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The 2002 Eastern Bering Sea Upper Continental Slope Survey of Groundfish and Invertebrate Resources

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U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
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ABSTRACT

The results of the 2002 Alaska Fisheries Science Centers' (AFSC) bottom trawl survey of the groundfish and invertebrate resources of the eastern Bering Sea upper continental slope (Alaska) is presented. The 2002 survey is the first biennial groundfish survey standardized to the AFSC's latest technologies and protocols for survey design, net design, catch data gathering, species identification and recognition, and net mensuration monitoring.

One hundred and fifty-six tows were conducted from 200 to 1,500 m on the slope with 141 tows being successful (200-1,200 m) and used for abundance estimates. The survey area stretched from north of the Aleutian Islands, Alaska, at 54° N to near the Russian-U.S. border at 61° N. Sampling was stratified by six subareas running north to south and by five depth strata within each subarea. Target sampling effort was proportional to the subareas and depth strata and an average tow represented approximately 255 km^2.

Presented are biomass in metric tons (t), population, and catch per unit effort (CPUE; no./ha and kg/ha) for all species identified on the survey. Size frequencies (33 species) and CPUE distribution (40 species) plots are presented for the most abundant or for species of commercial and ecological interest.

The largest fish species biomass encountered during the 2002 slope survey included giant grenadier (*Albatrossia pectoralis*), Pacific ocean perch (*Sebastes alutus*), and popeye grenadier (*Coryphaenoides cinereus*). The largest biomass of invertebrates encountered was the triangle Tanner crab (*Chionoecetes angulatus*).

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INTRODUCTION

The Alaska Fisheries Science Center's (AFSC) Resource Assessment and Conservation Engineering Division (RACE) conducted a bottom trawl survey in 2002 to assess the groundfish and invertebrate resources on the eastern Bering Sea upper continental slope (EBSUCS). The standard survey area extended from Unalaska and Akutan Island to the U.S.-Russian border near the International Date Line, (166° E to 180° W longitude) and depths from 200 to 1200 m.

The 2002 EBSUCS survey is the first of a biennial groundfish survey standardized to the AFSC's latest technologies and protocols for survey design, catch data gathering, species identification and recognition, and net mensuration monitoring. Prior to this survey, a pilot survey was conducted in 2000 on the EBSUCS to test two versions of the Poly Nor'eastern trawl gear for use on the slope. The pilot study concluded that the Poly Nor'eastern net with mud sweep gear was more efficient and robust for the EBSUCS survey area (Mark Wilkins, pers. commun.[1]). Prior to 2002, a triennial survey was conducted on the EBSUCS using a variety of nets, methods, vessels, and towing stations from 1979 to 1991. The data from these surveys has been summarized in numerous data reports (Bakkala et al.1985a, Bakkala et al. 1985b, Sample et al. 1985, Walters et al. 1988, Bakkala et al. 1992, Goddard and Zimmermann 1993). The degree of comparability between the 2002 survey and those conducted from 1979 to 1991 has yet to be determined due to the gear differences, survey design, sampling methodology, and species identification.

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[1]Mark Wilkins, Alaska Fisheries Science Center, 2003.

The following report summarizes the design, station allocation, sampling gear, survey personnel implemented on this survey, and abundance estimates for all species and other biological data including distribution for many commercially and ecologically important species of fish and invertebrates. The purpose of this report is to afford a record for future reference and comparisons by providing information as to the distribution and abundance of species encountered, environmental conditions, depth information, collection methods, and sampling strategies for broad scope use by scientists, the fishing industry, and the general public.

METHODS

Survey Area

The EBSUCS survey area was divided into six subareas (1-6) running south to north along the slope (Fig.1). The subareas were based on geologically distinct bathymetric types: broad low slope areas, canyon areas, and steep slope inter-canyon faces. Subareas 1 and 6 consist of broad low slope areas with wide bathymetric contours in the 200-600 m depth range followed by a gradual slope to 1,200 m. Subareas 2 and 4 consist of Pribilof and Zemchug Canyons, respectively, which are characterized by semi-enclosed basins with steep walls and narrow bathymetric contours below 600 m. Subareas 3 and 5 are steep slope inter-canyon "faces" with narrow bathymetric contours throughout most of their depths. Each subarea was defined in most cases by the nearest latitude or longitude line.

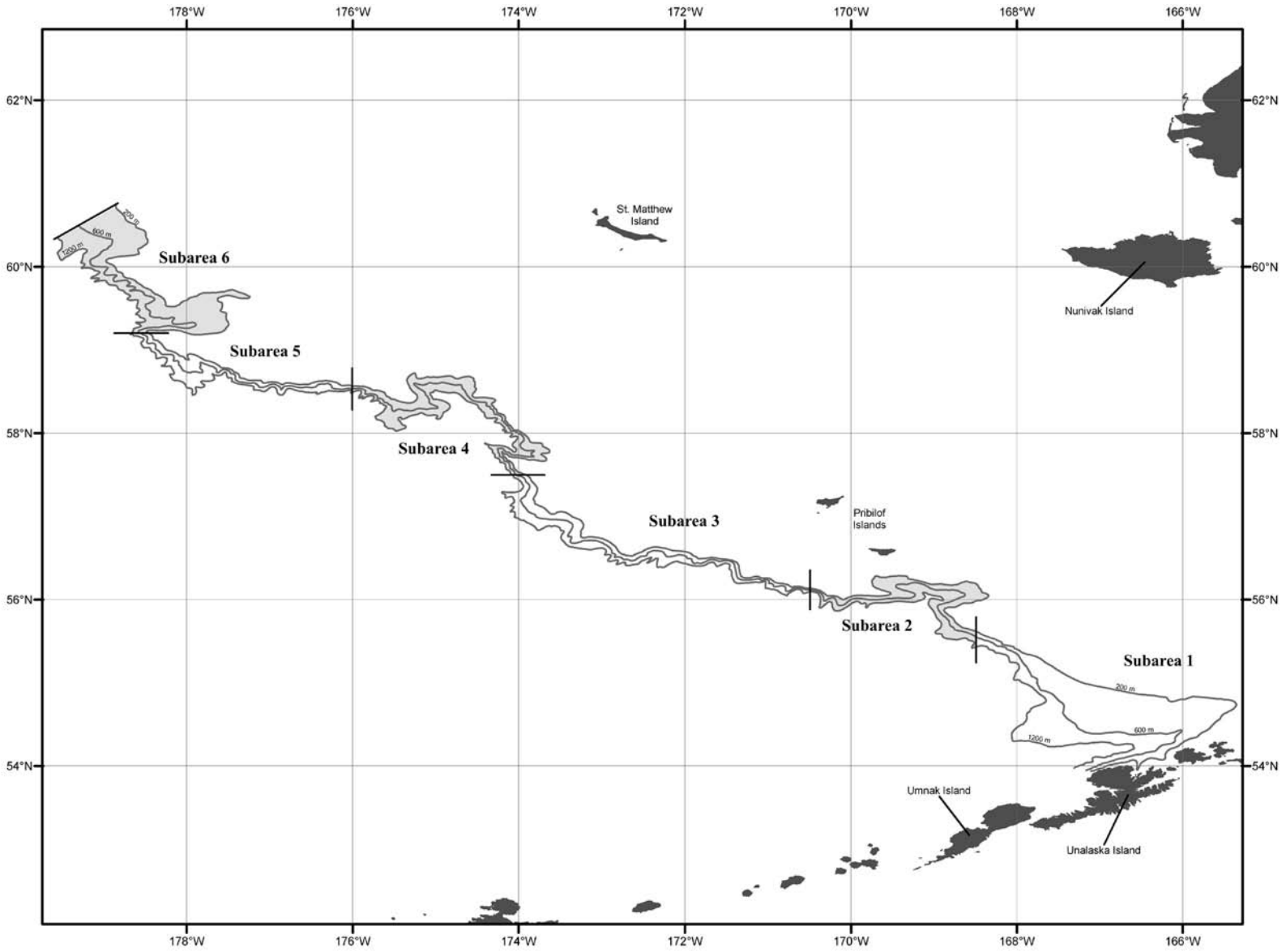


Figure 1. Geographic features and stratifications used for analysis of the survey area for the 2002 eastern Bering Sea upper continental slope survey.

Sampling Design

The survey area covered the six designated subareas from 200 to 1,200 m and, in several cases, to over 1,500 m where two successful experimental tows were conducted. Depth strata were defined every 200 m resulting in five depth strata for each subarea (200-400, 400-600, 600-800, 800-1,000, 1,000-1,200 m). Total area (km^2) Areas for each subarea and for each 200 m depth interval was calculated based on the best bathymetry contour lines available (Table 1). Total area (km^2) was used to determine the sampling effort for each depth strata and subarea. The survey was designed using a stratified random sampling design, where each depth strata and subarea is sampled based on its total area. Sampling density was targeted at approximately one tow every 160 km^2 although actual densities were lower (Table 1). Station selection was determined by placing 400 stations at random on a bathymetry map, with the number of stations stratified by area, and roughly twice the number of stations in each depth strata and subarea that were to be sampled. From these 400 stations, 200 were picked at random which were designated as the target stations for the 2002 survey. The number of anticipated stations to be completed was estimated by assuming four stations could be completed per day over the 50 survey days.

Table 1. Sampling effort and density for each subarea and depth strata completed during the 2002 eastern Bering Sea upper continental slope survey.

Sub-Area	Depth Strata	Hauls	Total Hauls (% Effort)	Area (km^2)	% Total Area	Sampling Density Km^2/Haul
1	200-400	18	12.77	4,012.41	12.26	222.91
	400-600	16	11.35	4,062.77	12.42	253.92
	600-800	7	4.96	1,741.66	5.32	248.81
	800-1,000	7	4.96	1,354.74	4.14	193.53
	1,000-1,200	4	2.84	1,106.89	3.38	276.72
2	200-400	5	3.55	1,157.64	3.54	231.53
	400-600	3	2.13	705.08	2.15	235.03
	600-800	3	2.13	591.27	1.81	197.09
	800-1,000	2	1.42	552.73	1.69	276.37
	1,000-1,200	2	1.42	535.67	1.64	267.84
3	200-400	5	3.55	903.78	2.76	180.76
	400-600	4	2.84	886.11	2.71	221.53
	600-800	7	4.96	910.26	2.78	130.04
	800-1,000	4	2.84	732.35	2.24	183.09
	1,000-1,200	0	0.00	675.52	2.06	0.00
4	200-400	6	4.26	1,236.27	3.78	206.05
	400-600	3	2.13	730.35	2.23	243.45
	600-800	4	2.84	693.95	2.12	173.49
	800-1,000	1	0.71	707.59	2.16	707.59
	1,000-1,200	3	2.13	662.42	2.02	220.81
5	200-400	2	1.42	423.71	1.29	211.86
	400-600	3	2.13	425.73	1.30	141.91
	600-800	3	2.13	431.83	1.32	143.94
	800-1,000	2	1.42	551.99	1.69	276.00
	1,000-1,200	1	0.71	570.14	1.74	570.14
6	200-400	9	6.38	2,595.79	7.93	288.42
	400-600	7	4.96	1,705.76	5.21	243.68
	600-800	5	3.55	917.49	2.80	183.50
	800-1,000	4	2.84	645.17	1.97	161.29
	1,000-1,200	1	0.71	496.42	1.52	496.42
Totals	**200-1,200**	**141**	**100.00**	**32,723.49**	**100.00**	**mean 254.75**

Survey Agenda, and Personnel

The EBSUCS survey began on 5 June 2002 in Pribilof Canyon and terminated on 31 August 2002 in the south-western eastern Bering Sea. The three 3-week legs exchanged crews in Dutch Harbor (legs 1-2); St. Paul, Pribilof Islands (legs 2-3); and ended (leg 3) in Dutch Harbor. Research personnel for the survey was comprised primarily of AFSC staff and regional fish systematics, feeding ecology, and hydroacoustics (Table 2).

Table 2. Survey leg calendar, research staff and their affiliation during the 2002 eastern Bering Sea upper continental slope survey.

Name	Professional title	Survey title	Affiliation
Leg 1: June 5 - June 14			
Robert Lauth	Research Fisheries Biologist	Chief Scientist	[a]AFSC
Gerald R. Hoff	Research Fisheries Biologist	Deck Boss	AFSC
James W. Orr	Research Fisheries Biologist	Biologist	AFSC
Duane Stevenson	Research Fisheries Biologist	Biologist	AFSC
Jon Short	Research Fisheries Biologist	Feeding Ecology	AFSC
Dana Hanselman	Biologist	Biologist	[b]NMFS
Leg 2: June 14 - July 8			
Gerald R. Hoff	Research Fisheries Biologist	Chief Scientist	AFSC
Lyle Britt	Research Fisheries Biologist	Deck Boss	AFSC
Rebecca Reuter	Research Fisheries Biologist	Biologist	AFSC
Sarah Gaichas	Research Fisheries Biologist	Biologist	AFSC
Mei-Sun Yang	Research Fisheries Biologist	Feeding Ecology	AFSC
David Ebert	Zoologist	Biologist	[c]MLML
Leg 3: July 8 - July 31			
Lyle Britt	Research Fisheries Biologist	Chief Scientist	AFSC
Stan Kotwicki	Research Fisheries Biologist	Deck Boss	AFSC
Irina Benson	Research Fisheries Biologist	Biologist	AFSC
Duane Stevenson	Research Fisheries Biologist	Biologist	AFSC
Beth Matta	Research Fisheries Biologist	Feeding Ecology	AFSC
Josh Keaton	Biologist	Biologist	[d]NMFS

[a]Alaska Fisheries Science Center Seattle, Washington
[b]National Marine Fisheries Service, Auke Bay Laboratory, Alaska
[c]Moss Landing Marine Laboratory, Moss Landing, California
[d]National Marine Fisheries Service, Juneau, Alaska

Vessel, Scientific Gear and Procedures

The FV *Morning Star* is a 45 m long commercial stern trawler powered by a single main engine developing 1,710 continuous horsepower. Electronic equipment on the vessel included global positioning system (GPS) receivers, video position plotters, radar, single sideband and VHF transmitter-receivers, an EK-60 color video fish-finder, and auto-pilots. The vessel was operated by Tim Carrier during the first and third legs and by Kyle Rice during the second leg of the survey. A four-member crew aided in the operation of the vessel and in the use of the fishing gear.

The fishing gear consisted of RACE Division standardized trawls, bridles, and trawl doors. A Poly Nor'eastern high-opening bottom trawl equipped with mud-sweep roller gear was used to sample all stations (Fig. 2). This sampling trawl has a 27.2 m headrope with twenty-one 30 cm floats and a 24.3 m long-link chain fishing line attached to a 24.9 m footrope. The body of the net was constructed of 127 mm stretched-mesh polyethylene netting, with 89 mm stretched-mesh polyethylene netting in the codend, and a 32 mm stretched-mesh nylon codend liner. The mud-sweep roller gear was constructed of 203 mm solid rubber disks strung over 16 mm high-tensile chain. The net was fished with 1.83 × 2.75 m (6 × 9 ft, 1,000 kg) steel V-doors rigged with four-point bridles to enhance their stability at slow towing speeds and 55 m bridles between the doors and wingtips. This trawl is similar to the standard trawl historically used for the RACE Division West Coast Upper Continental Slope survey (Lauth 2000). The fishing dimensions of the trawl were measured using a Scanmar net measurement system which measures net height and width. The GPS system, bottom contact sensor and Seabird sensor measured tow duration, distance fished, and location; footrope contact; and bottom depth and water temperature,

respectively. All data was recorded electronically as well as in paper form. The Haul Log (Appendix A) details each tow conducted on this survey and the net mensuration data which was collected.

Trawlable areas were located at the prescribed depth and location by examining depth soundings of between 1.5-2.0 nautical miles (nmi) in distance as the vessel moved over the bottom. An area was considered towable when the depth changed less than 50 m over the 2 nmi and the bottom type was relatively flat and it could be determined there was nothing to impede the completion of the tow, or the performance of the gear. Towing was done at 2.5 knots for 30 minutes at all depths and the net mensuration and accessory gear recorded the following parameters for each individual tow: date, time, latitude, longitude, gear depth, surface temperature, bottom temperature, water column temperature profile, net spread, net height, and bottom contact of the footrope. Sea surface temperature was determined by gathering approximately 10 liters of surface water at the end of the tow and measuring the temperature using a mercury thermometer. At the end of a tow, net mensuration gear was plotted and examined for appropriate distance, bottom contact, and depth range. Upon viewing all tow data, a decision was made as to the performance of the tow. Each tow was given a score on a graded scale which described the general performance of the tow. Successful tows were given positive scores, whereas unsuccessful tows received negative scores. In general, positive tows are considered valid and used for survey abundance estimates, while negative tows are not used in the analysis. Table 3 lists the specific models, versions and serial numbers, or RACE numbers of all significant sampling tools used for this survey.

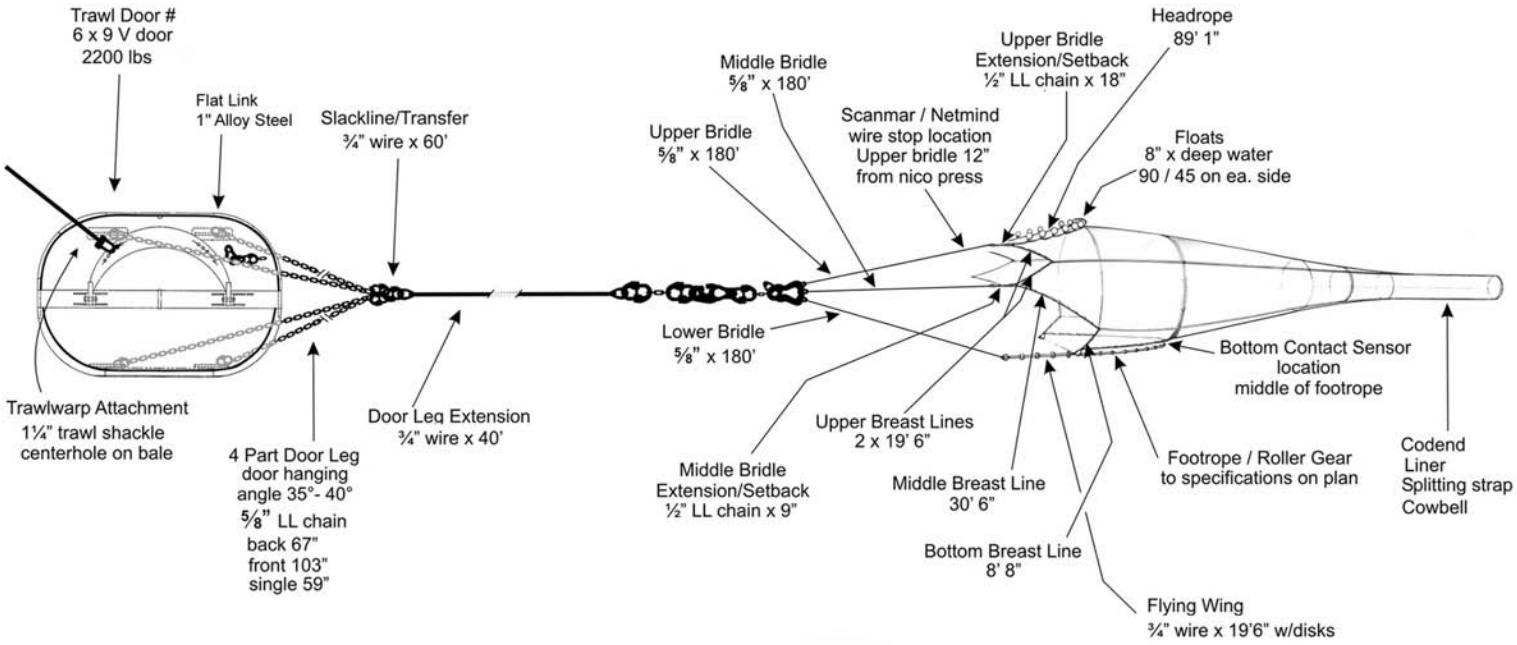


Figure 2. Diagram of the Poly' Noreastern high-rise opening bottom trawl net. Diagram includes a general schematic of the trawl doors, rigging, and trawl configuration.

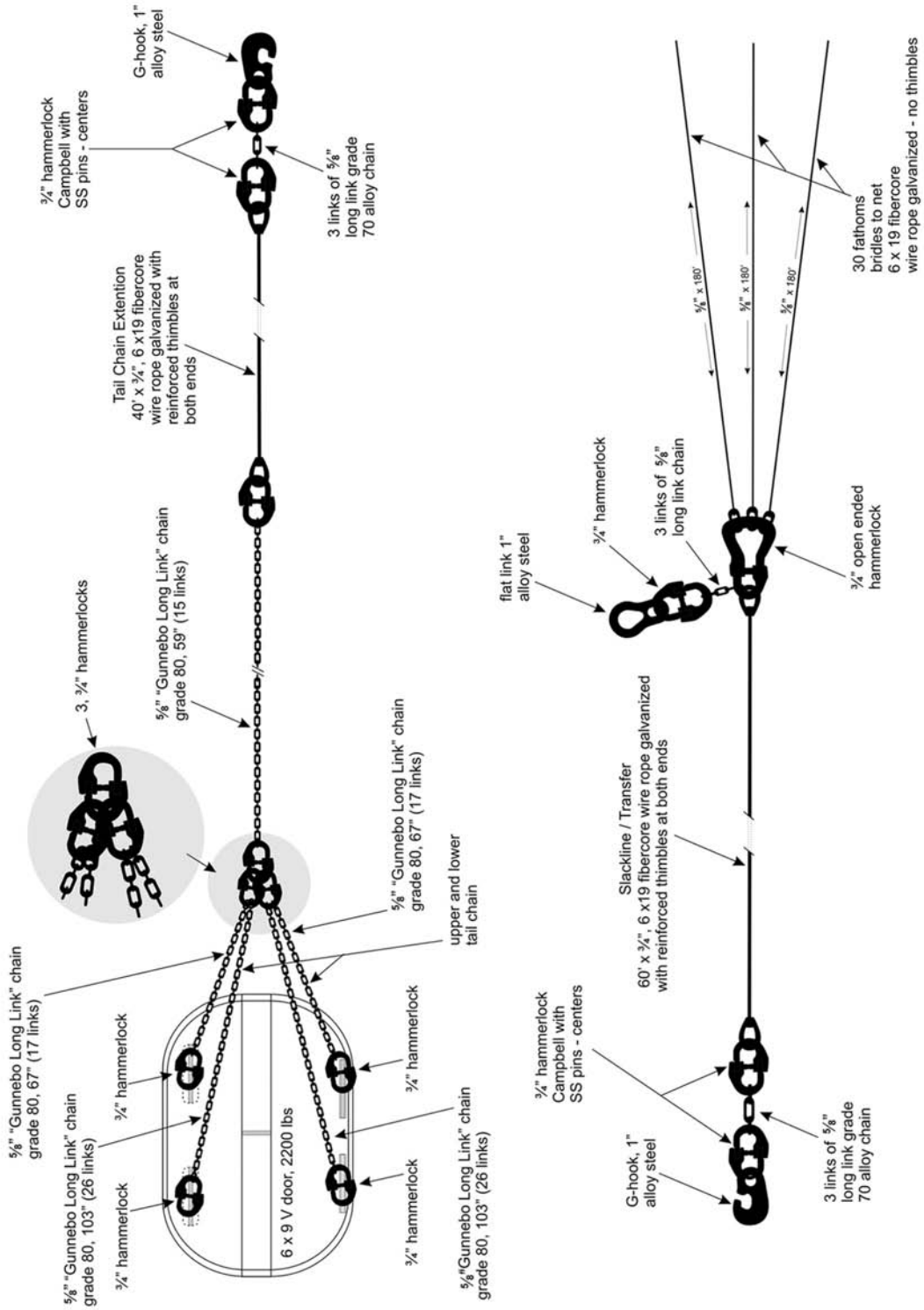
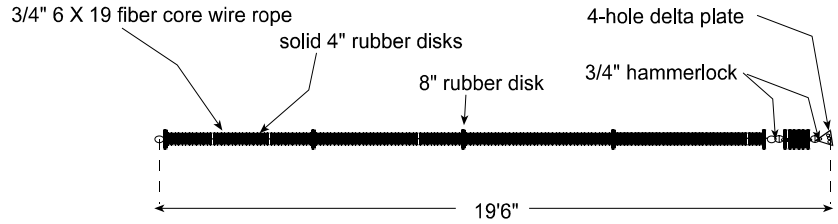
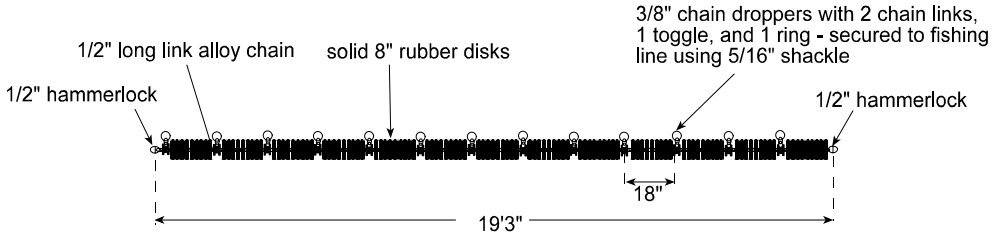


Figure 2.Continued. Detailed diagram of the door rigging, tail chain, slackline, and bridle configurations.

Outboard section



Middle section



Inboard section

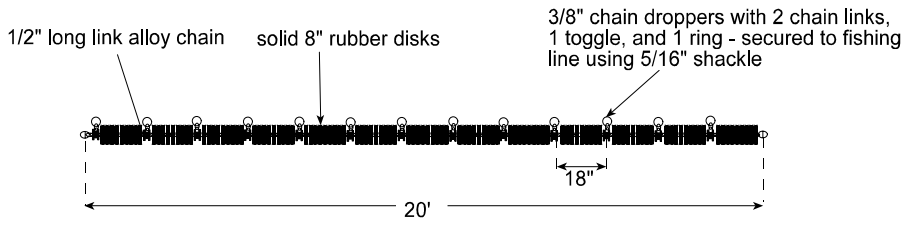


Figure 2. Continued. Detailed diagram of the ground gear sections.

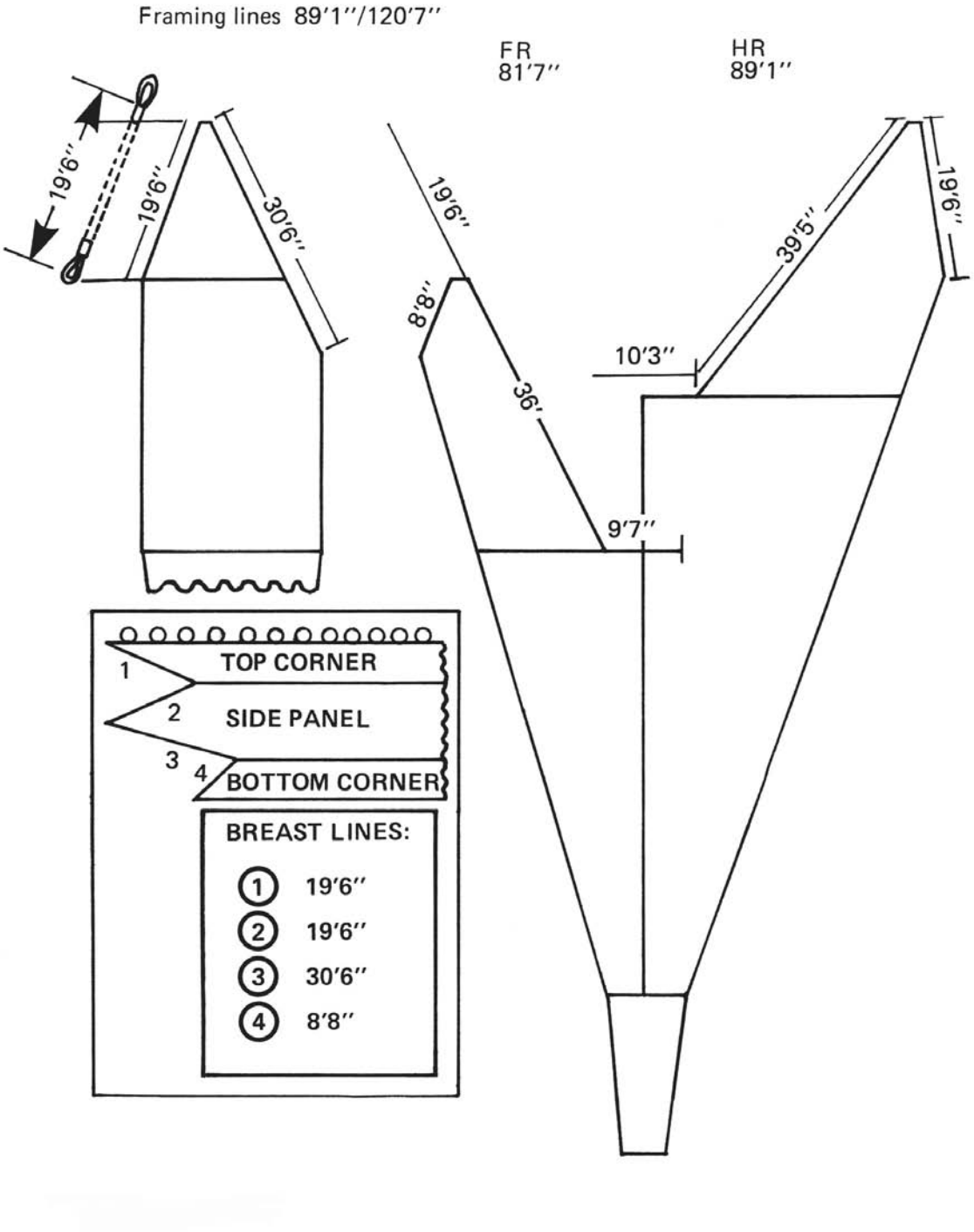


Figure 2. Continued. Detailed diagram and dimensions of the Poly'Noreastern net used During the 2003 eastern Bering Sea upper continental slope survey.

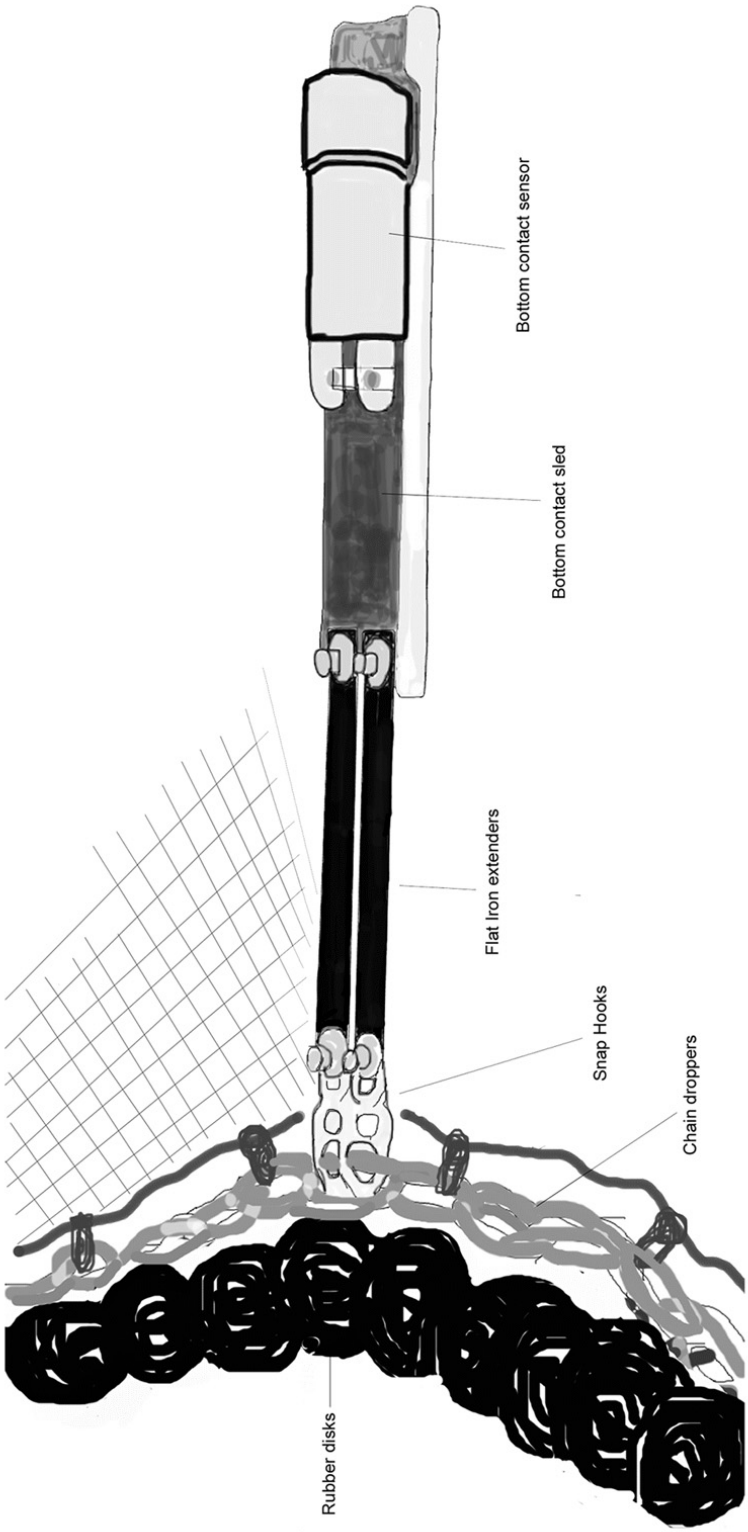


Figure 2. Continued. Detailed schematic of the bottom contact sensor and its attachment to the center of the ground gear.

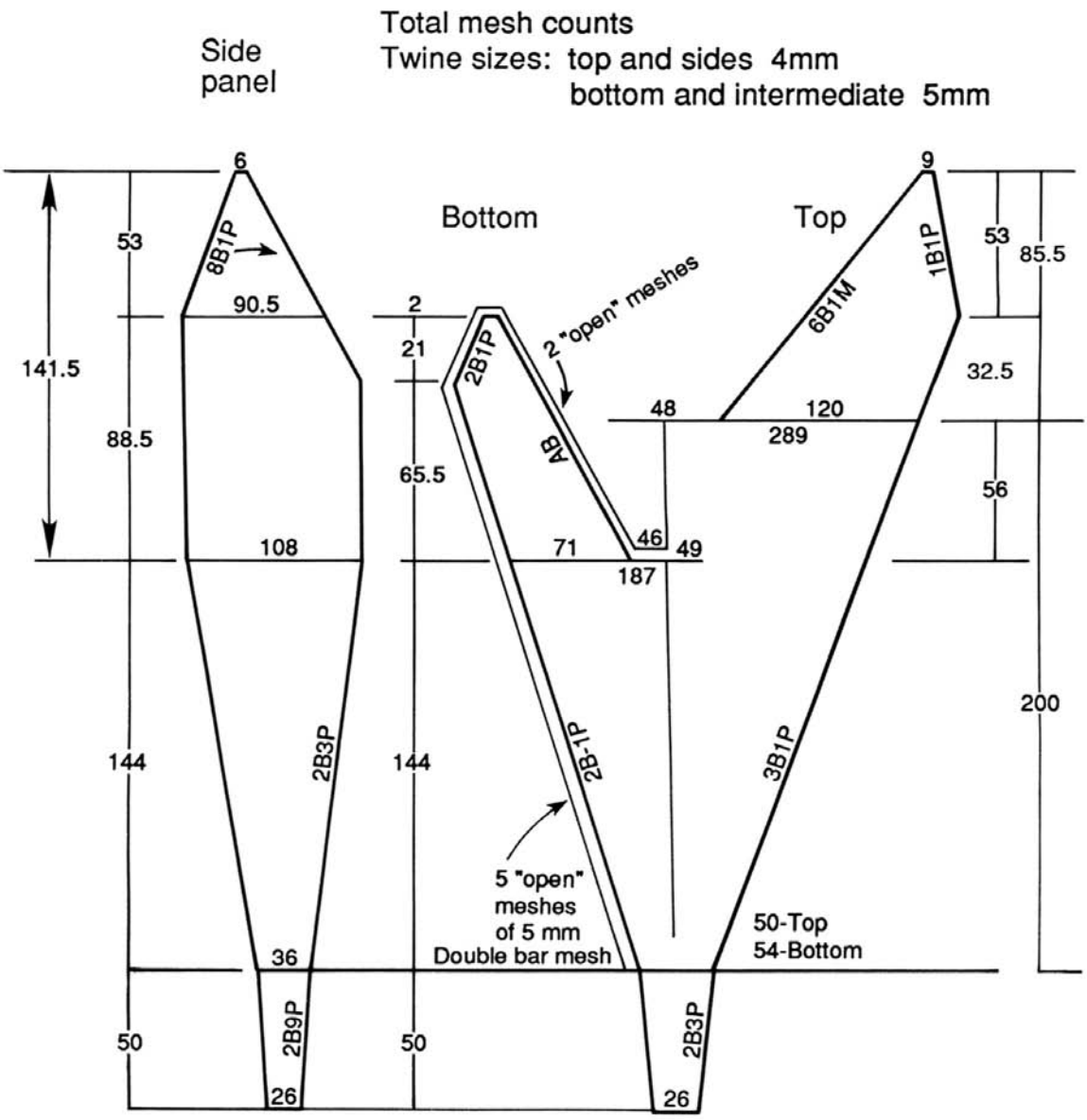


Figure 2. Continued. Detailed diagram and dimensions of the Poly'Noreastern net used During the 2003 eastern Bering Sea upper continental slope survey.

Table 3. Details of sampling and data recording gear used during the 2002 eastern Bering Sea upper continental slope survey.

Trawl gear	Data type/ function	Model/version/serial
Poly Nor'eastern trawl	sampling tool	Net no. 20 -Hauls 1-17, 47-64 Net no. 13-Hauls 18-46, 65-156
Doors	spread the net	no.885
Footrope	contact sea floor bottom	no. 1
Net Mensuration		
Scanmar height sensor	measure net height	Model HC4-HT60 Serial nos. T1346, T1268
Scanmar slave spread sensor	measure net spread	Model MTR Serial nos. 2851, 2759
Scanmar master spread sensor	measure net spread	Model HC4 Serial nos. A3645, A2121
Scanmar reciever cabinets	receive signal from master spread sensor	Serial no. 927 -Model 4002 Serial no. 1401-Model 4004
Scanmar hydrophone	pick up signal from spread and height sensors	Serial nos. 165, 135
Scanmar program	records data from net mensuration gear	AFSC (menu) version 5.34 Bxcrpro-3.7, Convert-4.0, Haulpos-8.0, Haultime-6.82, Scangraf-3.53, Scanplot-11.74, SBELob-1.5, Setclock-3.22, Speedplot-2.41
GPS ROCKWELL PLGR	determine latitude and longitude	Serial nos. 49957, 50089
SeaBird SBE-39	measure net depth and water temperature	Serial no. 3926866-0852 Hauls 1-20, 30-38, 50-72, 150-156 Serial no. 3926866-0966 Hauls 21-28, 39-49, 73-149
ONSET Computers optic shuttles	download bottom contact sensor data	Serial nos. 28548, 28542
ONSET Computers optic base stations	download bottom contact sensor data	Serial nos. 69616, 06224
Bottom Contact Sensor (ONSET tilt sensors)	record tilt angle of bottom contact sensor	Serial nos. 459619, 459602, 320616
Scales		
Marel basket scale	weigh baskets of catch	Model 1100 Serial no. A008053
Marel specimen scale	weigh individual specimens	Model 2000 Serial nos. 6642, 2028
Measurement Systems International (MSI) load cell	weigh cod end with catch	Model 4300 Serial nos. 1096, 14096
Catch Data Recording		
Catch data entry program	database for catch, length and specimen data	Written in Access 97 AFSC version no. 20020401
Juniper LS 600 Polycorder	record length data	Serial nos. P60-5701, 536-5828, 026-3768, 818-3229
Computers and Printers		
Dell Computer	data recording	Optiplex Gx1 400 mhz Version 95 Windows 2nd. ed.
Okidata Printer	produce hard copy of data	Okipage 8z
Cameras		
Sony Digital Camera	photograph specimens	Mavica CD1000
JVC Digital Video Camera	video cruise events	GR-DVL 9800
Permit		
Scientific Research Permit	allows research sampling	SRP no.2002-12
Identification Guides		
C.W. Mecklenburg, T. A. Mecklenburg, and L. K. Thorsteinson. 2002. Fishes of Alaska. American Fisheries Society, Bethesda, Maryland. 1,037 pp.		
D. Kessler. 2002. A Working Field Guide to Trawl Caught Animals:Vol.1 Fishes & Vol.2 Miscellaneous Invertebrates (Unpublished)		
D. Stevenson. 2002. A Field Guide to the Skates (Rajidae) of Alaska (Unpublished)		
Orr, J.W., M.A. Brown, and D.Baker. 2000. Guide to Rockfishes (Scorpaenidae) of the genera *Sebastes*, *Sebastolobus*, and *Adelosebastes* of the northeast Pacific Ocean 2nd ed. U.S. Department of Commerce. NOAA Technical Memorandum NMFS-AFSC-117. 47 pp.		
R. N. Clark. 1999. Gulf Of Alaska Invertebrates 100-1000 m (Unpublished)		
R.N. Clark. 1997. Invertebrates of the Aleutian Islands (Unpublished)		

Catch Processing, Length Frequencies, and Biological Data

Catches were processed by sorting, weighing, and counting all species of fish and invertebrates collected in the trawl. The catch was processed in one of two ways, either by sorting the entire catch into baskets and all baskets weighed individually, or the codend weighed and the predominant species discarded (except for a random length frequency sample) and the rest of the catch sorted and weighed in baskets. Random samples of all species that were designated for biological data collection were set aside after the baskets were weighed. Each species was entered into an on-deck paper catch form and total weight for the species and total numbers were recorded. In cases where individuals were not distinct (i.e., corals, sponges, bryozoans, ascidians, fish eggs) only total weight was recorded. When a large number of individuals from one species was captured, a subsample greater than 50 individuals was weighed and counted, and the rest of the species were only weighed. In most cases with fish species the subsample used for length frequencies was the source of the species count and average weight for that tow. All catch data was recorded on paper forms on deck then later hand-entered into an ACCESS® (Microsoft Corp. Version 97) database program.

A target of 100-150 fish (depending on the size range for the species) was used as the random sample for length frequency collections. Random baskets of fish were weighed after the sort and designated as length samples. These fish were then sexed by internal examination of the gonads or by external characters (e.g. claspers for elasmobranchs), and sorted into baskets of males, females, and undetermined sex. Fork length was measured for most fish, except elasmobranchs which were measured to total length and macrourids to pre anal-fin length (PAFL). Species were measured to the nearest centimeter using a board with an attached strip

with each centimeter assigned a unique bar code. Fish measurements were recorded on a Juniper LS 600 Polycorder which uses a bar-code reader wand and species-specific numerical codes. After all fish were measured the electronic data was downloaded to the computer and into a catch data entry program written in ACCESS®. At this time, length data was examined for accuracy and printed to obtain a paper copy.

Otoliths (age structures) were taken based on a stratified random sampling regime from selected commercially and ecologically important fish species. Stratifications were by subarea (1-6) and within subarea depth groups (200-600 m and 600-1,200 m). Collections were made from two specimens/cm/sex/depth strata/subarea. Greenland turbot was an exception due to their relative ageing importance and rarity at certain sizes, so three specimens were collected for each stratification. This sampling scheme provided a collection of 48 pairs of otoliths per centimeter for each species (72 for Greenland turbot) if a collection was completed. At the time of otolith collection, sex, fork length (cm) or PAFL, and weight (kg) of each fish was also recorded on paper forms which were later hand-entered into the ACCESS® database.

Stomach samples were collected from selected fish species for the AFSC's Resource Ecology and Ecosystem Modeling Program. The primary target for collections were walleye pollock and Pacific cod. Secondary targets were skates, arrowtooth flounder, and Greenland turbot; and tertiary species were giant grenadier, sablefish, and shortspine thornyhead. Specimens were chosen at random and examined for regurgitation before sampling. Intact stomachs were excised from specimens and placed in cloth bags with a specimen label that included the species, sex, fork length, specimen number, cruise number, vessel code, and haul number. The bag was tied shut and preserved in 10% buffered formalin in 20 liter buckets.

Voucher specimens were collected from species that were rare, of taxonomic interest, or unidentifiable at the time. Collections were associated with a specimen label that included cruise number, vessel number, haul number, species, voucher number, preservative, and collector's name or initials. Most voucher specimens were preserved in 10% buffered formalin (most fishes and non-calcareous invertebrates) or 95% ethanol for calcareous invertebrates. A few specimens were stored frozen and returned to Seattle, Washington, in a frozen state.

Additional biological samples were collected for study per investigator's requests. Table 4 details the investigators, samples collected, and study purposes for requested biological data.

Table 4. Collection request completed or attempted during the 2002 eastern Bering Sea upper continental slope survey.

Study	Investigator	Collection
Gadiform Phylogeny	Teletchea Fabrice	Frozen collection of 10 each of *Gadus macrocephalus, Theragra chalcogramma, Antimora microlepis, Coryphaenoides cinereus, Coryphaenoides acrolepis, Albatrossia pectoralis*
Sebastes sp. larvae aging	Charles Hutchinson	No rockfish larvae samples were collected
Sebastes alutus genetics	Meimei Li/Tony Gharrett	100 genetic tissue samples collected from the northern EBS slope region
Albatrossia pectoralis morphometrics	James W. Orr/Duane Stevenson	380 individuals were measured for head morphometrics
Reinhardtius hippoglossoides parasite study	Frank Morado/Vanessa Lowe	4 individual tissue samples were preserved that appeared to contain parasites

Abundance Estimates

Mean CPUE (catch per unit effort) was calculated using area swept by the trawl net ((distance towed in km) ×(mean net width during the tow)) and the catch estimate (weight or number) for each species. Catch per unit effort was calculated as kilogram per hectare (kg/ha)and number of fish per hectare (no./ha). Population and biomass (metric tons) estimates were calculated using mean CPUE and extrapolating into the area for each strata or all strata combined. Estimation of size composition for each species was derived by expanding the length frequencies from each haul into the total catch for that haul, then into the population for the depth or area stratum by the weighted CPUE.

RESULTS

Haul, Catch, and Biological Data

During the 2002 EBSUCS survey, 156 tows were completed or attempted from approximately 54° N to 61° N at 200 to 1,500 m depth. Thirteen tows were considered unsatisfactory for the survey standards and were recorded but in most cases re-towed to obtain a successful tow at that station. One hundred and forty-three tows were completed successfully in depths from 200 to 1,500 m. Two tows deeper than 1,200 m (Hauls 31 and 88: see Appendix 1) were completed successfully but were not considered part of the standard slope survey because of the lack of accurate strata areas below 1,200 m. The resultant 141 tows were successful and considered as valid EBSUCS survey tows and were used for abundance estimates.

The EBSUCS survey was designed to distribute the trawling effort in proportion to the area (km^2) of each subarea and strata. Table 1 details the number of successfully completed

hauls, area (km^2) for each subarea and depth strata, and percentages represented by each haul and area. A comparison of total effort and total area percentages approximates how well the survey goals were reached. In general the deepest depth strata (1,000-1,200 m) were under-represented by the effort due to the difficulty in finding trawlable grounds. Shallow strata often reached the prescribed sampling density and on average a tow represented 255 km^2 of area.

The Haul Log (Appendix 1) details time, exact location, depth of all hauls attempted during this survey, net parameters during the tow, environmental conditions, and individual species or species group total haul weights.

Bottom temperatures ranged from 2.1° to 4.3° C and were correlated with bottom depth below approximately 400 m. Between 200 and 400 m, bottom temperature was highly variable and showed no direct relationship with bottom depth (Fig. 3). It is likely that the variability is a result of the timing of the sampling during the survey. Depths of 200-400 m were sampled over a 2 month period of the survey where temperatures might have been warming. Approximately 32% of the survey effort was dedicated to the 200-400 m strata, which is the depth range most likely to vary in temperature. Surface temperatures ranged from 6.0° to 9.3° C and both surface and bottom temperatures showed no direct relationship with latitude.

Approximately 147 fish species and 240 invertebrate species were identified during the 2002 EBSUCS survey. The actual number of species encountered may be slightly higher or lower due to the mistaken grouping of distinct species that appeared similar or by the use of higher taxonomic classifications when the identification was dubious. RACE surveys use both common and scientific names throughout the survey planning and data collection. Likewise, throughout this document, species will be referred to by common or scientific name. Tables 5A

and 5B list all species of fish and invertebrates identified on the 2002 EBSUCS survey alphabetized by common name or scientific name, respectively, for easy reference.

The giant grenadier (*Albatrossia pectoralis*) had the largest estimated biomass encountered on the 2002 EBSUCS survey followed by Pacific ocean perch (*Sebastes alutus*), and the popeye grenadier (*Coryphaenoides cinereus*). The most abundant fish species encountered was the popeye grenadier. The triangle Tanner crab (*Chionoecetes angulatus*) had the largest estimated biomass for invertebrates encountered and the notched brittle star (*Ophiura sarsi*) was the most abundant. Table 6 lists all the species encountered during the survey in descending order of total weight, with the details on the depth distribution, and the frequency of occurrence for each species.

Standard biological specimens and data collected on the survey included sexed lengths, otoliths, individual weights, stomach samples and whole voucher specimens. Table 7 (lengths, weights, stomachs) and Table 8 (voucher specimens) detail the species and numbers of all standard biological data collected as well as the percentage of fish measured in comparison to the total encountered for each species. Additional collections for various research projects were requested from the 2002 EBSUCS survey.

Population, biomass, and CPUE estimates and variance of the estimates were calculated for every species encountered on the 2002 survey. Table 9 details the abundance estimates (population and biomass) for every species encountered. The estimates were divided into three groups: a shallow strata (200-600 m), deep strata (600-1,200 m), and all strata combined.

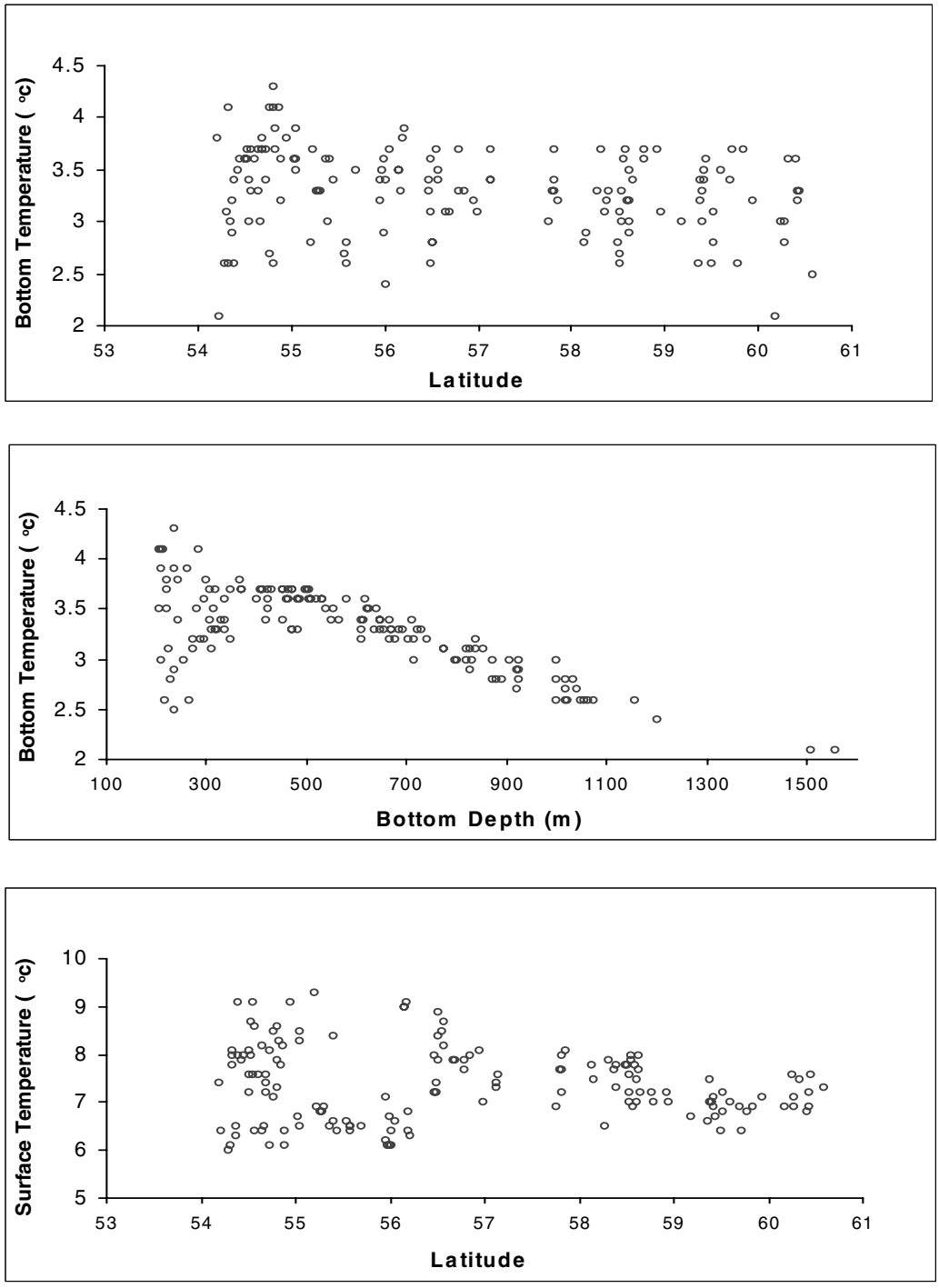


Figure 3. Relationship between temperature and latitude and bottom depth collected from trawl stations during the 2002 eastern Bering Sea upper continental slope survey.

Distribution, Length Frequencies and Abundance Estimates of Some Commercially and Ecologically Important Species

Abundance estimates, population size estimates, CPUE distribution plots and estimates of population length frequencies are presented in Tables 10-49 and Figures 4-76 for the 40 most abundant and commercially important fish and invertebrates species. Abundance estimates were calculated for each subarea and each 200 m strata within the subarea, and all subareas and strata combined. CPUE distribution plots represent the abundance of the species for that haul. The order of presentation is by phylogenetic order (Nelson 1994) and does not reflect commercial, ecological, or abundance significance.

The data presented herein represent the single report prepared from the eastern Bering Sea upper continental slope survey conducted in 2002. For additional information or data summaries from this survey please contact:

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Table 5A. Common names of all species of fish and invertebrates encountered on the 2002 eastern Bering Sea upper continental slope survey.

Common name	Species/Taxon
Alaska dreamer	*Oneirodes thompsoni*
Alaska eelpout	*Bothrocara pusillum*
Alaska skate	*Bathyraja parmifera*
Alaska snailfish	*Careproctus colletti*
Alaska volute	*Arctomelon stearnsii*
Alaskan hermit	*Pagurus ochotensis*
Aleutian alligatorfish	*Aspidophoroides bartoni*
Aleutian hermit	*Pagurus aleuticus*
Aleutian skate	*Bathyraja aleutica*
Arctic argid	*Argis dentata*
Arctic moonsnail	*Natica clausa*
armorhead sculpin	*Gymnocanthus galeatus*
arrowtooth flounder	*Atheresthes stomias*
articulated bamboo coral	*Isidella* unidentified
Atka mackerel	*Pleurogrammus monopterygius*
barbed eualid	*Eualus barbatus*
barnacle species	*Balanus* unidentified
barrel sponge	*Halichondria panicea*
barreleye	*Macropinna microstoma*
basketstar	*Gorgonocephalus eucnemis*
sandpaper skate	*Bathyraja interrupta*
Beringius sp. eggs	*Beringius* sp.
big mouth and disk red snailfish	*Careproctus* sp.
bigeye snailfish	*Careproctus candidus*
bigmouth sculpin	*Hemitripterus bolini*
bigmouth sculpin eggs	*Hemitripterus bolini* eggs
bigscale	Melamphaidae
bivalve species	Bivalvia
bivalve species	*Chlamys* unidentified
bivalve species	*Nuculana* unidentified
bivalve species	*Serripes* unidentified
black eelpout	*Lycodes diapterus*
blackfaced red snailfish	*Paraliparis ulochir*
blackfin poacher	*Bathyagonus nigripinnis*
blackfin snailfish	*Careproctus cypselurus*
blacklip snailfish	*Elassodiscus tremebundus*
blackmouth eelpout	*Lycodapus fierasfer*
blacknose sculpin	*Icelus canaliculatus*
blacksmelt species	*Bathylagus* unidentified
blacktail snailfish	*Careproctus melanurus*
blob sculpin	*Psychrolutes phrictus*
blotched snailfish	*Crystallichthys cyclospilus*
bluethroat argentine	*Nansenia candida*
boreal rosy margarite	*Margarites costalis*
boreopacific armhook squid	*Gonatopsis borealis*
bristlemouth	Gonostomatidae

Table 5A. Continued

Common name	Species/Taxon
brittle star species	*Ophiopholis longispina*
brittle star	Asteronychidae
brittle star species	*Asteronyx* unidentified
brittle star species	*Ophiopholis* unidentified
brittle star species	*Ophiura* unidentified
brittle star species	Ophiuroid
broad cockle	*Serripes laperousii*
broadfin lanternfish	*Lampanyctus ritteri*
broadfin snailfish	*Paraliparis pectoralis*
broadfin thornyhead	*Sebastolobus macrochir*
brokenline lampfish	*Lampanyctus jordani*
bryozoan	Bryozoa
California headlightfish	*Diaphus theta*
California lamp shell	*Laqueus californianus*
chevron-tentacled anemone	*Cribrinopsis fernaldi*
chrysaora jellyfish	*Chrysaora* unidentified
chum salmon	*Oncorhynchus keta*
clawed armhook squid	*Gonatus onyx*
clay pipe sponge	*Aphrocallistes vastus*
cloud sponge	*Rhabdocalyptus unidentified*
commander skate	*Bathyraja lindbergi*
common brachiopod	*Terebratalia transversa*
common mud star	*Ctenodiscus crispatus*
compound ascidian species	Ascidacea
coral eelpout	*Puzanovia rubra*
crab species	Brachyura
crab species	*Hyas* unidentified
crab species	*Lithodes* unidentified
crab species	*Paralomis* unidentified
crangonid shrimp species	Crangonidae
crested bigscale	*Poromitra crassiceps*
crested sea star	*Lophaster furcilliger*
crimson pasiphaeid	*Pasiphaea tarda*
crinoid	Crinoidea
daggertooth	*Anotopterus pharao*
darkfin sculpin	*Malacocottus zonurus*
decapod crab species	*Paralomis multispina*
deep sea smelt species	*Leuroglossus* unidentified
deepsea smelt species	*Bathylagidae* unidentified
deepsea sole	*Embassichthys bathybius*
dorid nudibranch	Nudibranchia
Dover sole	*Microstomus pacificus*
dreamer	*Oneirodidae*
dreamer species	*Oneirodes* unidentified
duckbill barracudina	*Paralepis atlantica*
eastern Pacific bobtail	*Rossia pacifica*
ebony eelpout	*Lycodes concolor*
eelpout species	*Bothrocara* unidentified
eelpout species	*Lycenchelys* unidentified

Table 5A. Continued

Common name	Species/Taxon
eelpout species	*Lycodapus* unidentified
eelpout species	*Lycodes* unidentified
emarginate snailfish	*Careproctus furcellus*
empty bivalve shells	Bivalvia (gastropod shells)
empty gastropod shells	Gastropoda
eulachon	*Thaleichthys pacificus*
evening sun sea star	*Solaster paxillatus*
fish eggs	Osteichthyes eggs
flabby sculpin	*Zesticelus profundorum*
flapjack devilfish	*Opisthoteuthis californiana*
flathead sole	*Hippoglossoides elassodon*
fragile sea star	*Cheiraster dawsoni*
fuzzy crab	*Acantholithodes hispidus*
fuzzy hermit crab	*Pagurus trigonocheirus*
garnet lampfish	*Stenobrachius nannochir*
giant barnacle	*Balanus evermanni*
giant grenadier	*Albatrossia pectoralis*
giant octopus	*Octopus dofleini*
golden king crab	*Lithodes aequispina*
graceful decorator crab	*Oregonia gracilis*
gray starsnout	*Bathyagonus alascanus*
great sculpin	*Myoxocephalus polyacanthocephalus*
green sea urchin	*Strongylocentrotus droebachiensis*
Greenland cockle	*Serripes groenlandicus*
Greenland turbot	*Reinhardtius hippoglossoides*
Greenland wentletrap	*Epitonium greenlandicum*
grooved sea star	*Crossaster borealis*
grooved Tanner crab	*Chionoecetes tanneri*
hairy-lure dreamer	*Oneirodes bulbosus*
heart urchin	*Brisaster latifrons*
hermit crab	Paguridae
hermit crab species	*Pagurus cornutus*
hermit crab species	*Pagurus* unidentified
hermit sponge	*Suberites ficus*
highsnout bigscale	*Melamphaes lugubris*
hot dog sea anemone	*Bathyphelia australis*
humpback snailfish	*Elassodiscus caudatus*
hybrid tanner crab	*Chionoecetes hybrid*
hydroid	Hydrozoa
isopod	Isopoda
jellyfish	Scyphozoa
jellyfish species	*Aequorea* unidentified
jellyfish species	*Aurelia* unidentified
jellyfish species	*Chrysaora melanaster*
jellyfish species	*Cyanea* unidentified
jellyfish species	*Periphylla periphylla*
Kamchatka coral	*Paragorgia arborea*
Kamchatka eelpout	*Lycenchelys camchatica*
Kamchatka flounder	*Atheresthes evermanni*

Table 5A. Continued

Common name	Species/Taxon
keeled aforia	*Aforia circinata*
knobbyhand hermit	*Pagurus confragosus*
kuro argid	*Argis lar*
lampfish species	*Lampanyctus* unidentified
lampfish species	*Stenobrachius* unidentified
lanternfish	Myctophidae
lanternfish species	*Protomyctophum* unidentified
leafy bryozoan	*Flustra serrulata*
left-hand whelk	*Volutopsius harpa*
light dusky rockfish	*Sebastes* new species a
long snouted pink snailfish	*Careproctus simis*
longfin dragonfish	*Tactostoma macropus*
longfin grenadier	*Coryphaenoides longifilis*
longfinger hermit	*Pagurus rathbuni*
longnose lancetfish	*Alepisaurus ferox*
longnose snailfish	*Rhinoliparis barbulifer*
longnose tapirfish	*Polyacanthonotus challengeri*
longsnout prickleback	*Lumpenella longirostris*
longspine thornyhead	*Sebastolobus altivelis*
lyre whelk	*Neptunea lyrata*
magistrate armhook squid	*Berryteuthis magister*
moon jelly	*Aurelia labiata*
mud skate	*Bathyraja taranetzi*
mussel	Mytilidae
Neptunea sp. eggs	*Neptunea* unidentified
northern lampfish	*Stenobrachius leucopsarus*
northern pearleye	*Benthalbella dentata*
northern rock sole	*Lepidopsetta polyxystra*
northern rockfish	*Sebastes polyspinis*
northern sea star	*Dipsacaster borealis*
northern shrimp	*Pandalus borealis*
northern smoothtongue	*Leuroglossus schmidti*
northern sun sea star	*Solaster endeca*
notched brittlestar	*Ophiura sarsi*
nudibranch	Nudibranchia
octopus species	*Graneledone boreopacifica*
octocoral	Alyconaria
octopus	Octopodidae
octopus species	*Benthoctopus* sp.
Okhotsk skate	*Bathyraja violacea*
orange bat sea star	*Ceramaster patagonicus*
orange-pink sea urchin	*Allocentrotus fragilis*
Oregon triton	*Fusitriton oregonensis*
Pacific blacksmelt	*Bathylagus pacificus*
Pacific cod	*Gadus macrocephalus*
Pacific flatnose	*Antimora microlepis*
Pacific glass shrimp	*Pasiphaea pacifica*
Pacific grenadier	*Coryphaenoides acrolepis*
Pacific halibut	*Hippoglossus stenolepis*

Table 5A. Continued

Common name	Species/Taxon
Pacific herring	*Clupea pallasi*
Pacific lamprey	*Lampetra tridentata*
Pacific lyre crab	*Hyas lyratus*
Pacific ocean perch	*Sebastes alutus*
Pacific sleeper shark	*Somniosus pacificus*
Pacific viperfish	*Chauliodus macouni*
paintbrush snailfish	*Careproctus zachirus*
pale moonsnail	*Polinices pallidus*
pandalid shrimp	Pandalidae
peanut worm unid.	Sipuncula
pearleye species	*Benthalbella* unidentified
pincushion sea star	*Diplopteraster multipes*
Polychaete tubes	Polychaeta
polychaete worm	Polychaeta
popeye blacksmelt	*Bathylagus ochotensis*
popeye grenadier	*Coryphaenoides cinereus*
Pribilof whelk	*Neptunea pribiloffensis*
prowfish	*Zaprora silenus*
purple hermit	*Elassochirus cavimanus*
pygmy snailfish	*Liparíscus nanus*
red bat star	*Ceramaster japonicus*
red snailfish	*Paraliparis dactylosus*
red tree coral	*Primnoa willeyi*
regular whelk	*Volutopsius regularis*
reticulate anemone	*Actinauge verrillii*
rex sole	*Glyptocephalus zachirus*
robust blacksmelt	*Bathylagus milleri*
rockfish species	*Sebastes* unidentified
rose sea star	*Crossaster papposus*
rosy tritonia	*Tritonia diomedea*
rough purple sea anemone	*Paractinostola faeculenta*
rougheye rockfish	*Sebastes aleutianus*
roughshoulder skate	*Raja badia*
roughskin sculpin	*Rastrinus scutiger*
roughtail skate	*Bathyraja trachura*
roundtail bothrocara	*Bothrocara* sp.
sablefish	*Anoplopoma fimbria*
salmon snailfish	*Careproctus rastrinus*
salps	Thaliacea
sawback poacher	*Leptagonus frenatus*
scale worm species	Polynoidae
scarlet king crab	*Lithodes couesi*
scarlet sea star	*Pseudarchaster parelii*
sea anemone	Actinostolidae
sea anemone	Actiniaria
sea anemone species	*Stomphia* unidentified
sea cucumber	Holothuroidea
sea cucumber species	*Bathyplotes* unidentified
sea cucumber species	*Molpadia* unidentified

Table 5A. Continued

Common name	Species/Taxon
sea cucumber species	*Parastichopus leucothele*
sea cucumber species	*Parastichopus* unidentified
sea cucumber species	*Pentamera* unidentified
sea football	*Cucumaria fallax*
sea mouse	Aphroditidae
sea mouse species	*Aphrodita* unidentified
sea peach	*Halocynthia aurantium*
sea pen or sea whip	Pennatulacea
sea raspberry	*Gersemia* unidentified
sea slug species	*Tritonia* unidentified
sea spider	Pycnogonida
sea star species	*Brisingella exilis*
sea star species	*Brisingella pusilla*
sea star species	*Heterozonias alternatus*
sea star species	*Myxoderma sacculatum*
sea star species	*Nearchaster pedicellaris*
sea star species	*Nearchaster variabilis*
sea star species	*Pteraster militaris*
sea star species	*Stegophiura ponderosa*
sea star species	*Zoraster evermanni*
sea urchin species	*Brisaster* unidentified
sea urchin species	*Strongylocentrotus* unidentified
sea whip	Virgularidae
sea whip species	*Halipteris californica*
sea whip species	*Halipteris* unidentified
sea whip species	*Umbellula* unidentified
searcher	*Bathymaster signatus*
seastar species	Asteroidea
seastar species	*Brisingella* unidentified
seastar species	*Ceramaster* unidentified
seastar species	*Crossaster* unidentified
seastar species	*Henricia* unidentified
seastar species	*Hippasteria* unidentified
seastar species	*Lophaster* unidentified
seastar species	*Mediaster* unidentified
seastar species	*Pseudarchaster* unidentified
seastar species	*Pteraster* unidentified
seastar species	*Solaster* unidentified
seastar species	*Solaster* unidentified
serpent sea star	*Asteronyx loveni*
shortfin eelpout	*Lycodes brevipes*
shortraker rockfish	*Sebastes borealis*
shortspine thornyhead	*Sebastolobus alascanus*
shrimp species	*Argis* unidentified
shrimp species	*Crangon* unidentified.
shrimp species	*Decapoda*
shrimp species	*Eualus* unidentified
shrimp species	*Gnathophausia* unidentified
shrimp species	*Eualus gaimardii*

Table 5A. Continued

Common name	Species/Taxon
shrimp species	*Gnathophausia ingens*
shrimp species	*Lebbeus polaris*
shrimp species	*Pandalopsis ampla*
sidestripe shrimp	*Pandalopsis dispar*
sinuous whelk	*Buccinum plectrum*
skate species egg case	*Bathyraja* unidentified (egg case)
skate species	*Bathyraja* unidentified
slender codling	*Halargyreus johnsoni*
slender fangjaw	*Sigmops gracilis*
slender seawhips	*Stylatula* unidentified
slim snailfish	*Rhinoliparis attenuatus*
smalldisk snailfish	*Careproctus gilberti*
smooth lumpsucker	*Aptocyclus ventricosus*
smoothskin octopus	*Benthoctopus leioderma*
smoothstem seawhip	*Virgularia* unidentified
snail eggs	Gastropoda
snail eggs	*Buccinum* unidentified
snail species	*Beringius frielei*
snail species	*Boreotrophon* unidentified
snail species	*Colus calathus*
snail species	*Colus* unidentified
snail species	Gastropod
snail species	*Neomenia* unidentified
snail species	*Neptunea amianta*
snail species	*Neptunea insularis*
snail species	*Pyrulofusus melonis*
snail species	*Neptunea* unidentified
snail species	*Buccinum* unidentified
snail species	*Buccinum* unidentified
snail species eggs	*Volutopsius* unidentified
snailfish species	*Careproctus* unidentified
snailfish species	*Elassodiscus* unidentified
snailfish species	*Liparidinae*
snailfish species	*Paraliparis* unidentified
snailfish species	*Rhinoliparis* unidentified
snakehead eelpout	*Lycenchelys crotalinus*
snow crab	*Chionoecetes opilio*
soft coral species	Alcyonacea
soft coral species	*Amphilaphis* unidentified
soft coral species	*Anthomastus* unidentified
soft coral species	*Plumarella* unidentified
soft green sponge	Porifera
spectacled sculpin	*Triglops scepticus*
spiny lebbeid	*Lebbeus groenlandicus*
spiny red sea star	*Hippasteria spinosa*
spinyhead sculpin	*Dasycottus setiger*
spinyridge shrimp	*Notostomus japonicus*
splendid hermit	*Labidochirus splendescens*
sponge	Porifera

Table 5A. Continued

Common name	Species/Taxon
sponge hermit	*Pagurus brandti*
squid species	Teuthoidea
squid species	*Gonatus* unidentified
starsnout poacher species	*Bathyagonus* unidentified
stone crab species	Lithodidae
stone sponge	Porifera
striped sea leech	*Carcinobdella cyclostomum*
sweet sea potato	*Molpadia intermedia*
swellhead snailfish	*Paraliparis cephalus*
Swift's sea star	*Gephyreaster swifti*
swimming anemone	*Stomphia coccinea*
swollen whelk	*Buccinum oedematum*
Tanner crab	*Chionoecetes bairdi*
tanner crab species	*Chionoecetes* unidentified
tentacle-shedding anemone	*Liponema brevicornis*
thin-ribbed whelk	*Colus herendeenii*
thorny sculpin	*Icelus spiniger*
threespine stickleback	*Gasterosteus aculeatus*
toothless snailfish	*Paraliparis paucidens*
tree sponge	*Mycale loveni*
triangle Tanner crab	*Chionoecetes angulatus*
tube worm species	Polychaeta
tunicate species	Ascidian
turban whelk	*Buccinum viridum*
twoline eelpout	*Bothrocara brunneum*
twospine crangon	*Crangon communis*
ubiquitous brittle star	*Ophiopholis aculeata*
Vancouver scallop	*Delectopecten vancouverensis*
variform eelpout	*Lycodapus poecilus*
vase sponge	Porifera
vermilion sea star	*Mediaster aequalis*
walleye pollock	*Theragra chalcogramma*
warped whelk	*Pyrulofusus deformis*
wattled eelpout	*Lycodes palearis*
whiteblotched skate	*Bathyraja maculata*
whitebrow skate	*Bathyraja minispinosa*
whitescaled sea cucumber	*Psolus squamatus*
wide-eye sculpin	*Icelus euryops*
winged trophon	*Boreotrophon stuarti*
worm species	Annelida
yellow green papillate sponge	*Halichondria* cf. *sitiens*
yellowleg pandalid	*Pandalus tridens*

Table 5B. Scientific names of all fish and invertebrates encountered on the 2002 eastern Bering Sea upper continental slope survey.

Species/Taxon	Common name
Acantholithodes hispidus	fuzzy crab
Actinauge verrillii	reticulate anemone
Actiniaria	sea anemone
Actinostolidae	sea anemone
Aequorea unidentified	jellyfish species
Aforia circinata	keeled aforia
Albatrossia pectoralis	giant grenadier
Alcyonacea	soft coral species
Alepisaurus ferox	longnose lancetfish
Allocentrotus fragilis	orange-pink sea urchin
Alyconaria	octocoral
Amphilaphis unidentified	soft coral species
Annelida	worm species
Anoplopoma fimbria	sablefish
Anotopterus pharao	daggertooth
Anthomastus unidentified	soft coral species
Antimora microlepis	Pacific flatnose
Aphrocallistes vastus	clay pipe sponge
Aphrodita unidentified	sea mouse species
Aphroditidae	sea mouse
Aptocyclus ventricosus	smooth lumpsucker
Arctomelon stearnsii	Alaska volute
Argis dentata	Arctic argid
Argis lar	kuro argid
Argis unidentified	shrimp species
Ascidacea	compound ascidian species
Ascidian	tunicate species
Aspidophoroides bartoni	Aleutian alligatorfish
Asteroidea	seastar species
Asteronychidae	brittlestar
Asteronyx loveni	serpent sea star
Asteronyx unidentified	brittlestar species
Atheresthes evermanni	Kamchatka flounder
Atheresthes stomias	arrowtooth flounder
Aurelia labiata	moon jelly
Aurelia unidentified	jellyfish species
Balanus evermanni	giant barnacle
Balanus unidentified	barnacle species
Bathyagonus alascanus	gray starsnout
Bathyagonus nigripinnis	blackfin poacher
Bathyagonus unidentified	starsnout poacher species
Bathylagidae unidentified	deepsea smelt species
Bathylagus milleri	robust blacksmelt
Bathylagus ochotensis	popeye blacksmelt
Bathylagus pacificus	Pacific blacksmelt
Bathylagus unidentified	blacksmelt species
Bathymaster signatus	searcher

Table 5B. Continued.

Species/Taxon	Common name
Bathyphelia australis	hot dog sea anemone
Bathyplotes unidentified	sea cucumber species
Bathyraja aleutica	Aleutian skate
Bathyraja interrupta	sandpaper skate
Bathyraja lindbergi	commander skate
Bathyraja maculata	whiteblotched skate
Bathyraja minispinosa	whitebrow skate
Bathyraja parmifera	Alaska skate
Bathyraja taranetzi	mud skate
Bathyraja trachura	roughtail skate
Bathyraja unidentified	skate species
Bathyraja unidentified (egg case)	skate species egg case
Bathyraja violacea	Okhotsk skate
Benthalbella dentata	northern pearleye
Benthalbella unidentified	pearleye species
Benthoctopus leioderma	smoothskin octopus
Benthoctopus sp.	octopus species
Beringius frielei	snail species
Beringius sp.	*Beringius* sp. eggs
Berryteuthis magister	magistrate armhook squid
Bivalvia	bivalve species
Bivalvia (gastropod shells)	empty bivalve shells
Boreotrophon stuarti	winged trophon
Boreotrophon unidentified	snail species
Bothrocara brunneum	twoline eelpout
Bothrocara pusillum	Alaska eelpout
Bothrocara sp.	roundtail *Bothrocara*
Bothrocara unidentified	eelpout species
Brachyura	crab species
Brisaster latifrons	heart urchin
Brisaster unidentified	sea urchin species
Brisingella exilis	sea star species
Brisingella pusilla	sea star species
Brisingella unidentified	seastar species
Bryozoa	bryozoan
Buccinum oedematum	swollen whelk
Buccinum plectrum	sinuous whelk
Buccinum unidentified	snail eggs
Buccinum unidentified	snail species
Buccinum unidentified	snail species
Buccinum viridum	turban whelk
Carcinobdella cyclostomum	striped sea leech
Careproctus candidus	bigeye snailfish
Careproctus colletti	Alaska snailfish
Careproctus cypselurus	blackfin snailfish
Careproctus furcellus	emarginate snailfish
Careproctus gilberti	smalldisk snailfish
Careproctus melanurus	blacktail snailfish
Careproctus rastrinus	salmon snailfish

Table 5B. Continued.

Species/Taxon	Common name
Careproctus simis	long snouted pink snailfish
Careproctus sp.	big mouth and disk red snailfish
Careproctus unidentified	snailfish species
Careproctus zachirus	paintbrush snailfish
Ceramaster japonicus	red bat star
Ceramaster patagonicus	orange bat sea star
Ceramaster unidentified	seastar species
Chauliodus macouni	Pacific viperfish
Cheiraster dawsoni	fragile sea star
Chionoecetes angulatus	triangle Tanner crab
Chionoecetes bairdi	Tanner crab
Chionoecetes hybrid	hybrid Tanner crab
Chionoecetes opilio	snow crab
Chionoecetes tanneri	grooved Tanner crab
Chionoecetes unidentified	tanner crab species
Chlamys unidentified	bivalve species
Chrysaora melanaster	jellyfish species
Chrysaora unidentified	chrysaora jellyfish
Clupea pallasi	Pacific herring
Colus calathus	snail species
Colus herendeenii	thin-ribbed whelk
Colus unidentified	snail species
Coryphaenoides acrolepis	Pacific grenadier
Coryphaenoides cinereus	popeye grenadier
Coryphaenoides longifilis	longfin grenadier
Crangon communis	twospine crangon
Crangon unidentified.	shrimp species
Crangonidae	crangonid shrimp species
Cribrinopsis fernaldi	chevron-tentacled anemone
Crinoidea	crinoid
Crossaster borealis	grooved sea star
Crossaster papposus	rose sea star
Crossaster unidentified	seastar species
Crystallichthys cyclospilus	blotched snailfish
Ctenodiscus crispatus	common mud star
Cucumaria fallax	sea football
Cyanea unidentified	jellyfish species
Dasycottus setiger	spinyhead sculpin
Decapoda	shrimp species
Delectopecten vancouverensis	Vancouver scallop
Diaphus theta	California headlightfish
Diplopteraster multipes	pincushion sea star
Dipsacaster borealis	northern sea star
Elassochirus cavimanus	purple hermit
Elassodiscus caudatus	humpback snailfish
Elassodiscus tremebundus	blacklip snailfish
Elassodiscus unidentified	snailfish species
Embassichthys bathybius	deepsea sole
Epitonium greenlandicum	Greenland wentletrap

Table 5B. Continued.

Species/Taxon	Common name
Eualus barbatus	barbed eualid
Eualus gaimardii	shrimp species
Eualus unidentified	shrimp species
Flustra serrulata	leafy bryozoan
Fusitriton oregonensis	Oregon triton
Gadus macrocephalus	Pacific cod
Gasterosteus aculeatus	threespine stickleback
Gastropod	snail species
Gastropoda	empty gastropod shells
Gastropoda	snail eggs
Gephyreaster swifti	Swift's sea star
Gersemia unidentified	sea raspberry
Glyptocephalus zachirus	rex sole
Gnathophausia ingens	shrimp species
Gnathophausia unidentified	shrimp species
Gonatopsis borealis	boreopacific armhook squid
Gonatus onyx	clawed armhook squid
Gonatus unidentified	squid species
Gonostomatidae	bristlemouth
Gorgonocephalus eucnemis	basketstar
Graneledone boreopacifica	octopus species
Gymnocanthus galeatus	armorhead sculpin
Halargyreus johnsoni	slender codling
Halichondria cf. sitiens	yellow green papillate sponge
Halichondria panicea	barrel sponge
Halipteris californica	sea whip species
Halipteris unidentified	sea whip species
Halocynthia aurantium	sea peach
Hemitripterus bolini	bigmouth sculpin
Hemitripterus bolini eggs	bigmouth sculpin eggs
Henricia unidentified	seastar species
Heterozonias alternatus	sea star species
Hippasteria spinosa	spiny red sea star
Hippasteria unidentified	seastar species
Hippoglossoides elassodon	flathead sole
Hippoglossus stenolepis	Pacific halibut
Holothuroidea	sea cucumber
Hyas lyratus	Pacific lyre crab
Hyas unidentified	crab species
Hydrozoa	hydroid
Icelus canaliculatus	blacknose sculpin
Icelus euryops	wide-eye sculpin
Icelus spiniger	thorny sculpin
Isidella unidentified	articulated bamboo coral
Isopoda	isopod
Labidochirus splendescens	splendid hermit
Lampanyctus jordani	brokenline lampfish
Lampanyctus ritteri	broadfin lanternfish
Lampanyctus unidentified	lampfish species

Table 5B. Continued.

Species/Taxon	Common name
Lampetra tridentata	Pacific lamprey
Laqueus californianus	California lamp shell
Lebbeus groenlandicus	spiny lebbeid
Lebbeus polaris	shrimp species
Lepidopsetta polyxystra	northern rock sole
Leptagonus frenatus	sawback poacher
Leuroglossus schmidti	northern smoothtongue
Leuroglossus unidentified	deep sea smelt species
Liparidinae	snailfish species
Liparis cus nanus	pygmy snailfish
Liponema brevicornis	tentacle-shedding anemone
Lithodes aequispina	golden king crab
Lithodes couesi	scarlet king crab
Lithodes unidentified	crab species
Lithodidae	stone crab species
Lophaster furcilliger	crested sea star
Lophaster unidentified	seastar species
Lumpenella longirostris	longsnout prickleback
Lycenchelys camchatica	Kamchatka eelpout
Lycenchelys crotalinus	snakehead eelpout
Lycenchelys unidentified	eelpout species
Lycodapus fierasfer	blackmouth eelpout
Lycodapus poecilus	variform eelpout
Lycodapus unidentified	eelpout species
Lycodes brevipes	shortfin eelpout
Lycodes concolor	ebony eelpout
Lycodes diapterus	black eelpout
Lycodes palearis	wattled eelpout
Lycodes unidentified	eelpout species
Macropinna microstoma	barreleye
Malacocottus zonurus	darkfin sculpin
Margarites costalis	boreal rosy margarite
Mediaster aequalis	vermilion sea star
Mediaster unidentified	seastar species
Melamphaes lugubris	highsnout bigscale
Melamphaidae	bigscale
Microstomus pacificus	Dover sole
Molpadia intermedia	sweet sea potato
Molpadia unidentified	sea cucumber species
Mycale loveni	tree sponge
Myctophidae	lanternfish
Myoxocephalus polyacanthocephalus	great sculpin
Mytilidae	mussel
Myxoderma sacculatum	sea star species
Nansenia candida	bluethroat argentine
Natica clausa	Arctic moonsnail
Nearchaster pedicellaris	sea star species
Nearchaster variabilis	sea star species
Neomenia unidentified	snail species

Table 5B. Continued.

Species/Taxon	Common name
Neptunea amianta	snail species
Neptunea insularis	snail species
Neptunea lyrata	lyre whelk
Neptunea pribiloffensis	Pribilof whelk
Neptunea unidentified	*Neptunea* sp. eggs
Neptunea unidentified	snail species
Notostomus japonicus	spinyridge shrimp
Nuculana unidentified	bivalve species
Nudibranchia	dorid nudibranch
Nudibranchia	nudibranch
Octopodidae	octopus
Octopus dofleini	giant octopus
Oncorhynchus keta	chum salmon
Oneirodes bulbosus	hairy-lure dreamer
Oneirodes thompsoni	Alaska dreamer
Oneirodes unidentified	dreamer species
Oneirodidae	dreamer
Ophiopholis aculeata	ubiquitous brittle star
Ophiopholis longispina	brittle star species
Ophiopholis unidentified	brittle star species
Ophiura sarsi	notched brittle star
Ophiura unidentified	brittle star species
Ophiuroid	brittle star species
Opisthoteuthis californiana	flapjack devilfish
Oregonia gracilis	graceful decorator crab
Osteichthyes eggs	fish eggs
Paguridae	hermit crab
Pagurus aleuticus	Aleutian hermit
Pagurus brandti	sponge hermit
Pagurus confragosus	knobbyhand hermit
Pagurus cornutus	hermit crab species
Pagurus ochotensis	Alaskan hermit
Pagurus rathbuni	longfinger hermit
Pagurus trigonocheirus	fuzzy hermit crab
Pagurus unidentified	hermit crab species
Pandalidae	pandalid shrimp
Pandalopsis ampla	shrimp species
Pandalopsis dispar	sidestripe shrimp
Pandalus borealis	northern shrimp
Pandalus tridens	yellowleg pandalid
Paractinostola faeculenta	rough purple sea anemone
Paragorgia arborea	Kamchatka coral
Paralepis atlantica	duckbill barracudina
Paraliparis cephalus	swellhead snailfish
Paraliparis dactylosus	red snailfish
Paraliparis paucidens	toothless snailfish
Paraliparis pectoralis	broadfin snailfish
Paraliparis ulochir	blackfaced red snailfish
Paraliparis unidentified	snailfish species

Table 5B. Continued.

Species/Taxon	Common name
Paralomis multispina	decapod crab species
Paralomis unidentified	crab species
Parastichopus leucothele	sea cucumber species
Parastichopus unidentified	sea cucumber species
Pasiphaea pacifica	Pacific glass shrimp
Pasiphaea tarda	crimson pasiphaeid
Pennatulacea	sea pen or sea whip
Pentamera unidentified	sea cucumber species
Periphylla periphylla	jellyfish species
Pleurogrammus monopterygius	Atka mackerel
Plumarella unidentified	soft coral species
Polinices pallidus	pale moonsnail
Polyacanthonotus challengeri	longnose tapirfish
Polychaeta	tube worm species
Polychaeta	polychaete tubes
Polychaeta	polychaete worm
Polynoidae	scale worm species
Porifera	soft green sponge
Porifera	sponge
Porifera	stone sponge
Porifera	vase sponge
Poromitra crassiceps	crested bigscale
Primnoa willeyi	red tree coral
Protomyctophum unidentified	lanternfish species
Pseudarchaster parelii	scarlet sea star
Pseudarchaster unidentified	seastar species
Psolus squamatus	whitescaled sea cucumber
Psychrolutes phrictus	blob sculpin
Pteraster militaris	sea star species
Pteraster unidentified	seastar species
Puzanovia rubra	coral eelpout
Pycnogonida	sea spider
Pyrulofusus deformis	warped whelk
Pyrulofusus melonis	snail species
Raja badia	roughshoulder skate
Rastrinus scutiger	roughskin sculpin
Reinhardtius hippoglossoides	Greenland turbot
Rhabdocalyptus unidentified	cloud sponge
Rhinoliparis attenuatus	slim snailfish
Rhinoliparis barbulifer	longnose snailfish
Rhinoliparis unidentified	snailfish species
Rossia pacifica	eastern Pacific bobtail
Scyphozoa	jellyfish
Sebastes aleutianus	rougheye rockfish
Sebastes alutus	Pacific ocean perch
Sebastes borealis	shortraker rockfish
Sebastes new species a	light dusky rockfish
Sebastes polyspinis	northern rockfish
Sebastes unidentified	rockfish species

Table 5B. Continued.

Species/Taxon	Common name
Sebastolobus alascanus	shortspine thornyhead
Sebastolobus altivelis	longspine thornyhead
Sebastolobus macrochir	broadfin thornyhead
Serripes groenlandicus	Greenland cockle
Serripes laperousii	broad cockle
Serripes unidentified	bivalve species
Sigmops gracilis	slender fangjaw
Sipuncula	peanut worm unid.
Solaster endeca	northern sun sea star
Solaster paxillatus	evening sun sea star
Solaster unidentified	seastar species
Solaster unidentified	seastar species
Somniosus pacificus	Pacific sleeper shark
Stegophiura ponderosa	sea star species
Stenobrachius leucopsarus	northern lampfish
Stenobrachius nannochir	garnet lampfish
Stenobrachius unidentified	lampfish species
Stomphia coccinea	swimming anemone
Stomphia unidentified	sea anemone species
Strongylocentrotus droebachiensis	green sea urchin
Strongylocentrotus unidentified	sea urchin species
Stylatula unidentified	slender seawhips
Suberites ficus	hermit sponge
Tactostoma macropus	longfin dragonfish
Terebratalia transversa	common brachiopod
Teuthoidea	squid species
Thaleichthys pacificus	eulachon
Thaliacea	salps
Theragra chalcogramma	walleye pollock
Triglops scepticus	spectacled sculpin
Tritonia diomedea	rosy tritonia
Tritonia unidentified	sea slug species
Umbellula unidentified	sea whip species
Virgularia unidentified	smoothstem seawhip
Virgularidae	sea whip
Volutopsius harpa	left-hand whelk
Volutopsius regularis	regular whelk
Volutopsius unidentified	snail species eggs
Zaprora silenus	prowfish
Zesticelus profundorum	flabby sculpin
Zoraster evermanni	sea star species

Table 6. All species encountered on the 2002 eastern Bering Sea upper continental slope survey with depth distributions and frequency of occurrence. Species are listed in descending order by total catch weight.

Species name	Total weight (kg)	Total numbers	Min-max depth caught (m)	Mean bottom depth (m)	Frequency of occurrence (hauls)
Albatrossia pectoralis	81,534.87	23,169	313-1,556	706	108
Sebastes alutus	12,963.60	15,816	204-486	321	53
Coryphaenoides cinereus	9,208.36	63,549	469-1,556	803	78
Atheresthes stomias	7,615.19	6,283	204-712	376	83
Somniosus pacificus	5,584.56	148	253-1,072	756	16
Bathyraja parmifera	4,751.95	804	204-531	260	21
Reinhardtius hippoglossoides	4,440.26	1,091	219-1,200	600	109
Hippoglossoides elassodon	3,829.01	9,111	204-551	347	71
Theragra chalcogramma	3,113.80	2,330	204-1,200	375	61
Sebastolobus alascanus	3,063.97	5,392	204-1,072	626	90
Bathyraja aleutica	3,028.46	1,267	205-1,200	546	111
Atheresthes evermanni	2,990.63	1,679	204-1,072	523	131
Anoplopoma fimbria	2,607.10	968	207-1,072	652	100
Bothrocara brunneum	2,093.39	3,220	305-1,200	701	88
Glyptocephalus zachirus	1,417.40	3,339	204-635	345	69
Chionoecetes angulatus	1,314.12	20,130	297-1,556	722	92
Hippoglossus stenolepis	1,255.75	101	204-639	393	41
Gadus macrocephalus	1,213.97	479	204-412	271	40
Sebastes borealis	826.22	237	305-531	418	21
Bathyraja lindbergi	708.36	399	412-1,200	685	53
Chionoecetes tanneri	646.50	2,416	225-1,200	641	73
stone sponge	609.16		367-367	367	1
Bathyraja maculata	593.74	188	209-1,200	446	42
Liponema brevicornis	501.21	5,262	204-1,508	466	94
Lycodes concolor	489.09	691	400-1,200	621	42
Parastichopus leucothele	471.22	2,892	283-1,154	671	39
Bathyraja interrupta	462.70	363	204-677	377	66
Coryphaenoides acrolepis	430.58	1,789	617-1,556	952	35
Ascidacea	336.75		283-1,048	574	5
Bryozoa unident.	331.63		367-367	367	2
Hemitripterus bolini	308.54	125	207-872	364	45
Bathyraja trachura	307.75	196	221-1,200	847	47
Psychrolutes phrictus	301.41	105	578-1,556	932	33
Chionoecetes opilio	263.25	756	204-531	316	29
Ceramaster sp.	260.26	2,735	205-1,061	544	48
Chionoecetes bairdi	260.17	4,449	204-508	301	41
Gorgonocephalus eucnemis	249.62	2,808	207-1,154	511	26
Polychaete tubes	244.92		233-1,061	669	5
Malacocottus zonurus	226.10	2,149	204-1,200	410	78
Aphrocallistes vastus	206.22		209-1,200	639	60
Porifera	205.02		205-1,038	475	57
Berryteuthis magister	198.09	604	204-1,061	501	87

Table 6. Continued

Species name	Total weight (kg)	Total numbers	Min-max depth caught (m)	Mean bottom depth (m)	Frequency of occurrence (hauls)
Dasycottus setiger	188.90	1,472	204-635	371	68
Ceramaster patagonicus	167.63	1,559	204-1,154	538	45
Chrysaora melanaster	163.86	240	205-1,556	563	78
Lithodes aequispina	160.51	298	210-1,200	481	46
Crossaster borealis	156.65	1,579	204-1,556	579	114
Bathyraja taranetzi	147.52	176	209-738	432	23
Careproctus melanurus	145.20	242	330-1,054	694	55
Pandalus borealis	144.58	24,374	204-531	304	55
Neptunea pribiloffensis	118.93	1,051	205-1,061	564	55
Porifera (vase)	113.75		209-1,054	624	10
Careproctus furcellus	108.22	126	209-1,030	496	45
Dipsacaster borealis	107.77	570	204-1,154	459	45
Paractinostola faeculenta	107.37	445	209-1,556	536	19
Nearchaster variabilis	103.27	2,938	225-1,556	703	60
Sebastes aleutianus	89.19	121	204-508	337	30
Zoraster evermanni	83.81	756	334-1,154	742	24
Ophiura sarsi	69.97	81,092	519-1,048	727	8
Octopus dofleini	68.75	66	204-877	381	32
Lithodes couesi	63.22	108	483-1,200	815	22
Brisaster latifrons	61.48	5,284	242-1,030	457	20
Leptagonus frenatus	59.81	1,163	205-922	342	49
Zaprora silenus	57.83	13	210-346	289	7
Actinauge verrillii	55.61	899	204-1,556	595	40
Paralomis multispina	54.76	97	703-1,200	936	13
Polychaeta (tube worm)	54.73	261	654-1,154	940	4
Rhabdocalyptus sp.	51.61		313-1,038	820	9
Lycodes diapterus	50.48	956	219-1,048	560	73
Lophaster furcilliger	49.23	1,272	335-1,508	705	37
Pannychia sp.	48.72	1,225	313-1,018	774	5
Flustra serrulata	44.90		367-367	367	1
Benthoctopus sp.	42.64	158	283-1,508	631	65
Halichondria panicea	41.73		313-313	313	1
Pyrulofusus melonis	40.68	324	221-663	458	21
Neptunea sp.	38.13	828	204-1,508	733	17
Pandalopsis dispar	37.99	2,900	215-578	397	41
Neptunea amianta	37.99	925	308-1,556	728	40
Lampetra tridentata	36.73	114	204-1,508	625	63
Buccinum oedematum	36.36	1,163	204-1,200	669	80
Aphroditidae	31.84	2,230	204-1,508	534	40
Careproctus cypselurus	31.76	247	335-1,556	862	43
Elassodiscus caudatus	30.91	378	227-1,556	799	54
Virgularidae	29.72	4,563	236-1,154	579	3
Careproctus rastrinus	29.12	113	205-317	257	21

Table 6. Continued

Species name	Total weight (kg)	Total numbers	Min-max depth caught (m)	Mean bottom depth (m)	Frequency of occurrence (hauls)
Ophiuroid unident.	28.78	14,306	330-1,030	667	20
Embassichthys bathybius	26.91	28	617-924	775	12
Cucumaria fallax	26.40	67	367-367	367	1
Benthoctopus leioderma	26.16	74	262-1,072	635	27
Asteronyx loveni	25.73	1,180	225-1,154	581	4
Antimora microlepis	24.79	104	578-1,556	947	27
Bathyplotes sp.	24.49	678	210-1,556	592	38
Lepidopsetta polyxystra	24.29	50	209-508	269	9
Paragorgia arborea	23.70		486-1,054	866	9
Diplopteraster multipes	21.76	114	209-998	430	27
Fusitriton oregonensis	21.41	290	204-648	310	41
Hyas lyratus	21.37	750	204-482	315	18
Graneledone boreopacifica	21.11	17	654-1,556	1,097	6
Icelus canaliculatus	19.23	1,077	308-996	580	36
Hippasteria spinosa	17.88	46	210-1,154	445	15
Gastropoda (shells)	17.74	11	204-1,072	496	51
Bathylagus sp.	17.71	593	471-1,556	854	31
Elassodiscus tremebundus	17.40	119	429-1,061	832	24
Pagurus cornutus	17.27	337	219-548	407	26
Aptocyclus ventricosus	15.62	30	253-1,556	751	20
Actiniaria	15.42	177	204-1,038	446	31
Pasiphaea pacifica	15.20	5,183	368-1,048	551	25
Microstomus pacificus	15.05	21	207-452	328	15
Careproctus colletti	15.04	87	450-1,556	714	18
Bathyagonus nigripinnis	14.90	1,269	204-919	588	75
Solaster paxillatus	14.41	104	221-1,200	538	16
Myxoderma sacculatum	14.00	139	471-1,054	764	13
Strongylocentrotus droebachiensis	13.77	662	207-367	299	8
Pandalopsis ampla	13.13	790	309-1,072	832	31
Bathymaster signatus	12.08	53	207-273	235	8
Icelus spiniger	11.57	304	204-471	281	31
Lithodidae unident.	11.24	14	483-996	744	5
Mycale loveni	11.17		273-838	496	6
Asteronyx sp.	10.90	286	262-1,048	480	20
Oncorhynchus keta	10.76	7	219-872	570	4
Pagurus confragosus	10.52	352	204-996	372	26
Bathylagus pacificus	9.71	384	451-1,508	887	28
Alepisaurus ferox	9.60	1	348-348	348	1
Triglops scepticus	9.56	197	204-412	258	15
Lycodes brevipes	9.40	149	213-417	277	8
Nearchaster pedicellaris	9.04	347	471-1,508	868	7
Bathyraja sp. egg case	8.73	204	205-1,061	550	37
Actinostolidae	8.68	2,101	204-1,154	566	18

Table 6. Continued

Species name	Total weight (kg)	Total numbers	Min-max depth caught (m)	Mean bottom depth (m)	Frequency of occurrence (hauls)
Leuroglossus schmidti	8.62	1,046	204-1,508	647	87
Bathyraja violacea	8.57	3	330-508	391	3
Pagurus rathbuni	8.54	288	227-1,019	697	38
Beringius frielei	8.46	79	204-1,048	445	29
Rossia pacifica	8.38	101	209-1,154	308	23
Bathyraja sp.	8.35	16	283-1,054	660	6
Scyphozoa	8.11	43	204-1,556	668	31
Aphrodita sp.	7.45	633	207-872	448	34
Pteraster sp.	7.41	161	209-1,556	618	25
Allocentrotus fragilis	6.94	103	207-647	351	25
Pagurus trigonocheirus	6.83	227	215-648	302	7
Heterozonias alternatus	6.80	48	463-1,556	824	5
Cyanea sp.	6.65	9	207-1,038	586	8
Opisthoteuthis californiana	6.64	12	451-772	601	7
Myoxocephalus polyacanthocephalus	6.32	4	236-236	236	1
Solaster sp.	5.96	29	262-1,061	529	15
Pagurus aleuticus	5.82	216	207-1,072	674	27
Sebastes polyspinis	5.62	8	204-262	223	6
Ophiopholis aculeata	5.34	1,404	235-691	517	19
Thaleichthys pacificus	5.17	98	204-533	317	12
Raja badia	5.14	2	1,508-1,556	1,532	2
Lycenchelys crotalinus	4.97	51	463-838	652	9
Lampanyctus jordani	4.95	170	283-1,061	634	28
Rajidae egg case	4.83	304	204-1,508	596	58
gastropod eggs	4.79	8	204-922	474	36
Holothuroidea unident.	4.50	87	283-1,508	624	13
Bivalvia (shells)	4.46		204-1,061	454	13
Aurelia sp.	4.43	29	227-1,556	647	13
Ceramaster japonicus	4.30	50	635-635	635	1
Pandalidae	4.19	256	639-1,061	916	3
Hemitripterus bolini eggs	4.18		319-335	327	2
Sebastes variabilis	4.15	3	205-210	207	3
Parastichopus sp.	3.82	81	330-824	587	5
Coleoidea	3.77	37	209-1,556	711	26
Gephyreaster swifti	3.77	22	225-818	486	8
Psolus squamatus	3.71	220	715-1,054	945	6
Solaster endeca	3.67	11	266-1,030	659	8
Liparidinae	3.61	166	271-1,154	712	38
Aurelia labiata	3.38	6	204-877	516	6
Eualus sp.	3.30	1,557	452-1,072	819	34
Pennatulacea	3.18	55	207-1,048	500	7
Henricia sp.	3.14	161	204-1,200	449	42
Stenobrachius leucopsarus	3.08	468	335-1,556	702	69

Table 6. Continued

Species name	Total weight (kg)	Total numbers	Min-max depth caught (m)	Mean bottom depth (m)	Frequency of occurrence (hauls)
Tritonia sp.	2.56	34	215-1,154	473	10
Serripes sp.	2.43	1,809	872-1,072	997	3
Arctomelon stearnsii	2.42	43	205-677	459	21
Pseudarchaster parelii	2.36	79	219-1,048	653	29
Anotopterus nikparini	2.31	1	500-500	500	1
Nudibranchia unident.	2.08	218	271-1,154	514	22
Oneirodes sp.	2.04	19	609-1,556	900	14
Halargyreus johnsoni	1.89	9	919-1,154	1,019	7
Oneirodes thompsoni	1.85	17	796-1,508	1,011	12
Lebbeus groenlandicus	1.80	146	482-639	581	3
Aequorea sp.	1.78	42	227-1,556	813	20
Pyrulofusus harpa	1.75	8	215-412	297	6
Buccinum plectrum	1.75	46	578-772	675	2
Solaster sp.	1.74	11	221-367	294	2
Coryphaenoides longifilis	1.71	8	996-1,556	1,151	4
Chionoecetes hybrid	1.69	16	205-422	315	6
Neptunea sp. eggs	1.58		367-1,072	622	19
Lumpenella longirostris	1.57	21	297-648	487	9
Bathylagus milleri	1.52	34	612-1,018	827	10
Primnoa willeyi	1.51		889-922	906	2
Isidella sp.	1.50		482-1,054	863	6
Neomenia sp.	1.39	39	654-1,154	894	5
Chauliodus macouni	1.36	55	420-1,556	862	29
Elassochirus cavimanus	1.35	27	219-533	294	9
Stomphia coccinea	1.27	19	227-1,054	575	10
Stenobrachius sp.	1.23	175	297-1,072	757	39
Buccinum sp.	1.18	22	648-1,072	859	6
Sebastolobus altivelis	1.10	3	919-924	922	2
Sebastolobus macrochir	0.96	2	458-620	539	2
Neptunea lyrata	0.94	9	215-235	228	3
Icelus euryops	0.88	30	242-548	398	11
Crossaster sp.	0.88	11	227-872	612	3
Buccinum sp. A	0.87	26	677-1,061	870	6
Stenobrachius nannochir	0.85	106	500-1,556	818	24
Stomphia sp.	0.83	46	207-639	362	20
Buccinum sp. eggs	0.78		503-852	652	6
Paralomis sp.	0.66	2	1,200-1,200	1,200	1
Oneirodes bulbosus	0.64	6	817-1,035	942	5
Decapoda	0.62	74	452-1,556	818	19
Crinoidea	0.61	173	271-1,154	772	9
Chionoecetes sp.	0.61	16	210-316	270	3
Careproctus simis	0.58	21	509-738	637	7
Balanus evermanni	0.57	4	273-814	544	2

Table 6. Continued

Species name	Total weight (kg)	Total numbers	Min-max depth caught (m)	Mean bottom depth (m)	Frequency of occurrence (hauls)
Cheiraster dawsoni	0.57	19	221-503	346	3
Careproctus sp. G	0.56	19	482-996	706	3
Careproctus zachirus	0.56	1	738-738	738	1
Ctenodiscus crispatus	0.54	47	215-1,556	553	13
Mediaster aequalis	0.53	25	451-998	773	5
Chrysaora sp.	0.50	2	451-738	595	2
Neptunea insularis	0.49	5	471-799	635	2
Bothrocara pusillum	0.49	69	294-1,508	758	12
Halocynthia aurantium	0.47	6	367-367	367	1
Argis dentata	0.47	126	215-471	320	20
Myctophidae	0.46	67	330-1,154	706	18
Volutopsius sp. eggs	0.45		283-551	470	6
Pleurogrammus monopterygius	0.45	2	368-720	544	2
Clupea pallasi	0.44	1	452-452	452	1
Lycodes palearis	0.42	1	279-279	279	1
Serripes groenlandicus	0.42	7	204-266	233	4
Virgularia sp.	0.41	29	1,556-1,556	1,556	1
Brisingella exilis	0.39	7	483-663	585	3
Paraliparis sp.	0.39	29	304-1,508	854	10
Asteroidea unident.	0.37	9	334-1,508	813	5
Octopodidae	0.37	2	831-998	915	2
Molpadia sp.	0.37	6	1,508-1,508	1,508	1
Lebbeus polaris	0.36	178	497-870	694	3
Annelida	0.35	56	304-1,061	701	6
Porifera (soft green)	0.35		647-647	647	1
Amphilaphis sp.	0.34		210-870	584	5
Hippasteria sp.	0.34	3	647-1,556	971	3
Thaliacea unident.	0.33	11	242-996	566	11
Molpadia intermedia	0.32	22	367-919	585	5
Stegophiura ponderosa	0.32	14	367-367	367	1
Rhinoliparis attenuatus	0.31	38	519-1,508	939	12
Gonatopsis borealis	0.30	6	348-817	516	4
Volutopsius regularis	0.30	1	244-244	244	1
Pteraster militaris	0.29	7	838-996	917	2
Benthalbella dentata	0.29	6	814-1,154	923	6
Lampanyctus ritteri	0.28	13	463-1,556	927	6
Pandalus tridens	0.27	58	236-612	409	7
Periphylla periphylla	0.27	16	405-1,556	866	13
Plumarella sp.	0.27		482-639	551	4
Osteichthyes eggs	0.26		305-663	496	4
Bothrocara sp.	0.26	15	297-1,508	903	3
Pyrulofusus deformis	0.25	2	346-422	384	2
Brisingella pusilla	0.25	11	1,508-1,508	1,508	1

Table 6. Continued

Species name	Total weight (kg)	Total numbers	Min-max depth caught (m)	Mean bottom depth (m)	Frequency of occurrence (hauls)
Polyacanthonotus challengeri	0.24	2	1,556-1,556	1,556	1
Beringius sp.	0.23	3	215-537	349	3
Mytilidae	0.23	11	531-531	531	1
Laqueus californianus	0.23	33	313-1,030	608	6
Lycodapus fierasfer	0.23	84	367-1,054	761	13
Pseudarchaster sp.	0.22	2	1,556-1,556	1556	1
Hydrozoa	0.22		219-551	418	5
Lycodapus sp.	0.21	48	420-1,154	675	18
Buccinum viridum	0.21	14	1,508-1,508	1,508	1
Gersemia sp.	0.20		677-1,508	1,012	3
Crystallichthys cyclospilus	0.20	2	283-283	283	1
Careproctus gilberti	0.18	27	483-639	582	3
Lycenchelys sp.	0.18	5	654-1,035	902	3
Labidochirus splendescens	0.18	14	227-463	323	4
Lophaster sp.	0.17	2	1,154-1,154	1,154	1
Colus calathus	0.17	7	294-294	294	1
Psolus sp.	0.17	9	482-1,038	760	2
Gastropod unident.	0.17	11	227-1,061	514	3
Benthalbella sp.	0.15	2	838-996	917	2
Crangon sp.	0.15	99	205-551	335	13
Bathyagonus sp.	0.15	6	295-295	295	1
Rastrinus scutiger	0.13	23	313-367	340	2
Lycodes sp.	0.13	2	295-872	584	2
Mediaster sp.	0.13	6	715-1,556	1,089	3
Cribrinopsis fernaldi	0.13	18	1,054-1,054	1,054	1
Tritonia diomedea	0.13	1	497-497	497	1
Macropinna microstoma	0.13	4	612-1,016	773	3
Paraliparis dactylosus	0.13	12	309-1,018	818	9
Poromitra crassiceps	0.13	5	458-1,048	798	5
Oregonia gracilis	0.12	8	283-1,038	535	4
Sipuncula	0.12	20	519-1,508	973	5
Argis lar	0.12	31	348-420	384	2
Melamphaes lugubris	0.12	7	452-1,035	652	7
Alyconaria unident.	0.11		367-1,154	761	2
Aspidophoroides bartoni	0.11	13	236-236	236	1
Paraliparis pectoralis	0.10	9	715-1,508	985	7
Crangon communis	0.10	41	236-531	336	6
Pagurus brandti	0.09	9	209-417	291	4
Acantholithodes hispidus	0.09	2	1,038-1,038	1,038	1
Tactostoma macropus	0.09	2	531-817	674	2
Gymnocanthus galeatus	0.08	1	209-209	209	1
Gonatus onyx	0.08	5	420-500	465	5
Ophiopholis longispina	0.08	33	319-1,054	687	2

Table 6. Continued

Species name	Total weight (kg)	Total numbers	Min-max depth caught (m)	Mean bottom depth (m)	Frequency of occurrence (hauls)
Oneirodidae	0.08	2	730-730	730	1
Sebastes sp.	0.08	3	244-367	306	2
Colus sp.	0.08	11	308-872	532	3
Asteronychidae	0.08	2	772-772	772	1
Magnisudis atlantica	0.07	1	648-648	648	1
Pagurus ochotensis	0.07	2	204-204	204	1
Balanus sp.	0.07	5	367-367	367	1
Suberites ficus	0.07	4	283-283	283	1
Puzanovia rubra	0.07	2	1,038-1,038	1,038	1
Brisaster sp.	0.07	5	509-1,508	1,009	2
Anthomastus sp.	0.06	1	367-924	646	2
Nansenia candida	0.06	1	609-609	609	1
Gonatus sp.	0.06	1	648-648	648	1
Pycnogonida	0.05	27	348-1,508	734	14
Polychaeta	0.05	17	367-1,508	655	5
Pasiphaea tarda	0.05	4	919-1,508	1,214	2
Lampanyctus sp.	0.05	1	1,035-1,035	1,035	1
Diaphus theta	0.05	4	531-1,508	878	4
Halichondria cf. *sitiens*	0.04		482-482	482	1
Zesticelus profundorum	0.04	17	772-1,061	916	10
Rhinoliparis sp.	0.04	8	483-1,018	754	5
Natica clausa	0.04	6	227-1,048	494	4
Leuroglossus sp.	0.04	10	429-505	467	2
Halipteris sp.	0.04	2	1,154-1,154	1,154	1
Isopoda	0.04	7	213-1,016	426	5
Notostomus japonicus	0.04	2	1,508-1,508	1,508	1
Gonostomatidae	0.04	32	471-1,556	930	6
Careproctus sp.	0.03	3	420-796	566	3
Paraliparis ulochir	0.03	6	715-998	887	4
Bathylagus ochotensis	0.03	3	647-922	815	3
Beringius sp. eggs	0.03		368-452	403	4
Paraliparis cephalus	0.03	11	838-1,018	891	5
Ascidian unident.	0.03	4	335-1,508	797	3
Delectopecten vancouverensis	0.03	12	831-831	831	1
Melamphaidae	0.02	1	483-483	483	1
Nudibranchia	0.02	1	313-313	313	1
Eualus barbatus	0.02	3	236-236	236	1
Polynoidae	0.02	7	235-367	281	6
Carcinobdella cyclostomum	0.02	6	242-483	330	5
Terebratalia transversa	0.02	1	305-305	305	1
Boreotrophon sp.	0.02	4	825-872	849	2
Elassodiscus sp.	0.02	4	852-1,018	962	3

Table 6. Continued

Species name	Total weight (kg)	Total numbers	Min-max depth caught (m)	Mean bottom depth (m)	Frequency of occurrence (hauls)
Boreotrophon stuarti	0.02	9	1,048-1,048	1,048	1
Crossaster papposus	0.02	2	242-242	242	1
Stylatula sp.	0.02	1	330-330	330	1
Bathyphelia australis	0.02	8	319-1,154	737	2
Hyas sp.	0.01	1	715-715	715	1
Nuculana sp.	0.01	4	253-872	563	2
Paraliparis paucidens	0.01	1	1,054-1,054	1,054	1
Gnathophausia ingens	0.01	4	796-1,154	946	3
Protomyctophum sp.	0.01	4	283-1,035	712	3
Ophiopholis sp.	0.01	6	648-772	710	2
Ophiura sp.	0.01	7	712-799	756	2
Halipteris californica	0.01	1	412-412	412	1
Chlamys sp.	0.01	1	242-242	242	1
Bathyagonus alascanus	0.01	2	242-297	270	2
Sigmops gracilis	0.01	1	452-452	452	1
Psolus japonicus	0.01	2	313-313	313	1
Pagurus sp.	0.01	1	772-772	772	1
Margarites costalis	0.01	1	903-903	903	1
Aforia circinata	0.01	2	205-297	251	2
Strongylocentrotus sp.	0.01	1	244-244	244	1
Brachyura	0.01	2	319-367	343	2
Argis sp.	0.01	1	204-204	204	1
Pentamera sp.	0.01	1	483-483	483	1
Gnathophausia sp.	0.01	7	996-996	996	2
Alcyonacea	0.01		1,556-1,556	1,556	1
Colus herendeenii	0.01	1	452-452	452	1
Rhinoliparis barbulifer	0.01	1	677-677	677	1
Lycenchelys camchatica	0.01	1	838-838	838	1
Careproctus candidus	<.01	1	313-313	313	1
Eualus gaimardii	<.01	1	294-294	294	1
Epitonium greenlandicum	<.01	1	205-205	205	1
Lipariscus nanus	<.01	2	420-458	439	2
Brisingella sp.	<.01	2	772-772	772	1
Polinices pallidus	<.01	1	236-236	236	1
Paguridae	<.01	1	207-207	207	1
Lycodapus poecilus	<.01	1	609-609	609	1
Crangonidae	<.01	24	996-996	996	1
Bathylagidae unident.	<.01	2	623-623	623	1
Umbellula sp.	<.01	1	1,154-1,154	1,154	1
Bivalvia unident.	<.01	12	872-872	872	1

Table 7. All fish species for which biological data (lengths, otoliths, individual weights, and stomach samples) were collected on the 2002 eastern Bering Sea upper continental slope survey and the number of specimens measured or collected.

Scientific Name	Individuals measured	Otoliths collected	Individual weights	Stomachs collected
Albatrossia pectoralis	8,175	792	792	394
Coryphaenoides cinereus	7,302			
Hippoglossoides elassodon	3,987			
Sebastolobus alascanus	3,709	883	883	242
Atheresthes stomias	3,565	487	487	302[A]
Glyptocephalus zachirus	2,640			
Bothrocara brunneum	2,368		78	
Sebastes alutus	2,040	303	303	
Theragra chalcogramma	1,675			450
Atheresthes evermanni	1,613	614	614	
Coryphaenoides acrolepis	1,477			
Malacocottus zonurus	1,471	241	241	
Dasycottus setiger	1,336			
Bathyagonus nigripinnis	1,223			
Bathyraja aleutica	1,178		198	522[B]
Reinhardtius hippoglossoides	1,076	488	488	229
Anoplopoma fimbria	917			244
Lycodes diapterus	810			
Bathyraja parmifera	802		72	
Lycodes concolor	541	279	279	
Gadus macrocephalus	468			200
Bathyraja lindbergi	366		26	
Bathyraja interrupta	355		50	
Sebastes borealis	236	171	171	
Careproctus melanurus	232	146	146	
Icelus canaliculatus	212			
Bathyraja maculata	186		27	
Bathyraja minispinosa	185		11	
Bathyraja trachura	164		31	
Bathyraja taranetzi	160		21	
Somniosus pacificus	141		51	
Hemitripterus bolini	121	106	106	
Sebastes aleutianus	119	104	104	
Hippoglossus stenolepis	101			
Psychrolutes phrictus	96		30	
Antimora microlepis	96		40	
Lepidopsetta polyxystra	50			
Aptocyclus ventricosus	26			
Microstomus pacificus	21			
Embassichthys bathybius	20			
Careproctus furcellus	16			
Zaprora silenus	12			
Sebastes polyspinis	8			
Oncorhynchus keta	5			
Bathyraja violacea	3		1	
Sebastes ciliatus	3			
Sebastolobus altivelus	3			
Lycenchelys crotalinus	2			
Raja badia	1			
Pleurogrammus monopterygius	1			
TOTALS	**51,314**	**4,614**	**5,250**	**1,759**

[A]Represents both arrowtooth flounder and Kamchatka flounder stomachs combined.

[B]Represents all skate (*Bathyraja* spp.) stomachs taken collectively.

Table 8. Species included in the 440 lots of voucher specimens collected during the 2002 eastern Bering Sea upper continental slope survey.

Species name	Lots	Species name	Lots	Species name	Lots
Liparidinae	37	*Graneledone boreopacifica*	2	*Gersemia* sp.	1
Lycodapus sp.	18	*Leptagonus frenatus*	2	*Gnathophausia ingens*	1
Decapoda	13	*Leptagonus frenatus*	2	*Gymnocanthus galeatus*	1
Careproctus cypselurus	10	*Lipariscus nanus*	2	*Halipteris* sp.	1
Oneirodes thompsoni	10	*Lycodes* sp.	2	*Hemitripterus bolini*	1
Paraliparis sp.	10	*Macropinna microstoma*	2	*Heterozonias alternatus*	1
Rhinoliparis attenuatus	10	*Neptunea insularis*	2	*Hippasteria* sp.	1
Careproctus furcellus	9	Octopodidae	2	*Hyas* sp.	1
Bathyraja interrupta	8	*Octopus dofleini*	2	Hydrozoa	1
Lycodapus fierasfer	8	Ophiuroid unident.	2	*Icelus euryops*	1
Elassodiscus tremebundus	7	*Pandalopsis ampla*	2	*Lampanyctus jordani*	1
Halargyreus johnsoni	7	*Paraliparis ulochir*	2	*Lampanyctus ritteri*	1
Paraliparis pectoralis	7	Polychaeta (tube worm)	2	*Lampanyctus* sp.	1
Bathyraja sp.	6	*Protomyctophum* sp.	2	*Leuroglossus* sp.	1
Bothrocara pusillum	6	*Pteraster* sp.	2	*Lithodes couesi*	1
Careproctus simis	6	*Sebastes* sp.	2	*Lophaster furcilliger*	1
Paraliparis dactylosus	6	*Sebastolobus altivelis*	2	*Lophaster* sp.	1
Zesticelus profundorum	6	*Sebastolobus macrochir*	2	*Lycenchelys camchatica*	1
Elassodiscus caudatus	5	*Stenobrachius nannochir*	2	*Lycenchelys crotalinus*	1
Holothuroidea unident.	5	Actinostolidae	1	*Lycodapus poecilus*	1
Oneirodes bulbosus	5	Alcyonacea	1	*Lycodes diapterus*	1
Rhinoliparis sp.	5	Alyconaria unident.	1	*Magnisudis atlantica*	1
Albatrossia pectoralis	4	*Amphilaphis* sp.	1	*Margarites costalis*	1
Bathyraja trachura	4	Asteroidea unident.	1	*Mediaster aequalis*	1
Benthalbella dentata	4	*Bathyagonus alascanus*	1	*Mediaster* sp.	1
Bothrocara brunneum	4	*Bathyagonus* sp.	1	Mytilidae	1
Coleoidea	4	Bathylagidae unident.	1	*Nansenia candida*	1
Coryphaenoides longifilis	4	*Bathylagus milleri*	1	*Nearchaster variabilis*	1
Paraliparis cephalus	4	*Bathyphelia australis*	1	*Neptunea amianta*	1
Bathyraja parmifera	3	*Bathyplotes* sp.	1	*Neptunea pribiloffensis*	1
Bathyraja taranetzi	3	*Bathyraja aleutica*	1	*Neptunea* sp. eggs	1
Benthoctopus sp.	3	*Bathyraja maculata*	1	*Nuculana* sp.	1
Beringius sp.	3	*Bathyraja violacea*	1	*Ophiura sarsi*	1
Bothrocara sp.	3	*Benthalbella* sp.	1	*Opisthoteuthis californiana*	1
Careproctus gilberti	3	*Benthoctopus leioderma*	1	Osteichthyes eggs	1
Careproctus sp.	3	*Beringius frielei*	1	*Pagurus aleuticus*	1
Careproctus sp. G	3	Bivalvia unident.	1	*Paractinostola faeculenta*	1
Crossaster sp.	3	*Bothrocara* sp. 1	1	*Paraliparis paucidens*	1
Elassodiscus sp.	3	*Brisaster* sp.	1	*Paralomis* sp.	1
Gastropod unident.	3	*Brisingella exilis*	1	*Pentamera* sp.	1
Gonostomatidae	3	Bryozoa unident.	1	*Polinices pallidus*	1
Isopoda	3	*Buccinum* sp.	1	*Polyacanthonotus challengeri*	1
Lithodidae unident.	3	*Careproctus candidus*	1	*Primnoa willeyi*	1
Lycenchelys sp.	3	*Careproctus melanurus*	1	*Pseudarchaster* sp.	1
Myctophidae	3	*Careproctus zachirus*	1	*Psychrolutes phrictus*	1
Myctophidae	3	*Ceramaster* sp.	1	*Puzanovia rubra*	1
Nudibranchia unident.	3	*Chauliodus macouni*	1	*Raja badia*	1
Actiniaria	2	*Chionoecetes angulatus*	1	*Rastrinus scutiger*	1
Aptocyclus ventricosus	2	*Chionoecetes tanneri*	1	*Rhinoliparis barbulifer*	1
Bathylagus pacificus	2	*Colus calathus*	1	*Sebastolobus alascanus*	1
Bathymaster signatus	2	*Colus herendeenii*	1	*Sigmops gracilis*	1
Bathyraja lindbergi	2	*Colus* sp.	1	Sipuncula	1
Boreotrophon sp.	2	*Coryphaenoides cinereus*	1	*Stenobrachius leucopsarus*	1
Brachyura	2	*Crangon* sp.	1	*Tritonia* sp.	1
Buccinum sp. A	2	Crangonidae	1	*Umbellula* sp.	1
Careproctus colletti	2	Crinoidea	1	*Virgularia* sp.	1
Careproctus rastrinus	2	*Dipsacaster borealis*	1	Virgularidae	1
Ceramaster patagonicus	2	*Gasterosteus aculeatus*	1		

Table 9. Abundance and density estimates of all fish and invertebrates encountered by depth range during the 2002 eastern Bering Sea upper continental slope survey. Species presentation is by taxonomic convention. Biomass is in metric tons.

Sharks and Skates

Depth groups (m)	Abundance estimates	*Somniosus pacificus*	*Bathyraja* unidentified	*Bathyraja interrupta*	*Bathyraja taranetzi*	*Bathyraja trachura*	*Bathyraja parmifera*	*Bathyraja aleutica*	*Bathyraja lindbergi*	*Bathyraja maculata*	*Bathyraja minispinosa*	*Bathyraja violacea*	Rajidae egg case	*Bathyraja* (egg case)
200-600	Biomass	2.55E+02	5.04E+01	2.74E+03	8.99E+02	3.46E+00	3.59E+04	1.64E+04	1.24E+03	3.68E+03	1.29E+03	4.74E+01	1.67E+01	4.71E+01
	Population	1.81E+04	5.33E+04	2.23E+06	8.99E+05	1.18E+04	6.04E+06	4.02E+06	3.34E+05	1.08E+06	6.65E+05	1.67E+04	8.32E+05	9.96E+05
	Variance biomass	2.19E+04	1.58E+03	2.56E+05	8.62E+04	8.11E+00	1.16E+09	1.91E+07	1.04E+05	8.12E+05	1.23E+05	7.89E+02	2.05E+01	5.10E+02
	Variance population	1.14E+08	1.36E+09	1.14E+11	8.80E+10	6.99E+07	3.24E+13	3.60E+11	7.56E+09	4.22E+10	3.05E+10	9.48E+07	5.02E+10	2.29E+11
	Mean CPUE (kg/ha)	1.80E-01	1.54E-02	1.42E+00	5.05E-01	2.36E-03	1.19E+01	9.33E+00	1.08E+00	2.31E+00	7.97E-01	2.66E-02	8.81E-03	1.09E-02
	Mean CPUE (no./ha)	1.23E-02	1.37E-02	9.54E-01	5.16E-01	8.24E-03	1.98E+00	2.64E+00	2.76E-01	6.29E-01	3.98E-01	9.33E-03	4.85E-01	2.53E-01
	Variance CPUE (kg/ha)	1.26E-01	1.25E-03	2.46E+00	2.84E-01	4.26E-05	1.49E+03	3.46E+01	2.70E+00	3.60E+00	6.56E-01	3.17E-03	1.11E-04	7.65E-04
	Variance CPUE (no./ha)	5.62E-04	7.38E-04	5.33E-01	2.14E-01	3.75E-04	4.11E+01	4.77E+00	1.89E-01	6.65E-01	1.90E-01	3.49E-04	3.13E-01	2.02E-01
600-1200	Biomass	2.52E+04	3.62E+00	1.36E+02	2.77E+01	1.65E+03	0.00E+00	2.29E+03	2.42E+03	2.44E+02	2.52E+02	0.00E+00	1.48E+01	3.49E+00
	Population	6.66E+05	5.06E+04	7.39E+04	1.37E+05	1.06E+06	0.00E+00	3.10E+06	1.98E+06	2.30E+05	6.15E+05	0.00E+00	1.05E+06	2.51E+05
	Variance biomass	4.94E+08	8.52E+00	8.42E+03	3.12E+02	5.61E+04	0.00E+00	1.93E+05	2.21E+05	1.33E+04	4.79E+03	0.00E+00	1.42E+01	2.23E+00
	Variance population	2.99E+11	1.03E+09	1.95E+09	8.07E+09	3.11E+10	0.00E+00	4.39E+11	1.59E+11	1.57E+10	4.37E+10	0.00E+00	7.85E+10	1.05E+10
	Mean CPUE (kg/ha)	2.13E+01	3.39E-03	4.65E-02	2.58E-02	1.33E+00	0.00E+00	1.73E+00	1.96E+00	2.36E-01	2.20E-01	0.00E+00	9.38E-03	1.69E-03
	Mean CPUE (no./ha)	5.51E-01	4.86E-02	2.89E-02	1.25E-01	8.17E-01	0.00E+00	2.53E+00	1.77E+00	2.23E-01	5.41E-01	0.00E+00	6.44E-01	1.26E-01
	Variance CPUE (kg/ha)	6.89E+03	1.19E-04	3.54E-02	5.71E-03	7.26E-01	0.00E+00	4.64E+00	6.20E+00	8.74E-01	6.06E-02	0.00E+00	1.00E-04	1.00E-05
	Variance CPUE (no./ha)	4.08E+00	1.79E-02	8.10E-03	1.19E-01	3.52E-01	0.00E+00	1.10E+01	7.06E+00	6.87E-01	7.16E-01	0.00E+00	5.12E-01	6.39E-02
All depths combined	Biomass	2.54E+04	5.40E+01	2.87E+03	9.27E+02	1.66E+03	3.59E+04	1.87E+04	3.66E+03	3.93E+03	1.54E+03	4.74E+01	3.15E+01	5.06E+01
	Population	6.84E+05	1.04E+05	2.31E+06	1.04E+06	1.08E+06	6.04E+06	7.12E+06	2.31E+06	1.31E+06	1.28E+06	1.67E+04	1.88E+06	1.25E+06
	Variance biomass	4.94E+08	1.59E+03	2.65E+05	8.65E+04	5.61E+04	1.16E+09	1.93E+07	3.26E+05	8.25E+05	1.28E+05	7.89E+02	3.47E+01	5.12E+02
	Variance population	2.99E+11	2.39E+09	1.16E+11	9.61E+10	3.12E+10	3.24E+13	7.98E+11	1.66E+11	5.79E+10	7.42E+10	9.48E+07	1.29E+11	2.40E+11
	Mean CPUE (kg/ha)	1.02E+01	1.73E-02	8.68E-01	2.97E-01	4.99E-01	8.95E+00	5.73E+00	1.26E+00	1.17E+00	4.65E-01	1.58E-02	9.34E-03	1.59E-02
	Mean CPUE (no./ha)	2.70E-01	3.09E-02	6.87E-01	3.35E-01	3.32E-01	1.51E+00	2.28E+00	7.45E-01	3.88E-01	3.56E-01	5.55E-03	5.79E-01	3.66E-01
	Variance CPUE (kg/ha)	1.21E+04	2.29E-02	3.79E+00	1.34E+00	1.11E+00	9.94E+03	2.11E+02	7.55E+00	9.78E+00	1.49E+00	1.21E-02	4.18E-04	7.87E-03
	Variance CPUE (no./ha)	7.25E+00	3.42E-02	1.99E+00	1.44E+00	6.03E-01	2.77E+02	1.39E+01	4.68E+00	1.21E+00	6.94E-01	1.43E-03	1.63E+00	3.06E+00

Table 9. Continued

Rockfishes

Depth groups (m)	Abundance estimates	*Sebastes alutus*	*Sebastes borealis*	*Sebastes aleutianus*	*Sebastes polyspinis*	*Sebastes variabilis*	*Sebastes* unidentified	*Sebastolobus alascanus*	*Sebastolobus altivelis*	*Sebastolobus macrochir*
200-600	Biomass	7.27E+04	4.85E+03	5.53E+02	3.33E+01	2.50E+01	4.44E-01	1.30E+04	0.00E+00	2.03E+00
	Population	8.55E+07	1.39E+06	7.60E+05	4.75E+04	1.84E+04	1.84E+04	2.83E+07	0.00E+00	6.76E+03
	Variance biomass	1.49E+09	4.47E+06	1.21E+04	1.56E+02	2.00E+02	1.74E-01	3.21E+06	0.00E+00	4.12E+00
	Variance population	2.04E+15	3.04E+11	2.84E+10	3.37E+08	1.11E+08	1.86E+08	1.93E+13	0.00E+00	4.58E+07
	Mean CPUE (kg/ha)	5.30E+01	3.67E+00	2.90E-01	9.82E-03	1.06E-02	9.21E-05	6.55E+00	0.00E+00	4.16E-04
	Mean CPUE (no./ha)	6.30E+01	1.10E+00	3.23E-01	1.49E-02	8.89E-03	3.83E-03	1.40E+01	0.00E+00	1.39E-03
	Variance CPUE (kg/ha)	1.82E+04	4.74E+01	1.36E-01	5.61E-04	6.92E-04	1.02E-07	6.00E+01	0.00E+00	2.08E-06
	Variance CPUE (no./ha)	2.62E+04	3.90E+00	2.84E-01	1.24E-03	5.47E-04	1.76E-04	2.24E+02	0.00E+00	2.31E-05
600-1200	Biomass	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.91E+03	7.46E+00	3.09E+00
	Population	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.21E+06	1.92E+04	4.69E+03
	Variance biomass	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.29E+05	4.11E+01	9.54E+00
	Variance population	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.24E+11	2.12E+08	2.20E+07
	Mean CPUE (kg/ha)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.44E+00	3.24E-03	1.98E-03
	Mean CPUE (no./ha)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.88E+00	8.35E-03	3.01E-03
	Variance CPUE (kg/ha)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.42E+01	1.78E-04	6.67E-05
	Variance CPUE (no./ha)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.14E+01	1.19E-03	1.54E-04
All depths combined	Biomass	7.27E+04	4.85E+03	5.53E+02	3.33E+01	2.50E+01	4.44E-01	1.69E+04	7.46E+00	5.12E+00
	Population	8.55E+07	1.39E+06	7.60E+05	4.75E+04	1.84E+04	1.84E+04	3.15E+07	1.92E+04	1.15E+04
	Variance biomass	1.49E+09	4.47E+06	1.21E+04	1.56E+02	2.00E+02	1.74E-01	3.84E+06	4.11E+01	1.37E+01
	Variance population	2.04E+15	3.04E+11	2.84E+10	3.37E+08	1.11E+08	1.86E+08	2.01E+13	2.12E+08	6.78E+07
	Mean CPUE (kg/ha)	2.65E+01	1.58E+00	1.75E-01	1.09E-02	8.52E-03	1.41E-04	5.30E+00	2.73E-03	1.76E-03
	Mean CPUE (no./ha)	3.13E+01	4.49E-01	2.40E-01	1.56E-02	6.38E-03	5.86E-03	9.73E+00	7.05E-03	3.70E-03
	Variance CPUE (kg/ha)	3.34E+04	7.02E+01	2.26E-01	2.82E-03	3.37E-03	2.50E-06	8.02E+01	8.15E-04	2.45E-04
	Variance CPUE (no./ha)	4.62E+04	4.99E+00	5.54E-01	6.06E-03	1.98E-03	2.77E-03	3.94E+02	4.43E-03	9.61E-04

Table 9. Continued

Flatfishes, Grenadiers and Cods

Depth groups (m)	Abundance estimates	*Atheresthes stomias*	*Atheresthes evermanni*	*Reinhardtius hippoglossoides*	*Hippoglossus stenolepis*	*Hippoglossoides elassodon*	*Microstomus pacificus*	*Embassichthys bathybius*	*Glyptocephalus zachirus*	*Lepidopsetta polyxystra*	*Albatrossia pectoralis*	*Coryphaenoides cinereus*	*Coryphaenoides acrolepis*	*Coryphaenoides longifilis*	*Theragra chalcogramma*	*Gadus macrocephalus*	*Halargyreus johnsoni*	*Antimora microlepis*
200-600	Biomass	4.24E+04	1.52E+04	1.83E+04	7.53E+03	2.21E+04	9.68E+01	0.00E+00	8.08E+03	1.84E+02	1.10E+05	7.52E+02	0.00E+00	0.00E+00	1.92E+04	7.51E+03	0.00E+00	2.62E-01
	Population	3.59E+07	9.09E+06	4.66E+06	6.30E+05	5.33E+07	1.37E+05	0.00E+00	1.92E+07	3.92E+05	2.29E+07	4.17E+06	0.00E+00	0.00E+00	1.43E+07	3.12E+06	0.00E+00	5.95E+03
	Variance biomass	3.05E+07	3.68E+06	9.09E+06	2.15E+06	1.05E+07	8.34E+02	0.00E+00	1.12E+06	1.58E+04	4.09E+08	2.55E+05	0.00E+00	0.00E+00	1.65E+07	3.78E+06	0.00E+00	6.85E-02
	Variance population	2.21E+13	7.49E+11	5.34E+11	1.76E+10	5.89E+13	1.34E+09	0.00E+00	5.30E+12	8.59E+10	1.44E+13	9.29E+12	0.00E+00	0.00E+00	9.32E+12	7.15E+11	0.00E+00	3.54E+07
	Mean CPUE (kg/ha)	2.43E+01	9.72E+00	8.73E+00	4.55E+00	1.20E+01	2.43E-02	0.00E+00	5.30E+00	8.20E-02	8.99E+01	6.34E-01	0.00E+00	0.00E+00	6.17E+00	3.96E+00	0.00E+00	2.46E-04
	Mean CPUE (no./ha)	1.89E+01	5.70E+00	2.51E+00	3.60E-01	2.58E+01	3.62E-02	0.00E+00	1.24E+01	1.61E-01	1.79E+01	3.70E+00	0.00E+00	0.00E+00	4.78E+00	1.45E+00	0.00E+00	5.60E-03
	Variance CPUE (kg/ha)	2.86E+02	1.93E+02	4.65E+01	1.37E+01	6.20E+01	2.14E-03	0.00E+00	9.42E+00	2.48E-02	9.33E+03	2.76E+00	0.00E+00	0.00E+00	7.51E+01	3.16E+01	0.00E+00	7.27E-07
	Variance CPUE (no./ha)	2.30E+02	2.77E+01	3.91E+00	1.17E-01	2.75E+02	4.50E-03	0.00E+00	6.79E+01	1.29E-01	4.05E+02	1.02E+02	0.00E+00	0.00E+00	4.18E+01	4.42E+00	0.00E+00	3.76E-04
600-1200	Biomass	1.01E+02	3.46E+03	8.86E+03	4.69E+02	0.00E+00	0.00E+00	1.02E+02	2.09E+00	0.00E+00	3.16E+05	4.96E+04	2.46E+03	1.75E+00	7.31E+01	0.00E+00	1.55E+01	1.58E+02
	Population	5.48E+04	1.50E+06	1.95E+06	2.51E+04	0.00E+00	0.00E+00	9.39E+04	1.29E+04	0.00E+00	1.01E+08	3.55E+08	1.19E+07	1.00E+04	5.35E+04	0.00E+00	6.31E+04	7.17E+05
	Variance biomass	1.99E+03	3.53E+05	1.52E+06	8.87E+04	0.00E+00	0.00E+00	1.20E+03	4.36E+00	0.00E+00	1.25E+09	3.38E+07	2.81E+05	1.69E+00	1.03E+03	0.00E+00	1.54E+01	4.56E+02
	Variance population	5.92E+08	6.35E+10	1.02E+11	2.14E+08	0.00E+00	0.00E+00	9.56E+08	1.66E+08	0.00E+00	1.37E+14	2.44E+15	6.22E+12	5.55E+07	5.69E+08	0.00E+00	2.84E+08	6.59E+09
	Mean CPUE (kg/ha)	5.48E-02	2.21E+00	5.24E+00	2.11E-01	0.00E+00	0.00E+00	7.80E-02	7.05E-04	0.00E+00	2.55E+02	4.15E+01	2.27E+00	1.24E-03	3.91E-02	0.00E+00	1.12E-02	1.57E-01
	Mean CPUE (no./ha)	2.87E-02	9.50E-01	1.19E+00	1.24E-02	0.00E+00	0.00E+00	7.38E-02	4.35E-03	0.00E+00	7.89E+01	3.10E+02	1.11E+01	6.27E-03	2.85E-02	0.00E+00	4.35E-02	6.97E-01
	Variance CPUE (kg/ha)	2.15E-02	5.55E+00	2.48E+01	3.79E-01	0.00E+00	0.00E+00	1.44E-02	8.45E-06	0.00E+00	5.85E+04	5.84E+02	7.40E+00	1.57E-05	9.38E-03	0.00E+00	7.12E-04	7.69E-02
	Variance CPUE (no./ha)	5.00E-03	1.12E+00	1.49E+00	1.23E-03	0.00E+00	0.00E+00	1.21E-02	3.22E-04	0.00E+00	5.28E+03	7.01E+04	1.84E+02	3.19E-04	4.87E-03	0.00E+00	7.43E-03	1.15E+00
All depths combined	Biomass	4.25E+04	1.86E+04	2.71E+04	8.00E+03	2.21E+04	9.68E+01	1.02E+02	8.08E+03	1.84E+02	4.26E+05	5.03E+04	2.46E+03	1.75E+00	1.93E+04	7.51E+03	1.55E+01	1.58E+02
	Population	3.59E+07	1.06E+07	6.61E+06	6.55E+05	5.33E+07	1.37E+05	9.39E+04	1.92E+07	3.92E+05	1.24E+08	3.59E+08	1.19E+07	1.00E+04	1.44E+07	3.12E+06	6.31E+04	7.23E+05
	Variance biomass	3.05E+07	4.03E+06	1.06E+07	2.24E+06	1.05E+07	8.34E+02	1.20E+03	1.12E+06	1.58E+04	1.66E+09	3.40E+07	2.81E+05	1.69E+00	1.65E+07	3.78E+06	1.54E+01	4.56E+02
	Variance population	2.21E+13	8.13E+11	6.35E+11	1.78E+10	5.89E+13	1.34E+09	9.56E+08	5.30E+12	8.59E+10	1.51E+14	2.45E+15	6.22E+12	5.55E+07	9.32E+12	7.15E+11	2.84E+08	6.63E+09
	Mean CPUE (kg/ha)	1.37E+01	5.65E+00	8.20E+00	2.40E+00	6.94E+00	2.94E-02	4.14E-02	2.61E+00	4.94E-02	1.49E+02	1.60E+01	6.46E-01	6.00E-04	5.85E+00	2.41E+00	3.46E-03	3.48E-02
	Mean CPUE (no./ha)	1.16E+01	3.19E+00	2.04E+00	1.96E-01	1.64E+01	4.14E-02	3.82E-02	6.10E+00	1.02E-01	4.29E+01	1.12E+02	2.91E+00	3.03E-03	4.36E+00	9.49E-01	1.60E-02	1.75E-01
	Variance CPUE (kg/ha)	6.67E+02	9.77E+01	1.59E+02	3.09E+01	1.89E+02	1.24E-02	2.97E-02	2.34E+01	1.42E-01	5.73E+04	8.50E+02	5.13E+00	3.14E-05	3.08E+02	6.89E+01	3.22E-04	1.65E-02
	Variance CPUE (no./ha)	5.02E+02	2.07E+01	1.01E+01	2.51E-01	1.11E+03	2.01E-02	2.38E-02	1.15E+02	7.56E-01	5.08E+03	5.97E+04	1.04E+02	6.50E-04	1.73E+02	1.17E+01	5.51E-03	3.00E-01

Table 9. Continued

Poachers and Sculpins

Depth groups (m)	Abundance estimates	*Leptagonus frenatus*	*Bathyagonus* unidentified	*Bathyagonus alascanus*	*Bathyagonus nigripinnis*	*Aspidophoroides bartoni*	*Malacocottus zonurus*	*Dasycottus setiger*	*Psychrolutes phrictus*	*Hemitripterus bolini*	*Icelus spiniger*	*Icelus canaliculatus*	*Icelus euryops*	*Triglops scepticus*	*Myoxocephalus polyacanthocephalus*	*Rastrinus scutiger*	*Gymnocanthus galeatus*	*Zesticelus profundorum*
200-600	Biomass	3.75E+02	1.13E+00	7.10E-02	3.70E+01	7.44E-01	1.47E+03	1.14E+03	3.58E+01	1.91E+03	7.42E+01	4.23E+01	1.15E+01	5.78E+01	4.44E+01	8.51E-01	6.93E-01	0.00E+00
	Population	7.39E+06	4.57E+04	1.50E+04	2.34E+06	9.12E+04	1.36E+07	8.93E+06	5.95E+03	7.85E+05	1.96E+06	2.30E+06	2.31E+05	1.20E+06	2.81E+04	1.46E+05	8.66E+03	0.00E+00
	Variance biomass	7.56E+03	1.27E+00	2.53E-03	7.44E+01	5.53E-01	3.43E+05	5.15E+04	1.28E+03	1.83E+05	3.33E+02	3.09E+02	1.00E+02	9.73E+02	1.97E+03	4.76E-01	4.80E-01	0.00E+00
	Variance population	3.14E+12	2.09E+09	1.20E+08	2.43E+11	8.32E+09	1.82E+13	2.24E+12	3.54E+07	2.29E+10	1.89E+11	8.37E+11	8.07E+09	3.57E+11	7.88E+08	1.53E+10	7.51E+07	0.00E+00
	Mean CPUE (kg/ha)	2.24E-01	3.62E-04	3.40E-05	1.32E-02	2.39E-04	8.61E-01	2.89E-01	3.36E-02	1.08E+00	2.10E-02	3.12E-02	6.16E-03	6.88E-02	1.42E-02	2.73E-04	2.22E-04	0.00E+00
	Mean CPUE (no./ha)	4.42E+00	1.47E-02	7.93E-03	8.63E-01	2.93E-02	7.73E+00	2.64E+00	5.60E-03	4.11E-01	5.93E-01	1.65E+00	1.66E-01	1.35E+00	9.01E-03	4.32E-02	2.78E-03	0.00E+00
	Variance CPUE (kg/ha)	7.51E-02	1.57E-06	8.99E-09	2.53E-04	6.84E-07	2.42E+00	3.64E-01	1.36E-02	1.42E+00	2.22E-03	3.54E-03	2.77E-04	4.11E-02	2.43E-03	4.06E-07	5.94E-07	0.00E+00
	Variance CPUE (no./ha)	2.95E+01	2.58E-03	5.51E-04	9.91E-01	1.03E-02	9.85E+01	1.17E+01	3.76E-04	1.07E-01	1.49E+00	9.43E+00	3.84E-02	1.46E+01	9.75E-04	1.05E-02	9.28E-05	0.00E+00
600-1200	Biomass	4.23E+00	0.00E+00	0.00E+00	4.84E+01	0.00E+00	5.30E+01	1.37E+01	1.44E+03	9.66E+00	0.00E+00	7.97E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.84E-01
	Population	7.46E+04	0.00E+00	0.00E+00	4.64E+06	0.00E+00	6.02E+05	1.31E+05	5.82E+05	2.58E+04	0.00E+00	4.49E+06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.13E+05
	Variance biomass	5.90E+00	0.00E+00	0.00E+00	1.25E+02	0.00E+00	2.20E+03	1.24E+02	1.66E+05	9.34E+01	0.00E+00	3.31E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.05E-02
	Variance population	1.81E+09	0.00E+00	0.00E+00	1.15E+12	0.00E+00	2.61E+11	7.63E+09	1.17E+10	6.64E+08	0.00E+00	9.32E+12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.68E+09
	Mean CPUE (kg/ha)	4.48E-03	0.00E+00	0.00E+00	2.82E-02	0.00E+00	5.16E-02	4.67E-03	1.02E+00	3.26E-03	0.00E+00	7.45E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.20E-04
	Mean CPUE (no./ha)	7.95E-02	0.00E+00	0.00E+00	2.78E+00	0.00E+00	5.80E-01	4.53E-02	4.67E-01	8.70E-03	0.00E+00	4.10E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.99E-02
	Variance CPUE (kg/ha)	1.36E-04	0.00E+00	0.00E+00	1.29E-03	0.00E+00	4.14E-02	3.56E-04	2.01E+00	1.81E-04	0.00E+00	7.28E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.31E-07
	Variance CPUE (no./ha)	4.35E-02	0.00E+00	0.00E+00	1.19E+01	0.00E+00	5.08E+00	3.16E-02	1.64E-01	1.29E-03	0.00E+00	2.00E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.05E-02
All depths combined	Biomass	3.79E+02	1.13E+00	7.10E-02	8.54E+01	7.44E-01	1.52E+03	1.16E+03	1.47E+03	1.92E+03	7.42E+01	1.22E+02	1.15E+01	5.78E+01	4.44E+01	8.51E-01	6.93E-01	2.84E-01
	Population	7.46E+06	4.57E+04	1.50E+04	6.98E+06	9.12E+04	1.42E+07	9.06E+06	5.88E+05	8.11E+05	1.96E+06	6.79E+06	2.31E+05	1.20E+06	2.81E+04	1.46E+05	8.66E+03	1.13E+05
	Variance biomass	7.57E+03	1.27E+00	2.53E-03	1.99E+02	5.53E-01	3.46E+05	5.16E+04	1.67E+05	1.83E+05	3.33E+02	3.62E+03	1.00E+02	9.73E+02	1.97E+03	4.76E-01	4.80E-01	1.05E-02
	Variance population	3.15E+12	2.09E+09	1.20E+08	1.39E+12	8.32E+09	1.85E+13	2.25E+12	1.18E+10	2.36E+10	1.89E+11	1.02E+13	8.07E+09	3.57E+11	7.88E+08	1.53E+10	7.51E+07	1.68E+09
	Mean CPUE (kg/ha)	1.20E-01	2.77E-04	2.22E-05	2.72E-02	1.83E-04	4.66E-01	3.57E-01	4.72E-01	5.98E-01	2.08E-02	4.17E-02	3.36E-03	1.72E-02	1.09E-02	2.69E-04	1.70E-04	7.89E-05
	Mean CPUE (no./ha)	2.35E+00	1.12E-02	4.65E-03	2.28E+00	2.24E-02	4.39E+00	2.75E+00	1.74E-01	2.44E-01	5.50E-01	2.33E+00	6.97E-02	3.57E-01	6.90E-03	4.63E-02	2.13E-03	3.20E-02
	Variance CPUE (kg/ha)	1.28E-01	1.08E-05	3.44E-08	2.95E-03	4.72E-06	4.80E+00	1.17E+00	2.90E+00	2.99E+00	5.20E-03	7.17E-02	1.20E-03	1.51E-02	1.68E-02	6.73E-06	4.10E-06	1.20E-07
	Variance CPUE (no./ha)	5.07E+01	1.78E-02	1.60E-03	2.37E+01	7.10E-02	2.50E+02	4.43E+01	1.82E-01	3.37E-01	3.13E+00	2.03E+02	1.00E-01	5.51E+00	6.72E-03	2.18E-01	6.40E-04	1.88E-02

Table 9. Continued

Sablefish, Forage Fishes and Others

Depth groups (m)	Abundance estimates	*Anoplopoma fimbria*	*Pleurogrammus monopterygius*	*Zaprora silenus*	*Lampetra tridentata*	*Bathymaster signatus*	*Alepisaurus ferox*	*Lumpenella longirostris*	*Anotopterus nikparini*	*Oncorhynchus keta*	*Thaleichthys pacificus*	*Clupea pallasi*	*Magnisudis atlantica*
200-600	Biomass	7.99E+03	1.87E+00	3.49E+02	1.27E+02	6.70E+01	5.54E+01	7.71E+00	8.79E+00	1.64E+01	2.98E+01	3.11E+00	0.00E+00
	Population	3.24E+06	5.77E+03	7.98E+04	3.90E+05	2.96E+05	5.77E+03	9.21E+04	3.80E+03	1.26E+04	5.60E+05	7.00E+03	0.00E+00
	Variance biomass	2.24E+06	3.50E+00	2.65E+04	6.30E+02	1.98E+03	3.07E+03	1.24E+01	7.72E+01	1.36E+02	1.57E+02	9.65E+00	0.00E+00
	Variance population	3.37E+11	3.33E+07	1.38E+09	6.36E+09	3.33E+10	3.33E+07	1.99E+09	1.45E+07	7.89E+07	6.73E+10	4.89E+07	0.00E+00
	Mean CPUE (kg/ha)	4.01E+00	3.88E-04	2.66E-01	6.49E-02	9.77E-02	1.15E-02	2.70E-03	1.72E-02	3.38E-03	6.39E-03	6.37E-04	0.00E+00
	Mean CPUE (no./ha)	1.50E+00	1.20E-03	6.27E-02	2.04E-01	4.12E-01	1.20E-03	3.40E-02	7.45E-03	2.59E-03	1.20E-01	1.44E-03	0.00E+00
	Variance CPUE (kg/ha)	2.90E+01	1.81E-06	3.80E-01	2.73E-03	6.48E-02	1.59E-03	4.52E-05	3.55E-03	6.30E-05	3.35E-04	4.87E-06	0.00E+00
	Variance CPUE (no./ha)	3.66E+00	1.73E-05	1.65E-02	3.14E-02	1.07E+00	1.73E-05	8.02E-03	6.66E-04	3.67E-05	1.30E-01	2.47E-05	0.00E+00
600-1200	Biomass	7.14E+03	0.00E+00	0.00E+00	7.98E+01	0.00E+00	0.00E+00	1.97E+00	0.00E+00	2.56E+01	0.00E+00	0.00E+00	2.55E-01
	Population	2.39E+06	0.00E+00	0.00E+00	2.44E+05	0.00E+00	0.00E+00	3.43E+04	0.00E+00	1.81E+04	0.00E+00	0.00E+00	3.45E+03
	Variance biomass	9.14E+05	0.00E+00	0.00E+00	2.34E+02	0.00E+00	0.00E+00	1.47E+00	0.00E+00	6.54E+02	0.00E+00	0.00E+00	6.52E-02
	Variance population	1.15E+11	0.00E+00	0.00E+00	1.57E+09	0.00E+00	0.00E+00	4.48E+08	0.00E+00	3.26E+08	0.00E+00	0.00E+00	1.19E+07
	Mean CPUE (kg/ha)	4.41E+00	0.00E+00	0.00E+00	6.15E-02	0.00E+00	0.00E+00	1.27E-03	0.00E+00	2.54E-02	0.00E+00	0.00E+00	1.65E-04
	Mean CPUE (no./ha)	1.44E+00	0.00E+00	0.00E+00	1.95E-01	0.00E+00	0.00E+00	2.20E-02	0.00E+00	1.80E-02	0.00E+00	0.00E+00	2.23E-03
	Variance CPUE (kg/ha)	1.49E+01	0.00E+00	0.00E+00	4.17E-03	0.00E+00	0.00E+00	2.72E-05	0.00E+00	1.10E-02	0.00E+00	0.00E+00	4.63E-07
	Variance CPUE (no./ha)	1.83E+00	0.00E+00	0.00E+00	4.62E-02	0.00E+00	0.00E+00	8.23E-03	0.00E+00	5.49E-03	0.00E+00	0.00E+00	8.46E-05
All depths combined	Biomass (t)	1.51E+04	1.87E+00	3.49E+02	2.07E+02	6.70E+01	5.54E+01	9.68E+00	8.79E+00	4.20E+01	2.98E+01	3.11E+00	2.55E-01
	Population	5.63E+06	5.77E+03	7.98E+04	6.35E+05	2.96E+05	5.77E+03	1.26E+05	3.80E+03	3.06E+04	5.60E+05	7.00E+03	3.45E+03
	Variance biomass	3.15E+06	3.50E+00	2.65E+04	8.64E+02	1.98E+03	3.07E+03	1.38E+01	7.72E+01	7.90E+02	1.57E+02	9.65E+00	6.52E-02
	Variance population	4.52E+11	3.33E+07	1.38E+09	7.93E+09	3.33E+10	3.33E+07	2.43E+09	1.45E+07	4.05E+08	6.73E+10	4.89E+07	1.19E+07
	Mean CPUE (kg/ha)	4.69E+00	5.95E-04	1.15E-01	6.64E-02	2.38E-02	1.76E-02	3.00E-03	4.39E-03	1.41E-02	9.33E-03	8.68E-04	1.39E-04
	Mean CPUE (no./ha)	1.74E+00	1.84E-03	2.73E-02	2.05E-01	1.05E-01	1.84E-03	4.01E-02	1.90E-03	1.02E-02	1.76E-01	1.95E-03	1.88E-03
	Variance CPUE (kg/ha)	5.40E+01	4.99E-05	4.97E-01	1.25E-02	3.60E-02	4.38E-02	1.94E-04	2.72E-03	1.35E-02	2.56E-03	1.06E-04	2.74E-06
	Variance CPUE (no./ha)	7.95E+00	4.76E-04	2.79E-02	1.21E-01	6.29E-01	4.76E-04	3.72E-02	5.10E-04	6.89E-03	1.08E+00	5.38E-04	5.00E-04

Table 9. Continued

Eelpouts

Depth groups (m)	Abundance estimates	*Bothrocara brunneum*	*Bothrocara pusillum*	*Bothrocara* unidentified	*Lycenchelys crotalinus*	*Lycenchelys camchatica*	*Lycenchelys* unidentified	*Lycodapus* unidentified	*Lycodapus fierasfer*	*Lycodapus poecilus*	*Lycodes concolor*	*Lycodes diapterus*	*Lycodes brevipes*	*Lycodes palearis*	*Lycodes* unidentified	*Puzanovia rubra*
200-600	Biomass	9.77E+03	5.07E-01	3.33E-02	1.67E+00	0.00E+00	0.00E+00	3.23E-01	9.37E-02	0.00E+00	2.12E+03	2.25E+02	6.65E+01	1.99E+00	1.01E+00	0.00E+00
	Population	1.23E+07	6.97E+04	5.56E+03	1.37E+04	0.00E+00	0.00E+00	7.42E+04	1.89E+04	0.00E+00	2.44E+06	3.67E+06	1.05E+06	4.71E+03	7.62E+03	0.00E+00
	Variance biomass	1.32E+07	4.46E-02	1.11E-03	2.79E+00	0.00E+00	0.00E+00	1.75E-02	7.67E-03	0.00E+00	5.13E+05	3.68E+03	1.18E+03	3.96E+00	1.01E+00	0.00E+00
	Variance population	2.27E+13	8.33E+08	3.09E+07	1.87E+08	0.00E+00	0.00E+00	6.96E+08	1.96E+08	0.00E+00	6.02E+11	1.01E+12	2.64E+11	2.22E+07	5.81E+07	0.00E+00
	Mean CPUE (kg/ha)	2.54E+00	1.58E-04	6.93E-06	8.16E-04	0.00E+00	0.00E+00	9.29E-05	1.92E-05	0.00E+00	1.45E+00	9.19E-02	2.15E-02	1.83E-03	3.23E-04	0.00E+00
	Mean CPUE (no./ha)	3.41E+00	2.21E-02	1.15E-03	6.69E-03	0.00E+00	0.00E+00	2.08E-02	3.89E-03	0.00E+00	1.83E+00	1.45E+00	3.40E-01	4.35E-03	2.45E-03	0.00E+00
	Variance CPUE (kg/ha)	3.89E+01	9.15E-08	5.76E-10	7.99E-06	0.00E+00	0.00E+00	4.71E-08	3.82E-09	0.00E+00	1.28E+01	1.46E-02	5.29E-03	4.04E-05	1.25E-06	0.00E+00
	Variance CPUE (no./ha)	6.41E+01	2.13E-03	1.60E-05	5.37E-04	0.00E+00	0.00E+00	2.37E-03	9.23E-05	0.00E+00	2.03E+01	3.78E+00	1.32E+00	2.27E-04	7.18E-05	0.00E+00
600-1200	Biomass	3.28E+03	1.92E+00	0.00E+00	2.18E+01	2.98E-02	8.53E-01	4.75E-01	6.84E-01	1.23E-02	5.43E+02	8.11E+01	0.00E+00	0.00E+00	0.00E+00	3.73E-01
	Population	7.29E+06	2.68E+05	0.00E+00	2.28E+05	4.97E+03	1.82E+04	1.00E+05	8.68E+04	6.16E+03	1.54E+06	1.97E+06	0.00E+00	0.00E+00	0.00E+00	1.07E+04
	Variance biomass	4.98E+05	2.51E-01	0.00E+00	8.80E+01	8.89E-04	6.05E-01	1.49E-02	5.24E-02	1.52E-04	7.57E+04	4.29E+02	0.00E+00	0.00E+00	0.00E+00	1.39E-01
	Variance population	3.96E+12	4.50E+09	0.00E+00	9.18E+09	2.47E+07	1.99E+08	1.56E+09	3.24E+08	3.80E+07	3.26E+11	2.29E+11	0.00E+00	0.00E+00	0.00E+00	1.13E+08
	Mean CPUE (kg/ha)	1.72E+00	2.08E-03	0.00E+00	1.82E-02	2.72E-05	6.98E-04	3.69E-04	5.94E-04	4.16E-06	4.74E-01	4.27E-02	0.00E+00	0.00E+00	0.00E+00	3.31E-04
	Mean CPUE (no./ha)	3.67E+00	2.88E-01	0.00E+00	1.93E-01	4.53E-03	1.12E-02	6.29E-02	8.08E-02	2.08E-03	1.50E+00	9.97E-01	0.00E+00	0.00E+00	0.00E+00	9.46E-03
	Variance CPUE (kg/ha)	4.71E+00	5.83E-05	0.00E+00	1.73E-03	1.26E-08	7.29E-06	5.77E-07	2.30E-06	2.94E-10	1.05E+00	5.66E-03	0.00E+00	0.00E+00	0.00E+00	1.86E-06
	Variance CPUE (no./ha)	2.51E+01	9.44E-01	0.00E+00	1.77E-01	3.49E-04	1.08E-03	6.53E-03	4.89E-02	7.36E-05	6.30E+00	3.00E+00	0.00E+00	0.00E+00	0.00E+00	1.52E-03
All depths combined	Biomass	1.31E+04	2.43E+00	3.33E-02	2.35E+01	2.98E-02	8.53E-01	7.98E-01	7.78E-01	1.23E-02	2.66E+03	3.06E+02	6.65E+01	1.99E+00	1.01E+00	3.73E-01
	Population	1.96E+07	3.38E+05	5.56E+03	2.42E+05	4.97E+03	1.82E+04	1.74E+05	1.06E+05	6.16E+03	3.98E+06	5.64E+06	1.05E+06	4.71E+03	7.62E+03	1.07E+04
	Variance biomass	1.37E+07	2.95E-01	1.11E-03	9.07E+01	8.89E-04	6.05E-01	3.24E-02	6.01E-02	1.52E-04	5.89E+05	4.11E+03	1.18E+03	3.96E+00	1.01E+00	1.39E-01
	Variance population	2.67E+13	5.33E+09	3.09E+07	9.37E+09	2.47E+07	1.99E+08	2.26E+09	5.20E+08	3.80E+07	9.28E+11	1.24E+12	2.64E+11	2.22E+07	5.81E+07	1.13E+08
	Mean CPUE (kg/ha)	3.81E+00	6.47E-04	1.06E-05	9.01E-03	9.83E-06	3.37E-04	2.25E-04	1.99E-04	3.51E-06	8.17E-01	9.37E-02	1.64E-02	7.80E-04	2.47E-04	1.20E-04
	Mean CPUE (no./ha)	5.74E+00	9.01E-02	1.77E-03	9.21E-02	1.64E-03	5.41E-03	5.09E-02	2.50E-02	1.76E-03	1.18E+00	1.74E+00	2.60E-01	1.85E-03	1.87E-03	3.42E-03
	Variance CPUE (kg/ha)	1.89E+02	1.57E-05	1.59E-08	2.42E-03	1.36E-08	1.42E-05	6.18E-07	1.26E-06	1.74E-09	9.67E+00	5.71E-02	1.28E-02	8.59E-05	8.62E-06	2.02E-06
	Variance CPUE (no./ha)	3.66E+02	2.60E-01	4.41E-04	2.44E-01	3.79E-04	2.18E-03	2.78E-02	1.20E-02	4.35E-04	1.53E+01	1.79E+01	2.97E+00	4.82E-04	4.95E-04	1.65E-03

Table 9. Continued

Snailfishes

Depth groups (m)	Abundance estimates	*Careproctus melanurus*	*Careproctus furcellus*	*Careproctus rastrinus*	*Careproctus colletti*	*Careproctus cypselurus*	*Careproctus simis*	*Careproctus gilberti*	*Careproctus zachirus*	*Careproctus candidus*	*Careproctus* unidentified	*Careproctus* sp. G
200-600	Biomass	2.98E+02	6.72E+02	1.91E+02	3.77E+01	2.16E+01	2.60E-01	6.59E-01	0.00E+00	2.50E-02	1.60E-01	5.50E-01
	Population	2.79E+05	6.16E+05	7.24E+05	1.07E+05	6.88E+04	1.33E+04	9.81E+04	0.00E+00	6.25E+03	1.31E+04	1.83E+04
	Variance biomass	4.94E+03	2.43E+04	3.71E+03	2.37E+02	2.40E+02	1.98E-02	4.34E-01	0.00E+00	6.25E-04	2.15E-02	3.02E-01
	Variance population	6.69E+09	1.44E+10	9.28E+10	1.89E+09	1.92E+09	4.46E+07	9.63E+09	0.00E+00	3.90E+07	7.96E+07	3.36E+08
	Mean CPUE (kg/ha)	2.35E-01	3.24E-01	7.00E-02	4.11E-02	1.44E-02	3.08E-04	1.35E-04	0.00E+00	1.80E-05	3.28E-05	6.50E-04
	Mean CPUE (no./ha)	2.14E-01	2.82E-01	2.79E-01	1.26E-01	4.06E-02	1.57E-02	2.01E-02	0.00E+00	4.50E-03	2.68E-03	2.17E-02
	Variance CPUE (kg/ha)	1.62E-01	1.53E-01	1.35E-02	9.76E-03	1.21E-03	1.13E-06	2.19E-07	0.00E+00	3.89E-09	1.29E-08	5.07E-06
	Variance CPUE (no./ha)	1.23E-01	7.05E-02	1.78E-01	1.08E-01	7.22E-03	2.95E-03	4.86E-03	0.00E+00	2.43E-04	8.61E-05	5.63E-03
600-1200	Biomass	4.55E+02	3.41E+01	0.00E+00	5.08E+01	1.67E+02	2.33E+00	4.21E-01	3.07E+00	0.00E+00	6.29E-02	2.84E+00
	Population	8.75E+05	2.11E+05	0.00E+00	4.22E+05	1.35E+06	8.24E+04	5.42E+04	5.49E+03	0.00E+00	6.29E+03	9.59E+04
	Variance biomass	7.97E+03	4.27E+02	0.00E+00	8.68E+01	1.82E+03	3.03E+00	1.78E-01	9.45E+00	0.00E+00	3.95E-03	5.79E+00
	Variance population	2.07E+10	8.01E+09	0.00E+00	2.47E+10	5.95E+10	3.50E+09	2.93E+09	3.01E+07	0.00E+00	3.95E+07	7.24E+09
	Mean CPUE (kg/ha)	3.19E-01	2.80E-02	0.00E+00	4.86E-02	1.28E-01	2.20E-03	4.19E-04	3.06E-03	0.00E+00	2.12E-05	2.78E-03
	Mean CPUE (no./ha)	6.11E-01	1.76E-01	0.00E+00	3.60E-01	1.01E+00	7.71E-02	5.39E-02	5.46E-03	0.00E+00	2.12E-03	9.44E-02
	Variance CPUE (kg/ha)	1.70E-01	4.90E-03	0.00E+00	1.25E-02	2.65E-02	6.19E-05	2.99E-06	1.59E-04	0.00E+00	7.67E-09	9.47E-05
	Variance CPUE (no./ha)	5.05E-01	1.14E-01	0.00E+00	8.27E-01	1.25E+00	7.28E-02	4.94E-02	5.07E-04	0.00E+00	7.67E-05	1.19E-01
All depths combined	Biomass	7.53E+02	7.06E+02	1.91E+02	8.84E+01	1.88E+02	2.59E+00	1.08E+00	3.07E+00	2.50E-02	2.23E-01	3.39E+00
	Population	1.15E+06	8.27E+05	7.24E+05	5.29E+05	1.42E+06	9.56E+04	1.52E+05	5.49E+03	6.25E+03	1.93E+04	1.14E+05
	Variance biomass	1.29E+04	2.47E+04	3.71E+03	3.24E+02	2.06E+03	3.05E+00	6.12E-01	9.45E+00	6.25E-04	2.55E-02	6.10E+00
	Variance population	2.74E+10	2.24E+10	9.28E+10	2.66E+10	6.14E+10	3.54E+09	1.26E+10	3.01E+07	3.90E+07	1.19E+08	7.57E+09
	Mean CPUE (kg/ha)	2.66E-01	2.08E-01	5.61E-02	2.81E-02	5.33E-02	9.31E-04	3.36E-04	1.11E-03	7.66E-06	6.25E-05	1.17E-03
	Mean CPUE (no./ha)	4.30E-01	2.41E-01	2.06E-01	1.81E-01	4.17E-01	3.42E-02	4.69E-02	1.98E-03	1.91E-03	5.44E-03	3.97E-02
	Variance CPUE (kg/ha)	3.13E-01	3.51E-01	4.92E-02	1.03E-02	2.28E-02	6.04E-05	7.96E-06	1.73E-04	8.27E-09	2.83E-07	1.08E-04
	Variance CPUE (no./ha)	9.17E-01	2.62E-01	9.08E-01	7.15E-01	1.10E+00	7.10E-02	1.58E-01	5.50E-04	5.17E-04	1.37E-03	1.35E-01

Table 9. Continued

Snailfishes (continued)

Depth groups (m)	Abundance estimates	*Crystallichthys cyclospilus*	*Elassodiscus caudatus*	*Elassodiscus tremebundus*	*Elassodiscus* unidentified	*Paraliparis dactylosus*	*Paraliparis ulochir*	*Paraliparis cephalus*	*Paraliparis pectoralis*	*Paraliparis paucidens*	*Paraliparis* unidentified	*Liparidinae*	*Liparisicus nanus*	*Rhinoliparis* unidentified	*Rhinoliparis attenuatus*	*Rhinoliparis barbulifer*	*Aptocyclus ventricosus*
200-600	Biomass	1.33E+00	1.06E+01	6.75E-01	0.00E+00	5.49E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.77E-02	1.83E+00	2.01E-02	4.21E-02	7.13E-02	0.00E+00	3.86E+01
	Population	1.35E+04	1.34E+05	1.25E+04	0.00E+00	5.49E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.93E+03	2.11E+05	1.34E+04	1.40E+04	2.85E+04	0.00E+00	4.79E+04
	Variance biomass	1.78E+00	4.01E+01	3.69E-01	0.00E+00	3.02E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.69E-04	7.70E-01	2.12E-04	1.77E-03	5.09E-03	0.00E+00	5.45E+02
	Variance population	1.81E+08	3.73E+09	7.84E+07	0.00E+00	3.02E+07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.81E+07	8.24E+09	8.44E+07	1.97E+08	8.14E+08	0.00E+00	4.63E+08
	Mean CPUE (kg/ha)	2.77E-04	4.00E-03	7.56E-04	0.00E+00	1.14E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.76E-06	1.56E-03	4.13E-06	8.63E-06	1.46E-05	0.00E+00	2.10E-02
	Mean CPUE (no./ha)	2.80E-03	4.45E-02	1.31E-02	0.00E+00	1.14E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.44E-03	1.70E-01	2.76E-03	2.88E-03	5.85E-03	0.00E+00	4.15E-02
	Variance CPUE (kg/ha)	9.21E-07	5.39E-05	5.64E-06	0.00E+00	1.56E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.98E-10	8.11E-06	2.05E-10	8.93E-10	2.57E-09	0.00E+00	1.63E-03
	Variance CPUE (no./ha)	9.39E-05	6.36E-03	9.56E-04	0.00E+00	1.56E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.49E-05	9.09E-02	9.13E-05	9.92E-05	4.11E-04	0.00E+00	5.59E-03
600-1200	Biomass	0.00E+00	1.65E+02	9.95E+01	7.11E-02	6.72E-01	1.19E-01	1.21E-01	4.87E-01	1.82E-01	1.53E+00	2.74E+01	0.00E+00	1.61E-01	1.28E+00	3.98E-02	4.84E+01
	Population	0.00E+00	1.98E+06	7.40E+05	2.21E+04	5.89E+04	2.25E+04	5.55E+04	5.75E+04	1.51E+04	1.37E+05	6.93E+05	0.00E+00	2.85E+04	1.68E+05	6.63E+03	1.22E+05
	Variance biomass	0.00E+00	2.36E+03	7.17E+02	3.02E-03	7.34E-02	4.26E-03	6.31E-03	3.80E-02	0.00E+00	4.72E-01	1.47E+01	0.00E+00	1.04E-02	1.84E-01	1.58E-03	2.28E+02
	Variance population	0.00E+00	2.30E+11	3.21E+10	3.17E+08	4.97E+08	1.78E+08	1.45E+09	5.22E+08	0.00E+00	3.22E+09	1.41E+10	0.00E+00	2.31E+08	3.33E+09	4.39E+07	4.57E+08
	Mean CPUE (kg/ha)	0.00E+00	1.20E-01	7.77E-02	6.49E-05	3.90E-04	8.80E-05	1.07E-04	3.80E-04	2.15E-04	8.78E-04	2.64E-02	0.00E+00	1.19E-04	7.56E-04	1.34E-05	4.04E-02
	Mean CPUE (no./ha)	0.00E+00	1.45E+00	6.05E-01	2.09E-02	3.95E-02	1.62E-02	4.89E-02	4.94E-02	1.79E-02	7.32E-02	6.05E-01	0.00E+00	1.93E-02	1.01E-01	2.24E-03	1.09E-01
	Variance CPUE (kg/ha)	0.00E+00	2.71E-02	1.49E-02	5.41E-08	4.49E-07	6.93E-08	7.77E-08	4.88E-07	7.88E-07	3.60E-06	4.08E-03	0.00E+00	1.26E-07	2.85E-06	3.07E-09	5.93E-03
	Variance CPUE (no./ha)	0.00E+00	3.12E+00	1.30E+00	5.98E-03	5.15E-03	2.11E-03	1.81E-02	1.08E-02	5.47E-03	1.85E-02	6.69E-01	0.00E+00	2.49E-03	4.83E-02	8.52E-05	1.97E-02
All depths combined	Biomass	1.33E+00	1.76E+02	1.00E+02	7.11E-02	7.27E-01	1.19E-01	1.21E-01	4.87E-01	1.82E-01	1.55E+00	2.93E+01	2.01E-02	2.03E-01	1.35E+00	3.98E-02	8.70E+01
	Population	1.35E+04	2.12E+06	7.52E+05	2.21E+04	6.44E+04	2.25E+04	5.55E+04	5.75E+04	1.51E+04	1.44E+05	9.04E+05	1.34E+04	4.25E+04	1.97E+05	6.63E+03	1.69E+05
	Variance biomass	1.78E+00	2.40E+03	7.17E+02	3.02E-03	7.64E-02	4.26E-03	6.31E-03	3.80E-02	0.00E+00	4.73E-01	1.55E+01	2.12E-04	1.21E-02	1.89E-01	1.58E-03	7.72E+02
	Variance population	1.81E+08	2.34E+11	3.22E+10	3.17E+08	5.27E+08	1.78E+08	1.45E+09	5.22E+08	0.00E+00	3.27E+09	2.23E+10	8.44E+07	4.28E+08	4.15E+09	4.39E+07	9.20E+08
	Mean CPUE (kg/ha)	4.24E-04	5.86E-02	3.17E-02	2.08E-05	2.41E-04	4.60E-05	3.66E-05	1.46E-04	2.60E-05	5.16E-04	6.00E-03	5.62E-06	7.20E-05	3.82E-04	1.13E-05	2.47E-02
	Mean CPUE (no./ha)	4.29E-03	6.79E-01	2.31E-01	6.34E-03	2.16E-02	8.71E-03	1.67E-02	1.62E-02	2.16E-03	4.73E-02	2.72E-01	3.76E-03	1.52E-02	5.55E-02	1.89E-03	5.29E-02
	Variance CPUE (kg/ha)	2.54E-05	4.99E-02	1.38E-02	3.32E-08	1.25E-06	1.05E-07	8.81E-08	5.51E-07	9.50E-08	8.20E-06	7.05E-04	2.45E-09	1.93E-07	2.87E-06	1.81E-08	1.02E-02
	Variance CPUE (no./ha)	2.59E-03	3.88E+00	8.49E-01	3.34E-03	9.60E-03	4.11E-03	2.02E-02	6.71E-03	6.60E-04	5.07E-02	5.56E-01	9.87E-04	7.00E-03	5.57E-02	5.03E-04	2.10E-02

Table 9. Continued

Mesopelagic Fishes

Depth groups (m)	Abundance estimates	*Bathylagus pacificus*	*Bathylagus ochotensis*	*Bathylagus milleri*	*Bathylagus* unidentified	*Leuroglossus schmidti*	*Leuroglossus unidentified*	*Chauliodus macouni*	*Tactostoma macropus*	*Gonostomatidae*	*Sigmops gracilis*	*Nansenia candida*	*Melamphaidae*	*Poromitra crassiceps*	*Melamphaes lugubris*	*Benthalbella dentata*	*Benthalbella unidentified*
200-600	Biomass	9.40E-02	0.00E+00	0.00E+00	1.83E+00	2.87E+01	2.32E-01	3.45E-01	5.17E-02	1.48E-02	7.00E-02	0.00E+00	1.54E-01	2.91E-01	4.81E-01	0.00E+00	0.00E+00
	Population	5.87E+03	0.00E+00	0.00E+00	7.09E+04	3.53E+06	6.31E+04	1.72E+04	6.46E+03	7.38E+03	7.00E+03	0.00E+00	7.01E+03	1.30E+04	2.66E+04	0.00E+00	0.00E+00
	Variance biomass	8.83E-03	0.00E+00	0.00E+00	2.67E+00	3.33E+01	3.20E-02	7.28E-02	2.67E-03	2.18E-04	4.89E-03	0.00E+00	2.38E-02	5.74E-02	4.96E-02	0.00E+00	0.00E+00
	Variance population	3.45E+07	0.00E+00	0.00E+00	3.37E+09	5.36E+11	2.11E+09	1.93E+08	4.17E+07	5.45E+07	4.89E+07	0.00E+00	4.91E+07	7.91E+07	1.42E+08	0.00E+00	0.00E+00
	Mean CPUE (kg/ha)	8.84E-05	0.00E+00	0.00E+00	4.33E-04	1.08E-02	2.31E-04	2.31E-04	1.06E-05	7.21E-06	1.44E-05	0.00E+00	3.16E-05	5.97E-05	9.86E-05	0.00E+00	0.00E+00
	Mean CPUE (no./ha)	5.52E-03	0.00E+00	0.00E+00	1.87E-02	1.38E+00	6.73E-02	1.02E-02	1.32E-03	3.61E-03	1.44E-03	0.00E+00	1.44E-03	2.67E-03	5.46E-03	0.00E+00	0.00E+00
	Variance CPUE (kg/ha)	9.37E-08	0.00E+00	0.00E+00	1.38E-06	1.05E-04	3.36E-07	3.96E-07	1.35E-09	6.24E-10	2.47E-09	0.00E+00	1.20E-08	4.28E-08	1.17E-07	0.00E+00	0.00E+00
	Variance CPUE (no./ha)	3.66E-04	0.00E+00	0.00E+00	2.03E-03	1.48E+00	2.80E-02	7.11E-04	2.11E-05	1.56E-04	2.47E-05	0.00E+00	2.48E-05	8.54E-05	3.58E-04	0.00E+00	0.00E+00
600-1200	Biomass	5.01E+01	2.54E-01	4.35E+00	8.46E+01	1.98E+01	0.00E+00	6.95E+00	3.97E-01	5.22E-02	0.00E+00	3.57E-01	0.00E+00	3.92E-01	2.47E-01	1.90E+00	3.03E-01
	Population	1.99E+06	2.37E+04	1.19E+05	2.85E+06	1.95E+06	0.00E+00	2.36E+05	5.09E+03	3.10E+04	0.00E+00	6.16E+03	0.00E+00	1.28E+04	1.73E+04	4.31E+04	3.44E+03
	Variance biomass	2.18E+02	2.56E-02	3.09E+00	1.18E+03	2.48E+01	0.00E+00	1.28E+00	1.58E-01	1.52E-03	0.00E+00	1.28E-01	0.00E+00	8.41E-02	2.07E-02	7.38E-01	9.16E-02
	Variance population	3.40E+11	1.96E+08	2.09E+09	1.07E+12	2.71E+11	0.00E+00	1.22E+09	2.59E+07	3.38E+08	0.00E+00	3.80E+07	0.00E+00	9.09E+07	1.01E+08	1.72E+08	1.18E+07
	Mean CPUE (kg/ha)	2.80E-02	2.33E-04	3.11E-03	4.86E-02	1.10E-02	0.00E+00	6.41E-03	1.72E-04	2.57E-05	0.00E+00	1.21E-04	0.00E+00	3.40E-04	1.05E-04	1.23E-03	2.43E-04
	Mean CPUE (no./ha)	1.15E+00	2.25E-02	9.03E-02	1.71E+00	1.18E+00	0.00E+00	2.04E-01	2.21E-03	2.02E-02	0.00E+00	2.08E-03	0.00E+00	1.12E-02	7.60E-03	3.13E-02	2.76E-03
	Variance CPUE (kg/ha)	1.80E-03	3.06E-07	2.22E-05	4.04E-03	3.80E-04	0.00E+00	8.22E-05	5.06E-07	4.23E-09	0.00E+00	2.48E-07	0.00E+00	1.37E-06	5.50E-08	5.33E-06	1.00E-06
	Variance CPUE (no./ha)	2.30E+00	2.63E-03	1.86E-02	3.92E+00	4.31E+00	0.00E+00	6.05E-02	8.31E-05	2.41E-03	0.00E+00	7.36E-05	0.00E+00	1.52E-03	3.12E-04	4.29E-03	1.30E-04
All depths combined	Biomass	5.02E+01	2.54E-01	4.35E+00	8.64E+01	4.85E+01	2.32E-01	7.30E+00	4.49E-01	6.70E-02	7.00E-02	3.57E-01	1.54E-01	6.83E-01	7.28E-01	1.90E+00	3.03E-01
	Population	1.99E+06	2.37E+04	1.19E+05	2.93E+06	5.48E+06	6.31E+04	2.53E+05	1.15E+04	3.84E+04	7.00E+03	6.16E+03	7.01E+03	2.58E+04	4.39E+04	4.31E+04	3.44E+03
	Variance biomass	2.18E+02	2.56E-02	3.09E+00	1.19E+03	5.81E+01	3.20E-02	1.35E+00	1.60E-01	1.74E-03	4.89E-03	1.28E-01	2.38E-02	1.41E-01	7.03E-02	7.38E-01	9.16E-02
	Variance population	3.40E+11	1.96E+08	2.09E+09	1.07E+12	8.06E+11	2.11E+09	1.41E+09	6.76E+07	3.93E+08	4.89E+07	3.80E+07	4.91E+07	1.70E+08	2.43E+08	1.72E+08	1.18E+07
	Mean CPUE (kg/ha)	1.59E-02	6.43E-05	1.35E-03	2.49E-02	1.47E-02	7.24E-05	2.09E-03	1.60E-04	2.00E-05	1.95E-05	1.02E-04	4.31E-05	1.99E-04	2.10E-04	5.50E-04	1.17E-04
	Mean CPUE (no./ha)	6.33E-01	6.11E-03	3.64E-02	8.56E-01	1.67E+00	1.91E-02	7.68E-02	3.67E-03	1.21E-02	1.95E-03	1.76E-03	1.96E-03	7.44E-03	1.26E-02	1.16E-02	1.33E-03
	Variance CPUE (kg/ha)	4.39E-03	2.08E-07	4.40E-05	1.41E-02	9.61E-04	4.50E-07	3.98E-05	3.01E-06	2.03E-08	5.38E-08	1.46E-06	2.62E-07	1.62E-06	9.20E-07	9.98E-06	1.94E-06
	Variance CPUE (no./ha)	6.56E+00	1.73E-03	2.70E-02	1.34E+01	1.25E+01	2.65E-02	4.10E-02	9.43E-04	5.31E-03	5.38E-04	4.35E-04	5.40E-04	1.95E-03	3.06E-03	3.25E-03	2.50E-04

Table 9. Continued

Mesopelagic Fishes (continued) and Fish Eggs

Depth groups (m)	Abundance estimates	*Oneirodes bulbosus*	*Oneirodes thompsoni*	*Oneirodes* unidentified	*Oneirodidae*	*Macropinna microstoma*	*Myctophidae*	*Stenobrachius leucopsarus*	*Stenobrachius nannochir*	*Stenobrachius* unidentified	*Lampanyctus ritteri*	*Lampanyctus jordani*	*Lampanyctus* unidentified	*Diaphus theta*	*Protomyctophum* unidentified	Osteichthys eggs	*Hemitripterus bolini eggs*
200-600	Biomass	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.16E-01	7.13E+00	3.17E-01	1.85E+00	2.74E-01	2.77E+01	0.00E+00	9.04E-02	5.39E-02	7.72E-01	2.29E+01
	Population	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.23E+05	9.55E+05	5.02E+04	2.23E+05	6.85E+03	9.17E+05	0.00E+00	6.46E+03	1.35E+04	0.00E+00	0.00E+00
	Variance biomass	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.57E-01	2.57E+00	3.88E-02	3.96E-01	7.50E-02	1.55E+02	0.00E+00	8.17E-03	2.90E-03	4.19E-01	5.21E+02
	Variance population	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.94E+09	4.75E+10	8.37E+08	5.95E+09	4.69E+07	1.62E+11	0.00E+00	4.17E+07	1.81E+08	0.00E+00	0.00E+00
	Mean CPUE (kg/ha)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.14E-04	4.07E-03	3.58E-04	6.67E-04	1.34E-04	5.82E-03	0.00E+00	1.85E-05	1.12E-05	7.85E-04	1.54E-02
	Mean CPUE (no./ha)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.25E-01	5.90E-01	4.36E-02	8.13E-02	3.34E-03	1.93E-01	0.00E+00	1.32E-03	2.80E-03	0.00E+00	0.00E+00
	Variance CPUE (kg/ha)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.39E-06	3.56E-05	1.28E-06	1.34E-06	2.15E-07	3.35E-04	0.00E+00	4.13E-09	1.50E-09	6.72E-06	2.86E-03
	Variance CPUE (no./ha)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.49E-01	8.04E-01	1.66E-02	1.88E-02	1.34E-04	3.74E-01	0.00E+00	2.11E-05	9.39E-05	0.00E+00	0.00E+00
600-1200	Biomass	3.02E+00	8.62E+00	1.11E+01	2.60E-01	3.39E-01	1.78E+00	8.07E+00	4.37E+00	4.75E+00	1.86E+00	5.08E+00	3.17E-01	1.41E-01	2.34E-02	8.64E-01	0.00E+00
	Population	3.09E+04	9.34E+04	1.13E+05	6.51E+03	1.21E+04	2.73E+05	1.15E+06	5.27E+05	6.83E+05	9.22E+04	2.04E+05	6.61E+03	1.29E+04	1.17E+04	0.00E+00	0.00E+00
	Variance biomass	2.13E+00	1.13E+01	7.89E+00	6.77E-02	7.36E-02	7.01E-01	1.02E+00	1.12E+00	1.30E+00	1.26E-01	2.50E+00	1.01E-01	9.01E-03	2.78E-04	7.47E-01	0.00E+00
	Variance population	2.49E+08	1.10E+09	4.98E+08	4.23E+07	6.16E+07	1.65E+10	1.99E+10	1.79E+10	2.25E+10	3.64E+08	3.73E+09	4.36E+07	6.96E+07	6.96E+07	0.00E+00	0.00E+00
	Mean CPUE (kg/ha)	1.37E-03	4.23E-03	9.79E-03	1.68E-04	1.14E-04	1.48E-03	6.24E-03	2.93E-03	3.05E-03	1.78E-03	2.29E-03	1.69E-04	4.76E-05	1.14E-05	2.92E-04	0.00E+00
	Mean CPUE (no./ha)	1.41E-02	5.10E-02	1.07E-01	4.20E-03	4.10E-03	2.39E-01	9.29E-01	3.73E-01	4.44E-01	8.72E-02	9.33E-02	3.51E-03	4.36E-03	5.72E-03	0.00E+00	0.00E+00
	Variance CPUE (kg/ha)	1.95E-05	5.87E-05	2.39E-04	4.81E-07	2.22E-07	6.71E-06	2.95E-05	2.23E-05	9.92E-06	3.09E-05	2.78E-05	4.83E-07	3.86E-08	1.10E-09	1.45E-06	0.00E+00
	Variance CPUE (no./ha)	2.03E-03	1.01E-02	2.61E-02	3.00E-04	2.85E-04	1.72E-01	7.14E-01	3.39E-01	2.69E-01	7.44E-02	4.57E-02	2.10E-04	3.23E-04	2.76E-04	0.00E+00	0.00E+00
All depths combined	Biomass	3.02E+00	8.62E+00	1.11E+01	2.60E-01	3.39E-01	2.49E+00	1.52E+01	4.68E+00	6.60E+00	2.13E+00	3.28E+01	3.17E-01	2.31E-01	7.73E-02	1.64E+00	2.29E+01
	Population	3.09E+04	9.34E+04	1.13E+05	6.51E+03	1.21E+04	3.96E+05	2.11E+06	5.77E+05	9.05E+05	9.90E+04	1.12E+06	6.61E+03	1.94E+04	2.52E+04	0.00E+00	0.00E+00
	Variance biomass	2.13E+00	1.13E+01	7.89E+00	6.77E-02	7.36E-02	1.06E+00	3.59E+00	1.16E+00	1.69E+00	2.01E-01	1.57E+02	1.01E-01	1.72E-02	3.18E-03	1.17E+00	5.21E+02
	Variance population	2.49E+08	1.10E+09	4.98E+08	4.23E+07	6.16E+07	2.64E+10	6.74E+10	1.88E+10	2.85E+10	4.10E+08	1.66E+11	4.36E+07	1.11E+08	2.51E+08	0.00E+00	0.00E+00
	Mean CPUE (kg/ha)	1.04E-03	2.61E-03	3.63E-03	1.42E-04	9.65E-05	7.12E-04	4.63E-03	1.46E-03	2.07E-03	4.45E-04	9.38E-03	8.13E-05	6.55E-05	2.43E-05	4.77E-04	7.89E-03
	Mean CPUE (no./ha)	1.06E-02	2.82E-02	3.49E-02	3.55E-03	3.46E-03	1.07E-01	6.33E-01	1.74E-01	2.86E-01	2.04E-02	3.21E-01	1.69E-03	5.49E-03	7.85E-03	0.00E+00	0.00E+00
	Variance CPUE (kg/ha)	4.66E-05	1.53E-04	1.82E-04	2.84E-06	9.08E-07	9.54E-06	6.32E-05	2.52E-05	2.81E-05	6.90E-06	2.04E-03	9.31E-07	2.08E-07	4.47E-08	1.38E-05	8.71E-03
	Variance CPUE (no./ha)	5.26E-03	1.53E-02	1.63E-02	1.77E-03	8.40E-04	2.31E-01	1.24E+00	3.35E-01	5.18E-01	1.65E-02	2.18E+00	4.04E-04	1.39E-03	3.45E-03	0.00E+00	0.00E+00

Table 9. continued

Jellyfishes and Soft Corals

Depth groups (m)	Abundance estimates	*Hydrozoa*	*Scyphozoa*	*Chrysaora* unidentified	*Periphylla periphylla*	*Chrysaora melanaster*	*Aequorea* unidentified	*Aurelia* unidentified	*Aurelia labiata*	*Cyanea* unidentified	Alcyonacea	*Alyconaria* unidentified	*Gersemia* unidentified	*Anthomastus* unidentified	*Primnoa willeyi*	*Paragorgia arborea*
200-600	Biomass	1.33E+00	2.16E+01	1.41E+00	8.90E-02	7.68E+02	1.32E+00	1.46E+01	1.31E+01	2.73E+01	0.00E+00	6.13E-01	0.00E+00	1.28E-01	0.00E+00	0.00E+00
	Population	0.00E+00	9.24E+04	5.87E+03	1.27E+04	1.02E+06	2.24E+04	8.57E+04	1.87E+04	3.65E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Variance biomass	7.86E-01	6.80E+01	1.99E+00	3.78E-03	2.79E+04	1.31E+00	6.57E+01	1.05E+02	5.27E+02	0.00E+00	3.76E-01	0.00E+00	1.63E-02	0.00E+00	0.00E+00
	Variance population	0.00E+00	6.38E+08	3.45E+07	7.56E+07	2.49E+10	1.72E+08	1.94E+09	1.12E+08	3.66E+08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Mean CPUE (kg/ha)	4.17E-04	9.81E-03	1.33E-03	1.83E-05	3.58E-01	5.37E-04	6.83E-03	2.68E-03	6.28E-03	0.00E+00	1.27E-04	0.00E+00	2.65E-05	0.00E+00	0.00E+00
	Mean CPUE (no./ha)	0.00E+00	3.58E-02	5.52E-03	2.61E-03	5.43E-01	1.66E-02	4.32E-02	3.85E-03	1.01E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Variance CPUE (kg/ha)	6.66E-07	2.39E-04	2.11E-05	4.00E-09	1.14E-01	1.63E-06	1.49E-04	6.07E-05	3.10E-04	0.00E+00	1.94E-07	0.00E+00	8.44E-09	0.00E+00	0.00E+00
	Variance CPUE (no./ha)	0.00E+00	1.81E-03	3.66E-04	8.17E-05	2.11E-01	1.16E-03	4.93E-03	9.62E-05	3.52E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
600-1200	Biomass	0.00E+00	1.32E+01	1.43E+00	1.12E+00	2.49E+02	3.64E+00	1.30E+01	1.24E+00	1.07E+01	0.00E+00	1.80E-01	8.22E-01	2.92E-01	1.39E+01	1.75E+02
	Population	0.00E+00	1.47E+05	5.49E+03	5.94E+04	5.59E+05	1.48E+05	1.38E+05	8.36E+03	1.58E+04	0.00E+00	0.00E+00	0.00E+00	7.30E+03	0.00E+00	0.00E+00
	Variance biomass	0.00E+00	2.10E+01	2.04E+00	2.95E-01	2.54E+03	6.00E-01	5.34E+01	1.53E+00	6.80E+01	0.00E+00	0.00E+00	5.08E-01	8.53E-02	1.08E+02	5.93E+03
	Variance population	0.00E+00	2.30E+09	3.01E+07	4.51E+08	6.89E+09	9.34E+08	1.82E+09	6.99E+07	8.63E+07	0.00E+00	0.00E+00	0.00E+00	5.33E+07	0.00E+00	0.00E+00
	Mean CPUE (kg/ha)	0.00E+00	5.99E-03	1.42E-03	8.89E-04	2.18E-01	3.43E-03	1.24E-02	1.32E-03	8.10E-03	0.00E+00	1.85E-04	2.89E-04	1.27E-04	1.23E-02	1.69E-01
	Mean CPUE (no./ha)	0.00E+00	7.17E-02	5.46E-03	4.31E-02	5.09E-01	1.31E-01	1.37E-01	8.90E-03	1.02E-02	0.00E+00	0.00E+00	0.00E+00	3.17E-03	0.00E+00	0.00E+00
	Variance CPUE (kg/ha)	0.00E+00	1.35E-04	3.43E-05	4.35E-06	4.13E-02	5.74E-05	7.10E-04	2.95E-05	7.12E-04	0.00E+00	5.84E-07	9.76E-07	2.73E-07	1.41E-03	1.31E-01
	Variance CPUE (no./ha)	0.00E+00	1.70E-02	5.07E-04	4.31E-03	3.16E-01	4.41E-02	9.26E-02	1.35E-03	5.75E-04	0.00E+00	0.00E+00	0.00E+00	1.71E-04	0.00E+00	0.00E+00
All depths combined	Biomass	1.33E+00	3.48E+01	2.84E+00	1.21E+00	1.02E+03	4.97E+00	2.76E+01	1.43E+01	3.80E+01	0.00E+00	7.93E-01	8.22E-01	4.20E-01	1.39E+01	1.75E+02
	Population	0.00E+00	2.40E+05	1.14E+04	7.21E+04	1.58E+06	1.71E+05	2.24E+05	2.71E+04	5.23E+04	0.00E+00	0.00E+00	0.00E+00	7.30E+03	0.00E+00	0.00E+00
	Variance biomass	7.86E-01	8.91E+01	4.02E+00	2.99E-01	3.05E+04	1.91E+00	1.19E+02	1.06E+02	5.95E+02	0.00E+00	3.76E-01	5.08E-01	1.02E-01	1.08E+02	5.93E+03
	Variance population	0.00E+00	2.94E+09	6.46E+07	5.27E+08	3.18E+10	1.11E+09	3.76E+09	1.82E+08	4.52E+08	0.00E+00	0.00E+00	0.00E+00	5.33E+07	0.00E+00	0.00E+00
	Mean CPUE (kg/ha)	4.06E-04	1.10E-02	9.65E-04	3.76E-04	2.99E-01	1.22E-03	7.29E-03	4.05E-03	1.17E-02	0.00E+00	2.17E-04	2.44E-04	1.48E-04	3.99E-03	4.91E-02
	Mean CPUE (no./ha)	0.00E+00	7.41E-02	3.86E-03	2.13E-02	4.43E-01	4.88E-02	5.56E-02	7.59E-03	1.61E-02	0.00E+00	0.00E+00	0.00E+00	2.68E-03	0.00E+00	0.00E+00
	Variance CPUE (kg/ha)	1.10E-05	1.33E-03	6.54E-05	3.69E-06	4.20E-01	3.07E-05	1.07E-03	1.19E-03	7.20E-03	0.00E+00	5.42E-06	5.91E-06	1.84E-06	1.46E-03	1.01E-01
	Variance CPUE (no./ha)	0.00E+00	4.85E-02	1.04E-03	5.79E-03	5.67E-01	2.39E-02	5.00E-02	2.00E-03	5.76E-03	0.00E+00	0.00E+00	0.00E+00	1.01E-03	0.00E+00	0.00E+00

Table 9. continued

Sea Whips and Sea Anemones

Depth groups (m)	Abundance estimates	Pennatulacea	*Virgularia* unidentified	Virgularidae	*Stylatula* unidentified	*Halipteris* unidentified	*Halipteris californica*	*Umbellula* unidentified	Actiniaria	*Actinauge verrillii*	*Paractinostola faeculenta*	*Stomphia* unidentified	*Stomphia coccinea*	*Bathyphelia australis*	*Cribrinopsis fernaldi*	*Liponema brevicornis*	Actinostolidae
200-600	Biomass	1.71E+01	0.00E+00	8.31E+01	7.45E-02	0.00E+00	3.81E-02	0.00E+00	3.18E+01	4.19E+01	5.45E+02	3.77E+00	1.03E+01	6.58E-02	0.00E+00	3.07E+03	2.73E+01
	Population	2.75E+05	0.00E+00	8.71E+06	4.66E+03	0.00E+00	3.18E+03	0.00E+00	6.81E+05	5.97E+05	2.66E+06	2.14E+05	1.12E+05	4.39E+04	0.00E+00	3.24E+07	8.63E+06
	Variance biomass	2.79E+02	0.00E+00	6.81E+03	5.55E-03	0.00E+00	1.45E-03	0.00E+00	1.28E+02	3.13E+02	1.23E+05	7.57E-01	4.03E+01	4.33E-03	0.00E+00	7.18E+05	3.36E+02
	Variance population	5.98E+10	0.00E+00	7.57E+13	2.17E+07	0.00E+00	1.01E+07	0.00E+00	3.80E+10	5.09E+10	4.92E+12	3.73E+09	2.82E+09	1.93E+09	0.00E+00	4.56E+13	5.86E+13
	Mean CPUE (kg/ha)	1.13E-02	0.00E+00	2.66E-02	6.87E-05	0.00E+00	7.46E-05	0.00E+00	2.36E-02	1.15E-02	4.77E-01	8.85E-04	5.06E-03	4.44E-05	0.00E+00	1.32E+00	8.01E-03
	Mean CPUE (no./ha)	1.71E-01	0.00E+00	2.79E+00	4.29E-03	0.00E+00	6.22E-03	0.00E+00	2.45E-01	1.69E-01	1.65E+00	5.03E-02	6.11E-02	2.96E-02	0.00E+00	1.13E+01	1.90E+00
	Variance CPUE (kg/ha)	1.52E-03	0.00E+00	8.41E-03	5.66E-08	0.00E+00	6.68E-08	0.00E+00	1.40E-03	5.24E-04	1.21E+00	4.50E-06	2.18E-04	2.36E-08	0.00E+00	1.95E+00	5.03E-04
	Variance CPUE (no./ha)	3.23E-01	0.00E+00	9.37E+01	2.21E-04	0.00E+00	4.64E-04	0.00E+00	1.19E-01	8.81E-02	1.67E+01	1.27E-02	1.36E-02	1.05E-02	0.00E+00	1.72E+02	3.04E+01
600-1200	Biomass	5.87E-02	0.00E+00	2.29E+02	0.00E+00	4.88E-01	0.00E+00	1.28E-02	5.94E+01	4.42E+02	5.55E+00	1.02E+00	2.51E+00	5.13E-02	2.00E+00	7.55E+01	3.83E+01
	Population	4.89E+03	0.00E+00	4.26E+07	0.00E+00	2.57E+04	0.00E+00	1.28E+04	3.80E+05	4.88E+06	2.71E+04	5.14E+04	5.32E+04	0.00E+00	2.72E+05	7.87E+05	3.93E+06
	Variance biomass	3.45E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.40E+03	1.46E+05	1.64E+01	9.75E-01	5.04E-01	0.00E+00	0.00E+00	2.78E+03	1.42E+02
	Variance population	2.39E+07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.96E+10	7.62E+12	4.47E+08	2.33E+09	2.04E+08	0.00E+00	0.00E+00	1.60E+11	6.51E+12
	Mean CPUE (kg/ha)	2.55E-05	0.00E+00	2.37E-01	0.00E+00	5.03E-04	0.00E+00	1.32E-05	5.36E-02	3.69E-01	5.38E-03	1.00E-03	2.48E-03	5.30E-05	2.37E-03	7.12E-02	3.64E-02
	Mean CPUE (no./ha)	2.12E-03	0.00E+00	4.40E+01	0.00E+00	2.65E-02	0.00E+00	1.32E-02	3.39E-01	4.02E+00	2.58E-02	5.00E-02	5.25E-02	0.00E+00	3.23E-01	6.75E-01	3.62E+00
	Variance CPUE (kg/ha)	1.10E-08	0.00E+00	9.52E-01	0.00E+00	4.30E-06	0.00E+00	2.98E-09	2.80E-02	1.69E+00	2.39E-04	1.64E-05	5.37E-05	4.77E-08	9.53E-05	4.58E-02	9.35E-03
	Variance CPUE (no./ha)	7.67E-05	0.00E+00	3.29E+04	0.00E+00	1.19E-02	0.00E+00	2.98E-03	1.37E+00	8.60E+01	6.30E-03	3.89E-02	2.24E-02	0.00E+00	1.77E+00	2.56E+00	9.94E+01
All depths combined	Biomass	1.71E+01	0.00E+00	3.12E+02	7.45E-02	4.88E-01	3.81E-02	1.28E-02	9.12E+01	4.84E+02	5.51E+02	4.79E+00	1.28E+01	1.17E-01	2.00E+00	3.15E+03	6.55E+01
	Population	2.80E+05	0.00E+00	5.13E+07	4.66E+03	2.57E+04	3.18E+03	1.28E+04	1.06E+06	5.48E+06	2.68E+06	2.66E+05	1.65E+05	4.39E+04	2.72E+05	3.32E+07	1.26E+07
	Variance biomass	2.79E+02	0.00E+00	6.81E+03	5.55E-03	0.00E+00	1.45E-03	0.00E+00	1.53E+03	1.46E+05	1.23E+05	1.73E+00	4.08E+01	4.33E-03	0.00E+00	7.20E+05	4.78E+02
	Variance population	5.99E+10	0.00E+00	7.57E+13	2.17E+07	0.00E+00	1.01E+07	0.00E+00	6.75E+10	7.67E+12	4.92E+12	6.05E+09	3.03E+09	1.93E+09	0.00E+00	4.57E+13	6.51E+13
	Mean CPUE (kg/ha)	5.89E-03	0.00E+00	4.90E-02	2.92E-05	6.07E-05	1.90E-05	1.60E-06	2.97E-02	1.06E-01	1.89E-01	1.55E-03	3.53E-03	2.90E-05	2.85E-04	9.06E-01	1.50E-02
	Mean CPUE (no./ha)	9.51E-02	0.00E+00	7.44E+00	1.83E-03	3.19E-03	1.59E-03	1.60E-03	3.38E-01	1.73E+00	8.29E-01	8.56E-02	4.42E-02	1.51E-02	3.89E-02	9.59E+00	3.70E+00
	Variance CPUE (kg/ha)	4.66E-03	0.00E+00	1.72E-01	1.20E-07	5.19E-07	5.12E-08	3.59E-10	2.56E-02	8.34E-01	1.96E+00	3.27E-05	5.52E-04	7.78E-08	1.15E-05	7.29E+00	6.03E-03
	Variance CPUE (no./ha)	9.97E-01	0.00E+00	4.59E+03	4.71E-04	1.44E-03	3.55E-04	3.59E-04	1.34E+00	1.29E+02	6.07E+01	1.05E-01	4.11E-02	3.22E-02	2.14E-01	6.63E+02	9.23E+02

Table 9. continued

Corals, Worms, Sea Mouse, Isopods, and Other Crustaceans

Depth groups (m)	Abundance estimates	*Plumarella* unidentified	*Isidella* unidentified	*Amphilaphis* unidentified	Polychaeta	Annelida	Polychaeta (tube worm)	Aphroditidae	*Aphrodita* unidentified	Polynoidae	*Carcinobdella cyclostomum*	Isopoda	*Gnathophausia* unidentified	*Gnathophausia ingens*	*Balanus* unidentified	*Balanus evermanni*	Decapoda
200-600	Biomass	4.40E-01	4.52E-01	2.46E+00	1.96E-01	5.37E-01	0.00E+00	1.43E+02	4.53E+01	1.10E-01	1.18E-01	1.51E-01	0.00E+00	0.00E+00	4.60E-01	0.00E+00	5.08E-01
	Population	0.00E+00	0.00E+00	0.00E+00	7.92E+04	8.41E+04	0.00E+00	8.67E+06	3.94E+06	3.29E+04	3.59E+04	3.73E+04	0.00E+00	0.00E+00	3.19E+04	0.00E+00	1.59E+05
	Variance biomass	1.93E-01	2.04E-01	4.44E+00	1.58E-02	1.40E-01	0.00E+00	3.51E+03	3.28E+02	3.94E-03	3.78E-03	5.82E-03	0.00E+00	0.00E+00	2.11E-01	0.00E+00	1.78E-01
	Variance population	0.00E+00	0.00E+00	0.00E+00	2.50E+09	4.20E+09	0.00E+00	1.48E+13	2.38E+12	2.87E+08	3.36E+08	4.32E+08	0.00E+00	0.00E+00	1.02E+09	0.00E+00	2.11E+10
	Mean CPUE (kg/ha)	5.20E-04	5.34E-04	1.85E-03	4.05E-05	1.11E-04	0.00E+00	4.45E-02	1.08E-02	5.20E-05	4.37E-05	4.67E-05	0.00E+00	0.00E+00	9.55E-05	0.00E+00	1.78E-04
	Mean CPUE (no./ha)	0.00E+00	0.00E+00	0.00E+00	1.64E-02	1.74E-02	0.00E+00	2.44E+00	8.94E-01	1.81E-02	1.23E-02	9.66E-03	0.00E+00	0.00E+00	6.63E-03	0.00E+00	3.88E-02
	Variance CPUE (kg/ha)	3.24E-06	3.43E-06	2.70E-05	9.43E-09	1.34E-07	0.00E+00	1.49E-02	4.39E-04	1.34E-08	1.01E-08	1.22E-08	0.00E+00	0.00E+00	1.09E-07	0.00E+00	1.73E-07
	Variance CPUE (no./ha)	0.00E+00	0.00E+00	0.00E+00	1.49E-03	3.10E-03	0.00E+00	2.96E+01	3.36E+00	1.54E-03	6.79E-04	5.67E-04	0.00E+00	0.00E+00	5.27E-04	0.00E+00	1.19E-02
600-1200	Biomass	6.02E-02	1.05E+01	4.82E-01	0.00E+00	3.76E+00	5.55E+02	6.54E+01	2.39E+00	0.00E+00	0.00E+00	0.00E+00	1.38E-02	1.25E-01	0.00E+00	2.45E-01	3.06E+00
	Population	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.52E+05	3.35E+06	5.57E+06	1.25E+05	0.00E+00	0.00E+00	0.00E+00	1.03E+04	3.70E+04	0.00E+00	4.89E+03	2.41E+05
	Variance biomass	3.62E-03	2.18E+01	1.41E-01	0.00E+00	1.42E+01	2.41E+04	1.18E+03	2.03E+00	0.00E+00	0.00E+00	0.00E+00	1.89E-04	1.44E-03	0.00E+00	5.98E-02	1.35E+00
	Variance population	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.04E+11	0.00E+00	1.05E+13	5.04E+09	0.00E+00	0.00E+00	0.00E+00	1.06E+08	3.59E+08	0.00E+00	2.39E+07	5.98E+09
	Mean CPUE (kg/ha)	5.99E-05	1.05E-02	3.90E-04	0.00E+00	2.00E-03	5.31E-01	2.44E-02	1.86E-03	0.00E+00	0.00E+00	0.00E+00	1.11E-05	1.16E-04	0.00E+00	1.06E-04	2.59E-03
	Mean CPUE (no./ha)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.93E-01	3.46E+00	1.99E+00	9.21E-02	0.00E+00	0.00E+00	0.00E+00	8.29E-03	3.17E-02	0.00E+00	2.12E-03	1.94E-01
	Variance CPUE (kg/ha)	6.10E-08	6.31E-04	1.58E-06	0.00E+00	6.80E-05	2.17E+00	7.28E-03	2.50E-05	0.00E+00	0.00E+00	0.00E+00	2.08E-09	1.19E-07	0.00E+00	1.92E-07	2.43E-05
	Variance CPUE (no./ha)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.46E+00	2.03E+02	5.65E+01	5.31E-02	0.00E+00	0.00E+00	0.00E+00	1.17E-03	6.98E-03	0.00E+00	7.67E-05	7.53E-02
All depths combined	Biomass	5.00E-01	1.09E+01	2.94E+00	1.96E-01	4.30E+00	5.55E+02	2.09E+02	4.77E+01	1.10E-01	1.18E-01	1.51E-01	1.38E-02	1.25E-01	4.60E-01	2.45E-01	3.56E+00
	Population	0.00E+00	0.00E+00	0.00E+00	7.92E+04	6.36E+05	3.35E+06	1.42E+07	4.06E+06	3.29E+04	3.59E+04	3.73E+04	1.03E+04	3.70E+04	3.19E+04	4.89E+03	4.00E+05
	Variance biomass	1.97E-01	2.20E+01	4.58E+00	1.58E-02	1.43E+01	2.41E+04	4.69E+03	3.30E+02	3.94E-03	3.78E-03	5.82E-03	1.89E-04	1.44E-03	2.11E-01	5.98E-02	1.53E+00
	Variance population	0.00E+00	0.00E+00	0.00E+00	2.50E+09	3.08E+11	0.00E+00	2.53E+13	2.39E+12	2.87E+08	3.36E+08	4.32E+08	1.06E+08	3.59E+08	1.02E+09	2.39E+07	2.71E+10
	Mean CPUE (kg/ha)	1.54E-04	2.81E-03	9.11E-04	5.78E-05	1.13E-03	9.70E-02	5.56E-02	1.45E-02	2.91E-05	3.64E-05	4.66E-05	5.33E-06	2.50E-05	1.46E-04	8.96E-05	9.26E-04
	Mean CPUE (no./ha)	0.00E+00	0.00E+00	0.00E+00	2.39E-02	1.68E-01	4.17E-01	3.89E+00	1.23E+00	9.50E-03	1.10E-02	1.17E-02	4.00E-03	9.28E-03	1.02E-02	1.79E-03	1.10E-01
	Variance CPUE (kg/ha)	2.54E-06	3.74E-04	6.05E-05	1.94E-07	1.33E-04	4.08E-01	5.47E-02	4.80E-03	3.85E-08	5.26E-08	7.96E-08	4.00E-09	3.40E-08	3.02E-06	1.13E-06	1.77E-05
	Variance CPUE (no./ha)	0.00E+00	0.00E+00	0.00E+00	3.42E-02	2.87E+00	2.45E+01	2.96E+02	3.47E+01	3.66E-03	4.60E-03	6.39E-03	2.25E-03	5.67E-03	1.45E-02	4.53E-04	3.03E-01

Table 9. continued

Shrimps

Depth groups (m)	Abundance estimates	Pandalidae	*Pandalus borealis*	*Pandalus tridens*	*Pandalopsis dispar*	*Pandalopsis ampla*	*Eualus* unidentified	*Eualus barbatus*	*Eualus gaimardii*	*Lebbeus groenlandicus*	*Lebbeus polaris*	Crangonidae	*Crangon* unidentified	*Crangon communis*	*Argis* unidentified	*Argis dentata*	*Argis lar*
200-600	Biomass	0.00E+00	9.14E+02	2.23E+00	2.27E+02	8.79E-02	7.75E+00	1.40E-01	3.06E-02	1.22E-01	2.39E-02	0.00E+00	9.44E-01	6.23E-01	4.49E-02	3.00E+00	7.18E-01
	Population	0.00E+00	1.54E+08	4.19E+05	1.72E+07	5.49E+03	3.76E+06	2.11E+04	7.65E+03	1.22E+04	5.98E+03	0.00E+00	6.09E+05	2.56E+05	5.61E+03	8.09E+05	1.84E+05
	Variance biomass	0.00E+00	1.92E+04	3.74E+00	2.03E+03	7.72E-03	3.92E+01	1.97E-02	9.37E-04	1.49E-02	5.72E-04	0.00E+00	1.59E-01	1.41E-01	2.02E-03	1.15E+00	3.17E-01
	Variance population	0.00E+00	5.31E+14	1.24E+11	1.42E+13	3.02E+07	9.42E+12	4.43E+08	5.86E+07	1.49E+08	3.57E+07	0.00E+00	4.95E+10	2.69E+10	3.15E+07	8.31E+10	2.24E+10
	Mean CPUE (kg/ha)	0.00E+00	3.65E-01	1.47E-03	1.74E-01	1.83E-05	1.59E-03	4.51E-05	9.83E-06	1.44E-04	1.17E-05	0.00E+00	1.95E-04	2.00E-04	9.33E-06	8.95E-04	1.49E-04
	Mean CPUE (no./ha)	0.00E+00	6.12E+01	2.71E-01	1.32E+01	1.14E-03	7.70E-01	6.76E-03	2.46E-03	1.44E-02	2.92E-03	0.00E+00	1.26E-01	8.96E-02	1.17E-03	2.43E-01	3.82E-02
	Variance CPUE (kg/ha)	0.00E+00	1.92E-01	2.27E-05	2.26E-02	4.00E-09	3.03E-05	2.44E-08	1.16E-09	2.50E-07	1.64E-09	0.00E+00	2.12E-07	1.29E-07	1.04E-09	1.84E-06	1.54E-07
	Variance CPUE (no./ha)	0.00E+00	4.81E+03	7.45E-01	1.62E+02	1.56E-05	7.12E+00	5.48E-04	7.24E-05	2.50E-03	1.02E-04	0.00E+00	9.89E-02	3.31E-02	1.63E-05	1.33E-01	1.11E-02
600-1200	Biomass	2.54E+01	0.00E+00	1.28E-01	0.00E+00	9.20E+01	1.20E+01	0.00E+00	0.00E+00	1.06E+01	3.61E+00	6.88E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Population	1.55E+06	0.00E+00	5.77E+04	0.00E+00	5.43E+06	5.63E+06	0.00E+00	0.00E+00	8.55E+05	1.78E+06	8.26E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Variance biomass	6.23E+02	0.00E+00	1.64E-02	0.00E+00	1.90E+03	1.47E+01	0.00E+00	0.00E+00	1.12E+02	1.26E+01	4.73E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Variance population	2.30E+12	0.00E+00	3.33E+09	0.00E+00	5.91E+12	3.29E+12	0.00E+00	0.00E+00	7.30E+11	3.05E+12	6.81E+09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Mean CPUE (kg/ha)	2.51E-02	0.00E+00	4.33E-05	0.00E+00	6.46E-02	7.84E-03	0.00E+00	0.00E+00	1.06E-02	2.99E-03	5.53E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Mean CPUE (no./ha)	1.52E+00	0.00E+00	1.95E-02	0.00E+00	3.72E+00	3.42E+00	0.00E+00	0.00E+00	8.50E-01	1.47E+00	6.63E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Variance CPUE (kg/ha)	1.05E-02	0.00E+00	3.19E-08	0.00E+00	2.03E-02	1.84E-04	0.00E+00	0.00E+00	1.89E-03	1.48E-04	5.19E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Variance CPUE (no./ha)	3.87E+01	0.00E+00	6.45E-03	0.00E+00	6.33E+01	3.52E+01	0.00E+00	0.00E+00	1.23E+01	3.58E+01	7.47E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
All depths combined	Biomass	2.54E+01	9.14E+02	2.36E+00	2.27E+02	9.21E+01	1.98E+01	1.40E-01	3.06E-02	1.07E+01	3.64E+00	6.88E-03	9.44E-01	6.23E-01	4.49E-02	3.00E+00	7.18E-01
	Population	1.55E+06	1.54E+08	4.77E+05	1.72E+07	5.44E+06	9.38E+06	2.11E+04	7.65E+03	8.67E+05	1.78E+06	8.26E+04	6.09E+05	2.56E+05	5.61E+03	8.09E+05	1.84E+05
	Variance biomass	6.23E+02	1.92E+04	3.76E+00	2.03E+03	1.90E+03	5.39E+01	1.97E-02	9.37E-04	1.12E+02	1.26E+01	4.73E-05	1.59E-01	1.41E-01	2.02E-03	1.15E+00	3.17E-01
	Variance population	2.30E+12	5.31E+14	1.27E+11	1.42E+13	5.91E+12	1.27E+13	4.43E+08	5.86E+07	7.31E+11	3.05E+12	6.81E+09	4.95E+10	2.69E+10	3.15E+07	8.31E+10	2.24E+10
	Mean CPUE (kg/ha)	9.09E-03	2.67E-01	7.20E-04	7.24E-02	2.37E-02	5.79E-03	3.45E-05	7.53E-06	3.85E-03	7.42E-04	2.66E-06	2.84E-04	1.74E-04	1.43E-05	8.97E-04	2.21E-04
	Mean CPUE (no./ha)	5.53E-01	4.60E+01	1.45E-01	5.50E+00	1.43E+00	2.74E+00	5.18E-03	1.88E-03	3.11E-01	3.63E-01	3.20E-02	1.86E-01	6.86E-02	1.79E-03	2.44E-01	5.71E-02
	Variance CPUE (kg/ha)	1.14E-02	3.65E-01	4.96E-05	3.74E-02	1.23E-02	6.51E-04	1.68E-07	7.99E-09	2.05E-03	7.16E-05	1.00E-09	2.02E-06	1.49E-06	2.88E-08	1.59E-05	4.39E-06
	Variance CPUE (no./ha)	4.20E+01	1.08E+04	1.67E+00	2.62E+02	3.92E+01	1.53E+02	3.78E-03	4.99E-04	1.33E+01	1.73E+01	1.44E-01	7.01E-01	2.45E-01	4.50E-04	1.20E+00	3.14E-01

Table 9. continued

Shrimps (continued) and Hermit Crabs

Depth groups (m)	Abundance estimates	*Pasiphaea pacifica*	*Pasiphaea tarda*	*Notostomus japonicus*	Paguridae	*Pagurus* unidentified	*Pagurus brandti*	*Pagurus aleuticus*	*Labidochirus splendescens*	*Pagurus confragosus*	*Pagurus cornutus*	*Pagurus trigonocheirus*	*Pagurus ochotensis*	*Pagurus rathbuni*	*Elassochirus cavimanus*
200-600	Biomass	9.91E+01	0.00E+00	0.00E+00	1.14E-02	0.00E+00	7.79E-01	1.19E+01	1.22E+00	6.74E+01	1.09E+02	4.78E+01	4.15E-01	1.11E+01	9.43E+00
	Population	3.34E+07	0.00E+00	0.00E+00	5.72E+03	0.00E+00	7.41E+04	4.40E+05	9.37E+04	2.24E+06	2.15E+06	1.59E+06	1.12E+04	4.53E+05	1.96E+05
	Variance biomass	4.61E+03	0.00E+00	0.00E+00	1.31E-04	0.00E+00	2.10E-01	5.39E+01	9.97E-01	1.53E+03	9.07E+02	5.38E+02	1.73E-01	2.30E+01	1.20E+01
	Variance population	5.52E+14	0.00E+00	0.00E+00	3.27E+07	0.00E+00	1.55E+09	7.59E+10	4.62E+09	1.80E+12	3.42E+11	6.76E+11	1.26E+08	3.89E+10	6.82E+09
	Mean CPUE (kg/ha)	2.03E-02	0.00E+00	0.00E+00	2.37E-06	0.00E+00	2.68E-04	2.71E-03	4.19E-04	3.56E-02	2.52E-02	1.59E-02	8.63E-05	4.71E-03	4.63E-03
	Mean CPUE (no./ha)	6.87E+00	0.00E+00	0.00E+00	1.19E-03	0.00E+00	2.40E-02	9.51E-02	3.30E-02	1.21E+00	5.43E-01	5.36E-01	2.33E-03	1.68E-01	1.05E-01
	Variance CPUE (kg/ha)	4.92E-03	0.00E+00	0.00E+00	6.77E-11	0.00E+00	4.19E-07	5.18E-05	1.51E-06	7.50E-03	3.18E-03	2.77E-03	8.93E-08	8.13E-05	1.06E-04
	Variance CPUE (no./ha)	5.59E+02	0.00E+00	0.00E+00	1.69E-05	0.00E+00	2.35E-03	8.23E-02	8.11E-03	7.74E+00	1.21E+00	3.03E+00	6.52E-05	8.92E-02	5.40E-02
600-1200	Biomass	2.99E+00	1.48E-01	0.00E+00	0.00E+00	3.48E-02	0.00E+00	2.23E+01	0.00E+00	1.18E-01	0.00E+00	1.45E-01	0.00E+00	3.00E+01	0.00E+00
	Population	1.07E+06	9.27E+03	0.00E+00	0.00E+00	3.48E+03	0.00E+00	8.55E+05	0.00E+00	8.13E+03	0.00E+00	1.04E+04	0.00E+00	9.84E+05	0.00E+00
	Variance biomass	7.59E+00	2.20E-02	0.00E+00	0.00E+00	1.21E-03	0.00E+00	3.82E+01	0.00E+00	8.79E-03	0.00E+00	2.10E-02	0.00E+00	7.49E+01	0.00E+00
	Variance population	9.82E+11	8.60E+07	0.00E+00	0.00E+00	1.21E+07	0.00E+00	6.19E+10	0.00E+00	3.39E+07	0.00E+00	1.07E+08	0.00E+00	6.37E+10	0.00E+00
	Mean CPUE (kg/ha)	1.02E-03	6.44E-05	0.00E+00	0.00E+00	2.25E-05	0.00E+00	1.25E-02	0.00E+00	8.99E-05	0.00E+00	9.30E-05	0.00E+00	1.92E-02	0.00E+00
	Mean CPUE (no./ha)	3.63E-01	4.03E-03	0.00E+00	0.00E+00	2.25E-03	0.00E+00	4.50E-01	0.00E+00	5.77E-03	0.00E+00	6.64E-03	0.00E+00	6.27E-01	0.00E+00
	Variance CPUE (kg/ha)	1.69E-05	7.05E-08	0.00E+00	0.00E+00	8.61E-09	0.00E+00	4.64E-04	0.00E+00	9.05E-08	0.00E+00	1.47E-07	0.00E+00	1.14E-03	0.00E+00
	Variance CPUE (no./ha)	2.16E+00	2.76E-04	0.00E+00	0.00E+00	8.61E-05	0.00E+00	6.50E-01	0.00E+00	2.66E-04	0.00E+00	7.49E-04	0.00E+00	9.62E-01	0.00E+00
All depths combined	Biomass	1.02E+02	1.48E-01	0.00E+00	1.14E-02	3.48E-02	7.79E-01	3.42E+01	1.22E+00	6.75E+01	1.09E+02	4.80E+01	4.15E-01	4.11E+01	9.43E+00
	Population	3.45E+07	9.27E+03	0.00E+00	5.72E+03	3.48E+03	7.41E+04	1.30E+06	9.37E+04	2.25E+06	2.15E+06	1.60E+06	1.12E+04	1.44E+06	1.96E+05
	Variance biomass	4.62E+03	2.20E-02	0.00E+00	1.31E-04	1.21E-03	2.10E-01	9.21E+01	9.97E-01	1.53E+03	9.07E+02	5.38E+02	1.73E-01	9.79E+01	1.20E+01
	Variance population	5.53E+14	8.60E+07	0.00E+00	3.27E+07	1.21E+07	1.55E+09	1.38E+11	4.62E+09	1.80E+12	3.42E+11	6.76E+11	1.26E+08	1.03E+11	6.82E+09
	Mean CPUE (kg/ha)	2.85E-02	5.44E-05	0.00E+00	3.64E-06	1.90E-05	2.03E-04	1.04E-02	3.08E-04	2.00E-02	3.15E-02	1.19E-02	1.32E-04	1.56E-02	2.65E-03
	Mean CPUE (no./ha)	9.65E+00	3.40E-03	0.00E+00	1.82E-03	1.90E-03	2.04E-02	3.87E-01	2.39E-02	6.72E-01	6.21E-01	3.96E-01	3.57E-03	5.20E-01	5.56E-02
	Variance CPUE (kg/ha)	5.39E-02	4.17E-07	0.00E+00	1.87E-09	5.09E-08	1.99E-06	1.32E-03	8.73E-06	2.02E-02	1.37E-02	6.12E-03	2.46E-06	2.84E-03	1.59E-04
	Variance CPUE (no./ha)	6.42E+03	1.63E-03	0.00E+00	4.67E-04	5.09E-04	1.66E-02	1.92E+00	4.15E-02	2.32E+01	5.13E+00	7.36E+00	1.80E-03	2.31E+00	8.98E-02

Table 9. continued

Spider Crabs and King Crabs

Depth groups (m)	Abundance estimates	Brachyura	*Oregonia gracilis*	*Hyas lyratus*	*Hyas* unidentified	*Chionoecetes* unidentified	*Chionoecetes tanneri*	*Chionoecetes bairdi*	*Chionoecetes angulatus*	*Chionoecetes opilio*	*Chionoecetes hybrid*	Lithodidae unidentified	*Acantholithodes hispidus*	*Lithodes* unidentified	*Lithodes couesi*	*Lithodes aequispina*	*Paralomis* unidentified	*Paralomis multispina*
200-600	Biomass	4.75E-02	7.14E-01	1.43E+02	0.00E+00	3.54E+00	1.22E+03	1.58E+03	3.87E+02	1.46E+03	9.90E+00	1.28E-01	0.00E+00	5.77E-02	1.37E+01	8.67E+02	0.00E+00	0.00E+00
	Population	1.19E+04	4.71E+04	5.03E+06	0.00E+00	9.28E+04	3.95E+06	2.68E+07	4.72E+06	4.29E+06	9.58E+04	6.38E+03	0.00E+00	5.77E+03	2.05E+04	1.59E+06	0.00E+00	0.00E+00
	Variance biomass	1.13E-03	2.58E-01	1.88E+04	0.00E+00	8.38E+00	1.33E+05	2.64E+05	5.45E+04	1.73E+06	2.42E+01	1.63E-02	0.00E+00	3.33E-03	1.75E+02	2.25E+04	0.00E+00	0.00E+00
	Variance population	7.08E+07	1.20E+09	2.23E+13	0.00E+00	6.28E+09	1.28E+12	8.01E+13	6.31E+12	9.18E+12	2.37E+09	4.07E+07	0.00E+00	3.33E+07	2.40E+08	3.64E+11	0.00E+00	0.00E+00
	Mean CPUE (kg/ha)	2.01E-05	1.48E-04	3.03E-02	0.00E+00	9.17E-04	8.98E-01	3.72E-01	9.46E-02	9.29E-01	4.44E-03	2.62E-05	0.00E+00	1.20E-05	1.57E-02	6.98E-01	0.00E+00	0.00E+00
	Mean CPUE (no./ha)	5.02E-03	9.76E-03	1.07E+00	0.00E+00	2.44E-02	2.69E+00	6.03E+00	1.11E+00	2.40E+00	3.93E-02	1.31E-03	0.00E+00	1.20E-03	1.80E-02	1.47E+00	0.00E+00	0.00E+00
	Variance CPUE (kg/ha)	2.79E-09	1.73E-07	1.00E-02	0.00E+00	5.89E-06	3.22E+00	9.36E-01	5.90E-02	9.36E+00	8.18E-05	8.22E-09	0.00E+00	1.73E-09	2.93E-03	1.27E+00	0.00E+00	0.00E+00
	Variance CPUE (no./ha)	1.74E-04	8.29E-04	1.22E+01	0.00E+00	4.07E-03	2.06E+01	3.12E+02	8.90E+00	4.82E+01	4.32E-03	2.05E-05	0.00E+00	1.73E-05	3.32E-03	1.34E+01	0.00E+00	0.00E+00
600-1200	Biomass	0.00E+00	9.59E-02	0.00E+00	8.07E-02	0.00E+00	2.31E+03	0.00E+00	7.01E+03	0.00E+00	0.00E+00	8.02E+01	4.79E-01	1.68E+00	3.28E+02	1.42E+02	4.27E+00	3.67E+02
	Population	0.00E+00	5.33E+03	0.00E+00	5.77E+03	0.00E+00	8.42E+06	0.00E+00	1.07E+08	0.00E+00	0.00E+00	9.11E+04	1.07E+04	2.02E+04	5.86E+05	2.16E+05	1.29E+04	6.58E+05
	Variance biomass	0.00E+00	9.19E-03	0.00E+00	6.52E-03	0.00E+00	7.25E+05	0.00E+00	1.65E+06	0.00E+00	0.00E+00	1.96E+03	2.30E-01	1.67E-03	1.13E+04	5.06E+03	1.82E+01	6.09E+03
	Variance population	0.00E+00	2.84E+07	0.00E+00	3.32E+07	0.00E+00	5.39E+12	0.00E+00	6.86E+14	0.00E+00	0.00E+00	3.03E+09	1.13E+08	2.61E+07	3.39E+10	8.44E+09	1.67E+08	1.91E+10
	Mean CPUE (kg/ha)	0.00E+00	8.51E-05	0.00E+00	5.18E-05	0.00E+00	1.94E+00	0.00E+00	4.84E+00	0.00E+00	0.00E+00	7.05E-02	4.26E-04	1.97E-03	3.21E-01	1.43E-01	4.68E-03	3.57E-01
	Mean CPUE (no./ha)	0.00E+00	4.73E-03	0.00E+00	3.70E-03	0.00E+00	6.51E+00	0.00E+00	7.52E+01	0.00E+00	0.00E+00	8.16E-02	9.46E-03	2.20E-02	5.70E-01	2.01E-01	1.42E-02	6.41E-01
	Variance CPUE (kg/ha)	0.00E+00	1.23E-07	0.00E+00	4.55E-08	0.00E+00	1.23E+01	0.00E+00	2.95E+01	0.00E+00	0.00E+00	6.99E-02	3.08E-06	6.37E-05	1.33E-01	2.48E-01	3.73E-04	3.31E-01
	Variance CPUE (no./ha)	0.00E+00	3.80E-04	0.00E+00	2.32E-04	0.00E+00	8.69E+01	0.00E+00	1.08E+04	0.00E+00	0.00E+00	1.04E-01	1.52E-03	5.60E-03	4.16E-01	4.77E-01	3.43E-03	1.11E+00
All depths combined	Biomass	4.75E-02	8.10E-01	1.43E+02	8.07E-02	3.54E+00	3.53E+03	1.58E+03	7.40E+03	1.46E+03	9.90E+00	8.03E+01	4.79E-01	1.73E+00	3.42E+02	1.01E+03	4.27E+00	3.67E+02
	Population	1.19E+04	5.24E+04	5.03E+06	5.77E+03	9.28E+04	1.24E+07	2.68E+07	1.11E+08	4.29E+06	9.58E+04	9.74E+04	1.07E+04	2.60E+04	6.06E+05	1.80E+06	1.29E+04	6.58E+05
	Variance biomass	1.13E-03	2.67E-01	1.88E+04	6.52E-03	8.38E+00	8.59E+05	2.64E+05	1.70E+06	1.73E+06	2.42E+01	1.96E+03	2.30E-01	5.00E-03	1.15E+04	2.75E+04	1.82E+01	6.09E+03
	Variance population	7.08E+07	1.23E+09	2.23E+13	3.32E+07	6.28E+09	6.67E+12	8.01E+13	6.92E+14	9.18E+12	2.37E+09	3.07E+09	1.13E+08	5.94E+07	3.41E+10	3.72E+11	1.67E+08	1.91E+10
	Mean CPUE (kg/ha)	1.57E-05	2.53E-04	4.55E-02	3.12E-05	1.14E-03	1.16E+00	4.90E-01	2.23E+00	4.95E-01	3.23E-03	2.70E-02	1.54E-04	2.68E-04	1.02E-01	3.18E-01	1.13E-03	9.18E-02
	Mean CPUE (no./ha)	3.92E-03	1.64E-02	1.60E+00	2.23E-03	3.01E-02	4.22E+00	8.43E+00	3.36E+01	1.41E+00	3.12E-02	3.21E-02	3.42E-03	5.98E-03	1.71E-01	5.60E-01	3.42E-03	1.66E-01
	Variance CPUE (kg/ha)	1.72E-08	3.78E-06	2.69E-01	1.37E-07	1.22E-04	9.92E+00	4.77E+00	3.38E+01	2.89E+01	3.84E-04	4.60E-02	3.34E-06	7.76E-06	1.33E-01	8.21E-01	1.80E-04	1.73E-01
	Variance CPUE (no./ha)	1.08E-03	1.76E-02	3.19E+02	7.00E-04	9.06E-02	9.21E+01	1.51E+03	9.44E+03	1.52E+02	3.61E-02	6.88E-02	1.65E-03	1.66E-03	3.53E-01	6.93E+00	1.65E-03	5.40E-01

Table 9. continued

Gastropods

Depth groups (m)	Abundance estimates	Nudibranchia unidentified	Nudibranchia	*Tritonia unidentified*	*Tritonia diomedea*	*Neomenia* unidentified	Gastropod unidentified	gastropod eggs	*Buccinum* unidentified eggs	*Neptunea* unidentified eggs	*Natica clausa*	*Polinices pallidus*	*Colus* unidentified	*Colus calathus*	*Colus herendeenii*	*Volutopsius* sp. eggs	*Pyrulofusus deformis*
200-600	Biomass	1.25E+01	1.25E-01	1.14E+01	7.89E-01	0.00E+00	1.07E+00	2.81E+01	3.29E+00	3.68E+00	2.36E-01	1.16E-02	5.44E-01	1.29E+00	4.20E-02	3.05E+00	1.49E+00
	Population	1.35E+06	6.25E+03	1.70E+05	5.98E+03	0.00E+00	2.20E+04	5.32E+04	0.00E+00	0.00E+00	3.47E+04	5.82E+03	3.03E+04	5.36E+04	7.00E+03	0.00E+00	1.20E+04
	Variance biomass	5.56E+01	1.56E-02	5.33E+01	6.23E-01	0.00E+00	1.01E+00	8.30E+01	5.56E+00	1.59E+00	3.28E-02	1.36E-04	1.64E-01	1.65E+00	1.76E-03	2.20E+00	1.50E+00
	Variance population	8.70E+11	3.90E+07	5.91E+09	3.57E+07	0.00E+00	2.49E+08	2.05E+09	0.00E+00	0.00E+00	4.92E+08	3.39E+07	4.58E+08	2.87E+09	4.89E+07	0.00E+00	7.21E+07
	Mean CPUE (kg/ha)	4.35E-03	9.00E-05	8.42E-03	3.86E-04	0.00E+00	3.44E-04	8.35E-03	6.74E-04	1.45E-03	8.03E-05	2.42E-06	2.05E-04	4.13E-04	8.61E-06	6.25E-04	1.14E-03
	Mean CPUE (no./ha)	3.31E-01	4.50E-03	1.15E-01	2.92E-03	0.00E+00	7.06E-03	7.98E-03	0.00E+00	0.00E+00	1.23E-02	1.21E-03	1.23E-02	1.72E-02	1.44E-03	0.00E+00	1.10E-02
	Variance CPUE (kg/ha)	5.82E-05	9.71E-08	3.09E-04	1.78E-06	0.00E+00	1.42E-06	2.01E-04	5.46E-06	7.97E-06	5.39E-08	7.02E-11	2.35E-07	2.04E-06	8.90E-10	4.42E-06	8.48E-06
	Variance CPUE (no./ha)	7.39E-01	2.43E-04	3.89E-02	1.02E-04	0.00E+00	5.98E-04	7.65E-04	0.00E+00	0.00E+00	1.03E-03	1.76E-05	8.62E-04	3.55E-03	2.47E-05	0.00E+00	7.28E-04
600-1200	Biomass	7.97E-01	0.00E+00	1.07E+01	0.00E+00	9.25E+00	1.70E-01	3.81E+00	1.36E+00	5.92E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Population	6.81E+04	0.00E+00	9.70E+04	0.00E+00	2.99E+05	1.13E+05	7.52E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Variance biomass	6.69E-02	0.00E+00	5.22E-03	0.00E+00	4.00E+01	2.88E-02	3.29E+00	1.03E+00	5.11E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Variance population	3.76E+08	0.00E+00	5.22E+07	0.00E+00	2.35E+10	1.28E+10	4.84E+07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Mean CPUE (kg/ha)	6.98E-04	0.00E+00	1.11E-02	0.00E+00	8.19E-03	9.02E-05	2.89E-03	7.15E-04	2.78E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Mean CPUE (no./ha)	6.00E-02	0.00E+00	1.00E-01	0.00E+00	2.70E-01	6.01E-02	2.18E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Variance CPUE (kg/ha)	3.30E-06	0.00E+00	2.05E-03	0.00E+00	4.94E-04	1.38E-07	3.25E-05	4.74E-06	2.38E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Variance CPUE (no./ha)	2.77E-02	0.00E+00	1.45E-01	0.00E+00	3.17E-01	6.15E-02	8.05E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
All depths combined	Biomass	1.33E+01	1.25E-01	2.21E+01	7.89E-01	9.25E+00	1.24E+00	3.19E+01	4.65E+00	9.60E+00	2.36E-01	1.16E-02	5.44E-01	1.29E+00	4.20E-02	3.05E+00	1.49E+00
	Population	1.42E+06	6.25E+03	2.67E+05	5.98E+03	2.99E+05	1.35E+05	6.07E+04	0.00E+00	0.00E+00	3.47E+04	5.82E+03	3.03E+04	5.36E+04	7.00E+03	0.00E+00	1.20E+04
	Variance biomass	5.56E+01	1.56E-02	5.33E+01	6.23E-01	4.00E+01	1.04E+00	8.63E+01	6.58E+00	6.70E+00	3.28E-02	1.36E-04	1.64E-01	1.65E+00	1.76E-03	2.20E+00	1.50E+00
	Variance population	8.71E+11	3.90E+07	5.96E+09	3.57E+07	2.35E+10	1.31E+10	2.10E+09	0.00E+00	0.00E+00	4.92E+08	3.39E+07	4.58E+08	2.87E+09	4.89E+07	0.00E+00	7.21E+07
	Mean CPUE (kg/ha)	3.78E-03	3.83E-05	4.53E-03	2.30E-04	2.58E-03	3.07E-04	8.86E-03	1.41E-03	2.93E-03	5.92E-05	3.71E-06	1.42E-04	3.16E-04	1.17E-05	8.54E-04	4.96E-04
	Mean CPUE (no./ha)	3.99E-01	1.91E-03	6.13E-02	1.74E-03	7.24E-02	3.44E-02	1.41E-02	0.00E+00	0.00E+00	8.83E-03	1.85E-03	8.13E-03	1.32E-02	1.95E-03	0.00E+00	3.80E-03
	Variance CPUE (kg/ha)	6.38E-04	2.07E-07	7.47E-04	7.44E-06	5.21E-04	9.01E-06	9.41E-04	8.36E-05	9.88E-05	2.91E-07	1.94E-09	1.51E-06	1.41E-05	1.94E-08	2.82E-05	2.45E-05
	Variance CPUE (no./ha)	9.97E+00	5.17E-04	8.08E-02	4.27E-04	2.48E-01	1.21E-01	2.15E-02	0.00E+00	0.00E+00	4.62E-03	4.84E-04	4.66E-03	2.45E-02	5.38E-04	0.00E+00	1.01E-03

Table 9. Continued

Gastropods (continued)

Depth groups (m)	Abundance estimates	*Pyrulofusus harpa*	*Volutopsius regularis*	*Pyrulofusus melonis*	*Beringius* unidentified	*Beringius frielei*	*Beringius* sp. eggs	*Aforia circinata*	*Epitonium greenlandicum*	*Boreotrophon stuarti*	*Boreotrophon unidentified*	*Neptunea* unidentified	*Neptunea amianta*	*Neptunea pribiloffensis*	*Neptunea insularis*	*Neptunea lyrata*
200-600	Biomass	1.10E+01	1.67E+00	2.64E+02	1.65E+00	5.00E+01	1.99E-01	5.57E-02	2.23E-02	0.00E+00	0.00E+00	4.28E+01	3.46E+01	7.40E+02	8.50E-01	5.78E+00
	Population	4.99E+04	5.65E+03	2.10E+06	2.17E+04	4.53E+05	0.00E+00	1.11E+04	5.59E+03	0.00E+00	0.00E+00	6.19E+05	6.33E+05	6.00E+06	4.05E+03	5.76E+04
	Variance biomass	2.05E+01	2.80E+00	5.30E+03	1.04E+00	2.01E+02	1.14E-02	1.53E-03	4.99E-04	0.00E+00	0.00E+00	4.12E+02	4.37E+02	6.03E+04	7.23E-01	1.54E+01
	Variance population	4.46E+08	3.19E+07	2.77E+11	1.43E+08	1.46E+10	0.00E+00	5.84E+07	3.12E+07	0.00E+00	0.00E+00	8.96E+10	1.33E+11	3.85E+12	1.64E+07	1.26E+09
	Mean CPUE (kg/ha)	6.82E-03	3.47E-04	5.49E-02	5.98E-04	1.13E-02	4.11E-05	1.16E-05	4.64E-06	0.00E+00	0.00E+00	8.78E-03	2.92E-02	1.73E-01	1.66E-03	2.82E-03
	Mean CPUE (no./ha)	2.84E-02	1.17E-03	4.34E-01	8.10E-03	1.06E-01	0.00E+00	2.31E-03	1.16E-03	0.00E+00	0.00E+00	1.27E-01	5.20E-01	1.47E+00	7.93E-03	3.45E-02
	Variance CPUE (kg/ha)	1.51E-04	1.45E-06	3.00E-02	2.20E-06	5.41E-04	9.30E-09	1.61E-09	2.58E-10	0.00E+00	0.00E+00	8.34E-04	4.77E-03	1.41E-01	3.33E-05	3.61E-05
	Variance CPUE (no./ha)	2.22E-03	1.65E-05	1.94E+00	3.71E-04	4.22E-02	0.00E+00	6.43E-05	1.62E-05	0.00E+00	0.00E+00	1.82E-01	1.35E+00	8.97E+00	7.54E-04	6.06E-03
600-1200	Biomass	0.00E+00	0.00E+00	1.96E+00	0.00E+00	1.49E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.02E-01	1.80E+02	1.74E+02	4.47E+01	1.30E+00	0.00E+00
	Population	0.00E+00	0.00E+00	1.85E+04	0.00E+00	2.51E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.54E+04	4.35E+06	4.37E+06	1.01E+06	1.85E+04	0.00E+00
	Variance biomass	0.00E+00	0.00E+00	1.87E+00	0.00E+00	7.85E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.03E-02	2.73E+03	2.46E+03	7.50E+01	1.70E+00	0.00E+00
	Variance population	0.00E+00	0.00E+00	1.65E+08	0.00E+00	2.09E+08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.44E+08	1.66E+12	1.84E+12	5.53E+10	3.42E+08	0.00E+00
	Mean CPUE (kg/ha)	0.00E+00	0.00E+00	6.63E-04	0.00E+00	5.67E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.08E-04	7.87E-02	1.10E-01	3.82E-02	1.10E-03	0.00E+00
	Mean CPUE (no./ha)	0.00E+00	0.00E+00	6.25E-03	0.00E+00	9.76E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.70E-02	1.91E+00	2.64E+00	9.26E-01	1.57E-02	0.00E+00
	Variance CPUE (kg/ha)	0.00E+00	0.00E+00	7.46E-06	0.00E+00	2.99E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.98E-07	3.93E-02	2.38E-02	2.94E-03	2.07E-05	0.00E+00
	Variance CPUE (no./ha)	0.00E+00	0.00E+00	6.64E-04	0.00E+00	8.27E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.24E-02	2.39E+01	1.48E+01	3.84E+00	4.17E-03	0.00E+00
All depths combined	Biomass	1.10E+01	1.67E+00	2.66E+02	1.65E+00	5.15E+01	1.99E-01	5.57E-02	2.23E-02	0.00E+00	1.02E-01	2.23E+02	2.09E+02	7.85E+02	2.15E+00	5.78E+00
	Population	4.99E+04	5.65E+03	2.12E+06	2.17E+04	4.78E+05	0.00E+00	1.11E+04	5.59E+03	0.00E+00	2.54E+04	4.97E+06	5.00E+06	7.01E+06	2.25E+04	5.76E+04
	Variance biomass	2.05E+01	2.80E+00	5.30E+03	1.04E+00	2.02E+02	1.14E-02	1.53E-03	4.99E-04	0.00E+00	1.03E-02	3.14E+03	2.89E+03	6.04E+04	2.42E+00	1.54E+01
	Variance population	4.46E+08	3.19E+07	2.77E+11	1.43E+08	1.48E+10	0.00E+00	5.84E+07	3.12E+07	0.00E+00	6.44E+08	1.75E+12	1.97E+12	3.90E+12	3.58E+08	1.26E+09
	Mean CPUE (kg/ha)	3.14E-03	5.32E-04	7.49E-02	4.24E-04	1.55E-02	5.91E-05	1.77E-05	7.11E-06	0.00E+00	2.61E-05	6.32E-02	6.55E-02	2.23E-01	9.58E-04	1.75E-03
	Mean CPUE (no./ha)	1.45E-02	1.80E-03	5.97E-01	5.63E-03	1.43E-01	0.00E+00	3.55E-03	1.78E-03	0.00E+00	6.51E-03	1.41E+00	1.49E+00	1.99E+00	9.58E-03	1.64E-02
	Variance CPUE (kg/ha)	2.47E-04	3.99E-05	9.16E-02	9.94E-06	2.95E-03	1.43E-07	2.29E-08	7.13E-09	0.00E+00	9.57E-08	4.89E-02	4.56E-02	7.92E-01	6.50E-05	2.09E-04
	Variance CPUE (no./ha)	5.59E-03	4.56E-04	5.23E+00	1.47E-03	2.20E-01	0.00E+00	8.80E-04	4.45E-04	0.00E+00	5.98E-03	2.76E+01	2.34E+01	5.12E+01	8.60E-03	1.33E-02

Table 9. Continued

Gastropods (continued) and Bivalves

Depth groups (m)	Abundance estimates	*Fusitriton oregonensis*	*Margarites costalis*	*Buccinum* unidentified	*Buccinum oedematum*	*Buccinum viridum*	*Buccinum plectrum*	*Buccinum* sp. A	*Arctomelon stearnsii*	Bivalvia unidentified	Mytilidae	*Chlamys* unidentified	*Delectopecten vancouverensis*	*Nuculana unidentified*	*Serripes unidentified*	*Serripes groenlandicus*	*Serripes laperousii*
200-600	Biomass	1.36E+02	0.00E+00	0.00E+00	1.02E+02	0.00E+00	4.01E+00	0.00E+00	1.05E+01	0.00E+00	1.49E+00	9.42E-02	0.00E+00	9.03E-02	0.00E+00	2.78E+00	0.00E+00
	Population	1.85E+06	0.00E+00	0.00E+00	3.37E+06	0.00E+00	9.52E+04	0.00E+00	1.93E+05	0.00E+00	7.10E+04	9.42E+03	0.00E+00	1.51E+04	0.00E+00	4.69E+04	0.00E+00
	Variance biomass	8.46E+02	0.00E+00	0.00E+00	5.02E+02	0.00E+00	1.61E+01	0.00E+00	1.50E+01	0.00E+00	2.21E+00	8.87E-03	0.00E+00	8.16E-03	0.00E+00	2.14E+00	0.00E+00
	Variance population	1.86E+11	0.00E+00	0.00E+00	4.69E+11	0.00E+00	9.06E+09	0.00E+00	5.20E+09	0.00E+00	5.05E+09	8.87E+07	0.00E+00	2.27E+08	0.00E+00	5.59E+08	0.00E+00
	Mean CPUE (kg/ha)	4.25E-02	0.00E+00	0.00E+00	2.80E-02	0.00E+00	3.77E-03	0.00E+00	2.47E-03	0.00E+00	3.05E-04	6.78E-05	0.00E+00	2.90E-05	0.00E+00	8.46E-04	0.00E+00
	Mean CPUE (no./ha)	5.84E-01	0.00E+00	0.00E+00	8.20E-01	0.00E+00	8.95E-02	0.00E+00	4.21E-02	0.00E+00	1.46E-02	6.78E-03	0.00E+00	4.83E-03	0.00E+00	1.44E-02	0.00E+00
	Variance CPUE (kg/ha)	3.89E-03	0.00E+00	0.00E+00	3.01E-03	0.00E+00	1.71E-04	0.00E+00	3.08E-05	0.00E+00	1.11E-06	5.52E-08	0.00E+00	1.01E-08	0.00E+00	6.91E-06	0.00E+00
	Variance CPUE (no./ha)	6.65E-01	0.00E+00	0.00E+00	3.88E+00	0.00E+00	9.62E-02	0.00E+00	1.11E-02	0.00E+00	2.55E-03	5.52E-04	0.00E+00	2.80E-04	0.00E+00	2.09E-03	0.00E+00
600-1200	Biomass	4.87E-01	7.23E-02	8.94E+00	1.10E+02	0.00E+00	3.56E+00	7.32E+00	4.29E+00	0.00E+00	0.00E+00	0.00E+00	1.24E-01	0.00E+00	2.14E+00	0.00E+00	9.02E+00
	Population	5.18E+03	7.23E+03	1.66E+05	3.49E+06	0.00E+00	9.94E+04	2.31E+05	7.22E+04	0.00E+00	0.00E+00	0.00E+00	5.72E+04	0.00E+00	1.25E+06	0.00E+00	4.60E+06
	Variance biomass	2.37E-01	5.22E-03	3.50E+01	3.63E+02	0.00E+00	1.27E+01	1.48E+01	1.99E+00	0.00E+00	0.00E+00	0.00E+00	1.53E-02	0.00E+00	4.59E+00	0.00E+00	8.14E+01
	Variance population	2.68E+07	5.22E+07	1.18E+10	4.24E+11	0.00E+00	9.89E+09	1.47E+10	5.87E+08	0.00E+00	0.00E+00	0.00E+00	3.27E+09	0.00E+00	1.57E+12	0.00E+00	2.11E+13
	Mean CPUE (kg/ha)	3.12E-04	7.70E-05	4.49E-03	6.56E-02	0.00E+00	2.30E-03	5.58E-03	1.82E-03	0.00E+00	0.00E+00	0.00E+00	5.38E-05	0.00E+00	1.14E-03	0.00E+00	4.80E-03
	Mean CPUE (no./ha)	3.32E-03	7.70E-03	8.44E-02	2.06E+00	0.00E+00	6.43E-02	1.76E-01	2.91E-02	0.00E+00	0.00E+00	0.00E+00	2.48E-02	0.00E+00	6.65E-01	0.00E+00	2.44E+00
	Variance CPUE (kg/ha)	1.66E-06	1.01E-07	1.54E-04	3.34E-03	0.00E+00	9.00E-05	1.74E-04	2.73E-05	0.00E+00	0.00E+00	0.00E+00	4.92E-08	0.00E+00	2.20E-05	0.00E+00	3.91E-04
	Variance CPUE (no./ha)	1.87E-04	1.01E-03	5.18E-02	3.32E+00	0.00E+00	7.02E-02	1.49E-01	8.00E-03	0.00E+00	0.00E+00	0.00E+00	1.05E-02	0.00E+00	7.52E+00	0.00E+00	1.01E+02
All depths combined	Biomass	1.37E+02	7.23E-02	8.94E+00	2.12E+02	0.00E+00	7.57E+00	7.32E+00	1.48E+01	0.00E+00	1.49E+00	9.42E-02	1.24E-01	9.03E-02	2.14E+00	2.78E+00	9.02E+00
	Population	1.85E+06	7.23E+03	1.66E+05	6.86E+06	0.00E+00	1.95E+05	2.31E+05	2.65E+05	0.00E+00	7.10E+04	9.42E+03	5.72E+04	1.51E+04	1.25E+06	4.69E+04	4.60E+06
	Variance biomass	8.46E+02	5.22E-03	3.50E+01	8.65E+02	0.00E+00	2.88E+01	1.48E+01	1.70E+01	0.00E+00	2.21E+00	8.87E-03	1.53E-02	8.16E-03	4.59E+00	2.14E+00	8.14E+01
	Variance population	1.86E+11	5.22E+07	1.18E+10	8.93E+11	0.00E+00	1.90E+10	1.47E+10	5.79E+09	0.00E+00	5.05E+09	8.87E+07	3.27E+09	2.27E+08	1.57E+12	5.59E+08	2.11E+13
	Mean CPUE (kg/ha)	4.11E-02	1.86E-05	2.58E-03	6.56E-02	0.00E+00	3.23E-03	1.99E-03	4.38E-03	0.00E+00	4.15E-04	2.89E-05	4.54E-05	2.22E-05	5.49E-04	7.12E-04	2.31E-03
	Mean CPUE (no./ha)	5.61E-01	1.86E-03	4.81E-02	2.09E+00	0.00E+00	8.47E-02	6.28E-02	7.77E-02	0.00E+00	1.98E-02	2.89E-03	2.10E-02	3.70E-03	3.21E-01	1.19E-02	1.18E+00
	Variance CPUE (kg/ha)	1.56E-02	4.86E-08	3.50E-04	1.46E-02	0.00E+00	7.59E-04	1.45E-04	2.30E-04	0.00E+00	2.43E-05	1.17E-07	2.91E-07	6.96E-08	4.25E-05	2.23E-05	7.54E-04
	Variance CPUE (no./ha)	3.28E+00	4.86E-04	1.18E-01	1.56E+01	0.00E+00	5.42E-01	1.42E-01	7.80E-02	0.00E+00	5.55E-02	1.17E-03	6.19E-02	1.93E-03	1.45E+01	5.96E-03	1.96E+02

Table 9. Continued

Octopus and Squid

Depth groups (m)	Abundance estimates	Octopodidae	*Benthoctopus leioderma*	*Opisthoteuthis californiana*	*Graneledone boreopacifica*	*Octopus dofleini*	*Benthoctopus* unidentified	Teuthoidea	*Rossia pacifica*	*Gonatus* unidentified	*Gonatus onyx*	*Berryteuthis magister*	*Gonatopsis borealis*
200-600	Biomass	0.00E+00	6.96E+01	2.32E+01	0.00E+00	4.07E+02	5.57E+01	5.05E+00	5.04E+01	0.00E+00	4.77E-01	1.05E+03	1.13E+00
	Population	0.00E+00	1.87E+05	2.39E+04	0.00E+00	3.74E+05	4.08E+05	7.21E+04	6.00E+05	0.00E+00	2.84E+04	3.24E+06	1.22E+04
	Variance biomass	0.00E+00	4.06E+02	2.48E+02	0.00E+00	2.51E+04	1.83E+02	3.78E+00	9.07E+01	0.00E+00	7.81E-02	1.86E+04	1.17E+00
	Variance population	0.00E+00	2.81E+09	9.44E+07	0.00E+00	6.93E+09	5.87E+09	4.78E+08	8.25E+09	0.00E+00	1.50E+08	3.52E+11	6.98E+07
	Mean CPUE (kg/ha)	0.00E+00	2.22E-02	2.18E-02	0.00E+00	1.14E-01	2.41E-02	1.51E-03	3.92E-02	0.00E+00	2.94E-04	5.09E-01	2.35E-04
	Mean CPUE (no./ha)	0.00E+00	6.72E-02	2.25E-02	0.00E+00	1.21E-01	1.66E-01	2.10E-02	5.42E-01	0.00E+00	2.15E-02	1.94E+00	2.52E-03
	Variance CPUE (kg/ha)	0.00E+00	1.35E-03	5.70E-03	0.00E+00	4.07E-02	1.10E-03	8.55E-06	5.20E-03	0.00E+00	5.02E-07	1.62E-01	6.63E-07
	Variance CPUE (no./ha)	0.00E+00	1.07E-02	6.05E-03	0.00E+00	1.79E-02	2.53E-02	9.41E-04	1.33E+00	0.00E+00	2.84E-03	5.23E+00	7.65E-05
600-1200	Biomass	1.57E+00	8.11E+01	9.49E+00	1.49E+02	3.60E+00	1.80E+02	1.28E+01	1.57E+00	1.93E-01	0.00E+00	1.48E+02	4.38E-01
	Population	8.87E+03	2.36E+05	2.74E+04	1.38E+05	3.79E+04	4.83E+05	1.15E+05	2.57E+04	3.45E+03	0.00E+00	4.29E+05	5.09E+03
	Variance biomass	1.52E+00	1.32E+03	2.78E+01	4.11E+02	4.34E+00	2.10E+03	2.15E+01	0.00E+00	3.74E-02	0.00E+00	1.15E+03	1.92E-01
	Variance population	3.96E+07	1.17E+10	1.82E+08	1.75E+08	5.15E+08	5.83E+09	1.63E+09	0.00E+00	1.19E+07	0.00E+00	1.14E+10	2.59E+07
	Mean CPUE (kg/ha)	1.11E-03	4.34E-02	6.14E-03	1.42E-01	2.90E-03	1.48E-01	8.27E-03	1.62E-03	1.25E-04	0.00E+00	7.74E-02	1.90E-04
	Mean CPUE (no./ha)	5.37E-03	1.21E-01	1.77E-02	1.35E-01	2.99E-02	3.25E-01	7.62E-02	2.65E-02	2.23E-03	0.00E+00	2.46E-01	2.21E-03
	Variance CPUE (kg/ha)	1.51E-05	7.68E-03	6.40E-04	2.41E-01	5.06E-05	5.73E-02	1.89E-04	4.43E-05	2.65E-07	0.00E+00	1.28E-02	6.15E-07
	Variance CPUE (no./ha)	2.43E-04	7.01E-02	5.31E-03	2.39E-01	5.84E-03	6.79E-02	1.61E-02	1.19E-02	8.46E-05	0.00E+00	1.00E-01	8.31E-05
All depths combined	Biomass	1.57E+00	1.51E+02	3.27E+01	1.49E+02	4.10E+02	2.36E+02	1.79E+01	5.20E+01	1.93E-01	4.77E-01	1.20E+03	1.57E+00
	Population	8.87E+03	4.23E+05	5.12E+04	1.38E+05	4.12E+05	8.91E+05	1.87E+05	6.26E+05	3.45E+03	2.84E+04	3.67E+06	1.72E+04
	Variance biomass	1.52E+00	1.72E+03	2.76E+02	4.11E+02	2.51E+04	2.28E+03	2.52E+01	9.07E+01	3.74E-02	7.81E-02	1.98E+04	1.37E+00
	Variance population	3.96E+07	1.45E+10	2.76E+08	1.75E+08	7.44E+09	1.17E+10	2.11E+09	8.25E+09	1.19E+07	1.50E+08	3.63E+11	9.57E+07
	Mean CPUE (kg/ha)	5.98E-04	4.65E-02	1.26E-02	2.52E-02	1.26E-01	7.45E-02	5.19E-03	1.52E-02	1.05E-04	1.57E-04	3.62E-01	5.20E-04
	Mean CPUE (no./ha)	3.34E-03	1.33E-01	2.26E-02	2.21E-02	1.24E-01	2.85E-01	5.43E-02	1.86E-01	1.88E-03	9.74E-03	1.11E+00	5.73E-03
	Variance CPUE (kg/ha)	3.17E-05	2.85E-02	6.06E-03	3.47E-02	3.89E-01	4.45E-02	2.88E-04	2.33E-03	1.57E-06	1.03E-06	3.35E-01	2.03E-05
	Variance CPUE (no./ha)	7.81E-04	2.57E-01	1.37E-02	3.21E-02	1.17E-01	1.86E-01	2.34E-02	3.84E-01	5.00E-04	2.60E-03	5.33E+00	1.53E-03

Table 9. Continued

Sea Stars

Depth groups (m)	Abundance estimates	Asteroidea unidentified	Henricia unidentified	Gephyreaster swifti	Pseudarchaster unidentified	Hippasteria unidentified	Hippasteria spinosa	Pseudarchaster parelii	Mediaster unidentified	Mediaster aequalis	Ceramaster unidentified	Ceramaster japonicus	Ceramaster patagonicus	Solaster unidentified	Solaster endeca	Solaster sp. A	Solaster paxillatus
200-600	Biomass	5.56E-01	1.85E+01	1.63E+01	0.00E+00	0.00E+00	1.05E+02	7.55E+00	0.00E+00	3.05E-01	1.41E+03	0.00E+00	8.89E+02	1.59E+01	1.20E+01	1.11E+01	7.70E+01
	Population	1.20E+04	8.97E+05	4.67E+04	0.00E+00	0.00E+00	2.21E+05	1.87E+05	0.00E+00	1.76E+04	1.37E+07	0.00E+00	7.30E+06	8.49E+04	3.19E+04	7.02E+04	4.64E+05
	Variance biomass	1.55E-01	1.07E+02	1.37E+02	0.00E+00	0.00E+00	2.69E+03	9.33E+00	0.00E+00	9.33E-02	9.59E+04	0.00E+00	1.87E+05	6.31E+01	7.08E+01	1.15E+02	1.89E+03
	Variance population	7.45E+07	1.30E+11	5.26E+08	0.00E+00	0.00E+00	6.42E+09	2.73E+09	0.00E+00	3.10E+08	9.06E+12	0.00E+00	8.40E+12	9.45E+08	3.67E+08	4.12E+09	5.84E+10
	Mean CPUE (kg/ha)	3.02E-04	5.10E-03	3.00E-02	0.00E+00	0.00E+00	4.92E-02	2.81E-03	0.00E+00	2.87E-04	3.92E-01	0.00E+00	4.01E-01	8.21E-03	7.10E-03	2.53E-03	2.97E-02
	Mean CPUE (no./ha)	6.08E-03	2.33E-01	5.79E-02	0.00E+00	0.00E+00	1.34E-01	8.19E-02	0.00E+00	1.66E-02	3.27E+00	0.00E+00	2.86E+00	4.70E-02	2.26E-02	1.78E-02	1.86E-01
	Variance CPUE (kg/ha)	7.12E-07	1.22E-04	6.06E-03	0.00E+00	0.00E+00	5.64E-03	1.41E-05	0.00E+00	9.90E-07	4.78E-01	0.00E+00	4.09E-01	2.80E-04	1.98E-04	5.89E-05	2.44E-03
	Variance CPUE (no./ha)	2.69E-04	2.72E-01	1.73E-02	0.00E+00	0.00E+00	3.20E-02	9.94E-03	0.00E+00	3.30E-03	5.53E+01	0.00E+00	1.38E+01	6.28E-03	2.16E-03	2.23E-03	1.10E-01
600-1200	Biomass	5.03E-01	9.28E-01	1.78E+00	0.00E+00	6.98E-01	1.22E+01	6.08E+00	4.59E-01	1.65E+00	1.71E+02	2.77E+01	1.42E+02	1.14E+00	8.80E+00	0.00E+00	1.44E+01
	Population	1.95E+04	8.24E+04	6.95E+04	0.00E+00	8.63E+03	7.08E+04	2.66E+05	1.95E+04	7.87E+04	2.90E+06	3.22E+05	2.08E+06	1.90E+04	2.86E+04	0.00E+00	1.83E+05
	Variance biomass	2.03E-01	1.62E-01	1.29E+00	0.00E+00	2.44E-01	5.58E+01	4.15E+00	1.18E-01	1.45E+00	4.21E+03	7.66E+02	4.57E+03	6.53E-01	1.89E+01	0.00E+00	5.45E+01
	Variance population	2.67E+08	1.02E+09	2.13E+09	0.00E+00	3.76E+07	1.74E+09	8.44E+09	2.23E+08	4.01E+09	9.88E+11	1.04E+11	1.46E+12	2.24E+08	1.87E+08	0.00E+00	1.14E+10
	Mean CPUE (kg/ha)	4.33E-04	8.68E-04	2.07E-03	0.00E+00	7.11E-04	9.59E-03	4.86E-03	3.45E-04	1.33E-03	7.01E-02	9.35E-03	1.02E-01	5.51E-04	6.81E-03	0.00E+00	9.80E-03
	Mean CPUE (no./ha)	1.64E-02	6.85E-02	8.26E-02	0.00E+00	8.34E-03	5.66E-02	1.94E-01	1.47E-02	6.32E-02	1.16E+00	1.09E-01	1.32E+00	9.64E-03	2.30E-02	0.00E+00	1.06E-01
	Variance CPUE (kg/ha)	2.67E-06	2.84E-06	3.27E-05	0.00E+00	4.77E-06	5.21E-04	6.49E-05	1.16E-06	3.00E-05	2.65E-02	1.49E-03	2.36E-02	2.44E-06	1.55E-04	0.00E+00	4.81E-04
	Variance CPUE (no./ha)	3.44E-03	1.31E-02	5.30E-02	0.00E+00	6.01E-04	1.74E-02	1.02E-01	2.22E-03	6.79E-02	7.46E+00	2.01E-01	6.78E+00	1.00E-03	1.72E-03	0.00E+00	4.76E-02
All depths combined	Biomass	1.06E+00	1.94E+01	1.81E+01	0.00E+00	6.98E-01	1.17E+02	1.36E+01	4.59E-01	1.96E+00	1.58E+03	2.77E+01	1.03E+03	1.71E+01	2.08E+01	1.11E+01	9.13E+01
	Population	3.15E+04	9.79E+05	1.16E+05	0.00E+00	8.63E+03	2.92E+05	4.53E+05	1.95E+04	9.63E+04	1.66E+07	3.22E+05	9.37E+06	1.04E+05	6.05E+04	7.02E+04	6.48E+05
	Variance biomass	3.58E-01	1.07E+02	1.38E+02	0.00E+00	2.44E-01	2.75E+03	1.35E+01	1.18E-01	1.54E+00	1.00E+05	7.66E+02	1.92E+05	6.38E+01	8.97E+01	1.15E+02	1.95E+03
	Variance population	3.42E+08	1.31E+11	2.65E+09	0.00E+00	3.76E+07	8.15E+09	1.12E+10	2.23E+08	4.32E+09	1.00E+13	1.04E+11	9.86E+12	1.17E+09	5.54E+08	4.12E+09	6.97E+10
	Mean CPUE (kg/ha)	3.59E-04	6.16E-03	6.73E-03	0.00E+00	3.08E-04	3.28E-02	4.13E-03	1.78E-04	7.38E-04	4.67E-01	7.89E-03	3.05E-01	5.31E-03	6.38E-03	3.54E-03	2.69E-02
	Mean CPUE (no./ha)	1.10E-02	3.11E-01	4.46E-02	0.00E+00	3.75E-03	8.74E-02	1.41E-01	7.56E-03	3.61E-02	4.86E+00	9.18E-02	2.80E+00	3.12E-02	1.91E-02	2.22E-02	1.91E-01
	Variance CPUE (kg/ha)	5.39E-06	1.61E-03	2.41E-03	0.00E+00	6.85E-06	2.74E-02	1.67E-04	2.49E-06	3.86E-05	1.69E+00	8.78E-03	2.24E+00	9.70E-04	9.35E-04	1.64E-03	2.24E-02
	Variance CPUE (no./ha)	5.23E-03	2.14E+00	6.43E-02	0.00E+00	9.84E-04	1.14E-01	1.56E-01	4.68E-03	1.00E-01	1.78E+02	1.19E+00	1.17E+02	1.48E-02	6.75E-03	5.86E-02	8.13E-01

Table 9. Continued

Sea Stars (continued)

Depth groups (m)	Abundance estimates	*Crossaster* unidentified	*Crossaster borealis*	*Crossaster papposus*	*Heterozonias alternatus*	*Lophaster* unidentified	*Lophaster furcilliger*	*Pteraster* unidentified	*Pteraster militaris*	*Diplopteraster multipes*	*Ctenodiscus crispatus*	*Dipsacaster borealis*	*Cheiraster dawsoni*	*Nearchaster variabilis*	*Nearchaster pedicellaris*	*Zoraster evermanni*	*Myxoderma sacculatum*
200-600	Biomass	4.33E+00	3.66E+02	1.51E-01	6.85E+00	0.00E+00	9.70E+00	1.28E+01	0.00E+00	1.15E+02	3.09E+00	6.36E+02	3.65E+00	1.04E+02	2.92E-01	1.32E+01	1.78E+00
	Population	6.94E+03	3.98E+06	1.88E+04	6.16E+04	0.00E+00	6.64E+05	1.30E+05	0.00E+00	6.43E+05	2.37E+05	2.85E+06	1.21E+05	2.65E+06	8.10E+03	1.21E+05	1.93E+04
	Variance biomass	1.87E+01	3.40E+03	2.27E-02	4.69E+01	0.00E+00	1.51E+01	2.55E+01	0.00E+00	1.91E+03	8.87E-01	4.18E+04	1.05E+01	1.70E+03	8.50E-02	6.84E+01	1.03E+00
	Variance population	4.81E+07	4.68E+11	3.55E+08	3.80E+09	0.00E+00	7.71E+10	2.02E+09	0.00E+00	5.65E+10	6.04E+09	5.85E+11	1.19E+10	9.47E+11	6.56E+07	5.74E+09	1.86E+08
	Mean CPUE (kg/ha)	1.39E-03	1.82E-01	1.08E-04	3.34E-03	0.00E+00	2.80E-03	6.37E-03	0.00E+00	7.76E-02	1.20E-03	1.59E-01	9.67E-04	4.63E-02	5.71E-04	7.16E-03	3.48E-03
	Mean CPUE (no./ha)	2.23E-03	1.92E+00	1.36E-02	3.01E-02	0.00E+00	1.69E-01	6.12E-02	0.00E+00	3.19E-01	9.93E-02	7.08E-01	3.13E-02	1.24E+00	1.59E-02	7.30E-02	3.77E-02
	Variance CPUE (kg/ha)	2.32E-05	1.34E-02	1.41E-07	1.34E-04	0.00E+00	3.00E-05	2.40E-04	0.00E+00	9.98E-03	6.92E-06	7.41E-02	5.92E-06	4.58E-03	3.91E-06	1.81E-04	1.46E-04
	Variance CPUE (no./ha)	5.95E-05	2.01E+00	2.21E-03	1.09E-02	0.00E+00	1.63E-01	9.02E-03	0.00E+00	1.41E-01	3.48E-02	1.56E+00	6.50E-03	3.20E+00	3.02E-03	2.10E-02	1.71E-02
600-1200	Biomass	4.17E-01	4.52E+02	0.00E+00	2.77E+01	2.21E+00	3.29E+02	5.67E+01	1.51E+00	1.01E+01	1.25E-01	2.18E+01	0.00E+00	3.99E+02	1.60E+01	5.98E+02	7.06E+01
	Population	4.94E+04	4.62E+06	0.00E+00	1.78E+05	2.57E+04	8.04E+06	1.30E+06	3.81E+04	5.14E+04	8.94E+03	7.10E+05	0.00E+00	1.22E+07	5.52E+05	6.28E+06	6.98E+05
	Variance biomass	1.74E-01	1.05E+04	0.00E+00	6.17E+02	0.00E+00	2.27E+04	1.26E+01	7.71E-01	4.82E+00	1.57E-02	5.72E+01	0.00E+00	1.38E+04	7.36E+01	5.39E+04	8.42E+02
	Variance population	2.44E+09	9.80E+11	0.00E+00	2.32E+10	0.00E+00	1.23E+13	8.36E+09	4.15E+08	6.53E+08	7.99E+07	9.18E+10	0.00E+00	8.31E+12	8.27E+10	1.90E+12	8.97E+10
	Mean CPUE (kg/ha)	4.15E-04	2.79E-01	0.00E+00	1.88E-02	2.28E-03	2.90E-01	5.57E-02	1.38E-03	9.22E-03	1.14E-04	1.69E-02	0.00E+00	2.71E-01	1.56E-02	4.01E-01	6.83E-02
	Mean CPUE (no./ha)	4.91E-02	2.92E+00	0.00E+00	1.23E-01	2.65E-02	6.96E+00	1.26E+00	3.48E-02	3.41E-02	8.15E-03	3.33E-01	0.00E+00	9.34E+00	5.17E-01	5.18E+00	6.72E-01
	Variance CPUE (kg/ha)	2.93E-06	9.87E-02	0.00E+00	4.26E-03	8.81E-05	1.24E+00	3.46E-02	3.24E-05	1.06E-03	2.21E-07	1.32E-03	0.00E+00	1.63E-01	9.62E-04	8.08E-01	1.33E-02
	Variance CPUE (no./ha)	4.11E-02	8.96E+00	0.00E+00	1.61E-01	1.19E-02	6.68E+02	1.88E+01	2.06E-02	9.33E-03	1.13E-03	5.52E-01	0.00E+00	1.54E+02	9.60E-01	2.18E+02	1.30E+00
All depths combined	Biomass	4.74E+00	8.18E+02	1.51E-01	3.46E+01	2.21E+00	3.39E+02	6.94E+01	1.51E+00	1.25E+02	3.21E+00	6.58E+02	3.65E+00	5.03E+02	1.63E+01	6.11E+02	7.23E+01
	Population	5.63E+04	8.61E+06	1.88E+04	2.40E+05	2.57E+04	8.71E+06	1.43E+06	3.81E+04	6.94E+05	2.46E+05	3.56E+06	1.21E+05	1.48E+07	5.60E+05	6.40E+06	7.17E+05
	Variance biomass	1.89E+01	1.39E+04	2.27E-02	6.64E+02	0.00E+00	2.27E+04	3.81E+01	7.71E-01	1.91E+03	9.02E-01	4.18E+04	1.05E+01	1.55E+04	7.37E+01	5.40E+04	8.43E+02
	Variance population	2.49E+09	1.45E+12	3.55E+08	2.70E+10	0.00E+00	1.24E+13	1.04E+10	4.15E+08	5.72E+10	6.12E+09	6.77E+11	1.19E+10	9.26E+12	8.28E+10	1.90E+12	8.98E+10
	Mean CPUE (kg/ha)	1.21E-03	2.52E-01	4.62E-05	1.26E-02	2.75E-04	1.09E-01	1.24E-02	4.99E-04	3.97E-02	8.39E-04	1.96E-01	1.03E-03	1.76E-01	5.17E-03	1.50E-01	2.71E-02
	Mean CPUE (no./ha)	1.95E-02	2.64E+00	5.77E-03	8.57E-02	3.19E-03	2.76E+00	2.34E-01	1.26E-02	2.16E-01	6.56E-02	1.04E+00	3.42E-02	5.00E+00	1.72E-01	1.32E+00	2.69E-01
	Variance CPUE (kg/ha)	1.63E-04	2.24E-01	3.00E-07	1.35E-02	1.06E-05	6.78E-01	4.76E-03	1.95E-05	2.84E-02	1.23E-05	5.86E-01	1.15E-04	3.22E-01	9.85E-04	7.64E-01	1.96E-02
	Variance CPUE (no./ha)	4.49E-02	2.29E+01	4.69E-03	5.26E-01	1.44E-03	3.66E+02	2.42E+00	1.16E-02	8.30E-01	7.61E-02	9.75E+00	1.31E-01	2.32E+02	1.07E+00	5.09E+01	2.08E+00

Table 9. Continued

Sea Stars (continued), Brittle stars and Crinoids

Depth groups (m)	Abundance estimates	*Brisingella pusilla*	*Brisingella exilis*	*Brisingella* unidentified	Ophiuroid unidentified	*Gorgonocephalus eucnemis*	Asteronychidae	*Asteronyx* unidentified	*Asteronyx loveni*	*Ophiura* unidentified	*Ophiura sarsi*	*Stegophiura ponderosa*	*Ophiopholis* unidentified	*Ophiopholis longispina*	*Ophiopholis aculeata*	Crinoidea
200-600	Biomass	0.00E+00	1.40E-01	0.00E+00	7.23E+00	1.56E+03	0.00E+00	5.46E+01	1.76E+02	0.00E+00	3.51E+02	2.06E+00	0.00E+00	3.95E-01	3.39E+01	1.15E-01
	Population	0.00E+00	6.38E+03	0.00E+00	2.68E+05	1.77E+07	0.00E+00	1.37E+06	8.01E+06	0.00E+00	4.62E+08	8.94E+04	0.00E+00	1.65E+05	8.94E+06	0.00E+00
	Variance biomass	0.00E+00	1.97E-02	0.00E+00	2.14E+01	1.69E+06	0.00E+00	2.36E+03	3.06E+04	0.00E+00	1.23E+05	4.23E+00	0.00E+00	1.56E-01	4.94E+02	8.37E-03
	Variance population	0.00E+00	4.07E+07	0.00E+00	2.12E+10	2.56E+14	0.00E+00	1.48E+12	6.39E+13	0.00E+00	2.14E+17	7.99E+09	0.00E+00	2.71E+10	3.60E+13	0.00E+00
	Mean CPUE (kg/ha)	0.00E+00	2.88E-05	0.00E+00	6.36E-03	6.89E-01	0.00E+00	3.70E-02	5.78E-02	0.00E+00	7.19E-02	4.27E-04	0.00E+00	2.66E-04	7.34E-03	7.75E-05
	Mean CPUE (no./ha)	0.00E+00	1.31E-03	0.00E+00	1.42E-01	6.81E+00	0.00E+00	9.36E-01	2.61E+00	0.00E+00	9.48E+01	1.86E-02	0.00E+00	1.11E-01	1.95E+00	0.00E+00
	Variance CPUE (kg/ha)	0.00E+00	9.94E-09	0.00E+00	1.97E-04	2.05E+00	0.00E+00	1.38E-02	3.77E-02	0.00E+00	6.21E-02	2.19E-06	0.00E+00	8.50E-07	5.47E-04	7.22E-08
	Variance CPUE (no./ha)	0.00E+00	2.05E-05	0.00E+00	6.37E-02	3.04E+02	0.00E+00	8.75E+00	7.88E+01	0.00E+00	1.08E+05	4.14E-03	0.00E+00	1.48E-01	3.74E+01	0.00E+00
600-1200	Biomass	0.00E+00	2.29E+00	6.96E-03	2.43E+02	3.04E+01	2.65E-01	2.77E+00	8.23E+00	5.52E-02	3.75E+01	0.00E+00	4.15E-02	1.21E-01	1.34E+00	5.52E+00
	Population	0.00E+00	3.70E+04	6.96E+03	1.26E+08	2.38E+05	6.96E+03	1.06E+05	4.48E+05	3.22E+04	2.01E+07	0.00E+00	2.07E+04	4.54E+04	2.90E+05	1.78E+06
	Variance biomass	0.00E+00	2.74E+00	4.85E-05	5.80E+04	3.20E+02	7.00E-02	1.59E+00	2.18E-03	1.94E-03	1.07E+03	0.00E+00	8.28E-04	0.00E+00	3.34E-01	3.62E+00
	Variance population	0.00E+00	9.27E+08	4.85E+07	1.57E+16	1.16E+10	4.85E+07	2.23E+09	1.36E+08	7.06E+08	2.10E+14	0.00E+00	2.90E+08	0.00E+00	9.94E+09	3.74E+11
	Mean CPUE (kg/ha)	0.00E+00	7.75E-04	4.50E-06	2.21E-01	2.84E-02	1.71E-04	2.42E-03	8.51E-03	4.68E-05	2.54E-02	0.00E+00	2.68E-05	1.44E-04	4.59E-04	5.29E-03
	Mean CPUE (no./ha)	0.00E+00	1.25E-02	4.50E-03	1.15E+02	1.89E-01	4.50E-03	9.39E-02	4.66E-01	2.73E-02	1.50E+01	0.00E+00	1.34E-02	5.38E-02	1.00E-01	1.71E+00
	Variance CPUE (kg/ha)	0.00E+00	1.02E-05	3.44E-10	8.19E-01	5.26E-03	4.97E-07	3.04E-05	1.21E-03	3.72E-08	7.49E-03	0.00E+00	1.23E-08	3.50E-07	3.45E-06	1.77E-04
	Variance CPUE (no./ha)	0.00E+00	2.66E-03	3.44E-04	2.22E+05	1.23E-01	3.44E-04	5.04E-02	3.43E+00	1.27E-02	1.80E+03	0.00E+00	3.05E-03	4.92E-02	1.57E-01	2.33E+01
All depths combined	Biomass	0.00E+00	2.44E+00	6.96E-03	2.50E+02	1.59E+03	2.65E-01	5.74E+01	1.84E+02	5.52E-02	3.88E+02	2.06E+00	4.15E-02	5.16E-01	3.52E+01	5.63E+00
	Population	0.00E+00	4.34E+04	6.96E+03	1.26E+08	1.79E+07	6.96E+03	1.48E+06	8.46E+06	3.22E+04	4.82E+08	8.94E+04	2.07E+04	2.10E+05	9.23E+06	1.78E+06
	Variance biomass	0.00E+00	2.76E+00	4.85E-05	5.81E+04	1.69E+06	7.00E-02	2.37E+03	3.06E+04	1.94E-03	1.24E+05	4.23E+00	8.28E-04	1.56E-01	4.94E+02	3.63E+00
	Variance population	0.00E+00	9.68E+08	4.85E+07	1.57E+16	2.56E+14	4.85E+07	1.48E+12	6.39E+13	7.06E+08	2.14E+17	7.99E+09	2.90E+08	2.71E+10	3.60E+13	3.74E+11
	Mean CPUE (kg/ha)	0.00E+00	6.93E-04	3.80E-06	8.27E-02	4.17E-01	1.44E-04	2.00E-02	4.43E-02	2.25E-05	1.12E-01	6.54E-04	2.27E-05	1.53E-04	9.88E-03	1.30E-03
	Mean CPUE (no./ha)	0.00E+00	1.23E-02	3.80E-03	4.17E+01	4.58E+00	3.80E-03	5.18E-01	2.03E+00	1.32E-02	1.36E+02	2.84E-02	1.13E-02	6.31E-02	2.59E+00	3.82E-01
	Variance CPUE (kg/ha)	0.00E+00	3.55E-05	2.03E-09	8.90E-01	1.45E+01	2.94E-06	4.00E-02	2.61E-01	5.21E-08	1.37E+00	6.03E-05	3.99E-08	2.64E-06	5.79E-03	7.32E-05
	Variance CPUE (no./ha)	0.00E+00	1.17E-02	2.03E-03	2.41E+05	2.18E+03	2.03E-03	2.51E+01	5.45E+02	1.85E-02	2.35E+06	1.14E-01	1.30E-02	4.57E-01	4.19E+02	8.17E+00

Table 9. Continued

Sea Cucumbers

Depth groups (m)	Abundance estimates	*Parastichopus* unidentified	*Parastichopus leucothele*	*Molpadia unidentified*	*Molpadia intermedia*	*Pentamera* unidentified	*Bathyplotes* unidentified	*Cucumaria fallax*	*Psolus* unidentified	*Psolus squamatus*	*Psolus japonicus*	*Pannychia unidentified*
200-600	Biomass	1.58E-01	2.57E+03	0.00E+00	6.79E-01	5.10E-02	2.78E+01	1.69E+02	2.44E-02	0.00E+00	6.25E-02	1.15E+00
	Population	1.54E+04	1.50E+07	0.00E+00	8.14E+04	6.38E+03	5.54E+05	4.28E+05	6.11E+03	0.00E+00	1.25E+04	7.50E+04
	Variance biomass	1.60E-02	1.43E+06	0.00E+00	3.09E-01	2.60E-03	8.39E+01	2.84E+04	5.97E-04	0.00E+00	3.90E-03	1.32E+00
	Variance population	1.24E+08	4.42E+13	0.00E+00	3.87E+09	4.07E+07	2.65E+10	1.83E+11	3.73E+07	0.00E+00	1.56E+08	5.62E+09
	Mean CPUE (kg/ha)	1.46E-04	5.30E-01	0.00E+00	2.92E-04	1.05E-05	1.47E-02	3.50E-02	2.89E-05	0.00E+00	4.50E-05	8.28E-04
	Mean CPUE (no./ha)	1.43E-02	3.09E+00	0.00E+00	2.36E-02	1.31E-03	3.25E-01	8.88E-02	7.22E-03	0.00E+00	9.00E-03	5.40E-02
	Variance CPUE (kg/ha)	1.55E-07	3.27E+00	0.00E+00	8.23E-07	1.31E-09	3.57E-04	1.47E-02	1.00E-08	0.00E+00	2.43E-08	8.22E-06
	Variance CPUE (no./ha)	1.17E-03	1.07E+02	0.00E+00	3.04E-03	2.05E-05	2.55E-01	9.47E-02	6.26E-04	0.00E+00	9.71E-04	3.50E-02
600-1200	Biomass	1.84E+01	5.39E+02	0.00E+00	4.78E-01	0.00E+00	8.86E+01	0.00E+00	8.73E-01	5.35E+01	0.00E+00	3.42E+02
	Population	3.66E+05	3.86E+06	0.00E+00	1.08E+04	0.00E+00	2.56E+06	0.00E+00	4.26E+04	3.23E+06	0.00E+00	8.60E+06
	Variance biomass	1.76E+02	9.89E+04	0.00E+00	1.27E-01	0.00E+00	2.91E+03	0.00E+00	7.63E-01	6.41E-01	0.00E+00	6.15E+04
	Variance population	7.59E+10	3.76E+12	0.00E+00	5.95E+07	0.00E+00	1.28E+12	0.00E+00	1.81E+09	1.19E+09	0.00E+00	4.11E+13
	Mean CPUE (kg/ha)	1.16E-02	2.26E-01	0.00E+00	1.77E-04	0.00E+00	5.62E-02	0.00E+00	7.76E-04	6.27E-02	0.00E+00	3.71E-01
	Mean CPUE (no./ha)	2.47E-01	1.75E+00	0.00E+00	4.09E-03	0.00E+00	1.78E+00	0.00E+00	3.78E-02	3.80E+00	0.00E+00	9.35E+00
	Variance CPUE (kg/ha)	1.48E-03	3.00E-01	0.00E+00	2.63E-07	0.00E+00	1.87E-02	0.00E+00	1.02E-05	6.31E-02	0.00E+00	1.17E+00
	Variance CPUE (no./ha)	7.26E-01	1.26E+01	0.00E+00	1.34E-04	0.00E+00	1.28E+01	0.00E+00	2.43E-02	2.36E+02	0.00E+00	7.91E+02
All depths combined	Biomass	1.86E+01	3.11E+03	0.00E+00	1.16E+00	5.10E-02	1.16E+02	1.69E+02	8.98E-01	5.35E+01	6.25E-02	3.43E+02
	Population	3.82E+05	1.88E+07	0.00E+00	9.22E+04	6.38E+03	3.11E+06	4.28E+05	4.87E+04	3.23E+06	1.25E+04	8.68E+06
	Variance biomass	1.76E+02	1.53E+06	0.00E+00	4.37E-01	2.60E-03	3.00E+03	2.84E+04	7.63E-01	6.41E-01	3.90E-03	6.15E+04
	Variance population	7.61E+10	4.80E+13	0.00E+00	3.93E+09	4.07E+07	1.31E+12	1.83E+11	1.85E+09	1.19E+09	1.56E+08	4.11E+13
	Mean CPUE (kg/ha)	6.55E-03	8.74E-01	0.00E+00	3.50E-04	1.43E-05	3.35E-02	5.36E-02	2.88E-04	8.04E-03	1.91E-05	8.98E-02
	Mean CPUE (no./ha)	1.39E-01	5.35E+00	0.00E+00	2.87E-02	1.78E-03	9.06E-01	1.36E-01	1.55E-02	4.77E-01	3.83E-03	2.28E+00
	Variance CPUE (kg/ha)	3.28E-03	1.97E+01	0.00E+00	5.30E-06	2.86E-08	3.14E-02	4.05E-01	1.11E-05	7.64E-03	5.17E-08	5.94E-01
	Variance CPUE (no./ha)	1.51E+00	6.26E+02	0.00E+00	5.44E-02	4.48E-04	1.72E+01	2.61E+00	2.68E-02	2.85E+01	2.07E-03	3.99E+02

Table 9. Continued

Sea Urchins & Sponges

Depth groups (m)	Abundance estimates	*Strongylocentrotus droebachiensis*	*Strongylocentrotus* unidentified	*Allocentrotus fragilis*	*Brisaster* unidentified	*Brisaster latifrons*	*Holothuroidea* unidentified	Porifera	Porifera (vase)	*Suberites ficus*	*Aphrocallistes vastus*	*Mycale loveni*	*Halichondria panicea*	*Rhabdocalyptus* unidentified	Porifera (soft green)	*Halichondria* cf. *sitiens*	Porifera (stone sponge)
200-600	Biomass	8.79E+01	5.08E-02	3.85E+01	5.65E-02	2.93E+02	1.46E+01	1.29E+03	6.15E+02	4.71E-01	9.15E+02	6.80E+01	2.61E+02	1.57E+02	0.00E+00	2.69E-01	3.89E+03
	Population	4.24E+06	5.65E+03	5.98E+05	7.07E+03	1.80E+07	3.06E+05	0.00E+00	0.00E+00	2.69E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Variance biomass	7.30E+03	2.59E-03	1.02E+02	3.20E-03	6.48E+04	8.84E+01	2.10E+05	3.24E+05	2.22E-01	2.26E+05	4.42E+03	6.80E+04	2.47E+04	0.00E+00	7.23E-02	1.51E+07
	Variance population	1.67E+13	3.19E+07	6.78E+10	5.00E+07	2.44E+14	4.41E+10	0.00E+00	0.00E+00	7.26E+08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Mean CPUE (kg/ha)	1.91E-02	1.06E-05	1.79E-02	6.68E-05	1.34E-01	4.88E-03	5.78E-01	4.01E-01	9.79E-05	2.53E-01	1.47E-02	1.88E-01	1.13E-01	0.00E+00	3.18E-04	8.08E-01
	Mean CPUE (no./ha)	9.52E-01	1.17E-03	3.03E-01	8.35E-03	8.22E+00	8.85E-02	0.00E+00	0.00E+00	5.60E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Variance CPUE (kg/ha)	3.82E-03	1.34E-09	4.46E-04	5.36E-08	1.82E-01	8.15E-05	8.95E-01	1.75E+00	1.15E-07	3.44E-01	2.26E-03	4.23E-01	1.54E-01	0.00E+00	1.21E-06	7.83E+00
	Variance CPUE (no./ha)	8.61E+00	1.65E-05	3.78E-01	8.37E-04	6.83E+02	2.96E-02	0.00E+00	0.00E+00	3.76E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
600-1200	Biomass	0.00E+00	0.00E+00	2.79E-01	0.00E+00	9.32E+01	4.86E+00	3.24E+01	2.95E+01	0.00E+00	4.41E+02	1.89E+00	0.00E+00	3.16E+01	1.93E+00	0.00E+00	0.00E+00
	Population	0.00E+00	0.00E+00	5.58E+03	0.00E+00	1.34E+07	3.55E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Variance biomass	0.00E+00	0.00E+00	7.80E-02	0.00E+00	3.28E+03	1.46E+01	1.04E+02	1.04E+02	0.00E+00	5.90E+04	1.81E+00	0.00E+00	1.25E+02	3.73E+00	0.00E+00	0.00E+00
	Variance population	0.00E+00	0.00E+00	3.12E+07	0.00E+00	8.62E+13	4.04E+08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Mean CPUE (kg/ha)	0.00E+00	0.00E+00	2.78E-04	0.00E+00	5.98E-02	3.97E-03	2.55E-02	3.15E-02	0.00E+00	2.58E-01	1.79E-03	0.00E+00	2.67E-02	1.92E-03	0.00E+00	0.00E+00
	Mean CPUE (no./ha)	0.00E+00	0.00E+00	5.56E-03	0.00E+00	8.59E+00	1.88E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Variance CPUE (kg/ha)	0.00E+00	0.00E+00	1.31E-06	0.00E+00	6.03E-02	1.88E-04	1.84E-03	5.54E-03	0.00E+00	2.23E-01	2.58E-05	0.00E+00	2.94E-03	6.28E-05	0.00E+00	0.00E+00
	Variance CPUE (no./ha)	0.00E+00	0.00E+00	5.25E-04	0.00E+00	1.25E+03	1.86E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
All depths combined	Biomass	8.79E+01	5.08E-02	3.88E+01	5.65E-02	3.86E+02	1.95E+01	1.32E+03	6.44E+02	4.71E-01	1.36E+03	6.99E+01	2.61E+02	1.89E+02	1.93E+00	2.69E-01	3.89E+03
	Population	4.24E+06	5.65E+03	6.04E+05	7.07E+03	3.14E+07	3.41E+05	0.00E+00	0.00E+00	2.69E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Variance biomass	7.30E+03	2.59E-03	1.02E+02	3.20E-03	6.80E+04	1.03E+02	2.10E+05	3.24E+05	2.22E-01	2.85E+05	4.42E+03	6.80E+04	2.48E+04	3.73E+00	7.23E-02	1.51E+07
	Variance population	1.67E+13	3.19E+07	6.78E+10	5.00E+07	3.30E+14	4.45E+10	0.00E+00	0.00E+00	7.26E+08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Mean CPUE (kg/ha)	2.80E-02	1.62E-05	1.25E-02	1.71E-05	1.20E-01	5.73E-03	3.92E-01	2.14E-01	1.50E-04	4.04E-01	2.23E-02	7.99E-02	5.96E-02	6.95E-04	8.11E-05	1.24E+00
	Mean CPUE (no./ha)	1.35E+00	1.80E-03	1.89E-01	2.13E-03	1.04E+01	9.79E-02	0.00E+00	0.00E+00	8.57E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Variance CPUE (kg/ha)	1.04E-01	3.69E-08	1.75E-03	4.10E-08	8.56E-01	1.19E-03	2.75E+00	5.40E+00	3.17E-06	3.78E+00	6.30E-02	9.00E-01	3.29E-01	6.82E-05	9.28E-07	2.16E+02
	Variance CPUE (no./ha)	2.38E+02	4.56E-04	9.24E-01	6.41E-04	5.05E+03	4.94E-01	0.00E+00	0.00E+00	1.04E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table 9. Continued

Bryozoans, Tunicates, Sea Spiders and Others

Depth groups (m)	Abundance estimates	*Sipuncula*	Bryozoa unidentified	*Flustra serrulata*	*Terebratalia transversa*	*Laqueus californianus*	Ascidian unidentified	*Thaliacea* unidentified	*Halocynthia aurantium*	Ascidacea	*Pycnogonida*	Bivalvia (shells)	Gastropoda (shells)	Polychaete tubes
200-600	Biomass	1.14E-01	2.12E+03	2.87E+02	1.09E-01	5.02E-01	3.32E-02	1.62E+00	3.00E+00	2.15E+03	1.57E-01	2.73E+01	1.04E+02	1.56E+03
	Population	3.57E+04	0.00E+00	0.00E+00	6.04E+03	4.45E+04	1.14E+04	4.15E+04	3.83E+04	0.00E+00	8.16E+04	0.00E+00	1.99E+05	0.00E+00
	Variance biomass	1.30E-02	4.48E+06	8.22E+04	1.18E-02	1.20E-01	5.86E-04	1.67E+00	9.00E+00	4.60E+06	1.45E-02	2.72E+02	1.83E+03	2.44E+06
	Variance population	1.27E+09	0.00E+00	0.00E+00	3.65E+07	8.66E+08	6.58E+07	2.84E+08	1.47E+09	0.00E+00	3.33E+09	0.00E+00	4.39E+09	0.00E+00
	Mean CPUE (kg/ha)	2.34E-05	4.40E-01	5.95E-02	7.83E-05	3.60E-04	1.65E-05	1.19E-03	6.23E-04	4.46E-01	3.24E-05	1.08E-02	3.57E-02	3.25E-01
	Mean CPUE (no./ha)	7.32E-03	0.00E+00	0.00E+00	4.35E-03	3.37E-02	4.78E-03	1.52E-02	7.96E-03	0.00E+00	1.68E-02	0.00E+00	1.15E-02	0.00E+00
	Variance CPUE (kg/ha)	6.58E-09	2.32E+00	4.25E-02	7.35E-08	6.10E-07	2.35E-09	1.03E-05	4.66E-06	2.39E+00	8.96E-09	6.68E-04	4.69E-03	1.27E+00
	Variance CPUE (no./ha)	6.42E-04	0.00E+00	0.00E+00	2.27E-04	4.50E-03	1.57E-04	1.06E-03	7.60E-04	0.00E+00	2.08E-03	0.00E+00	1.59E-03	0.00E+00
600-1200	Biomass	4.59E-01	0.00E+00	0.00E+00	0.00E+00	6.67E-01	0.00E+00	7.02E-01	0.00E+00	0.00E+00	1.50E-01	2.26E-01	4.10E+00	6.15E-02
	Population	8.24E+04	0.00E+00	0.00E+00	0.00E+00	1.23E+05	0.00E+00	2.25E+04	0.00E+00	0.00E+00	8.21E+04	0.00E+00	0.00E+00	0.00E+00
	Variance biomass	1.99E-01	0.00E+00	0.00E+00	0.00E+00	1.91E-01	0.00E+00	1.74E-01	0.00E+00	0.00E+00	2.19E-03	5.12E-02	4.29E+00	3.22E-03
	Variance population	4.82E+09	0.00E+00	0.00E+00	0.00E+00	6.35E+09	0.00E+00	1.28E+08	0.00E+00	0.00E+00	6.82E+08	0.00E+00	0.00E+00	0.00E+00
	Mean CPUE (kg/ha)	2.47E-04	0.00E+00	0.00E+00	0.00E+00	5.17E-04	0.00E+00	6.39E-04	0.00E+00	0.00E+00	5.86E-05	1.20E-04	2.54E-03	3.22E-05
	Mean CPUE (no./ha)	4.70E-02	0.00E+00	0.00E+00	0.00E+00	9.65E-02	0.00E+00	1.71E-02	0.00E+00	0.00E+00	3.16E-02	0.00E+00	0.00E+00	0.00E+00
	Variance CPUE (kg/ha)	9.49E-07	0.00E+00	0.00E+00	0.00E+00	1.74E-06	0.00E+00	2.48E-06	0.00E+00	0.00E+00	2.32E-08	2.46E-07	2.83E-05	1.53E-08
	Variance CPUE (no./ha)	2.30E-02	0.00E+00	0.00E+00	0.00E+00	6.08E-02	0.00E+00	1.14E-03	0.00E+00	0.00E+00	7.17E-03	0.00E+00	0.00E+00	0.00E+00
All depths combined	Biomass	5.74E-01	2.12E+03	2.87E+02	1.09E-01	1.17E+00	3.32E-02	2.33E+00	3.00E+00	2.15E+03	3.08E-01	2.75E+01	1.08E+02	1.56E+03
	Population	1.18E+05	0.00E+00	0.00E+00	6.04E+03	1.67E+05	1.14E+04	6.40E+04	3.83E+04	0.00E+00	1.64E+05	0.00E+00	1.99E+05	0.00E+00
	Variance biomass	2.12E-01	4.48E+06	8.22E+04	1.18E-02	3.11E-01	5.86E-04	1.84E+00	9.00E+00	4.60E+06	1.66E-02	2.72E+02	1.83E+03	2.44E+06
	Variance population	6.09E+09	0.00E+00	0.00E+00	3.65E+07	7.22E+09	6.58E+07	4.12E+08	1.47E+09	0.00E+00	4.01E+09	0.00E+00	4.39E+09	0.00E+00
	Mean CPUE (kg/ha)	1.53E-04	6.74E-01	9.12E-02	3.33E-05	4.03E-04	1.06E-05	7.65E-04	9.55E-04	6.84E-01	8.85E-05	7.74E-03	3.14E-02	4.97E-01
	Mean CPUE (no./ha)	3.34E-02	0.00E+00	0.00E+00	1.85E-03	5.83E-02	3.53E-03	2.04E-02	1.22E-02	0.00E+00	4.73E-02	0.00E+00	1.76E-02	0.00E+00
	Variance CPUE (kg/ha)	1.98E-06	6.40E+01	1.17E+00	1.56E-07	5.31E-06	8.85E-09	2.51E-05	1.29E-04	6.57E+01	1.97E-07	3.12E-03	2.18E-02	3.49E+01
	Variance CPUE (no./ha)	5.96E-02	0.00E+00	0.00E+00	4.83E-04	1.27E-01	8.71E-04	5.85E-03	2.09E-02	0.00E+00	4.89E-02	0.00E+00	2.25E-02	0.00E+00

Table 10. Abundance estimates by subarea and depth strata for Pacific sleeper shark *(Somniosus pacificus)* from the 2002 eastern Bering Sea upper continental slope survey.

Somniosus pacificus **Pacific sleeper shark**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	1.04E+02	1.27E+04	4.65E+03	6.72E+07	0.60	0.07
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	2.81E+02	2.57E+04	7.90E+04	6.61E+08	2.54	0.23
2	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	3.11E+02	8.46E+03	9.67E+04	7.16E+07	5.63	0.15
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
3	200-400	7.12E+01	4.66E+03	5.07E+03	2.17E+07	0.79	0.05
	400-600	8.95E+01	5.95E+03	8.01E+03	3.54E+07	1.01	0.07
	600-800	1.33E+02	1.35E+04	8.72E+03	7.57E+07	1.46	0.15
	800-1,000	1.40E+01	4.10E+03	1.95E+02	1.69E+07	0.19	0.06
4	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	2.38E+04	5.82E+05	4.94E+08	2.98E+11	343.19	8.38
	800-1,000	4.29E+02	1.02E+04	1.84E+05	1.03E+08	6.07	0.14
	1,000-1,200	6.55E+01	5.33E+03	4.29E+03	2.84E+07	0.99	0.08
5	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	3.67E+01	4.01E+03	1.35E+03	1.61E+07	0.85	0.09
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	9.41E+01	7.53E+03	8.85E+03	5.67E+07	0.36	0.03
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
All areas and depths combined		**2.54E+04**	**6.84E+05**	**4.94E+08**	**2.99E+11**	**1.02E+01**	**2.70E-01**

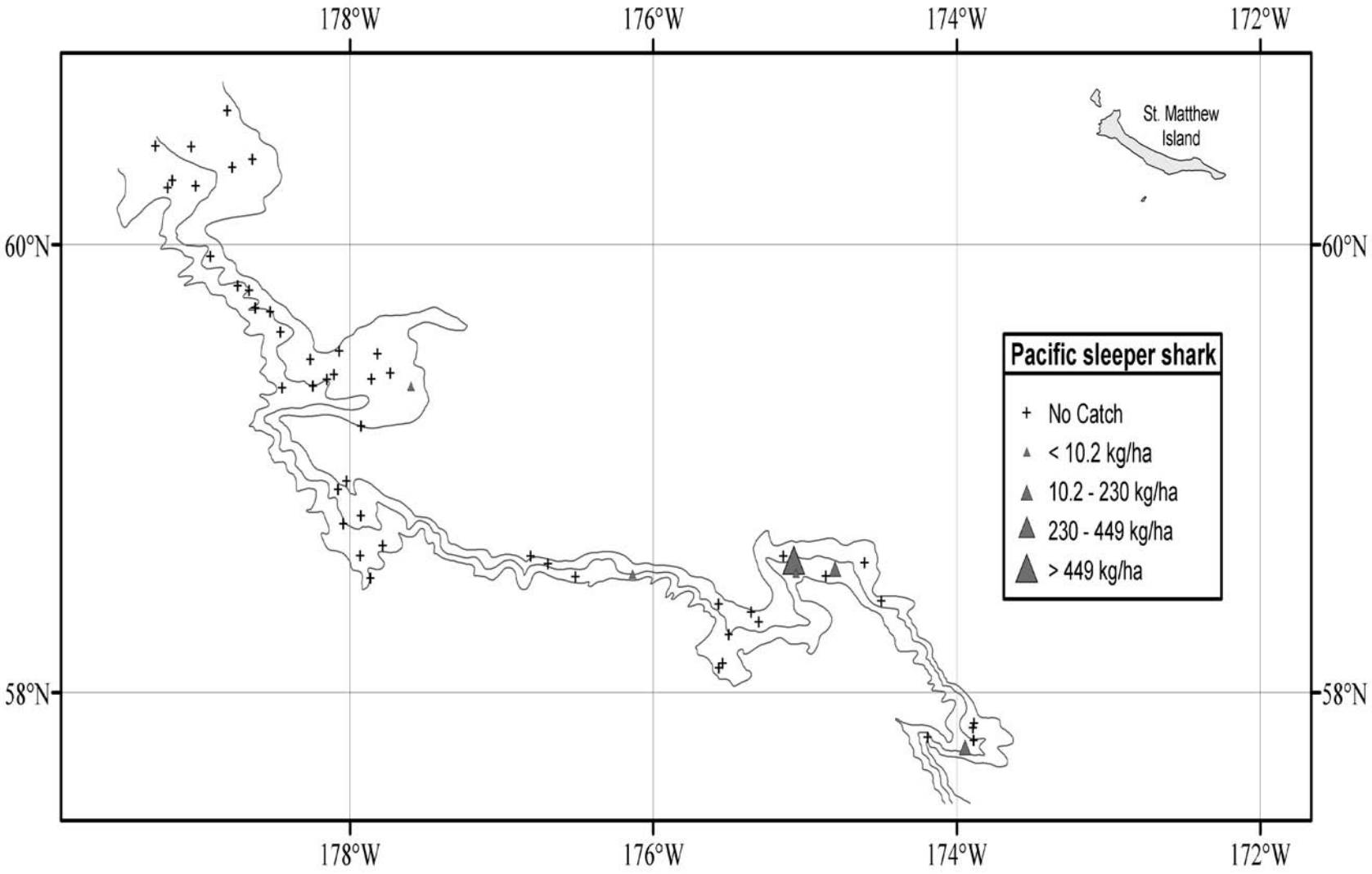

Figure 4. Distribution and relative abundance of Pacific sleeper shark (*Somniosus pacificus*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

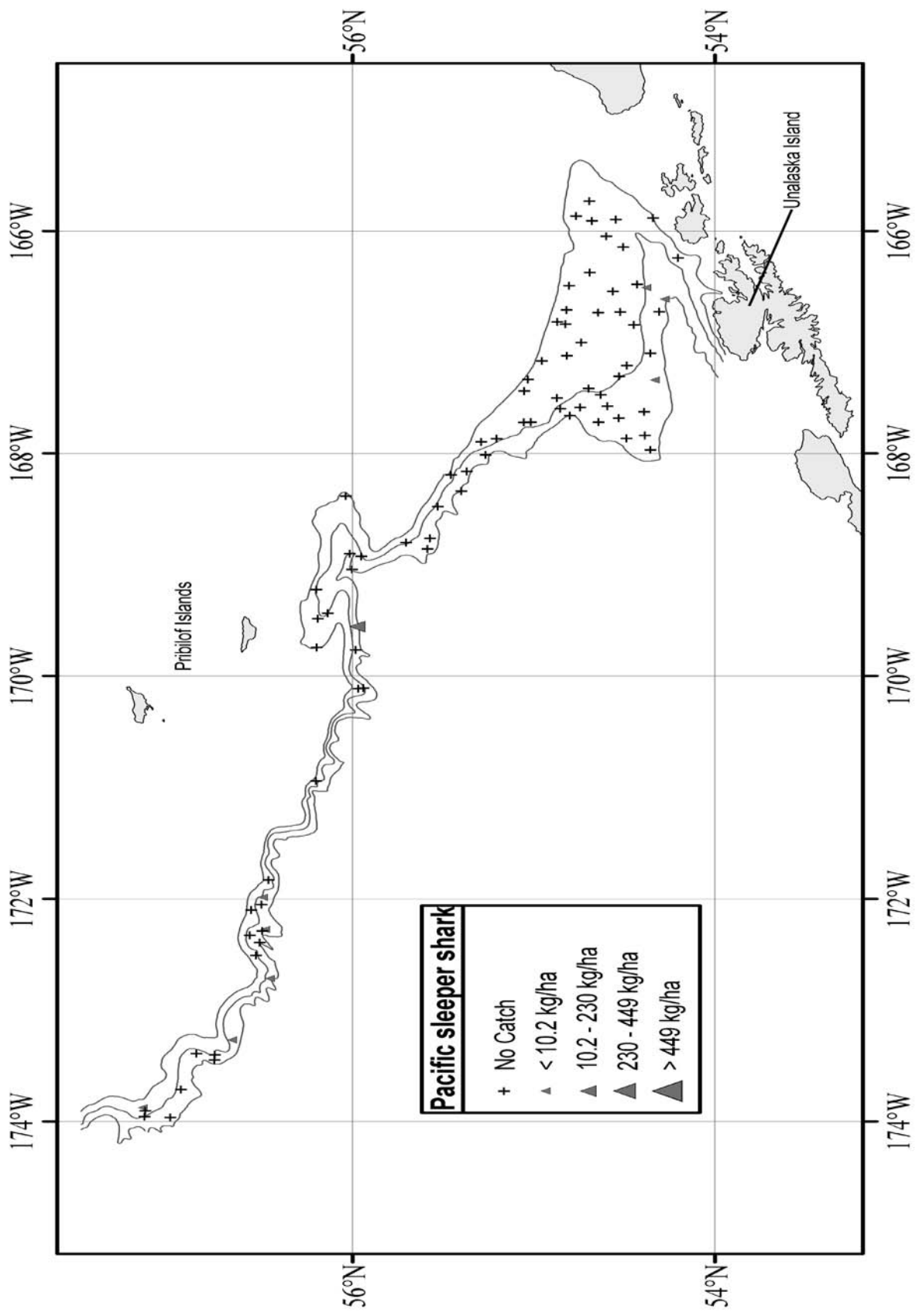

Figure 4. Continued.

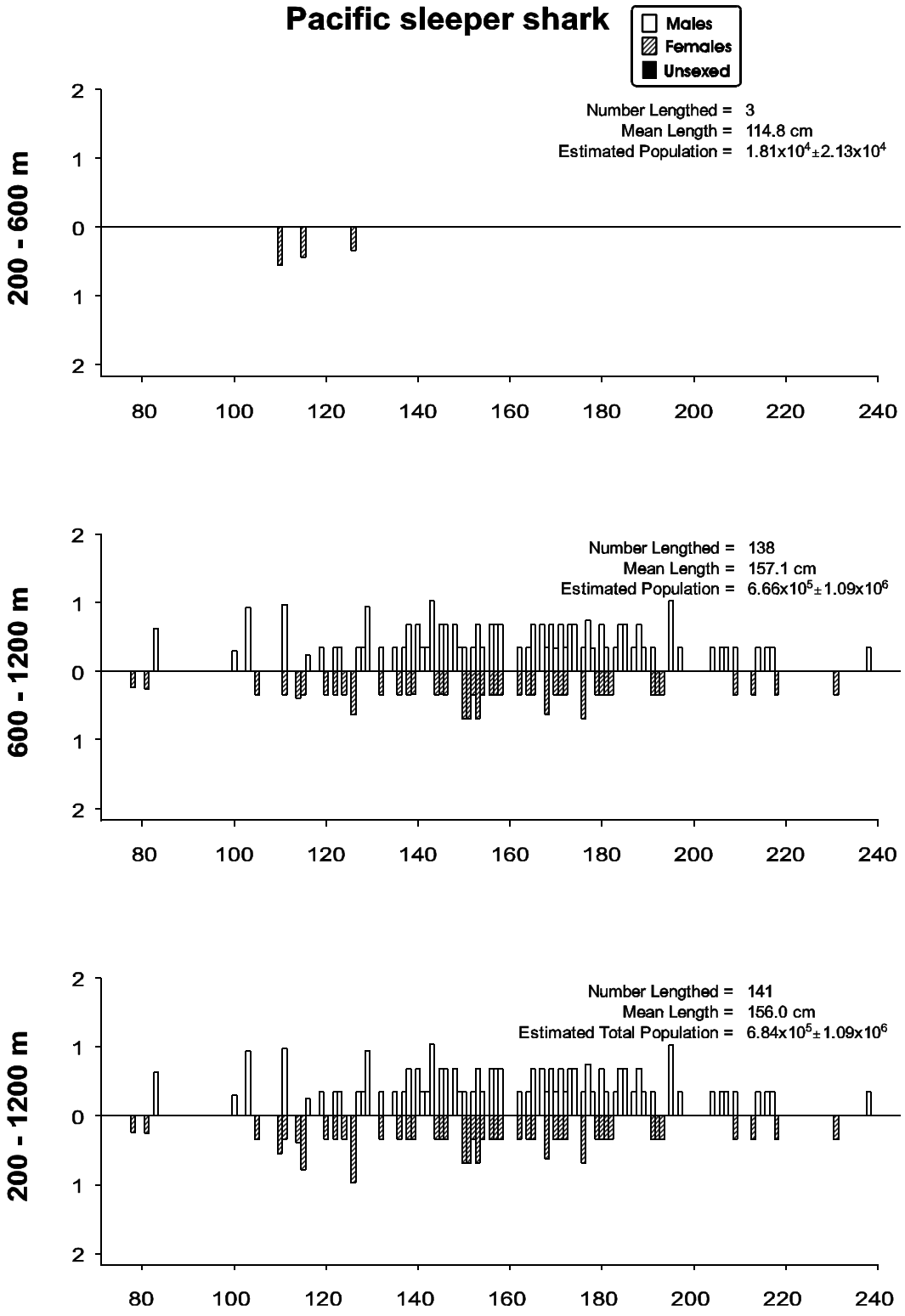

Figure 5. Size composition of the estimated Pacific sleeper shark population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as total length in centimeters while the ordinate represents percentage of the total population.

Table 11. Abundance estimates by subarea and depth strata for Alaska skate *(Bathyraja parmifera)* from the 2002 eastern Bering Sea upper continental slope survey.

Bathyraja parmifera **Alaska skate**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	8.70E+02	5.08E+06	4.60E+04	1.35E+12	1.15	0.40
	400-600	1.24E+02	1.76E+06	2.89E+03	6.30E+11	0.00	0.00
	600-800	1.36E+01	1.28E+05	1.24E+02	7.62E+09	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
2	200-400	1.37E+01	2.77E+05	7.43E+01	5.64E+10	0.47	0.11
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
3	200-400	1.06E+01	6.92E+04	6.34E+01	1.04E+09	5.10	0.63
	400-600	3.76E+00	6.48E+04	4.28E+00	2.42E+09	0.00	0.00
	600-800	1.31E-01	3.27E+03	1.71E-02	1.07E+07	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
4	200-400	2.94E+00	7.92E+04	4.34E+00	3.59E+09	0.23	0.04
	400-600	5.47E+00	1.26E+05	9.54E+00	4.38E+09	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
5	200-400	6.54E+00	2.19E+04	4.28E+01	4.79E+08	1.05	0.25
	400-600	1.23E+00	6.27E+04	6.07E-01	1.23E+09	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	9.56E+01	8.50E+05	2.31E+03	4.07E+10	134.38	22.34
	400-600	1.03E+01	5.39E+05	5.83E+01	1.46E+11	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
All areas and depths combined		**1.16E+03**	**9.06E+06**	**5.16E+04**	**2.25E+12**	**8.95E+00**	**1.51E+00**

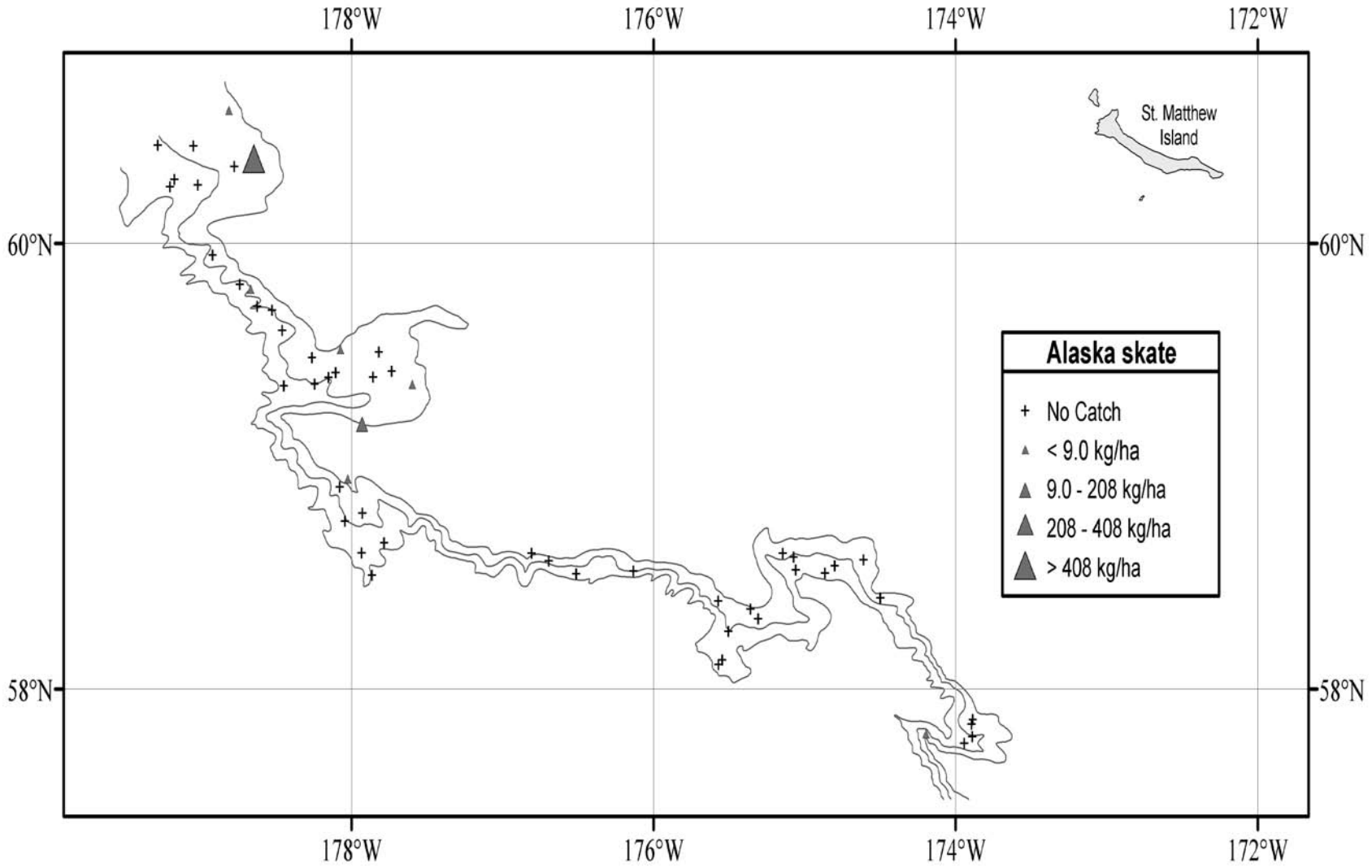

Figure 6. Distribution and relative abundance of Alaska skate (*Bathyraja parmifera*) from the 2002 EBSUCS survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

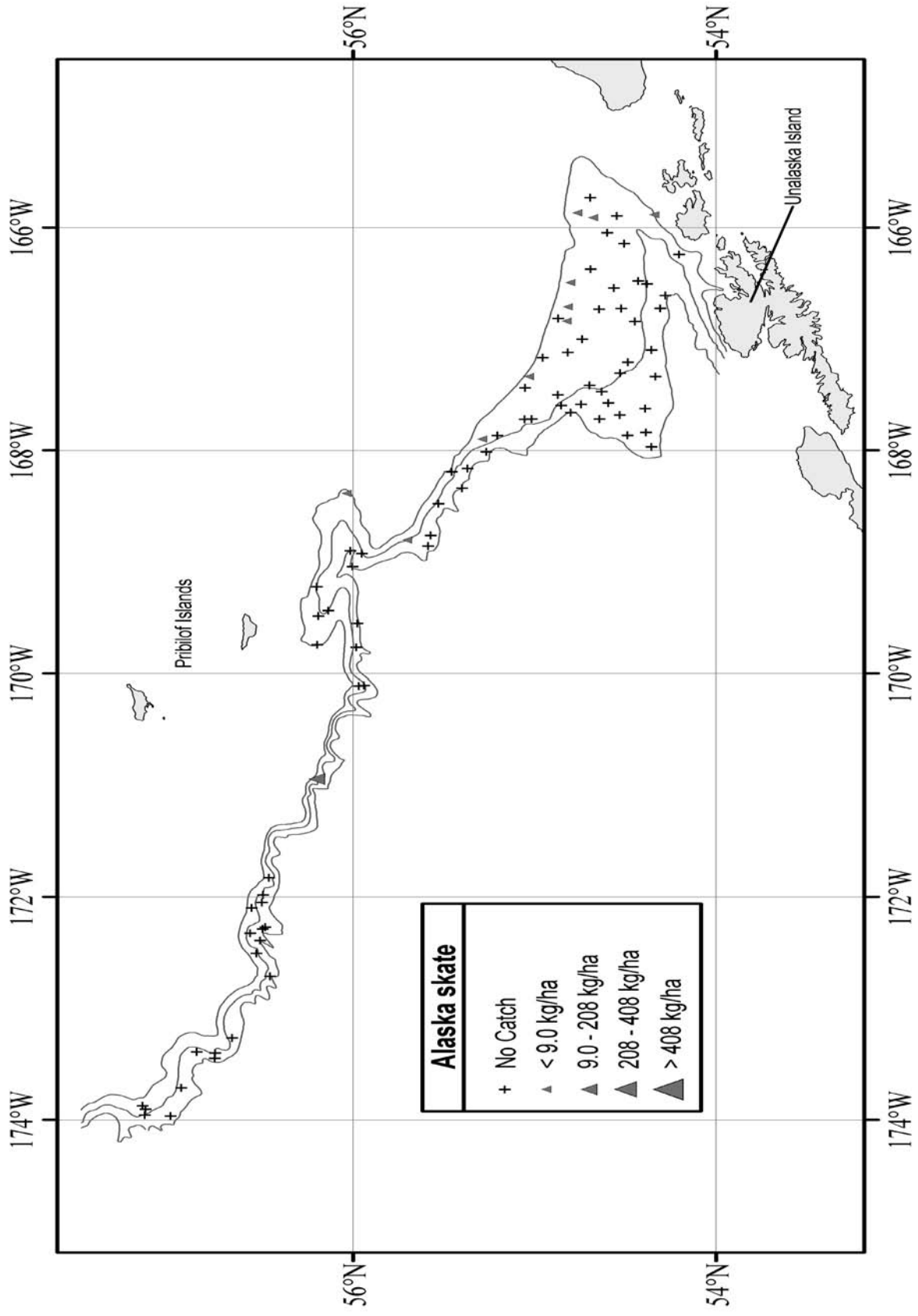

Figure 6. Continued.

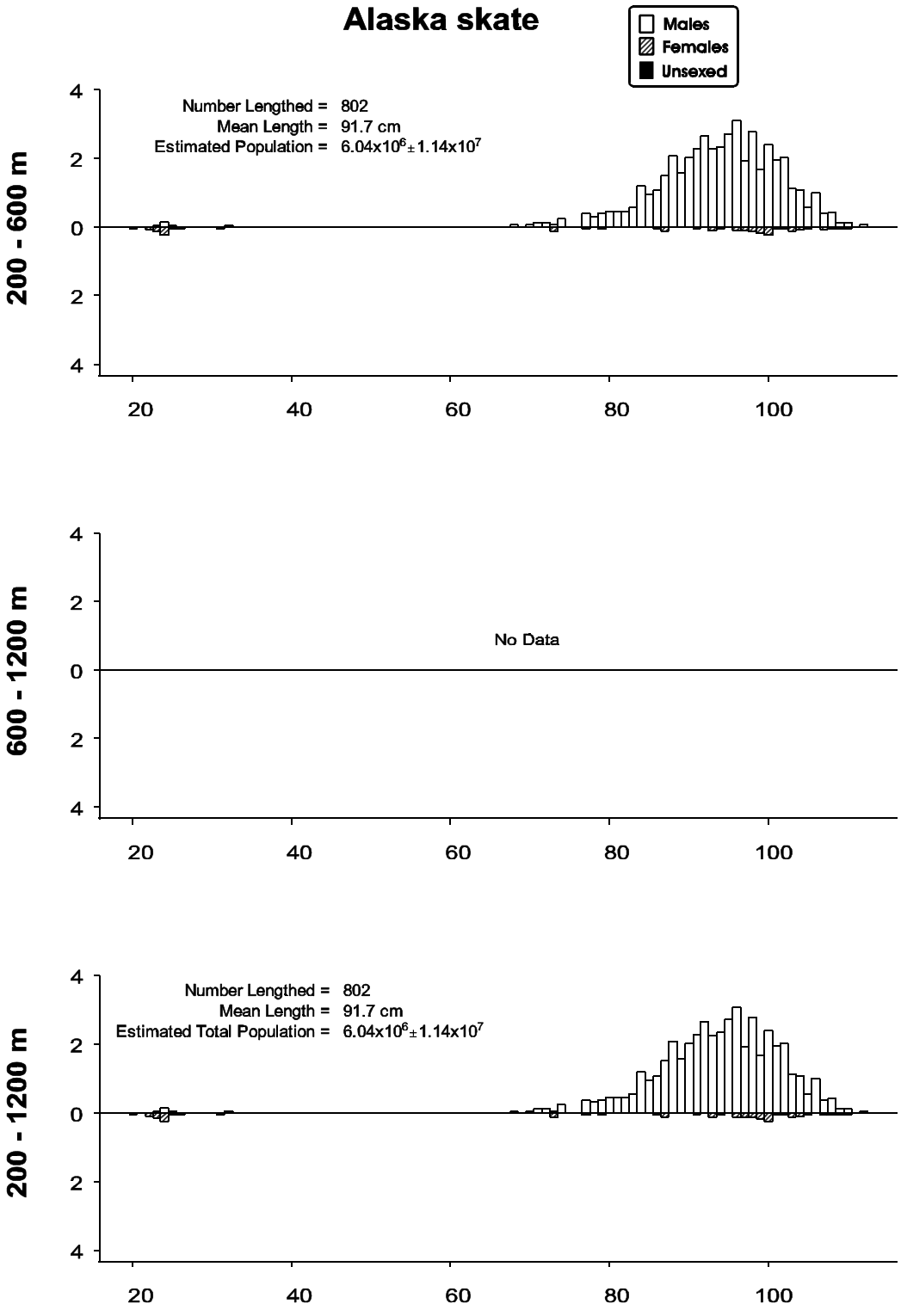

Figure 7. Size composition of the estimated Alaska skate population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as total length in centimeters while the ordinate represents percentage of the total population.

Table 12. Abundance estimates by subarea and depth strata for Aleutian skate *(Bathyraja aleutica)* from the 2002 eastern Bering Sea upper continental slope survey.

Bathyraja aleutica **Aleutian skate**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	8.70E+02	5.08E+06	4.60E+04	1.35E+12	8.12	1.16
	400-600	1.24E+02	1.76E+06	2.89E+03	6.30E+11	1.66	0.61
	600-800	1.36E+01	1.28E+05	1.24E+02	7.62E+09	2.19	1.27
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.02	0.16
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.08	0.41
2	200-400	1.37E+01	2.77E+05	7.43E+01	5.64E+10	11.85	2.21
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.10	6.97
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.21	5.03
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.95	2.75
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.76	1.88
3	200-400	1.06E+01	6.92E+04	6.34E+01	1.04E+09	19.07	2.34
	400-600	3.76E+00	6.48E+04	4.28E+00	2.42E+09	5.39	3.32
	600-800	1.31E-01	3.27E+03	1.71E-02	1.07E+07	3.06	2.99
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.09	0.30
4	200-400	2.94E+00	7.92E+04	4.34E+00	3.59E+09	3.46	0.59
	400-600	5.47E+00	1.26E+05	9.54E+00	4.38E+09	16.61	4.58
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.16	10.51
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.08	5.74
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.37	9.55
5	200-400	6.54E+00	2.19E+04	4.28E+01	4.79E+08	7.71	0.90
	400-600	1.23E+00	6.27E+04	6.07E-01	1.23E+09	2.73	0.89
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.43	0.26
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.35	0.26
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	9.56E+01	8.50E+05	2.31E+03	4.07E+10	17.60	2.01
	400-600	1.03E+01	5.39E+05	5.83E+01	1.46E+11	9.63	6.14
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75	1.93
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
All areas and depths combined		**1.16E+03**	**9.06E+06**	**5.16E+04**	**2.25E+12**	**5.73E+00**	**2.28E+00**

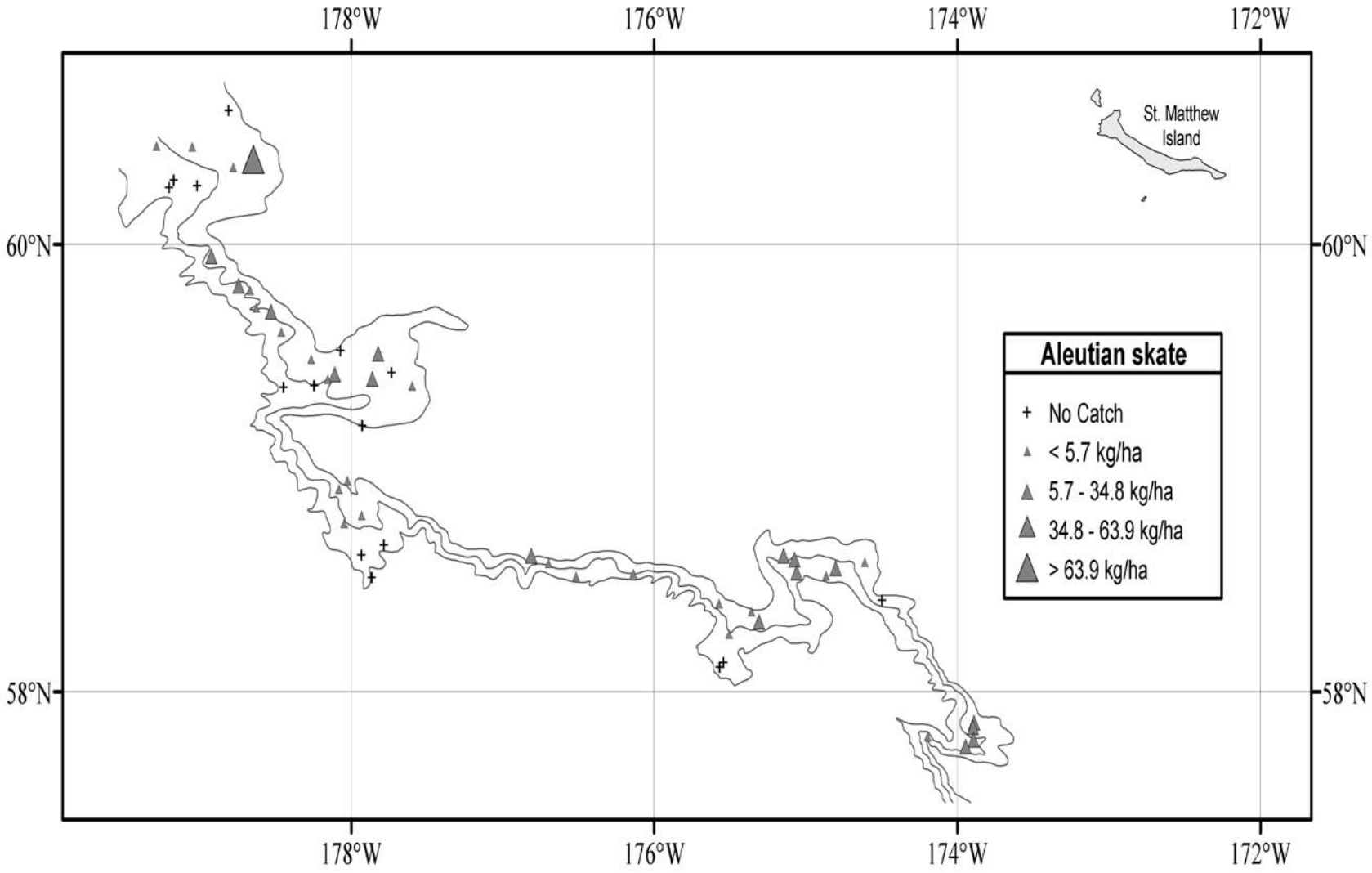

Figure 8. Distribution and relative abundance of Aleutian skate (*Bathyraja aleutica*) from the 2002 EBSUCS survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

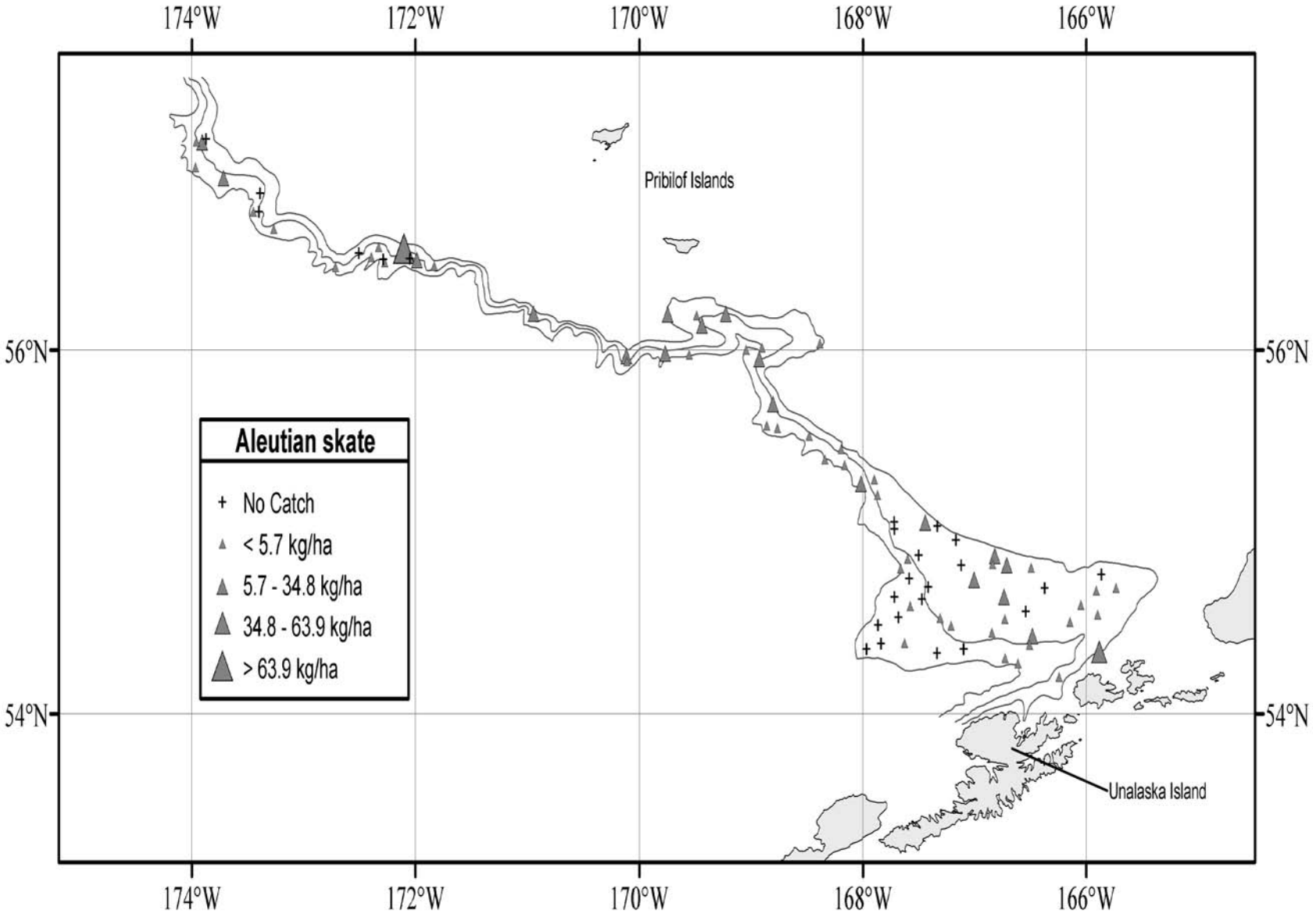

Figure 8. Continued.

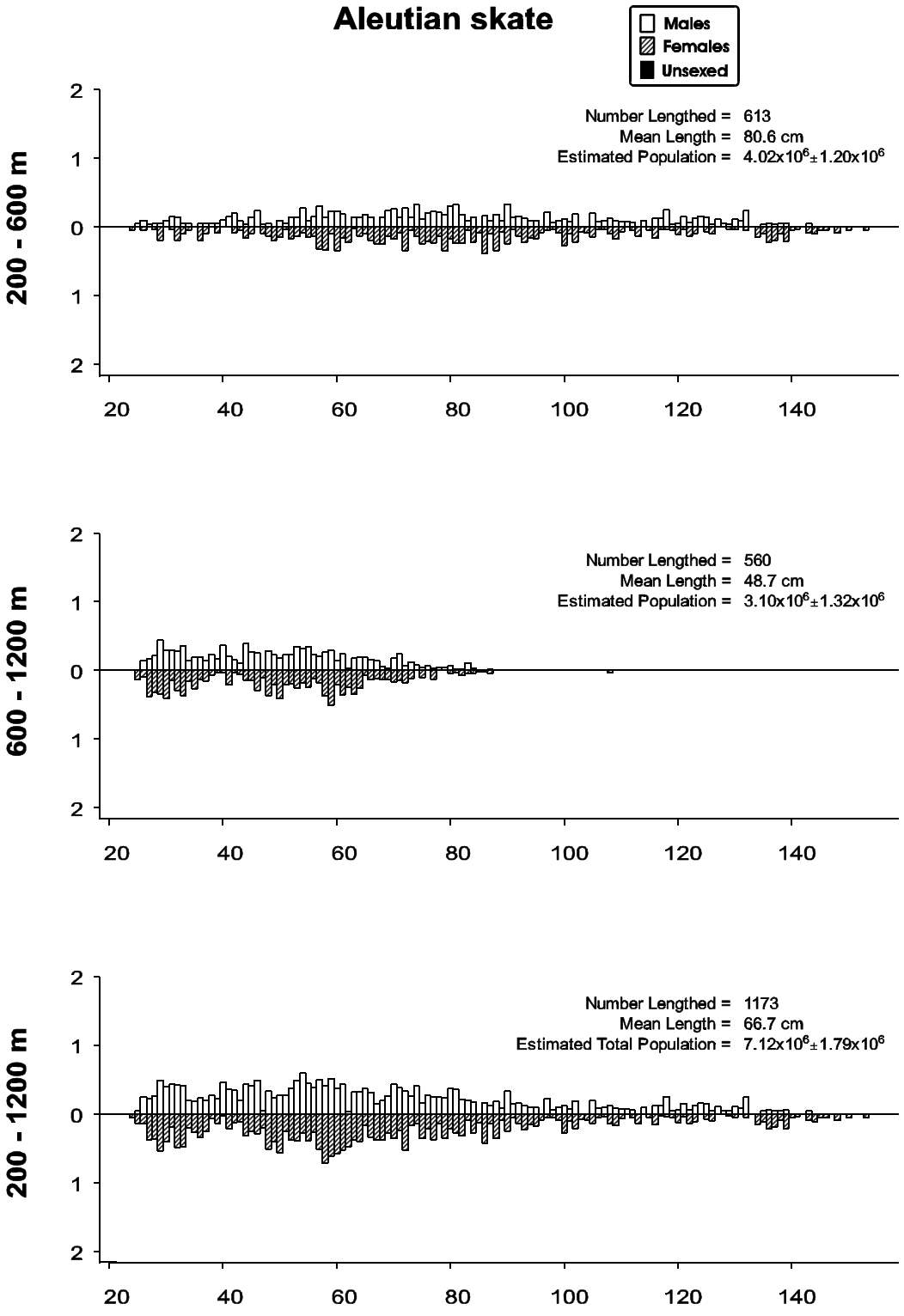

Figure 9. Size composition of the estimated Aleutian skate population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as total length in centimeters while the ordinate represents percentage of the total population.

Table 13. Abundance estimates by subarea and depth strata for sandpaper skate *(Bathyraja interrupta)* from the 2002 eastern Bering Sea upper continental slope survey.

Bathyraja interrupta **sandpaper skate**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	9.63E+02	8.83E+05	4.04E+04	5.55E+10	2.40	2.20
	400-600	2.14E+02	1.28E+05	4.81E+03	2.20E+09	0.53	0.32
	600-800	1.35E+02	6.43E+04	8.42E+03	1.91E+09	0.78	0.37
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
2	200-400	1.05E+02	5.54E+04	2.62E+03	7.10E+08	0.90	0.48
	400-600	1.80E+00	6.20E+03	3.23E+00	3.85E+07	0.03	0.09
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
3	200-400	5.74E+01	3.78E+04	7.08E+02	3.12E+08	0.63	0.42
	400-600	3.11E+01	4.21E+04	1.95E+02	3.28E+08	0.35	0.48
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
4	200-400	7.59E+01	1.01E+05	1.65E+03	3.37E+09	0.61	0.82
	400-600	3.88E+02	1.03E+05	1.33E+05	1.58E+08	5.31	0.94
	600-800	5.55E-01	4.87E+03	3.08E-01	2.37E+07	0.01	0.07
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
5	200-400	1.01E+01	2.19E+04	1.01E+02	4.79E+08	0.24	0.52
	400-600	1.24E+02	7.46E+04	4.72E+03	1.39E+09	2.92	1.75
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	6.60E+02	5.59E+05	6.24E+04	4.38E+10	2.54	2.15
	400-600	1.07E+02	2.21E+05	5.64E+03	5.58E+09	0.63	1.30
	600-800	5.54E-01	4.69E+03	3.07E-01	2.20E+07	0.01	0.05
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
All areas and depths combined		**2.87E+03**	**2.31E+06**	**2.65E+05**	**1.16E+11**	**8.70E-01**	**6.90E-01**

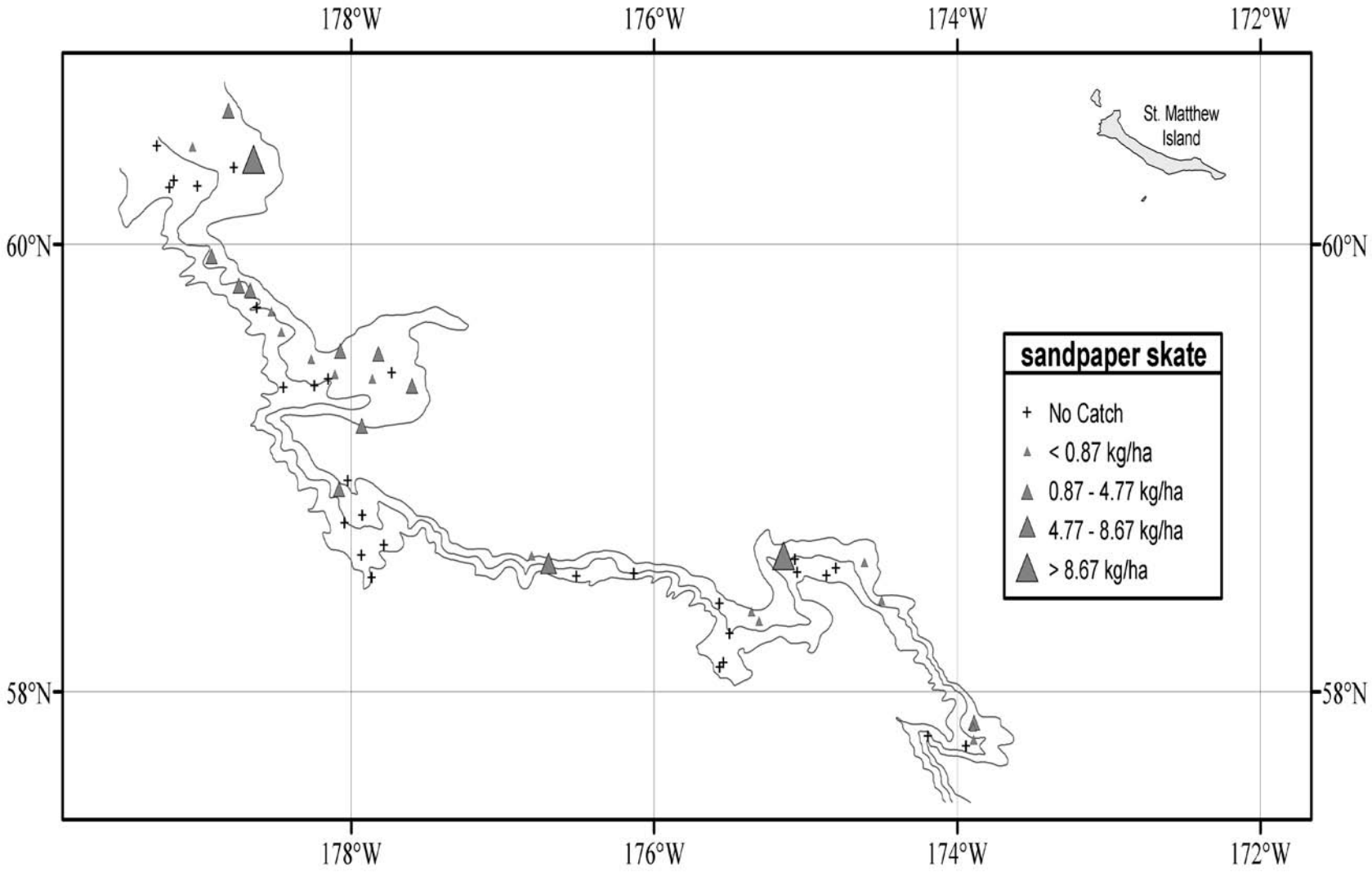

Figure 10. Distribution and relative abundance of sandpaper skate (*Bathyraja interrupta*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

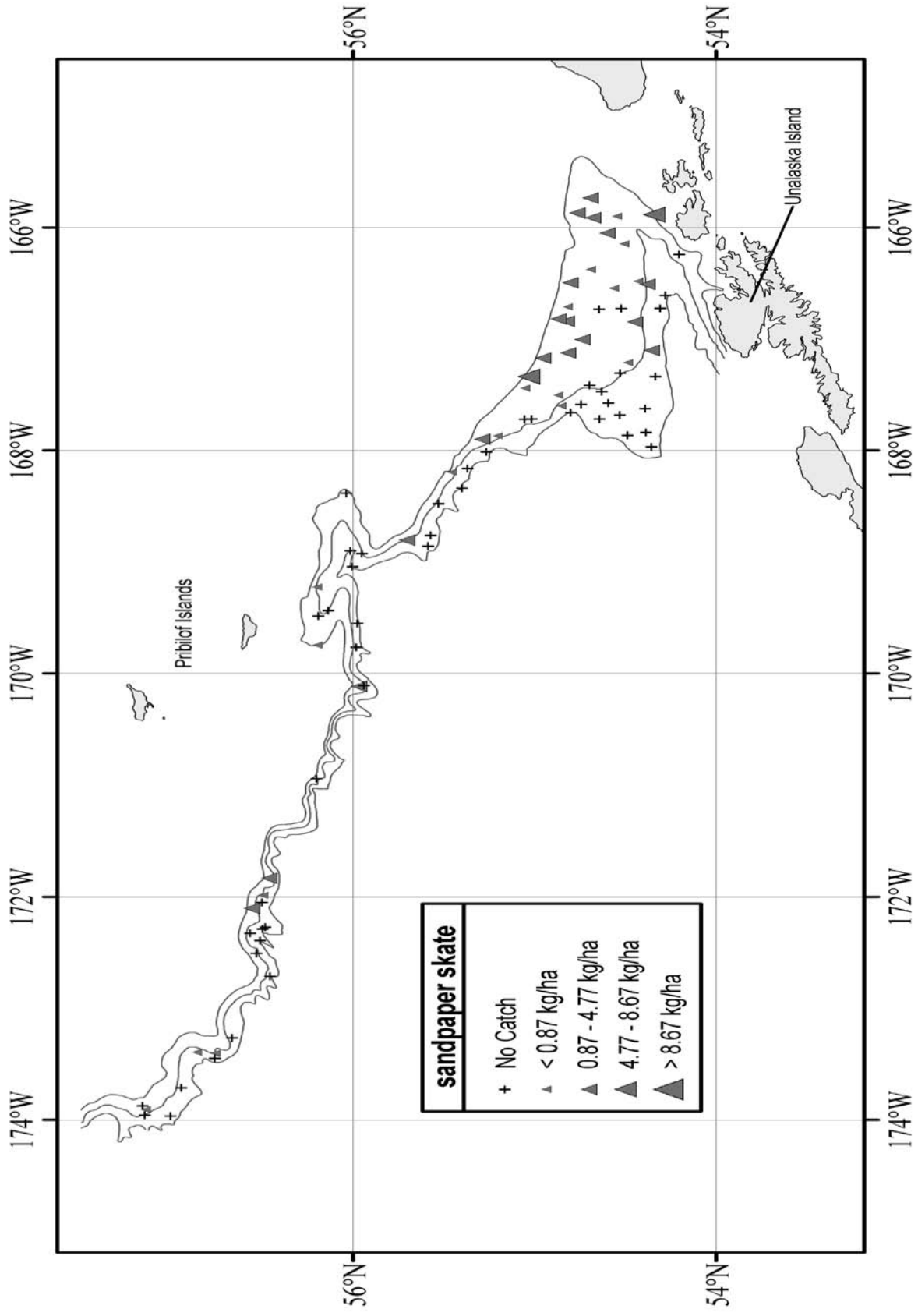

Figure 10. Continued.

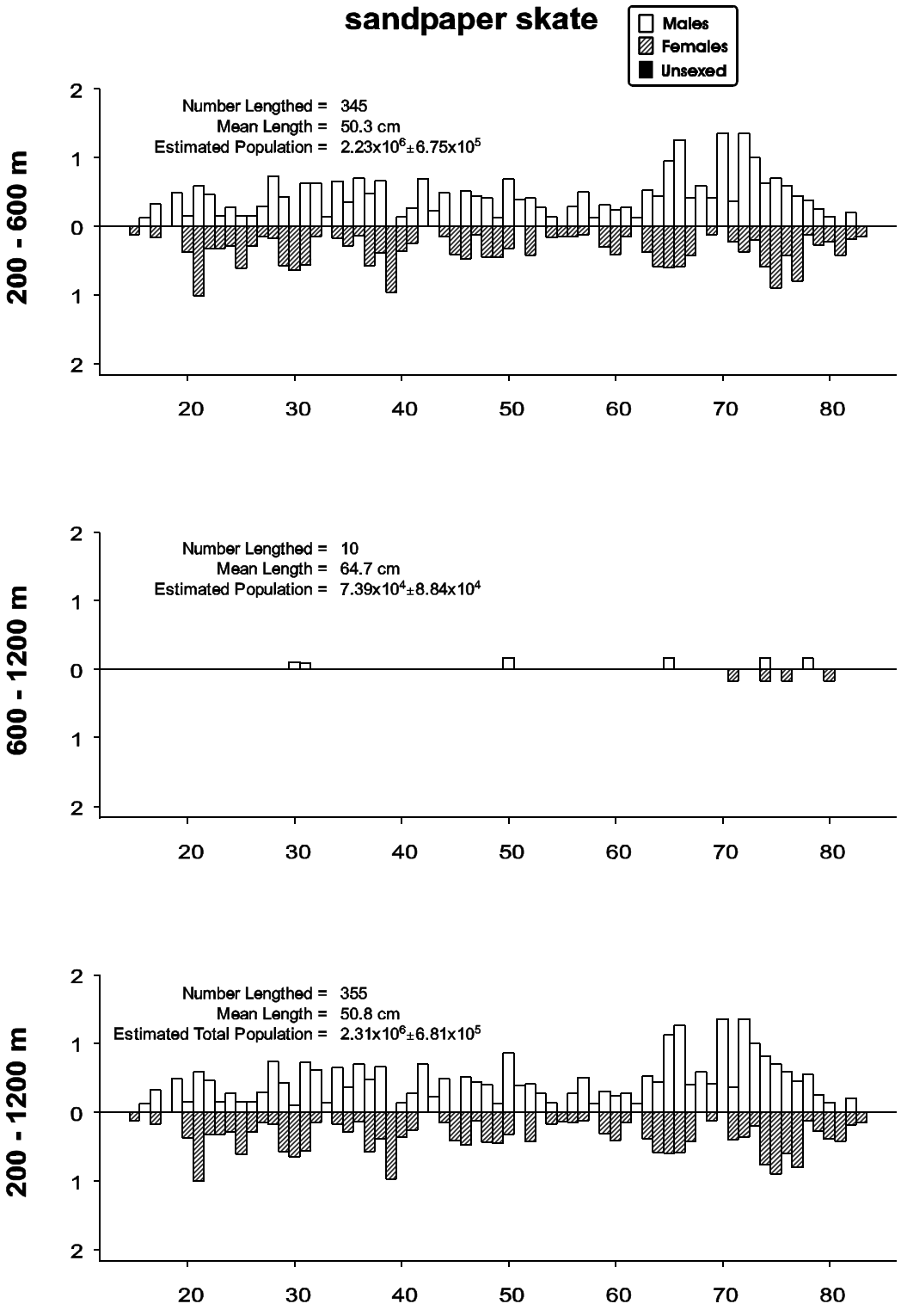

Figure 11. Size composition of the estimated sandpaper skate population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as total length in centimeters while the ordinate represents percentage of the total population.

Table 14. Abundance estimates by subarea and depth strata for Commander skate *(Bathyraja lindbergi)* from the 2002 eastern Bering Sea upper continental slope survey.

Bathyraja lindbergi **Commander skate**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	6.34E+01	1.31E+04	1.88E+03	8.06E+07	0.16	0.03
	600-800	9.07E+01	2.54E+04	2.50E+03	1.77E+08	0.52	0.15
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
2	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	3.63E+02	9.23E+04	3.35E+04	2.15E+09	5.15	1.31
	600-800	3.42E+02	1.28E+05	5.05E+04	4.70E+09	5.79	2.16
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	2.90E+01	1.29E+05	8.38E+02	1.67E+10	0.54	2.41
3	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	1.03E+02	2.97E+04	1.06E+04	8.85E+08	1.16	0.34
	600-800	1.99E+02	8.16E+04	5.98E+03	8.67E+08	2.18	0.90
	800-1,000	4.24E+01	2.92E+04	2.66E+02	6.47E+07	0.58	0.40
4	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	8.80E+01	1.97E+04	1.94E+03	2.58E+08	1.21	0.18
	600-800	3.22E+02	1.86E+05	2.56E+04	1.21E+10	4.64	2.68
	800-1,000	2.49E+02	1.22E+05	6.19E+04	1.49E+10	3.52	1.72
	1,000-1,200	1.21E+01	8.10E+04	1.24E+02	4.12E+09	0.18	1.22
5	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	9.11E+01	2.32E+04	3.19E+03	1.62E+08	2.14	0.54
	600-800	4.62E+01	1.50E+04	1.73E+02	1.79E+07	1.07	0.35
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	5.31E+02	1.56E+05	5.32E+04	4.02E+09	3.12	0.92
	600-800	5.97E+02	2.77E+05	4.02E+04	1.15E+10	6.51	3.02
	800-1,000	4.43E+02	6.93E+05	3.31E+04	9.39E+10	6.86	10.74
	1,000-1,200	4.97E+01	2.12E+05	0.00E+00	0.00E+00	1.00	4.27
All areas and depths combined		**3.66E+03**	**2.31E+06**	**3.26E+05**	**1.66E+11**	**1.26E+00**	**7.40E-01**

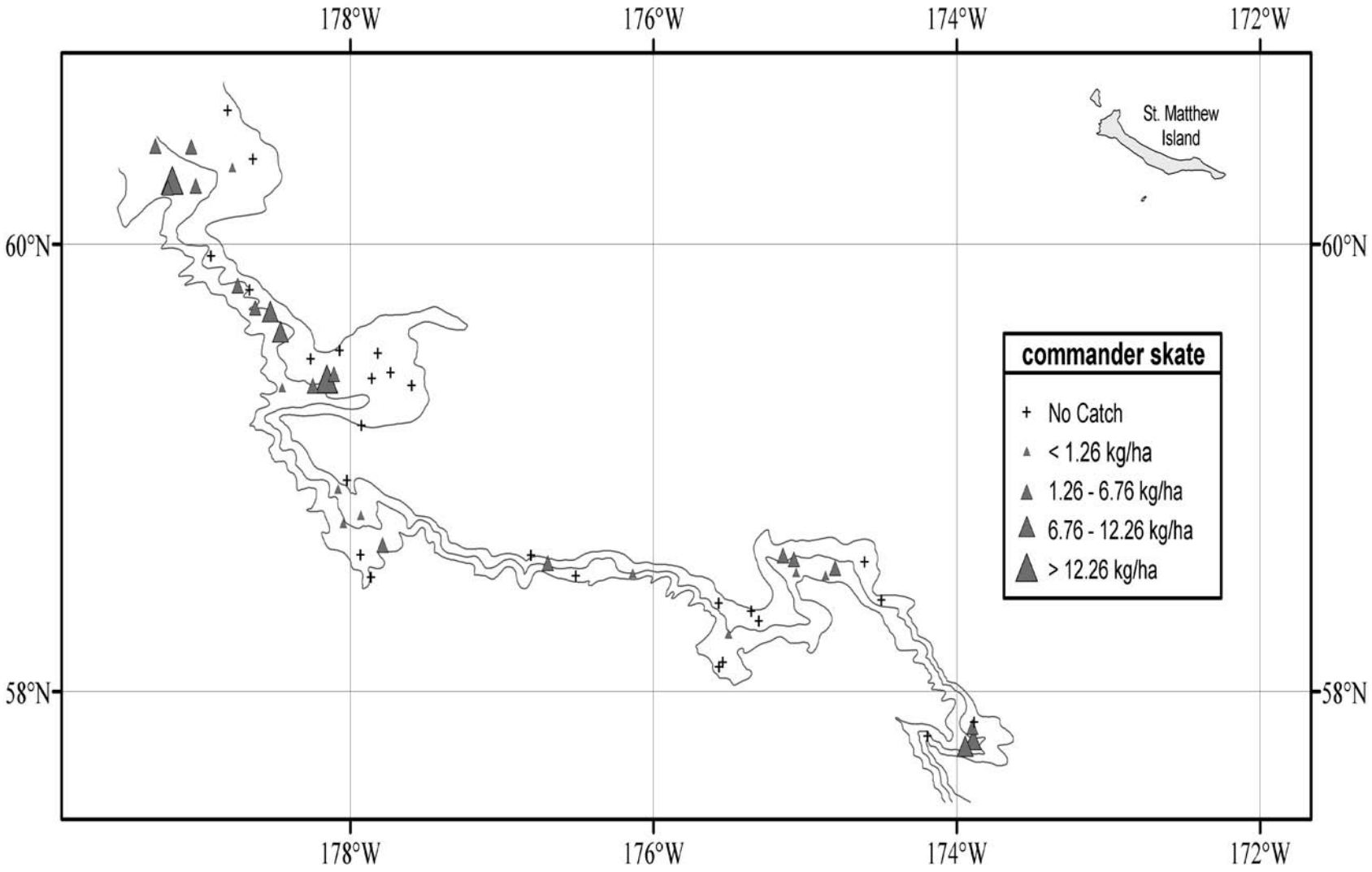

Figure 12. Distribution and relative abundance of commander skate (*Bathyraja lindbergi*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

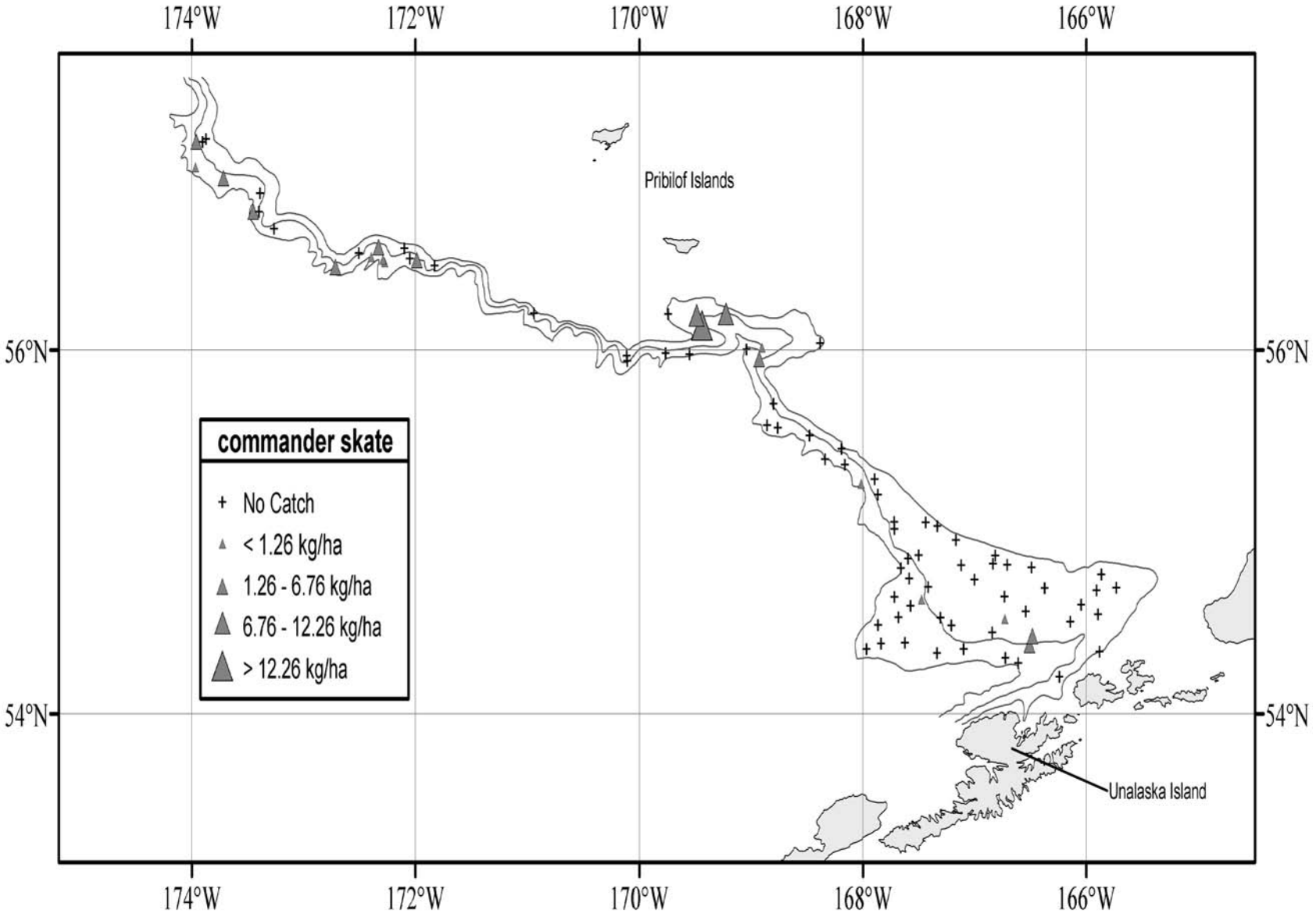

Figure 12. Continued.

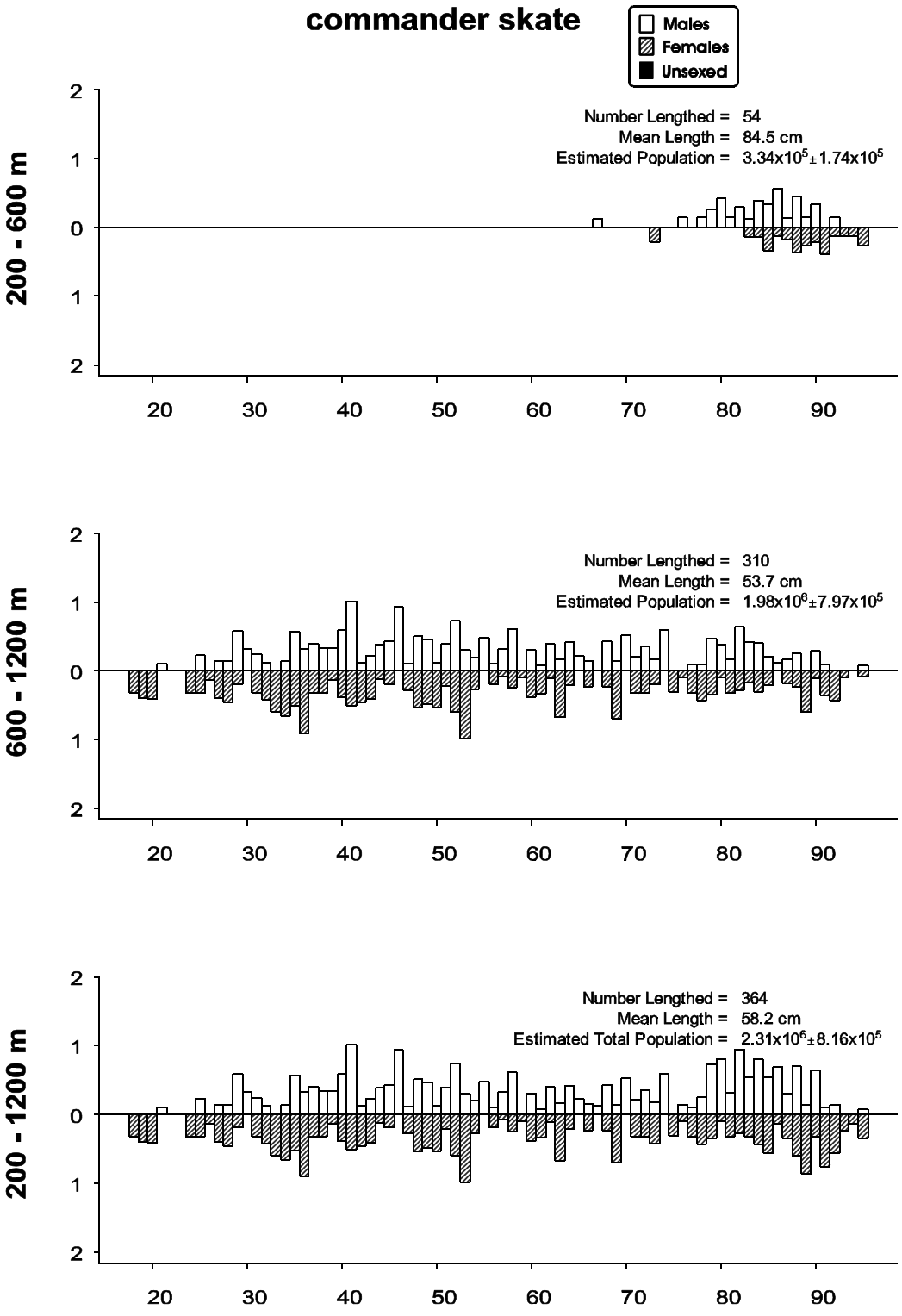

Figure 13. Size composition of the estimated commander skate population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as total length in centimeters while the ordinate represents percentage of the total population.

Table 15. Abundance estimates by subarea and depth strata for whiteblotched skate *(Bathyraja maculata)* from the 2002 eastern Bering Sea upper continental slope survey.

Bathyraja maculata **whiteblotched skate**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	4.25E+02	8.76E+04	4.82E+04	1.85E+09	1.06	0.22
	400-600	1.60E+02	4.73E+04	5.22E+03	3.90E+08	0.39	0.12
	600-800	9.26E+00	6.17E+03	8.57E+01	3.81E+07	0.05	0.04
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
2	200-400	2.97E+02	3.71E+04	3.49E+04	5.15E+08	2.56	0.32
	400-600	3.37E+02	9.78E+04	7.39E+04	7.87E+09	4.77	1.39
	600-800	2.28E+02	2.03E+05	1.32E+04	1.54E+10	3.86	3.43
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	1.11E+00	6.46E+03	1.24E+00	4.18E+07	0.02	0.12
3	200-400	6.59E+00	4.45E+03	4.35E+01	1.98E+07	0.07	0.05
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
4	200-400	1.38E+02	2.23E+04	1.98E+03	4.98E+07	1.11	0.18
	400-600	3.51E+02	1.22E+05	1.29E+04	8.21E+08	4.80	1.12
	600-800	5.11E+00	1.46E+04	2.61E+01	2.14E+08	0.07	0.21
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
5	200-400	7.44E+01	1.09E+04	5.53E+03	1.20E+08	1.76	0.26
	400-600	1.08E+02	2.26E+04	4.17E+03	2.00E+08	2.54	0.53
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	8.94E+02	1.39E+05	5.64E+05	1.27E+10	3.44	0.54
	400-600	8.95E+02	4.85E+05	6.06E+04	1.77E+10	5.24	2.84
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
All areas and depths combined		**3.93E+03**	**1.31E+06**	**8.25E+05**	**5.79E+10**	**1.17E+00**	**3.90E-01**

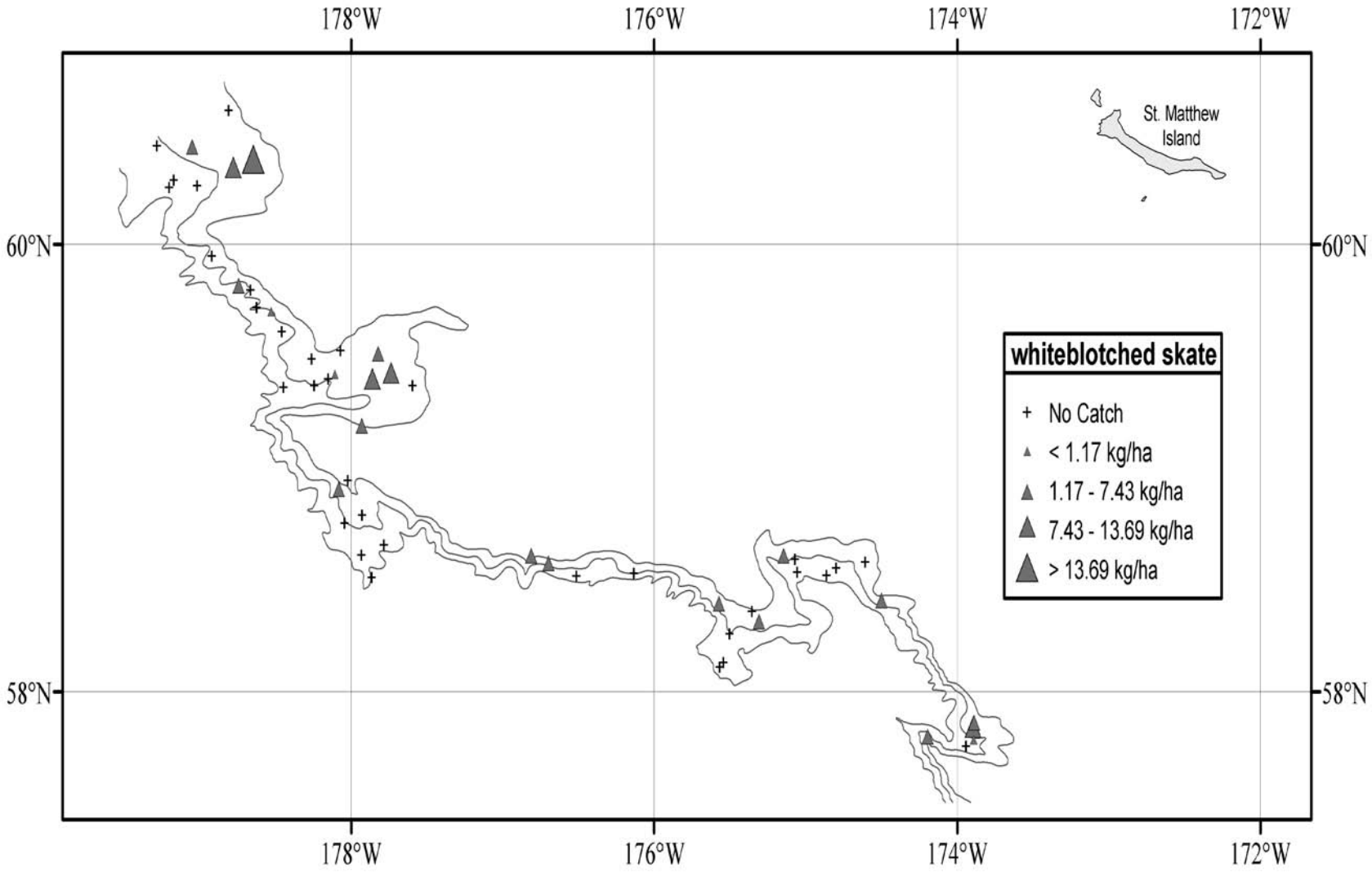

Figure 14. Distribution and relative abundance of whiteblotched skate (*Bathyraja maculata*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

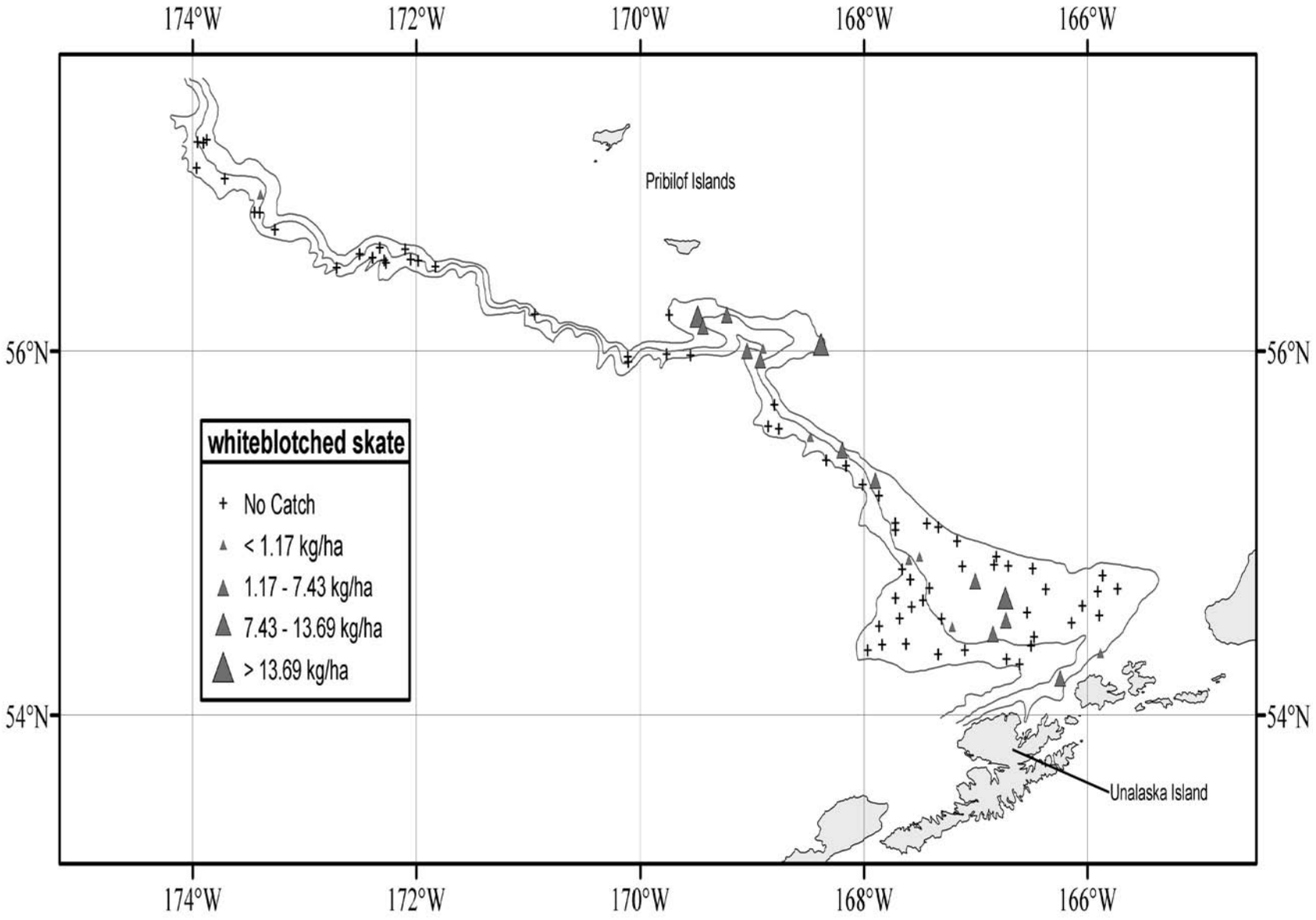

Figure 14. Continued.

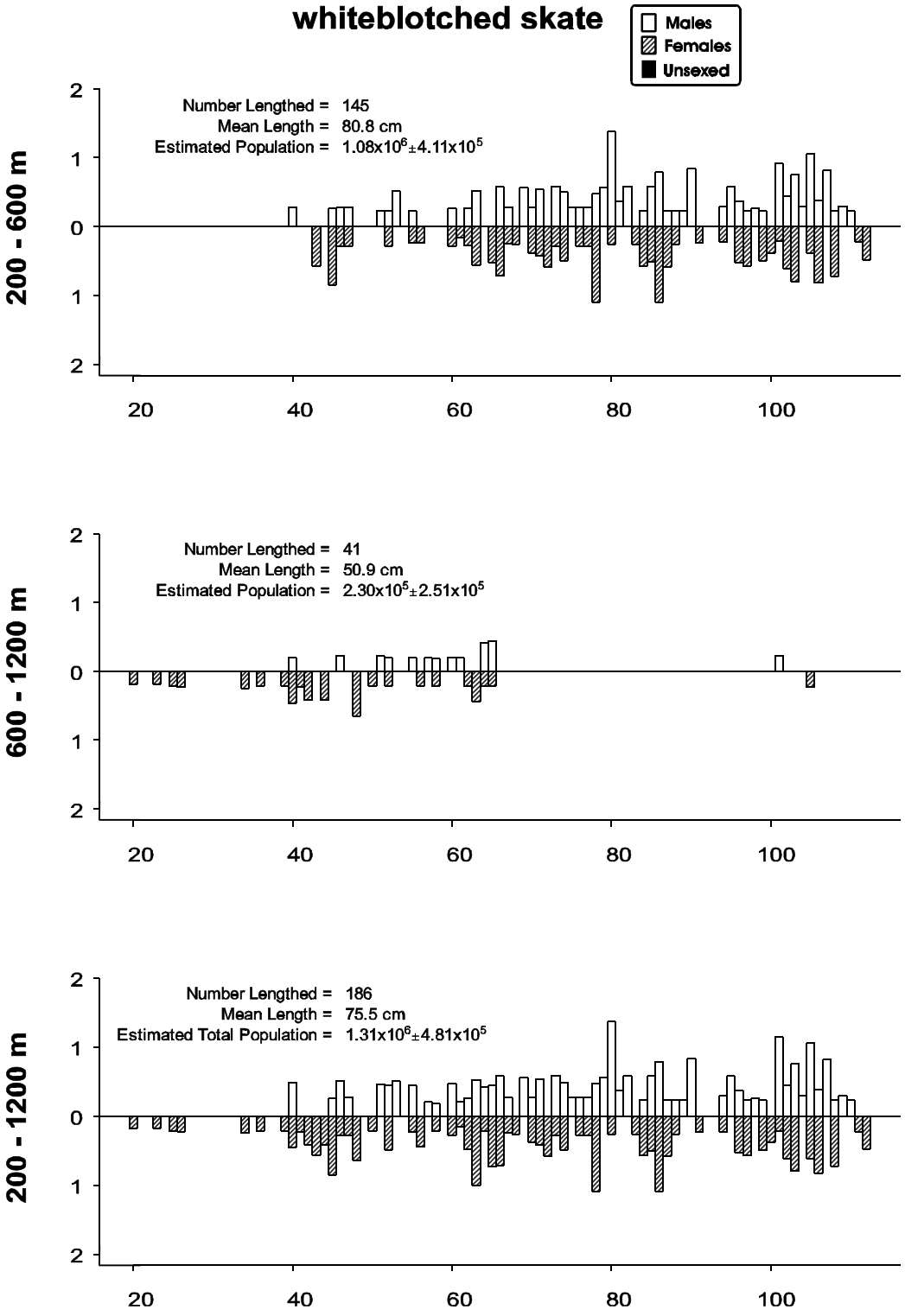

Figure 15. Size composition of the estimated whiteblotched skate population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as total length in centimeters while the ordinate represents percentage of the total population.

Table 16. Abundance estimates by subarea and depth strata for whitebrow skate *(Bathyraja minispinosa)* from the 2002 eastern Bering Sea upper continental slope survey.

Bathyraja minispinosa **whitebrow skate**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	1.69E+02	5.74E+04	5.31E+03	5.55E+08	0.42	0.14
	400-600	2.61E+02	1.14E+05	4.77E+04	9.86E+09	0.64	0.28
	600-800	1.17E+01	1.27E+04	7.97E+01	6.72E+07	0.07	0.07
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	7.02E+00	5.66E+04	4.92E+01	3.20E+09	0.06	0.51
2	200-400	7.45E+01	2.75E+04	2.54E+03	3.32E+08	0.64	0.24
	400-600	3.46E+01	1.85E+04	3.59E+02	1.15E+08	0.49	0.26
	600-800	3.48E+01	2.27E+04	6.69E+01	2.95E+07	0.59	0.38
	800-1,000	1.26E+01	8.46E+03	1.59E+02	7.16E+07	0.23	0.15
	1,000-1,200	2.53E+00	1.29E+04	6.42E+00	1.67E+08	0.05	0.24
3	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	7.22E+01	4.16E+04	2.69E+03	1.17E+09	0.81	0.47
	600-800	2.72E+01	3.12E+04	1.22E+02	1.63E+08	0.30	0.34
	800-1,000	1.49E+01	2.56E+04	1.68E+02	2.76E+08	0.20	0.35
4	200-400	2.05E+01	1.12E+04	3.47E+02	5.06E+07	0.17	0.09
	400-600	2.05E+02	8.11E+04	4.19E+04	6.58E+09	2.80	1.11
	600-800	1.85E+01	2.74E+04	1.28E+02	3.11E+08	0.27	0.40
	800-1,000	5.85E+01	1.93E+05	3.42E+03	3.72E+10	0.83	2.73
	1,000-1,200	1.00E+01	3.73E+04	1.00E+02	1.39E+09	0.15	0.56
5	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	6.74E+01	2.52E+04	1.50E+02	2.98E+06	1.58	0.59
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	2.18E+01	2.12E+04	4.75E+02	4.48E+08	0.39	0.38
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	1.24E+02	5.30E+04	4.02E+03	7.43E+08	0.48	0.20
	400-600	2.60E+02	2.36E+05	1.81E+04	1.11E+10	1.52	1.38
	600-800	4.21E+00	2.97E+04	1.45E+01	3.33E+08	0.05	0.32
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	2.80E+01	1.36E+05	0.00E+00	0.00E+00	0.56	2.74
All areas and depths combined		**1.54E+03**	**1.28E+06**	**1.28E+05**	**7.42E+10**	**4.70E-01**	**3.60E-01**

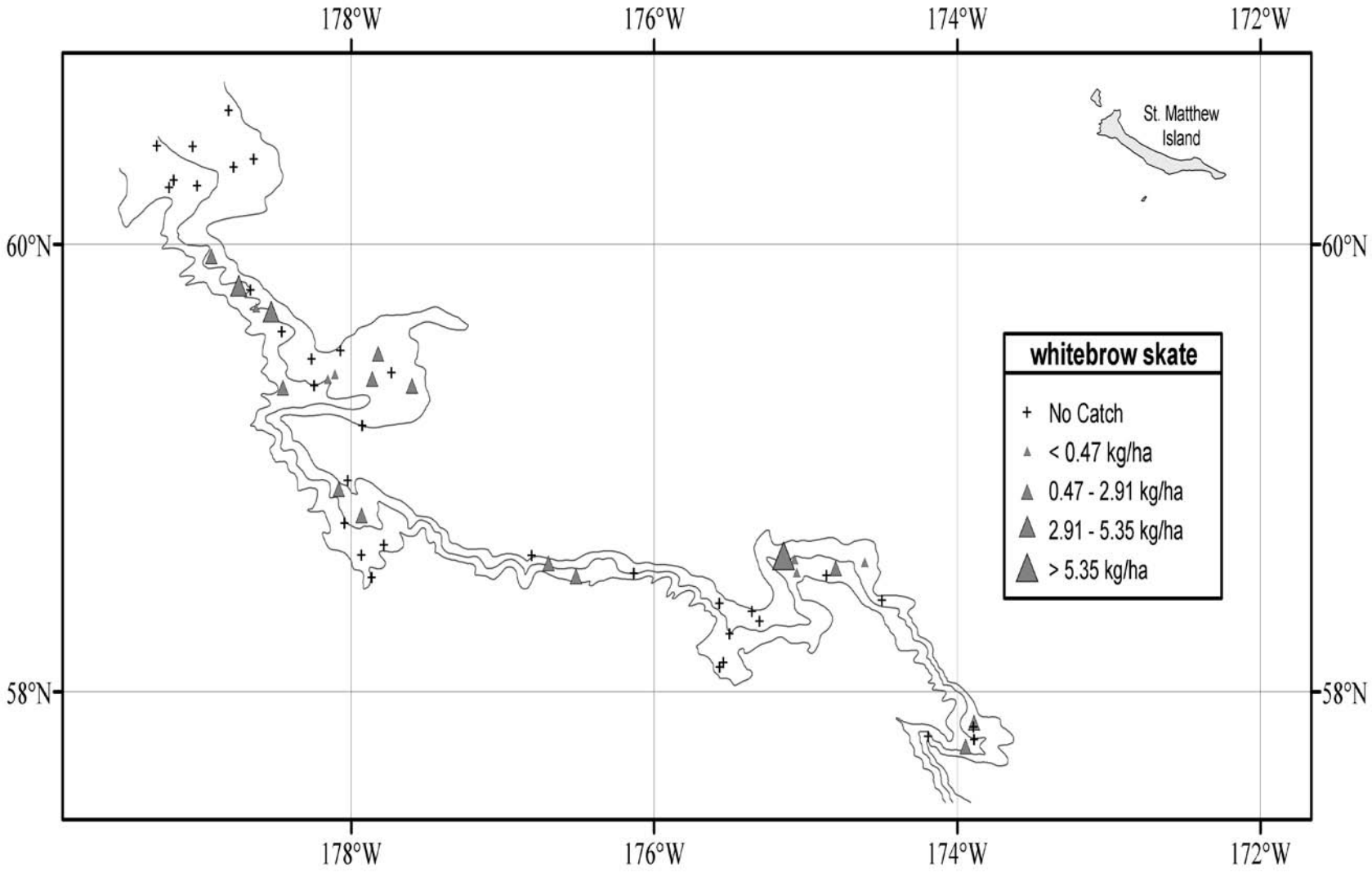

Figure 16. Distribution and relative abundance of whitebrow skate (*Bathyraja minispinosa*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

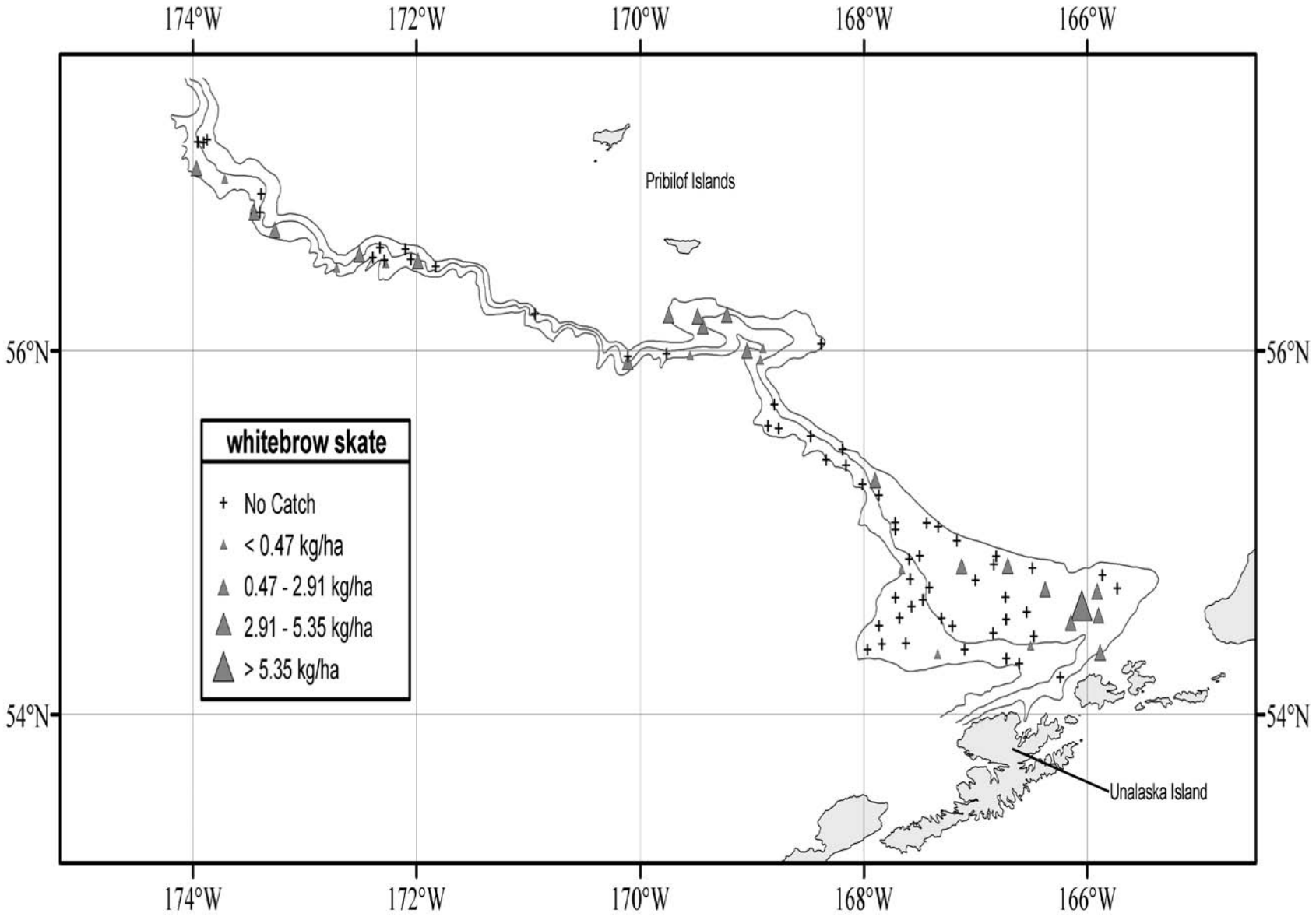

Figure 16. Continued.

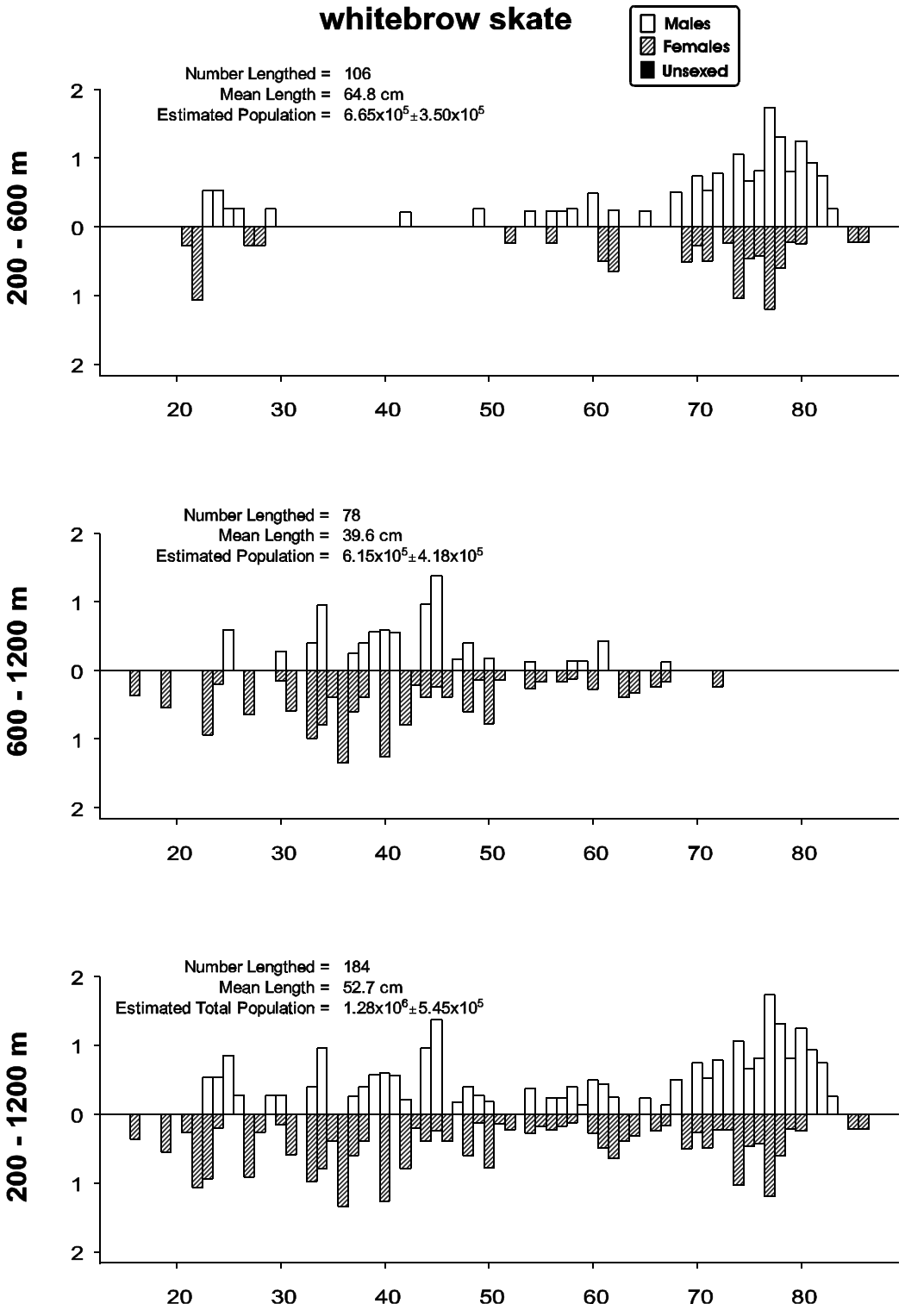

Figure 17. Size composition of the estimated whitebrow skate population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as total length in centimeters while the ordinate represents percentage of the total population.

Table 17. Abundance estimates by subarea and depth strata for roughtail skate *(Bathyraja trachura)* from the 2002 eastern Bering Sea upper continental slope survey.

Bathyraja trachura **roughtail skate**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	7.80E+01	4.30E+04	2.08E+03	6.31E+08	0.45	0.25
	800-1,000	2.14E+02	1.31E+05	7.26E+03	1.82E+09	1.58	0.97
	1,000-1,200	2.25E+02	2.22E+05	1.82E+04	1.82E+10	2.03	2.01
2	200-400	6.94E-01	6.31E+03	4.82E-01	3.98E+07	0.01	0.05
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	9.17E+01	6.71E+04	8.16E+02	1.11E+09	1.66	1.21
	1,000-1,200	1.35E+01	3.21E+04	1.48E+02	3.68E+08	0.25	0.60
3	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	8.58E+01	6.18E+04	9.68E+02	1.24E+09	0.94	0.68
	800-1,000	1.24E+02	1.51E+05	3.00E+03	3.62E+09	1.69	2.06
4	200-400	2.76E+00	5.48E+03	7.63E+00	3.00E+07	0.02	0.04
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	4.00E+01	1.82E+04	7.78E+02	1.10E+08	0.58	0.26
	800-1,000	1.65E+02	7.07E+04	1.39E+04	2.62E+09	2.34	1.00
	1,000-1,200	9.93E+01	2.89E+04	5.35E+03	4.59E+08	1.50	0.44
5	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	7.84E+01	3.17E+04	1.95E+03	2.51E+08	1.82	0.73
	800-1,000	1.69E+02	7.16E+04	4.14E+02	2.30E+08	3.07	1.30
	1,000-1,200	1.07E+02	3.85E+04	0.00E+00	0.00E+00	1.87	0.68
6	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	9.66E+01	5.19E+04	1.19E+03	4.35E+08	1.50	0.80
	1,000-1,200	6.44E+01	4.54E+04	0.00E+00	0.00E+00	1.30	0.91
All areas and depths combined		**1.66E+03**	**1.08E+06**	**5.61E+04**	**3.12E+10**	**5.00E-01**	**3.30E-01**

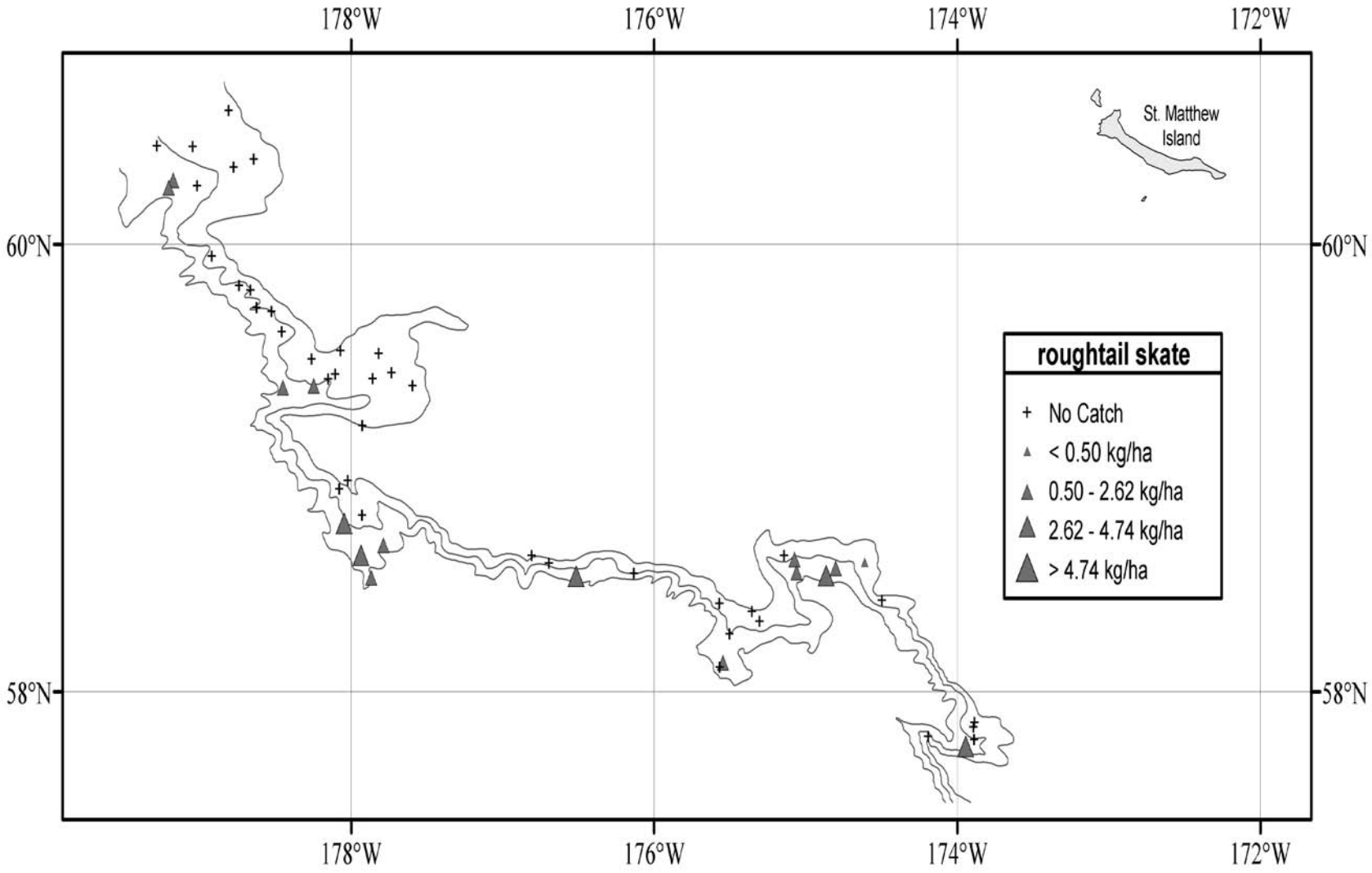

Figure 18. Distribution and relative abundance of roughtail skate (*Bathyraja trachura*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

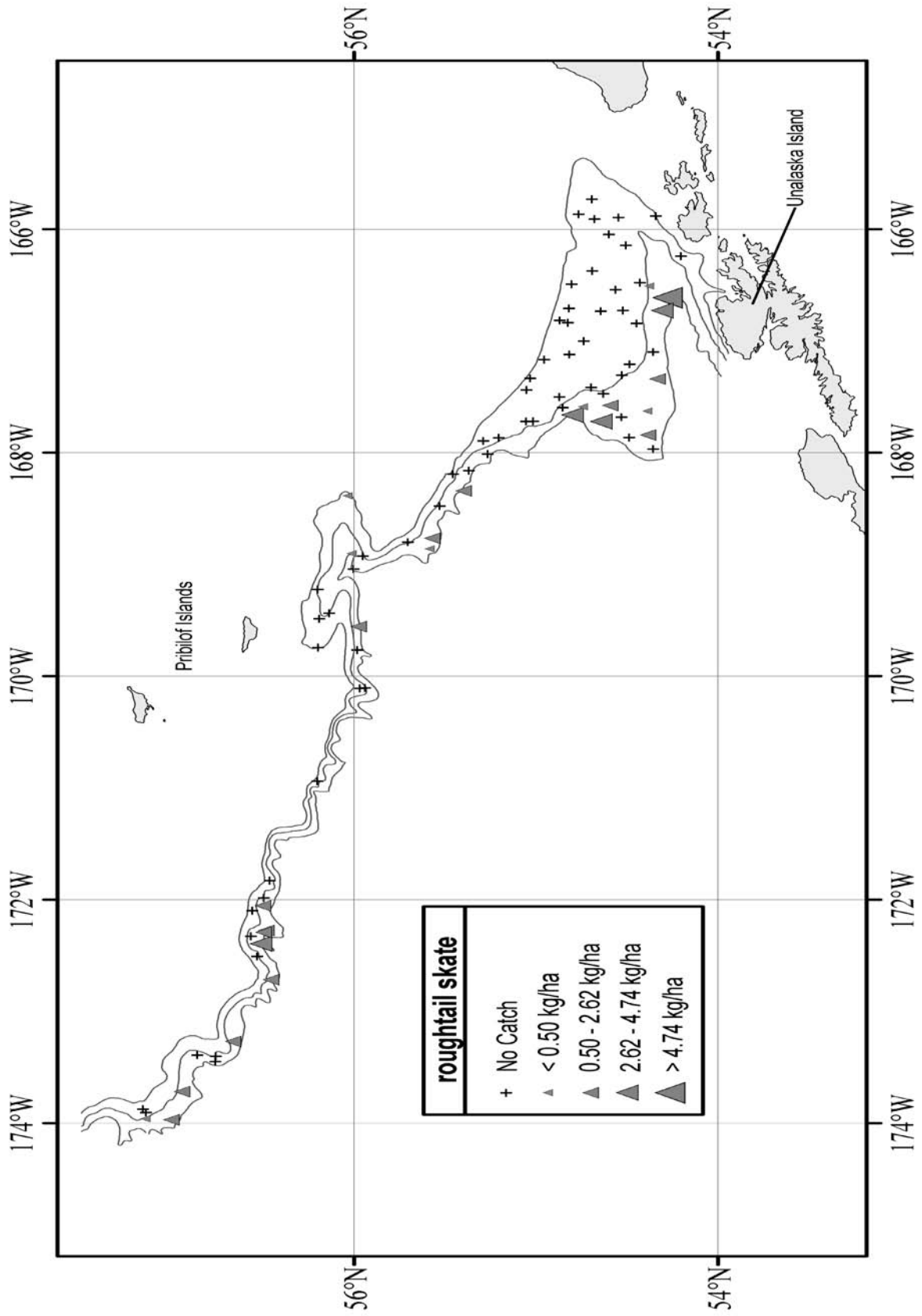

Figure 18. Continued.

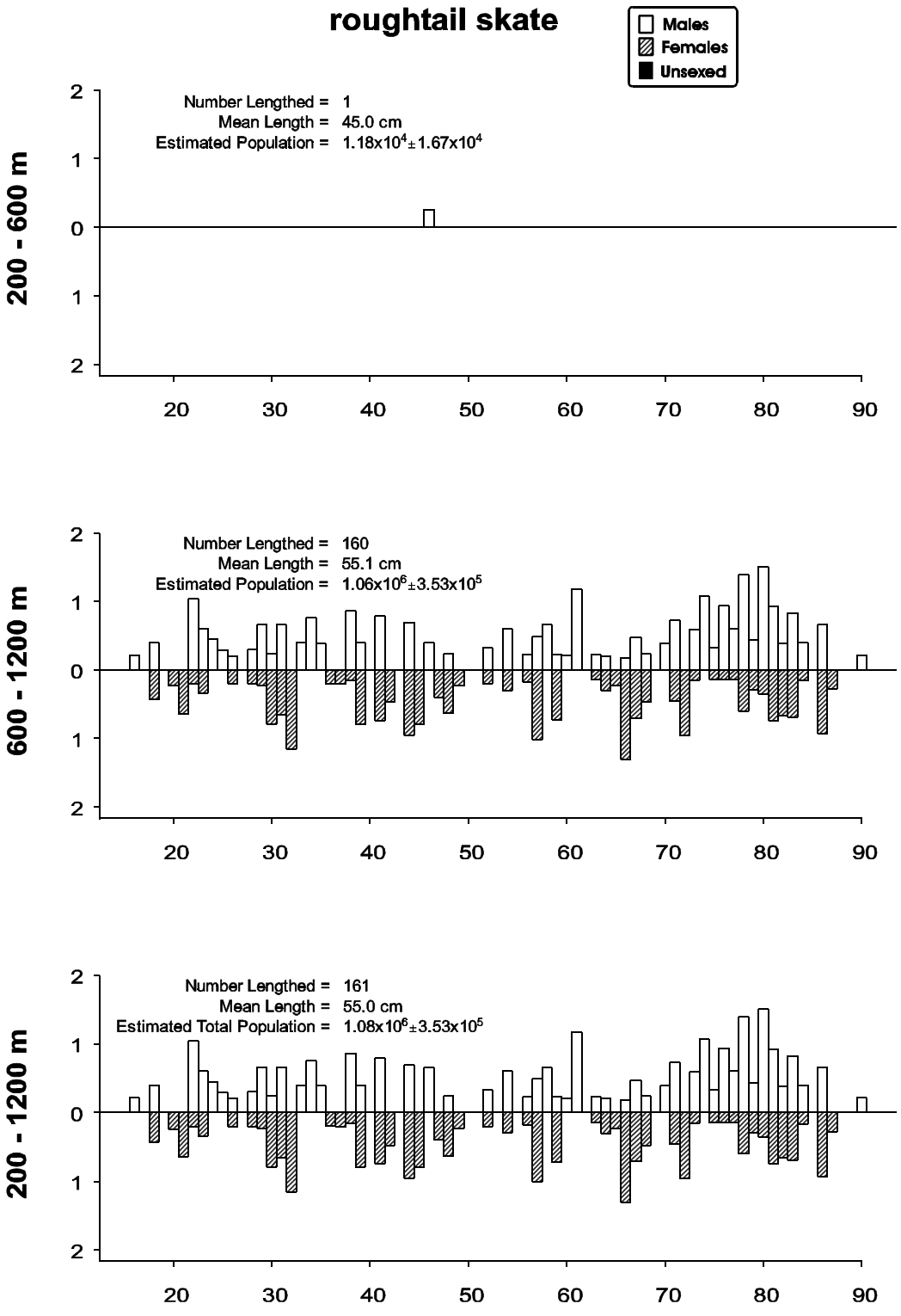

Figure 19. Size composition of the estimated roughtail skate population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as total length in centimeters while the ordinate represents percentage of the total population.

Table 18. Abundance estimates by subarea and depth strata for mud skate *(Bathyraja taranetzi)* from the 2002 eastern Bering Sea upper continental slope survey.

Bathyraja taranetzi **mud skate**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	2.41E+02	2.49E+05	5.79E+04	6.21E+10	0.60	0.62
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
2	200-400	1.16E+02	8.83E+04	6.89E+03	4.52E+09	1.00	0.76
	400-600	4.84E+01	8.84E+04	1.07E+03	2.39E+09	0.69	1.25
	600-800	1.64E+01	6.09E+04	1.87E+02	2.72E+09	0.28	1.03
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
3	200-400	7.99E+01	5.79E+04	6.38E+03	3.35E+09	0.88	0.64
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	9.74E-02	3.48E+03	9.49E-03	1.21E+07	0.00	0.04
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
4	200-400	2.16E+02	1.42E+05	7.37E+03	4.09E+09	1.74	1.15
	400-600	1.64E+01	3.94E+04	2.69E+02	1.55E+09	0.22	0.54
	600-800	1.12E+01	7.31E+04	1.25E+02	5.34E+09	0.16	1.05
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
5	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	7.74E+01	7.01E+04	2.22E+03	2.08E+09	0.30	0.27
	400-600	1.05E+02	1.63E+05	4.10E+03	7.93E+09	0.61	0.96
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
All areas and depths combined		**9.27E+02**	**1.04E+06**	**8.65E+04**	**9.61E+10**	**3.00E-01**	**3.30E-01**

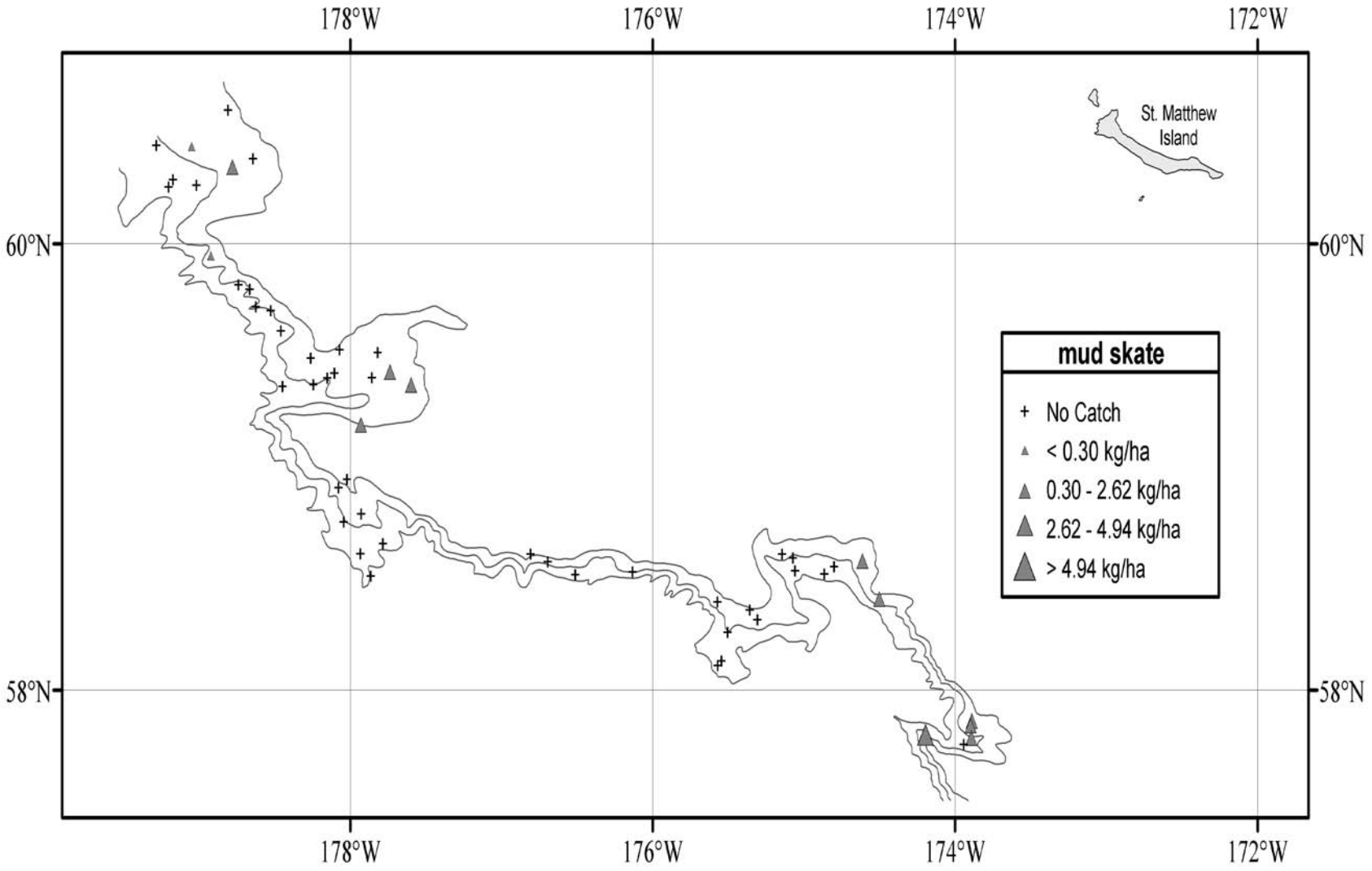

Figure 20. Distribution and relative abundance of mud skate (*Bathyraja taranetzi*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

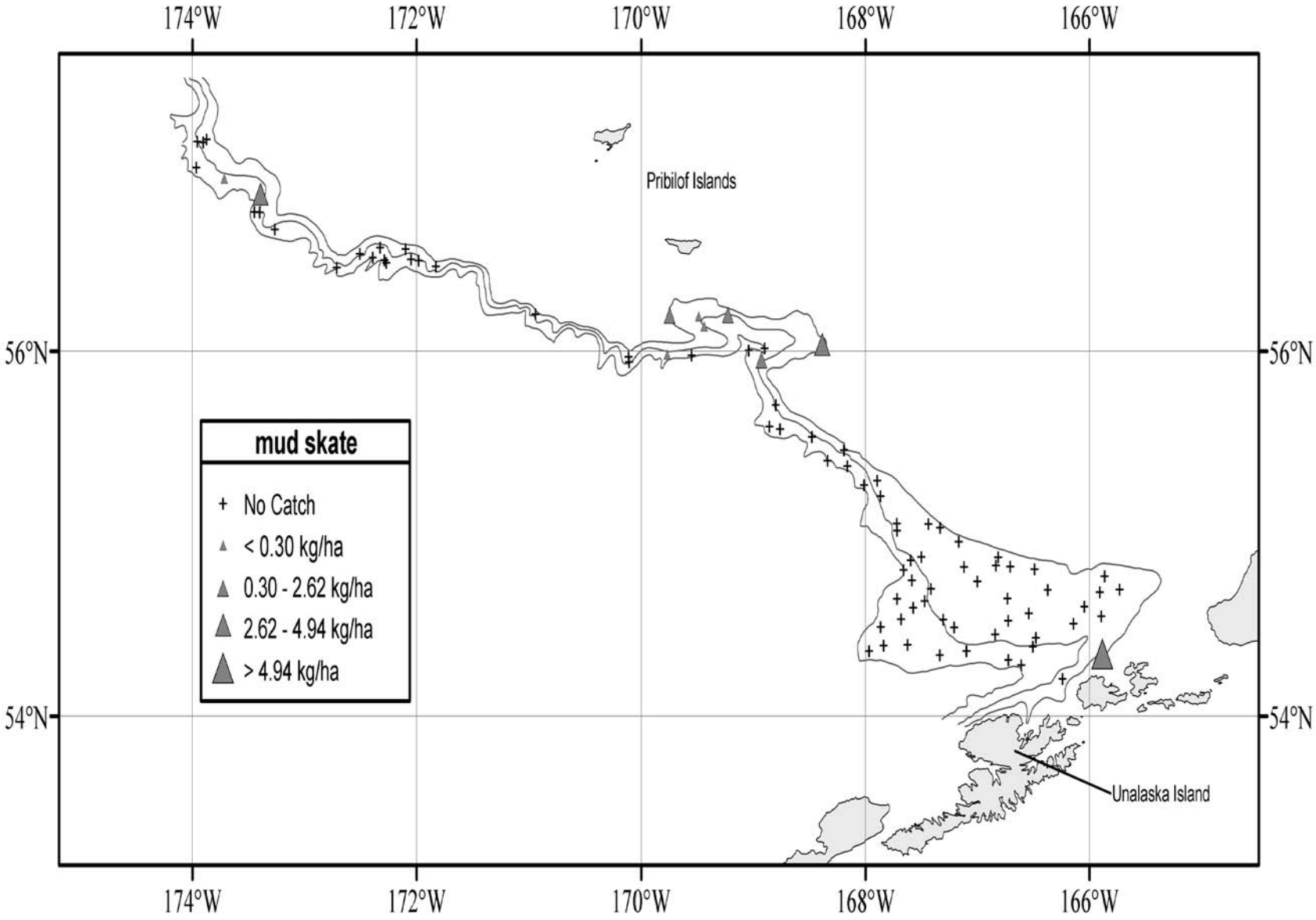

Figure 20. Continued.

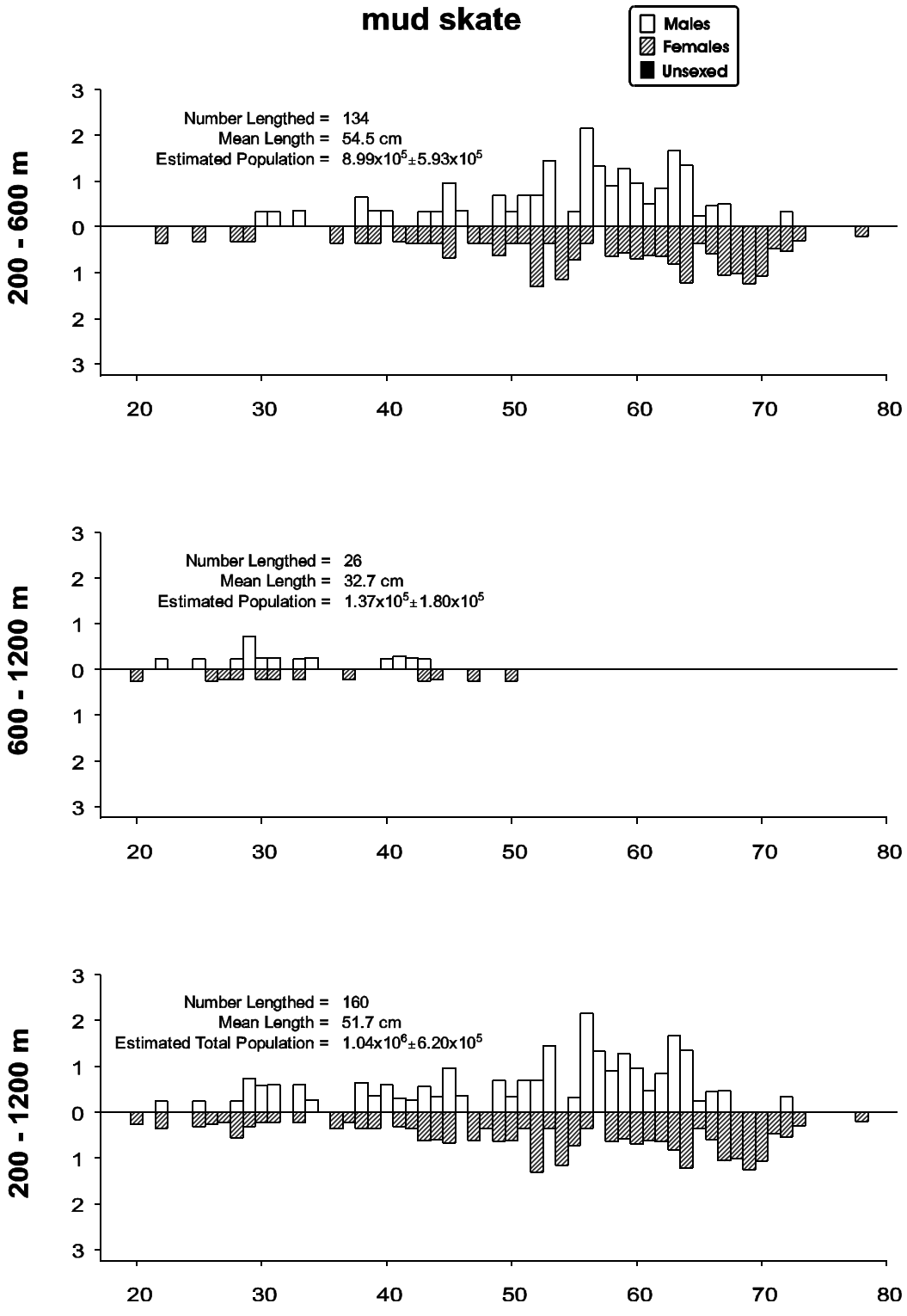

Figure 21. Size composition of the estimated mud skate population from the 2002 eastern Bering Sea upper continental slope survey from all subareas by depth. The abscissa is scaled as total length in centimeters while the ordinate represents percentage of the total population.

Table 19. Abundance estimates by subarea and depth strata for giant grenadier *(Albatrossia pectoralis)* from the 2002 eastern Bering Sea upper continental slope survey.

Albatrossia pectoralis **giant grenadier**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	1.10E+04	3.91E+06	8.17E+06	1.33E+12	26.96	9.64
	600-800	8.32E+03	2.80E+06	1.46E+06	1.73E+11	47.80	16.06
	800-1,000	1.94E+04	8.51E+06	1.70E+07	2.39E+12	143.39	62.85
	1,000-1,200	2.00E+04	9.69E+06	1.65E+07	1.57E+13	180.57	87.58
2	200-400	9.31E+03	1.31E+06	8.67E+07	1.72E+12	80.43	11.34
	400-600	9.29E+03	1.96E+06	7.17E+07	3.30E+12	131.75	27.79
	600-800	1.84E+03	5.34E+05	6.64E+05	1.25E+11	31.11	9.03
	800-1,000	3.63E+03	1.51E+06	1.98E+06	3.97E+11	65.76	27.32
	1,000-1,200	4.44E+03	1.33E+06	4.02E+06	7.68E+11	82.81	24.81
3	200-400	3.12E+03	5.26E+05	9.72E+06	2.77E+11	34.50	5.82
	400-600	2.24E+04	4.98E+06	7.09E+07	1.83E+12	253.18	56.16
	600-800	3.43E+04	1.03E+07	2.76E+07	1.42E+12	377.02	113.53
	800-1,000	1.27E+04	3.40E+06	4.12E+06	2.52E+11	173.09	46.42
4	200-400	1.02E+03	1.61E+05	1.04E+06	2.60E+10	8.24	1.30
	400-600	6.94E+03	1.03E+06	4.56E+06	1.03E+11	95.01	14.15
	600-800	2.61E+04	7.12E+06	1.49E+08	1.10E+13	375.40	102.61
	800-1,000	2.19E+04	5.61E+06	5.50E+07	7.98E+11	309.15	79.24
	1,000-1,200	1.20E+04	4.02E+06	2.11E+07	4.96E+12	181.53	60.71
5	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	9.83E+03	2.00E+06	2.54E+07	9.31E+11	230.86	47.04
	600-800	2.39E+04	5.47E+06	6.86E+07	4.00E+12	553.07	126.75
	800-1,000	7.96E+03	2.81E+06	2.57E+06	5.75E+11	144.17	50.91
	1,000-1,200	3.90E+03	1.15E+06	0.00E+00	0.00E+00	68.38	20.25
6	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	3.71E+04	7.00E+06	1.31E+08	4.85E+12	217.46	41.01
	600-800	4.83E+04	1.42E+07	1.54E+08	8.34E+12	525.95	154.37
	800-1,000	6.16E+04	2.00E+07	7.28E+08	8.57E+13	954.58	309.98
	1,000-1,200	6.24E+03	2.41E+06	0.00E+00	0.00E+00	125.62	48.49
All areas and depths combined		**4.26E+05**	**1.24E+08**	**1.66E+09**	**1.51E+14**	**1.49E+02**	**4.29E+01**

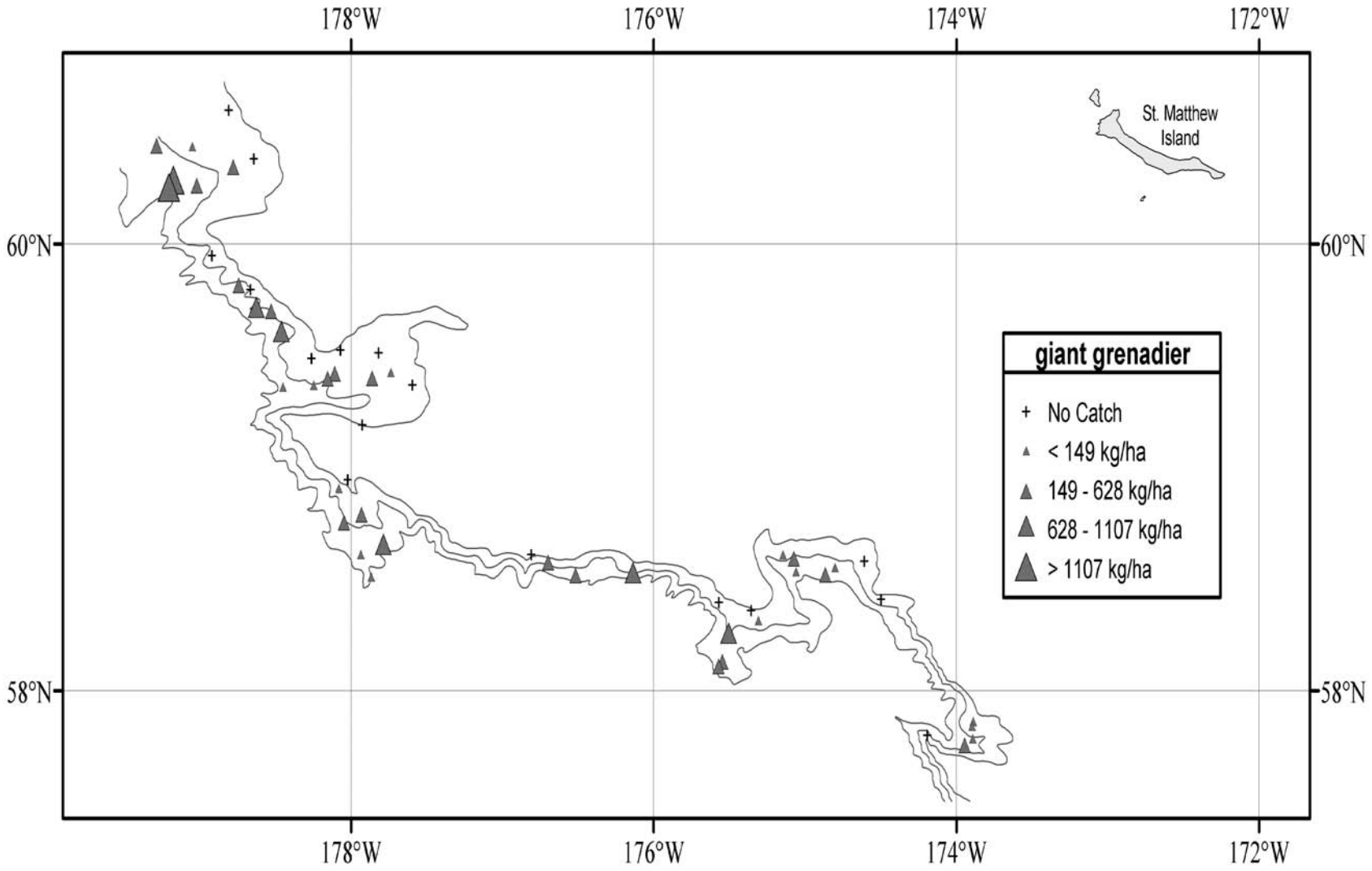

Figure 22. Distribution and relative abundance of giant grenadier (*Albatrossia pectoralis*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

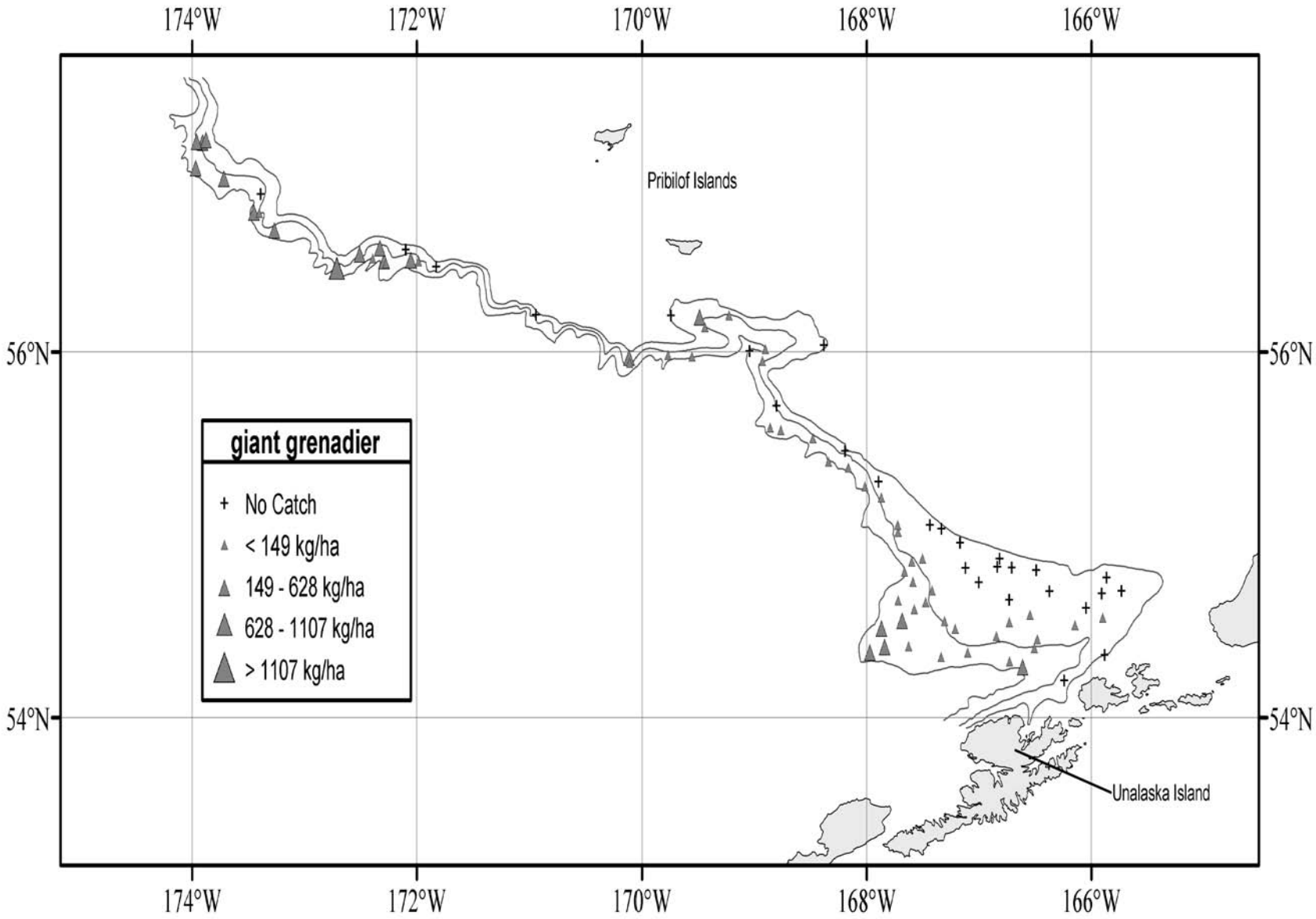

Figure 22. Continued.

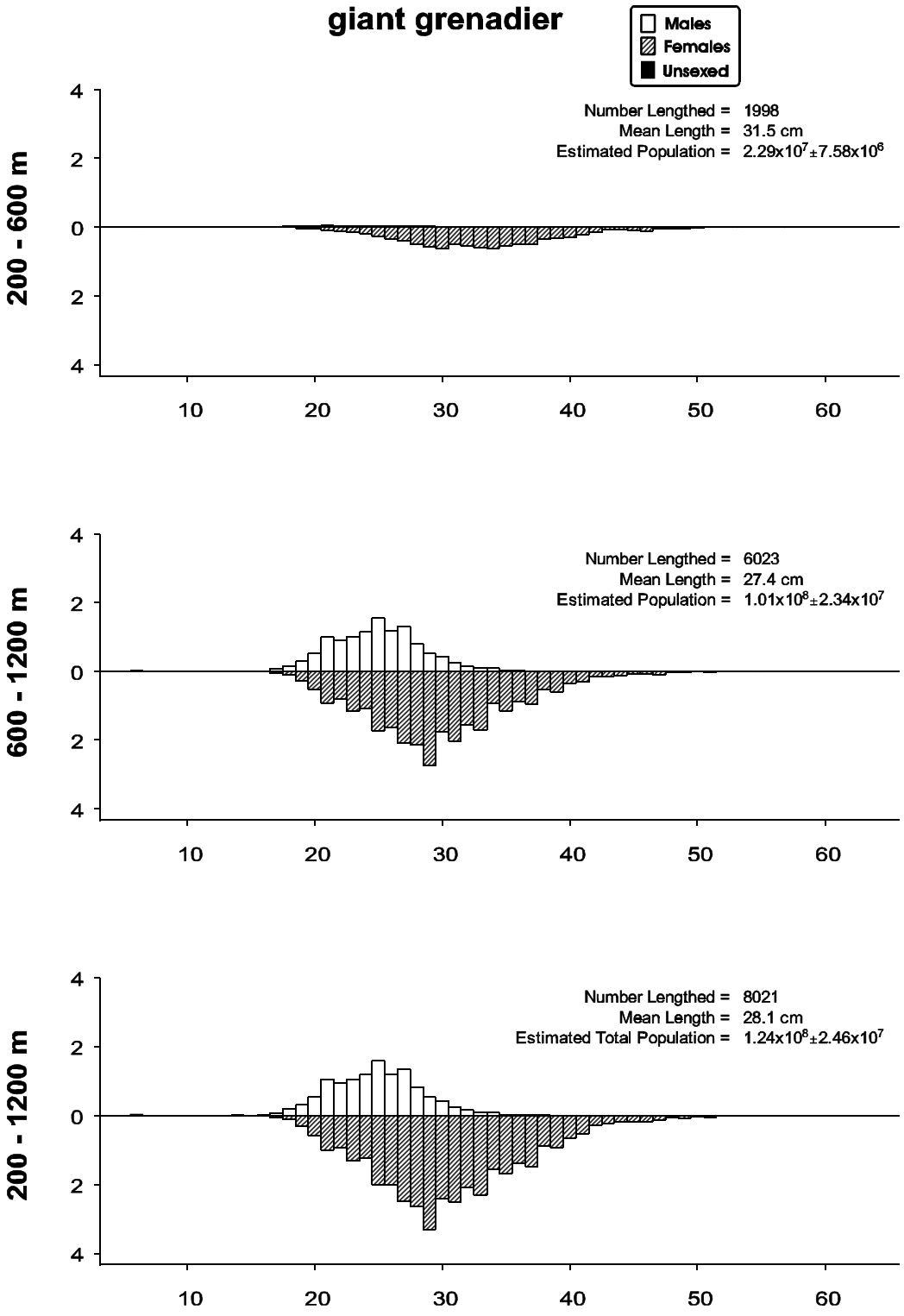

Figure 23. Size composition of the estimated giant grenadier population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as the PAFL in centimeters while the ordinate represents percentage of the total population.

Table 20. Abundance estimates by subarea and depth strata for Pacific grenadier *(Coryphaenoides acrolepis)* from the 2002 eastern Bering Sea upper continental slope survey.

Coryphaenoides acrolepis **Pacific grenadier**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	1.87E+01	3.31E+04	3.49E+02	1.10E+09	0.11	0.19
	800-1,000	1.11E-01	1.39E+04	1.24E-02	1.93E+08	0.00	0.10
	1,000-1,200	2.23E+02	6.65E+05	1.12E+04	2.26E+11	2.02	6.01
2	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	5.02E-02	1.67E+04	2.52E-03	2.80E+08	0.00	0.30
	1,000-1,200	4.07E+02	4.71E+05	1.65E+05	1.36E+11	7.59	8.80
3	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	1.74E+00	1.87E+05	1.18E+00	1.31E+10	0.02	2.05
	800-1,000	4.94E+02	1.54E+06	4.24E+04	2.91E+11	6.75	21.09
4	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	2.51E+02	1.85E+06	5.84E+03	2.02E+12	0.00	0.00
	800-1,000	3.51E+02	1.93E+06	4.02E+04	3.02E+12	3.55	26.13
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.30	29.14
5	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	1.44E+01	1.52E+05	1.88E+02	1.53E+10	0.00	0.00
	600-800	1.39E+02	9.22E+05	1.61E+04	4.66E+11	0.33	3.51
	800-1,000	3.05E+02	2.46E+06	0.00E+00	0.00E+00	2.51	16.70
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.35	43.21
6	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	2.38E-01	1.04E+04	5.67E-02	1.07E+08	0.00	0.00
	600-800	1.70E+01	2.61E+05	8.86E+01	2.27E+10	0.00	0.11
	800-1,000	2.39E+02	1.39E+06	0.00E+00	0.00E+00	0.26	4.05
	1,000-1,200	2.39E+02	1.39E+06	0.00E+00	0.00E+00	4.81	28.06
All areas and depths combined		**2.70E+03**	**1.33E+07**	**2.81E+05**	**6.22E+12**	**6.50E-01**	**2.91E+00**

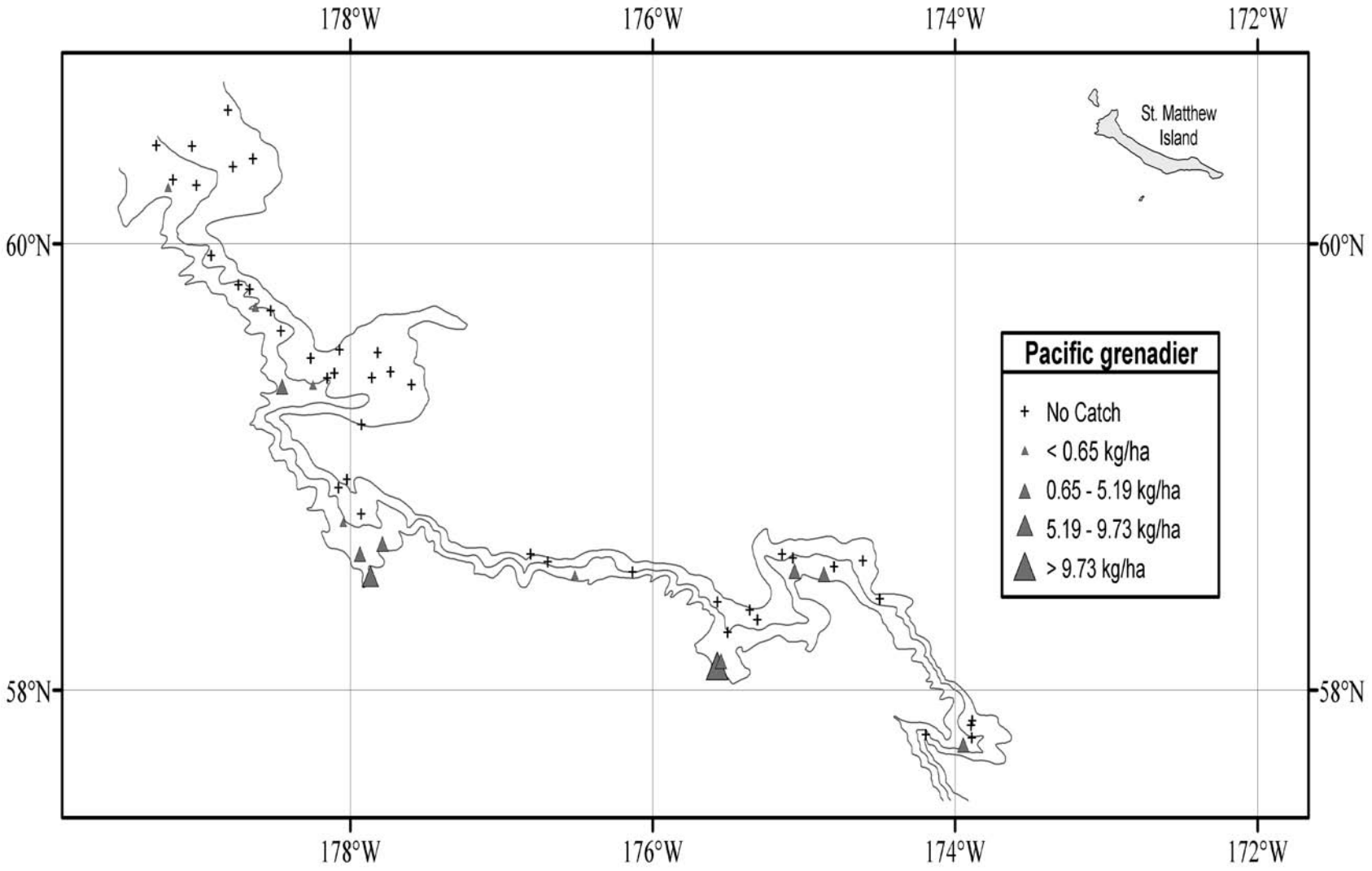

Figure 24. Distribution and relative abundance of Pacific grenadier (*Coryphaenoides acrolepis*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

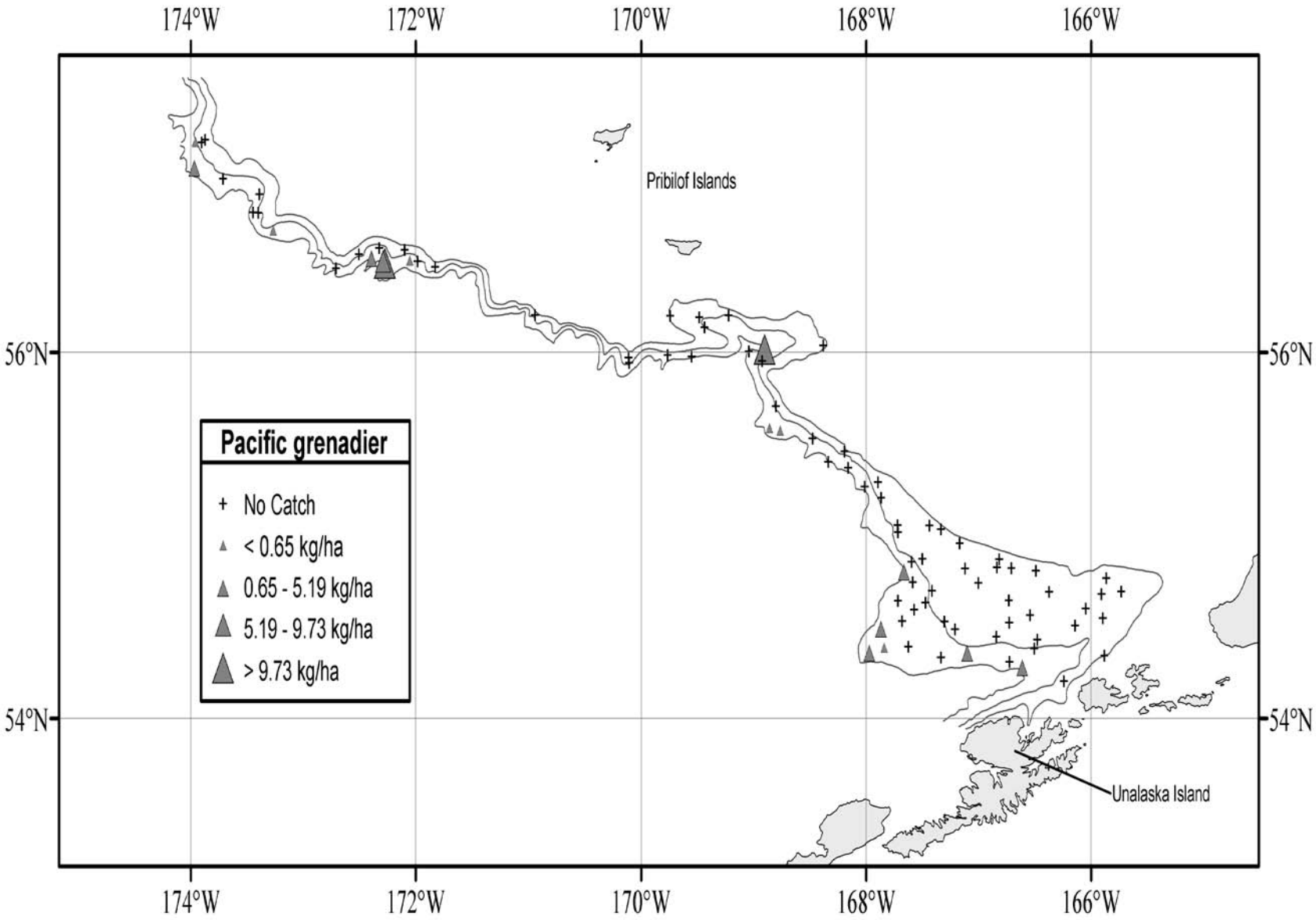

Figure 24. Continued.

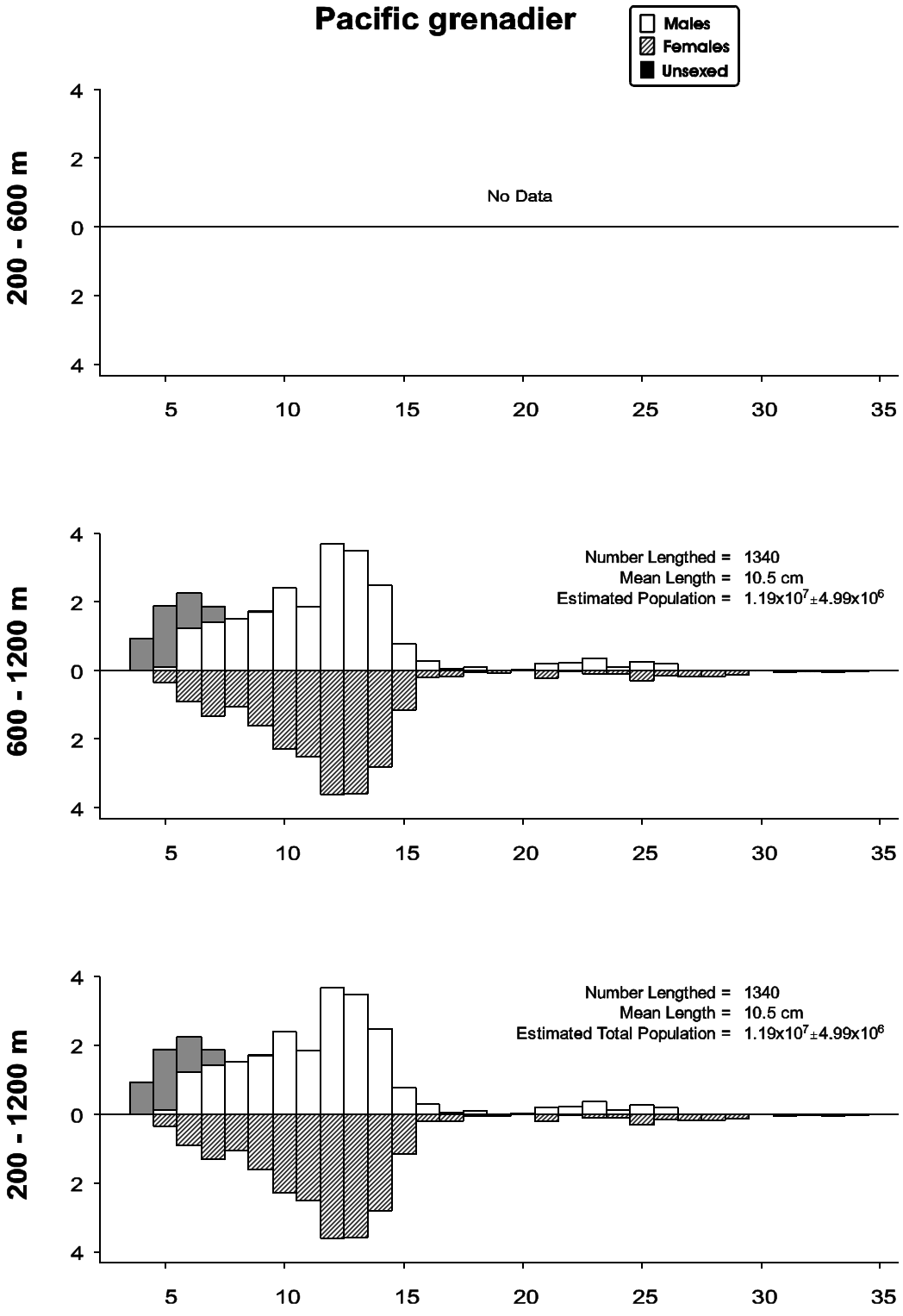

Figure 25. Size composition of the estimated Pacific grenadier population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as the PAFL in centimeters while the ordinate represents percentage of the total population.

Table 21. Abundance estimates by subarea and depth strata for popeye grenadier *(Coryphaenoides cinereus)* from the 2002 eastern Bering Sea upper continental slope survey.

Coryphaenoides cinereus **popeye grenadier**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	1.08E+02	3.77E+05	1.01E+04	1.19E+11	0.27	0.93
	600-800	1.37E+03	5.99E+06	1.65E+05	3.37E+12	7.85	34.39
	800-1,000	4.29E+03	2.28E+07	1.09E+06	3.26E+13	31.67	168.60
	1,000-1,200	4.75E+03	2.16E+07	4.57E+06	9.92E+13	42.93	195.42
2	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	7.42E+01	4.31E+05	1.61E+03	1.04E+11	1.05	6.12
	600-800	9.42E+02	4.29E+06	2.60E+05	4.91E+12	15.94	72.47
	800-1,000	3.17E+03	1.25E+07	1.51E+05	3.14E+12	57.37	225.37
	1,000-1,200	5.11E+03	2.30E+07	5.97E+06	1.65E+14	95.40	429.66
3	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	5.16E+02	3.13E+06	2.41E+05	9.03E+12	5.83	35.28
	600-800	3.67E+03	2.62E+07	8.13E+05	3.72E+13	40.26	287.82
	800-1,000	1.75E+03	9.61E+06	2.08E+05	6.75E+12	23.96	131.26
4	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	3.42E+03	2.00E+07	2.64E+06	1.15E+14	49.25	288.29
	800-1,000	3.73E+03	3.27E+07	7.35E+06	6.92E+14	52.70	461.69
	1,000-1,200	3.04E+03	2.08E+07	2.30E+06	7.26E+13	45.96	314.04
5	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	8.32E+00	3.64E+04	6.92E+01	1.33E+09	0.20	0.86
	600-800	2.15E+03	2.16E+07	2.61E+06	3.38E+14	49.81	499.31
	800-1,000	9.57E+02	6.22E+06	6.84E+03	6.21E+11	17.33	112.72
	1,000-1,200	7.95E+02	4.14E+06	0.00E+00	0.00E+00	13.94	72.69
6	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	4.52E+01	1.98E+05	2.04E+03	3.93E+10	0.27	1.16
	600-800	4.40E+03	4.38E+07	4.23E+06	4.95E+14	47.99	477.21
	800-1,000	1.69E+03	2.20E+07	1.41E+06	3.73E+14	26.24	340.42
	1,000-1,200	4.33E+03	5.75E+07	0.00E+00	0.00E+00	87.31	1157.64
All areas and depths combined		**5.03E+04**	**3.59E+08**	**3.40E+07**	**2.45E+15**	**1.60E+01**	**1.12E+02**

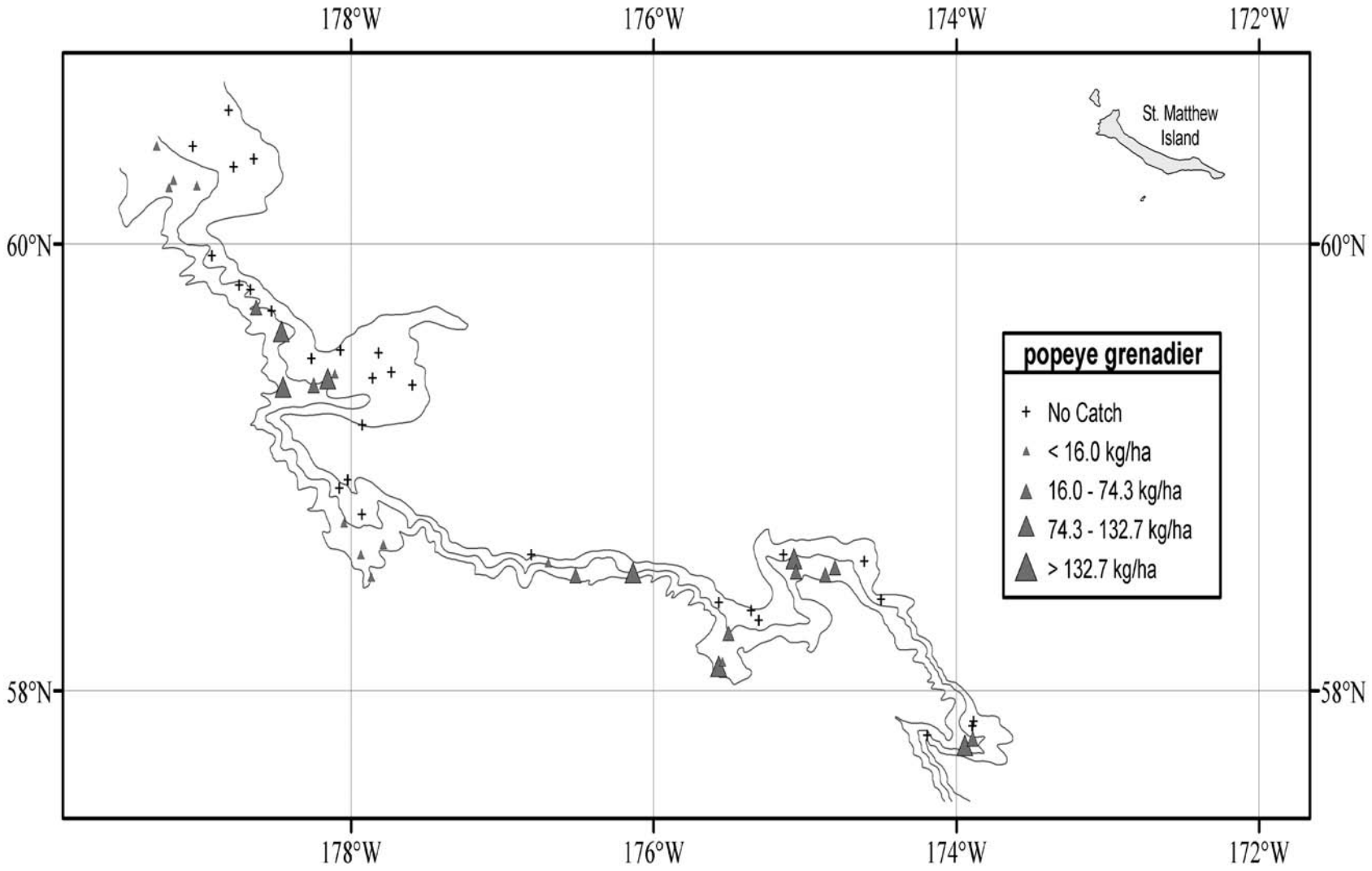

Figure 26. Distribution and relative abundance of popeye grenadier (*Coryphaenoides cinereus*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

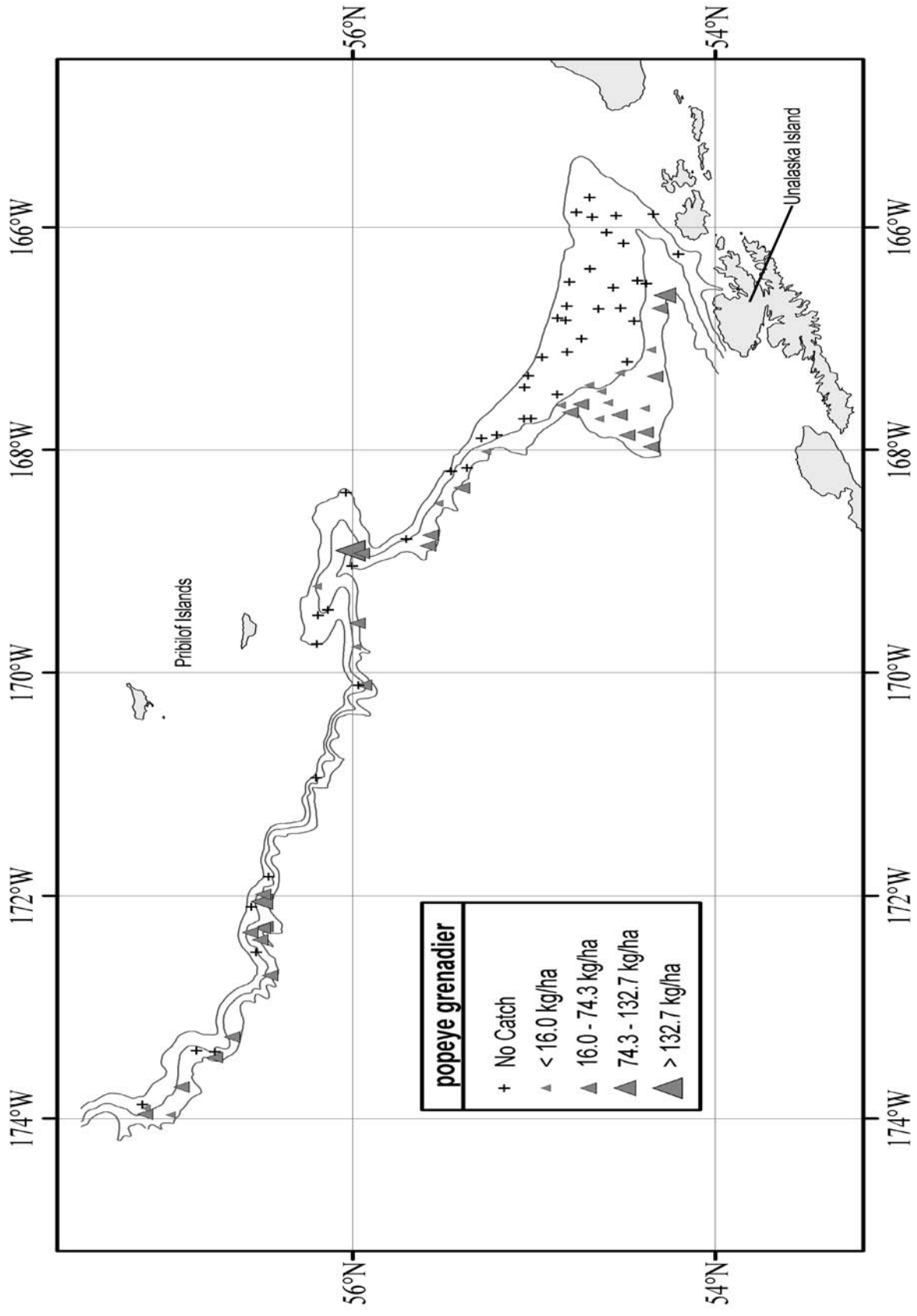

Figure 26. Continued.

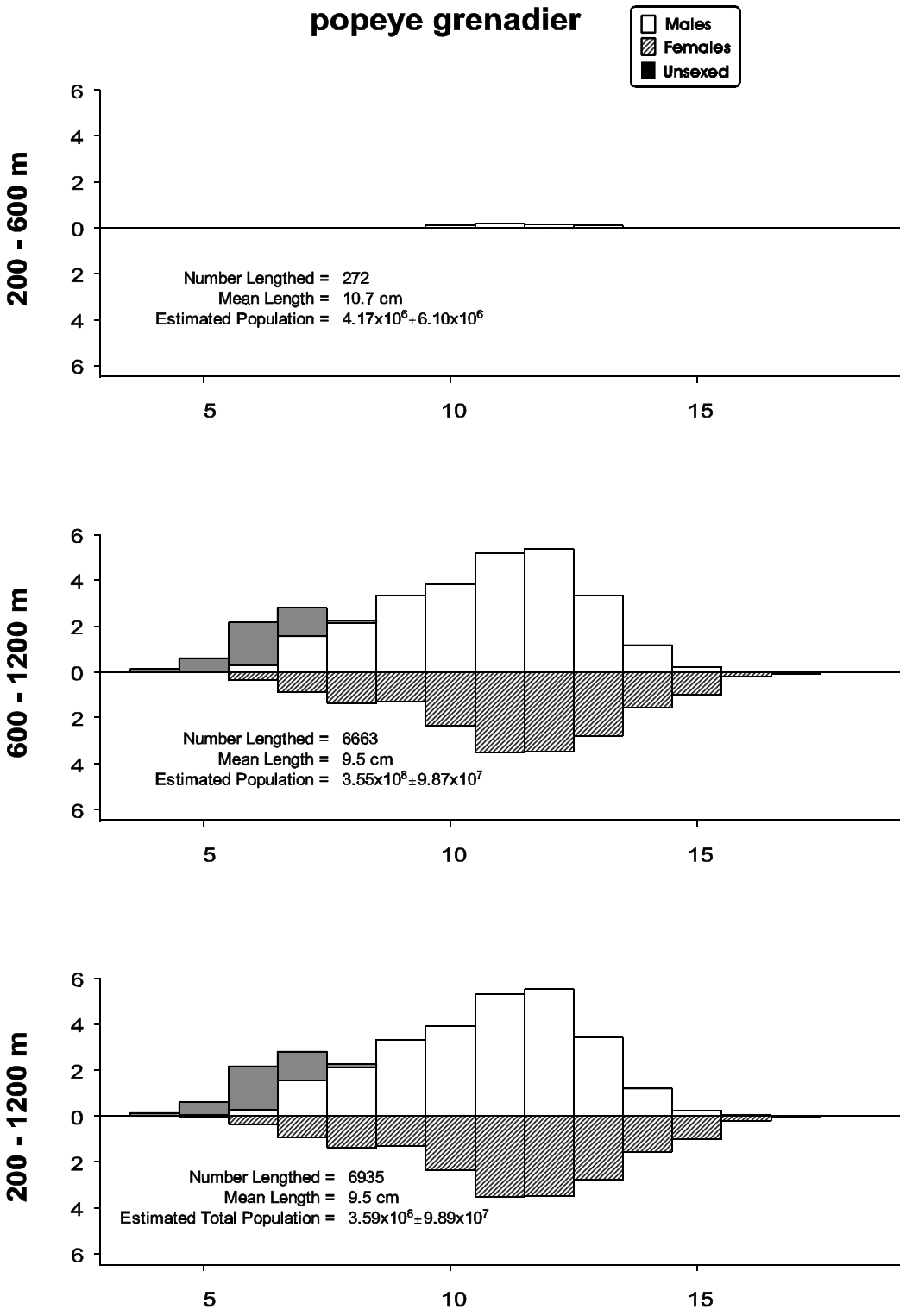

Figure 27. Size composition of the estimated popeye grenadier population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as PAFL in centimeters while the ordinate represents percentage of the total population.

Table 22. Abundance estimates by subarea and depth strata for walleye pollock *(Theragra chalcogramma)* from the 2002 eastern Bering Sea upper continental slope survey.

Theragra chalcogramma **walleye pollock**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	1.13E+04	8.16E+06	1.43E+07	8.08E+12	28.06	20.33
	400-600	1.11E+03	6.82E+05	2.85E+05	1.09E+11	2.74	1.68
	600-800	2.45E+01	1.86E+04	3.10E+02	1.74E+08	0.14	0.11
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	3.98E+01	2.84E+04	6.42E+02	3.53E+08	0.36	0.26
2	200-400	1.58E+02	1.31E+05	3.95E+03	2.68E+09	1.37	1.13
	400-600	2.47E+01	2.47E+04	1.94E+02	2.70E+08	0.35	0.35
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	8.78E+00	6.46E+03	7.70E+01	4.18E+07	0.16	0.12
3	200-400	5.88E+02	4.81E+05	9.02E+04	6.62E+10	6.51	5.32
	400-600	2.55E+01	2.39E+04	3.10E+02	9.43E+07	0.29	0.27
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
4	200-400	1.30E+03	1.16E+06	2.90E+05	3.07E+11	10.48	9.39
	400-600	3.16E+01	2.11E+04	5.46E+02	1.59E+08	0.43	0.29
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
5	200-400	2.83E+02	2.30E+05	8.03E+04	5.28E+10	6.69	5.42
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	4.42E+03	3.39E+06	1.41E+06	7.05E+11	17.02	13.06
	400-600	2.40E+01	1.52E+04	5.74E+02	2.30E+08	0.14	0.09
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
All areas and depths combined		**1.93E+04**	**1.44E+07**	**1.65E+07**	**9.32E+12**	**5.85E+00**	**4.36E+00**

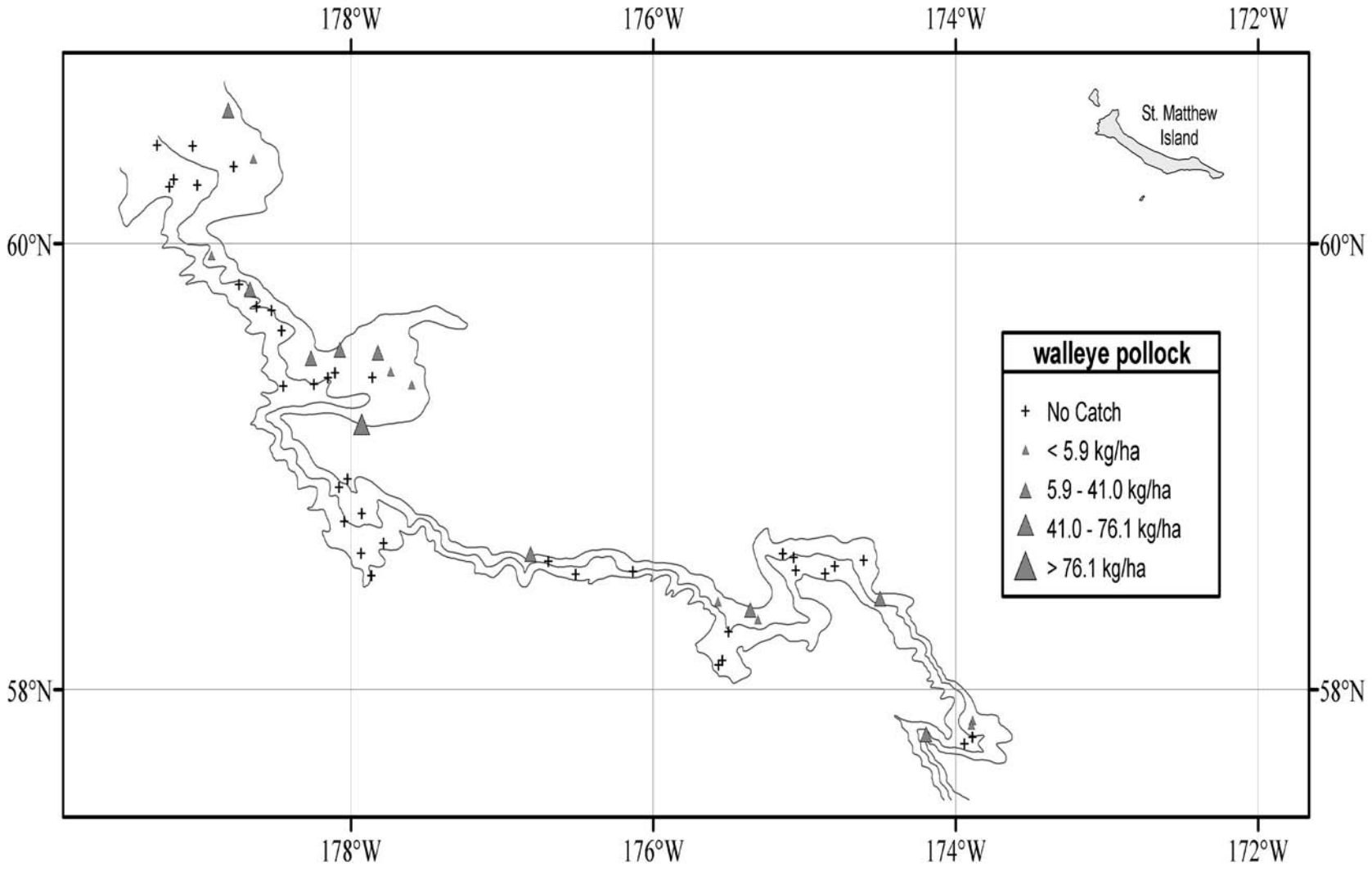

Figure 28. Distribution and relative abundance of walleye pollock (*Theragra chalcogramma*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

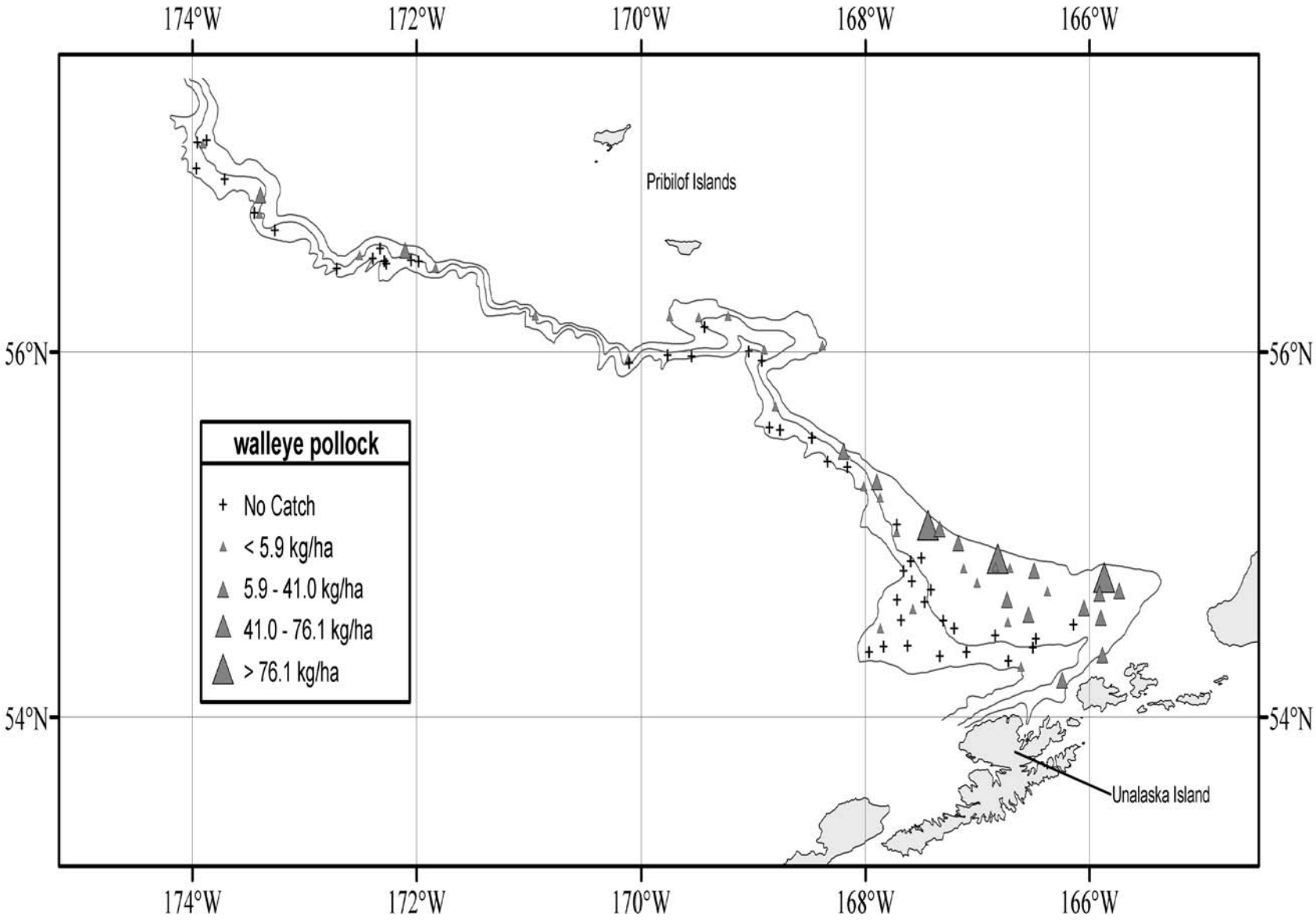

Figure 28. Continued.

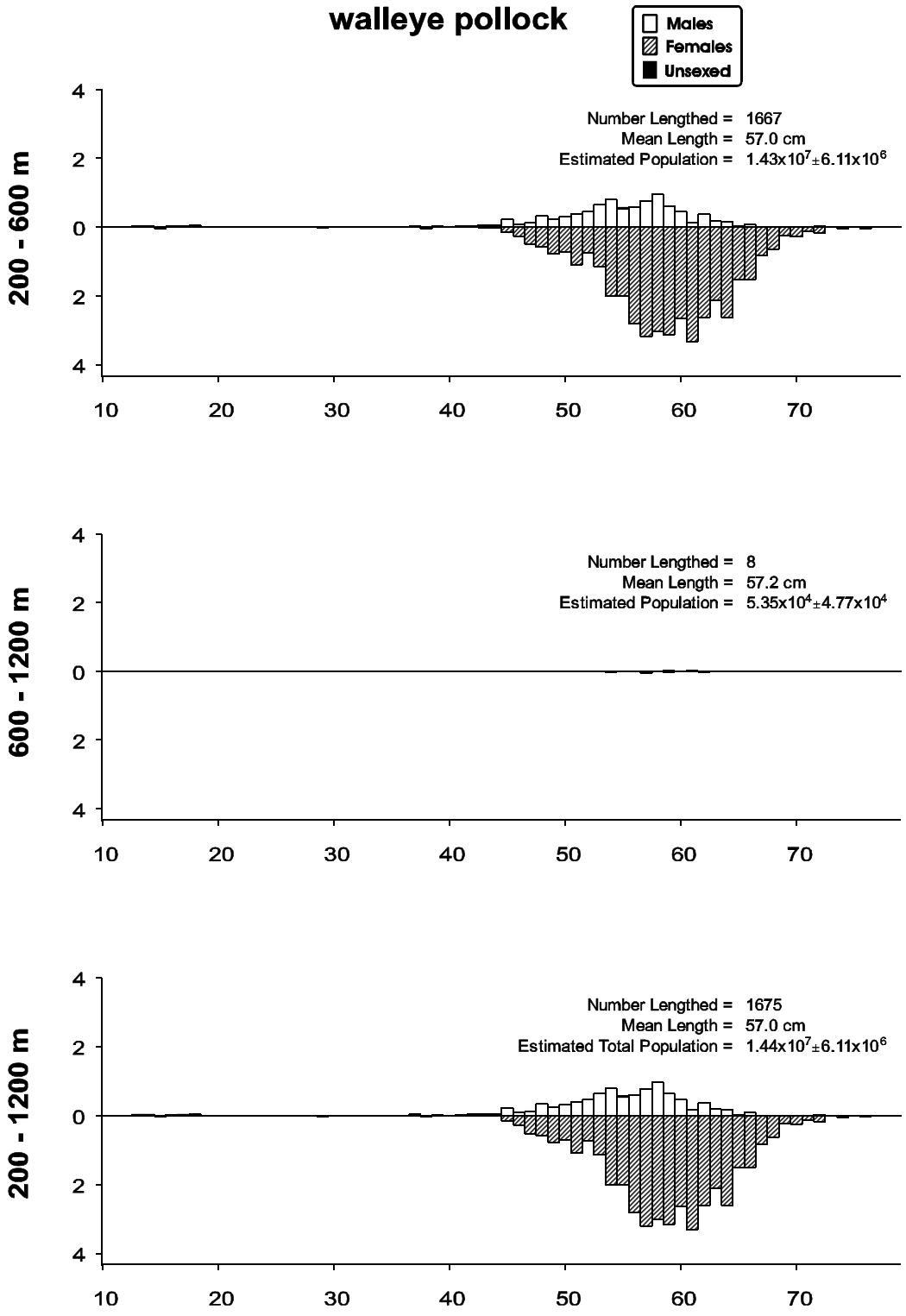

Figure 29. Size composition of the estimated walleye pollock population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as fork length in centimeters while the ordinate represents percentage of the total population.

Table 23. Abundance estimates by subarea and depth strata for Pacific cod *(Gadus macrocephalus)* from the 2002 eastern Bering Sea upper continental slope survey.

Gadus macrocephalus **Pacific cod**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	2.40E+03	1.21E+06	5.58E+05	1.52E+11	5.99	3.01
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
2	200-400	6.12E+02	1.95E+05	1.59E+04	2.59E+09	5.29	1.68
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
3	200-400	1.74E+03	8.10E+05	1.79E+06	3.80E+11	19.28	7.17
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
4	200-400	8.20E+02	2.27E+05	1.40E+05	1.11E+10	6.64	1.84
	400-600	2.66E+01	7.27E+03	7.09E+02	5.29E+07	0.36	0.10
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
5	200-400	1.35E+02	5.26E+04	1.35E+03	1.74E+09	3.19	1.24
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	1.77E+03	6.19E+05	1.27E+06	1.67E+11	6.82	2.38
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
All areas and depths combined		**7.51E+03**	**3.12E+06**	**3.78E+06**	**7.15E+11**	**2.41E+00**	**9.50E-01**

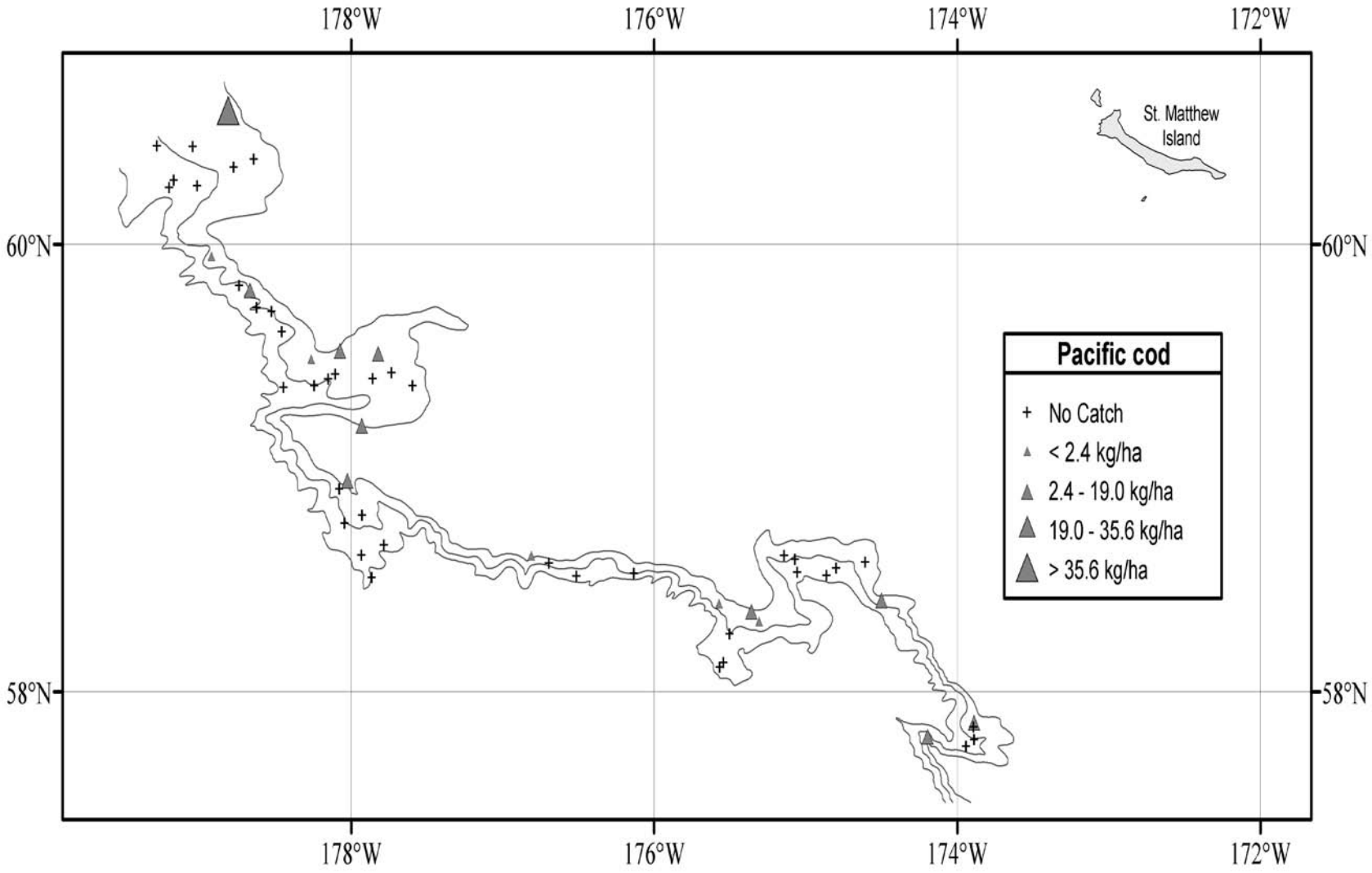

Figure 30. Distribution and relative abundance of Pacific cod (*Gadus macrocephalus*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

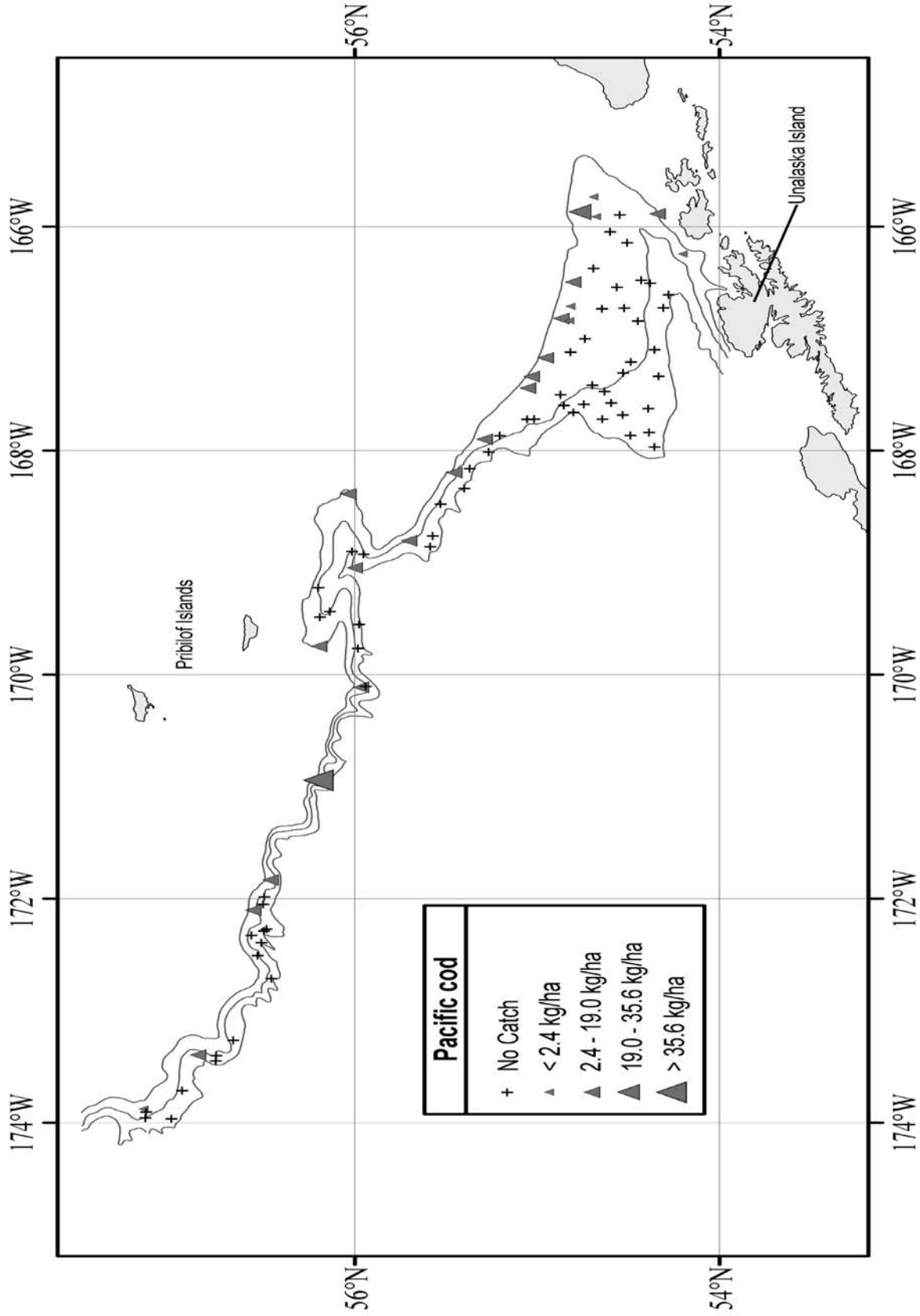

Figure 30. Continued.

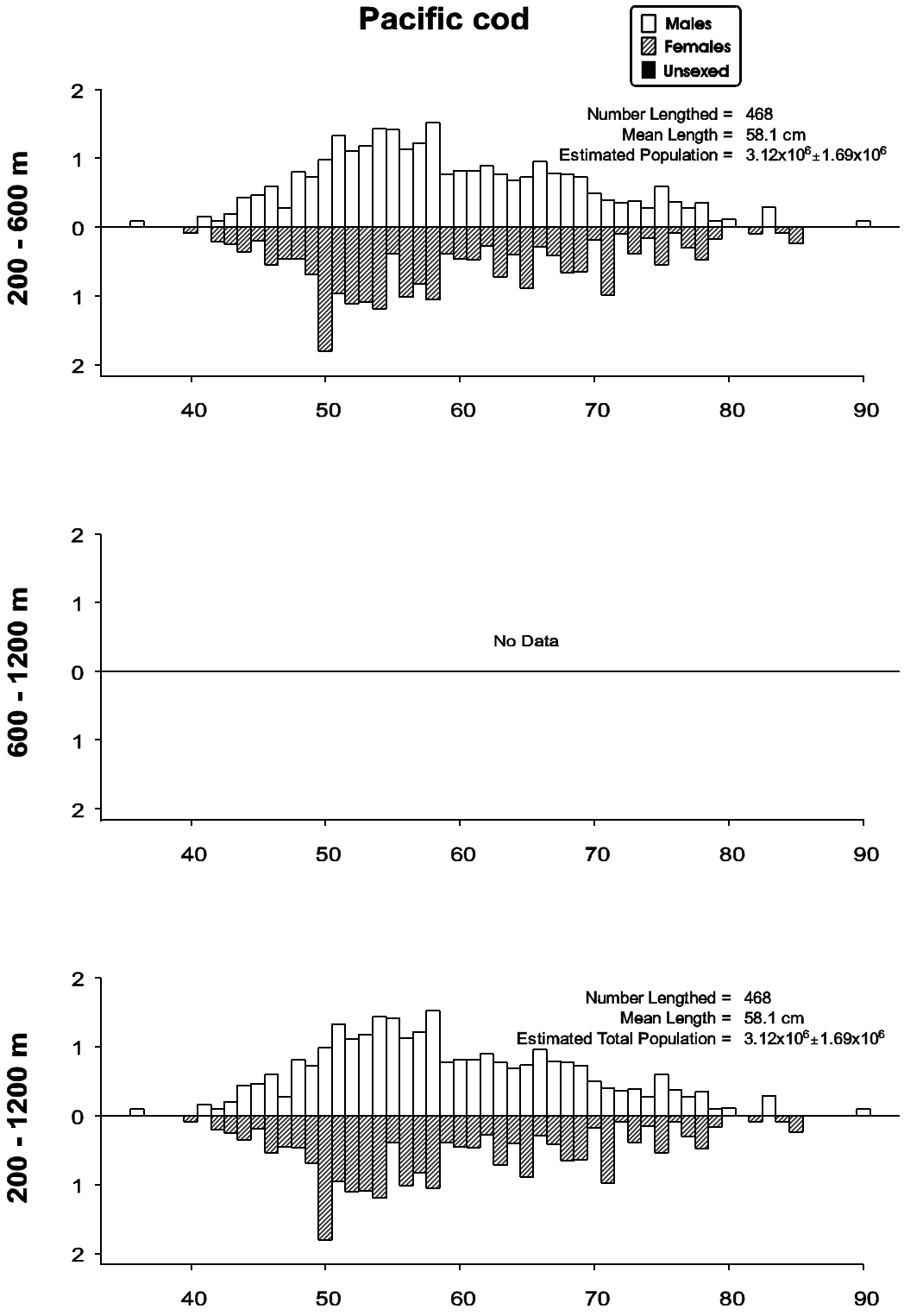

Figure 31. Size composition of the estimated Pacific cod population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as fork length in centimeters while the ordinate represents percentage of the total population.

Table 24. Abundance estimates by subarea and depth strata for shortspine thornyhead *(Sebastolobus alascanus)* from the 2002 eastern Bering Sea upper continental slope survey.

Sebastolobus alascanus **shortspine thornyhead**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	2.06E+03	5.29E+06	9.93E+05	6.13E+12	5.14	13.18
	400-600	6.76E+03	1.45E+07	1.23E+06	7.97E+12	16.64	35.70
	600-800	1.72E+03	1.61E+06	3.07E+05	5.09E+11	9.89	9.25
	800-1,000	1.94E+02	1.22E+05	4.80E+03	2.27E+09	1.43	0.90
	1,000-1,200	8.40E+01	6.40E+04	8.27E+02	1.24E+09	0.76	0.58
2	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	1.62E+03	1.88E+06	6.43E+05	8.41E+11	23.01	26.70
	600-800	7.50E+02	6.48E+05	2.91E+05	2.84E+11	12.69	10.95
	800-1,000	3.30E+01	0.00E+00	1.09E+03	0.00E+00	0.60	0.00
	1,000-1,200	1.38E+01	8.55E+03	1.92E+02	7.31E+07	0.26	0.16
3	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	1.13E+03	2.72E+06	7.77E+04	1.84E+12	12.71	30.67
	600-800	4.99E+02	4.67E+05	1.47E+04	2.67E+10	5.49	5.13
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
4	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	6.57E+02	1.82E+06	1.80E+05	1.54E+12	9.00	24.99
	600-800	1.75E+02	7.55E+04	3.39E+03	5.19E+08	2.53	1.09
	800-1,000	4.72E+01	1.02E+04	2.23E+03	1.03E+08	0.67	0.14
	1,000-1,200	1.73E+01	1.07E+04	2.98E+02	1.13E+08	0.26	0.16
5	200-400	3.89E+00	1.09E+04	1.51E+01	1.20E+08	0.09	0.26
	400-600	4.15E+02	1.40E+06	2.37E+04	6.58E+11	9.76	32.94
	600-800	2.25E+02	1.11E+05	1.04E+03	2.73E+08	5.20	2.58
	800-1,000	1.30E+01	7.05E+03	1.70E+02	4.97E+07	0.24	0.13
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	3.91E+02	6.48E+05	6.25E+04	2.81E+11	2.29	3.80
	600-800	1.37E+02	7.46E+04	2.47E+03	7.15E+08	1.50	0.81
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
All areas and depths combined		**1.69E+04**	**3.15E+07**	**3.84E+06**	**2.01E+13**	**5.30E+00**	**9.73E+00**

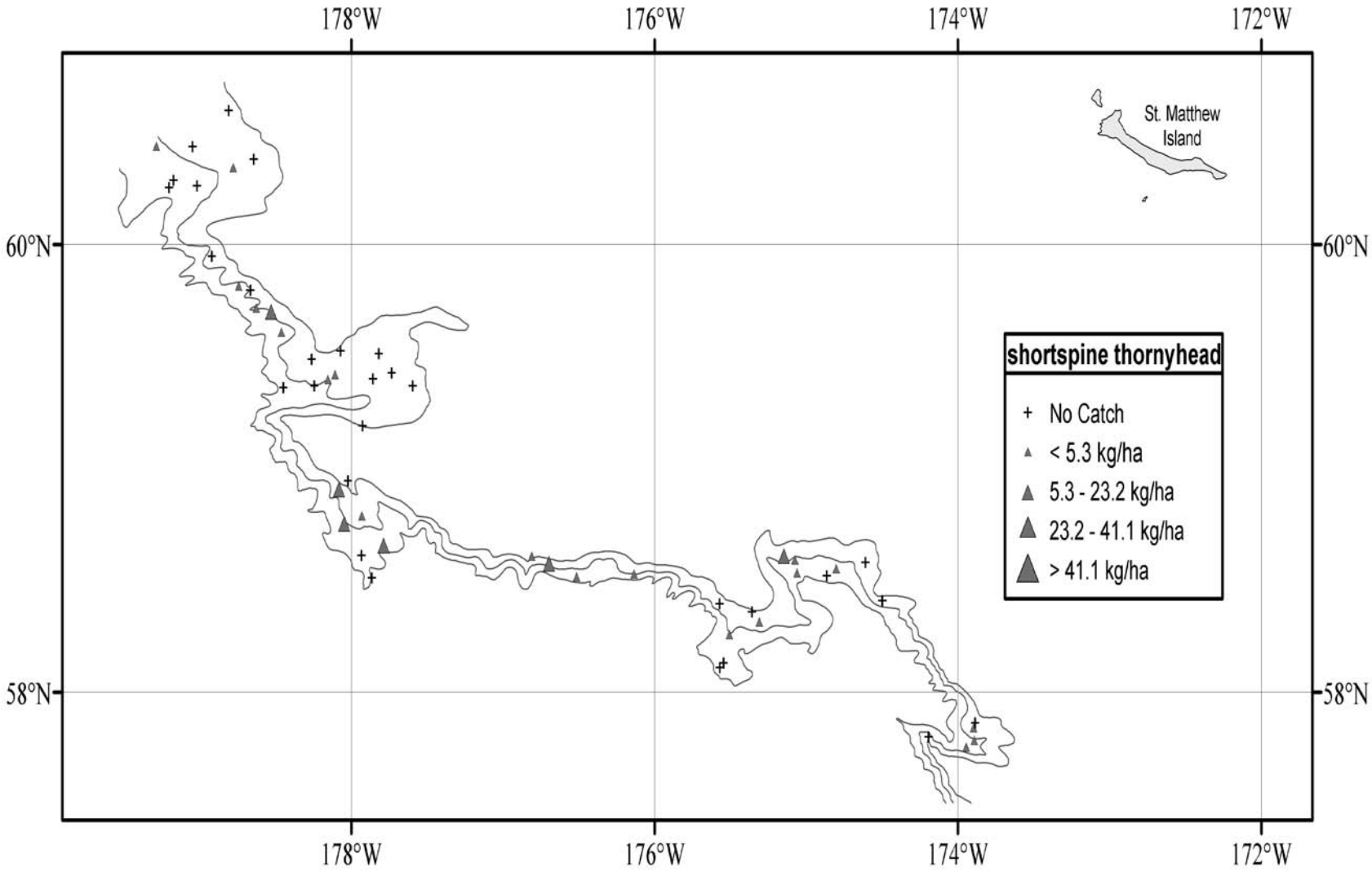

Figure 32. Distribution and relative abundance of shortspine thornyhead (*Sebastolobus alascanus*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

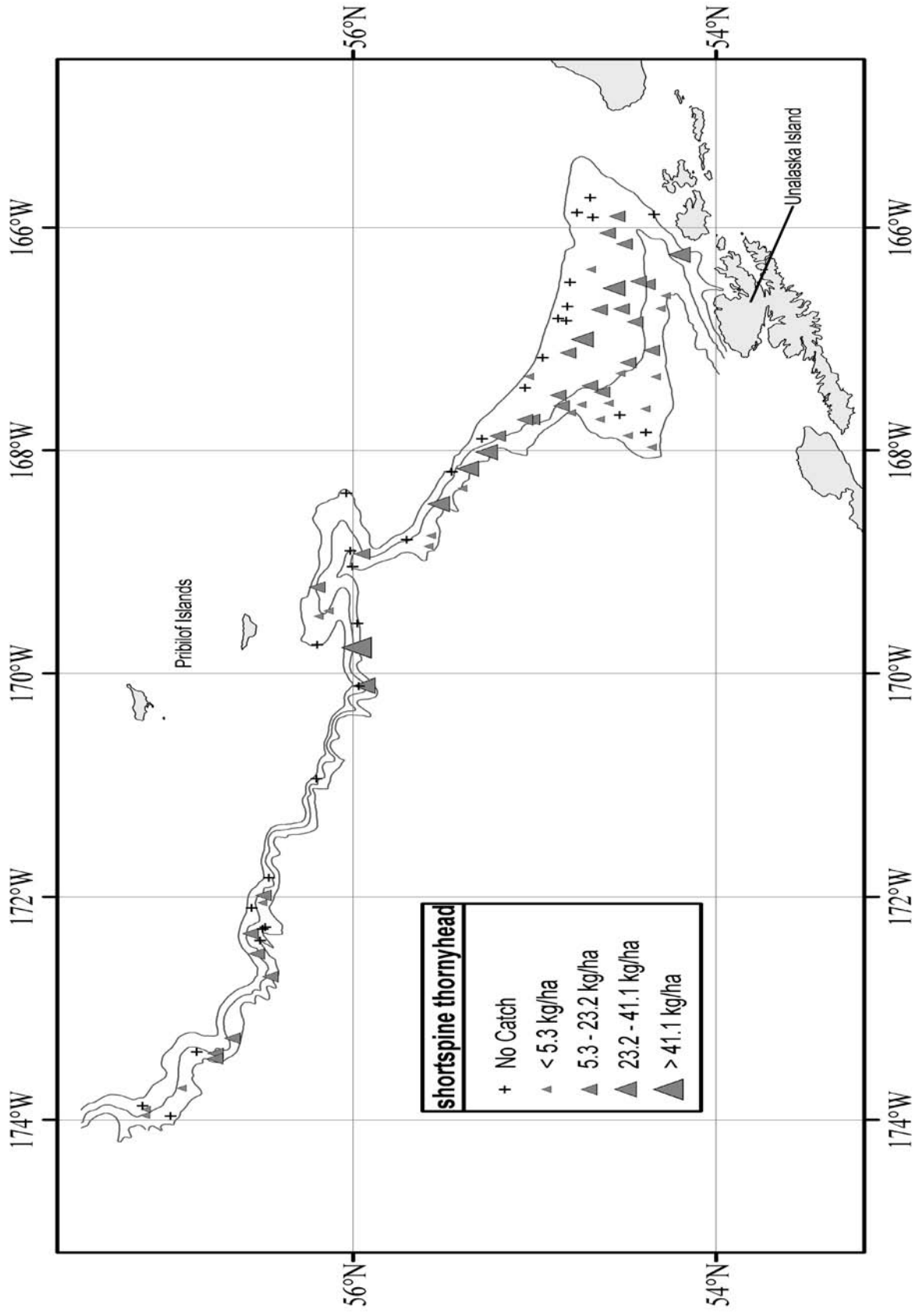

Figure 32. Continued.

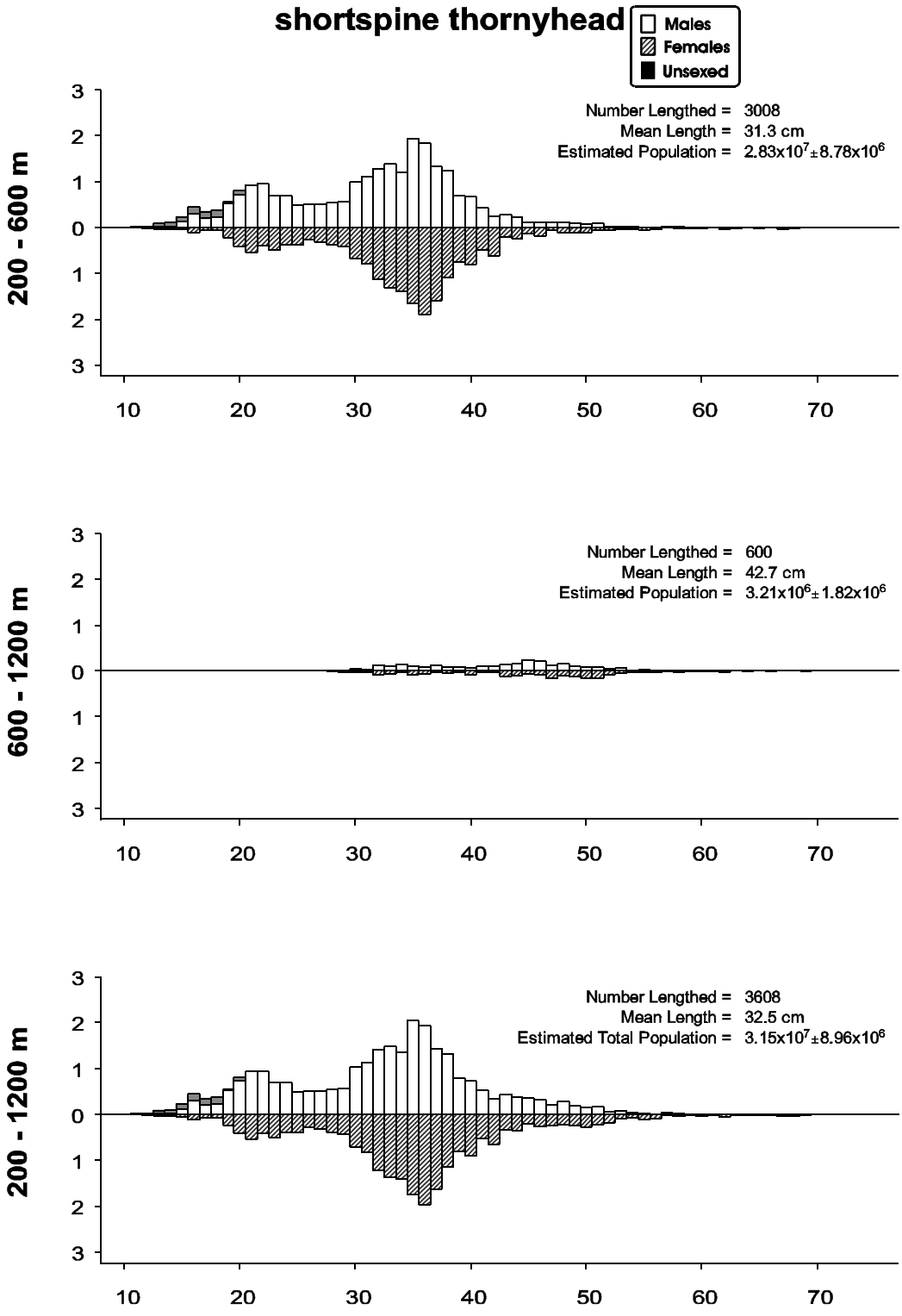

Figure 33. Size composition of the estimated shortspine thornyhead population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as fork length in centimeters while the ordinate represents percentage of the total population.

Table 25. Abundance estimates by subarea and depth strata for Pacific ocean perch *(Sebastes alutus)* from the 2002 eastern Bering Sea upper continental slope survey.

Sebastes alutus **Pacific ocean perch**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	1.50E+04	1.67E+07	9.24E+07	1.11E+14	37.42	41.60
	400-600	2.00E+02	2.58E+05	8.51E+03	1.46E+10	0.49	0.64
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
2	200-400	3.40E+03	3.72E+06	3.10E+06	3.82E+12	29.36	32.13
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
3	200-400	4.27E+04	5.12E+07	1.36E+09	1.87E+15	472.99	567.02
	400-600	9.78E+00	1.18E+04	3.22E+01	4.66E+07	0.11	0.13
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
4	200-400	1.09E+04	1.31E+07	3.29E+07	4.74E+13	88.35	105.70
	400-600	3.69E+01	5.71E+04	1.06E+03	2.31E+09	0.51	0.78
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
5	200-400	2.57E+02	3.04E+05	5.99E+04	4.41E+10	6.06	7.18
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	6.82E+01	1.61E+05	1.72E+03	4.79E+09	0.26	0.62
	400-600	9.49E+00	1.52E+04	9.01E+01	2.30E+08	0.06	0.09
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
All areas and depths combined		**7.27E+04**	**8.55E+07**	**1.49E+09**	**2.04E+15**	**2.65E+01**	**3.13E+01**

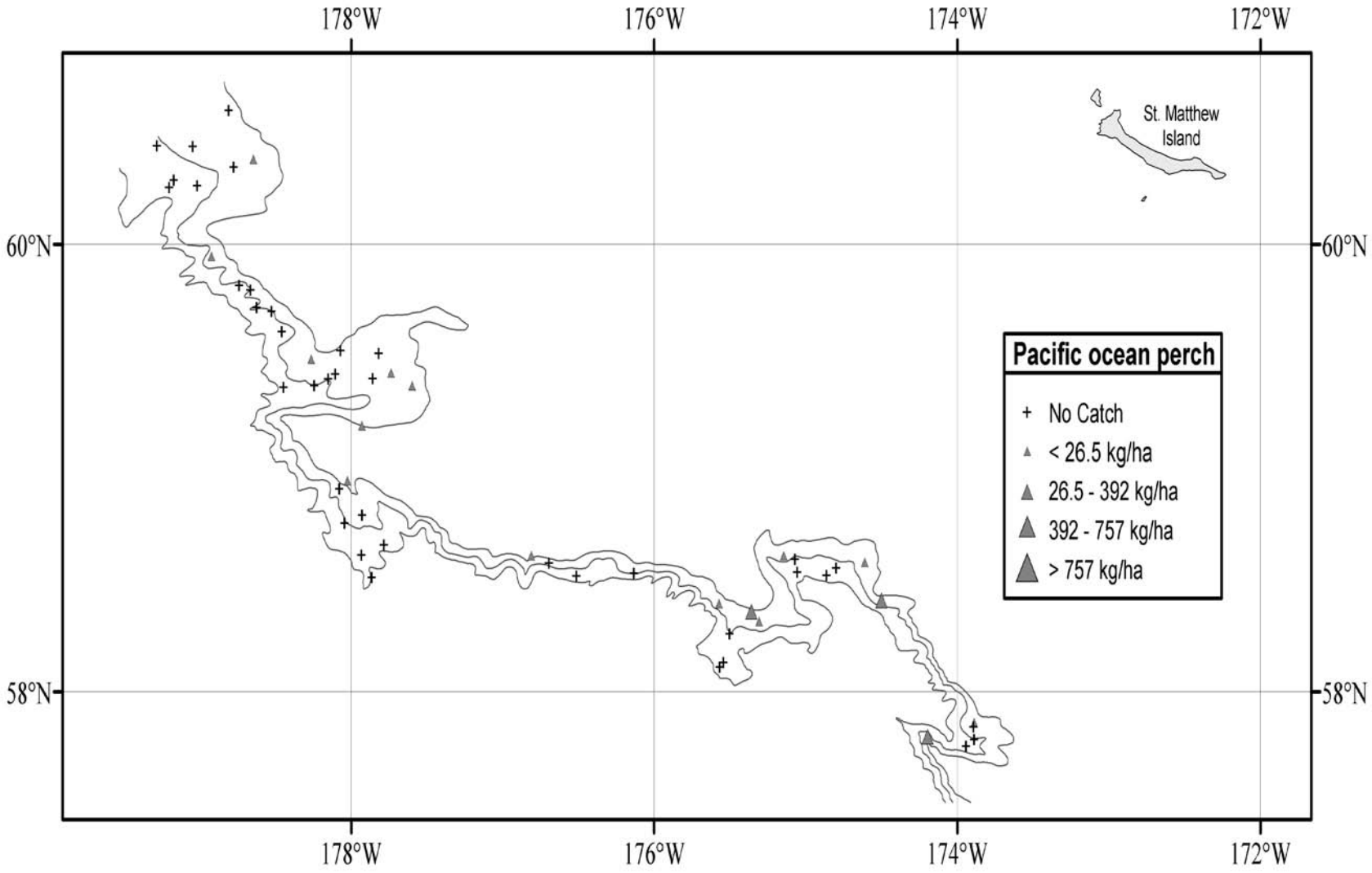

Figure 34. Distribution and relative abundance of Pacific ocean perch (*Sebastes alutus*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

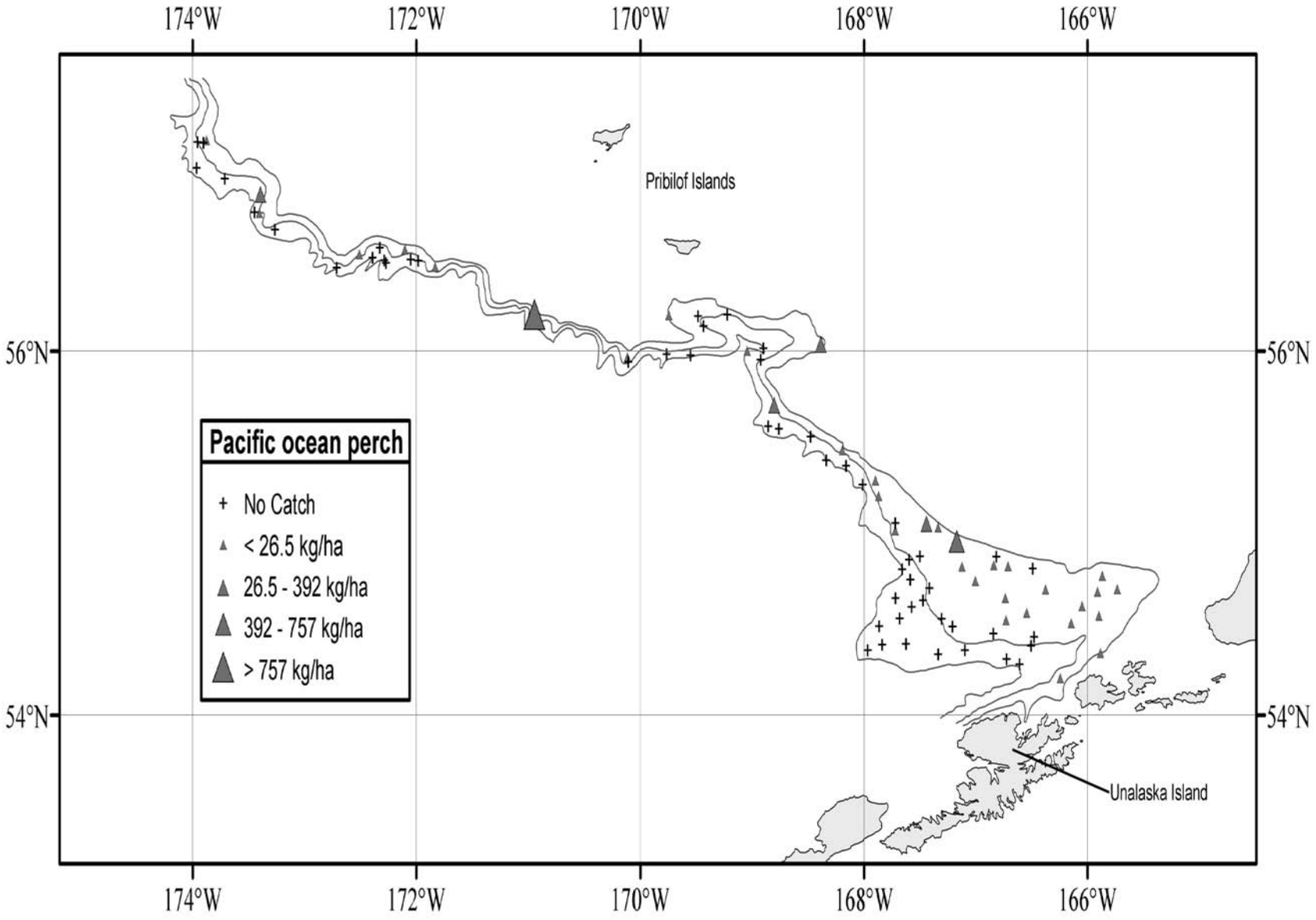

Figure 34. Continued.

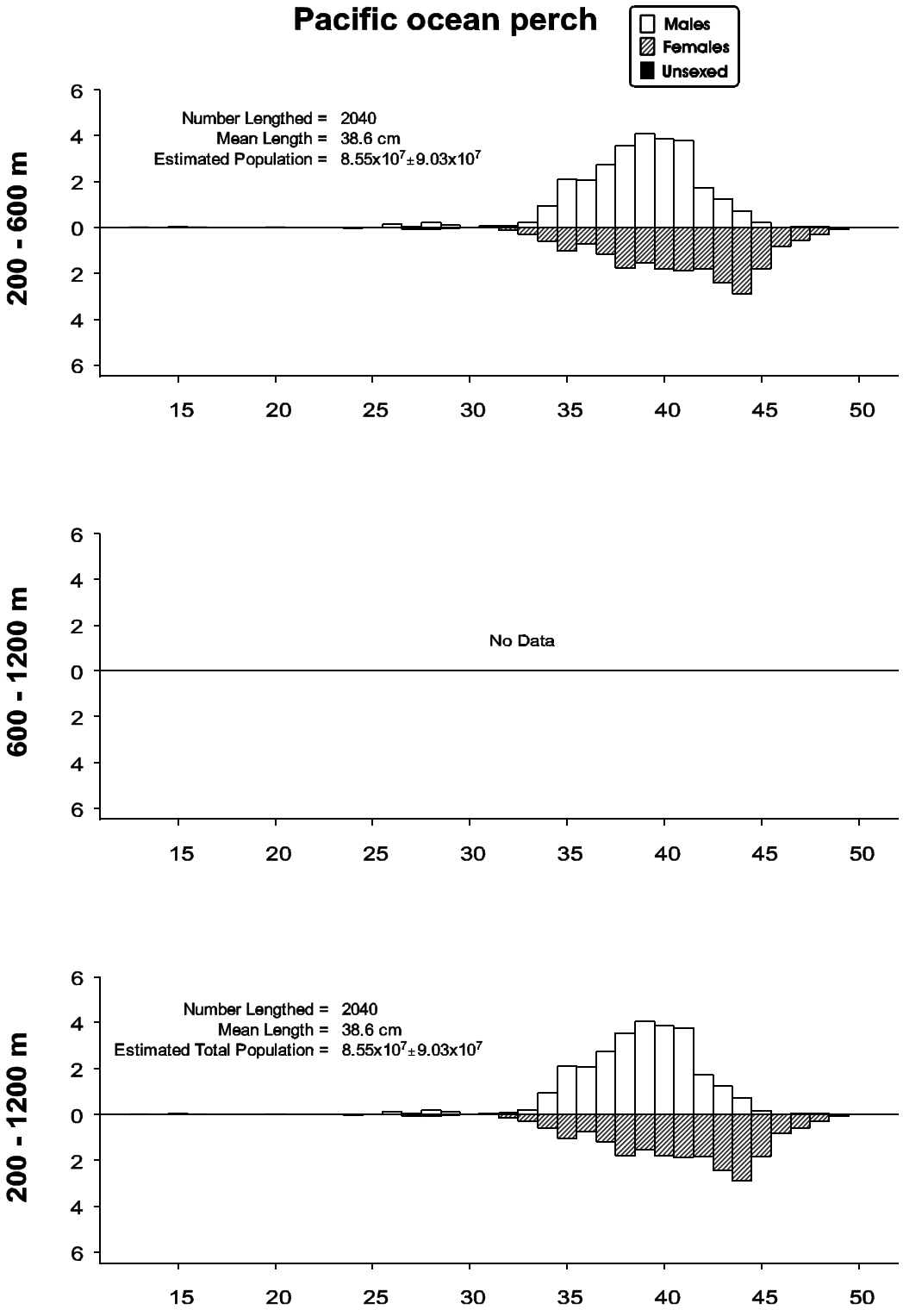

Figure 35. Size composition of the estimated Pacific ocean perch population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as fork length in centimeters while the ordinate represents percentage of the total population.

Table 26. Abundance estimates by subarea and depth strata for rougheye rockfish *(Sebastes aleutianus)* from the 2002 eastern Bering Sea upper continental slope survey.

Sebastes aleutianus **rougheye rockfish**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	2.28E+02	4.43E+05	3.40E+03	1.39E+10	0.57	1.10
	400-600	3.11E+01	1.96E+04	2.97E+02	1.11E+08	0.08	0.05
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
2	200-400	1.34E+02	1.94E+05	4.64E+03	1.27E+10	1.16	1.67
	400-600	1.65E+01	6.11E+03	2.72E+02	3.73E+07	0.23	0.09
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
3	200-400	8.32E+00	5.04E+03	6.92E+01	2.54E+07	0.09	0.06
	400-600	7.27E+01	4.74E+04	2.69E+03	1.13E+09	0.82	0.54
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
4	200-400	3.10E+01	2.10E+04	4.25E+02	2.38E+08	0.25	0.17
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
5	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	5.75E+00	3.18E+03	3.30E+01	1.01E+07	0.14	0.07
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	2.61E+01	2.11E+04	3.03E+02	2.35E+08	0.15	0.12
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
All areas and depths combined		**5.53E+02**	**7.60E+05**	**1.21E+04**	**2.84E+10**	**1.70E-01**	**2.40E-01**

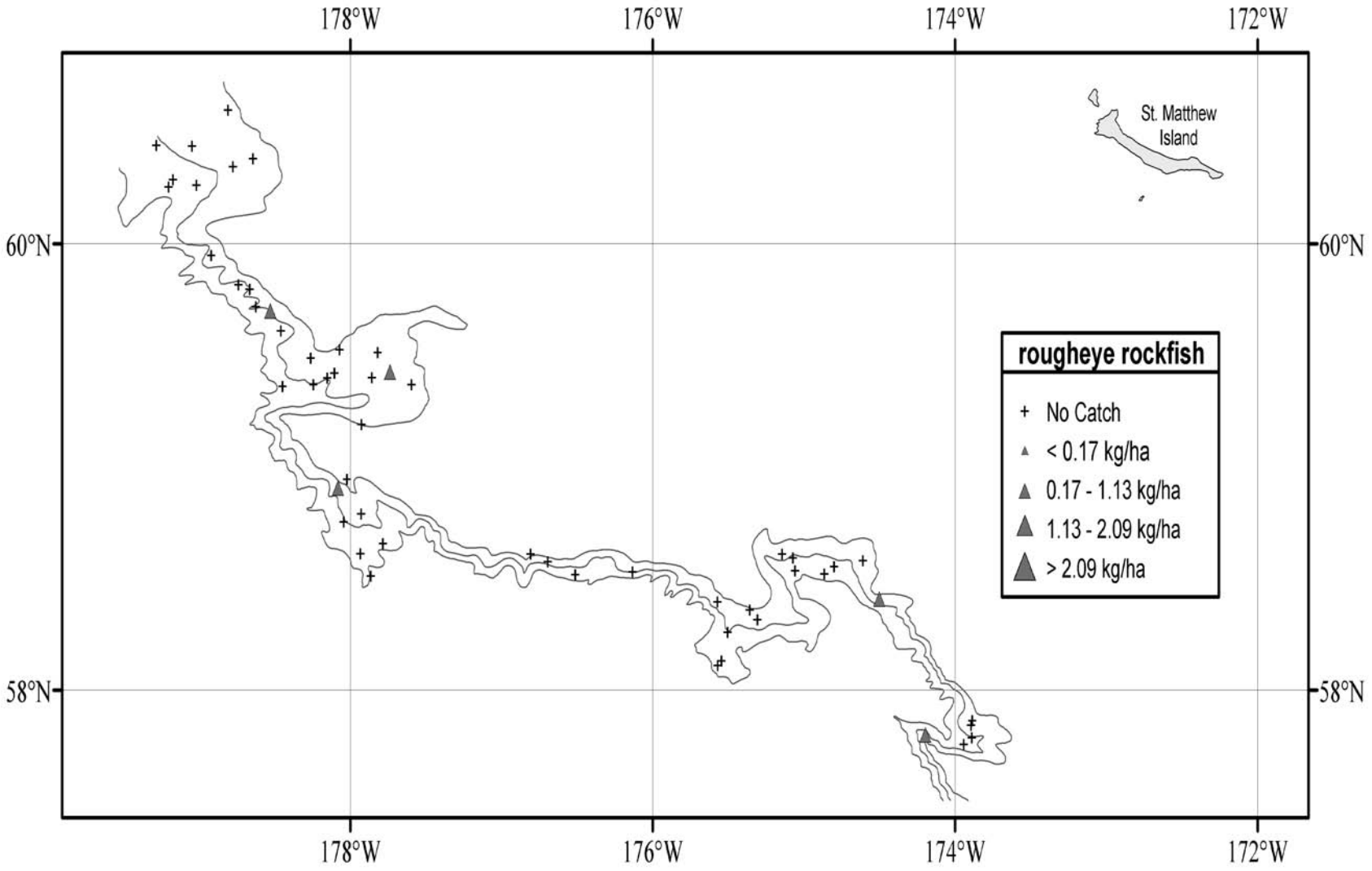

Figure 36. Distribution and relative abundance of rougheye rockfish (*Sebastes aleutianus*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

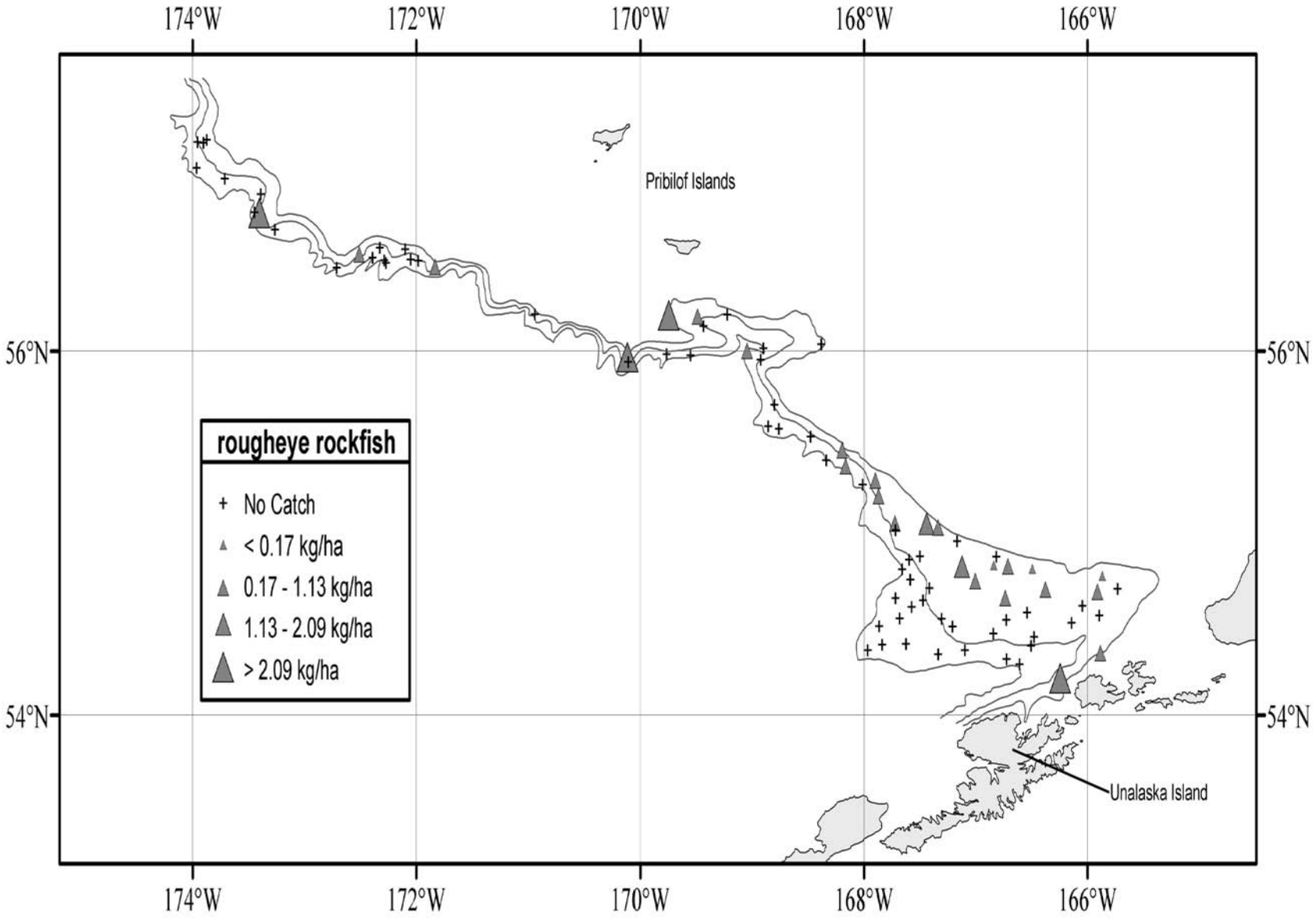

Figure 36. Continued.

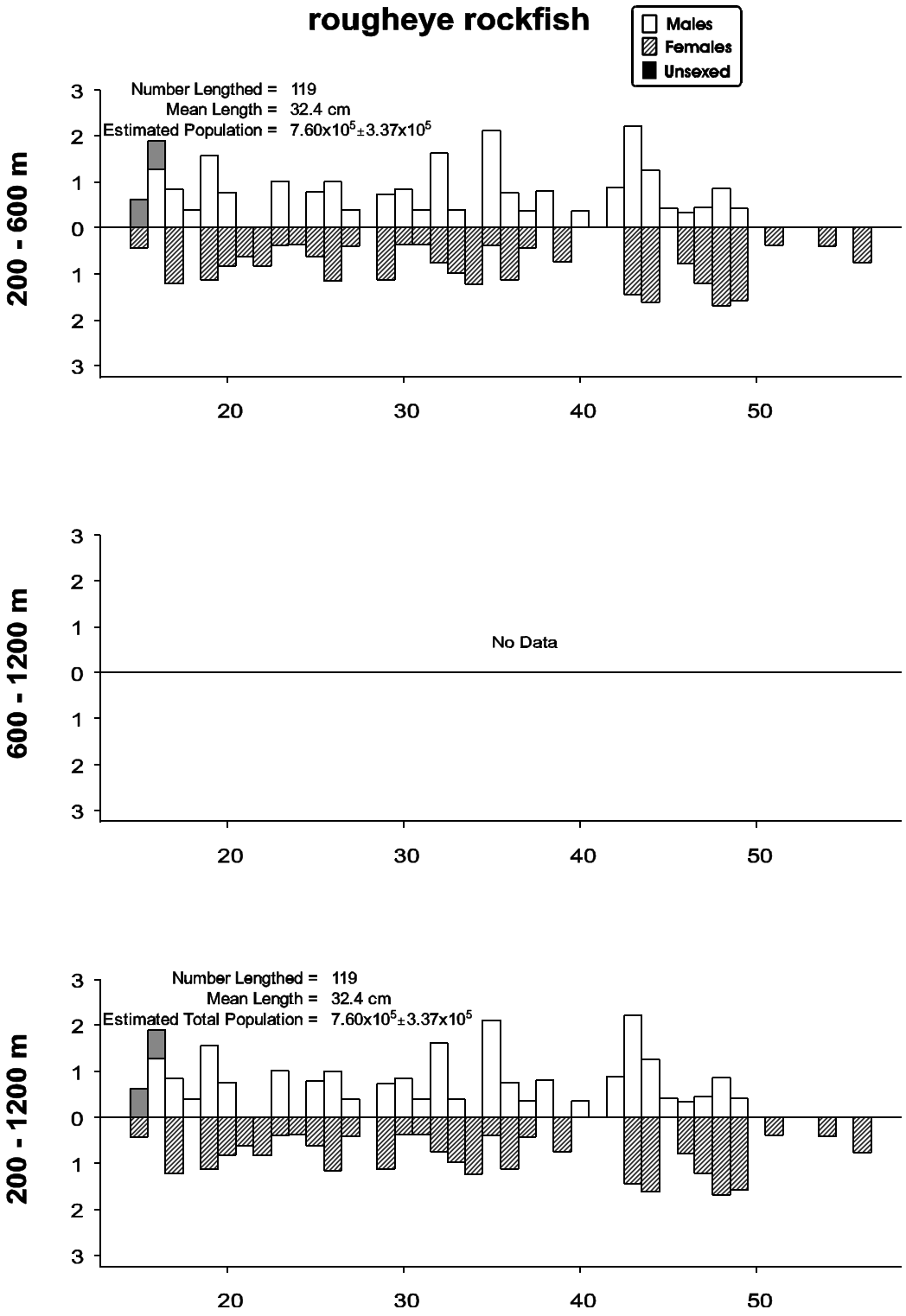

Figure 37. Size composition of the estimated rougheye rockfish population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as fork length in centimeters while the ordinate represents percentage of the total population.

Table 27. Abundance estimates by subarea and depth strata for shortraker rockfish *(Sebastes borealis)* from the 2002 eastern Bering Sea upper continental slope survey.

Sebastes borealis **shortraker rockfish**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	1.03E+03	1.97E+05	1.05E+06	3.66E+10	2.57	0.49
	400-600	3.56E+01	1.29E+04	1.27E+03	1.67E+08	0.09	0.03
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
2	200-400	2.40E+02	6.21E+04	3.79E+04	2.34E+09	2.08	0.54
	400-600	2.13E+02	6.95E+04	6.88E+03	2.08E+08	3.02	0.99
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
3	200-400	1.93E+02	2.67E+04	3.71E+04	7.14E+08	2.13	0.30
	400-600	2.21E+03	6.23E+05	3.22E+06	2.42E+11	24.98	7.03
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
4	200-400	6.49E+02	2.79E+05	1.12E+05	1.91E+10	5.25	2.26
	400-600	1.57E+02	7.65E+04	4.22E+03	2.14E+09	2.14	1.05
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
5	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	5.90E+01	1.45E+04	8.90E+02	5.45E+07	1.39	0.34
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	6.18E+01	2.39E+04	3.82E+03	5.72E+08	0.36	0.14
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
All areas and depths combined		**4.85E+03**	**1.39E+06**	**4.47E+06**	**3.04E+11**	**1.58E+00**	**4.50E-01**

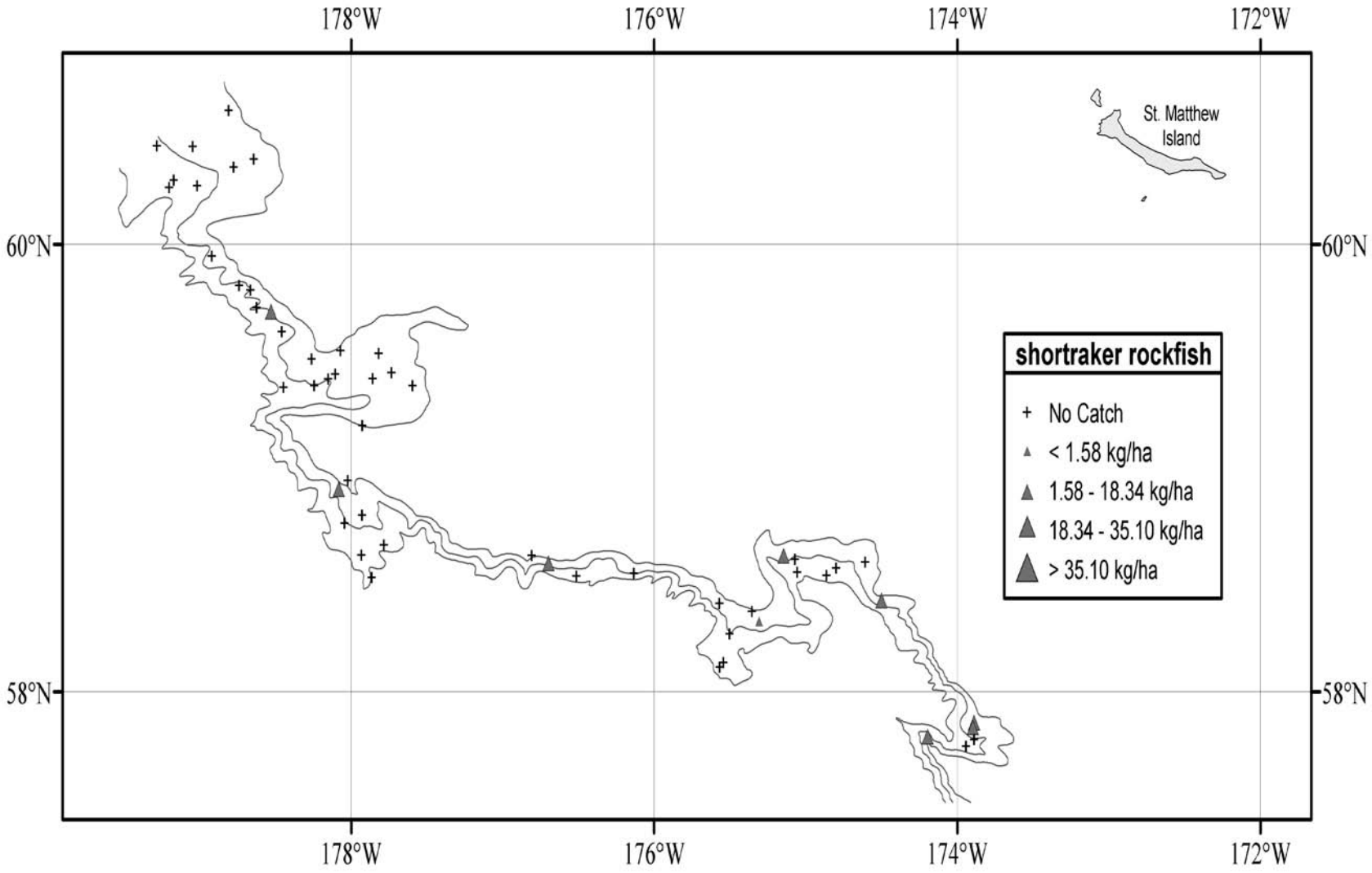

Figure 38. Distribution and relative abundance of shortraker rockfish (*Sebastes borealis*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

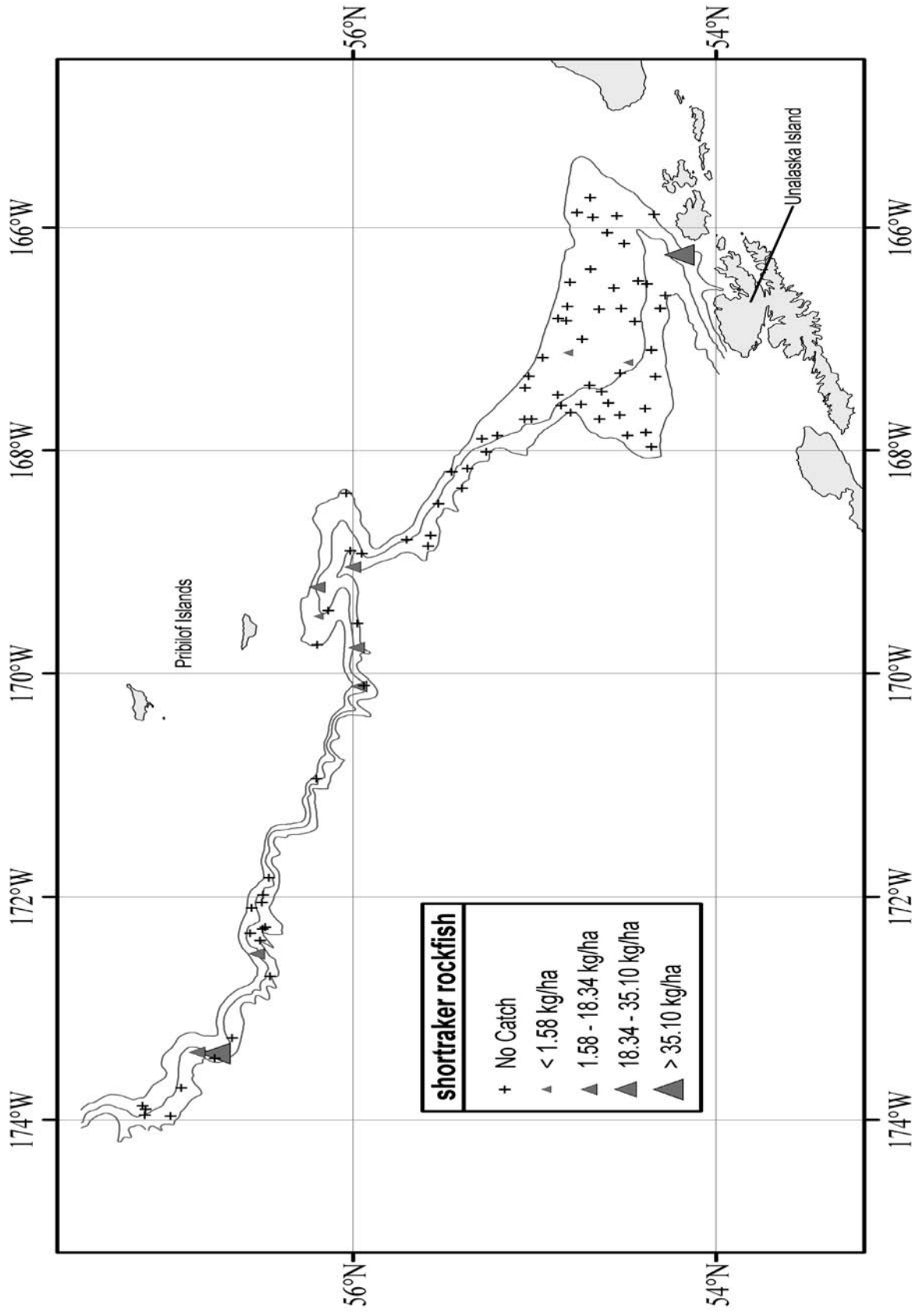

Figure 38. Continued.

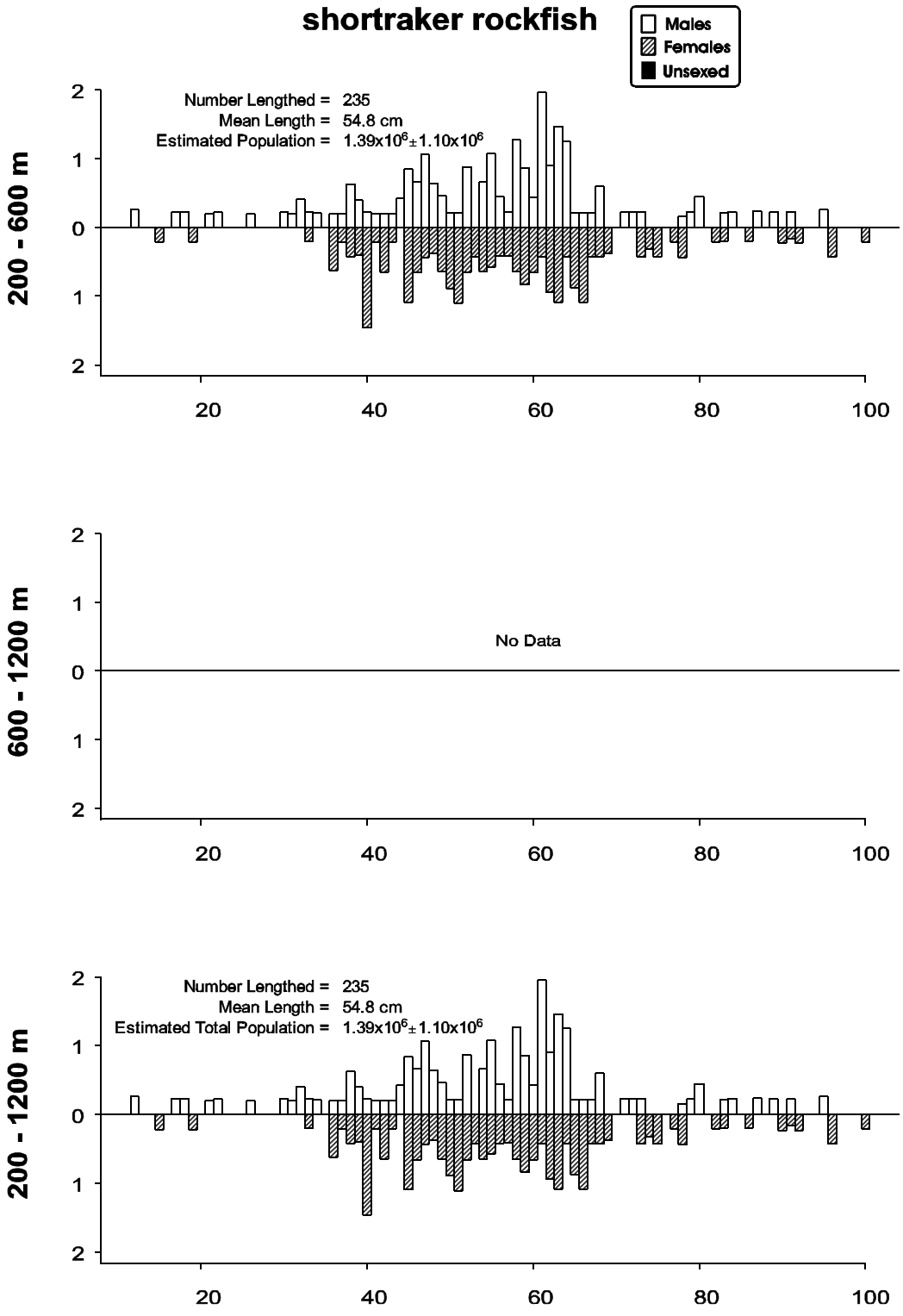

Figure 39. Size composition of the estimated shortraker rockfish population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as fork length in centimeters while the ordinate represents percentage of the total population.

Table 28. Abundance estimates by subarea and depth strata for sablefish *(Anoplopoma fimbria)* from the 2002 eastern Bering Sea upper continental slope survey.

Anoplopoma fimbria **sablefish**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	2.45E+02	1.38E+05	1.21E+04	3.76E+09	0.61	0.34
	400-600	4.58E+03	1.97E+06	1.61E+06	2.52E+11	11.29	4.85
	600-800	2.51E+03	9.00E+05	2.63E+05	3.93E+10	14.43	5.17
	800-1,000	8.32E+02	2.78E+05	3.64E+04	4.07E+09	6.14	2.05
	1,000-1,200	2.50E+02	7.68E+04	1.25E+04	1.27E+09	2.26	0.69
2	200-400	6.94E+00	6.81E+03	4.82E+01	4.63E+07	0.06	0.06
	400-600	1.19E+03	3.79E+05	2.88E+05	3.18E+10	16.84	5.38
	600-800	5.53E+02	1.63E+05	6.50E+04	7.63E+09	9.36	2.76
	800-1,000	1.05E+02	3.34E+04	1.11E+04	1.12E+09	1.91	0.61
	1,000-1,200	1.87E+02	5.13E+04	3.48E+04	2.63E+09	3.48	0.96
3	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	3.77E+02	1.38E+05	5.15E+04	6.28E+09	4.26	1.55
	600-800	5.37E+02	1.69E+05	2.60E+04	2.37E+09	5.90	1.86
	800-1,000	6.64E+01	1.68E+04	7.46E+02	4.68E+07	0.91	0.23
4	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	2.22E+02	8.62E+04	2.89E+03	2.36E+08	3.04	1.18
	600-800	4.31E+02	1.94E+05	8.61E+04	2.25E+10	6.22	2.79
	800-1,000	6.90E+02	2.02E+05	3.09E+05	2.67E+10	9.75	2.86
	1,000-1,200	1.05E+02	2.83E+04	3.49E+03	2.38E+08	1.59	0.43
5	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	2.30E+02	8.81E+04	3.35E+04	4.44E+09	5.41	2.07
	600-800	1.47E+02	4.86E+04	5.39E+02	1.40E+08	3.39	1.13
	800-1,000	1.28E+02	2.82E+04	1.64E+04	7.96E+08	2.32	0.51
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	1.14E+03	4.36E+05	2.36E+05	3.83E+10	6.66	2.56
	600-800	4.41E+02	1.50E+05	4.87E+04	5.81E+09	4.81	1.63
	800-1,000	9.59E+01	3.05E+04	7.32E+02	5.48E+06	1.49	0.47
	1,000-1,200	5.53E+01	1.51E+04	0.00E+00	0.00E+00	1.11	0.30
All areas and depths combined		**1.51E+04**	**5.63E+06**	**3.15E+06**	**4.52E+11**	**4.69E+00**	**1.74E+00**

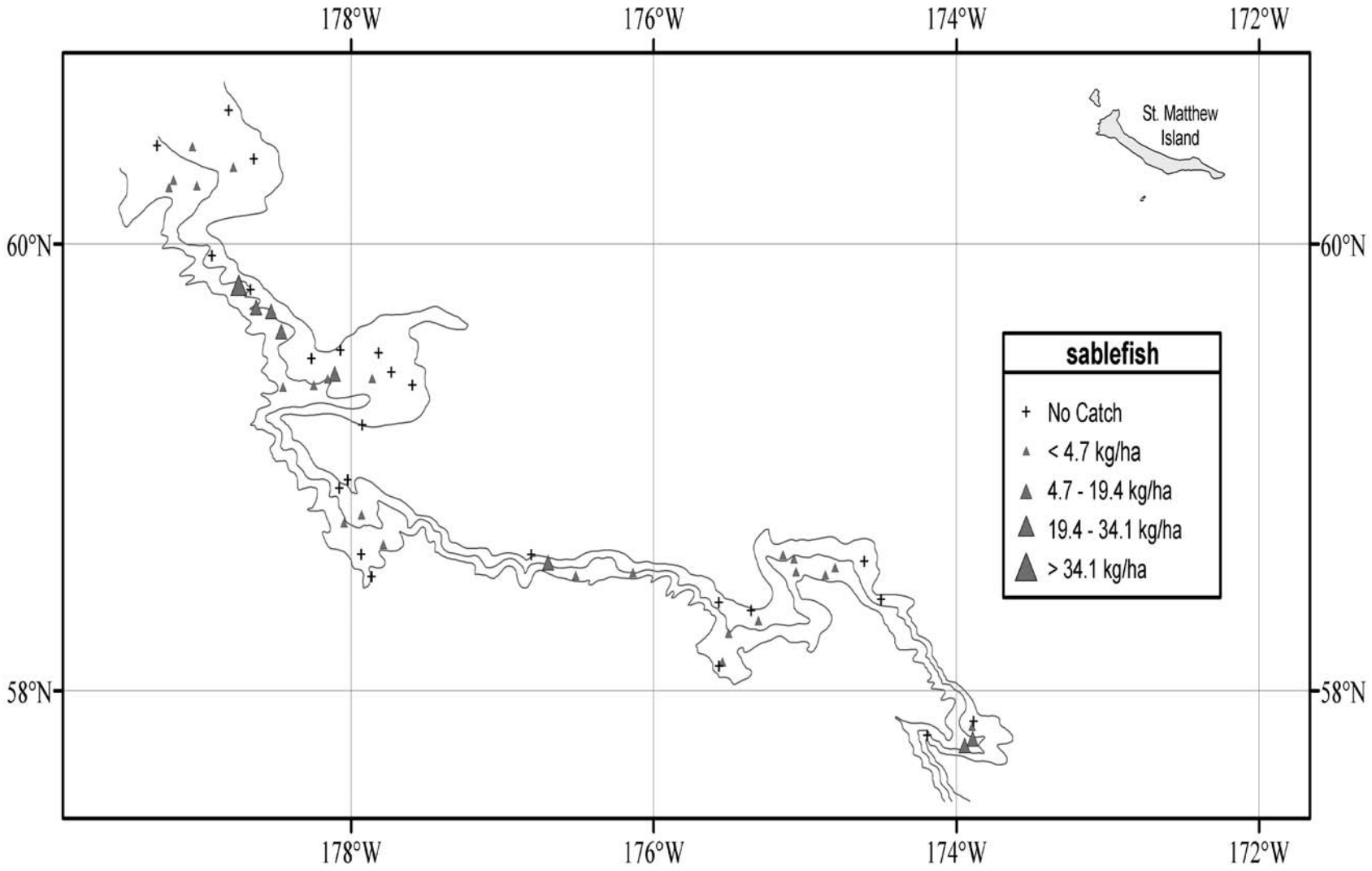

Figure 40. Distribution and relative abundance of sablefish (*Anoplopoma fimbria*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

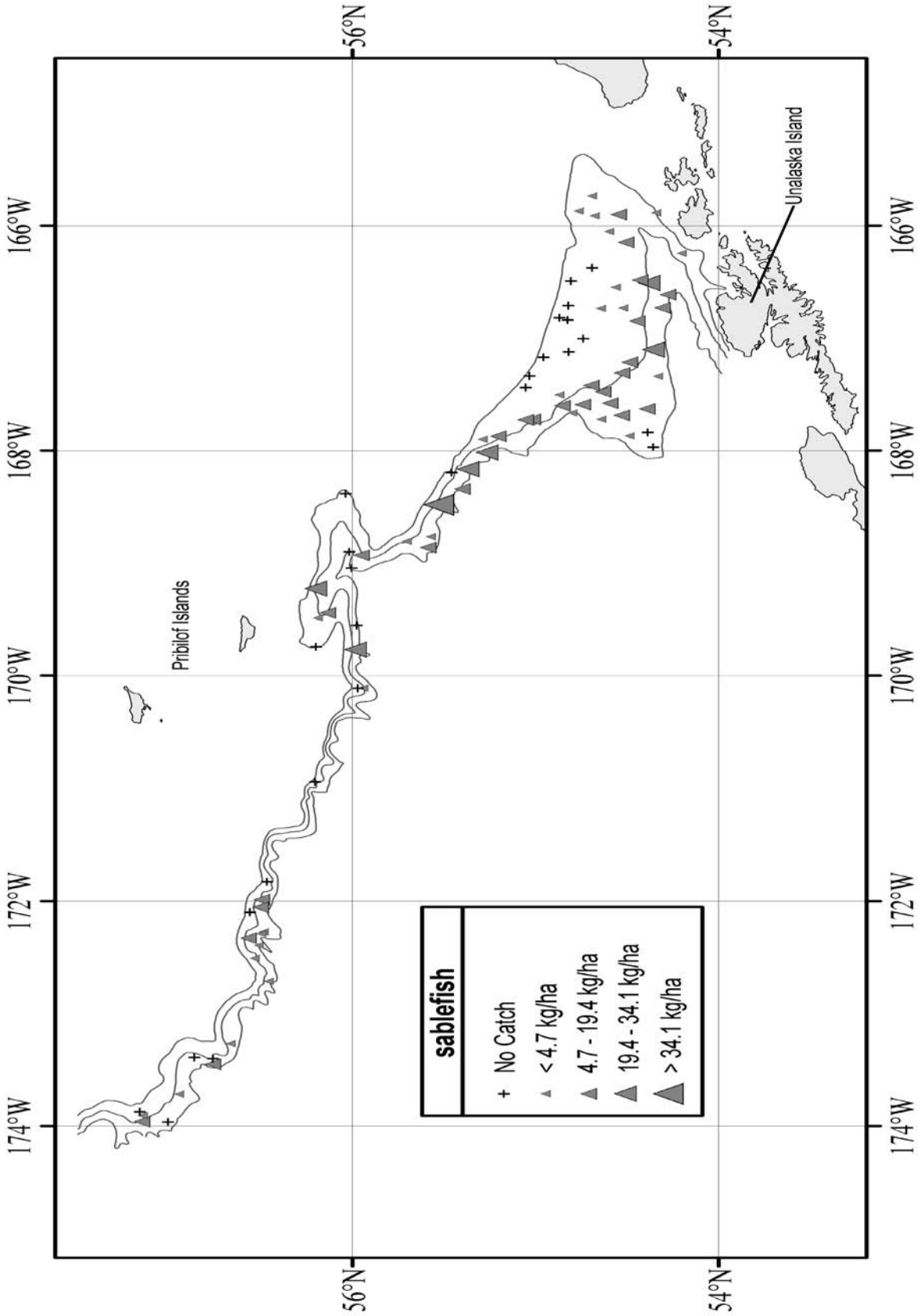

Figure 40. Continued.

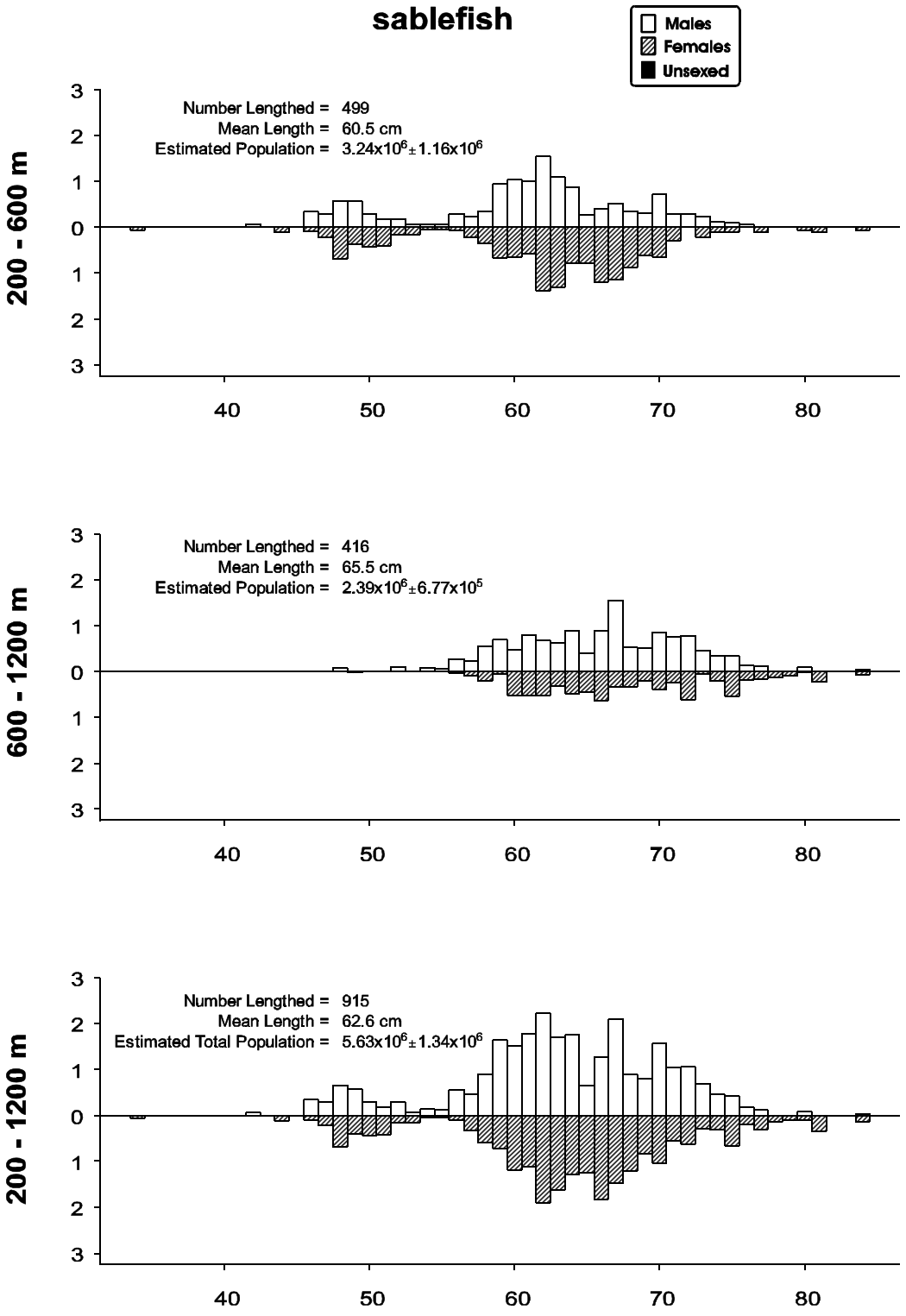

Figure 41. Size composition of the estimated sablefish population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as fork length in centimeters while the ordinate represents percentage of the total population.

Table 29. Abundance estimates by subarea and depth strata for bigmouth sculpin *(Hemitripterus bolini)* from the 2002 eastern Bering Sea upper continental slope survey.

Hemitripterus bolini **bigmouth sculpin**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	1.78E+02	7.86E+04	5.75E+03	3.90E+08	0.44	0.20
	400-600	2.78E+02	1.70E+05	1.82E+04	7.12E+09	0.68	0.42
	600-800	9.66E+00	2.58E+04	9.34E+01	6.64E+08	0.06	0.15
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
2	200-400	4.27E+02	1.04E+05	9.37E+04	3.07E+09	3.69	0.90
	400-600	1.79E+01	5.57E+04	2.23E+02	2.20E+09	0.25	0.79
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
3	200-400	2.69E+02	8.22E+04	2.70E+04	3.62E+09	2.98	0.91
	400-600	6.75E+01	1.78E+04	4.31E+03	1.30E+08	0.76	0.20
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
4	200-400	2.51E+02	5.41E+04	1.86E+04	6.51E+08	2.03	0.44
	400-600	2.78E+01	6.56E+03	7.74E+02	4.30E+07	0.38	0.09
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
5	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	2.67E+02	1.37E+05	1.04E+04	3.65E+09	1.03	0.53
	400-600	1.26E+02	7.82E+04	3.94E+03	2.08E+09	0.74	0.46
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
All areas and depths combined		**1.92E+03**	**8.11E+05**	**1.83E+05**	**2.36E+10**	**6.00E-01**	**2.40E-01**

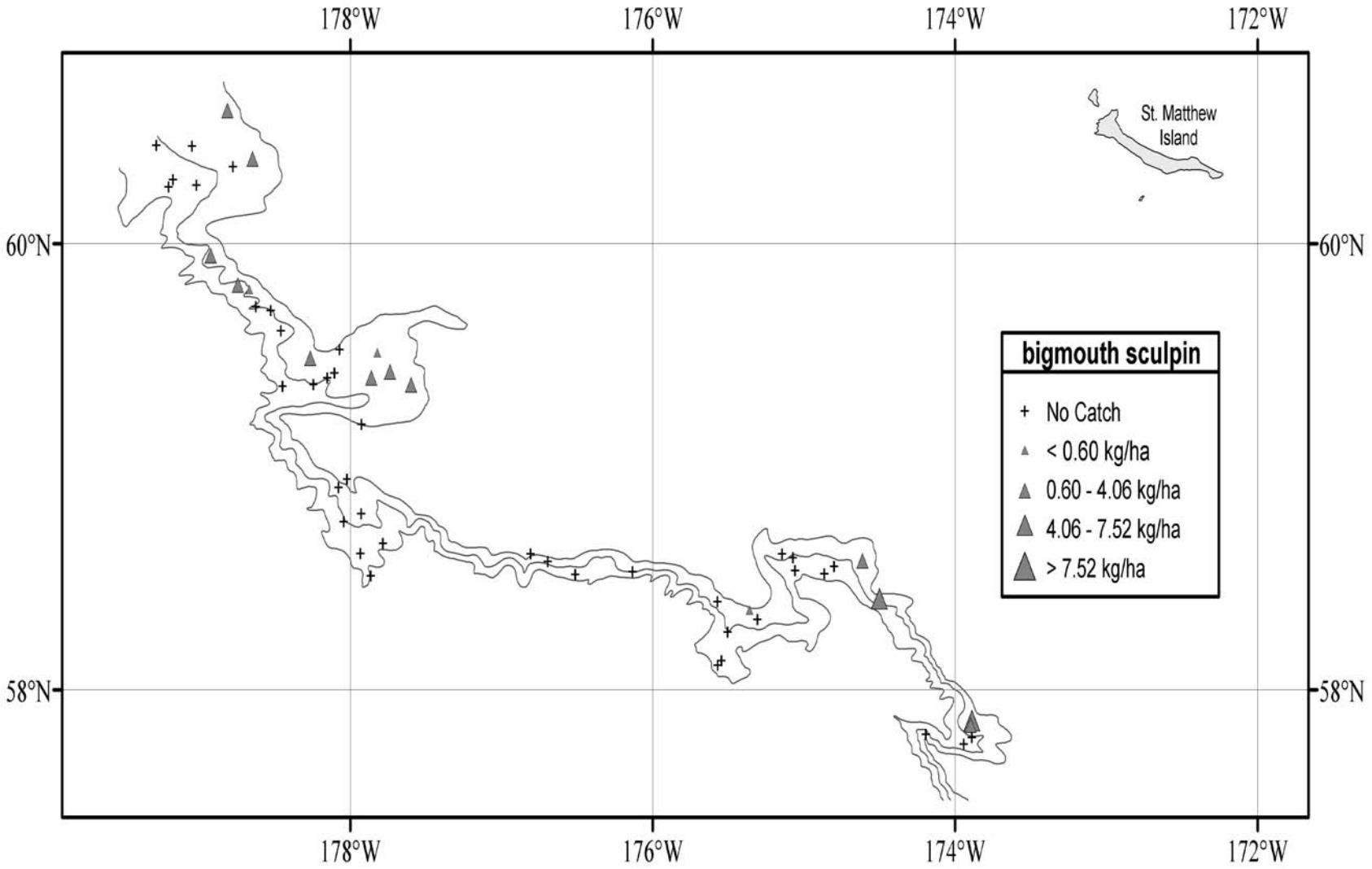

Figure 42. Distribution and relative abundance of bigmouth sculpin (*Hemitripterus bolini*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

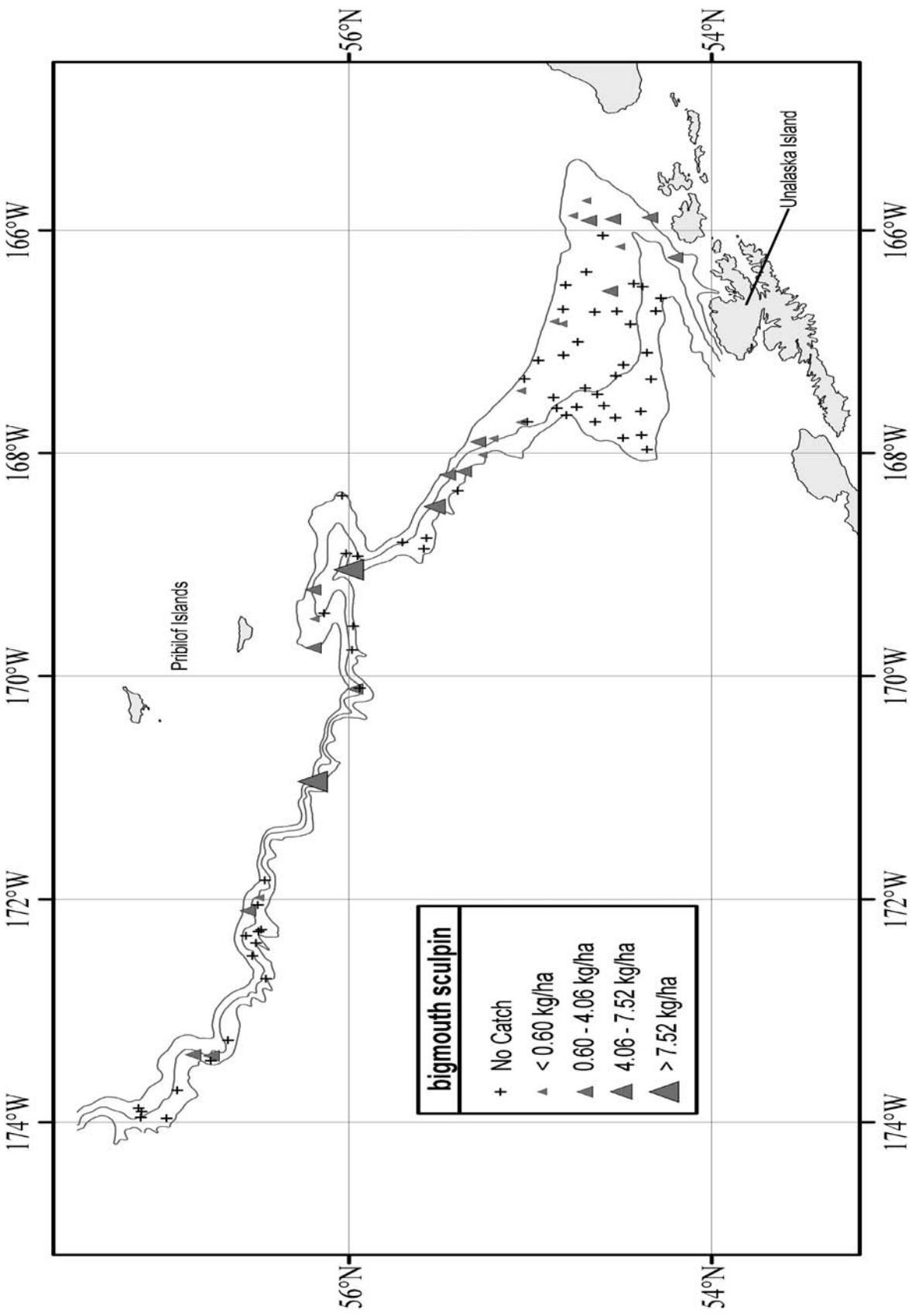

Figure 42. Continued.

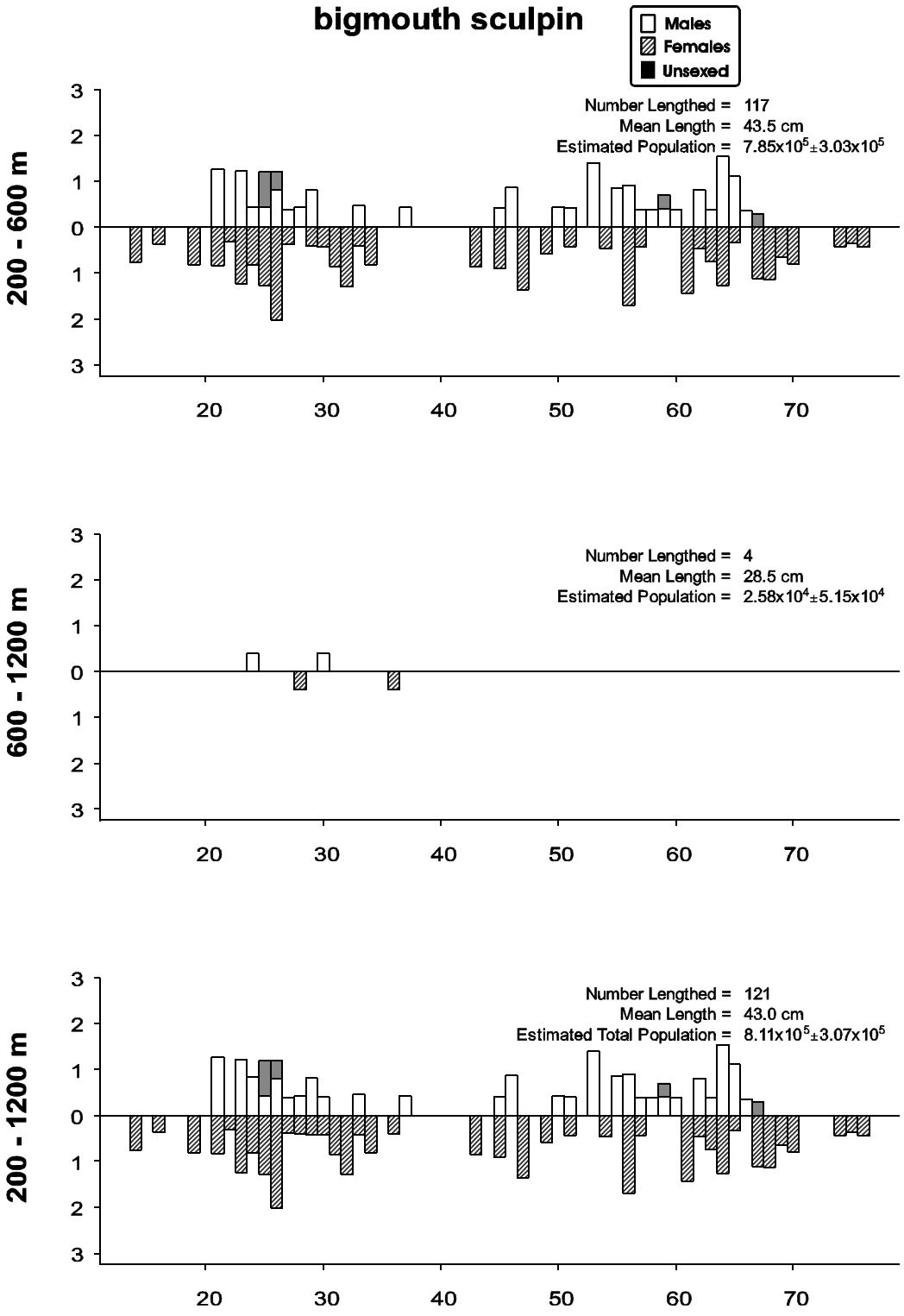

Figure 43. Size composition of the estimated bigmouth sculpin population from the 2002 eastern Bering Sea upper continental slope for all subareas by depth. The abscissa is scaled as fork length in centimeters while the ordinate represents percentage of the total population.

Table 30. Abundance estimates by subarea and depth strata for spinyhead sculpin *(Dasycottus setiger)* from the 2002 eastern Bering Sea upper continental slope survey.

Dasycottus setiger **spinyhead sculpin**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	8.70E+02	5.08E+06	4.60E+04	1.35E+12	2.17	12.67
	400-600	1.24E+02	1.76E+06	2.89E+03	6.30E+11	0.31	4.32
	600-800	1.36E+01	1.28E+05	1.24E+02	7.62E+09	0.08	0.73
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
2	200-400	1.37E+01	2.77E+05	7.43E+01	5.64E+10	0.12	2.39
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
3	200-400	1.06E+01	6.92E+04	6.34E+01	1.04E+09	0.12	0.77
	400-600	3.76E+00	6.48E+04	4.28E+00	2.42E+09	0.04	0.73
	600-800	1.31E-01	3.27E+03	1.71E-02	1.07E+07	0.00	0.04
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
4	200-400	2.94E+00	7.92E+04	4.34E+00	3.59E+09	0.02	0.64
	400-600	5.47E+00	1.26E+05	9.54E+00	4.38E+09	0.07	1.72
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
5	200-400	6.54E+00	2.19E+04	4.28E+01	4.79E+08	0.15	0.52
	400-600	1.23E+00	6.27E+04	6.07E-01	1.23E+09	0.03	1.47
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	9.56E+01	8.50E+05	2.31E+03	4.07E+10	0.37	3.28
	400-600	1.03E+01	5.39E+05	5.83E+01	1.46E+11	0.06	3.16
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
All areas and depths combined		**1.16E+03**	**9.06E+06**	**5.16E+04**	**2.25E+12**	**3.60E-01**	**2.75E+00**

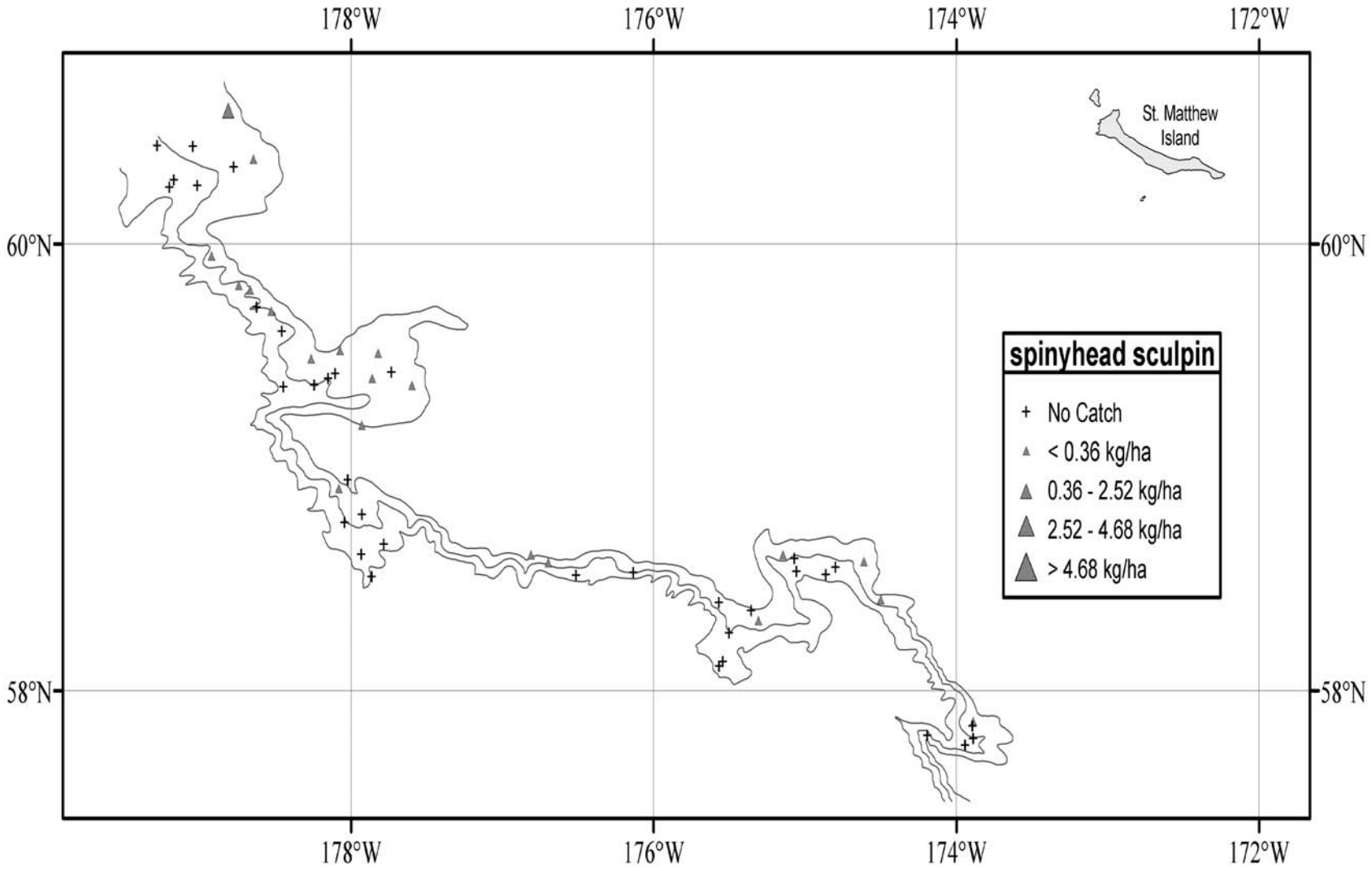

Figure 44. Distribution and relative abundance of spinyhead sculpin (*Dasycottus setiger*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

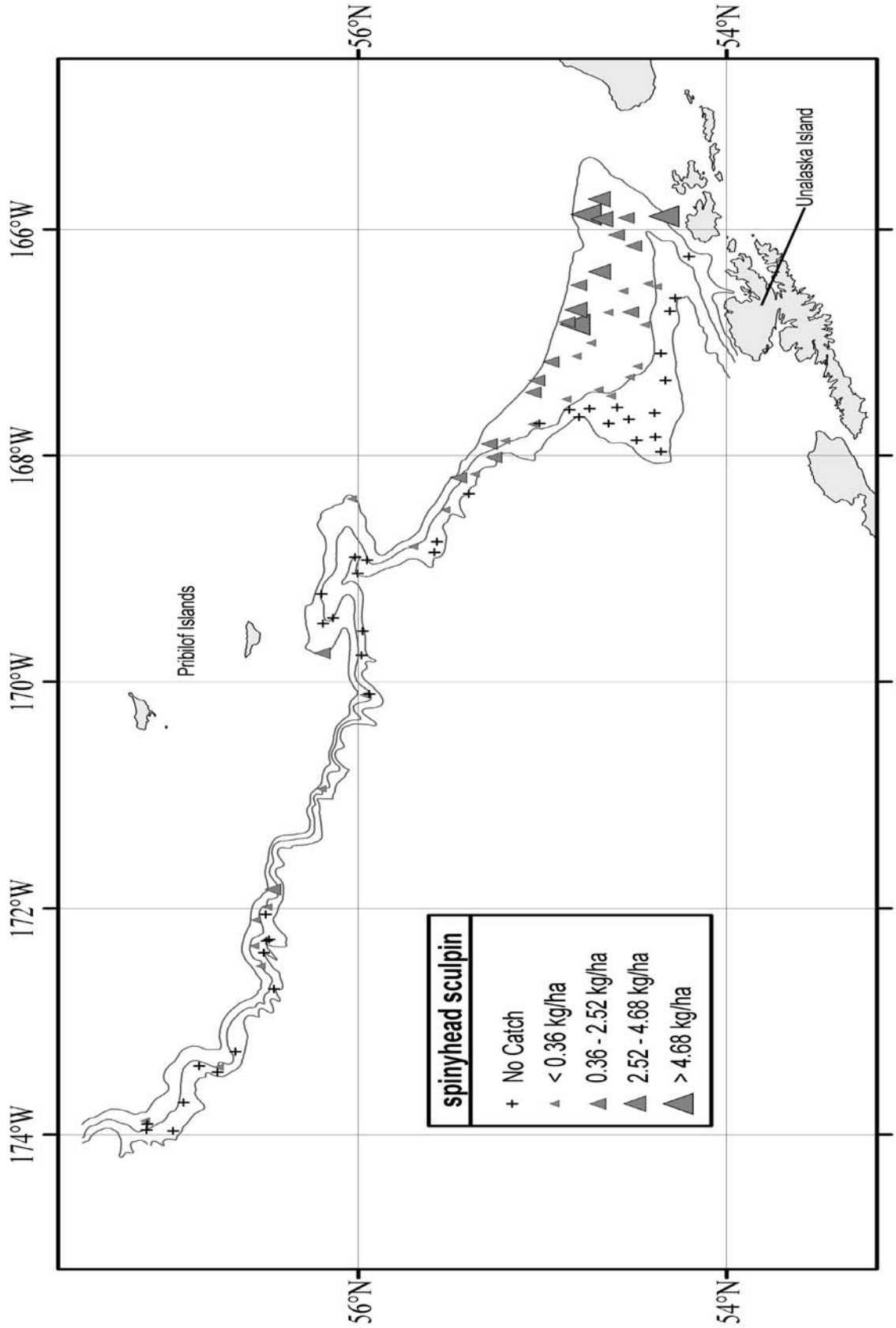

Figure 44. Continued.

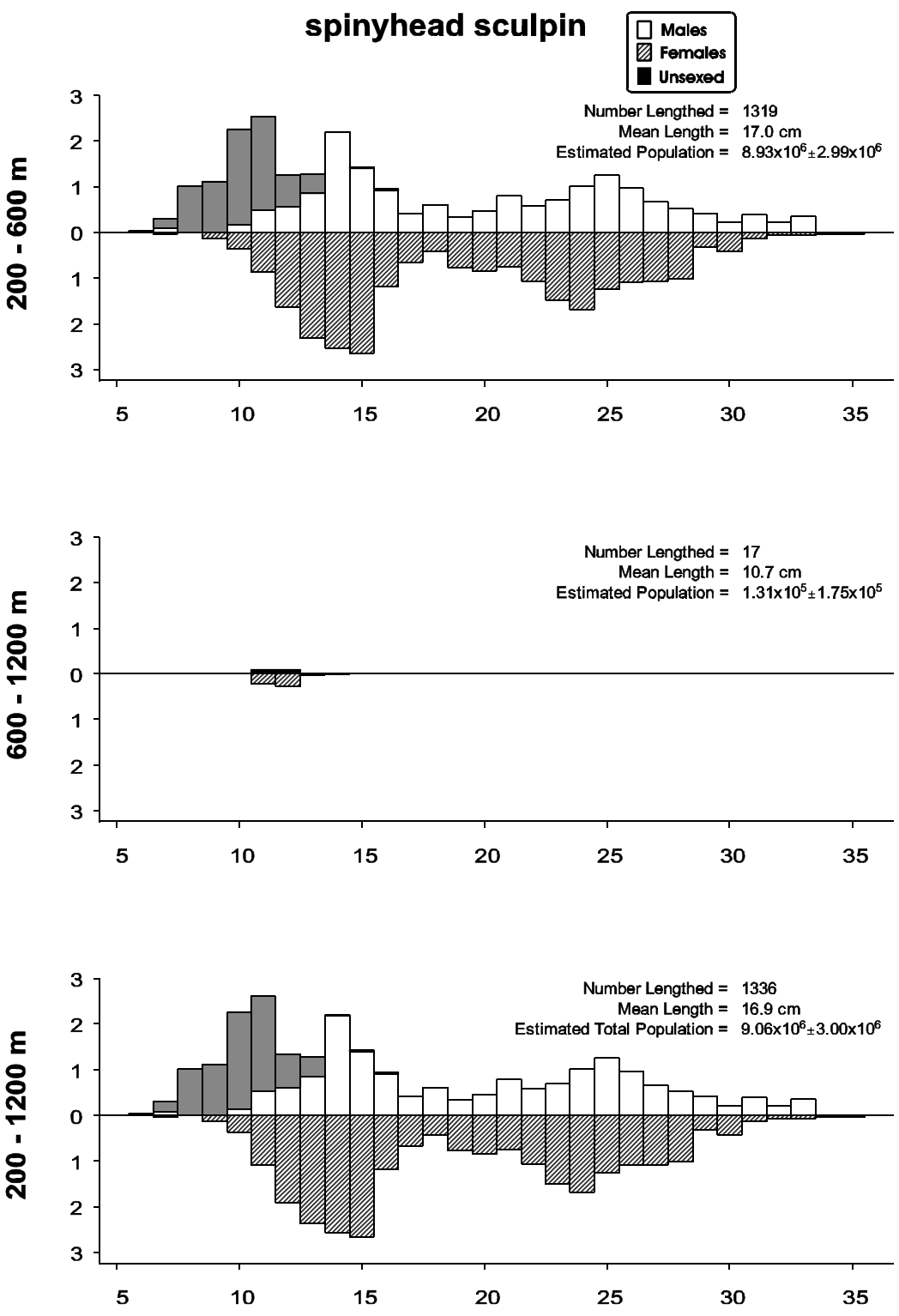

Figure 45. Size composition of the estimated spinyhead sculpin population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as fork length in centimeters while the ordinate represents percentage of the total population.

Table 31. Abundance estimates by subarea and depth strata for darkfin sculpin *(Malacocottus zonurus)* from the 2002 eastern Bering Sea upper continental slope survey.

Malacocottus zonurus **darkfin sculpin**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	2.17E+02	2.26E+06	4.10E+03	4.83E+11	0.54	5.63
	400-600	5.73E+01	1.06E+06	3.80E+02	5.62E+10	0.14	2.62
	600-800	1.58E+00	2.47E+04	1.06E+00	3.42E+08	0.01	0.14
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
2	200-400	6.51E+02	4.21E+06	2.97E+05	1.29E+13	5.62	36.37
	400-600	6.38E+01	6.03E+05	3.45E+03	2.64E+11	0.90	8.55
	600-800	4.97E+01	5.51E+05	2.19E+03	2.60E+11	0.84	9.32
	800-1,000	1.69E-01	8.46E+03	2.86E-02	7.16E+07	0.00	0.15
	1,000-1,200	1.06E+00	6.46E+03	1.12E+00	4.18E+07	0.02	0.12
3	200-400	2.65E+01	3.71E+05	1.84E+02	3.67E+10	0.29	4.11
	400-600	6.24E-01	3.53E+04	2.69E-01	7.81E+08	0.01	0.40
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
4	200-400	7.16E+01	1.21E+06	4.75E+02	2.02E+11	0.58	9.82
	400-600	6.75E+00	8.31E+04	1.14E+01	2.56E+09	0.09	1.14
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
5	200-400	3.25E+00	8.16E+04	8.03E+00	3.68E+09	0.08	1.93
	400-600	6.73E+00	1.42E+05	1.13E+01	5.05E+09	0.16	3.33
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	1.16E+02	1.05E+06	2.66E+03	2.04E+11	0.45	4.04
	400-600	2.51E+02	2.53E+06	3.46E+04	4.03E+12	1.47	14.81
	600-800	4.15E-01	1.15E+04	1.72E-01	1.33E+08	0.00	0.13
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
All areas and depths combined		**1.52E+03**	**1.42E+07**	**3.46E+05**	**1.85E+13**	**4.70E-01**	**4.39E+00**

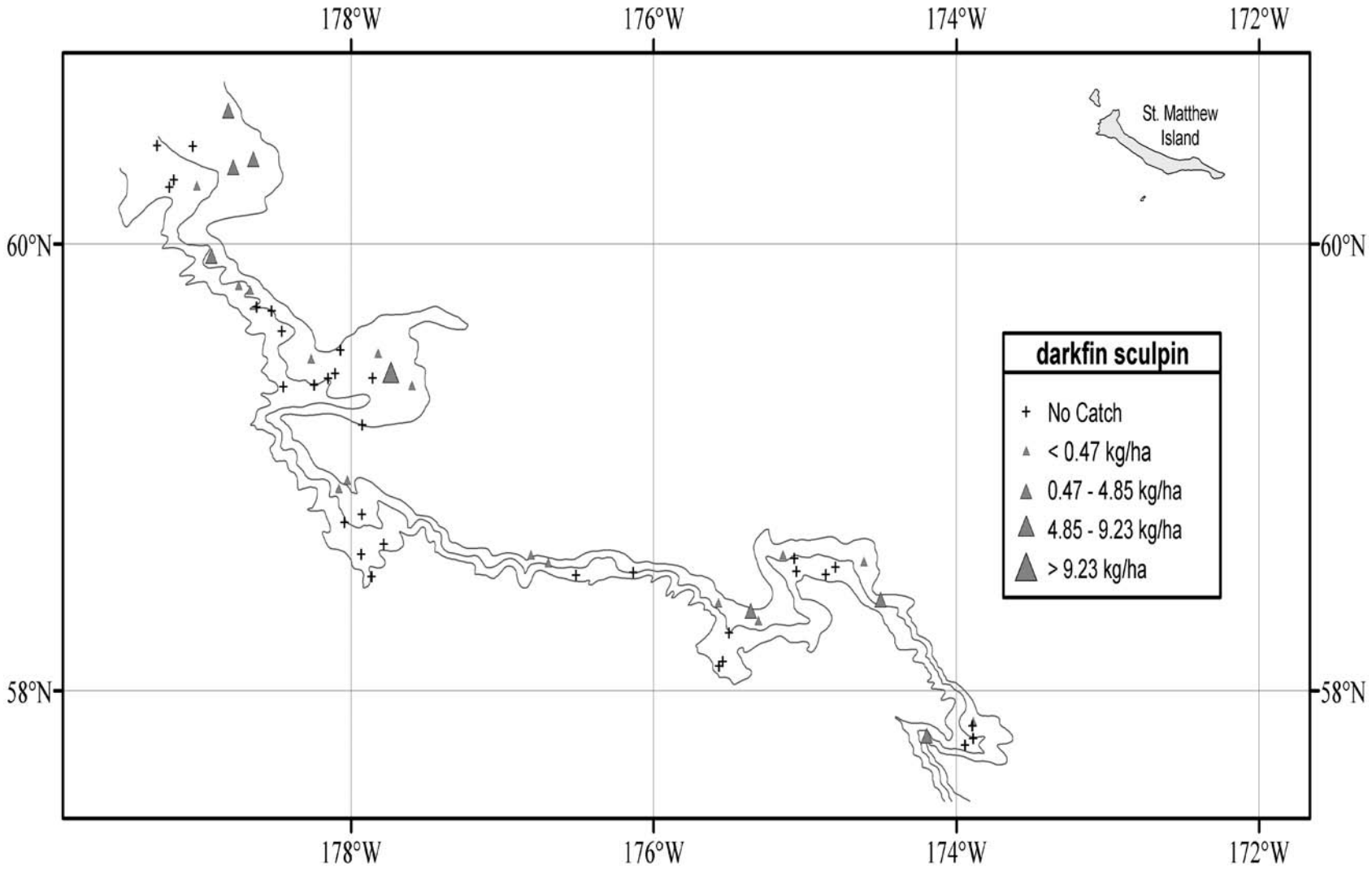

Figure 46. Distribution and relative abundance of darkfin sculpin (*Malacocottus zonurus*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

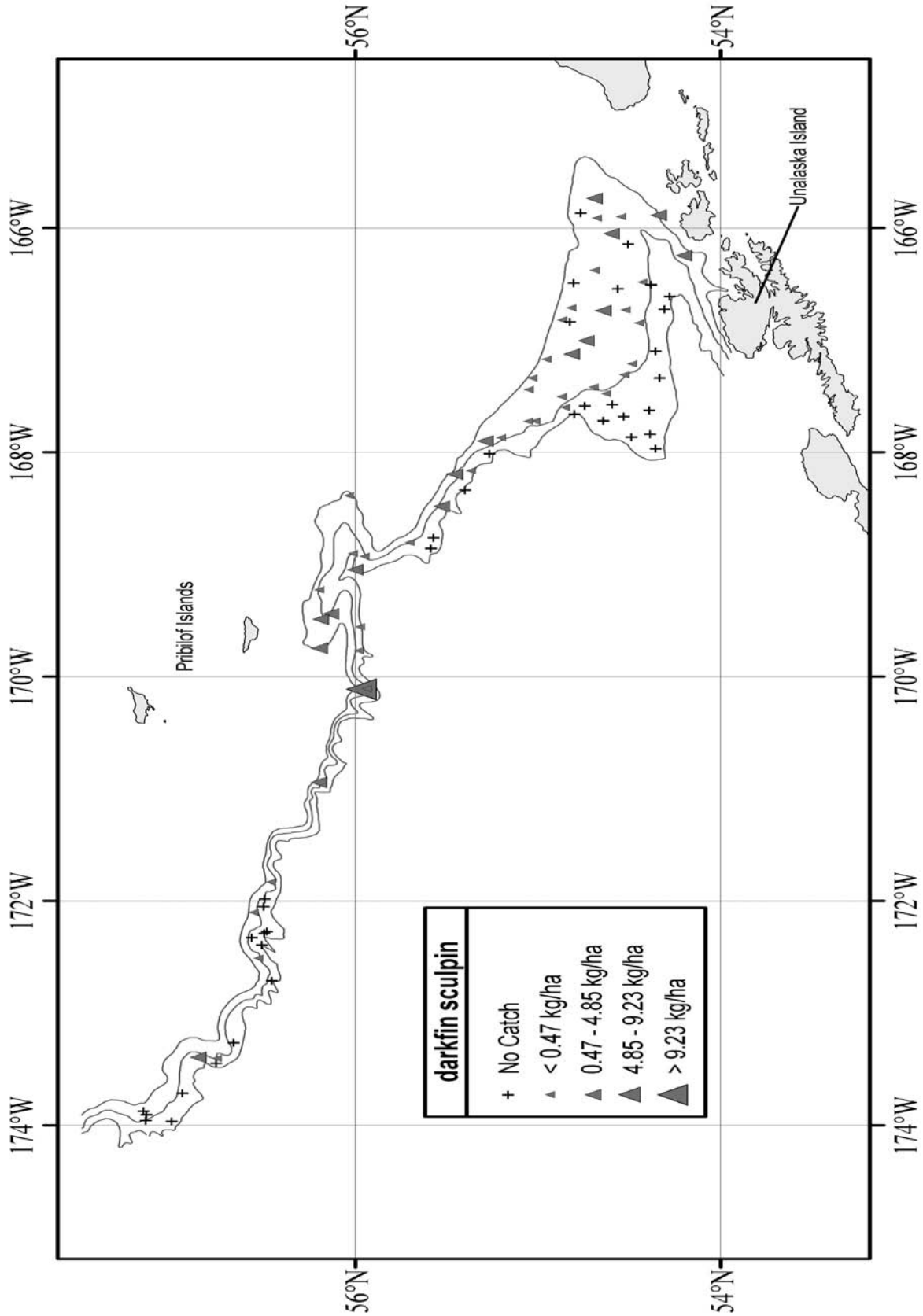

Figure 46. Continued.

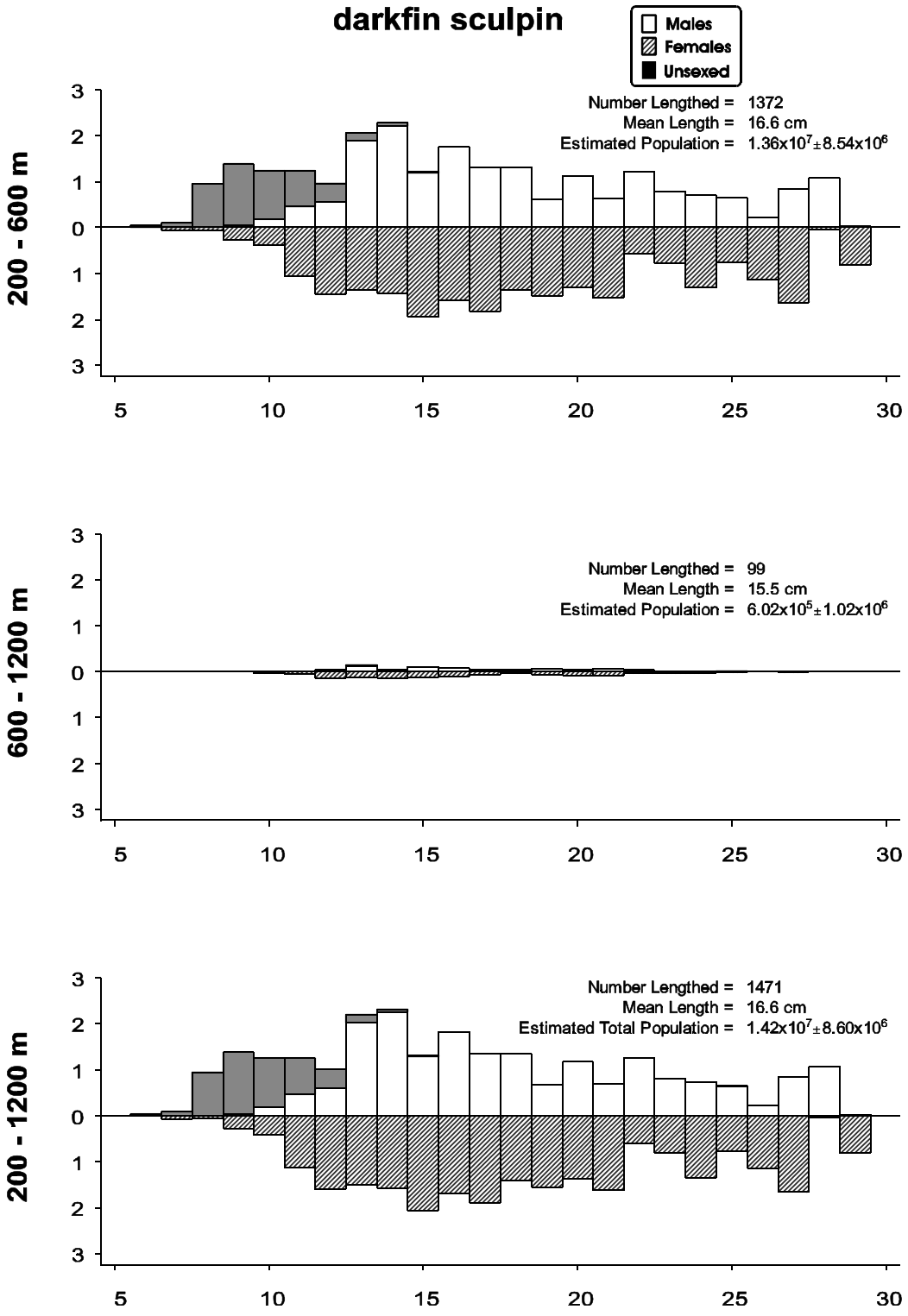

Figure 47. Size composition of the estimated darkfin sculpin population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as fork length in centimeters while the ordinate represents percentage of the total population.

Table 32. Abundance estimates by subarea and depth strata for blob sculpin *(Psychrolutes phrictus)* from the 2002 eastern Bering Sea upper continental slope survey.

Psychrolutes phrictus **blob sculpin**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	2.63E+01	1.26E+04	6.94E+02	1.58E+08	0.15	0.07
	800-1,000	8.82E+00	4.07E+04	4.57E+01	3.29E+08	0.07	0.30
	1,000-1,200	5.21E+02	1.06E+05	1.26E+05	1.77E+09	4.70	0.96
2	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	5.55E+01	1.68E+04	8.27E+02	9.71E+03	1.00	0.30
	1,000-1,200	5.26E+00	5.13E+04	2.77E+01	2.63E+09	0.10	0.96
3	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	3.58E+01	5.95E+03	1.28E+03	3.54E+07	0.40	0.07
	600-800	2.18E+02	3.44E+04	1.58E+04	3.93E+08	2.39	0.38
	800-1,000	2.58E+02	6.93E+04	9.47E+03	2.44E+08	3.52	0.95
4	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	9.52E+01	6.82E+04	9.07E+03	4.65E+09	1.35	0.96
	1,000-1,200	1.44E+02	7.71E+04	3.30E+03	1.03E+09	2.17	1.16
5	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	3.04E-01	3.89E+03	9.22E-02	1.52E+07	0.01	0.09
	800-1,000	2.71E+01	4.30E+04	5.86E+02	2.19E+08	0.49	0.78
	1,000-1,200	7.37E+01	2.57E+04	0.00E+00	0.00E+00	1.29	0.45
6	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	1.97E+00	1.74E+04	3.90E+00	3.03E+08	0.03	0.27
	1,000-1,200	1.51E+00	1.51E+04	0.00E+00	0.00E+00	0.03	0.30
All areas and depths combined		**1.47E+03**	**5.88E+05**	**1.67E+05**	**1.18E+10**	**4.70E-01**	**1.70E-01**

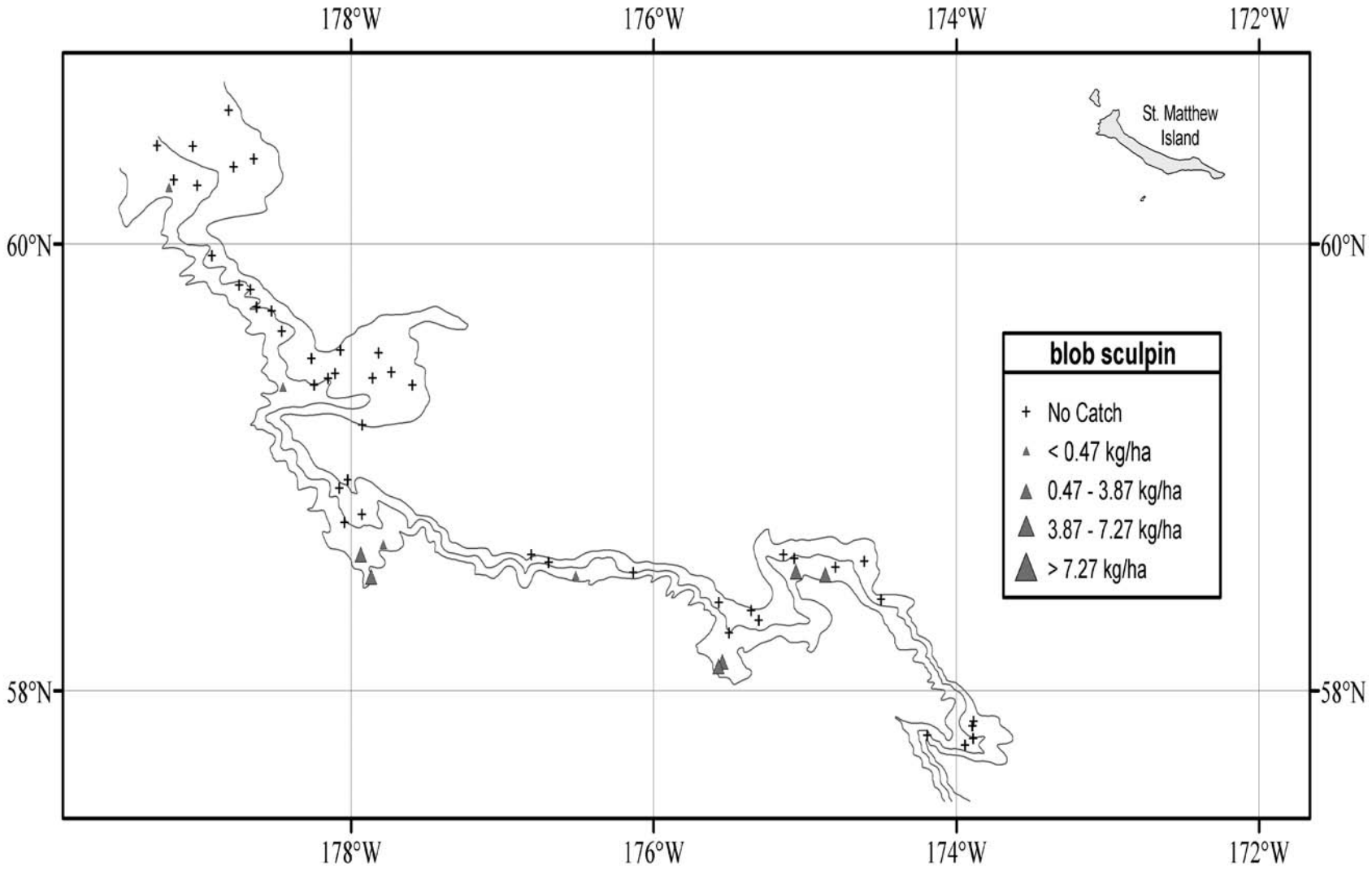

Figure 48. Distribution and relative abundance of blob sculpin (*Psychrolutes phrictus*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

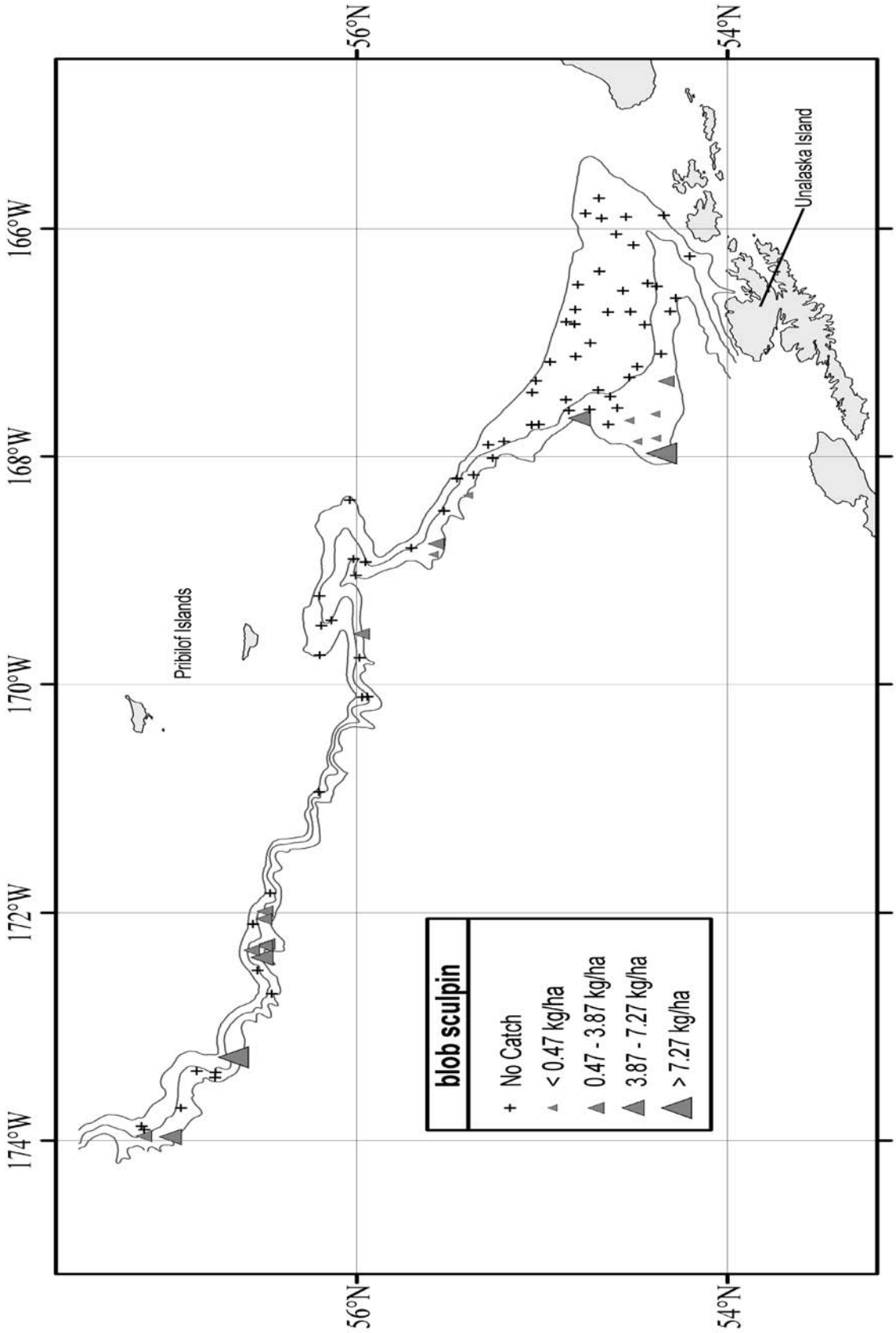

Figure 48. Continued.

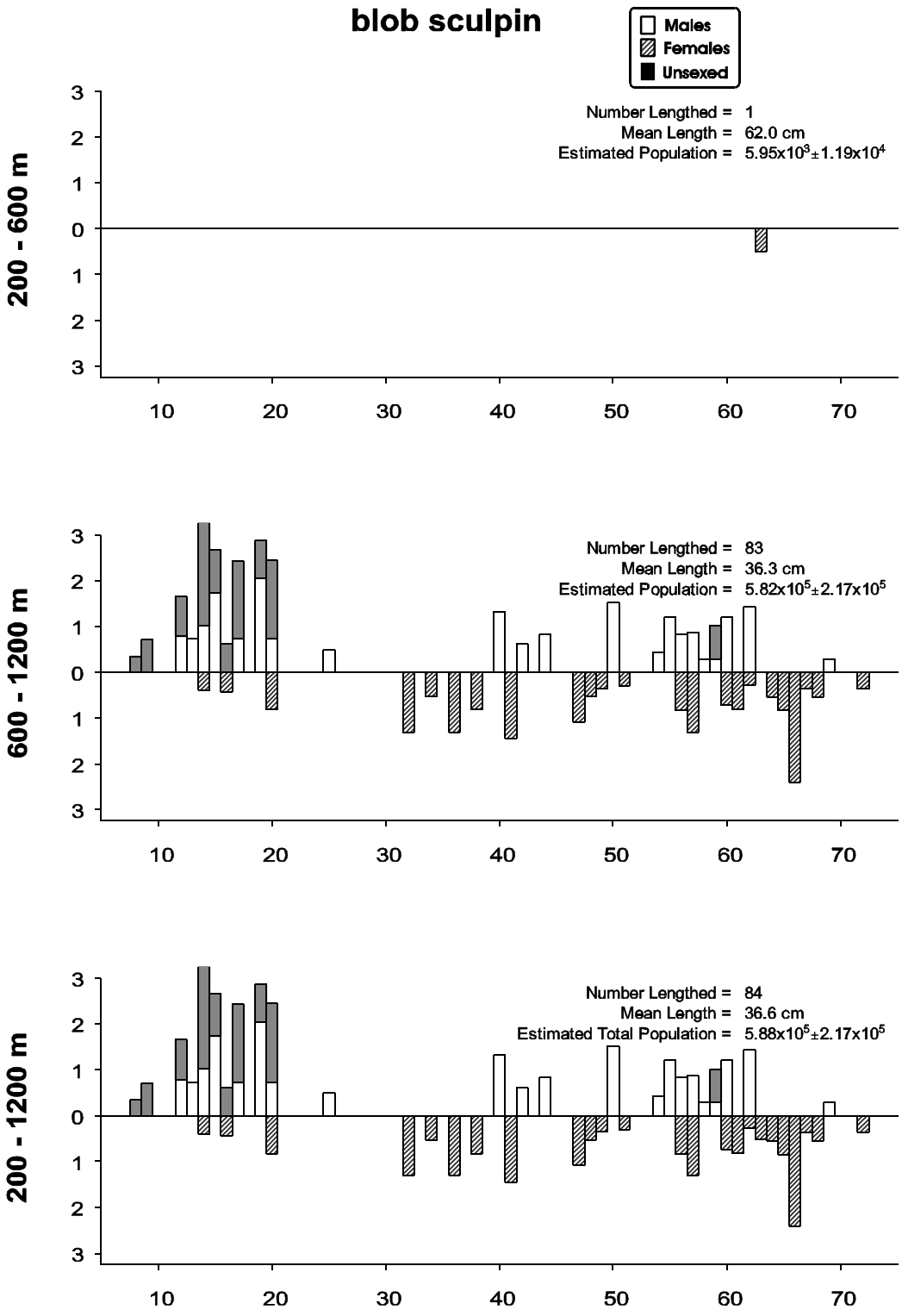

Figure 49. Size composition of the estimated blob sculpin population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as fork length in centimeters while the ordinate represents percentage of the total population.

Table 33. Abundance estimates by subarea and depth strata for blacktail snailfish *(Careproctus melanurus)* from the 2002 eastern Bering Sea upper continental slope survey.

Careproctus melanurus **blacktail snailfish**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	6.21E+01	4.60E+04	7.34E+02	3.69E+08	0.15	0.11
	600-800	8.67E+01	1.02E+05	3.15E+03	4.45E+09	0.50	0.58
	800-1,000	3.29E+01	1.36E+05	1.40E+02	1.33E+09	0.24	1.01
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
2	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	9.26E+01	7.15E+04	4.34E+02	3.09E+08	1.31	1.01
	600-800	7.39E+01	8.96E+04	2.14E+03	4.13E+09	1.25	1.52
	800-1,000	2.63E+01	5.04E+04	3.43E+02	2.73E+08	0.48	0.91
	1,000-1,200	8.44E+00	8.55E+03	7.13E+01	7.31E+07	0.16	0.16
3	200-400	4.32E+00	4.66E+03	1.87E+01	2.17E+07	0.05	0.05
	400-600	6.56E+01	7.17E+04	2.57E+03	3.20E+09	0.74	0.81
	600-800	1.26E+02	2.51E+05	1.15E+03	6.88E+09	1.38	2.75
	800-1,000	2.14E+01	7.60E+04	1.26E+02	1.50E+09	0.29	1.04
4	200-400	9.27E+00	5.48E+03	8.60E+01	3.00E+07	0.08	0.04
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	1.54E+01	3.20E+04	7.38E+01	2.30E+08	0.22	0.46
	800-1,000	3.19E+01	5.04E+04	5.48E+02	9.54E+08	0.45	0.71
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
5	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	6.58E+00	3.80E+03	4.33E+01	1.45E+07	0.15	0.09
	600-800	7.29E+00	1.97E+04	1.38E+01	1.07E+08	0.17	0.46
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	5.72E+01	7.58E+04	1.06E+03	2.74E+09	0.34	0.44
	600-800	2.41E+01	4.47E+04	2.17E+02	7.80E+08	0.26	0.49
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	1.57E+00	1.51E+04	0.00E+00	0.00E+00	0.03	0.30
All areas and depths combined		**7.53E+02**	**1.15E+06**	**1.29E+04**	**2.74E+10**	**2.70E-01**	**4.30E-01**

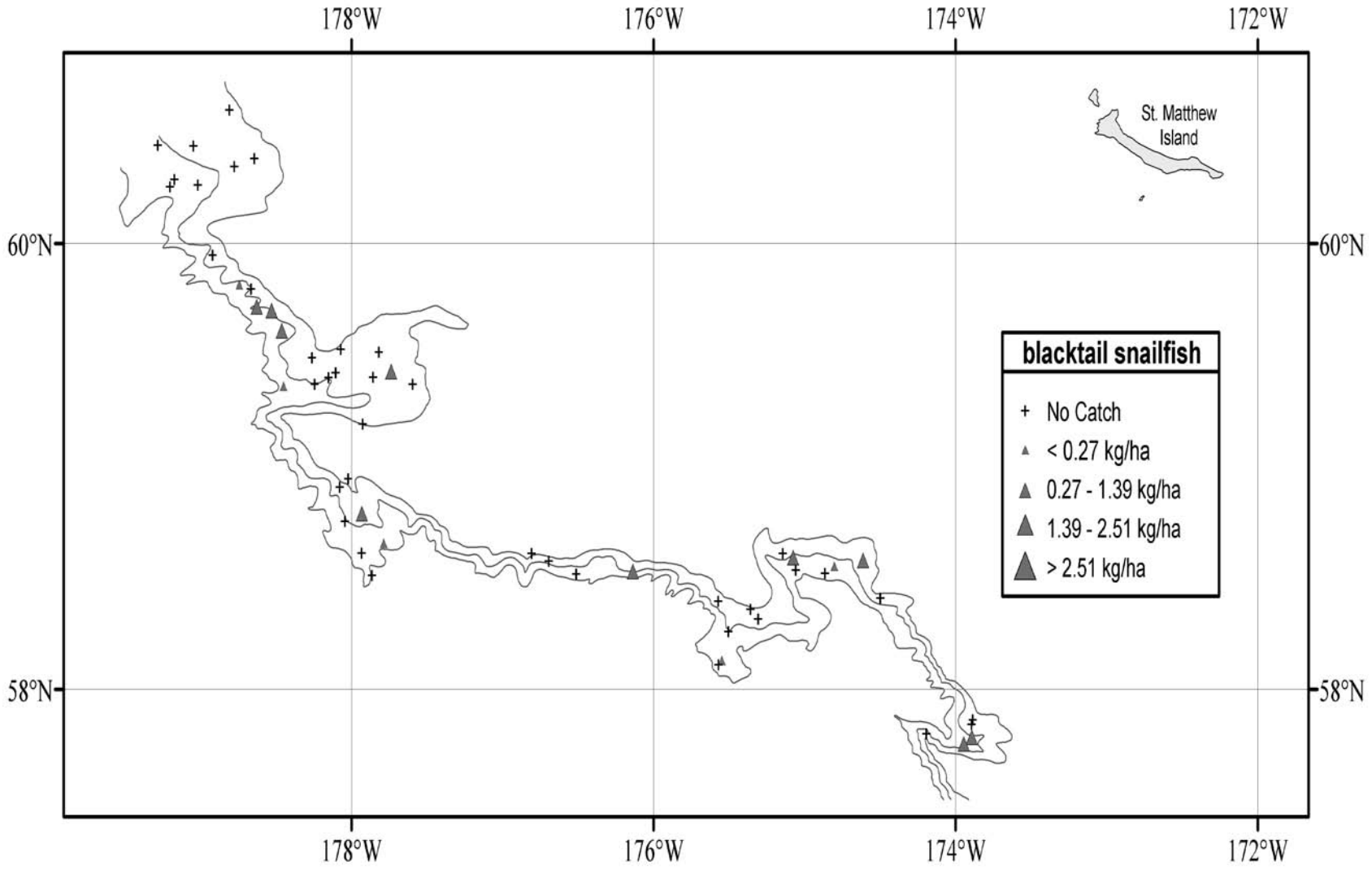

Figure 50. Distribution and relative abundance of blacktail snailfish (*Careproctus melanurus*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

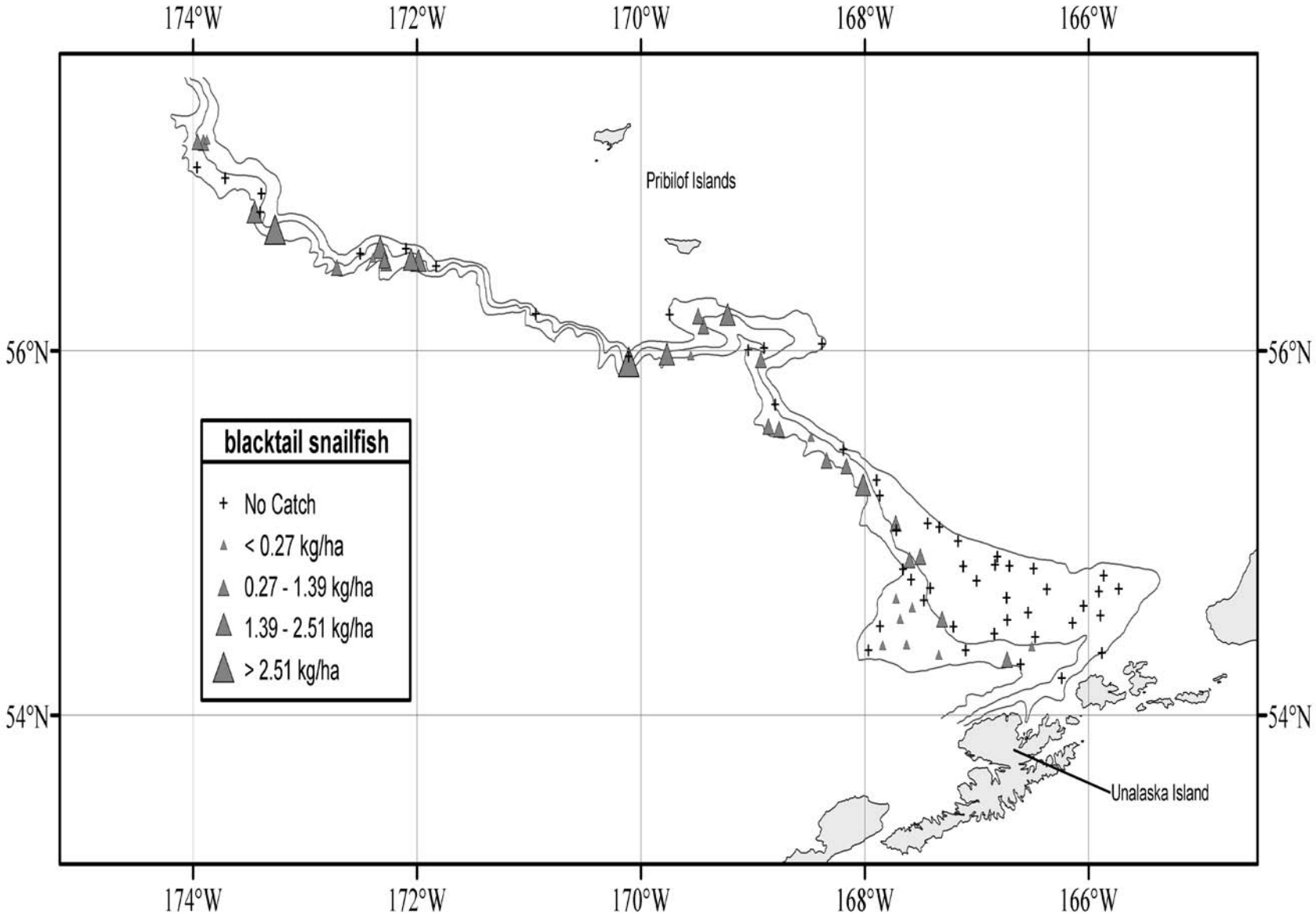

Figure 50. Continued.

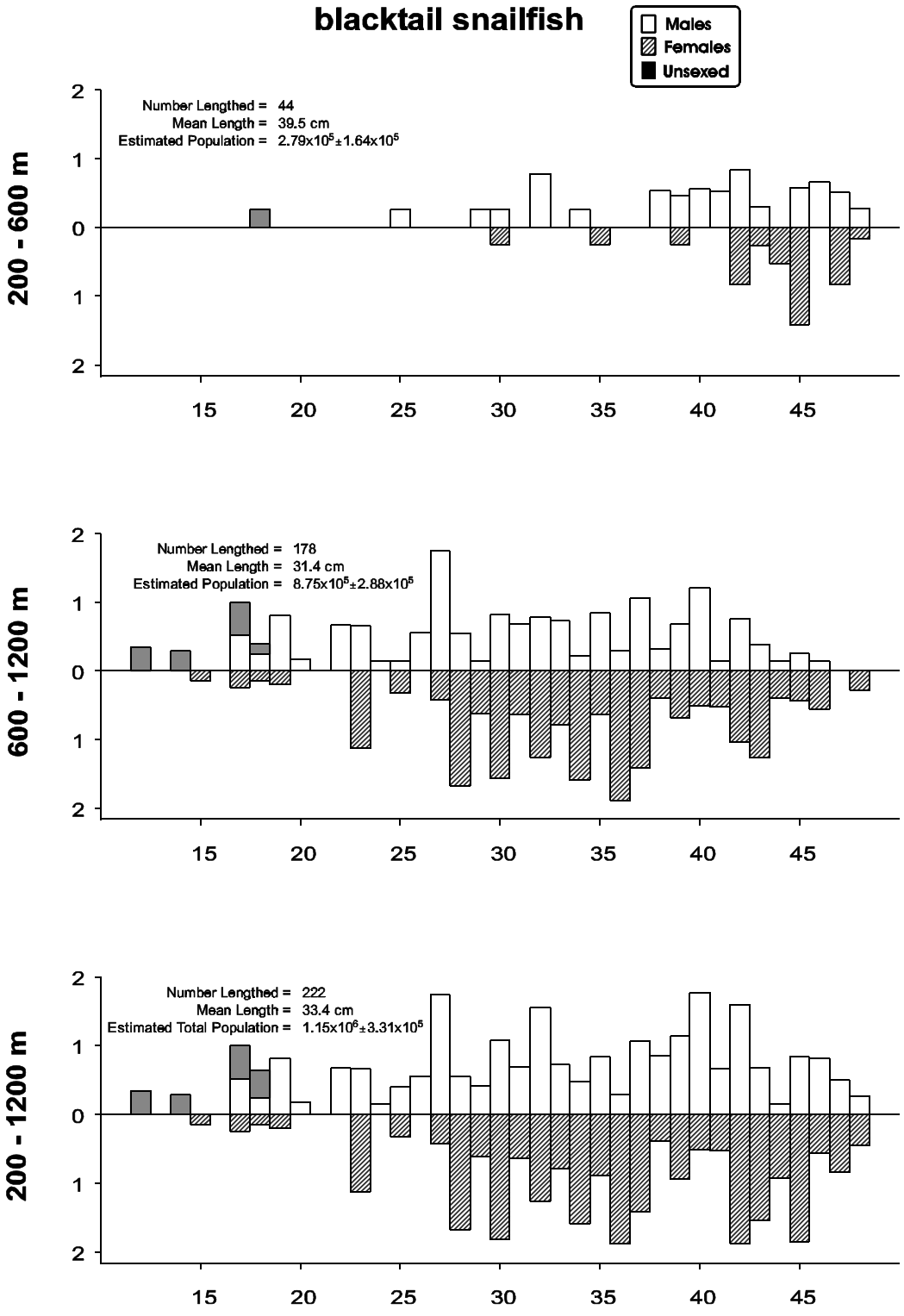

Figure 51. Size composition of the estimated blacktail snailfish population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as fork length in centimeters while the ordinate represents percentage of the total population.

Table 34. Abundance estimates by subarea and depth strata for black eelpout *(Lycodes diapterus)* from the 2002 eastern Bering Sea upper continental slope survey.

Lycodes diapterus **black eelpout**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	1.26E+01	1.72E+05	4.94E+01	6.20E+09	0.03	0.43
	400-600	1.10E+02	1.99E+06	2.69E+03	8.25E+11	0.27	4.90
	600-800	2.79E+01	7.49E+05	1.35E+02	8.53E+10	0.16	4.30
	800-1,000	1.68E+01	4.58E+05	7.10E+01	4.87E+10	0.12	3.38
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
2	200-400	5.91E+00	8.14E+04	1.30E+01	2.80E+09	0.05	0.70
	400-600	1.39E+01	2.41E+05	2.24E+00	1.37E+09	0.20	3.42
	600-800	3.04E+00	6.17E+04	2.19E+00	3.60E+08	0.05	1.04
	800-1,000	3.74E+00	8.38E+04	3.04E+00	2.50E+09	0.07	1.52
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
3	200-400	1.02E+00	9.11E+03	4.26E-01	3.11E+07	0.01	0.10
	400-600	9.58E+00	1.57E+05	3.40E+01	8.37E+09	0.11	1.77
	600-800	5.35E+00	1.12E+05	4.58E+00	1.93E+09	0.06	1.23
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
4	200-400	3.01E-01	5.19E+03	9.05E-02	2.69E+07	0.00	0.04
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
5	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	1.51E+00	2.03E+04	8.17E-01	1.23E+08	0.04	0.48
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	8.25E+00	1.06E+05	5.08E+01	8.31E+09	0.03	0.41
	400-600	6.19E+01	8.87E+05	8.40E+02	1.60E+11	0.36	5.20
	600-800	2.43E+01	5.03E+05	2.13E+02	8.98E+10	0.26	5.48
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
All areas and depths combined		**3.06E+02**	**5.64E+06**	**4.11E+03**	**1.24E+12**	**9.00E-02**	**1.74E+00**

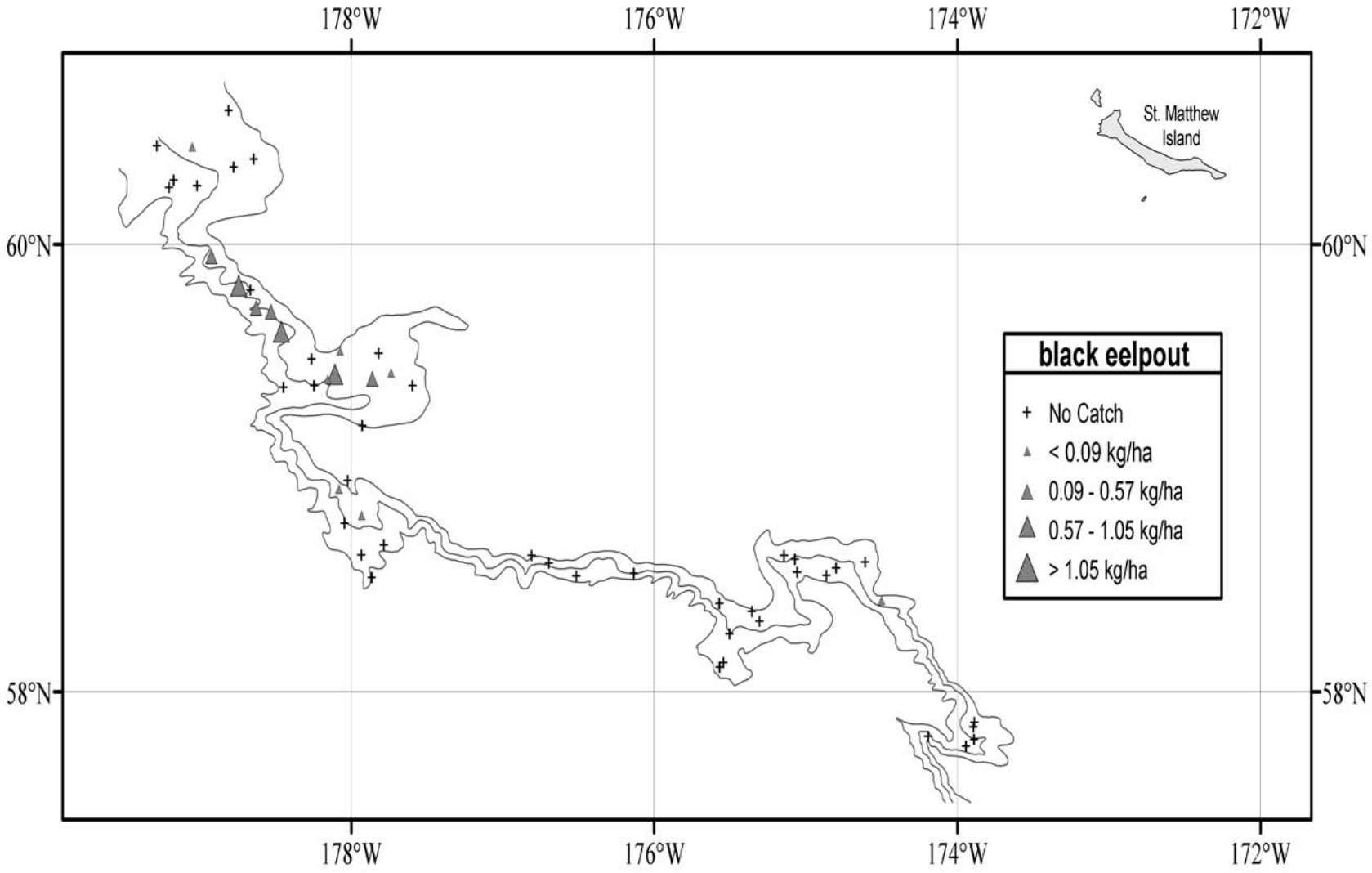

Figure 52. Distribution and relative abundance of black eelpout (*Lycodes diapterus*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

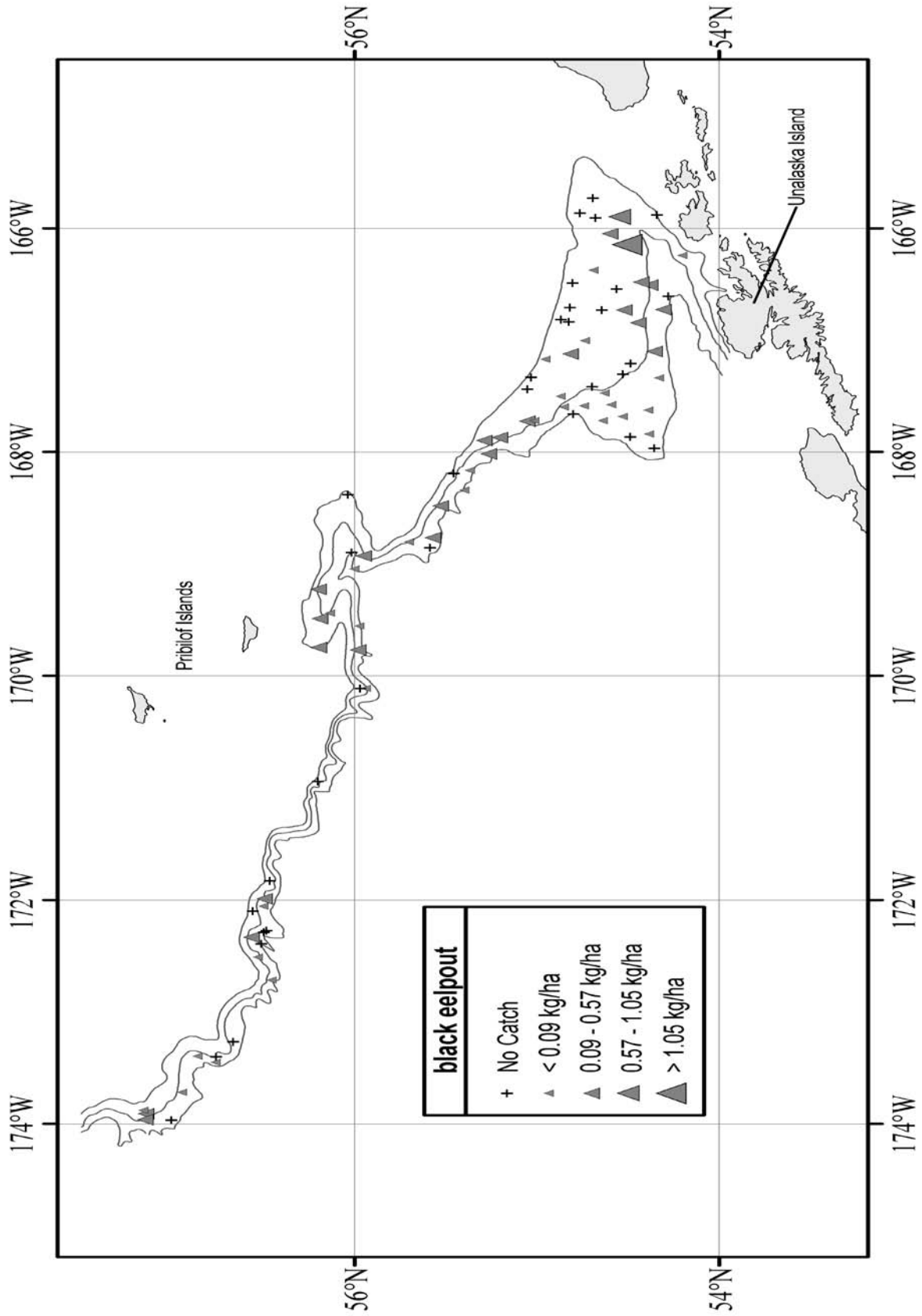

Figure 52. Continued.

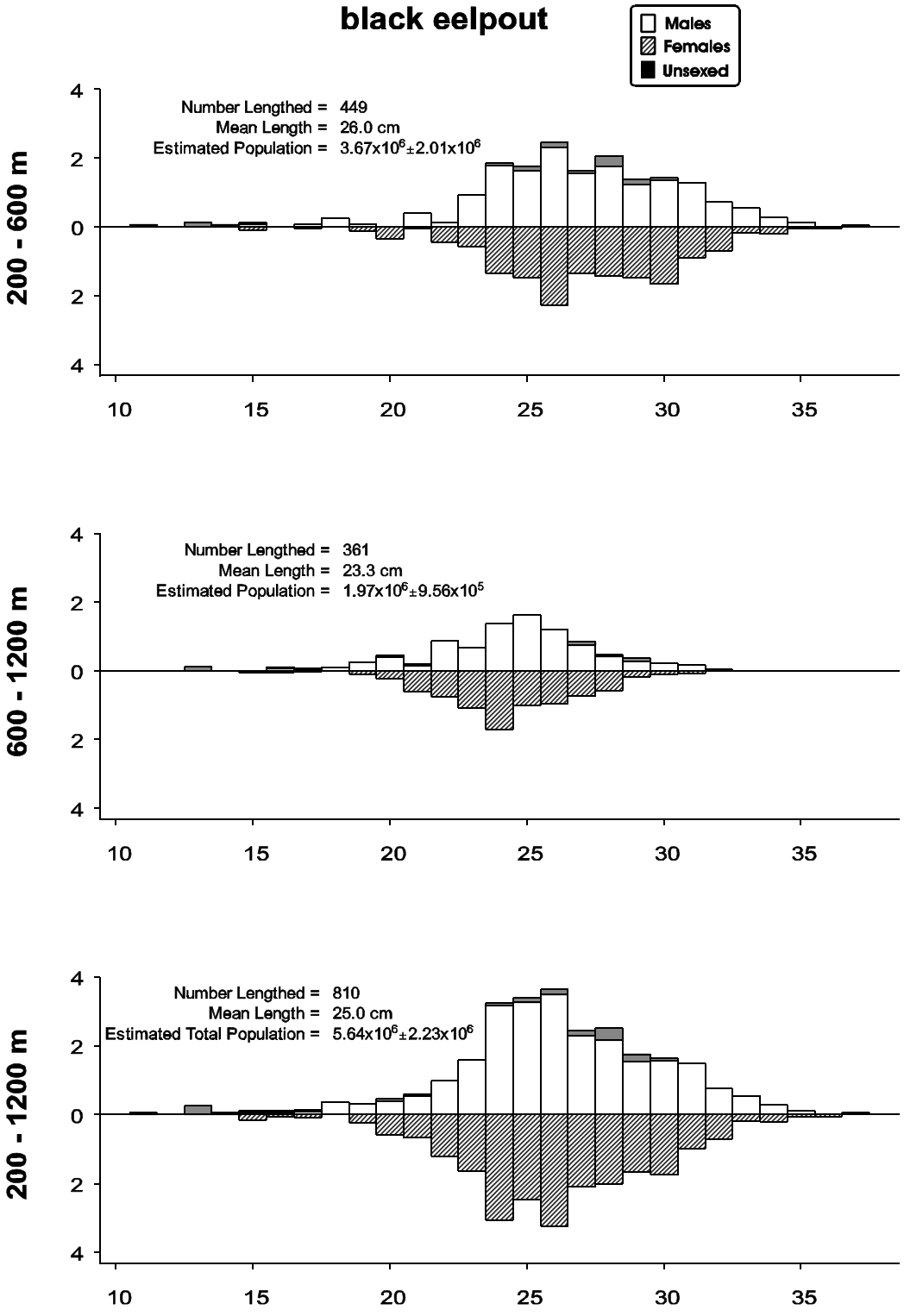

Figure 53. Size composition of the estimated black eelpout population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as fork length in centimeters while the ordinate represents percentage of the total population.

Table 35. Abundance estimates by subarea and depth strata for ebony eelpout *(Lycodes concolor)* from the 2002 eastern Bering Sea upper continental slope survey.

Lycodes concolor **ebony eelpout**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	7.89E+02	6.63E+05	5.06E+04	4.49E+10	1.94	1.63
	600-800	3.92E+01	5.75E+04	5.30E+02	1.41E+09	0.23	0.33
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
2	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	8.82E+02	1.11E+06	4.25E+05	4.92E+11	12.51	15.73
	600-800	4.22E+01	1.01E+05	1.15E+03	4.63E+09	0.71	1.71
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	1.17E+02	4.59E+05	1.36E+04	2.11E+11	2.18	8.57
3	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	2.32E+01	4.28E+04	5.38E+02	1.83E+09	0.26	0.48
	600-800	3.66E+01	5.93E+04	4.59E+02	1.06E+09	0.40	0.65
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
4	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	2.68E+02	3.31E+05	5.97E+04	8.95E+10	3.87	4.78
	800-1,000	1.06E+00	2.03E+04	1.12E+00	4.13E+08	0.01	0.29
	1,000-1,200	1.38E+01	1.28E+05	1.90E+02	1.63E+10	0.21	1.93
5	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	1.37E+01	2.66E+04	1.88E+02	7.09E+08	0.32	0.63
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	4.09E+02	6.00E+05	3.73E+04	6.30E+10	2.40	3.52
	600-800	9.11E-01	4.69E+03	8.30E-01	2.20E+07	0.01	0.05
	800-1,000	8.36E+00	9.12E+04	1.78E+01	2.08E+09	0.13	1.41
	1,000-1,200	1.54E+01	2.88E+05	0.00E+00	0.00E+00	0.31	5.79
All areas and depths combined		**2.66E+03**	**3.98E+06**	**5.89E+05**	**9.28E+11**	**8.20E-01**	**1.18E+00**

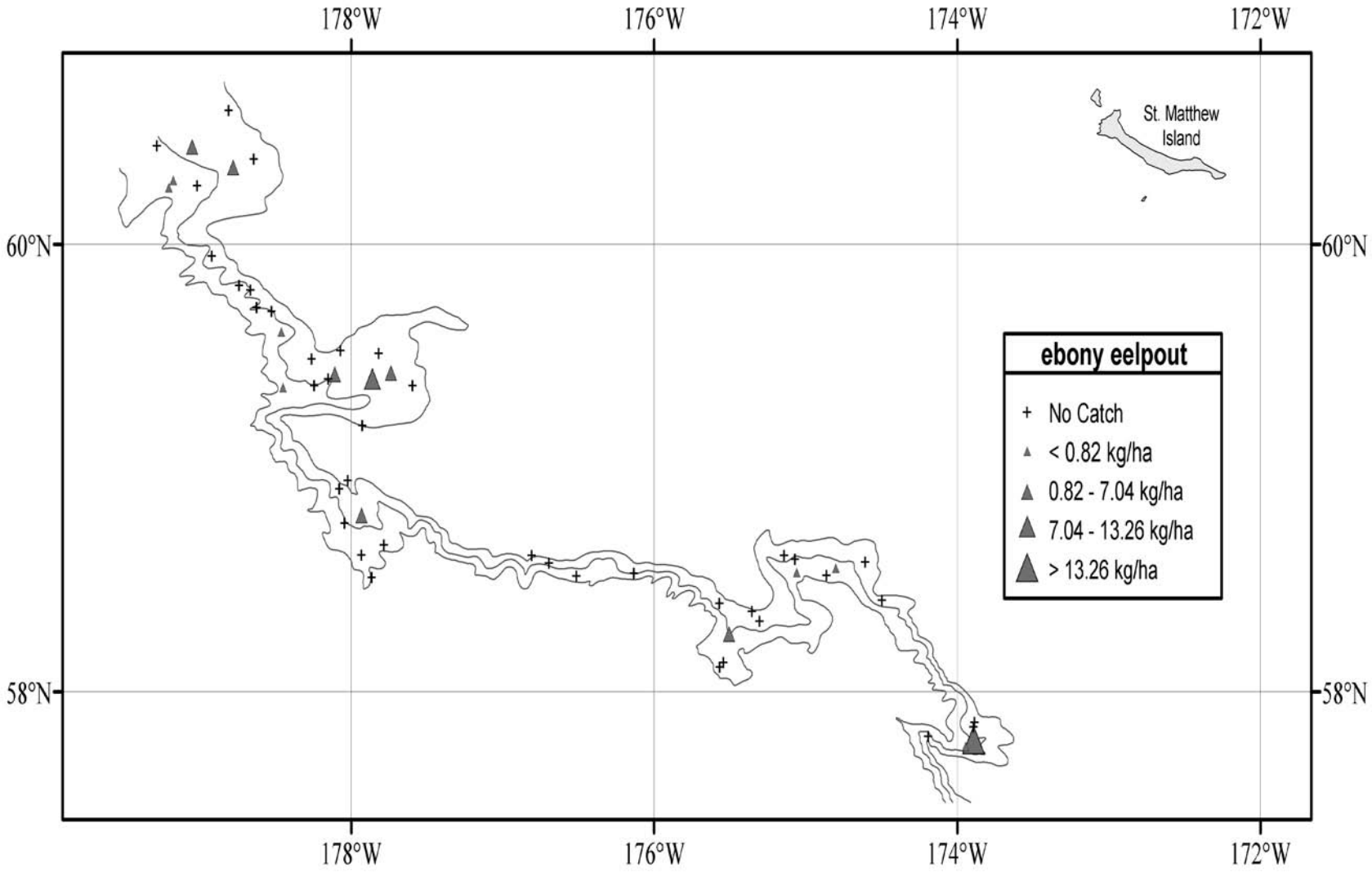

Figure 54. Distribution and relative abundance of ebony eelpout (*Lycodes concolor*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

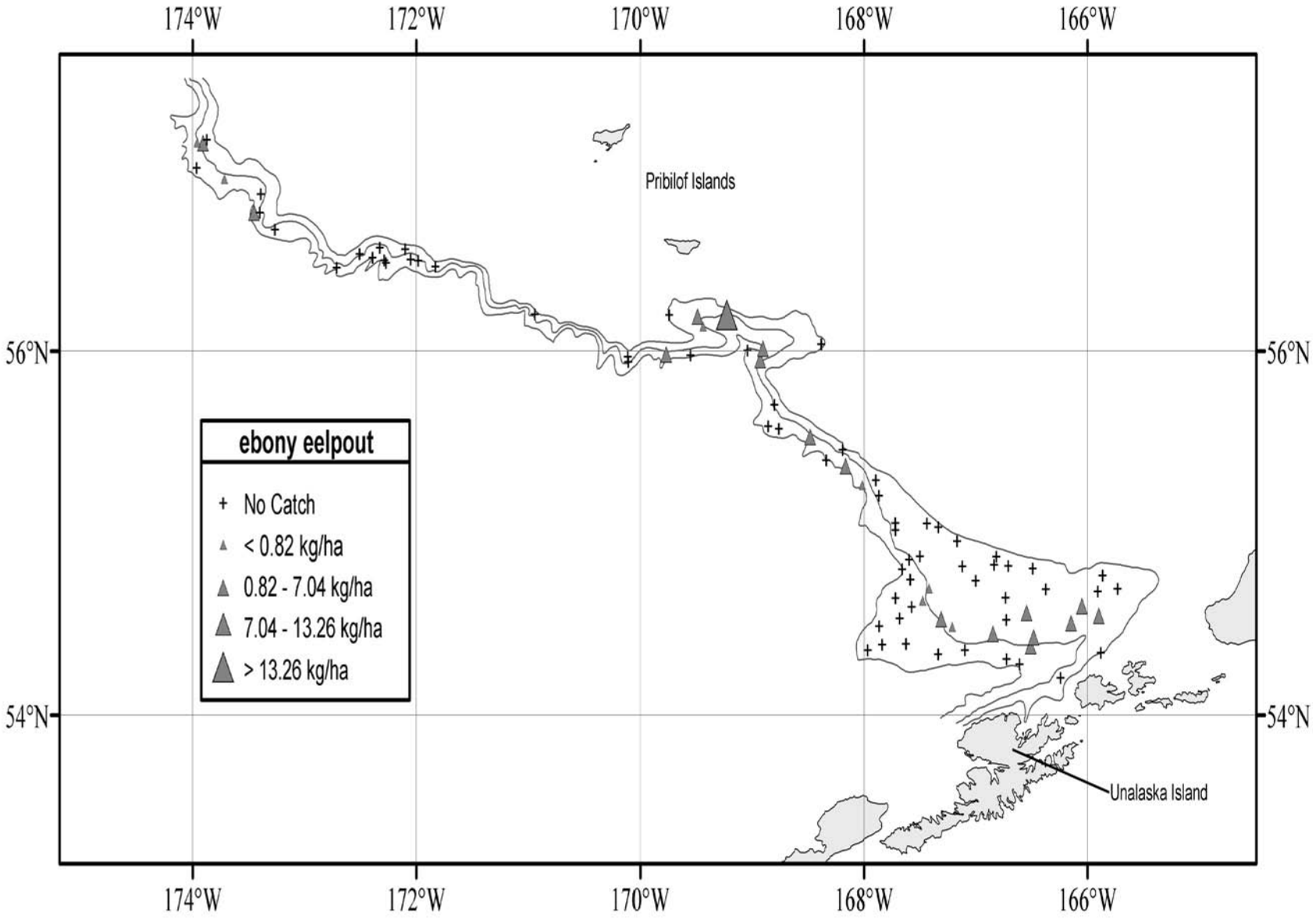

Figure 54. Continued.

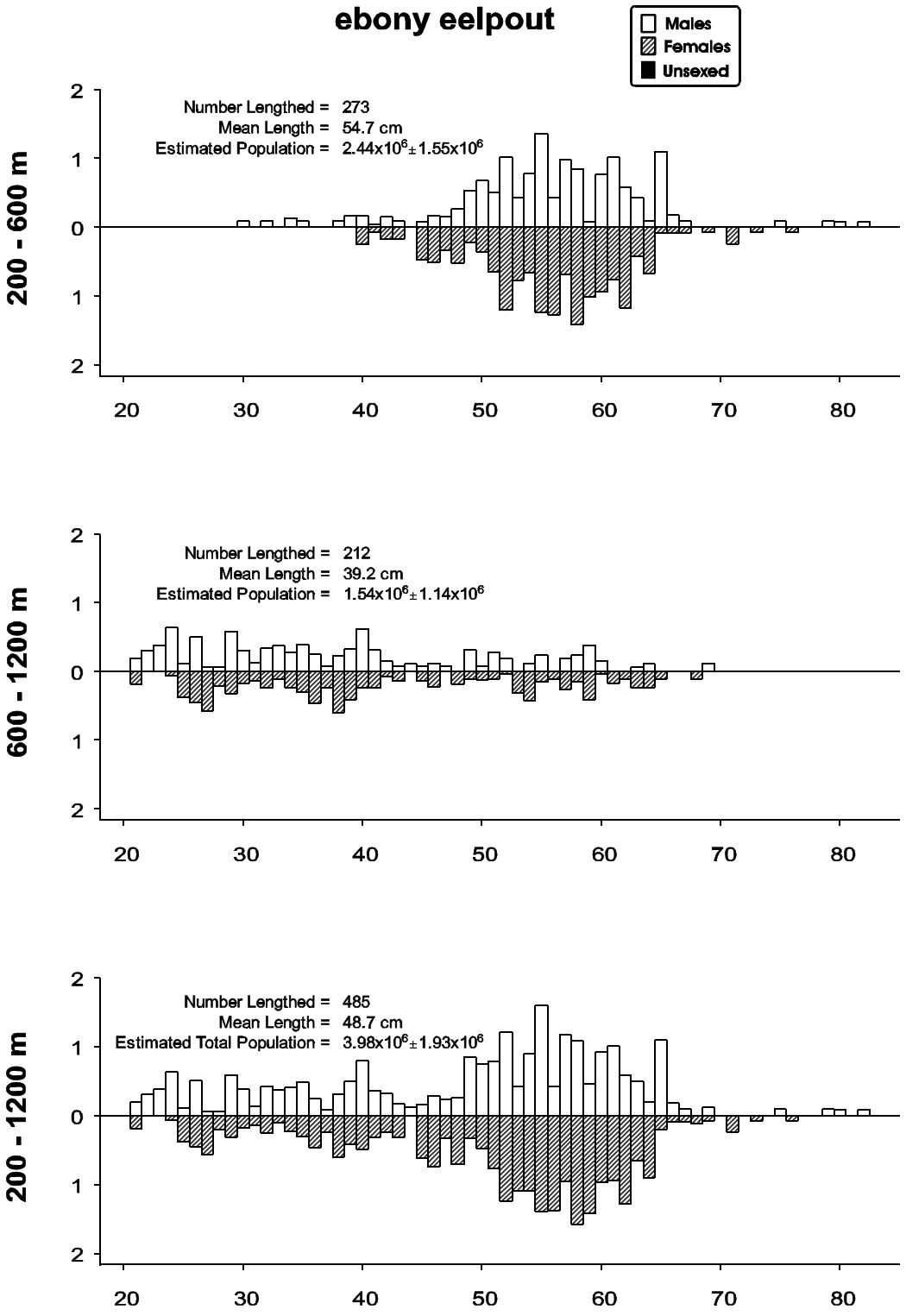

Figure 55. Size composition of the estimated ebony eelpout population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as fork length in centimeters while the ordinate represents percentage of the total population.

Table 36. Abundance estimates by subarea and depth strata for twoline eelpout *(Bothrocara brunneum)* from the 2002 eastern Bering Sea upper continental slope survey.

Bothrocara brunneum **twoline eelpout**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	8.94E+03	1.11E+07	1.31E+07	2.22E+13	22.01	27.28
	600-800	1.57E+03	3.38E+06	3.68E+05	2.34E+12	9.02	19.39
	800-1,000	4.12E+02	1.60E+06	4.29E+04	1.39E+12	3.04	11.83
	1,000-1,200	1.95E+02	5.76E+05	8.82E+03	3.07E+10	1.76	5.21
2	200-400	5.74E-01	6.04E+03	3.29E-01	3.65E+07	0.00	0.05
	400-600	2.54E+02	6.79E+05	5.37E+04	4.06E+11	3.61	9.64
	600-800	1.06E+02	1.34E+05	1.39E+02	2.50E+09	1.80	2.27
	800-1,000	6.94E+01	8.42E+04	1.63E+03	3.00E+08	1.26	1.52
	1,000-1,200	9.05E+01	2.95E+05	6.01E+03	6.80E+10	1.69	5.51
3	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	3.16E+01	2.38E+04	9.98E+02	5.66E+08	0.36	0.27
	600-800	1.54E+02	1.09E+05	3.15E+03	1.65E+09	1.70	1.20
	800-1,000	2.83E-01	2.35E+04	3.08E-02	2.18E+08	0.00	0.32
4	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	8.63E+01	3.22E+04	2.13E+03	2.97E+08	1.18	0.44
	600-800	1.48E+02	9.89E+04	2.43E+03	1.24E+09	2.13	1.43
	800-1,000	1.02E+02	1.29E+05	3.18E+03	5.22E+07	1.44	1.82
	1,000-1,200	2.96E+01	3.10E+05	2.47E+02	3.96E+10	0.45	4.68
5	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	4.12E+01	2.38E+04	4.49E+02	1.97E+08	0.97	0.56
	600-800	2.65E+01	3.93E+04	3.78E+02	1.20E+09	0.61	0.91
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	4.10E+02	4.60E+05	5.25E+04	6.05E+10	2.41	2.70
	600-800	3.44E+02	3.82E+05	6.07E+04	6.57E+10	3.75	4.17
	800-1,000	2.25E+01	7.95E+04	5.05E+02	6.32E+09	0.35	1.23
	1,000-1,200	1.32E+01	4.54E+04	0.00E+00	0.00E+00	0.27	0.91
All areas and depths combined		**1.31E+04**	**1.96E+07**	**1.37E+07**	**2.67E+13**	**3.81E+00**	**5.74E+00**

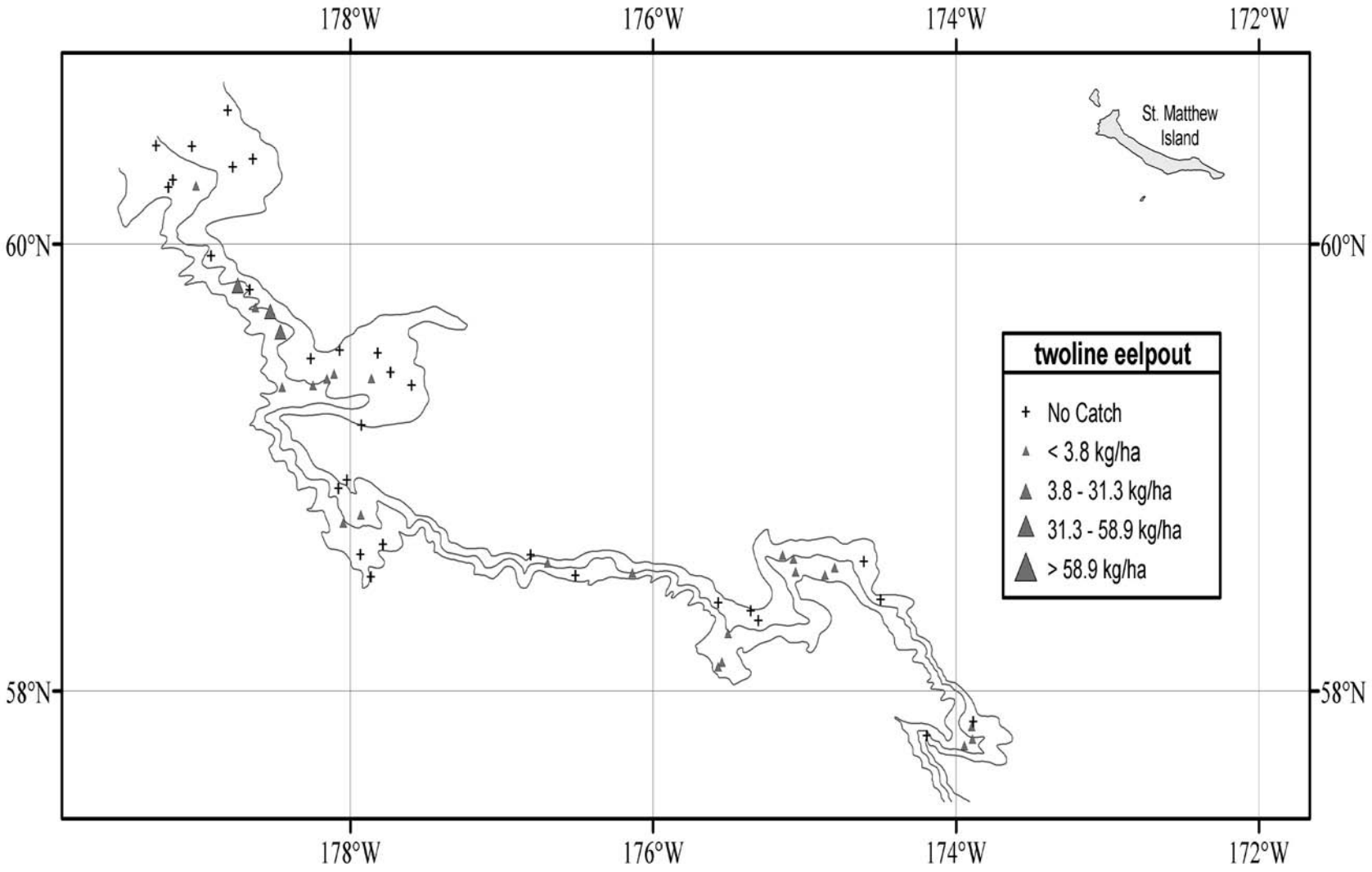

Figure 56. Distribution and relative abundance of twoline eelpout (*Bothrocara brunneum*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

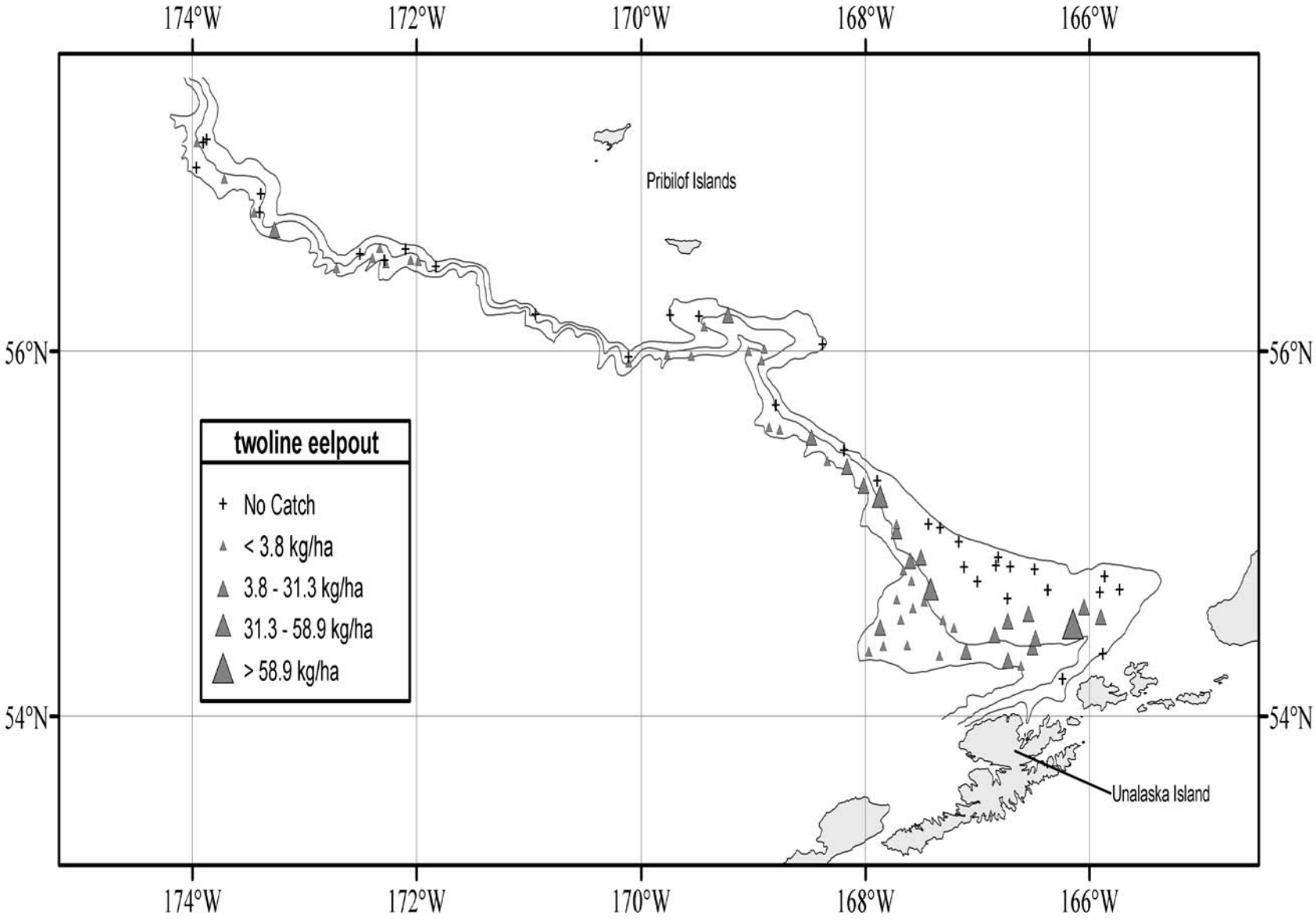

Figure 56. Continued.

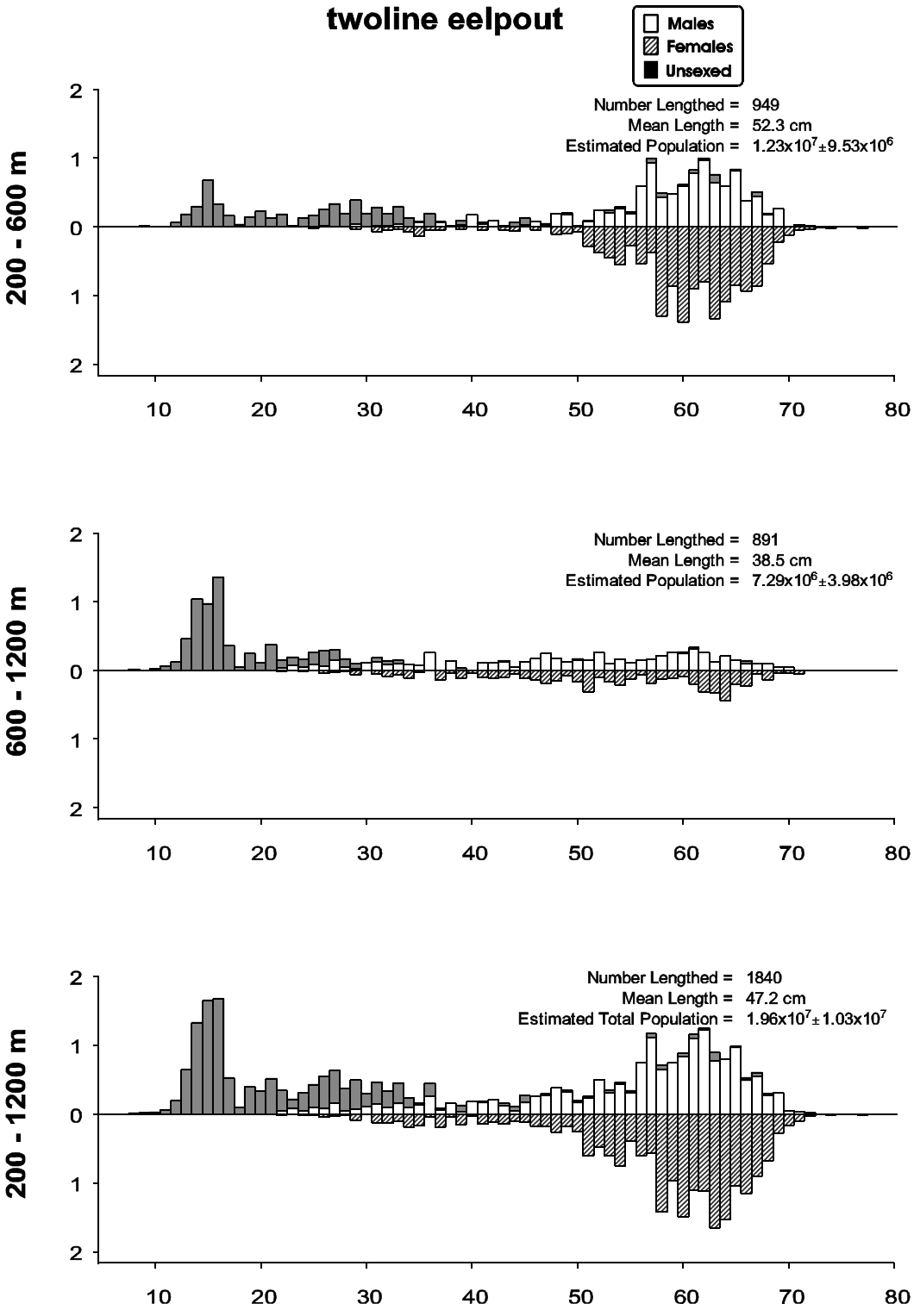

Figure 57. Size composition of the estimated twoline eelpout population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as fork length in centimeters while the ordinate represents percentage of the total population.

Table 37. Abundance estimates by subarea and depth strata for Pacific halibut (*Hippoglossus stenolepis)* from the 2002 eastern Bering Sea upper continental slope survey.

Hippoglossus stenolepis **Pacific halibut**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	4.47E+02	4.56E+04	4.15E+04	4.11E+08	1.11	0.11
	400-600	2.08E+03	1.34E+05	4.69E+05	2.86E+09	5.13	0.33
	600-800	3.90E+02	1.90E+04	8.23E+04	1.78E+08	2.24	0.11
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
2	200-400	1.39E+03	1.49E+05	5.35E+05	5.52E+09	12.02	1.28
	400-600	4.88E+02	1.94E+04	5.64E+04	8.39E+05	6.92	0.27
	600-800	7.98E+01	6.02E+03	6.37E+03	3.62E+07	1.35	0.10
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
3	200-400	3.95E+02	3.70E+04	4.82E+04	2.44E+08	4.38	0.41
	400-600	2.29E+02	1.78E+04	2.42E+04	1.30E+08	2.58	0.20
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
4	200-400	6.67E+02	6.29E+04	1.17E+05	1.39E+09	5.39	0.51
	400-600	6.80E+01	6.24E+03	4.62E+03	3.89E+07	0.93	0.09
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
5	200-400	4.18E+02	2.12E+04	1.49E+05	1.05E+08	9.87	0.50
	400-600	5.72E+01	4.05E+03	3.27E+03	1.64E+07	1.34	0.10
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	1.29E+03	1.33E+05	7.00E+05	6.85E+09	4.97	0.51
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
All areas and depths combined		**8.00E+03**	**6.55E+05**	**2.24E+06**	**1.78E+10**	**2.40E+00**	**2.00E-01**

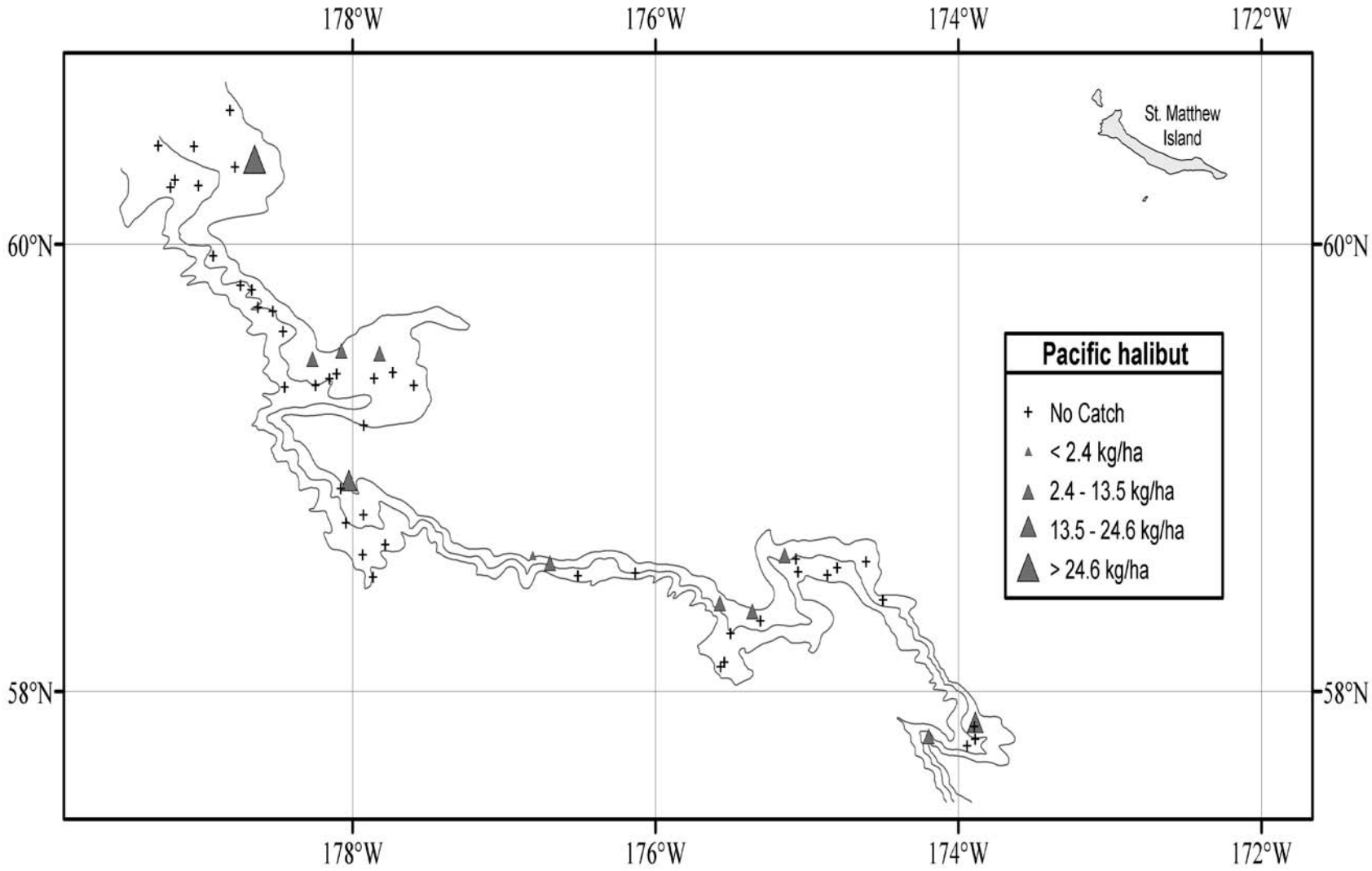

Figure 58. Distribution and relative abundance of Pacific halibut (*Hippoglossus stenolepis*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

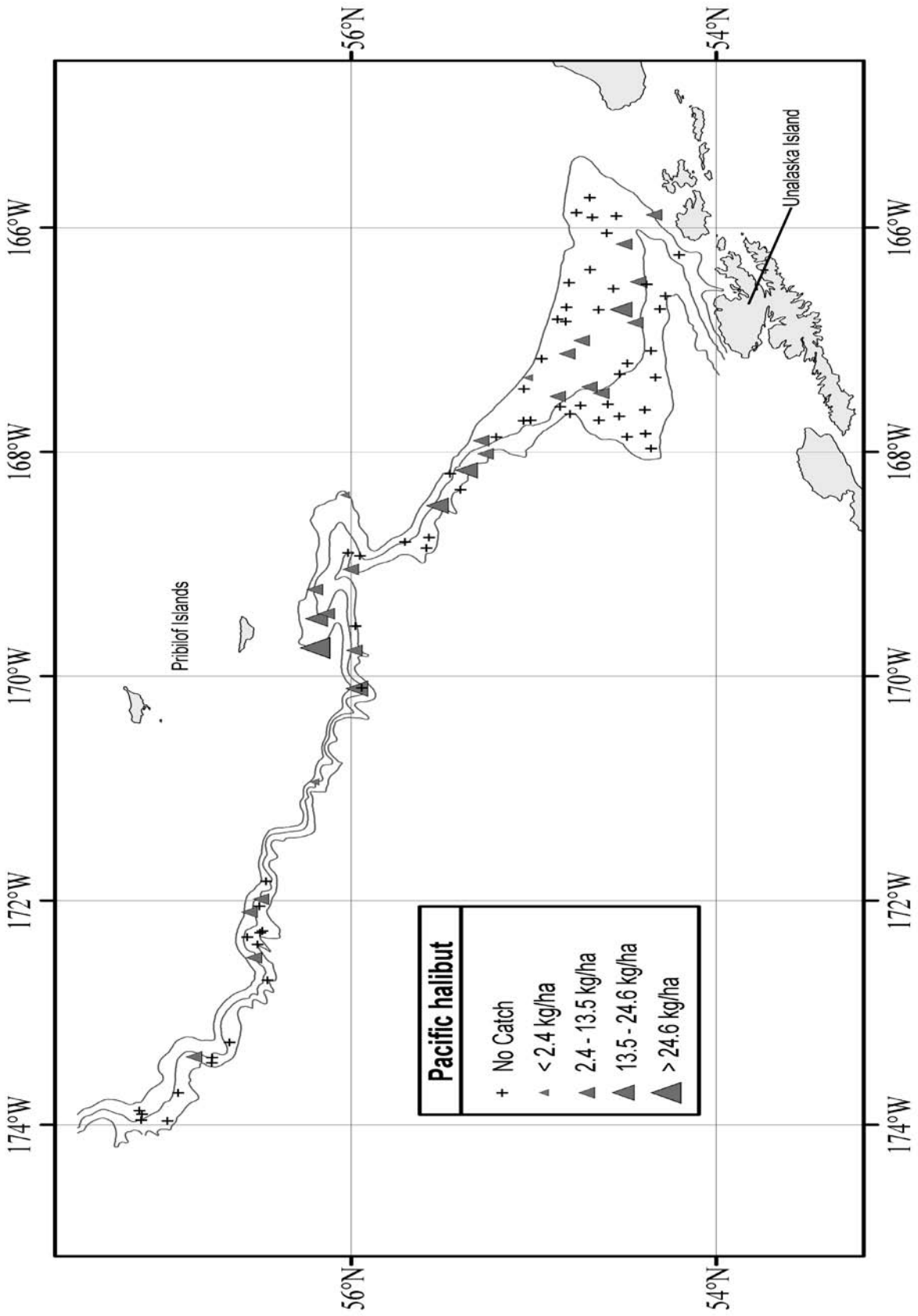

Figure 58. Continued.

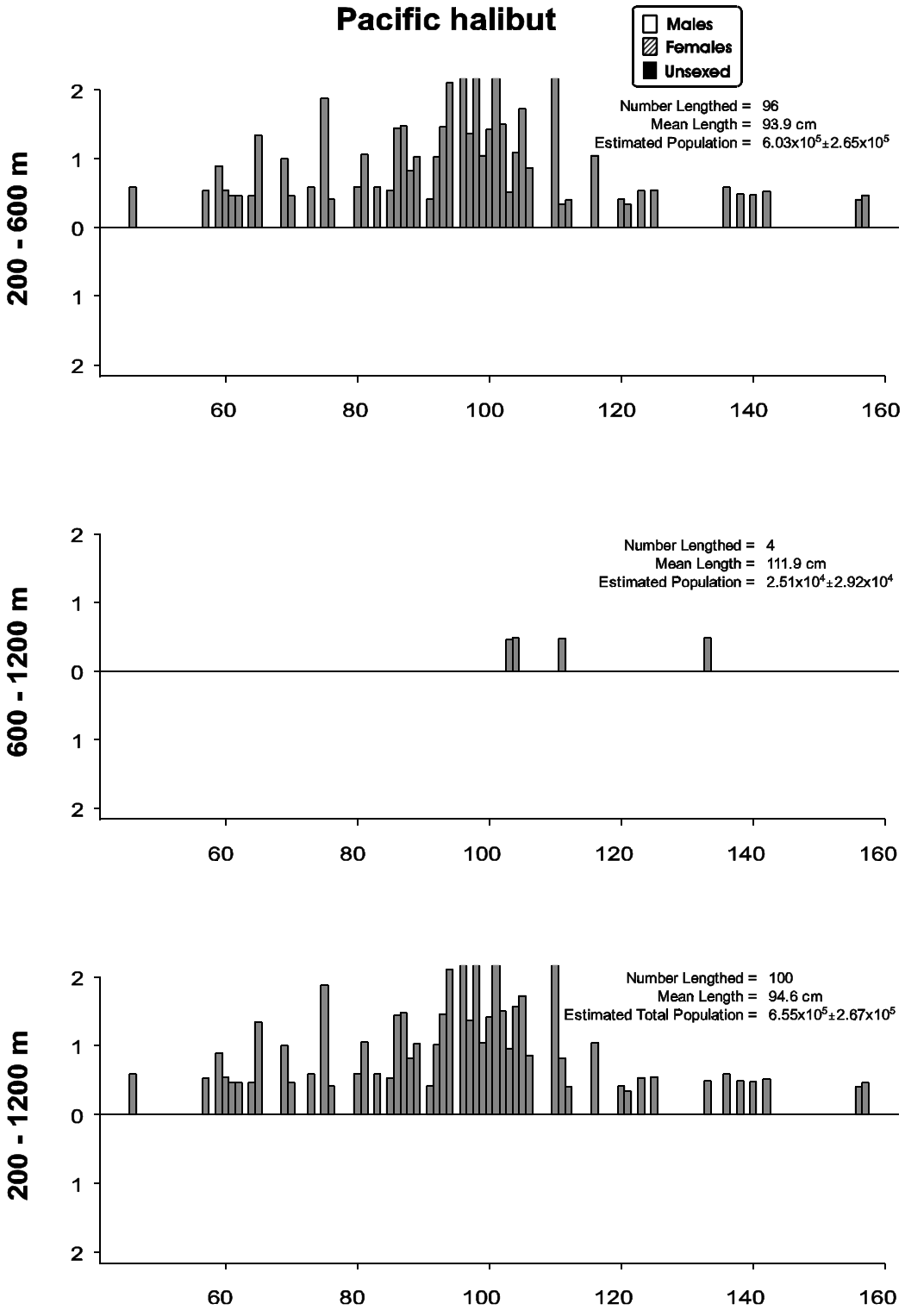

Figure 59. Size composition of the estimated Pacific halibut population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as fork length in centimeters while the ordinate represents percentage of the total population.

Table 38. Abundance estimates by subarea and depth strata for flathead sole *(Hippoglossoides elassodon)* from the 2002 eastern Bering Sea upper continental slope survey.

Hippoglossoides elassodon **flathead sole**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	6.18E+03	1.89E+07	2.49E+06	3.01E+13	15.40	47.06
	400-600	4.36E+03	6.26E+06	2.34E+06	5.71E+12	10.72	15.41
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
2	200-400	3.48E+02	6.40E+05	6.48E+04	1.55E+11	3.01	5.53
	400-600	1.17E+02	1.13E+05	1.36E+04	1.28E+10	1.66	1.60
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
3	200-400	1.10E+03	1.77E+06	4.07E+05	1.04E+12	12.13	19.61
	400-600	1.75E+03	2.30E+06	1.09E+06	1.96E+12	19.73	26.01
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
4	200-400	2.84E+03	6.05E+06	3.01E+06	1.23E+13	22.99	48.97
	400-600	1.72E+03	2.59E+06	5.10E+05	5.71E+11	23.54	35.43
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
5	200-400	2.37E+02	9.82E+05	1.01E+04	3.72E+11	5.60	23.18
	400-600	7.63E+02	1.62E+06	1.03E+05	4.08E+11	17.93	38.17
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	2.11E+03	1.09E+07	3.22E+05	5.76E+12	8.12	42.12
	400-600	5.58E+02	1.10E+06	1.33E+05	5.09E+11	3.27	6.44
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
All areas and depths combined		**2.21E+04**	**5.33E+07**	**1.05E+07**	**5.89E+13**	**6.94E+00**	**1.64E+01**

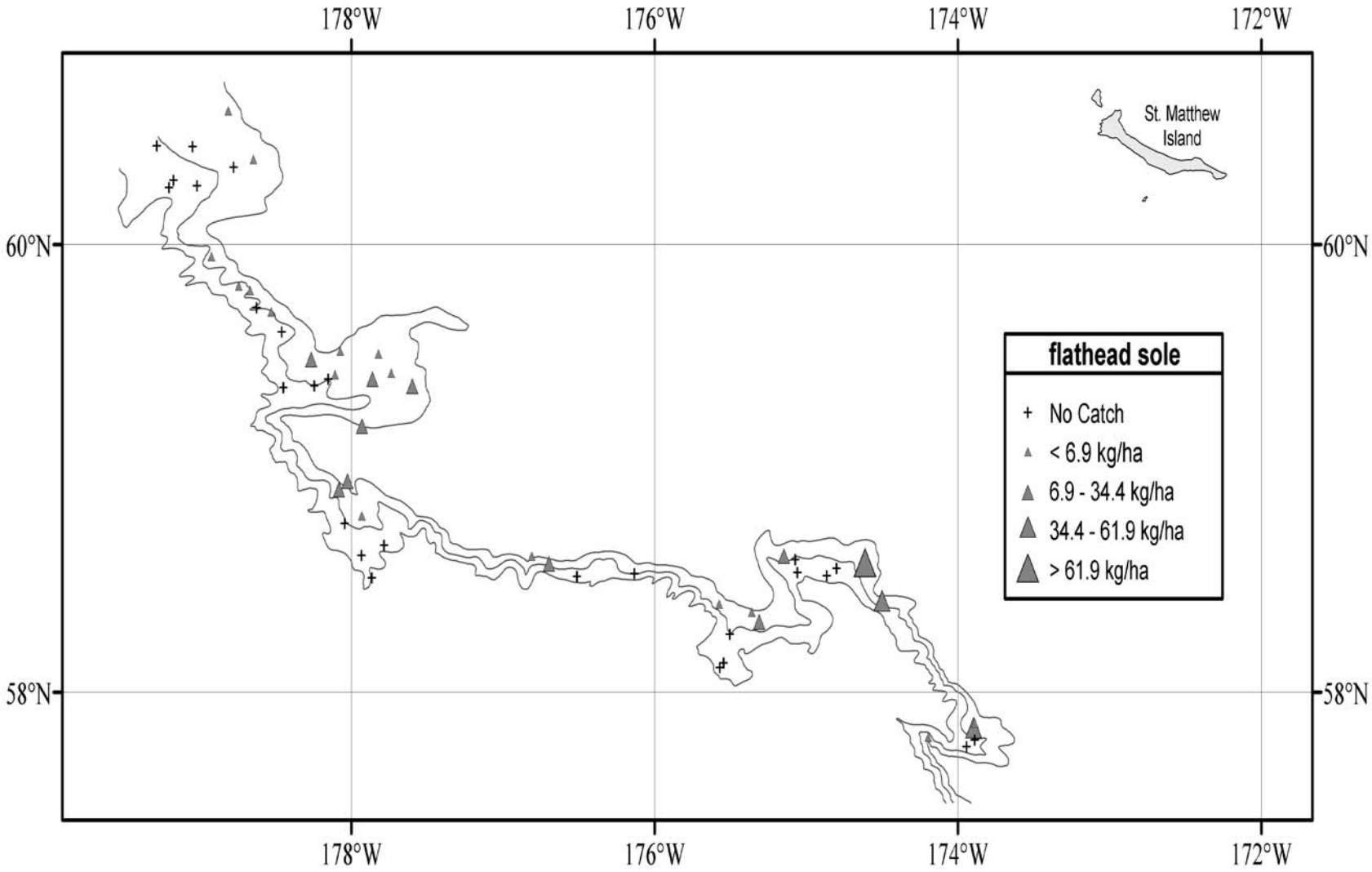

Figure 60. Distribution and relative abundance of flathead sole (*Hippoglossoides elassodon*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

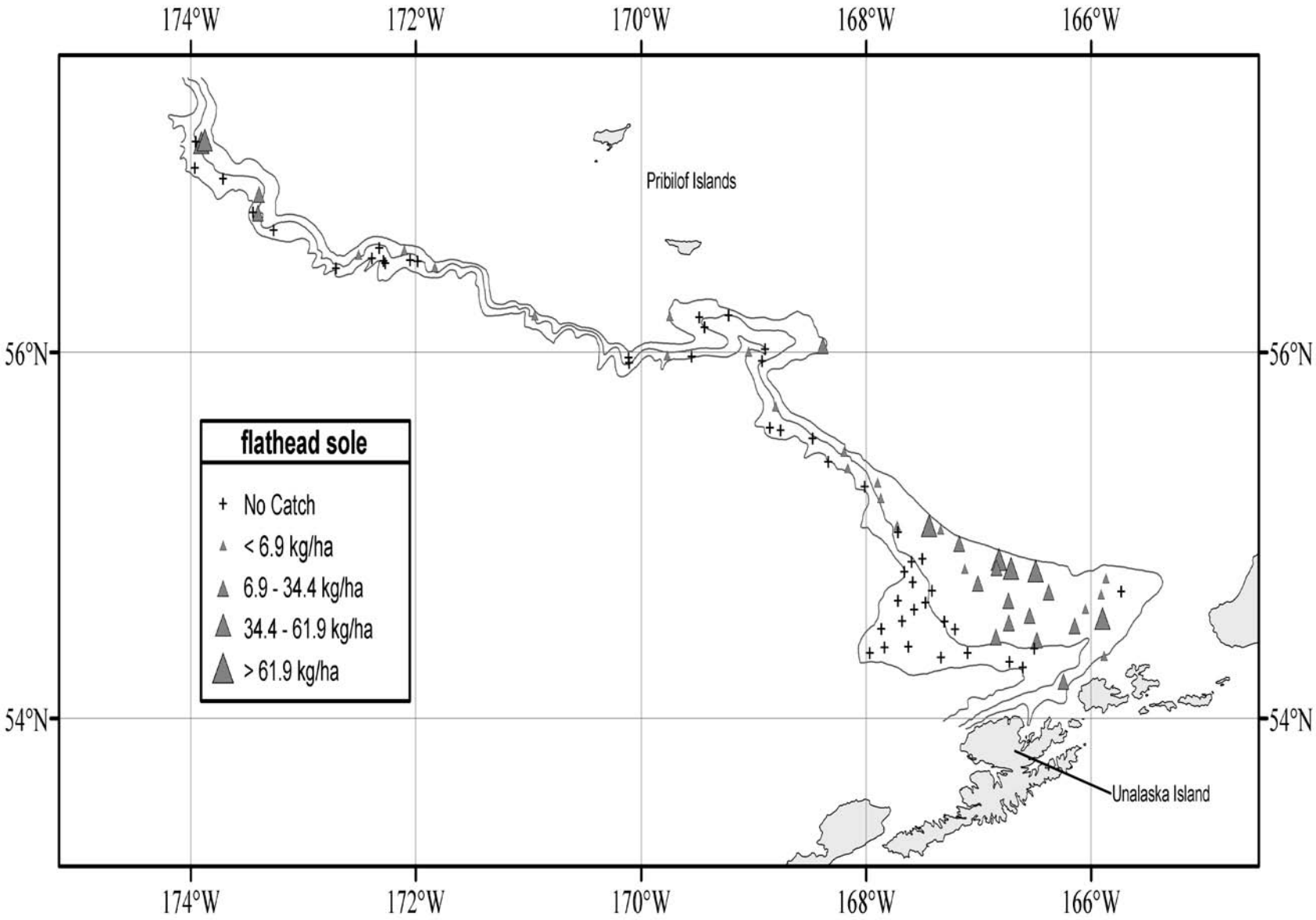

Figure 60. Continued.

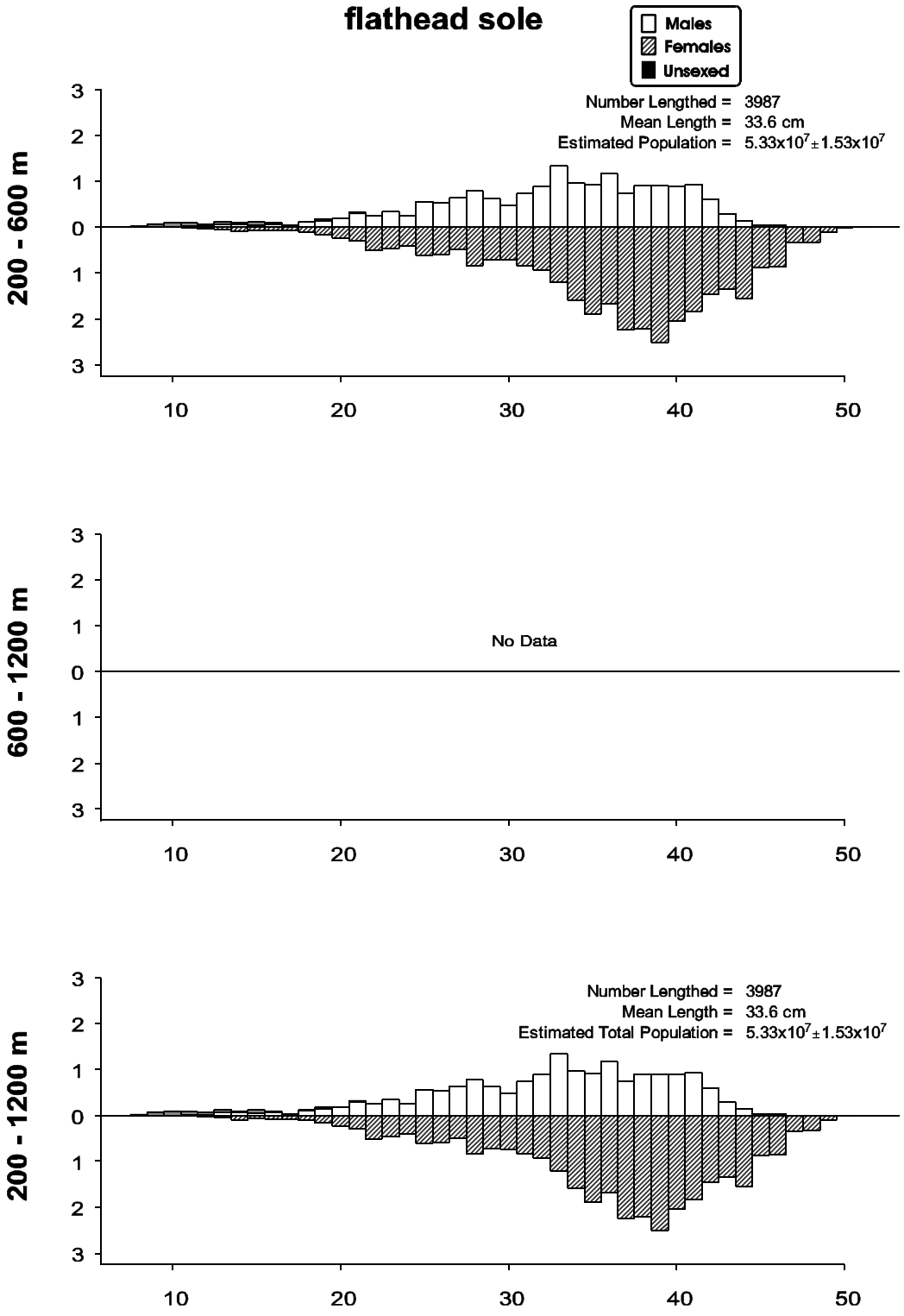

Figure 61. Size composition of the estimated flathead sole population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as fork length in centimeters while the ordinate represents percentage of the total population.

Table 39. Abundance estimates by subarea and depth strata for Greenland turbot *(Reinhardtius hippoglossoides)* from the 2002 eastern Bering Sea upper continental slope survey.

Reinhardtius hippoglossoides **Greenland turbot**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	1.23E+03	3.54E+05	3.20E+05	2.57E+10	3.06	0.88
	400-600	8.78E+03	2.05E+06	6.52E+06	3.05E+11	21.62	5.03
	600-800	2.94E+03	5.99E+05	3.13E+05	1.26E+10	16.89	3.44
	800-1,000	1.30E+03	3.18E+05	7.31E+05	5.62E+10	9.57	2.35
	1,000-1,200	1.39E+03	2.52E+05	2.74E+05	1.23E+10	12.57	2.28
2	200-400	2.97E+02	1.12E+05	3.23E+04	4.48E+09	2.56	0.97
	400-600	6.52E+02	2.38E+05	2.89E+04	2.96E+09	9.25	3.38
	600-800	7.45E+02	2.45E+05	5.27E+04	1.23E+10	12.60	4.14
	800-1,000	3.13E+02	6.72E+04	4.84E+03	2.70E+08	5.67	1.22
	1,000-1,200	3.12E+02	7.28E+04	3.05E+04	2.20E+09	5.82	1.36
3	200-400	1.93E+02	7.17E+04	1.63E+04	2.22E+09	2.13	0.79
	400-600	1.14E+03	2.87E+05	5.50E+04	9.11E+09	12.82	3.24
	600-800	3.31E+02	6.81E+04	9.34E+03	2.68E+08	3.63	0.75
	800-1,000	6.29E+01	8.54E+03	1.38E+03	2.62E+07	0.86	0.12
4	200-400	4.12E+02	1.38E+05	3.30E+04	4.59E+09	3.33	1.11
	400-600	8.77E+02	2.28E+05	8.92E+04	5.56E+09	12.01	3.12
	600-800	4.16E+02	9.78E+04	2.07E+04	1.25E+09	6.00	1.41
	800-1,000	3.86E+02	9.06E+04	2.56E+04	2.66E+09	5.46	1.28
	1,000-1,200	2.22E+02	3.42E+04	2.25E+04	4.18E+08	3.36	0.52
5	200-400	2.22E+01	1.09E+04	4.94E+02	1.20E+08	0.52	0.26
	400-600	7.95E+02	2.84E+05	1.56E+05	1.96E+10	18.66	6.67
	600-800	7.80E+01	1.20E+04	6.08E+03	1.45E+08	1.81	0.28
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	1.93E+03	3.07E+05	9.30E+05	1.50E+10	7.44	1.18
	400-600	1.93E+03	5.86E+05	9.04E+05	1.39E+11	11.32	3.44
	600-800	1.97E+02	4.85E+04	8.25E+03	5.15E+08	2.14	0.53
	800-1,000	1.30E+02	1.99E+04	1.70E+04	3.95E+08	2.02	0.31
	1,000-1,200	3.39E+01	1.51E+04	0.00E+00	0.00E+00	0.68	0.30
All areas and depths combined		**2.71E+04**	**6.61E+06**	**1.06E+07**	**6.35E+11**	**8.20E+00**	**2.04E+00**

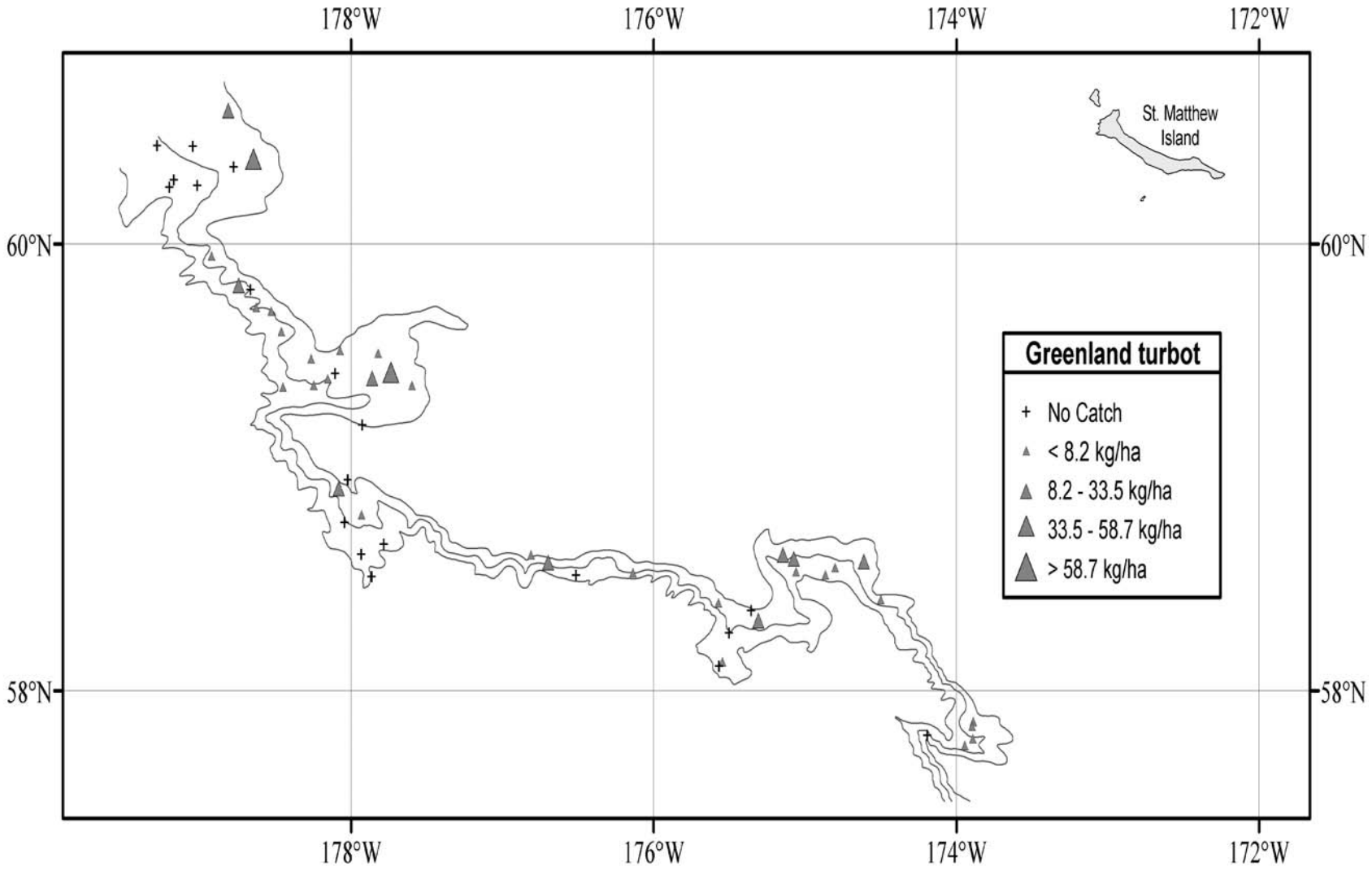

Figure 62. Distribution and relative abundance of Greenland turbot (*Reinhardtius hippoglossoides*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

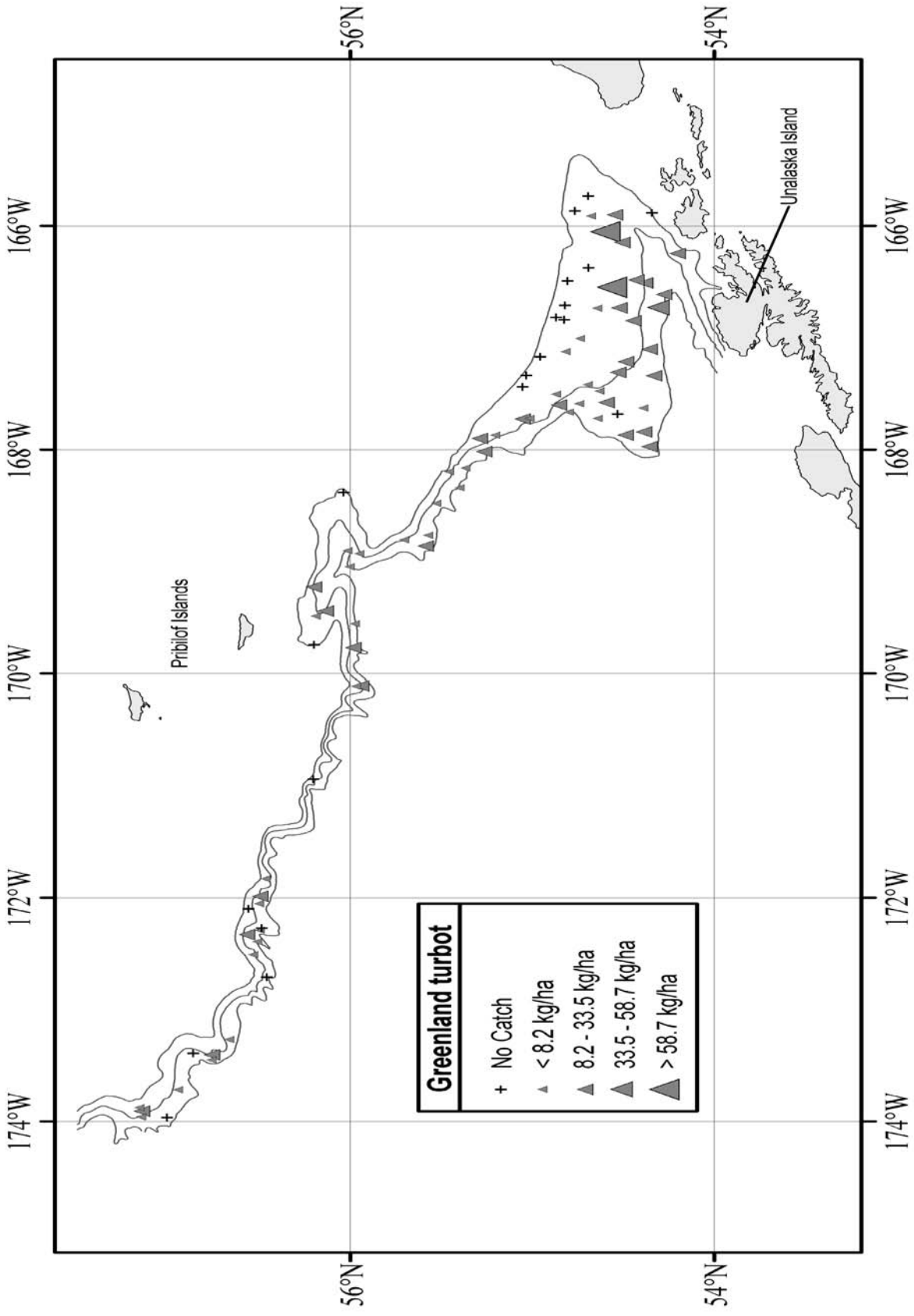

Figure 62. Continued.

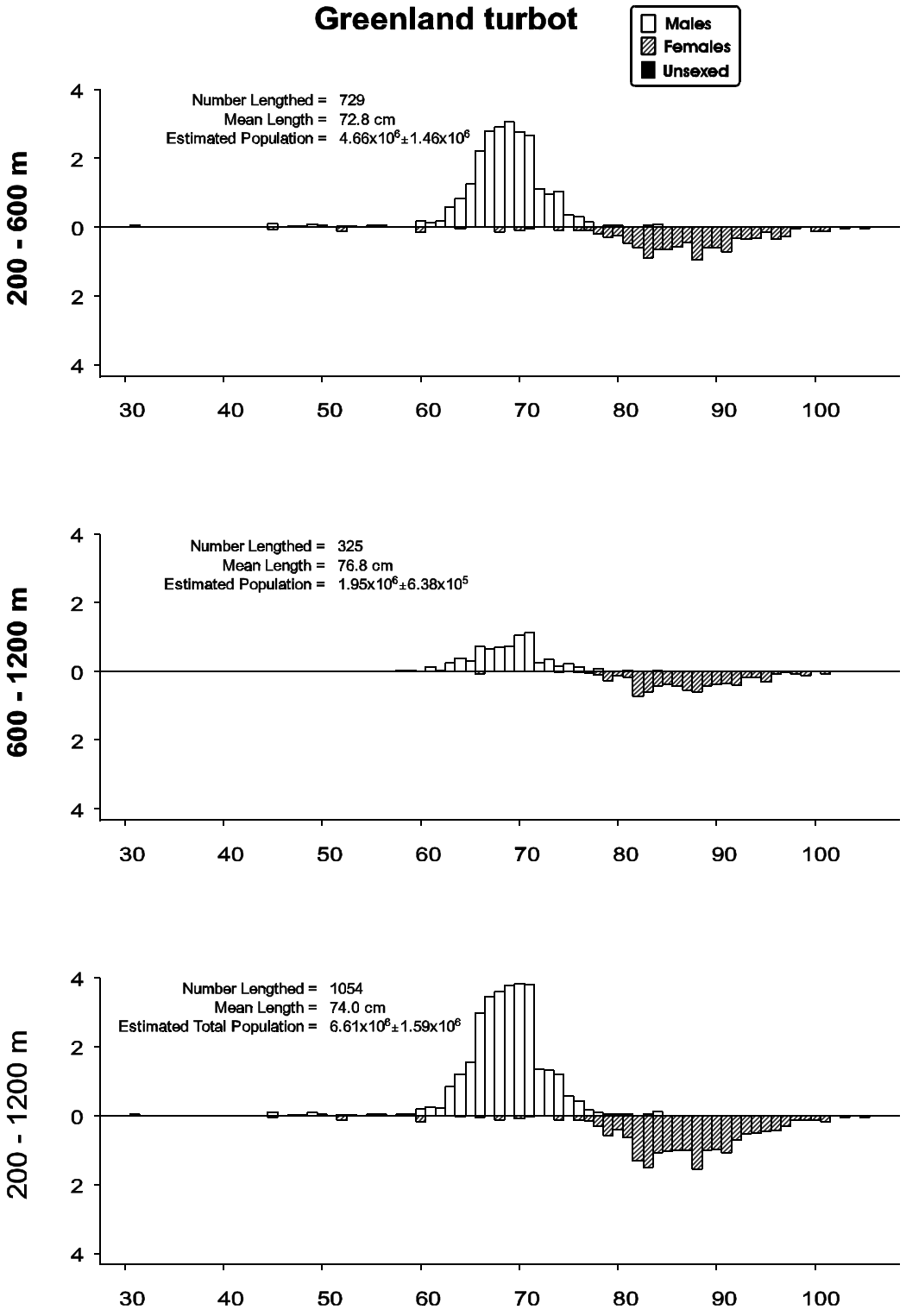

Figure 63. Size composition of the estimated Greenland turbot population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as fork length in centimeters while the ordinate represents percentage of the total population.

Table 40. Abundance estimates by subarea and depth strata for arrowtooth flounder *(Atheresthes stomias)* from the 2002 eastern Bering Sea upper continental slope survey.

Atheresthes stomias **arrowtooth flounder**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	1.16E+04	1.27E+07	2.55E+06	4.01E+12	28.98	31.57
	400-600	4.62E+03	3.58E+06	4.23E+06	3.31E+12	11.38	8.81
	600-800	6.93E+01	3.83E+04	1.16E+03	4.27E+08	0.40	0.22
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
2	200-400	3.91E+03	3.59E+06	2.05E+06	2.22E+12	33.75	31.01
	400-600	1.03E+03	8.07E+05	3.11E+05	1.68E+11	14.67	11.45
	600-800	2.86E+01	1.20E+04	8.17E+02	1.45E+08	0.48	0.20
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
3	200-400	6.25E+03	4.92E+06	6.29E+06	3.65E+12	69.10	54.46
	400-600	8.84E+02	4.12E+05	1.16E+05	2.67E+10	9.98	4.65
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
4	200-400	4.67E+03	4.03E+06	7.47E+06	5.91E+12	37.80	32.59
	400-600	9.23E+02	5.08E+05	1.29E+05	3.09E+10	12.63	6.95
	600-800	3.51E+00	4.47E+03	1.23E+01	2.00E+07	0.05	0.06
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
5	200-400	6.51E+02	4.00E+05	1.51E+05	3.24E+10	15.37	9.44
	400-600	1.05E+03	5.96E+05	8.69E+05	2.63E+11	24.55	13.99
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	3.08E+03	1.96E+06	2.18E+06	8.10E+11	11.88	7.56
	400-600	3.71E+03	2.39E+06	4.15E+06	1.66E+12	21.74	13.99
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
All areas and depths combined		**4.25E+04**	**3.59E+07**	**3.05E+07**	**2.21E+13**	**1.37E+01**	**1.16E+01**

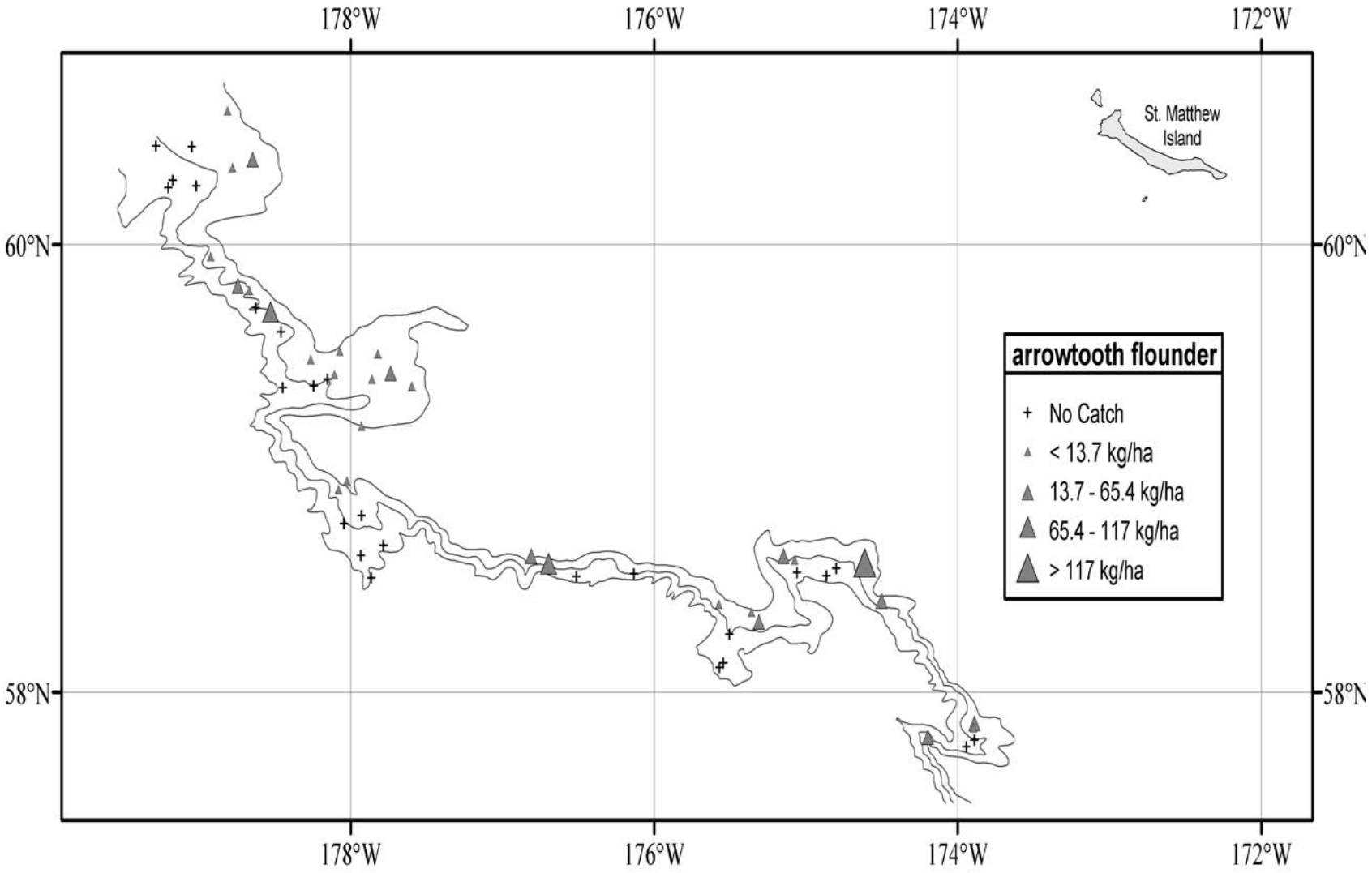

Figure 64. Distribution and relative abundance of arrowtooth flounder (*Atheresthes stomias*) from the 2002 EBSUCS survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

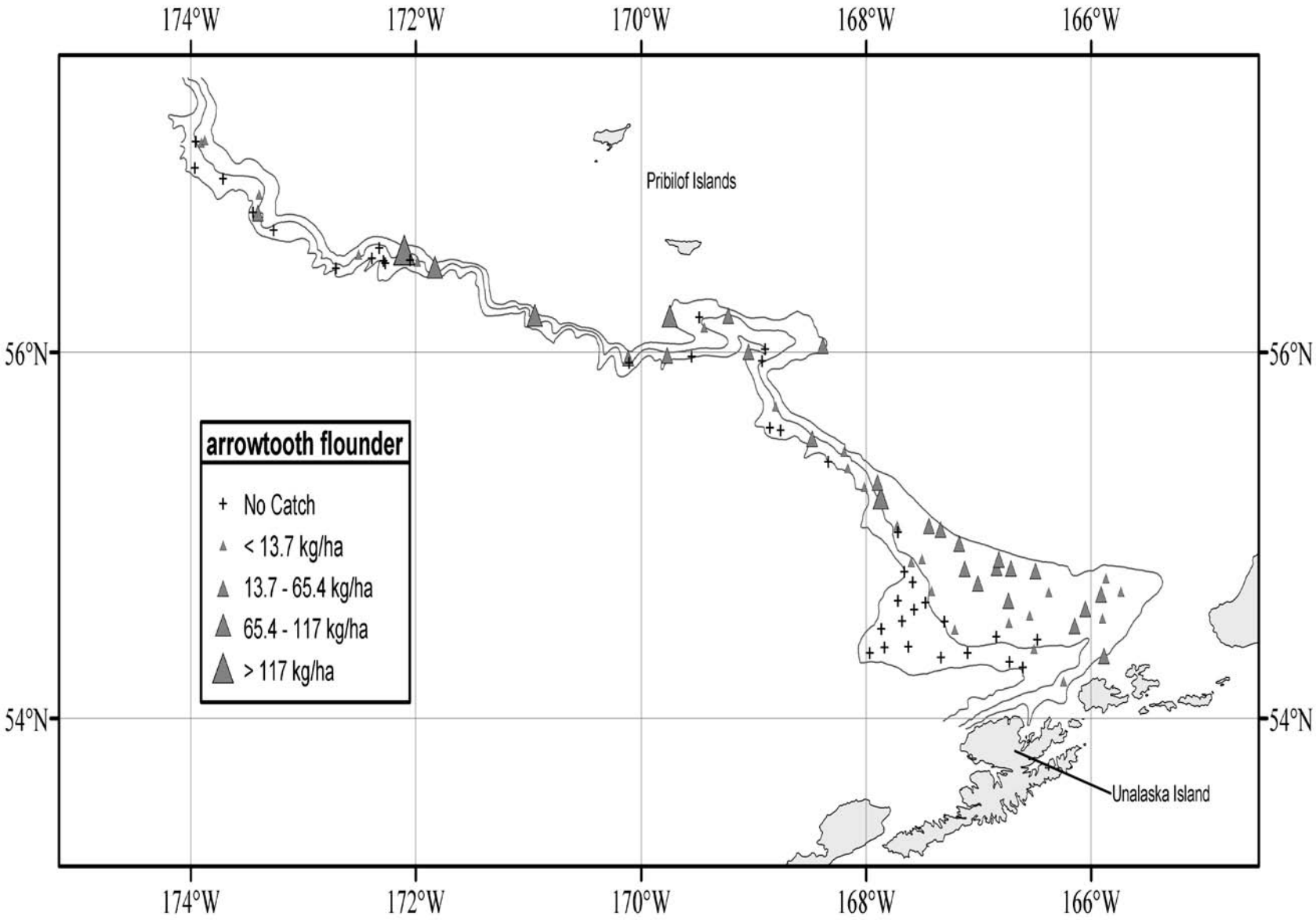

Figure 64. Continued.

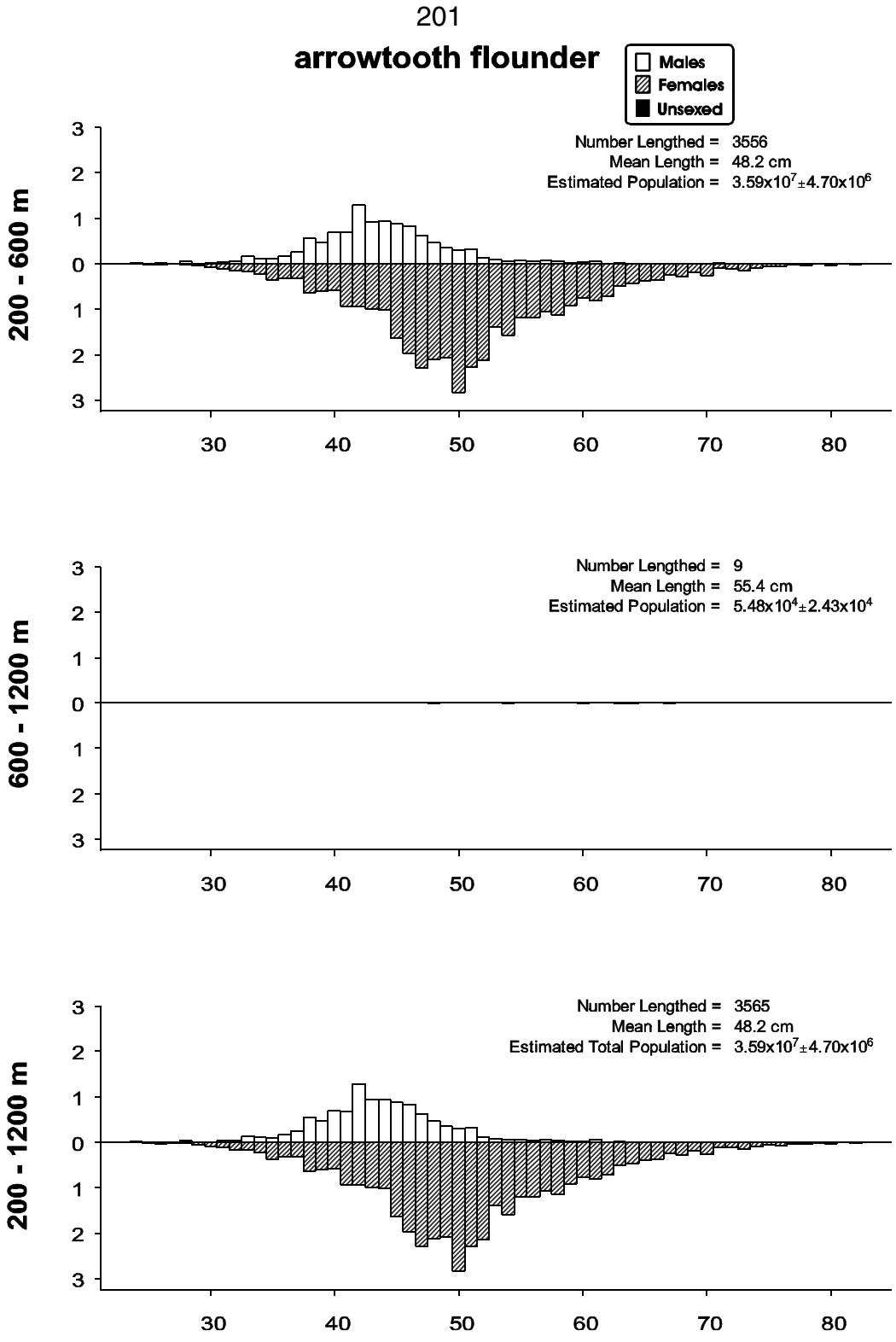

Figure 65. Size composition of the estimated arrowtooth flounder population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as fork length in centimeters while the ordinate represents percentage of the total population.

Table 41. Abundance estimates by subarea and depth strata for Kamchatka flounder *(Atheresthes evermanni)* from the 2002 eastern Bering Sea upper continental slope survey.

Atheresthes evermanni **Kamchatka flounder**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	1.25E+03	6.03E+05	9.97E+04	1.25E+10	3.13	1.42
	400-600	4.58E+03	2.45E+06	6.42E+05	2.79E+11	11.28	6.04
	600-800	1.26E+03	4.72E+05	2.22E+05	3.52E+10	7.22	2.71
	800-1,000	3.27E+02	1.24E+05	1.64E+04	2.56E+09	2.41	0.92
	1,000-1,200	1.58E+02	5.97E+04	4.03E+03	4.85E+08	1.43	0.54
2	200-400	1.34E+03	1.28E+06	1.29E+05	9.99E+10	11.57	11.07
	400-600	3.72E+03	1.43E+06	2.28E+06	1.07E+11	52.71	20.21
	600-800	4.62E+02	2.30E+05	1.71E+04	5.88E+09	7.81	3.89
	800-1,000	2.08E+02	1.02E+05	3.66E+03	0.00E+00	3.77	0.92
	1,000-1,200	4.68E+01	1.71E+04	2.19E+03	2.92E+08	0.87	0.32
3	200-400	2.96E+02	2.61E+05	4.42E+03	1.29E+10	3.28	2.88
	400-600	4.17E+02	2.82E+05	2.73E+04	1.33E+10	4.71	3.19
	600-800	2.23E+02	1.16E+05	3.06E+03	1.11E+09	2.45	1.28
	800-1,000	3.25E+01	9.46E+03	3.72E+02	3.02E+07	0.44	0.13
4	200-400	4.79E+02	4.71E+05	7.19E+04	5.87E+10	3.87	3.81
	400-600	6.76E+02	5.21E+05	7.57E+04	3.94E+10	9.26	7.13
	600-800	2.00E+02	1.03E+05	1.37E+04	3.53E+09	2.89	1.48
	800-1,000	2.41E+02	1.02E+05	5.79E+04	1.03E+10	3.40	1.44
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
5	200-400	1.27E+02	1.29E+05	4.21E+03	5.87E+08	3.00	3.04
	400-600	1.67E+02	1.00E+05	7.88E+03	9.01E+08	3.91	2.35
	600-800	1.12E+02	5.46E+04	7.37E+03	2.05E+09	2.59	1.26
	800-1,000	2.85E+01	7.23E+03	8.11E+02	5.22E+07	0.52	0.13
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	1.26E+03	9.69E+05	2.45E+05	7.87E+10	4.87	3.73
	400-600	8.64E+02	5.96E+05	8.91E+04	4.63E+10	5.07	3.49
	600-800	1.56E+02	9.74E+04	4.65E+03	1.95E+09	1.70	1.06
	800-1,000	7.60E+00	4.97E+03	5.78E+01	2.47E+07	0.12	0.08
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
All areas and depths combined		**1.86E+04**	**1.06E+07**	**4.03E+06**	**8.13E+11**	**5.65E+00**	**3.19E+00**

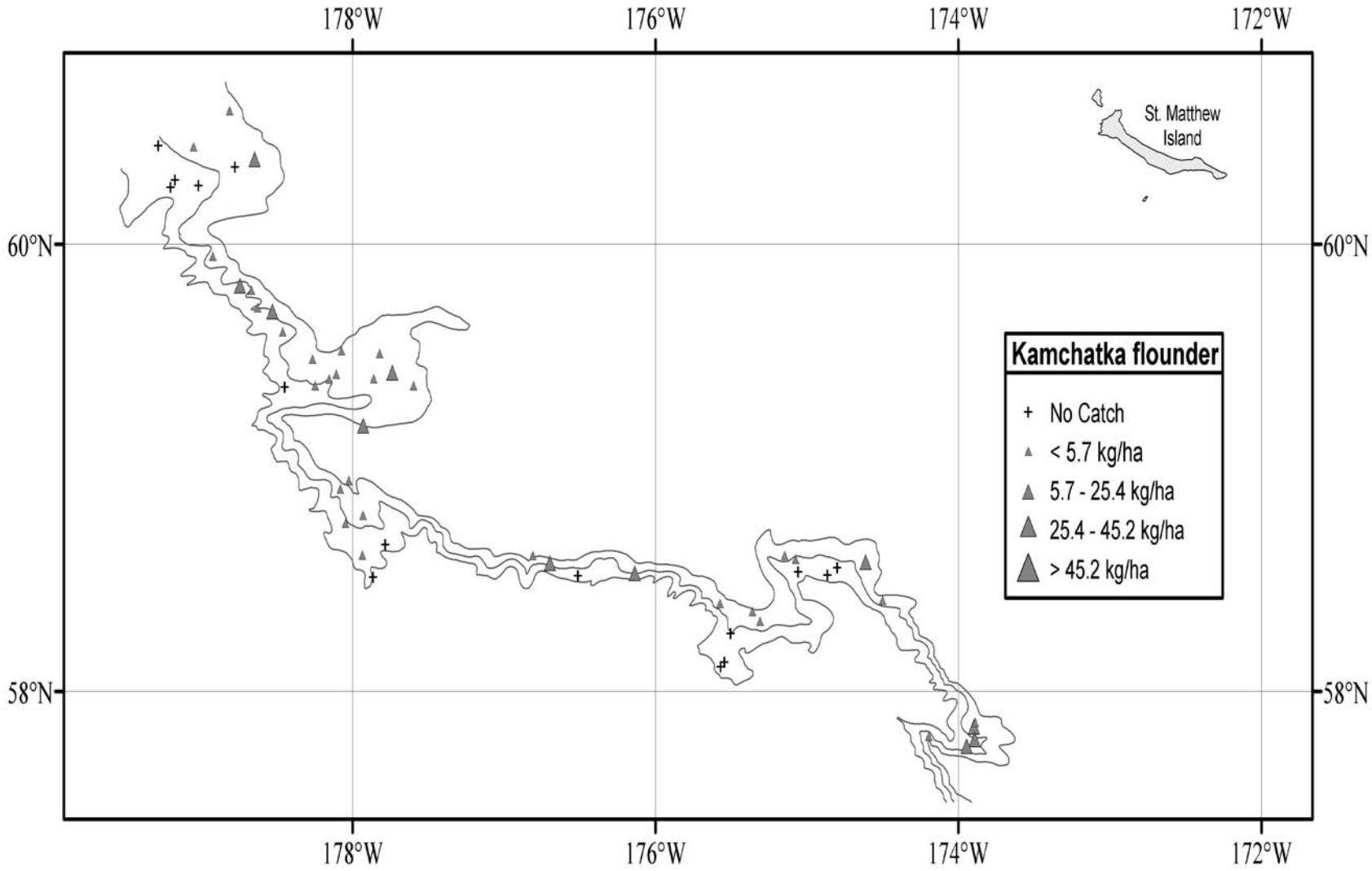

Figure 66. Distribution and relative abundance of Kamchatka flounder (*Atheresthes evermanni*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE

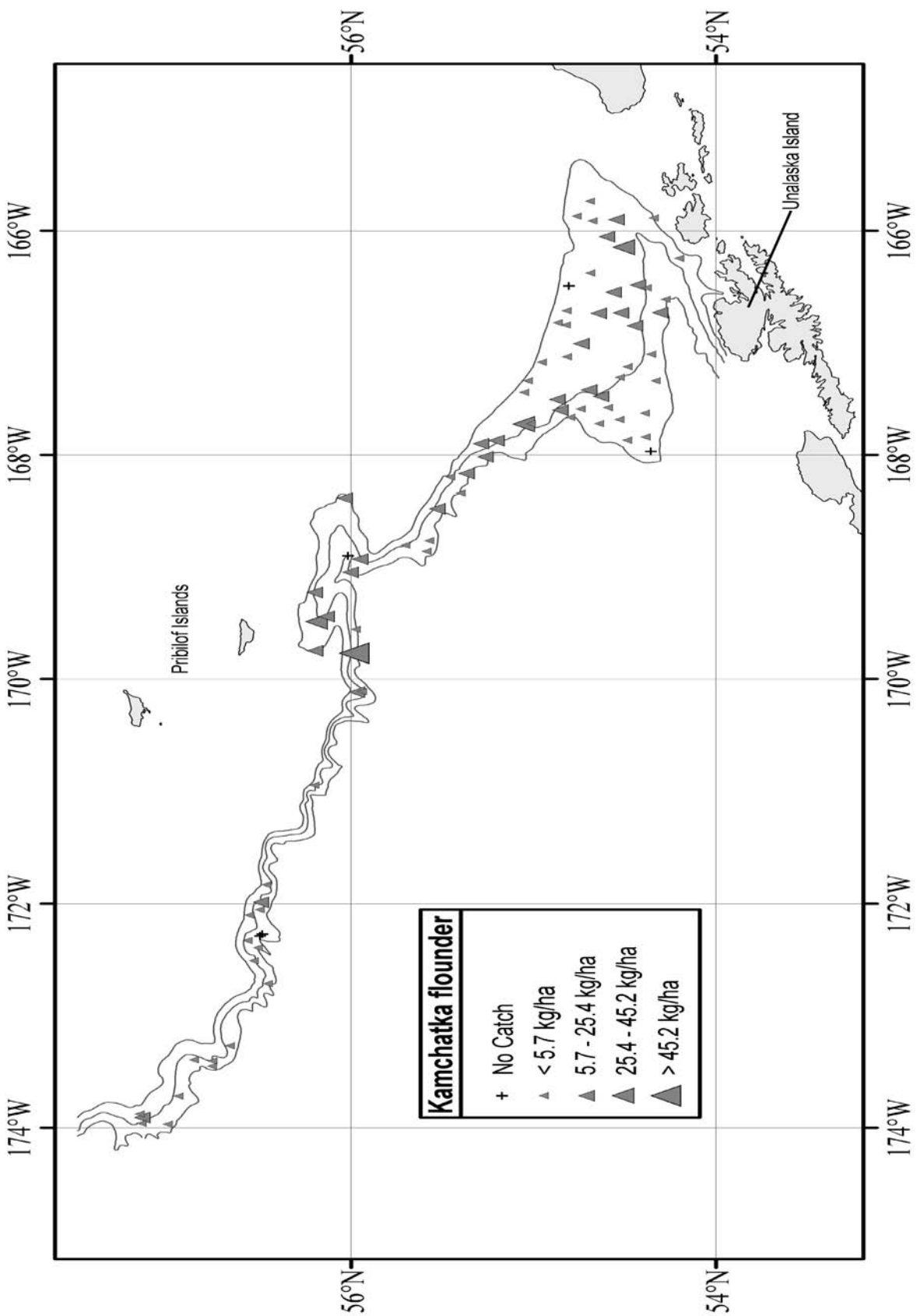

Figure 66. Continued.

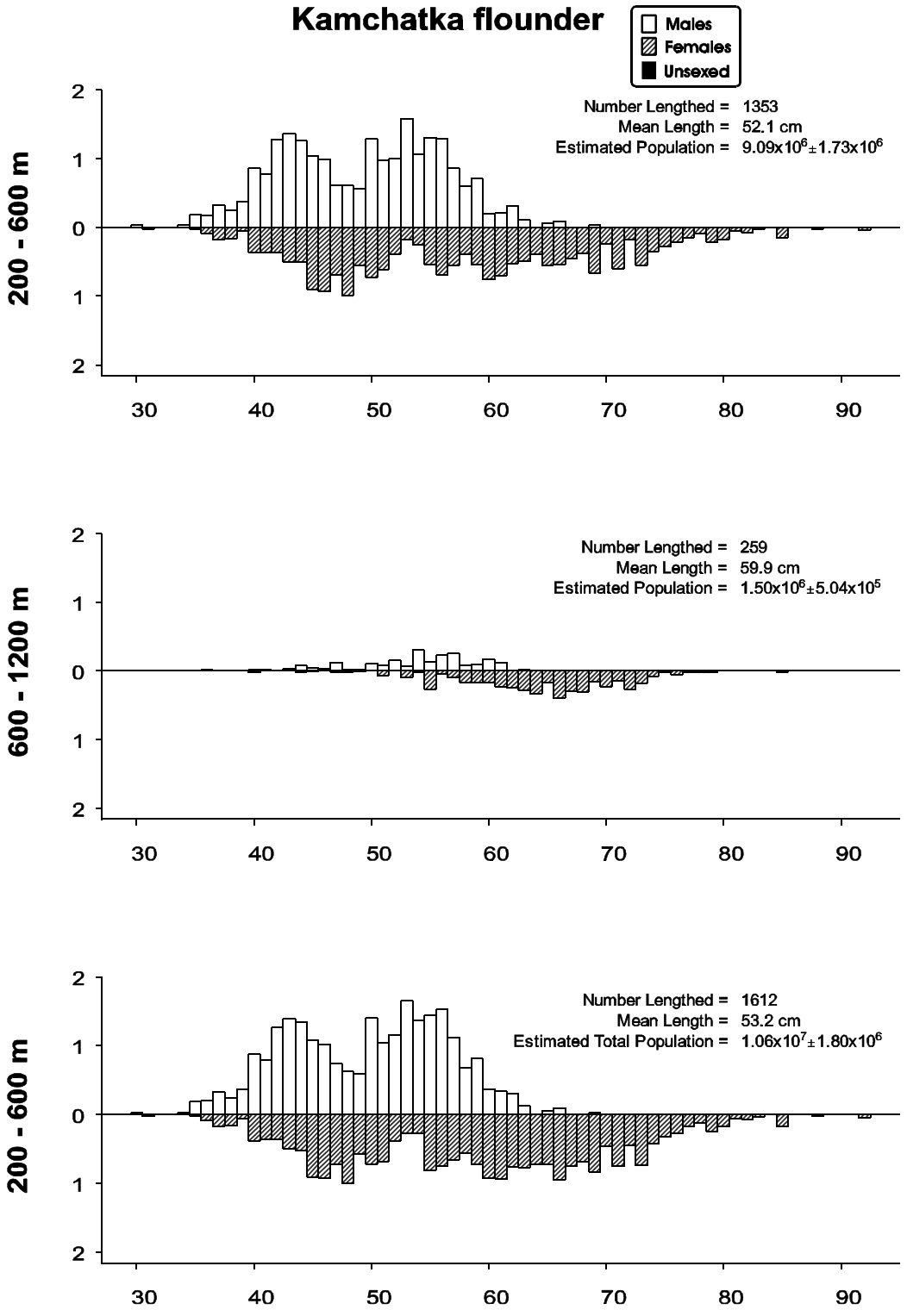

Figure 67. Size composition of the estimated Kamchatka flounder population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as fork length in centimeters while the ordinate represents percentage of the total population.

Table 42. Abundance estimates by subarea and depth strata for rex sole *(Glyptocephalus zachirus)* from the 2002 eastern Bering Sea upper continental slope survey.

Glyptocephalus zachirus **rex sole**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	2.63E+03	6.25E+06	2.82E+05	9.62E+11	6.56	15.59
	400-600	6.31E+02	1.27E+06	6.07E+04	4.08E+11	1.55	3.13
	600-800	2.09E+00	1.29E+04	4.36E+00	1.66E+08	0.01	0.07
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
2	200-400	3.54E+02	5.13E+05	2.47E+04	3.11E+10	3.06	4.43
	400-600	6.01E+02	9.28E+05	2.85E+05	6.39E+11	8.52	13.16
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
3	200-400	9.99E+02	1.81E+06	1.78E+05	5.89E+11	11.05	19.99
	400-600	5.12E+02	9.73E+05	5.14E+04	1.70E+11	5.78	10.98
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
4	200-400	6.51E+02	1.52E+06	3.38E+04	1.46E+11	5.27	12.30
	400-600	4.70E+02	7.68E+05	1.20E+05	3.12E+11	6.43	10.51
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
5	200-400	3.03E+02	1.34E+06	1.38E+03	1.87E+10	7.14	31.64
	400-600	2.33E+02	6.37E+05	2.71E+04	3.13E+11	5.48	14.95
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	6.91E+02	3.12E+06	5.97E+04	1.71E+12	2.66	12.02
	400-600	8.13E+00	5.04E+04	2.97E+01	1.11E+09	0.05	0.30
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
All areas and depths combined		**8.08E+03**	**1.92E+07**	**1.12E+06**	**5.30E+12**	**2.61E+00**	**6.10E+00**

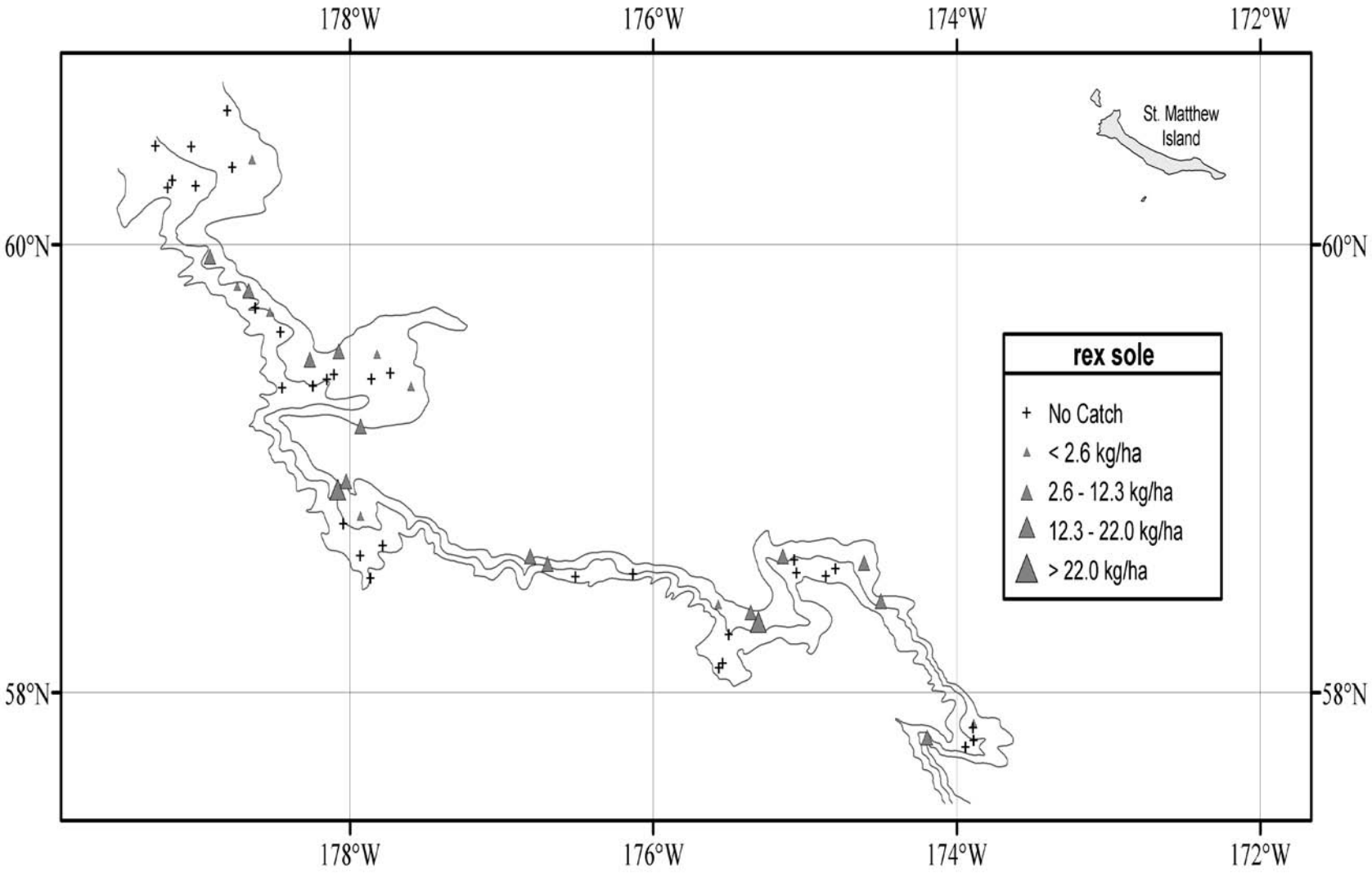

Figure 68. Distribution and relative abundance of rex sole (*Glyptocephalus zachirus*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

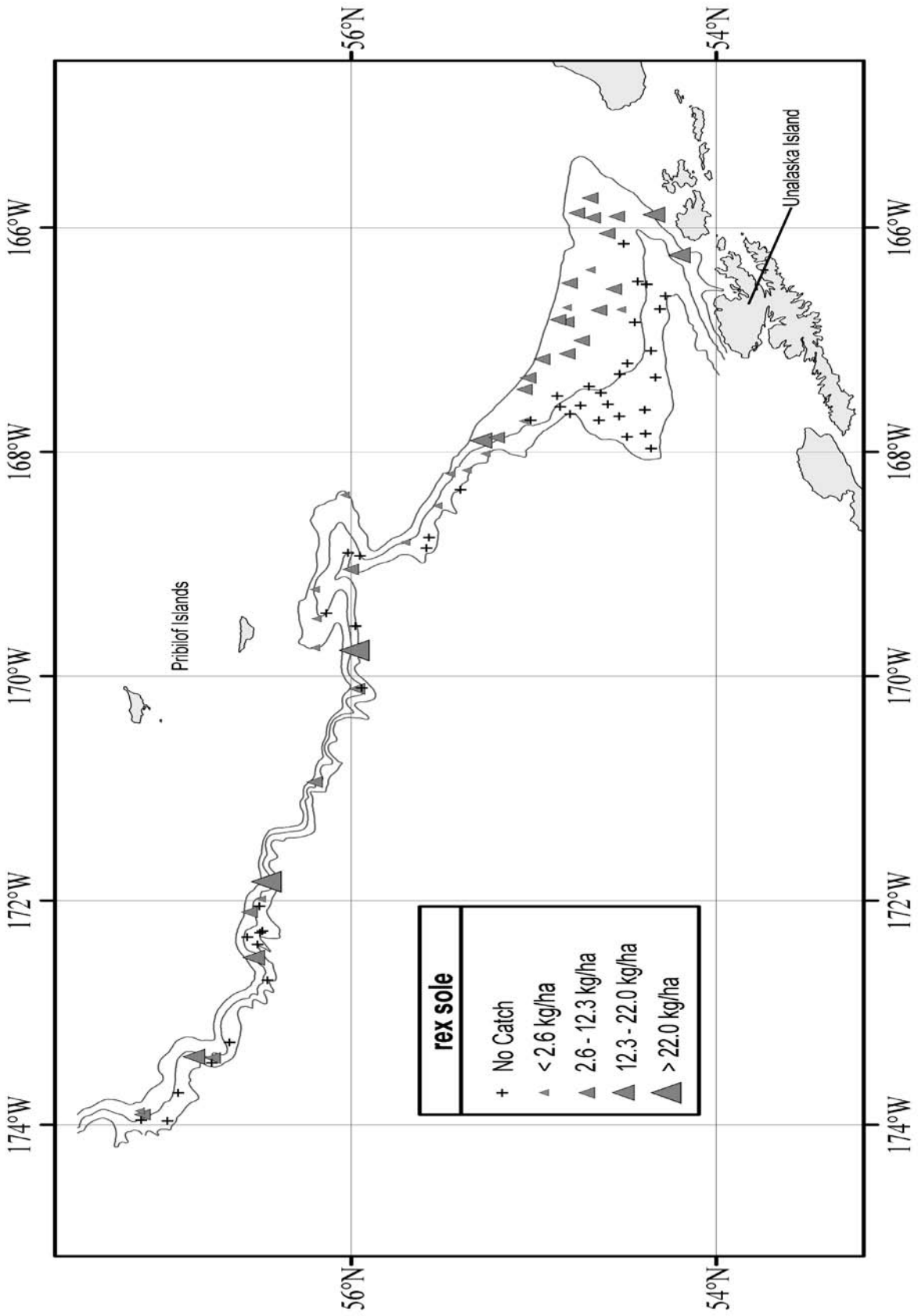

Figure 68. Continued.

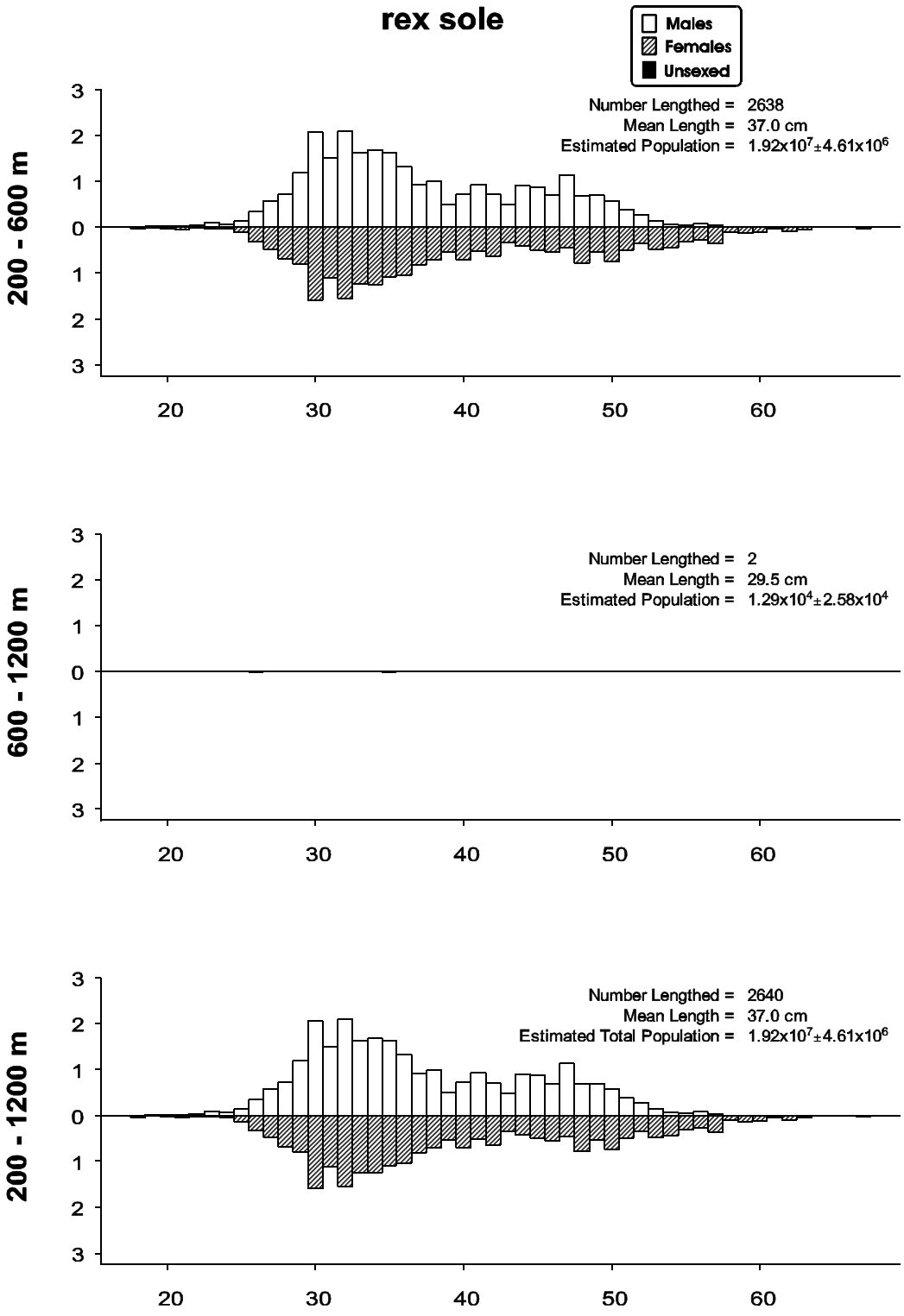

Figure 69. Size composition of the estimated rex sole population from the 2002 eastern Bering Sea upper continental slope survey for all subareas by depth. The abscissa is scaled as fork length in centimeters while the ordinate represents percentage of the total population.

Table 43. Abundance estimates by subarea and depth strata for triangle Tanner crab *(Chionoecetes angulatus)* from the 2002 eastern Bering Sea upper continental slope survey.

Chionoecetes angulatus **triangle Tanner crab**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	8.03E+00	1.37E+05	2.01E+01	6.06E+09	0.02	0.34
	400-600	3.49E+02	4.27E+06	5.44E+04	6.28E+12	0.86	10.51
	600-800	3.09E+02	9.49E+06	6.18E+04	5.95E+13	1.78	54.49
	800-1,000	1.64E+03	2.78E+07	1.44E+05	1.61E+13	12.08	205.28
	1,000-1,200	1.83E+03	1.99E+07	2.57E+05	5.25E+13	16.54	180.22
2	200-400	3.57E+00	6.25E+03	1.28E+01	3.90E+07	0.03	0.05
	400-600	1.10E-01	6.11E+03	1.21E-02	3.73E+07	0.00	0.09
	600-800	5.15E+00	3.41E+04	8.72E-02	8.98E+07	0.09	0.58
	800-1,000	4.51E+02	1.35E+07	2.03E+05	1.83E+14	8.15	244.90
	1,000-1,200	5.85E+02	1.77E+07	2.04E+05	2.93E+14	10.93	330.69
3	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	1.55E+00	1.19E+04	2.39E+00	1.42E+08	0.02	0.13
	600-800	1.68E+02	2.24E+06	1.62E+04	2.66E+12	1.85	24.63
	800-1,000	6.53E+01	1.22E+06	2.02E+03	6.36E+11	0.89	16.65
4	200-400	3.15E+00	3.23E+04	8.57E+00	4.97E+08	0.03	0.26
	400-600	9.23E-01	6.24E+03	8.52E-01	3.89E+07	0.01	0.09
	600-800	2.47E+02	8.70E+05	2.48E+04	2.67E+11	3.56	12.54
	800-1,000	3.58E+02	1.93E+06	2.46E+04	6.66E+11	5.05	27.22
	1,000-1,200	9.36E+02	9.41E+06	7.05E+05	7.75E+13	14.13	142.02
5	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	2.68E+00	2.00E+04	2.10E+00	2.15E+08	0.06	0.47
	600-800	2.23E+01	1.07E+05	3.19E+02	3.73E+09	0.52	2.48
	800-1,000	3.68E+00	8.53E+04	6.96E+00	7.57E+08	0.07	1.55
	1,000-1,200	2.30E+01	1.80E+05	0.00E+00	0.00E+00	0.40	3.15
6	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	1.78E+01	2.27E+05	4.62E+01	1.34E+10	0.10	1.33
	600-800	7.63E+01	5.36E+05	6.70E+02	6.05E+10	0.83	5.84
	800-1,000	9.05E+01	7.70E+05	5.51E+03	2.17E+11	1.40	11.93
	1,000-1,200	2.00E+02	7.27E+05	0.00E+00	0.00E+00	4.03	14.64
All areas and depths combined		**7.40E+03**	**1.11E+08**	**1.70E+06**	**6.92E+14**	**2.23E+00**	**3.36E+01**

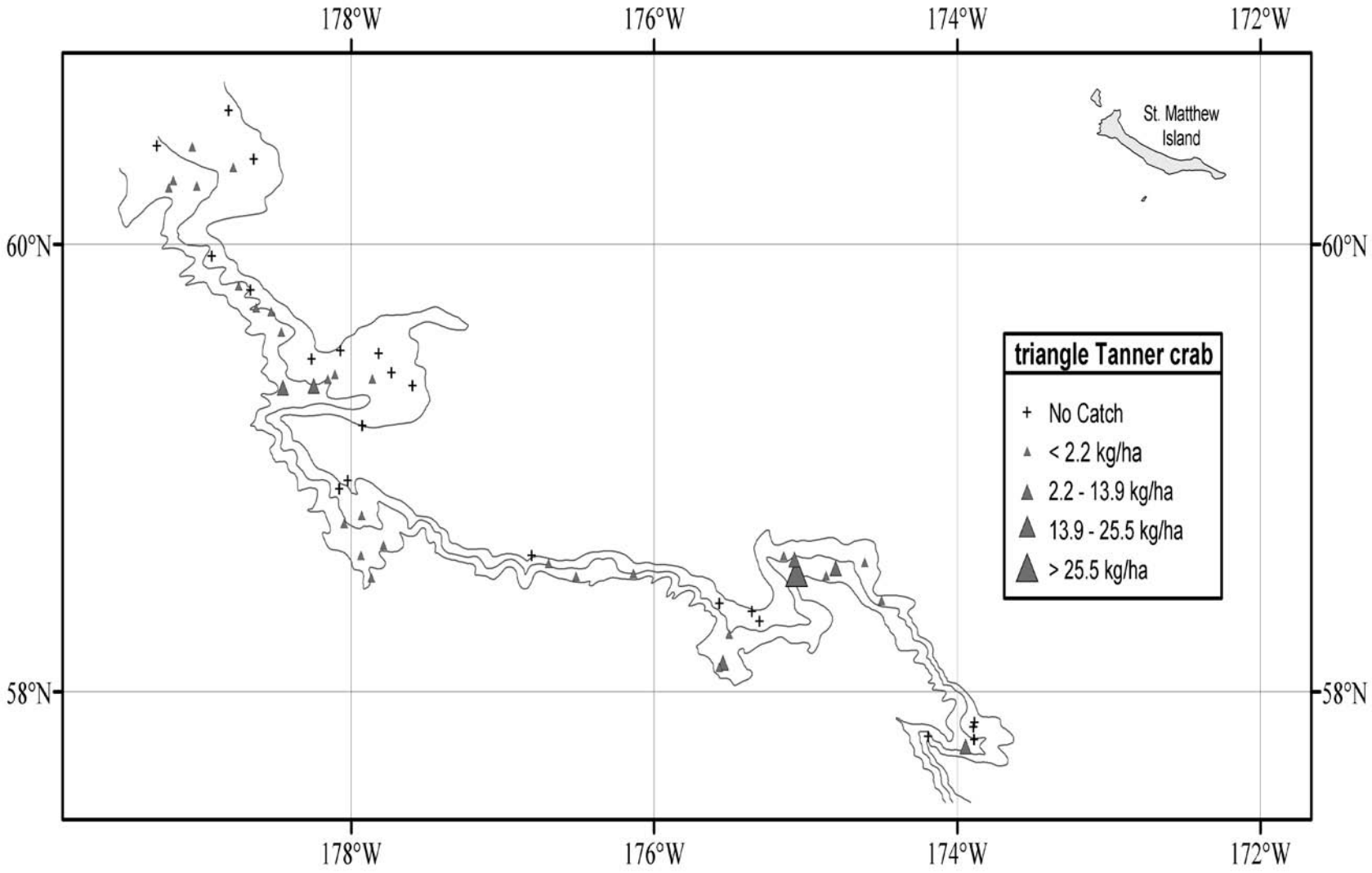

Figure 70. Distribution and relative abundance of triangle Tanner crab (*Chionoecetes angulatus*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

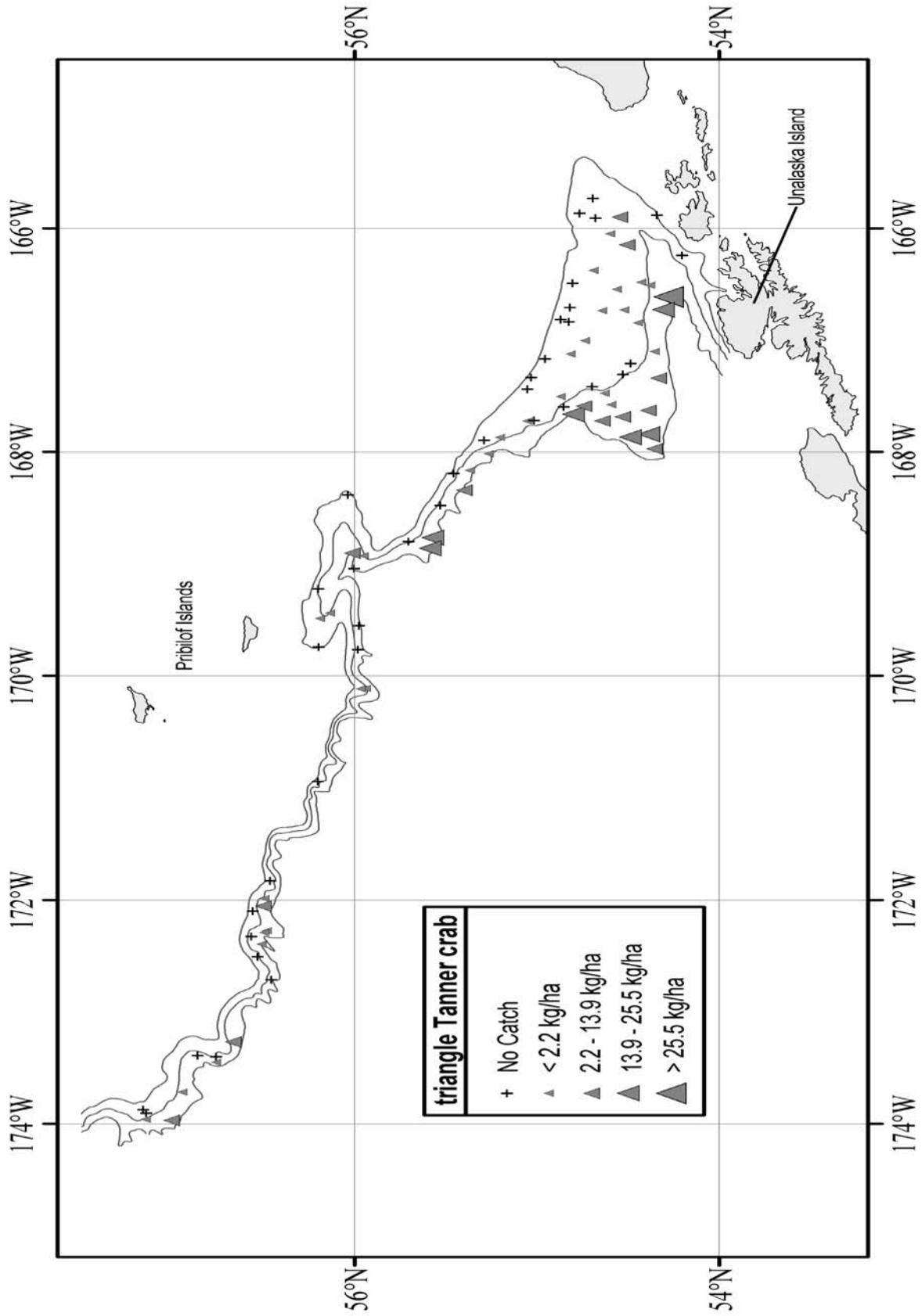

Figure 70. Continued.

Table 44. Abundance estimates by subarea and depth strata for Tanner crab *(Chionoecetes bairdi)* from the 2002 eastern Bering Sea upper continental slope survey.

Chionoecetes bairdi **Tanner crab**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	1.36E+03	2.49E+07	2.50E+05	7.94E+13	3.39	61.93
	400-600	1.57E+01	1.53E+05	7.45E+01	4.75E+09	0.04	0.38
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
2	200-400	3.54E+01	4.70E+05	1.02E+03	1.71E+11	0.31	4.06
	400-600	1.83E-01	6.11E+03	3.36E-02	3.73E+07	0.00	0.09
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
3	200-400	2.17E+00	4.36E+04	9.17E-01	3.91E+08	0.02	0.48
	400-600	1.40E+00	1.17E+04	1.95E+00	1.38E+08	0.02	0.13
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
4	200-400	7.75E+00	6.55E+04	5.09E+01	3.54E+09	0.06	0.53
	400-600	1.16E+00	1.25E+04	1.35E+00	1.56E+08	0.02	0.17
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
5	200-400	8.10E-01	5.47E+03	6.56E-01	2.99E+07	0.02	0.13
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	1.51E+02	1.17E+06	1.31E+04	4.76E+11	0.58	4.52
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
All areas and depths combined		**1.58E+03**	**2.68E+07**	**2.64E+05**	**8.01E+13**	**4.90E-01**	**8.43E+00**

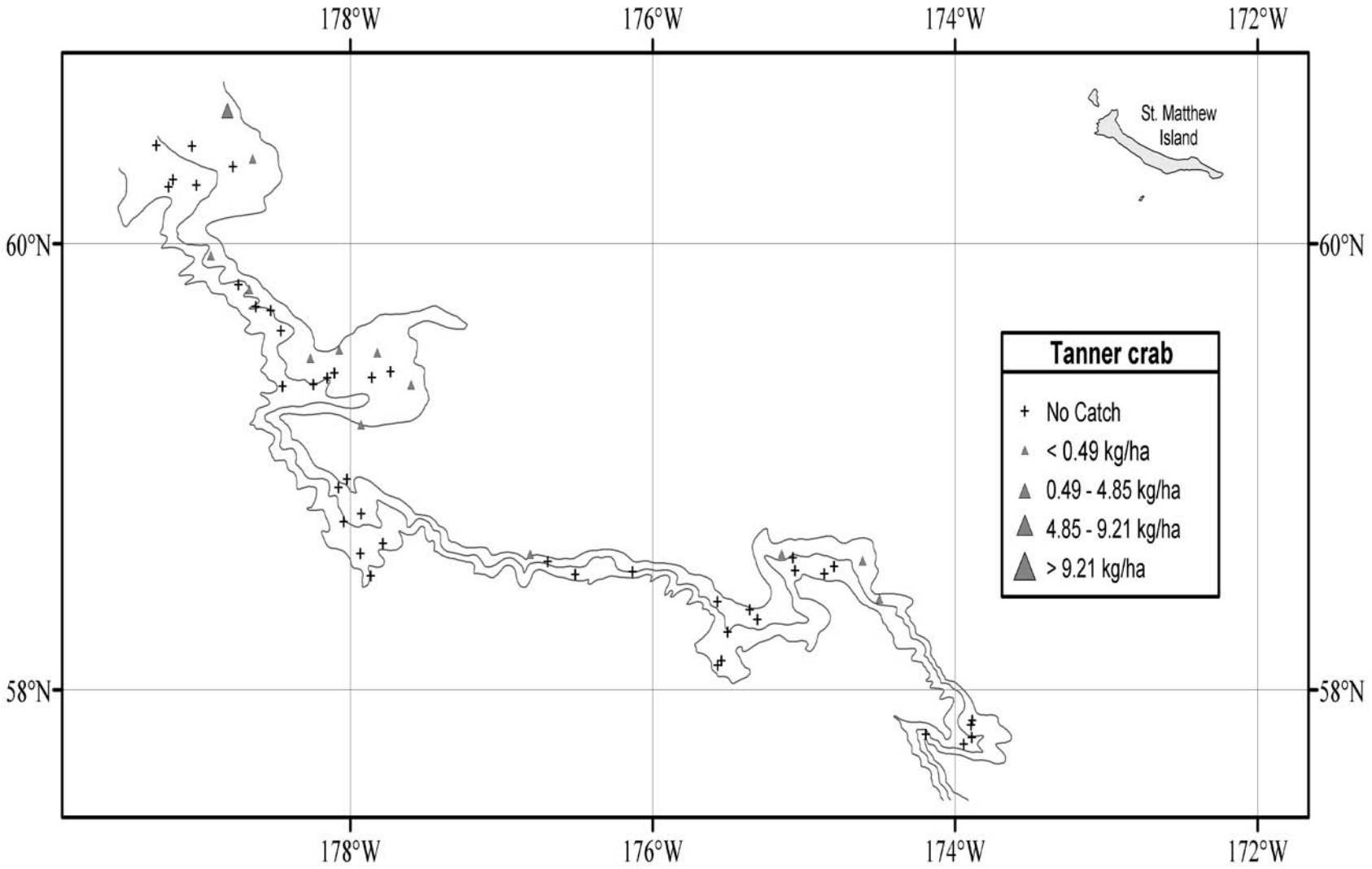

Figure 71. Distribution and relative abundance of Tanner crab (*Chionoecetes bairdi*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

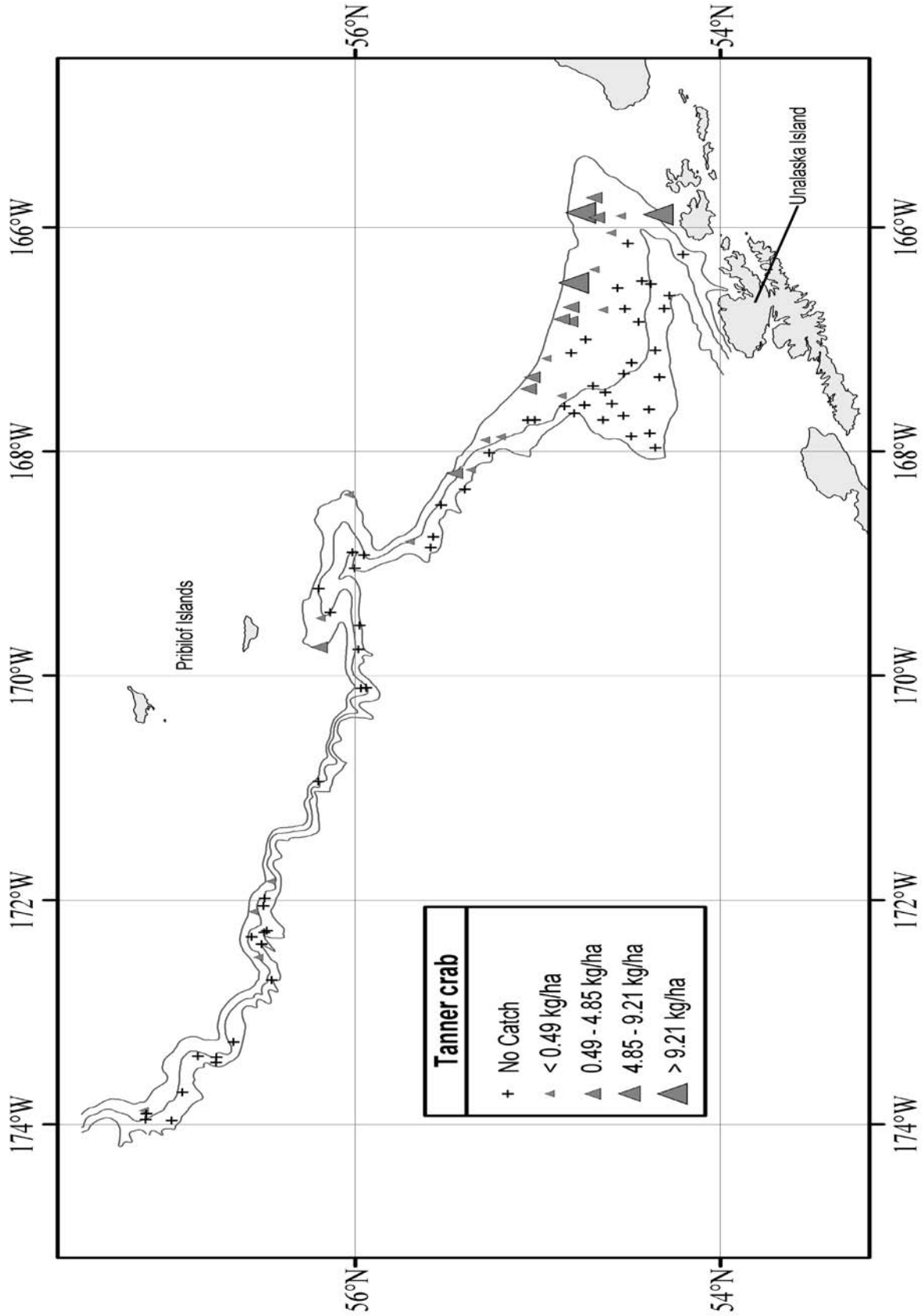

Figure 71. Continued.

Table 45. Abundance estimates by subarea and depth strata for snow crab *(Chionoecetes opilio)* from the 2002 eastern Bering Sea upper continental slope survey.

Chionoecetes opilio **snow crab**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	8.30E+01	6.74E+05	3.69E+03	2.08E+11	0.21	1.68
	400-600	1.71E+01	1.06E+05	2.25E+02	8.59E+09	0.04	0.26
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
2	200-400	8.67E-01	9.42E+03	7.51E-01	8.87E+07	0.01	0.08
	400-600	8.06E-01	6.11E+03	6.50E-01	3.73E+07	0.01	0.09
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
3	200-400	2.87E+00	1.41E+04	5.96E+00	3.36E+07	0.03	0.16
	400-600	7.22E+00	2.96E+04	2.35E+01	4.94E+08	0.08	0.33
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
4	200-400	1.32E+03	3.01E+06	1.73E+06	8.91E+12	10.64	24.36
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
5	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	3.94E-01	6.35E+03	1.55E-01	4.03E+07	0.01	0.15
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	2.89E+01	4.29E+05	5.41E+02	5.51E+10	0.11	1.65
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
All areas and depths combined		**1.46E+03**	**4.29E+06**	**1.73E+06**	**9.18E+12**	**4.95E-01**	**1.41E+00**

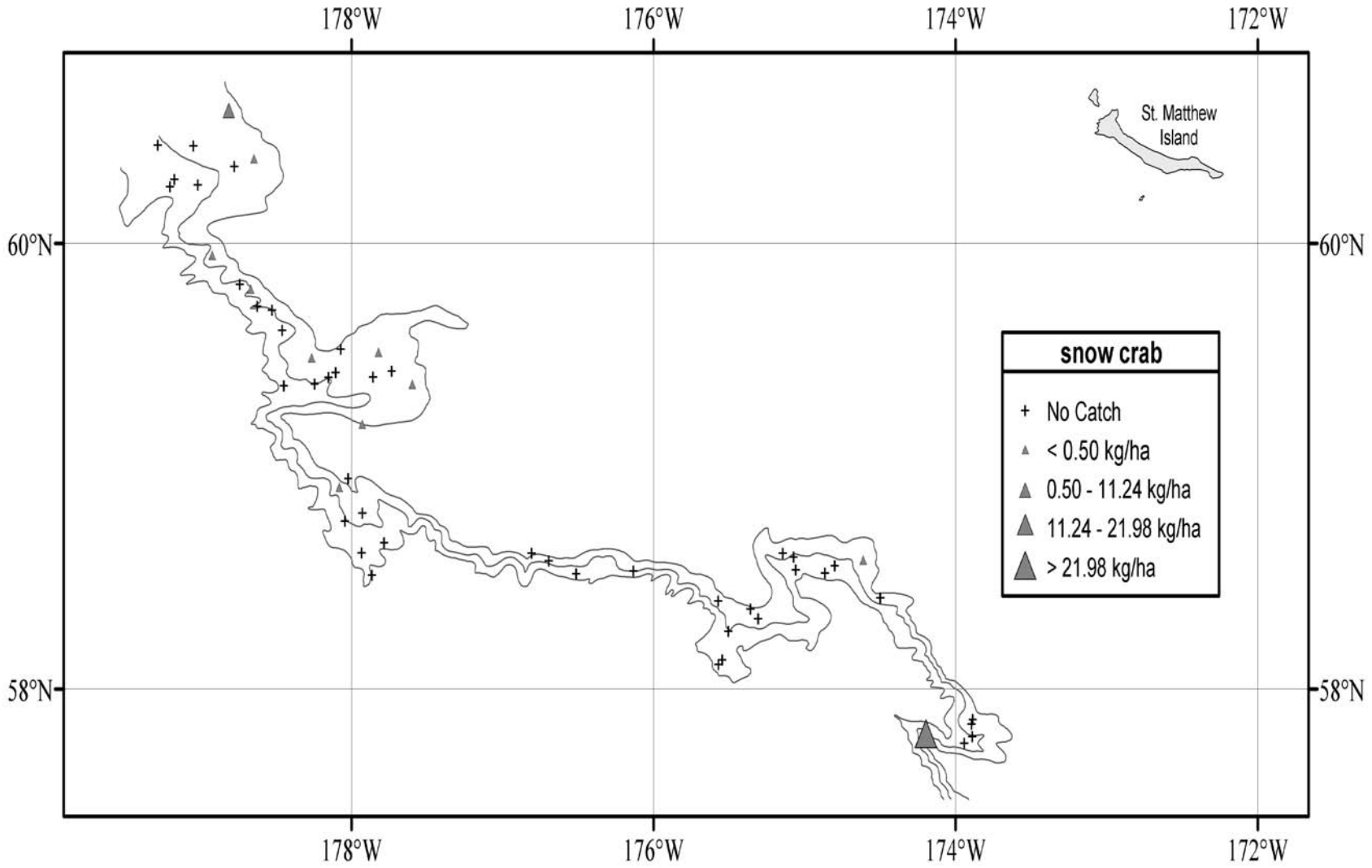

Figure 72. Distribution and relative abundance of snow crab (*Chionoecetes opilio*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

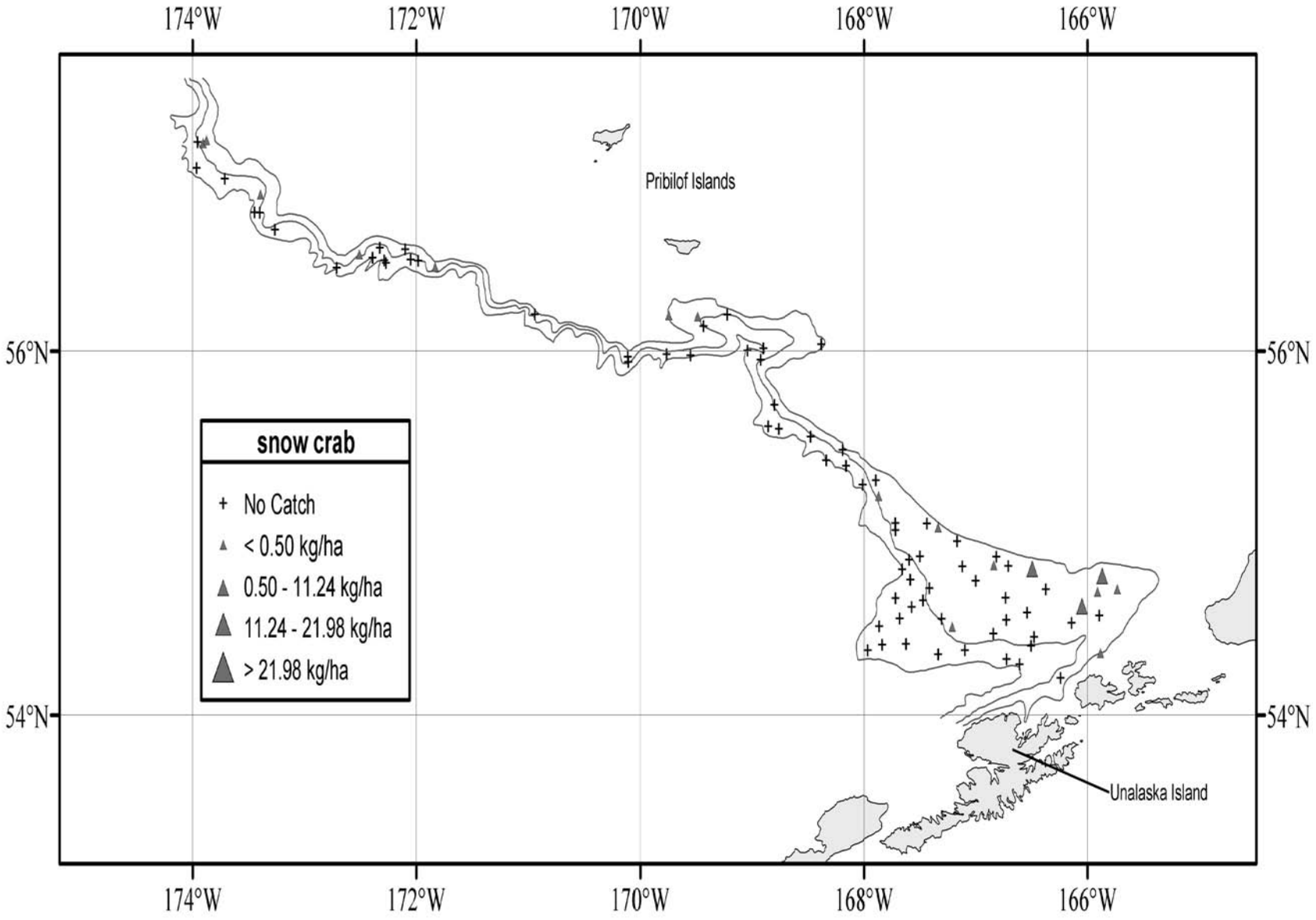

Figure 72. Continued.

Table 46. Abundance estimates by subarea and depth strata for grooved tanner crab *(Chionoecetes tanneri)* from the 2002 eastern Bering Sea upper continental slope survey.

Chionoecetes tanneri **grooved Tanner crab**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	3.03E+02	1.08E+06	2.01E+04	2.84E+11	0.75	2.66
	600-800	2.75E+02	1.43E+06	1.73E+04	5.58E+11	1.58	8.22
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	6.27E+00	8.57E+03	3.94E+01	7.34E+07	0.06	0.08
2	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	4.38E+02	1.06E+06	7.65E+04	3.61E+11	6.22	15.02
	600-800	1.16E+02	3.16E+05	5.76E+03	2.39E+10	1.96	5.35
	800-1,000	8.08E+02	2.04E+06	6.53E+05	4.16E+12	14.62	36.88
	1,000-1,200	1.38E+00	6.46E+03	1.91E+00	4.18E+07	0.03	0.12
3	200-400	1.77E-01	9.31E+03	3.13E-02	8.67E+07	0.00	0.10
	400-600	4.19E+01	4.17E+05	1.20E+03	1.60E+11	0.47	4.70
	600-800	3.17E+02	1.50E+06	7.30E+03	2.09E+11	3.49	16.47
	800-1,000	3.73E+01	5.54E+05	8.31E+01	2.78E+10	0.51	7.57
4	200-400	2.58E+00	1.04E+04	6.67E+00	1.08E+08	0.02	0.08
	400-600	1.01E+01	1.97E+04	1.01E+02	3.87E+08	0.14	0.27
	600-800	2.57E+02	6.83E+05	2.24E+04	1.69E+11	3.70	9.84
	800-1,000	8.98E+01	2.84E+05	7.91E+03	5.98E+10	1.27	4.01
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
5	200-400	3.44E+00	1.05E+04	1.18E+01	1.10E+08	0.08	0.25
	400-600	3.78E+01	7.67E+04	1.20E+03	5.05E+09	0.89	1.80
	600-800	7.79E+01	2.90E+05	1.26E+03	1.98E+10	1.80	6.72
	800-1,000	2.93E+01	3.53E+04	8.61E+02	1.24E+09	0.53	0.64
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	5.02E+00	6.94E+03	2.52E+01	4.81E+07	0.02	0.03
	400-600	3.74E+02	1.26E+06	3.41E+04	4.70E+11	2.19	7.41
	600-800	2.74E+02	1.18E+06	9.70E+03	1.61E+11	2.99	12.81
	800-1,000	5.04E+00	9.94E+03	2.54E+01	9.88E+07	0.08	0.15
	1,000-1,200	2.04E+01	9.08E+04	0.00E+00	0.00E+00	0.41	1.83
All areas and depths combined		**3.53E+03**	**1.24E+07**	**8.59E+05**	**6.67E+12**	**1.16E+00**	**4.22E+00**

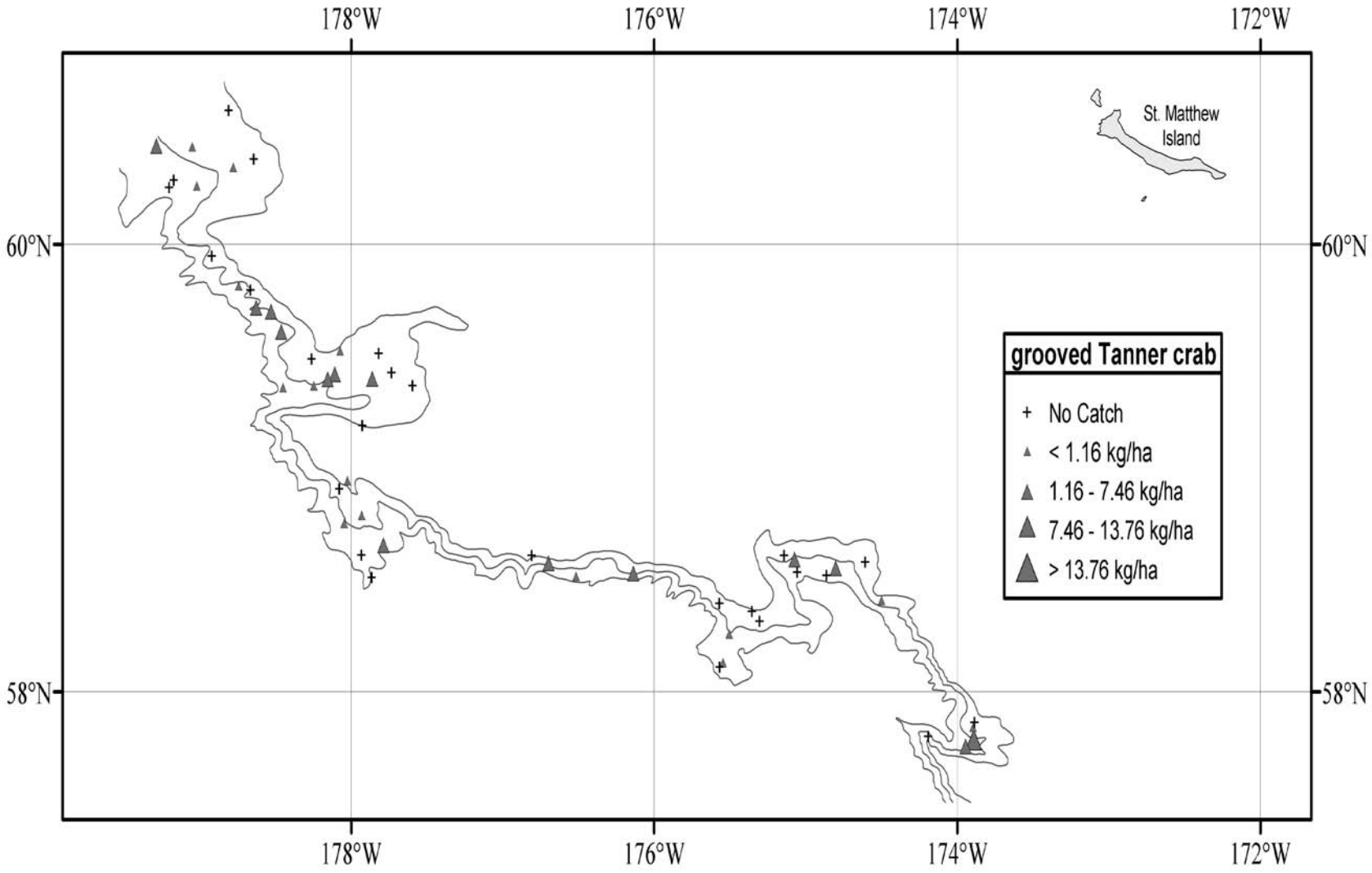

Figure 73. Distribution and relative abundance of grooved Tanner crab (*Chionoecetes tanneri*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

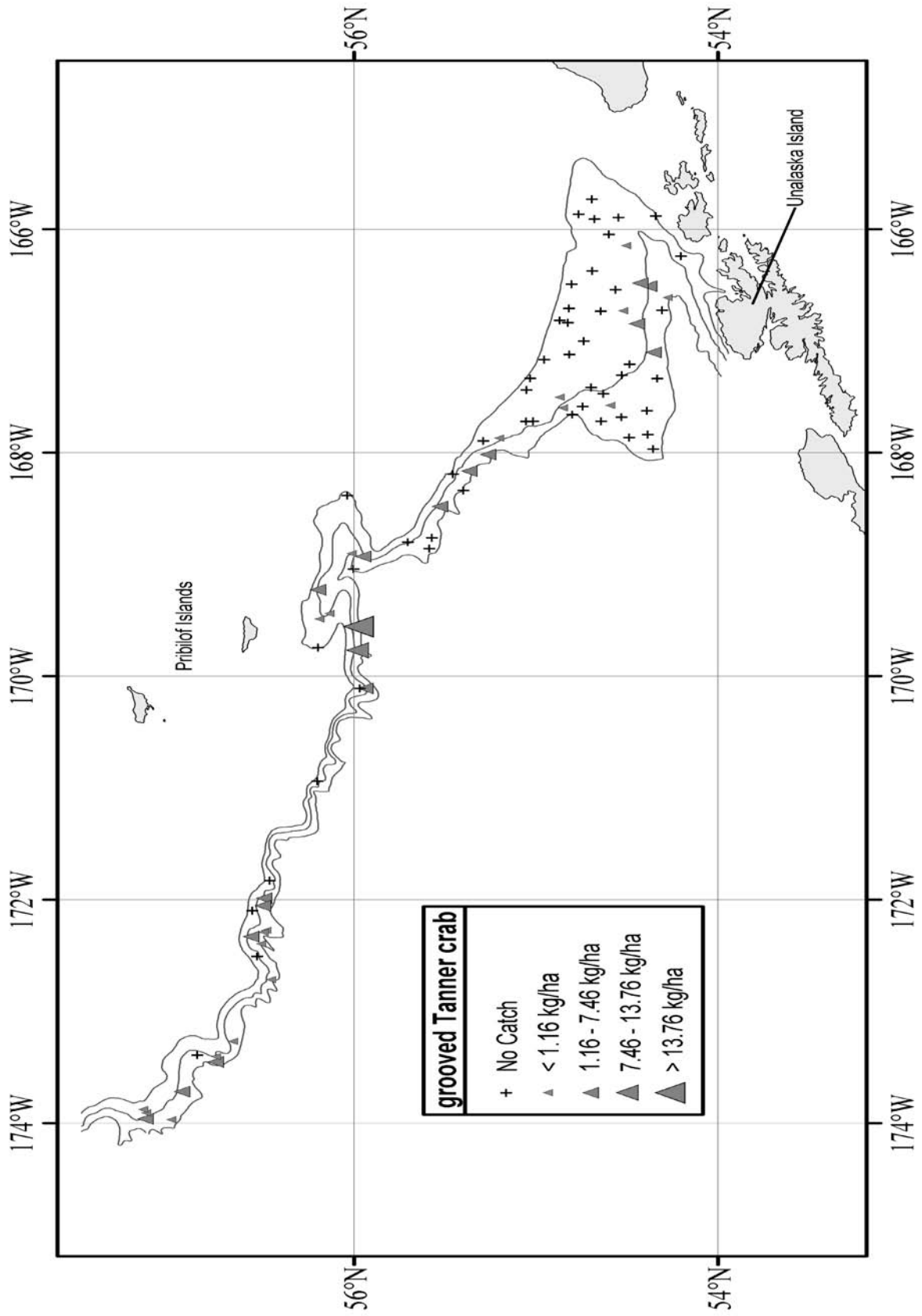

Figure 73. Continued.

Table 47. Abundance estimates by subarea and depth strata for golden king crab *(Lithodes aequispina)* from the 2002 eastern Bering Sea upper continental slope survey.

Lithodes aequispina **golden king crab**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	5.25E+01	5.59E+04	1.10E+03	6.06E+08	0.13	0.14
	400-600	7.78E+01	1.55E+05	1.59E+03	6.57E+09	0.19	0.38
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	1.08E+00	1.46E+04	1.17E+00	2.13E+08	0.01	0.11
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
2	200-400	2.89E+02	1.97E+05	1.66E+04	7.15E+09	2.49	1.70
	400-600	2.53E+02	9.18E+05	5.34E+02	3.45E+11	3.58	13.02
	600-800	1.21E+02	1.70E+05	4.69E+03	7.88E+09	2.05	2.87
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	1.91E+01	1.29E+04	3.63E+02	1.67E+08	0.36	0.24
3	200-400	4.85E+01	2.86E+04	5.38E+02	1.34E+08	0.54	0.32
	400-600	3.18E+01	3.53E+04	4.91E+02	7.81E+08	0.36	0.40
	600-800	8.43E-01	6.96E+03	7.10E-01	4.85E+07	0.01	0.08
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
4	200-400	5.23E+01	8.65E+04	4.43E+02	1.44E+09	0.42	0.70
	400-600	8.40E-01	6.56E+03	7.05E-01	4.30E+07	0.01	0.09
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
5	200-400	1.61E+01	1.57E+04	2.61E+02	2.47E+08	0.38	0.37
	400-600	2.98E+00	4.05E+03	8.88E+00	1.64E+07	0.07	0.10
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	2.94E+01	3.78E+04	8.63E+02	1.43E+09	0.11	0.15
	400-600	1.38E+01	4.58E+04	4.68E+01	3.62E+08	0.08	0.27
	600-800	3.92E-01	1.15E+04	1.54E-01	1.33E+08	0.00	0.13
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
All areas and depths combined		**1.01E+03**	**1.80E+06**	**2.75E+04**	**3.72E+11**	**3.18E-01**	**5.60E-01**

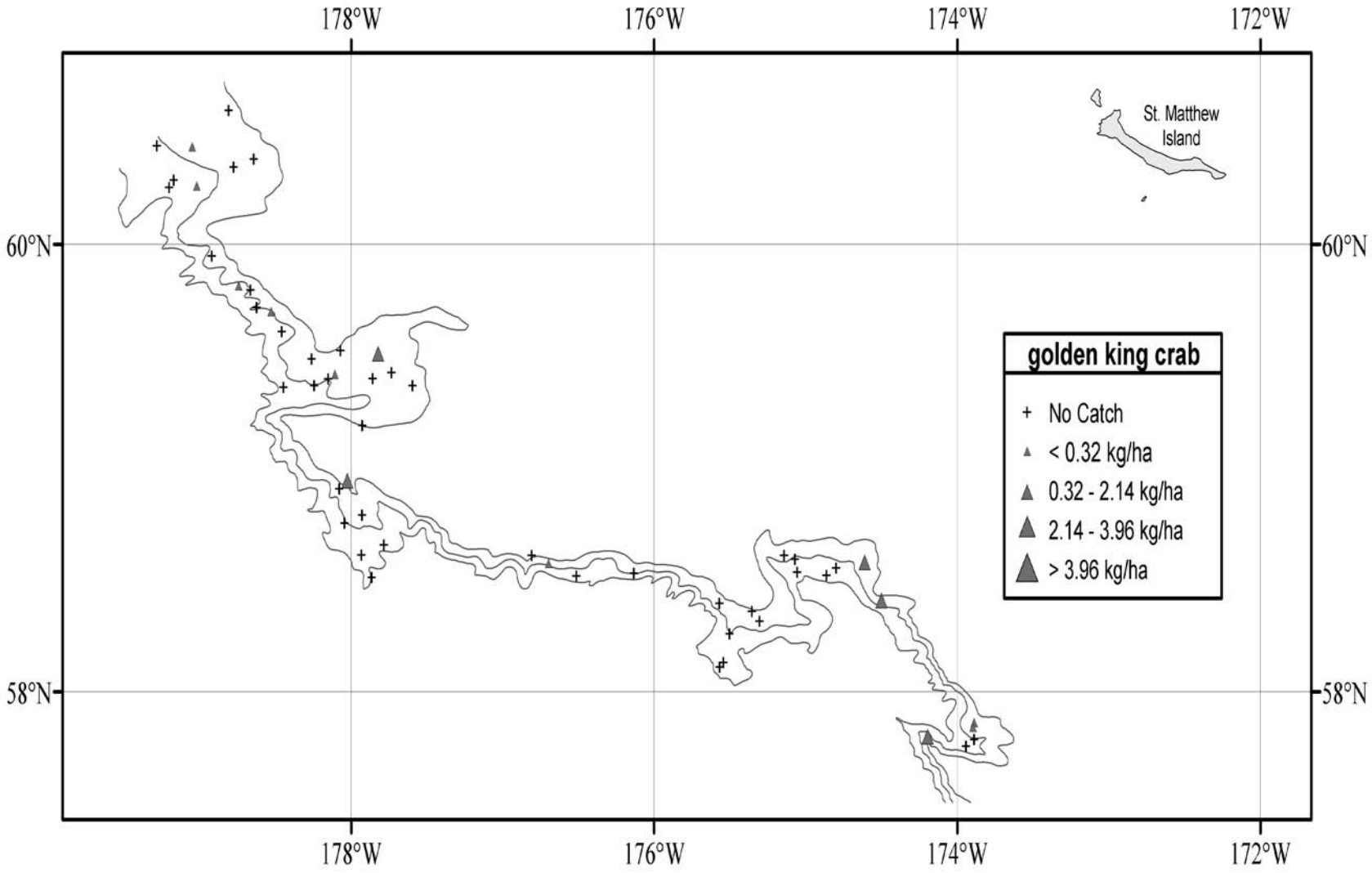

Figure 74. Distribution and relative abundance of golden king crab (*Lithodes aequispina*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

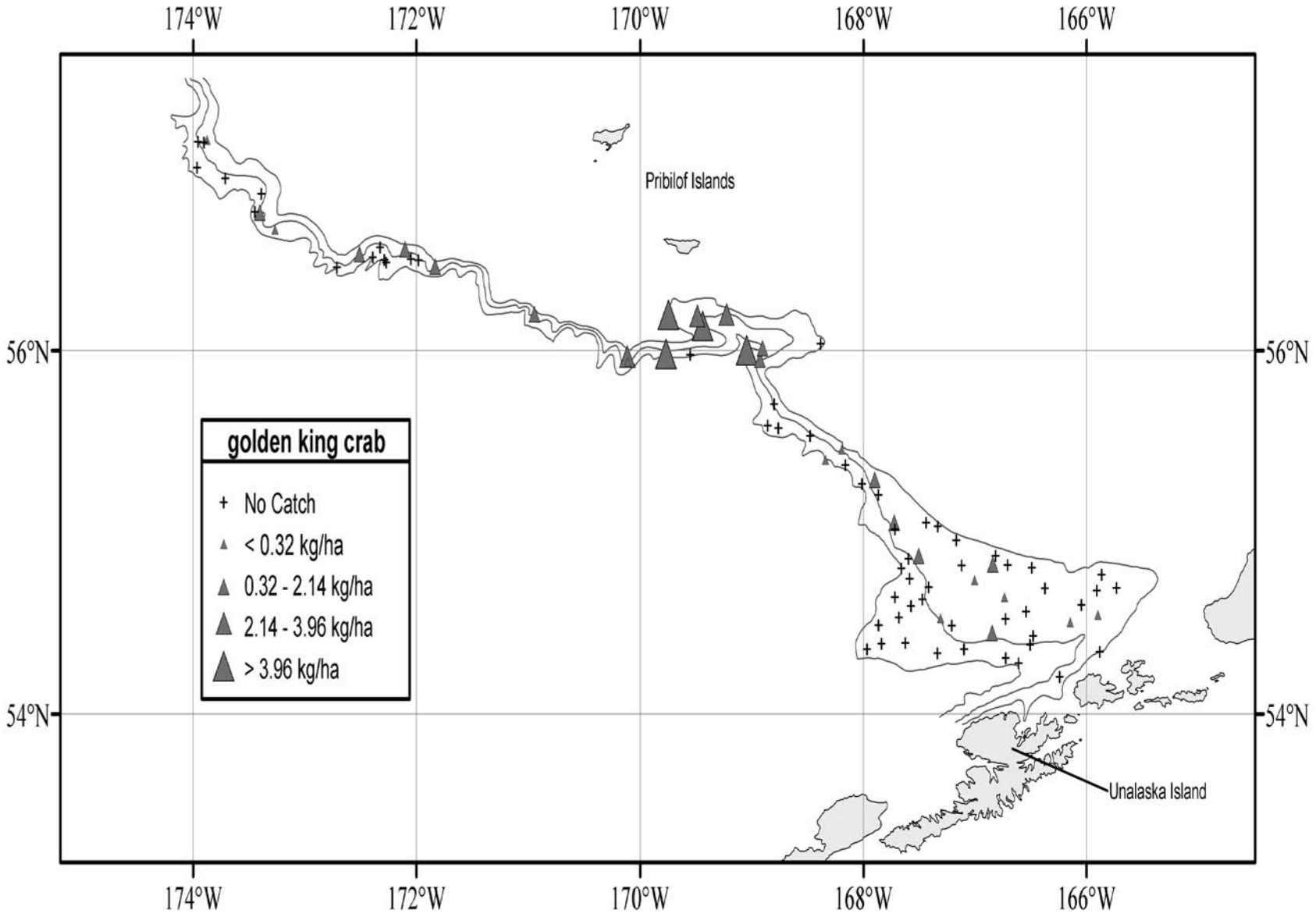

Figure 74. Continued.

Table 48. Abundance estimates by subarea and depth strata for scarlet king crab *(Lithodes couesi)* from the 2002 eastern Bering Sea upper continental slope survey.

Lithodes couesi **scarlet king crab**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	4.72E-01	6.38E+03	2.23E-01	4.07E+07	0.00	0.02
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	2.51E+00	7.30E+03	6.31E+00	5.33E+07	0.02	0.05
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
2	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	1.32E+01	1.41E+04	1.75E+02	2.00E+08	0.19	0.20
	600-800	4.09E+01	6.60E+04	1.32E+03	3.34E+09	0.69	1.12
	800-1,000	5.36E+00	8.46E+03	2.88E+01	7.16E+07	0.10	0.15
	1,000-1,200	7.35E+01	8.40E+04	5.41E+03	7.06E+09	1.37	1.57
3	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	1.07E+01	1.32E+04	5.82E+01	9.87E+07	0.12	0.14
	800-1,000	2.75E+00	4.36E+03	7.54E+00	1.90E+07	0.04	0.06
4	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	1.61E+01	2.92E+04	2.58E+02	8.54E+08	0.23	0.42
	800-1,000	3.21E+01	1.32E+05	1.03E+03	1.74E+10	0.45	1.87
	1,000-1,200	1.67E+01	1.65E+04	7.07E+01	8.54E+07	0.25	0.25
5	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	7.87E+00	2.73E+04	6.20E+01	7.43E+08	0.18	0.63
	800-1,000	3.98E+01	2.82E+04	1.59E+03	7.96E+08	0.72	0.51
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	2.03E+01	2.88E+04	4.12E+02	8.31E+08	0.22	0.31
	800-1,000	3.22E+01	4.97E+04	1.03E+03	2.47E+09	0.50	0.77
	1,000-1,200	2.76E+01	9.08E+04	0.00E+00	0.00E+00	0.56	1.83
All areas and depths combined		**3.42E+02**	**6.06E+05**	**1.15E+04**	**3.41E+10**	**1.02E-01**	**1.71E-01**

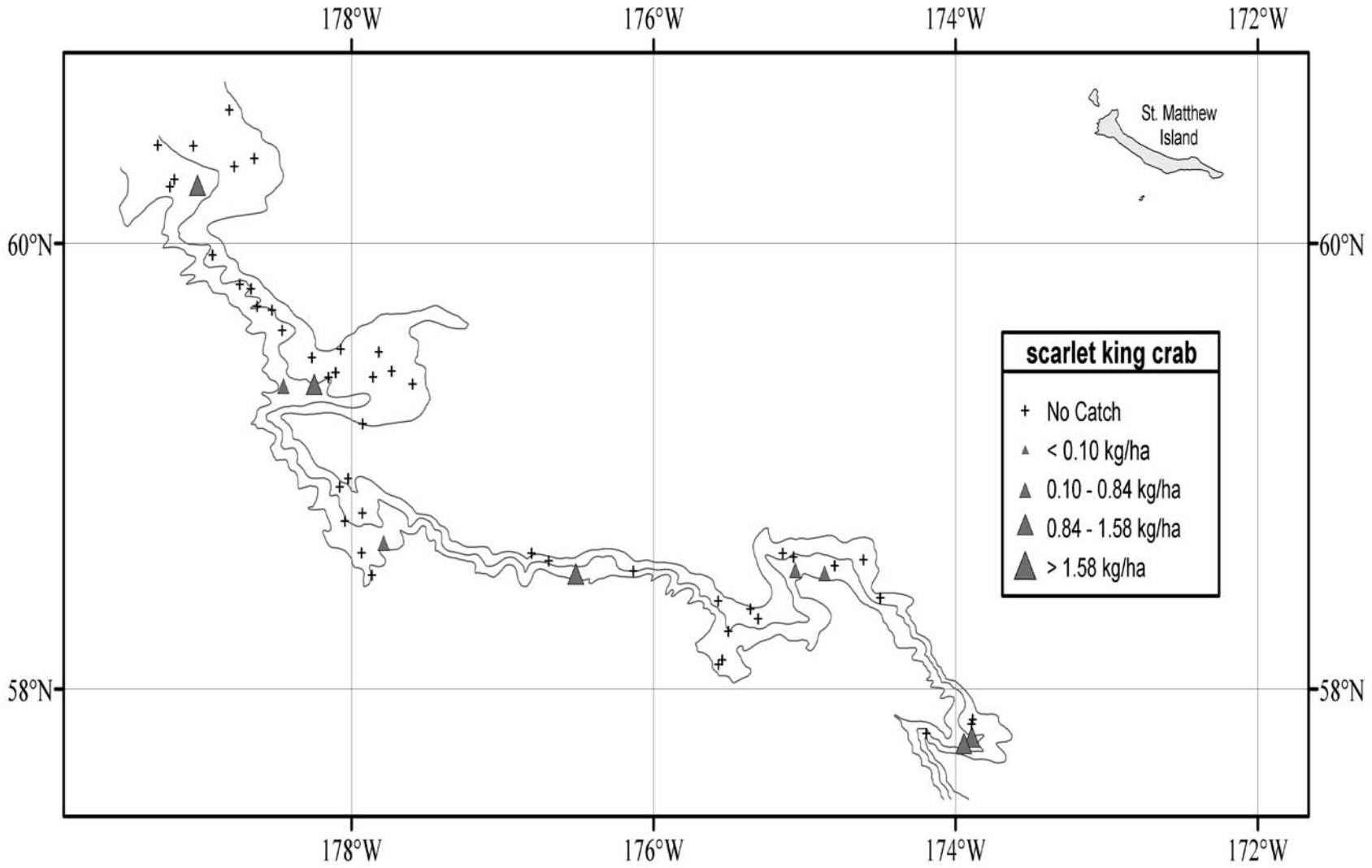

Figure 75. Distribution and relative abundance of scarlet king crab (*Lithodes couesi*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

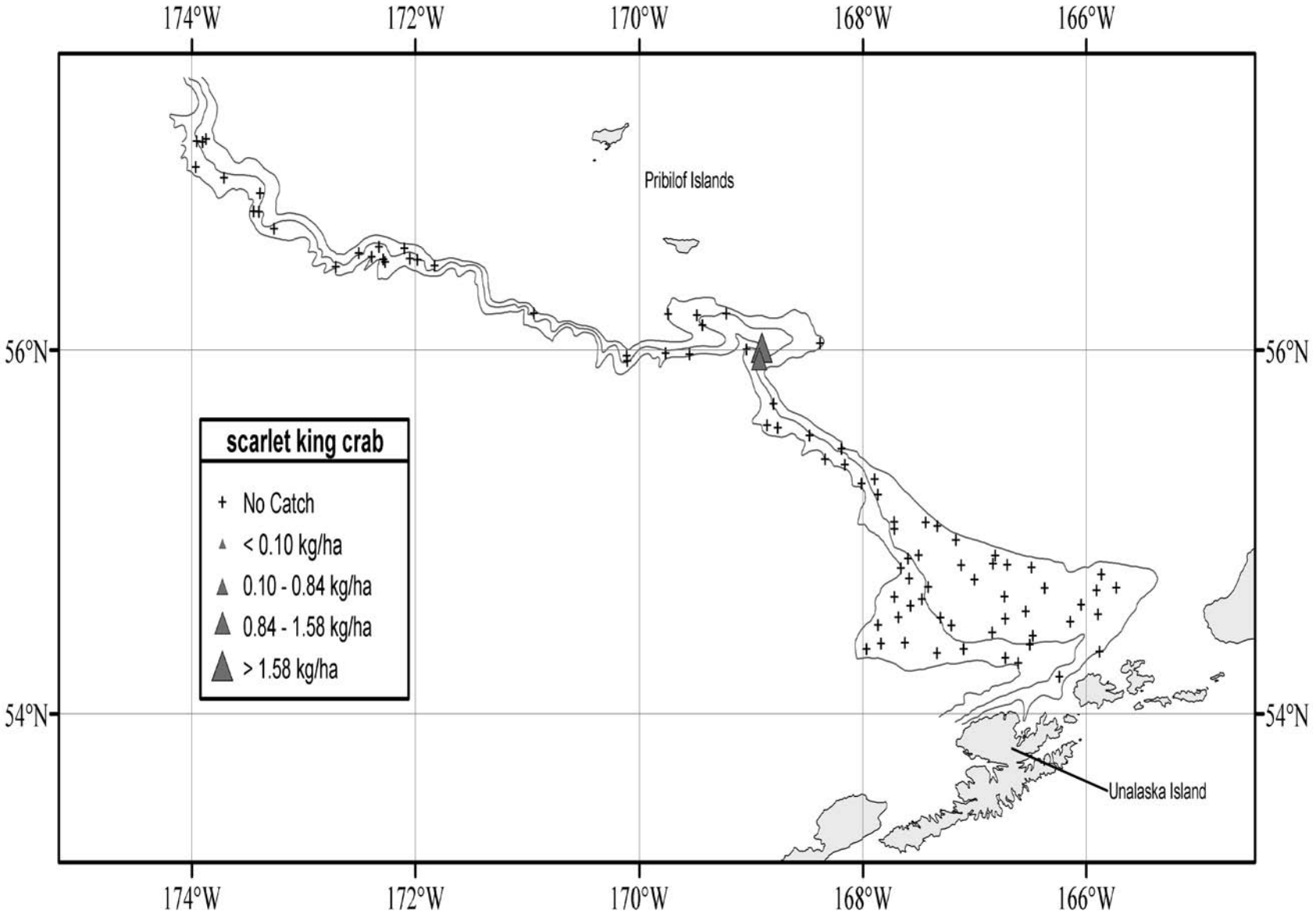

Figure 75. Continued.

Table 49. Abundance estimates by subarea and depth strata for northern shrimp *(Pandalus borealis)* from the 2002 eastern Bering Sea upper continental slope survey.

Pandalus borealis **northern shrimp**

Subarea	Depth strata (m)	Biomass (t)	Population	Variance of biomass	Variance of population	Average CPUE (kg/ha)	Average CPUE (no./ha)
1	200-400	3.37E+02	6.65E+07	5.24E+03	2.34E+14	0.84	165.63
	400-600	1.61E+01	2.21E+06	2.17E+02	3.78E+12	0.04	5.45
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
2	200-400	7.94E+01	1.54E+07	2.15E+03	1.03E+14	0.69	132.98
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
3	200-400	2.39E+01	4.55E+06	5.34E+01	3.73E+12	0.26	50.32
	400-600	2.98E+00	6.05E+05	8.90E+00	3.66E+11	0.03	6.83
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
4	200-400	7.47E+01	1.37E+07	5.16E+02	1.79E+13	0.60	110.48
	400-600	4.96E+00	7.78E+05	2.46E+01	6.06E+11	0.07	10.66
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
5	200-400	2.03E+01	3.02E+06	8.64E+00	6.78E+10	0.48	71.23
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
6	200-400	3.55E+02	4.70E+07	1.09E+04	1.68E+14	1.37	181.04
	400-600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	600-800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	800-1,000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
	1,000-1,200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00
All areas and depths combined		**9.14E+02**	**1.54E+08**	**1.92E+04**	**5.31E+14**	**2.67E-01**	**4.60E+01**

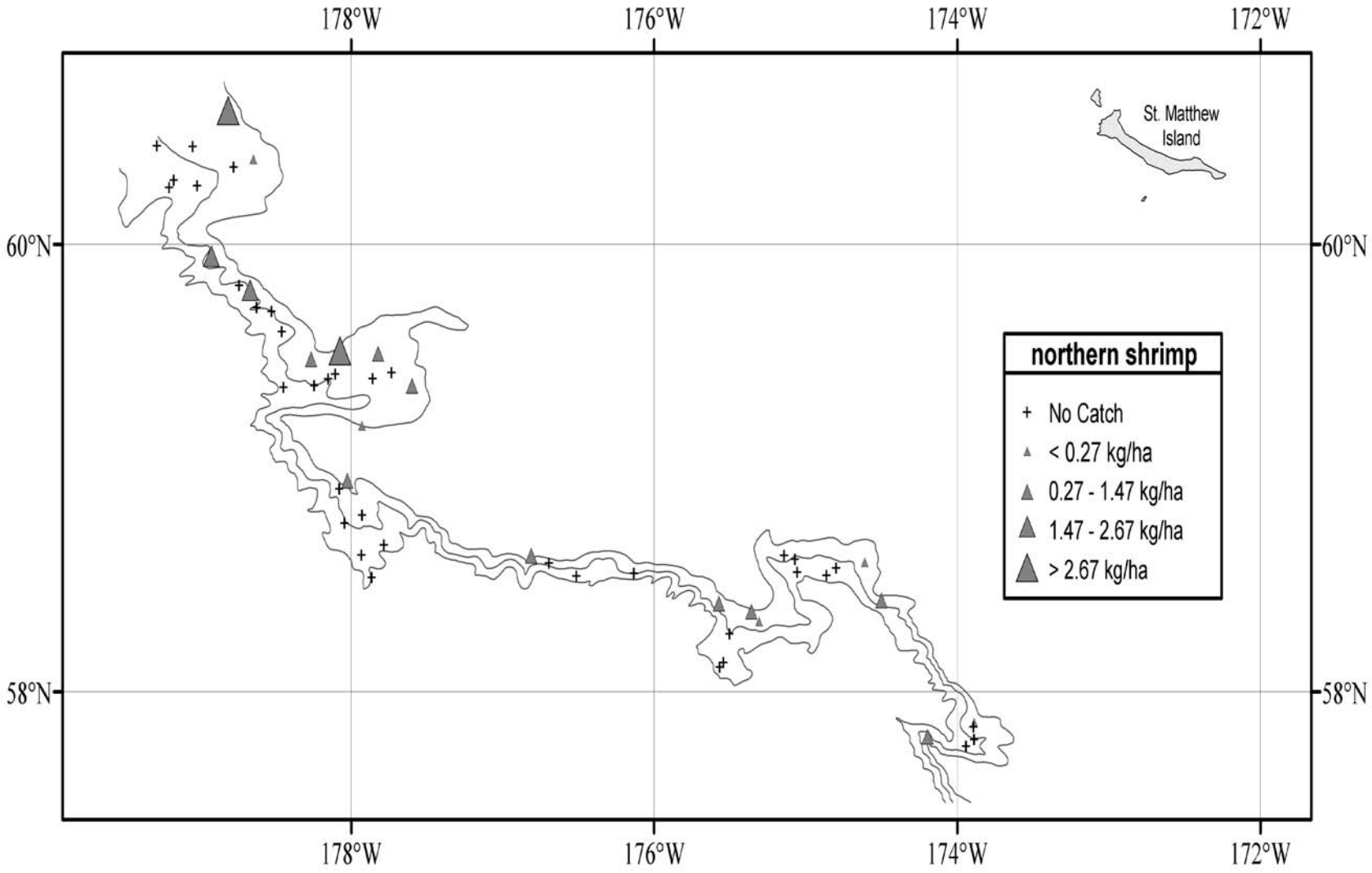

Figure 76. Distribution and relative abundance of northern shrimp (*Pandalus borealis*) from the 2002 eastern Bering Sea upper continental slope survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean CPUE, between two and four standard deviations above the mean CPUE, and greater than four standard deviations above the mean CPUE. Each symbol is proportional to the sample CPUE.

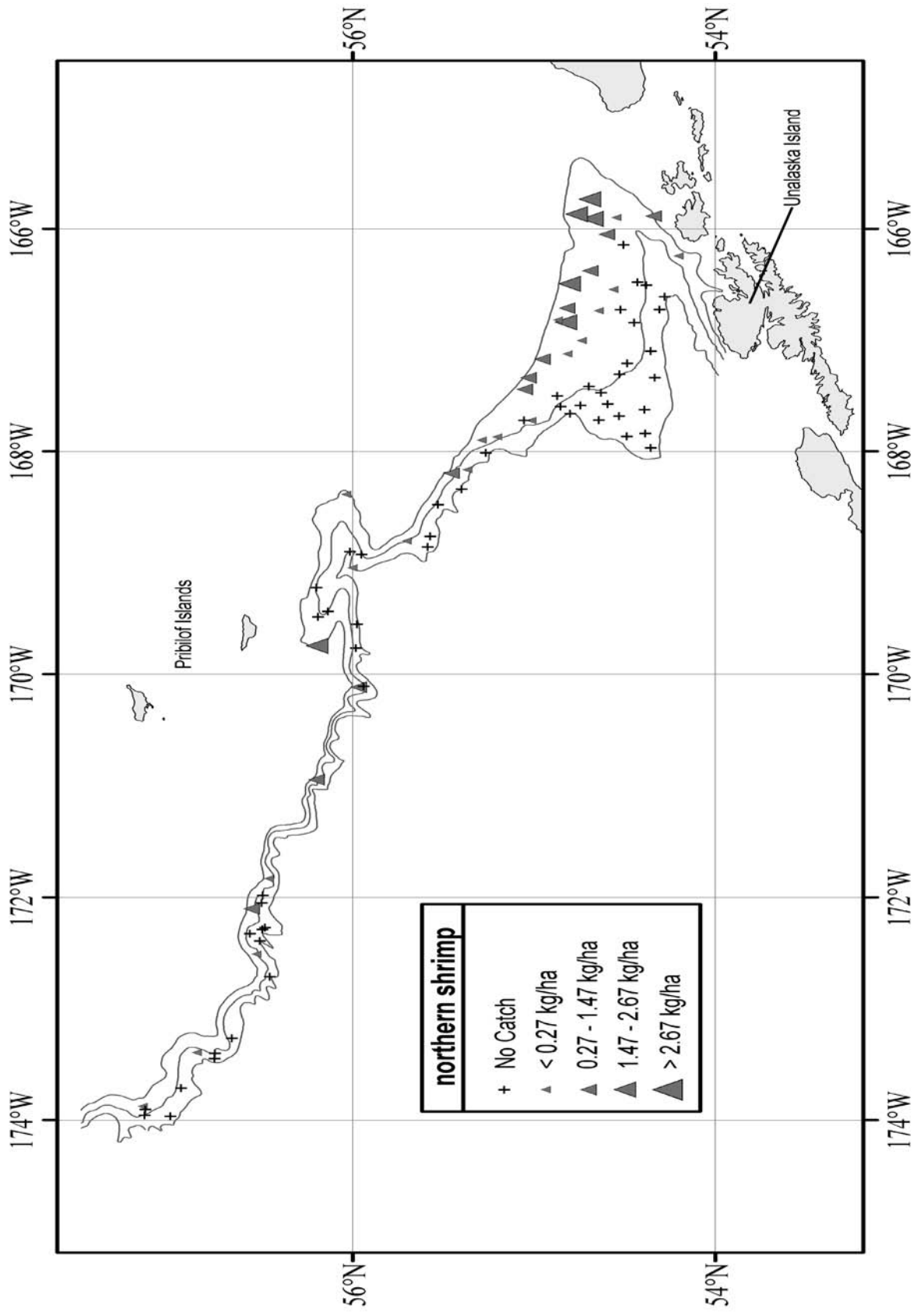

Figure 76. Continued.

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APPENDIX A

Table A1. Scope ratio table used during the 2002 Eastern Bering Sea upper continental slope survey.

Table A2. Performance codes assigned to trawl hauls conducted on the 2002 Eastern Bering Sea upper continental slope survey.

Haul Log

The following Haul Log details the location, depth, time, temperature and net mensuration parameters of each haul conducted during the 2002 EBSUCS survey. In addition it summarizes each haul's catch by weight (kg) with a breakdown of the species composition and the individual species weight or a grouped weight for less abundant species. Table A1 describes the amount of trawl warp used for each trawl dependent on bottom depth. Table A2 lists the number of trawl hauls completed by trawl performance code during the survey. Zero and positive performance codes are considered successful tows and were used for the standard abundance estimates. Negative tows and tows greater than 1,200 m were not included in the estimates of abundance. For quick reference, the unsuccessful tows and tows over 1,200 m in depth are shaded in gray in the haul log.

Table A1. Scope ratio table used during the 2002 eastern Bering Sea upper continental slope survey.

Bottom depth		Warp length	
Minimum (m)	**Maximum (m)**	**Meters**	**Fathoms**
146	176	550	301
177	206	600	328
207	237	650	355
238	267	700	383
269	298	750	410
299	328	800	437
330	358	850	465
360	389	900	492
390	420	950	519
421	450	1000	547
451	481	1050	574
482	511	1100	601
512	542	1150	628
543	572	1200	656
573	603	1250	683
604	633	1300	710
634	664	1350	738
665	694	1400	765
695	725	1450	792
726	755	1500	820
756	786	1550	847
787	816	1600	874
817	847	1650	901
848	877	1700	930
878	908	1750	957
909	938	1800	984
939	969	1850	1012
970	999	1900	1039
1000	1030	1950	1066
1031	1060	2000	1094
1061	1091	2050	1121
1091	1121	2100	1148

Table A2. Performance codes assigned to trawl hauls conducted on the 2002 eastern Bering Sea upper continental slope survey. Performance codes zero or greater are considered successful hauls, and codes less than zero are unsuccessful hauls.

Performance code	Performance code explanation	Number of hauls
6.1	Satisfactory performance, depth change over tow exceeds survey defined limits	9
5.3	Satisfactory performance, weather affected trawl performance	3
5.1	Satisfactory performance, net came off bottom	3
5	Satisfactory performance, unspecified gear performance problem	3
4.1	Satisfactory performance, caught large rock	3
3.2	Satisfactory performance, caught longline gear	1
1.12	Satisfactory performance, hauled back early due to minor hang	1
1.11	Satisfactory performance, completed the tow	1
1.1	Satisfactory performance, a minor hang	1
0	Good performance	118
-2.4	Unsatisfactory performance, belly damaged	4
-4.2	Unsatisfactory performance, caught large quantity of mud	2
-5.1	Unsatisfactory performance, net came off bottom	1
-5.2	Unsatisfactory performance, net improperly configured, unspecified reason	3
-5.23	Unsatisfactory performance, headrope or footrope tangled	1
-5.3	Unsatisfactory performance, weather affected trawl performance	1
-6.1	Unsatisfactory performance, depth change over tow exceeds defined limits	1

Haul Number	1	2	3	4	5	6
Haul Date & Start Time	6/5/02 10:09	6/5/02 12:58	6/5/02 16:36	6/5/02 20:47	6/6/02 7:43	6/6/02 11:32
Tow Start Latitude	5535.4	5535.2	5542.2	5534.3	5558.1	5556.4
Tow Start Longitude	-16852.3	-16851.6	-16848.2	-16845.9	-17006.6	-17006.4
Tow End Latitude	5534.8	5534.5	5541.3	5535	5558.3	5556.6
Tow End Longitude	-16850.6	-16849.6	-16846.7	-16847.6	-17008.9	-17004.1
Station ID	190	190	153	184	165	183
Bottom Depth (m)	1016	1018	219	877	313	647
Stratum Designation	25	25	21	24	21	23
Tow Duration (Hour)	0.59	0.54	0.52	0.47	0.51	0.54
Distance of Tow (nm)	2.170	2.544	2.510	2.262	2.424	2.527
Average Net Width (m)	13.93	12.32	13.55	14.61	15.29	13.97
Performance Code	-5.2	0	0	0	0	0
Surface Temperature (^{0}C)	6.4	6.5	6.5	6.5	6.1	6.2
Bottom Temperature (^{0}C)	2.6	2.7	3.5	2.8	3.5	3.4
Sleeper shark						
Sandpaper skate			6.42		7.46	
Mud skate						
Roughtail skate	16.75	1.50		7.19		
Alaska skate			0.19			
Aleutian skate	3.38	1.10	26.44	0.24	62.20	2.81
Commander skate						
Whiteblotched skate						
Whitebrow skate	0.44					2.78
Other skates						
Arrowtooth flounder			33.14		54.69	
Kamchatka flounder	5.56	5.48	15.14	8.84	83.13	12.48
Greendland turbot	26.26	28.46	3.10	22.89	30.06	47.57
Pacific halibut					50.27	
Flathead sole			8.67			
Rex sole			4.51		30.66	
Other flatfishes						
Pacific grenadier		0.04		0.01		
Giant grenadier	294.36	376.78		301.44	1490.00	200.14
Popeye grenadier	188.02	156.04		166.38		64.26
Pacific cod			16.30		27.00	
Walleye pollock			4.88		4.55	
Blob sculpin		0.62		1.60		
Bigmouth sculpin					9.06	
Other sculpins	0.00	0.01	0.59	0.01	90.52	0.41
Twoline eelpout	0.19	0.76		1.74		7.22
Ebony eelpout						
Black eelpout			0.04	0.33		0.10
Other eelpouts	0.15	0.08		0.02		
Sablefish	19.32	21.84	1.02	12.60		6.83
Searcher						
Pacific herring						
Blacktail snailfish		0.99		2.68		9.89
Other snailfishes	0.84	1.78	10.03	2.13	16.75	0.28
Poachers			1.08	0.05	2.00	0.10
Mesopelagic fish	1.64	0.43	0.06	0.11	0.21	0.33
Other fishes	0.89	0.63	2.14	1.12	24.81	
Shortspine thornyhead	4.23	1.62		3.95		108.18
Rougheye rockfish					10.53	
Pacific ocean perch			293.79		25.15	
Light dusky rockfish						
Northern rockfish						
Shortraker rockfish					32.12	
Grooved Tanner crab						15.50
Tanner crab			0.12			
Triangle Tanner crab	48.68	60.66		53.90	0.57	0.34
Hermit crabs	0.22	0.04	0.16	0.18	0.16	0.59
Scarlet king crab						0.55
Golden king crab					9.29	0.90
Snails	0.63	1.29	0.13	1.03	0.10	1.09
Clams						
Octopus		0.65	3.64	0.57	0.62	0.23
Squids			2.37	0.79	3.17	0.62
Sea anemones, corals			0.62		0.76	9.41
Jellyfish	1.50	0.02		0.15		0.01
Shrimps	0.25	0.27	0.27	0.06	4.01	
Seastars	0.07	0.11	0.03		2.95	18.02
Other invertebrates	8.28	24.80	0.34	15.68	110.36	5.29
Haul Total Weight (kg)	**621.76**	**685.97**	**435.22**	**605.79**	**2183.17**	**515.95**

Haul Number	7	8	9	10	11	12
Haul Date & Start Time	6/6/02 17:33	6/6/02 21:07	6/7/02 7:34	6/7/02 10:21	6/7/02 15:28	6/7/02 20:02
Tow Start Latitude	5558.9	5558.5	5612	5600.2	5600.9	5602.2
Tow Start Longitude	-16946.1	-16933.3	-16913.6	-16902.7	-16854.1	-16823
Tow End Latitude	5559.2	5559	5611.5	5600.2	5600.9	5603.4
Tow End Longitude	-16944	-16931.4	-16911.3	-16900.4	-16851.1	-16822.3
Station ID	173	188	171	158	191	156
Bottom Depth (m)	509	825	516	305	1200	221
Stratum Designation	22	24	22	21	25	21
Tow Duration (Hour)	0.5	0.54	0.55	0.53	0.68	0.52
Distance of Tow (nm)	2.336	2.301	2.577	2.538	3.151	2.482
Average Net Width (m)	14.24	14.20	14.71	15.10	13.15	14.78
Performance Code	0	5	0	0	0	0
Surface Temperature (^{0}C)	6.1	6.7	6.4	6.4	6.1	6.6
Bottom Temperature (^{0}C)	3.6	2.9	0	3.4	2.4	3.7
Sleeper shark		36.76				
Sandpaper skate			0.29			
Mud skate	0.74		6.11			13.49
Roughtail skate		3.73			0.10	0.11
Alaska skate						8.42
Aleutian skate	35.62	5.98	40.32	18.70	4.88	7.43
Commander skate			27.00		4.48	
Whiteblotched skate			7.26	19.91	0.17	27.92
Whitebrow skate		1.49	3.51	8.40	0.39	
Other skates						
Arrowtooth flounder	56.17		102.80	212.39		65.22
Kamchatka flounder	315.57	15.89	95.44	26.01		45.34
Greendland turbot	28.78	14.40	51.86	14.53	10.61	
Pacific halibut	11.27		14.12	37.08		6.04
Flathead sole	16.53			0.53		42.60
Rex sole	78.65		5.97	10.45		2.25
Other flatfishes				0.61		2.10
Pacific grenadier					62.85	
Giant grenadier	63.80	131.73	16.44		188.12	
Popeye grenadier	4.02	210.42	7.39		584.34	
Pacific cod				31.86		12.02
Walleye pollock			2.59		1.36	12.12
Blob sculpin		4.98				
Bigmouth sculpin			2.56	53.97		
Other sculpins	0.10	0.02	0.51	1.98	0.16	1.06
Twoline eelpout	2.19	6.49	38.55	0.10	12.99	
Ebony eelpout	17.04		117.00		18.06	
Black eelpout	0.79	0.12	0.73	0.33		
Other eelpouts	0.01				0.17	
Sablefish	90.70		80.36			
Searcher						
Pacific herring						
Blacktail snailfish	5.41	0.46	6.03			
Other snailfishes	0.20	0.38	0.03	2.71	1.26	0.04
Poachers	0.02	0.03	0.01	2.29		0.51
Mesopelagic fish	0.11				0.25	
Other fishes		0.37		7.66	3.65	0.25
Shortspine thornyhead	145.90		77.30			
Rougheye rockfish				2.64		
Pacific ocean perch				53.32		127.76
Light dusky rockfish						
Northern rockfish						
Shortraker rockfish	11.88		17.88	6.58		
Grooved Tanner crab	44.85	95.50	19.48		0.21	
Tanner crab						0.31
Triangle Tanner crab					10.35	
Hermit crabs		0.11	0.12			
Scarlet king crab	1.87	0.63			11.38	
Golden king crab	14.08		12.55	18.98	2.95	
Snails		0.84		0.19	0.02	0.24
Clams						
Octopus	0.12					
Squids	4.88		1.19	7.26	0.32	5.51
Sea anemones, corals	6.75	0.15	43.84	2.79		
Jellyfish	0.33			1.33	0.07	
Shrimps	0.05	0.04	0.21	1.05		0.23
Seastars	6.23	1.09	0.23	2.37	0.32	2.57
Other invertebrates	3.99	1.58	0.00	1.46	6.23	0.93
Haul Total Weight (kg)	**968.63**	**533.19**	**799.66**	**547.50**	**925.71**	**384.47**

Haul Number	13	14	15	16	17	18
Haul Date & Start Time	6/8/02 8:45	6/8/02 17:47	6/8/02 21:09	6/9/02 7:08	6/9/02 10:26	6/9/02 14:14
Tow Start Latitude	5531.7	5524	5527.4	5522.1	5516.8	5517.3
Tow Start Longitude	-16828.8	-16820.4	-16811.7	-16809.8	-16803.3	-16753.8
Tow End Latitude	5532.6	5523.3	5526.6	5521.5	5516	5518.2
Tow End Longitude	-16830.3	-16819.1	-16809.8	-16807.7	-16801.5	-16755.6
Station ID	91	137	49	72	117	42
Bottom Depth (m)	533	924	244	508	720	309
Stratum Designation	12	14	11	12	13	11
Tow Duration (Hour)	0.5	0.41	0.53	0.53	0.51	0.53
Distance of Tow (nm)	2.329	1.930	2.508	2.498	2.412	2.514
Average Net Width (m)	15.74	13.74	15.73	15.48	15.59	16.14
Performance Code	0	4.1	0	0	-2.4	0
Surface Temperature (^{0}C)	6.6	6.6	6.4	6.5	6.8	6.9
Bottom Temperature (^{0}C)	0	3	3.4	3.6	3.3	3.3
Sleeper shark						
Sandpaper skate			1.50			4.70
Mud skate						
Roughtail skate		3.18			3.83	
Alaska skate						7.94
Aleutian skate	2.55	0.11	0.35	1.84	6.78	16.38
Commander skate						
Whiteblotched skate	1.71		7.39			14.74
Whitebrow skate					0.62	3.22
Other skates	0.20	0.17	0.08	3.04		
Arrowtooth flounder	83.50		15.72	42.08		71.10
Kamchatka flounder	61.16	1.30	1.49	72.63	3.91	35.68
Greendland turbot	29.24	2.68	13.68	30.63	33.26	51.43
Pacific halibut	69.62			62.25		21.08
Flathead sole			2.98	0.64		1.08
Rex sole	0.81		10.09	4.56		65.10
Other flatfishes		1.32	0.57	0.17	5.32	
Pacific grenadier						
Giant grenadier	11.04	385.91		6.47	45.44	
Popeye grenadier	14.55	154.30			61.32	
Pacific cod			57.94			19.04
Walleye pollock			26.02		1.65	62.73
Blob sculpin		0.96				
Bigmouth sculpin	15.72		3.80	4.41		5.23
Other sculpins	2.47		5.67	0.90	0.35	7.71
Twoline eelpout	21.39	2.10		81.71	30.98	
Ebony eelpout	23.48			5.78		
Black eelpout	0.91	0.17		0.34	0.26	1.22
Other eelpouts	0.02				0.00	
Sablefish	189.62	26.30		99.96	27.38	3.32
Searcher						
Pacific herring						
Blacktail snailfish	0.99	1.30		2.89	4.57	
Other snailfishes	1.03	0.26	3.38			0.01
Poachers	0.07		0.90		0.04	0.01
Mesopelagic fish	0.43	0.22	0.53	0.05	0.25	0.38
Other fishes	0.28	0.89	2.15	1.01	1.06	0.81
Shortspine thornyhead	143.12	5.84		140.86	64.42	
Rougheye rockfish			3.56	1.07		1.78
Pacific ocean perch			17.73			23.62
Light dusky rockfish						
Northern rockfish						
Shortraker rockfish						
Grooved Tanner crab	13.64			17.53	16.88	
Tanner crab			2.39	0.05		0.87
Triangle Tanner crab		10.86		0.26		
Hermit crabs	0.15	0.17		1.07	0.10	0.81
Scarlet king crab		0.34				
Golden king crab		0.15	0.99		0.05	1.49
Snails	1.20	0.84	1.69	1.82	0.71	1.60
Clams						
Octopus	0.83	0.93	2.41	0.06	0.71	2.19
Squids	3.45	0.62	1.94	6.38	2.52	2.05
Sea anemones, corals	4.39	0.17	3.31	0.38	0.01	5.55
Jellyfish			1.75		2.11	1.52
Shrimps	0.06	0.09	1.89	0.09	0.15	0.62
Seastars	1.56	1.69	4.96	6.87	3.19	11.27
Other invertebrates	0.13	32.60	0.68	0.06	25.27	1.10
Haul Total Weight (kg)	**699.36**	**635.47**	**197.54**	**597.85**	**343.14**	**447.38**

Haul Number	19	20	21	22	23	24
Haul Date & Start Time	6/9/02 17:41	6/9/02 20:35	6/10/02 7:12	6/10/02 10:13	6/10/02 14:13	6/10/02 17:22
Tow Start Latitude	5515.8	5512.3	5501.9	5452.2	5451.2	5500.9
Tow Start Longitude	-16800.9	-16752.1	-16720.2	-16730.2	-16735.9	-16743.2
Tow End Latitude	5516.9	5513.4	5502.7	5453.2	5452.5	5501.8
Tow End Longitude	-16802.4	-16753.3	-16722	-16731.7	-16736.5	-16744.9
Station ID	117	74	21	92	113	75
Bottom Depth (m)	635	405	204	503	663	483
Stratum Designation	13	12	11	12	13	12
Tow Duration (Hour)	0.55	0.53	0.52	0.53	0.56	0.53
Distance of Tow (nm)	2.542	2.527	2.494	2.513	2.621	2.518
Average Net Width (m)	15.19	15.84	15.92	15.81	15.38	15.81
Performance Code	0	0	0	0	0	0
Surface Temperature (^{0}C)	6.8	6.9	6.5	6.1	6.4	6.7
Bottom Temperature (^{0}C)	3.3	3.7	3.5	3.6	3.2	3.6
Sleeper shark						
Sandpaper skate		2.55	20.45	2.50	2.10	
Mud skate						
Roughtail skate						
Alaska skate			18.52			
Aleutian skate	22.22	2.64			2.00	
Commander skate	1.99					
Whiteblotched skate				2.80	1.50	
Whitebrow skate						
Other skates	0.04		0.05	0.03	0.01	0.18
Arrowtooth flounder	4.19	317.35	161.90	8.40	2.56	
Kamchatka flounder	29.62	25.32	1.50	32.62	85.54	21.90
Greendland turbot	81.25	21.82		32.40	95.10	31.50
Pacific halibut	44.27		2.13	12.44		
Flathead sole		26.42	25.52			
Rex sole	0.32	31.32	28.22			
Other flatfishes		0.81				
Pacific grenadier						
Giant grenadier	108.02	52.09		253.73	223.80	170.40
Popeye grenadier	30.14				58.89	
Pacific cod			56.80			
Walleye pollock	2.69	2.78	25.20			0.60
Blob sculpin						
Bigmouth sculpin	1.50	1.00				
Other sculpins	1.76	0.99	3.38	0.26	0.14	0.14
Twoline eelpout	100.36	132.96		30.40	35.70	47.30
Ebony eelpout	1.62					
Black eelpout	0.51	0.59		0.04	0.04	0.05
Other eelpouts						
Sablefish	83.42	38.42		17.60	71.40	21.60
Searcher						
Pacific herring						
Blacktail snailfish	9.10			1.19	2.73	
Other snailfishes	0.07				0.33	1.18
Poachers	0.63	0.13	0.01	0.08		0.02
Mesopelagic fish	0.04	0.15	0.80	0.22	0.20	0.17
Other fishes	0.73		0.86		0.14	
Shortspine thornyhead	100.84	78.90	1.11	84.70	22.80	53.70
Rougheye rockfish		1.89	2.35			
Pacific ocean perch		3.85	5.96			0.92
Light dusky rockfish						
Northern rockfish			1.22			
Shortraker rockfish						
Grooved Tanner crab	19.00	0.38		2.40	0.31	
Tanner crab		0.30	13.12	0.14		
Triangle Tanner crab	0.86	0.55		0.00		
Hermit crabs	0.73	0.23	0.09	0.83	0.26	0.00
Scarlet king crab						0.07
Golden king crab				3.40		
Snails	2.22	0.64	1.81	4.73	4.39	5.14
Clams			0.07			
Octopus	0.40	1.42	2.42	0.17	0.15	1.12
Squids	5.22	6.55	2.96	1.42	0.69	4.08
Sea anemones, corals	0.42	20.21	18.92	2.74	0.09	3.35
Jellyfish		1.71	1.02			0.01
Shrimps	0.00	0.42	2.18	0.08		0.18
Seastars	14.81	11.39	0.87	6.95	26.78	53.78
Other invertebrates	0.69	1.05	0.88	4.38	7.05	2.36
Haul Total Weight (kg)	**669.70**	**786.81**	**400.33**	**506.65**	**644.73**	**419.76**

Haul Number	25	26	27	28	29	30
Haul Date & Start Time	6/11/02 7:08	6/11/02 11:21	6/11/02 14:28	6/11/02 16:41	6/12/02 7:32	6/12/02 10:27
Tow Start Latitude	5441.8	5438.4	5437.8	5435.6	5429.2	5423.1
Tow Start Longitude	-16725.1	-16743.2	-16728.5	-16734.6	-16752	-16750.4
Tow End Latitude	5443.1	5439.5	5439.1	5434.1	5430.8	5421.5
Tow End Longitude	-16725.5	-16741.7	-16728.2	-16734.7	-16751.1	-16750.9
Station ID	99	131	111	122	146	129
Bottom Depth (m)	548	831	609	691	1035	919
Stratum Designation	12	14	13	13	15	14
Tow Duration (Hour)	0.53	0.56	0.54	0.57	0.69	0.69
Distance of Tow (nm)	2.573	2.715	2.572	2.683	3.183	3.026
Average Net Width (m)	15.82	14.96	15.70	16.21	13.16	13.80
Performance Code	0	0	0	6.1	0	0
Surface Temperature (^{0}C)	6.1	6.5	6.4	6.4	7.2	6.3
Bottom Temperature (^{0}C)	3.4	3	3.3	3.3	0	2.9
Sleeper shark						
Sandpaper skate						
Mud skate						
Roughtail skate		12.70		5.80		8.14
Alaska skate						
Aleutian skate				15.25		
Commander skate			5.04			
Whiteblotched skate						
Whitebrow skate						
Other skates	0.02	0.24	0.14	0.16	0.38	0.19
Arrowtooth flounder	1.50					
Kamchatka flounder	28.40	9.70	45.30	22.56	9.00	2.76
Greendland turbot	17.50	25.90	30.70	49.54	35.00	40.56
Pacific halibut	12.44		16.94			
Flathead sole						
Rex sole						
Other flatfishes						
Pacific grenadier					5.80	0.02
Giant grenadier	283.80	350.13	216.78	289.11	838.50	1248.38
Popeye grenadier	0.71	37.87	3.20	29.08	88.02	137.50
Pacific cod						
Walleye pollock				1.25	4.00	
Blob sculpin					0.51	0.18
Bigmouth sculpin						
Other sculpins	0.31		0.16		0.01	
Twoline eelpout	154.90	9.70	9.00	5.35	16.51	5.90
Ebony eelpout	0.86		0.93			
Black eelpout		0.36	0.11	0.34		0.28
Other eelpouts	0.01	0.04	0.00	0.01	0.02	
Sablefish	27.30	11.10	20.40	43.79	10.90	
Searcher						
Pacific herring						
Blacktail snailfish		0.52		0.95		0.70
Other snailfishes	0.98	0.46		0.02	4.01	3.05
Poachers	0.14	0.18	0.05	0.34		
Mesopelagic fish	0.24	0.83	0.62	0.98	1.05	1.11
Other fishes					0.72	2.32
Shortspine thornyhead	40.00	1.60	48.60	21.56	2.18	
Rougheye rockfish						
Pacific ocean perch						
Light dusky rockfish						
Northern rockfish						
Shortraker rockfish						
Grooved Tanner crab				2.27		
Tanner crab						
Triangle Tanner crab		19.89	1.75	1.75	84.43	85.29
Hermit crabs	0.00	0.21	0.19	0.62	0.03	0.01
Scarlet king crab						
Golden king crab						
Snails	7.96	3.15	2.81	4.21	7.00	1.62
Clams		0.03				
Octopus	1.59	0.08	0.40	0.64		0.31
Squids	1.07	1.88	1.68	0.79	0.56	0.14
Sea anemones, corals		0.01		0.10		
Jellyfish	0.32			0.31	0.45	0.24
Shrimps	0.19	0.29	0.04	0.04	1.01	1.22
Seastars	27.62	5.95	10.39	7.36	2.40	
Other invertebrates	11.20	4.01	8.79	1.95	0.99	0.11
Haul Total Weight (kg)	**619.20**	**496.83**	**424.03**	**506.11**	**1113.48**	**1540.04**

Haul Number	31	32	33	34	35	36
Haul Date & Start Time	6/12/02 14:25	6/12/02 20:10	6/13/02 9:16	6/13/02 14:56	6/17/02 16:24	6/17/02 21:52
Tow Start Latitude	5412.5	5421.3	5418.4	5416.6	5557.1	5611.8
Tow Start Longitude	-16755.6	-16706.1	-16643.7	-16636.7	-16855.7	-16944.7
Tow End Latitude	5412.9	5421.6	5418.1	5417	5556.9	5611.1
Tow End Longitude	-16757.2	-16708.3	-16641.4	-16634.6	-16858.2	-16944.3
Station ID		107	126	141	177	161
Bottom Depth (m)	1508	677	852	1072	738	242
Stratum Designation	16	13	14	15	23	21
Tow Duration (Hour)	0.59	0.57	0.57	0.52	0.58	0.38
Distance of Tow (nm)	1.885	2.547	2.590	2.452	2.682	1.566
Average Net Width (m)	12.83	14.74	15.07	13.17	13.39	15.70
Performance Code	0	0	5.3	5.3	0	1.11
Surface Temperature (^{0}C)	6.4	6.5	6.1	6	7.1	6.8
Bottom Temperature (^{0}C)	2.1	3.2	3.1	2.6	3.2	3.8
Sleeper shark				32.80		
Sandpaper skate		4.23				1.52
Mud skate					2.64	3.31
Roughtail skate			17.00	15.70		
Alaska skate						
Aleutian skate			0.22	0.43	32.02	68.28
Commander skate					15.90	
Whiteblotched skate					22.10	
Whitebrow skate					1.16	2.52
Other skates	3.07	0.16	0.16	0.04	0.01	0.06
Arrowtooth flounder						174.64
Kamchatka flounder		7.04	29.90	8.20	32.20	29.00
Greendland turbot		116.61	181.90	85.20	19.66	
Pacific halibut						86.60
Flathead sole						1.79
Rex sole						5.80
Other flatfishes		1.03				0.49
Pacific grenadier	33.70	2.82		2.90		
Giant grenadier	203.18	179.74	362.50	832.20	34.04	
Popeye grenadier	37.84	33.54	91.20	325.40	106.32	
Pacific cod						6.81
Walleye pollock				1.56		2.12
Blob sculpin	25.90					
Bigmouth sculpin						4.76
Other sculpins					1.14	8.31
Twoline eelpout		28.86	46.40	7.30	5.04	
Ebony eelpout					6.63	
Black eelpout		1.08	1.93		0.36	0.39
Other eelpouts	0.05		0.00		0.00	
Sablefish		85.17	30.40	15.60	60.58	
Searcher						0.04
Pacific herring						
Blacktail snailfish			2.48		2.28	
Other snailfishes	0.19	0.18	2.24	1.34	1.44	0.54
Poachers		0.52	0.08		0.19	6.48
Mesopelagic fish	0.64	0.36	0.21	0.19	0.75	
Other fishes	3.98	0.34		2.21	0.00	4.15
Shortspine thornyhead		23.38	12.00	1.82	23.09	
Rougheye rockfish						5.53
Pacific ocean perch						12.02
Light dusky rockfish						
Northern rockfish						
Shortraker rockfish						
Grooved Tanner crab		13.81		0.73	5.17	
Tanner crab						3.47
Triangle Tanner crab	4.90	0.17	86.06	83.90	0.28	
Hermit crabs		0.08	0.04	0.11		0.36
Scarlet king crab					6.89	
Golden king crab					6.00	12.31
Snails	2.73	2.90	2.93	5.80	0.21	0.54
Clams				0.25		0.01
Octopus	3.27	3.95	6.45	2.17	1.81	
Squids		0.97	1.64	0.11	0.97	
Sea anemones, corals	0.68	0.13	0.02			2.21
Jellyfish		0.50	0.86		0.26	
Shrimps	0.06	0.16	0.74	0.13	0.01	6.00
Seastars	12.32	60.59	0.91		0.73	0.49
Other invertebrates	1.14	10.78	0.74	0.16	0.09	15.03
Haul Total Weight (kg)	**333.65**	**579.09**	**879.01**	**1426.26**	**389.99**	**465.57**

Haul Number	37	38	39	40	41	42
Haul Date & Start Time	6/18/02 8:43	6/18/02 17:52	6/18/02 20:26	6/18/02 22:57	6/19/02 9:27	6/19/02 15:20
Tow Start Latitude	5612.1	5627.8	5629.7	5630.1	5700.3	5708.9
Tow Start Longitude	-17056.6	-17149.9	-17159.2	-17203.2	-17358.1	-17357.6
Tow End Latitude	5612.8	5627.8	5629.2	5629.4	5659	5707.7
Tow End Longitude	-17057.5	-17147.4	-17157	-17200.9	-17356.4	-17356.6
Station ID	196	199	213	222	204	228
Bottom Depth (m)	210	334	578	772	824	648
Stratum Designation	31	31	32	33	34	33
Tow Duration (Hour)	0.37	0.54	0.53	0.62	0.63	0.52
Distance of Tow (nm)	1.768	2.528	2.511	2.803	3.004	2.475
Average Net Width (m)	14.40	14.20	14.83	14.00	13.99	15.22
Performance Code	0	0	0	6.1	0	6.1
Surface Temperature (^{0}C)	6.3	7.2	7.4	7.2	7	7.3
Bottom Temperature (^{0}C)	3.9	3.4	3.6	3.1	3.1	3.4
Sleeper shark			15.04			
Sandpaper skate		4.46	2.51			
Mud skate						
Roughtail skate				7.10	4.22	0.15
Alaska skate	64.88					
Aleutian skate	23.56	15.58	44.22		0.43	10.00
Commander skate			17.33		1.90	24.70
Whiteblotched skate						
Whitebrow skate			9.25		3.07	
Other skates	0.24	0.19	0.07		0.01	0.01
Arrowtooth flounder	223.72	363.56	2.77			
Kamchatka flounder	13.90	5.68	33.10	10.16	4.36	7.98
Greendland turbot		13.04	67.19	7.13		15.96
Pacific halibut	5.82		27.71			
Flathead sole	0.68	15.32				
Rex sole	7.23	93.93	0.82			
Other flatfishes						
Pacific grenadier				0.24	2.88	0.01
Giant grenadier			483.82	1137.44	1056.82	1107.41
Popeye grenadier			83.52	372.12	26.62	86.92
Pacific cod	199.66	13.60				
Walleye pollock	5.61	4.08				
Blob sculpin			6.01	6.39	18.76	11.82
Bigmouth sculpin	25.15		0.24			
Other sculpins	1.99	2.29	0.53	0.01		
Twoline eelpout			5.31	13.69		2.43
Ebony eelpout						1.80
Black eelpout			0.47	0.16		0.64
Other eelpouts				0.02		
Sablefish			43.36	54.00		36.98
Searcher	3.83					
Pacific herring						
Blacktail snailfish			8.98	8.15		2.64
Other snailfishes		1.36	0.96	1.07	1.12	0.06
Poachers	0.27	1.93	0.07	0.05	0.00	0.38
Mesopelagic fish			0.10	0.07	0.85	0.17
Other fishes	11.38		1.77	1.52	1.00	2.91
Shortspine thornyhead			54.04	5.66		8.82
Rougheye rockfish		1.65				
Pacific ocean perch	5328.90	16.70				
Light dusky rockfish	1.07					
Northern rockfish	0.57					
Shortraker rockfish						
Grooved Tanner crab			6.09	26.45	3.63	15.65
Tanner crab		0.10				
Triangle Tanner crab			0.26	9.61	11.31	0.36
Hermit crabs		0.01	0.88	0.20	0.06	0.42
Scarlet king crab				2.25	0.63	
Golden king crab	3.43	3.08				
Snails	0.34		1.20	1.31	0.18	0.70
Clams						
Octopus			3.19	0.12		0.59
Squids	0.41	0.10				0.83
Sea anemones, corals	0.05		0.31	0.03	0.02	0.05
Jellyfish		1.65	1.49		0.38	0.86
Shrimps	1.41	1.23	0.59			
Seastars	0.39	0.05	2.91	0.27	1.58	2.21
Other invertebrates	0.38	0.06	0.26	0.68	3.02	0.22
Haul Total Weight (kg)	**5924.86**	**559.67**	**926.36**	**1665.90**	**1142.86**	**1343.67**

Haul Number	43	44	45	46	47	48
Haul Date & Start Time	6/19/02 17:19	6/19/02 19:09	6/20/02 7:47	6/20/02 11:35	6/20/02 14:41	6/20/02 17:38
Tow Start Latitude	5709.6	5708.7	5745.1	5746.8	5746.8	5750.2
Tow Start Longitude	-17352.6	-17354.5	-17356.4	-17353.3	-17353.3	-17353.5
Tow End Latitude	5708.3	5707.5	5744.7	5748.3	5747.9	5749.2
Tow End Longitude	-17351.5	-17353.4	-17354	-17351.5	-17351.8	-17351.9
Station ID	206	218	279	272	272	264
Bottom Depth (m)	330	469	870	665	667	505
Stratum Designation	31	32	44	43	43	42
Tow Duration (Hour)	0.56	0.53	0.55	0.74	0.55	0.54
Distance of Tow (nm)	2.659	2.531	2.546	3.413	2.585	2.580
Average Net Width (m)	14.60	14.33	13.68	13.54	13.78	14.38
Performance Code	0	0	4.1	-2.4	0	0
Surface Temperature (^{0}C)	7.6	7.4	6.9	7.2	7.7	8
Bottom Temperature (^{0}C)	3.4	3.7	3	3.4	3.3	3.7
Sleeper shark	15.29		42.26			
Sandpaper skate		0.64		0.07	0.11	1.44
Mud skate				1.66	2.30	2.50
Roughtail skate			13.95			
Alaska skate						
Aleutian skate		35.10	28.44	18.66	45.66	37.24
Commander skate			24.49	55.97	39.32	6.48
Whiteblotched skate				1.72	1.05	27.62
Whitebrow skate			5.76	0.34		
Other skates	3.53					
Arrowtooth flounder	22.44	35.22				10.82
Kamchatka flounder	6.77	24.67	23.70	19.75	22.68	62.32
Greendland turbot	27.26	51.83	26.90	17.43	25.41	14.22
Pacific halibut						
Flathead sole	153.76	183.39				155.68
Rex sole	3.83	15.10				
Other flatfishes						
Pacific grenadier			8.60			
Giant grenadier	669.68	1016.88	1442.00	1061.24	508.28	505.50
Popeye grenadier		3.15	317.03	55.31	64.54	
Pacific cod	6.23					
Walleye pollock		0.62				0.89
Blob sculpin						
Bigmouth sculpin						4.24
Other sculpins	0.09	0.03	0.02	0.23	0.02	0.16
Twoline eelpout			7.80	2.40	3.95	8.02
Ebony eelpout		3.80	0.10	68.23	51.32	
Black eelpout	0.14	1.04				
Other eelpouts						
Sablefish		12.33	61.30	47.91	67.20	7.26
Searcher						
Pacific herring						
Blacktail snailfish	0.93	2.00	2.72		1.47	
Other snailfishes	0.47		2.61	1.42	1.87	0.71
Poachers	0.20	0.01	0.62	0.01	0.02	
Mesopelagic fish	0.02	0.09	0.03	0.10	0.10	0.24
Other fishes	1.98	0.35		0.38		
Shortspine thornyhead		14.03	4.65	20.88	17.41	11.96
Rougheye rockfish						
Pacific ocean perch	0.75					
Light dusky rockfish						
Northern rockfish						
Shortraker rockfish						9.38
Grooved Tanner crab	0.04	0.88	8.80	31.54	35.44	1.53
Tanner crab	0.21					
Triangle Tanner crab			25.33	1.08		
Hermit crabs			0.04	0.01	0.05	
Scarlet king crab			3.16	6.67	3.30	
Golden king crab	0.11					0.13
Snails						
Clams						
Octopus		0.85	2.06	0.81		
Squids	2.41	0.39			0.04	1.43
Sea anemones, corals	2.22	1.99	0.17		0.01	3.54
Jellyfish	0.02	0.02		0.02	1.08	0.95
Shrimps	5.43	0.28	0.44		0.00	0.80
Seastars	1.95	0.74		3.99	1.76	2.49
Other invertebrates	1.00	1.42	1.42	1.34	0.78	5.33
Haul Total Weight (kg)	**926.74**	**1406.83**	**2054.41**	**1419.18**	**895.17**	**882.89**

Haul Number	49	50	51	52	53	54
Haul Date & Start Time	6/20/02 20:27	6/21/02 10:39	6/21/02 14:11	6/21/02 17:41	6/21/02 20:06	6/22/02 9:07
Tow Start Latitude	5751.4	5807.5	5806.3	5815.3	5823.4	5831.5
Tow Start Longitude	-17353.1	-17532.9	-17534.3	-17530.4	-17534.4	-17608.2
Tow End Latitude	5750.7	5808.7	5807.4	5816.3	5822.7	5831.5
Tow End Longitude	-17351.1	-17534.2	-17536.2	-17531.8	-17532.5	-17605.7
Station ID	250	284	292	277	260	306
Bottom Depth (m)	346	922	1030	654	287	670
Stratum Designation	41	44	45	43	41	53
Tow Duration (Hour)	0.51	0.55	0.61	0.51	0.5	0.52
Distance of Tow (nm)	2.418	2.583	2.852	2.446	2.386	2.446
Average Net Width (m)	14.79	14.07	13.53	14.29	14.83	14.67
Performance Code	0	0	5	0	0	0
Surface Temperature (^{0}C)	8.1	7.5	7.8	6.5	7.3	7.2
Bottom Temperature (^{0}C)	3.2	2.9	2.8	3.3	3.2	3.3
Sleeper shark						9.15
Sandpaper skate	7.35					
Mud skate	7.32					
Roughtail skate		2.43				
Alaska skate						
Aleutian skate	36.40			6.00	7.70	2.62
Commander skate				3.48		2.32
Whiteblotched skate	7.08				5.09	
Whitebrow skate	3.28					
Other skates	1.85	0.21	0.12	0.02	0.05	0.03
Arrowtooth flounder	79.94				8.57	
Kamchatka flounder	4.13				2.84	23.31
Greendland turbot	18.69	11.62			4.25	19.43
Pacific halibut	65.57				17.18	
Flathead sole	1.74				15.41	
Rex sole	7.60				5.65	
Other flatfishes				4.84	2.58	
Pacific grenadier		16.82	43.80			
Giant grenadier	176.84	742.42	1115.84	3052.87		2697.55
Popeye grenadier		52.25	352.49	86.77		446.85
Pacific cod	22.92				0.87	
Walleye pollock	8.32				11.99	
Blob sculpin		9.78	14.54			
Bigmouth sculpin	17.54					
Other sculpins	1.35				0.67	
Twoline eelpout		2.34	0.01	11.57		5.35
Ebony eelpout				3.60		
Black eelpout						
Other eelpouts				0.16		0.15
Sablefish		6.89		9.86		15.80
Searcher						
Pacific herring						
Blacktail snailfish		0.43				1.01
Other snailfishes	3.48	4.35	3.45	0.26	0.63	0.12
Poachers	0.11	0.13		0.06	2.03	0.57
Mesopelagic fish	0.13	0.41	0.34	0.23		0.01
Other fishes	1.25	0.29	1.55	0.01		1.17
Shortspine thornyhead				5.95		13.56
Rougheye rockfish						
Pacific ocean perch	8.67				38.65	
Light dusky rockfish						
Northern rockfish						
Shortraker rockfish	16.93					
Grooved Tanner crab		0.04		1.01		7.96
Tanner crab						
Triangle Tanner crab		10.30	5.20	0.28		4.82
Hermit crabs	0.10	0.02			0.01	0.05
Scarlet king crab						
Golden king crab	0.74					
Snails	0.21	3.18	1.45			0.95
Clams						
Octopus	0.07		2.46	2.13		1.61
Squids	6.95	0.95			1.62	
Sea anemones, corals	1.95	40.02	5.49	0.10	4.08	
Jellyfish	0.77	1.75	0.89	0.00	0.53	
Shrimps	1.63	4.25	0.98		2.49	0.03
Seastars	4.33	2.89	14.27	6.45	0.62	2.29
Other invertebrates	0.26	15.44	10.07	5.50	0.00	1.40
Haul Total Weight (kg)	**515.51**	**929.23**	**1572.94**	**3201.12**	**133.51**	**3258.12**

Haul Number	55	56	57	58	59	60
Haul Date & Start Time	6/22/02 13:42	6/22/02 16:47	6/22/02 19:20	6/23/02 8:12	6/23/02 11:59	6/23/02 14:47
Tow Start Latitude	5830.8	5834.2	5836.3	5830.4	5836.4	5839.2
Tow Start Longitude	-17631.1	-17641.9	-17648.8	-17752.3	-17756.5	-17747.5
Tow End Latitude	5830.9	5834	5836.6	5831.4	5836.4	5839.1
Tow End Longitude	-17628.6	-17639.7	-17651.3	-17749.5	-17753.8	-17745
Station ID	312	301	295	322	315	309
Bottom Depth (m)	818	471	235	1154	903	709
Stratum Designation	54	52	51	55	54	53
Tow Duration (Hour)	0.58	0.48	0.53	0.72	0.58	0.52
Distance of Tow (nm)	2.437	2.277	2.516	3.418	2.678	2.457
Average Net Width (m)	16.06	15.39	15.39	13.00	14.26	15.05
Performance Code	0	6.1	0	0	0	0
Surface Temperature (^{0}C)	7	6.9	7	7.6	7.5	7.2
Bottom Temperature (^{0}C)	3.1	3.7	2.9	2.6	3	3.4
Sleeper shark						
Sandpaper skate		19.51	1.84			
Mud skate						
Roughtail skate	10.56			8.31	13.12	7.07
Alaska skate						
Aleutian skate	2.72	19.88	51.77			
Commander skate		16.78				6.14
Whiteblotched skate		18.38	13.59			
Whitebrow skate	3.09	7.15				
Other skates		0.01		0.06		0.10
Arrowtooth flounder		239.06	94.97			
Kamchatka flounder		28.30	17.54		3.94	
Greendland turbot		79.85	4.06			
Pacific halibut		14.12	2.93			
Flathead sole		112.08	12.51			
Rex sole		9.30	31.04			
Other flatfishes					2.06	1.65
Pacific grenadier	0.84			23.78	18.36	3.58
Giant grenadier	677.90	1468.64		303.82	439.66	2726.73
Popeye grenadier	73.68	2.05		61.93	60.46	49.27
Pacific cod			9.01			
Walleye pollock			51.80			
Blob sculpin	0.21			5.74	3.55	0.08
Bigmouth sculpin						
Other sculpins	0.00	1.27	1.75			
Twoline eelpout		5.79				
Ebony eelpout						
Black eelpout						
Other eelpouts	0.21			0.01		0.63
Sablefish	18.14	48.70				9.50
Searcher			0.11			
Pacific herring						
Blacktail snailfish						0.83
Other snailfishes	0.13	2.92	0.15	1.17	0.45	
Poachers			3.80			0.02
Mesopelagic fish	0.53	0.22		0.87	0.81	0.37
Other fishes	0.26	0.41		4.43	0.36	1.09
Shortspine thornyhead	1.85	39.18	0.71			23.33
Rougheye rockfish						
Pacific ocean perch			45.81			
Light dusky rockfish						
Northern rockfish						
Shortraker rockfish		6.65				
Grooved Tanner crab	4.16	8.81				11.00
Tanner crab			0.15			
Triangle Tanner crab	0.45	0.41		1.79	0.07	0.39
Hermit crabs	0.06				0.02	
Scarlet king crab	5.65					2.02
Golden king crab		0.74				
Snails	0.55	0.30	0.39	0.04	0.18	0.20
Clams						
Octopus	0.63	1.08		9.38		
Squids		0.02	1.12	0.12		
Sea anemones, corals	0.53	2.89	0.92	21.98	0.38	0.10
Jellyfish	1.53	1.57	0.99	2.48	1.26	0.87
Shrimps	0.05	0.88	1.58		0.46	0.06
Seastars	1.38	4.31	3.15	23.45	2.84	14.30
Other invertebrates	1.34	0.02	0.75	35.94	0.01	0.33
Haul Total Weight (kg)	**806.45**	**2161.28**	**352.44**	**505.30**	**548.01**	**2859.65**

Haul Number	61	62	63	64	65	66
Haul Date & Start Time	6/23/02 17:42	6/24/02 8:16	6/24/02 11:40	6/24/02 14:45	6/24/02 18:18	6/25/02 7:00
Tow Start Latitude	5847.2	5921.5	5923.8	5925.6	5923.8	5911.3
Tow Start Longitude	-17756.2	-17827.4	-17809.7	-17812	-17751.9	-17756.1
Tow End Latitude	5846.5	5920.9	5924.1	5926.1	5923	5910.9
Tow End Longitude	-17754	-17825.2	-17812.2	-17809.7	-17750	-17753.9
Station ID	303	396	377	363	359	326
Bottom Depth (m)	500	1054	647	486	450	209
Stratum Designation	52	65	63	62	62	61
Tow Duration (Hour)	0.51	0.53	0.55	0.5	0.51	0.47
Distance of Tow (nm)	2.453	2.490	2.562	2.348	2.428	2.225
Average Net Width (m)	15.21	13.17	15.12	14.90	14.69	14.96
Performance Code	0	0	4.1	-2.4	0	0
Surface Temperature (^{0}C)	7	6.6	7	6.7	7	6.7
Bottom Temperature (^{0}C)	3.7	2.6	3.3	3.6	3.4	3
Sleeper shark						
Sandpaper skate					1.17	3.30
Mud skate						3.78
Roughtail skate		4.25				
Alaska skate						32.70
Aleutian skate	6.18		10.21	1.72	31.88	
Commander skate	3.58	3.28	51.85	3.25		
Whiteblotched skate					30.74	10.46
Whitebrow skate	3.92	1.85	0.07		4.80	
Other skates	0.03	0.05				0.02
Arrowtooth flounder				5.61	12.16	39.40
Kamchatka flounder	6.00		7.21	7.16	16.85	20.43
Greendland turbot	3.54	2.24	7.37		63.49	
Pacific halibut						
Flathead sole	23.00			27.86	56.36	56.23
Rex sole	2.44					9.90
Other flatfishes						14.37
Pacific grenadier		15.77				
Giant grenadier	973.97	411.92	1001.08	1608.82	589.05	
Popeye grenadier		286.31	433.52	1.16		
Pacific cod						9.38
Walleye pollock						161.23
Blob sculpin		0.10				
Bigmouth sculpin					4.33	
Other sculpins	0.01		0.03	0.10	0.53	0.90
Twoline eelpout	4.68	0.87	6.32	5.41	3.04	
Ebony eelpout	3.60	1.02		0.70	30.98	
Black eelpout	0.12		0.13	0.07	0.49	
Other eelpouts		0.02	0.00	0.10		
Sablefish	8.72	3.65	2.59	0.86	11.94	
Searcher						
Pacific herring						
Blacktail snailfish	1.73	0.10				
Other snailfishes	2.17	3.03	0.26	1.20	1.58	3.16
Poachers	0.02		0.06		0.04	1.34
Mesopelagic fish	2.44	0.26		0.04	0.16	
Other fishes	0.34	3.78				
Shortspine thornyhead	10.84		1.80	102.72		
Rougheye rockfish						
Pacific ocean perch				0.64		1.56
Light dusky rockfish						
Northern rockfish						
Shortraker rockfish				0.26		
Grooved Tanner crab	0.57	1.35	6.54	1.67	21.64	
Tanner crab						0.65
Triangle Tanner crab	0.27	13.23	4.20	0.02	0.48	
Hermit crabs			0.04	0.02		0.02
Scarlet king crab		1.82				
Golden king crab				1.41		
Snails	0.06	0.06	0.40	0.24		
Clams						
Octopus			0.05			0.02
Squids	0.01		0.24	1.08	1.46	0.60
Sea anemones, corals	2.18	3.42	1.62	3.64	48.41	2.21
Jellyfish	0.42	1.39	0.32		5.33	
Shrimps	0.32	0.09			0.09	0.12
Seastars	3.50	1.47	8.78	7.94	0.50	0.99
Other invertebrates	0.03	10.85	0.15	0.97	0.02	4.16
Haul Total Weight (kg)	**1064.69**	**772.20**	**1544.83**	**1784.66**	**937.55**	**376.92**

Haul Number	67	68	69	70	71	72
Haul Date & Start Time	6/25/02 9:36	6/25/02 11:47	6/25/02 14:12	6/25/02 17:45	6/25/02 20:21	6/26/02 7:53
Tow Start Latitude	5921.9	5925.4	5930.6	5925.1	5931.4	5929.1
Tow Start Longitude	-17736.2	-17744.5	-17749.6	-17806.9	-17804.7	-17816.3
Tow End Latitude	5923.2	5924.9	5930.9	5925.1	5931.1	5930.1
Tow End Longitude	-17736.1	-17744.3	-17747.1	-17809.4	-17807.3	-17818.1
Station ID	329	360	336	362	338	341
Bottom Depth (m)	253	417	308	537	227	266
Stratum Designation	61	62	61	62	61	61
Tow Duration (Hour)	0.51	0.23	0.51	0.51	0.54	0.54
Distance of Tow (nm)	2.434	1.074	2.468	2.404	2.588	2.637
Average Net Width (m)	15.74	14.97	15.48	14.82	16.07	16.14
Performance Code	0	1.12	0	6.1	0	0
Surface Temperature (^{0}C)	7	6.9	6.8	7.1	7.2	6.4
Bottom Temperature (^{0}C)	3	3.4	3.1	3.5	2.8	2.6
Sleeper shark	12.50					
Sandpaper skate	10.76		4.60	1.52	9.06	1.14
Mud skate	5.20	3.24				
Roughtail skate						
Alaska skate	16.75				20.05	
Aleutian skate	21.67		25.73	22.42		13.16
Commander skate				15.12		
Whiteblotched skate		12.70	5.48	4.09		
Whitebrow skate	6.72		5.07	1.20		
Other skates	0.34	0.20	0.05	0.11		0.01
Arrowtooth flounder	8.06	69.74	34.04	0.83	33.20	22.59
Kamchatka flounder	2.05	19.12	10.30	9.16	8.27	15.85
Greendland turbot	7.37	64.72	19.06		7.39	33.56
Pacific halibut			18.08		31.19	11.65
Flathead sole	62.84	5.12	17.78	1.09	13.80	70.32
Rex sole	2.44		1.78		15.20	15.12
Other flatfishes	0.84					
Pacific grenadier						
Giant grenadier		6.50		918.19		
Popeye grenadier				6.61		
Pacific cod			20.60		25.72	8.15
Walleye pollock	20.46	1.58	66.89		74.14	79.18
Blob sculpin						
Bigmouth sculpin	5.14	3.73	0.20			4.14
Other sculpins	0.99	13.79	2.40	0.00	3.70	2.20
Twoline eelpout				4.07		
Ebony eelpout		5.06		4.23		
Black eelpout		0.06		3.64	0.15	
Other eelpouts	0.16	0.05	0.81		1.92	1.21
Sablefish				23.86		
Searcher	0.25					
Pacific herring						
Blacktail snailfish		1.38				
Other snailfishes	2.07		11.42	0.79	0.03	
Poachers	3.62	0.57	0.19	0.47	0.09	0.05
Mesopelagic fish		0.08		0.03		
Other fishes	1.48					
Shortspine thornyhead				11.42		
Rougheye rockfish		1.05				
Pacific ocean perch	0.41	0.63				0.50
Light dusky rockfish						
Northern rockfish						
Shortraker rockfish						
Grooved Tanner crab				22.82	0.72	
Tanner crab	1.69		0.27		1.22	0.22
Triangle Tanner crab				0.95		
Hermit crabs	0.06	0.01	0.08	0.24	1.08	1.61
Scarlet king crab						
Golden king crab			3.89	0.49		
Snails	0.34	0.01	0.35	0.78	1.91	4.07
Clams	0.01				0.03	0.16
Octopus	0.09		0.10	0.40		
Squids	1.57	0.18		1.00	1.07	0.82
Sea anemones, corals	4.66	1.42	8.66	4.53	8.06	7.30
Jellyfish	1.75	1.91	1.60	2.20	6.49	4.32
Shrimps	3.75	0.33	2.73	0.00	12.93	4.00
Seastars	0.19	0.38	10.98	59.39	5.18	3.96
Other invertebrates	1.42	0.15	0.20	0.15	8.66	3.69
Haul Total Weight (kg)	**207.65**	**213.72**	**273.34**	**1121.81**	**291.27**	**308.97**

Haul Number	73	74	75	76	77	78
Haul Date & Start Time	6/26/02 14:46	6/26/02 18:19	6/27/02 7:54	6/27/02 11:25	6/27/02 15:01	6/27/02 19:47
Tow Start Latitude	5936.4	5941.9	5947.7	5942.9	5948.9	5956.8
Tow Start Longitude	-17828.1	-17832.1	-17840.5	-17838.1	-17845	-17855.8
Tow End Latitude	5935.2	5943	5946.6	5942.1	5949.8	5955.7
Tow End Longitude	-17826.8	-17833.7	-17838.9	-17836.2	-17846.5	-17854.6
Station ID	378	365	343	380	366	345
Bottom Depth (m)	620	497	215	648	463	294
Stratum Designation	63	62	61	63	62	61
Tow Duration (Hour)	0.53	0.57	0.54	0.53	0.45	0.49
Distance of Tow (nm)	2.578	2.551	2.585	2.435	2.218	2.403
Average Net Width (m)	15.16	15.98	15.58	14.55	16.05	15.68
Performance Code	0	0	0	0	0	0
Surface Temperature (^{0}C)	7	6.4	6.8	6.9	6.9	7.1
Bottom Temperature (^{0}C)	3.5	3.7	2.6	3.4	3.7	3.2
Sleeper shark						
Sandpaper skate	0.12	1.34	9.32		11.54	7.42
Mud skate						0.72
Roughtail skate						
Alaska skate			9.77			
Aleutian skate	3.08	59.90	4.02	7.85	116.44	34.50
Commander skate	38.52	41.39		9.86	15.36	
Whiteblotched skate		2.14			20.00	
Whitebrow skate		19.45		0.75	14.94	4.65
Other skates	0.04	0.06	0.02		0.03	0.21
Arrowtooth flounder		340.20	23.02		74.85	13.71
Kamchatka flounder	12.26	24.22	15.19	12.35	36.03	4.74
Greendland turbot	18.22	25.08		14.70	53.54	9.11
Pacific halibut						
Flathead sole		8.90	0.61		5.01	17.88
Rex sole		0.84	36.90		0.45	10.34
Other flatfishes			0.10			
Pacific grenadier				0.05		
Giant grenadier	2964.05	2044.30		3251.10	1161.63	
Popeye grenadier	347.14			119.60		
Pacific cod			11.40			4.33
Walleye pollock			96.88			14.32
Blob sculpin						
Bigmouth sculpin			1.53		5.77	7.81
Other sculpins	0.04	1.36	2.96		0.48	5.76
Twoline eelpout	56.08	24.52		8.60	31.44	
Ebony eelpout	0.19					
Black eelpout	2.94	1.11		1.90	3.54	0.94
Other eelpouts	1.79	0.00		1.05	0.26	0.01
Sablefish	35.58	41.14		42.32	78.22	
Searcher						
Pacific herring						
Blacktail snailfish	2.50	5.00		2.38	0.93	
Other snailfishes	1.75	2.88	1.23	0.75	1.14	8.32
Poachers	0.35	0.47	0.31	0.98	0.13	0.07
Mesopelagic fish	0.01	0.02		0.03	0.12	
Other fishes	1.29	0.38		1.83	1.10	
Shortspine thornyhead	8.49	43.60		7.05	4.25	
Rougheye rockfish		1.71				
Pacific ocean perch						5.56
Light dusky rockfish						
Northern rockfish						
Shortraker rockfish		10.34				
Grooved Tanner crab	8.68	8.81		21.15	0.77	
Tanner crab			0.29			0.02
Triangle Tanner crab	4.08	0.26		1.46	0.07	
Hermit crabs	0.97	2.17	2.93	1.05	5.70	0.38
Scarlet king crab						
Golden king crab		1.19			0.24	
Snails	4.74	3.04	1.61	8.55	5.71	1.56
Clams						
Octopus	0.88	1.48	3.16	0.20	2.88	0.78
Squids	1.39	0.41	1.18		1.06	1.29
Sea anemones, corals	0.33	4.08	0.38		0.58	1.29
Jellyfish		2.05	18.46	0.98	3.90	5.61
Shrimps		3.14	8.54	0.31	2.34	8.96
Seastars	3.37	0.65	0.19	6.42	1.09	1.42
Other invertebrates	9.55	10.36	2.65	16.29	38.06	3.06
Haul Total Weight (kg)	**3528.43**	**2738.00**	**252.66**	**3539.54**	**1699.60**	**174.77**

Haul Number	79	80	81	82	83	84
Haul Date & Start Time	6/28/02 7:34	6/28/02 10:37	6/28/02 14:44	6/28/2002 17:01 P	6/28/02 18:44	6/29/02 7:19
Tow Start Latitude	6017.2	6015.2	6026.5	6026	6026.2	6035.9
Tow Start Longitude	-17911	-17912.7	-17917.7	-17902.7	-17903.5	-17849.2
Tow End Latitude	6016.2	6016.5	6025.4	6026.5	6025.7	6034.6
Tow End Longitude	-17910.4	-17914.4	-17916.2	-17904.3	-17901.2	-17848.6
Station ID	393	401	387	INCOMPLETE TOW	374	374
Bottom Depth (m)	889	996	607		471	236
Stratum Designation	64	64	63		62	61
Tow Duration (Hour)	0.41	0.58	0.5		0.49	0.54
Distance of Tow (nm)	1.847	2.816	2.460		2.383	2.624
Average Net Width (m)	13.03	13.15	14.21		13.85	15.66
Performance Code	6.1	0	0		6.1	0
Surface Temperature (^{0}C)	6.9	7.1	6.9		7.2	7.3
Bottom Temperature (^{0}C)	2.8	3	3.2		3.3	2.5
Sleeper shark						
Sandpaper skate					0.26	4.88
Mud skate					0.56	
Roughtail skate	3.44	9.10				
Alaska skate						16.54
Aleutian skate			10.86		6.16	
Commander skate	30.06	15.55	7.86		6.25	
Whiteblotched skate					9.17	
Whitebrow skate						
Other skates	0.07	0.05	0.02		0.03	0.03
Arrowtooth flounder						19.32
Kamchatka flounder					0.66	17.62
Greendland turbot						53.36
Pacific halibut						
Flathead sole						19.00
Rex sole						
Other flatfishes						0.46
Pacific grenadier		1.87				
Giant grenadier	3372.67	4972.80	844.24		23.42	
Popeye grenadier	23.81	21.81	1.25			
Pacific cod						169.00
Walleye pollock						50.74
Blob sculpin		0.34				
Bigmouth sculpin						14.64
Other sculpins		0.02			0.02	20.66
Twoline eelpout						
Ebony eelpout	0.50	0.66			5.21	
Black eelpout					0.24	
Other eelpouts						5.01
Sablefish	2.49	8.61			5.55	
Searcher						
Pacific herring						
Blacktail snailfish						
Other snailfishes	3.58	5.68	2.20			5.13
Poachers						0.30
Mesopelagic fish	0.41	0.16	0.17		0.31	
Other fishes	0.01	0.03	0.47		0.42	
Shortspine thornyhead			10.00			
Rougheye rockfish						
Pacific ocean perch						
Light dusky rockfish						
Northern rockfish						
Shortraker rockfish						
Grooved Tanner crab			17.26		1.39	
Tanner crab						16.80
Triangle Tanner crab	0.60	0.94			0.72	
Hermit crabs						2.35
Scarlet king crab						
Golden king crab					0.23	
Snails	0.19	0.03				5.95
Clams						0.15
Octopus		1.76				
Squids					3.39	0.40
Sea anemones, corals	7.30	0.36			0.79	120.00
Jellyfish	1.17	0.56	6.72		1.52	3.47
Shrimps		0.02	0.02			13.05
Seastars	19.21	26.65	0.27		0.40	8.16
Other invertebrates	33.14	5.37	1.86		0.00	243.23
Haul Total Weight (kg)	**3498.66**	**5072.36**	**903.19**	**0.00**	**66.69**	**810.25**

Haul Number	85	86	87	88	89	90
Haul Date & Start Time	6/29/02 10:50	6/29/02 16:57	6/29/02 20:09	6/30/02 11:30	6/30/02 22:09	7/1/02 8:36
Tow Start Latitude	6022.8	6020.6	6015.6	6010	5921.9	5856.4
Tow Start Longitude	-17839.1	-17847.2	-17901.7	-17941.2	-17815.2	-17801.8
Tow End Latitude	6024	6019.6	6014.4	6010.5	5922.6	5856.7
Tow End Longitude	-17840.3	-17845.6	-17902.2	-17941.5	-17818	-17804.4
Station ID	354	350	371	383		388
Bottom Depth (m)	295	464	715	1556	838	225
Stratum Designation	61	62	63	66	64	51
Tow Duration (Hour)	0.52	0.49	0.49	0.31	0.66	0.54
Distance of Tow (nm)	2.498	2.408	2.375	1.001	2.995	2.571
Average Net Width (m)	15.15	13.89	13.40	12.49	14.45	15.73
Performance Code	0	0	0	0	0	0
Surface Temperature (^{0}C)	6.8	7.5	7.6	6.9	7.5	7
Bottom Temperature (^{0}C)	3.6	3.6	3	2.1	3.2	3.1
Sleeper shark						
Sandpaper skate	37.66					
Mud skate		7.07				
Roughtail skate					2.62	
Alaska skate	4481.85					8.46
Aleutian skate	502.43	9.80				8.26
Commander skate		4.01	13.60		16.82	
Whiteblotched skate	100.00	33.84				
Whitebrow skate						
Other skates		0.01	0.01	2.26	0.05	0.02
Arrowtooth flounder	214.77	2.18				25.14
Kamchatka flounder	73.58				1.53	5.93
Greendland turbot	132.38				26.22	
Pacific halibut	112.56					76.82
Flathead sole	22.01					32.23
Rex sole	2.88					25.34
Other flatfishes						0.81
Pacific grenadier				15.17	1.24	
Giant grenadier		870.39	1445.00	137.53	515.32	
Popeye grenadier			16.30	27.70	272.27	
Pacific cod						16.42
Walleye pollock	19.94					
Blob sculpin				2.85		
Bigmouth sculpin	3.34					
Other sculpins	4.72	10.16	2.32			5.77
Twoline eelpout			1.16		4.52	
Ebony eelpout		7.37				
Black eelpout						
Other eelpouts	0.32				0.53	
Sablefish		9.48	7.43		4.77	
Searcher						6.83
Pacific herring						
Blacktail snailfish						
Other snailfishes	2.68		8.55	2.02	0.46	
Poachers	0.21					0.63
Mesopelagic fish		0.02	0.32	1.00	0.13	
Other fishes		2.57	1.31	6.05		
Shortspine thornyhead		3.15				
Rougheye rockfish						
Pacific ocean perch	0.75					1.13
Light dusky rockfish						
Northern rockfish						
Shortraker rockfish						
Grooved Tanner crab		0.20	0.45		1.01	0.66
Tanner crab	0.06					
Triangle Tanner crab		0.08	5.14	19.98	16.03	
Hermit crabs						0.16
Scarlet king crab			3.52		6.47	
Golden king crab			0.07			3.08
Snails	0.83	0.12	0.07	0.13	0.07	0.31
Clams						
Octopus	1.37			3.20	0.02	
Squids		1.46		0.09		0.83
Sea anemones, corals	0.68	0.99	2.24	1.79	0.70	3.79
Jellyfish	0.17	4.19	0.74	4.18	5.54	2.42
Shrimps	0.46		0.08	0.00		2.22
Seastars	3.40	1.65	1.99	2.32	2.73	4.78
Other invertebrates	0.98	2.63	1.04	0.53	2.11	5.02
Haul Total Weight (kg)	**5720.00**	**971.37**	**1511.35**	**226.81**	**881.17**	**237.06**

Haul Number	91	92	93	94	95	96
Haul Date & Start Time	7/1/02 11:49	7/1/02 17:13	7/4/02 15:10	7/5/02 9:58	7/5/02 13:34	7/5/02 17:56
Tow Start Latitude	5854.2	5845	5747.7	5651.7	5645.7	5645.5
Tow Start Longitude	-17805.2	-17803.2	-17411.6	-17323.6	-17327	-17324.2
Tow End Latitude	5855.2	5846.3	5748.3	5650.5	5647.1	5646.8
Tow End Longitude	-17807.1	-17804.7	-17413.7	-17324.6	-17326.8	-17325.1
Station ID	297	304	310	247	203	226
Bottom Depth (m)	412	617	319	317	684	429
Stratum Designation	52	53	41	31	33	32
Tow Duration (Hour)	0.58	0.61	0.5	0.52	0.51	0.52
Distance of Tow (nm)	2.763	2.909	2.468	2.600	2.550	2.515
Average Net Width (m)	16.17	15.39	15.22	15.61	14.53	14.82
Performance Code	0	0	0	0	0	0
Surface Temperature (^{0}C)	7.2	7.2	7.7	8	7.7	7.9
Bottom Temperature (^{0}C)	3.7	3.6	3.3	3.3	3.3	3.7
Sleeper shark						
Sandpaper skate	14.26			2.25		2.06
Mud skate			17.32	17.94		
Roughtail skate		15.82				
Alaska skate			5.08			
Aleutian skate	3.80	2.50	11.86		12.02	
Commander skate	3.00	4.04			9.88	
Whiteblotched skate	10.67		5.82	1.48		
Whitebrow skate	7.41				2.44	
Other skates	0.04	0.04	0.04			
Arrowtooth flounder	24.24		115.53	19.74		72.86
Kamchatka flounder	9.18	5.72	11.31	13.90	20.98	4.66
Greendland turbot	144.12				18.46	50.28
Pacific halibut			12.85	51.43		
Flathead sole	69.84		11.10	42.84		96.16
Rex sole	58.66		12.72	67.74		23.32
Other flatfishes		1.18				
Pacific grenadier		0.15				
Giant grenadier	55.06	759.42			1286.12	341.76
Popeye grenadier		51.60			109.00	
Pacific cod			69.54	27.96		
Walleye pollock			67.68	61.12		3.26
Blob sculpin						
Bigmouth sculpin				8.46		11.12
Other sculpins	1.31		1.83	2.04	0.03	0.03
Twoline eelpout		1.57			6.32	
Ebony eelpout					6.18	
Black eelpout	0.33			0.09	0.29	
Other eelpouts		0.30				
Sablefish		14.36			26.48	
Searcher						
Pacific herring						
Blacktail snailfish					7.56	
Other snailfishes	2.93			0.02	0.75	1.95
Poachers	0.16	0.11	0.55	2.05	0.10	
Mesopelagic fish	0.01	0.22			0.03	0.05
Other fishes		1.04	4.16		0.11	0.36
Shortspine thornyhead	67.86	24.68			43.42	51.06
Rougheye rockfish	1.81		2.07			9.26
Pacific ocean perch			967.42	1057.64		0.77
Light dusky rockfish						
Northern rockfish						
Shortraker rockfish	10.10		56.48	43.26		315.83
Grooved Tanner crab		0.99			20.12	0.06
Tanner crab						
Triangle Tanner crab		0.44			0.15	
Hermit crabs	0.53	0.03			0.06	
Scarlet king crab						
Golden king crab			2.10			1.40
Snails	0.36	0.19	0.16	0.05	0.14	0.06
Clams						
Octopus		0.16	1.74	0.09	1.85	0.51
Squids	3.83		1.36	0.11		4.19
Sea anemones, corals	48.77		0.24	0.17	0.21	5.24
Jellyfish	0.14	1.69	0.19		4.38	0.93
Shrimps	1.33		4.31	1.28	0.03	1.70
Seastars	6.33	6.98	2.86	0.72	2.63	1.32
Other invertebrates	6.06	1.55	343.82	1.05	0.38	0.00
Haul Total Weight (kg)	**552.14**	**894.77**	**1730.14**	**1423.41**	**1580.11**	**1000.20**

Haul Number	97	98	99	100	101	102
Haul Date & Start Time	7/6/02 7:47	7/6/02 10:49	7/6/02 16:52	7/6/02 20:55	7/9/02 14:16	7/10/02 10:03
Tow Start Latitude	5639.9	5640.7	5627.4	5629.8	5656.8	5824.2
Tow Start Longitude	-17316.1	-17318.4	-17242.9	-17217.4	-17343	-17429.9
Tow End Latitude	5639.3	5641.4	5627.9	5630.2	5657	5823.2
Tow End Longitude	-17313.9	-17320.3	-17245.1	-17220.8	-17345.5	-17428.1
Station ID	215	225	234	224	242	227
Bottom Depth (m)	772	838	730	996	703	335
Stratum Designation	33	34	33	34	33	41
Tow Duration (Hour)	0.53	0.51	0.55	0.79	0.55	0.56
Distance of Tow (nm)	2.555	2.426	2.615	3.609	2.582	2.632
Average Net Width (m)	14.62	14.31	15.29	14.75	14.48	15.10
Performance Code	5.1	-5.1	0	0	0	5.1
Surface Temperature (^{0}C)	7.9	7.9	8	7.9	8.1	7.8
Bottom Temperature (^{0}C)	3.1	3.1	3.3	2.8	3.2	3.3
Sleeper shark	25.96		13.17			
Sandpaper skate						3.05
Mud skate					0.03	7.10
Roughtail skate	6.71	10.70	4.46	4.90	6.88	
Alaska skate						
Aleutian skate	3.47	1.20	4.77		32.55	
Commander skate		0.62	11.86	2.14	5.58	
Whiteblotched skate						6.80
Whitebrow skate	2.82	1.40	1.05		1.56	
Other skates		0.01			0.03	0.07
Arrowtooth flounder						83.07
Kamchatka flounder	5.37	3.34	2.81		11.20	13.06
Greendland turbot	4.93	16.55		7.74	17.76	17.83
Pacific halibut						
Flathead sole						149.02
Rex sole						24.36
Other flatfishes			3.56		2.88	
Pacific grenadier	0.26	0.58		43.76		
Giant grenadier	1099.04	693.08	2826.85	915.96	1093.51	
Popeye grenadier	97.20	127.81	76.15	152.04	151.35	
Pacific cod						48.46
Walleye pollock						46.75
Blob sculpin	38.18	18.66		10.80		
Bigmouth sculpin						23.64
Other sculpins	0.00		0.01			5.84
Twoline eelpout	16.50	7.92	2.55		0.70	
Ebony eelpout					2.50	
Black eelpout			0.05		0.03	0.06
Other eelpouts						
Sablefish	3.71	10.40	10.48	3.70	6.22	
Searcher						
Pacific herring						
Blacktail snailfish	9.43	0.67	1.62	1.56		
Other snailfishes	0.57	0.57	0.02	2.53	1.21	2.86
Poachers	0.34	0.07	0.04		0.32	0.65
Mesopelagic fish	0.32	0.44	0.14	0.95	0.12	0.00
Other fishes	0.68	0.47	0.02	0.80	0.27	5.87
Shortspine thornyhead	24.06	10.80	21.64		13.05	
Rougheye rockfish						3.79
Pacific ocean perch						182.76
Light dusky rockfish						
Northern rockfish						
Shortraker rockfish						46.54
Grooved Tanner crab	1.56	0.36	0.94	2.18	17.70	0.50
Tanner crab						0.10
Triangle Tanner crab	37.31	5.46		0.15	1.38	0.04
Hermit crabs	0.34	0.00	0.09	0.03	0.21	0.04
Scarlet king crab		1.04	1.01			
Golden king crab	0.24					3.20
Snails	0.55	0.09		0.18	0.02	0.32
Clams						
Octopus	0.06			2.92	0.08	0.26
Squids		0.42			0.20	1.14
Sea anemones, corals		0.20		0.09	0.72	4.56
Jellyfish	0.30	1.04		0.01	0.07	0.85
Shrimps	0.01	0.03		0.00		6.41
Seastars	0.00	0.12	3.62	23.10	8.80	9.04
Other invertebrates	2.55	5.60	0.40	14.39	1.10	1.60
Haul Total Weight (kg)	**1382.48**	**919.67**	**2987.31**	**1189.98**	**1378.01**	**699.65**

Haul Number	103	104	105	106	107	108
Haul Date & Start Time	7/10/02 14:30	7/10/02 20:20	7/10/02 21:47	7/11/02 10:17	7/11/02 13:40	7/11/02 18:47
Tow Start Latitude	5837.5	5818.6	5821.3	5831.7	5830.9	5832.9
Tow Start Longitude	-17439.6	-17518.5	-17521.6	-17503.5	-17451.9	-17448.1
Tow End Latitude	5837.4	5818.8	5821.4	5830.9	5829.5	5832.2
Tow End Longitude	-17442.2	-17520.8	-17519.1	-17505.9	-17451.6	-17445.9
Station ID	253	255	269	259	290	289
Bottom Depth (m)	273	412	271	1038	1018	799
Stratum Designation	41	42	41	45	45	43
Tow Duration (Hour)	0.53	0.46	0.51	0.6	0.6	0.54
Distance of Tow (nm)	2.543	2.209	2.478	2.824	2.712	2.523
Average Net Width (m)	13.61	15.15	15.33	14.68	13.81	14.88
Performance Code	-2.4	6.1	6.1	1.1	0	0
Surface Temperature (^{0}C)	7.7	7.9	7.7	7.8	7.8	8
Bottom Temperature (^{0}C)	3.2	3.7	3.1	2.7	2.8	3
Sleeper shark				12.30		262.80
Sandpaper skate	0.03	0.81	3.14			
Mud skate						
Roughtail skate				3.50	13.68	2.25
Alaska skate	6.95					
Aleutian skate	27.80	19.35	12.44	28.40	12.20	30.25
Commander skate				2.15	0.11	5.86
Whiteblotched skate		16.42				
Whitebrow skate				1.88		2.50
Other skates	0.03			0.55		
Arrowtooth flounder	554.40	53.92	16.44			
Kamchatka flounder	7.50	17.76	2.00			
Greendland turbot		54.32		9.98	28.70	27.46
Pacific halibut			21.85			
Flathead sole	105.15	67.06	20.41			
Rex sole	38.71	52.52	27.18			
Other flatfishes			2.86			
Pacific grenadier				9.30	8.63	
Giant grenadier		128.84		215.97	761.22	419.50
Popeye grenadier				75.47	106.07	132.85
Pacific cod	5.70	3.66	9.34			
Walleye pollock		3.54	103.96			
Blob sculpin				8.15	2.95	
Bigmouth sculpin	8.50		0.04			
Other sculpins	2.82	1.02	3.11			
Twoline eelpout				2.18	3.04	2.66
Ebony eelpout				2.59		0.12
Black eelpout						
Other eelpouts				0.07	0.00	
Sablefish		9.10		6.94	11.55	5.72
Searcher	0.82					
Pacific herring						
Blacktail snailfish						0.06
Other snailfishes			0.44	0.88	0.83	0.44
Poachers	1.89	0.03	1.74			0.72
Mesopelagic fish				0.17	0.40	0.44
Other fishes	4.35	0.74		0.57		0.29
Shortspine thornyhead		10.55		3.24		3.92
Rougheye rockfish						
Pacific ocean perch	1467.02	4.66	785.85			
Light dusky rockfish						
Northern rockfish						
Shortraker rockfish		1.50				
Grooved Tanner crab						11.22
Tanner crab						
Triangle Tanner crab				163.73	5.88	17.20
Hermit crabs	0.00					0.16
Scarlet king crab				1.66	1.34	
Golden king crab						
Snails	0.38			1.46	0.46	0.95
Clams						
Octopus				6.79	5.41	0.37
Squids	0.27	2.68	1.35		0.38	0.01
Sea anemones, corals	1.99	4.59	6.43	13.30	8.26	1.72
Jellyfish	0.63	0.12	1.44	0.26	2.36	
Shrimps	1.61	3.50	4.97	0.36	0.02	0.14
Seastars	4.61	0.10	4.88	1.92	1.11	2.85
Other invertebrates	1.41	0.14	19.22	17.29	5.98	4.42
Haul Total Weight (kg)	**2242.59**	**456.94**	**1049.08**	**591.06**	**980.59**	**936.87**

Haul Number	109	110	111	112	113	114
Haul Date & Start Time	7/11/02 21:15	7/12/02 9:55	7/12/02 16:36	7/12/02 17:47	7/13/02 14:35	7/13/02 18:19
Tow Start Latitude	5834.5	5835.3	5836.3	5836.3	5633.5	5634
Tow Start Longitude	-17436.6	-17504.4	-17508.6	-17508.8	-17206.1	-17219.8
Tow End Latitude	5833.1	5835.3		5836.9	5633.8	5634
Tow End Longitude	-17436.8	-17501.8		-17506.6	-17208.4	-17222.2
Station ID	282	254	INCOMPLETE TOW	275	267	267
Bottom Depth (m)	334	712		422	279	607
Stratum Designation	41	43		42	31	33
Tow Duration (Hour)	0.53	0.55		0.53	0.53	0.55
Distance of Tow (nm)	2.548	2.556		2.504	2.515	2.542
Average Net Width (m)	14.75	15.19		15.59	15.25	15.63
Performance Code	0	0		0	0	0
Surface Temperature (^{0}C)	7.9	7.8		8	8.7	8.2
Bottom Temperature (^{0}C)	3.6	3.2		3.5	3.5	3.4
Sleeper shark		5058.00				
Sandpaper skate	0.12			59.72	5.28	
Mud skate	7.60					
Roughtail skate	0.50	6.62				
Alaska skate						
Aleutian skate	7.40	23.40		132.81	313.50	18.69
Commander skate		19.30		7.30		6.40
Whiteblotched skate				8.00		
Whitebrow skate	0.30	1.54		32.80		
Other skates	2.03	0.07				
Arrowtooth flounder	548.94	0.79		73.68	558.67	
Kamchatka flounder	54.36	20.10		22.20	16.02	6.50
Greendland turbot	34.15	37.10		62.35		33.10
Pacific halibut				10.90	26.53	
Flathead sole	328.15			33.74	22.92	
Rex sole	42.10			14.06	32.85	
Other flatfishes						
Pacific grenadier						
Giant grenadier		1451.95		430.52		1645.34
Popeye grenadier		460.77				194.42
Pacific cod					21.80	
Walleye pollock					54.17	
Blob sculpin						6.94
Bigmouth sculpin	4.98				11.28	
Other sculpins	1.33			0.84	0.45	0.06
Twoline eelpout		13.20		5.40		3.15
Ebony eelpout						
Black eelpout						0.41
Other eelpouts					0.42	
Sablefish		6.40		17.35		20.94
Searcher						
Pacific herring						
Blacktail snailfish	1.69	1.78				7.60
Other snailfishes		0.53		2.18		
Poachers	2.03	0.38		0.45	3.24	0.10
Mesopelagic fish				0.05		0.01
Other fishes					0.13	
Shortspine thornyhead		9.60		80.49		30.00
Rougheye rockfish						
Pacific ocean perch	24.10			0.48	23.90	
Light dusky rockfish						
Northern rockfish						
Shortraker rockfish				13.50		
Grooved Tanner crab		6.10				10.66
Tanner crab	1.32			0.19	0.15	
Triangle Tanner crab	0.54	37.13		0.15		
Hermit crabs		0.33		0.19		1.80
Scarlet king crab						
Golden king crab	3.65				1.72	
Snails		2.17		3.09	0.23	1.87
Clams						
Octopus	1.52	1.34		0.08		1.11
Squids	1.07	0.24		11.08		
Sea anemones, corals	1.03	0.11		1.11	0.22	0.06
Jellyfish	0.82			1.45		
Shrimps	1.02	0.01		0.92	1.28	
Seastars	1.77	1.71		15.63	3.05	12.11
Other invertebrates	1.92	0.21		0.93	0.59	5.38
Haul Total Weight (kg)	**1074.45**	**7160.88**	**0.00**	**1043.62**	**1098.39**	**2006.65**

Haul Number	115	116	117	118	119	120
Haul Date & Start Time	7/14/02 7:57	7/14/02 10:37	7/14/02 16:55	7/15/02 21:01	7/15/02 22:47	7/16/02 6:37
Tow Start Latitude	5630.7	5632	5629	5608.1	5608.1	5611.4
Tow Start Longitude	-17223.6	-17230.5	-17216.5	-16926.3	-16926.4	-16929.3
Tow End Latitude	5630.3	5633	5629.9	5608.5	5608.9	5610.2
Tow End Longitude	-17226	-17229.1	-17218.8	-16927.2	-16928.2	-16930.3
Station ID	200	223	233	214	241	181
Bottom Depth (m)	923	451	998	623	639	482
Stratum Designation	34	32	34	23	23	22
Tow Duration (Hour)	0.55	0.52	0.64	0.28	0.51	0.53
Distance of Tow (nm)	2.628	2.473	2.963	1.296	2.420	2.603
Average Net Width (m)	13.65	15.25	15.05	14.00	13.53	14.78
Performance Code	5.1	0	0	-5.23	0	0
Surface Temperature (^{0}C)	8.4	8.5	8.9	9	9	9.1
Bottom Temperature (^{0}C)	2.8	3.7	2.6	3.5	3.5	3.3
Sleeper shark			3.40			
Sandpaper skate						
Mud skate					0.31	0.86
Roughtail skate	14.12		4.06	3.28		
Alaska skate						
Aleutian skate	0.56		0.41	0.92	19.35	11.40
Commander skate	4.42		1.03		42.40	32.00
Whiteblotched skate					17.79	47.73
Whitebrow skate		2.92	0.36		2.15	2.10
Other skates		0.02	0.03	0.01		0.17
Arrowtooth flounder		37.35		4.00	4.75	
Kamchatka flounder	2.64	7.16		9.32	35.82	146.37
Greendland turbot	7.10	20.62			61.68	20.76
Pacific halibut		10.90			13.26	52.54
Flathead sole		9.60				
Rex sole		47.04				1.29
Other flatfishes	0.54					
Pacific grenadier	15.33		61.58			
Giant grenadier	461.04	1926.02	625.51		88.84	1429.99
Popeye grenadier	91.66		157.78			
Pacific cod						
Walleye pollock		0.39				1.41
Blob sculpin	24.32		3.53			
Bigmouth sculpin						0.33
Other sculpins		0.48		0.24	17.77	11.69
Twoline eelpout	0.02		0.04		6.36	
Ebony eelpout					0.97	5.86
Black eelpout		0.07			0.08	0.63
Other eelpouts				0.01		
Sablefish	4.20	7.46	7.86		30.34	7.80
Searcher						
Pacific herring						
Blacktail snailfish	0.57		3.19		1.01	2.78
Other snailfishes	0.61	2.54	3.18	0.04	0.96	0.18
Poachers		0.05				0.04
Mesopelagic fish	0.21	0.12	0.44	0.05		0.01
Other fishes		0.40	0.42		4.25	0.10
Shortspine thornyhead		70.69			3.20	18.26
Rougheye rockfish		3.00				2.70
Pacific ocean perch		0.89				
Light dusky rockfish						
Northern rockfish						
Shortraker rockfish		57.25				2.92
Grooved Tanner crab	1.70		1.28	0.11	0.12	0.11
Tanner crab		0.24				0.03
Triangle Tanner crab	2.34		0.88		0.29	0.02
Hermit crabs	0.12	0.01			0.01	0.15
Scarlet king crab						
Golden king crab		4.00			13.80	12.31
Snails	0.13					0.53
Clams						
Octopus		0.15	0.28			
Squids	0.37				0.82	
Sea anemones, corals	0.06	3.76	0.25	0.01	0.86	0.24
Jellyfish	0.55	2.26	1.97	1.41	3.28	4.15
Shrimps	0.12	2.59	0.00	0.14	5.91	0.12
Seastars	1.37	3.71	4.33	0.81	0.78	2.51
Other invertebrates	4.79	0.84	16.86	0.16	1.42	33.51
Haul Total Weight (kg)	**638.89**	**2222.54**	**898.67**	**20.51**	**378.57**	**1853.61**

Haul Number	121	122	123	124	125	126
Haul Date & Start Time	7/16/02 12:16	7/16/02 20:03	7/17/02 7:42	7/17/02 12:40	7/19/02 7:01	7/19/02 9:01
Tow Start Latitude	5602.6	5525.4	5422.8	5412.1	5449	5457.3
Tow Start Longitude	-16905.1	-16819.2	-16630.5	-16614.7	-16707.4	-16710.3
Tow End Latitude	5602.6	5523.9	5422.7	5411.8	5449.9	5456.5
Tow End Longitude	-16905.1	-16816.5	-16632.7	-16616.9	-16708.9	-16708.5
Station ID	181	172		151	105	25
Bottom Depth (m)	0	531	612	367	348	219
Stratum Designation	26	12	13	11	11	11
Tow Duration (Hour)	0.74	0.95	0.51	0.55	0.52	0.52
Distance of Tow (nm)	0.000	4.283	2.454	2.600	2.480	2.420
Average Net Width (m)	13.00	14.19	15.82	13.43	15.57	14.88
Performance Code	-5.3	-6.1	0	0	0	0
Surface Temperature (^{0}C)	9	8.4	8	7.4	7.8	9.1
Bottom Temperature (^{0}C)	0	3.6	3.4	3.8	3.7	3.8
Sleeper shark			9.40			
Sandpaper skate			14.70		11.40	9.30
Mud skate						
Roughtail skate			0.91			
Alaska skate		0.14				
Aleutian skate		0.36	21.52	4.40		
Commander skate	3.62		7.30			
Whiteblotched skate				5.40		
Whitebrow skate			1.40		2.69	
Other skates	0.06	0.01	0.05	0.61	0.01	0.04
Arrowtooth flounder		4.70	4.14	35.78	130.04	89.73
Kamchatka flounder		1.20	9.64	8.88	10.95	6.25
Greendland turbot		19.86	42.30	79.76	9.55	
Pacific halibut		18.48			10.90	
Flathead sole		5.10		30.76	6.21	71.08
Rex sole		0.98		59.05	23.30	12.24
Other flatfishes				2.40	2.39	
Pacific grenadier	5.84					
Giant grenadier		6.12	69.89			
Popeye grenadier	6.40	0.38				
Pacific cod				8.22		9.84
Walleye pollock				100.31	16.64	35.70
Blob sculpin						
Bigmouth sculpin				5.82		
Other sculpins	0.01	0.23	0.31	3.38	2.76	6.03
Twoline eelpout	3.77	1.85	62.35			
Ebony eelpout		1.14	3.60			
Black eelpout		0.73	1.95	0.15	0.47	0.16
Other eelpouts	0.35	0.09		0.00		
Sablefish		2.30	75.81	7.00		
Searcher						
Pacific herring						
Blacktail snailfish			0.69			
Other snailfishes	0.07	0.50		2.12	1.70	0.14
Poachers		0.05	1.13	0.38	0.76	0.05
Mesopelagic fish	1.32	0.40	0.54	0.19	0.08	
Other fishes	0.01	0.18		0.74	10.02	1.21
Shortspine thornyhead		2.80	53.15	83.99	52.02	
Rougheye rockfish				7.95	4.82	
Pacific ocean perch				21.34	10.03	1414.78
Light dusky rockfish						
Northern rockfish						0.70
Shortraker rockfish				160.80	0.50	
Grooved Tanner crab		4.14	7.14			
Tanner crab						1.62
Triangle Tanner crab		0.41	3.95		0.26	
Hermit crabs		0.34	0.16	0.09	1.06	0.07
Scarlet king crab						
Golden king crab		0.57				
Snails		1.01	2.71	3.40	2.80	1.44
Clams						
Octopus	0.84	1.52	0.73	7.09	0.06	
Squids		0.28	2.28	1.30	6.80	
Sea anemones, corals	0.02	4.81		2.00	10.22	4.22
Jellyfish	0.97	0.74	0.81			0.06
Shrimps	0.01	0.57	0.45	0.62	0.45	1.93
Seastars	0.38	8.79	10.85	11.17	30.50	1.26
Other invertebrates	10.76	3.23	48.04	1663.81	0.84	1.36
Haul Total Weight (kg)	**34.44**	**94.02**	**457.88**	**2318.90**	**360.24**	**1669.21**

Haul Number	127	128	129	130	131	132
Haul Date & Start Time	7/19/02 11:26	7/19/02 15:26	7/20/02 7:02	7/20/02 12:21	7/20/02 16:22	7/21/02 6:53
Tow Start Latitude	5503.1	5503.2	5447.9	5431.8	5421.3	5431.7
Tow Start Longitude	-16726.5	-16743.4	-16739.8	-16741	-16758.2	-16718.5
Tow End Latitude	5502.2	5502.2	5448.6	5433	5422.6	5432.7
Tow End Longitude	-16724.7	-16741.9	-16740.6	-16741.7	-16757.2	-16719.8
Station ID	38	43	39	95	148	130
Bottom Depth (m)	233	420	1061	817	1019	565
Stratum Designation	11	12	15	14	15	12
Tow Duration (Hour)	0.52	0.55	0.35	0.51	0.6	0.53
Distance of Tow (nm)	2.506	2.534	1.505	2.490	2.797	2.537
Average Net Width (m)	14.82	15.00	13.00	15.26	15.37	16.05
Performance Code	0	0	5.3	0	0	0
Surface Temperature (^{0}C)	8.5	8.3	8.6	9.1	9.1	7.6
Bottom Temperature (^{0}C)	3.9	3.6	2.6	3	2.6	3.4
Sleeper shark						
Sandpaper skate	2.72					
Mud skate						
Roughtail skate			6.40			
Alaska skate						
Aleutian skate	32.90		0.34			6.49
Commander skate						
Whiteblotched skate						
Whitebrow skate			0.50			
Other skates	0.03		0.01	0.02	0.10	0.02
Arrowtooth flounder	169.41	7.80				
Kamchatka flounder	2.18	100.68	2.02	12.08		6.05
Greendland turbot		43.88	10.09		44.62	131.94
Pacific halibut						
Flathead sole	151.43	3.26				
Rex sole	24.29	9.02				
Other flatfishes	0.84	0.73		1.42		
Pacific grenadier			1.80		20.91	
Giant grenadier		103.82	159.08	751.82	787.07	367.02
Popeye grenadier			50.34	91.60	104.13	0.45
Pacific cod	23.06					
Walleye pollock	481.75					
Blob sculpin			9.82	0.08	58.76	
Bigmouth sculpin	0.26	0.36				
Other sculpins	2.71	0.42	0.00			0.66
Twoline eelpout		1.30	0.45	2.37	2.68	9.30
Ebony eelpout						4.54
Black eelpout		0.40		0.12		
Other eelpouts		0.01	0.00	0.00		
Sablefish		42.60	3.11	26.00		34.50
Searcher	0.11					
Pacific herring						
Blacktail snailfish		2.92		0.34		1.46
Other snailfishes	0.70	0.02	0.83	0.69	3.72	0.05
Poachers	0.08	0.08		0.11		0.02
Mesopelagic fish	0.07	0.18	0.73	3.34	4.04	1.06
Other fishes			1.31		0.20	
Shortspine thornyhead		82.84	3.00		1.80	8.00
Rougheye rockfish	5.79	1.80				
Pacific ocean perch	795.07					
Light dusky rockfish						
Northern rockfish	1.01					
Shortraker rockfish						
Grooved Tanner crab						
Tanner crab	4.26					
Triangle Tanner crab		0.05	30.64	21.65	18.72	
Hermit crabs	0.13			0.07	0.27	0.08
Scarlet king crab						
Golden king crab		3.50				0.44
Snails	1.11	0.79	1.50	1.84	2.58	3.45
Clams			0.64			
Octopus	1.03	0.27	0.48			0.62
Squids	0.25	0.81	0.31	0.09		0.99
Sea anemones, corals	1.71	20.00	0.11			0.03
Jellyfish	0.04		0.06	0.12	0.50	0.36
Shrimps	2.34	0.32	0.20	0.23	1.79	
Seastars	0.46	5.63	1.08	0.51	3.74	18.97
Other invertebrates	0.27	1.34	0.81	0.17	29.30	4.88
Haul Total Weight (kg)	**1706.00**	**434.84**	**285.67**	**914.66**	**1084.92**	**601.38**

Haul Number	133	134	135	136	137	138
Haul Date & Start Time	7/21/02 12:11	7/21/02 15:58	7/21/02 19:19	7/22/02 6:47	7/22/02 10:11	7/22/02 12:00
Tow Start Latitude	5438.6	5433.8	5441.4	5444.2	5449.4	5452.1
Tow Start Longitude	-16644.1	-16632.8	-16622.5	-16700.3	-16650.4	-16649.2
Tow End Latitude	5438.4	5434	5441.1	5443.3	5448.9	5451.6
Tow End Longitude	-16641.9	-16630.6	-16620.3	-16658.8	-16648.2	-16647.1
Station ID	145	86	36	57	44	37
Bottom Depth (m)	368	422	297	368	262	213
Stratum Designation	11	12	11	11	11	11
Tow Duration (Hour)	0.53	0.53	0.53	0.53	0.56	0.53
Distance of Tow (nm)	2.418	2.463	2.488	2.518	2.626	2.454
Average Net Width (m)	15.97	16.23	16.12	16.04	15.34	15.50
Performance Code	0	0	0	0	0	0
Surface Temperature (^{0}C)	8.2	8.6	7.2	8.1	8.3	8.2
Bottom Temperature (^{0}C)	3.7	3.7	3.8	3.7	3.9	4.1
Sleeper shark						
Sandpaper skate		2.02	2.04	4.70	4.93	16.86
Mud skate						
Roughtail skate						
Alaska skate					6.67	
Aleutian skate	78.98			43.24	20.16	63.39
Commander skate						
Whiteblotched skate	36.50			5.94		
Whitebrow skate			9.45			
Other skates		0.02				0.07
Arrowtooth flounder	173.30	24.06	45.42	202.34	171.94	195.89
Kamchatka flounder	46.90	63.10	22.30	28.22	14.13	2.72
Greendland turbot	28.83	236.22		9.84		
Pacific halibut				22.49		
Flathead sole	69.94	52.70	46.13	46.14	103.04	161.63
Rex sole	22.05	24.30	2.30	15.40	12.56	15.77
Other flatfishes	0.48	0.59				
Pacific grenadier						
Giant grenadier		3.06				
Popeye grenadier						
Pacific cod					3.73	30.28
Walleye pollock	27.27	54.46	9.35	8.25	21.74	454.85
Blob sculpin						
Bigmouth sculpin		4.88			0.20	0.19
Other sculpins	4.13	0.44	11.81	5.69	22.27	6.53
Twoline eelpout		27.88				
Ebony eelpout		4.60				
Black eelpout			0.05	0.17		
Other eelpouts		0.01	0.01			0.03
Sablefish	18.10	5.92				
Searcher						
Pacific herring						
Blacktail snailfish						
Other snailfishes	2.90	1.87	2.88			
Poachers	0.08	0.20	0.01	0.24		
Mesopelagic fish	0.92	1.00	2.02	0.14		
Other fishes	0.85		1.34			
Shortspine thornyhead	74.73	121.78	1.52	141.59		
Rougheye rockfish	2.10		2.74	0.71	0.60	
Pacific ocean perch	28.39	5.78	9.84	22.20	12.85	
Light dusky rockfish						
Northern rockfish					0.79	
Shortraker rockfish						
Grooved Tanner crab						
Tanner crab	0.11		1.39		2.46	14.83
Triangle Tanner crab	0.63	0.40	0.04	0.48		
Hermit crabs	1.20	1.68	0.21	1.44	0.00	0.03
Scarlet king crab						
Golden king crab	0.95			0.13	5.88	
Snails	7.38	6.83	3.30	3.19	2.67	1.96
Clams						
Octopus				0.36	27.97	
Squids	7.11	3.49	4.81	3.20	0.73	
Sea anemones, corals	7.99	2.10	3.84	6.08	2.12	5.83
Jellyfish				1.18		0.68
Shrimps	0.30	0.42	4.64	0.16	8.32	0.84
Seastars	22.00	16.04	7.22	36.38	9.75	2.01
Other invertebrates	1.12	0.70	4.86	0.83	1.82	0.36
Haul Total Weight (kg)	**665.23**	**666.54**	**199.52**	**610.75**	**457.32**	**974.76**

Haul Number	139	140	141	142	143	144
Haul Date & Start Time	7/22/02 15:01	7/22/02 18:01	7/23/02 7:15	7/23/02 10:18	7/23/02 13:21	7/23/02 16:17
Tow Start Latitude	5449.1	5448.2	5441.6	5445.9	5440.7	5435.9
Tow Start Longitude	-16642.7	-16629.6	-16544.1	-16552.1	-16554.6	-16603
Tow End Latitude	5448.7	5448	5441.4	5446	5440.5	5436.1
Tow End Longitude	-16640.6	-16627.4	-16542.2	-16554.4	-16556.9	-16600.8
Station ID	51	14	13	46	30	10
Bottom Depth (m)	236	205	304	207	316	400
Stratum Designation	11	11	11	11	11	12
Tow Duration (Hour)	0.53	0.53	0.45	0.53	0.53	0.52
Distance of Tow (nm)	2.482	2.485	2.118	2.547	2.490	2.470
Average Net Width (m)	15.42	16.06	15.18	15.31	15.86	15.45
Performance Code	0	0	5	0	0	0
Surface Temperature (^{0}C)	7.9	7.3	7.4	8.5	7.6	7.6
Bottom Temperature (^{0}C)	4.3	4.1	3.7	4.1	3.7	3.6
Sleeper shark						
Sandpaper skate	3.17	17.90	11.40	14.18	10.50	8.40
Mud skate						
Roughtail skate						
Alaska skate	16.10	6.65		16.51	0.07	
Aleutian skate	37.03	19.20	16.50		17.48	19.00
Commander skate						
Whiteblotched skate						
Whitebrow skate	2.45				9.45	32.98
Other skates	0.11	0.04	0.07	3.34	2.26	0.60
Arrowtooth flounder	194.12	73.86	25.44	40.16	153.22	108.38
Kamchatka flounder	2.39		6.82	1.20	14.35	48.00
Greendland turbot					14.52	385.92
Pacific halibut						
Flathead sole	163.62	175.74		6.22	4.71	19.94
Rex sole	9.50	12.63	9.91	19.10	29.58	12.86
Other flatfishes			0.58	0.42	0.51	
Pacific grenadier						
Giant grenadier						
Popeye grenadier						
Pacific cod	1.64	56.54	2.32	116.90	8.40	
Walleye pollock	16.54	49.86	78.89	334.16	87.10	37.38
Blob sculpin						
Bigmouth sculpin			0.13	0.01	4.08	
Other sculpins	13.28	8.22	13.20	19.78	15.46	9.25
Twoline eelpout						16.44
Ebony eelpout						17.65
Black eelpout						0.78
Other eelpouts						0.02
Sablefish			3.66	2.73	3.32	4.72
Searcher				0.08		
Pacific herring						
Blacktail snailfish						
Other snailfishes	0.38	0.54	4.07	1.51	7.22	
Poachers		0.05	4.72	2.60	2.20	0.23
Mesopelagic fish		0.31			0.32	1.58
Other fishes					0.60	
Shortspine thornyhead						24.03
Rougheye rockfish	3.00	0.36		0.10	1.84	
Pacific ocean perch	0.80		9.76	9.24	4.96	12.94
Light dusky rockfish		1.57		1.51		
Northern rockfish				1.33		
Shortraker rockfish						
Grooved Tanner crab						
Tanner crab	9.79	69.76	14.52	57.73	4.15	0.80
Triangle Tanner crab						0.69
Hermit crabs	0.00		0.05	0.05	0.29	2.38
Scarlet king crab						
Golden king crab						
Snails	1.86	1.62	2.57	2.42	0.41	7.33
Clams						
Octopus	0.57		1.62		5.34	0.11
Squids			1.07	0.36	0.61	5.23
Sea anemones, corals	7.52	30.90	2.99	18.19	5.04	15.79
Jellyfish		1.98	15.23	2.57	3.51	3.45
Shrimps	4.30	6.15	5.80	9.60	6.53	4.03
Seastars	0.98	0.19	0.02	1.08	1.95	11.68
Other invertebrates	0.17	2.47	5.78	12.09	3.28	3.45
Haul Total Weight (kg)	**489.31**	**536.54**	**237.11**	**695.15**	**423.28**	**816.05**

Haul Number	145	146	147	148	149	150
Haul Date & Start Time	7/24/02 8:37	7/24/02 12:10	7/24/02 15:52	7/24/02 19:22	7/25/02 7:57	7/25/02 12:06
Tow Start Latitude	5429.1	5426.7	5431.3	5425.7	5420.5	5432.7
Tow Start Longitude	-16712.7	-16650.7	-16643.8	-16628.9	-16553.1	-16553.9
Tow End Latitude	5430.4	5426.6	5431.1	5425.7	5419.5	5431.6
Tow End Longitude	-16713.3	-16652.9	-16646	-16626.6	-16554.6	-16553.1
Station ID	32	79	53	55	66	85
Bottom Depth (m)	531	519	458	551	283	452
Stratum Designation	12	12	12	12	11	12
Tow Duration (Hour)	0.54	0.54	0.53	0.54	0.52	0.53
Distance of Tow (nm)	2.566	2.433	2.438	2.500	2.447	2.429
Average Net Width (m)	15.33	14.63	15.40	15.95	13.53	14.94
Performance Code	0	3.2	0	0	0	0
Surface Temperature (^{0}C)	7.6	8	8	7.9	7.8	8.7
Bottom Temperature (^{0}C)	3.6	3.6	3.6	3.5	4.1	3.7
Sleeper shark						
Sandpaper skate	2.04	7.10		2.10	25.65	2.84
Mud skate					35.72	
Roughtail skate						
Alaska skate					7.72	
Aleutian skate	0.18	10.04	16.54	28.90	182.43	5.58
Commander skate			4.60	5.07		
Whiteblotched skate	4.34	7.88	6.75		3.57	
Whitebrow skate					2.27	3.10
Other skates	0.40	0.02			5.80	0.01
Arrowtooth flounder	3.78		0.92		60.14	41.26
Kamchatka flounder	11.03	28.20	30.10	28.60	11.34	27.22
Greendland turbot	39.84	66.18	73.85	70.98		76.54
Pacific halibut		24.97	54.31	50.94	19.56	
Flathead sole		52.18	111.74	78.62	0.39	183.50
Rex sole			2.50		69.30	11.37
Other flatfishes					0.75	2.89
Pacific grenadier						
Giant grenadier	171.30	122.66	58.39	70.00		3.48
Popeye grenadier						
Pacific cod					21.52	
Walleye pollock			15.74		61.18	55.56
Blob sculpin						
Bigmouth sculpin					9.38	12.88
Other sculpins	0.20	0.71	1.84	0.77	35.82	3.71
Twoline eelpout	7.70	70.50	37.50	72.45		78.73
Ebony eelpout	2.02	7.50		13.74		18.62
Black eelpout		0.75	1.10	1.29		2.25
Other eelpouts	0.00	0.02	0.01			0.00
Sablefish	20.80	31.68	11.22	41.02	2.58	70.32
Searcher						
Pacific herring						0.44
Blacktail snailfish						
Other snailfishes	0.85	0.03	0.00	0.40	15.25	
Poachers	0.24	0.27	0.36	0.45	7.40	0.17
Mesopelagic fish	0.32	0.06	0.29	0.14	0.09	1.75
Other fishes	0.38		0.99	2.25		
Shortspine thornyhead	28.38	43.10	43.40	65.04		20.64
Rougheye rockfish					0.98	
Pacific ocean perch			0.65		68.66	4.32
Light dusky rockfish						
Northern rockfish						
Shortraker rockfish	5.52					
Grooved Tanner crab		4.76	0.48	4.82		
Tanner crab					33.27	1.03
Triangle Tanner crab		0.60	3.16	1.83		9.81
Hermit crabs	0.07	0.46	3.14	0.54	0.27	1.49
Scarlet king crab						
Golden king crab		4.06				0.02
Snails	9.35	8.16	13.85	7.45	0.18	13.02
Clams	0.23					
Octopus	0.32	0.70	1.47	2.47	1.16	1.41
Squids	0.24	0.56	4.33	6.44	2.32	12.20
Sea anemones, corals	0.58		0.51	0.03	1.56	32.17
Jellyfish		0.13	1.48	0.79		0.04
Shrimps		0.08	1.01	0.49	1.94	0.11
Seastars	20.00	21.67	38.07	9.20	0.96	5.51
Other invertebrates	142.79	185.74	59.44	168.19	23.30	1.01
Haul Total Weight (kg)	**472.92**	**700.77**	**599.75**	**735.01**	**712.46**	**705.02**

Haul Number	151	152	153	154	155	156
Haul Date & Start Time	7/25/02 15:39	7/26/02 7:23	7/26/02 17:12	7/27/02 8:08	7/27/02 18:27	7/29/02 7:29
Tow Start Latitude	5430.4	5419	5423.4	5444.6	5510.9	5419.9
Tow Start Longitude	-16608.8	-16622.2	-16737.6	-16735.3	-16759.5	-16720.3
Tow End Latitude	5430.6	5419.1	5422.3	5446.3	5511.8	5420
Tow End Longitude	-16606.5	-16621.5	-16736.1	-16735	-16800.4	-16722.7
Station ID	27	83	78	140	128	132
Bottom Depth (m)	483	1048	814	919	872	796
Stratum Designation	12	15	14	14	14	13
Tow Duration (Hour)	0.54	0.23	0.56	0.68	0.42	0.57
Distance of Tow (nm)	2.495	0.843	2.652	3.354	1.961	2.636
Average Net Width (m)	14.52	13.17	14.92	13.65	13.47	15.01
Performance Code	0	-4.2	0	0	-4.2	0
Surface Temperature (^{0}C)	8.1	8.1	0	7.1	9.3	8
Bottom Temperature (^{0}C)	3.6	2.6	0	2.7	2.8	3
Sleeper shark		28.80				6.93
Sandpaper skate	2.26					
Mud skate						
Roughtail skate		8.10	0.12	1.92	4.58	6.20
Alaska skate						
Aleutian skate	7.50	2.52	0.24		0.07	
Commander skate						
Whiteblotched skate						
Whitebrow skate	2.86					0.43
Other skates		0.04	0.01	0.02	0.01	0.08
Arrowtooth flounder	63.75					
Kamchatka flounder	102.35	4.55	5.46	5.25	6.35	3.58
Greendland turbot	46.04	8.00	3.03	11.40	12.24	50.14
Pacific halibut	23.69					
Flathead sole	111.58					
Rex sole						
Other flatfishes				1.10		
Pacific grenadier		1.30				
Giant grenadier	25.36	266.66	419.28	349.06	226.48	257.38
Popeye grenadier		139.76	53.10	276.04	94.90	63.90
Pacific cod						
Walleye pollock						
Blob sculpin			0.12			4.19
Bigmouth sculpin	1.45				0.75	
Other sculpins	3.85			0.01		
Twoline eelpout	539.27	0.01	13.92	2.94	4.66	4.28
Ebony eelpout	17.70					
Black eelpout	7.54	0.09	0.19	0.34	0.38	0.32
Other eelpouts					0.00	
Sablefish	27.48	6.30	21.95	46.50	25.75	17.35
Searcher						
Pacific herring						
Blacktail snailfish			0.74		0.97	0.22
Other snailfishes	0.51	0.18	0.82	3.89	0.58	0.60
Poachers	0.90		0.20	0.50	0.12	0.18
Mesopelagic fish	0.28	2.56	4.06	1.44	0.01	4.77
Other fishes	0.94	0.31	0.28	0.54	3.90	0.33
Shortspine thornyhead	46.86	2.54	5.22	13.80	17.97	2.20
Rougheye rockfish						
Pacific ocean perch	1.72					
Light dusky rockfish						
Northern rockfish						
Shortraker rockfish						
Grooved Tanner crab	1.18				1.88	
Tanner crab						
Triangle Tanner crab	32.92	33.72	54.42	62.57	27.68	40.77
Hermit crabs	2.04		0.10	0.12	0.05	0.29
Scarlet king crab		0.94				
Golden king crab	0.12	0.47				
Snails	47.05	2.63	2.12	1.45	1.20	2.83
Clams		0.63			1.55	
Octopus	2.60	0.68	0.21	0.22	0.03	0.37
Squids	1.33	2.45	0.77	0.77		
Sea anemones, corals	6.01	0.03	0.01			
Jellyfish	0.79	1.53	0.33	0.23		0.02
Shrimps	10.76	0.06	0.82	0.24	0.13	0.70
Seastars	19.15	3.06	3.59	1.09	0.98	1.40
Other invertebrates	47.97	7.29	0.09	0.29	5.24	0.48
Haul Total Weight (kg)	**1205.80**	**525.21**	**591.15**	**781.72**	**438.47**	**469.99**

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