														
Adak															
1993/94	Not established as a separate area, included with Bering Sea Area.														
1994/95	No Fishing					NA	NA	NA							
1995/96	Confidential					NA	NA	NA	Confidential						
1996/97	No Fishing					NA	10,000	50							
1997/98	No Fishing					NA	10,000	50							
1998/99	No Fishing					NA	10,000	50							
1999/2000	No Fishing					NA	10,000	50							
2000/01	No Fishing					NA	10,000	50							
2001/02	No Fishing					NA	10,000	50							
2002/03	No Fishing					NA	10,000	50							
2003/04	No Fishing					NA	10,000	50							
2004/05	No Fishing					NA	10,000	50							
2005/06	No Fishing					NA	10,000	50							

<sup>a</sup> Snow and *C. bairdi* x *C. opilio* (hybrid) crabs combined.

<sup>b</sup> Actual count, not an estimated, beginning with the 1995/96 season.

NA = Not Available

**Table 38.**—Number and condition of Pacific halibut in bycatch samples, 2003/04-2005/06 weathervane scallop fishing seasons.

Registration Area	Season	Number of Halibut <sup>a</sup>					Previously dead	Total
		Excellent	Good	Fair	Poor	Dead		
Yakutat								
District 16	2003/04	1	0	0	0	0	0	1
	2004/05	1	9	2	1	1	0	14
	2005/06	0	0	0	0	0	0	0
Area D	2003/04	6	10	12	3	4	0	36 <sup>b</sup>
	2004/05	2	15	5	0	7	0	29
	2005/06	11	20	6	15	8	1	61
Prince William Sound	2003/04	0	0	0	0	1	0	1
	2004/05	4	5	0	2	3	1	15
	2005/06	2	5	2	0	0	0	9
Kodiak								
Northeast District	2003/04	3	5	3	2	4	6	23
	2004/05	0	5	0	2	8	0	15
	2005/06	3	1	5	1	15	1	26
Shelikof District	2003/04	12	21	5	15	13	0	68 <sup>c</sup>
	2004/05	15	20	12	8	14	3	74 <sup>c</sup>
	2005/06	5	12	3	1	2	0	24 <sup>b</sup>
Semidi District	2003/04				No Fishing			
	2004/05				No Fishing			
	2005/06				No Fishing			
Alaska Peninsula	2003/04				No Fishing			
	2004/05				No Fishing			
	2005/06				No Fishing			
Bering Sea	2003/04	0	3	4	0	0	0	7
	2004/05	0	0	0	0	0	0	0
	2005/06	1	2	4	0	0	0	8 <sup>b</sup>
Dutch Harbor	2003/04				Season Closed			
	2004/05				Season Closed			
	2005/06				Season Closed			
Statewide Total	2003/04	22	39	24	20	22	6	136
	2004/05	22	54	19	13	33	4	147
	2005/06	22	40	20	17	25	2	128

-continued-

<sup>a</sup> Condition Codes:

Excellent: Vigorous body movement before and after release; could close operculum tightly; minor external injuries, if any.

Good: Feeble body movements; could close operculum tightly; minor external injuries, if any.

Fair: No body movement; could close operculum tightly; minor external injuries, if any.

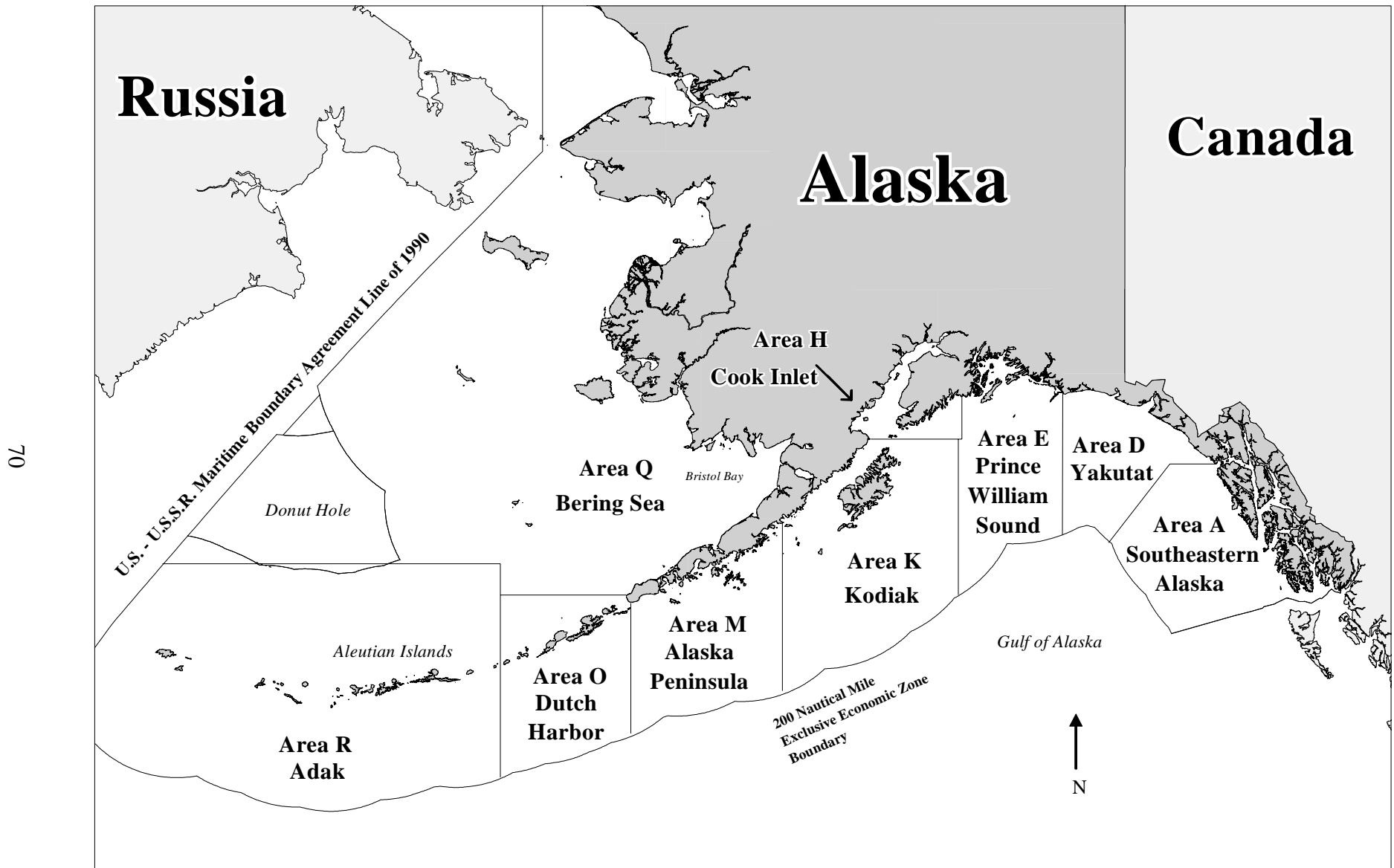
Poor: No body movement; could move operculum but not tightly; severe injuries (eg. bleeding).

Dead: No body or opercular movement; probably killed in sampled haul.

Previously dead: Obviously not killed in the current haul (incidentally caught).

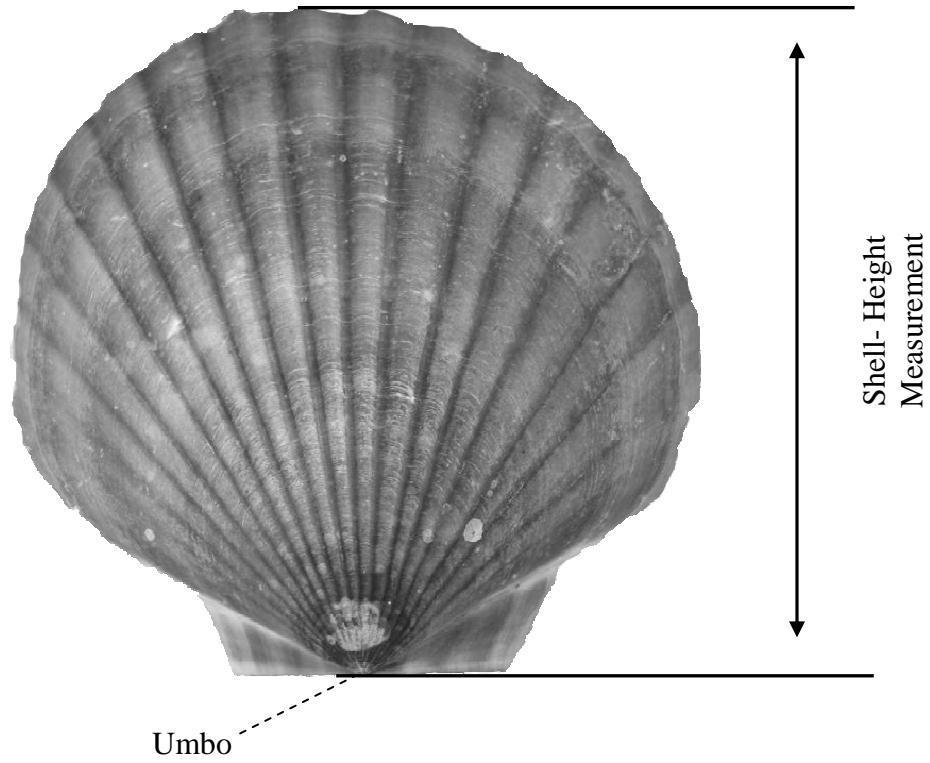
<sup>b</sup> Includes 1 halibut that was not examined.

<sup>c</sup> Includes 2 halibut that were not examined.

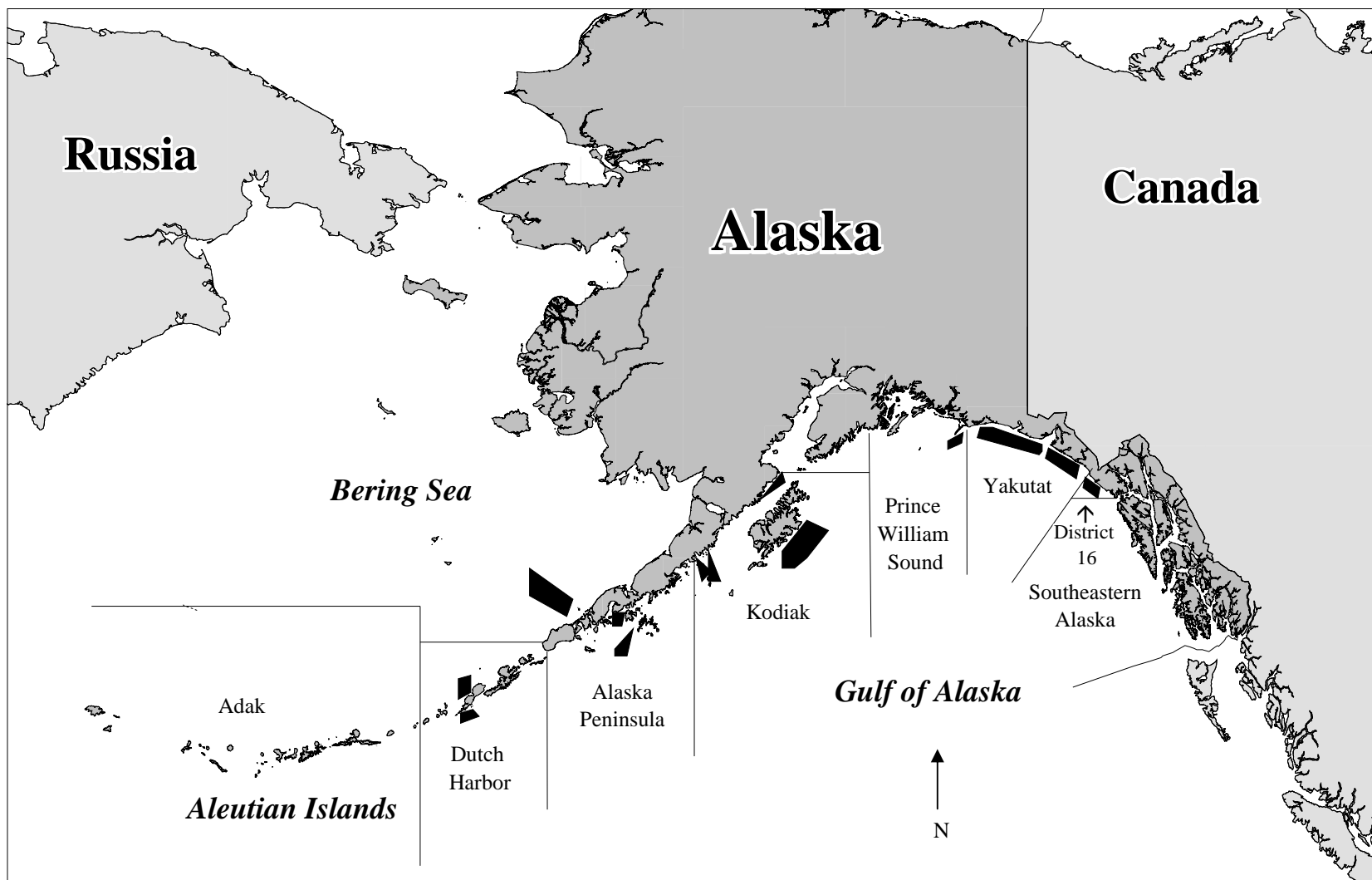


**Figure 1.**—State of Alaska weathervane scallop fishing registration areas.

LEFT VALVE (Top Valve)

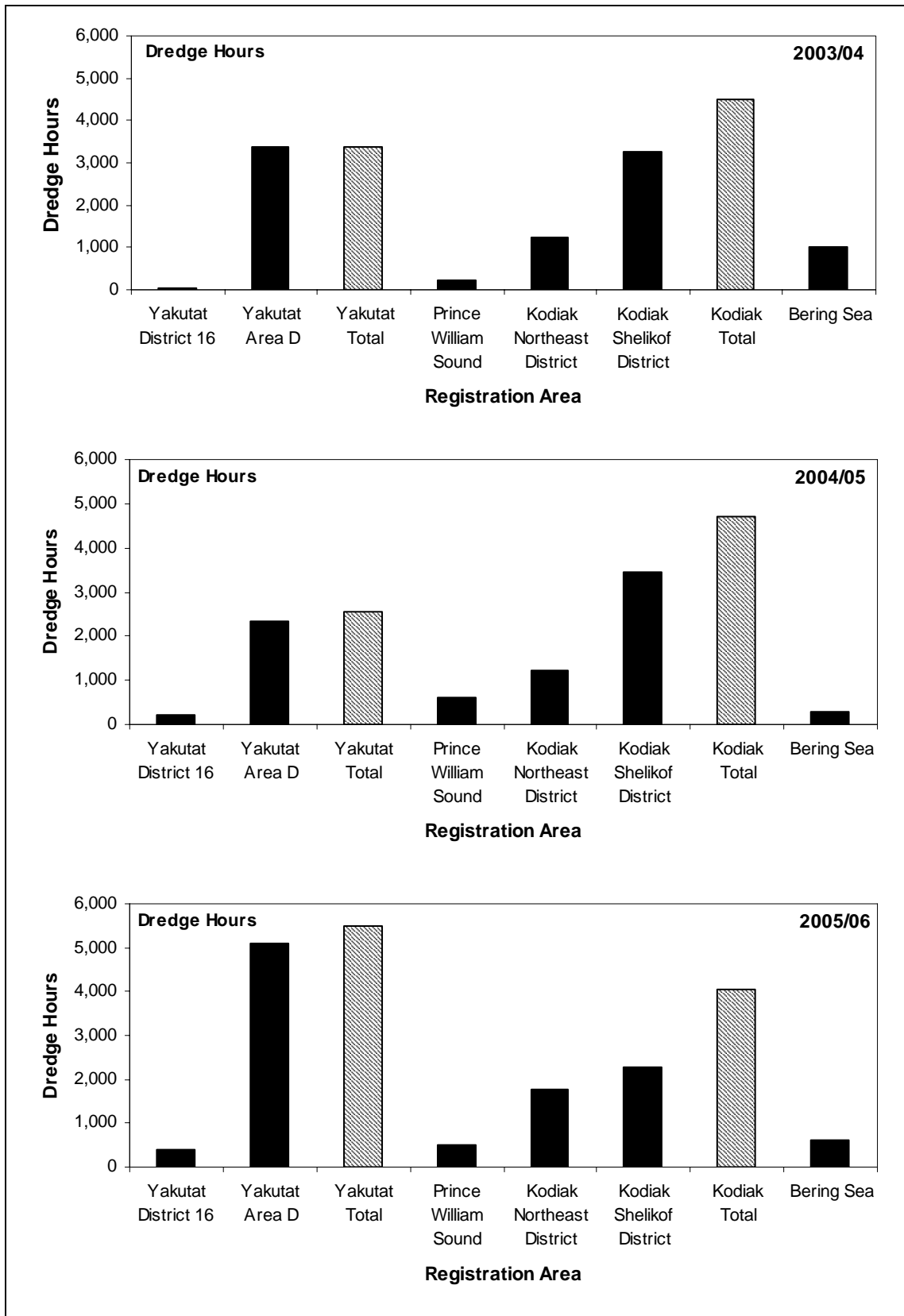


**Figure 2.**–Scallop shell height measurement.

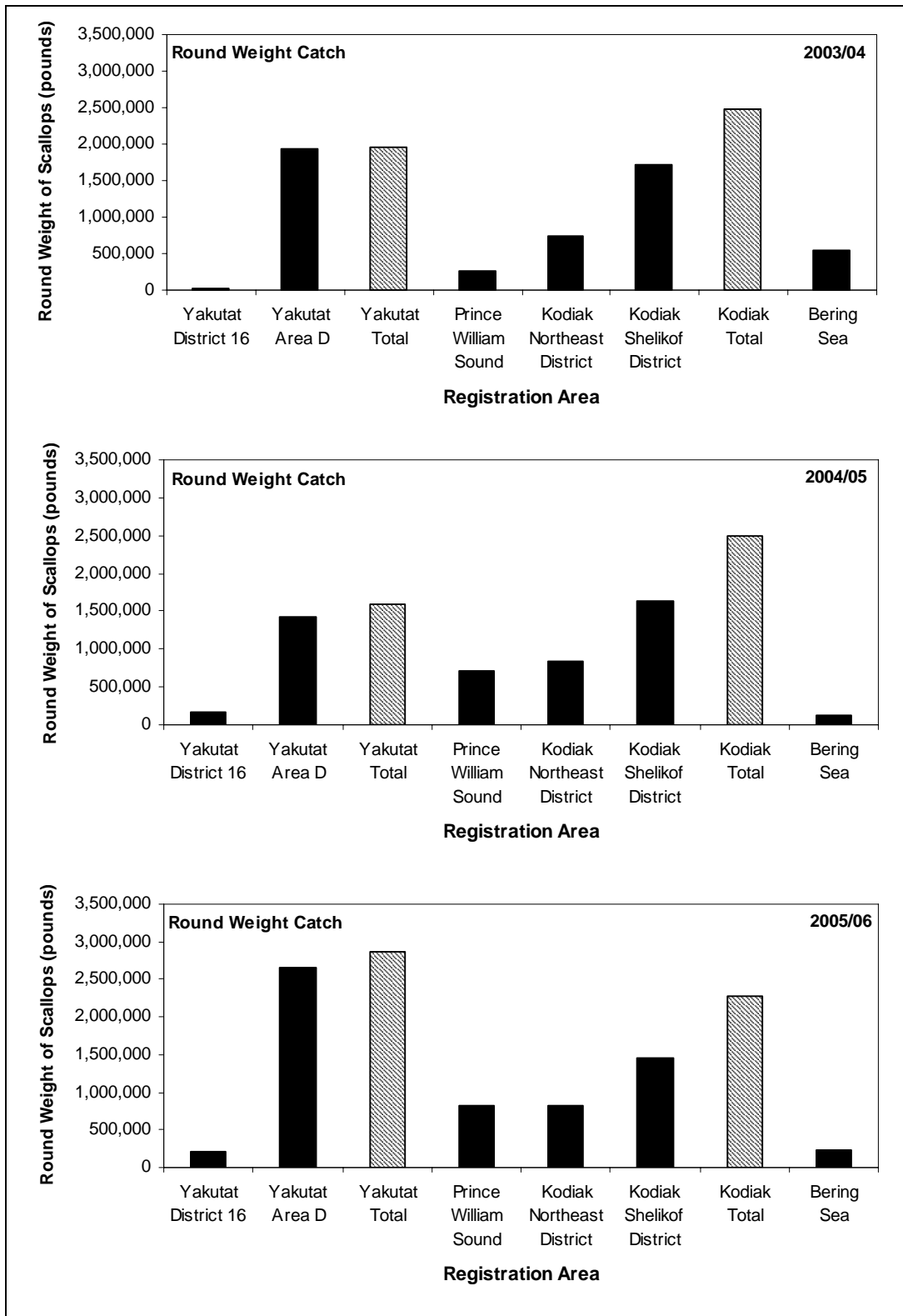


**Figure 3.**—Major weathervane scallop fishing locations in coastal waters of Alaska.

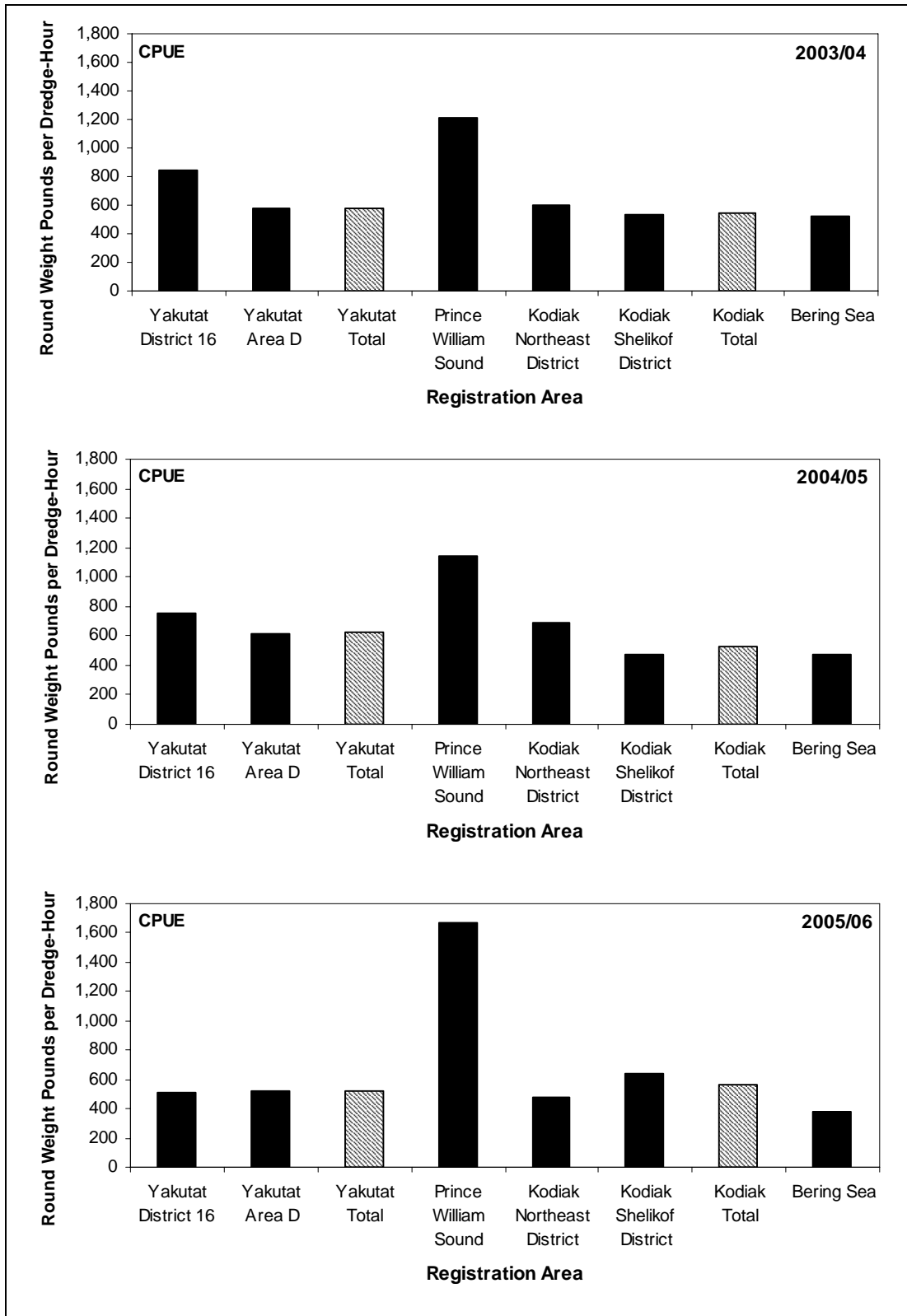




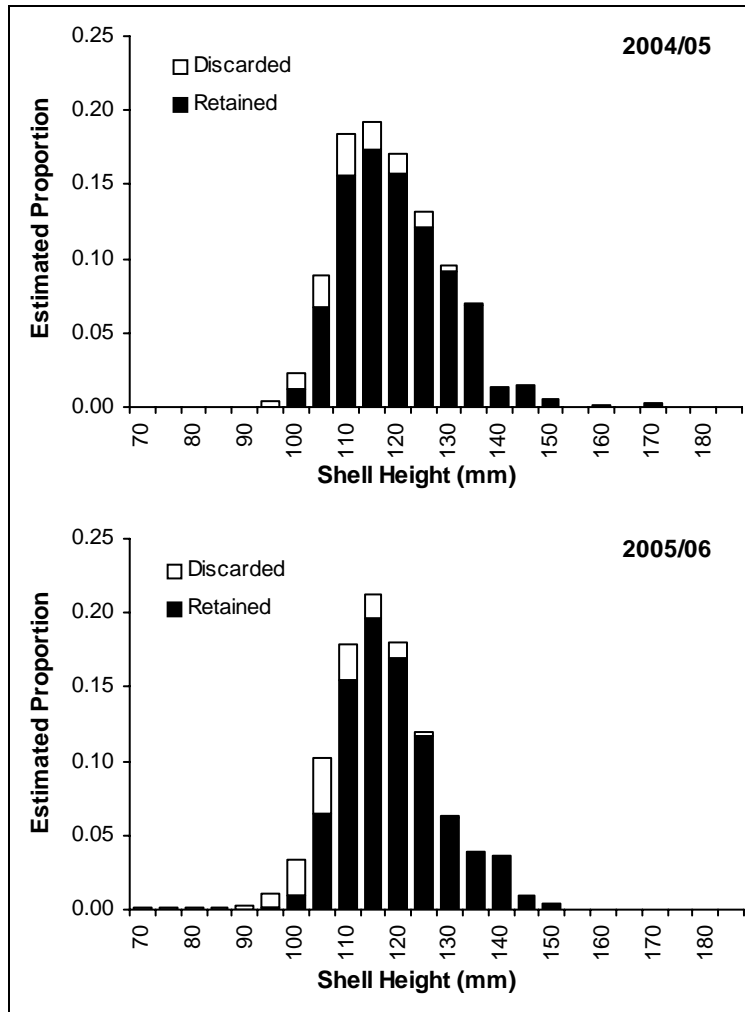
**Figure 4.**—Fishing effort in dredge-hours by registration area and district, 2003/04-2005/06 weathervane scallop fishing seasons.



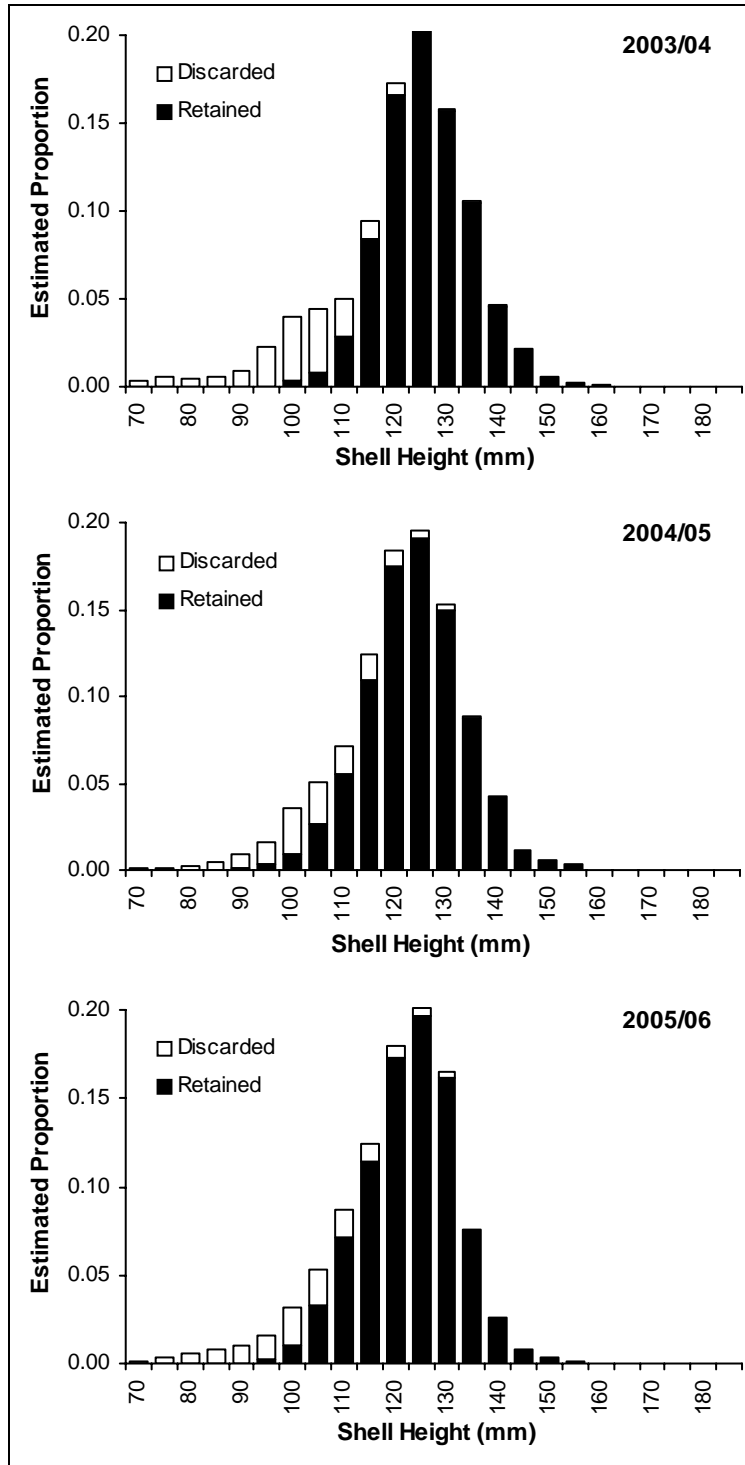
**Figure 5.**—Round weight of retained scallops by registration area and district, 2003/04-2005/06 weathervane scallop fishing seasons.



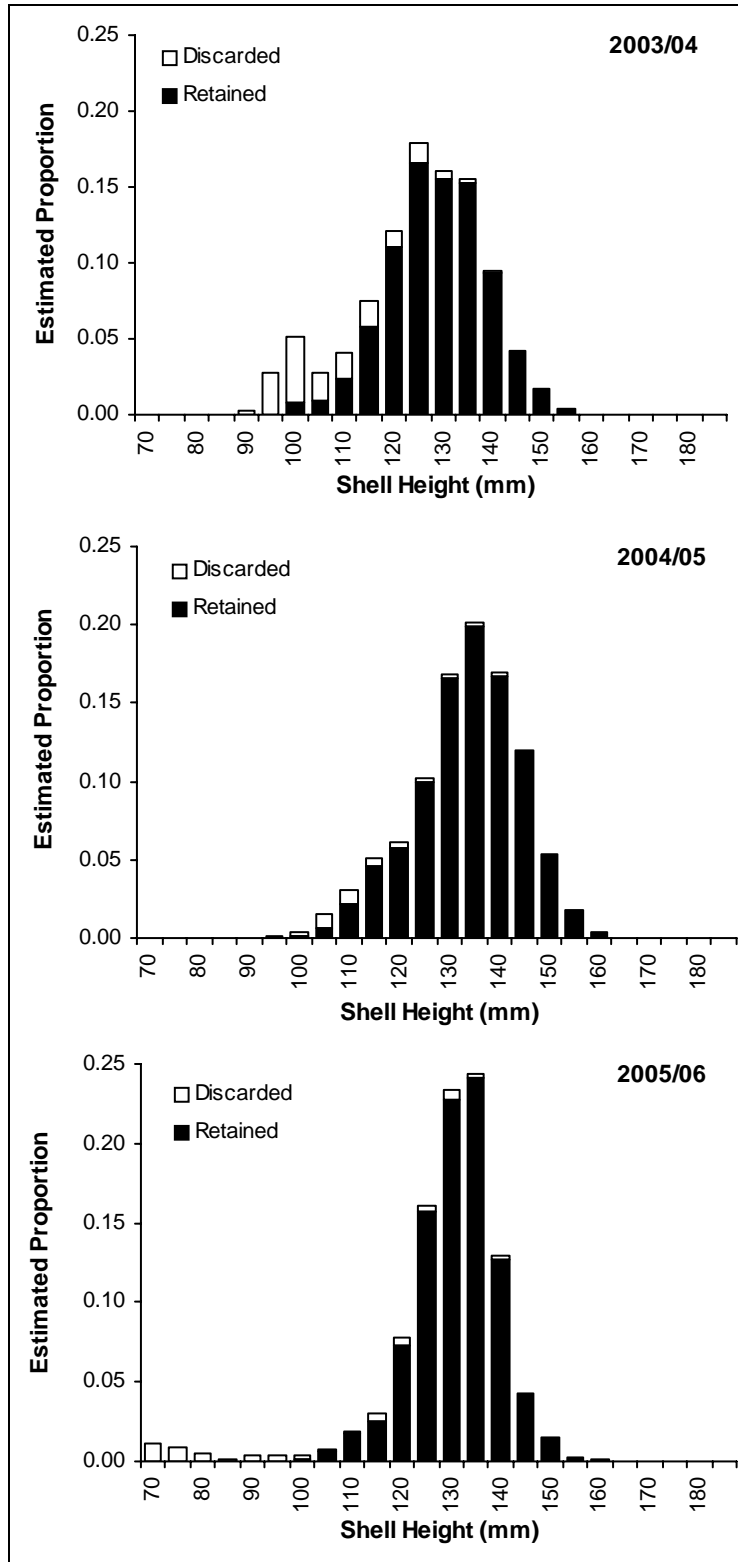
**Figure 6.**—Round weight of retained scallops per dredge-hour by registration area and district, 2003/04-2005/06 weathervane scallop fishing seasons.



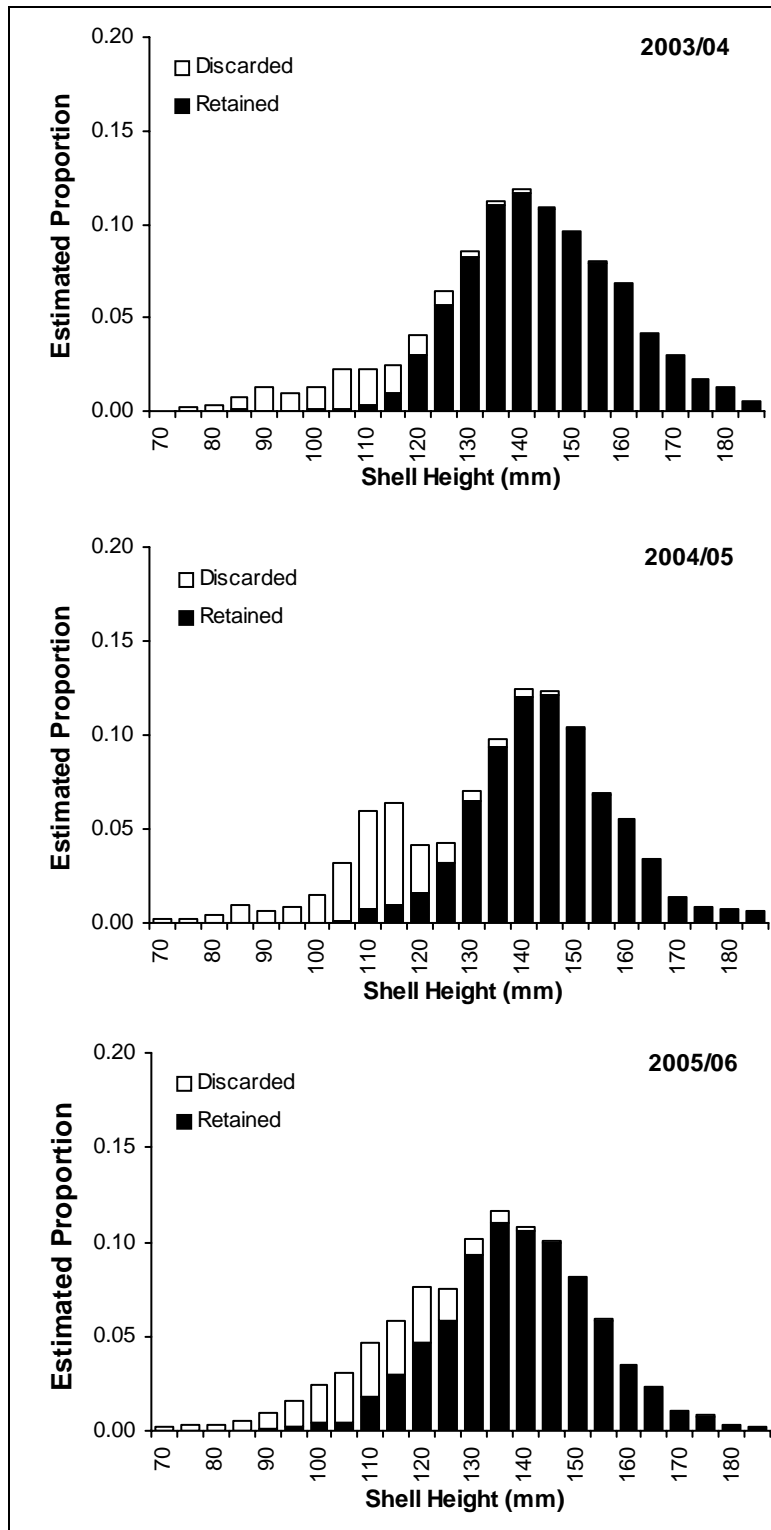
**Figure 7.**—Estimated shell height distribution from resampling observer-collected scallop measurements, Yakutat, District 16, 2004/05 and 2005/06 weathervane scallop fishing seasons.



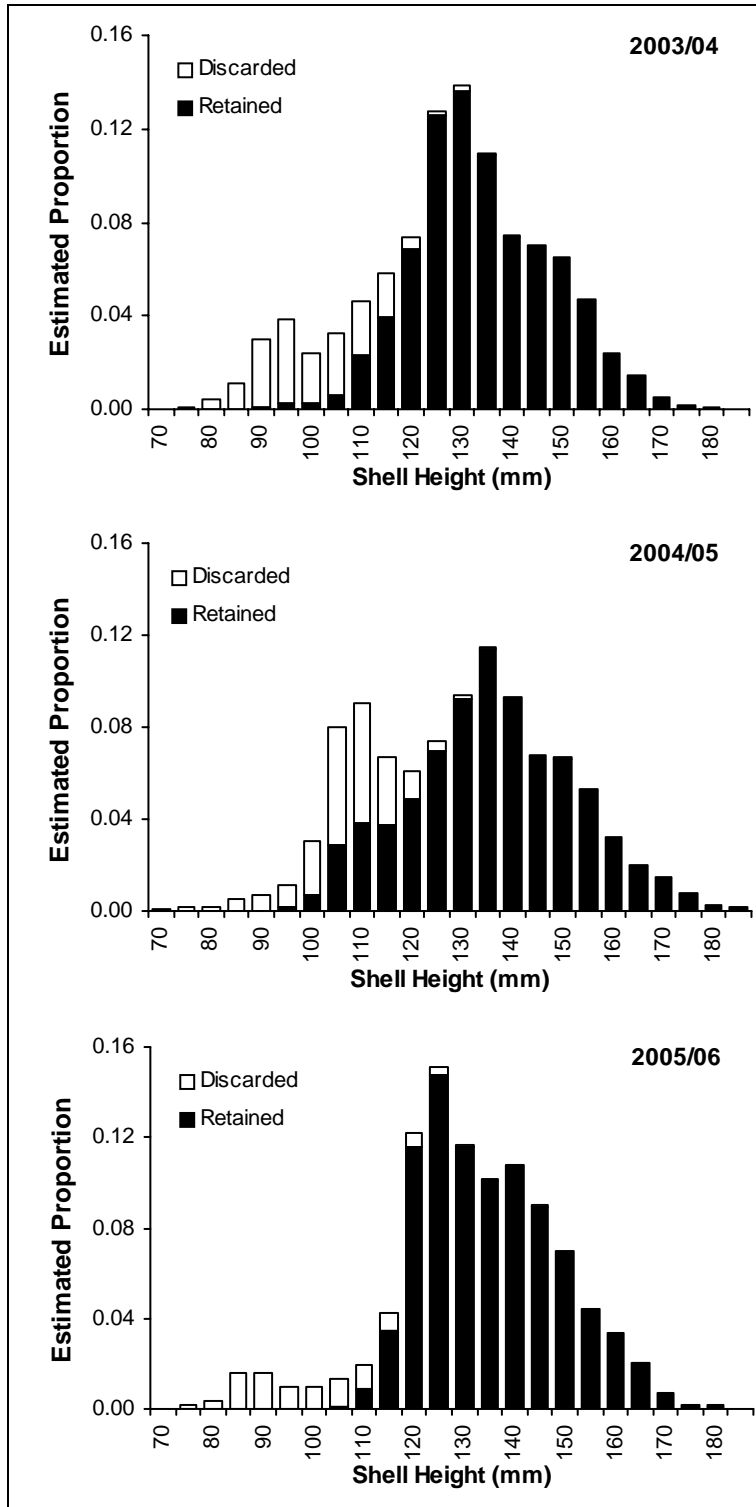
**Figure 8.**—Estimated shell height distribution from resampling observer-collected scallop measurements, Yakutat, Area D, 2003/04-2005/06 weathervane scallop fishing seasons.



**Figure 9.**—Estimated shell height distribution from resampling observer-collected scallop measurements, Prince William Sound Registration Area, 2003/04-2005/06 weathervane scallop fishing seasons.

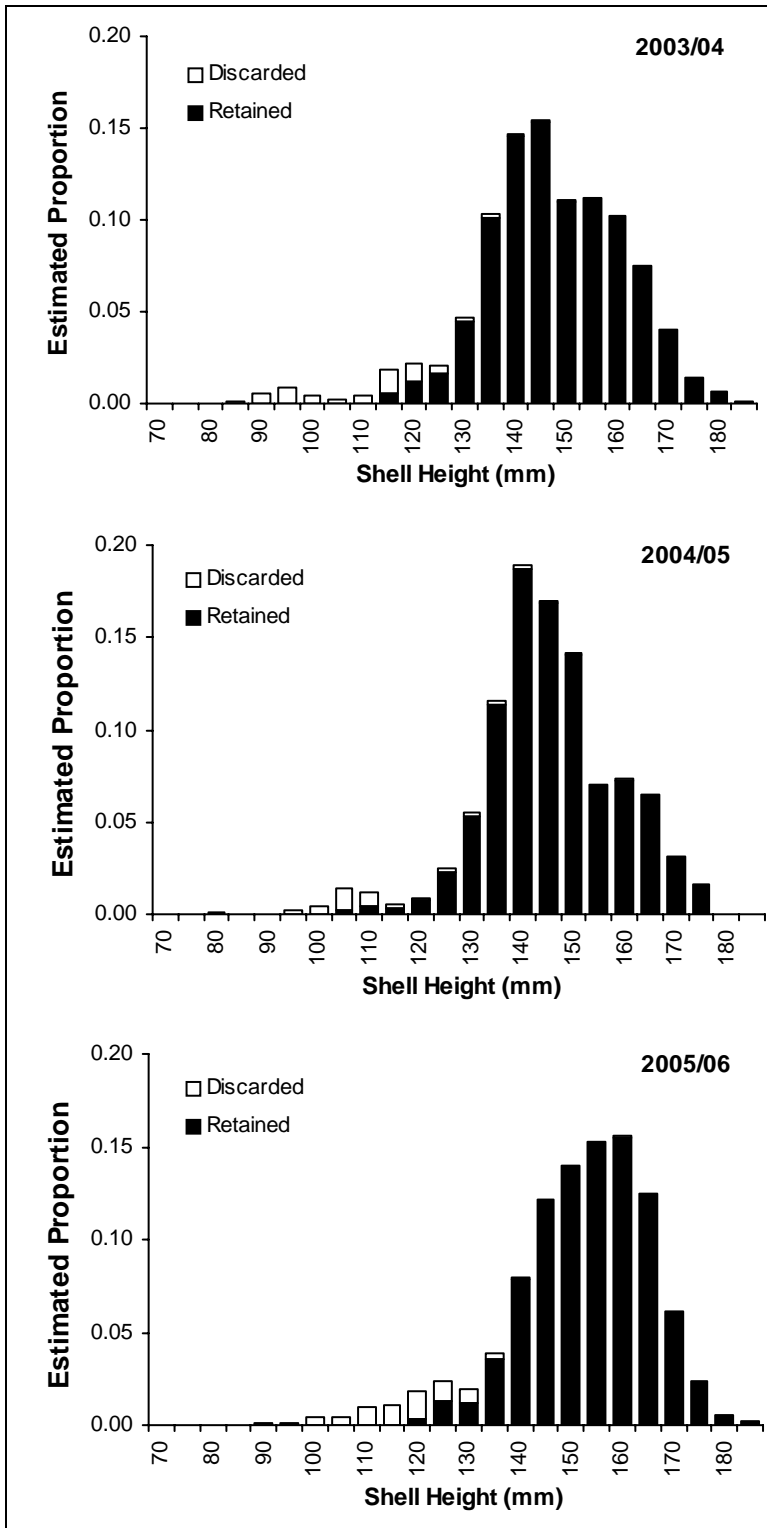


**Figure 10.**—Estimated shell height distribution from resampling observer-collected scallop measurements, Kodiak Registration Area, Northeast District, 2003/04-2005/06 weathervane scallop fishing seasons.

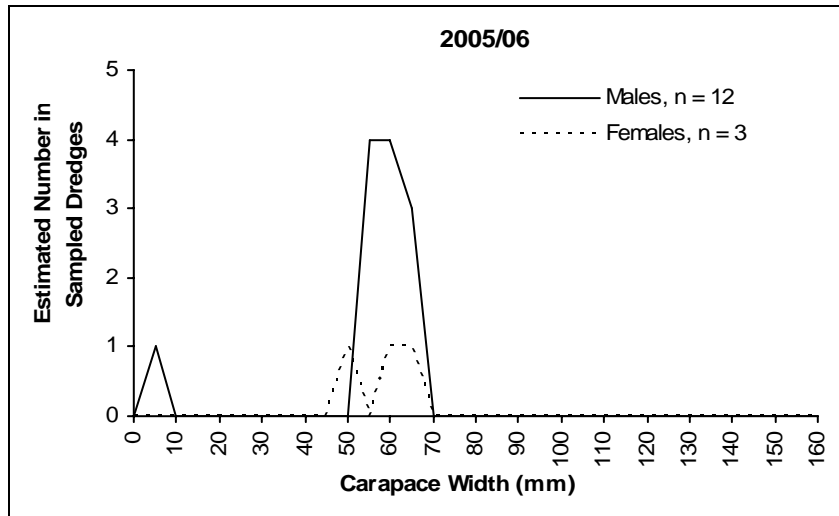


**Figure 11.**—Estimated shell height distribution from resampling observer-collected scallop measurements, Kodiak Registration Area, Shelikof District, 2003/04-2005/06 weathervane scallop fishing seasons.

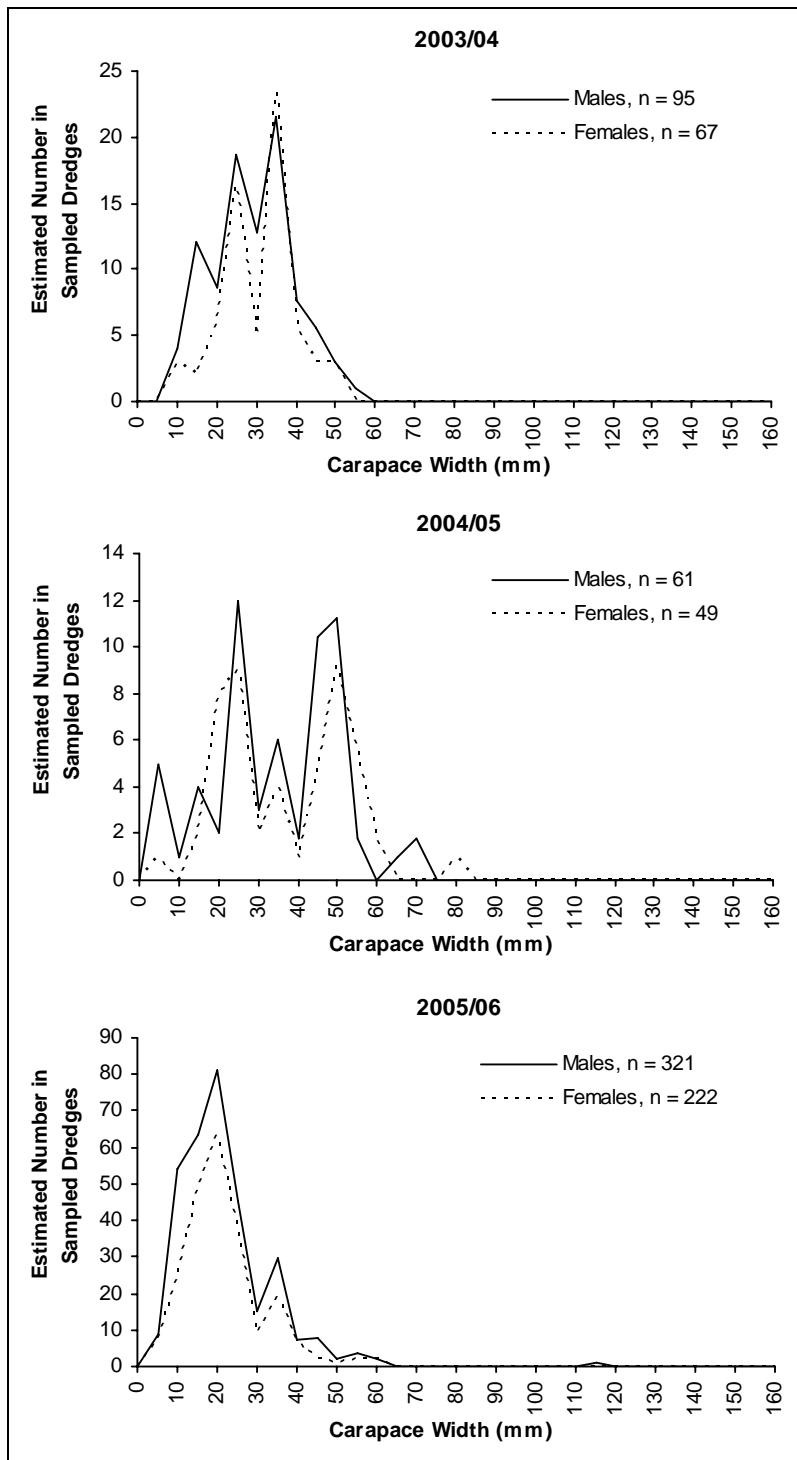




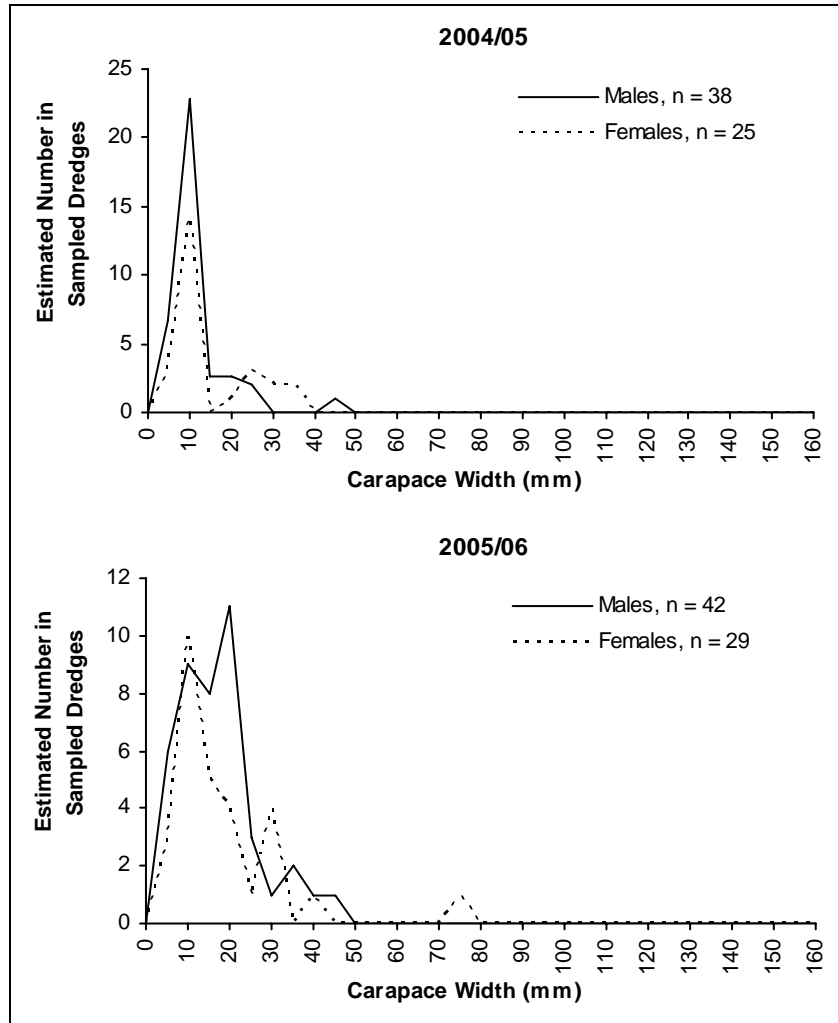
**Figure 12.**—Estimated shell height distribution from resampling observer-collected scallop measurements, Bering Sea Registration Area, 2003/04-2005/06 weathervane scallop fishing seasons.



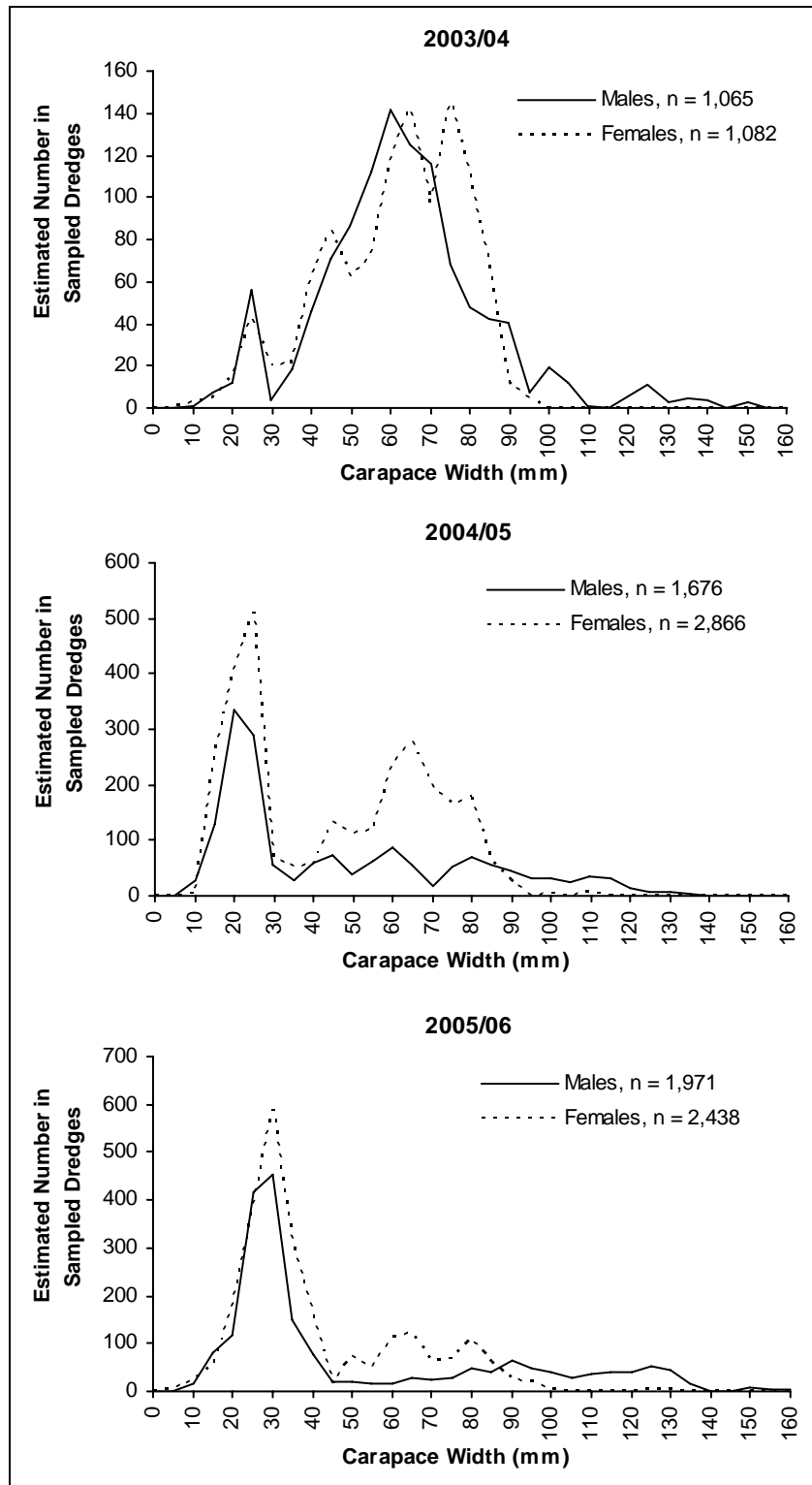
**Figure 13.**—Tanner crab carapace width distributions observed in bycatch sampling, Yakutat, District 16, 2005/06 weathervane scallop fishing season.



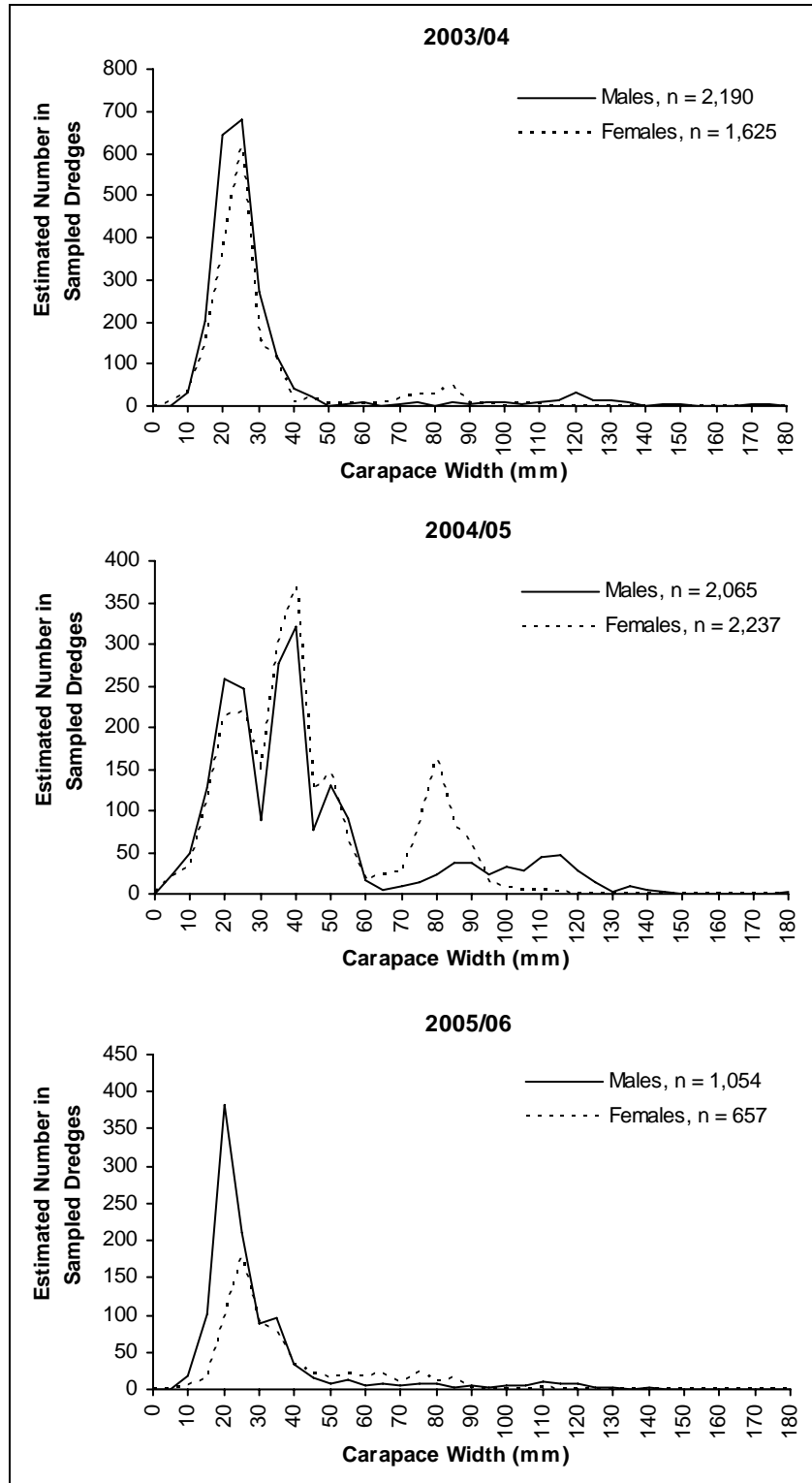
**Figure 14.**—Tanner crab carapace width distributions observed in bycatch sampling, Yakutat, Area D, 2003/04-2005/06 weathervane scallop fishing seasons.



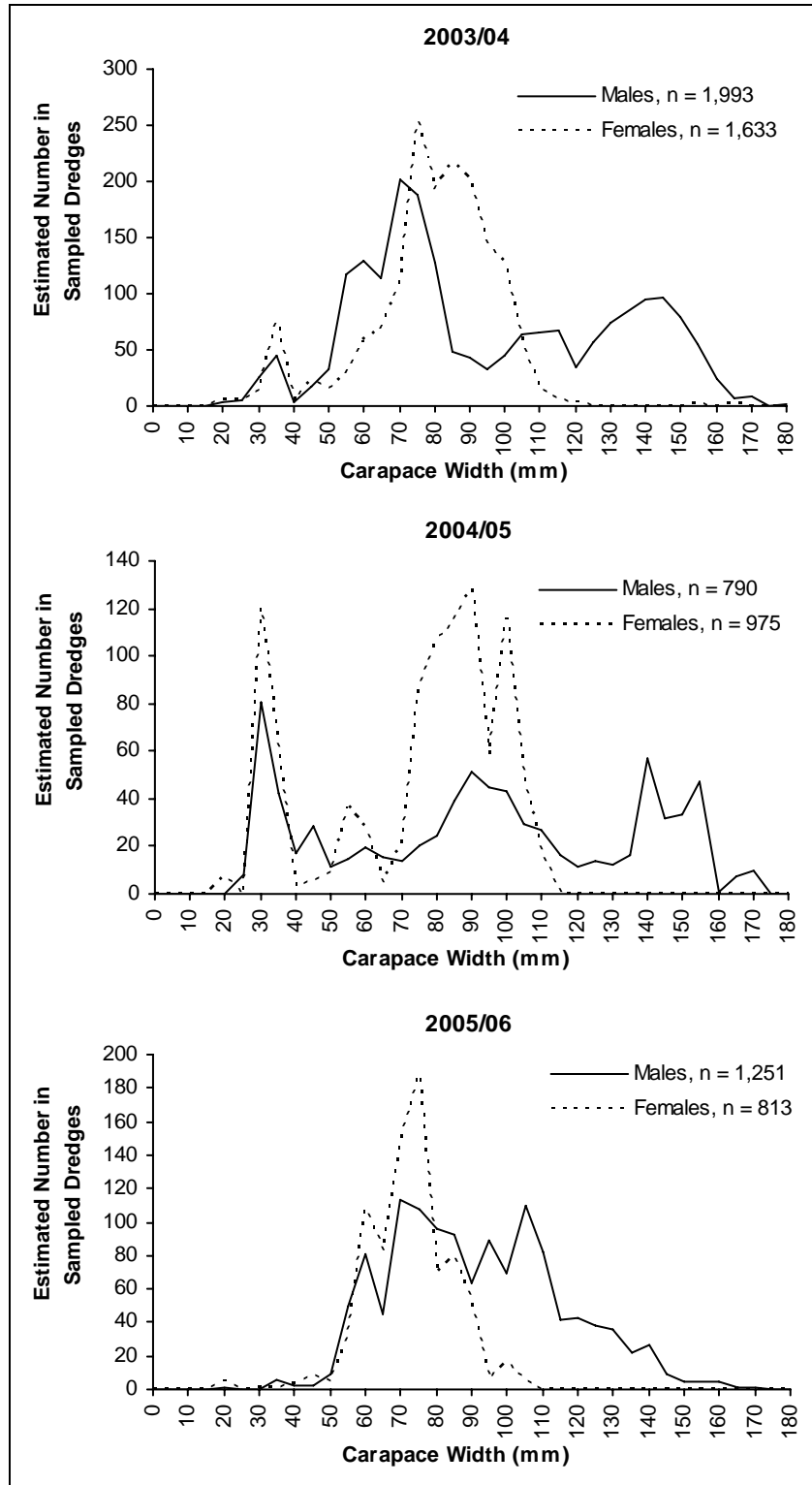
**Figure 15.**—Tanner crab carapace width distributions observed in bycatch sampling, Prince William Sound Registration Area, 2004/05 and 2005/06 weathervane scallop fishing seasons.



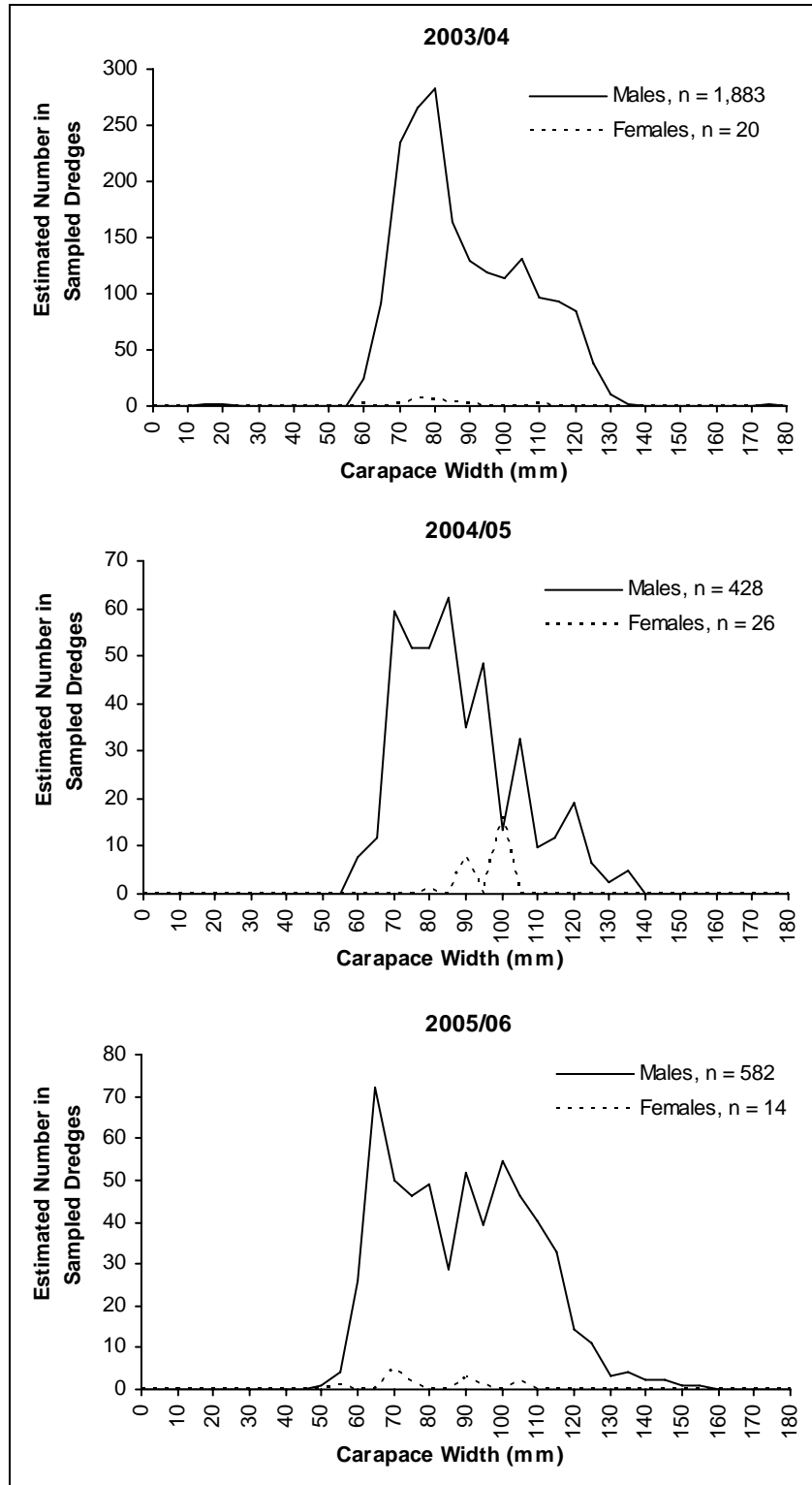
**Figure 16.**—Tanner crab carapace width distributions observed in bycatch sampling, Kodiak Registration Area, Northeast District, 2003/04-2005/06 weathervane scallop fishing seasons.



**Figure 17.**—Tanner crab carapace width distributions observed in bycatch sampling, Kodiak Registration Area, Shelikof District, 2003/04-2005/06 weathervane scallop fishing seasons.



**Figure 18.**—Tanner crab carapace width distributions observed in bycatch sampling, Bering Sea Registration Area, 2003/04-2005/06 weathervane scallop fishing seasons.



**Figure 19.**—*Chionoecetes opilio* and *C. opilio* x *C. bairdi* hybrid crab carapace width distributions observed in bycatch sampling, Bering Sea Registration Area, 2003/04-2005/06 weathervane scallop fishing seasons.