SUMMARY AND ANALYSIS OF ONBOARD OBSERVER-COLLECTED DATA FROM THE 1999/2000 THROUGH 2001/2002 STATEWIDE COMMERCIAL WEATHERVANE SCALLOP FISHERY

By

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TABLE OF CONTENTS

TABLE OF CONTENTS (Cont.)

LIST OF TABLES

LIST OF TABLES (Cont.)

LIST OF TABLES (Cont.)

LIST OF TABLES (Cont.)

LIST OF FIGURES

LIST OF FIGURES(Cont.)

LIST OF FIGURES(Cont.)

LIST OF FIGURES(Cont.)

ABSTRACT

Commercial scallop fishing for weathervane scallops began in 1967 however, it was not until 1993 that a statewide scallop observer program was initiated.

Statewide onboard observer collected data and commercial fishery statistics, by registration area/district, for three fishing seasons, 1999/2000, 2000/01 and 2001/02 is summarized in this report. It also includes a summary of the statewide weathervane scallop commercial fishery harvest statistics and observer data since inception of the observer program in 1993.

Onboard scallop observers collected a variety of biological data on a daily basis. One dredge was sampled each day for species composition and five dredges were sampled for crab and halibut bycatch and discarded/retained scallop catch monitoring. Vessel operators maintained a fishing logbook provided by the department. Major scallop fishing locations were mapped using data from the fishing logbook. Bycatch of halibut, Dungeness crabs, red king crabs, snow crabs and Tanner crabs was estimated from observer data. Scallop shell height (SH) frequency distributions were displayed in four different ways.

In the 1999/2000 fishing season, 10 different observers were deployed aboard eight different vessels for a total of 643 vessel days (total days from briefing to debriefing for all observers). Approximately 36% of the 7,569 tows recorded in the fishing logbook were sampled. The scallop fleet fished 58 different statistical areas extending from Yakutat to the Bering Sea. Total effort for the season was 15,987 dredge-hours. Observers measured and sexed nearly 46,000 scallops from the retained catch. Although a variety of marine invertebrates, vertebrates, and debris are caught incidentally in scallop dredges, weathervane scallops predominated catches.

During the 2000/01 fishing season, nine different observers were deployed aboard seven different vessels for a total of 599 vessel days. Approximately 32% of the 6,288 tows recorded in the fishing logbook were sampled. The scallop fleet fished 36 different statistical areas statewide. Total effort for the season was 12,621 dredge-hours. Observers measured and sexed over 33,000 scallops from the retained catch. Again, weathervane scallops predominated catches.

In the 2001/02 fishing season, eight different observers were deployed aboard four different vessels for a total of 440 vessel days. Approximately 32% of the 5,249 tows recorded in the fishing logbook were sampled. The scallop fleet fished 25 different statistical areas statewide Again, weathervane scallops predominated catches.

The highest bycatch of *Chionoecetes* crabs by the scallop fleet during the 1999/2000 – 2001/02 fishing seasons occurred in the Bering Sea Area. Observed on-deck mortality of *Chionoecetes* crabs during the 1999/2000 – 2001/02 fishing seasons ranged from 32% to 41%. Size and shell condition of the incidentally caught crabs affect mortality rates.

INTRODUCTION

Alaskan weathervane scallop *Patinopecten caurinus* populations were first evaluated for commercial potential in the early 1950s by both government and private sector research (Kaiser 1986). However, it was not until the late 1960s, as catches declined in the U.S. and Canadian scallop fisheries on Georges Bank, that interest in a fishery off Alaska began to take shape (Orensanz 1986). Initial commercial fishing effort took place in 1967 when fishermen on two vessels harvested weathervane scallops from fishing grounds off the eastside of Kodiak Island. By the following year, 19 vessels consisting of New England type scallop vessels, converted Alaskan crab boats, salmon seiners, halibut longliners, and shrimp trawlers entered the fishery (Kaiser 1986).

The 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.

By 1993, the fishery was again expanding with an influx of scallop boats from the east coast of the United States. The influx of new vessels into the weathervane scallop fishery prompted concerns from the scallop industry and the Alaska Department of Fish and Game (ADF&G) about crab bycatch and overharvest of the scallop resource. As a result, the weathervane scallop fishery was designated a high impact emerging fishery on May 21, 1993 (Barnhart and Sagalkin 1998). The resulting management plan included 100% onboard observer coverage to monitor crab bycatch and to collect biological and fishery information. As a consequence, the weathervane scallop observer program began on July 1, 1993.

In 1998, the National Marine Fisheries Service (NMFS) approved Amendment 3 to the federal Fishery Management Plan for the Scallop Fishery off Alaska (FMP). Amendment 3 delegated authority to the state to manage all aspects of the scallop fishery in federal waters off Alaska with the exception of limited access, which remained with the federal government.

The North Pacific Fisheries Management Council (NPFMC) took final action on Amendment 4, scallop license limitation program (LLP) in February 1999. It became effective on January 16, 2001. Participation in the Alaska scallop fishery remains limited in the EEZ by the LLP and in state waters (0-3 nautical miles) by an Alaska legislative moratorium (Alaska Statute 16.43.906). Under the LLP, nine vessels qualified to fish scallops in the EEZ. Prior to February 1999, 18 vessels qualified under the federal moratorium, to fish scallops in the EEZ.

A majority of scallop vessel owners formed a fishing cooperative in May 2000. Within the cooperative, vessel owners allocate shares of the projected harvest based on individual fishing history. The formation of the cooperative slowed harvest rates and extended the fishing effort over a longer time period. Some owners elected to remove their vessels from the fishery and arranged for their shares to be caught by other members of the cooperative. This program is not endorsed or managed by ADF&G or any federal agency.

Information contained in this report is from the 1999/2000, 2000/01, and 2001/02 statewide scallop fishing seasons. The statewide regulatory season (excluding Cook Inlet) is July 1 through February 15. Waters of the EEZ, three to 200 miles offshore, and state waters seaward to three miles were concurrently open to weathervane scallop fishing. 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). Detailed maps and descriptions of each management area in the Westward Region are located in the Annual Management Report for the Scallop Fisheries of the Westward Region (Barnhart 2002).

METHODS

Observer Training and Data Collection Procedures

Training

Observer training for the weathervane scallop fishery was conducted at the North Pacific Fisheries Observer Training Center, University of Alaska, Anchorage. A two-week scallop observer training class was held for all first-time candidates, observers with a current NMFS groundfish certification, and trainee observers whose trainee permit (crab or scallop) had expired. A four-day short course was conducted during the second week of training for previously certified scallop observers with expired certificates due to 12 months of inactivity and observers holding current crab certification status or a valid scallop or crab trainee permit. Course material included history of the observer program and Alaska scallop fishery, scallop and crab biology and identification, finfish and invertebrate identification, sampling procedures, sampling forms, use of vernier calipers, safety, onboard conduct, shellfish regulations, and documentation of violations (NPFOTC 2002). Observers were trained in data collection following the sampling protocols described in the weathervane scallop observer manual (Barnhart 2001).

At-Sea Catch Sampling

Scallop observers collected a variety of biological data on a daily basis. They were instructed to sample tows randomly, with the decision to sample a particular tow made prior to viewing its contents. For haul composition (species) sampling, the daily goal was to sample a single dredge from one tow. For crab and halibut bycatch and discarded/retained scallop catch monitoring during the 1999/2000 season, a single dredge from six different tows was sampled. This sampling goal was reduced beginning with the 2000/01 season from six to five tows. Additional sampling duties for the 1999/2000 and 2000/01 seasons included scallop meat (adductor muscle) recovery data collection to be performed twice a day.

The purpose of the haul composition sampling was to document dredge contents by species weight. Dredge contents sampled for haul (species) composition 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, three baskets of scallops retained by the crew were weighed and an average weight calculated. Total weight of retained scallops per dredge was then calculated by multiplying the average weight of a basket of scallops by the total number of baskets. All scallops not retained by the crew (discarded scallops) were weighed directly. 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 volume on deck. 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. In addition to vertebrates and invertebrates, 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.

During crab and halibut bycatch sampling observers identified, counted, and recorded the number of crabs and halibut encountered and collected/examined the discarded scallop catch. In addition to identifying and counting the crabs, observers were instructed to examine up to 20 each of Tanner and snow/hybrid crabs *Chionoecetes* spp. combined, red king crabs *Paralithodes camtschaticus*, and Dungeness crabs *Cancer magister* per sampled dredge. Observers began at one end of the bycatch pile and selected the first 20 crabs encountered, avoiding size bias. Carapace measurements, shell age, sex, injuries, and mortality were recorded for each crab. 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 and horsehair crabs *Erimacrus isenbeckii*, and carapace width (CW) was measured on all other crab species. If the dredge contained more than 20 crabs of a single genus, observers were instructed to measure and identify by species the first 20, then count and identify by species, the remainder. All halibut encountered were measured, examined for injuries, and returned to the sea.

Observers also 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 sized 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 counted. The intact sample was also weighed to the nearest pound and all individuals counted. Shell heights (SH) were collected from 20 randomly selected intact scallops. The SH was measured in a perpendicular line from the umbo to the most distant point on the outer shell margin using vernier calipers. Additional baskets of discarded scallops were weighed to the nearest pound.

Twenty scallops from the retained catch in each of the sampled bycatch tows were randomly selected. Shell height, sex, and gonad development data were collected until the 2000/01 season, after which sex and gonad development was no longer recorded. Observers were instructed not to bias the sample by

size, shape, or position of the scallops selected for sampling. Scallop sex was determined by gonad coloration; male gonads are white and female gonads are pink or orange. Scallop sex is difficult to determine in gonads without gametes due to the absence of color. When sex could not be determined it was classified as unknown. Observers collected the dorsal (left) valve of every tenth scallop examined, as indicated by the shell sampling protocol contained in the scallop manual (Barnhart 1998 and 2001). Shells were cleaned of mud, flora, and fauna, then dried. A permanent black marker was used to record the haul (tow) number and corresponding shell number from the scallop size frequency form, as well as the statistical area number, vessel ADF&G number, and date on the inside of each shell. Dried shells were stored in muslin bags. In addition, observers were instructed to collect 10 to 15 dorsal valves from scallops <100 mm SH from each statistical area fished to confirm identification of the first and second annuli. 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.

Twice per day when weather and subsequent sea conditions permitted, observers were instructed to collect scallop meat (adductor muscle) recovery data during the 1999/2000 and 2000/01 seasons. Three baskets of retained scallops from a given dredge were individually weighed to the nearest pound with a 100 pound spring scale and the individual scallops were counted. A crew member was then asked to conduct the shucking. All meats from the sampled baskets were shucked into a single container and weighed to the nearest one-quarter pound using either a 50 pound digital fish scale or the vessel's motion-compensated platform scale.

Vessel Operator Participation

Vessel operators maintained a fishing logbook provided by ADF&G. For each tow the operator recorded, (a) combined width of dredges towed, (b) gear performance, (c) date, (d) haul number, (e) set position, (f) length of tows, (g) average depth, (h) average speed, (i) scallop catch in whole weight, (j) discarded scallop catch, (k) statistical area.

Data Collection Forms

Sample data collection forms used for the 1999/2000 and 2000/01 fishing seasons are contained in the 1998 scallop observer manual (Barnhart 1998); those used for the 2001/02 season can be found in the 2001 scallop observer manual (Barnhart 2001).

Scallop Fishing Location Mapping

Fishing locations were determined from fishing logbook forms completed by vessel operators. 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

Incidental bycatch of Dungeness crabs, red king crabs, halibut, snow crabs *Chionoecetes* opilio, and Tanner crabs *Chionoecetes bairdi* was estimated from the observer data. The observer's daily goal was to randomly sample bycatch in a single dredge from each of six tows (1999/2000) or five tows (2000/01 and 2001/02). Due to weather conditions and observer health, the number of dredges sampled ranged from zero to six on each day when fishing occurred.

For each fishing area, total bycatch (number caught) of each species was estimated by summing all daily bycatch estimates from each vessel, calculated as

$$\hat{B} = \frac{c}{t} \cdot T \cdot D, \tag{1}$$

where

c = number counted in sampled dredges,
t = sampled dredge·hours (dredge·hr = one dredge towed 60 minutes),
T = total dredge·hours,
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 0–6 dredges per day. Methods for estimating the number and weight of discards in each fishing area were similar to those used for bycatch. Number (or weight) of intact (or broken) scallops in the sampled dredges on each vessel each fishing day were estimated by

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

where

x = number (or weight) of intact (or broken) scallops in subsampled baskets,
W = weight of subsampled baskets,
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 vessel 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.

Shell Height Frequency Distributions of the Scallop Catch

Shell height frequency distributions of the scallop catch were displayed in four different ways. Histograms of intact discarded scallops and all retained scallops were generated for each management area by apportioning the observer data into 5 mm bins. Male and female height frequencies for each area were compared through line plots that were also based on 5 mm bins. For areas where 1,000 or more of each retained and discarded scallop shell heights were measured, height frequency of the total catch was estimated by resampling from the observer data. Ten thousand measurements were randomly sampled using proportions of retained and discarded scallop catch in each area from the fishing log and discard estimation. These measurements were apportioned to 5 mm bins and plotted as histograms with different symbols for the retained and discarded portions of the catch.

RESULTS

During the 1999/00 season, 10 different observers were deployed aboard eight different vessels for a total of 643 vessel days (total days from briefing to debriefing for all observers). A total of 61 briefings and debriefings were conducted by ADF&G staff statewide. One or more tows were sampled on 451 of the 502 vessel days on which fishing occurred. Observers were not able to sample every day fishing occurred due to inclement weather or, at times, their physical health. Approximately 36% of the 7,569 tows recorded in vessel operator logbooks were sampled.

For the 2000/01 season, nine different observers were deployed aboard seven different vessels for a total of 599 vessel days. A total of 67 briefings and debriefings were conducted by ADF&G staff statewide. One or more tows were sampled on 399 of the 463 vessel days on which fishing occurred. Approximately 32% of the 6,288 tows recorded in vessel operator logbooks were sampled.

During the 2001/02 season, eight different observers were deployed aboard four different vessels for a total of 440 vessel days. A total of 41 briefings and debriefings were conducted by ADF&G staff statewide. One or more tows were sampled on 334 of the 360 vessel days on which fishing occurred. Approximately 32% of the 5,249 tows recorded in vessel operator logbooks were sampled.

Commercial Scallop Fishery

Catch and Effort 1999/2000 Fishing Season

In the 1999/2000 fishing season the scallop fleet fished 58 different statistical areas extending from Yakutat to the Bering Sea. Figure 2 shows where the majority of fishing effort occurred.

Scallop dredges were towed a total of 39,616 nautical miles (nmi) and swept a maximum of 194 square nautical miles (nmi^2) of the bottom during the 1999/00 season (Table 1). Dredges were towed 14,360 nmi in the Kodiak Area (71 nmi^2 swept), 10,906 nmi in the Yakutat Area (54 nmi^2 swept), 8,233 nmi in

the Bering Sea Area (41 nmi^2 swept), 5,044 nmi in the Alaska Peninsula Area (24 nmi^2 swept), 720 nmi (3 nmi^2 swept) in the Dutch Harbor Area (3 nmi^2 swept), and 353 nmi in the Prince William Sound Area (2 nmi^2 swept).

Depths fished during the 1999/00 season (Table 2) averaged 49 fathoms (fa) and ranged from a minimum of 20 fa in the Dutch Harbor Area to a maximum of 94 fa in the Alaska Peninsula Area.

Total effort for the season (Figure 3) was 15,987 dredge-hours (dredge-hrs; one dredge towed 60 minutes). Alaska scallop vessels typically tow two dredges simultaneously but may tow a single dredge when fishing unfamiliar areas or when repairing a dredge. The highest effort occurred in the Kodiak Area with 5,732 dredge-hrs followed by the Yakutat Area with 4,514 dredge-hrs and the Bering Sea Area with 3,294 dredge-hrs. Effort in the Alaska Peninsula Area was 2,025 dredge-hrs, followed by the Dutch Harbor Area with 273 dredge-hrs, and the Prince William Sound Area with 149 dredge-hrs.

Total round weight of retained scallops for the season as reported by vessel operators (Figure 4) was 9,191,781 pounds (lbs). The Yakutat Area accounted for the largest catch with 3,411,728 lbs, followed by the Kodiak Area with 2,867,627 lbs and the Bering Sea Area with 1,851,620 lbs; 781,596 lbs were taken from the Alaska Peninsula Area, 211,140 lbs from the Prince William Sound Area, and 68,070 lbs from the Dutch Harbor Area.

Shucked meat weights as reported on fish tickets totaled 817,656 lbs. The Yakutat Area harvest of 284,305 lbs was the highest in the state followed by the Kodiak Area harvest of 266,012 lbs and the Bering Sea Area harvest of 164,929 lbs. The Alaska Peninsula Area harvest was 75,535 lbs, the Prince William Sound Area totaled 20,410 lbs and the Dutch Harbor Area yielded 6,465 lbs.

Scallop catch-per-unit-effort (CPUE), expressed in round weight of retained scallops per dredge-hr (lbs/drg·hr), was highest in the Prince William Sound Area at 1,417 lbs./drg·hr (Figure 5). This was followed by the Yakutat Area with 756 lbs/drg·hr. and the Bering Sea Area at 562 lbs/drg·hr. The Kodiak Area produced 500 lbs/drg·hr, the Alaska Peninsula Area yielded 386 lbs/drg·hr and the Dutch Harbor Area produced 249 lbs/drg·hr. Statewide average CPUE was 575 lbs/drg·hr.

Catch and Effort 2000/01 Fishing Season

During the 2000/01 fishing season, the scallop fleet fished 36 different statistical areas statewide. Major fishing locations are mapped in Figure 6.

Scallop dredges were towed a total of 31,435 nmi and swept a maximum of 151 nmi^2 of the bottom during the 2000/01 season (Table 1). Dredges were towed 11,569 nmi in the Yakutat Area (56 nmi^2 swept), 9,820 nmi in the Kodiak Area (48 nmi^2 swept), 8,412 nmi in the Bering Sea Area (41 nmi^2 swept), 875 nmi in the Alaska Peninsula Area (4 nmi^2 swept), and 759 nmi in the Prince William Sound Area (2 nmi^2 swept).

Depths fished during the 2000/01 season (Table 2) averaged 47 fa and ranged from 25 fa to 94 fa, with both minimum and maximum depths occurring in the Shelikof District of the Kodiak Area.

Total effort for the season (Figure 3) was 12,621 dredge-hrs. The highest effort occurred in the Yakutat Area with 4,717 dredge-hrs followed by the Kodiak Area with 4,008 dredge-hrs, the Bering Sea Area with 3,355 dredge-hrs, the Alaska Peninsula Area with 320 dredge-hrs, and Prince William Sound Area with 221 dredge-hrs.

Total round weight of retained scallops as reported by vessel operators (Figure 4) was 8,327,648 lbs. The Yakutat Area accounted for the largest catch with 3,044,929 lbs, followed by the Kodiak Area with 2,449,574 lbs and the Bering Sea Area with 2,376,601 lbs; 361,032 lbs were taken from the Prince William Sound Area and 95,510 lbs from the Alaska Peninsula Area.

Shucked meat weights as reported on fish tickets totaled 730,101 lbs. The Kodiak Area harvest of 260,052 lbs was highest in the state followed by the Yakutat Area with 226,603 lbs, the Bering Sea Area with 205,520 lbs, the Prince William Sound Area with 30,266 lbs, and the Alaska Peninsula Area with 7,660 lbs.

Scallop CPUE was highest in the Prince William Sound Area at 1,634 lbs./drg·hr, followed by the Bering Sea Area at 708 lbs/drg·hr, Yakutat Area with 645 lbs/drg·hr. The Kodiak Area produced 611 lbs/drg·hr and the Alaska Peninsula Area yielded 298 lbs/drg·hr. Statewide CPUE was 660 lbs/drg·hr. (Figure 5)

Catch and Effort 2001/02 Fishing Season

The scallop fleet fished 25 different statistical areas statewide during the 2001/02 season. Major fishing locations are mapped in Figure 7.

Scallop dredges were towed a total of 26,137 nmi and swept a maximum of 128 nmi^2 of the bottom during the 2001/02 season (Table 1). Dredges were towed 11,071 nmi in the Kodiak Area (54 nmi^2), 7,563 nmi in the Bering Sea Area (37 nmi^2), 6,849 nmi in the Yakutat Area (34 nmi^2), and 654 nmi in the Prince William Sound Area (3 nmi^2).

Depths fished during the 2000/01 season (Table 2) averaged 48 fa and ranged from 21 fa to 78 fa, with both minimum and maximum depths occurring in the Shelikof District of the Kodiak Area.

Total effort for the season was 10,697 dredge-hrs (Figure 3). The highest effort occurred in the Kodiak Area with 4,540 dredge-hrs followed by the Bering Sea Area with 3,072 dredge-hrs, the Yakutat Area with 2,823 dredge-hrs, and the Prince William Sound Area with 263 dredge-hrs.

Total round weight of retained scallops for the season as reported by vessel operators (Figure 4) was 6,631,570 lbs. The Kodiak Area accounted for the largest catch with 2,652,375 lbs, followed by the Yakutat Area with 1,766,856 lbs, the Bering Sea Area with 1,700,578 lbs, and the Prince William Sound Area with 511,761 lbs.

Shucked meat weights for the season as reported on fish tickets totaled 554,831 lbs. The Kodiak Area harvest of 259,672 lbs was highest in the state followed by the Bering Sea Area with 140,871 lbs, the Yakutat Area with 124,198 lbs, and the Prince William Sound Area with 30,090 lbs.

Scallop CPUE was highest in the Prince William Sound Area at 1,946 lbs./drg·hr followed by the Yakutat Area with 626 lbs/drg·hr, the Kodiak Area with 584 lbs/drg·hr, and the Bering Sea Area with 554 lbs/drg·hr. Statewide CPUE was 620 lbs/drg·hr (Figure 5).

Discarded Scallop Catch 1999/2000 Fishing Season

Observers counted and weighed 211,728 intact and 93,219 broken discarded scallops during the 1999/2000 season (Table 3). Estimates based on these data (Table 4) indicate that a total of 4,409,727 combined intact and broken shell scallops weighing 1,144,748 pounds were discarded. The discards were comprised of about 1.2 million broken shell scallops weighing 390,279 lbs and 3.2 million intact scallops weighing 754,469 lbs. Approximately 12% of the total statewide scallop catch by weight was discarded and about 66% of these discards were intact.

Further examination of estimated weights of discarded scallops (Table 4) indicates that 52% of the total discards by weight were from Yakutat Area D, and 25% from the Kodiak Area. Estimated weight of discarded scallops from other areas were 10% or less of the statewide total discards.

Average weight of individual discarded scallops (intact and broken scallops combined) ranged from 0.23 lbs in the Alaska Peninsula Area to 0.44 lbs in the Bering Sea Area (Table 3). Statewide average weight for combined broken and intact shell discards was 0.27 lbs.

Figures 8 through 16 depict shell height distributions by fishing area for the 40,306 intact discarded scallops measured by observers. Average shell height of intact discarded scallops ranged from 98 mm in the Prince William Sound Area to 119 mm in the Semidi District of the Kodiak Area. Scallops larger then 100-110 mm SH are typically retained in the commercial fishery.

Discarded Scallop Catch 2000/01 Fishing Season

Observers counted and weighed 157,117 intact and 71,807 broken discarded scallops during the 2000/01 season (Table 3). Estimates based on these data (Table 5) indicate that a total of 3,614,600 combined intact and broken shell scallops weighing 998,596 pounds were discarded. The discards were comprised of about 1.1 million broken shell scallops weighing 343,860 lbs and 2.5 million intact scallops weighing 654,736 lbs. Approximately 12% of the total statewide scallop catch by weight was discarded and about 66% of these discards were intact.

Further examination of estimated weights of discarded scallops (Table 5) indicates that the Yakutat Area (Area D and District 16 combined) accounted for 64% of the statewide total, the Kodiak Area (Northeast and Shelikof Districts combined) accounted for 24%, and the Bering Sea Area accounted for 10%.

The average weight of individual discarded scallops (intact and broken scallops combined) ranged from 0.23 lbs in the Shelikof District of the Kodiak Area to 0.33 lbs in the Bering Sea Area (Table 3). Statewide average weight for combined broken and intact shell discards was 0.28 lbs.

Shell height distributions by fishing area for the 30,904 intact discarded scallops measured by observers during the season are depicted in Figures 8–16. Average shell height of intact discarded scallops ranged from 89 mm in Shelikof District to 106 mm in the Prince William Sound Area.

Discarded Scallop Catch 2001/02 Fishing Season

Observers counted and weighed 93,133 intact and 70,901 broken discarded scallops during the 2001/02 season (Table 3). Estimates based on these data (Table 6) indicate that a total of 2,510,801 combined intact and broken shell scallops weighing 763,558 lbs were discarded. The discards were comprised of about 1.0 million broken shell scallops weighing 339,156 lbs and 1.5 million intact scallops weighing 424,402 lbs. Approximately 11% of the total statewide scallop catch by weight was discarded and about 56% of these discards were intact.

Further examination of estimated weights of discarded scallops (Table 6) indicates that 36% of the total discards by weight were from Yakutat Area D, 31% were from the Shelikof District, 14% from the Northeast District, and 10% from the Bering Sea Area.

Average weight of individual discarded scallops (intact and broken scallops combined; Table 3) ranged from 0.26 lbs in Yakutat to 0.42 lbs in the Bering Sea. Statewide average weight for combined broken and intact shell discards was 0.32 lbs.

Shell height distributions by fishing area for the 26,174 intact discarded scallops measured by observers during the season are depicted in Figures 8–16. Average shell height of intact discarded scallops ranged from 92 mm in the Bering Sea to 113 mm in the Prince William Sound Area.

Retained Scallop Catch 1999/2000 Fishing Season

Observers measured and sexed about 46,000 scallops from the retained catch. Table 7 summarizes sex composition and mean shell height by registration area or district. Caution should be used when interpreting sex composition data for areas with a high percentage of scallops in the undetermined sex category. In general, more males than females were identified in samples, and average shell height of females was larger than males.

Figures 17–34 depict shell height distributions observed in the retained scallop catch. In areas where data are available, two figures are associated with each registration area or district: a histogram containing shell height distribution of all scallops (males, females, and undetermined sex), and a shell height distribution line plot comparing males to females. Caution should be used when interpreting these plots; vessels may retain different sizes of scallop based on varying market conditions, size composition of the catch, and crab bycatch. Average scallop shell height of the retained catch (in ascending order) was (a) 124 mm in Yakutat Area D, (b) 125 mm in Yakutat District 16, (c) 129 mm in the Alaska

Peninsula Area, (d) 130 mm in the Shelikof District of the Kodiak Area, (e) 132 mm in the Northeast District of the Kodiak Area, (f) 132 mm in the Prince William Sound Area, (g) 135 mm in the Dutch Harbor Area, (h) 145 mm in the Bering Sea Area, and (i) 152 mm in the Semidi District of the Kodiak Area. Moderate between-sex differences in shell height distributions were observed in District 16 (Figure 18), the Shelikof District of the Kodiak Area (Figure 26), the Alaska Peninsula Area (Figure 30), and the Bering Sea Area (Figure 32). With the exception of District 16, females tended to be larger than males.

Scallop meat recovery from the commercial catch averaged 10.1% overall and was highest in the Dutch Harbor Area at 11.8 % (Table 8). Meat recovery in the Shelikof District of the Kodiak Area at 11.0% followed by the Northeast District of Kodiak at 10.7% and the Alaska Peninsula at 10.3%. The lowest meat recovery was observed in the Bering Sea Area at 9.1%.

Retained Scallop Catch 2000/01 Fishing Season

Observers measured and sexed about 33,000 retained scallops during the 2000/01 season (Table 9). More males than females were identified in samples, and average shell height was larger for females than for males.

Shell height distributions for retained scallops during the 2000/01 season are depicted in Figures 17,19-26,and 29–32. Average scallop shell height was (a) 118 mm in Yakutat District 16, (b) 119 mm in the Alaska Peninsula Area, (c) 123 mm in Yakutat Area D, (d) 131 mm in Prince William Sound, (e) 134 mm in the Shelikof District of the Kodiak Area, (f) 136 mm in the Northeast District, and (g) 142 mm in the Bering Sea Area. Shell heights by area were similar to those from the preceding season except in District 16, where average SH decreased by 7 mm, and the Alaska Peninsula Area, which saw a 10 mm decrease in average SH.

Between-sex differences in shell height distributions were less pronounced than during the preceding season; for 1999/00, average SH statewide was 139 mm for females and 130 mm for males, while for 2000/01, statewide averages were 134 mm for females and 130 mm for males.

Scallop meat recovery from the commercial catch averaged 9.5% statewide, with high values observed in the Kodiak Area (11.2% for the Northeast District and 11.1% for the Shelikof District). The lowest meat recovery occurred in Yakutat Area D, at 8.1%.

Retained Scallop Catch 2001/02 Fishing Season

Observers measured about 28,000 scallops from the retained catch during the 2001/02 season (Table 10). Shell height distributions observed for retained scallops are plotted in Figures 17,19, 21, 25, 31. Average scallop shell height was (a) 119 mm in Yakutat District 16, (b) 121 mm in Yakutat Area D, (c) 136 mm in the Prince William Sound Area, (d) 140 mm in both the Northeast and Shelikof Districts of the Kodiak Area, and (e) 141 mm in the Bering Sea Area.

Combined Retained and Discarded Scallop Catch 1999/2000 Through 2001/02 Fishing Seasons

Figures 35 to 40 depict estimated shell height distributions for retained and discarded scallops caught in each management area/district where adequate data were available during the 1999/2000, 2000/01, and 2001/02 seasons. Caution should be exercised when interpreting these plots because scallops <100 mm SH may pass through the dredge rings or the twine top and hence are not captured with the same efficiency as larger scallops.

For Yakutat District 16 (Figure 35), higher proportions of scallops 105 mm SH to 115 mm SH in 2000/01 and 2001/02 than in 1999/2000 suggest a pulse of recruitment to the exploited population. Catches in Yakutat Area D (Figure 36) also tended toward smaller scallops during the 2001/02 season.

For the Kodiak Area, plots of Northeast District catches (Figure 37) indicate increases in average scallop SH over the three seasons and also suggest recruitment to the population visible as discarded scallops 95–105 mm SH during the 2000/01 season and discarded and retained scallops 110–120 mm SH during the 2001/02 season. In the Shelikof District (Figure 38), a group of new recruits that entered the fishery in 1999/00 increased in size and provided the majority of the retained catch during the subsequent two seasons. Discarded and retained scallops 100–120 mm SH during the 2001/02 Shelikof District season suggest another influx of smaller animals into the fishery.

The 1999/2000 Alaska Peninsula Area catch (Figure 39) was comprised of a wide range of scallop sizes. For the Bering Sea Area (Figure 40), a mode of scallops at 120 mm SH during the 1999/00 season increased to 130 mm SH during the 2000/01 season and appeared centered at 135 mm SH during the 2001/02 season.

Scallop Fishery Bycatch 1999/2000 Through 2001/02 Fishing Seasons

Although a variety of marine vertebrates, invertebrates, and debris are caught incidentally in scallop dredges, weathervane scallops predominate catches (Tables11-28). In the Prince William Sound Area, weathervane scallops consistently comprised the largest percentage (93%) of the catch by weight in the state; in contrast, weathervane scallops comprised only 14% of the catch by weight in the Semidi District of the Kodiak Area during the 1999/2000 season.

Non-target items incidentally caught in scallop dredges (bycatch) include prohibited species, other commercially important species of fish and invertebrates (excluding weathervane scallops), miscellaneous noncommercial species, and items such as natural debris (kelp, rocks, etc.) and man-made debris (e.g., plastics and derelict fishing gear). In Yakutat Area D and District 16 (Tables 11-14), debris, skates, twentyarm sea stars, skate egg cases, and weathervane scallop shells predominated the bycatch. In the Prince William Sound Area (Tables 15-16), starfish, weathervane scallop shells, and natural debris were commonly caught. Bycatch items caught in the Northeast District of the Kodiak Area included starfish, natural debris, and weathervane shells (Tables 17-18). In the Shelikof District of the Kodiak Area, twentyarm sea stars, skates, weathervane shells, and natural debris were commonly

caught (Tables 19-20). Commonly caught bycatch items in the Semidi District of the Kodiak Area included natural debris, sea anemone, and twentyarm starfish (Table 21). In contrast to all other areas in the state, weathervane scallops did not predominate the catch in the Semidi District, comprising only 14% of the total. For the Alaska Peninsula Area (Table 22), natural debris, weathervane shells, and basket stars were commonly caught. In the Bering Sea Area (Tables 23-24), weathervane shells and snow/hybrid crabs typically predominated the bycatch, although yellowfin sole, snails, and fishing gear debris contributed significantly in some years. For the Dutch Harbor Area (Table 25), natural debris, rock sole, and twentyarm sea stars were common bycatch items.

A summary of nontarget commercially important species caught (bycatch) in scallop dredges is presented in Tables 26-28.

Crab Bycatch Estimates 1999/2000 Through 2001/02 Fishing Seasons

Highest bycatch of *Chionoecetes* crabs by the scallop fleet during the 1999/2000 – 2001/02 seasons occurred in the Bering Sea Area. For combined snow and hybrid crabs, Bering Sea Area bycatch estimates ranged from 68,458 crabs for the 2001/02 season to 159,656 crabs for the 1999/2000 season (Tables 29–31). For Tanner crabs, estimated bycatch for the Bering Sea Area was 62,268 crabs in 1999/2000, 52,505 crabs in 2000/01, and 48,718 crabs in 2001/02. These estimates should be interpreted with caution due to highly variable crab population dynamics and changing spatial distribution of crabs and scallop fishing effort.

Estimated bycatch of Tanner crabs in other parts of the state (Tables 29–31) varied by season and location. For example, Yakutat Area D estimates ranged from about 5,000 crabs in 1999/2000 to 17,000 crabs in 2000/01, and estimates for the Shelikof District of the Kodiak Area were about 15,000 in 2000/01 and 39,000 in 1999/2000. Estimated bycatch was <1,000 Tanner crabs during all three seasons for Yakutat District 16 and the Prince William Sound Area.

Estimated bycatch of Dungeness crabs by the scallop fleet during the 1999/2000 – 2001/02 seasons (Tables 29–31) was modest. The highest bycatch occurred in the Alaska Peninsula Area in 1999/2000 with an estimate of about 2,300 crabs. Dungeness crab bycatch estimates were 1,150 crabs for Yakutat Area D in 2001/02 and were <1,000 crabs for all other areas during each of the three seasons.

Few red king crabs *Paralithodes camtschatica* were taken as incidental bycatch by the scallop fleet. Six red king crabs were incidentally caught in the Bering Sea, three were taken in the Shelikof District of the Kodiak Area, and two were caught in the Alaska Peninsula Area; no king crab bycatch was reported from the remainder of the state. To obtain a scallop registration, the operator must agree to show every king crab caught to the observer for sampling, so king crab bycatch data presented in this report are counts rather than estimates.

Chionoecetes Crab Bycatch Mortality 1999/2000 Through 2001/02 Fishing Seasons. On-deck mortality of Tanner crabs recorded by observers during the 1999/2000 – 2001/02 scallop seasons ranged from 32% to 41% (Table 32). Size and shell condition of *Chionoecetes* crabs incidentally

caught in scallop dredges were shown to affect mortality rates (Rosenkranz 2002) and lead to variation in mortality rates.

Size Distribution of Tanner and Snow/hybrid Crab Bycatch 1999/2000 Through 2001/02 Fishing Seasons. Size frequency plots of Tanner crab bycatch for Yakutat Area D, Yakutat District 16, and the Prince William Sound Area (Figures 41–43) indicate that the bycatch was comprised of small, immature animals with average carapace width (CW) <40 mm in all seasons. Note that sample sizes were too small to plot Yakutat District 16 for 1999/2000 (three males and two females), and for the Prince William Sound Area in 1999/2000 (one male) and 2001/02 (three males and two females).

For the Kodiak Area, size frequency plots of Northeast District Tanner crab bycatch (Figure 44) show crabs of increasing sizes over the three seasons, with a strong mode for both males and females at 45 mm CW in 1999/2000, and a strong mode of females at about 80 mm CW in 2001/02. Plots of Shelikof District size frequency for Tanner crab bycatch (Figure 45) are centered at 25 mm in 1999/2000 and 2000/01, with a broader range of sizes (20–60 mm CW) present in the 2001/02 bycatch. Only six male Tanner crabs were sampled in the Semidi District during the 1999/2000 season, and no fishing occurred in this district in 2000/01 and 2001/02.

Size frequency plots of Tanner crab bycatch in the Alaska Peninsula Area (Figure 46) show a strong mode centered at 30 mm CW for the 1999/00 season while the 2000/01 catch was comprised primarily of animals 40–55 mm CW. Very few larger crabs were caught in either season. Scallop fishing was not opened in the Alaska Peninsula Area during the 2001/2002 season.

Plots of incidentally-caught Tanner crabs in the Bering Sea Area (Figure 47) show strong modes for males at 30 mm CW each season. For females, a mode at 30 mm CW in 1999/2000 moves to 55 mm in 2000/01 and to 80 mm in 2001/02; numerous females 80–90 mm CW were caught each season. The most notable feature in size frequency plots of snow crabs for the Bering Sea Area (Figure 48) is the discrepancy between male and female sample sizes, with males predominating the bycatch. Modes for males appear at 70 mm CW in 1999/2000 and 2000/01 and at 115 mm in 2001/02, while females between 80 mm and 90 mm CW are common in 1999/2000 and 2000/01.

Sample sizes for size frequency plots of incidentally-caught Tanner crabs in the Dutch Harbor Area were small in 1999/2000 but show that the bycatch was comprised of immature animals <80 mm CW. No scallop fishing occurred in this area during the 2000/01 and 2001/02 seasons.

Tanner and Snow Crab Bycatch Relative to the Scallop Harvest 1999/2000 Through 2001/02 Fishing Seasons. Bycatch of *Chionoecetes* crabs per pound of retained scallops meats (crab/lbs meat) was highest in the Bering Sea Area in each season, with 1.35 crab/lbs meat in 1999/2000, 0.76 crab/lbs meat in 2000/01, and 0.83 crab/lbs meat in 2001/02 (Tables 33–35). Statewide totals were 0.38 crab/lbs meat in 1999/00 and 0.28 crab/lbs meat in both 2000/01 and 2001/02. Bycatch rates for Yakutat District 16, Yakutat Area D, and the Prince William Sound Area were <0.1 crab/lbs meat in each of the three seasons.

Pacific Halibut Bycatch Estimates and Release Conditions 1999/2000 Through 2001/02 Fishing Seasons

Estimated Pacific halibut bycatch in the 1999/2000 season totaled 1,165 halibut and ranged from 0 in the Prince William Sound Area to 651 in the Kodiak Area. Of 178 halibut observed in sampled tows, 39 (22%) were released in excellent condition, 56 (31%) were released in good condition, 26 (15%) were released in fair condition, 24 (13%) were released in poor condition, 24 (13%) were released dead, and nine (5%) were previously dead when caught (obviously not killed in the current haul; Table 36).

Estimated Pacific halibut bycatch in the 2000/01 season totaled 631 halibut and ranged from eight in the Alaska Peninsula Area to 413 in the Kodiak Area. Of 87 halibut observed in sampled tows, 30 (34%) were released in excellent condition, 18 (21%) were released in good condition, five (6%) were released in fair condition, 22 (25%) were released in poor condition, 11 (13%) were released dead, and one (1%) was previously dead when caught.

Estimated Pacific halibut bycatch in the 2001/02 season totaled 663 halibut and ranged from five in the Prince William Sound Area to 341 in the Kodiak Area. Of 91 halibut observed in sampled tows, 19 (21%) were released in excellent condition, 20 (22%) were released in good condition, 18 (20%) were released in fair condition, 14 (15%) were released in poor condition, 18 (20%) were released dead, and two (2%) were previously dead when caught.

Updating of Summary Tables

Statewide commercial fishery statistics and observer data from the 1993 through 2001/02 seasons are summarized in Table 37-42 for all scallop fishing areas. The tables include season dates, effort levels, crab bycatch limits, crab and halibut bycatch estimates, scallop harvest, percent meat (adductor muscle) recovery, estimated number and weight of the discarded scallop catch, and the average size of the retained scallop catch.

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Table 1. Distance towed and bottom area dredged, 1999/2000 through 2001/02 fishing seasons.

	1999/2000		2000/01		2001/02	
Registration Area	Tow Miles[a]	Area Dredged[b]	Tow Miles[a]	Area Dredged[b]	Tow Miles[a]	Area Dredged[b]
Yakutat, District 16	1,624	8.0	1,187	6.0	1,006	5.0
Yakutat, D	9,282	45.7	10,382	50.0	5,843	29.0
Yakutat Total	10,906	54	11,569	56.0	6,849	34.0
Prince William Sound	353	1.7	759	2.0	654	3.0
Kodiak, Northeast District	3,388	16.6	2,695	13.0	2,748	13.0
Kodiak, Shelikof District	10,862	53.5	7,125	35.0	8,323	41.0
Kodiak, Semidi District	110	0.5	No Fishing		No Fishing	
Kodiak Total	14,360	70.6	9,820	48.0	11,071	54.0
Alaska Peninsula	5,044	23.6	875	4.0	Season Closed	
Bering Sea	8,233	40.6	8,412	41.0	7,563	37.0
Dutch Harbor	720	3.4	No Fishing		Season Closed	
Statewide Total	39,616	193.6	31,435	151.0	26,137	128.0

[a]Nautical miles towed regardless of the number of dredges.

[b]Maximum quare nautical miles, area swept.

Table 2. Minimum, maximum, and average depth fished, 1999/2000 through 2001/02 fishing seasons.

	1999/2000			2000/01			2001/02		
	Depth (fathoms)								
Registration Area	Minimum	Maximum	Average	Minimum	Maximum	Average	Minimum	Maximum	Average
Yakutat, District 16	31	60	38	27	47	37	33	55	38
Yakutat, Area D	22	75	42	29	72	40	28	66	42
Yakutat Average	22	75	41	27	72	40	28	66	41
Prince William Sound	35	45	38	31	60	44	30	49	36
Kodiak, Northeast District	36	55	43	30	80	45	40	65	45
Kodiak, Shelikof District	24	83	52	25	94	52	21	78	53
Kodiak, Semidi District	30	50	41	No Fishing			No Fishing		
Kodiak Average	24	83	50	25	94	50	21	78	51
Alaska Peninsula	22	94	55	48	83	56	Season Closed		
Bering Sea	41	64	55	32	63	52	48	62	52
Dutch Harbor	20	60	41	Season Closed			Season Closed		
Statewide	29	94	49	25	94	47	21	78	48

Table 3. Number and weight of discarded scallops recorded by observers, 1999/2000 through 2001/02 fishing seasons.

Registration Area	Season	Number Sampled Intact	Number Sampled Broken	Weight Sampled (lbs) Intact	Weight Sampled (lbs) Broken	Average Weight Intact	Average Weight Broken	Overall Average
Yakutat, District 16								
	1999/2000	7,439	3,834	1,825	1,182	0.25	0.31	0.27
	2000/01	7,672	7,892	2,017	2,132	0.26	0.27	0.27
	2001/02	2,565	8,090	792	2,096	0.31	0.26	0.27
Yakutat, D								
	1999/2000	84,526	33,377	19,568	10,106	0.23	0.30	0.25
	2000/01	62,095	30,556	16,397	9,432	0.26	0.31	0.28
	2001/02	31,759	29,551	7,789	8,369	0.25	0.28	0.26
Yakutat Total								
	1999/2000	91,965	37,211	21,393	11,288	0.23	0.30	0.25
	2000/01	69,767	38,448	18,414	11,564	0.26	0.30	0.28
	2001/02	34,324	37,641	8,581	10,465	0.25	0.28	0.26
Prince William Sound								
	1999/2000	372	1,743	104	733	0.28	0.42	0.40
	2000/01	1,444	3,724	380	1,270	0.26	0.34	0.32
	2001/02	1,813	1,967	637	789	0.35	0.40	0.38
Kodiak, Northeast District								
	1999/2000	13,477	11,038	3,524	3,652	0.26	0.33	0.29
	2000/01	15,060	6,838	4,405	2,388	0.29	0.35	0.31
	2001/02	11,095	9,028	3,622	3,571	0.33	0.40	0.36
Kodiak, Shelikof District								
	1999/2000	70,574	20,927	16,657	6,930	0.24	0.33	0.26
	2000/01	42,385	11,755	8,188	4,123	0.19	0.35	0.23
	2001/02	36,138	10,409	11,671	4,810	0.32	0.46	0.35
Kodiak, Semidi District								
	1999/2000	57	42	23	17	0.40	0.40	0.40
	2000/01			No Fishing				
	2001/02			No Fishing				
Kodiak Total								
	1999/2000	84,108	32,007	20,204	10,599	0.24	0.33	0.27
	2000/01	57,445	18,593	12,593	6,511	0.22	0.35	0.25
	2001/02	47,233	19,437	15,293	8,381	0.32	0.43	0.36
M - AK Peninsula								
	1999/2000	25,717	10,235	5,300	2,929	0.21	0.29	0.23
	2000/01	1,650	584	362	183	0.22	0.31	0.24
	2001/02			Season Closed				

Continued

Table 3. (Page 2 of 2)

Registration Area	Season	Number Sampled Intact	Number Sampled Broken	Weight Sampled (lbs) Intact	Weight Sampled (lbs) Broken	Average Weight Intact	Average Weight Broken	Overall Average
Q - Bering Sea								
	1999/2000	9,010	10,437	3,102	5,440	0.34	0.52	0.44
	2000/01	26,811	10,458	7,568	4,666	0.28	0.45	0.33
	2001/02	9,763	11,856	3,487	5,637	0.36	0.48	0.42
O - Dutch Harbor								
	1999/2000	556	1,586	191	612	0.34	0.39	0.37
	2000/01			Season Closed				
	2001/02			Season Closed				
Statewide Total								
	1999/2000	211,728	93,219	50,294	31,601	0.24	0.34	0.27
	2000/01	157,117	71,807	39,317	24,194	0.25	0.34	0.28
	2001/02	93,133	70,901	27,998	25,272	0.30	0.36	0.32

Table 4. Estimated number and weight of intact and broken scallops discarded during the 1999/2000 fishing season.

	Intact Number		Intact Weight[a]		Broken Number		Broken Weight[a]		Total	Total
Registration Area	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	Number	Weight[a]
Yakutat, District 16	146,738	118,078 - 170,563	36,010	29,226 - 42,332	69,862	57,015 - 81,011	21,708	17,830 - 24,628	216,600	57,718
Yakutat, Area D	1,640,503	,484,387 - 1,823,182	377,887	344,561 - 416,939	525,067	485,917 - 572,544	155,285	144,528 - 168,207	2,165,570	533,172
Yakutat Total	1,787,241	,602,465 - 1,993,745	413,897	373,787 - 459,271	594,929	542,932 - 653,555	176,993	162,358 - 192,835	2,382,170	590,890
Prince William Sound	10,396	5,063 - 17,811	3,211	1,506 - 5,410	36,106	23,122 - 59,435	15,289	11,233 - 21,921	46,502	18,500
Kodiak, Northeast District	232,997	200,128 - 263,112	57,869	49,569 - 65,311	177,196	158,422 - 203,931	55,480	49,466 - 63,876	410,193	113,349
Kodiak, Shelikof District	908,081	825,029 - 1,030,404	215,750	195,738 - 243,730	236,512	212,160 - 267,861	74,117	65,492 - 84,292	1,144,593	289,867
Kodiak, Semidi District	535	291 - 809	216	139 - 300	394	279 - 535	159	111 - 211	929	375
Kodiak Total	1,141,613	,025,448 - 1,294,325	273,835	245,446 - 309,341	236,906	212,439 - 268,396	129,756	115,069 - 148,379	1,555,715	403,591
Alaska Peninsula	185,063	165,131 - 206,483	38,369	34,096 - 42,645	71,529	65,576 - 78,895	20,708	18,864 - 22,871	256,592	59,077
Bering Sea	72,716	63,041 - 83,633	24,165	21,326 - 27,170	84,573	76,473 - 92,660	44,241	40,198 - 48,361	157,289	68,406
Dutch Harbor	2,921	2,588 - 4,991	992	915 - 1,546	8,538	6,906 - 11,457	3,292	2,653 - 4,507	11,459	4,284
Statewide Total	3,199,950		754,469		1,209,777		390,279		4,409,727	1,144,748

[a]Weight in pounds of unshucked scallops.

Table 5. Estimated number and weight of intact and broken scallops discarded during the 2000/01 fishing season.

	Intact Number		Intact Weight[a]		Broken Number		Broken Weight[a]		Total	Total
Registration Area	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	Number	Weight[a]
Yakutat, District 16	105,628	61,737 - 145,094	26,364	16,713 -37,061	98,318	63,107 - 132,309	24,857	17,135 - 32,389	203,946	51,221
Yakutat, Area D	1,483,104	,219,401 - 1,741,377	393,388	331,465 - 456,949	646,781	543,586 - 810,656	195,593	170,070 - 237,800	2,129,885	588,981
Yakutat Total	1,588,732	,281,138 - 1,886,471	419,752	348,178 - 494,010	745,099	606,693 - 942,965	220,450	187,205 - 270,189	2,333,831	640,202
Prince William Sound	12,263	8,873 - 20,014	3,500	2,381 - 5,927	30,668	20,840 - 63,339	10,326	7,132 - 19,961	42,931	13,826
Kodiak, Northeast District	248,606	210,428 - 291,161	78,153	71,807 - 93,290	102,394	89,822 - 118,369	35,269	31,718 - 40,762	351,000	113,422
Kodiak, Shelikof District	453,700	398,922 - 521,349	88,788	78,566 - 100,943	116,022	105,367 - 128,302	39,826	36,433 - 44,085	569,722	128,614
Kodiak, Semidi District	No Fishing									
Kodiak Total	702,306	609,350 - 812,510	166,941	150,373 - 194,233	218,416	195,189 - 246,671	75,095	68,151 - 84,847	920,722	242,036
Alaska Peninsula	13,733	11,380 - 16,002	3,011	2,443 - 3,593	4,900	3,561 - 6,122	1,527	1,107 - 1,892	18,633	4,538
Bering Sea	215,591	191,235 - 241,798	61,532	54,017 - 70,156	82,892	75,325 - 90,906	36,462	33,193 - 39,818	298,483	97,994
Dutch Harbor	Season Closed									
Statewide Total	2,532,625		654,736		1,081,975		343,860		3,614,600	998,596

[a]Weight in pounds of unshucked scallops.

Table 6. Estimated number and weight of intact and broken scallops dicarded during the 2001/02 fishing season.

	Intact Number		Intact Weight[a]		Broken Number		Broken Weight[a]		Total	Total
Registration Area	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	Number	Weight[a]
Yakutat, District 16	40,416	30,902 - 60,913	12,449	10,129 - 16,363	123,657	107,888 - 146,541	30,430	26,470 - 36,163	164,073	42,879
Yakutat, Area D	610,686	517,659 - 708,646	142,232	123,881 - 163,495	459,830	401,836 - 531,935	130,068	111,836 - 148,074	1,070,516	272,300
Yakutat Total	651,102	548,561 - 769,559	154,681	134,010 - 179,858	583,487	509,724 - 678,476	160,498	138,306 - 184,237	1,234,589	315,179
Prince William Sound	30,762	21,797 - 41,434	10,196	7,822 - 12,789	37,692	24,991 - 71,372	13,628	10,181 - 23,244	68,454	23,824
Kodiak, Northeast District	171,090	146,508 - 200,691	56,296	48,417 - 66,536	133,957	112,509 - 160,132	52,539	44,385 - 62521	305,047	108,835
Kodiak, Shelikof District	574,643	500,266 - 676,461	174,895	153,913 - 202,300	147,993	126,951 - 170,712	64,564	56,871 - 73,170	722,636	239,459
Kodiak, Semidi District	No Fishing									
Kodiak Total	745,733	646,774 - 877,152	231,191	202,330 - 268,836	281,950	239,460 - 330,844	117,103	101,256 - 135,691	1,027,683	348,294
Alaska Peninsula	Season closed									
Bering Sea	80,176	72,810 - 87,818	28,334	25,572 - 31,558	99,899	90,433 - 110,782	47,927	43,345 - 53,341	180,075	76,261
Dutch Harbor	Season closed									
Statewide Total	1,507,773		424,402		1,003,028		339,156		2,510,801	763,558

[a]Weight in pounds of unshucked scallops.

Table 7. Sex composition and mean shell height from observer sampled retained scallop catch during the 1999/2000 fishing season.

Registration Area or District	Number Measured	Number Measured And Sexed	Percent in Sample			Mean Shell Height (mm)			
			Males	Females	Undetermined	Males	Females	Undetermined	All Measured Scallops
Yakutat, District 16	1,276	1,276	<0.1	0.3	99	158	146	125	125
Yakutat, D	11,989	11,968	26	22	52	122	128	123	124
Prince William Sound	360	360	58	40	2	132	133	131	132
Kodiak, Northeast District	3,969	3,969	55	28	17	131	135	129	132
Kodiak, Shelikof District	12,353	12,293	55	31	13	128	137	125	130
Kodiak, Semidi District	120	120	35	61	4	151	153	146	152
Alaska Peninsula	6,046	6,046	33	28	39	126	138	124	129
Bering Sea	8,751	8,751	52	41	7	141	150	142	145
Dutch Harbor	1,008	1,008	57	38	5	133	137	131	135
	45,872	45,791	53	41	6	130	139	125	131

Table 8. Scallop meat recovery, 1999/2000 and 2000/01 fishing seasons.

	1999/2000			2000/01		
		Percent Recovery			Percent Recovery	
Registration Area	Number of Samples	Mean	95% Confidence Interval	Number of Samples	Mean	95% Confidence Interval
Yakutat, District 16	12	10.1	10.0 - 10.3	34	9.0	8.6 - 9.4
Yakutat, D	187	9.5	9.4 - 9.6	187	8.1	8.0 - 8.3
Yakutat Average	199	9.5	9.4 - 9.6	221	8.3	8.1 - 8.4
Prince William Sound	11	9.4	9.1 - 9.7	40	9.0	8.8 - 9.2
Kodiak, Northeast District	54	10.7	10.3 - 11.0	55	11.2	10.9 - 11.4
Kodiak, Shelikof District	181	11.0	10.6 - 11.4	129	11.1	10.7 - 11.4
Kodiak, Semidi District	0				No Fishing	
Kodiak Average	235	10.9	10.6 - 11.2	184	11.1	10.9 - 11.4
Alaska Peninsula	76	10.3	10.1 - 10.5	16	9.4	8.9 - 9.9
Bering Sea	139	9.1	9.0 - 9.2	151	9.3	9.2 - 9.5
Dutch Harbor	16	11.8	11.4 - 12.3		Season closed	
Statewide	676	10.1	9.9 - 10.2	612	9.5	9.3 - 9.6

Table 9. Sex composition and mean shell height from observer sampled retained scallop catch during the 2000/01 fishing season.

Registration Area or District	Number Measured	Number Measured And Sampled	Percent in Sample			Mean Shell Height (mm)			
			Males	Females	Undetermined	Males	Females	Undetermined	All Measured Scallops
Yakutat, District 16	1,735	1,315	58	42	0	117	119	0	118
Yakutat, D	10,237	7,989	57	40	3	122	125	121	123
Prince William Sound	1,429	1,112	59	33	8	130	134	126	131
Kodiak, Northeast District	3,302	2,698	58	41	1	135	137	119	136
Kodiak, Shelikof District	7,559	6,025	52	43	5	133	137	132	134
Kodiak, Semidi District					No Fishing				
Alaska Peninsula	699	517	47	29	24	119	117	117	119
Bering Sea	8418	6,499	45	43	12	141	146	134	142
Dutch Harbor					Season Closed				
	33,379	26,155	53	41	6	130	134	129	132

Table 10. Mean shell height from observer sampled retained and intact discarded scallop catch during the 2001/02 fishing season.

Registration Area or District	Retained Sample		Discarded Sample	
	Number Measured	Mean Shell Height (mm)	Number Measured	Mean Shell Height (mm)
Yakutat, District 16	1,171	119	1,204	101
Yakutat, D	6,447	121	6,327	101
Prince William Sound	699	136	561	113
Kodiak, Northeast District	3,240	140	3,133	102
Kodiak, Shelikof District	9,057	140	8,967	96
Kodiak, Semidi District	No Fishing			
Alaska Peninsula	Season Closed			
Bering Sea	7,316	141	5,982	92
Dutch Harbor	Season Closed			
Statewide	27,930	135	26,174	97

Table 11. Twenty most frequently caught items by weight from haul composition samples, 1999/2000 and 2000/01Yakutat, District 16 fishing seasons.

1999/2000[a]			
Rank	Species or Items	Scientific Name	% of Total Catch
1	weathervane scallop	*Patinopecten caurinus*	83.4%
2	kelp, rocks, etc.	NA	8.1%
3	skates,unidentified	Family Rajidae	2.1%
4	skate egg case, unidentified	Family Rajidae	1.1%
5	lingcod	*Ophiodon elongatus*	1.0%
6	twentyarm sea star	*Pycnopodia helianthoides*	1.0%
7	weathervane scallop shells	*P. caurinus*	0.8%
8	spiny dogfish	*Squalus acanthias*	0.5%
9	debris, fishing gear	NA	0.5%
10	arrowtooth flounder	*Atheresthes stomias*	0.3%
11	rock sole, unident.	*Lepidopsetta* sp.	0.2%
12	wolf-eel	*Anarrhichthys ocellatus*	0.2%
13	Dover sole	*Microstomus pacificus*	0.1%
14	hermit crab, unidentified	Family Paguridae	0.1%
15	notched brittle star	*Ophiura sarsi*	0.1%
16	common octopus	*Octopus dofleini*	0.04%
17	English sole	*Parophrys vetulus*	0.03%
18	Tanner crab	*Chionoecetes bairdi*	0.03%

2000/01			
Rank	Species or Items	Scientific Name	% of Total Catch
1	weathervane scallop	*Patinopecten caurinus*	85.5%
2	twentyarm sea star	*Pycnopodia helianthoides*	3.7%
3	big skate egg case	*Raja binoculata*	2.6%
4	weathervane scallop shells	*P. caurinus*	1.0%
5	kelp, rocks, etc.	NA	0.8%
6	blood sea star	*Henricia leviuscula*	0.7%
7	butter sole	*Isopsetta isolepis*	0.6%
8	sea star	Species *Evasterias*	0.6%
9	big skate	*R. binoculata*	0.4%
10	English Sole	*Parophrys vetulus*	0.4%
11	arrowtooth flounder	*Atheresthes stomias*	0.4%
12	starfish, unidentified	Class Stelleroidea	0.3%
13	skate	*Bathyraja* sp.	0.3%
14	lingcod	*Ophiodon elongatus*	0.3%
15	sea anemone, unidentified	Order Actinaria	0.2%
16	majestic sea star	*Pedicellaster magister*	0.2%
17	longnose skate	*Raja rhina*	0.2%
18	spiny dogfish	*Squalus acanthias*	0.2%
19	sand sole	*Psettichthys melanostictus*	0.1%
20	notched brittle star	*Ophiura sarsi*	0.1%

[a]Total items sampled were 18.

Table 12. Twenty most frequently caught items by weight from haul composition samples during the 2001/02 Yakutat, District 16 fishing season.

		2001/02	
Rank	Species or Items	Scientific Name	% of Total Catch
1	weathervane scallop	*Patinopecten caurinus*	79.4%
2	twentyarm sea star	*Pycnopodia helianthoides*	3.9%
3	kelp, rocks, etc	NA	3.7%
4	big skate egg case	*Raja binoculata*	3.5%
5	weathervane scallop shells	*P. caurinus*	2.3%
6	starfish, unidentified	Class Stelleroidea	1.7%
7	english sole	*Parophrys vetulus*	1.0%
8	big skate	*R. binoculata*	0.8%
9	sea anemone, unidentified	Order Actinaria	0.6%
10	lingcod	*Ophiodon elongatus*	0.5%
11	spiny dogfish	*Squalus acanthias*	0.3%
12	longnose skate	*Raja rhina*	0.3%
13	butter sole	*Isopsetta isolepis*	0.2%
14	petrale sole	*Eopsetta jordani*	0.2%
15	rex sole	*Glyptocephalus zachirus*	0.1%
16	Pacific sanddab	*Citharichthys sordidus*	0.1%
17	flathead sole	*Hippoglossoides elassodon*	0.1%
18	arrowtooth flounder	*Atheresthes stomias*	0.1%
19	notched brittle star	*Ophiura sarsi*	0.1%
20	Dover sole	*Microstomus pacificus*	0.1%

Table 13. Twenty most frequently caught items by weight from haul composition samples, 1999/2000 and 2000/01 Yakutat, Area D fishing seasons.

1999/2000

Rank	Species or Items	Scientific Name	% of Total Catch
1	weathervane scallop	*Patinopecten caurinus*	87.0%
2	kelp, rocks, etc.	NA	4.2%
3	weathervane scallop shells	*P. caurinus*	3.1%
4	starfish, unidentified	Class Stelleroidea	1.9%
5	skates, unidentified	Family Rajidae	1.4%
6	arrowtooth flounder	*Atheresthes stomias*	0.4%
7	skate egg case, unidentified	Family Rajidae	0.3%
8	Dover sole	*Microstomus pacificus*	0.3%
9	sea anemone, unidentified	Order Actinaria	0.2%
10	twentyarm sea star	*Pycnopodia helianthoides*	0.2%
11	big skate	*Raja binoculata*	0.1%
12	hermit crab, unidentified	Family Paguridae	0.1%
13	lingcod	*Ophiodon elongatus*	0.1%
14	English sole	*Parophrys vetulus*	0.1%
15	wolf-eel	*Anarrhichthys ocellatus*	0.1%
16	longnose skate	*Raja rhina*	0.1%
17	spiny dogfish	*Squalus acanthias*	0.1%
18	flathead sole	*Hippoglossoides elassodon*	0.1%
19	common octopus	*Octopus dofleini*	0.1%
20	sea mouse	*Aphrodita negligens*	0.05%

2000/01

Rank	Species or Items	Scientific Name	% of Total Catch
1	weathervane scallop	*Patinopecten caurinus*	88.2%
2	twentyarm sea star	*Pycnopodia helianthoides*	2.3%
3	weathervane scallop shells	*P. caurinus*	2.2%
4	kelp, rocks, etc.	NA	1.5%
5	starfish, unidentified	Class Stelleroidea	1.2%
6	longnose skate	*Raja rhina*	0.4%
7	big skate	*Raja binoculata*	0.4%
8	blood sea star	*Henricia leviuscula*	0.3%
9	sea anemone, unidentified	Order Actinaria	0.3%
10	Dover sole	*Microstomus pacificus*	0.2%
11	lingcod	*Ophiodon elongatus*	0.2%
12	big skate egg case	*R. binoculata*	0.2%
13	butter sole	*Isopsetta isolepis*	0.1%
14	notched brittle star	*Ophiura sarsi*	0.1%
15	English Sole	*Parophrys vetulus*	0.1%
16	debris, fishing gear	NA	0.1%
17	skate, unidentified	Family Rajidae	0.1%
18	skate	*Bathyraja* sp.	0.1%
19	sea star	*Evasterias sp.*	0.1%
20	starry flounder	*Platichthys stellatus*	0.1%

Table 14. Twenty most frequently caught items by weight from haul composition samples during the 2001/02 Yakutat, Area D fishing season.

		2001/02	
Rank	Species	Scientific Name	% of Total Catch
1	weathervane scallop	*Patinopecten caurinus*	80.1%
2	weathervane scallop shells	*P. caurinus*	3.8%
3	twentyarm sea star	*Pycnopodia helianthoides*	3.4%
4	kelp, rocks, etc.	NA	2.6%
5	starfish, unidentified	Class Stelleroidea	1.7%
6	big skate	*Raja binoculata*	1.6%
7	English sole	*Parophrys vetulus*	1.1%
8	longnose skate	*Raja rhina*	0.6%
9	spiny dogfish	*Squalus acanthias*	0.6%
10	big skate egg case	*R. binoculata*	0.4%
11	sea anemone, unidentified	Order Actinaria	0.4%
12	rex sole	*Glyptocephalus zachirus*	0.4%
13	notched brittle star	*Ophiura sarsi*	0.3%
14	lingcod	*Ophiodon elongatus*	0.3%
15	arrowtooth flounder	*Atheresthes stomias*	0.2%
16	skate egg case	B*athyraja* sp.	0.2%
17	blood sea star	*Henricia leviuscula*	0.2%
18	butter sole	*Isopsetta isolepis*	0.1%
19	Pacific halibut	*Hippoglossus stenolepis*	0.1%
20	brittle star, unidentified	Order Ophiurida	0.1%

Table 15. Twenty most frequently caught items by weight from haul composition samples, 1999/2000 and 2000/01 Prince William Sound fishing seasons.

1999/2000[a]			
Rank	Species or Items	Scientific Name	% of Total Catch
1	weathervane scallop	*Patinopecten caurinus*	93.3%
2	starfish, unidentified	Class Stelleroidea	3.1%
3	weathervane shells	*P. caurinus*	1.2%
4	kelp, rocks, etc	NA	0.8%
5	flathead sole	*Hippoglossoides elassodon*	0.5%
6	rex sole	*Glyptocephalus zachirus*	0.3%
7	skate, unidentified	Family Rajidae	0.2%
8	Dover Sole	*Microstomus pacificus*	0.2%
9	arrowtooth flounder	*Atheresthes stomias*	0.2%
10	lingcod	*Ophiodon elongatus*	0.1%
11	sea anemone, unidentified	Order Actinaria	0.1%
12	basket starfish	*Gorgonocephalus caryi*	0.1%
13	spiny dogfish	*Squalus acanthias*	0.02%
14	hermit crab, unidentified	Family Paguridae	0.02%
15	snail, unidentified	*Class Gastropoda*	0.02%
16	sea mouse	*Aphrodita negligens*	0.01%

2000/01			
Rank	Species or Items	Scientific Name	% of Total Catch
1	weathervane scallop	*Patinopecten caurinus*	93.4%
2	twentyarm sea star	*Pycnopodia helianthoides*	2.8%
3	weathervane scallop shells	*P. caurinus*	1.1%
4	Dover sole	*Microstomus pacificus*	0.5%
5	kelp, rocks, etc.	NA	0.2%
6	longnose skate	*Raja rhina*	0.2%
7	blood sea star	*Henricia leviuscula*	0.2%
8	longnose skate egg case	*R. rhina*	0.1%
9	sea anemone, unidentified	Order Actinaria	0.1%
10	starfish, unidentified	Class Stelleroidea	0.1%
11	crab barnacle	*Balanus hesperius*	0.1%
12	big skate egg case	*Raja binoculata*	0.1%
13	Pacific halibut	*Hippoglossus stenolepis*	0.1%
14	flathead sole	*Hippoglossoides elassodon*	0.1%
15	rex sole	*Glyptocephalus zachirus*	0.1%
16	notched brittle star	*Ophiura sarsi*	0.1%
17	skate, unidentified	Family Rajidae	0.1%
18	polychaete worm	Class Polychaeta	0.04%
19	arrowtooth flounder	*Atheresthes stomias*	0.04%
20	horse mussel	*Modiolus modiolus*	0.04%

[a]Total items sampled were 16.

Table 16. Twenty most frequently caught items by weight from haul composition samples during the 2001/02 Prince William Sound fishing season.

		2001/02	
Rank	Species or Items	Scientific Name	% of Total Catch
1	weathervane scallop	*Patinopecten caurinus*	93.7%
2	twentyarm sea star	*Pycnopodia helianthoides*	3.1%
3	weathervane scallop shells	*P. caurinus*	0.7%
4	skate	*Bathyraja* sp.	0.6%
5	kelp, rocks, etc,	NA	0.2%
6	lingcod	*Ophiodon elongatus*	0.2%
7	starfish, unidentified	Class Stelleroidea	0.1%
8	flathead sole	*Hippoglossoides elassodon*	0.1%
9	arrowtooth flounder	*Atheresthes stomias*	0.1%
10	longnose skate	*Raja rhina*	0.1%
11	hermit crab, unidentified	Family Paguridae	0.1%
12	big skate	*Raja binoculata*	0.1%
13	Pacific cod	*Gadus macrocephalus*	0.1%
14	walleye pollock	*Theragra chalcogramma*	0.05%
15	sculpin, unidentified	Family Cottidae	0.04%
16	skate egg case	*Bathyraja* sp.	0.03%
17	sea mouse	*Aphrodita negligens*	0.03%
18	sea anemone, unidentified	Order Actinaria	0.03%
19	rex sole	*Glyptocephalus zachirus*	0.02%
20	brittle star, unidentified	Order Ophiurida	0.02%

Table 17. Twenty most frequently caught items by weight from haul composition samples, 1999/2000 and 2000/01 Kodiak, Northeast District fishing seasons.

1999/2000			
Rank	Species or Items	Scientific Name	% of Total Catch
1	weathervane scallop	*Patinopecten caurinus*	62.3%
2	starfish, unidentified	Class Stelleroidea	10.0%
3	kelp, rocks, etc	*NA*	8.1%
4	weathervane scallop shells	*P. caurinus*	4.9%
5	twentyarm sea star	*Pycnopodia helianthoides*	4.9%
6	sea anemone, unidentified	Order Actinaria	3.7%
7	notched brittle star	*Ophiura sarsi*	1.8%
8	rock sole	*Lepidopsetta bilineata*	0.9%
9	skates, unidentified	Family Rajidae	0.5%
10	arrowtooth flounder	*Ophiodon elongatus*	0.4%
11	bay scallop	*Chlamys* sp.	0.2%
12	hermit crab, unidentified	Family Paguridae	0.2%
13	butter sole	*Isopsetta isolepis*	0.2%
14	sand dollar, unidentified	Order Echinoida	0.2%
15	snail, unidenified	Class Gastropoda	0.1%
16	flathead sole	*Hippoglossoides elassodon*	0.1%
17	debris, fishing gear	*NA*	0.1%
18	box crab, unidentified	*Lopholithodes* sp.	0.1%
19	Tanner crab	*Chionoecetes bairdi*	0.1%
20	Pacific cod	*Gadus macrocephalus*	0.1%

2000/01			
Rank	Species or Items	Scientific Name	% of Total Catch
1	weathervane scallop	*Patinopecten caurinus*	79.9%
2	twentyarm sea star	*Pycnopodia helianthoides*	6.3%
3	kelp, rocks, etc.	NA	2.8%
4	weathervane scallop shells	*P. caurinus*	2.4%
5	sea anemone, unidentified	Order Actinaria	1.1%
6	brittle star, unidentified	Order Ophiurida	0.7%
7	notched brittle star	*Ophiura sarsi*	0.7%
8	rock sole	*Lepidopsetta bilineata*	0.6%
9	starfish, unidentified	Class Stelleroidea	0.5%
10	sea star	Species *Crossaster*	0.4%
11	arrowtooth flounder	*Atheresthes stomias*	0.3%
12	big skate	*Raja binoculata*	0.3%
13	longnose skate	*Raja rhina*	0.3%
14	skate	*Bathyraja* sp.	0.2%
15	Tanner crab	*Chionoecetes bairdi*	0.2%
16	hermit crab, unidentified	Family Paguridae	0.2%
17	rex sole	*Glyptocephalus zachirus*	0.2%
18	Dover sole	*Microstomus pacificus*	0.1%
19	bay scallop	*Chlamys* sp.	0.1%
20	red box crab	*Lopholithodes mandtii*	0.1%

Table 18. Twenty most frequently caught items by weight from haul composition samples during the 2001/02 Kodiak, Northeast District fishing season.

		2001/02	
Rank	Species or items	Scientific Name	% of Total Catch
1	weathervane scallop	*Patinopecten caurinus*	75.8%
2	kelp, rocks, etc.	NA	7.1%
3	twentyarm seastar	*Pycnopodia helianthoides*	4.7%
4	notched brittle star	*Ophiura sarsi*	3.7%
5	weathervane scallop shells	*P. caurinus*	2.1%
6	skate	*Bathyraja* sp.	0.9%
7	sea anemonie, unidentified	Order Actinaria	0.9%
8	Tanner crab	*Chionoecetes bairdi*	0.7%
9	common octopus	*Octopus dofleini*	0.3%
10	starfish, unidentified	Class Stelleroidea	0.2%
11	rock sole	*Lepidopsetta bilineata*	0.3%
12	flathead sole	*Hippoglossoides elassodon*	0.1%
13	sea pen, unidentified	Order Pennatulacea	0.1%
14	big skate	*Raja binoculata*	0.1%
15	hermit crab, unidentified	Family Paguridae	0.1%
16	arrowtooth flounder	*Atheresthes stomias*	0.1%
17	rex sole	*Glyptocephalus zachirus*	0.1%
18	brittle star, unidentified	Order Ophiurida	0.1%
19	longnose skate	*Raja rhina*	0.1%
20	debris, fishing gear	NA	0.1%

Table 19. Twenty most frequently caught items by weight from haul composition samples, 1999/2000 and 2000/01 Kodiak, Shelikof District fishing seasons.

1999/2000

Rank	Species or Items	Scientific Name	% of Total Catch
1	weathervane scallop	*Patinopecten caurinus*	63.5%
2	kelp, rocks, etc	NA	18.9%
3	weathervane scallop shells	*P. caurinus*	4.0%
4	skates, unidentified	Family Rajidae	2.8%
5	twentyarm sea star	*Pycnopodia helianthoides*	2.1%
6	arrowtooth flounder	*Ophiodon elongatus*	1.5%
7	starfish, unidentified	Class Stelleroidea	1.1%
8	shark, unidentified	Subclass Elasmobranchii	1.1%
9	flathead sole	*Hippoglossoides elassodon*	0.8%
10	sea anemone, unidentified	Order Actinaria	0.6%
11	Alaska plaice	*Pleuronectes quadrituberculatus*	0.5%
12	snail, unidentified	Class Gastropoda	0.4%
13	hairy triton	*Fusitriton oregonensis*	0.3%
14	skate egg case, unidentified	Family Rajidae	0.2%
15	Pacific halibut	*Hippoglossus stenolepis*	0.2%
16	Pacific cod	*Gadus macrocephalus*	0.2%
17	hermit crab, unidentified	Family Paguridae	0.2%
18	longnose skate	*Raja rhina*	0.2%
19	English sole	*Parophrys vetulus*	0.1%
20	Tanner Crab	*Chionoecetes bairdi*	0.1%

2000/01

Rank	Species or Items	Scientific Name	% of Total Catch
1	weathervane scallop	*Patinopecten caurinus*	80.0%
2	kelp, rocks, etc.	NA	5.3%
3	weathervane scallop shells	*P. caurinus*	4.0%
4	twentyarm sea star	*Pycnopodia helianthoides*	1.4%
5	big skate	*Raja binoculata*	1.1%
6	longnose skate	*Raja rhina*	1.1%
7	skate	*Bathyraja* sp.	1.1%
8	arrowtooth flounder	*Atheresthes stomias*	0.9%
9	flathead sole	*Hippoglossoides elassodon*	0.9%
10	hairy triton	*Fusitriton oregonensis*	0.5%
11	Pacific halibut	*Hippoglossus stenolepis*	0.5%
12	Alaska plaice	*Pleuronectes quadrituberculatus*	0.3%
13	sea anemone, unidentified	Order Actinaria	0.2%
14	hermit crab, unidentified	Family Paguridae	0.2%
15	starfish, unidentified	Class Stelleroidea	0.2%
16	debris, fishing gear	NA	0.2%
17	lyre crab	*Hyas lyratus*	0.1%
18	Tanner crab	*Chionoecetes bairdi*	0.1%
19	spiny dogfish	*Squalus acanthias*	0.1%
20	Pacific cod	*Gadus macrocephalus*	0.1%

Table 20. Twenty most frequently caught items by weight from haul composition samples during the 2001/02 Kodiak, Shelikof District fishing season.

		2001/02	
Rank	Species or Items	Scientific Name	% of Total Catch
1	weathervane scallop	*Patinopecten caurinus*	77.7%
2	kelp, rocks, etc.	NA	4.7%
3	weathervane scallop shells	*P. caurinus*	3.6%
4	twentyarm sea star	*Pycnopodia helianthoides*	3.1%
5	longnose skate	*Raja rhina*	1.0%
6	skate	*Bathyraja* sp.	1.3%
7	arrowtooth flounder	*Atheresthes stomias*	1.0%
8	big skate	*Raja binoculata*	0.7%
9	flathead sole	*Hippoglossus stenolepis*	0.6%
10	sea anemone, unidentified	Order Actinaria	0.5%
11	starfish, unidentified	Class Stelleroidea	0.3%
12	Tanner crab	*Chionoecetes bairdi*	0.3%
13	hermit crab, unidentified	Family Paguridae	0.3%
14	Alaska plaice	*Pleuronectes quadrituberculatus*	0.3%
15	common octopus	*Octopus dofleini*	0.3%
16	hairy triton	*Fusitriton oregonensis*	0.3%
17	Pacific halibut	*Hippoglossus stenolepis*	0.2%
18	debris, fishing gear	NA	0.2%
19	sea mouse	*Aphrodita negligens*	0.2%
20	spiny dogfish	*Squalus acanthias*	0.2%

Table 21. Twenty most frequently caught items by weight from haul composition samples during the 1999/2000 Kodiak, Semidi District fishing season.

		1999/2000[a]	
Rank	Species or items	Scientific Name	% of Total Catch
1	kelp, rocks, etc.	NA	37.9%
2	sea anemone, unidentified	Order Actinaria	19.0%
3	twentyarm sea star	*Pycnopodia helianthoides*	18.2%
4	weathervane scallop	*Patinopecten caurinus*	14.3%
5	flathead sole	*Hippoglossoides elassodon*	4.4%
6	skate, unidentified	Family Rajidae	1.6%
7	starry flounder	*Platichthys stellatus*	0.6%
8	hermit crab, unidentified	Family Paguridae	0.6%
9	yellowfin sole	*Limanda aspera*	0.6%
10	weathervane scallop shells	*P. caurinus*	0.6%
11	hairy triton	*Fusitriton oregonensis*	0.6%
12	sea pen, unidentified	Order Pennatulacea	0.4%
13	snail eggs, unidentified	Class Gastropoda	0.4%
14	starfish, unidentified	Class Stelleroidea	0.3%
15	Alaska plaice	*Pleuronectes quadrituberculatus*	0.3%
16	Tanner crab	*Chionoecetes bairdi*	0.1%
17	bay scallop	*Chlamys* sp.	0.1%
18	sea urchin, unidentified	*Strongylocentrotus* sp.	0.1%

[a]Total item sampled were 18.

Table 22. Twenty most frequently caught items by weight from haul composition samples, 1999/2000 and 2000/01 Alaska Peninsula fishing seasons.

1999/2000

Rank	Species or items	Scientific Name	% of Total Catch
1	weathervane scallop	*Patinopecten caurinus*	65.5%
2	kelp, rocks, etc.	NA	7.0%
3	weathervane scallop shells	*P. caurinus*	6.5%
4	basket star	*Gorgonocephalus caryi*	6.8%
5	horse mussel	*Modiolus modiolus*	1.9%
6	arrowtooth flounder	*Atheresthes stomias*	1.8%
7	starfish, unidentified	Class Stelleroidea	1.6%
8	greenspined sand dollar	*Echinarachnius parma*	0.8%
9	sea urchin, unidentified	*Strongylocentrotus* sp.	0.7%
10	yellowfin sole	*Limanda aspera*	0.7%
11	rock sole	*Lepidopsetta bilineata*	0.7%
12	twentyarm sea star	*Pycnopodia helianthoides*	0.7%
13	flathead sole	*Hippoglossoides elassodon*	0.7%
14	sea anemone, unidentified	Order Actinaria	0.5%
15	skates, unidentified	Family Rajidae	0.5%
16	Pacific cod	*Gadus macrocephalus*	0.3%
17	hermit crab, unidentified	Family Paguridae	0.3%
18	brown box crab	*Lopholithodes foraminatus*	0.3%
19	hairy triton	*Fusitriton oregonensis*	0.3%
20	snail, unidenified	Class Gastropoda	0.3%

2000/01

Rank	Species or items	Scientific Name	% of Total Catch
1	weathervane scallop	*Patinopecten caurinus*	72.5%
2	basket starfish, unidentified	*Gorgonocephalus caryi*	9.9%
3	kelp, rocks, etc.	NA	3.3%
4	arrowtooth flounder	*Atheresthes stomias*	2.5%
5	weathervane scallop shells	*P. caurinus*	2.3%
6	starfish, unidenified	Class Stelleroidea	1.6%
7	flathead sole	*Hippoglossoides elassodon*	1.0%
8	sea urchin, unidentified	*Strongylocentrotus* sp.	0.7%
9	skate	*Bathyraja* sp.	0.6%
10	Pacific halibut	*Hippoglossus stenolepis*	0.4%
11	rex sole	*Glyptocephalus zachirus*	0.4%
12	hairy triton	*Fusitriton oregonensis*	0.4%
13	hermit crab, unidentified	Family Paguridae	0.3%
14	Tanner crab	*Chionoecetes bairdi*	0.3%
15	bay scallop	*Chlamys* sp.	0.3%
16	snail shells	Class Gastropoda	0.3%
17	rock sole	*Lepidopsetta bilineata*	0.3%
18	snail, unidentified	Class Gastropoda	0.3%
19	big skate	*Raja binoculata*	0.3%
20	green sea urchin	*Strongylocentrotus droebachiensis*	0.3%

Table 23. Twenty most frequently caught items by weight from haul composition samples, 1999/2000 and 2000/01 Bering Sea fishing seasons.

1999/2000

Rank	Species or items	Scientific Name	% of Total Catch
1	weathervane scallop	*Patinopecten caurinus*	68.9%
2	weathervane scallop shells	*P. caurinus*	4.1%
3	moon snail, unidentified	*Natica* sp.	3.6%
4	skates, unidentified	Family Rajidae	3.6%
5	snow crab and hybrids	*Chionoecetes opilio*	3.5%
6	sponge, unidentified	Phylum Porifera	2.5%
7	hermit crab, unidentified	Family Paguridae	1.9%
8	flathead sole	*Hippoglossoides elassodon*	1.8%
9	snail, unidentified	Class Gastropoda	1.4%
10	Greenland turbot	*Reinhardtius hippoglossoides*	1.2%
11	yellowfin sole	*Limanda aspera*	1.1%
12	Tanner crab	*Chionoecetes bairdi*	0.9%
13	nudibranch, unidentified	Order Nudibranchia	0.8%
14	kelp, rocks, etc.	NA	0.8%
15	arrowtooth flounder	*Atheresthes stomias*	0.7%
16	debris, fishing gear	NA	0.4%
17	jellyfish, unidentified	Class Scyphozoa	0.4%
18	rock sole	*Lepidopsetta bilineata*	0.3%
19	sea anemone, unidentified	Order Actinaria	0.3%
20	snail eggs, unidentified	Class Gastropoda	0.3%

2000/01

Rank	Species or items	Scientific Name	% of Total Catch
1	weathervane scallop	*Patinopecten caurinus*	81.1%
2	weathervane scallop shells	*P. caurinus*	3.8%
3	snow crab and hybrids	*Chionoecetes opilio*	2.4%
4	yellowfin sole	*Limanda aspera*	1.5%
5	hairy triton	*Fusitriton oregonensis*	1.4%
6	hermit crab, unidentified	Family Paguridae	1.3%
7	skate	*Bathyraja* sp.	1.3%
8	rocks, kelp, ets.	NA	0.8%
9	arrowtooth flounder	*Atheresthes stomias*	0.8%
10	Tanner crab	*Chionoecetes bairdi*	0.7%
11	flathead sole	*Hippoglossoides elassodon*	0.6%
12	snail shells	Class Gastropoda	0.5%
13	big skate	*Rija binoculata*	0.3%
14	snail, unidentified	Class Gastropoda	0.3%
15	common octopus	*Octopus dofleini*	0.2%
16	rock sole	*Lepidopsetta bilineata*	0.2%
17	lyre crab	*Hyas lyratus*	0.2%
18	snail	*Neptunea* sp.	0.2%
19	debris, fishing gear	NA	0.2%
20	sea peach	*Halocynthia aurantium*	0.1%

Table 24. Twenty most frequently caught items by weight from haul composition samples during the 2001/02 Bering Sea fishing season.

Rank	Species or items	Scientific Name	% of Total Catch
1	weathervane scallop	*Patinopecten caurinus*	80.0%
2	snow crab and hybrids	*Chionoecetes opilio*	2.3%
3	weathervane scallop shells	*P. caurinus*	1.9%
4	debris, fishing gear	NA	1.6%
5	yellowfin sole	*Limanda aspera*	1.3%
6	Tanner crab	*Chionoecetes bairdi*	1.2%
7	skate	*Bathyraja* sp.	1.4%
8	arrowtooth flounder	*Atheresthes stomias*	1.1%
9	snail shells	Class Gastropoda	0.9%
10	hermit crab, unidentified	Family Paguridae	0.9%
11	flathead sole	*Hippoglossoides elassodon*	0.9%
12	big skate	*Rija binoculata*	0.8%
13	hairy triton	*Fusitriton oregonensis*	0.5%
14	sea anemone, unidentified	Order Actinaria	0.5%
15	kelp, rocks, etc.	NA	0.4%
16	sponge, unidentified	Phylum Porifera	0.3%
17	snail, unidentified	Class Gastropoda	0.3%
18	ribbed neptune snail	*Neptunea lyrata*	0.2%
19	starfish, unidentified	Class Stelleroidea	0.2%
20	Aleutian hermit crab	*Pagurus aleuticus*	0.2%

Table 25. Twenty most frequently caught items by weight from haul composition samples during the 1999/2000 Dutch Harbor fishing season.

		1999/2000	
Rank	Species or items	Scientific Name	% of Total Catch
1	weathervane scallop	*Patinopecten caurinus*	54.2%
2	kelp, rocks, etc.	NA	19.5%
3	rock sole	*Lepidopsetta bilineata*	10.0%
4	twentyarm sea star	*Pycnopodia helianthoides*	7.2%
5	weathervane scallop shells	*P. caurinus*	2.6%
6	sea urchin, unidentified	*Strongylocentrotus* sp.	0.8%
7	skate, unidentified	Family Rajidae	0.8%
8	starfish, unidentified	Class Stelleroidea	0.7%
9	arrowtooth flounder	*Atheresthes stomias*	0.4%
10	brittle star, unidentified	Order Ophiurida	0.4%
11	hairy triton	*Fusitriton oregonensis*	0.4%
12	sponge, unidentified	Phylum Porifera	0.3%
13	sand dollar, unidentified	Order Echinoida	0.3%
14	spinyhead sculpin	*Dasycottus setiger*	0.2%
15	hermit crab, unidentified	Family Paguridae	0.2%
16	Tanner crab	*Chionoecetes bairdi*	0.1%
17	ribbed neptune	*Neptunea lyrata*	0.1%
18	basket starfish	*Gorgonocephalus caryi*	0.1%
19	ladder welk	*Buccinum scalariforme*	0.1%
20	snail eggs, unidentified	Class Gastropoda	0.1%

Table 26. Summary of the most frequently caught species, by percent weight in sampled dredges during the 1999/2000 fishing season.

	Registration Area / District								
	Yakutat Area			Kodiak Area			Alaska	Bering	Dutch
Species Catergory	District 16	Yakutat	PWS	Northeast	Shelikof	Semidi	Peninsula	Sea	Harbor
weathervane scallops	83.4	87.0	93.3	62.3	63.5	14.3	65.5	68.9	54.2
PROHIBITED SPECIES BYCATCH									
Dungeness crab	0	<0.1	0	0	<0.1	0	0.1	0.1	0
king crab	0	0	0	0	0	0	0	0	0
Snow crab[a], *C. opilio*	0	0	0	0	0	0	0	3.5	0
Tanner crab, *C. bairdi*	<0.1	<0.1	0	0.1	0.1	0.1	0.2	0.9	0
Pacific halibut	0	<0.1	0	0.1	0.2	0	0	0.1	0
OTHER COMMERCIAL SPECIES									
Alaska plaice	0	0	0	0.0	0.5	0.3	<0.1	<0.1	0
arrowtooth flounder	0.3	0.4	0.2	0.4	1.5	0	1.8	0.7	0.4
bay scallops	0	<0.1	0	0.2	<0.1	0.1	0.0	0	0.1
butter sole	0	0	0	0.2	0	0	<0.1	0	<0.1
Dover sole	0.1	0.3	0.2	0	<0.1	0	0.1	0	0
English sole	<0.1	0.1	<0.1	0	<0.1	0	0	0	0
flathead sole	0	0.1	0.5	0.1	0.8	4.4	0.7	1.8	0.0
Greenland turbot	0	0	0	0	<0.1	0	0	1.2	0.0
lingcod	1.0	0.1	0.1	0	0	0	0	0	0
octopus	<0.1	0.1	0	<0.1	<0.1	0	0.1	<0.1	0.1
Pacific cod	0	0	0	0.1	0.2	0	0.3	0	0.1
rex sole	0	<0.1	0.3	0	<0.1	0	0.1	0.1	<0.1
rock sole	0.2	<0.1	0	0.9	<0.1	0	0.7	0.3	10.0
rock fish	0	0	0	<0.1	0	0	0	0	0
sablefish	0	0	0	0	<0.1	0	0	0	0
sea cucumber	0	<0.1	0	0	0	0	0.0	0	0
sea urchins	0	0	0	<0.1	<0.1	0.1	0.7	<0.1	0.8
shrimp	0	<0.1	0	<0.1	<0.1	0	<0.1	0	<0.1
skates	2.1	1.6	0.2	0.5	3.0	1.6	0.5	3.6	0.8
spiny dogfish	0.5	0.1	<0.1	0	0	0	0	0	0
starry flounder	0	0	0	0	<0.1	0.6	0.1	<0.1	0
walleye pollock	0	0	0	<0.1	0.1	0	<0.1	<0.1	0
yellowfin sole	0	0	0	0	<0.1	0.6	0.7	1.1	0
MISCELLANEOUS									
brittle star	0.1	<0.1	0	1.8	<0.1	0	0	0	0.4
basket star	0	0.0	0.1	0.1	<0.1	0	6.8	0.1	0.1
kelp, rocks, etc.	8.1	4.2	0.8	8.1	18.9	37.9	7.0	0.8	19.5
man-made debris	0.5	<0.1	<0.1	0.1	<0.1	0.0	<0.1	0.6	<0.1
starfish, misc	1.0	2.1	3.1	14.9	3.2	18.5	2.3	0.4	7.9
weathervane shells	0.8	3.1	1.2	4.9	4.0	0.6	6.5	4.1	2.6

[a] Includes all hybrid *Chionoecetes* crab.

Table 27. Summary of the most frequently caught species, by percent weight in sampled dredges during the 2000/01 fishing season.

	Registration Area / District								
	Yakutat Area			Kodiak Area			Alaska	Bering	Dutch
Species Catergory	District 16	Yakutat	PWS	Northeast	Shelikof	Semidi	Peninsula	Sea	Harbor
weathervane scallops	85.5	88.2	93.4	79.9	80.0		72.5	81.1	
PROHIBITED SPECIES BYCATCH									
Dungeness crab	<0.1	<0.1	<0.1	0	<0.1	No	0	<0.1	No
king crab	0	0	0	0	0	Fishing	0	<0.1	Fishing
Snow crab[a], *C. opilio*	0	0	0	0	0		0	2.4	
Tanner crab, *C. bairdi*	<0.1	<0.1	<0.1	0.2	0.1		0.3	0.7	
Pacific halibut	<0.1	<0.1	<0.1	0.1	0.5		0.4	0.1	
OTHER COMMERCIAL SPECIES									
Alaska plaice	0	0	0	0	0.3		0	0.1	
arrowtooth flounder	0.4	0.4	<0.1	0.3	0.9		2.5	0.8	
bay scallops	0	<0.1	<0.1	0.1	<0.1		0.3	<0.1	
butter sole	0.6	0.1	0	0.1	0		0	<0.1	
Dover sole	0.1	0.2	0.5	0.1	<0.1		0	0	
English sole	0.4	0.1	<0.1	0	0		0	0	
flathead sole	<0.1	0.1	0.1	<0.1	0.9		1.0	0.6	
Greenland turbot	0	0	0	0	0		0	0	
lingcod	0.3	0.2	0.1	0	0		0	0	
octopus	<0.1	0	<0.1	0.1	<0.1		0.0	0.2	
Pacific cod	<0.1	<0.1	<0.1	0.1	0.1		0.2	0.1	
rex sole	0.1	<0.1	0.3	0.2	<0.1		0.4	0.1	
rock sole	<0.1	0	0	0.6	<0.1		0.3	0.2	
rock fish	<0.1	<0.1	0	0	0		0	0	
sablefish	0	0	0	0	<0.1		0	0	
sea cucumber	0	<0.1	0	0	0		0	0	
sea urchins	<0.1	<0.1	0	<0.1	<0.1		0.3	<0.1	
shrimp	0	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	
skates	0.9	1.0	0.3	0.8	3.3		0.9	1.6	
spiny dogfish	0.2	0	<0.1	0	0.1		0	0	
starry flounder	0	0.1	0	0	0		0.1	<0.1	
walleye pollock	<0.1	<0.1	0	<0.1	0.1		0	0.1	
yellowfin sole	0	0	0	0	<0.1		0	1.5	
MISCELLANEOUS									
brittle star	<0.1	<0.1	0.1	1.4	<0.1		0.1	0	
basket star	<0.1	<0.1	0.1	0.1	0		9.9	0.1	
kelp, rocks, etc.	0.8	1.5	0.2	2.8	5.3		3.3	0.8	
man-made debris	<0.1	<0.1	<0.1	<0.1	0.2		<0.1	0.3	
starfish, misc	5.6	4.0	3.1	7.2	1.6		1.6	0.1	
weathervane shells	1.0	2.2	1.1	2.4	4.0		2.3	3.8	

[a] Includes all hybrid *Chionoecetes* crab.

Table 28. Summary of the most frequently caught species, by percent weight in sampled dredges during the 2001/02 fishing season.

	Registration Area / District								
	Yakutat Area			Kodiak Area			Alaska	Bering	Dutch
Species Catergory	District 16	Yakutat	PWS	Northeast	Shelikof	Semidi	Peninsula	Sea	Harbor
weathervane scallops	79.4	80.1	93.7	75.8	77.7			80	
PROHIBITED SPECIES BYCATCH									
Dungeness crab	0	<0.1	0	0	<0.1	No	No	0	No
king crab	0	0	0	0	0	Fishing	Fishing	0	Fishing
Snow crab[a], *C. opilio*	0	0	0	0	0			2.3	
Tanner crab, *C. bairdi*	0.1	0.1	<0.1	0.7	0.3			1.2	
Pacific halibut	0.1	0.1	<0.1	0.1	0.2			0.1	
OTHER COMMERCIAL SPECIES									
Alaska plaice	0	0	0	0	0.3			<0.1	
arrowtooth flounder	0.1	0.2	0	0.1	1.0			1.1	
bay scallops	0	<0.1	0	0.1	<0.1			<0.1	
butter sole	0.2	0.1	0	<0.1	<0.1			0	
Dover sole	0.1	0.1	0	0	<0.1			0	
English sole	0.1	1.1	<0.1	0	0			0	
flathead sole	0.1	0.1	0.1	0.1	0.6			0.9	
Greenland turbot	0	0	0	0	0			0	
lingcod	0.5	0.3	0	0	0			0	
octopus	0	<0.1	0	0.3	0.3			0.1	
petrale sole	0.2	<0.1	0	0	0			0	
Pacific cod	0	<0.1	<0.1	<0.1	0.1			0.1	
rex sole	0.1	0.4	<0.1	0.1	<0.1			0.2	
rock sole	<0.1	0	<0.1	0.3	0			0.1	
rock fish	0	0	<0.1	0	0			0	
sablefish	0	<0.1	0	0	<0.1			0	
sea cucumber	<0.1	0	0	0	0			0	
sea urchins	0	0	0	<0.1	<0.1			<0.1	
shrimp	<0.1	<0.1	<0.1	<0.1	<0.1			<0.1	
skates	1.1	2.2	0.8	1.1	3.0			2.3	
spiny dogfish	0.3	0.6	0	<0.1	0.2			0	
starry flounder	0	0	0	0	<0.1			0	
walleye pollock	<0.1	<0.1	<0.1	<0.1	<0.1			0.1	
yellowfin sole	0	0	0	0	<0.1			1.3	
MISCELLANEOUS									
brittle star	0.1	0.4	<0.1	0.1	<0.1			0	
basket star	0	0.1	0.1	<0.1	<0.1			0.1	
kelp, rocks, etc.	3.7	2.6	0.2	7.1	4.7			0.4	
man-made debris	<0.1	<0.1	<0.1	<0.1	0.2			1.6	
starfish, misc	5.6	5.3	3.2	4.9	3.4			0.2	
weathervane shells	2.3	3.8	1.1	2.1	3.6			1.9	

[a] Includes all hybrid *Chionoecetes* crab.

Table 29. Estimated bycatch and associated confidence intervals for snow and hybrid, Tanner, Dungeness, king crabs and Pacific halibut from the 1999/2000 fishing season.

		Snow and hybrid crab		Tanner crab		Dungeness crab		King crab	Halibut	
		Estimated		Estimated		Estimated			Estimated	
Registration Area	n[a]	Number	95% CI	Number	95% CI	Number	95% CI	Number[b]	Number	95% CI
Yakutat, District 16	23	NA	NA	48	11 - 101	0	NA	0	111	41 - 195
Yakutat, D	132	NA	NA	4,993	3,708 - 6,535	584	358 - 875	0	80	21 - 165
Prince William Sound	8	NA	NA	6	0 - 26	0	NA	0	0	NA
Kodiak, Northeast District	40	NA	NA	13,886	11,043 - 16,963	0	NA	0	158	64 - 262
Kodiak, Shelikof District	117	NA	NA	38,893	31,602 - 47,063	100	31 - 329	0	493	316 - 714
Kodiak, Semidi District	4	NA	NA	66	8 - 150	0	NA	0	0	NA
Alaska Peninsula	73	NA	NA	28,160	23,786 - 33,798	2,349	1,229 - 3,387	1	178	87 - 290
Bering Sea	94	159,656	151,691 - 168,848	62,268	56,576 - 67,842	0	NA	2	106	35 - 191
Dutch Harbor	13	NA	NA	4,274	2,309 - 6,023	44	1 - 70	0	39	12 - 65

[a]Number days fishing occurred.

[b]Actual number caught, not an estimate.

NA = Not Applicable

Table 30. Estimated bycatch and associated confidence intervals for snow and hybrid, Tanner, Dungeness, king crabs and Pacific halibut from the 2000/01 fishing season.

		Snow and hybrid crab		Tanner crab		Dungeness crab		King crab	Halibut	
		Estimated		Estimated		Estimated			Estimated	
Registration Area	n[a]	Number	95% CI	Number	95% CI	Number	95% CI	Number[b]	Number	95% CI
Yakutat, District 16	29	NA	NA	627	266 - 1,027	22	0 - 46	0	86	13 - 192
Yakutat, D	170	NA	NA	17,395	10,419 -27,680	313	176 - 533	0	65	3 - 192
Prince William Sound	30	NA	NA	467	193 - 816	3	0 - 16	0	9	0 - 27
Kodiak, Northeast District	40	NA	NA	13,311	11,380 - 15,441	0	NA	0	47	5 - 89
Kodiak, Shelikof District	90	NA	NA	15,133	11,887 - 18,532	54	16 - 96	2	366	149 - 595
Kodiak, Semidi District	0			No Fishing						
Alaska Peninsula	14	NA	NA	2,636	1,978 - 3,325	0	NA	1	8	0 - 25
Bering Sea	91	103,350	98,254 - 109,097	52,505	48,681 - 56,104	0	NA	2	50	14 - 86
Dutch Harbor				Season Closed						

[a]Number days fishing occurred.

[b]Actual number caught, not an estimate.

NA = Not Applicable

Table 31. Estimated bycatch and associated confidence intervals for snow and hybrid, Tanner, Dungeness, king crabs and Pacific halibut from the 2001/02 fishing season.

		Snow and hybrid crab		Tanner crab		Dungeness crab		King crab	Halibut	
		Estimated		Estimated		Estimated			Estimated	
Registration Area	n[a]	Number	95% CI	Number	95% CI	Number	95% CI	Number[b]	Number	95% CI
Yakutat, District 16	21	NA	NA	833	492 - 1,535	32	8 - 128	0	86	27 - 151
Yakutat, D	86	NA	NA	6,770	5,087 -8,972	1,150	801 - 1,484	0	155	74 - 229
Prince William Sound	21	NA	NA	43	13 - 85	0	NA	0	5	1 - 30
Kodiak, Northeast District	45	NA	NA	20,362	16,732 - 27,389	0	NA	0	94	33 - 168
Kodiak, Shelikof District	103	NA	NA	29,114	21,296 - 38,161	451	242 - 734	1	247	98 - 475
Kodiak, Semidi District	0				No Fishing					
Alaska Peninsula	0				Season Closed					
Bering Sea	84	68,458	63,134 - 73,056	48,718	43,907 - 54,570	0	NA	2	76	13 - 167
Dutch Harbor					Season Closed					

[a]Number days fishing occurred.

[b]Actual number caught, not an estimate.

NA = Not Applicable

Table 32. Tanner crab bycatch mortality, 1999/2000 through 2001/02 fishing seasons.

	NUMBER OF TANNER[a] CRABS MEASURED AND EXAMINED								
	1999/2000			2000/01			2001/02		
Registration Area	Dead	Alive	Percent Dead	Dead	Alive	Percent Dead	Dead	Alive	Percent Dead
Yakutat, District 16	1	4	0.20	57	42	0.58	60	61	0.50
Yakutat, D	297	412	0.42	1084	841	0.56	545	415	0.57
Yakutat Total	298	416	0.42	1141	883	0.56	605	476	0.56
Prince William Sound	0	1	0.00	66	52	0.56	3	3	0.50
Kodiak, Northeast District	336	482	0.41	325	1,020	0.24	480	1,503	0.24
Kodiak, Shelikof District	2,096	2,563	0.45	748	1,201	0.38	917	1,859	0.33
Kodiak, Semidi District	2	5	0.29	No Fishing			No Fishing		
Kodiak Total	2,434	3,050	0.44	1,073	2,221	0.33	1,397	3,362	0.29
Alaska Peninsula	1,093	2,333	0.32	74	189	0.28	Season Closed		
Bering Sea, snow and hybrid	1,459	4,763	0.23	2,070	3,963	0.34	2,322	1,812	0.56
Bering Sea, Tanner	388	1,856	0.17	733	2,501	0.23	1,446	2,497	0.37
Bering Sea, Combined Species	1,847	6,619	0.22	2,803	6,464	0.30	3,768	4,309	0.47
Dutch Harbor	195	221	0.47	Season Closed			Season Closed		
All areas Combined	5,867	12,640	0.32	5,157	9,809	0.34	5,773	8,150	0.41

[a]Tanner unless otherwise noted.

Table 33. Summary of commercial fishery statistics and scallop observer data from the 1999/2000 fishing season.

Registration Area	Season Dates	Number of Vessels[a]	Number of Days Fishing Observed[b]	Pounds[c] of Retained Scallops (Round Weight)	Pounds of Retained Scallop Meats	Dredge Hours[d]	CPUE[e]	Estimated Bycatch		% Scallops (by weight) in Samples[f]	Number of Tanners per Pound of Retained Scallop Meats
								Tanner	Halibut		
Yakutat											
Yakutat, District 16	July 1-Sept 27	2	16	292,625	34,624	674	434	48	111	83	<0.1
Yakutat, D	July 1-Sept 1	3	123	3,119,103	249,681	3,840	812	4,993	80	87	<0.1
Yakutat Total	July 1-Sept 27	3	139	3,411,728	284,305	4,514	756	5,041	191	86	<0.1
Prince William Sound	July 1-July 4	2	6	211,140	20,410	149	1,417	6	0	93	<0.1
Kodiak											
Northeast District	July 1-Sept 9	3	38	952,972	77,119	1,383	689	13,886	158	62	0.18
Shelikof District	July 1-Sept 6	6	111	1,903,345	187,963	4,304	442	38,893	493	64	0.21
Semidi District	July 1-Feb 15	1	1	11,310	930	45	251	66	0	38	<0.1
Kodiak Total	July 1-Feb 15	6	150	2,867,627	266,012	5,732	500	52,845	651	69	0.2
Alaska Peninsula	July 1-Sept 29	5	65	781,596	75,535	2,025	386	28,160	178	66	0.37
Bering Sea	July 1-Aug 30	2	81	1,851,620	164,929	3,294	562	221,924[g]	106	69	1.35
Dutch Harbor	July 1-Oct 1	1	10	68,070	6,465	273	249	4,274	39	54	0.66
Statewide Total (excluding Cook Inlet)	July 1-Feb 15	8	451	9,191,781	817,656	15,987	575	312,250	1,165	73	0.38

[a]Vessel operators voluntarily released their confidential data.

[b]An observed day is a day with at least one sampled tow.

[c]Vessel operator estimates.

[d]Dredge hour = one dredge towed for 60 minutes.

[e]CPUE = pounds (round weight) of retained scallops per dredge-hour.

[f]From haul composition samples only, not estimated.

[g]Includes 62,268 Tanner and 159,656 snow/hybrids.

Table 34. Summary of commercial fishery statistics and scallop observer data from the 2000/01 fishing season.

Registration Area	Season Dates	Number of Vessels[a]	Number of Days Fishing Observed[b]	Pounds[c] of Retained Scallops (Round Weight)	Pounds of Retained Scallop Meats	Dredge Hours[d]	CPUE[e]	Estimated Bycatch		% Scallops (by weight) in Samples[f]	Number of Tanners per Pound of Retained Scallop Meats
								Tanner	Halibut		
Yakutat											
Yakutat, District 16	July 1-Feb 15	3	23	310,370	30,904	476	652	627	86	86	<0.1
Yakutat, D	July 1-Feb 15	3	134	2,734,559	195,699	4,241	645	17,395	65	88	<0.1
Yakuat Total	July 1-Feb 15	3	157	3,044,929	226,603	4,717	645	18,022	151	88	<0.1
Prince William Sound	July 1-Aug 2	3	28	361,032	30,266	221	1,634	467	9	93	<0.1
Kodiak											
Northeast District	July 1-Sept 26	4	37	681,198	79,965	1,101	619	13,311	47	80	0.17
Shelikof District	July 1-Oct 2	5	81	1,768,376	180,087	2,907	608	15,133	366	80	<0.1
Semidi District	July 1-Feb 15				No Fishing						
Kodiak Total	July 1-Feb 15	5	118	2,449,574	260,052	4,008	611	28,444	413	80	0.11
Alaska Peninsula	July 1-Feb 15	3	9	95,510	7,660	320	298	2,636	8	73	0.34
Bering Sea	July 1-Aug 23	3	87	2,376,601	205,520	3,355	708	155,855[g]	106	81	0.76
Dutch Harbor	Season Closed										
Statewide Combined (excluding Cook Inlet)	1 Jul- 15 Feb	7	399	8,327,648	730,101	12,621	660	205,424	631	84	0.28

[a]Vessel operators voluntarily released their confidential data.

[b]An observed day is a day with at least one sampled tow.

[c]Vessel operator estimates.

[d]Dredge hour = one dredge towed for 60 minutes.

[e]CPUE = pounds (round weight) of retained scallops per dredge-hour.

[f]From haul composition samples only, not estimated.

[g]Includes 52,505 Tanner and 103,350 snow/hybrids.

Table 35. Summary of commercial fishery statistics and scallop observer data from the 2001/02 fishing season.

Registration Area	Season Dates	Number of Vessels[a]	Number of Days Fishing Observed[b]	Pounds[c] of Retained Scallops (Round Weight)	Pounds of Retained Scallop Meats	Dredge Hours[d]	CPUE[e]	Estimated Bycatch		% Scallops (by weight) in Samples[f]	Number of Tanners per Pound of Retained Scallop Meats
								Tanner	Halibut		
Yakutat											
Yakutat, District 16	July 1-Feb 15	2	17	245,319	20,398	417	588	833	86	79	<0.1
Yakutat, D	July 1-Feb 15	2	81	1,521,537	103,800	2,406	632	6,770	155	80	<0.1
Yakutat Total	July 1-Feb 15	2	98	1,766,856	124,198	2,823	626	7,603	241	80	<0.1
Prince William Sound	July 1-Feb 11	1	18	511,761	30,090	263	1,946	43	5	94	<0.1
Kodiak											
Northeast District	July 1-Jan 18	3	39	822,110	80,470	1,142	720	20,362	94	76	0.25
Shelikof District	July 1-Dec 8	4	97	1,830,265	179,198	3,398	539	29,114	247	78	0.16
Semidi District	July 1-Feb 15				No Fishing						
Kodiak Total	July 1-Feb 15	4	136	2,652,375	259,668	4,540	584	49,476	341	77	0.19
Alaska Peninsula	Season Closed										
Bering Sea	July 1-Oct 31	3	82	1,700,578	140,871	3,072	554	117,176[g]	76	80	0.83
Dutch Harbor	Season Closed										
Statewide Total (excluding Cook Inlet)	1 Jul- 15 Feb	4	334	6,631,570	554,827	10,697	620	174,298	663	80	0.28

[a]Vessel operators voluntarily released their confidential data.

[b]An observed day is a day with at least one sampled tow.

[c]Vessel operator estimates.

[d]Dredge hour = one dredge towed for 60 minutes.

[e]CPUE = pounds (round weight) of retained scallops per dredge-hour.

[f]From haul composition samples only, not estimated.

[g]Includes 48,718 Tanner and 68,458 snow/hybrids.

Table 36. Number and condition of Pacific halibut, 1999/2000 through 2001/02 fishing seasons.

		Number of Halibut[a]						
Registration Area	Season	Excellent	Good	Fair	Poor	Dead	Previously dead	Total
Yakutat, District 16	1999/2000	1	5	3	1	3	0	13
	2000/01	1	2	0	7	2	0	12
	2001/02	1	2	3	3	3	0	12
Yakutat, D	1999/2000	3	2	3	2	5	0	15
	2000/01	2	2	0	1	4	0	9
	2001/02	2	6	6	2	4	2	22
Prince William Sound	1999/2000	0	0	0	0	0	0	0
	2000/01	0	2	0	0	1	0	3
	2001/02	0	0	0	1	0	0	1
Kodiak, Northeast District	1999/2000	4	6	1	1	4	6	22
	2000/01	4	0	0	2	1	0	7
	2001/02	4	1	1	1	7	0	14
Kodiak, Shelikof District	1999/2000	17	26	13	15	5	2	78
	2000/01	17	12	4	12	3	1	49
	2001/02	9	7	6	5	4	0	31
Kodiak, Semidi District	1999/2000	0	0	0	0	0	0	0
	2000/01	No Fishing						
	2001/02	No Fishing						
Alaska Peninsula	1999/2000	8	12	1	3	6	0	30
	2000/01	1	0	0	0	0	0	1
	2001/02	Season Closed						
Bering Sea	1999/2000	5	2	4	0	1	1	13
	2000/01	5	0	1	0	0	0	6
	2001/02	3	4	2	2	0	0	11
Dutch Harbor	1999/2000	1	3	1	2	0	0	7
	2000/01	Season Closed						
	2001/02	Season Closed						
Statewide Total	1999/2000	39	56	26	24	24	9	178
	2000/01	30	18	5	22	11	1	87
	2001/02	19	20	18	14	18	2	91

[a]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).

Table 37. Summary of weathervane scallop commercial fishery statistics and observer data from Yakutat, District 16 and Yakutat, D, 1993 through 2001/02 fishing seasons.

Registration Area	Season Dates		Number of Vessels	Number of Vessel Days[a]	Number of Days Fishing Occurred[b]	Number of Days Fishing Observed[c]	Crab Bycatch Limits		Bycatch Estimates				Tanner Crab Mortality %
	Beginning	Ending					Tanner	King	Tanner	King[d]	Dungeness	Halibut	
Yakutat, District 16													
1993	Fishing by Permit only		1	[a]	[i]	[i]	NE	NE	[i]	[i]	[i]	[i]	[i]
1994	20-Jan-94	20-Jan-94	7	[a]	7	7	NE	NE	10	0	4	48	67
1994	01-Jul-94	31-Oct-94	1	[a]	4	3	NE	NE	0	0	11	236	0
1995	10-Jan-95	13-Feb-95	6	[a]	42	35	NE	NE	469	0	93	719	28
1996	10-Jan-96	20-Jan-96	1	[a]	6	5	NE	NE	39	0	140	108	0
1996	01-Aug-96	29-Nov-96	2	[a]	23	21	NE	NE	669	0	1	68	47
1997	10-Jan-97	23-Feb-97	4	[a]	27	20	NE	NE	129	0	0	160	65
1998/99	01-Jul-98	06-Oct-98	6	[a]	33	24	NE	NE	273	0	0	24	8
1999/2000	01-Jul-99	27-Sep-99	2	[a]	23	16	NE	NE	48	0	0	111	20
2000/01	01-Jul-00	15-Feb-01	3	[a]	29	23	NE	NE	627	0	22	86	58
2001/02	01-Jul-01	15-Feb-02	2	[a]	21	17	NE	NE	833	0	32	86	50
Yakutat, D													
1993	01-Jul-93	11-Jul-93	7	96	77	75	NE	NE	1,700	40	351	99	54
1994	10-Jan-94	18-Jan-94	10	119	88	83	NE	NE	1,767	0	10	129	31
1994	01-Jul-94	12-Jul-94	5	82	60	60	NE	NE	603	0	169	522	56
1995	10-Jan-95	02-Feb-95[e]	8	235	166	134	NE	NE	3,751	0	2,379	1,361	26
1996	10-Jan-96	25-Jan-96	3	54	47	43	NE	NE	2,591	0	2,320	237	27
1996	01-Aug-96	04-Sep-96	3	116	82	80	NE	NE	6,872	0	38	150	59
1997	10-Jan-97	18-Feb-97	4	172	144	129	NE	NE	5,884	0	277	353	32
1998/99	01-Jul-98	29-Jul-98	8	232	160	148	NE	NE	8,891	0	177	293	47
1999/2000	01-Jul-99	01-Sep-99	3	182	132	123	NE	NE	4,993	0	584	80	42
2000/01	01-Jul-00	15-Feb-01	3	249	170	134	NE	NE	17,395	0	313	65	56
2001/02	01-Jul-01	15-Feb-02	2	114	86	81	NE	NE	6,770	0	1,150	155	57

Continued

Table 37. (page 2 of 2)

Registration Area	Pounds of Retained Scallops (round weight)[f]	Pounds of Retained Scallop Meats	% Retained Scallop Meat Recovery	Dredge Hours[g]	CPUE[h]	% of Scallops In Catch (by weight)	Est. Number Of Discarded Scallops	Est. Weight Of Discarded Scallops	Retained Scallops		No. of Tanner Crab Per lb. of Retained Scallop Meats
									Avg. Shell Height(mm)	Sample Size	
Yakutat, District 16											
1993	[i]	[i]	NA	[i]	[i]	[i]	NA	NA	[i]	[i]	[i]
1994	150,962	13,301	NA	276	547	72	NA	NA	147	196	<0.1
1994	[i]	[i]	NA	[i]	[i]	55	NA	NA	151	218	0
1995	447,469	33,302	NA	1,095	409	65	NA	NA	132	2,347	<0.1
1996	[i]	[i]	NA	[i]	[i]	92	NA	NA	126	430	<0.1
1996	336,978	25,970	9.0	750	449	81	707,236	159,899	133	1,821	<0.1
1997	265,882	22,020	9.9	561	474	73	143,392	32,764	128	1,020	<0.1
1998/99	384,286	34,090	8.5	702	547	79	119,414	25,292	123	2,198	<0.1
1999/2000	292,625	34,624	10.1	674	434	83	216,600	57,718	125	1,276	<0.1
2000/01	310,370	30,904	9.0	476	652	86	203,946	51,221	118	1,735	<0.1
2001/02	245,319	20,398	NA	417	588	79	164,073	48,879	119	1,171	<0.1
Yakutat, D											
1993	2,082,824	141,423	NA	1,999	1,042	78	NA	NA	118	5,651	<0.1
1994	2,085,942	158,660	NA	2,547	819	78	NA	NA	121	2,488	<0.1
1994	1,713,094	94,400	NA	1,715	999	81	NA	NA	122	4,903	<0.1
1995	3,214,968	242,491	NA	4,712	682	78	NA	NA	124	10,824	<0.1
1996	908,842	53,310	NA	1,765	515	82	NA	NA	121	4,310	<0.1
1996	2,362,498	185,426	9.0	2,840	832	85	1,166,422	295,933	122	8,253	<0.1
1997	3,282,860	243,810	9.0	3,956	830	81	1,575,369	299,843	119	7,790	<0.1
1998/99	3,475,996	241,102	7.8	4,192	829	79	1,175,158	271,506	123	14,846	<0.1
1999/2000	3,119,103	249,681	9.5	3,840	812	87	2,165,570	533,172	124	11,989	<0.1
2000/01	2,734,559	195,699	8.1	4,241	645	88	2,129,885	588,981	123	10,237	<0.1
2001/02	1,521,537	103,800	NA	2,406	632	80	1,070,516	272,300	121	6,447	<0.1

[a]All days between observer briefing and debriefing, District 16 vessel days included with Yakutat vessel days.

[b]All days with at least one tow made by the vessel.

[c]All days with at least one sampled tow.

[d]Actual count, not an estimated, beginning with the 1995/96 season.

[e]Reopened February 13 (12 Noon) to February 14 (12 Noon).

[f]Vessel operator estimates.

[g]Dredge-hour = one dredge towed for 60 minutes

[h]CPUE = round weight of retained scallops per dredge-hour.

[i]Confidential, included in Yakutat, D data.

NA=Not Applicable, NE=Not Established

Table 38. Summary of weathervane scallop commercial fishery statistics and observer data from Prince William Sound, 1993 through 2001/02 fishing seasons.

Registration Area	Season Dates		Number of Vessels	Number of Vessel Days[a]	Number of Days Fishing Occurred[b]	Number of Days Fishing Observed[c]	Crab Bycatch Limits		Bycatch Estimates				Tanner Crab Mortality %
	Beginning	Ending					Tanner	King	Tanner	King[d]	Dungeness	Halibut	
Prince William Sound													
1993	15-Jul-93	18-Jul-93	7	58	29	27	500	NE	200	0	0	27	58
1994	Seaon Closed												
1995	10-Jan-95	26-Jan-95	2	29	21	21	500	NE	271	0	0	153	0
1996	Season Closed												
1997	10-Jan-97	19-Jan-97	1	12	8	7	500	NE	0	0	0	8	0
1998/99	01-Jul-98	04-Jul-98	2	22	8	8	500	NE	20	0	0	0	0
1999/2000	01-Jul-99	04-Jul-99	2	14	8	6	500	NE	6	0	0	0	0
2000/01	01-Jul-00	02-Aug-00	3	43	30	28	500	NE	467	0	3	9	56
2001/02	01-Jul-01	11-Feb-02	1	29	21	18	11,400	NE	43	0	0	5	50

Continued

Table 38. (page 2 of 2)

Registration Area	Pounds of Retained Scallops (round weight)[e]	Pounds of Retained Scallop Meats	% Retained Scallop Meat Recovery	Dredge Hours[f]	CPUE[g]	% of Scallops In Catch (by weight)	Est. Number Of Discarded Scallops	Est. Weight Of Discarded Scallops	Retained Scallops Avg. Shell Height(mm)	Retained Scallops Sample Size	No. of Tanner Crab Per lb. of Retained Scallop Meats
Prince William Sound											
1993	850,718	63,068	NA	638	1,333	90	NA	NA	124	1,628	<0.1
1994					Season Closed						
1995	Confidential	108,000[h]	NA	Confidential		98	NA	NA	125	1,010	NA
1996					Season Closed						
1997	257,230	18,000	9.6	171	1,504	97	NA	NA	123	743	0
1998/99	334,152	19,650	7.9	179	1,867	91	15,457	12,789	132	540	0
1999/2000	211,140	20,410	9.4	149	1,417	93	46,502	18,500	132	360	<0.1
2000/01	361,032	30,266	9.0	221	1,634	93	42,931	13,826	131	1,429	<0.1
2001/02	511,761	30,090	NA	263	1,946	94	68,454	23,824	136	699	<0.1

[a]All days between observer briefing and debriefing

[b]All days with at least one tow made by the vessel.

[c]All days with at least one sampled tow.

[d]Actual count, not an estimated, beginning with the 1995/96 season.

[e]Vessel operator estimates.

[f]Dredge-hour = one dredge towed for 60 minutes

[g]CPUE = round weight of retained scallops per dredge-hour.

[h]Includes estimated illegal harvest.

NA=Not Applicable, NE=Not Established

Table 39. Summary of weathervane scallop commercial fishery statistics and observer data, Northeast and Shelikof Districts of the Kodiak Area, 1993/94 through 2001/02 fishing seasons.

Registration Area	Season Dates		Number of Vessels	Number of Vessel Days[a]	Number of Days Fishing Occurred[b]	Number of Days Fishing Observed[c]	Crab Bycatch Limits		Bycatch Estimates				Tanner Crab Mortality %
	Beginning	Ending					Tanner	King	Tanner	King[d]	Dungeness	Halibut	
Kodiak													
Northeast District													
1993/94	01-Jul-93	24-Nov-93	10	[e]	272	237	[e]	[e]	33,511	9	5	1,513	23
1994/95	01-Jul-94	15-Feb-95	7	[e]	77	68	143,000	123	2,054	190	0	577	34
1995/96	Season Closed												
1996/97	01-Aug-96	15-Feb-97	3	[e]	29	19	130,000	66	27,722	0	0	704	16
1997/98	01-Jul-97	19-Nov-97	4	[e]	95	86	91,600	50	11,914	0	0	58	28
1998/99	01-Jul-98	02-Oct-98	4	[e]	90	80	46,500	21	13,887	1	0	309	44
1999/2000	01-Jul-99	09-Sep-99	3	[e]	40	38	66,500	150	13,886	0	0	158	41
2000/01	01-Jul-00	26-Sep-00	4	[e]	40	37	81,000	200	13,311	0	0	47	24
2001/02	01-Jul-01	18-Jan-02	3	[e]	45	39	425,000	15	20,362	0	100	94	24
Shelikof District													
1993/94	01-Jul-93	05-Aug-93	5	[e]	83	79	[e]	[e]	51,560	0	122	226	13
1994/95	01-Jul-94	01-Oct-94	11	[e]	263	257	98,000	219	64,444	29	1,097	851	14
1995/96	Season Closed												
1996/97	01-Aug-96	18-Oct-96	4	[e]	104	99	16,100	22	11,285	0	515	440	37
1997/98	01-Jul-97	10-Aug-97	4	[e]	153	150	51,000	35	36,744	0	4,359	448	22
1998/99	01-Jul-98	21-Aug-98	8	[e]	121	112	33,500	196	22,707	0	33	502	40
1999/2000	01-Jul-99	06-Sep-99	6	[e]	117	111	42,500	250	38,893	0	100	493	45
2000/01	01-Jul-00	02-Oct-00	5	[e]	90	81	49,000	125	15,133	2	54	366	38
2001/02	01-Jul-01	08-Dec-01	4	[e]	103	97	59,000	50	29,114	1	451	247	33

Continued

Table 39. (page 2 of 2)

Registration Area	Pounds of Retained Scallops (round weight)[f]	Pounds of Retained Scallop Meats	% Retained Scallop Meat Recovery	Dredge Hours[g]	CPUE[h]	% of Scallops In Catch (by weight)	Est. Number Of Discarded Scallops	Est. Weight Of Discarded Scallops	Retained Scallops Avg. Shell Height(mm)	Retained Scallops Sample Size	No. of Tanner Crab Per lb. of Retained Scallop Meats
Kodiak											
Northeast District											
1993/94	2,214,427	155,187	NA	6,940	319	46	NA	NA	144	12,221	0.2
1994/95	389,202	35,517	NA	1,773	220	44	NA	NA	151	4,171	<0.1
1995/96					Season closed						
1996/97	147,269	11,430	10.0	581	253	54	22,076	8,355	144	1,252	2.4
1997/98	1,143,926	95,858	10.1	2,603	439	58	193,776	41,615	140	7,300	0.1
1998/99	1,365,836	120,010	10.8	2,747	497	57	800,629	190,480	127	7,961	0.1
1999/2000	952,972	77,119	10.7	1,383	689	62	410,193	113,349	132	3,969	0.2
2000/01	681,192	79,965	11.2	1,101	619	80	351,100	113,422	136	3,302	0.2
2001/02	822,110	80,470	NA	1,142	720	76	305,047	108,835	140	3,240	0.3
Shelikof District											
1993/94	1,169,664	105,017	NA	2,504	467	71	NA	NA	128	6,599	0.5
1994/95	3,522,517	320,111	NA	8,720	404	64	NA	NA	131	20,426	0.2
1995/96					Season Closed						
1996/97	1,878,268	219,305	12.0	3,497	537	77	753,292	197,174	136	10,615	<0.1
1997/98	3,101,152	258,346	9.4	5,490	565	78	427,756	93,221	139	16,378	0.1
1998/99	2,129,025	179,870	9.3	4,081	522	78	1,054,711	216,354	137	11,967	0.1
1999/2000	1,903,345	187,963	11.1	4,304	442	64	1,144,593	289,867	130	12,353	0.2
2000/01	1,768,376	180,087	11.1	2,907	608	80	569,722	128,614	134	7,559	<0.1
2001/02	1,830,265	179,202	NA	3,398	539	78	722,636	239,459	140	9,057	0.2

[a]All days between observer briefing and debriefing

[b]All days with at least one tow made by the vessel.

[c]All days with at least one sampled tow.

[d]Actual count, not an estimated, beginning with the 1995/96 season. NA=Not Applicable

[e]Included in Kodiak Area Combined, Table 40.

[f]Vessel operator estimates.

[g]Dredge-hour = one dredge towed for 60 minutes

[h]CPUE = round weight of retained scallops per dredge-hour.

Table 40. Summary of weathervane scallop commercial fishery statistics and observer data from the Semidi District and Kodiak Area combined, 1993/94 through 2001/02 fishing seasons.

Registration Area	Season Dates		Number of Vessels	Number of Vessel Days[a]	Number of Days Fishing Occurred[b]	Number of Days Fishing Observed[c]	Crab Bycatch Limits		Bycatch Estimates				Tanner Crab Mortality %
	Beginning	Ending					Tanner	King	Tanner	King[d]	Dungeness	Halibut	
Kodiak Semidi District													
1993/94	01-Jul-93	11-Feb-94	7	[e]	75	70	NE	NE	62,726	29	12,905	136	21
1994/95	01-Jul-94	15-Feb-95	2	[e]	10	10	NE	NE	984	22	64	21	28
1995/96	Season Closed												
1996/97	01-Aug-96	15-Feb-97	3	[e]	37	32	NE	NE	8,902	9	0	79	37
1997/98	10-Jul-97	15-Feb-98	1	[e]	14	14	NE	NE	8,500	1	856	21	43
1998/99	01-Jul-98	02-Oct-98	2	[e]	5	5	NE	NE	780	0	37	17	23
1999/2000	01-Jul-99	15-Feb-00	1	[e]	4	1	NE	NE	66	0	0	0	29
2000/01	01-Jul-00	15-Feb-01		No Fishing			NE	NE					
2001/02	01-Jul-01	15-Feb-02		No Fishing			NE	NE					
Kodiak Area combined													
1993/94	01-Jul-93	11-Feb-94	10	597	430	386	199,500	283	147,797	38	13,032	1,875	18
1994/95	01-Jul-94	15-Feb-95	10	474	350	333	241,000	342	67,482	241	1,161	1,449	15
1995/96	Season Closed												
1996/97	01-Jul-96	15-Feb-97	5	237	170	150	146,100	88	47,909	9	515	721	28
1997/98	01-Jul-97	15-Feb-98	5	335	262	250	142,600	85	57,158	1	5,215	157	26
1998/99	01-Jul-98	02-Oct-98	8	316	216	197	80,000	217	37,374	1	70	828	40
1999/2000	1-Jul-99	15-Feb-00	6	203	159	150	109,000	400	52845	0	100	651	44
2000/01	01-Jul-00	15-Feb-01	5	170	129	118	130,000	325	28,444	0	54	413	33
2001/02	01-Jul-00	15-Feb-02	4	191	148	136	484,000	65	49,476	0	451	341	29

Continued

Table 40. (page 2 of 2)

Registration Area	Pounds of Retained Scallops (round weight)[f]	Pounds of Retained Scallop Meats	% Retained Scallop Meat Recovery	Dredge Hours[g]	CPUE[h]	% of Scallops In Catch (by weight)	Est. Number Of Discarded Scallops	Est. Weight Of Discarded Scallops	Retained Scallops Avg. Shell Height(mm)	Retained Scallops Sample Size	No. of Tanner Crab Per lb. of Retained Scallop Meats
Semidi District											
1993/94	579,836	58,157	NA	1,819	319	38	NA	NA	145	3,713	1.1
1994/95	[i]	[i]	[i]	[i]	[i]	49	NA	NA	153	767	[i]
1995/96						Season Closed					
1996/97	288,117	37,810	12.0	1,017	283	52	11,211	6,000	154	2,529	0.2
1997/98	61,320	6,315	11.4	349	176	21	5,831	2,716	147	1,066	1.3
1998/99	15,806	1,720	11.8	106	149	35	1,453	508	151	252	0.5
1999/2000	11,310	930	NA	45	251	38	929	375	152	120	<0.1
2000/01						No Fishing					
2001/02						No Fishing					
Kodiak Area combined											
1993/94	3,963,927	318,361	NA	11,236	353	50	NA	NA	143	22,533	0.5
1994/95	3,911,719	354,498	NA	10,765	363	60	NA	NA	135	25,364	0.2
1995/96						Season Closed					
1996/97	2,313,654	268,545	12.0	5,095	454	71	786,579	211,529	139	14,396	0.2
1997/98	4,306,399	360,519	9.4	8,442	510	73	1,727,874	308,719	139	24,744	0.2
1998/99	3,510,667	301,600	9.9	6,934	506	69	1,856,793	407,342	134	20,180	0.1
1999/2000	2,867,627	266,012	10.9	5,732	500	69	1,555,715	403,591	131	16,344	0.2
2000/01	2,449,574	260,052	11.1	4,008	611	80	920,722	242,036	135	10,858	0.1
2001/02	2,652,375	259,668	NA	4,540	584	77	1,027,683	348,294	140	12,297	0.2

[a]All days between observer briefing and debriefing.

[b]All days with at least one tow made by the vessel.

[c]All days with at least one sampled tow.

[d]Actual count, not an estimate, beginning with the 1995/96 season.

[e]Included in Kodiak Area combined.

[f]Vessel operator estimates.

[g]Dredge hour = one dredge towed for 60 minutes

[h]CPUE = round weight of retained scallops per dredge-hour.

[i]Confidential, combined with Shelikof, Table 39.

NA, Not Applicable NE, Not Established

Table 41. Summary of weathervane scallop commercial fishery statistics and observer data from the Alaska Peninsula and Bering Sea Areas, 1993/94 through 2001/02 fishing seasons.

Registration	Season Dates		Number of	Number of Vessel	Number of Days Fishing	Number of Days Fishing	Crab Bycatch Limits			Bycatch Estimates					Tanner Crab
Area	Beginning	Ending	Vessels	Days[a]	Occurred[b]	Observed[c]	Snow	Tanner	King	Snow[d]	Tanner	King[e]	Dungeness	Halibut	Mortality %
Alaska Peninsula															
1993/94	01-Jul-93	21-Oct-93	8	136	75	69	NA	52,530	85	NA	180,319	25	0	329	35
1994/95	01-Jul-95	22-Sep-95	7	137	80	70	NA	44,000	119	NA	25,287	0	73	157	29
1995/96	Season Closed														
1996/97	01-Aug-96	31-Oct-96	2	34	13	12	NA	22,000	435	NA	19,045	0	4	25	32
1997/98	01-Jul-97	15-Feb-98	4	100	68	64	NA	45,300	79	NA	21,971	0	0	347	21
1998/99	01-Jul-98	19-Sep-98	4	65	48	46	NA	48,500	900	NA	47,780	0	140	226	20
1999/2000	01-Jul-99	29-Sep-99	5	108	73	65	NA	75,500	300	NA	28,160	1	2,349	178	32
2000/01	01-Jul-00	15-Feb-01	3	25	14	9	NA	42,000	100	NA	2,636	1	0	8	28
2001/02	Season Closed														
Bering Sea															
1993/94	01-Jul-93	05-Sep-93	9	275	174	168	NA	260,000	17,000	15,000	290,913	207	0	165	12
1994/95	01-Jul-94	07-Sep-94	8	382	312	309	NA	260,000	17,000	34,867	220,710	22	0	3,513	24
1995/96	Season Closed														
1996/97	01-Aug-96	15-Feb-97	1	79	63	54	275,000	257,000	500	106,935	16,642	0	0	124	16
1997/98	01-Jul-97	11-Aug-97	2	81	66	64	172,000	238,000	500	195,345	28,446	0	0	98	53
1998/99	01-Jul-98	04-Sep-98	4	106	73	64	130,000	215,000	500	232,911	39,363	146	12	98	44
1999/2000	01-Jul-99	30-Aug-99	2	120	94	81	300,000	65,000	500	159,656	62,268	2	0	106	22
2000/01	01-Jul-00	23-Aug-00	3	112	91	87	150,000	65,000	500	103,350	52,505	2	0	50	30
2001/02	01-Jul-01	31-Oct-01	3	106	84	82	300,000	65,000	500	68,458	48,718	2	0	76	41

Continued

Table 41. (page 2 of 2)

Registration Area	Pounds of Retained Scallops (round weight)[f]	Pounds of Retained Scallop Meats	% Retained Scallop Meat Recovery	Dredge Hours[g]	CPUE[h]	% Scallops In Catch (by weight)	Est. Number Of Discarded Scallops	Est. Weight Of Discarded Scallops	Retained Scallops Avg. Shell Height (mm)	Retained Scallops Sample Size	No. of Tanner Crab Per lb of Retained Scallop Meats
Alaska Peninsula											
1993/94	1,061,925	112,087	NA	1,847	575	75	NA	NA	119	5,183	1.3
1994/95	619,473	65,282	NA	1,664	372	73	NA	NA	127	4,069	0.4
1995/96						Season Closed					
1996/97	130,235	12,560	11.0	327	398	70	33,684	7,384	126	769	1.5
1997/98	654,960	51,616	8.7	1,752	374	56	56,654	38,219	135	5,604	0.4
1998/99	617,120	63,290	11.0	1,612	383	71	212,152	43,129	128	4,276	0.8
1999/2000	781,596	75,535	10.3	2,025	386	66	256,592	59,077	129	6,046	0.4
2000/01	95,510	7,660	9.4	320	298	73	18,633	4,538	119	699	0.3
2001/02						Season Closed					
Bering Sea											
1993/94	3,447,681	284,414	NA	5,763	598	NA	NA	NA	146	12,169	1.0
1994/95	5,942,912	505,439	NA	11,113	535	77	NA	NA	147	26,451	0.5
1995/96						Season Closed					
1996/97	1,432,160	150,295	10.0	2,313	619	88	34,412	16,188	147	4,039	0.8
1997/98	1,082,825	97,002	8.8	2,246	482	74	114,614	38,262	151	4,726	2.3
1998/99	1,193,071	96,795	8.7	2,319	514	70	403,121	127,607	147	5,479	2.8
1999/2000	1,851,620	164,929	9.1	3,294	562	69	157,289	68,406	145	8,751	1.4
2000/01	2,376,601	205,520	9.3	3,355	708	81	298,483	97,994	142	8,418	0.8
2001/02	1,700,578	140,871	NA	3,072	554	80	180,075	76,261	141	7,316	0.8

[a]All days between observer briefing and debriefing.

[b]All days with at least one tow made by the vessel.

[c]All days with at least one sampled tow.

[d]Snow and hybrid crabs combined.

[e]Actual count, not an estimate, beginning with the 1995/96 season.

[f]Vessel operator estimates.

[g]Dredge-hour = one dredge towed for 60 minutes.

[h]CPUE = round weight of retained scallops per dredge-hour.

NA=Not applicable

Table 42. Summary of weathervane scallop commercial fishery statistics and observer data from the Dutch Harbor and Adak Areas, 1993/94 through 2001/02 fishing seasons.

Registration	Season Dates		Number of	Number of Vessel	Number of Days Fishing	Number of Days Fishing	Crab Bycatch Limits			Bycatch Estimates					Tanner Crab
Area	Beginning	Ending	Vessels	Days[a]	Occurred[b]	Observed[c]	Snow	Tanner	King	Snow[d]	Tanner	King[e]	Dungeness	Halibut	Mortality %
Dutch Harbor															
1993/94	01-Jul-93	18-Sep-93	3	46	36	24	NA	50,500	45	NA	69,354	35	0	270	50
1994/95	01-Jul-94	15-Feb-95	3	21	6	6	NA	87,000	47	NA	757	7	0	0	54
1995/96	01-Jul-95	15-Feb-96	1	62	38	35	NA	NA	NA	Confidential					22
1996/97	01-Aug-96	15-Feb-97	No Fishing												
1997/98	01-Jul-97	25-Aug-97	1	15	8	8	NA	10,700	10	NA	12,582	1	0	22	44
1998/99	01-Jul-98	15-Feb-99	4	84	37	34	NA	10,700	10	NA	6,479	0	23	35	8
1999/2000	01-Jul-99	1-Oct-99	1	16	13	10	NA	10,700	10	NA	4,274	0	0	39	47
2000/01	Season Closed														
2001/02	Season Closed														
Adak															
1993/94	Not established as a separate area, included with Bering Sea Area.														
1994/95	01-Jul-94	15-Feb-95	No Fishing				NA	NA	NA						
1995/96	01-Jul-95	15-Feb-96	1	7	4	4	NA	NA	NA	Confidential					
1996/97	01-Aug-96	15-Feb-97	No Fishing				NA	10,000	50						
1997/98	01-Jul-97	15-Feb-98	No Fishing				NA	10,000	50						
1998/99	01-Jul-98	15-Feb-99	No Fishing				NA	10,000	50						
1999/2000	01-Jul-99	15-Feb-00	No Fishing				NA	10,000	50						
2000/01	01-Jul-00	15-Feb-01	No Fishing				NA	10,000	50						
2001/02	01-Jul-01	15-Feb-02	No Fishing				NA	10,000	50						

Continued

Table 42. (page 2 of 2)

Registration Area	Pounds of Retained Scallops (round weight)[f]	Pounds of Retained Scallop Meats	% Retained Scallop Meat Recovery	Dredge Hours[g]	CPUE[h]	% Scallops In Catch (by weight)	Est. Number Of Discarded Scallops	Est. Weight Of Discarded Scallops	Retained Scallops Avg. Shell Height (mm)	Retained Scallops Sample Size	No. of Tanner Crab Per lb of Retained Scallop Meats
Dutch Harbor											
1993/94	432,970	38,731	NA	838	517	NA	NA	NA	128	1,948	1.3
1994/95	23,590	1,931	NA	81	291	56	NA	NA	158	105	0.4
1995/96					Confidential				134	3,026	
1996/97					No Fishing						
1997/98	55,725	5,790	10.6	171	326	36	67,742	18,561	127	267	2.2
1998/99	427,422	46,432	10.5	1,025	417	71	92,270	29,348	128	2,850	0.1
1999/2000	68,070	6,465	11.8	273	249	54	11,459	4,284	135	1,008	0.7
2000/01					Season Closed						
2001/02					Season Closed						
Adak											
1993/94	Not established as a separate area.										
1994/95					No Fishing						
1995/96					Confidential						
1996/97					No Fishing						
1997/98					No Fishing						
1998/99					No Fishing						
1999/2000					No Fishing						
2000/01					No Fishing						
2001/02					No Fishing						

[a]All days between observer briefing and debriefing.

[b]All days with at least one tow made by the vessel.

[c]All days with at least one sampled tow.

[d]Snow and hybrid crabs combined.

[e]Actual count, not an estimate, beginning with the 1995/96 season.

[f]Vessel operator estimates.

[g]Dredge-hour = one dredge towed for 60 minutes.

[h]CPUE = round weight of retained scallops per dredge-hour.

NA=Not Applicable

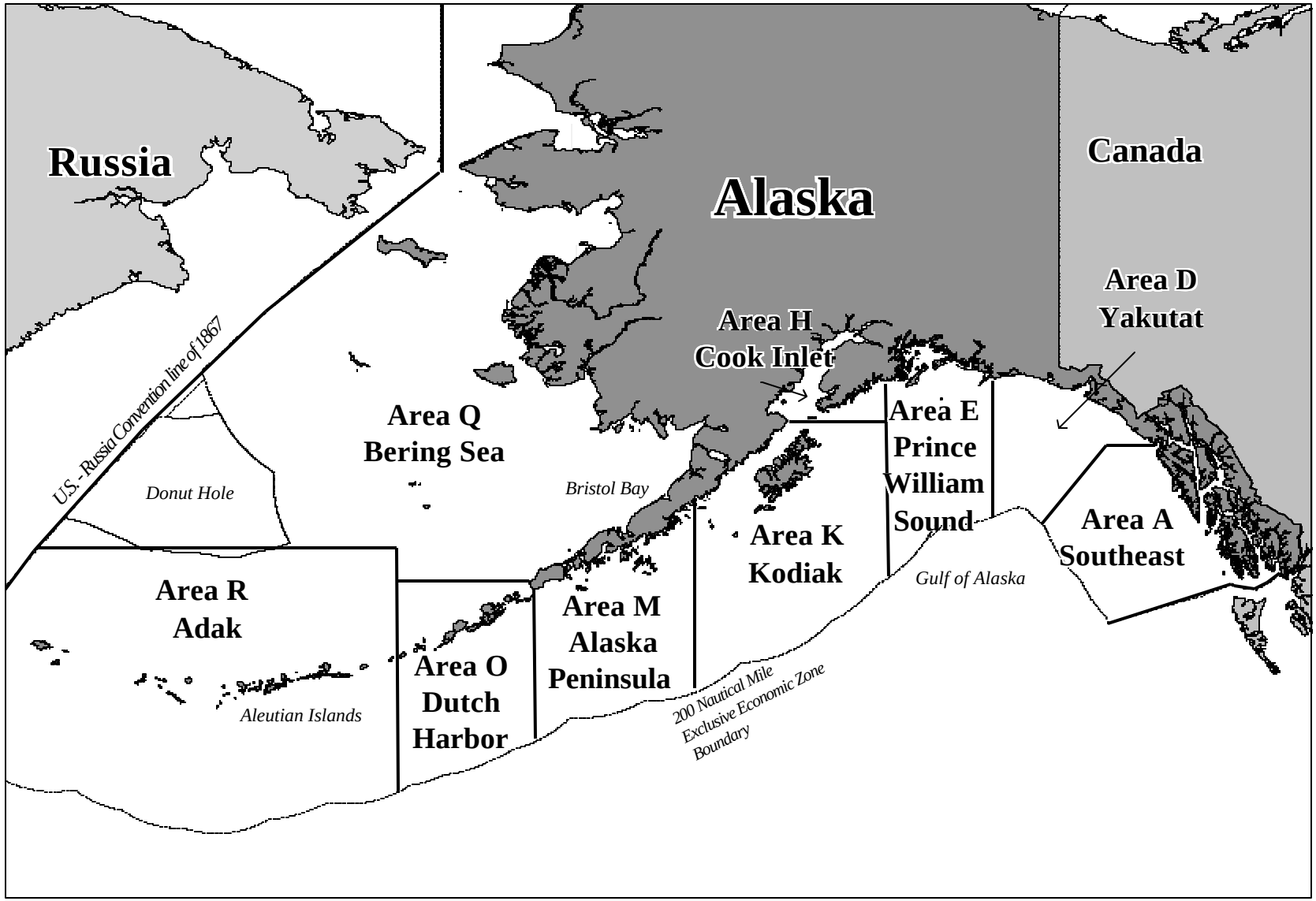


Figure 1. State of Alaska weathervane scallop fishing registration areas.

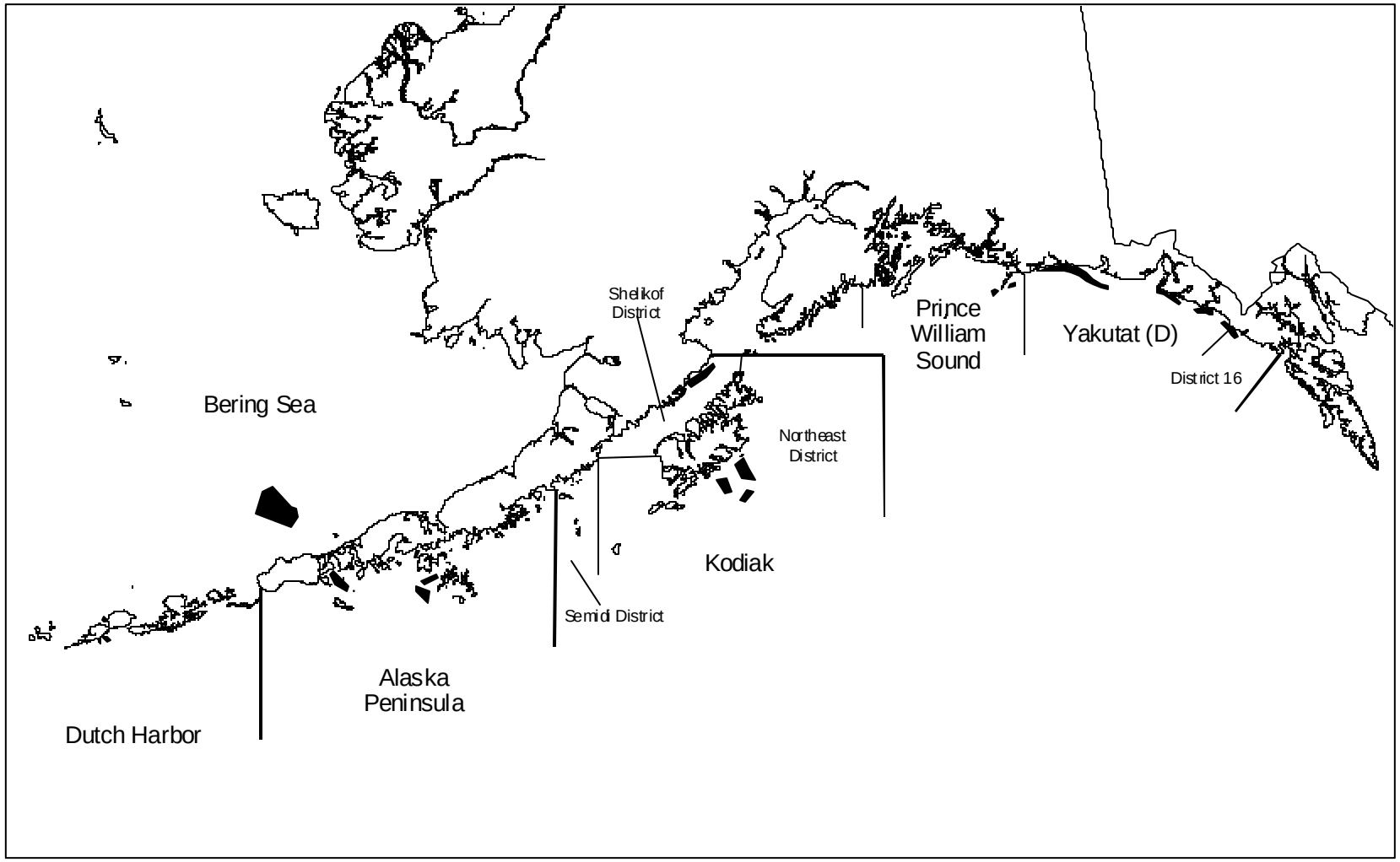


Figure 2. Fishing locations during the 1999/00 scallop fishery.

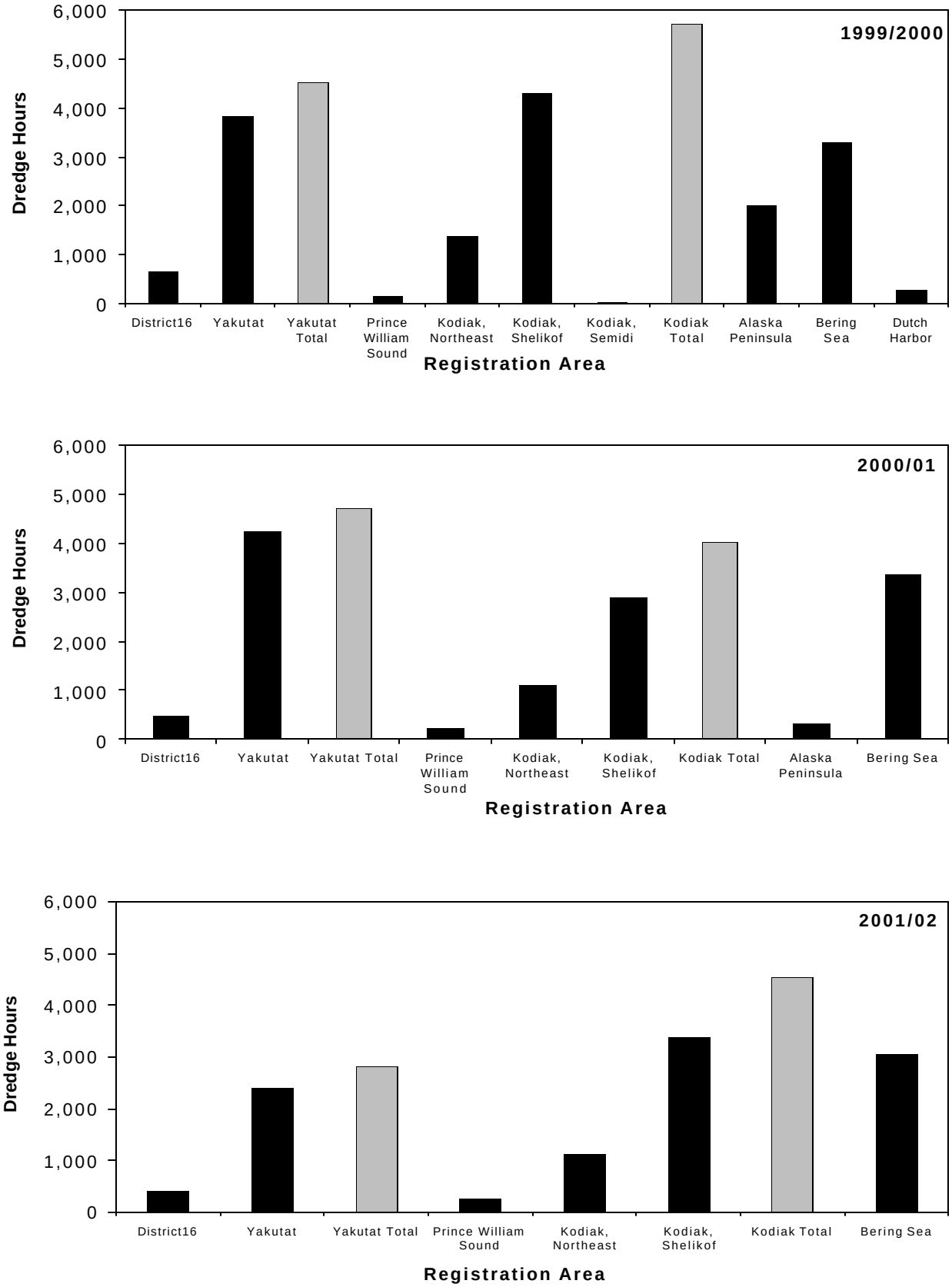


Figure 3. Fishing effort in dredge-hours by registration area and district, 1999/2000 through 2001/02 fishing seasons.

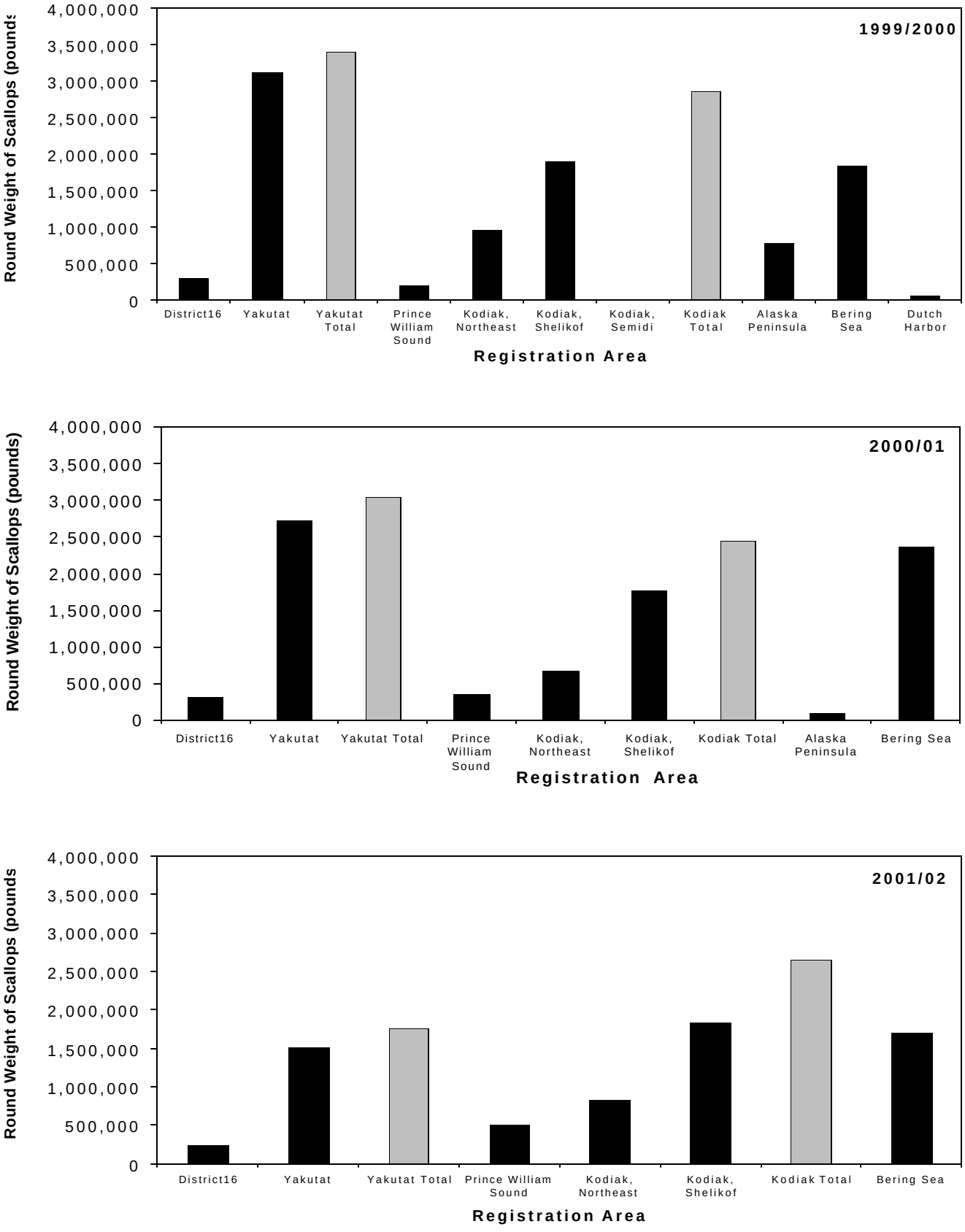
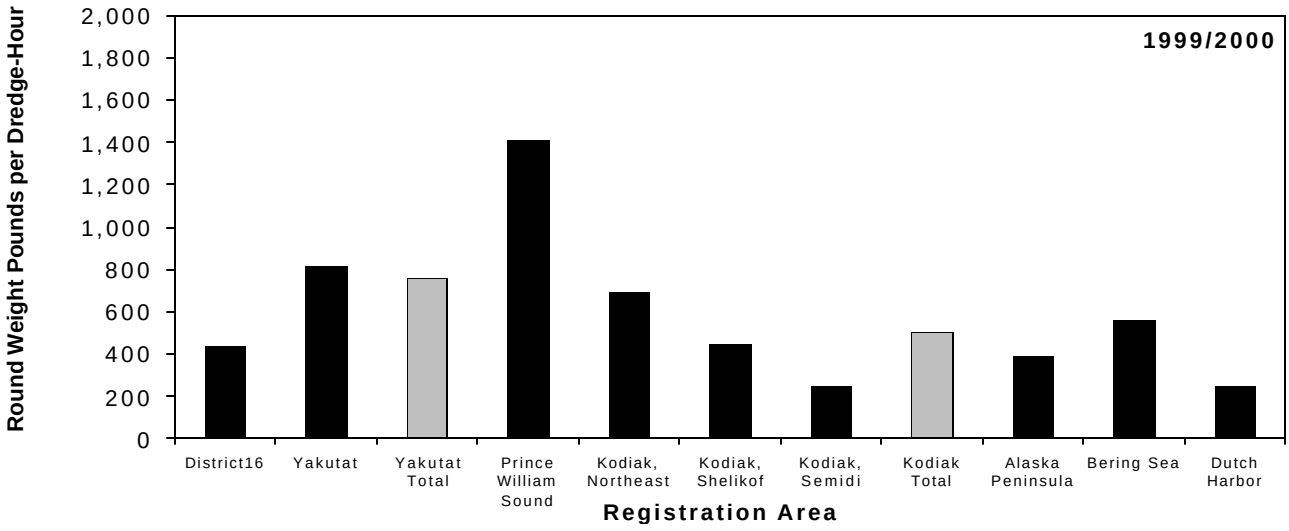
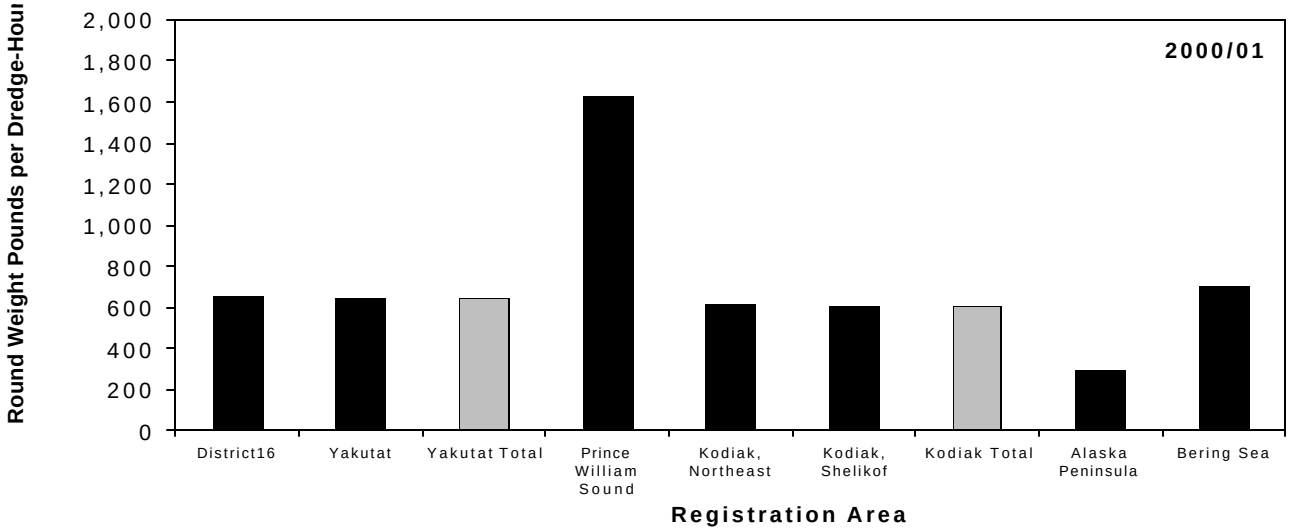


Figure 4. Round weight of retained scallops by registration area and district, 1999/2000 through 2001/02 fishing seasons.





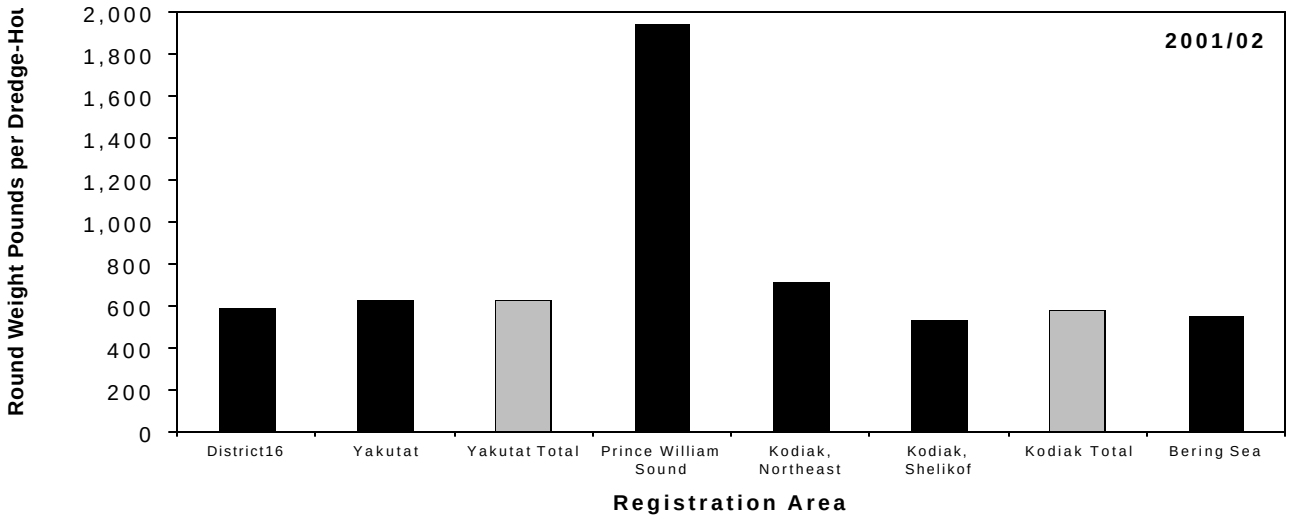


Figure 5. Round weight of retained scallops per dredge-hour by registration area and district, 1999/2000 through 2001/02 fishing seasons.

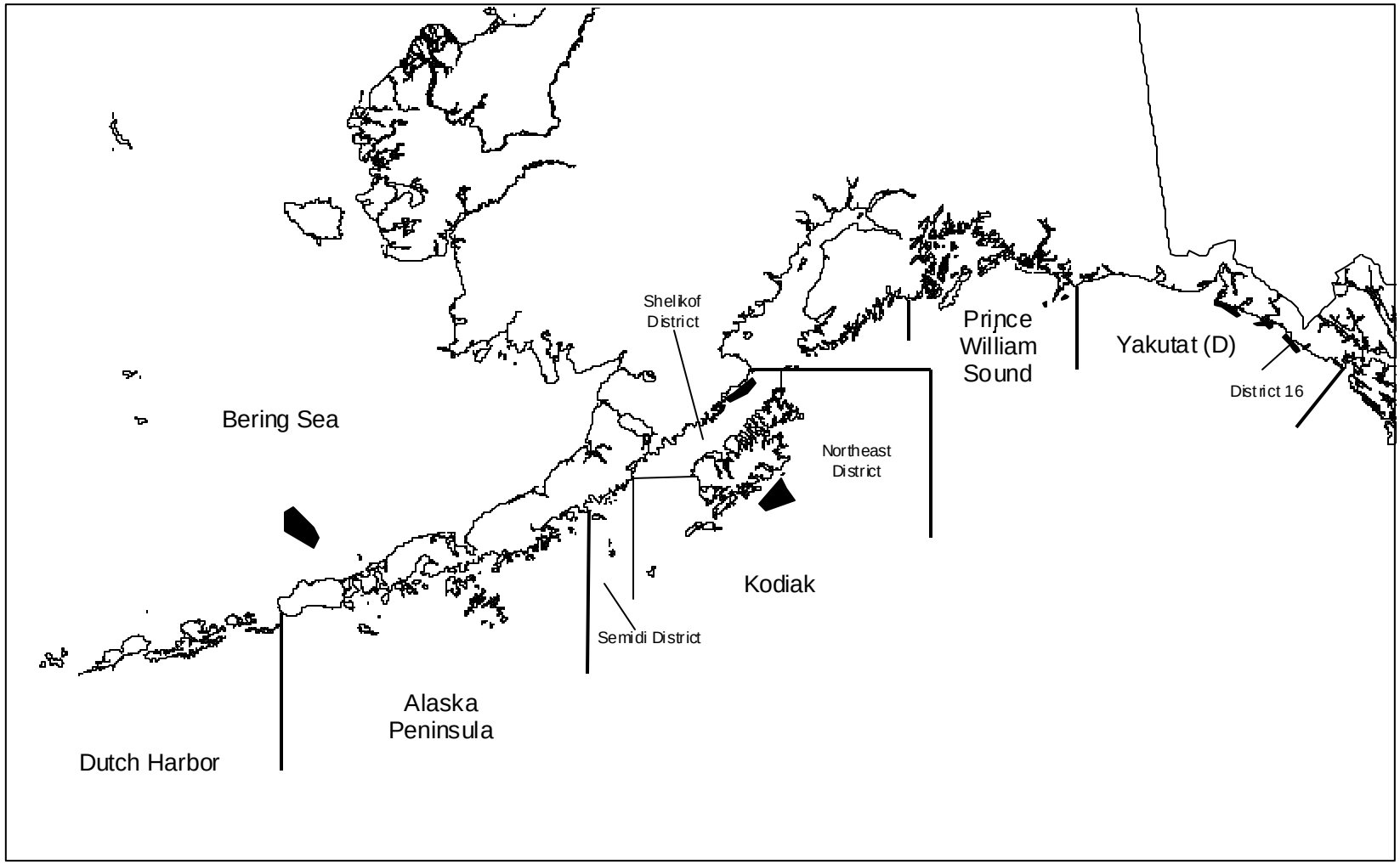


Figure 6. Fishing locations during the 2000/01 scallop fishery.

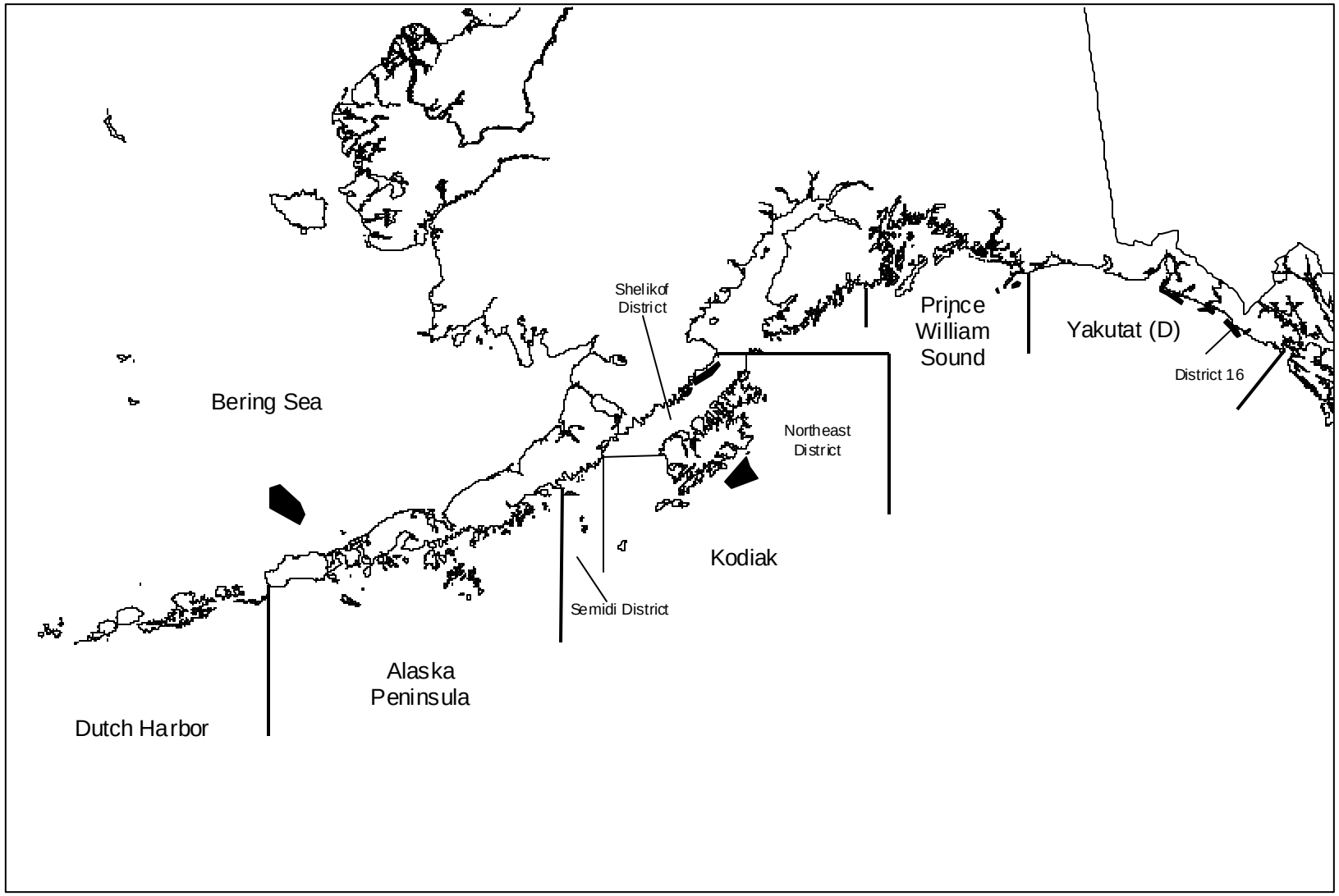
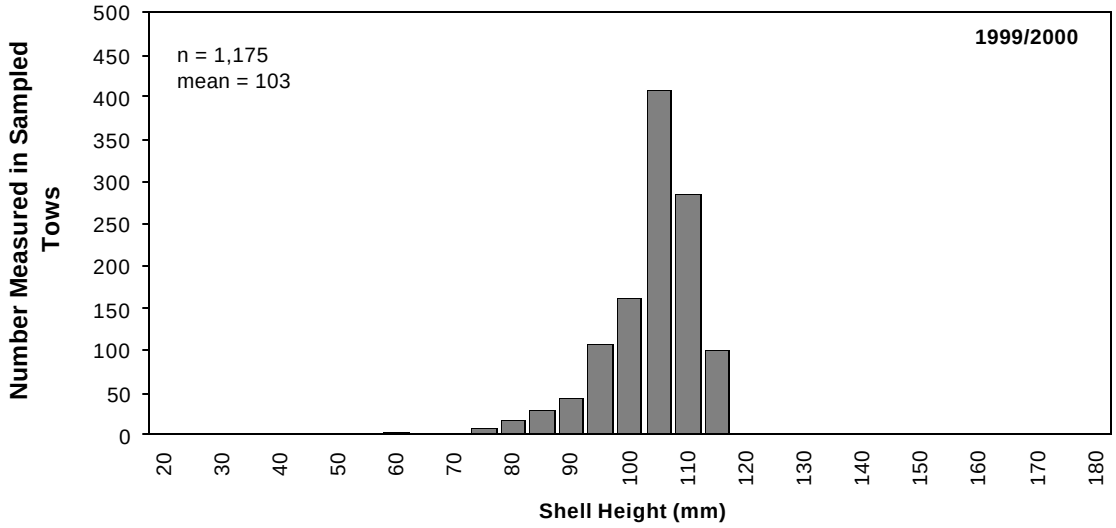
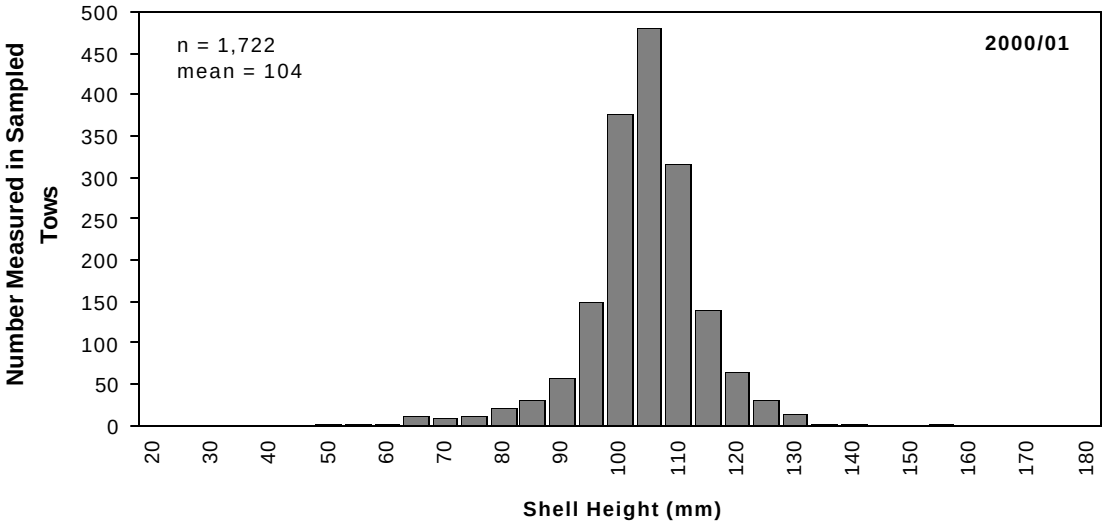


Figure 7. Fishing locations during the 2001/02 scallop fishery.





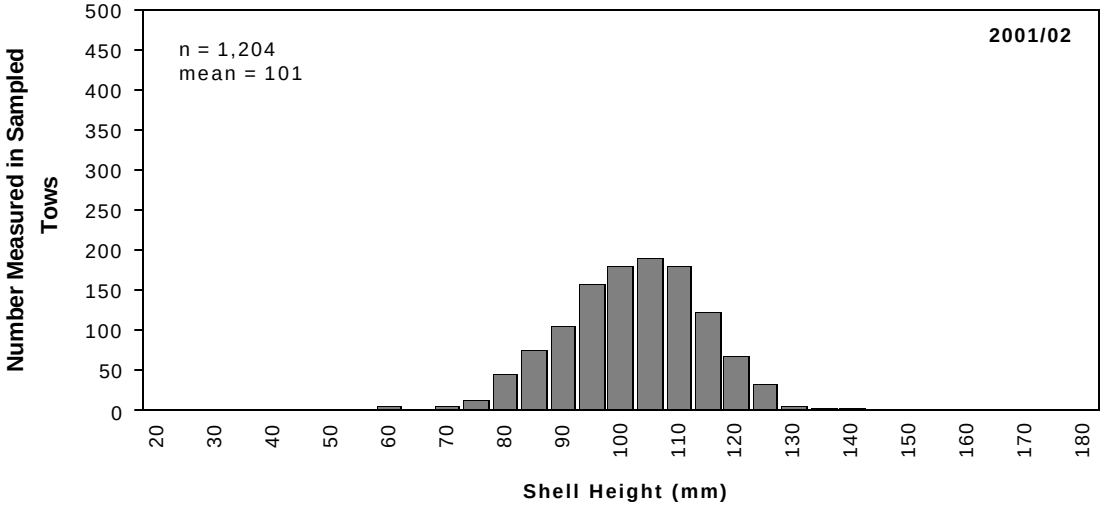


Figure 8. Shell height distribution of intact discarded scallops from observer samples, Yakutat, District 16, 1999/2000 through 2001/02 fishing seasons.

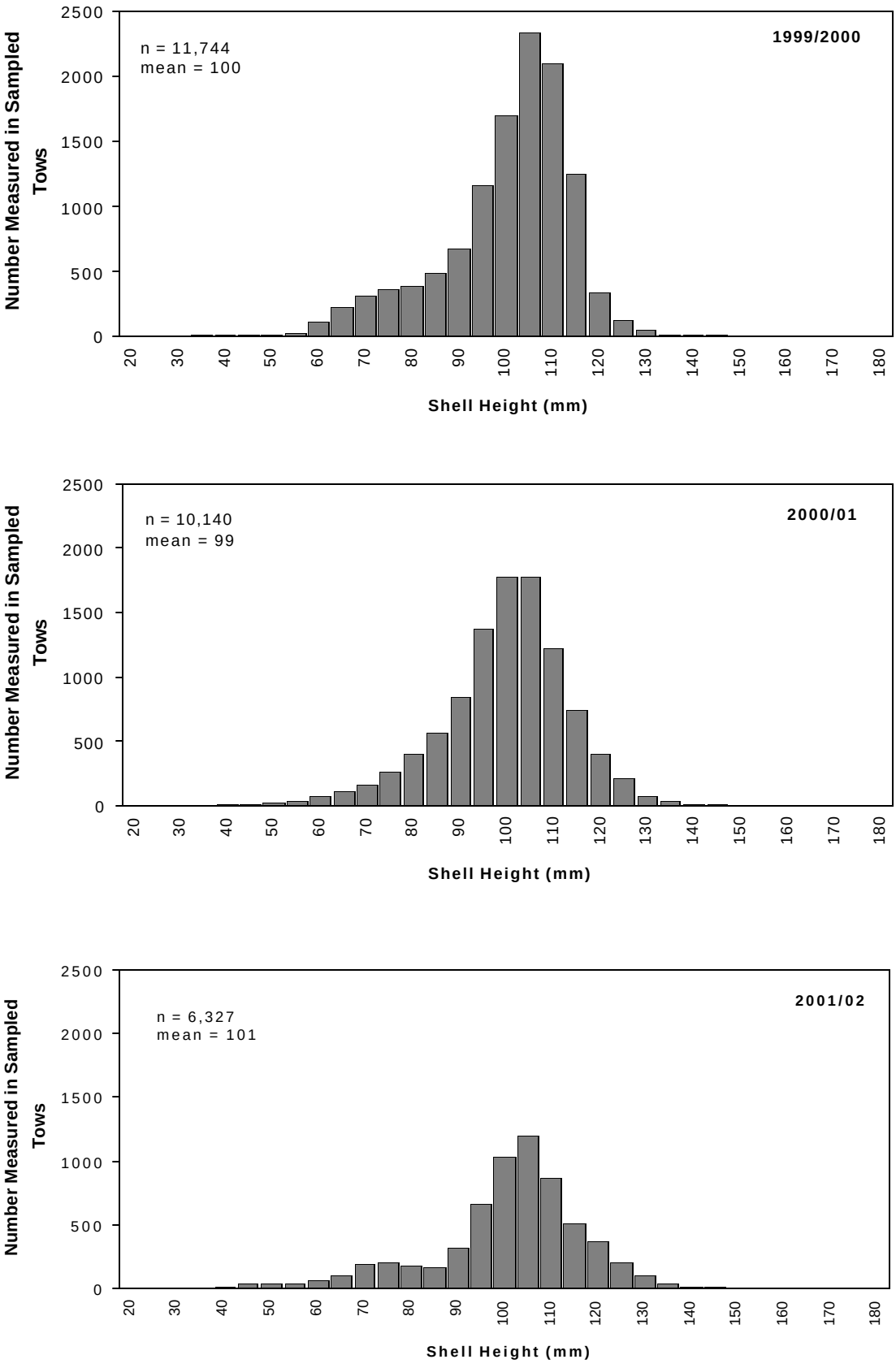


Figure 9. Shell height distribution of intact discarded scallops from observer samples, Yakutat, Area D, 1999/2000 through 2001/02 fishing seasons.

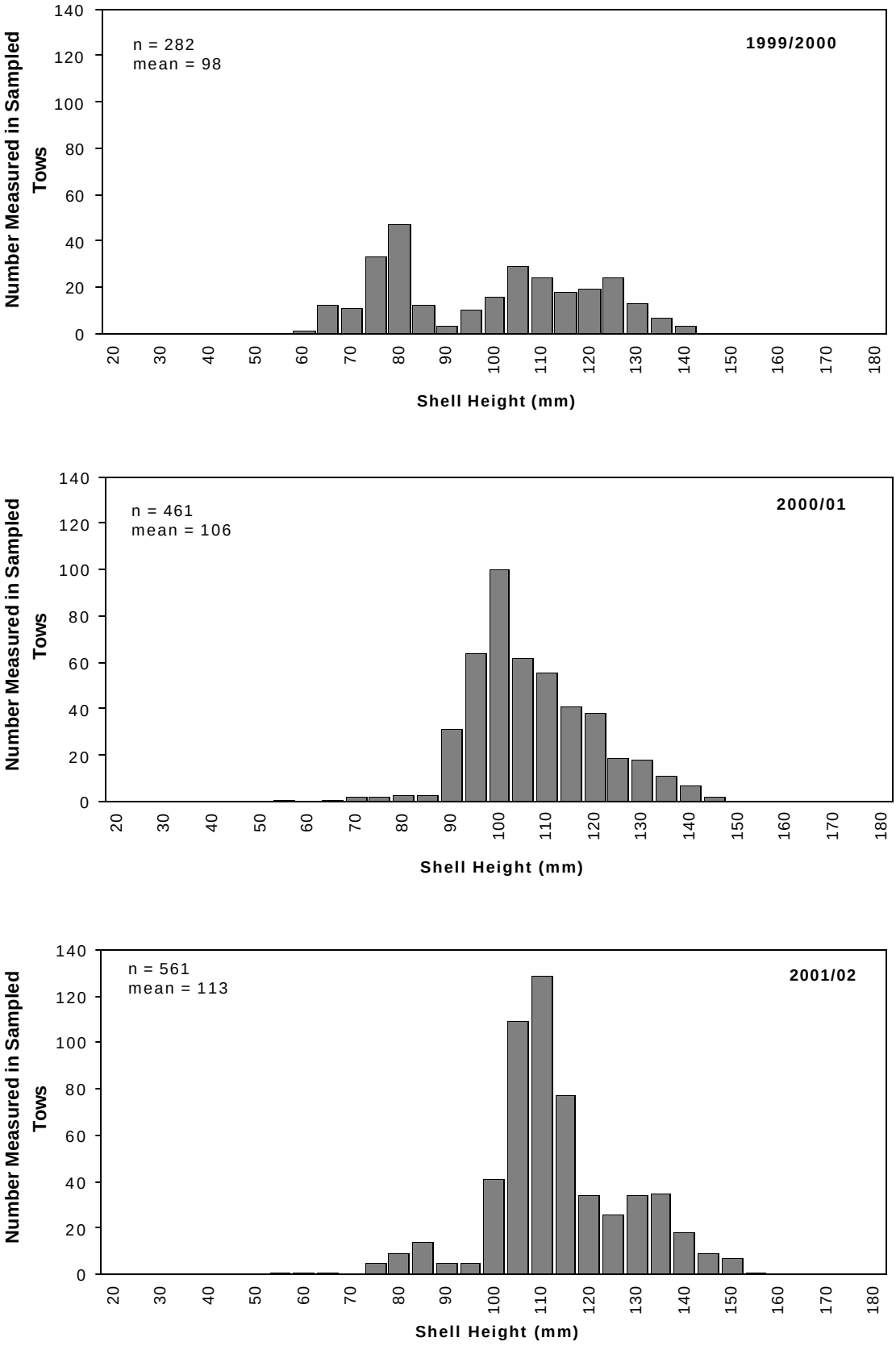


Figure 10. Shell height distribution of intact discarded scallops from observer samples, Prince William Sound Area, 1999/2000 through 2001/02 fishing seasons.

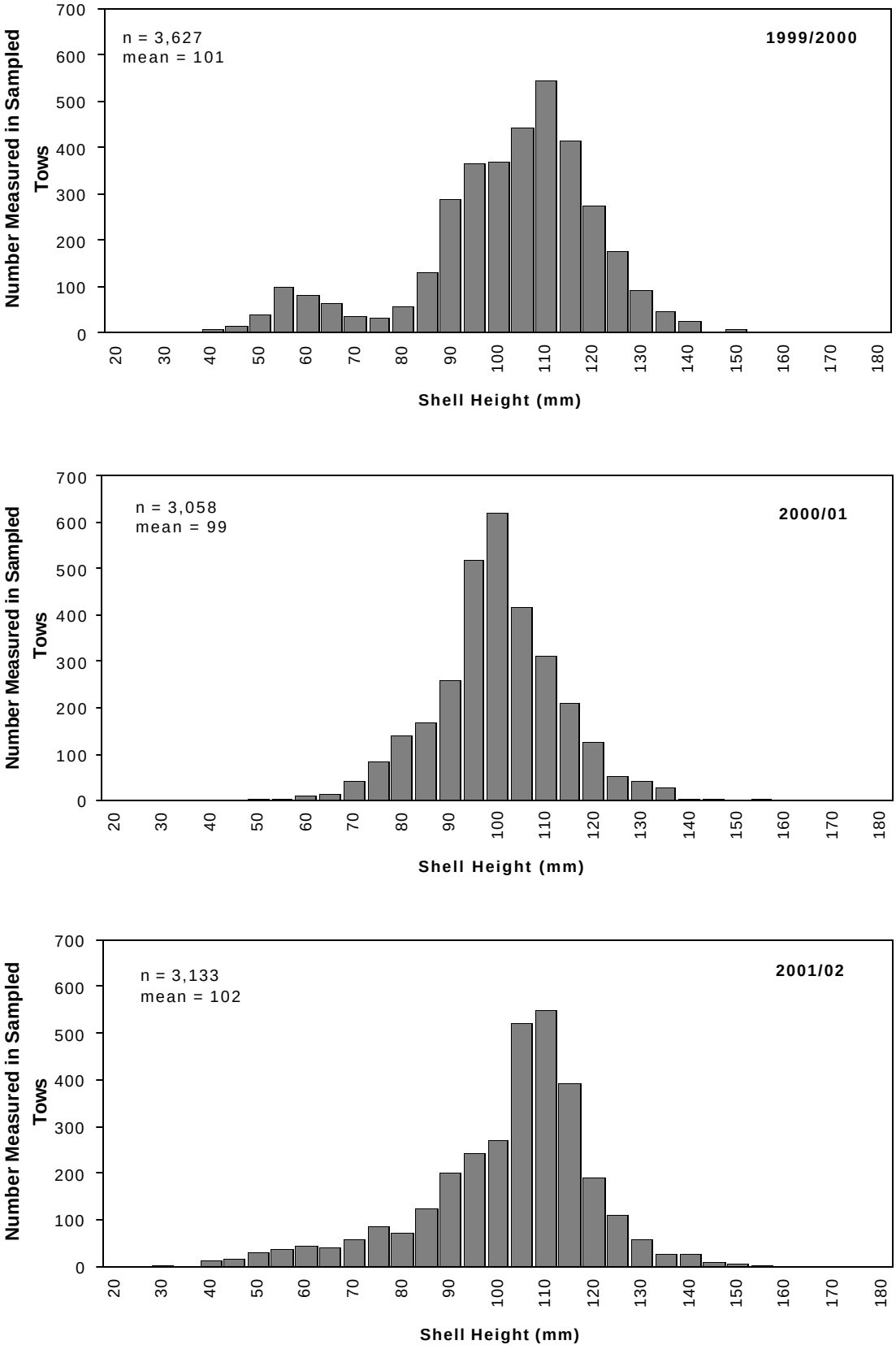


Figure 11. Shell height distribution of intact discarded scallops from observer samples, Northeast District, Kodiak Area, 1999/2000 through 2001/02 fishing seasons.

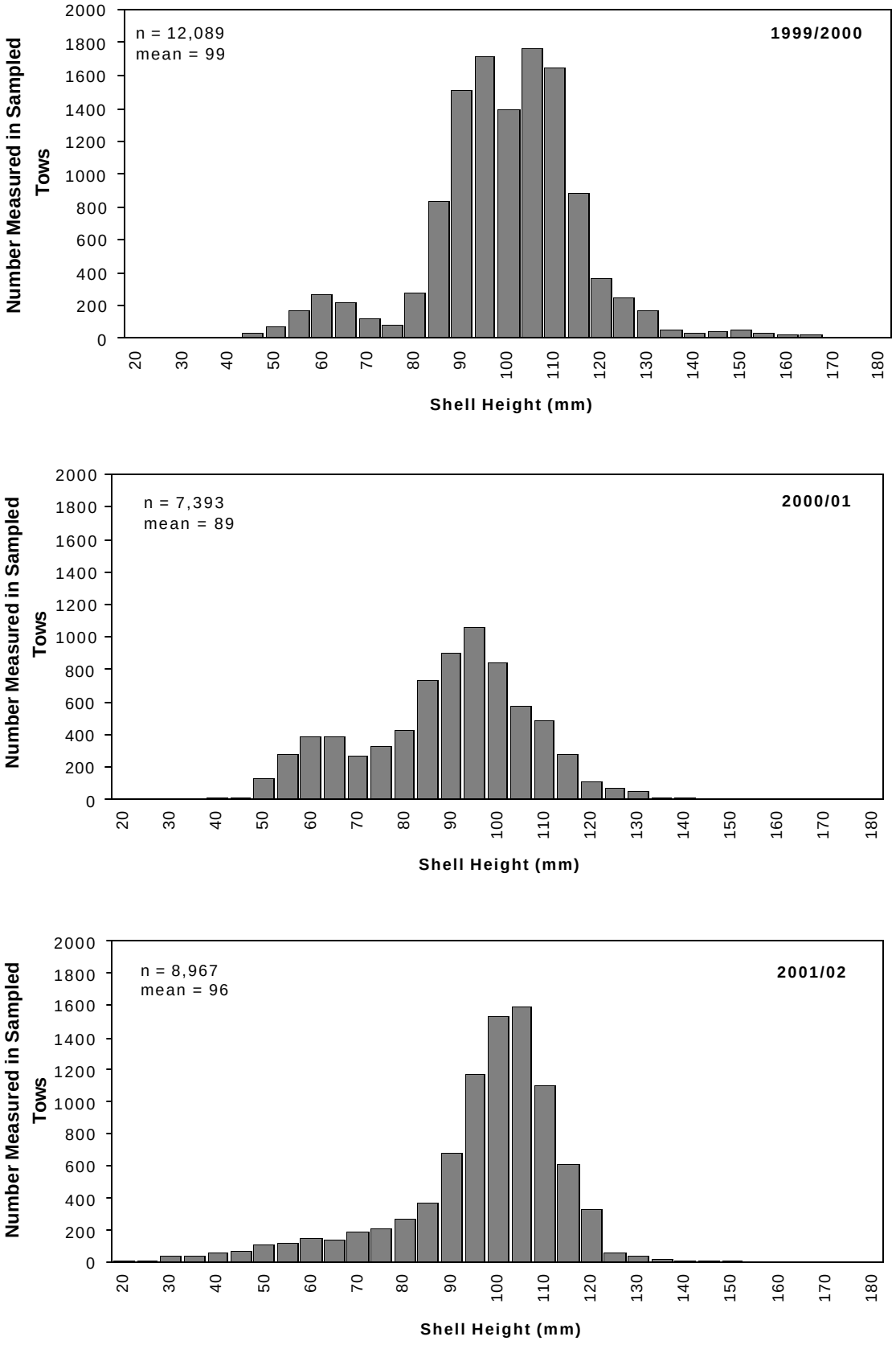


Figure 12. Shell height distribution of intact discarded scallops from observer samples, Shelikof District, Kodiak Area, 1999/2000 through 2001/02 fishing seasons.

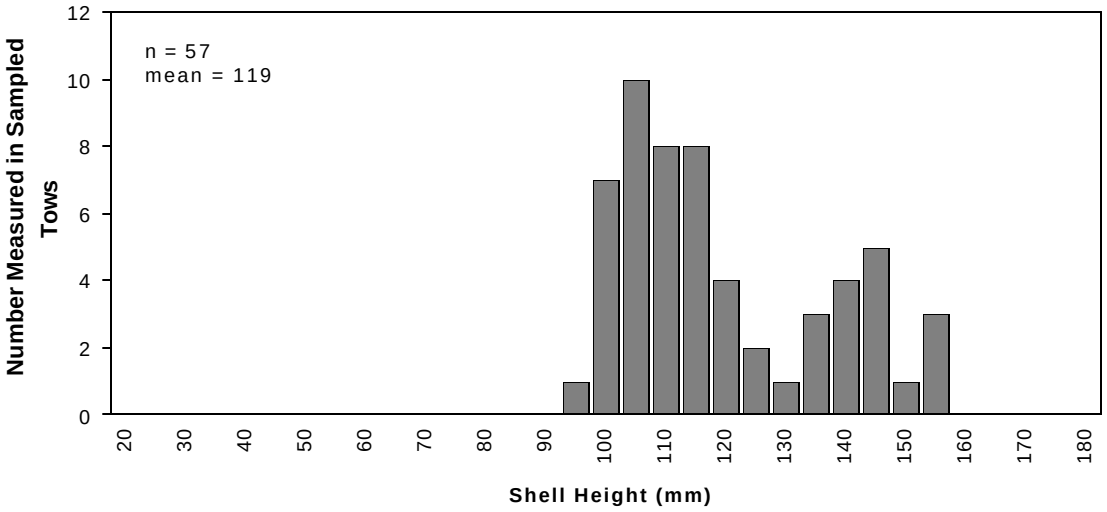


Figure 13. Shell height distribution of intact discarded scallops from observer samples, Semidi District, Kodiak Area, 1999/2000 fishing season.

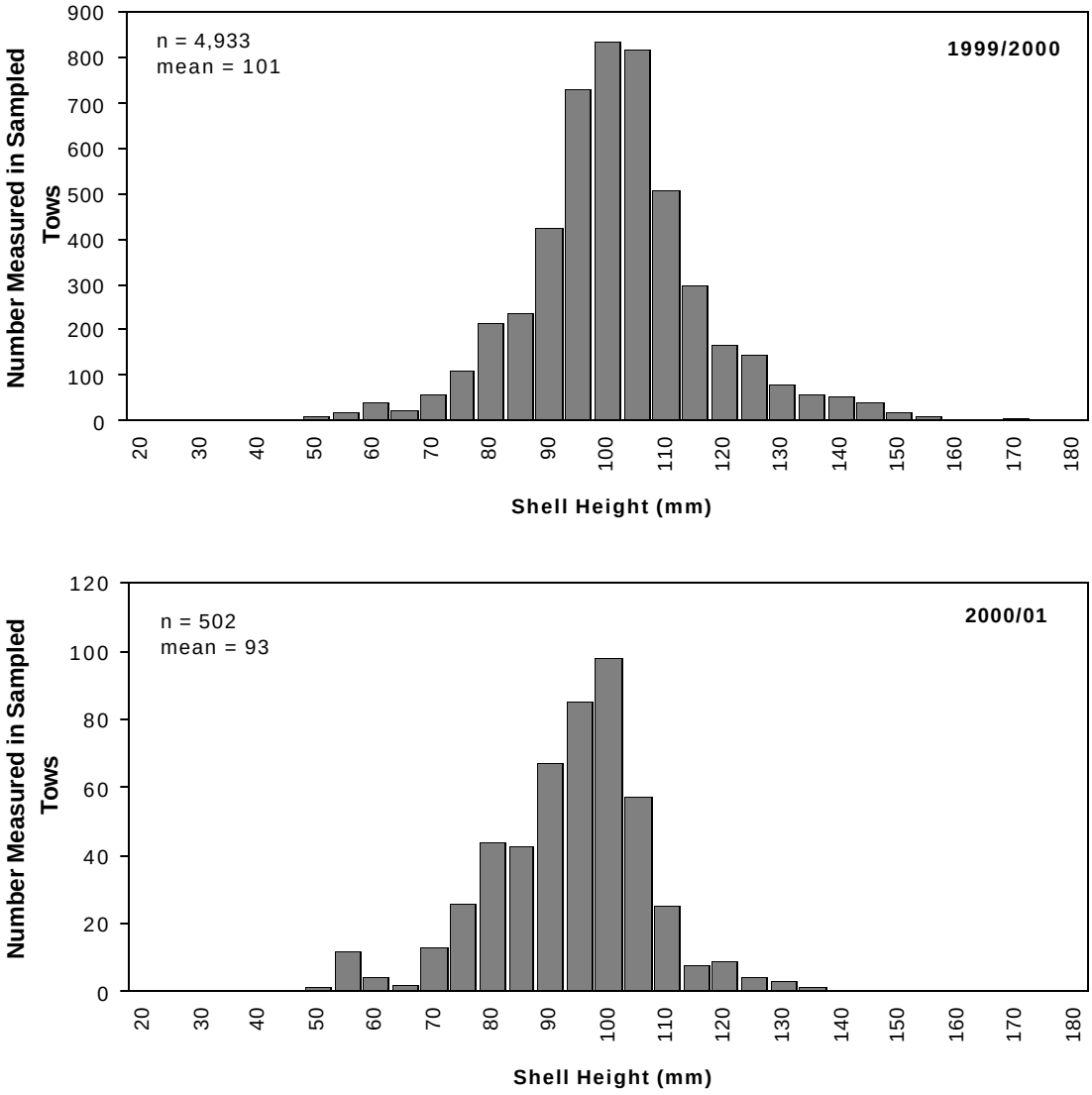


Figure 14. Shell height distribution of intact discarded scallops from observer samples, Alaska Peninsula Area, 1999/2000 and 2000/01 fishing seasons.

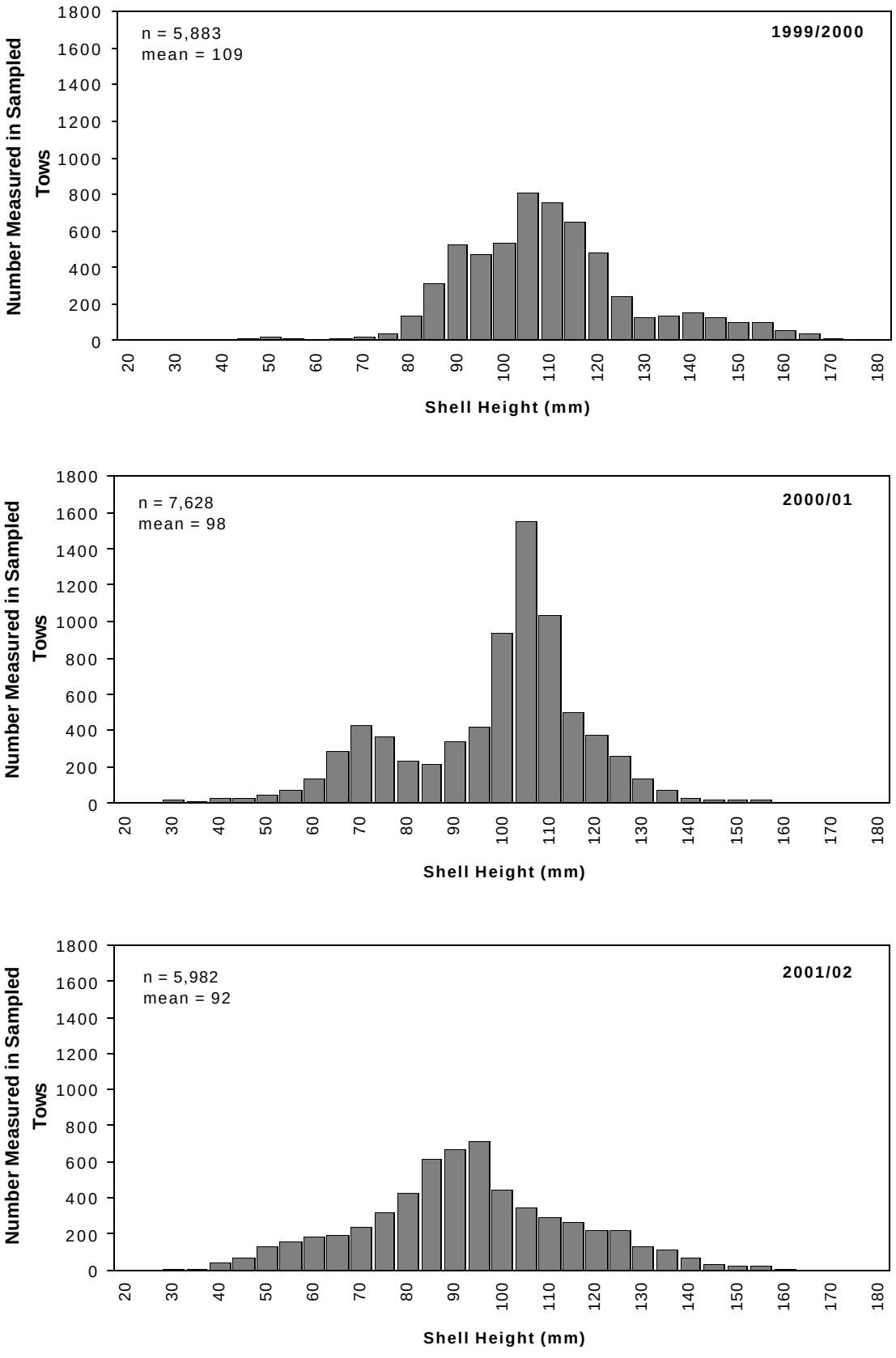


Figure 15. Shell height distribution of intact discarded scallops from observer samples, Bering Sea Area, 1999/2000 through 2001/02 fishing seasons.

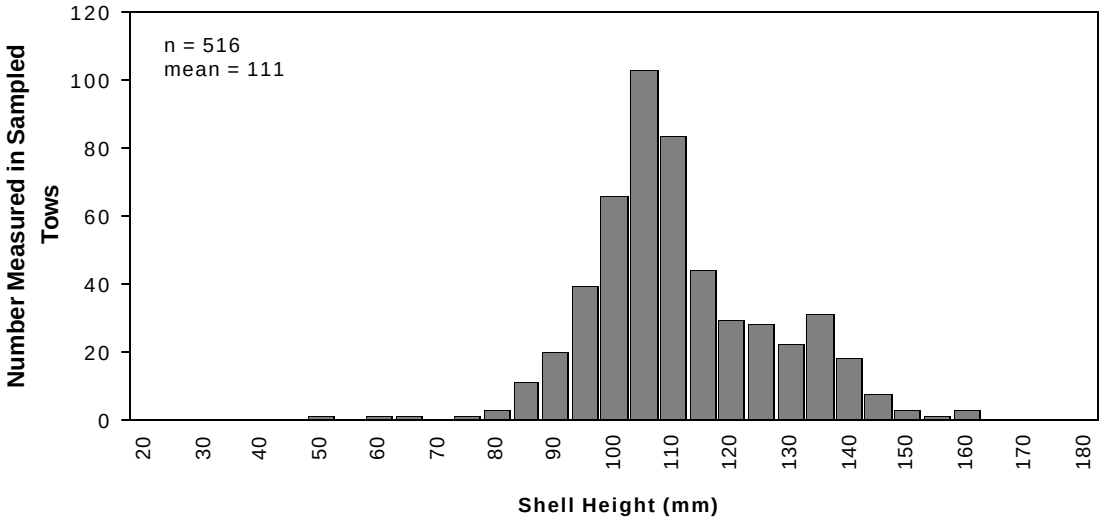


Figure 16. Shell height distribution of intact discarded scallops from observer samples, Dutch Harbor Area, 1999/2000 fishing season.

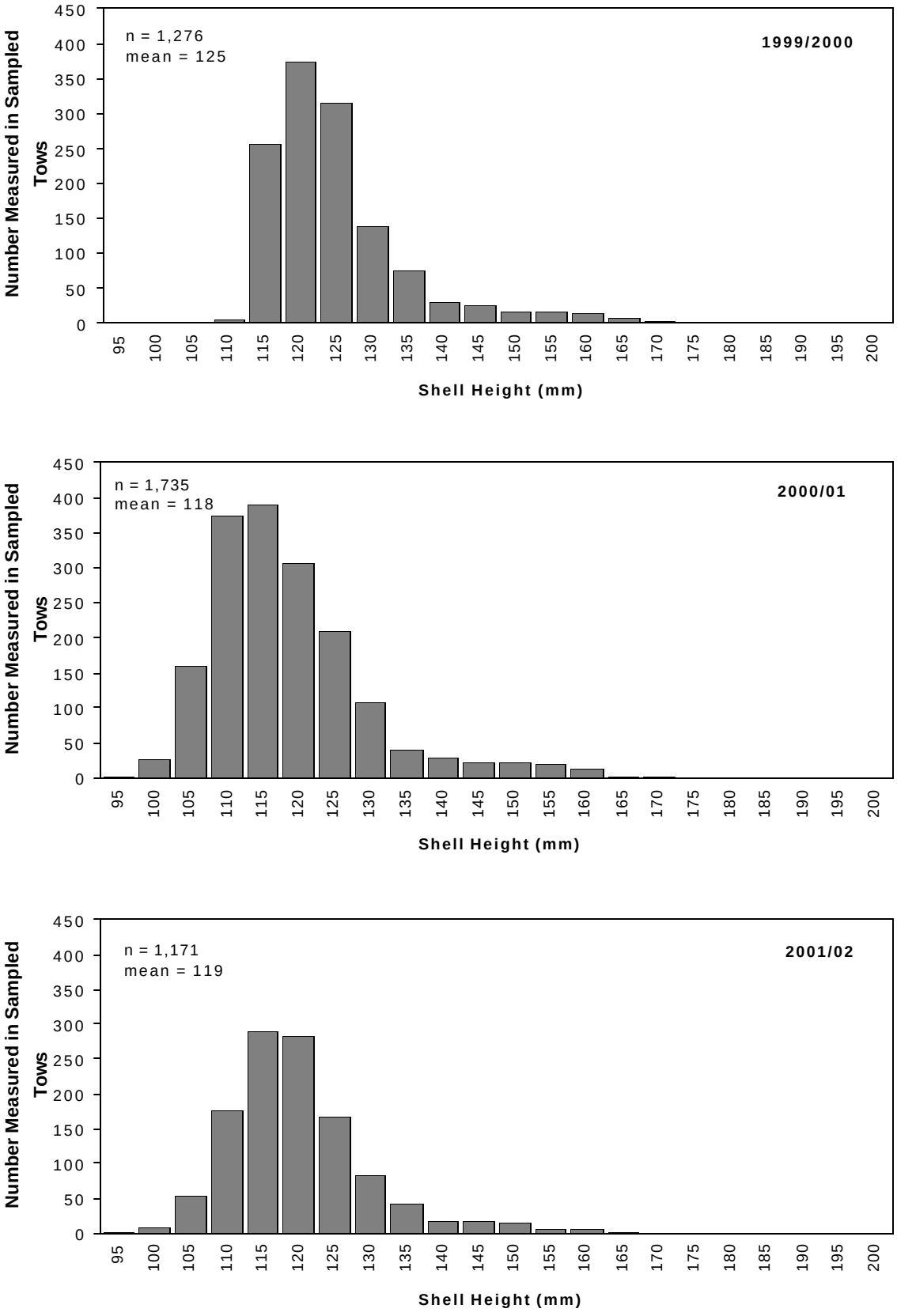


Figure 17. Shell height distribution observed in the retained scallop catch (males, females, and undetermined sex), Yakutat, District 16, 1999/2000 through 2001/02 fishing seasons.

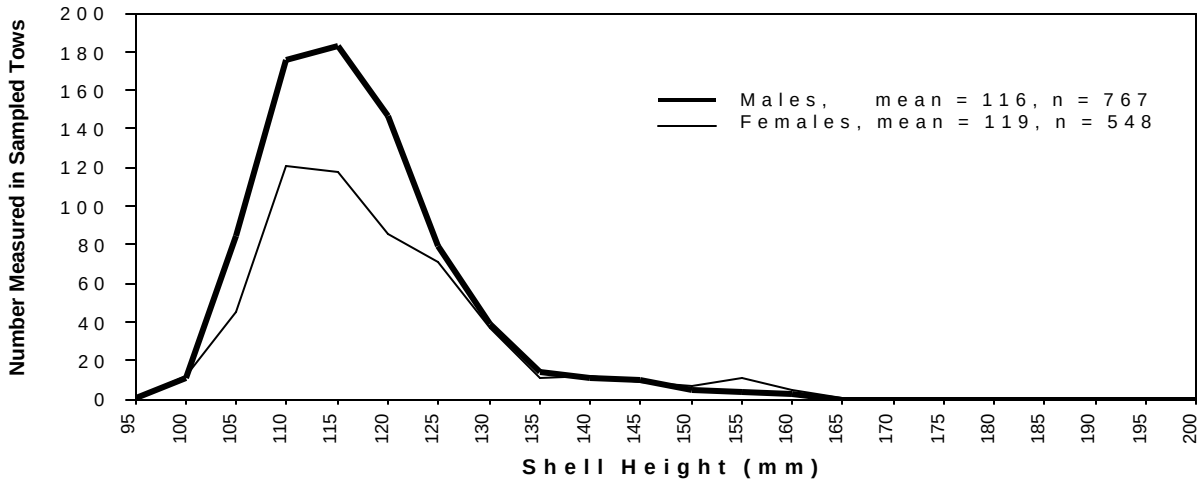


Figure 18. Shell height distribution observed in the retained scallop catch, by sex, Yakutat, District 16, 2000/01 fishing season.

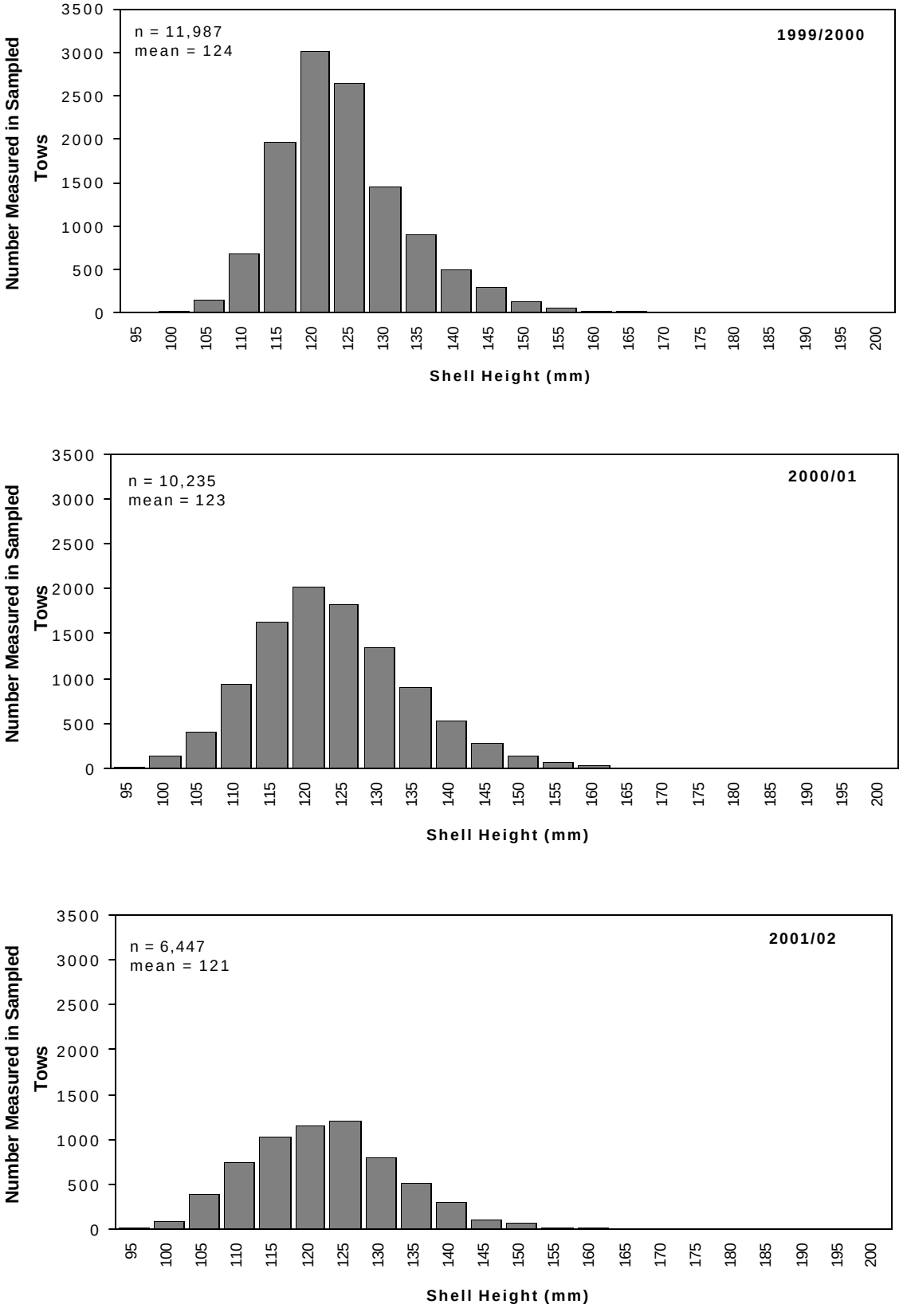


Figure 19. Shell height distribution observed in the retained scallop catch (males, females, and undetermined sex), Yakutat, Area D, 1999/2000 through 2001/02 fishing seasons.

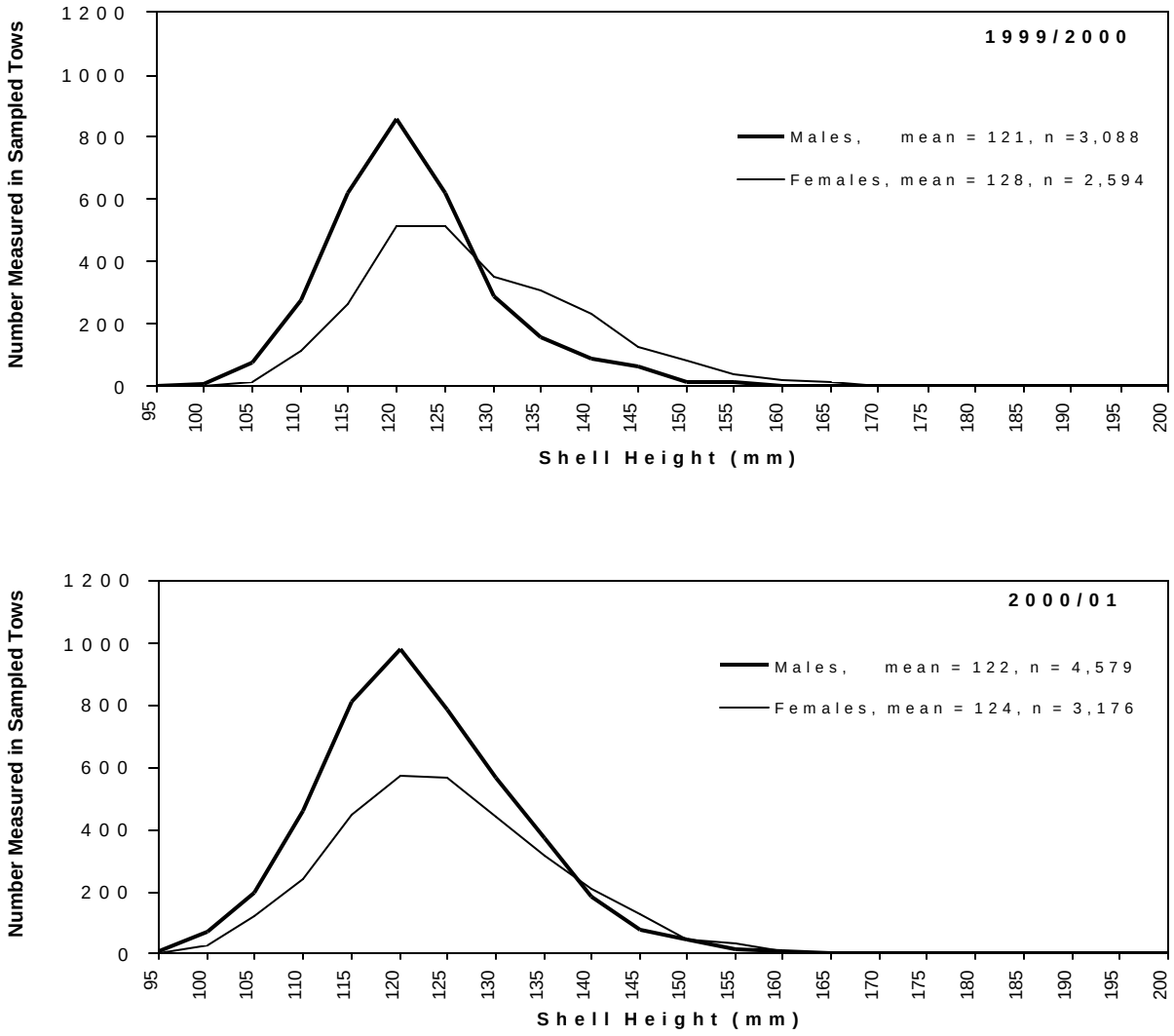


Figure 20. Shell height distribution observed in the retained scallop catch, by sex, Yakutat, Area D, 1999/2000 and 2000/01 fishing seasons.

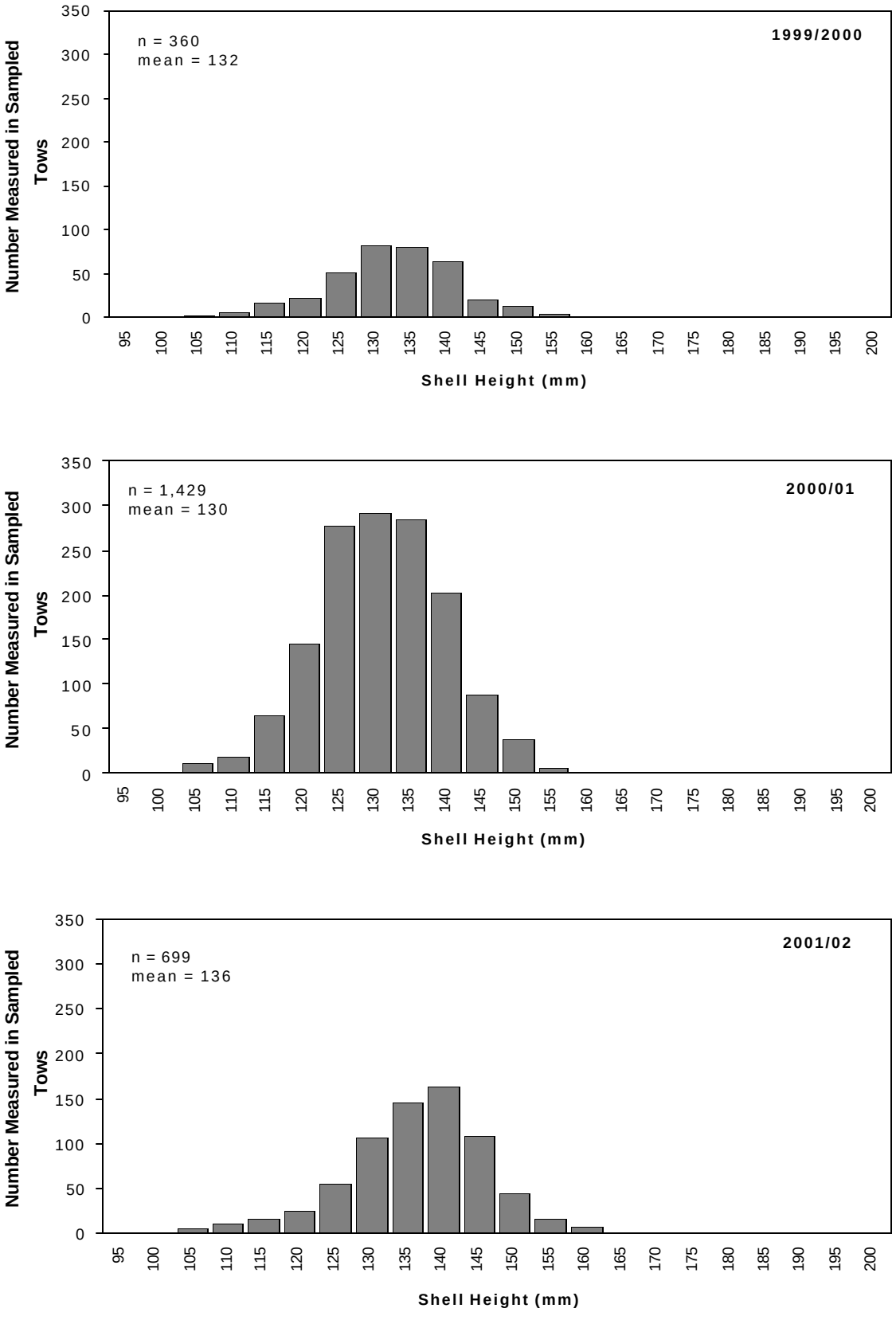


Figure 21. Shell height distribution observed in the retained scallop catch (males, females, and undetermined sex), Prince William Sound Area, 1999/2000 through 2001/02 fishing seasons.

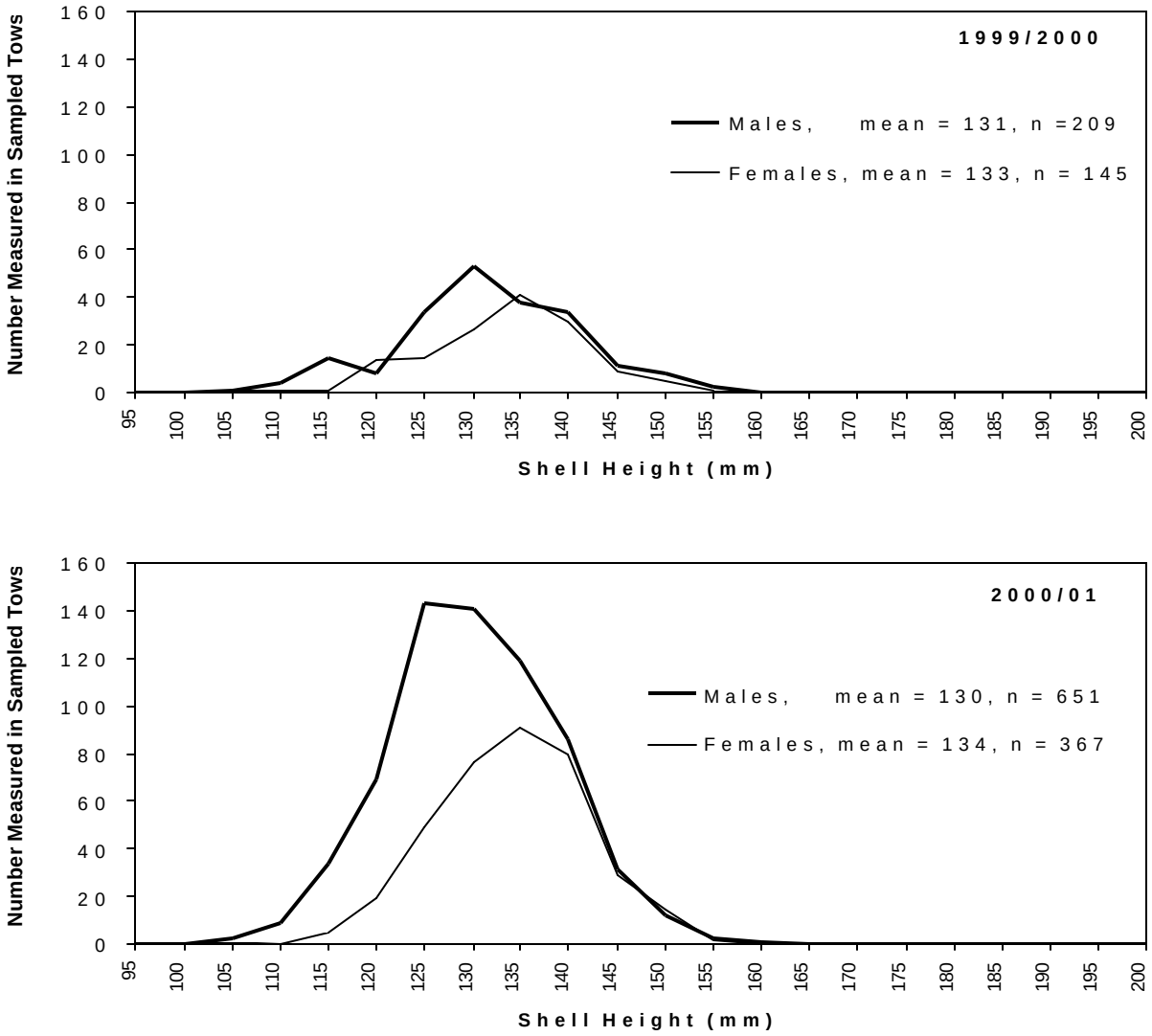


Figure 22. Shell height distribution observed in the retained scallop catch, by sex, Prince William Sound Area, 1999/2000 and 2000/01 fishing seasons.

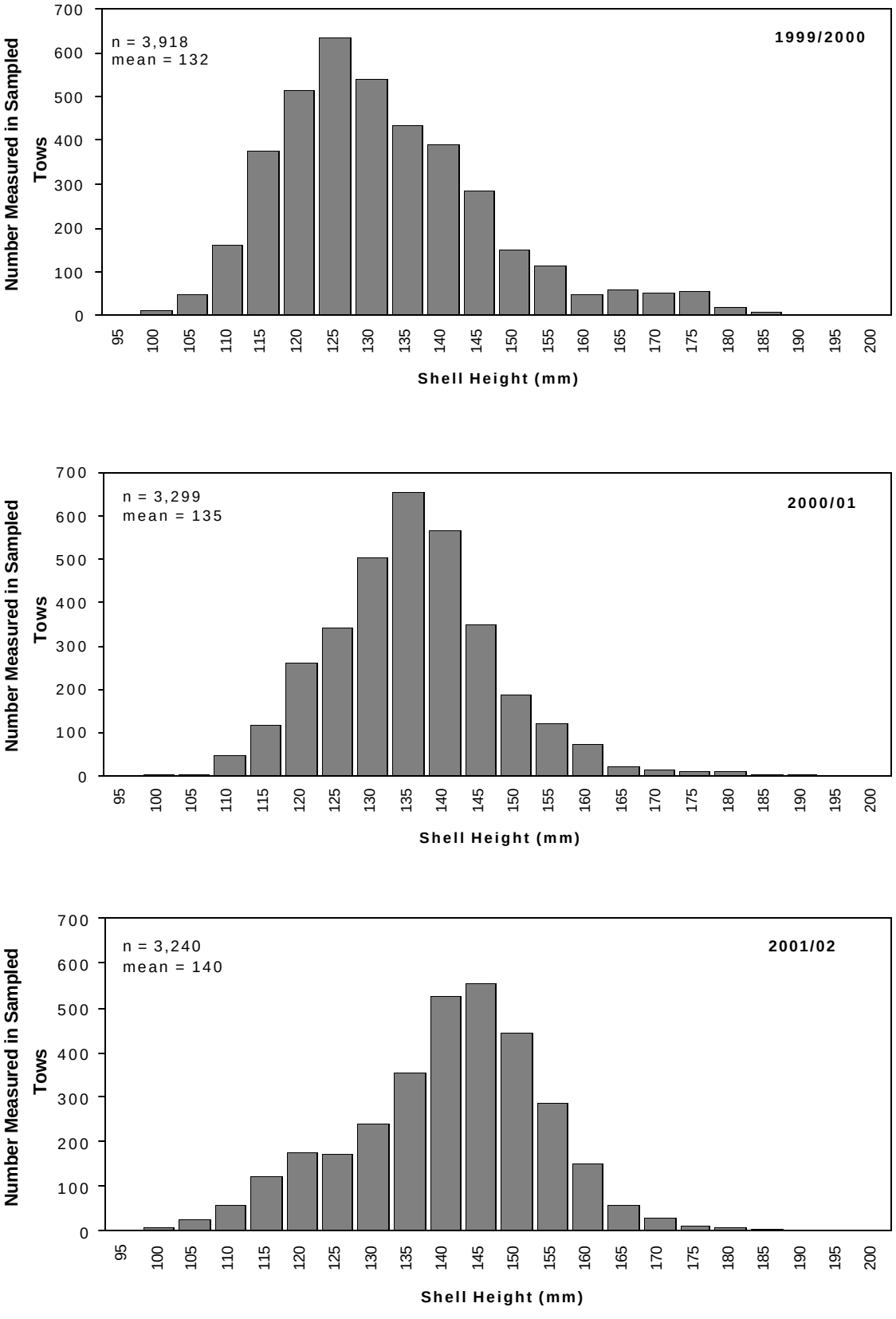


Figure 23. Shell height distribution observed in the retained scallop catch (males, females, and undetermined sex), Northeast District, Kodiak Area, 1999/2000 through 2001/02 fishing seasons.

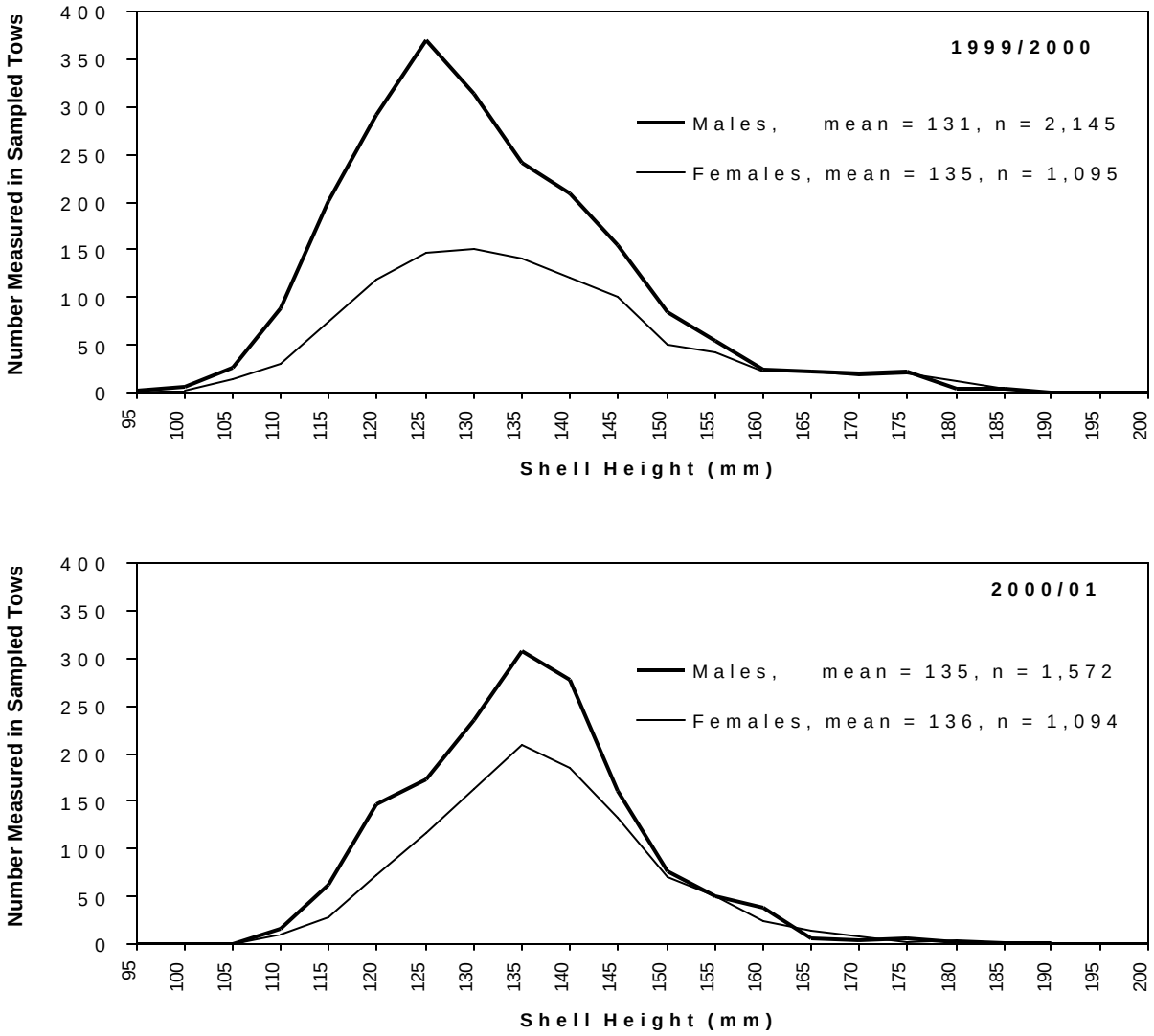


Figure 24. Shell height distribution observed in the retained scallop catch, by sex, Northeast District, Kodiak Area, 1999/2000 and 2000/01 fishing seasons.

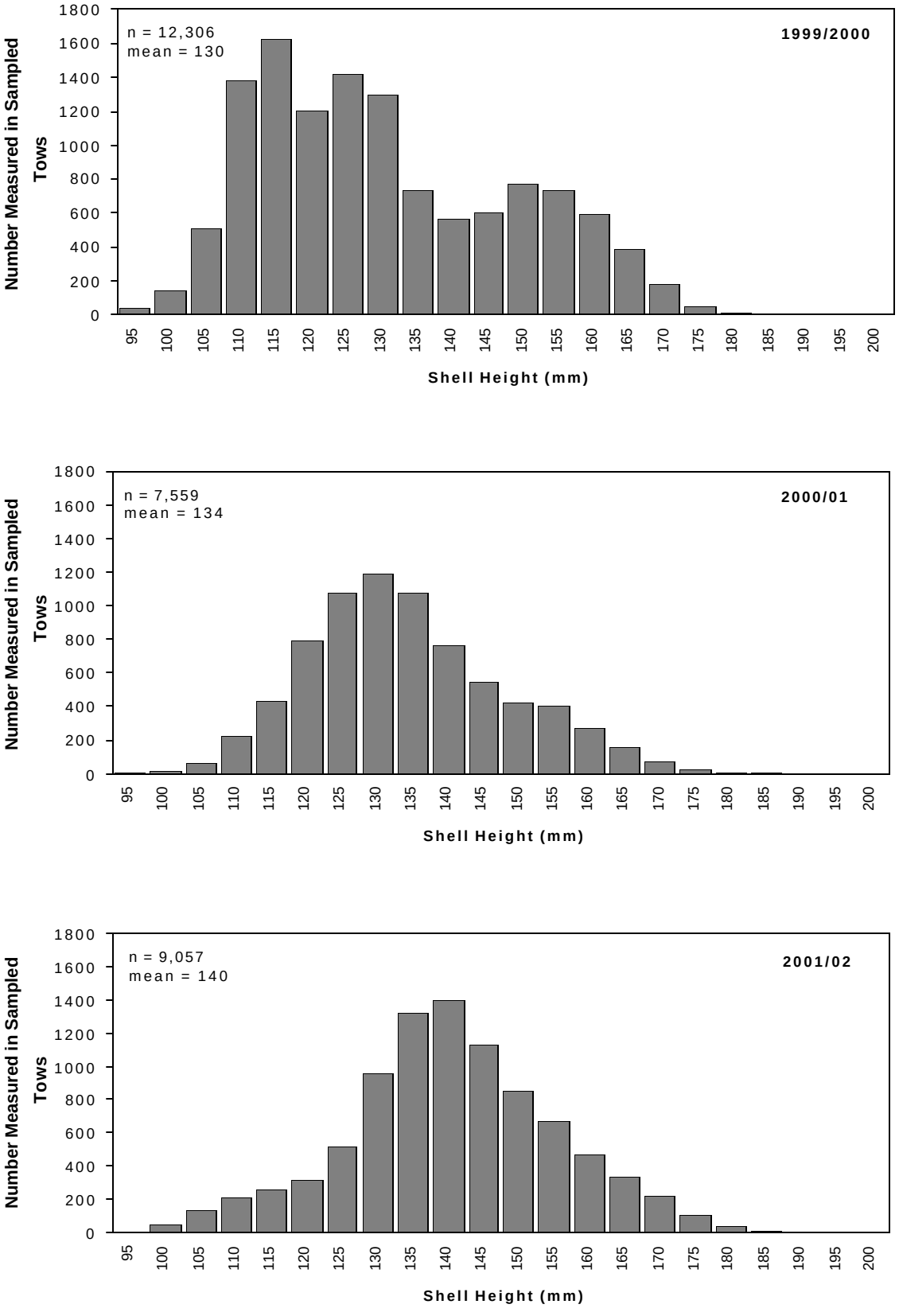


Figure 25. Shell height distribution observed in the retained scallop catch (males, females, and undetermined sex), Shelikof District, Kodiak Area, 1999/2000 through 2001/02 fishing seasons.

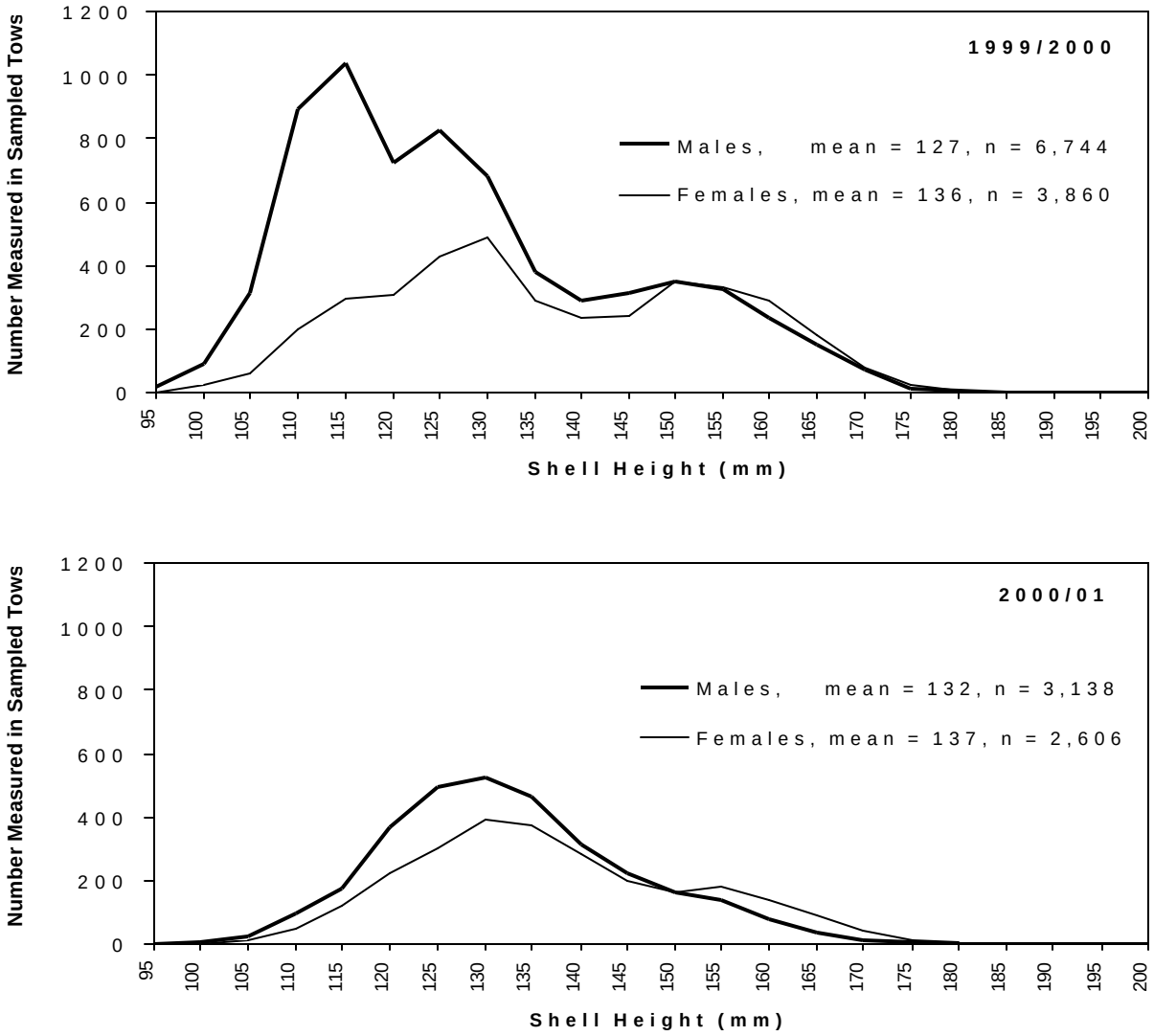


Figure 26. Shell height distribution observed in the retained scallop catch, by sex, Shelikof District, Kodiak Area, 1999/2000 and 2000/01 fishing seasons.

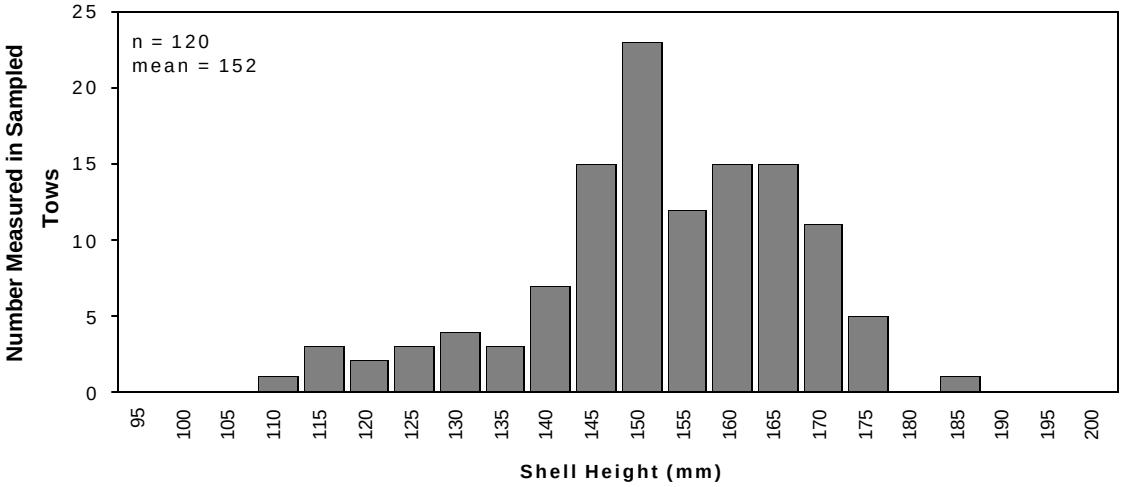


Figure 27. Shell height distribution observed in the retained scallop catch (males, females, and undetermined sex), Semidi District, Kodiak Area, 1999/2000 fishing season.

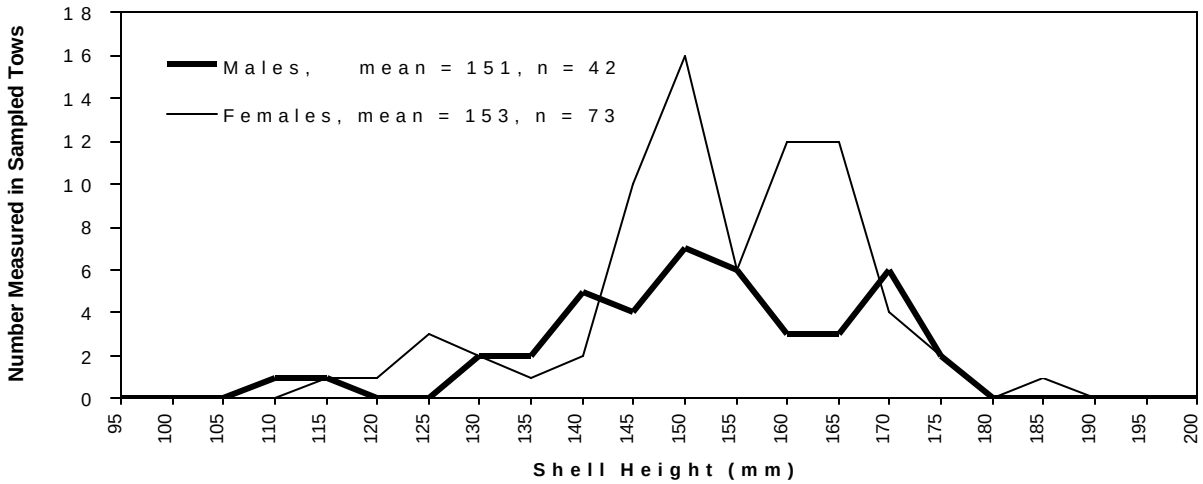


Figure 28. Shell height distribution observed in the retained scallop catch, by sex, Semidi District, Kodiak Area, 1999/2000 fishing season.

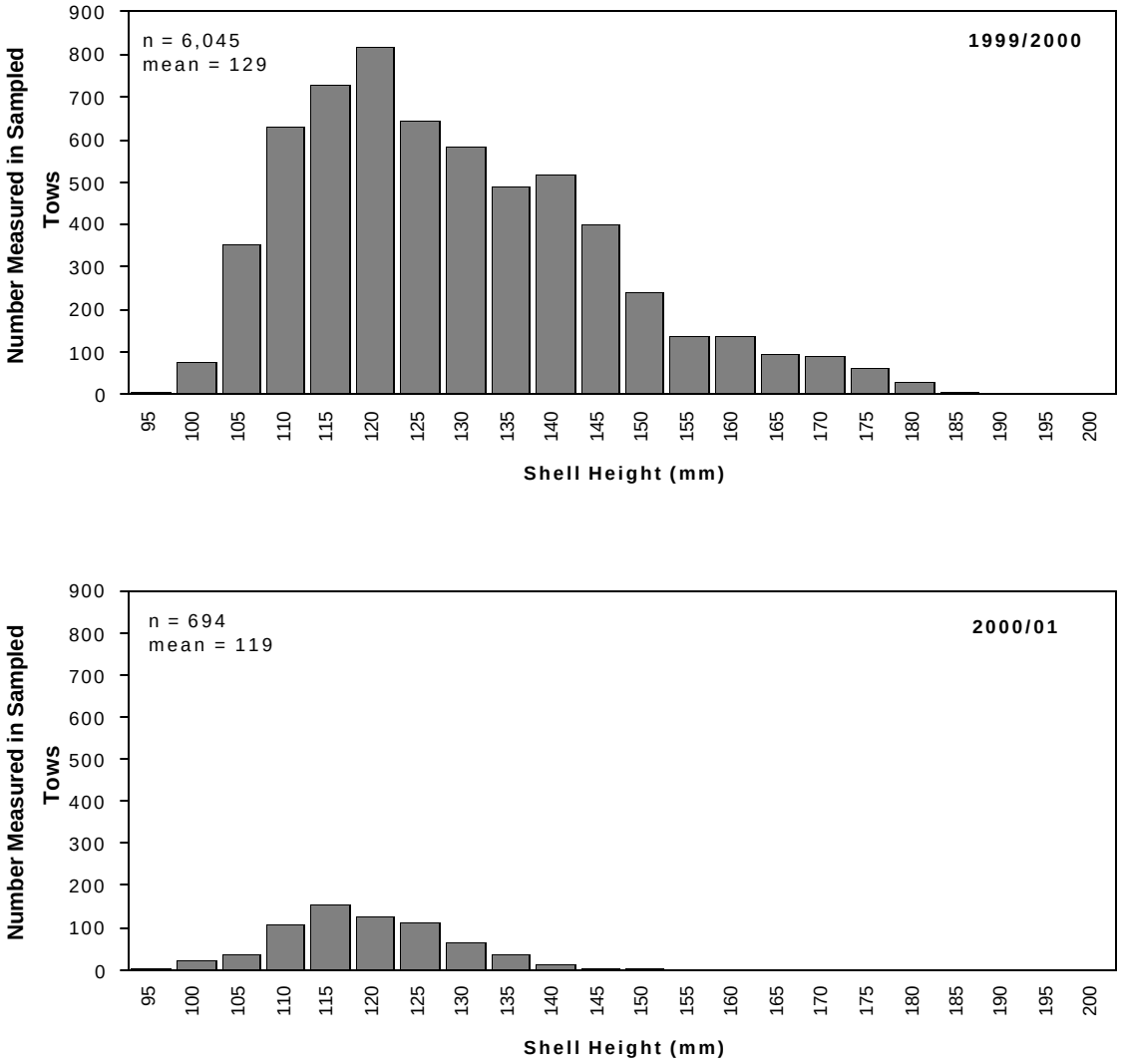


Figure 29. Shell height distribution observed in the retained scallop catch (males, females, and undetermined sex), Alaska Peninsula Area, 1999/2000 and 2000/01fishing seasons.

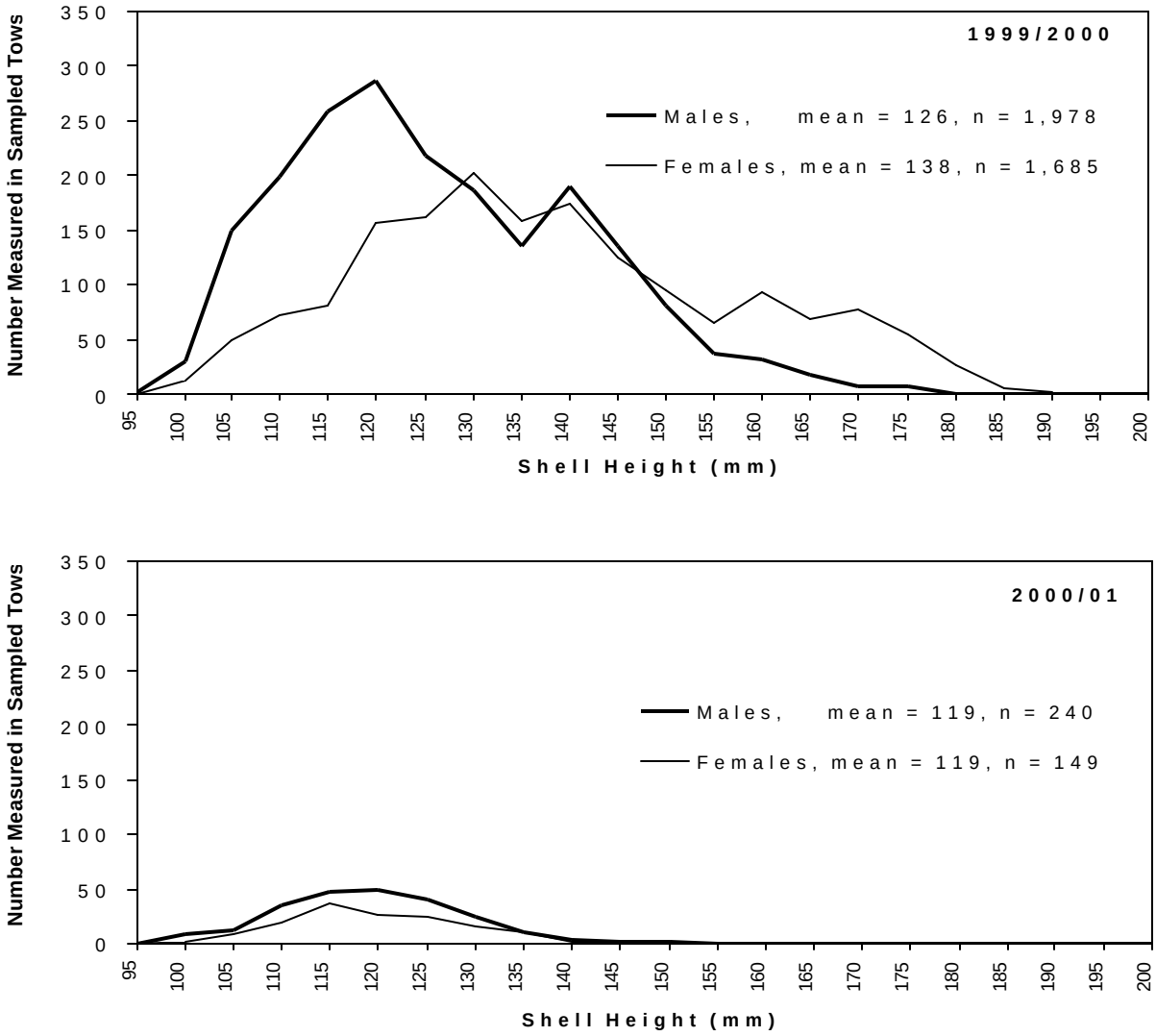


Figure 30. Shell height distribution observed in the retained scallop catch, by sex, Alaska Peninsula Area, 1999/2000 and 2000/01 fishing seasons.

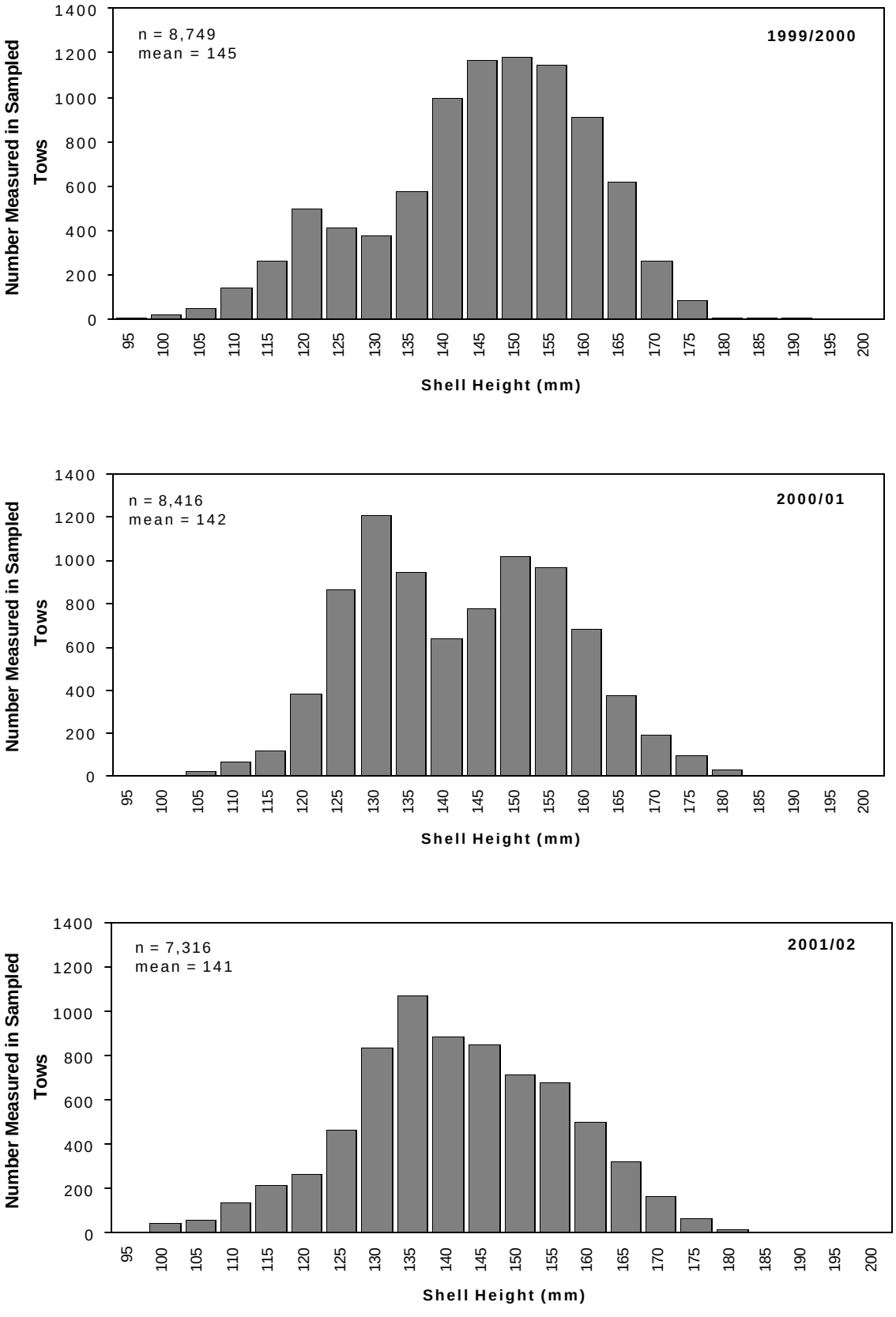


Figure 31. Shell height distribution observed in the retained scallop catch (males, females, and undetermined sex), Bering Sea Area, 1999/2000 through 2001/02 fishing seasons.

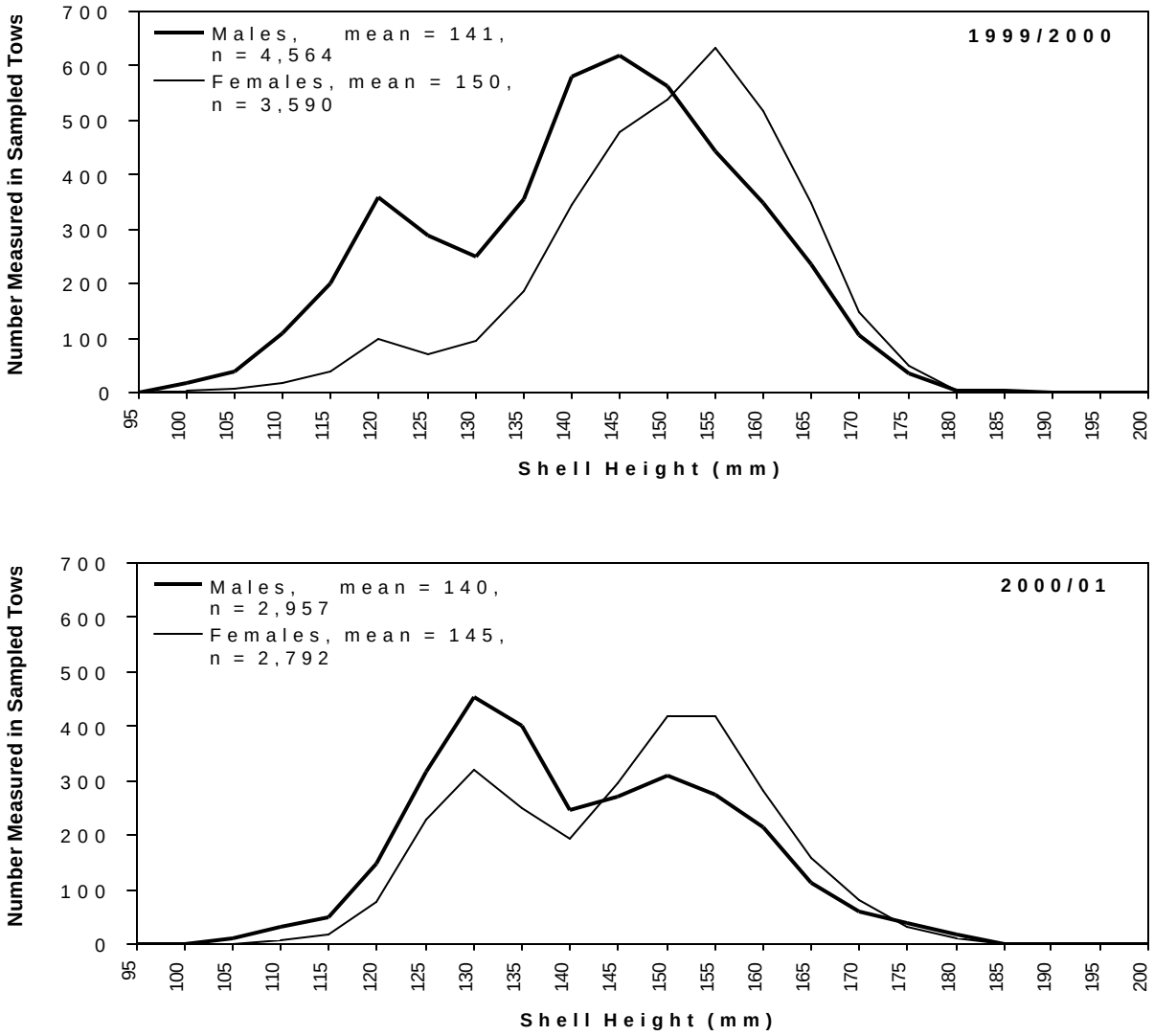


Figure 32. Shell height distribution observed in the retained scallop catch, by sex, Bering Sea Area, 1999/2000 and 2000/01 fishing seasons.

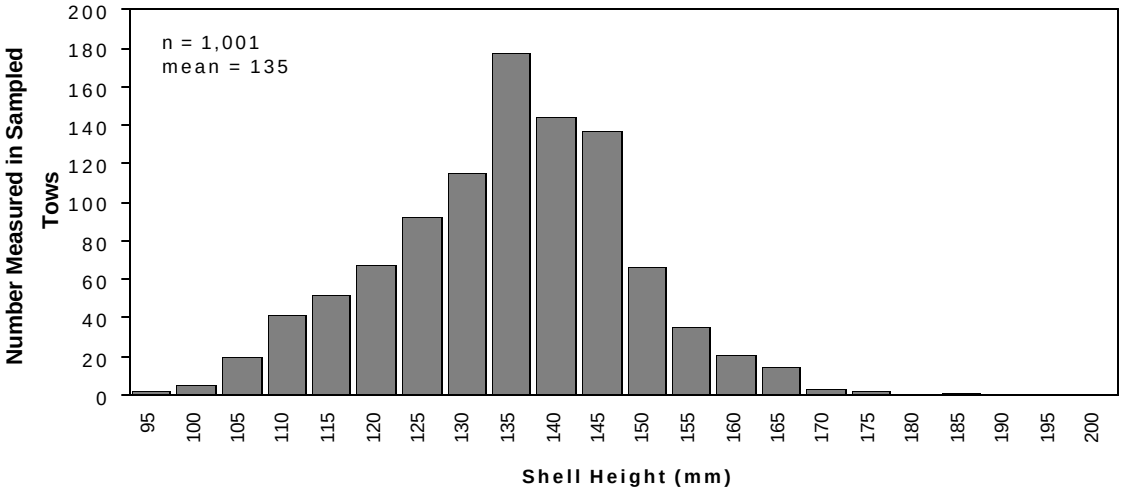


Figure 33. Shell height distribution observed in the retained scallop catch (males, females, and undetermined sex), Dutch Harbor Area, 1999/2000 fishing season.

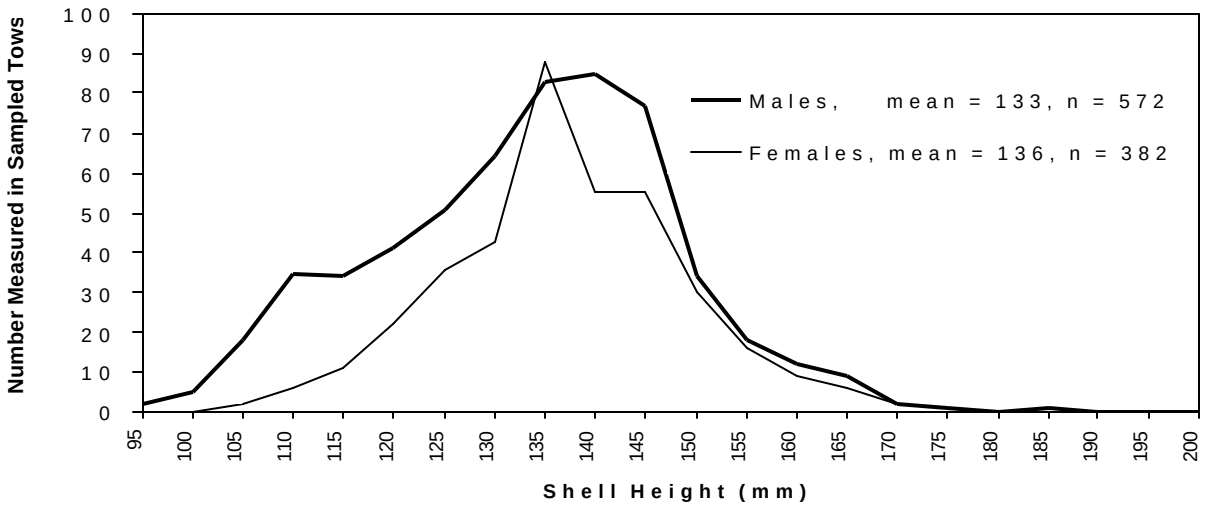


Figure 34. Shell height distribution observed in the retained scallop catch, by sex, Dutch Harbor Area, 1999/2000 fishing season.

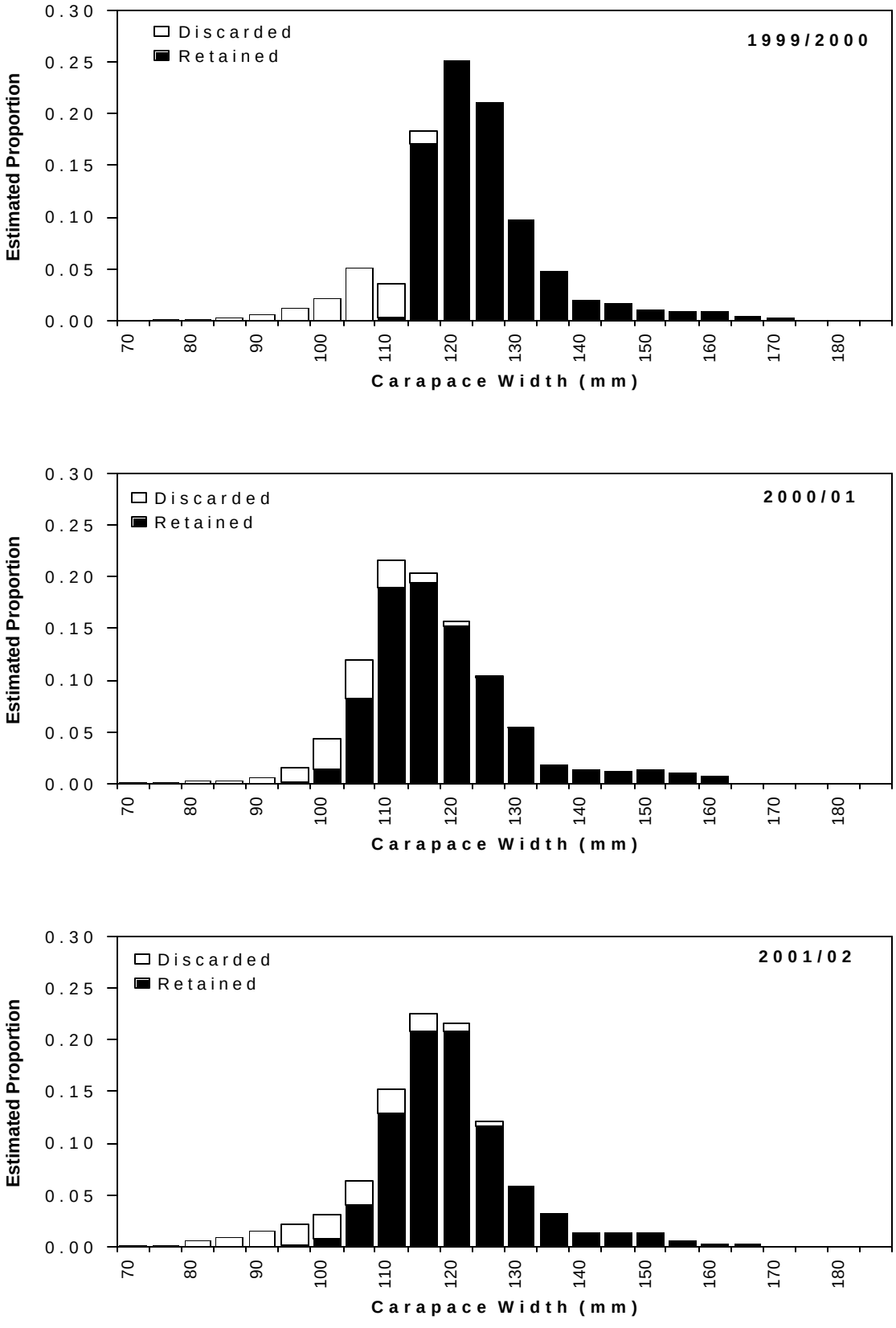


Figure 35. Estimated shell height distribution from resampling observer scallop measurements (males, females, and undetermined sex), Yakutat, District 16, 1999/2000 through 2001/02 fishing seasons.

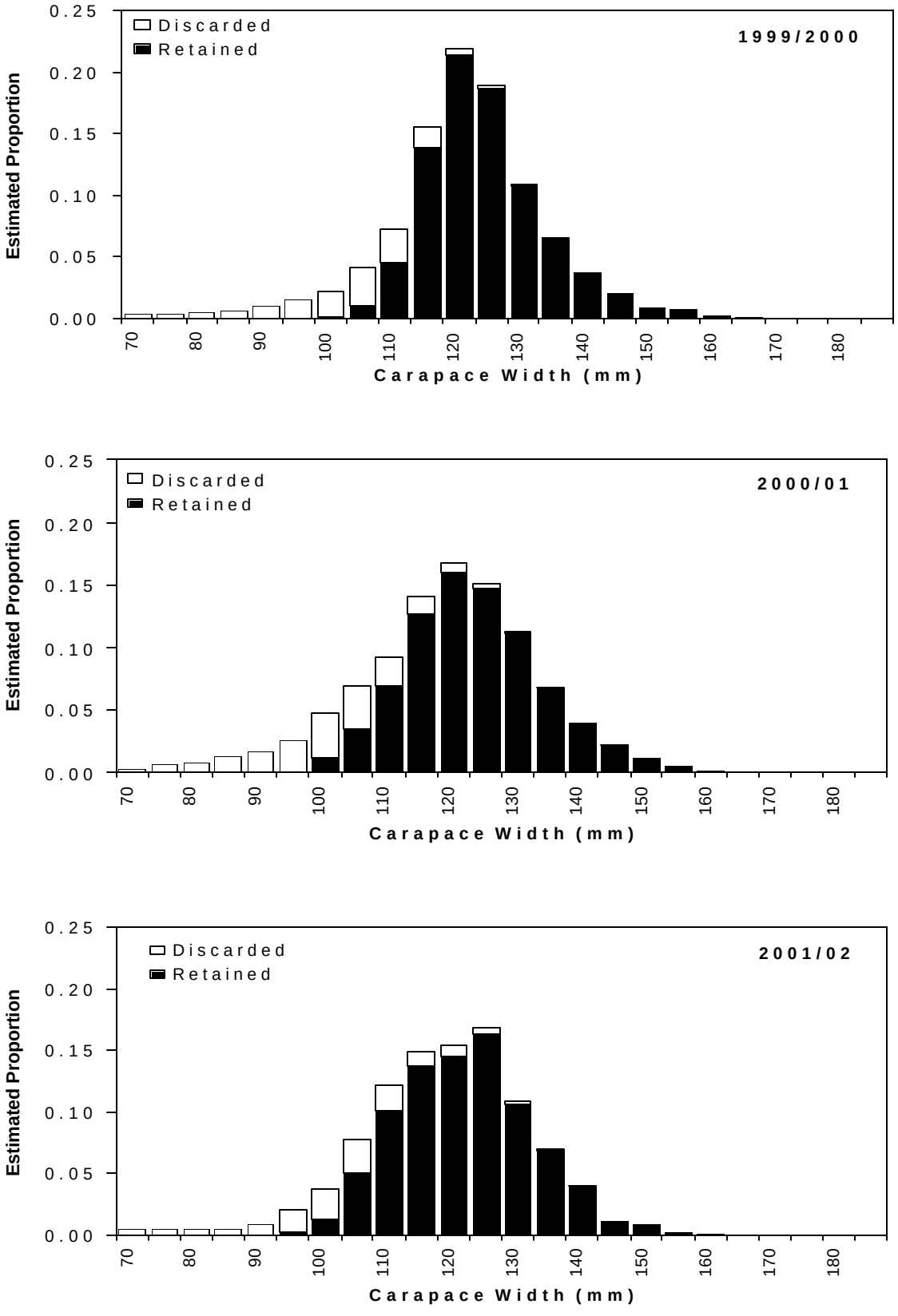


Figure 36. Estimated shell height distribution from resampling observer scallop measurements (males, females, and undetermined sex), Yakutat, Area D, 1999/2000 through 2001/02 fishing seasons.

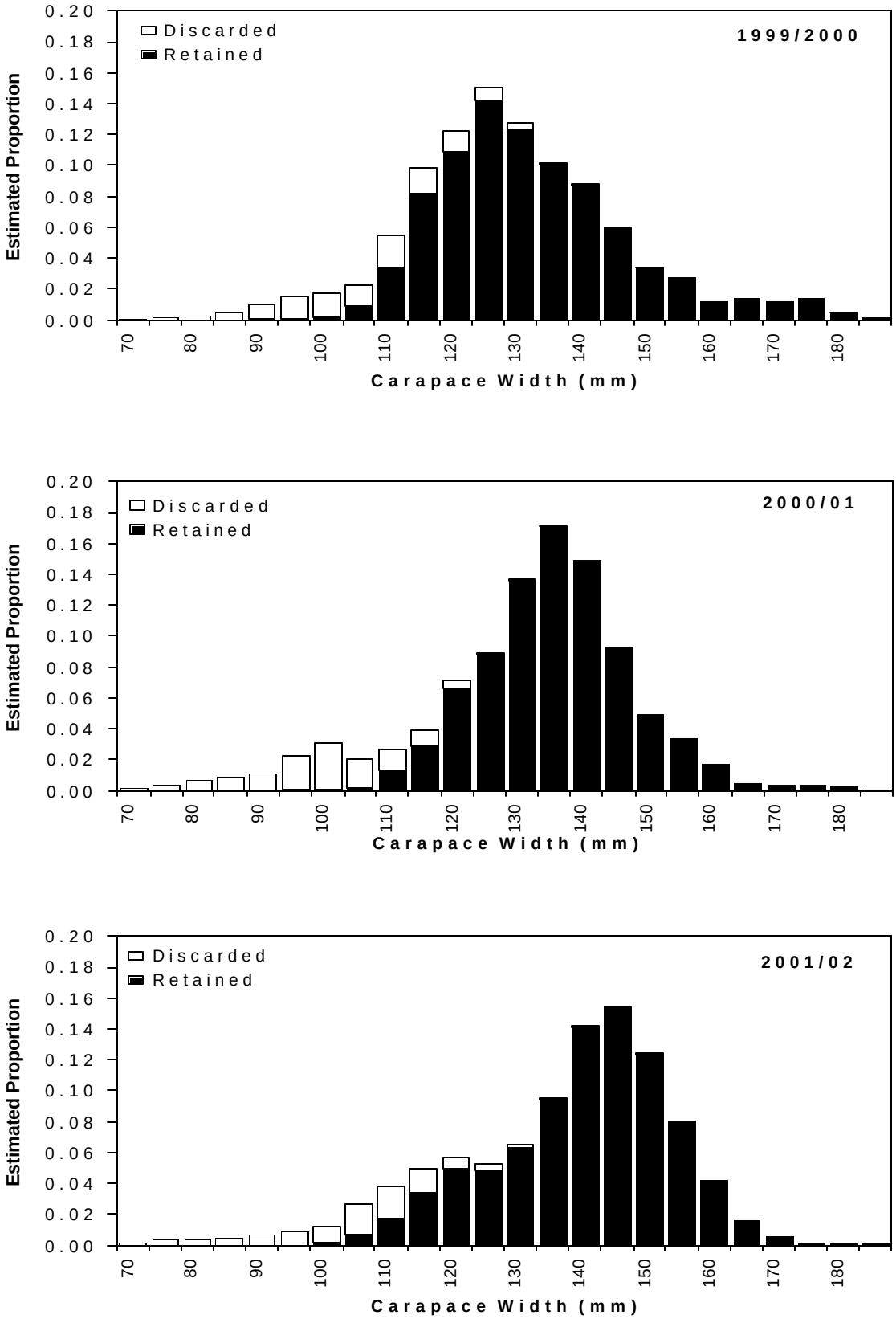


Figure 37. Estimated shell height distribution from resampling observer scallop measurements (males, females, and undetermined sex), Northeast District, Kodiak Area, 1999/2000 through 2001/02 fishing seasons.

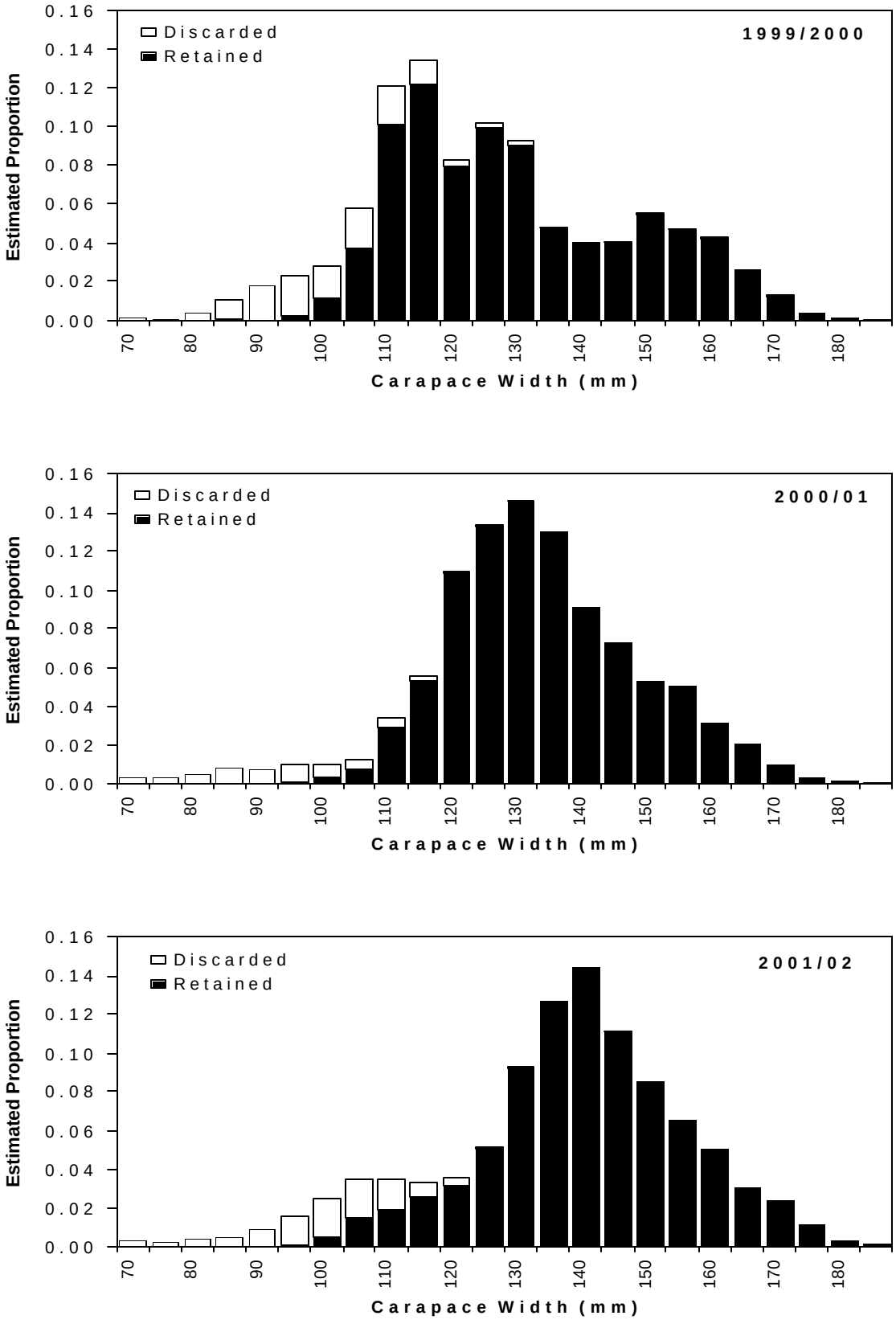


Figure 38. Estimated shell height distribution from resampling observer scallop measurements (males, females, and undetermined sex), Shelikof District, Kodiak Area, 1999/2000 through 2001/02 fishing seasons.

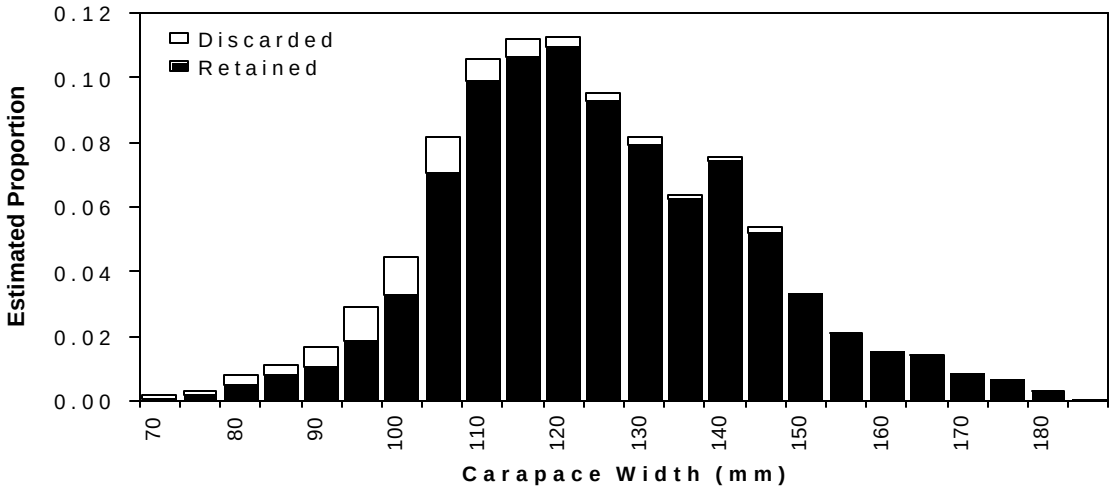


Figure 39. Estimated shell height distribution from resampling observer scallop measurements (males, females, and undetermined sex), Alaska Peninsula Area, 1999/2000 fishing season.

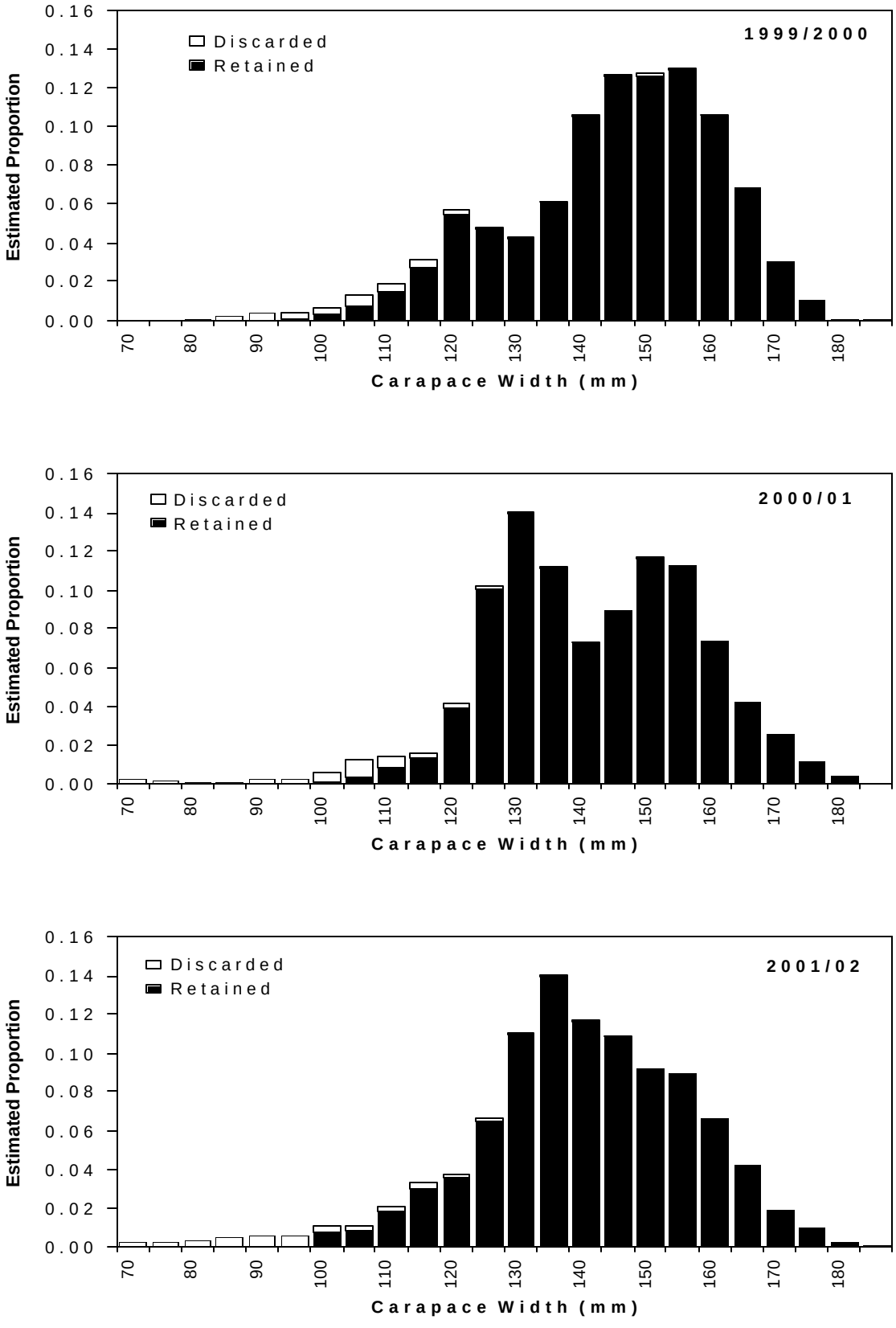


Figure 40. Estimated shell height distribution from resampling observer scallop measurements (males, females, and undetermined sex), Bering Sea Area, 1999/2000 through 2001/02 fishing seasons.

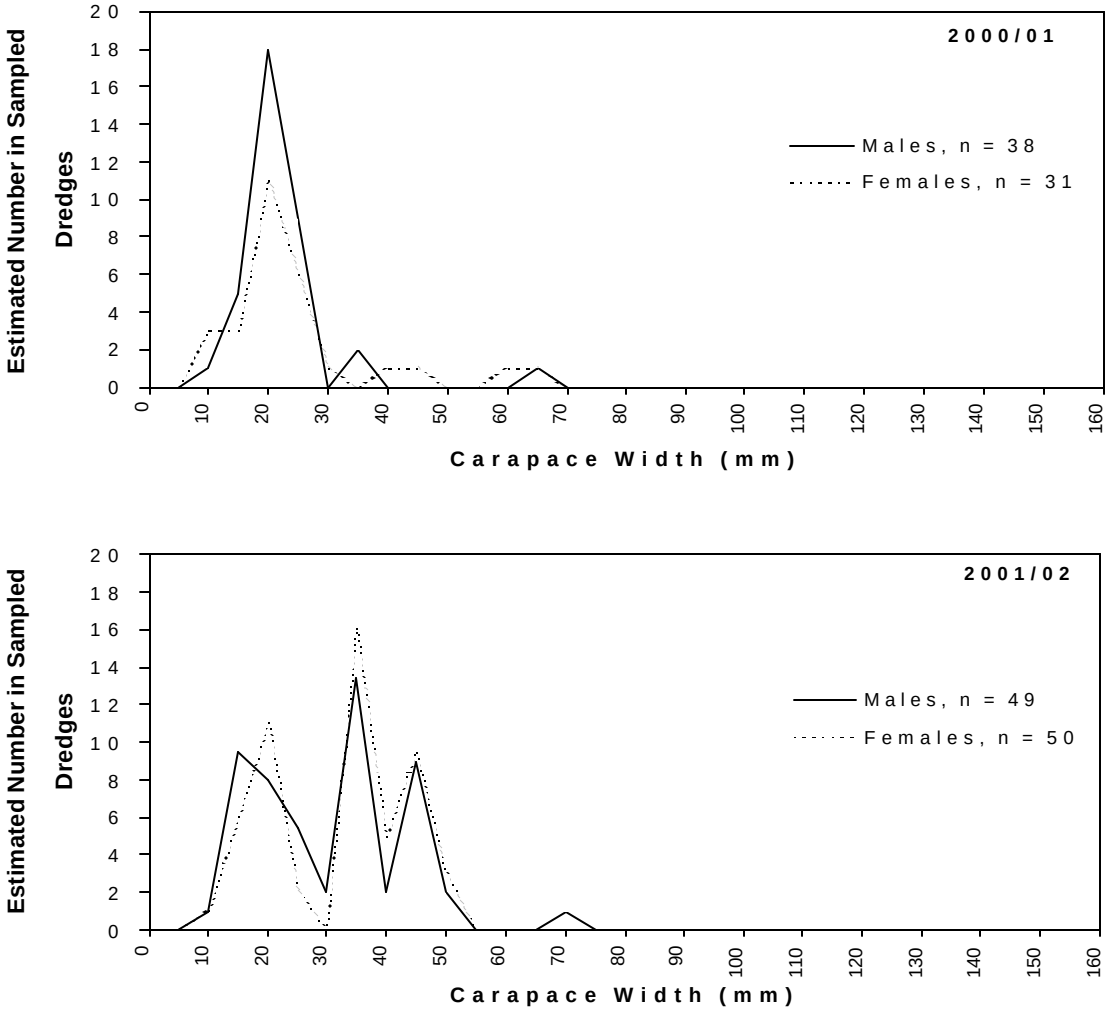


Figure 41. Tanner crab carapace width distribution observed in bycatch sampling, Yakutat, District 16, 2000/01 and 2001/02 fishing seasons.

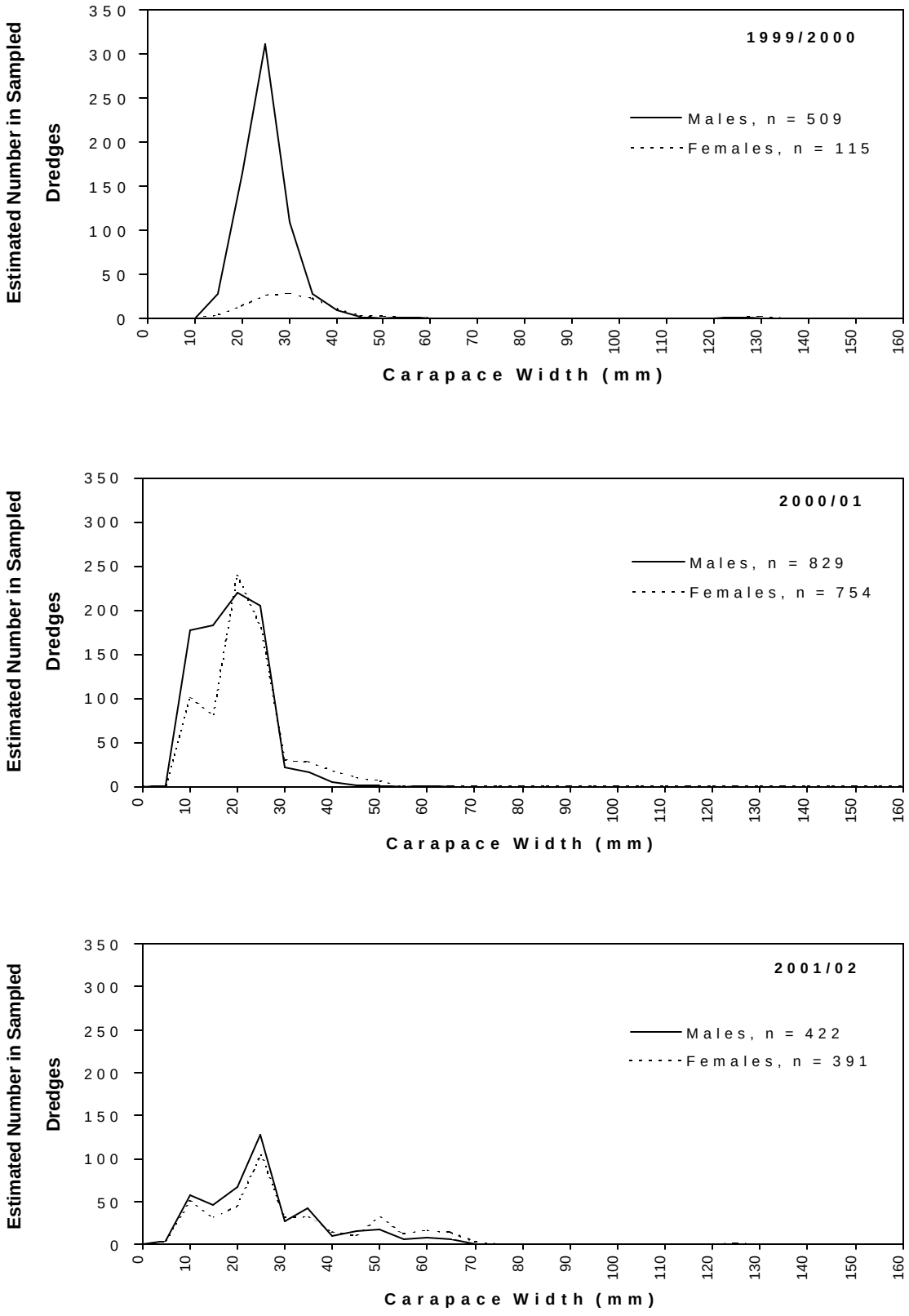


Figure 42. Tanner crab carapace width distribution observed in bycatch sampling, Yakutat, Area D, 1999/2000 through 2001/02 fishing seasons.

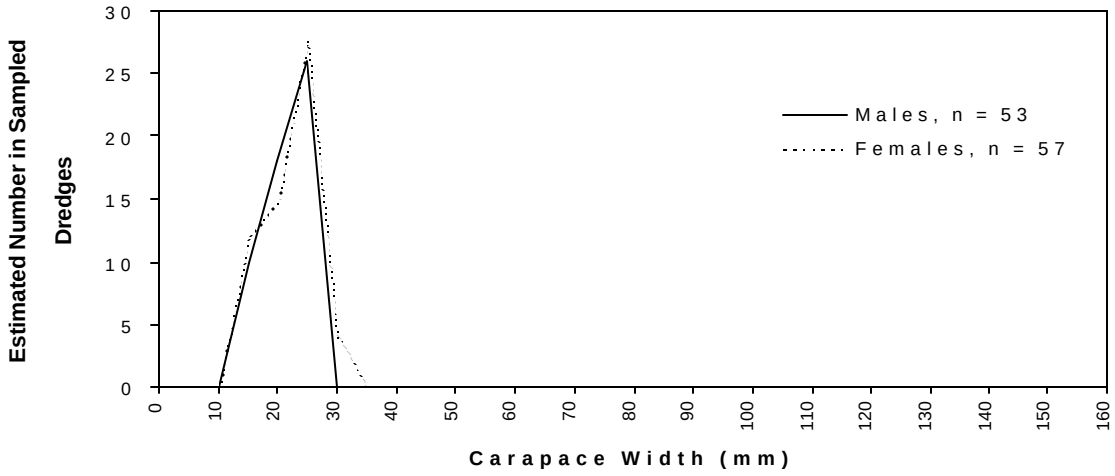


Figure 43. Tanner crab carapace width distribution observed in bycatch sampling, Prince William Sound Area, 2000/01 fishing season.

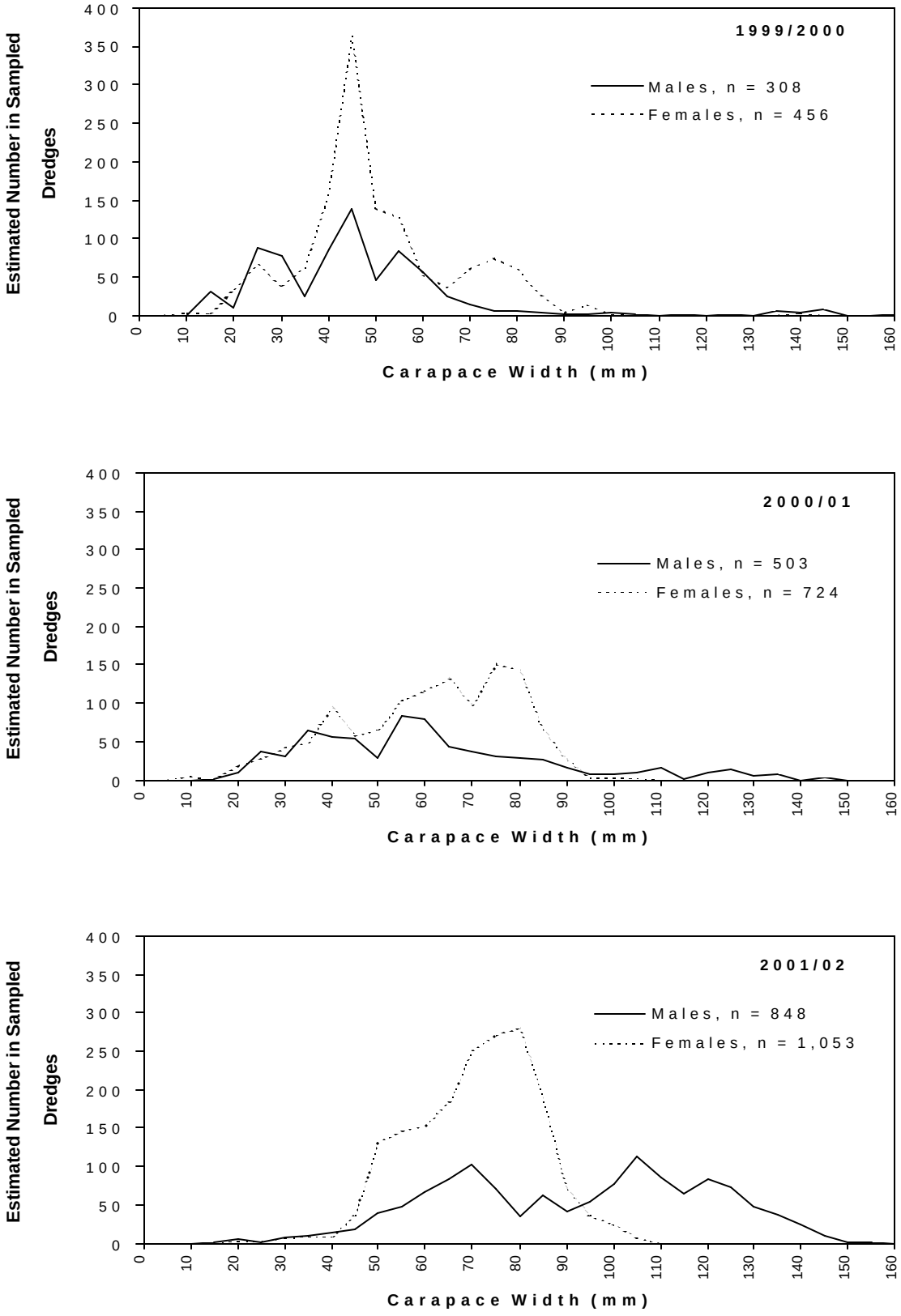


Figure 44. Tanner crab carapace width distribution observed in bycatch sampling, Northeast District, Kodiak Area, 1999/2000 through 2001/02 fishing seasons.

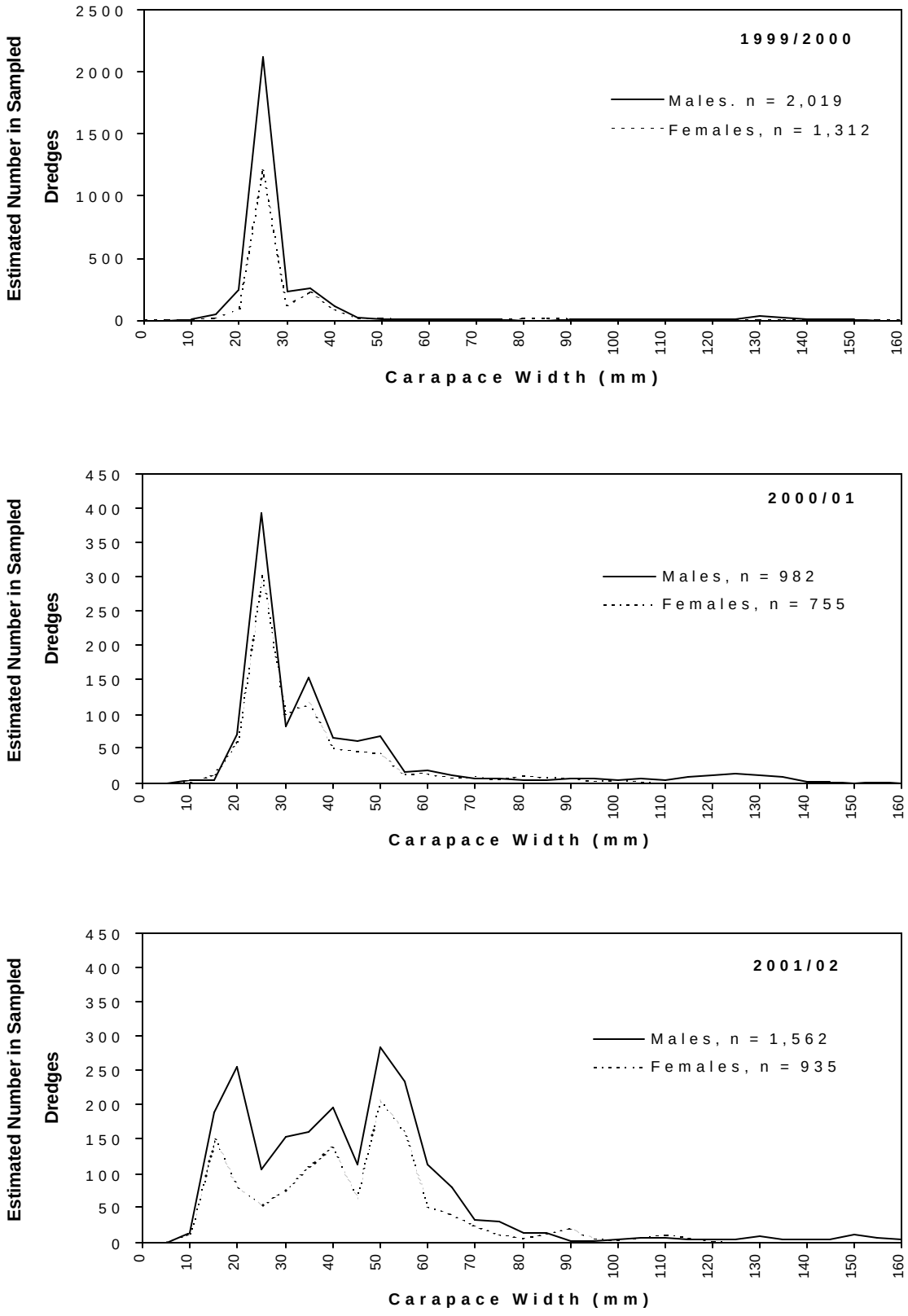


Figure 45. Tanner crab carapace width distribution observed in bycatch sampling, Shelikof District, Kodiak Area, 1999/2000 through 2001/02 fishing seasons.

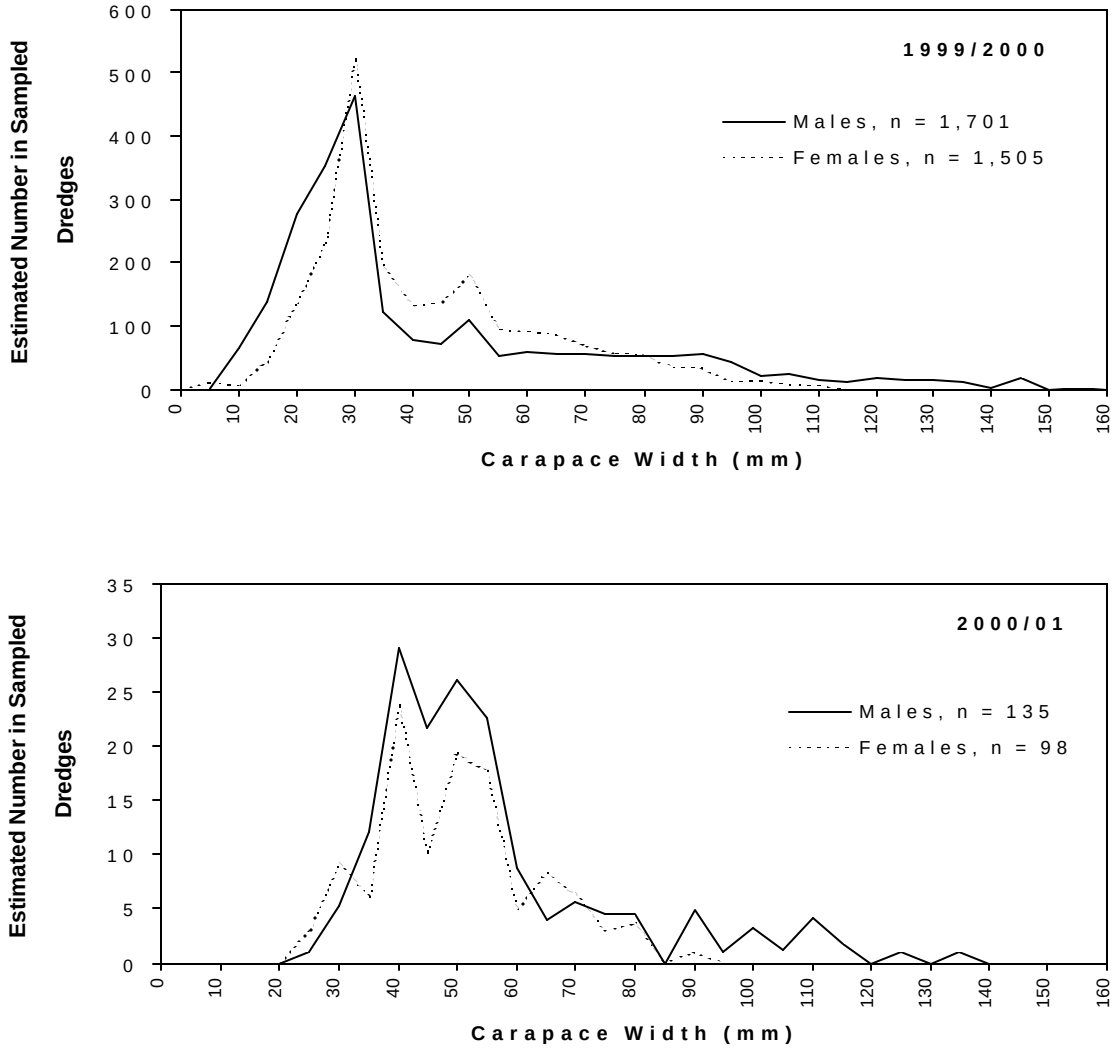


Figure 46. Tanner crab carapace width distribution observed in bycatch sampling, Alaska Peninsula Area, 1999/2000 through 2000/01 fishing seasons.

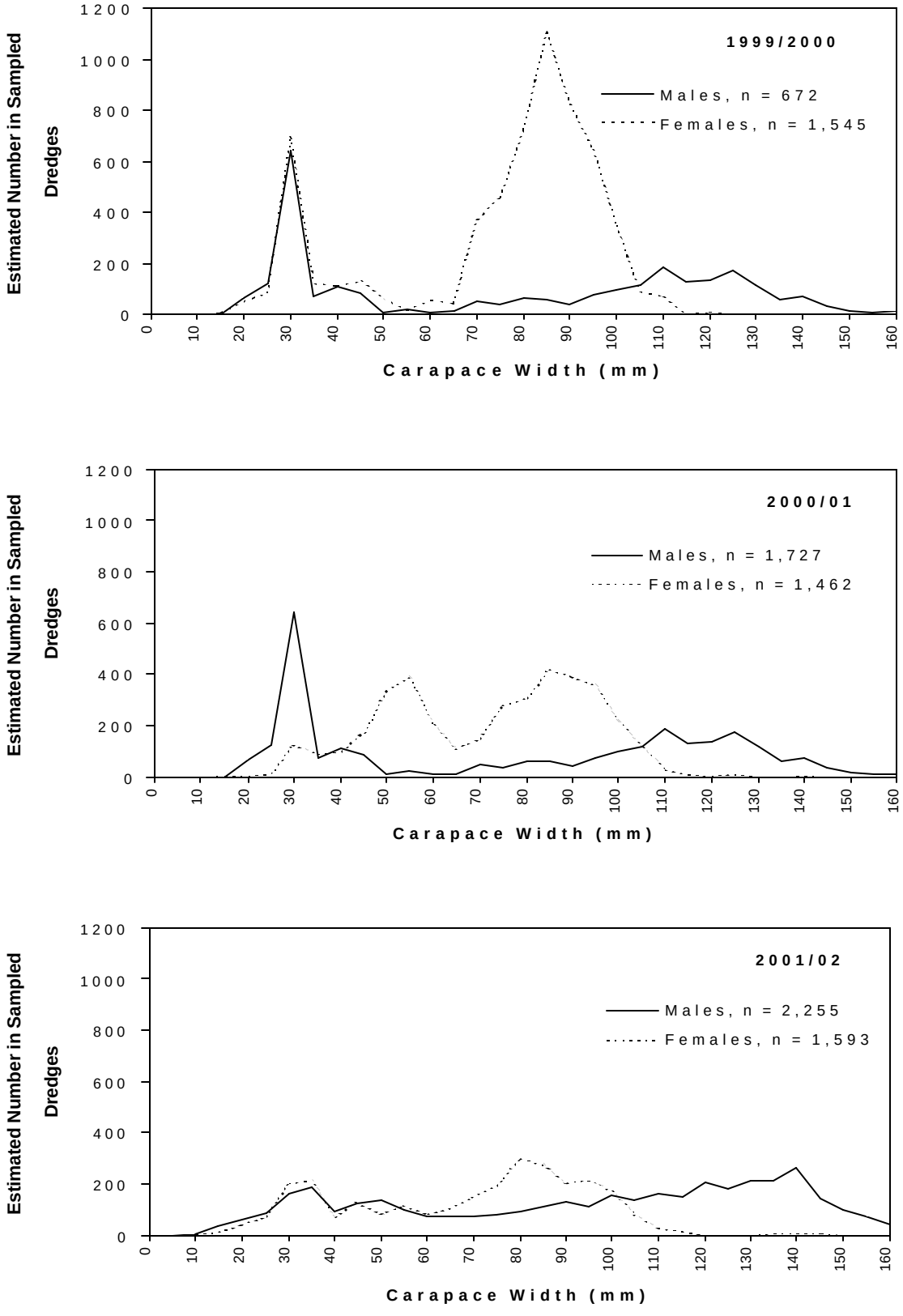


Figure 47. Tanner crab carapace width distribution observed in bycatch sampling, Bering Sea Area, 1999/2000 through 2001/02 fishing seasons.

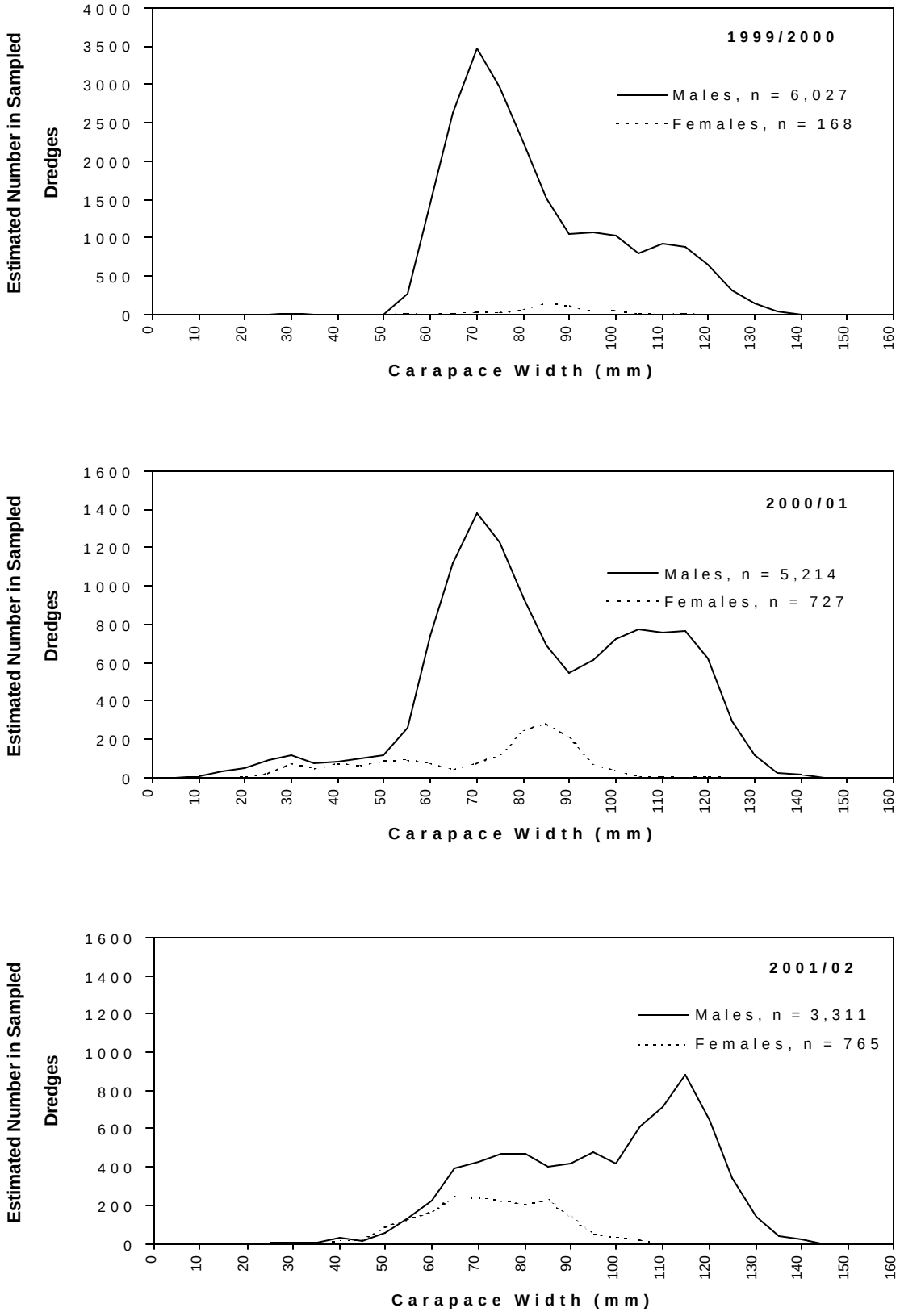


Figure 48. *Chionoecetes opilio* and *C. opilio* x *C. bairdi* hybrid crab carapace width distribution observed in bycatch sampling, Bering Sea Area, 1999/2000 through 2001/02 fishing seasons.

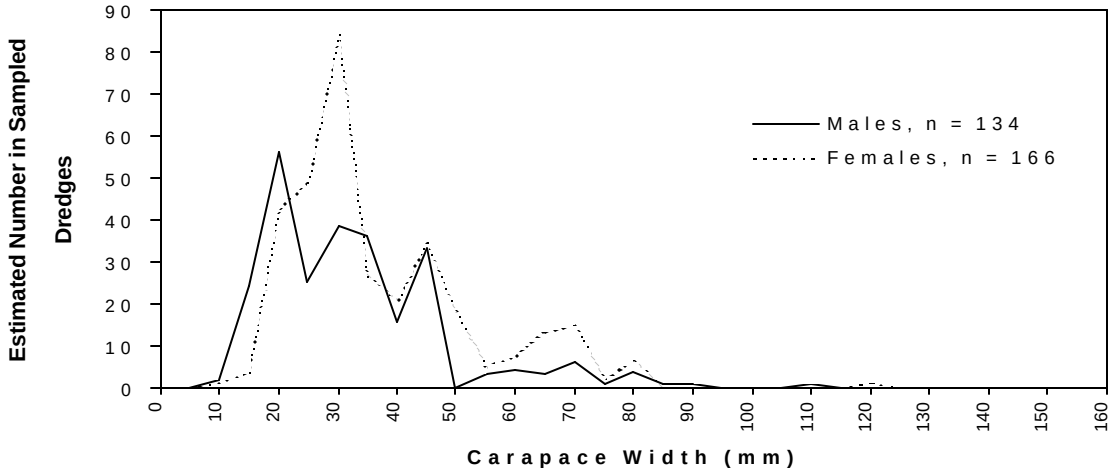


Figure 49. Tanner crab carapace width distribution observed in bycatch sampling, Dutch Harbor Area, 1999/2000 fishing season.