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2000 Bottom Trawl Survey of the Eastern Bering Sea Continental Shelf

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2000 BOTTOM TRAWL SURVEY OF THE EASTERN BERING SEA
CONTINENTAL SHELF

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ABSTRACT

The Resource Assessment and Conservation Engineering Division of the Alaska Fisheries Science Center conducts annual bottom trawl surveys to monitor the condition of the demersal fish and crab stocks of the eastern Bering Sea continental shelf. The standard study area, surveyed each year since 1979, encompasses a major portion of the eastern Bering Sea shelf between the 20-m and the 200-m isobaths and from the Alaska Peninsula north to approximately the latitude of St. Matthew Island (60° 50' N). In 2000, this area was again surveyed by two chartered trawlers, the 40-m F/V *Arcturus* and the 40-m F/V *Aldebaran*.

Demersal populations were sampled by trawling for 30 minutes at stations centered in a 20 × 20 nautical mile grid covering the survey area. At each station, species composition of the catch was determined and commercially important species were sampled to obtain length distributions and age structure samples.

Survey results presented in this report include relative fishing powers of the survey vessels, abundance estimates for fish and invertebrates, geographic distributions of important fish species and size composition of principal fish species. Surface and bottom temperatures recorded at each sampling station are also presented.

Appendices provide station data, species listings, and detailed results of analyses of abundance and biological data of the sampled populations.

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INTRODUCTION

The eastern Bering Sea continental shelf supports one of the most productive groundfish fisheries in the world (Bakkala 1993). Since 1970, annual commercial catches of groundfish have ranged from 1.2 to 2.2 million metric tons (t) (North Pacific Fishery Management Council 1998). Although many species are caught commercially, the most abundant has been walleye pollock (*Theragra chalcogramma*), which, since 1970, has comprised more than 70% of the total landings. The next most abundant species have been yellowfin sole (*Limanda aspera*) and Pacific cod (*Gadus macrocephalus*) which have comprised 8% and 5%, respectively, of the commercial landings.

Since 1971, the Resource Assessment and Conservation Engineering (RACE) Division of the Alaska Fisheries Science Center (AFSC) has conducted annual bottom trawl surveys of the eastern Bering Sea continental shelf. In 1975, the first large-scale survey of the eastern Bering Sea shelf was conducted under contract from the Bureau of Land Management in response to a need for baseline data to assess the potential impact of proposed offshore oil exploration and development on fishery resources (Pereyra et al. 1976). During this baseline survey, sampling was conducted over the eastern Bering Sea shelf between the 20-m and 200-m isobaths and from the Alaska Peninsula north to approximately 62°N. In subsequent years, the areal coverage of the annual surveys was reduced, until 1979 when the most comprehensive survey of the Bering Sea shelf was undertaken in cooperation with the Japan Fisheries Agency (Bakkala and Wakabayashi 1985). The 1979 survey encompassed the entire region sampled in the 1975 baseline study, and in addition, the continental slope waters between the Aleutian Islands and the U.S.-U.S.S.R. Convention Line, and the shelf region between St. Matthew and St. Lawrence Islands. A

hydroacoustic survey was also conducted in 1979 to assess the midwater component of the walleye pollock population. Subsequent annual bottom trawl surveys have essentially resampled the stations established during the 1975 survey, with slight modifications each year. This region encompasses the major portion of economically important eastern Bering Sea groundfish populations, except those primarily located in continental slope waters. Every third year, through 1991 (1979, 1982, 1985, 1988, 1991) an extended survey was conducted, including hydroacoustic assessment of midwater pollock, bottom trawl sampling of the continental slope (the continental slope was not surveyed in 1994 or 1997 but was resumed in 2000), and bottom trawl sampling in the region between St. Matthew and St. Lawrence Islands. The information gathered by the annual surveys serves to: 1) provide the North Pacific Fishery Management Council with annual fishery-independent estimates of abundance and biological condition of commercially exploited stocks, 2) provide distribution and abundance information to commercial fishermen, and 3) develop a time-series database contributing to our understanding of the population dynamics and interactions of groundfish species.

This report presents information collected by the AFSC in the eastern Bering Sea during the 2000 bottom trawl survey. The groundfish/crab survey and several ancillary projects were conducted from 19 May to 24 July by two U.S. vessels. Detailed information on principal crab species can be obtained by contacting B. Stevens (NOAA/NMFS/AFSC P.O. Box 1638, Kodiak, AK 99615). Information on the 2000 Bering Sea Continental Slope survey will be reported in a future document.

METHODS

Survey Area and Sampling Design

The standard station pattern for the eastern Bering Sea survey is based on a systematic 20 × 20 nautical mile grid. In areas surrounding St. Matthew and the Pribilof Islands, grid block corners were also sampled to better assess blue king crab (*Paralithodes platypus*) concentrations. The survey design pattern called for 356 stations. In 2000, 352 standard stations and 20 additional stations northwest of the standard pattern were successfully sampled. To further understand yellowfin sole ecology, 19 inshore stations were also examined (Fig. 1 and Appendix A).

After the standard survey had been completed a special effort was made to examine gear performance. In addition to these extra tows, several stations were resampled to further assess red king crab (*Paralithodes camtschaticus*) populations. Results from the yellowfin sole inshore stations, gear tests, and resampled crab stations will be presented in subsequent publications.

Starting with the eastern stations, the two vessels fished alternate north/south lines of stations such that coverage of the survey area was similar for each vessel. This sampling design facilitated the computation of relative fishing powers (or catch efficiencies) of the two vessels. The progression from east to west was established to prevent multiple encounters of yellowfin sole, Alaska plaice (*Pleuronectes quadrituberculatus*), and perhaps other species which may be migrating eastward during the course of the survey (Smith and Bakkala 1982). Tows were usually 30 minutes in duration and fishing was limited to daylight hours. For data analysis, the survey region was divided into six subareas bounded by the 50-m, 100-m, and 200-m isobaths

and by a line separating the northwest and southeast portions of the study area (Fig. 1). This stratification scheme was designed to reduce the variances of population and biomass estimates by conforming to oceanographic domains which seem related to distributions of Bering Sea fishes (Bakkala 1993). The presence of high-density sampling for blue king crab in subareas 3, 4, and 6 necessitated a further division of these subareas into high-density and standard-density sample strata, resulting in a total of 10 geographic strata. The overall sampling density for the entire survey area was one station per 1,316 km² (Table 1). However, because of the high-density sampling in subareas 3, 4, and 6, and the irregular subarea boundaries, sampling density among the six subareas varied from one station per 1,123 km² to one per 1,616 km².

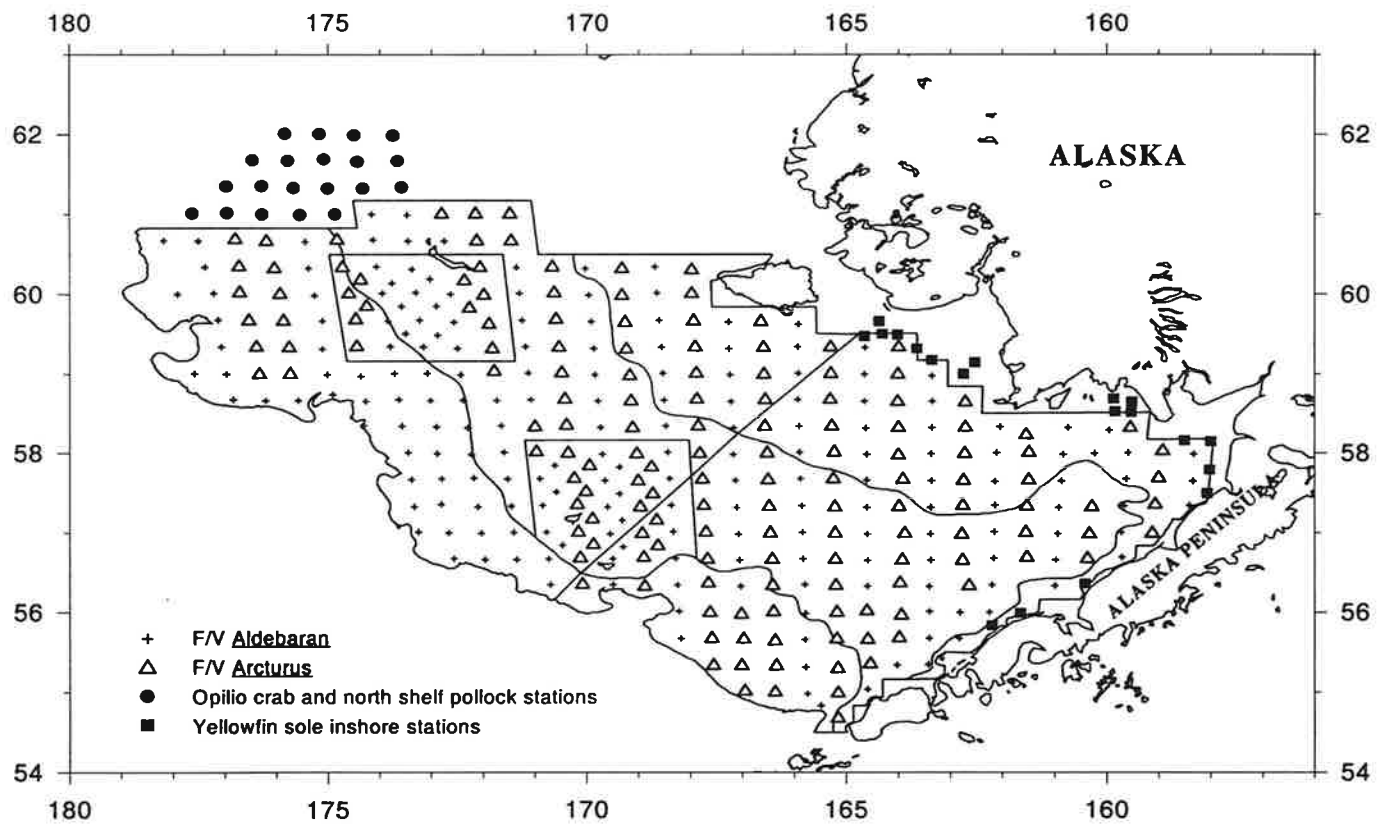


Figure 1.--Standard and special study stations sampled during the 2000 eastern Bering Sea bottom trawl survey, and stratifications used for the analysis of data.

Table 1.--Size of subareas and strata, and sampling densities for the 2000 eastern Bering Sea bottom trawl survey (See also Fig. 1).

Subarea	Area (km ²)	No. Stations successfully sampled	Sampling density (km ² /stn)
1 (10)	77,871	57	1,366
2 (20)	41,027	30	1,368
3	103,300	79	1,308
(31)	94,526	69	1,370
(32)	8,774	10	877
4	107,822	96	1,123
(41)	62,703	44	1,425
(42)	24,011	30	800
(43)	21,108	22	959
5 (50)	38,792	24	1,616
6	94,562	66	1,433
(61)	88,134	59	1,494
(62)	6,429	7	918
Subareas Combined	463,374	352	1,316

Vessels and Fishing Gear

The 2000 eastern Bering Sea bottom trawl survey was conducted aboard the 40-m fishing vessels F/V *Arcturus* and F/V *Aldebaran* (Table 2). As in previous years, both vessels were equipped with 83-112 eastern otter trawls which have 25.3-m (83 ft) headropes and 34.1-m (112 ft) footropes (Fig. 2). These nets were attached to tail chains with 54.9-m (30 fathoms) paired dandyline. Each lower dandyline had a 0.61-m chain extension connected to the lower wing edge to improve bottom tending characteristics. Steel "V"-doors measuring 1.8 × 2.7 m and weighing 816 kg were used.

Table 2.--Characteristics of vessels used during the 2000 eastern Bering Sea bottom trawl survey.

Vessel	Overall length (m)	Horsepower	Survey period	
			Start	Finish
F/V <i>Arcturus</i>	40	1,525	19 May	30 July
F/V <i>Aldebaran</i>	40	1,525	19 May	22 July

SCANMAR¹ net mensuration systems were used aboard each vessel to measure net height and width. Net width was measured by the distance between two sensors attached to the upper starboard and port dandyline, about 0.61 m in front of the net. Mean net widths were calculated from observations recorded within each tow. These data were then used to establish a net width-scope (wire-out) relationship for each vessel to enable prediction of net width for tows where net width data were not available (Fig. 3) as described by Rose and Walters (1990). Estimates of net width were used in area-swept calculations.

¹ Reference to trade names does not imply endorsement by the National Marine Fisheries Service, NOAA.

83/112 EASTERN

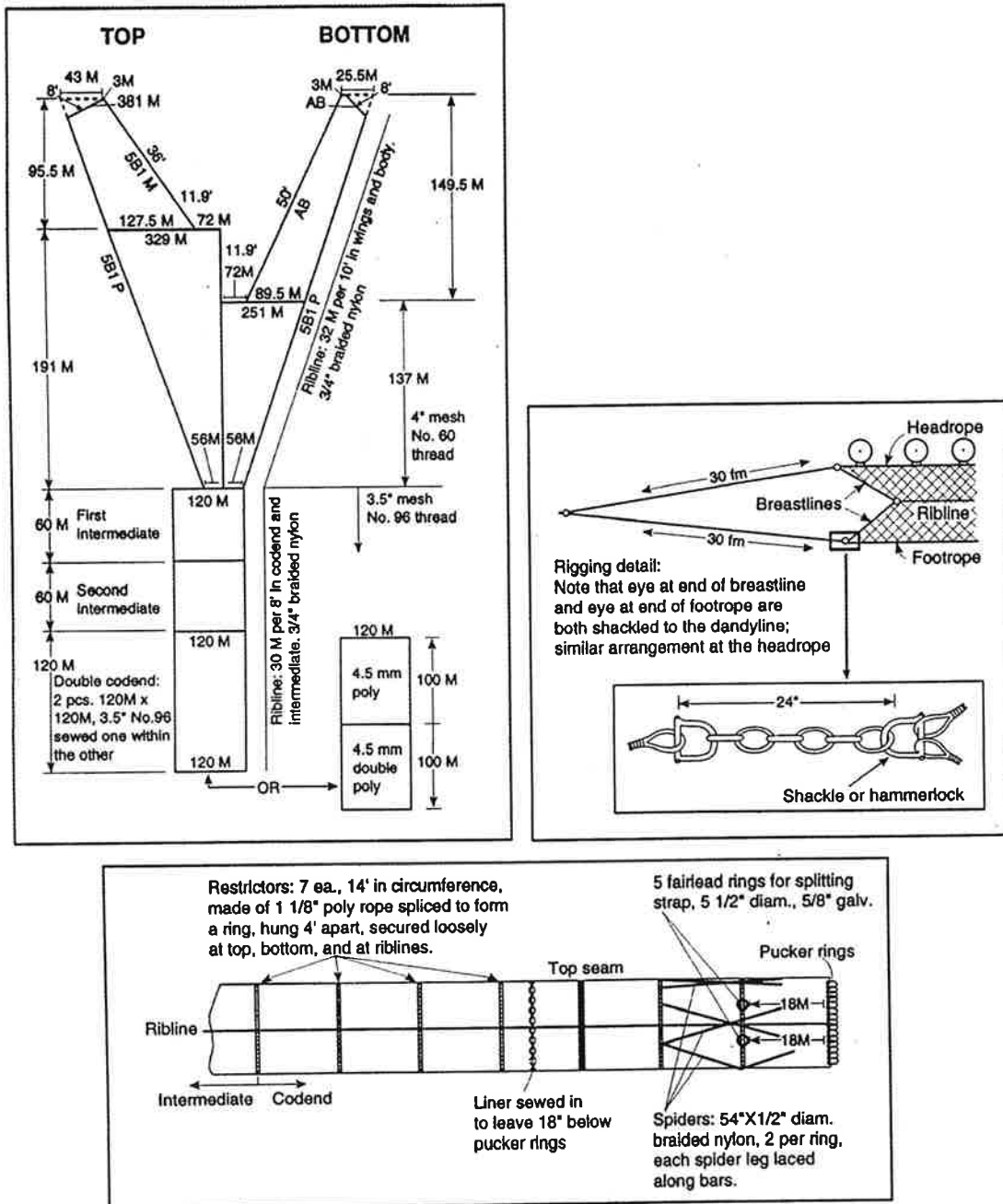


Figure 2.--Schematic diagram of trawl used during the 2000 eastern Bering Sea bottom trawl survey.

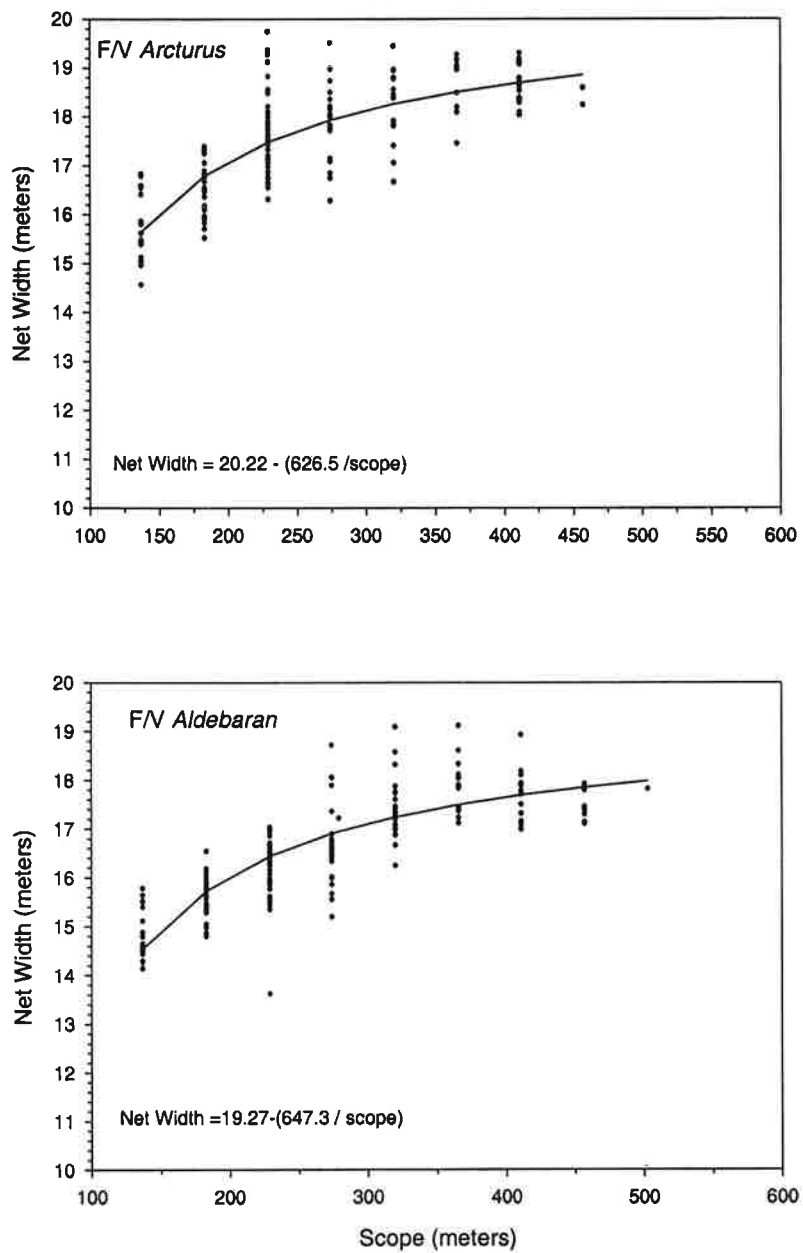


Figure 3.--Relationship between net-width and scope (wire-out) for vessels participating in the 2000 eastern Bering Sea survey.

Data Collection

Sampling procedures used in RACE eastern Bering Sea assessment surveys are described in detail by Wakabayashi et al. (1985). A brief summary follows.

Samples were collected by trawling at the center of each 20 × 20 nautical mile grid block (or corner station, in the case of high-density strata) for 30 minutes (timed after the net had settled on the bottom), towing at a speed of 1.54 m/sec (3 knots). If the bottom appeared to be untrawlable at the specified location, the nearest trawlable site within the same grid square was used. If the net was ripped or "hung up" on some object on the bottom during the tow, the catch was discarded and a new sample obtained.

Catches of less than approximately 1,150 kg (2,500 lb) were processed entirely and larger catches were subsampled. Economically important fish and invertebrates were sorted to species with the exception of two species of flatfish. Similar features between flathead sole (*Hippoglossoides elassodon*) and Bering flounder (*Hippoglossoides robustus*), made identification of these species (*Hippoglossoides* spp. in text and tables) difficult within the time constraints of the survey; thus, these species were grouped by genus for purposes of this report. Due to low abundance of southern rock sole (*Lepidopsetta bilineata*) and its morphological similarities to northern rock sole (*Lepidopsetta polyxystra*) (Orr and Matarese 2000) these species were also grouped by genus (*Lepidopsetta* spp.). Minor species of fish and invertebrates were sorted to the lowest taxonomic level practicable. Catch weights and numbers by species or species group were estimated directly or, when subsampled, estimated by extrapolating the proportion in the subsample to that of the entire catch weight. Pacific halibut (*Hippoglossus stenolepis*) and crab species of the genera *Paralithodes* (red and blue king crabs,

P. camtschaticus and *P. platypus*, respectively), *Chionoecetes* (snow and Tanner crabs, *C. opilio* and *C. bairdi*, respectively), and *Erimacrus isenbeckii* (hair crab) were usually weighed and enumerated from the entire catch.

Size composition data were collected for each commercially important species and many co-habiting species (Table 3). Unless sampled by the International Pacific Halibut Commission (IHPHC) for management purposes, Pacific halibut were measured immediately upon capture and returned to the sea in an effort to reduce sampling mortality for this species. Random samples of the remaining species of up to approximately 200 individuals (300 in the case of walleye pollock) were sexed and measured to the nearest centimeter from the tip of the snout to the end of the middle rays of the caudal fin (fork length).

Sagittal otoliths were collected from twelve fish species (Table 4). In both the northwestern and southeastern divisions of the survey area, three otolith pairs per sex/centimeter interval were collected for Pacific cod and *Lepidopsetta* spp., and five otolith pairs per sex/centimeter interval for all other species. Scales as well as otoliths were taken from Pacific cod to aid in age determination of young fish. Vertebrae and thorns were collected from Alaska skates to examine potential use for ageing. Aboard the F/V *Acturus*, Pacific halibut otoliths were collected by the IHPHC for population and growth analyses. Individual fish weight data were collected for all species for which age structures were taken. In the case of *Hippoglossoides* spp., otoliths were collected only from individuals that were identified with certainty as flathead sole. Age structures for roundfish were preserved in 50% ethanol; flatfish otoliths were preserved in 50% glycerol.

Temperature profiles were taken at each station using a micro-bathymograph (MBT) attached to the head rope of the net; surface temperatures were taken by bucket thermometer.

Table 3.--Number of length measurements taken during the 2000 eastern Bering Sea bottom trawl survey.

Species	Length measurements by subarea						Total ^a
	1	2	3	4	5	6	
Alaska plaice	2,042	2,225	1,579	3,692	---	239	9,803
Alaska skate	116	234	355	726	113	437	2,135
Aleutian skate	---	---	---	3	1	6	10
Arctic cod	---	---	---	---	---	---	190
Bering flounder	---	19	4	789	---	142	2,238
Bering skate	---	---	46	33	37	63	180
Dover sole	---	---	---	---	1	---	1
Greenland turbot	---	1	1	26	1	133	248
Kamchatka flounder	---	---	123	51	192	688	1,054
Pacific cod	2,146	741	2,615	4,537	281	1,697	12,170
Pacific halibut	369	140	306	187	41	163	1,208
Pacific ocean perch	---	---	17	---	7	---	24
Sakhalin sole	---	---	---	15	---	---	191
arrowtooth flounder	9	---	2,124	927	2,444	2,708	8,212
big skate	1	---	2	---	---	---	3
bigmouth sculpin	---	---	28	6	10	8	52
butter sole	30	---	36	---	---	---	66
chum salmon	1	2	---	---	---	---	3
flathead sole	212	12	3,675	2,256	3,036	6,714	16,116
great sculpin	35	3	79	51	---	151	367
longhead dab	953	353	2	---	---	---	1,308
northern rock sole	7,781	3,847	7,072	9,834	50	2,805	31,953
northern rockfish	---	---	86	---	---	---	86
plain sculpin	682	423	14	31	---	---	1,150
rex sole	---	---	202	2	1,044	255	1,503
sockeye salmon	1	---	---	---	---	---	1
southern rock sole	---	---	1	---	---	---	1
starry flounder	460	12	36	---	---	---	508
walleye pollock	3,006	1,474	9,936	14,897	1,408	11,041	43,757
warty sculpin	6	19	26	151	---	2	204
yellowfin sole	8,198	4,218	6,691	5,751	---	7	24,880

^aSome length measurements were collected outside the standard survey area.

Table 4.--Number of fish in which age structures (otoliths and/or scales, thorns and/or vertebrae) were collected, by species and subarea, during the 2000 eastern Bering Sea bottom trawl survey.

Species	Subarea						Total ^a
	1	2	3	4	5	6	
walleye pollock	62	87	439	368	120	363	1593
Pacific cod ^b	107	27	171	420	57	80	889
Pacific halibut ^c	352	61	151	59	25	12	661
yellowfin sole	115	140	100	162	---	---	908
flathead sole	21	---	108	108	60	142	455
northern rock sole	40	69	125	128	---	42	410
Alaska plaice	56	66	90	128	---	28	368
warty sculpin	28	20	20	49	---	2	119
longhead dab	113	85	---	---	---	---	245
Greenland turbot	---	---	---	12	---	123	188
rex sole	---	---	---	---	97	90	251
bigmouth sculpin	---	---	32	5	9	8	54

^aSome age structures were collected outside the standard survey area.

^bScales were also taken.

^cAge structure collection analyzed and managed by the International Pacific Halibut Commission (IPHC)

Data Analysis

A brief description of the procedures used in the analysis of RACE Bering Sea survey data follows (for a detailed description see Wakabayashi et al. 1985). Some of the species collected were grouped by family for data analysis because of their insignificant commercial value or questionable identification.

Relative fishing powers between the two vessels were determined using the methods of Kappenman (1992). Three hundred fifteen stations sampled by the two vessels during the standard survey (Fig. 1) were used in that analysis (see Appendix A).

Mean catch per unit effort (CPUE) values for each species were calculated in kilograms per hectare and number per hectare for each of the 10 strata; area swept (hectares) was computed as the distance towed multiplied by the mean net width (Alverson and Pereyra 1969). Mean CPUE values, weighted by strata areas, were calculated for individual subareas and for the overall survey area. Biomass and population estimates were derived for each stratum by multiplying the stratum mean CPUE by the stratum area. Stratum totals were then added together to produce estimates for each subarea and for the total survey area.

In estimating the size composition of populations of principal commercial species, length-frequency data obtained at each station were expanded to the station catch by proportion and then extrapolated to the stratum population by the weighted CPUE. Stratum estimates were summed to derive the estimated size composition by subarea and for the overall survey area.

Except for Pacific halibut, otolith and scale samples collected during the survey were read by staff of the Age and Growth Program of the AFSC's Resource Ecology and Fisheries

Management (REFM) Division. Age, growth and population analyses will be presented in subsequent publications.

Special Studies

Stomach samples from several of the most prevalent commercial species in each haul were collected and preserved in 10% formalin for later examination by REFM's Food Habits Task (Table 5).

Specimens of bigmouth sculpin (*Hemitriptus bolini*) egg masses and ovaries were collected to further describe the species' development and life history.

Additional activities included collecting specimens for observer training programs, collecting samples for fish and crab pathology studies (Table 5), and fulfilling collection requests from academic institutions.

Table 5.--Biological fish samples collected for special studies during the 2000 eastern Bering Sea bottom trawl survey.

Species	Stomach samples collected ^a	Pathology samples ^b
Walleye pollock	3,056	
Pacific cod	2,484	
Yellowfin sole	153	1
<i>Lepidopsetta</i> spp.	143	
<i>Hippoglossoides</i> spp.	132	
Pacific halibut	39	
Alaska plaice	103	
<i>Atheresthes</i> spp.	404	
Greenland turbot	21	
Plain sculpin	24	
Great sculpin	28	
Warty sculpin	1	
Alaska skate	633	
Bering skate	31	
Red king crab		100
Blue king crab		18

^aDetailed information on species collected for food habits studies can be obtained from P. Livingston (NOAA/NMFS/AFSC 7600 Sand Point Way NE, Seattle, WA 98115).

^bDetailed information on species collected for pathology studies can be obtained from F. Morado (NOAA/NMFS/AFSC 7600 Sand Point Way NE, Seattle, WA 98115).

RESULTS

Station Data

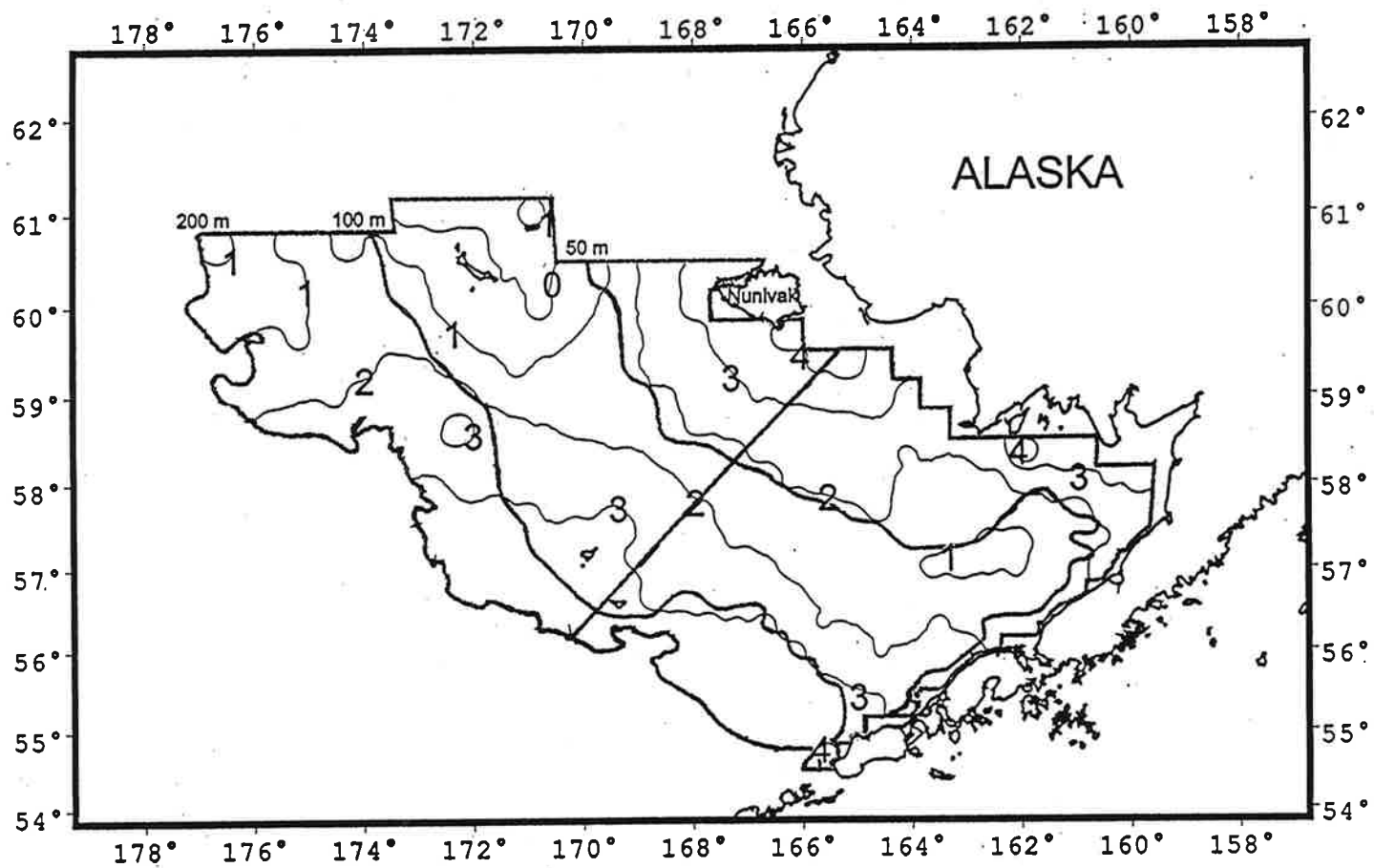
Station data from the 2000 survey are listed in Appendix A. Relevant information such as position, tow parameters, time, and environmental measurements are listed for each vessel for all standard bottom trawl stations used in the analyses.

Environmental Conditions

Sea surface temperatures recorded during the survey ranged from 2.0° to 9.8° C (Fig. 4). As in most previous years, surface temperature increased from east to west across the shelf, probably reflecting the progression of summer warming as the survey proceeded from east to west.

Bottom temperatures ranged from -1.3° to 5.1° C (Fig. 5). The warmest temperatures (above 3° C) occurred in shallow waters along the northern portion of Bristol Bay, the southern central shelf, and north of St. George's Island. The coldest bottom temperatures observed were in the northern portion of the mid-shelf at depths between 50 and 100 m.

The mean bottom water temperature for the total survey area in 2000 was 2.2° C (Fig. 6). Historically, this was well within the values recorded for mean summer bottom water temperatures in the standard survey area since 1981 (annual mean temperatures range from 1.7° to 5.1° C; average of annual means is 2.7° C). Mean bottom temperatures observed over a more limited region of the southeast Bering Sea, which has been sampled annually since 1971, have ranged from 1.2° to 4.8° C; the 2000 value for this area was 2.5° C, approximately one-half degree below the long-term average (3.1° C) (Fig. 6).



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Figure 5.--Distribution of bottom water temperatures (°C) observed during the 2000 eastern Bering Sea bottom trawl survey.

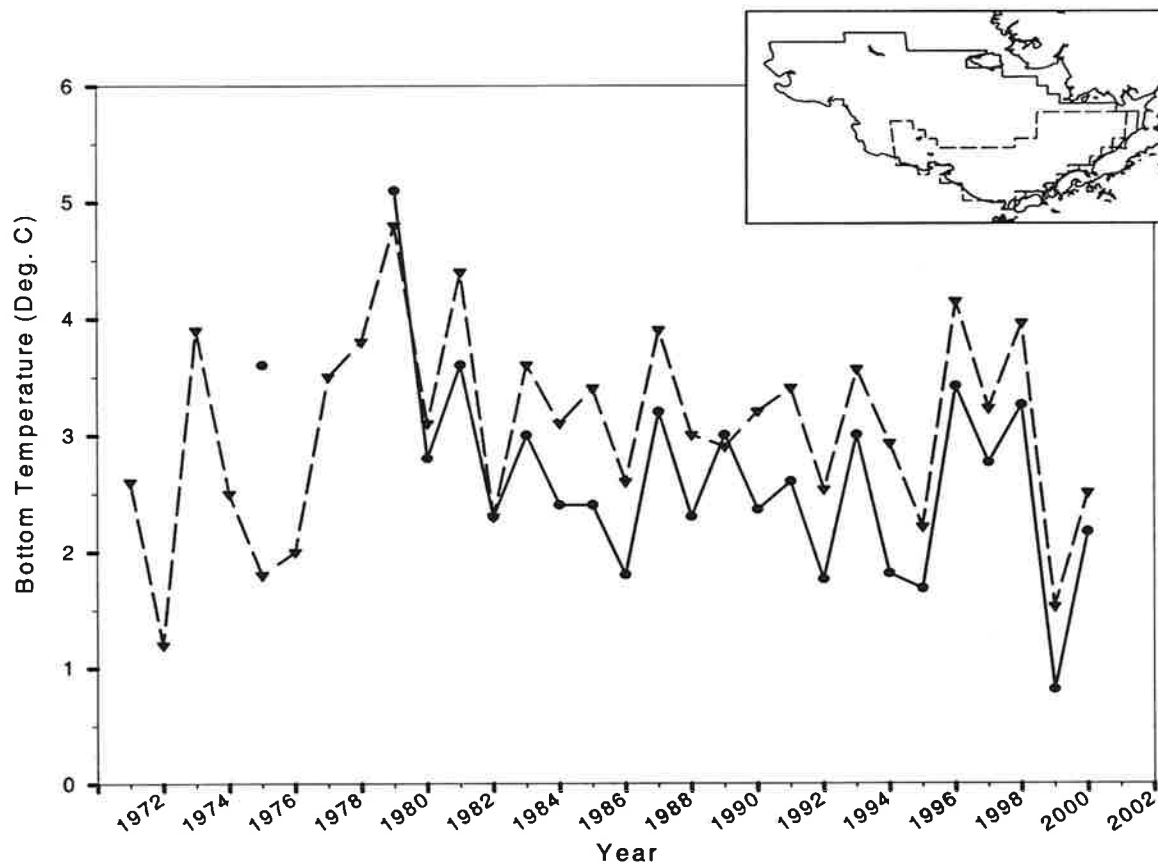


Figure 6.--Mean summer bottom water temperatures based on expendable bathythermograph casts or micro-bathythermographs attached to the net headrope during Alaska Fisheries Science Center bottom trawl surveys. The 1971-2000 means (dashed line) are from the southeast Bering Sea (see insert) and the 1975 and 1979-2000 (solid line) means are from the larger survey area outlined on the inset. The 1975 data point for the overall survey area is based on data collected from August through September, while those in all other years and areas were collected from May through early August.

Relative Fishing Powers of Survey Vessels

A total of 315 alternate-row tows were used in the comparison of vessel catch rates with the methods developed by Kappenman (1992). Based on this analysis, the F/V *Aldebaran* was more efficient than the F/V *Arcturus* at capturing *Lepidopsetta* spp. and walleye pollock, while the F/V *Arcturus* was more efficient for *Hippoglossoides* spp. Fishing power corrections were applied to catches (by species) of the less efficient vessel (Table 6).

Table 6.--Species for which fishing power corrections were applied in 2000, and scaling factors determined by the method of Kappenman (1992) based on 315 total hauls.

Species	Hauls with catch		Catch multiplier	
	F/V <i>Arcturus</i>	F/V <i>Aldebaran</i>	F/V <i>Arcturus</i>	F/V <i>Aldebaran</i>
<i>Hippoglossoides</i> spp.	126	129	1.00	1.02
<i>Lepidopsetta</i> spp.	135	144	1.06	1.00
walleye pollock	149	157	1.11	1.00

Estimated Biomass of Major Fish and Invertebrate Groups

Total demersal animal biomass for the overall survey area was estimated at 14.6 million t, of which fish species accounted for 77% (11.3 million t, Table 7), and invertebrates 23% (3.3 million t, Table 8). Concentrations of fish biomass were located in Bristol Bay and along the Alaska Peninsula, around the Pribilof Islands, and northwest of the Pribilofs (Fig. 7). Although 19 families and 92 species of fish were identified in the catches (Appendix B), the fish biomass was dominated by cods (Gadidae, 5.7 million t) and flatfish (Pleuronectidae, 5.1 million t) (Table 7). The biomass of invertebrates was comprised primarily of the phyla Echinodermata (0.97 million t), Crustacea (0.65 million t), and Porifera (0.49 million t). A total of 185 invertebrate species from 10 phyla were identified in the survey (Table 8, Appendix B).

Relative Abundance of Individual Fish Species

Relative abundance (not weighted by area) of the 11 most abundant species and species groups of fish are shown in Figure 8. These taxa accounted for 76% (238.1 kg/ha) of total animal mean CPUE (312.9 kg/ha) and 98% of total fish mean CPUE (244.2 kg/ha). Overall, but particularly in water deeper than 50 m, walleye pollock was the dominant species in the catch with a mean CPUE of 111.1 kg/ha. Pacific cod were consistently abundant in the 50-100 m depth zone with an overall mean CPUE of 11.9 kg/ha. Yellowfin sole and *Lepidopsetta* spp., with overall mean catch rates of 33.5 kg/ha and 46.1 kg/ha, respectively, dominated catches in water less than 50 m. Yellowfin sole and *Lepidopsetta* spp. were also prominent on the mid-shelf waters between the 50-m and the 100-m isobaths along with Alaska plaice and *Hippoglossoides* spp. See Appendix C for a descending rank of all organisms caught.

Table 7.--Biomass estimates in metric tons (t) for major fish species and fish groups taken during the 2000 eastern Bering Sea bottom trawl survey.

Taxon	Estimated total biomass (t) ^a and 95% confidence interval		Proportion of total animal biomass ^b	Estimated biomass by subarea (t)					
				1	2	3	4	5	6
Gadidae (cods)									
Walleye pollock	5,134,616	± 23%	0.351	242,591	85,170	1,446,416	1,288,811	183,574	1,888,054
Pacific cod	528,466	± 16%	0.036	64,615	16,243	118,872	180,782	23,090	124,865
Other cods	237	± 71%	0.000	3	1	0	232	0	1
Total cods	5,663,318	± 21%	0.387	307,208	101,415	1,565,287	1,469,825	206,663	2,012,920
Anoplopomatidae									
Sablefish	0	± 0%	0.000	0	0	0	0	0	0
Scorpaenidae (rockfish)									
Pacific ocean perch	202	± 129%	0.000	0	0	112	0	90	0
Other rockfish	2,034	± 177%	0.000	0	0	2,003	0	30	0
Total rockfish	2,236	± 173%	0.000	0	0	2,116	0	120	0
Pleuronectidae (flatfishes)									
Yellowfin sole	1,581,907	± 13%	0.108	733,562	218,556	467,682	161,825	0	282
Rock sole	2,127,699	± 31%	0.145	1,262,123	252,880	299,983	246,756	1,054	64,902
Hippoglossoides spp.	394,853	± 17%	0.027	10,446	766	153,621	56,444	48,733	124,844
Alaska plaice	443,620	± 31%	0.030	73,420	39,715	89,619	223,148	0	17,718
Arrowtooth flounder	318,814	± 34%	0.022	196	0	61,223	13,408	90,557	153,431
Kamchatka flounder	21,551	± 22%	0.001	0	0	2,073	1,840	2,816	14,822
Greenland turbot	22,957	± 40%	0.002	0	0	153	1,644	201	20,958
Pacific halibut	118,885	± 16%	0.008	21,320	9,946	24,589	16,781	8,590	37,660
Other flatfish	70,539	± 30%	0.005	54,447	2,396	5,367	144	5,963	2,221
Total flatfish	5,100,825	± 16%	0.348	2,155,515	524,260	1,104,310	721,990	157,914	436,837
Clupeidae									
Pacific herring	31,787	± 112%	0.002	21,605	9,489	305	389	0	0
Cottidae (sculpins)	161,350	± 33%	0.011	37,027	13,538	31,796	28,324	4,173	46,492
Zoarcidae (eelpouts)	27,692	± 23%	0.002	35	35	5,007	9,387	892	12,337
Osmeridae (smelts)	6,524	± 32%	0.000	1,932	65	1,851	64	2,611	1
Agonidae (poachers)	14,337	± 19%	0.001	5,569	2,239	4,312	2,050	63	104
Cyclopteridae (snailfishes)	1,061	± 54%	0.000	0	0	153	796	2	109
Rajidae (skates)	325,486	± 11%	0.022	25,449	37,822	54,109	87,769	25,172	95,164
Other fish	6,500	± 59%	0.000	304	997	2,004	60	130	3,005
Total fish	11,341,117	± 13%	0.775	2,554,644	689,859	2,771,251	2,320,653	397,740	2,606,969

^aDifferences in sums of estimates and totals are due to rounding.

^bProportion of total estimated biomass, fish and invertebrates combined, for the total survey area. Total estimated biomass= 14,639,383t.

Table 8.--Biomass estimates in metric tons (t) for major invertebrate species and invertebrate groups taken during the 2000 eastern Bering Sea bottom trawl survey.

Taxon	Estimated total biomass (t) and 95% confidence interval	Proportion of total animal biomass	Estimated biomass (t) by subarea						
			1	2	3	4	5	6	
Crustacea									
Chionoecetes sp. (snow crab)	235,992 ± 51%	0.016	3,095	11,589	29,125	70,817	7,311	114,055	
Lithodes sp. king crab	0 ± 0%	0.000	0	0	0	0	0	0	0
Paralithodes sp. (king crab)	64,433 ± 31%	0.004	20,124	738	33,335	10,172	0	64	
Erimacrus isenbeckii (hair crab)	3,746 ± 43%	0.000	274	1,256	1,108	1,109	0	0	
Paguridae hermit crab	329,907 ± 14%	0.023	29,369	24,313	119,323	96,069	6,005	54,828	
Other crab	16,173 ± 35%	0.001	4,469	3,783	2,989	4,563	243	127	
Total crab	650,251 ± 20%	0.044	57,330	41,679	185,879	182,730	13,559	169,074	
Shrimps	1,359 ± 51%	0.000	85	2	23	57	240	953	
Other crustaceans	930 ± 110%	0.000	130	0	491	39	37	233	
Total crustaceans	652,541 ± 20%	0.045	57,544	41,681	186,393	182,825	13,836	170,261	
Mollusca									
Gastropoda (snails)	300,242 ± 14%	0.021	21,788	15,000	97,104	85,374	6,409	74,567	
Pelecypoda (bivalves)	5,053 ± 69%	0.000	447	208	3,457	677	67	196	
Squids	392 ± 122%	0.000	0	0	229	0	54	109	
Octopuses	2,041 ± 81%	0.000	0	0	463	67	0	1,511	
Other mollusks	0 ± 0%	0.000	0	0	0	0	0	0	
Total mollusks	307,727 ± 14%	0.021	22,235	15,208	101,253	86,118	6,531	76,383	
Echinodermata									
Asterozoa (starfish)	748,022 ± 13%	0.051	307,680	99,768	126,104	107,850	4,597	102,023	
Ophiurozoa (brittle stars)	203,588 ± 30%	0.014	10,113	2,916	58,292	34,655	314	97,298	
Echinozoa (sea urchin)	10,711 ± 88%	0.001	21	0	7,462	325	1,880	1,023	
Holothurozoa (sea cucumbers)	11,049 ± 124%	0.001	7,147	0	2,386	1,502	0	14	
Total echinoderms	973,762 ± 12%	0.067	324,973	102,684	194,453	144,499	6,795	200,358	
Ascidiacea	296,053 ± 34%	0.020	54,876	33,567	100,973	106,615	19	3	
Porifera (sponges)	489,571 ± 105%	0.033	639	0	484,451	3,787	93	600	
Coelenterata	388,423 ± 60%	0.027	84,066	6,755	172,534	91,704	16,217	17,146	
Other invertebrates	190,583 ± 18%	0.013	30,249	14,957	77,313	55,661	1,274	11,129	
Total invertebrates	3,298,266 ± 18%	0.225	574,571	214,852	1,317,161	671,042	44,761	475,880	

*Differences in sums of estimates and totals are due to rounding.

^bProportion of total estimated biomass, fish and invertebrates combined, for the total survey area. Total estimated biomass=14,639,383t.

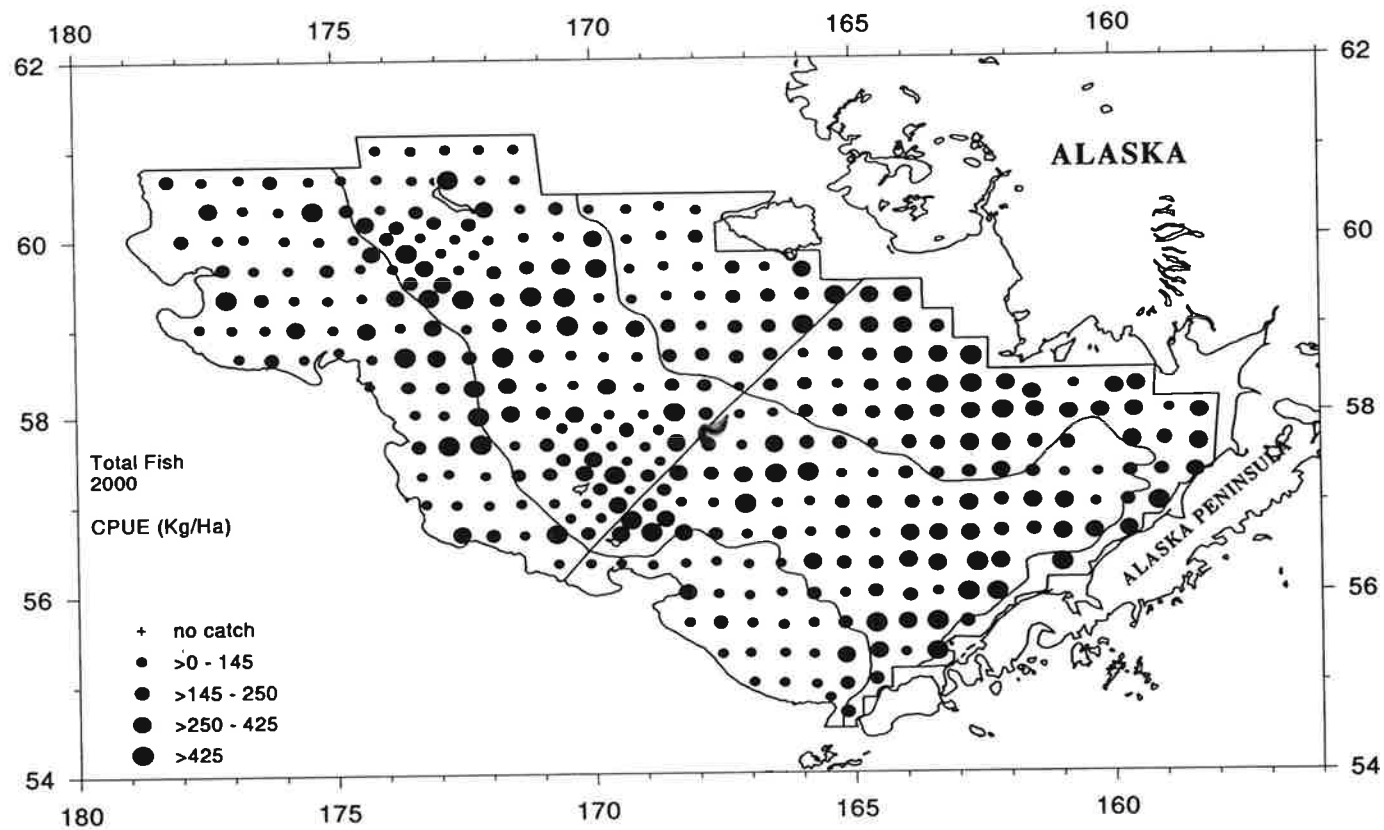


Figure 7.--Distribution and relative abundance of total fish, 2000 eastern Bering Sea bottom trawl survey.

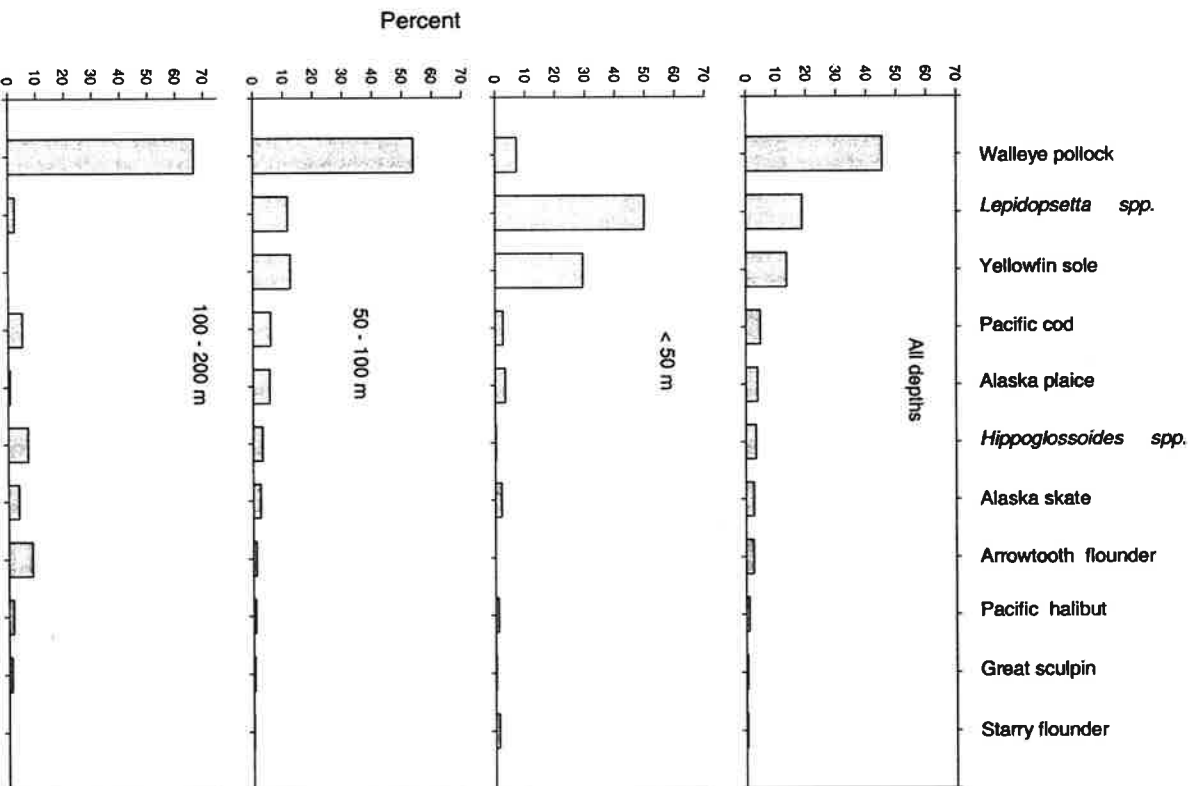


Figure 8.--Relative abundance (% CPUE in kg/ha) of principal groundfish species (top 11 for all depths combined) by depth zones and for all depths combined, 2000 eastern Bering Sea bottom trawl survey.

Abundance, Distribution, and Size Composition of
Principal Species and Species Groups

Geographical distributions, population numbers, biomass estimates, and size composition are presented for each of the following commercially important eastern Bering Sea groundfish: walleye pollock, Pacific cod, yellowfin sole, *Lepidopsetta* spp., *Hippoglossoides* spp., Alaska plaice, Greenland turbot (*Reinhardtius hippoglossoides*), arrowtooth flounder, Kamchatka flounder, and Pacific halibut. Estimated biomass, population numbers, and mean size (by length and weight) are summarized by subarea and for the entire survey area. Size composition data are illustrated in histograms relating the population percentage by one centimeter interval of length for each subarea and in population numbers for the total survey area. Age data and growth parameters will be presented in a separate report. Geographical distributions for some common, but generally noncommercial fish species are presented. These are Bering skate (*Bathyraja interrupta*), Alaska skate (*B. parmifera*), warty sculpin (*Myoxocephalus verrucosus*), great sculpin (*M. polyacanthocephalus*), plain sculpin (*M. jaok*), bigmouth sculpin (*Hemitripterus bolini*), wattled eelpout (*Lycodes palearis*), shortfin eelpout (*L. brevipes*), marbled eelpout (*L. raridens*), sturgeon poacher (*Podothecus acipenserinus*), Bering poacher (*Ocella dodecaedron*), eulachon (*Thaleichthys pacificus*), capelin (*Mallotus villosus*), and Pacific herring (*Clupea pallasii*). Biomass and population estimates as well as mean weight are given by subarea and total area. These tables are not given for the pelagic species such as eulachon, capelin, and Pacific herring due to the bottom sampling nature of the survey. We do not believe these species are adequately represented in the samples; however, plots are shown to give some idea of

geographic distribution.

Appendices to the report contain detailed results of the analysis. CPUE, population, and biomass estimates as well as the variances and confidence limits for each species by stratum are given in Appendix D. Population estimates by sex and size class for the total survey area are listed in Appendix E.

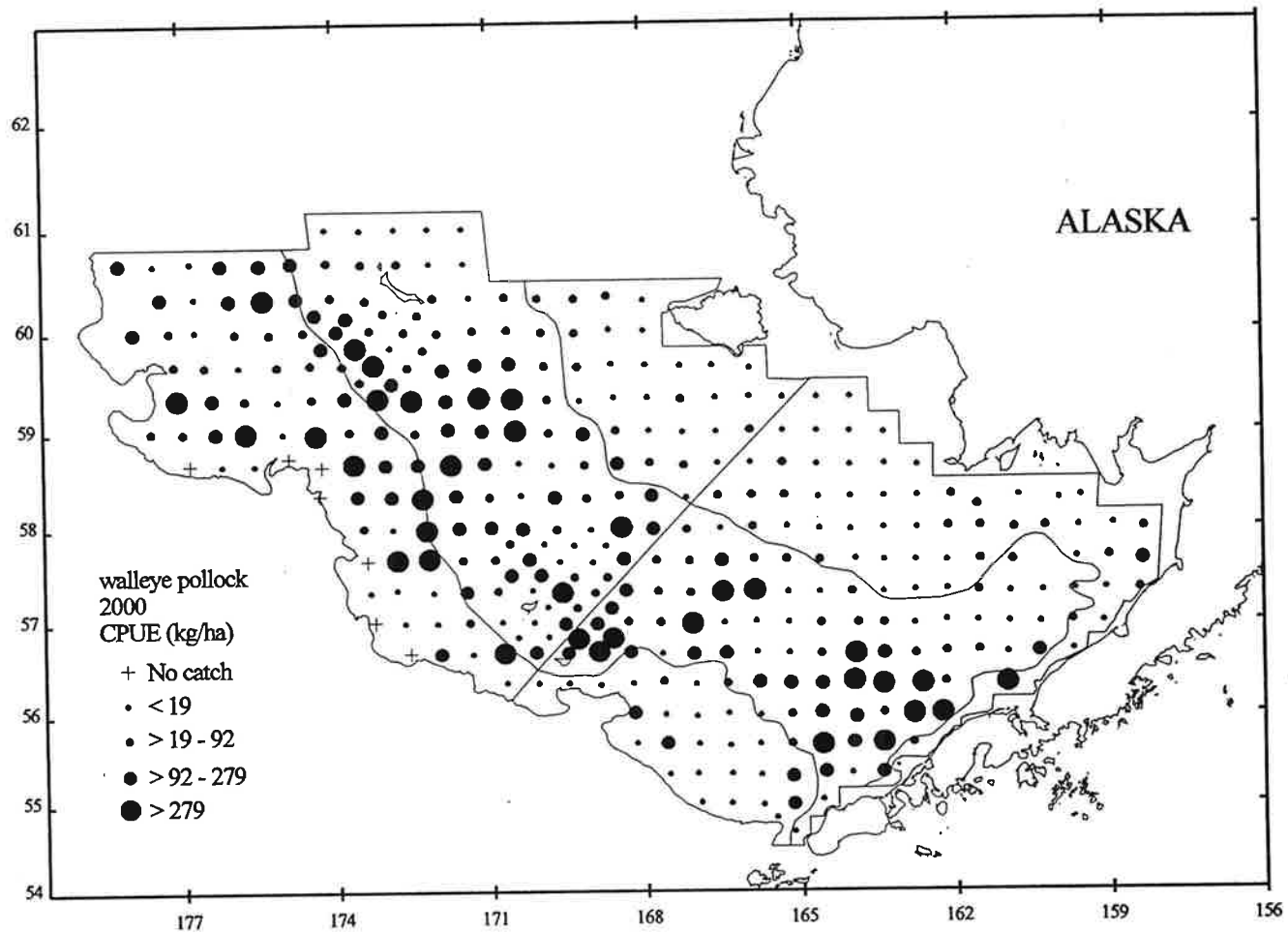


Figure 9.-- Distribution and relative abundance in kg/ha of walleye pollock, 2000 eastern Bering Sea bottom trawl survey.

Table 9.--Abundance estimates and mean size of walleye pollock by subarea, 2000 eastern Bering Sea bottom trawl survey.

Subarea	Mean CPUE (kg/ha)	Estimated biomass (t) ^a	Proportion of estimated biomass	Estimated population numbers ^a	Proportion of estimated population	Mean size Weight (kg)	Mean size Length (cm)
1	31.15	242,591	0.047	407,010,303	0.049	0.596	28.8
2	20.76	85,170	0.017	128,846,966	0.015	0.661	31.8
3	140.02	1,446,416	0.282	1,944,949,618	0.232	0.744	46.1
4	119.53	1,288,811	0.251	2,244,076,956	0.268	0.574	40.6
5	47.32	183,574	0.036	254,728,580	0.030	0.721	46.0
6	199.66	1,888,054	0.368	3,405,975,643	0.406	0.554	40.8
All subareas combined ^b	110.81	5,134,616	1.000	8,385,588,065	1.000	0.612	41.4
95% Confidence interval		±1,172,184		±2,050,919,407			

^aVariances of abundance estimates are given in Appendix D.

^bDifferences in sums of estimates and totals are due to rounding.

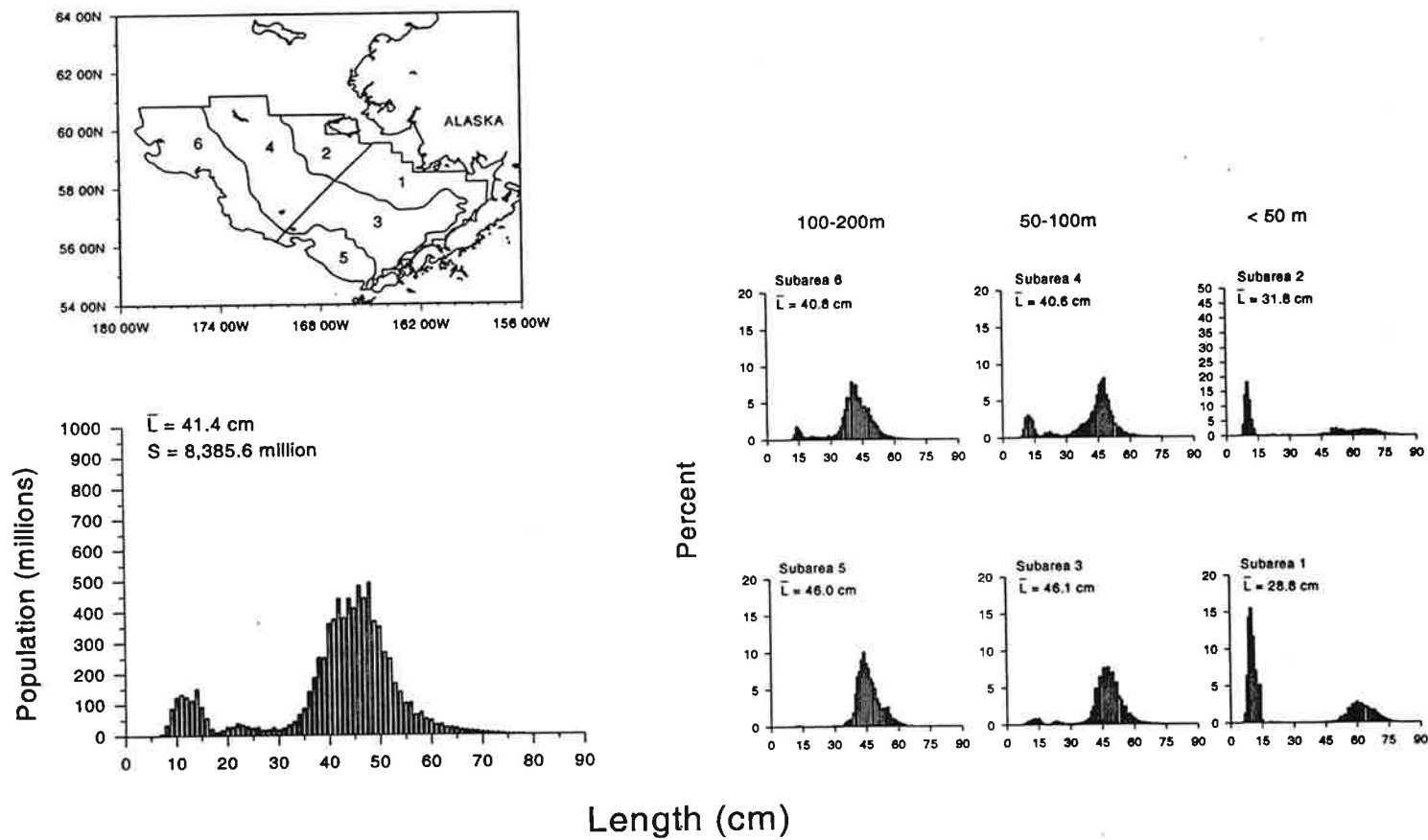


Figure 10.--Estimated relative size distribution (sexes combined) of walleye pollock in terms of population numbers and percent for subareas 1-6, 2000 eastern Bering Sea bottom trawl survey.

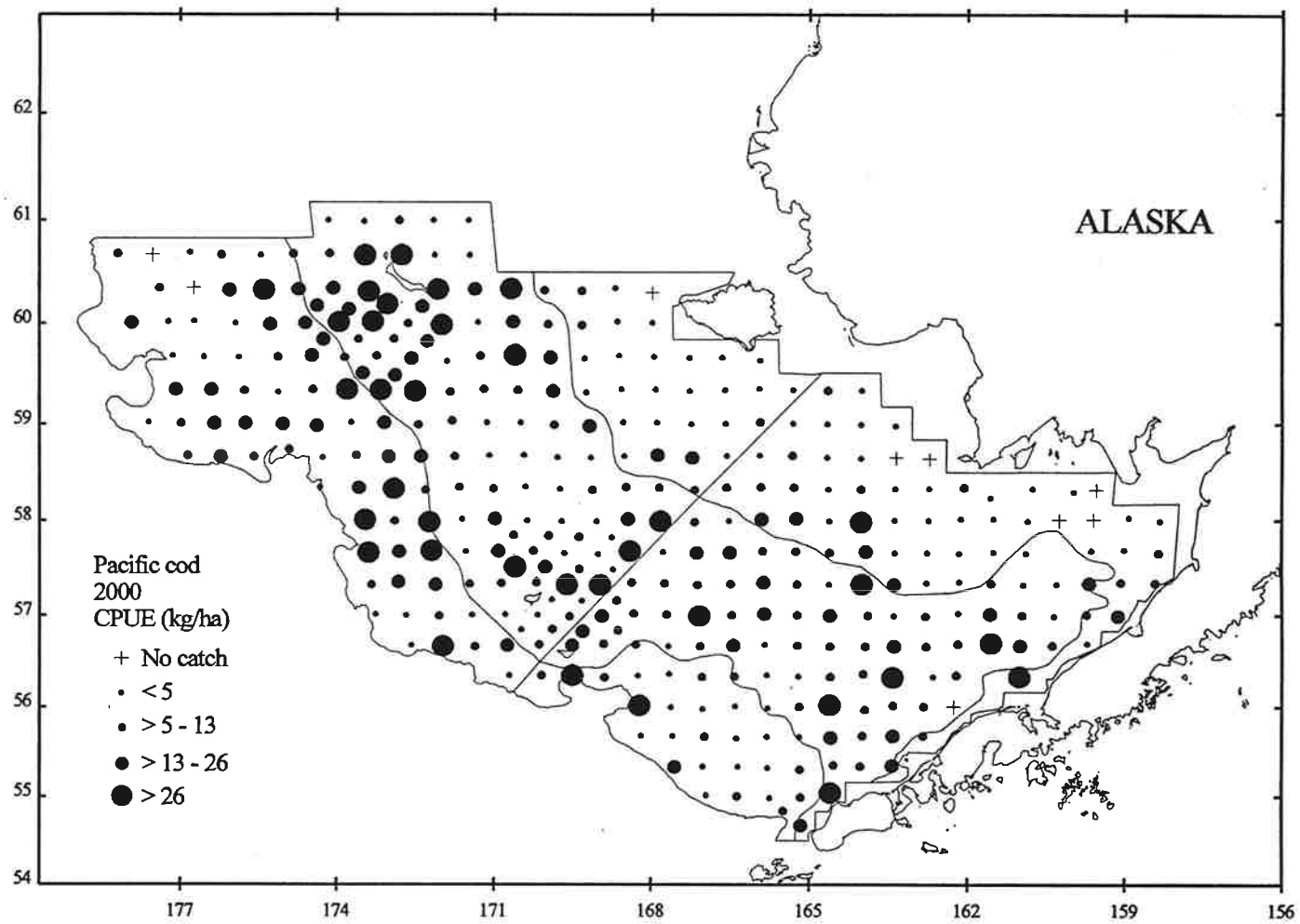


Figure 11.-- Distribution and relative abundance in kg/ha of Pacific cod, 2000 eastern Bering Sea bottom trawl survey.

Table 10.--Abundance estimates and mean size of Pacific cod by subarea, 2000 eastern Bering Sea bottom trawl survey.

Subarea	Mean CPUE (kg/ha)	Estimated biomass (t) ^a	Proportion of estimated biomass	Estimated population numbers ^a	Proportion of estimated population	Mean size	
						Weight (kg)	Length (cm)
1	8.30	64,615	0.122	127,258,438	0.264	0.508	26.0
2	3.96	16,243	0.031	29,890,481	0.062	0.543	28.9
3	11.51	118,872	0.225	98,905,327	0.205	1.202	42.6
4	16.77	180,782	0.342	165,376,770	0.344	1.093	42.9
5	5.95	23,090	0.044	8,961,400	0.019	2.577	57.6
6	13.20	124,865	0.236	50,965,691	0.106	2.450	57.0
All subareas combined ^b	11.40	528,466	1.000	481,358,109	1.000	1.098	39.3
95% Confidence interval		±85,213		±87,315,999			

^aVariations of abundance estimates are given in Appendix D.

^bDifferences in sums of estimates and totals are due to rounding.

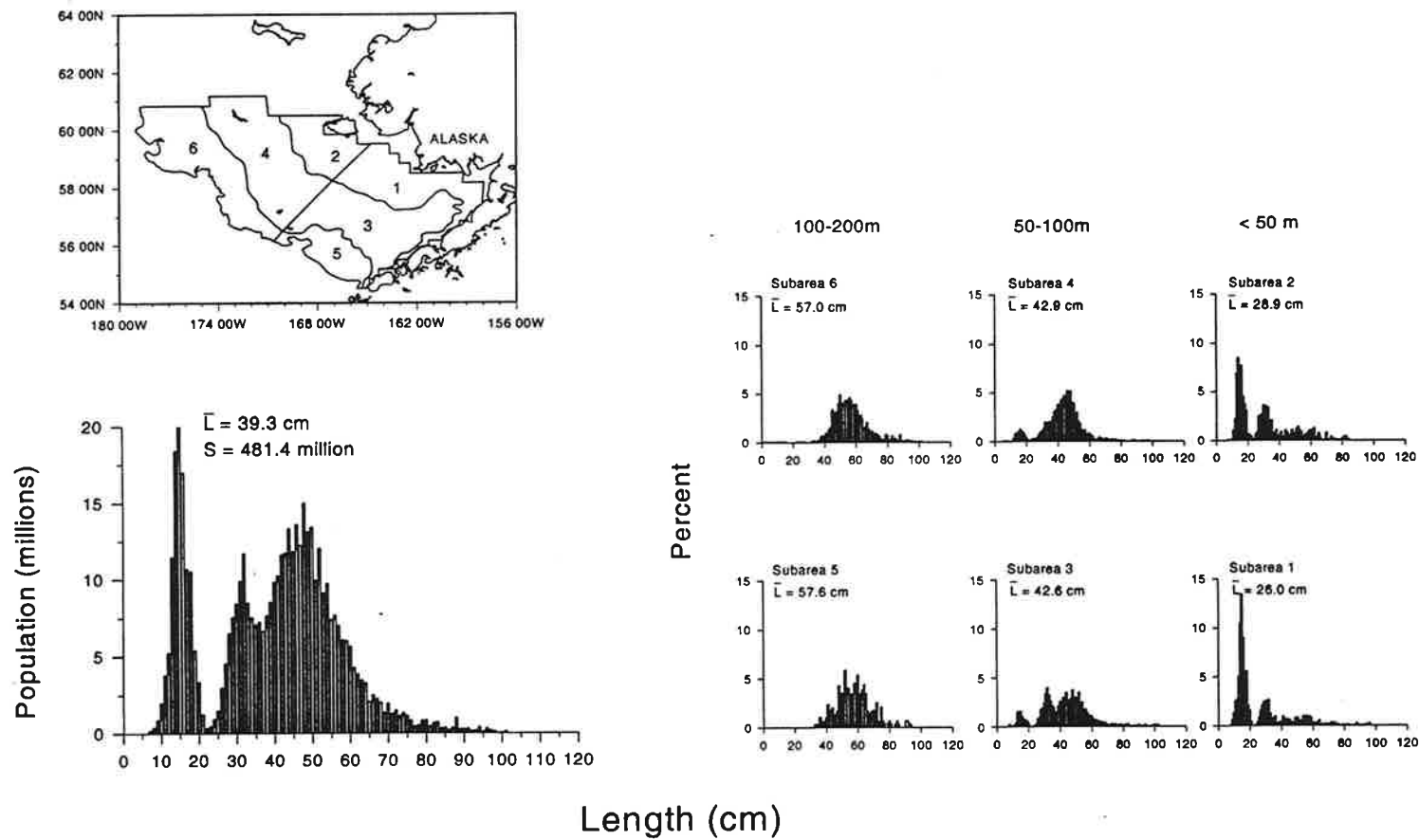


Figure 12.--Estimated relative size distribution (sexes combined) of Pacific cod in terms of population numbers and percent for subareas 1-6, 2000 eastern Bering Sea bottom trawl survey.

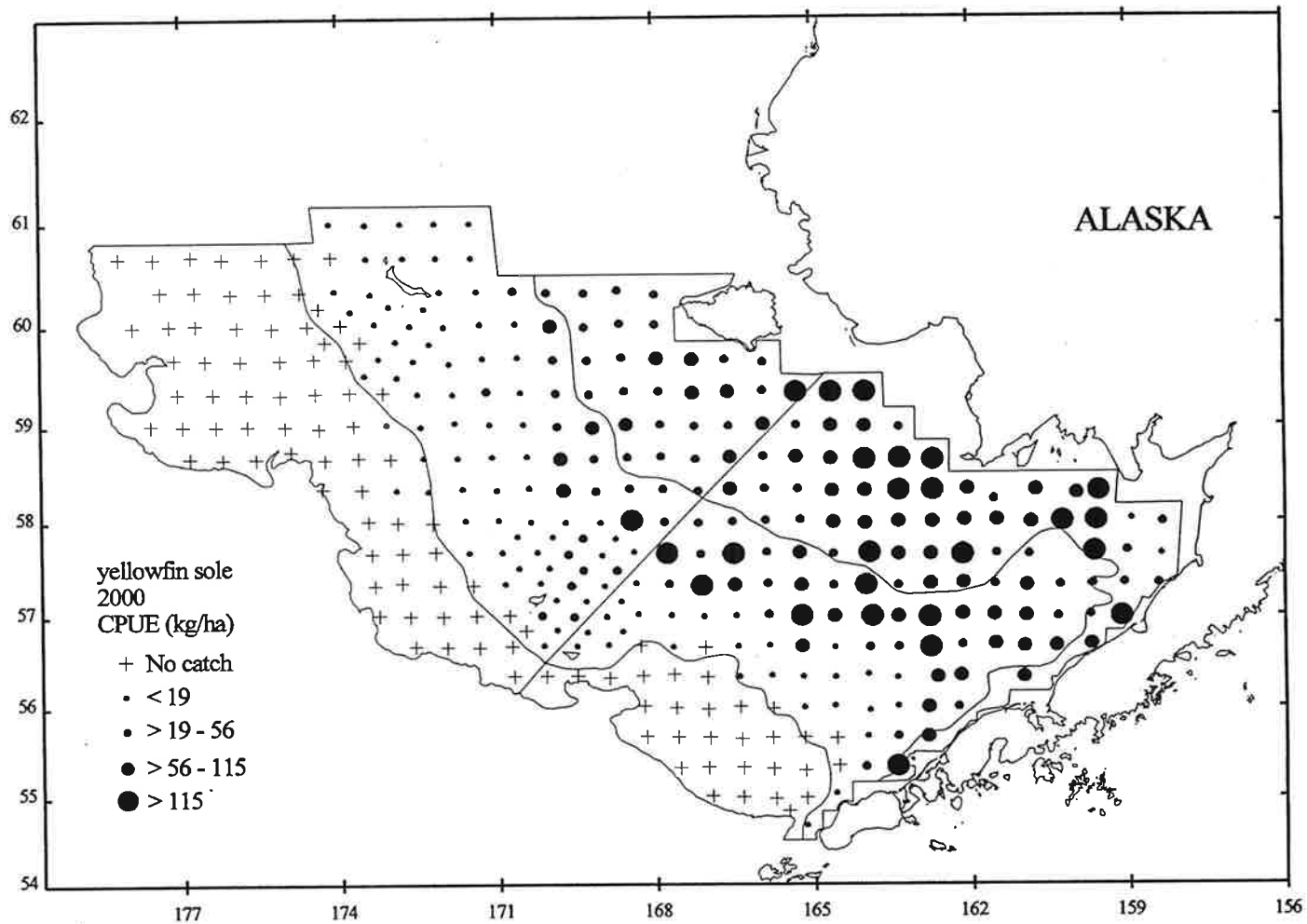


Figure 13.-- Distribution and relative abundance in kg/ha of yellowfin sole, 2000 eastern Bering Sea bottom trawl survey.

Table 11.--Abundance estimates and mean size of yellowfin sole by subarea, 2000 eastern Bering Sea bottom trawl survey.

Subarea	Mean CPUE (kg/ha)	Estimated biomass (t) ^a	Proportion of estimated biomass	Estimated population numbers ^a	Proportion of estimated population	Mean size	
						Weight (kg)	Length (cm)
1	94.20	733,562	0.464	3,492,936,034	0.519	0.210	24.7
2	53.27	218,556	0.138	985,767,336	0.146	0.222	24.4
3	45.27	467,682	0.296	1,753,048,503	0.260	0.267	27.6
4	15.01	161,825	0.102	498,706,745	0.074	0.324	29.1
5	0.00	0	0.000	0	0.000	0.000	0.0
6	0.03	282	0.000	562,871	0.000	0.501	35.1
All subareas combined ^b	34.14	1,581,907	1.000	6,731,021,489	1.000	0.235	25.7
95% Confidence interval		±199,853		±824,296,855			

^aVariances of abundance estimates are given in Appendix D.

^bDifferences in sums of estimates and totals are due to rounding.

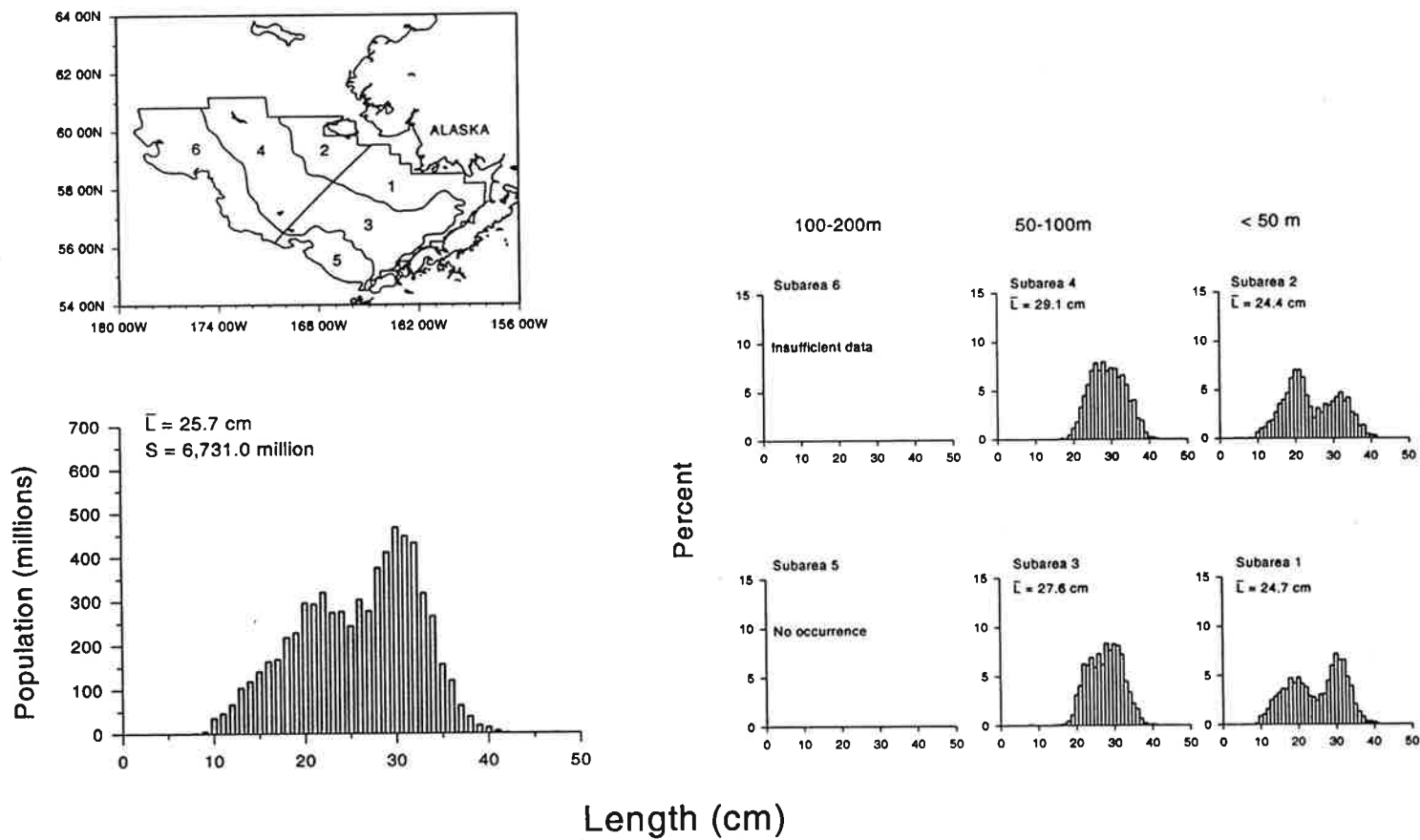


Figure 14.--Estimated size distribution (sexes combined) of yellowfin sole in terms of population numbers, and percent for subareas 1-6, 2000 eastern Bering Sea bottom trawl survey.

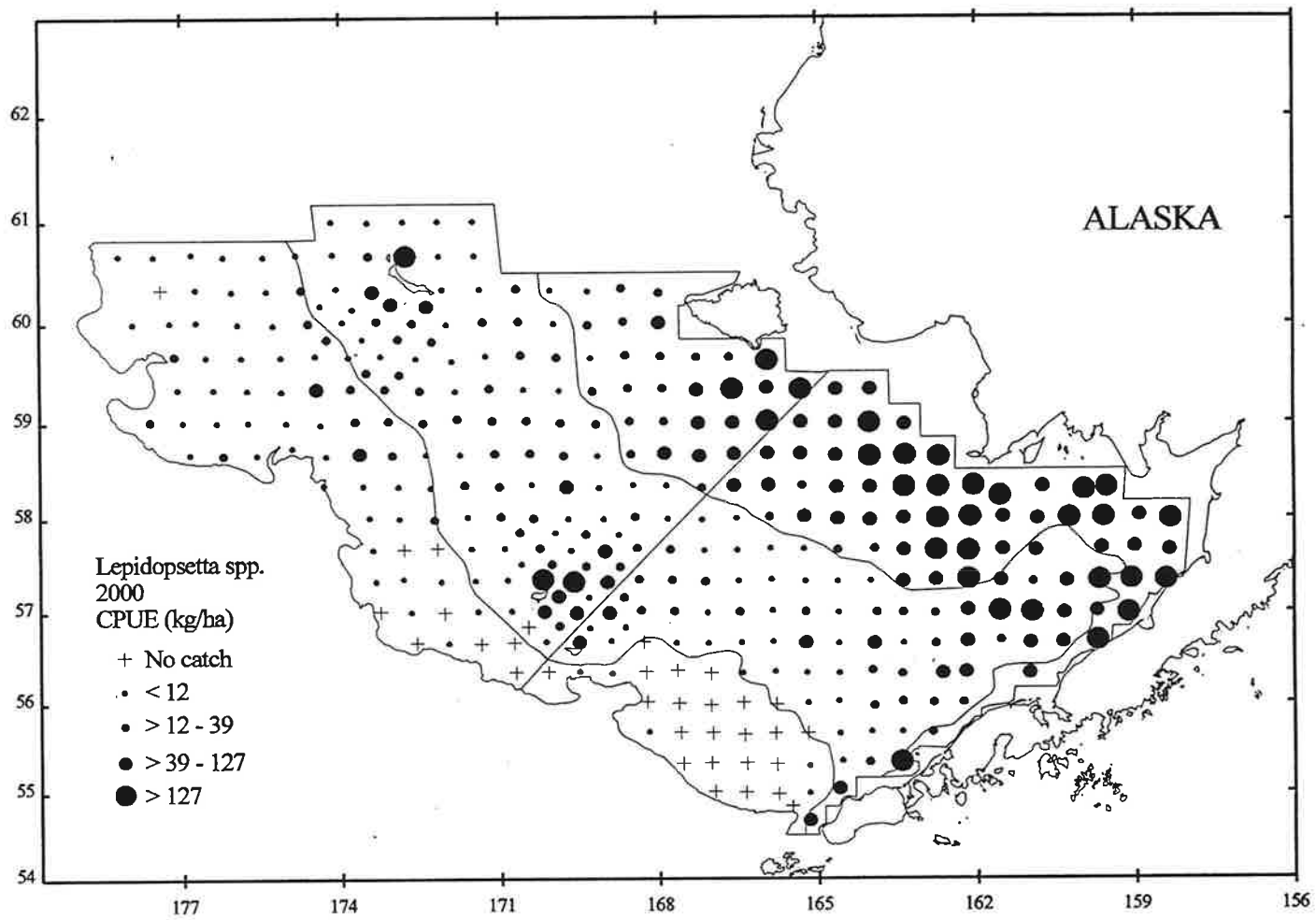


Figure 15.-- Distribution and relative abundance in kg/ha of *Lepidopsetta* spp., 2000 eastern Bering Sea bottom trawl survey.

Table 12.--Abundance estimates and mean size of *Lepidopsetta* spp. by subarea, 2000 eastern Bering Sea bottom trawl survey.

Subarea	Mean CPUE (kg/ha)	Estimated biomass (t) ^a	Proportion of estimated biomass	Estimated population numbers ^a	Proportion of estimated population	Mean size	
						Weight (kg)	Length (cm)
1	162.08	1,262,123	0.593	4,961,258,308	0.599	0.254	27.2
2	61.64	252,880	0.119	864,077,270	0.104	0.293	28.3
3	29.04	299,983	0.141	1,493,058,969	0.180	0.201	25.3
4	22.89	246,756	0.116	805,844,999	0.097	0.306	28.8
5	0.27	1,054	0.000	2,904,974	0.000	0.363	30.6
6	6.86	64,902	0.031	152,117,431	0.018	0.427	32.1
All subareas combined ^b	45.92	2,127,699	1.000	8,279,261,952	1.000	0.257	27.2
95% Confidence interval		±667,809		±1,736,790,442			

^aVariances of abundance estimates are given in Appendix D.

^bDifferences in sums of estimates and totals are due to rounding.

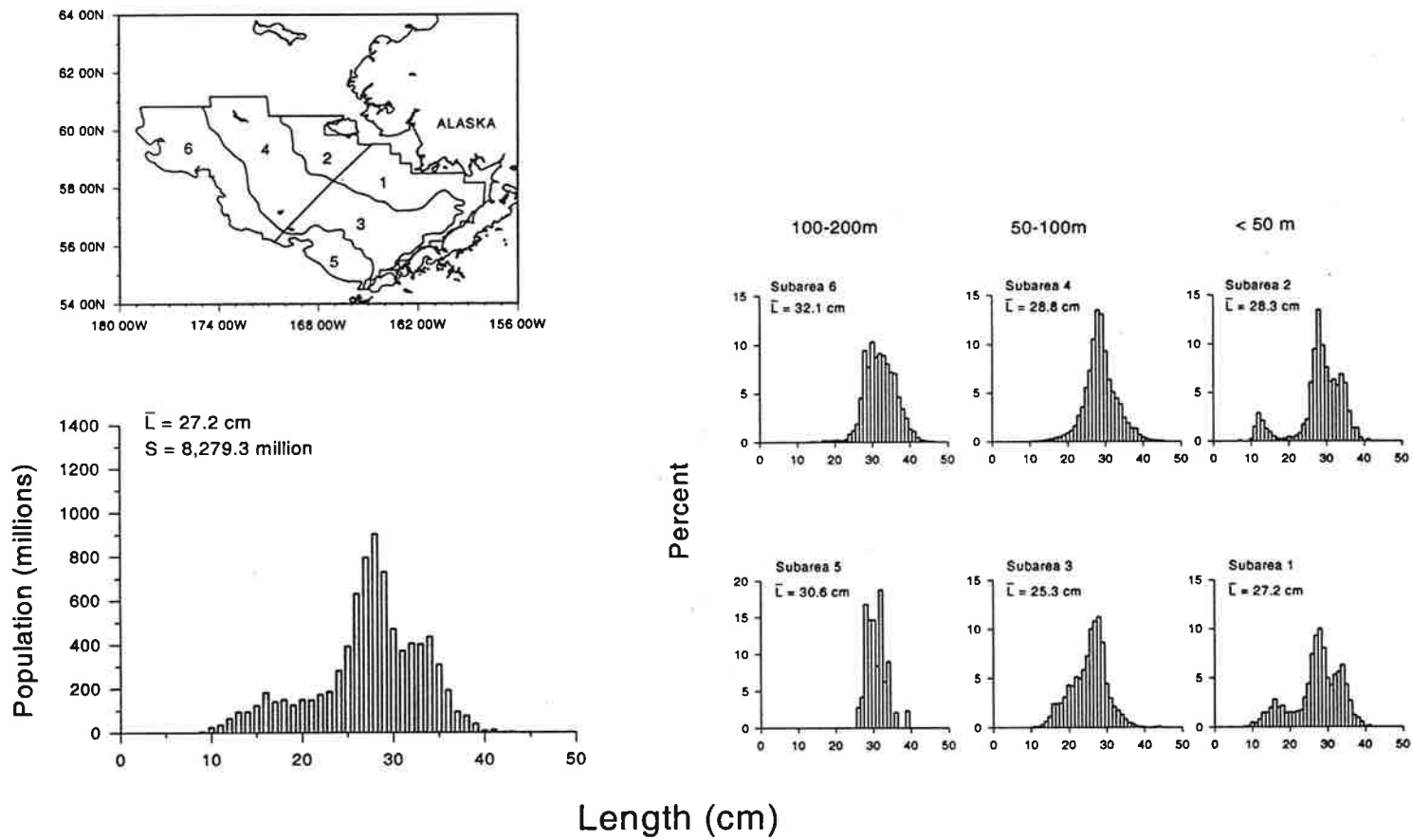


Figure 16.--Estimated relative size distribution (sexes combined) of *Lepidopsetta* spp. in terms of population numbers and percent for subareas 1-6, 2000 eastern Bering Sea bottom trawl survey.

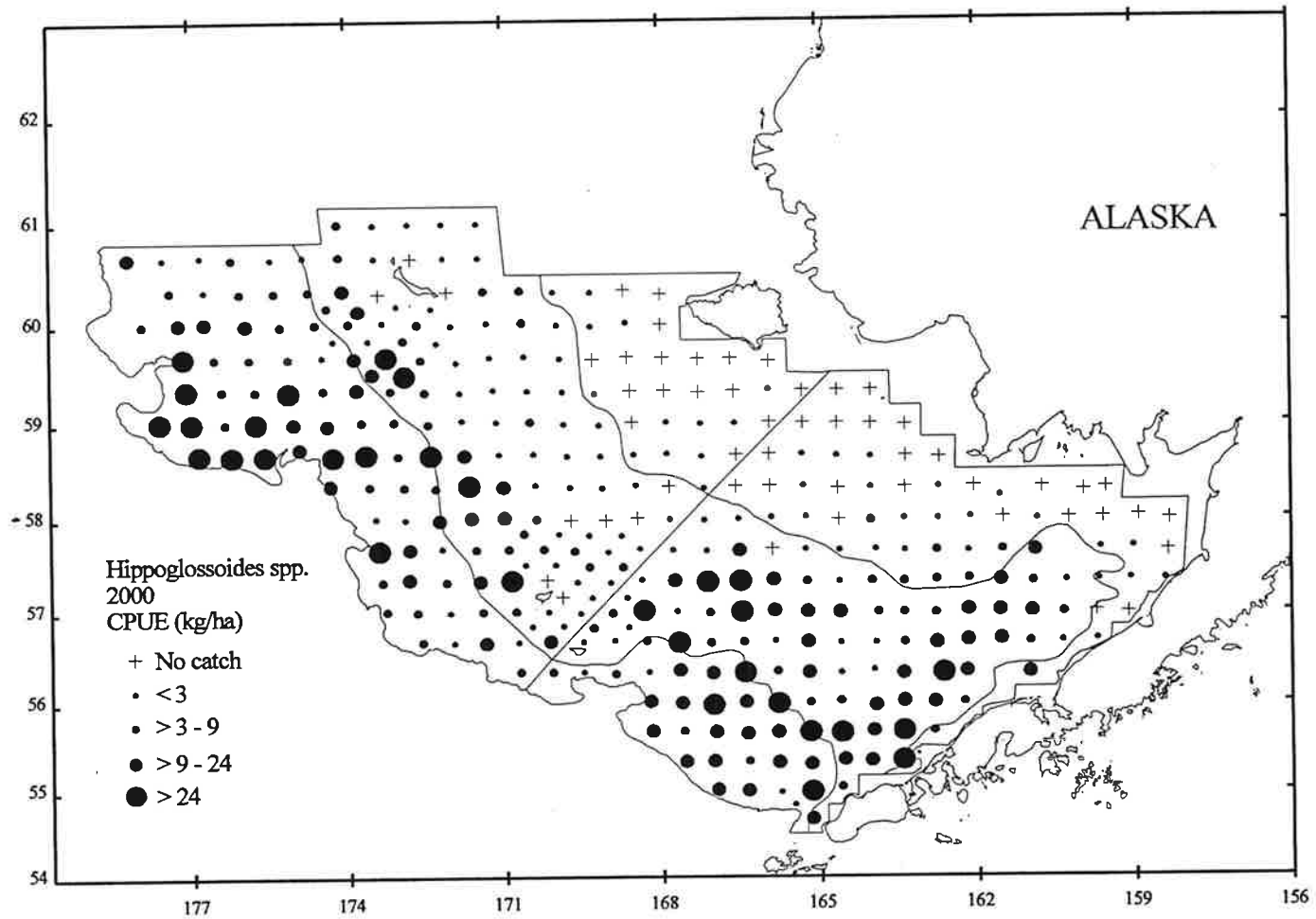


Figure 17.-- Distribution and relative abundance in kg/ha of *Hippoglossoides* spp., 2000 eastern Bering Sea bottom trawl survey.

Table 13.--Abundance estimates and mean size of *Hippoglossoides* spp. by subarea, 2000 eastern Bering Sea bottom trawl survey.

Subarea	Mean CPUE (kg/ha)	Estimated biomass (t) ^a	Proportion of estimated biomass	Estimated population numbers ^a	Proportion of estimated population	Mean size Weight (kg)	Mean size Length (cm)
1	1.36	10,562	0.026	18,808,895	0.015	0.562	36.5
2	0.19	774	0.002	1,550,325	0.001	0.499	36.2
3	14.99	154,859	0.388	415,226,477	0.336	0.373	32.2
4	5.31	57,294	0.143	126,066,265	0.102	0.454	32.6
5	12.62	48,948	0.123	236,337,025	0.191	0.207	26.9
6	13.42	126,862	0.318	438,524,608	0.355	0.289	28.7
All subareas combined ^b	8.62	399,298	1.000	1,236,513,594	1.000	0.323	30.1
95% Confidence interval		±68,689		±204,545,742			

^aVariances of abundance estimates are given in Appendix D.

^bDifferences in sums of estimates and totals are due to rounding.

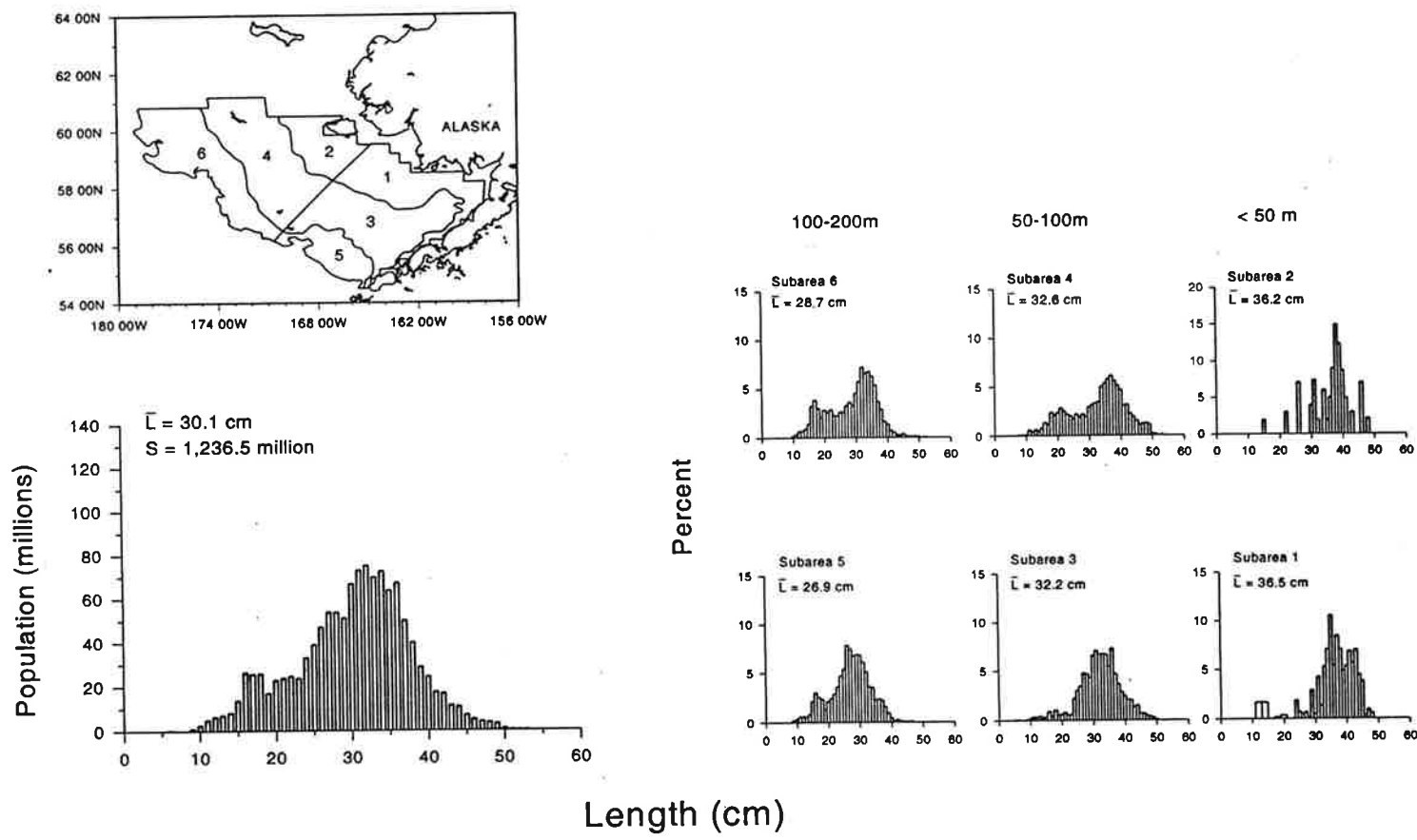


Figure 18.--Estimated relative size distribution (sexes combined) of *Hippoglossoides* spp. in terms of population numbers and percent for subareas 1-6, 2000 eastern Bering Sea bottom trawl survey.

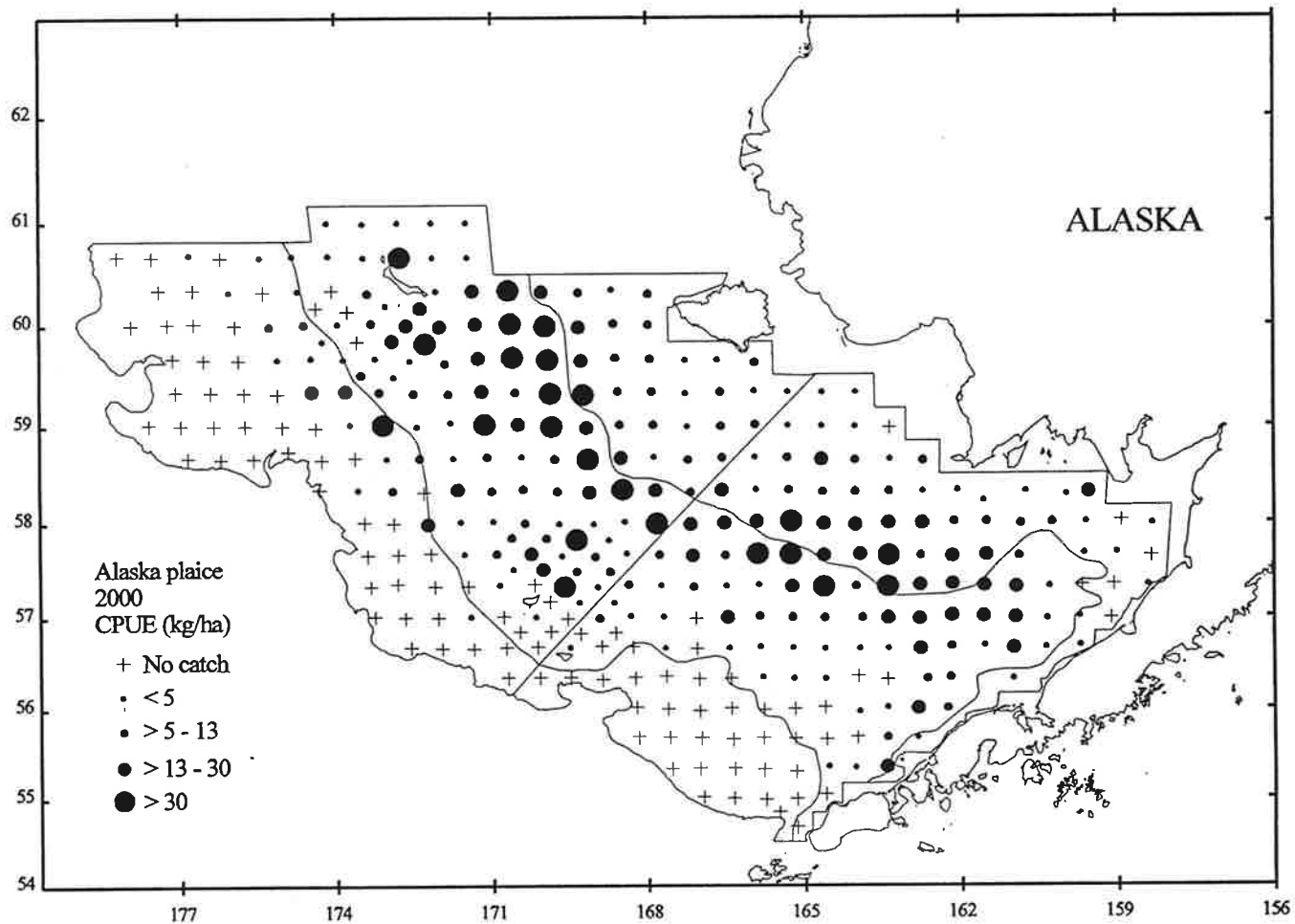


Figure 19.-- Distribution and relative abundance in kg/ha of Alaska plaice, 2000 eastern Bering Sea bottom trawl survey.

Table 14.--Abundance estimates and mean size of Alaska plaice by subarea, 2000 eastern Bering Sea bottom trawl survey.

Subarea	Mean CPUE (kg/ha)	Estimated biomass (t) ^a	Proportion of estimated biomass	Estimated population numbers ^a	Proportion of estimated population	Mean size Weight (kg)	Length (cm)
1	9.43	73,420	0.166	166,126,114	0.211	0.442	31.8
2	9.68	39,715	0.090	123,013,026	0.156	0.323	29.0
3	8.68	89,619	0.202	144,415,514	0.183	0.621	35.5
4	20.70	223,148	0.503	341,598,650	0.434	0.653	36.2
5	0.00	0	0.000	0	0.000	0.000	0.0
6	1.87	17,718	0.040	12,413,398	0.016	1.427	46.7
All subareas combined ^b	9.57	443,620	1.000	787,566,702	1.000	0.563	34.2
95% Confidence interval		±136,578		±231,709,569			

^aVariances of abundance estimates are given in Appendix D.

^bDifferences in sums of estimates and totals are due to rounding.

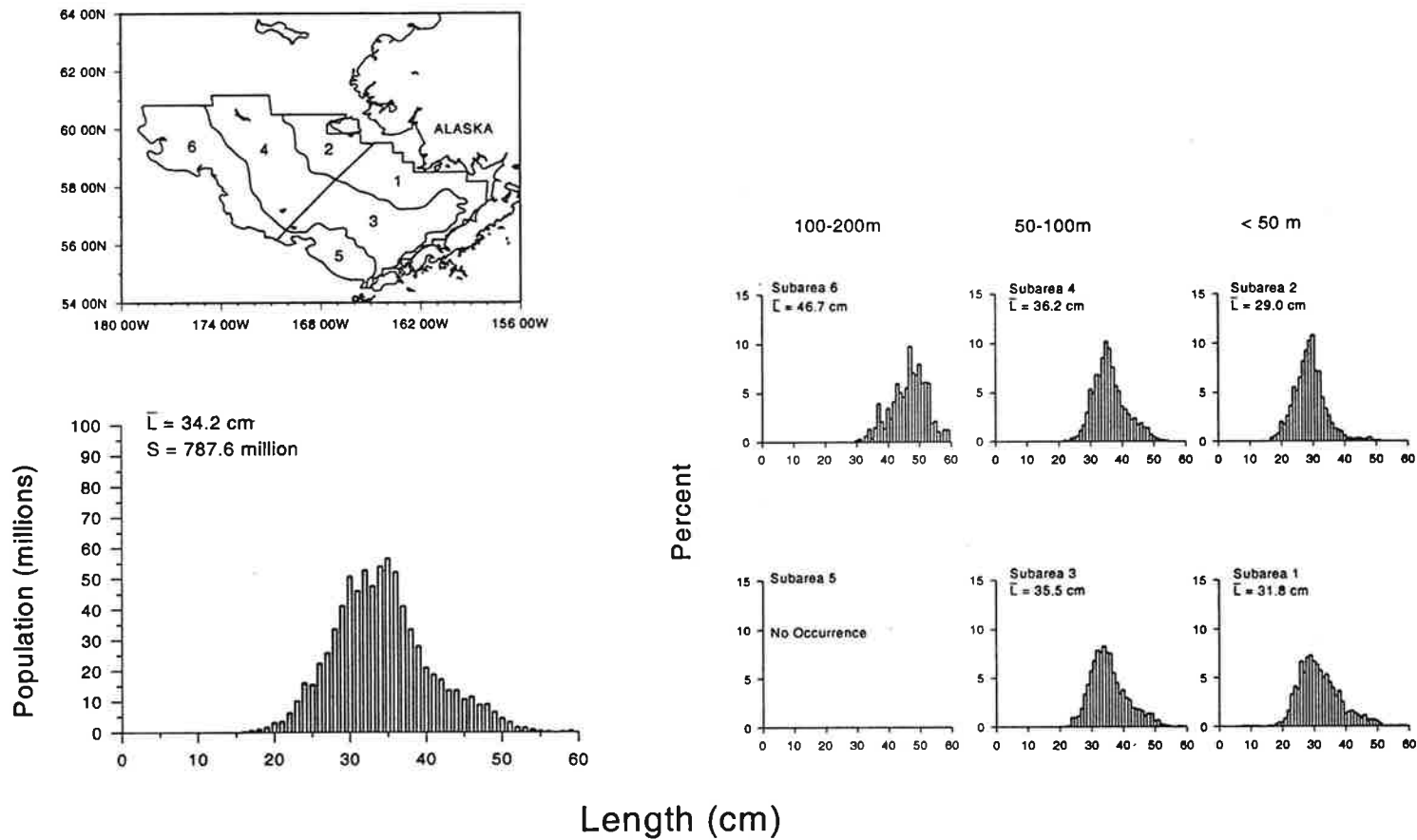


Figure 20.--Estimated relative size distribution (sexes combined) of Alaska plaice in terms of population numbers and percent for subareas 1-6, 2000 eastern Bering Sea bottom trawl survey.

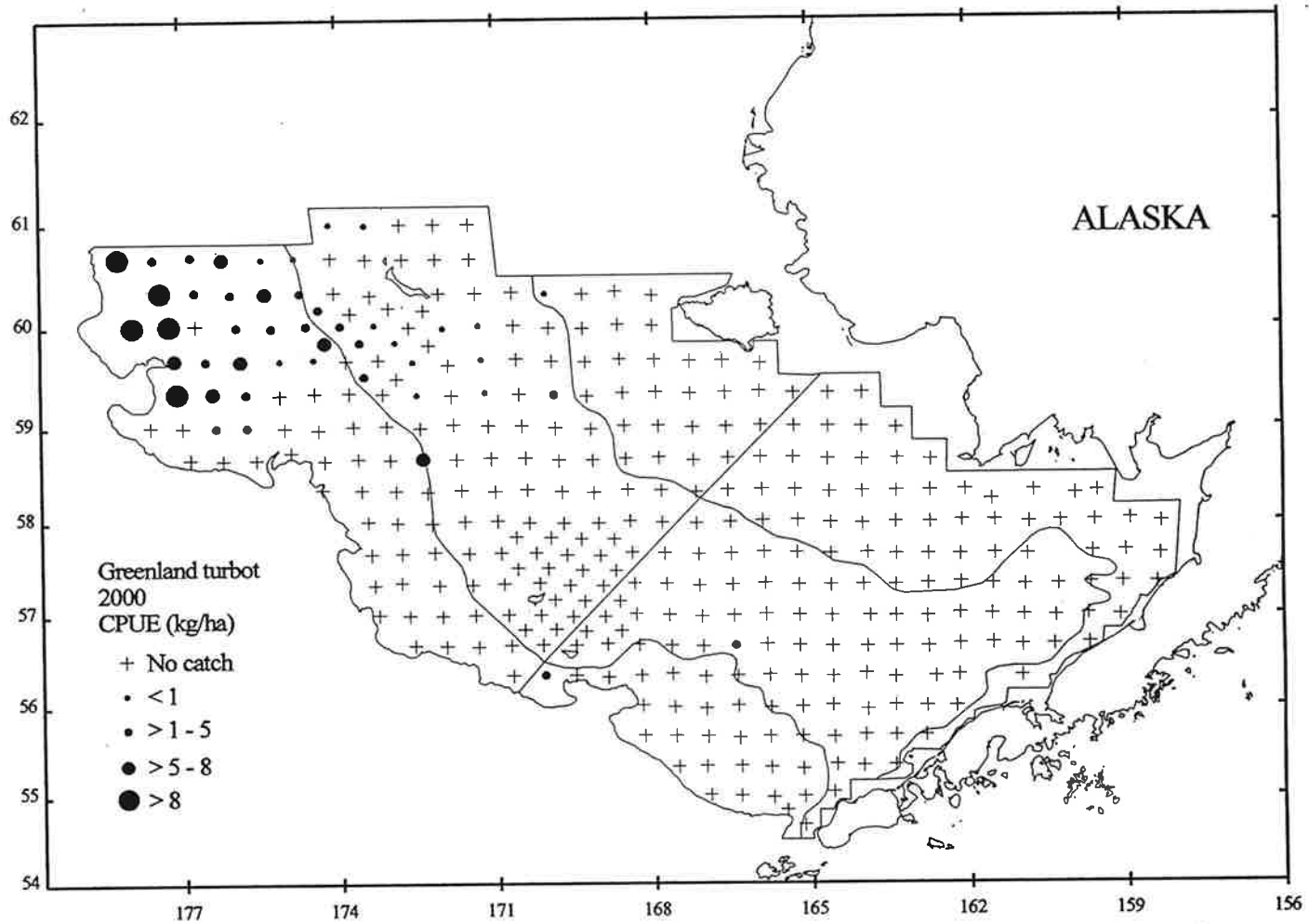


Figure 21.-- Distribution and relative abundance in kg/ha of Greenland turbot, 2000 eastern Bering Sea bottom trawl survey.

Table 15.--Abundance estimates and mean size of Greenland turbot by subarea, 2000 eastern Bering Sea bottom trawl survey.

Subarea	Mean CPUE (kg/ha)	Estimated biomass (t) ^a	Proportion of estimated biomass	Estimated population numbers ^a	Proportion of estimated population	Mean size Weight (kg)	Mean size Length (cm)
1	0.00	0	0.000	0	0.000	0.000	0.0
2	0.00	0	0.000	30,727	0.005	0.000	11.0
3	0.01	153	0.007	27,801	0.005	5.503	82.0
4	0.15	1,644	0.072	1,017,395	0.181	1.616	42.9
5	0.05	201	0.009	28,772	0.005	6.986	86.0
6	2.22	20,958	0.913	4,507,059	0.803	4.650	71.2
All subareas combined ^b	0.50	22,957	1.000	5,611,753	1.000	4.091	65.9
95% Confidence interval		±9,255		±1,975,657			

^aVariances of abundance estimates are given in Appendix D.

^bDifferences in sums of estimates and totals are due to rounding.

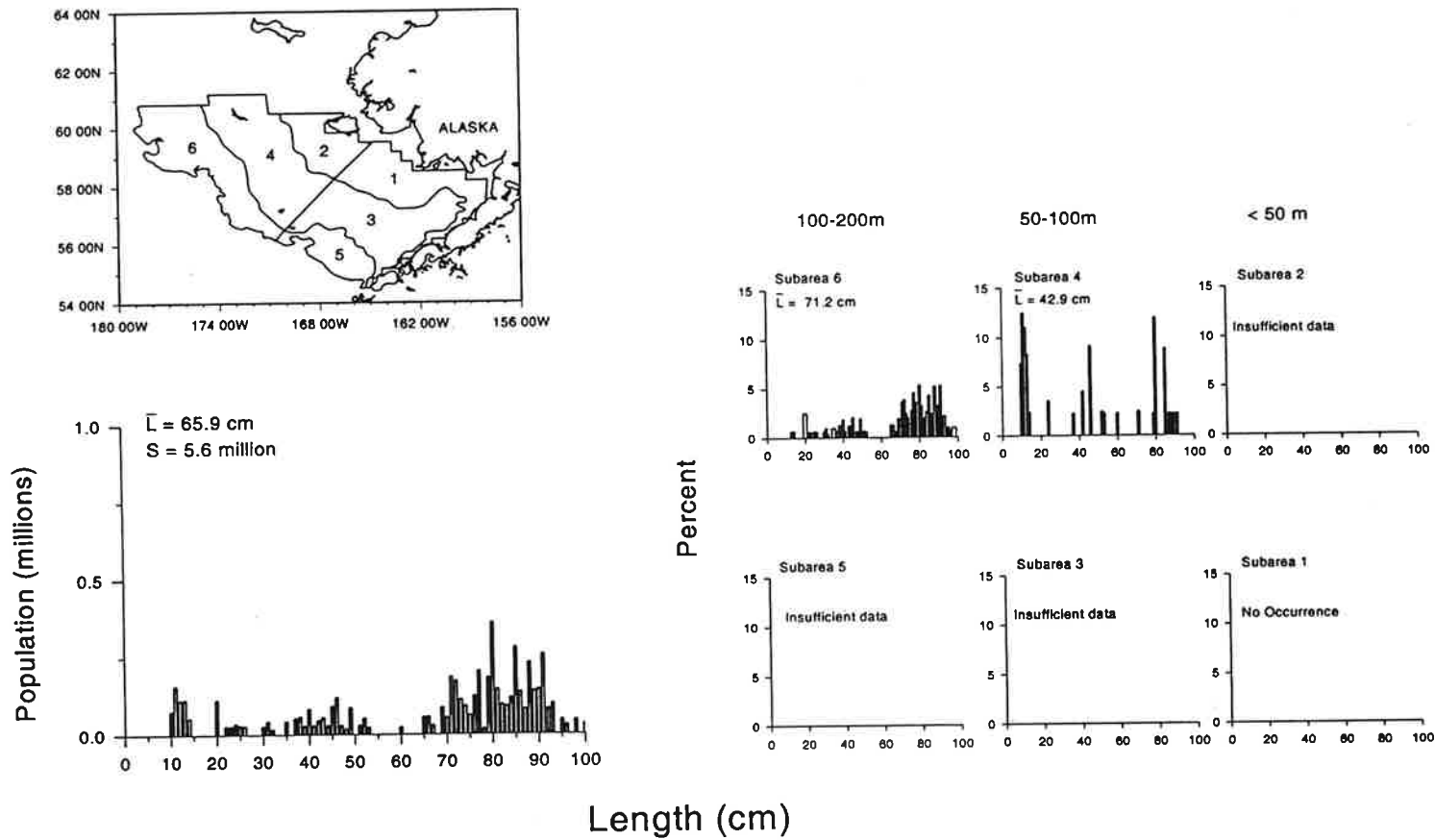


Figure 22.--Estimated relative size distribution (sexes combined) of Greenland turbot in terms of population number and percent for subareas 1-6, 2000 eastern Bering Sea bottom trawl survey.

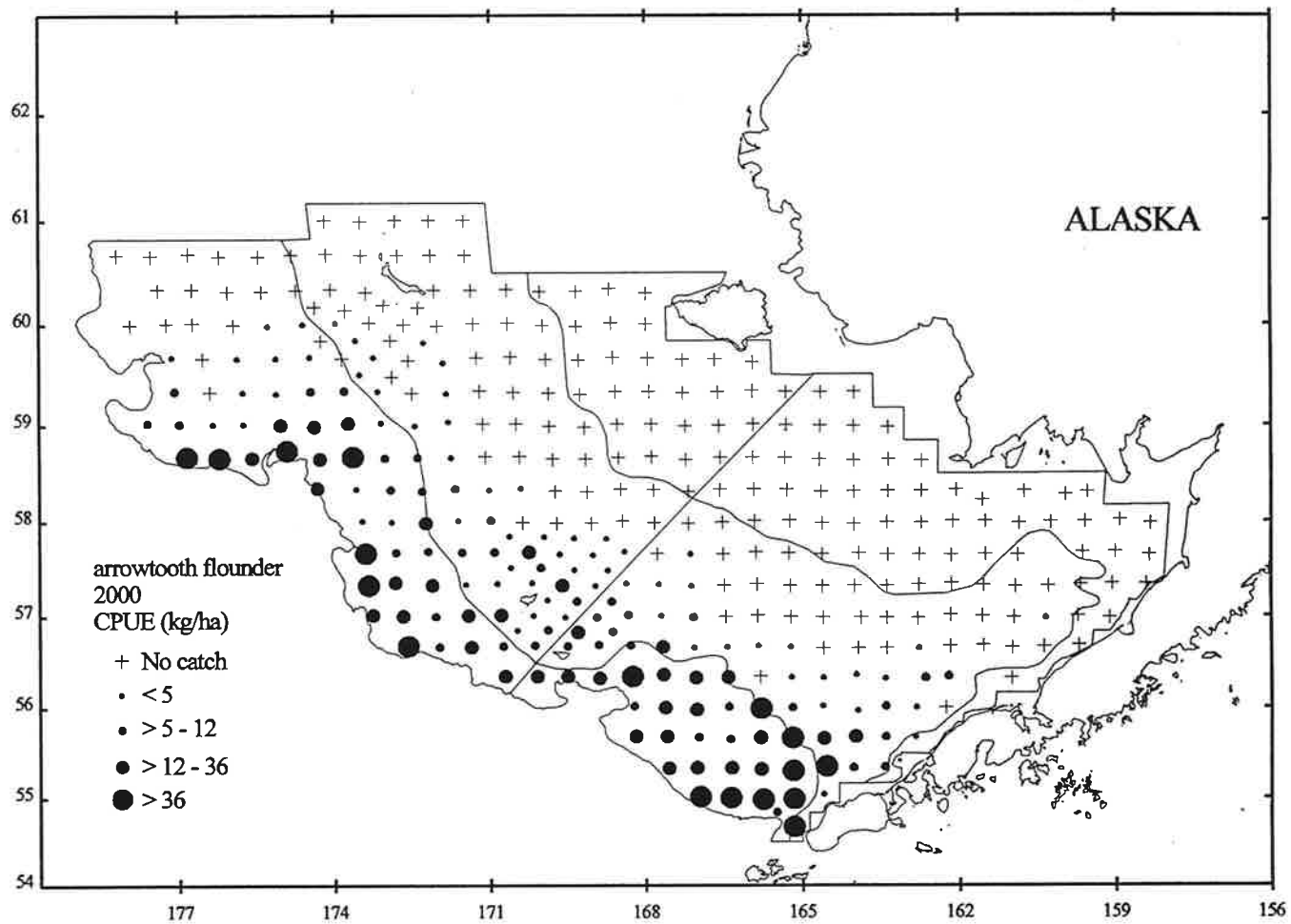


Figure 23.-- Distribution and relative abundance in kg/ha of arrowtooth flounder, 2000 eastern Bering Sea bottom trawl survey.

Table 16.--Abundance estimates and mean size of arrowtooth flounder by subarea, 2000 eastern Bering Sea bottom trawl survey.

Subarea	Mean CPUE (kg/ha)	Estimated biomass (t) ^a	Proportion of estimated biomass	Estimated population numbers ^a	Proportion of estimated population	Mean size Weight (kg)	Mean size Length (cm)
1	0.03	196	0.001	760,148	0.001	0.258	26.8
2	0.00	0	0.000	0	0.000	0.000	0.0
3	5.93	61,223	0.192	158,561,154	0.271	0.386	31.4
4	1.24	13,408	0.042	29,919,082	0.051	0.448	32.7
5	23.34	90,557	0.284	231,192,437	0.395	0.392	31.9
6	16.23	153,431	0.481	165,575,188	0.283	0.927	43.0
All subareas combined ^b	6.88	318,814	1.000	586,008,009	1.000	0.544	34.9
95% Confidence interval		±108,500		±140,082,479			

^aVariances of abundance estimates are given in Appendix D.

^bDifferences in sums of estimates and totals are due to rounding.

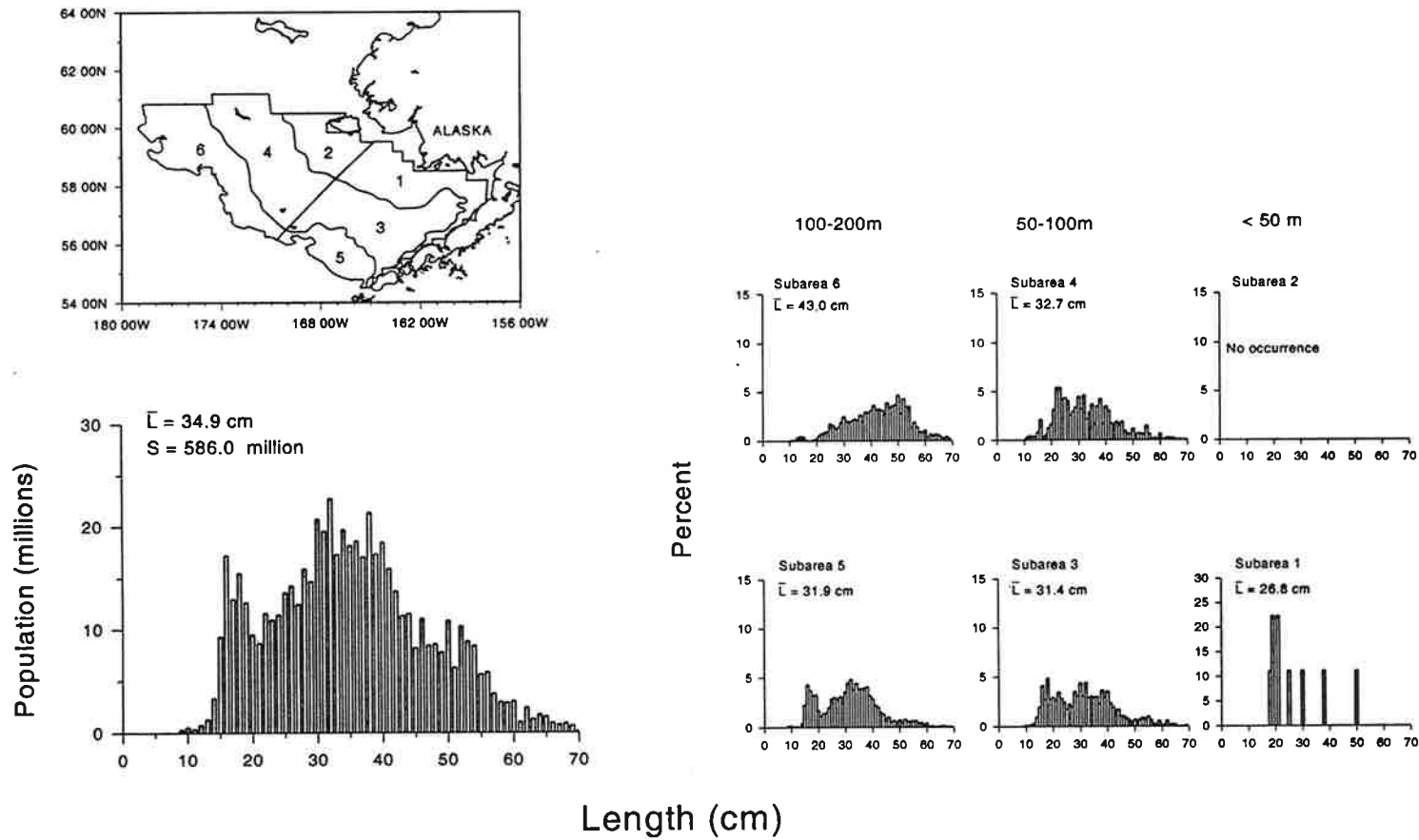


Figure 24.--Estimated relative size distribution (sexes combined) of arrowtooth flounder in terms of population numbers and percent for subareas 1-6, 2000 eastern Bering Sea bottom trawl survey.

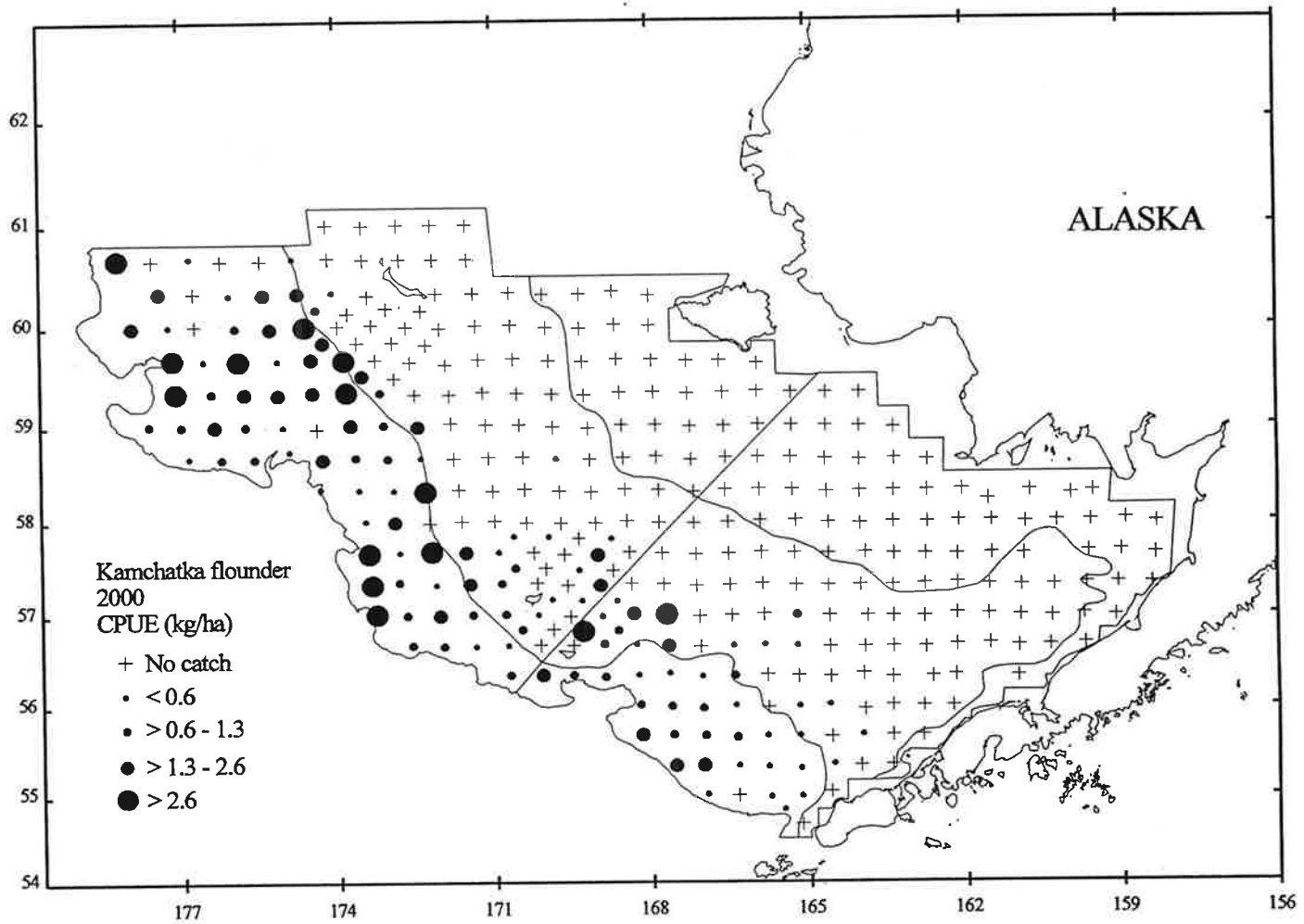


Figure 25.-- Distribution and relative abundance in kg/ha of Kamchatka flounder, 2000 eastern Bering Sea bottom trawl survey.

Table 17.--Abundance estimates and mean size of Kamchatka flounder by subarea, 2000 eastern Bering Sea bottom trawl survey.

Subarea	Mean CPUE (kg/ha)	Estimated biomass (t) ^a	Proportion of estimated biomass	Estimated population numbers ^a	Proportion of estimated population	Mean size Weight (kg)	Length (cm)
1	0.00	0	0.000	0	0.000	0.000	0.0
2	0.00	0	0.000	0	0.000	0.000	0.0
3	0.20	2,073	0.096	3,630,723	0.094	0.571	35.8
4	0.17	1,840	0.085	1,495,068	0.039	1.231	46.3
5	0.73	2,816	0.131	6,903,844	0.178	0.408	32.9
6	1.57	14,822	0.688	26,784,865	0.690	0.553	34.0
All subareas combined ^b	0.47	21,551	1.000	38,814,499	1.000	0.555	34.5
95% Confidence interval		±4,721		±13,474,341			

^aVariances of abundance estimates are given in Appendix D.

^bDifferences in sums of estimates and totals are due to rounding.

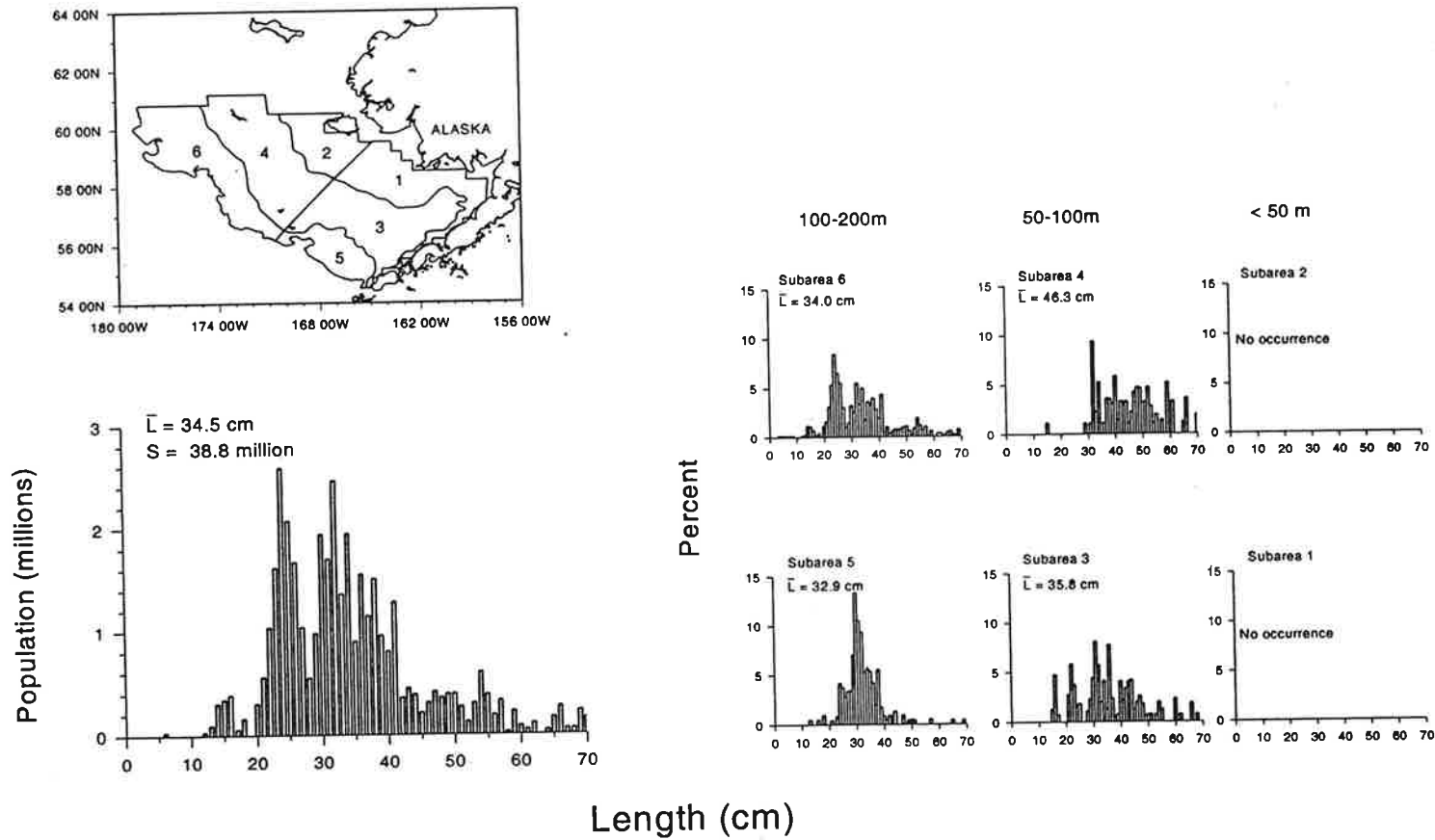


Figure 26.--Estimated relative size distribution (sexes combined) of Kamchatka flounder in terms of population numbers and percent for subareas 1-6, 2000 eastern Bering Sea bottom trawl survey.

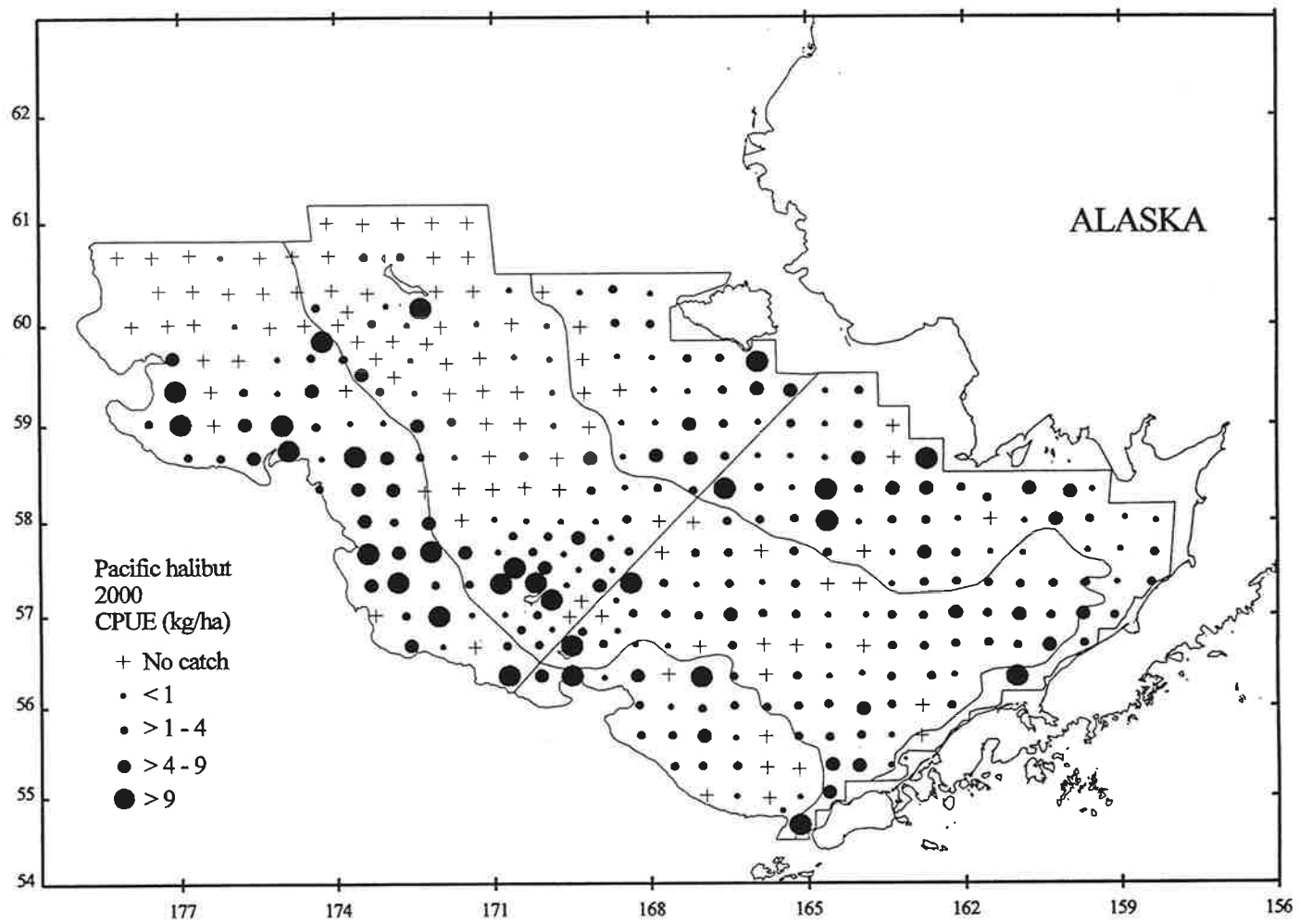


Figure 27.-- Distribution and relative abundance in kg/ha of Pacific halibut, 2000 eastern Bering Sea bottom trawl survey.

Table 18.--Abundance estimates and mean size of Pacific halibut by subarea, 2000 eastern Bering Sea bottom trawl survey.

Subarea	Mean CPUE (kg/ha)	Estimated biomass (t) ^a	Proportion of estimated biomass	Estimated population numbers ^a	Proportion of estimated population	Mean size Weight (kg)	Mean size Length (cm)
1	2.74	21,320	0.179	13,165,523	0.354	1.619	39.8
2	2.42	9,946	0.084	4,388,292	0.118	2.266	54.4
3	2.38	24,589	0.207	8,929,207	0.240	2.754	56.4
4	1.56	16,781	0.141	3,942,400	0.106	4.257	62.3
5	2.21	8,590	0.072	1,292,833	0.035	6.644	78.9
6	3.98	37,660	0.317	5,462,260	0.147	6.895	78.7
All subareas combined ^b	2.57	118,885	1.000	37,180,515	1.000	3.198	55.0
95% Confidence interval		±18,703		±8,669,648			

^aVariances of abundance estimates are given in Appendix D.

^bDifferences in sums of estimates and totals are due to rounding.

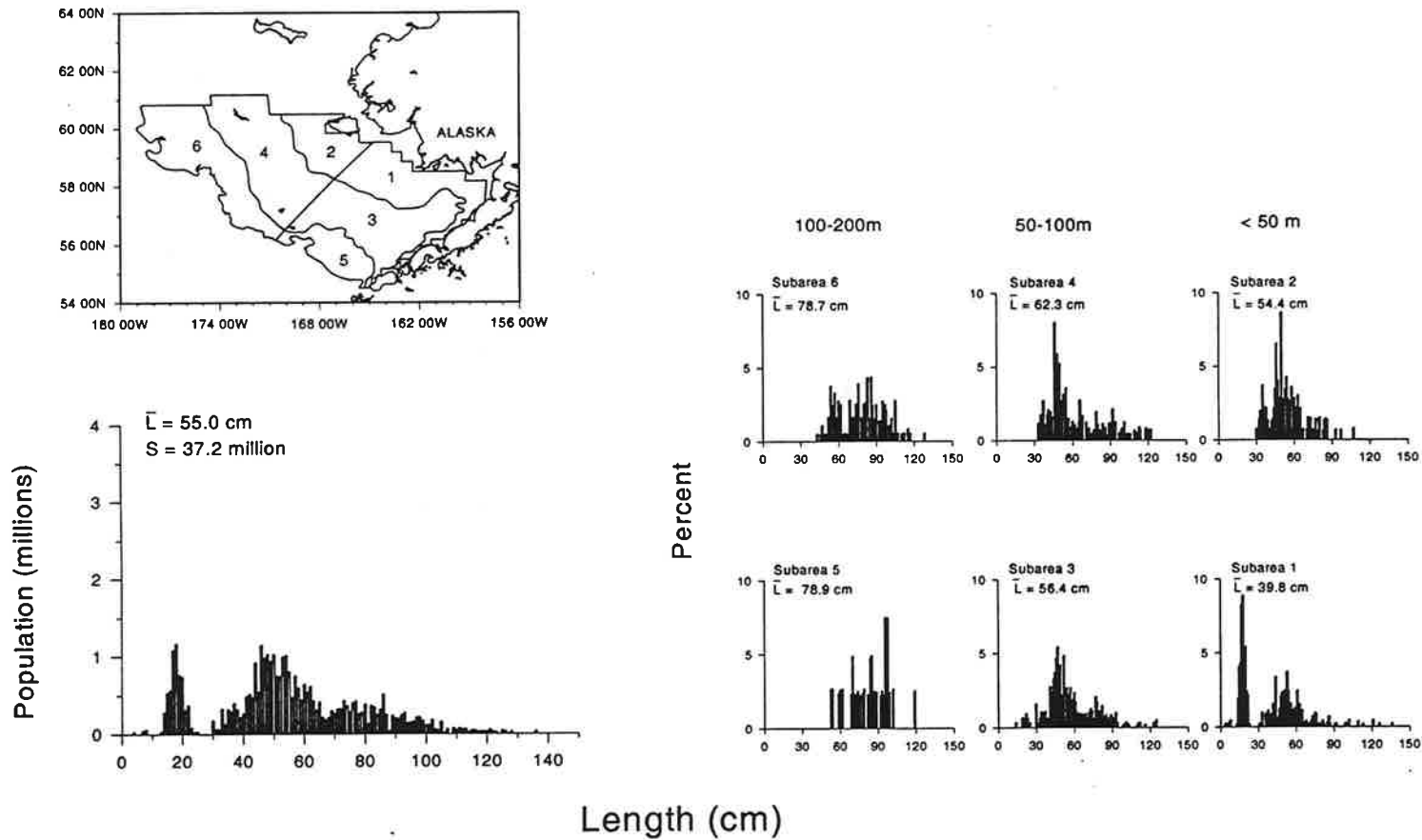


Figure 28.--Estimated relative size distribution (sexes combined) of Pacific halibut in terms of population numbers and percent for subareas 1-6, 2000 eastern Bering Sea bottom trawl survey.

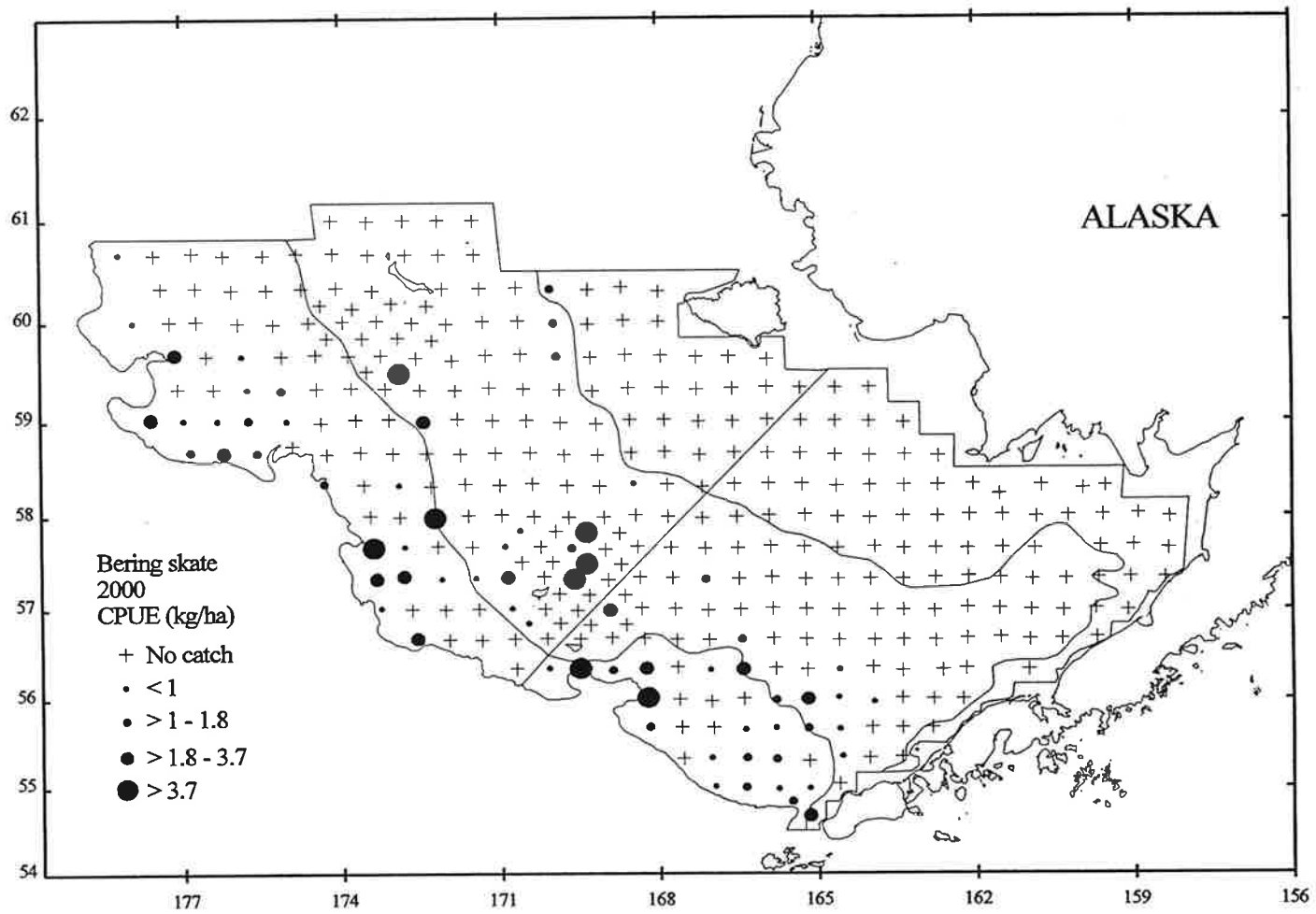


Figure 29.-- Distribution and relative abundance in kg/ha of Bering skate, 2000 eastern Bering Sea bottom trawl survey.

Table 19.--Abundance estimates and mean size of Bering skate by subarea, 2000 eastern Bering Sea bottom trawl survey.

Subarea	Mean CPUE (kg/ha)	Estimated biomass (t) ^a	Proportion of estimated biomass	Estimated population numbers ^a	Proportion of estimated population	Mean weight (kg)
1	0.00	0	0.000	0	0.000	0.000
2	0.05	206	0.012	92,180	0.013	2.235
3	0.31	3,238	0.196	1,448,351	0.206	2.236
4	0.40	4,300	0.261	1,317,405	0.188	3.264
5	0.84	3,245	0.197	1,435,318	0.204	2.261
6	0.58	5,506	0.334	2,729,442	0.389	2.017
All subareas combined ^b	0.36	16,494	1.000	7,022,696	1.000	2.349
95% Confidence interval		±5,237		±1,821,573		

^aVariances of abundance estimates are given in Appendix D.

^bDifferences in sums of estimates and totals are due to rounding.

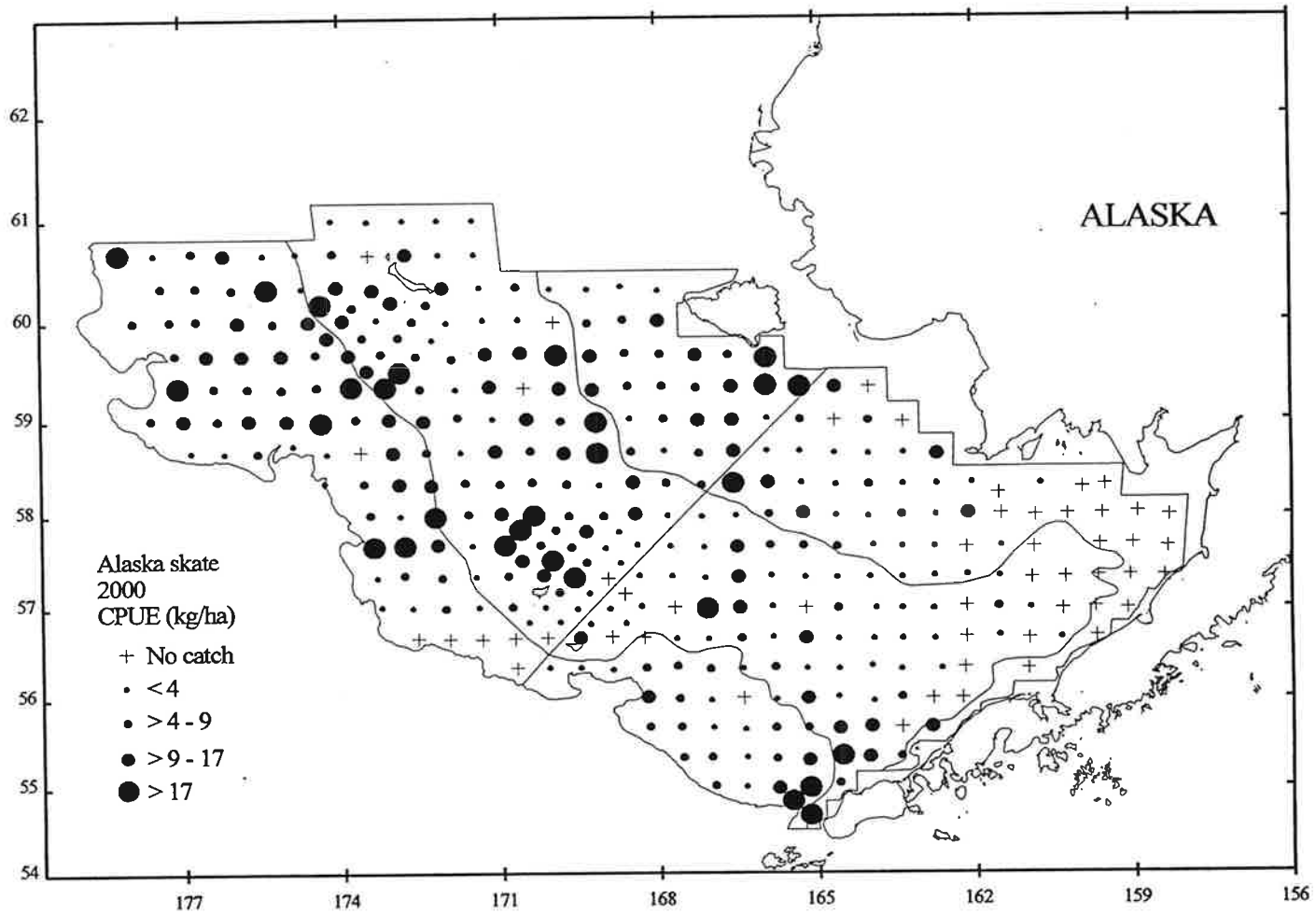


Figure 30.-- Distribution and relative abundance in kg/ha of Alaska skate, 2000 eastern Bering Sea bottom trawl survey.

Table 20.--Abundance estimates and mean weight of Alaska skate by subarea, 2000 eastern Bering Sea bottom trawl survey.

Subarea	Mean CPUE (kg/ha)	Estimated biomass (t) ^a	Proportion of estimated biomass	Estimated population numbers ^a	Proportion of estimated population	Mean weight (kg)
1	3.23	25,115	0.083	6,763,290	0.077	3.713
2	9.17	37,616	0.125	10,387,695	0.118	3.621
3	4.45	45,994	0.153	16,837,860	0.191	2.732
4	7.72	83,219	0.277	30,659,892	0.347	2.714
5	5.51	21,361	0.071	3,704,389	0.042	5.766
6	9.27	87,649	0.291	19,993,480	0.226	4.384
All subareas combined ^b	6.49	300,954	1.000	88,346,606	1.000	3.407
95% Confidence interval		±34,324		±9,404,798		

^aVariances of abundance estimates are given in Appendix D.

^bDifferences in sums of estimates and totals are due to rounding.

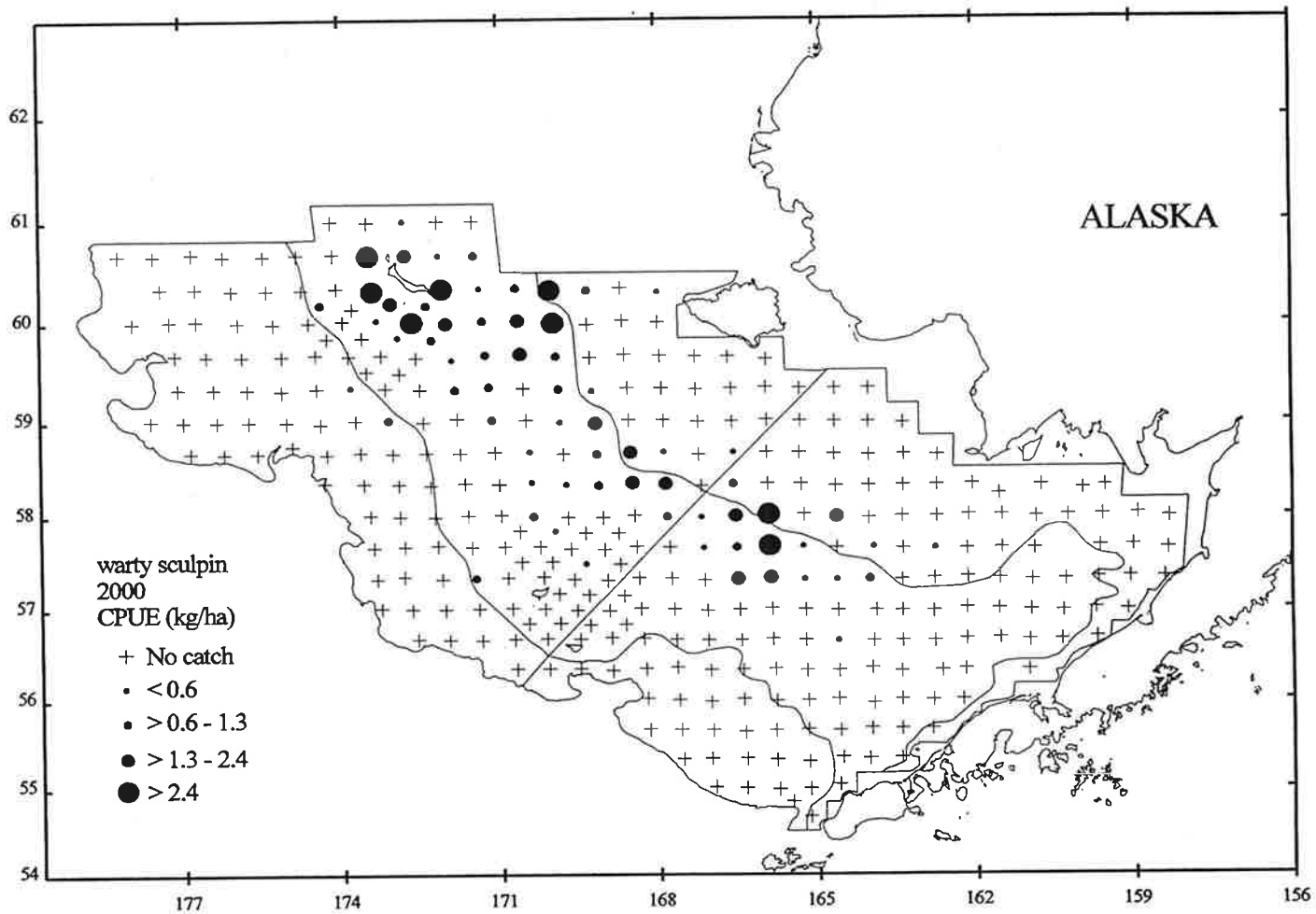


Figure 31.-- Distribution and relative abundance in kg/ha of warty sculpin, 2000 eastern Bering Sea bottom trawl survey.

Table 21.--Abundance estimates and mean weight of warty sculpin by subarea, 2000 eastern Bering Sea bottom trawl survey.

Subarea	Mean CPUE (kg/ha)	Estimated biomass (t) ^a	Proportion of estimated biomass	Estimated population numbers ^a	Proportion of estimated population	Mean weight (kg)
1	0.11	857	0.073	823,777	0.075	1.040
2	0.23	954	0.081	964,459	0.088	0.989
3	0.19	1,919	0.164	1,972,023	0.179	0.973
4	0.72	7,770	0.663	7,072,819	0.643	1.099
5	0.00	0	0.000	0	0.000	0.000
6	0.02	219	0.019	158,858	0.014	1.379
All subareas combined ^b	0.25	11,718	1.000	10,991,936	1.000	1.066
95% Confidence interval		±4,083		±3,663,190		

^aVariances of abundance estimates are given in Appendix D.

^bDifferences in sums of estimates and totals are due to rounding.

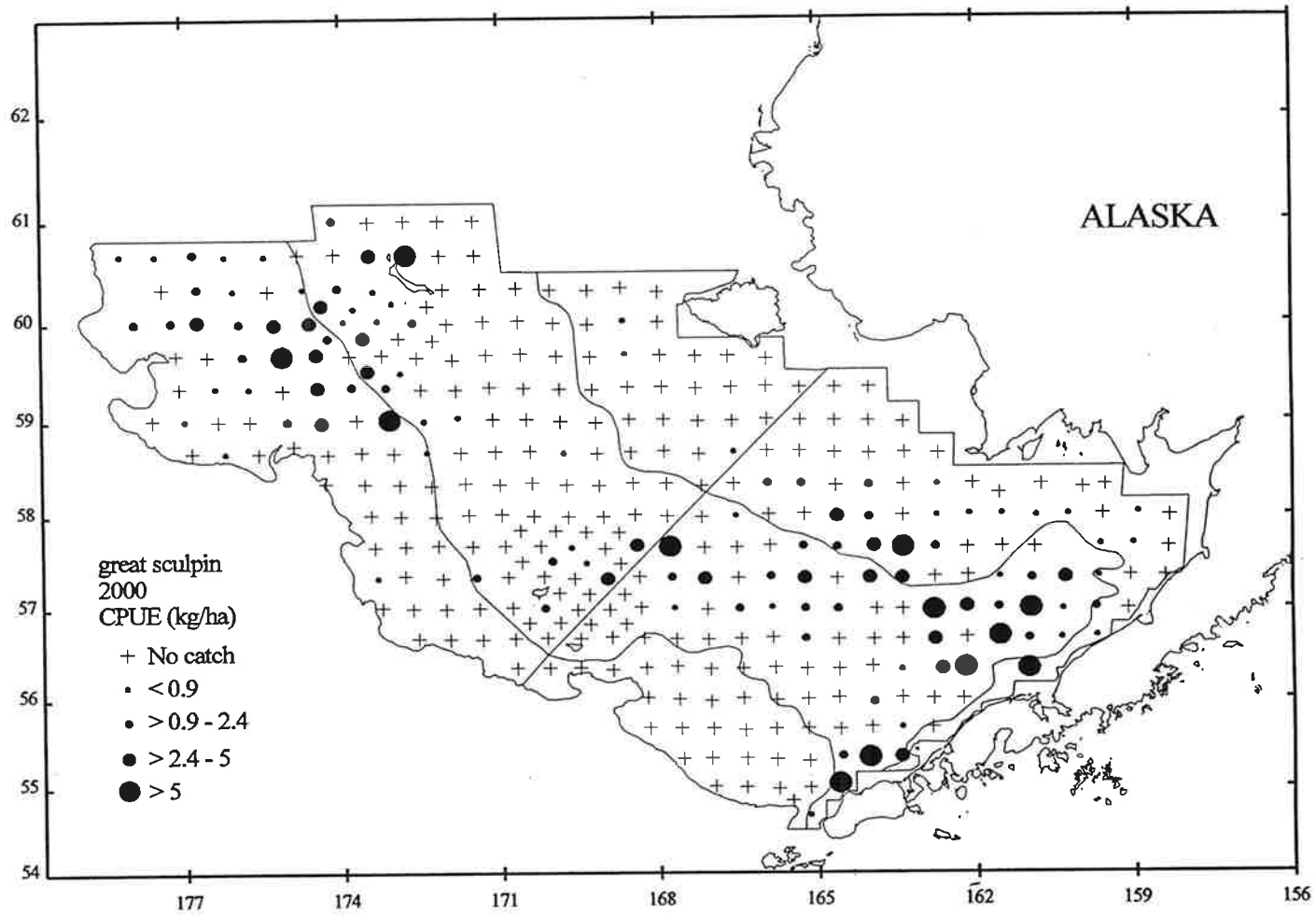


Figure 32.-- Distribution and relative abundance in kg/ha of great sculpin, 2000 eastern Bering Sea bottom trawl survey.

Table 22.--Abundance estimates and mean weight of great sculpin by subarea, 2000 eastern Bering Sea bottom trawl survey.

Subarea	Mean CPUE (kg/ha)	Estimated biomass (t) ^a	Proportion of estimated biomass	Estimated population numbers ^a	Proportion of estimated population	Mean weight (kg)
1	0.75	5,834	0.095	2,523,147	0.114	2.312
2	0.01	59	0.001	119,575	0.005	0.493
3	1.73	17,862	0.292	5,892,989	0.266	3.031
4	0.45	4,804	0.078	2,003,030	0.090	2.398
5	0.00	0	0.000	0	0.000	0.000
6	3.45	32,659	0.533	11,606,796	0.524	2.814
All subareas combined ^b	1.32	61,218	1.000	22,145,536	1.000	2.764
95% Confidence interval		±51,488		±17,198,248		

^aVariances of abundance estimates are given in Appendix D.

^bDifferences in sums of estimates and totals are due to rounding.

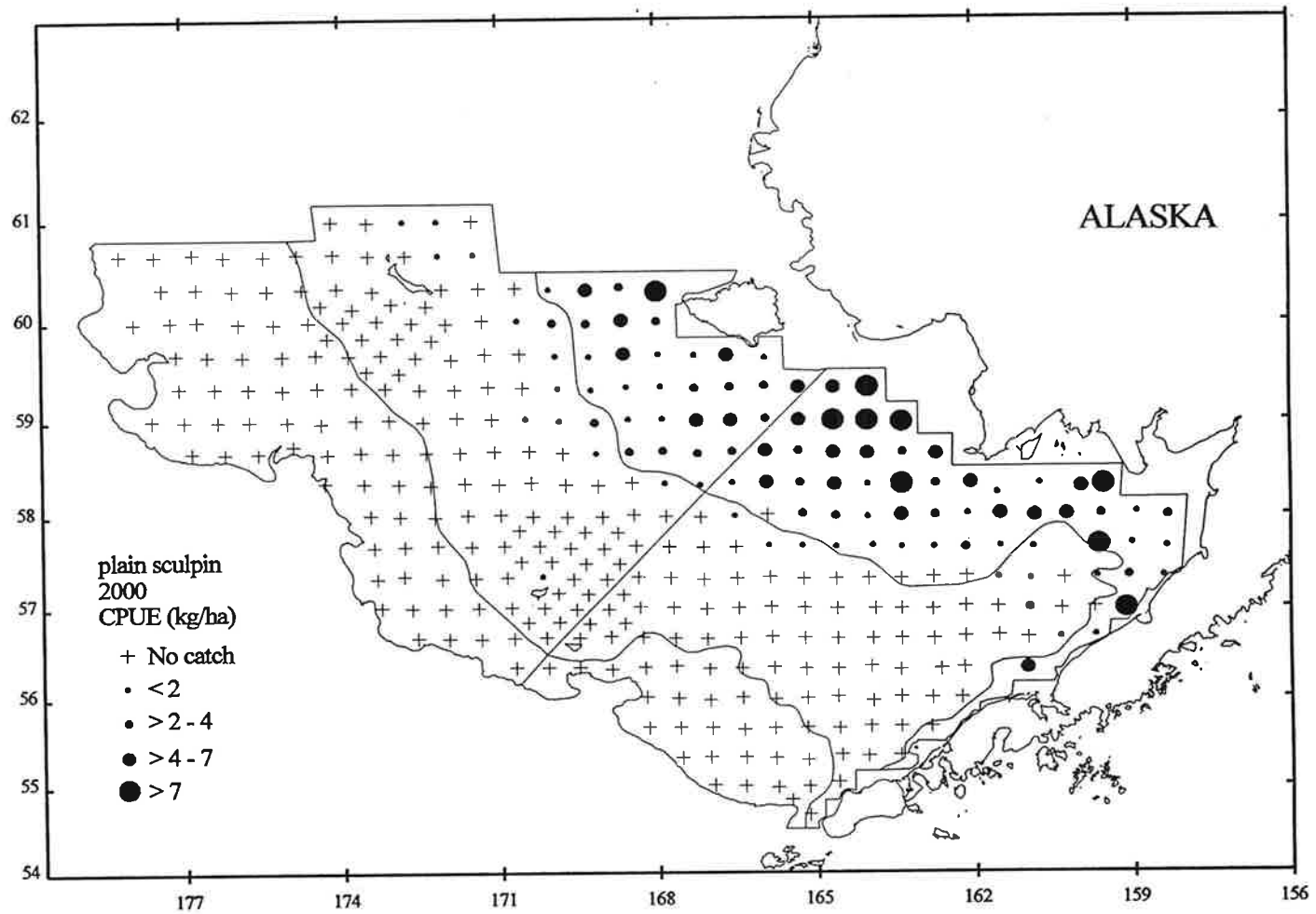


Figure 33.-- Distribution and relative abundance in kg/ha of plain sculpin, 2000 eastern Bering Sea bottom trawl survey.

Table 23.--Abundance estimates and mean weight of plain sculpin by subarea, 2000 eastern Bering Sea bottom trawl survey.

Subarea	Mean CPUE (kg/ha)	Estimated biomass (t) ^a	Proportion of estimated biomass	Estimated population numbers ^a	Proportion of estimated population	Mean weight (kg)
1	3.69	28,759	0.660	53,424,881	0.704	0.538
2	3.02	12,398	0.284	19,568,612	0.258	0.634
3	0.08	866	0.020	1,235,137	0.016	0.701
4	0.15	1,581	0.036	1,634,557	0.022	0.967
5	0.00	0	0.000	0	0.000	0.000
6	0.00	0	0.000	0	0.000	0.000
All subareas combined ^b	0.94	43,605	1.000	75,863,187	1.000	0.575
95% Confidence interval		±7,164		±14,124,864		

^aVariances of abundance estimates are given in Appendix D.

^bDifferences in sums of estimates and totals are due to rounding.

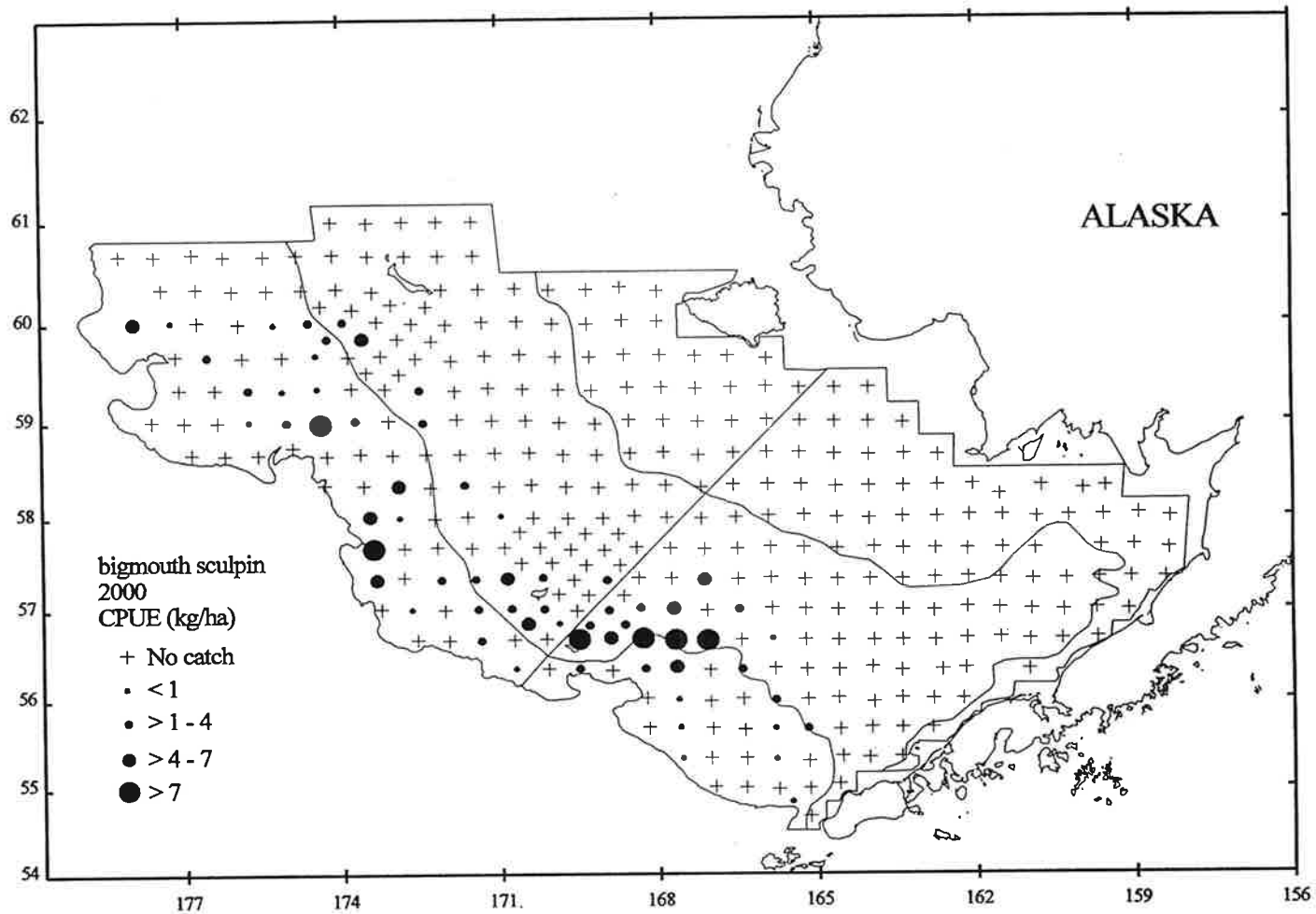


Figure 34.-- Distribution and relative abundance in kg/ha of bigmouth sculpin, 2000 eastern Bering Sea bottom trawl survey.

Table 24.--Abundance estimates and mean weight of bigmouth sculpin by subarea, 2000 eastern Bering Sea bottom trawl survey.

Subarea	Mean CPUE (kg/ha)	Estimated biomass (t) ^a	Proportion of estimated biomass	Estimated population numbers ^a	Proportion of estimated population	Mean weight (kg)
1	0.00	0	0.000	0	0.000	0.000
2	0.00	0	0.000	0	0.000	0.000
3	0.87	8,950	0.346	2,074,401	0.358	4.314
4	0.29	3,179	0.123	818,080	0.141	3.886
5	0.94	3,630	0.140	806,299	0.139	4.502
6	1.07	10,079	0.390	2,088,412	0.361	4.826
All subareas combined ^b	0.56	25,838	1.000	5,787,192	1.000	4.465
95% Confidence interval		±9,829		±2,008,919		

^aVariances of abundance estimates are given in Appendix D.

^bDifferences in sums of estimates and totals are due to rounding.

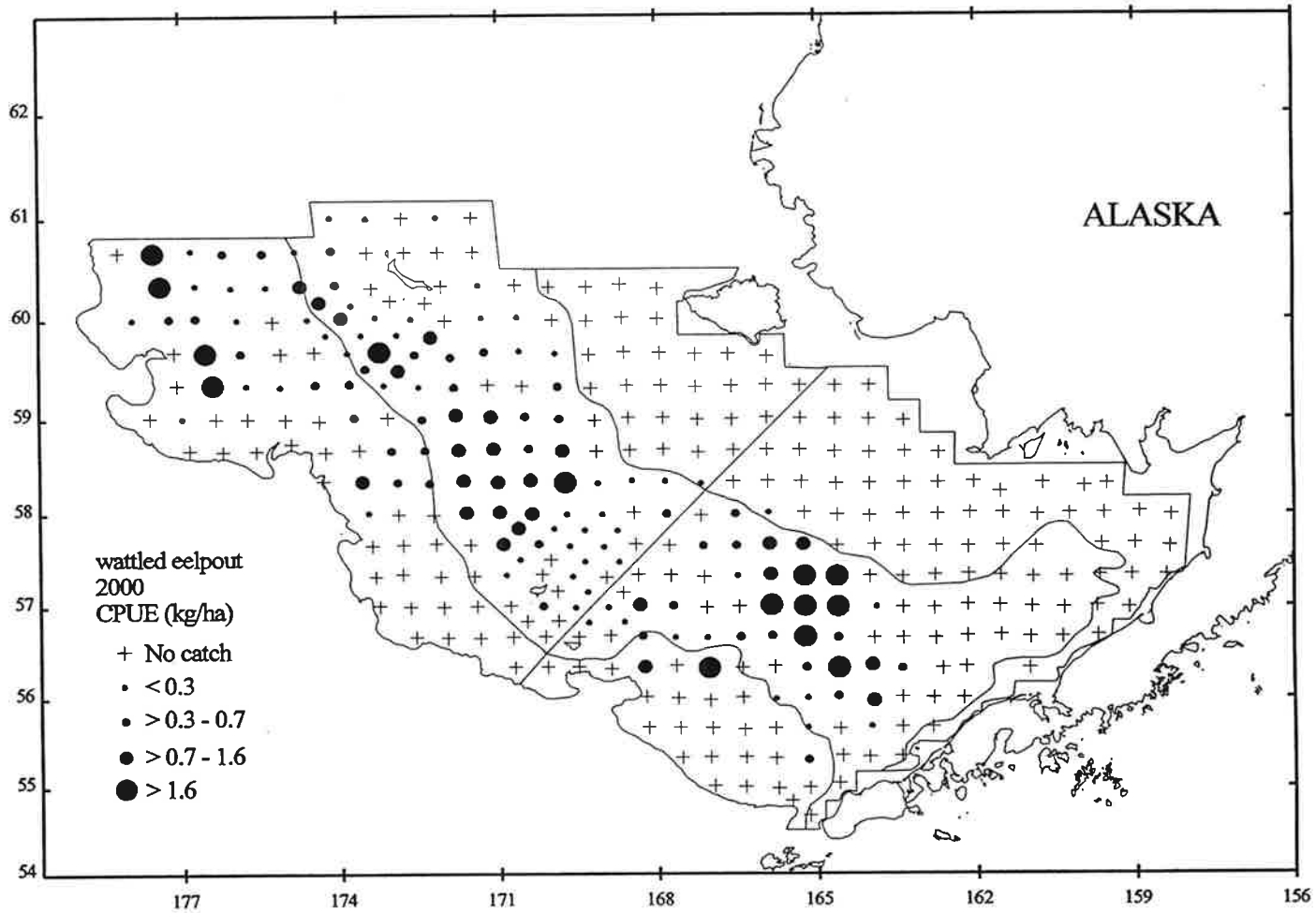


Figure 35.-- Distribution and relative abundance in kg/ha of wattle eelpout, 2000 eastern Bering Sea bottom trawl survey.

Table 25.--Abundance estimates and mean weight of wattled eelpout by subarea, 2000 eastern Bering Sea bottom trawl survey.

Subarea	Mean CPUE (kg/ha)	Estimated biomass (t) ^a	Proportion of estimated biomass	Estimated population numbers ^a	Proportion of estimated population	Mean weight (kg)
1	0.00	35	0.003	213,923	0.003	0.164
2	0.01	35	0.003	124,053	0.002	0.282
3	0.41	4,237	0.348	16,423,531	0.245	0.258
4	0.39	4,247	0.349	19,656,988	0.293	0.216
5	0.15	593	0.049	7,548,970	0.113	0.079
6	0.32	3,023	0.248	23,088,389	0.344	0.131
All subareas combined ^b	0.26	12,170	1.000	67,055,855	1.000	0.181
95% Confidence interval		±3,167		±24,965,925		

^aVariances of abundance estimates are given in Appendix D.

^bDifferences in sums of estimates and totals are due to rounding.

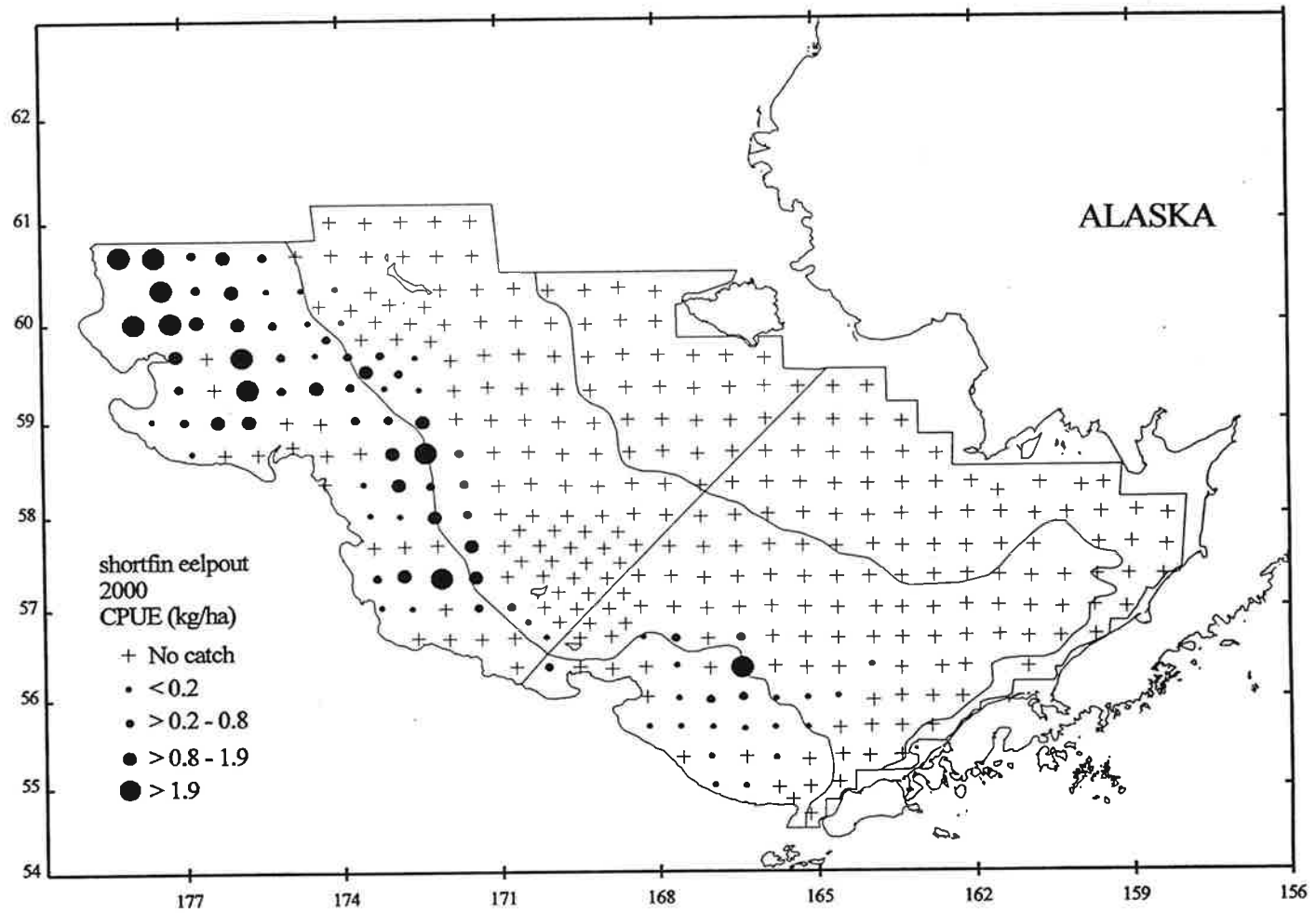


Figure 36.-- Distribution and relative abundance in kg/ha of shortfin eelpout, 2000 eastern Bering Sea bottom trawl survey.

Table 26.--Abundance estimates and mean weight of shortfin eelpout by subarea, 2000 eastern Bering Sea bottom trawl survey.

Subarea	Mean CPUE (kg/ha)	Estimated biomass (t) ^a	Proportion of estimated biomass	Estimated population numbers ^a	Proportion of estimated population	Mean weight (kg)
1	0.00	0	0.000	0	0.000	0.000
2	0.00	0	0.000	0	0.000	0.000
3	0.07	765	0.066	2,162,215	0.010	0.354
4	0.11	1,169	0.101	26,844,456	0.127	0.044
5	0.08	299	0.026	7,897,799	0.037	0.038
6	0.98	9,314	0.807	174,067,031	0.825	0.054
All subareas combined ^b	0.25	11,547	1.000	210,971,502	1.000	0.055
95% Confidence interval		±4,417		±67,061,405		

^aVariances of abundance estimates are given in Appendix D.

^bDifferences in sums of estimates and totals are due to rounding.

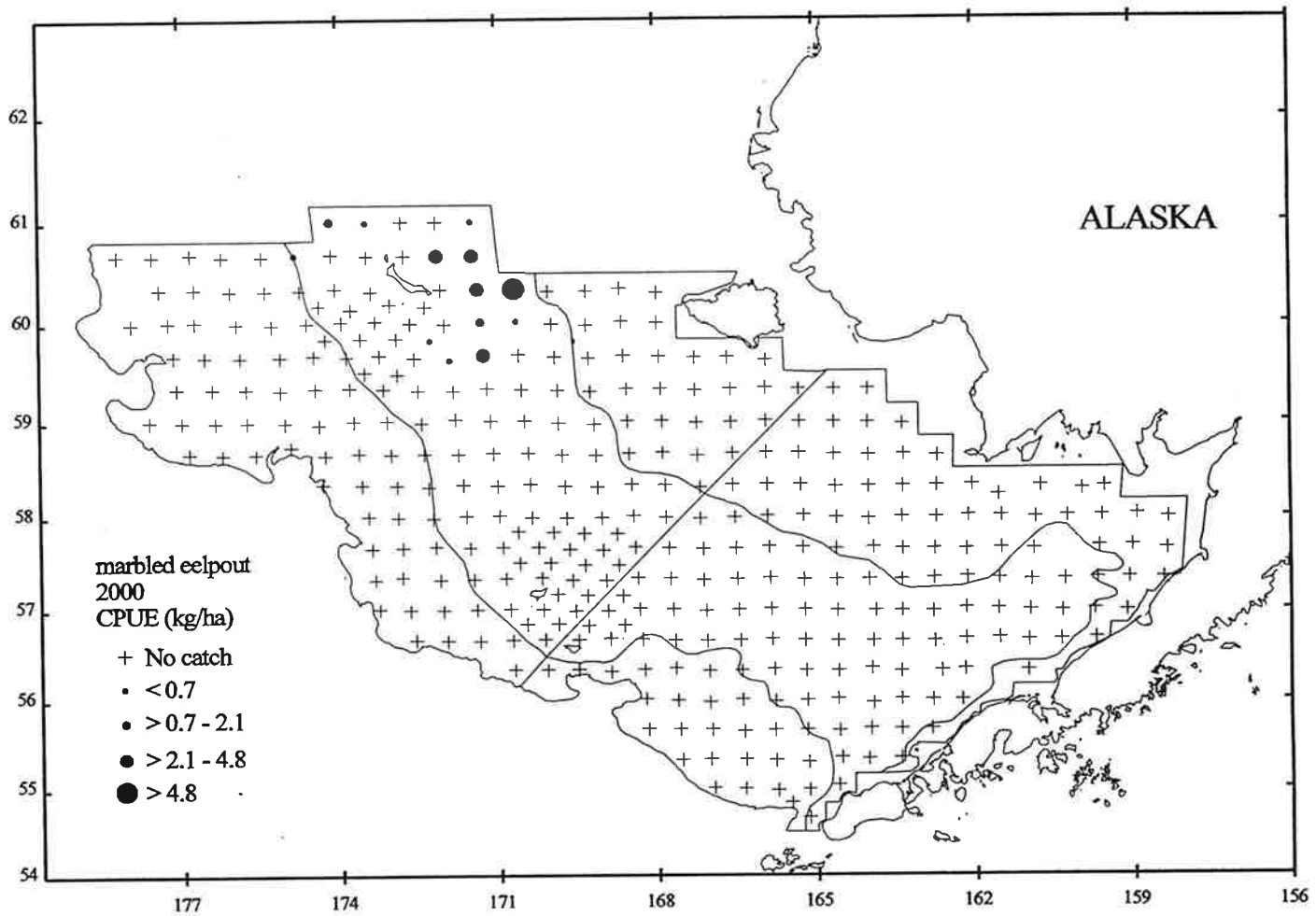


Figure 37.-- Distribution and relative abundance in kg/ha of marbled eelpout, 2000 eastern Bering Sea bottom trawl survey.

Table 27.--Abundance estimates and mean weight of marbled eelpout by subarea, 2000 eastern Bering Sea bottom trawl survey.

Subarea	Mean CPUE (kg/ha)	Estimated biomass (t) ^a	Proportion of estimated biomass	Estimated population numbers ^a	Proportion of estimated population	Mean weight (kg)
1	0.00	0	0.000	0	0.000	0.000
2	0.00	0	0.000	0	0.000	0.000
3	0.00	0	0.000	0	0.000	0.000
4	0.36	3,935	1.000	2,706,103	1.000	1.454
5	0.00	0	0.000	0	0.000	0.000
6	0.00	0	0.000	0	0.000	0.000
All subareas combined ^b	0.08	3,935	1.000	2,706,103	1.000	1.454
95% Confidence interval		±3,139		±2,139,517		

^aVariances of abundance estimates are given in Appendix D.

^bDifferences in sums of estimates and totals are due to rounding.

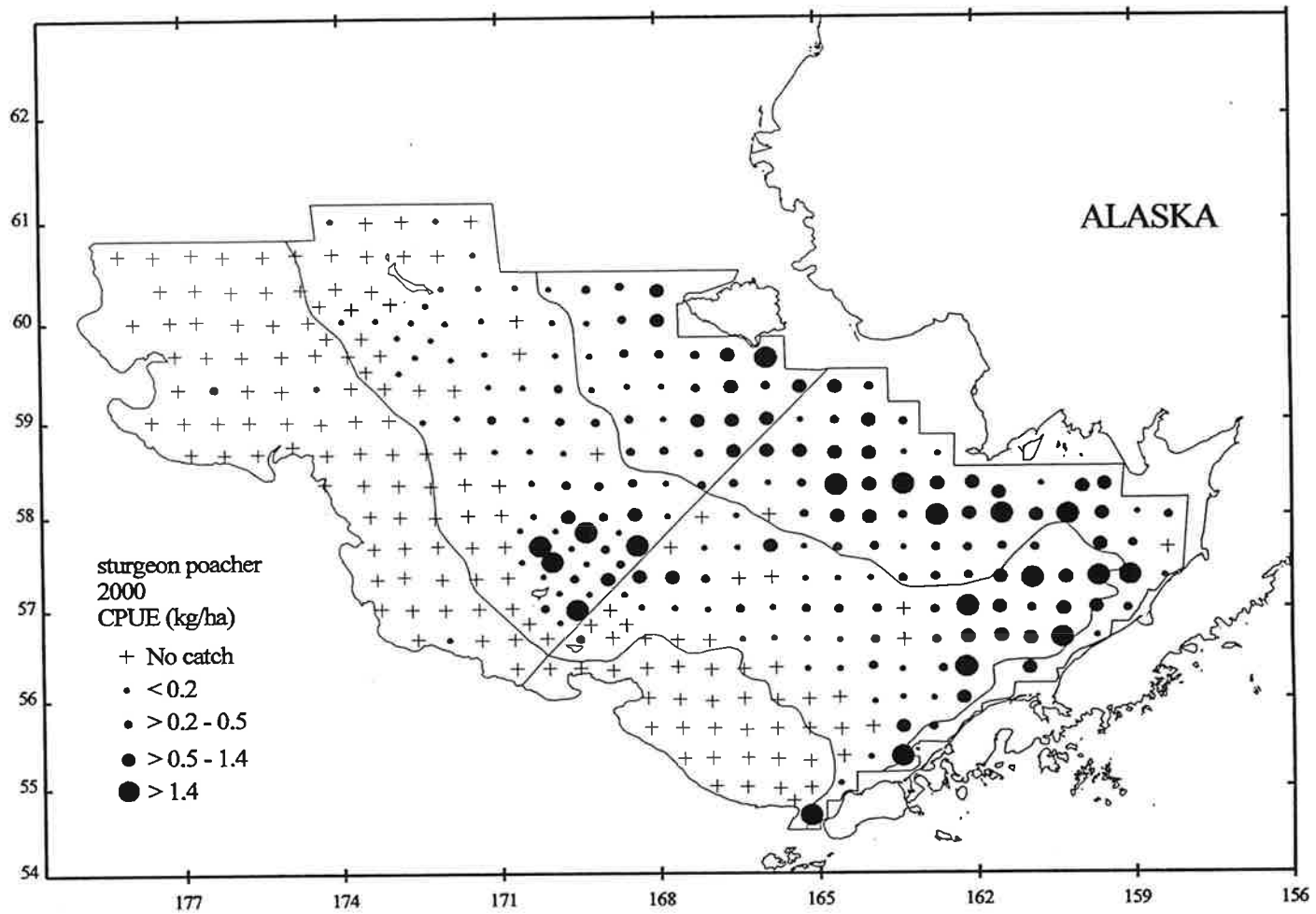


Figure 38.-- Distribution and relative abundance in kg/ha of sturgeon poacher, 2000 eastern Bering Sea bottom trawl survey.

Table 28.--Abundance estimates and mean weight of sturgeon poacher by subarea, 2000 eastern Bering Sea bottom trawl survey.

Subarea	Mean CPUE (kg/ha)	Estimated biomass (t) ^a	Proportion of estimated biomass	Estimated population numbers ^a	Proportion of estimated population	Mean weight (kg)
1	0.71	5,494	0.399	68,609,318	0.346	0.080
2	0.54	2,205	0.160	34,583,404	0.174	0.064
3	0.39	4,079	0.296	56,027,333	0.283	0.073
4	0.18	1,929	0.140	38,883,435	0.196	0.050
5	0.00	0	0.000	0	0.000	0.000
6	0.01	54	0.004	137,662	0.001	0.392
All subareas combined ^b	0.30	13,762	1.000	198,241,151	1.000	0.069
95% Confidence interval		±2,669		±33,238,253		

^aVariances of abundance estimates are given in Appendix D.

^bDifferences in sums of estimates and totals are due to rounding.

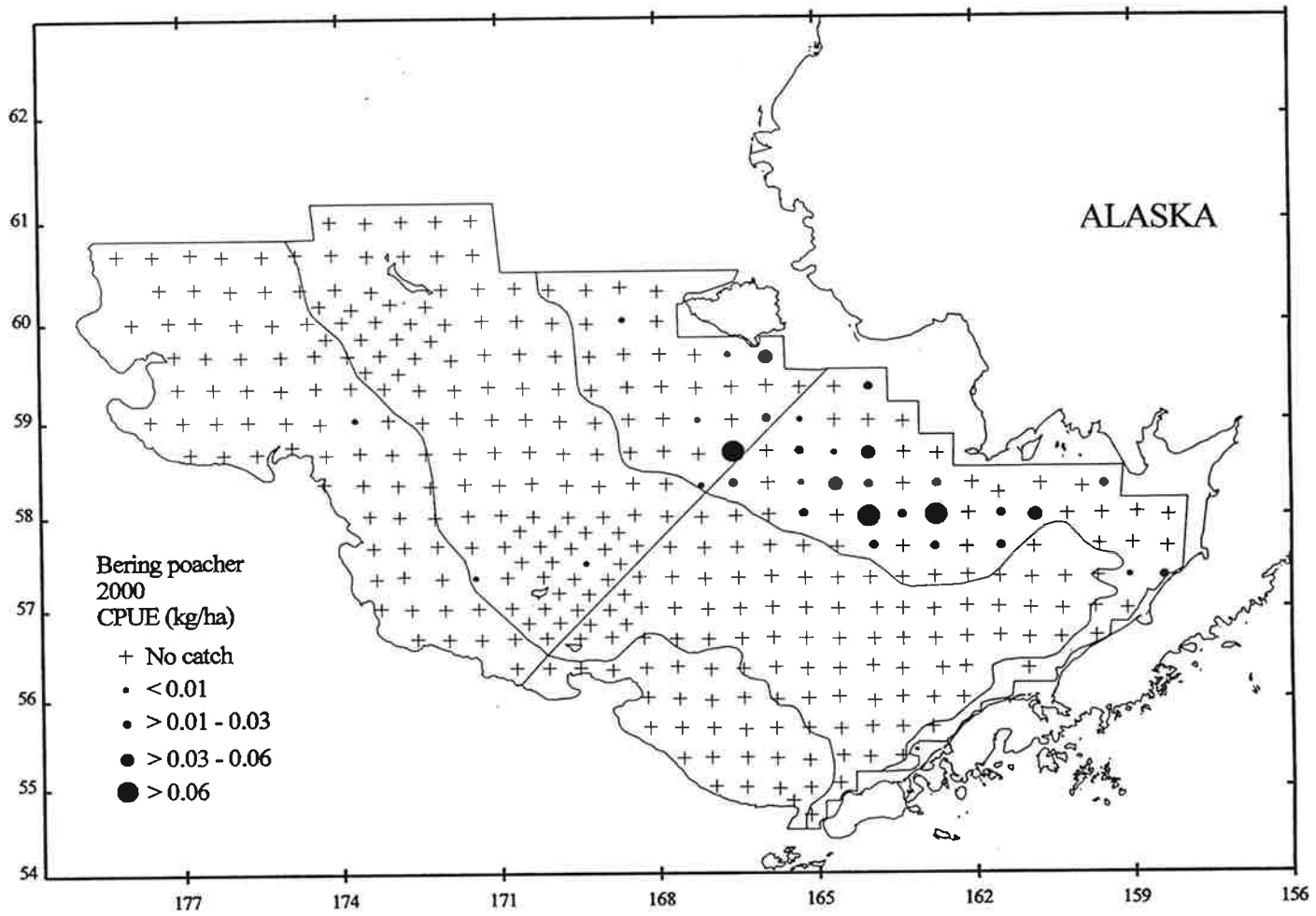


Figure 39.-- Distribution and relative abundance in kg/ha of Bering poacher, 2000 eastern Bering Sea bottom trawl survey.

Table 29.--Abundance estimates and mean weight of Bering poacher by subarea, 2000 eastern Bering Sea bottom trawl survey.

Subarea	Mean CPUE (kg/ha)	Estimated biomass (t) ^a	Proportion of estimated biomass	Estimated population numbers ^a	Proportion of estimated population	Mean weight (kg)
1	0.01	74	0.685	2,869,316	0.791	0.026
2	0.01	33	0.306	606,134	0.167	0.054
3	0.00	0	0.000	0	0.000	0.000
4	0.00	1	0.009	121,676	0.034	0.008
5	0.00	0	0.000	0	0.000	0.000
6	0.00	0	0.000	30,375	0.008	0.000
All subareas combined ^b	0.00	108	1.000	3,627,501	1.000	0.030
95% Confidence interval		±56		±1,442,531		

^aVariances of abundance estimates are given in Appendix D.

^bDifferences in sums of estimates and totals are due to rounding.

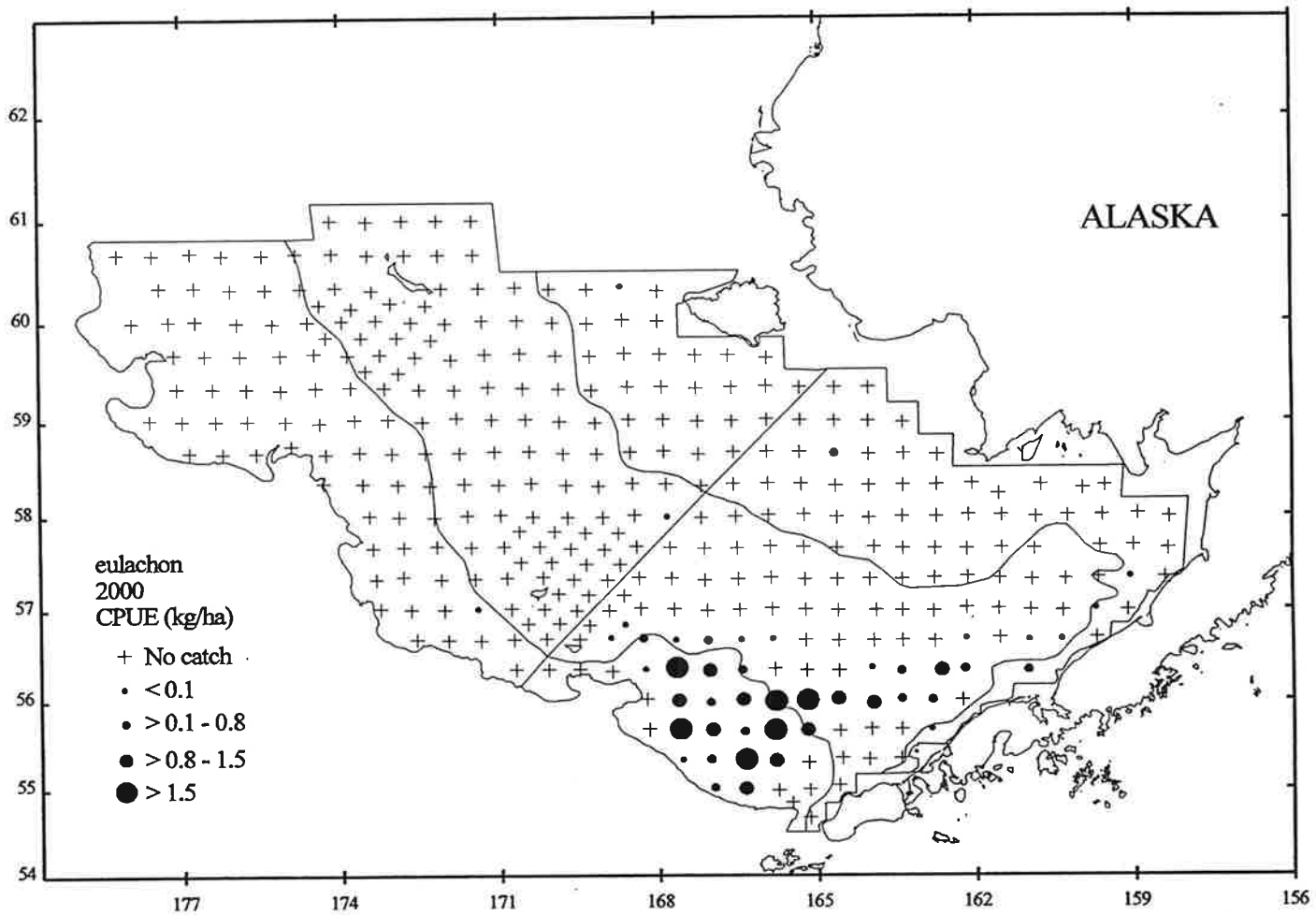


Figure 40.-- Distribution and relative abundance in kg/ha of eulachon, 2000 eastern Bering Sea bottom trawl survey.

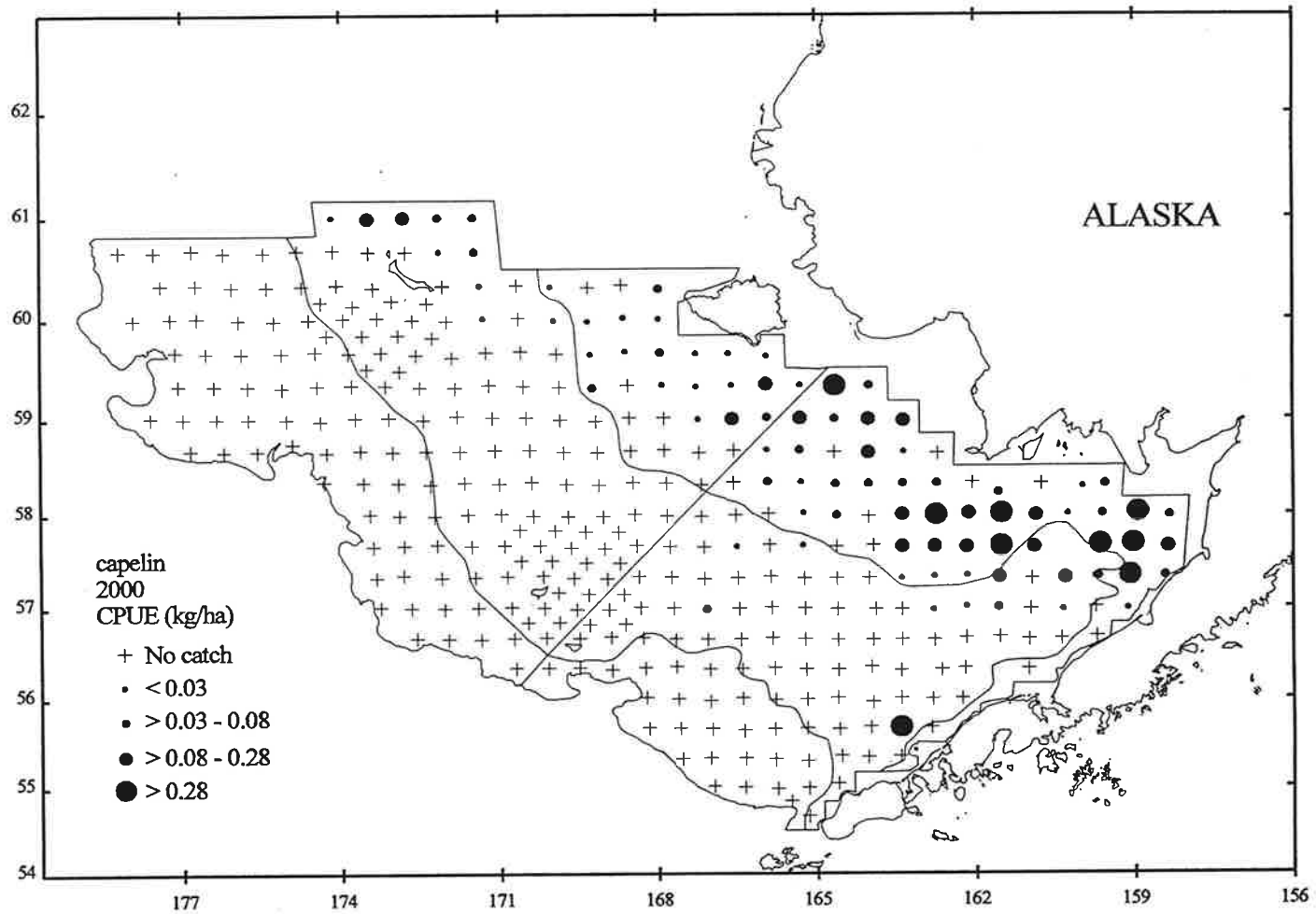


Figure 41.-- Distribution and relative abundance in kg/ha of capelin, 2000 eastern Bering Sea bottom trawl survey.

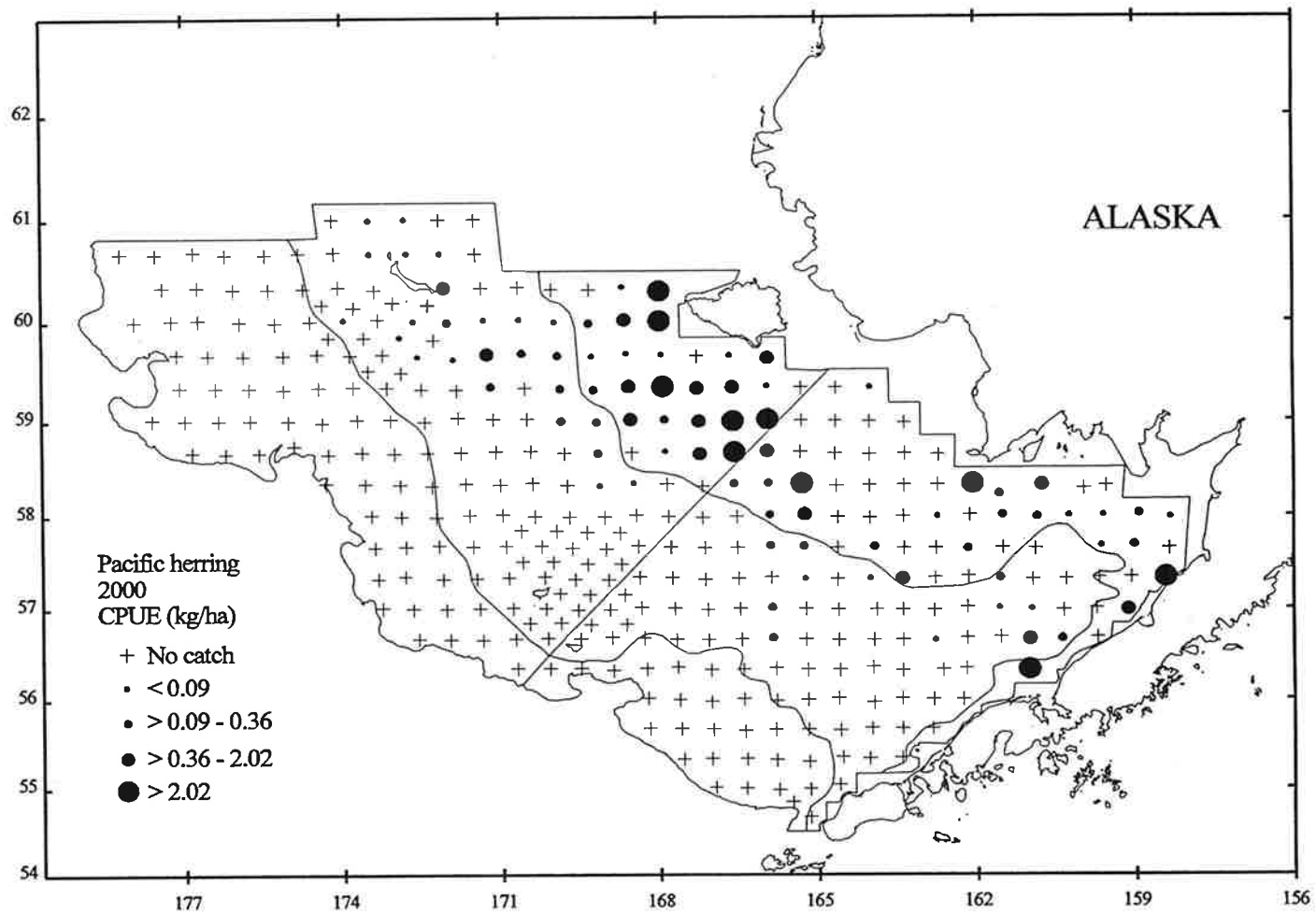


Figure 42.-- Distribution and relative abundance in kg/ha of Pacific herring, 2000 eastern Bering Sea bottom trawl survey.

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APPENDIX A

Station Data, 2000 Eastern Bering Sea Bottom Trawl Survey

Appendix A contains station data by vessel for the 352 successfully completed standard survey stations. In using the tables, the following should be noted:

1. Time represents the nearest hour at the start of the tow.
2. Haul numbers are not always sequential because special study and unsatisfactory hauls were omitted.
3. All longitudes are in Western Hemisphere, latitudes in Northern Hemisphere.

Geodetic positions are displayed as degrees and decimal minutes.

4. Width codes are as follows:

M = Net width was measured by mensuration gear.

F = Net width was estimated from a function of wire out or wire out and net height.

5. Hauls marked with an "*" were used for the FPC analysis.

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Appendix A Table 1.--Haul data for stations sampled by the F/V *Arcturus* during the 2000 eastern Bering Sea bottom trawl survey.

Haul	MM/DD/YY	Latitude	Longitude	Depth (m)	Time (hr.)	Duration (hr.)	Distance (km)	Strata	Surf. Temp.	Gear Temp.	Net Width (m)	Width Code	
*	5	05/24/00	58.025	158.921	41	06	0.51	2.83	10	3.1	3.2	16.7	M
*	6	05/24/00	57.690	159.011	44	08	0.49	2.78	10	3.0	2.1	16.9	M
*	7	05/24/00	57.349	159.068	46	11	0.50	2.81	10	2.4	1.9	16.2	M
*	8	05/24/00	56.988	159.121	30	13	0.51	2.77	10	4.0	2.8	15.4	M
*	10	05/25/00	56.668	160.372	59	08	0.50	2.78	31	3.8	1.1	16.7	M
*	11	05/25/00	56.982	160.346	59	11	0.51	2.82	31	3.4	1.1	16.3	M
*	12	05/25/00	57.325	160.297	59	13	0.51	2.78	31	2.8	1.1	16.3	M
*	14	05/26/00	58.318	159.543	22	06	0.52	2.93	10	4.8	4.2	14.6	M
*	19	05/27/00	58.229	161.554	37	06	0.50	2.77	10	2.6	2.3	16.5	M
*	20	05/27/00	58.009	161.498	52	08	0.50	2.76	10	2.4	1.5	16.5	M
*	21	05/27/00	57.662	161.501	50	11	0.49	2.75	10	2.0	1.1	16.5	M
*	22	05/27/00	57.334	161.540	53	13	0.52	2.80	31	3.5	0.9	16.9	M
*	23	05/27/00	57.005	161.561	66	16	0.49	2.73	31	3.0	0.9	17.1	M
*	24	05/28/00	56.690	161.541	87	06	0.27	1.38	31	3.1	1.5	16.7	M
*	28	05/29/00	55.677	163.981	94	06	0.52	2.94	31	5.1	2.5	17.4	M
*	29	05/29/00	55.964	163.934	87	09	0.50	2.83	31	5.6	1.9	17.1	M
*	30	05/29/00	56.016	164.602	89	12	0.52	2.69	31	5.8	2.1	18.6	M
*	31	05/29/00	55.657	164.582	93	15	0.50	2.64	31	5.9	2.9	18.5	M
*	32	05/29/00	55.351	164.535	97	17	0.34	1.88	31	5.8	3.2	17.9	M
*	33	05/31/00	54.672	165.157	80	06	0.49	2.78	31	5.2	4.5	16.3	M
*	34	05/31/00	54.986	165.159	107	08	0.54	3.00	50	4.9	4.1	17.5	M
*	35	05/31/00	55.301	165.172	106	11	0.49	2.74	50	4.9	4.0	18.1	M
*	36	05/31/00	55.665	165.183	104	13	0.50	2.84	31	6.6	3.0	18.2	M
*	37	05/31/00	55.997	165.184	92	16	0.50	2.77	31	6.6	2.3	17.8	M
*	38	06/01/00	56.327	162.639	77	06	0.35	1.97	31	5.4	2.2	18.0	M
*	39	06/01/00	56.652	162.772	69	08	0.53	2.72	31	4.8	1.4	18.0	M
*	40	06/01/00	56.979	162.786	57	11	0.50	2.76	31	3.7	0.8	17.5	M
*	42	06/01/00	57.340	162.768	43	15	0.50	2.79	10	3.5	1.1	16.5	M
*	43	06/01/00	57.656	162.757	37	17	0.51	2.84	10	2.5	1.8	16.4	M
*	44	06/02/00	57.994	162.730	37	06	0.52	2.99	10	2.8	---	15.7	M
*	45	06/02/00	58.326	162.718	26	08	0.51	2.72	10	2.8	---	15.6	M

Appendix A Table 1.–Continued.

Haul	MM/DD/YY	Latitude	Longitude	Depth (m)	Time (hr.)	Duration (hr.)	Distance (km)	Strata	Surf. Temp.	Gear Temp.	Net Width (m)	Width Code
* 46	06/02/00	58.639	162.708	24	11	0.52	2.61	10	3.4	2.9	15.5	M
* 51	06/03/00	59.335	163.997	21	10	0.35	1.74	10	4.3	3.9	15.9	M
* 52	06/10/00	55.331	167.555	145	06	0.51	2.85	50	5.4	3.6	18.6	M
* 53	06/10/00	55.335	167.016	136	09	0.48	2.66	50	5.4	3.5	18.3	M
* 54	06/10/00	55.010	166.952	153	12	0.49	2.68	50	5.7	3.9	18.6	M
* 55	06/10/00	54.999	166.368	141	14	0.51	2.91	50	5.9	3.7	18.8	F
* 56	06/11/00	55.334	166.352	129	06	0.49	2.71	50	5.8	3.6	18.7	M
* 57	06/11/00	55.647	166.378	123	08	0.52	2.87	50	5.8	3.5	18.8	M
* 58	06/11/00	55.667	166.982	131	11	0.50	2.81	50	5.6	3.5	19.2	M
* 59	06/11/00	55.974	167.019	132	14	0.47	2.56	50	5.9	3.4	19.2	M
* 60	06/11/00	56.006	166.402	121	16	0.52	2.82	50	6.3	3.5	18.4	M
* 61	06/12/00	56.359	163.964	84	06	0.50	2.72	31	6.2	1.9	18.2	M
* 62	06/12/00	56.655	163.928	72	09	0.51	2.71	31	6.3	1.6	17.1	M
* 63	06/12/00	56.990	163.880	65	12	0.50	2.83	31	4.9	1.4	17.1	M
* 64	06/12/00	57.328	163.996	59	15	0.50	2.68	31	3.3	1.5	17.0	M
* 65	06/13/00	57.670	163.919	49	06	0.50	2.76	10	3.2	2.6	15.5	M
* 66	06/13/00	57.977	164.009	45	08	0.51	2.76	10	3.1	2.6	15.8	M
* 67	06/13/00	58.321	164.009	39	11	0.51	2.85	10	3.3	2.7	15.9	M
* 68	06/13/00	58.646	164.010	32	13	0.51	2.82	10	3.6	3.0	15.4	M
* 69	06/13/00	58.990	164.009	26	16	0.50	2.91	10	4.9	3.9	15.1	M
* 71	06/14/00	59.335	165.305	19	08	0.51	2.84	20	4.7	4.2	15.0	M
* 72	06/14/00	59.000	165.302	26	11	0.51	2.87	10	3.9	3.3	15.0	M
* 73	06/14/00	58.673	165.313	37	13	0.49	2.86	10	4.4	2.6	15.4	M
* 74	06/14/00	58.339	165.285	43	15	0.51	2.77	10	5.2	2.4	16.2	M
* 75	06/14/00	58.015	165.241	48	18	0.51	2.80	10	4.7	2.6	16.0	M
* 76	06/15/00	57.671	165.251	59	06	0.51	2.82	31	5.1	1.1	16.7	M
* 77	06/15/00	57.326	165.229	65	09	0.51	2.82	31	5.7	1.3	17.5	M
* 78	06/15/00	56.996	165.223	68	11	0.50	2.80	31	6.5	1.7	17.3	M
* 79	06/15/00	56.665	165.219	73	13	0.51	2.80	31	7.4	1.9	17.7	M
* 80	06/15/00	56.332	165.201	84	16	0.50	2.74	31	8.2	1.9	17.8	M
* 81	06/16/00	56.332	166.415	101	06	0.48	2.74	31	6.8	3.4	17.8	M
* 82	06/16/00	56.665	166.436	82	08	0.50	2.76	31	6.7	2.1	17.8	M

Appendix A Table 1.—Continued.

Haul	MM/DD/YY	Latitude	Longitude	Depth (m)	Time (hr.)	Duration (hr.)	Distance (km)	Strata	Surf. Temp.	Gear Temp.	Net Width (m)	Width Code	
*	83	06/16/00	56.996	166.469	72	11	0.51	2.84	31	6.5	2.1	17.7	M
*	84	06/16/00	57.330	166.491	67	13	0.50	2.78	31	5.4	1.9	17.1	M
*	85	06/16/00	57.661	166.507	64	15	0.50	2.81	31	5.1	1.7	17.6	M
*	86	06/16/00	57.997	166.527	59	18	0.51	2.82	31	4.3	1.3	17.2	M
*	87	06/17/00	58.338	166.572	45	06	0.51	2.85	10	3.3	2.2	16.8	M
*	88	06/17/00	58.671	166.565	39	09	0.52	2.81	20	2.9	2.2	16.1	M
*	89	06/17/00	58.992	166.589	32	11	0.51	2.83	20	3.8	3.1	15.8	M
*	90	06/17/00	59.335	166.602	27	13	0.51	2.94	20	4.3	3.7	15.6	M
*	91	06/17/00	59.657	166.658	26	15	0.51	3.04	20	5.0	4.1	15.4	M
*	92	06/18/00	60.302	167.980	29	06	0.51	2.92	20	3.8	3.4	16.8	M
*	93	06/18/00	60.005	167.980	24	09	0.52	2.84	20	4.2	3.6	16.4	M
*	94	06/18/00	59.665	167.951	34	11	0.50	2.80	20	3.4	2.6	16.8	M
*	95	06/18/00	59.341	167.918	38	14	0.50	2.85	20	3.4	2.3	16.6	M
*	96	06/18/00	59.006	167.890	40	16	0.52	2.86	20	2.9	2.3	17.2	M
*	97	06/19/00	58.679	167.878	44	06	0.51	2.80	20	2.6	2.4	17.4	M
*	98	06/19/00	58.338	167.847	58	09	0.51	2.81	41	2.8	1.3	18.2	M
*	99	06/19/00	57.993	167.822	66	11	0.49	2.68	41	3.9	1.5	19.4	M
*	100	06/19/00	57.666	167.775	66	14	0.49	2.63	31	4.6	2.3	18.0	M
*	101	06/19/00	57.338	167.743	71	16	0.52	2.94	31	5.9	2.3	19.0	M
*	102	06/22/00	57.003	167.703	76	06	0.51	2.90	31	6.4	2.5	17.8	M
*	103	06/22/00	56.661	167.670	103	09	0.50	2.77	31	6.6	2.4	18.8	M
*	104	06/22/00	56.359	167.655	125	11	0.53	2.87	50	6.6	3.2	18.7	F
*	105	06/22/00	55.995	167.620	132	14	0.52	2.93	50	6.7	---	19.1	M
*	106	06/22/00	55.676	167.592	132	16	0.53	2.88	50	6.6	3.4	19.1	M
*	107	06/23/00	56.321	168.882	121	06	0.53	3.08	50	6.4	3.4	18.1	M
*	108	06/23/00	56.685	168.901	97	11	0.53	2.81	32	7.1	2.4	18.4	M
*	109	06/23/00	56.831	168.629	94	13	0.50	2.80	32	7.4	2.4	18.4	M
*	110	06/23/00	56.986	168.932	77	15	0.52	2.83	32	7.9	2.7	17.8	M
*	111	06/23/00	57.154	168.652	74	17	0.52	2.89	32	7.6	2.9	17.1	M
*	112	06/23/00	57.321	168.965	70	19	0.54	2.98	42	7.7	---	16.8	M
*	113	06/24/00	57.485	168.724	71	06	0.52	2.91	42	6.7	2.9	18.0	M
*	114	06/24/00	57.647	169.008	68	08	0.51	2.76	42	6.5	3.0	17.6	M

Appendix A Table 1.—Continued.

Haul	MM/DD/YY	Latitude	Longitude	Depth (m)	Time (hr.)	Duration (hr.)	Distance (km)	Strata	Surf. Temp.	Gear Temp.	Net Width (m)	Width Code	
*	115	06/24/00	57.820	168.750	70	10	0.51	2.84	42	6.2	2.6	17.6	M
*	116	06/24/00	57.987	169.036	69	12	0.51	2.76	42	6.4	2.6	17.7	M
*	117	06/24/00	58.316	169.115	66	14	0.49	2.69	41	5.9	---	19.7	M
*	118	06/24/00	58.654	169.145	60	17	0.52	2.76	41	5.8	---	17.8	M
*	119	06/25/00	58.975	169.169	53	06	0.51	2.79	41	5.4	2.0	17.3	M
*	120	06/25/00	59.311	169.235	48	09	0.51	2.72	20	4.7	2.0	17.3	M
*	121	06/25/00	59.649	169.271	46	11	0.51	2.90	20	4.9	1.9	17.4	M
*	122	06/25/00	59.982	169.321	44	13	0.51	2.89	20	6.4	2.0	16.8	M
*	123	06/25/00	60.318	169.322	42	16	0.52	2.83	20	5.8	1.9	17.1	M
*	124	06/26/00	60.339	170.670	60	06	0.49	2.77	41	5.3	0.5	18.5	M
*	125	06/26/00	60.015	170.631	62	08	0.52	2.83	41	6.2	0.6	18.1	M
*	126	06/26/00	59.684	170.592	64	11	0.51	2.72	41	6.9	---	17.9	M
*	127	06/26/00	59.334	170.536	65	13	0.49	2.74	41	8.4	1.9	17.6	M
*	128	06/26/00	59.013	170.484	69	16	0.49	2.68	41	8.8	1.8	17.5	M
*	129	06/27/00	58.680	170.421	71	06	0.52	2.95	41	8.7	1.8	18.0	M
*	130	06/27/00	58.350	170.391	72	08	0.51	2.81	41	8.8	2.1	19.5	M
*	131	06/27/00	58.332	171.001	81	11	0.51	2.84	41	9.6	2.0	18.2	M
*	132	06/27/00	58.016	170.972	84	13	0.51	2.82	42	9.8	2.7	17.8	M
*	133	06/27/00	57.998	170.359	72	16	0.52	2.87	42	9.8	2.4	17.1	M
*	134	06/28/00	57.841	169.947	70	06	0.51	2.91	42	9.1	3.0	18.0	M
*	135	06/28/00	57.680	170.240	70	08	0.52	2.92	42	8.9	2.8	16.7	M
*	136	06/28/00	57.512	170.012	66	10	0.51	2.82	42	9.3	3.1	16.8	M
*	137	06/28/00	57.352	170.183	53	12	0.52	2.93	42	8.7	4.2	16.6	M
*	138	06/28/00	57.168	169.889	48	14	0.35	1.88	42	9.4	4.6	15.9	M
*	139	06/28/00	57.004	170.158	68	16	0.50	2.73	42	8.8	3.5	18.6	M
*	140	06/29/00	56.848	169.875	70	06	0.50	2.77	42	8.5	3.6	17.4	M
*	141	06/29/00	56.679	170.127	95	08	0.53	2.88	42	8.3	---	18.9	M
*	142	06/29/00	56.344	170.081	106	11	0.54	2.96	50	8.3	3.5	19.0	M
*	143	07/04/00	59.031	171.789	83	07	0.48	2.73	41	7.5	1.1	18.5	M
*	144	07/04/00	59.318	171.828	78	09	0.51	2.79	43	7.7	0.9	18.7	M
*	145	07/04/00	59.623	171.891	75	11	0.53	2.87	43	7.5	0.3	18.4	M
*	146	07/04/00	59.823	172.269	73	15	0.53	2.94	43	7.5	0.0	17.8	M

Appendix A Table 1.—Continued.

Haul	MM/DD/YY	Latitude	Longitude	Depth (m)	Time (hr.)	Duration (hr.)	Distance (km)	Strata	Surf. Temp.	Gear Temp.	Net Width (m)	Width Code	
*	147	07/04/00	59.986	171.992	64	18	0.31	1.53	43	7.7	0.3	17.7	M
*	148	07/05/00	60.167	172.367	56	07	0.55	2.95	43	3.1	1.8	17.5	M
*	149	07/05/00	60.333	172.066	57	10	0.53	2.92	43	7.4	-0.1	16.5	M
	150	07/05/00	60.665	172.130	59	12	0.50	2.74	41	7.8	-1.2	18.8	M
	151	07/05/00	60.665	171.462	61	15	0.50	2.81	41	7.8	-1.0	17.9	M
	152	07/05/00	60.999	171.486	58	18	0.51	2.81	41	8.2	-1.3	19.1	M
	153	07/06/00	60.999	172.152	62	07	0.49	2.69	41	7.9	-1.1	19.3	M
	154	07/06/00	60.998	172.805	65	09	0.50	2.80	41	7.7	-0.6	19.7	M
*	162	07/08/00	60.687	176.798	125	07	0.52	2.97	61	8.4	1.3	18.6	M
*	163	07/08/00	60.345	176.724	134	10	0.51	2.80	61	8.9	0.8	18.5	M
*	164	07/08/00	60.019	176.717	138	13	0.51	2.73	61	8.9	0.4	18.2	M
*	165	07/08/00	59.668	176.532	132	16	0.51	2.91	61	9.1	0.6	18.4	M
*	166	07/08/00	59.339	176.388	133	19	0.53	2.90	61	9.3	1.1	19.1	M
*	167	07/09/00	58.999	176.328	131	07	0.51	2.77	61	9.1	2.0	19.3	M
*	168	07/09/00	59.001	175.736	130	10	0.50	2.78	61		1.9	18.8	M
*	169	07/09/00	59.331	175.752	133	12	0.50	2.87	61	9.4	1.8	18.8	M
*	170	07/09/00	59.665	175.862	133	15	0.51	2.76	61	9.6	1.7	18.3	M
*	171	07/09/00	59.997	175.929	126	17	0.52	2.98	61	9.7	1.4	18.0	M
*	172	07/10/00	60.321	176.039	119	07	0.50	2.87	61	9.2	1.3	19.2	M
*	173	07/10/00	60.662	176.195	115	10	0.49	2.74	61	8.8	1.2	18.5	M
*	180	07/12/00	60.678	174.825	94	10	0.49	2.73	41	8.2	1.2	19.4	M
*	181	07/12/00	60.336	174.724	99	13	0.50	2.74	62	7.7	1.4	18.8	M
*	182	07/12/00	60.175	174.370	97	15	0.48	2.60	43	7.8	1.6	19.0	M
*	183	07/12/00	60.005	174.597	105	17	0.50	2.72	62	9.0	1.9	19.1	M
*	184	07/12/00	59.845	174.251	104	19	0.50	2.74	62	8.2	1.9	19.3	M
*	185	07/13/00	59.681	174.466	112	07	0.50	2.90	62	8.7	1.9	19.0	M
*	186	07/13/00	59.342	174.446	118	10	0.50	2.77	62	8.9	2.2	19.0	M

Appendix A Table 2.--Haul data for stations sampled by the F/V *Aldebaran* during the 2000 eastern Bering Sea bottom trawl survey.

Haul	MM/DD/YY	Latitude	Longitude	Depth (m)	Time (hr.)	Duration (hr.)	Distance (km)	Strata	Surf. Temp.	Gear Temp.	Net Width (m)	Width Code
* 1	05/23/00	57.343	158.408	31	06	0.51	2.76	10	3.2	2.9	15.4	M
* 2	05/23/00	57.653	158.354	32	10	0.50	2.49	10	2.7	2.7	15.5	M
* 3	05/23/00	57.988	158.330	31	13	0.51	2.54	10	5.1	3.3	15.6	M
* 5	05/24/00	58.006	159.595	39	06	0.51	2.81	10	2.5	2.4	15.8	M
* 6	05/24/00	57.678	159.635	47	08	0.53	2.90	10	2.1	1.6	15.5	M
* 7	05/24/00	57.339	159.670	53	11	0.43	2.38	10	2.4	1.3	16.0	M
* 8	05/24/00	57.005	159.720	54	13	0.52	2.88	10	2.6	1.3	16.1	M
* 9	05/24/00	56.689	159.708	34	16	0.50	2.75	10	3.8	2.2	14.9	M
* 10	05/25/00	56.328	160.996	51	06	0.34	1.87	10	3.3	2.2	15.0	M
* 11	05/25/00	56.661	160.988	64	08	0.50	2.74	31	2.8	1.1	15.4	M
* 12	05/25/00	56.992	160.952	60	11	0.51	2.77	31	2.9	0.9	15.3	M
* 13	05/25/00	57.320	160.931	61	13	0.51	2.82	31	3.1	0.8	15.5	M
* 14	05/25/00	57.651	160.879	54	16	0.33	1.80	31	2.7	1.1	13.6	M
* 15	05/26/00	57.987	160.845	42	06	0.51	2.81	10	5.8	2.4	15.4	M
* 16	05/26/00	58.001	160.243	48	08	0.52	2.88	10	2.9	1.9	15.1	M
* 17	05/26/00	58.291	159.965	40	11	0.35	1.94	10		4.1	15.3	M
* 19	05/26/00	58.325	160.750	19	17	0.23	1.28	10	5.8	5.1	15.7	F
* 20	05/27/00	58.336	162.053	44	06	0.51	2.83	10	2.0	2.0	15.9	M
* 21	05/27/00	58.009	162.116	35	08	0.50	2.73	10	2.2	1.6	14.8	M
* 23	05/27/00	57.649	162.154	44	12	0.51	2.80	10	2.3	1.5	16.0	M
* 24	05/27/00	57.351	162.149	50	14	0.51	2.76	10	2.5	---	15.3	M
* 25	05/27/00	57.014	162.164	57	17	0.52	2.82	31	2.5	0.7	16.7	M
* 26	05/28/00	56.680	162.174	68	06	0.37	1.97	31	4.3	1.1	16.4	M
* 27	05/28/00	56.343	162.198	77	08	0.27	1.45	31	4.8	1.9	15.2	M
* 28	05/28/00	56.002	162.252	68	11	0.53	2.78	31	5.1	2.4	15.9	M
* 29	05/28/00	56.000	162.816	76	13	0.51	2.78	31	5.2	2.1	16.6	M
* 30	05/28/00	55.675	162.832	51	16	0.50	2.72	10	5.5	2.6	16.5	M
* 31	05/29/00	56.011	163.398	86	06	0.53	2.91	31	5.8	2.0	16.2	M
* 32	05/29/00	55.676	163.404	78	09	0.49	2.80	31	5.9	2.2	16.9	M
* 33	05/29/00	55.345	163.419	50	11	0.49	2.68	31	5.3	2.5	15.9	M
* 34	05/29/00	55.337	164.021	75	14	0.52	2.81	31	5.0	3.2	16.9	M

Appendix A Table 2.--Continued.

Haul	MM/DD/YY	Latitude	Longitude	Depth (m)	Time (hr.)	Duration (hr.)	Distance (km)	Strata	Surf. Temp.	Gear Temp.	Net Width (m)	Width Code
* 35	05/29/00	55.039	164.593	63	18	0.45	2.51	31	5.3	3.5	16.1	M
* 36	05/31/00	54.834	165.490	150	06	0.54	2.97	31	6.2	3.5	17.5	M
* 37	05/31/00	54.980	165.749	126	08	0.51	2.77	50	5.2	3.5	17.2	M
* 38	05/31/00	55.319	165.787	116	11	0.50	2.73	50	6.5	3.5	17.1	M
* 39	05/31/00	55.665	165.799	114	13	0.51	2.75	50	6.8	3.5	17.9	M
* 40	05/31/00	55.987	165.784	104	15	0.51	2.85	31	6.8	3.3	17.4	M
* 41	06/01/00	56.320	163.403	83	06	0.52	2.85	31		1.7	16.8	M
* 42	06/01/00	56.657	163.381	72	08	0.52	2.88	31	5.3	1.7	16.5	M
* 43	06/01/00	56.987	163.386	62	11	0.51	2.83	31	4.5	0.9	15.9	M
* 44	06/01/00	57.323	163.385	50	13	0.52	2.91	10	3.5	0.9	15.6	M
* 45	06/01/00	57.655	163.370	43	16	0.53	3.00	10	3.1	1.2	15.8	M
* 46	06/02/00	57.997	163.373	41	06	0.53	2.94	10	2.4	1.7	15.9	M
* 47	06/02/00	58.324	163.361	35	09	0.38	2.08	10	2.3	1.8	15.7	M
* 48	06/02/00	58.654	163.343	29	11	0.52	2.81	10	2.8	2.2	15.8	M
* 49	06/02/00	58.976	163.351	19	14	0.53	2.86	10	3.5	2.7	15.1	M
* 53	06/12/00	56.327	164.588	88	06	0.52	2.60	31	6.3	--	17.8	M
* 54	06/12/00	56.655	164.599	73	10	0.52	2.64	31	5.4	--	17.4	M
* 55	06/12/00	56.989	164.601	64	13	0.50	2.69	31	4.8	1.5	17.0	M
* 56	06/12/00	57.323	164.616	63	16	0.51	2.78	31	4.4	0.7	17.0	M
* 57	06/13/00	57.659	164.612	51	06	0.50	2.77	10	3.0	1.9	15.4	M
* 58	06/13/00	57.988	164.614	43	08	0.51	2.87	10	3.1	2.7	14.9	M
* 59	06/13/00	58.319	164.633	41	11	0.51	2.88	10	2.8	2.3	14.9	M
* 60	06/13/00	58.654	164.653	34	13	0.50	2.81	10	3.3	2.6	14.3	M
* 61	06/13/00	58.994	164.650	25	16	0.52	2.94	10	4.3	3.3	14.3	M
* 62	06/13/00	59.333	164.642	20	18	0.52	2.89	10	5.8	5.0	14.1	M
* 63	06/14/00	59.629	165.937	24	06	0.50	2.76	20	4.3	4.4	14.5	M
* 64	06/14/00	59.346	165.948	23	08	0.52	2.88	20	3.9	3.7	14.4	M
* 65	06/14/00	59.009	165.931	28	10	0.51	2.95	20	4.0	3.2	14.5	M
* 66	06/14/00	58.677	165.938	34	13	0.50	2.87	10		2.4	14.5	M
* 67	06/14/00	58.344	165.920	41	15	0.51	2.87	10	4.3	2.3	14.8	M
* 68	06/14/00	58.011	165.901	53	18	0.52	2.89	10	5.7	2.1	15.4	M
* 69	06/15/00	57.677	165.884	62	06	0.51	2.82	31	4.5	1.3	15.6	M

Appendix A Table 2.--Continued.

Haul	MM/DD/YY	Latitude	Longitude	Depth (m)	Time (hr.)	Duration (hr.)	Distance (km)	Strata	Surf. Temp.	Gear Temp.	Net Width (m)	Width Code
* 70	06/15/00	57.345	165.867	66	08	0.51	2.83	31	5.3	1.9	15.9	M
* 71	06/15/00	57.009	165.852	69	11	0.50	2.85	31	6.5	1.9	16.5	M
* 72	06/15/00	56.676	165.842	75	13	0.52	2.91	31	6.1	2.1	16.8	M
* 73	06/15/00	56.346	165.800	88	16	0.52	2.88	31	7.4	2.1	16.9	M
* 74	06/16/00	56.326	167.031	110	06	0.52	2.89	50	6.2	3.1	17.1	M
* 75	06/16/00	56.657	167.065	92	09	0.51	2.82	31	6.2	2.3	17.1	M
* 76	06/16/00	56.988	167.082	71	11	0.51	2.84	31	6.2	2.6	15.6	M
* 77	06/16/00	57.321	167.120	67	13	0.50	2.81	31		1.9	15.9	M
* 78	06/16/00	57.657	167.136	65	16	0.50	2.83	31	4.6	1.3	16.4	F
* 79	06/17/00	57.984	167.176	61	06	0.52	2.85	31	3.9	1.1	16.6	M
* 80	06/17/00	58.319	167.176	50	08	0.50	2.85	20	3.4	1.7	15.5	M
* 81	06/17/00	58.650	167.221	42	11	0.51	2.84	20	2.8	2.2	15.4	M
* 82	06/17/00	58.990	167.240	37	14	0.52	2.89	20	3.1	2.4	15.3	M
* 83	06/17/00	59.323	167.273	30	16	0.51	2.91	20	4.0	3.0	14.6	M
* 84	06/17/00	59.655	167.278	29	18	0.52	2.84	20	5.1	3.7	14.6	M
* 85	06/18/00	60.346	168.687	34	06	0.51	2.84	20	3.6	2.8	15.5	M
* 86	06/18/00	60.017	168.649	36	08	0.52	2.90	20	2.8	2.3	16.0	M
* 87	06/18/00	59.678	168.614	37	11	0.52	2.91	20	3.0	2.4	15.9	M
* 88	06/18/00	59.343	168.567	40	13	0.52	2.87	20	3.4	2.2	16.0	M
* 89	06/18/00	59.009	168.534	44	15	0.51	2.85	20	3.6	1.9	15.6	M
* 90	06/19/00	58.670	168.512	51	07	0.50	2.71	20	3.1	1.6	16.2	M
* 91	06/19/00	58.346	168.475	63	10	0.51	2.87	41	3.5	1.5	16.9	M
* 92	06/19/00	58.012	168.439	66	12	0.42	2.36	42	4.3	2.0	16.6	M
* 93	06/19/00	57.681	168.402	67	15	0.51	2.82	42	5.2	2.6	16.2	M
* 94	06/19/00	57.347	168.369	70	17	0.42	2.27	32	5.8	2.6	16.3	M
* 95	06/22/00	57.013	168.331	78	06	0.45	2.52	32	6.1	2.5	16.5	M
* 96	06/22/00	56.679	168.288	104	09	0.50	2.68	50	6.2	2.8	17.9	M
* 97	06/22/00	56.341	168.248	149	12	0.50	2.72	50	6.9	3.3	17.3	M
* 98	06/22/00	56.014	168.219	146	15	0.52	2.78	50	6.5	3.5	17.1	M
* 99	06/22/00	55.677	168.187	131	17	0.50	2.75	50	6.7	3.7	17.5	M
* 100	06/23/00	56.343	169.492	138	06	0.48	2.66	32	6.2	3.4	17.3	M
* 101	06/23/00	56.671	169.498	77	09	0.51	2.82	32	5.2	3.9	15.7	M

Appendix A Table 2.--Continued.

Haul	MM/DD/YY	Latitude	Longitude	Depth (m)	Time (hr.)	Duration (hr.)	Distance (km)	Strata	Surf. Temp.	Gear Temp.	Net Width (m)	Width Code
* 102	06/23/00	56.822	169.299	77	11	0.51	2.81	32	6.0	3.2	16.6	M
* 103	06/23/00	56.985	169.549	57	13	0.51	2.82	42	7.0	3.0	15.6	M
* 104	06/23/00	57.156	169.317	69	16	0.53	2.82	42	7.1	2.6	16.0	M
* 105	06/23/00	57.325	169.600	61	18	0.51	2.82	42	6.6	---	15.9	M
* 106	06/24/00	57.489	169.366	70	06	0.53	2.85	42	6.5	---	16.5	M
* 107	06/24/00	57.656	169.651	68	08	0.50	2.76	42	6.4	---	16.2	M
* 108	06/24/00	57.825	169.369	64	10	0.51	2.82	42		---	16.3	M
* 109	06/24/00	57.990	169.700	68	12	0.50	2.82	42	6.6	---	16.3	M
* 110	06/24/00	58.326	169.734	68	14	0.50	2.76	41	6.5	---	16.5	M
* 111	06/24/00	58.656	169.783	64	17	0.50	2.72	41	6.5	1.8	16.6	M
* 112	06/25/00	58.989	169.843	61	06	0.51	2.78	41	5.8	1.4	16.5	M
* 113	06/25/00	59.324	169.866	59	08	0.50	2.82	41	4.8	---	16.5	M
* 114	06/25/00	59.658	169.915	54	11	0.52	2.89	41	5.4	1.2	16.7	M
* 115	06/25/00	59.990	169.964	52	14	0.50	2.74	41	6.3	1.0	16.1	M
* 116	06/25/00	60.324	170.032	50	17	0.50	2.75	20	5.9	0.6	16.2	M
* 117	06/26/00	60.336	171.362	64	06	0.51	2.89	41	5.4	-0.4	17.0	M
* 118	06/26/00	60.011	171.304	66	08	0.51	2.81	41	6.4	-0.5	16.9	M
* 119	06/26/00	59.676	171.252	69	11	0.50	2.72	41	7.1	0.1	16.4	M
* 120	06/26/00	59.346	171.184	72	14	0.51	2.81	41	8.2	1.2	16.4	M
* 121	06/26/00	59.013	171.130	77	17	0.51	2.85	41	8.7	---	16.7	M
* 122	06/26/00	58.678	171.083	82	19	0.51	2.81	41	9.8	---	16.4	M
* 123	06/28/00	57.847	170.617	75	06	0.51	2.83	42	8.7	2.4	16.9	F
* 124	06/28/00	57.679	170.906	82	08	0.50	2.81	42	9.2	2.9	16.9	F
* 125	06/28/00	57.512	170.588	71	10	0.52	2.87	42	9.0	3.1	16.9	F
* 126	06/28/00	57.345	170.852	80	12	0.50	2.78	42	8.8	3.1	16.0	M
* 127	06/28/00	57.009	170.776	92	17	0.51	2.84	42	9.2	3.1	17.0	M
* 128	06/29/00	56.843	170.469	98	06	0.50	2.75	42	8.0	3.0	17.9	M
* 129	06/29/00	56.671	170.735	109	09	0.26	1.44	61	8.1	3.7	17.9	M
* 130	06/29/00	56.345	170.698	117	12	0.49	2.62	32	7.5	3.5	17.2	M
* 131	07/04/00	58.991	172.435	95	07	0.50	2.83	41	8.1	1.9	17.3	M
* 132	07/04/00	59.324	172.498	85	09	0.52	2.86	43	7.9	1.5	17.0	M
* 133	07/04/00	59.490	172.883	91	11	0.51	2.80	43	7.8	1.3	16.7	M

Appendix A Table 2.--Continued.

Haul	MM/DD/YY	Latitude	Longitude	Depth (m)	Time (hr.)	Duration (hr.)	Distance (km)	Strata	Surf. Temp.	Gear Temp.	Net Width (m)	Width Code
* 134	07/04/00	59.652	172.568	81	14	0.51	2.81	43	7.7	0.6	18.1	M
* 135	07/04/00	59.848	172.908	76	16	0.48	2.68	43	8.4	0.0	16.7	M
* 136	07/05/00	60.000	172.634	64	06	0.37	2.03	43	7.9	0.3	16.4	M
* 137	07/05/00	60.190	173.034	57	09	0.52	2.86	43	6.8	1.1	16.0	M
138	07/05/00	60.312	173.382	60	11	0.50	2.76	43	7.7	0.6	16.0	M
139	07/05/00	60.665	173.456	62	14	0.49	2.75	41	8.6	0.8	15.8	M
140	07/05/00	60.667	172.758	41	17	0.51	2.88	41	4.5	2.0	16.1	M
141	07/06/00	60.989	173.475	72	06	0.51	2.83	41	7.4	-1.2	18.7	M
* 142	07/06/00	61.000	174.160	80	09	0.51	2.81	41	7.9	-0.4	17.9	M
* 150	07/08/00	60.671	178.183	156	06	0.52	2.87	61	7.8	1.3	17.8	M
* 151	07/08/00	60.665	177.515	143	09	0.51	2.83	61	8.1	0.2	17.4	M
* 152	07/08/00	60.342	177.384	144	12	0.52	2.83	61	8.1	0.8	17.1	M
* 153	07/08/00	60.012	177.216	133	14	0.49	2.72	61	8.7	0.3	17.1	M
* 154	07/08/00	60.001	177.917	138	17	0.47	2.65	61	7.7	0.5	17.0	M
* 155	07/09/00	59.679	177.130	165	06	0.51	2.82	61	9.1	1.3	17.8	M
* 156	07/09/00	59.342	177.071	146	09	0.51	2.83	61	9.1	2.2	17.9	M
* 157	07/09/00	59.011	177.590	131	12	0.50	2.68	61	8.6	1.9	17.9	M
* 158	07/09/00	59.002	176.972	133	15	0.50	2.80	61	9.5	1.9	18.2	M
159	07/09/00	58.677	176.837	132	17	0.51	2.80	61	9.3	2.5	17.9	M
160	07/10/00	58.664	176.207	136	07	0.51	2.64	61	8.7	2.5	17.8	M
161	07/10/00	58.665	175.574	131	10	0.50	2.60	61	7.8	2.4	17.9	M
162	07/10/00	58.740	174.905	145	13	0.52	2.89	61	8.9	---	17.9	M
* 163	07/10/00	58.993	175.018	126	15	0.52	2.91	61	8.8	2.4	18.2	M
* 164	07/10/00	59.318	175.109	130	17	0.51	2.70	61	8.8	1.9	18.1	M
* 165	07/11/00	59.666	175.114	122	06	0.52	2.82	61	8.8	1.6	18.9	M
* 166	07/11/00	59.985	175.263	114	09	0.34	1.97	61	8.9	1.6	18.1	M
* 167	07/11/00	60.325	175.381	108	13	0.28	1.55	61	8.7	1.4	18.1	M
* 168	07/11/00	60.660	175.447	104	16	0.52	2.89	61	8.2	0.6	18.1	M
* 169	07/12/00	60.681	174.135	84	06	0.32	1.67	41	7.9	0.4	18.0	M
* 170	07/12/00	60.345	174.065	87	09	0.52	2.86	43	7.7	1.1	17.9	M
* 171	07/12/00	60.139	173.766	84	11	0.50	2.72	43	7.4	1.0	17.2	M
* 172	07/12/00	60.020	173.306	71	14	0.42	2.31	43	7.0	0.3	16.6	M

Appendix A Table 2.--Continued.

Haul	MM/DD/YY	Latitude	Longitude	Depth (m)	Time (hr.)	Duration (hr.)	Distance (km)	Strata	Surf. Temp.	Gear Temp.	Net Width (m)	Width Code
* 173	07/12/00	60.014	173.953	94	16	0.51	2.84	43	7.0	1.3	17.6	M
* 174	07/12/00	59.846	173.582	92	18	0.51	2.83	43	7.9	1.2	17.7	M
* 175	07/13/00	59.677	173.233	92	06	0.50	2.75	43	8.3	1.4	17.3	M
* 176	07/13/00	59.667	173.845	101	09	0.48	2.75	62	8.7	1.9	17.3	M
* 177	07/13/00	59.510	173.503	99	11	0.49	2.63	43	8.4	1.9	17.5	M
* 178	07/13/00	59.347	173.798	106	13	0.53	2.84	62	9.2	2.1	17.8	M
179	07/13/00	59.342	173.156	97	16	0.33	1.77	43	9.2	2.0	17.1	M
180	07/13/00	59.012	173.085	104	18	0.51	2.80	61	9.0	2.2	17.4	M
181	07/14/00	58.664	173.017	109	06	0.53	2.85	61	8.6	4.0	17.4	M
182	07/14/00	58.669	172.386	98	09	0.45	2.46	61	8.6	2.4	17.5	M
183	07/14/00	58.668	171.740	90	11	0.35	1.85	41	9.2	2.1	17.4	M
184	07/14/00	58.347	171.652	92	14	0.49	2.72	41	9.3	2.5	17.4	M
185	07/14/00	58.012	171.599	95	17	0.51	2.79	41	9.3	2.8	17.2	M
186	07/14/00	57.676	171.531	96	19	0.50	2.80	41	8.8	3.1	17.6	M
187	07/16/00	57.336	171.459	99	07	0.51	2.78	41	9.5	3.3	19.1	M
188	07/16/00	57.005	171.410	106	09	0.52	2.92	61	9.5	3.5	18.3	M
190	07/16/00	56.660	171.352	265	13	0.53	2.69	61	9.2	--	18.0	M
191	07/16/00	56.663	171.965	122	16	0.49	2.68	61	9.0	3.9	17.7	M
192	07/16/00	56.993	172.037	114	19	0.49	2.60	61	8.9	3.7	17.4	M
193	07/17/00	57.329	172.104	106	07	0.53	3.00	61	9.3	3.2	19.1	M
195	07/17/00	57.688	172.183	110	11	0.32	1.71	61	9.2	3.1	18.6	M
196	07/17/00	57.986	172.227	112	13	0.26	1.41	61	9.3	--	18.6	M
197	07/17/00	58.321	172.298	104	16	0.25	1.34	61		--	18.3	M
199	07/17/00	58.335	172.905	118	20	0.53	2.94	61	9.5	2.8	17.5	F
200	07/18/00	58.351	174.317	171	07	0.51	2.84	61	9.0	2.9	18.0	F
201	07/18/00	58.655	174.269	153	09	0.51	2.76	61	9.0	3.1	17.9	F
202	07/18/00	58.975	174.369	124	12	0.52	2.88	61	9.5	2.5	17.7	F
203	07/18/00	59.010	173.716	114	15	0.52	2.81	61	9.7	2.5	17.5	F
204	07/18/00	58.678	173.631	123	18	0.27	1.40	61	9.0	2.9	17.7	F
205	07/19/00	58.343	173.570	113	07	0.51	2.78	61	9.1	2.9	17.5	F
206	07/19/00	58.009	173.452	114	09	0.50	2.79	61	9.3	3.0	17.5	F
207	07/19/00	57.999	172.889	107	12	0.51	2.84	61	9.6	2.8	17.5	F

Appendix A Table 2.--Continued.

Haul	MM/DD/YY	Latitude	Longitude	Depth (m)	Time (hr.)	Duration (hr.)	Distance (km)	Strata	Surf. Temp.	Gear Temp.	Net Width (m)	Width Code
208	07/19/00	57.677	172.802	116	14	0.26	1.36	61	9.6	3.0	17.5	F
209	07/19/00	57.667	173.388	143	17	0.52	2.95	61	9.4	3.3	17.9	F
210	07/20/00	57.358	172.816	114	07	0.50	2.76	61	9.0	3.2	17.5	F
211	07/20/00	57.329	173.333	119	09	0.50	2.79	61	9.0	3.3	17.5	F
212	07/20/00	57.011	173.252	138	12	0.51	2.79	61	9.2	3.3	17.7	F
213	07/20/00	56.998	172.667	119	14	0.52	2.88	61	9.3	3.6	17.5	F
214	07/20/00	56.675	172.569	133	17	0.52	2.83	61	9.3	3.8	17.7	F

APPENDIX B

List of Species Encountered

Appendix B contains a listing of all fish and invertebrate species taken during the 2000 eastern Bering Sea bottom trawl survey.

List of Tables

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Appendix B Table 1.--Fish species encountered during the 2000 eastern Bering Sea bottom trawl survey.

Family	Scientific name	Common name
Petromyzontidae	<i>Lampetra tridentata</i>	Pacific lamprey
Squalidae	<i>Somniosus pacificus</i>	Pacific sleeper shark
Rajidae	Rajidae unident.	skate unident.
	<i>Raja binoculata</i>	big skate
	<i>Bathyraja interrupta</i>	Bering skate
	<i>Bathyraja taranetzi</i>	mud skate
	<i>Bathyraja parmifera</i>	Alaska skate
	<i>Bathyraja aleutica</i>	Aleutian skate
Pleuronectidae	<i>Atheresthes stomias</i>	arrowtooth flounder
	<i>Atheresthes evermanni</i>	Kamchatka flounder
	<i>Reinhardtius hippoglossoides</i>	Greenland turbot
	<i>Hippoglossus stenolepis</i>	Pacific halibut
	<i>Hippoglossoides elassodon</i>	flathead sole
	<i>Hippoglossoides robustus</i>	Bering flounder
	<i>Microstomus pacificus</i>	Dover sole
	<i>Glyptocephalus zachirus</i>	rex sole
	<i>Limanda aspera</i>	yellowfin sole
	<i>Limanda proboscidea</i>	longhead dab
	<i>Limanda sakhalinensis</i>	Sakhalin sole
	<i>Platichthys stellatus</i>	starry flounder
	<i>Lepidopsetta polyxystra</i>	northern rock sole
	<i>Lepidopsetta bilineata</i>	southern rock sole
	<i>Isopsetta isolepis</i>	butter sole
	<i>Pleuronectes quadrituberculatus</i>	Alaska plaice
Agonidae	Agonidae	poacher unident.
	<i>Pallasina barbata</i>	tubenose poacher
	<i>Sarritor leptorhynchus</i>	longnose poacher

Appendix B Table 1.--Continued.

Family	Scientific name	Common name
	<i>Sarritor frenatus</i>	sawback poacher
	<i>Bathyagonus</i> sp.	starsnout poacher unident.
	<i>Bathyagonus nigripinnis</i>	blackfin poacher
	<i>Podothecus acipenserinus</i>	sturgeon poacher
	<i>Aspidophoroides bartoni</i>	Aleutian alligatorfish
	<i>Aspidophoroides olriki</i>	Arctic alligatorfish
	<i>Occella dodecaedron</i>	Bering poacher
Ammodytidae	<i>Ammodytes hexapterus</i>	Pacific sand lance
Anarhichadidae	<i>Anarrhichthys ocellatus</i>	wolf-eel
	<i>Anarhichas orientalis</i>	Bering wolffish
Bathymasteridae	<i>Bathymaster signatus</i>	searcher
Clupeidae	<i>Clupea pallasii</i>	Pacific herring
Cottidae	<i>Gymnocanthus</i> sp.	
	<i>Gymnocanthus pistilliger</i>	threaded sculpin
	<i>Gymnocanthus galeatus</i>	armorhead sculpin
	<i>Artediellus</i> sp.	
	<i>Artediellus miacanthus</i>	bride sculpin
	<i>Artediellus pacificus</i>	Pacific hookear sculpin
	<i>Malacocottus zonurus</i>	darkfin sculpin
	<i>Hemilepidotus hemilepidotus</i>	red Irish lord
	<i>Hemilepidotus jordani</i>	yellow Irish lord
	<i>Hemilepidotus papilio</i>	butterfly sculpin
	<i>Triglops forficata</i>	scissortail sculpin
	<i>Triglops scepticus</i>	spectacled sculpin
	<i>Triglops pingeli</i>	ribbed sculpin
	<i>Triglops macellus</i>	roughspine sculpin
	<i>Myoxocephalus verrucosus</i>	warty sculpin
	<i>Myoxocephalus polyacanthocephalus</i>	great sculpin
	<i>Myoxocephalus jaok</i>	plain sculpin

Appendix B Table 1.--Continued.

Family	Scientific name	Common name
	<i>Dasycottus setiger</i>	spinyhead sculpin
	<i>Blepsias bilobus</i>	crested sculpin
	<i>Nautichthys pribilovius</i>	eyeshade sculpin
	<i>Hemitripterus bolini</i>	bigmouth sculpin
	<i>Icelus spiniger</i>	thorny sculpin
	<i>Icelus spatula</i>	spatulate sculpin
	<i>Icelus</i> sp.	
Trichodontidae	<i>Trichodon trichodon</i>	Pacific sandfish
Gadidae	<i>Gadus macrocephalus</i>	Pacific cod
	<i>Boreogadus saida</i>	Arctic cod
	<i>Theragra chalcogramma</i>	walleye pollock
Hexagrammidae	<i>Pleurogrammus monopterygius</i>	Atka mackerel
	<i>Hexagrammos stelleri</i>	whitespotted greenling
Cyclopteridae	<i>Aptocyclus ventricosus</i>	smooth lumpsucker
	<i>Eumicrotremus orbis</i>	Pacific spiny lumpsucker
	<i>Eumicrotremus</i> sp.	spiny lumpsuckers
	<i>Liparis</i> sp.	
	<i>Liparis gibbus</i>	dusky snailfish
	<i>Crystallichthys cyclospilus</i>	blotched snailfish
	<i>Careproctus</i> sp.	
	<i>Careproctus rastrinus</i>	salmon snailfish
Osmeridae	Osmeridae	smelt unident.
	<i>Thaleichthys pacificus</i>	eulachon
	<i>Mallotus villosus</i>	capelin
	<i>Osmerus mordax</i>	rainbow smelt
Salmonidae	<i>Oncorhynchus keta</i>	chum salmon
	<i>Oncorhynchus nerka</i>	sockeye salmon
Stichaeidae	<i>Lumpenus maculatus</i>	daubed shanny
	<i>Poroclinus rothrocki</i>	whitebarred prickleback

Appendix B Table 1.--Continued.

Family	Scientific name	Common name
Zoarcidae	<i>Lycodes ravidens</i>	marbled eelpout
	<i>Lycodes palearis</i>	wattled eelpout
	<i>Lycodes turneri</i>	polar eelpout
	<i>Lycodes brevipes</i>	shortfin eelpout
Scorpaenidae	<i>Sebastes aleutianus</i>	roughey rockfish
	<i>Sebastes alutus</i>	Pacific ocean perch
	<i>Sebastes polyspinis</i>	northern rockfish

Appendix B Table 2.--Invertebrate species encountered during the 2000 eastern Bering Sea bottom trawl survey.

Phylum	Species name	Common name
Cnidaria	Scyphozoa (class)	jellyfish unident.
	<i>Chrysaora</i> sp.	chrysaora jellyfish
	<i>Gersemia</i> sp.	sea raspberry
	Gorgonacea (order)	gorgonian coral unident.
	Pennatulacea (order)	sea pen or sea whip unident.
	Actiniaria (order)	sea anemone unident.
	<i>Metridium</i> sp.	
	<i>Metridium senile</i>	clonal plumose anemone
	<i>Stomphia coccinea</i>	swimming anemone
	Urtinca	mottled anemone
	<i>Liponema brevicorne</i>	tentacle-shedding anemone
Annelida	Polychaeta (class)	polychaete worm unident.
	Aphroditidae	sea mouse unident.
	<i>Aphrodita negligens</i>	
	Nereidae	
	Polynoidae	scale worm unident.
	<i>Eunoe nodosa</i>	giant scale worm
	<i>Eunoe depressa</i>	depressed scale worm
	<i>Carcinobdella cyclostomum</i>	striped sea leech
Arthropoda	Isopoda (order)	isopod unident.
	Thoracica (order)	barnacle unident.
	<i>Balanus rostratus</i>	beaked barnacle
	<i>Pandalus</i> sp.	
	<i>Pandalus borealis</i>	northern shrimp
	<i>Pandalus tridens</i>	yellowleg pandalid
	<i>Pandalus goniurus</i>	humpy shrimp
	Hippolytidae	hippolytid shrimp unident.

Appendix B Table 2.--Continued.

Phylum	Species name	Common name
	<i>Eualus</i> sp.	
	<i>Lebbeus groenlandicus</i>	
	<i>Crangon</i> sp.	
	<i>Crangon dalli</i>	ridged crangon
	<i>Argis</i> sp.	
	<i>Cancer oregonensis</i>	Oregon rock crab
	<i>Oregonia gracilis</i>	graceful decorator crab
	<i>Chionoecetes bairdi</i>	Tanner crab
	<i>Hyas coarctatus</i>	circumboreal toad crab
	<i>Hyas lyratus</i>	Pacific lyre crab
	<i>Chionoecetes opilio</i>	snow crab
	<i>Chionoecetes hybrid</i>	tanner crab
	<i>Telmessus cheiragonus</i>	helmet crab
	Paguridae	hermit crab unident.
	<i>Pagurus</i> sp.	
	<i>Pagurus aleuticus</i>	Aleutian hermit
	<i>Labidochirus splendescens</i>	splendid hermit
	<i>Pagurus confragosus</i>	knobbyhand hermit
	<i>Pagurus ochotensis</i>	Alaskan hermit
	<i>Elassochirus tenuimanus</i>	widehand hermit crab
	<i>Pagurus capillatus</i>	hairy hermit crab
	<i>Elassochirus cavimanus</i>	purple hermit
	<i>Paralithodes camtschaticus</i>	red king crab
	<i>Paralithodes platypus</i>	blue king crab
	<i>Erimacrus isenbeckii</i>	horsehair crab
	<i>Hyas</i> sp.	
Mollusca	<i>Nudibranchia unident.</i>	nudibranch unident.
	<i>Tochuina tetraquetra</i>	giant orange tochui

Appendix B Table 2.--Continued.

Phylum	Species name	Common name
	<i>Tritonia</i> sp.	
	<i>Tritonia diomedea</i>	rosy tritonia
	Gastropod unident.	snail unident.
	<i>Natica</i> sp.	
	<i>Natica clausa</i>	Arctic moonsnail
	<i>Natica aleutica</i>	Aleutian moonsnail
	<i>Polinices</i> sp.	
	<i>Polinices pallidus</i>	pale moonsnail
	<i>Crepidula</i> sp.	slipper shell
	<i>Crepidula grandis</i>	great slippersnail
	<i>Colus</i> sp.	
	<i>Colus herendeenii</i>	thin-ribbed whelk
	<i>Colus halli</i>	shrew whelk
	<i>Volutopsius</i> sp.	
	<i>Pyrulofusus deformis</i>	warped whelk
	<i>Volutopsius fragilis</i>	fragile whelk
	<i>Volutopsius filusus</i>	threaded whelk
	<i>Pyrulofusus melonis</i>	
	<i>Beringius</i> sp.	
	<i>Beringius beringii</i>	
	<i>Neptunea amianta</i>	
	<i>Neptunea pribiloffensis</i>	Pribilof whelk
	<i>Neptunea borealis</i>	
	<i>Neptunea lyrata</i>	lyre whelk
	<i>Neptunea ventricosa</i>	fat whelk
	<i>Neptunea heros</i>	
	<i>Neptunea magna</i>	helmet whelk
	<i>Plicifusus</i> sp.	

Appendix B Table 2.--Continued.

Phylum	Species name	Common name
	<i>Ancistrolepis</i> sp.	
	<i>Aforia circinata</i>	keeled aforia
	<i>Boreotrophon</i> sp.	
	<i>Fusitriton oregonensis</i>	Oregon triton
	<i>Buccinum</i> sp.	
	<i>Buccinum plectrum</i>	sinuous whelk
	<i>Buccinum scalariforme</i>	ladder whelk
	<i>Arctomelon stearnsii</i>	Alaska volute
	<i>Velutina velutina</i>	smooth lamellaria
	Bivalvia unident.	bivalve unident.
	Mytilidae	mussel unident.
	<i>Modiolus modiolus</i>	northern horse mussel
	<i>Mytilus</i> sp.	
	Pectinid unident.	scallop unident.
	<i>Chlamys</i> sp.	
	<i>Patinopecten caurinus</i>	weathervane scallop
	<i>Hiatella</i> sp.	
	<i>Hiatella arctica</i>	Arctic hiatella
	<i>Yoldia</i> sp.	
	<i>Yoldia scissurata</i>	crisscrossed yoldia
	<i>Nuculana fossa</i>	trenched nutclam
	<i>Musculus discors</i>	discordant mussel
	<i>Astarte</i> sp.	
	<i>Cyclocardia crebricostata</i>	many-rib cyclocardia
	<i>Cyclocardia</i> sp.	
	<i>Clinocardium</i> sp.	
	<i>Clinocardium ciliatum</i>	hairy cockle
	<i>Mactromeris</i> sp.	

Appendix B Table 2.--Continued.

Phylum	Species name	Common name
	<i>Mactromeris polynyma</i>	Arctic surfclam
	<i>Tellina</i> sp.	
	<i>Tellina lutea</i>	Alaska great-tellin
	<i>Macoma</i> sp.	
	<i>Macoma nasuta</i>	bent-nose macoma
	<i>Siliqua alta</i>	Alaska razor
	<i>Serripes</i> sp.	
	<i>Serripes groenlandicus</i>	Greenland cockle
	<i>Serripes laperousii</i>	broad cockle
	<i>Mya</i> sp.	
	<i>Pododesmus macroschisma</i>	Alaska falsejingle
	<i>Octopus dofleini</i>	giant octopus
	<i>Rossia pacifica</i>	eastern Pacific bobtail
	<i>Berryteuthis magister</i>	magistrate armhook squid
Echinodermata	Asteroidea unident.	starfish unident.
	<i>Evasterias troschelii</i>	
	<i>Evasterias echinosoma</i>	
	<i>Leptasterias groenlandica</i>	
	<i>Lethasterias nanimensis</i>	
	<i>Henricia</i> sp.	
	<i>Henricia tumida</i>	
	<i>Leptasterias polaris</i>	
	<i>Leptasterias arctica</i>	
	<i>Leptasterias</i> sp.	
	<i>Pseudarchaster</i> sp.	
	<i>Pseudarchaster parelii</i>	
	<i>Ceramaster</i> sp.	
	<i>Ceramaster japonicus</i>	red bat star

Appendix B Table 2.--Continued.

Phylum	Species name	Common name
	<i>Ceramaster patagonicus</i>	orange bat star
	<i>Solaster</i> sp.	
	<i>Solaster dawsoni</i>	
	<i>Crossaster</i> sp.	
	<i>Crossaster papposus</i>	rose sea star
	<i>Pteraster</i> sp.	
	<i>Pteraster tessellatus</i>	
	<i>Pteraster obscurus</i>	
	<i>Diplopteraster multipes</i>	
	<i>Asterias amurensis</i>	purple-orange seastar
	<i>Ctenodiscus crispatus</i>	common mud star
	<i>Dipsacaster borealis</i>	
	<i>Luidiaster dawsoni</i>	
	<i>Echinacea unident.</i>	sea urchin unident.
	<i>Strongylocentrotus droebachiensis</i>	green sea urchin
	<i>Strongylocentrotus</i> sp.	
	<i>Strongylocentrotus pallidus</i>	white sea urchin
	<i>Alloccentrotus fragilis</i>	orange-pink sea urchin
	<i>Echinarachnius parma</i>	Parma sand dollar
	Ophiuroid unident.	brittlestarfish unident.
	<i>Gorgonocephalus eucnemis</i>	basketstarfish
	<i>Ophiura</i> sp.	
	<i>Ophiura sarsi</i>	
	<i>Ophiopholis aculeata</i>	
	Holothuroidea unident.	sea cucumber unident.
	<i>Pentamera lissoplaca</i>	
	<i>Cucumaria fallax</i>	
	<i>Psolus</i> sp.	

Appendix B Table 2.--Continued.

Phylum	Species name	Common name
Porifera	Porifera	sponge unident.
	<i>Halichondria panicea</i>	barrel sponge
	Hexactinellida	glass sponge unident.
Priapulida	Priapula	priapulid worm unident.
Sipuncula	Sipuncula	sipunculid worm unident.
Bryozoa	Bryozoa unident.	bryozoan unident.
	<i>Eucratea loricata</i>	feathery bryozoan
	<i>Flustra serrulata</i>	leafy bryozoan
	<i>Escharopsis sarsi</i>	
Chordata	Ascidian unident.	tunicate unident.
	<i>Styela rustica</i>	sea potato
	<i>Boltenia</i> sp.	
	<i>Boltenia ovifera</i>	
	<i>Halocynthia</i> sp.	sea peach unident.
	<i>Halocynthia aurantium</i>	sea peach
	<i>Aplidium</i> sp.	sea glob
	<i>Aplidium</i> sp. a	orange aplidium
	<i>Molgula griffithsii</i>	sea grape

APPENDIX C

Rank Order of Relative Abundance of Fish and Invertebrates

Appendix C ranks all fish and invertebrates caught during the 2000 eastern Bering Sea bottom trawl survey by descending unweighted CPUE (kg/ha).

Appendix C Table 1.--Rank of fish and invertebrate taxa by unweighted total CPUE (kg/ha) from the 2000 eastern Bering Sea bottom trawl survey.

Rank	Species	Mean CPUE (kg/ha)	Variance	95 Percent Confidence Limits		Proportion	Cumulative Proportion	Name
1	21740	111.11309	145.348	87.48326	134.74292	0.35504435	0.35504435	<i>Theragra chalcogramma</i>
2	10260	46.05643	56.150	31.36950	60.74336	0.14716606	0.50221041	<i>Lepidopsetta</i> sp.
3	10210	33.45853	7.594	28.05741	38.85965	0.10691145	0.60912186	<i>Limanda aspera</i>
4	81742	13.00361	1.159	10.89312	15.11409	0.04155097	0.65067284	<i>Asterias amurensis</i>
5	21720	11.94772	1.118	9.87517	14.02027	0.03817707	0.68884990	<i>Gadus macrocephalus</i>
6	91000	10.57328	29.525	0.00000	21.22335	0.03378524	0.72263514	Porifera (Phylum)
7	10285	9.49703	2.029	6.70490	12.28916	0.03034626	0.75298140	<i>Pleuronectes quadrituberculatus</i>
8	10129	8.34930	0.653	6.76533	9.93328	0.02667888	0.77966029	<i>Hippoglossoides</i> sp.
9	471	6.56772	0.153	5.80163	7.33381	0.02098611	0.80064640	<i>Bathyraja parmifera</i>
10	10110	6.35595	1.226	4.18554	8.52636	0.02030944	0.82095584	<i>Atheresthes stomias</i>
11	40500	5.54092	5.749	0.84151	10.24033	0.01770514	0.83866098	Scyphozoa (class)
12	69010	5.50572	0.223	4.58030	6.43114	0.01759265	0.85625363	Paguridae
13	98082	4.24310	0.631	2.68675	5.79945	0.01355816	0.86981178	<i>Styela rustica</i>
14	68580	4.20679	1.350	1.92923	6.48434	0.01344212	0.88325390	<i>Chionoecetes opilio</i>
15	83020	3.82474	0.367	2.63765	5.01182	0.01222134	0.89547525	<i>Gorgonocephalus eucnemis</i>
16	10120	2.60722	0.045	2.19314	3.02130	0.00833096	0.90380621	<i>Hippoglossus stenolepis</i>
17	40501	1.97421	0.243	1.00867	2.93974	0.00630826	0.91011447	<i>Chrysaora</i> sp.
18	71884	1.90904	0.068	1.39712	2.42097	0.00610005	0.91621452	<i>Neptunea heros</i>
19	71820	1.80942	0.069	1.29364	2.32521	0.00578173	0.92199625	<i>Neptunea pribiloffensis</i>
20	81780	1.80140	0.385	0.58571	3.01708	0.00575608	0.92775233	<i>Ctenodiscus crispatus</i>
21	69060	1.40037	0.040	1.01004	1.79069	0.00447465	0.93222698	<i>Pagurus aleuticus</i>
22	69322	1.28437	0.048	0.85359	1.71514	0.00410399	0.93633097	<i>Paralithodes camtschaticus</i>
23	21370	1.25800	0.243	0.29240	2.22361	0.00401975	0.94035072	<i>Myoxocephalus polyacanthocephalus</i>
24	98205	1.07523	0.336	0.00000	2.21149	0.00343574	0.94378646	<i>Halocynthia aurantium</i>
25	10220	0.95240	0.043	0.54596	1.35883	0.00304323	0.94682969	<i>Platichthys stellatus</i>
26	21371	0.90655	0.012	0.69509	1.11802	0.00289675	0.94972644	<i>Myoxocephalus jaok</i>
27	80590	0.88699	0.025	0.57796	1.19602	0.00283424	0.95256068	<i>Leptasterias polaris</i>
28	98200	0.79183	0.237	0.00000	1.74565	0.00253016	0.95509084	<i>Halocynthia</i> sp.
29	71870	0.69054	0.024	0.39003	0.99105	0.00220652	0.95729736	<i>Neptunea lyrata</i>
30	71882	0.67289	0.010	0.48131	0.86446	0.00215010	0.95944746	<i>Neptunea ventricosa</i>

Appendix C Table 1.--Continued.

Rank	Species	Mean CPUE (kg/ha)	Variance	95 Percent Confidence Limits		Proportion	Cumulative Proportion	Name
31	21110	0.66170	0.139	0.00000	1.39192	0.00211437	0.96156183	<i>Clupea pallasii</i>
32	43000	0.62609	0.033	0.26821	0.98397	0.00200057	0.96356240	Actiniaria (order)
33	68560	0.60389	0.011	0.39927	0.80852	0.00192965	0.96549205	<i>Chionoecetes bairdi</i>
34	21420	0.57328	0.011	0.36832	0.77824	0.00183182	0.96732387	<i>Hemitripterus bolini</i>
35	98310	0.50419	0.029	0.16890	0.83947	0.00161105	0.96893492	<i>Aplidium</i> sp.
36	10112	0.46252	0.004	0.34553	0.57952	0.00147792	0.97041284	<i>Atheresthes evermanni</i>
37	10115	0.46200	0.010	0.26593	0.65807	0.00147625	0.97188909	<i>Reinhardtius hippoglossoides</i>
38	69090	0.44444	0.006	0.29368	0.59520	0.00142014	0.97330923	<i>Pagurus ochotensis</i>
39	71500	0.43511	0.012	0.22458	0.64564	0.00139033	0.97469956	Gastropod unident.
40	98105	0.41359	0.023	0.11711	0.71007	0.00132157	0.97602112	<i>Boltenia ovifera</i>
41	435	0.38133	0.005	0.23907	0.52359	0.00121847	0.97723959	<i>Bathyraja interrupta</i>
42	21347	0.34844	0.008	0.17432	0.52256	0.00111337	0.97835297	<i>Hemilepidotus jordani</i>
43	72500	0.33155	0.006	0.18016	0.48293	0.00105941	0.97941238	<i>Fusitriton oregonensis</i>
44	20040	0.30815	0.001	0.24197	0.37432	0.00098463	0.98039701	<i>Podothecus acipenserinus</i>
45	83000	0.30725	0.020	0.03317	0.58134	0.00098177	0.98137879	Ophiuroid unident.
46	43090	0.29109	0.012	0.07238	0.50980	0.00093014	0.98230893	<i>Liponema brevicorne</i>
47	10211	0.28094	0.008	0.10782	0.45405	0.00089769	0.98320661	<i>Limanda proboscidea</i>
48	24185	0.26464	0.001	0.19861	0.33067	0.00084562	0.98405223	<i>Lycodes palearis</i>
49	68577	0.26292	0.006	0.10975	0.41609	0.00084012	0.98489235	<i>Hyas coarctatus</i>
50	21368	0.26070	0.002	0.16516	0.35624	0.00083301	0.98572536	<i>Myoxocephalus verrucosus</i>
51	72740	0.23063	0.002	0.15391	0.30735	0.00073695	0.98646231	<i>Buccinum</i> sp.
52	24191	0.22864	0.002	0.13652	0.32077	0.00073060	0.98719291	<i>Lycodes brevipes</i>
53	85201	0.22855	0.020	0.00000	0.50871	0.00073030	0.98792321	<i>Cucumaria fallax</i>
54	80200	0.20382	0.002	0.12612	0.28152	0.00065127	0.98857448	<i>Lethasterias nanimensis</i>
55	82510	0.19475	0.009	0.00493	0.38456	0.00062228	0.98919676	<i>Strongylocentrotus droebachiensis</i>
56	69323	0.19097	0.002	0.09735	0.28459	0.00061022	0.98980698	<i>Paralithodes platypus</i>
57	10200	0.17663	0.002	0.09997	0.25329	0.00056441	0.99037139	<i>Glyptocephalus zachirus</i>
58	71001	0.15602	0.001	0.09653	0.21552	0.00049855	0.99086993	gastropod eggs
59	71753	0.14224	0.005	0.00936	0.27511	0.00045450	0.99132443	<i>Pyrulofusus deformis</i>
60	41201	0.12639	0.001	0.07467	0.17810	0.00040384	0.99172827	<i>Gersemia</i> sp.
61	83320	0.12278	0.003	0.02348	0.22208	0.00039233	0.99212060	<i>Ophiura sarsi</i>
62	98100	0.11819	0.004	0.00000	0.24132	0.00037765	0.99249825	<i>Boltenia</i> sp.

Appendix C Table 1.--Continued.

Rank	Species	Mean CPUE (kg/ha)	Variance	95 Percent Confidence Limits		Proportion	Cumulative Proportion	Name
63	420	0.10548	0.008	0.00000	0.27664	0.00033704	0.99283529	Raja binoculara
64	80020	0.09980	0.001	0.02500	0.17461	0.00031891	0.99315420	Evasterias echinosoma
65	69400	0.09222	0.001	0.04747	0.13697	0.00029468	0.99344888	Erimacrus isenbeckii
66	23010	0.08171	0.000	0.04700	0.11642	0.00026109	0.99370997	Thaleichthys pacificus
67	69061	0.08041	0.000	0.05165	0.10918	0.00025695	0.99396691	Labidochirus splendescens
68	80594	0.08031	0.001	0.01696	0.14365	0.00025660	0.99422352	Leptasterias arctica
69	24184	0.07948	0.001	0.01457	0.14439	0.00025398	0.99447750	Lycodes raridens
70	83310	0.07734	0.001	0.00413	0.15054	0.00024712	0.99472462	Ophiura sp.
71	68578	0.07675	0.000	0.04180	0.11170	0.00024524	0.99496986	Hyas lyratus
72	95000	0.07147	0.002	0.00000	0.14953	0.00022837	0.99519823	Bryozoa unident.
73	30420	0.06486	0.003	0.00000	0.18056	0.00020726	0.99540549	Sebastes polypinins
74	21348	0.06145	0.001	0.00731	0.11558	0.00019634	0.99560183	Hemilepidotus papilio
75	74120	0.05687	0.001	0.00000	0.12716	0.00018172	0.99578355	Patinopecten caurinus
76	20720	0.05601	0.001	0.00934	0.10268	0.00017897	0.99596252	Bathymaster signatus
77	71750	0.05136	0.000	0.02249	0.08023	0.00016411	0.99612663	Volutopsius sp.
78	69121	0.04935	0.000	0.02496	0.07373	0.00015768	0.99628431	Elassochirus cavimanus
79	472	0.04690	0.001	0.00055	0.09325	0.00014986	0.99643416	Bathyraja aleutica
80	23041	0.04533	0.000	0.01632	0.07435	0.00014486	0.99657902	Mallotus villosus
81	69035	0.04484	0.000	0.01030	0.07938	0.00014328	0.99672230	Pagurus sp.
82	50160	0.04188	0.000	0.01406	0.06971	0.00013383	0.99685613	Aphroditidae
83	21390	0.03760	0.000	0.02198	0.05323	0.00012016	0.99697629	Dasycottus setiger
84	43010	0.03636	0.000	0.00233	0.07038	0.00011617	0.99709246	Metridium sp.
85	71886	0.03632	0.000	0.00848	0.06416	0.00011606	0.99720852	Neptunea magna
86	10270	0.03557	0.000	0.00000	0.07468	0.00011365	0.99732218	Isopsetta isolepis
87	21314	0.03527	0.000	0.01551	0.05502	0.00011269	0.99743487	Gymnocanthus pistilliger
88	78010	0.03294	0.000	0.00501	0.06088	0.00010526	0.99754013	octopus unident.
89	20322	0.02928	0.000	0.00000	0.06385	0.00009357	0.99763370	Anarhichas orientalis
90	41500	0.02837	0.001	0.00000	0.07412	0.00009064	0.99772434	Gorgonacea (order)
91	320	0.02829	0.001	0.00000	0.08373	0.00009039	0.99781473	Somniosus pacificus
92	98000	0.02781	0.000	0.01145	0.04418	0.00008888	0.99790361	Ascidian unident.
93	68781	0.02648	0.000	0.01005	0.04291	0.00008461	0.99798821	Telmessus cheiragonus
94	69070	0.02519	0.001	0.00000	0.07338	0.00008048	0.99806870	Pagurus confragosus

Appendix C Table 1.--Continued.

Rank	Species	Mean CPUE (kg/ha)	Variance	95 Percent Confidence Limits		Proportion	Cumulative Proportion	Name
95	71835	0.02458	0.000	0.01397	0.03518	0.00007853	0.99814722	Neptunea borealis
96	71769	0.02271	0.000	0.01129	0.03413	0.00007256	0.99821979	Beringius sp.
97	66031	0.02237	0.000	0.00937	0.03536	0.00007147	0.99829125	Pandalus borealis
98	82500	0.02206	0.000	0.01321	0.03092	0.00007051	0.99836176	Echinacea unident.
99	81355	0.02033	0.000	0.01223	0.02843	0.00006496	0.99842672	Pteraster obscurus
100	71891	0.02003	0.000	0.01053	0.02953	0.00006401	0.99849072	Plicifusus (=Colus)
101	71772	0.01964	0.000	0.00000	0.04680	0.00006277	0.99855349	Beringius beringii
102	85210	0.01954	0.000	0.00000	0.05482	0.00006244	0.99861593	Psolus sp.
103	21438	0.01932	0.000	0.00856	0.03008	0.00006173	0.99867766	Icelus spiniger
104	65100	0.01895	0.000	0.00000	0.03948	0.00006056	0.99873821	Thoracica (order)
105	81095	0.01872	0.000	0.00550	0.03195	0.00005983	0.99879804	Crossaster papposus
106	81315	0.01495	0.000	0.00000	0.03182	0.00004775	0.99884580	Pteraster tessellatus
107	74562	0.01423	0.000	0.00107	0.02738	0.00004546	0.99889126	Musculus discors
108	20006	0.01194	0.000	0.00727	0.01662	0.00003816	0.99892942	Sarritor frenatus
109	21316	0.01149	0.000	0.00000	0.02388	0.00003672	0.99896615	Gymnocanthus galeatus
110	22205	0.01117	0.000	0.00230	0.02005	0.00003570	0.99900185	Liparis gibbus
111	71010	0.01108	0.000	0.00484	0.01732	0.00003539	0.99903724	Nudibranchia unident.
112	56311	0.01099	0.000	0.00676	0.01521	0.00003511	0.99907235	Eunoe nodosa
113	68510	0.01098	0.000	0.00534	0.01663	0.00003510	0.99910745	Oregonia gracilis
114	91050	0.01012	0.000	0.00000	0.02454	0.00003233	0.99913978	Halichondria panicea
115	69120	0.00963	0.000	0.00068	0.01858	0.00003077	0.99917055	Pagurus capillatus
116	95060	0.00948	0.000	0.00000	0.01970	0.00003028	0.99920083	Escharopsis sarsi
117	21354	0.00947	0.000	0.00000	0.02371	0.00003026	0.99923108	Triglops scepticus
118	78403	0.00946	0.000	0.00000	0.02795	0.00003023	0.99926131	Octopus dofleini
119	20320	0.00864	0.000	0.00000	0.02557	0.00002761	0.99928892	Anarrhichthys ocellatus
120	455	0.00773	0.000	0.00000	0.01580	0.00002469	0.99931360	Bathyraja taranetzi
121	22201	0.00741	0.000	0.00000	0.01527	0.00002366	0.99933727	Liparis sp.
122	75284	0.00692	0.000	0.00177	0.01207	0.00002211	0.99935937	Serripes sp.
123	79000	0.00675	0.000	0.00000	0.01634	0.00002157	0.99938094	squid unident.
124	98300	0.00657	0.000	0.00000	0.01442	0.00002099	0.99940193	compound ascidian unident.
125	43042	0.00654	0.000	0.00260	0.01049	0.00002091	0.99942284	Urtinca (=Tealia)
126	82730	0.00648	0.000	0.00000	0.01381	0.00002072	0.99944356	sand dollar unident.

Appendix C Table 1.--Continued.

Rank	Species	Mean CPUE (kg/ha)	Variance	95 Percent Confidence Limits		Proportion	Cumulative Proportion	Name
127	23235	0.00641	0.000	0.00000	0.01608	0.00002049	0.99946405	Oncorhynchus keta
128	71030	0.00595	0.000	0.00090	0.01100	0.00001902	0.99948306	Tritonia diomedea
129	42000	0.00590	0.000	0.00000	0.01396	0.00001886	0.99950193	Pennatulacea (order)
130	43020	0.00522	0.000	0.00000	0.01538	0.00001667	0.99951860	Metridium senile
131	30060	0.00521	0.000	0.00000	0.01272	0.00001665	0.99953525	Sebastes alutus
132	95030	0.00491	0.000	0.00106	0.00876	0.00001568	0.99955093	Flustra serrulata
133	21725	0.00478	0.000	0.00131	0.00826	0.00001529	0.99956622	Boreogadus saida
134	81060	0.00478	0.000	0.00000	0.01415	0.00001527	0.99958149	Solaster sp.
135	75111	0.00446	0.000	0.00241	0.00652	0.00001427	0.99959576	Mactromeris polynyma
136	81360	0.00445	0.000	0.00000	0.01086	0.00001422	0.99960998	Diplopteraster multipes
137	75600	0.00420	0.000	0.00000	0.01205	0.00001342	0.99962340	Pododesmus macroschisma
138	80540	0.00409	0.000	0.00156	0.00662	0.00001306	0.99963646	Henricia sp.
139	68590	0.00403	0.000	0.00208	0.00598	0.00001287	0.99964933	Chionoecetes hybrid
140	401	0.00370	0.000	0.00122	0.00617	0.00001182	0.99966115	skate egg case unident.
141	75110	0.00367	0.000	0.00000	0.00905	0.00001172	0.99967286	Mactromeris sp.
142	50010	0.00362	0.000	0.00000	0.00820	0.00001156	0.99968442	tube worm unident.
143	80000	0.00352	0.000	0.00000	0.01030	0.00001124	0.99969567	Asteroidea unident.
144	74980	0.00346	0.000	0.00000	0.00795	0.00001105	0.99970671	Clinocardium sp.
145	71756	0.00338	0.000	0.00000	0.00864	0.00001080	0.99971751	Volutopsius fragilis
146	74000	0.00335	0.000	0.00000	0.00710	0.00001072	0.99972823	Bivalvia unident.
147	71025	0.00334	0.000	0.00045	0.00623	0.00001067	0.99973890	Tritonia sp.
148	22236	0.00333	0.000	0.00090	0.00576	0.00001064	0.99974955	Careproctus rastrinus
149	21932	0.00316	0.000	0.00000	0.00644	0.00001009	0.99975963	Hexagrammos stelleri
150	10212	0.00302	0.000	0.00000	0.00802	0.00000966	0.99976929	Limanda sakhalinensis
151	82511	0.00297	0.000	0.00000	0.00678	0.00000951	0.99977880	Strongylocentrotus sp.
152	66045	0.00273	0.000	0.00000	0.00613	0.00000871	0.99978751	Pandalus goniurus
153	74983	0.00271	0.000	0.00000	0.00730	0.00000865	0.99979616	Clinocardium ciliatum
154	21355	0.00235	0.000	0.00000	0.00546	0.00000750	0.99980366	Triglops pingeli
155	72790	0.00232	0.000	0.00000	0.00563	0.00000742	0.99981108	Arctomelon stearnsii
156	69110	0.00232	0.000	0.00000	0.00531	0.00000742	0.99981851	Elassochirus tenuimanus
157	82740	0.00229	0.000	0.00000	0.00566	0.00000732	0.99982583	Echinarachnius parma
158	20061	0.00225	0.000	0.00105	0.00345	0.00000719	0.99983302	Ocella dodecaedron

Appendix C Table 1.--Continued.

Rank	Species	Mean CPUE (kg/ha)	Variance	95 Percent Confidence Limits		Proportion	Cumulative Proportion	Name
159	23240	0.00219	0.000	0.00000	0.00648	0.00000700	0.99984002	Oncorhynchus nerka
160	80660	0.00204	0.000	0.00000	0.00481	0.00000653	0.99984655	Pseudarchaster parelii
161	72063	0.00189	0.000	0.00085	0.00293	0.00000603	0.99985258	Aforia circinata
162	71761	0.00187	0.000	0.00000	0.00527	0.00000596	0.99985855	Pyrulofusus melonis
163	22175	0.00167	0.000	0.00000	0.00495	0.00000534	0.99986389	Aptocyclus ventricosus
164	71640	0.00164	0.000	0.00000	0.00484	0.00000523	0.99986912	Crepidula sp.
165	75240	0.00159	0.000	0.00008	0.00309	0.00000507	0.99987418	Macoma sp.
166	21446	0.00154	0.000	0.00000	0.00331	0.00000491	0.99987909	Icelus sp.
167	74104	0.00137	0.000	0.00000	0.00335	0.00000438	0.99988347	Chlamys sp.
168	74065	0.00134	0.000	0.00000	0.00398	0.00000429	0.99988776	Mytilus sp.
169	21	0.00134	0.000	0.00000	0.00324	0.00000428	0.99989204	Lampetra tridentata
170	72752	0.00131	0.000	0.00034	0.00229	0.00000420	0.99989623	Buccinum scalariforme
171	400	0.00128	0.000	0.00000	0.00379	0.00000409	0.99990032	Rajidae unident.
172	21592	0.00124	0.000	0.00000	0.00252	0.00000398	0.99990430	Trichodon trichodon
173	24189	0.00121	0.000	0.00000	0.00320	0.00000386	0.99990815	Lycodes turneri
174	74050	0.00118	0.000	0.00000	0.00254	0.00000378	0.99991193	Mytilidae
175	71710	0.00097	0.000	0.00035	0.00158	0.00000308	0.99991502	Colus sp.
176	21341	0.00094	0.000	0.00000	0.00202	0.00000301	0.99991803	Malacocottus zonurus
177	1	0.00093	0.000	0.00000	0.00275	0.00000297	0.99992099	fish eggs unident.
178	82530	0.00092	0.000	0.00000	0.00231	0.00000293	0.99992392	Allocentrotus fragilis
179	75205	0.00090	0.000	0.00000	0.00222	0.00000288	0.99992680	Tellina lutea
180	75286	0.00085	0.000	0.00000	0.00188	0.00000271	0.99992951	Serripes laperousii
181	85000	0.00083	0.000	0.00000	0.00201	0.00000266	0.99993217	Holothuroidea unident.
182	68040	0.00080	0.000	0.00000	0.00175	0.00000257	0.99993474	Cancer oregonensis
183	79210	0.00079	0.000	0.00000	0.00207	0.00000253	0.99993728	Berryteuthis magister
184	80595	0.00077	0.000	0.00000	0.00200	0.00000246	0.99993973	Leptasterias sp.
185	98311	0.00077	0.000	0.00000	0.00227	0.00000245	0.99994218	Aplidium new
186	56312	0.00075	0.000	0.00036	0.00115	0.00000241	0.99994459	Eunoe depressa
187	21356	0.00074	0.000	0.00001	0.00146	0.00000235	0.99994694	Triglops macellus
188	66502	0.00066	0.000	0.00031	0.00100	0.00000210	0.99994904	Crangon sp.
189	65205	0.00065	0.000	0.00000	0.00184	0.00000208	0.99995112	Balanus rostratus
190	81090	0.00064	0.000	0.00000	0.00160	0.00000206	0.99995318	Crossaster sp.

Appendix C Table 1.--Continued.

Rank	Species	Mean CPUE (kg/ha)	Variance	95 Percent Confidence Limits		Proportion	Cumulative Proportion	Name
191	43032	0.00063	0.000	0.00000	0.00151	0.00000202	0.99995520	<i>Stomphia coccinea</i>
192	71575	0.00063	0.000	0.00004	0.00122	0.00000201	0.99995721	<i>Polinices</i> sp.
193	66570	0.00062	0.000	0.00040	0.00084	0.00000197	0.99995919	<i>Argis</i> sp.
194	81310	0.00061	0.000	0.00000	0.00157	0.00000195	0.99996114	<i>Pteraster</i> sp.
195	74311	0.00060	0.000	0.00000	0.00165	0.00000193	0.99996307	<i>Hiatella arctica</i>
196	21441	0.00058	0.000	0.00021	0.00095	0.00000185	0.99996492	<i>Icelus spatula</i>
197	75267	0.00057	0.000	0.00024	0.00090	0.00000182	0.99996674	<i>Siliqua alta</i>
198	30050	0.00053	0.000	0.00000	0.00158	0.00000170	0.99996844	<i>Sebastes aleutianus</i>
199	80610	0.00053	0.000	0.00000	0.00115	0.00000170	0.99997014	<i>Pseudarchaster</i> sp.
200	80728	0.00042	0.000	0.00000	0.00102	0.00000135	0.99997150	<i>Ceramaster</i> sp.
201	71525	0.00042	0.000	0.00011	0.00073	0.00000133	0.99997283	<i>Natica</i> sp.
202	81064	0.00041	0.000	0.00000	0.00121	0.00000130	0.99997413	<i>Solaster dawsoni</i>
203	71810	0.00036	0.000	0.00000	0.00106	0.00000115	0.99997528	<i>Neptunea amianta</i>
204	80730	0.00035	0.000	0.00000	0.00076	0.00000112	0.99997640	<i>Ceramaster patagonicus</i>
205	75285	0.00034	0.000	0.00007	0.00062	0.00000109	0.99997749	<i>Serripes groenlandicus</i>
206	81870	0.00034	0.000	0.00000	0.00081	0.00000109	0.99997857	<i>Dipsacaster borealis</i>
207	71535	0.00030	0.000	0.00000	0.00066	0.00000095	0.99997953	<i>Natica aleutica</i>
208	91700	0.00030	0.000	0.00000	0.00088	0.00000094	0.99998047	<i>Hexactinellida</i>
209	22219	0.00028	0.000	0.00000	0.00079	0.00000088	0.99998135	<i>Careproctus</i> sp.
210	71012	0.00027	0.000	0.00000	0.00080	0.00000087	0.99998222	<i>Tochuina tetraquetra</i>
211	80015	0.00027	0.000	0.00000	0.00072	0.00000087	0.99998308	<i>Evasterias troschelii</i>
212	71721	0.00027	0.000	0.00000	0.00077	0.00000085	0.99998394	<i>Colus herendeenii</i>
213	74640	0.00026	0.000	0.00000	0.00078	0.00000084	0.99998478	<i>Astarte</i> sp.
214	74655	0.00026	0.000	0.00000	0.00076	0.00000083	0.99998561	<i>Cyclocardia crebricostata</i>
215	69520	0.00025	0.000	0.00000	0.00063	0.00000081	0.99998641	<i>Hyas</i> sp.
216	79020	0.00025	0.000	0.00003	0.00047	0.00000080	0.99998722	<i>Rossia pacifica</i>
217	50001	0.00022	0.000	0.00000	0.00046	0.00000070	0.99998791	worm unident.
218	21346	0.00021	0.000	0.00000	0.00062	0.00000067	0.99998858	<i>Hemilepidotus hemilepidotus</i>
219	75241	0.00020	0.000	0.00000	0.00058	0.00000063	0.99998921	<i>Macoma nasuta</i>
220	10180	0.00020	0.000	0.00000	0.00058	0.00000063	0.99998984	<i>Microstomus pacificus</i>
221	75330	0.00019	0.000	0.00000	0.00057	0.00000061	0.99999046	<i>Mya</i> sp.
222	20050	0.00019	0.000	0.00005	0.00034	0.00000061	0.99999107	<i>Aspidophoroides bartoni</i>

Appendix C Table 1.--Continued.

Rank	Species	Mean CPUE (kg/ha)	Variance	95 Percent Confidence Limits		Proportion	Cumulative Proportion	Name
223	71681	0.00019	0.000	0.00000	0.00045	0.00000060	0.99999167	Crepidula grandis
224	74414	0.00016	0.000	0.00000	0.00034	0.00000053	0.99999220	Yoldia sp.
225	94000	0.00016	0.000	0.00000	0.00033	0.00000050	0.99999270	Sipuncula (phylum)
226	23805	0.00015	0.000	0.00000	0.00030	0.00000048	0.99999318	Lumpenus maculatus
227	74060	0.00014	0.000	0.00000	0.00042	0.00000045	0.99999364	Modiolus modiolus
228	20202	0.00014	0.000	0.00000	0.00035	0.00000045	0.99999409	Ammodytes hexapterus
229	22206	0.00013	0.000	0.00000	0.00032	0.00000042	0.99999450	Crystallichthys cyclospilus
230	74656	0.00013	0.000	0.00000	0.00034	0.00000041	0.99999492	Cyclocardia sp.
231	23055	0.00012	0.000	0.00000	0.00029	0.00000039	0.99999531	Osmerus mordax
232	81910	0.00012	0.000	0.00000	0.00035	0.00000038	0.99999569	Luidiaster dawsoni
233	21921	0.00011	0.000	0.00000	0.00032	0.00000035	0.99999604	Pleurogrammus monopterygius
234	21397	0.00009	0.000	0.00000	0.00026	0.00000028	0.99999631	Blepsias bilobus
235	74100	0.00008	0.000	0.00000	0.00025	0.00000027	0.99999658	Pectinid unident.
236	71530	0.00008	0.000	0.00000	0.00024	0.00000026	0.99999684	Natica clausa
237	20005	0.00008	0.000	0.00000	0.00023	0.00000025	0.99999708	Sarritor leptorhynchus
238	80729	0.00007	0.000	0.00000	0.00017	0.00000022	0.99999730	Ceramaster japonicus
239	80110	0.00007	0.000	0.00000	0.00019	0.00000021	0.99999751	Leptasterias groenlandica
240	21333	0.00005	0.000	0.00000	0.00012	0.00000017	0.99999768	Arteidiellus pacificus
241	99902	0.00005	0.000	0.00000	0.00015	0.00000017	0.99999785	Molgula griffithsii
242	93100	0.00004	0.000	0.00000	0.00013	0.00000014	0.99999799	Priapula (phylum)
243	22183	0.00004	0.000	0.00000	0.00009	0.00000013	0.99999813	Eumicrotremus sp.
244	85169	0.00004	0.000	0.00000	0.00008	0.00000013	0.99999826	Pentamera lissoplaca
245	95020	0.00004	0.000	0.00000	0.00012	0.00000013	0.99999838	Eucratea loricata
246	72420	0.00004	0.000	0.00000	0.00009	0.00000012	0.99999850	Boreotrophon sp.
247	71731	0.00004	0.000	0.00000	0.00010	0.00000011	0.99999862	Colus halli
248	66203	0.00003	0.000	0.00000	0.00009	0.00000010	0.99999871	Lebbeus groenlandicus
249	50192	0.00003	0.000	0.00000	0.00008	0.00000009	0.99999881	Aphrodita negligens
250	66033	0.00003	0.000	0.00000	0.00009	0.00000009	0.99999890	Pandalus tridens

Appendix C Table 1.--Continued.

Rank	Species	Mean CPUE (kg/ha)	Variance	95 Percent Confidence Limits		Proportion	Cumulative Proportion	Name
251	71580	0.00003	0.000	0.00000	0.00008	0.00000009	0.99999899	Polinices pallidus
252	21352	0.00002	0.000	0.00000	0.00007	0.00000008	0.99999906	Triglops forficata
253	23850	0.00002	0.000	0.00000	0.00005	0.00000008	0.99999914	Poroclinus rothrocki
254	20001	0.00002	0.000	0.00000	0.00005	0.00000007	0.99999921	Pallasina barbata
255	82526	0.00002	0.000	0.00000	0.00006	0.00000006	0.99999927	Strongylocentrotus pallidus
256	71960	0.00002	0.000	0.00000	0.00005	0.00000006	0.99999932	Ancistrolepis sp.
257	72805	0.00002	0.000	0.00000	0.00005	0.00000005	0.99999938	Velutina velutina
258	74416	0.00002	0.000	0.00000	0.00005	0.00000005	0.99999943	Yoldia scissurata
259	75201	0.00002	0.000	0.00000	0.00005	0.00000005	0.99999949	Tellina sp.
260	74310	0.00002	0.000	0.00000	0.00005	0.00000005	0.99999954	Hiatella sp.
261	71759	0.00001	0.000	0.00000	0.00004	0.00000004	0.99999958	Volutopsius filusus
262	21405	0.00001	0.000	0.00000	0.00004	0.00000004	0.99999963	Nautichthys pribilovius
263	22178	0.00001	0.000	0.00000	0.00003	0.00000004	0.99999966	Eumicrotremus orbis
264	72751	0.00001	0.000	0.00000	0.00003	0.00000003	0.99999970	Buccinum plectrum
265	23000	0.00001	0.000	0.00000	0.00002	0.00000003	0.99999973	Osmeridae
266	56300	0.00001	0.000	0.00000	0.00003	0.00000003	0.99999976	Polynoidae
267	74439	0.00001	0.000	0.00000	0.00003	0.00000003	0.99999979	Nuculana fossa
268	54000	0.00001	0.000	0.00000	0.00003	0.00000003	0.99999982	Nereidae
269	80546	0.00001	0.000	0.00000	0.00002	0.00000003	0.99999985	Henricia tumida
270	59111	0.00001	0.000	0.00000	0.00002	0.00000003	0.99999987	Carcinobdella cyclostomum
271	83400	0.00001	0.000	0.00000	0.00002	0.00000002	0.99999989	Ophiopholis aculeata
272	20000	0.00001	0.000	0.00000	0.00002	0.00000002	0.99999991	Agonidae
273	20034	0.00001	0.000	0.00000	0.00002	0.00000002	0.99999993	Bathyagonus sp.
274	21313	0.00000	0.000	0.00000	0.00001	0.00000001	0.99999994	Gymnocanthus sp.
275	66170	0.00000	0.000	0.00000	0.00001	0.00000001	0.99999995	Eualus sp.
276	20038	0.00000	0.000	0.00000	0.00001	0.00000001	0.99999996	Bathyagonus nigripinnis
277	50000	0.00000	0.000	0.00000	0.00001	0.00000001	0.99999997	Polychaeta (class)
278	21331	0.00000	0.000	0.00000	0.00001	0.00000001	0.99999998	Artdiellus sp.

Appendix C Table 1.--Continued.

Rank	Species	Mean CPUE (kg/ha)	Variance	95 Percent Confidence Limits		Proportion	Cumulative Proportion	Name
279	21332	0.00000	0.000	0.00000	0.00001	0.00000001	0.99999999	Arteidiellus miacanthus
280	62000	0.00000	0.000	0.00000	0.00000	0.00000000	0.99999999	Isopoda (order)
281	66150	0.00000	0.000	0.00000	0.00000	0.00000000	0.99999999	Hippolytidae
282	20051	0.00000	0.000	0.00000	0.00000	0.00000000	1.00000000	Aspidophoroides olriki
283	66020	0.00000	0.000	0.00000	0.00000	0.00000000	1.00000000	Pandalus sp.
284	66530	0.00000	0.000	0.00000	0.00000	0.00000000	1.00000000	Crangon dalli

APPENDIX D

Abundance Estimates for Principal Fish Species

Appendix D presents estimates of area weighted catch-per-unit-effort (CPUE), population numbers and biomass for the principal fish species. Estimates of variance and confidence intervals do not incorporate variation associated with fishing power corrections or measurements of effort. CPUE is measured in kilograms (kg) and numbers (no.) per hectare. Estimates are given separately for each of the 10 geographic strata used in the analysis; estimates for each of the six standard subareas are presented as subtotals of the component strata. Stratum codes correspond to subareas as follows:

<u>Subarea</u>	<u>Stratum</u>
1	10
2	20
3	31
	32 (Pribilof Islands high density)
4	41
	42 (Pribilof Islands high density)
	43 (St. Matthew Island high density)
5	50
6	61
	62 (St. Matthew Island high density)

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Appendix D Table 1.--CPUE, population, and biomass estimates for walleye pollock.

CPUE								
Stratum	Total hauls	Hauls with catch	Hauls with nums.	Hauls with L-F	Mean CPUE (kg/ha)	Variance mean CPUE (kg/ha)	Mean CPUE (no/ha)	Variance mean CPUE (no/ha)
10	57	57	57	57	31.15	.81240E+02	52.27	.12120E+03
20	30	30	30	30	20.76	.16740E+02	31.41	.79430E+02
31	69	69	69	69	134.48	.60470E+03	173.91	.10490E+04
32	10	10	10	10	199.68	.29980E+04	343.08	.85010E+04
Subtotal	79	79	79	79	140.02	.52800E+03	188.28	.93930E+03
41	44	44	44	44	117.39	.75230E+03	187.31	.18930E+04
42	30	30	30	30	98.05	.56820E+03	198.84	.18590E+04
43	22	22	22	22	150.32	.10980E+04	280.54	.45410E+04
Subtotal	96	96	96	96	119.53	.32470E+03	208.13	.90630E+03
50	24	24	24	24	47.32	.31190E+03	65.66	.71630E+03
61	59	52	52	52	207.51	.30810E+04	372.99	.10630E+05
62	7	7	7	7	92.07	.56920E+03	184.66	.24690E+04
Subtotal	66	59	59	59	199.66	.26790E+04	360.18	.92430E+04
Total	352	345	345	345	110.81	.39410E+04	180.97	.12010E+05

POPULATION					
Stratum	Population	Variance population	Eff. deg. freedom	95% Confidence Limits Lower	Upper
10	407,010,303	.73506E+16	56.00	233,738,908	580,281,698
20	128,846,966	.13370E+16	29.00	54,071,556	203,622,377
31	1,643,928,273	.93688E+17	68.00	1,031,758,147	2,256,098,400
32	301,021,344	.65449E+16	9.00	114,465,321	487,577,368
Subtotal	1,944,949,618	.10023E+18	75.06	1,311,757,958	2,578,141,278
41	1,174,478,286	.74415E+17	43.00	623,168,888	1,725,787,684
42	477,434,279	.10718E+17	29.00	265,722,250	689,146,308
43	592,164,391	.20231E+17	21.00	295,464,173	888,864,609
Subtotal	2,244,076,956	.10536E+18	72.92	1,594,883,931	2,893,269,981
50	254,728,580	.10780E+17	23.00	39,915,326	469,541,833
61	3,287,263,659	.82548E+18	58.00	1,451,060,616	5,123,466,703
62	118,711,983	.10204E+16	6.00	40,544,677	196,879,290
Subtotal	3,405,975,643	.82650E+18	58.14	1,568,638,032	5,243,313,253
Total	8,385,588,065	.10516E+19	91.83	6,334,668,659	10,436,507,472

Appendix D Table 1.--Continued.

BIOMASS					
Stratum	Biomass (t)	Variance biomass	Eff. deg. freedom	95% Confidence Limits	
				Lower	Upper
10	242,591	.49263E+10	56.00	100,741	384,441
20	85,170	.28177E+09	29.00	50,843	119,498
31	1,271,212	.54030E+11	68.00	806,324	1,736,101
32	175,203	.23077E+10	9.00	66,539	283,867
Subtotal	1,446,416	.56338E+11	72.93	971,703	1,921,128
41	736,076	.29576E+11	43.00	388,508	1,083,643
42	235,436	.32757E+10	29.00	118,221	352,651
43	317,299	.48905E+10	21.00	171,840	462,758
Subtotal	1,288,811	.37743E+11	65.18	900,262	1,677,361
50	183,574	.46940E+10	23.00	41,821	325,326
61	1,828,869	.23929E+12	58.00	840,259	2,817,478
62	59,185	.23522E+09	6.00	19,754	98,616
Subtotal	1,888,054	.23952E+12	58.11	898,958	2,877,149
Total	5,134,616	.34350E+12	111.95	3,962,431	6,306,800

Appendix D Table 2.--CPUE, population, and biomass estimates for Pacific cod.

CPUE								
Stratum	Total hauls	Hauls with catch	Hauls with nums.	Hauls with L-F	Mean CPUE (kg/ha)	Variance mean CPUE (kg/ha)	Mean CPUE (no/ha)	Variance mean CPUE (no/ha)
10	57	52	52	52	8.30	.53210E+01	16.34	.11380E+02
20	30	29	29	29	3.96	.65580E+00	7.29	.23650E+01
31	69	68	68	68	11.25	.11840E+01	9.82	.11900E+01
32	10	10	10	10	14.32	.92360E+01	6.90	.30090E+01
Subtotal	79	78	78	78	11.51	.10580E+01	9.57	.10180E+01
41	44	44	44	44	13.06	.16030E+02	11.72	.13130E+02
42	30	30	30	30	11.89	.67510E+01	11.04	.11190E+02
43	22	22	22	22	33.33	.11650E+03	30.99	.10830E+03
Subtotal	96	96	96	96	16.77	.10220E+02	15.34	.91440E+01
50	24	24	24	23	5.95	.21220E+01	2.31	.38720E+00
61	59	57	57	57	12.78	.22280E+01	4.83	.27320E+00
62	7	7	7	7	19.06	.30080E+02	13.01	.39480E+02
Subtotal	66	64	64	64	13.20	.20740E+01	5.39	.41980E+00
Total	352	343	343	342	11.40	.21450E+02	10.39	.24710E+02

POPULATION					
Stratum	Population	Variance population	Eff. deg. freedom	95% Confidence Limits	
				Lower	Upper
10	127,258,438	.68989E+15	56.00	74,175,258	180,341,618
20	29,890,481	.39816E+14	29.00	16,967,556	42,813,406
31	92,849,650	.10632E+15	68.00	72,227,705	113,471,595
32	6,055,677	.23162E+13	9.00	2,546,183	9,565,171
Subtotal	98,905,327	.10863E+15	70.74	78,059,961	119,750,693
41	73,458,603	.51610E+15	43.00	27,545,723	119,371,484
42	26,504,593	.64508E+14	29.00	10,055,671	42,953,515
43	65,413,574	.48241E+15	21.00	19,597,167	111,229,982
Subtotal	165,376,770	.10630E+16	64.87	100,168,853	230,584,688
50	8,961,400	.58268E+13	23.00	3,955,033	13,967,768
61	42,600,976	.21218E+14	58.00	33,291,668	51,910,284
62	8,364,715	.16317E+14	6.00	0	18,249,251
Subtotal	50,965,691	.37535E+14	27.03	38,393,938	63,537,445
Total	481,358,109	.19447E+16	144.39	394,042,110	568,674,108

Appendix D Table 2.--Continued.

BIOMASS					
Stratum	Biomass (t)	Variance biomass	Eff. deg. freedom	95% Confidence Limits	
				Lower	Upper
10	64,615	.32269E+09	56.00	28,310	100,919
20	16,243	.11039E+08	29.00	9,439	23,047
31	106,304	.10576E+09	68.00	85,736	126,872
32	12,568	.71107E+07	9.00	6,536	18,599
Subtotal	118,872	.11287E+09	74.89	97,624	140,119
41	81,883	.63035E+09	43.00	31,142	132,624
42	28,544	.38919E+08	29.00	15,768	41,321
43	70,355	.51890E+09	21.00	22,974	117,736
Subtotal	180,782	.11882E+10	63.84	111,842	249,721
50	23,090	.31934E+08	23.00	11,398	34,781
61	112,611	.17304E+09	58.00	86,026	139,196
62	12,254	.12430E+08	6.00	3,627	20,881
Subtotal	124,865	.18547E+09	63.47	97,627	152,103
Total	528,466	.18522E+10	138.71	443,253	613,679

Appendix D Table 3.--CPUE, population, and biomass estimates for yellowfin sole.

CPUE								
Stratum	Total hauls	Hauls with catch	Hauls with nums.	Hauls with L-F	Mean CPUE (kg/ha)	Variance mean CPUE (kg/ha)	Mean CPUE (no/ha)	Variance mean CPUE (no/ha)
10	57	57	56	56	94.20	.94880E+02	448.55	.17680E+04
20	30	30	30	28	53.27	.19140E+02	240.27	.32700E+03
31	69	63	63	63	49.19	.38830E+02	184.62	.60470E+03
32	10	8	8	8	3.08	.20380E+01	8.98	.24590E+02
Subtotal	79	71	71	71	45.27	.32530E+02	169.70	.50650E+03
41	44	41	41	41	18.32	.11990E+02	56.63	.13200E+03
42	30	28	28	28	17.57	.29170E+02	54.76	.23640E+03
43	22	18	18	18	2.27	.42680E+00	5.75	.28880E+01
Subtotal	96	87	87	87	15.01	.55170E+01	46.25	.56480E+02
50	24	0	0	0	0.00	.00000E+00	0.00	.00000E+00
61	59	4	4	4	0.03	.32630E-03	0.06	.11980E-02
62	7	0	0	0	0.00	.00000E+00	0.00	.00000E+00
Subtotal	66	4	4	4	0.03	.28340E-03	0.06	.10410E-02
Total	352	249	248	246	34.14	.15210E+03	145.26	.26580E+04

POPULATION					
Stratum	Population	Variance population	Eff. deg. freedom	95% Confidence Limits Lower	Upper
10	3,492,936,034	.10720E+18	56.00	2,831,235,525	4,154,636,543
20	985,767,336	.55037E+16	29.00	834,055,132	1,137,479,540
31	1,745,165,654	.54027E+17	68.00	1,280,290,648	2,210,040,660
32	7,882,849	.18932E+14	9.00	0	17,724,915
Subtotal	1,753,048,503	.54046E+17	68.05	1,288,092,056	2,218,004,950
41	355,091,388	.51907E+16	43.00	209,485,800	500,696,977
42	131,486,681	.13630E+16	29.00	55,878,123	207,095,239
43	12,128,675	.12865E+14	21.00	4,646,650	19,610,701
Subtotal	498,706,745	.65665E+16	62.42	336,638,956	660,774,533
50	0	.00000E+00	23.00	0	0
61	562,871	.93092E+11	58.00	0	1,179,497
62	0	.00000E+00	6.00	0	0
Subtotal	562,871	.93092E+11	31.70	0	1,185,904
Total	6,731,021,489	.17332E+18	120.22	5,906,724,635	7,555,318,344

Appendix D Table 3.--Continued.

BIOMASS					
Stratum	Biomass (t)	Variance biomass	Eff. deg. freedom	95% Confidence Limits Lower	Upper
10	733,562	.57536E+10	56.00	580,264	886,860
20	218,556	.32209E+09	29.00	181,801	255,311
31	464,977	.34694E+10	68.00	347,173	582,780
32	2,705	.15693E+07	9.00	0	5,539
Subtotal	467,682	.34710E+10	68.06	349,852	585,512
41	114,853	.47132E+09	43.00	70,977	158,729
42	42,184	.16816E+09	29.00	15,626	68,742
43	4,788	.19017E+07	21.00	1,920	7,656
Subtotal	161,825	.64138E+09	66.98	111,174	212,476
50	0	.00000E+00	23.00	0	0
61	282	.25345E+05	58.00	0	604
62	0	.00000E+00	6.00	0	0
Subtotal	282	.25345E+05	12.03	0	629
Total	1,581,907	.10188E+11	133.45	1,382,054	1,781,760

Appendix D Table 4.--CPUE, population, and biomass estimates for *Lepidopsetta* spp.

CPUE								
Stratum	Total hauls	Hauls with catch	Hauls with nums.	Hauls with L-F	Mean CPUE (kg/ha)	Variance mean CPUE (kg/ha)	Mean CPUE (no/ha)	Variance mean CPUE (no/ha)
10	57	57	57	57	162.08	.17130E+04	637.11	.10820E+05
20	30	30	30	30	61.64	.19620E+03	210.61	.13920E+04
31	69	66	66	66	30.10	.23670E+02	151.86	.65320E+03
32	10	9	9	9	17.62	.37480E+02	65.66	.44870E+03
Subtotal	79	75	75	75	29.04	.20090E+02	144.54	.55020E+03
41	44	44	44	44	18.07	.32290E+02	58.47	.23620E+03
42	30	29	29	29	37.69	.12340E+03	131.08	.90630E+03
43	22	22	22	21	20.34	.20770E+02	58.97	.17760E+03
Subtotal	96	95	95	94	22.89	.17840E+02	74.74	.13160E+03
50	24	4	4	4	0.27	.50550E-01	0.75	.43270E+00
61	59	51	51	51	5.83	.13950E+01	13.43	.79810E+01
62	7	7	7	7	21.05	.34590E+02	52.54	.17680E+03
Subtotal	66	58	58	58	6.86	.13720E+01	16.09	.77500E+01
Total	352	319	319	318	45.92	.19480E+04	178.67	.12900E+05

POPULATION					
Stratum	Population	Variance population	Eff. deg. freedom	95% Confidence Limits	
				Lower	Upper
10	4,961,258,308	.65596E+18	56.00	3,324,423,992	6,598,092,624
20	864,077,270	.23436E+17	29.00	550,554,501	1,177,600,039
31	1,435,446,731	.58369E+17	68.00	952,253,962	1,918,639,500
32	57,612,238	.34543E+15	9.00	14,753,374	100,471,102
Subtotal	1,493,058,969	.58714E+17	68.79	1,008,438,519	1,977,679,419
41	366,630,293	.92850E+16	43.00	171,889,565	561,371,021
42	314,743,336	.52253E+16	29.00	166,700,736	462,785,936
43	124,471,370	.79130E+15	21.00	65,960,777	182,981,963
Subtotal	805,844,999	.15302E+17	78.67	558,445,654	1,053,244,345
50	2,904,974	.65119E+13	23.00	0	8,184,745
61	118,344,304	.61992E+15	58.00	68,025,012	168,663,597
62	33,773,127	.73072E+14	6.00	12,855,578	54,690,676
Subtotal	152,117,431	.69299E+15	63.90	99,467,890	204,766,973
Total	8,279,261,952	.75411E+18	73.32	6,542,471,509	10,016,052,394

Appendix D Table 4.--Continued.

BIOMASS					
Stratum	Biomass (t)	Variance biomass	Eff. deg. freedom	95% Confidence Limits	
				Lower	Upper
10	1,262,123	.10385E+12	56.00	610,843	1,913,403
20	252,880	.33021E+10	29.00	135,367	370,394
31	284,524	.21150E+10	68.00	192,545	376,503
32	15,459	.28857E+08	9.00	3,308	27,610
Subtotal	299,983	.21439E+10	69.77	207,379	392,588
41	113,319	.12696E+10	43.00	41,308	185,330
42	90,505	.71150E+09	29.00	35,877	145,133
43	42,931	.92551E+08	21.00	22,921	62,942
Subtotal	246,756	.20736E+10	77.68	155,681	337,830
50	1,054	.76064E+06	23.00	0	2,863
61	51,373	.10837E+09	58.00	30,334	72,412
62	13,529	.14294E+08	6.00	3,809	23,250
Subtotal	64,902	.12266E+09	63.61	42,751	87,053
Total	2,127,699	.11149E+12	64.38	1,459,890	2,795,508

Appendix D Table 5.--CPUE, population, and biomass estimates for *Hippoglossoides* spp.

CPUE								
Stratum	Total hauls	Hauls with catch	Hauls with nums.	Hauls with L-F	Mean CPUE (kg/ha)	Variance mean CPUE (kg/ha)	Mean CPUE (no/ha)	Variance mean CPUE (no/ha)
10	57	31	31	30	1.36	.94730E-01	2.42	.47610E+00
20	30	13	13	13	0.19	.29140E-02	0.38	.13970E-01
31	69	68	68	68	15.86	.68660E+01	42.54	.72070E+02
32	10	10	10	10	5.65	.72250E+01	14.97	.38080E+02
Subtotal	79	78	78	78	14.99	.58010E+01	40.20	.60620E+02
41	44	42	42	42	3.79	.81560E+00	10.46	.57490E+01
42	30	25	25	25	4.14	.19180E+01	9.50	.81270E+01
43	22	20	20	20	11.17	.30970E+02	17.85	.36860E+02
Subtotal	96	87	87	87	5.31	.15580E+01	11.69	.37600E+01
50	24	24	24	24	12.62	.22290E+01	60.92	.49880E+02
61	59	59	59	59	13.95	.46780E+01	47.65	.38230E+02
62	7	7	7	7	6.05	.16570E+01	28.87	.40130E+02
Subtotal	66	66	66	66	13.42	.40710E+01	46.37	.33400E+02
Total	352	299	299	298	8.62	.13760E+02	26.68	.14810E+03

POPULATION					
Stratum	Population	Variance population	Eff. deg. freedom	95% Confidence Limits Lower	Upper
10	18,808,895	.28870E+14	56.00	7,949,972	29,667,818
20	1,550,325	.23520E+12	29.00	558,559	2,542,091
31	402,092,116	.64398E+16	68.00	241,595,797	562,588,436
32	13,134,360	.29317E+14	9.00	886,647	25,382,073
Subtotal	415,226,477	.64691E+16	68.61	254,365,238	576,087,715
41	65,572,071	.22602E+15	43.00	35,188,705	95,955,437
42	22,818,912	.46856E+14	29.00	8,820,600	36,817,223
43	37,675,283	.16422E+15	21.00	10,943,821	64,406,744
Subtotal	126,066,265	.43709E+15	74.98	84,252,945	167,879,585
50	236,337,025	.75059E+15	23.00	179,515,986	293,158,063
61	419,963,329	.29697E+16	58.00	309,829,670	530,096,989
62	18,561,279	.16586E+14	6.00	8,595,778	28,526,779
Subtotal	438,524,608	.29863E+16	58.63	328,083,829	548,965,387
Total	1,236,513,594	.10672E+17	144.33	1,031,967,852	1,441,059,337

Appendix D Table 5.--Continued.

BIOMASS					
Stratum	Biomass (t)	Variance biomass	Eff. deg. freedom	95% Confidence Limits Lower	Upper
10	10,562	.57442E+07	56.00	5,719	15,406
20	774	.49049E+05	29.00	321	1,227
31	149,901	.61349E+09	68.00	100,363	199,438
32	4,958	.55626E+07	9.00	0	10,293
Subtotal	154,859	.61905E+09	69.20	105,097	204,620
41	23,760	.32065E+08	43.00	12,315	35,204
42	9,952	.11055E+08	29.00	3,153	16,752
43	23,582	.13799E+09	21.00	0	48,086
Subtotal	57,294	.18111E+09	35.09	29,813	84,774
50	48,948	.33537E+08	23.00	36,966	60,929
61	122,972	.36333E+09	58.00	84,449	161,495
62	3,890	.68480E+06	6.00	1,865	5,915
Subtotal	126,862	.36402E+09	58.22	88,303	165,421
Total	399,298	.12035E+10	164.62	330,609	467,988

Appendix D Table 6.--CPUE, population, and biomass estimates for Alaska plaice.

CPUE								
Stratum	Total hauls	Hauls with catch	Hauls with nums.	Hauls with L-F	Mean CPUE (kg/ha)	Variance mean CPUE (kg/ha)	Mean CPUE (no/ha)	Variance mean CPUE (no/ha)
10	57	51	51	57	9.43	.24500E+01	21.33	.85000E+01
20	30	30	30	30	9.68	.19780E+01	29.98	.15330E+02
31	69	55	55	66	9.27	.25290E+01	15.07	.78990E+01
32	10	5	5	9	2.27	.12510E+01	2.28	.10280E+01
Subtotal	79	60	60	75	8.68	.21260E+01	13.98	.66210E+01
41	44	43	43	44	30.18	.10360E+03	47.66	.29430E+03
42	30	23	23	29	6.24	.29270E+01	9.42	.70930E+01
43	22	18	18	21	8.97	.65600E+01	9.53	.76380E+01
Subtotal	96	84	84	94	20.70	.35440E+02	31.68	.10020E+03
50	24	0	0	4	0.00	.00000E+00	0.00	.00000E+00
61	59	13	13	51	1.42	.44690E+00	0.93	.19640E+00
62	7	7	7	7	8.09	.88000E+01	6.59	.11520E+02
Subtotal	66	20	20	58	1.87	.42880E+00	1.31	.22380E+00
Total	352	245	245	318	9.57	.42420E+02	17.00	.13080E+03

POPULATION					
Stratum	Population	Variance population	Eff. deg. freedom	95% Confidence Limits Lower	Upper
10	166,126,114	.51541E+15	56.00	120,243,902	212,008,327
20	123,013,026	.25807E+15	29.00	90,161,272	155,864,779
31	142,415,974	.70576E+15	68.00	89,283,614	195,548,335
32	1,999,539	.79158E+12	9.00	0	4,051,199
Subtotal	144,415,514	.70655E+15	68.15	91,253,365	197,577,662
41	298,842,587	.11570E+17	43.00	81,457,109	516,228,064
42	22,630,338	.40896E+14	29.00	9,552,637	35,708,039
43	20,125,725	.34030E+14	21.00	7,992,016	32,259,435
Subtotal	341,598,650	.11645E+17	43.56	123,510,424	559,686,876
50	0	.00000E+00	23.00	0	0
61	8,179,894	.15254E+14	58.00	286,620	16,073,168
62	4,233,504	.47591E+13	6.00	0	9,571,746
Subtotal	12,413,398	.20013E+14	51.45	3,372,259	21,454,538
Total	787,566,702	.13145E+17	55.25	555,857,133	1,019,276,271

Appendix D Table 6.--Continued.

BIOMASS					
Stratum	Biomass (t)	Variance biomass	Eff. deg. freedom	95% Confidence Limits Lower	Upper
10	73,420	.14859E+09	56.00	48,784	98,056
20	39,715	.33292E+08	29.00	27,916	51,515
31	87,631	.22594E+09	68.00	57,568	117,693
32	1,988	.96326E+06	9.00	0	4,208
Subtotal	89,619	.22690E+09	68.57	59,493	119,745
41	189,232	.40738E+10	43.00	60,239	318,224
42	14,973	.16875E+08	29.00	6,572	23,374
43	18,943	.29227E+08	21.00	7,698	30,188
Subtotal	223,148	.41199E+10	43.97	93,427	352,868
50	0	.00000E+00	23.00	0	0
61	12,518	.34710E+08	58.00	611	24,425
62	5,200	.36369E+07	6.00	296	10,103
Subtotal	17,718	.38347E+08	64.00	5,333	30,103
Total	443,620	.45670E+10	53.88	307,041	580,198

Appendix D Table 7.--CPUE, population, and biomass estimates for Greenland turbot.

CPUE								
Stratum	Total hauls	Hauls with catch	Hauls with nums.	Hauls with L-F	Mean CPUE (kg/ha)	Variance mean CPUE (kg/ha)	Mean CPUE (no/ha)	Variance mean CPUE (no/ha)
10	57	0	0	0	0.00	.00000E+00	0.00	.00000E+00
20	30	1	1	1	0.00	.35900E-08	0.01	.56090E-04
31	69	1	1	1	0.02	.26170E-03	0.00	.86500E-05
32	10	0	0	0	0.00	.00000E+00	0.00	.00000E+00
Subtotal	79	1	1	1	0.01	.21910E-03	0.00	.72430E-05
41	44	7	7	6	0.07	.50330E-02	0.08	.11560E-02
42	30	0	0	0	0.00	.00000E+00	0.00	.00000E+00
43	22	9	9	6	0.57	.89080E-01	0.24	.67300E-02
Subtotal	96	16	16	12	0.15	.51160E-02	0.09	.64880E-03
50	24	1	1	1	0.05	.26960E-02	0.01	.55010E-04
61	59	23	23	23	2.26	.26340E+00	0.49	.11750E-01
62	7	4	4	4	1.62	.70640E+00	0.27	.11720E-01
Subtotal	66	27	27	27	2.22	.23210E+00	0.48	.10260E-01
Total	352	46	46	42	0.50	.24010E+00	0.12	.11030E-01

POPULATION					
Stratum	Population	Variance population	Eff. deg. freedom	95% Confidence Limits Lower	Upper
10	0	.00000E+00	56.00	0	0
20	30,727	.94412E+09	29.00	0	93,562
31	27,801	.77290E+09	68.00	0	83,403
32	0	.00000E+00	9.00	0	0
Subtotal	27,801	.77290E+09	9.18	0	90,687
41	504,908	.45446E+11	43.00	74,071	935,745
42	0	.00000E+00	29.00	0	0
43	512,487	.29983E+11	21.00	152,320	872,654
Subtotal	1,017,395	.75429E+11	52.50	462,340	1,572,450
50	28,772	.82785E+09	23.00	0	88,446
61	4,333,223	.91280E+12	58.00	2,402,348	6,264,097
62	173,836	.48441E+10	6.00	0	352,776
Subtotal	4,507,059	.91764E+12	58.60	2,571,067	6,443,050
Total	5,611,753	.99562E+12	148.14	3,636,096	7,587,410

Appendix D Table 7.--Continued.

BIOMASS					
Stratum	Biomass (t)	Variance biomass	Eff. deg. freedom	95% Confidence Limits Lower	Upper
10	0	.00000E+00	56.00	0	0
20	0	.60424E-01	29.00	0	1
31	153	.23380E+05	68.00	0	459
32	0	.00000E+00	9.00	0	0
Subtotal	153	.23380E+05	15.11	0	479
41	452	.19788E+06	43.00	0	1,351
42	0	.00000E+00	29.00	0	0
43	1,193	.39690E+06	21.00	0	2,507
Subtotal	1,644	.59478E+06	63.95	102	3,187
50	201	.40564E+05	23.00	0	619
61	19,919	.20461E+08	58.00	10,777	29,061
62	1,039	.29195E+06	6.00	0	2,428
Subtotal	20,958	.20753E+08	59.55	11,751	30,165
Total	22,957	.21412E+08	71.22	13,702	32,212

Appendix D Table 8.--CPUE, population, and biomass estimates for arrowtooth flounder.

CPUE								
Stratum	Total hauls	Hauls with catch	Hauls with nums.	Hauls with L-F	Mean CPUE (kg/ha)	Variance mean CPUE (kg/ha)	Mean CPUE (no/ha)	Variance mean CPUE (no/ha)
10	57	1	1	1	0.03	.63170E-03	0.10	.95290E-02
20	30	0	0	0	0.00	.00000E+00	0.00	.00000E+00
31	69	35	35	35	5.29	.18040E+01	14.38	.17790E+02
32	10	10	10	10	12.81	.10510E+02	25.78	.23110E+02
Subtotal	79	45	45	45	5.93	.15860E+01	15.35	.15060E+02
41	44	9	9	9	0.55	.65080E-01	0.73	.87140E-01
42	30	26	26	25	3.98	.49760E+00	10.24	.45510E+01
43	22	8	8	8	0.19	.10020E-01	0.37	.22040E-01
Subtotal	96	43	43	42	1.24	.47070E-01	2.77	.25600E+00
50	24	24	24	24	23.34	.81890E+01	59.60	.87530E+02
61	59	44	44	44	17.20	.34040E+02	18.54	.26370E+02
62	7	4	4	4	2.85	.21280E+01	3.36	.40440E+01
Subtotal	66	48	48	48	16.23	.29580E+02	17.51	.22930E+02
Total	352	161	161	160	6.88	.39400E+02	12.65	.12580E+03

POPULATION					
Stratum	Population	Variance population	Eff. deg. freedom	95% Confidence Lower	Limits Upper
10	760,148	.57782E+12	56.00	0	2,296,406
20	0	.00000E+00	29.00	0	0
31	135,942,084	.15897E+16	68.00	56,200,232	215,683,936
32	22,619,070	.17793E+14	9.00	13,077,544	32,160,597
Subtotal	158,561,154	.16075E+16	69.46	78,374,278	238,748,031
41	4,546,519	.34262E+13	43.00	805,639	8,287,400
42	24,584,144	.26240E+14	29.00	14,108,646	35,059,642
43	788,419	.98182E+11	21.00	136,673	1,440,165
Subtotal	29,919,082	.29764E+14	36.89	18,778,605	41,059,560
50	231,192,437	.13172E+16	23.00	156,101,508	306,283,366
61	163,415,880	.20487E+16	58.00	71,940,712	254,891,047
62	2,159,308	.16711E+13	6.00	0	5,322,542
Subtotal	165,575,188	.20504E+16	58.09	74,062,721	257,087,656
Total	586,008,009	.50054E+16	135.43	445,925,531	726,090,488

Appendix D Table 8.--Continued.

BIOMASS					
Stratum	Biomass (t)	Variance biomass	Eff. deg. freedom	95% Confidence Limits Lower	Upper
10	196	.38307E+05	56.00	0	591
20	0	.00000E+00	29.00	0	0
31	49,980	.16119E+09	68.00	24,589	75,372
32	11,242	.80890E+07	9.00	4,809	17,676
Subtotal	61,223	.16927E+09	73.59	35,202	87,244
41	3,448	.25589E+07	43.00	215	6,681
42	9,568	.28691E+07	29.00	6,104	13,031
43	393	.44647E+05	21.00	0	833
Subtotal	13,408	.54727E+07	68.67	8,730	18,087
50	90,557	.12324E+09	23.00	67,532	113,581
61	151,597	.26441E+10	58.00	47,675	255,519
62	1,833	.87932E+06	6.00	0	4,128
Subtotal	153,431	.26450E+10	58.04	49,491	257,370
Total	318,814	.29430E+10	71.26	210,315	427,314

Appendix D Table 9.--CPUE, population, and biomass estimates for Kamchatka flounder.

CPUE								
Stratum	Total hauls	Hauls with catch	Hauls with nums.	Hauls with L-F	Mean CPUE (kg/ha)	Variance mean CPUE (kg/ha)	Mean CPUE (no/ha)	Variance mean CPUE (no/ha)
10	57	0	0	0	0.00	.00000E+00	0.00	.00000E+00
20	30	0	0	0	0.00	.00000E+00	0.00	.00000E+00
31	69	13	13	13	0.12	.22280E-02	0.16	.31360E-02
32	10	8	8	8	1.07	.16030E+00	2.40	.54130E+00
Subtotal	79	21	21	21	0.20	.30220E-02	0.35	.65310E-02
41	44	5	5	5	0.11	.33200E-02	0.06	.81390E-03
42	30	14	14	14	0.31	.97880E-02	0.34	.73200E-02
43	22	4	4	4	0.19	.86350E-02	0.14	.59490E-02
Subtotal	96	23	23	23	0.17	.19390E-02	0.14	.86630E-03
50	24	23	23	21	0.73	.18590E-01	1.78	.12930E+00
61	59	52	52	52	1.44	.58120E-01	2.89	.54580E+00
62	7	7	7	7	3.29	.83180E+00	2.10	.59940E+00
Subtotal	66	59	59	59	1.57	.54330E-01	2.83	.47690E+00
Total	352	126	126	124	0.47	.77880E-01	0.84	.61360E+00

POPULATION

Stratum	Population	Variance population	Eff. deg. freedom	95% Confidence Limits	
				Lower	Upper
10	0	.00000E+00	56.00	0	0
20	0	.00000E+00	29.00	0	0
31	1,522,656	.28018E+12	68.00	464,012	2,581,299
32	2,108,067	.41669E+12	9.00	647,910	3,568,224
Subtotal	3,630,723	.69687E+12	23.76	1,903,545	5,357,901
41	369,389	.32001E+11	43.00	7,858	730,920
42	820,916	.42201E+11	29.00	400,813	1,241,020
43	304,762	.26507E+11	21.00	0	643,405
Subtotal	1,495,068	.10071E+12	85.47	860,376	2,129,761
50	6,903,844	.19462E+13	23.00	4,010,509	9,797,178
61	25,434,503	.42398E+14	58.00	12,275,012	38,593,994
62	1,350,362	.24770E+12	6.00	70,782	2,629,942
Subtotal	26,784,865	.42646E+14	58.66	13,586,989	39,982,741
Total	38,814,499	.45389E+14	70.80	25,340,158	52,288,841

Appendix D Table 9.--Continued.

BIOMASS					
Stratum	Biomass (t)	Variance biomass	Eff. deg. freedom	95% Confidence Limits Lower	Upper
10	0	.00000E+00	56.00	0	0
20	0	.00000E+00	29.00	0	0
31	1,135	.19910E+06	68.00	243	2,028
32	937	.12341E+06	9.00	143	1,732
Subtotal	2,073	.32251E+06	45.73	925	3,220
41	705	.13053E+06	43.00	0	1,435
42	740	.56434E+05	29.00	253	1,226
43	395	.38470E+05	21.00	0	803
Subtotal	1,840	.22543E+06	88.14	891	2,790
50	2,816	.27969E+06	23.00	1,722	3,910
61	12,704	.45145E+07	58.00	8,410	16,998
62	2,118	.34376E+06	6.00	683	3,552
Subtotal	14,822	.48583E+07	63.60	10,414	19,230
Total	21,551	.56859E+07	130.86	16,829	26,272

Appendix D Table 10.--CPUE, population, and biomass estimates for Pacific halibut.

CPUE								
Stratum	Total hauls	Hauls with catch	Hauls with nums.	Hauls with L-F	Mean CPUE (kg/ha)	Variance mean CPUE (kg/ha)	Mean CPUE (no/ha)	Variance mean CPUE (no/ha)
10	57	52	52	52	2.74	.17990E+00	1.69	.23850E+00
20	30	25	25	25	2.42	.39280E+00	1.07	.62090E-01
31	69	58	58	58	2.11	.75760E-01	0.86	.15920E-01
32	10	9	9	9	5.28	.28540E+01	0.93	.68830E-01
Subtotal	79	67	67	67	2.38	.84020E-01	0.86	.13830E-01
41	44	19	19	19	0.81	.55790E-01	0.18	.30490E-02
42	30	28	28	28	3.67	.93180E+00	1.01	.86660E-01
43	22	9	9	9	1.36	.59580E+00	0.18	.37420E-02
Subtotal	96	56	56	56	1.56	.87910E-01	0.37	.54720E-02
50	24	18	18	18	2.21	.35580E+00	0.33	.59350E-02
61	59	40	40	40	4.02	.58650E+00	0.61	.13840E-01
62	7	4	4	4	3.48	.38990E+01	0.19	.10270E-01
Subtotal	66	44	44	44	3.98	.52750E+00	0.58	.12070E-01
Total	352	262	262	262	2.57	.16280E+01	0.80	.33790E+00

POPULATION					
Stratum	Population	Variance population	Eff. deg. freedom	95% Confidence Lower	Limits Upper
10	13,165,523	.14465E+14	56.00	5,479,029	20,852,017
20	4,388,292	.10451E+13	29.00	2,294,618	6,481,966
31	8,115,986	.14223E+13	68.00	5,730,794	10,501,178
32	813,220	.52993E+11	9.00	282,373	1,344,068
Subtotal	8,929,207	.14753E+13	72.40	6,499,986	11,358,427
41	1,137,915	.11987E+12	43.00	438,187	1,837,642
42	2,418,606	.49962E+12	29.00	971,004	3,866,208
43	385,879	.16673E+11	21.00	117,300	654,457
Subtotal	3,942,400	.63617E+12	45.20	2,330,450	5,554,349
50	1,292,833	.89319E+11	23.00	674,485	1,911,182
61	5,339,245	.10754E+13	58.00	3,243,432	7,435,058
62	123,015	.42458E+10	6.00	0	282,460
Subtotal	5,462,260	.10797E+13	58.45	3,362,314	7,562,206
Total	37,180,515	.18791E+14	92.11	28,510,867	45,850,162

Appendix D Table 10.--Continued.

BIOMASS					
Stratum	Biomass (t)	Variance biomass	Eff. deg. freedom	95% Confidence Limits Lower	Upper
10	21,320	.10909E+08	56.00	14,645	27,995
20	9,946	.66119E+07	29.00	4,687	15,204
31	19,953	.67690E+07	68.00	14,750	25,157
32	4,636	.21970E+07	9.00	1,218	8,054
Subtotal	24,589	.89660E+07	66.44	18,601	30,578
41	5,093	.21934E+07	43.00	2,099	8,086
42	8,823	.53721E+07	29.00	4,076	13,570
43	2,865	.26545E+07	21.00	0	6,254
Subtotal	16,781	.10220E+08	72.42	10,387	23,174
50	8,590	.53546E+07	23.00	3,790	13,389
61	35,422	.45556E+08	58.00	21,782	49,063
62	2,238	.16114E+07	6.00	0	5,344
Subtotal	37,660	.47167E+08	61.43	23,924	51,396
Total	118,885	.89228E+08	181.98	100,182	137,588

APPENDIX E

Population Estimates by Sex and Size
Groups for Principal Fish Species

Appendix E presents estimates of the numbers of individuals within the overall survey area by sex and size group for principal fish species.

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Appendix E Table 1.--Population estimates by sex and size group for walleye pollock from the 2000 eastern Bering Sea bottom trawl survey.

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative Proportion
40	526,095	0	0	526,095	0.0001	0.0001
50	0	83,350	105,607	188,956	0.0000	0.0001
60	0	0	708,910	708,910	0.0001	0.0002
70	0	25,064	5,770,062	5,795,126	0.0007	0.0009
80	109,575	0	34,611,996	34,721,570	0.0041	0.0050
90	76,701	51,452	87,855,745	87,983,898	0.0105	0.0155
100	230,103	364,556	122,425,488	123,020,146	0.0147	0.0302
110	516,430	398,926	131,478,513	132,393,869	0.0158	0.0460
120	1,176,207	891,590	123,180,584	125,248,381	0.0149	0.0609
130	1,693,212	2,342,989	110,025,095	114,061,296	0.0136	0.0745
140	2,397,555	2,481,936	145,512,310	150,391,802	0.0179	0.0924
150	1,709,525	2,525,212	89,646,459	93,881,196	0.0112	0.1036
160	3,177,146	1,721,533	52,345,780	57,244,459	0.0068	0.1104
170	1,630,026	1,450,392	20,216,811	23,297,229	0.0028	0.1132
180	2,248,679	1,607,236	7,790,816	11,646,731	0.0014	0.1146
190	3,048,629	1,877,646	11,962,581	16,888,856	0.0020	0.1166
200	14,137,388	11,512,423	2,124,083	27,773,894	0.0033	0.1199
210	15,116,950	12,972,356	124,364	28,213,670	0.0034	0.1233
220	19,458,195	18,958,708	109,419	38,526,322	0.0046	0.1279
230	13,592,230	20,111,777	64,607	33,768,614	0.0040	0.1319
240	15,473,549	13,529,872	0	29,003,421	0.0035	0.1354
250	15,001,500	9,109,883	0	24,111,383	0.0029	0.1383
260	11,701,852	14,279,528	0	25,981,381	0.0031	0.1414
270	10,077,645	6,942,329	0	17,019,975	0.0020	0.1434
280	10,326,012	7,203,589	0	17,529,601	0.0021	0.1455
290	8,774,874	16,339,870	0	25,114,745	0.0030	0.1485
300	12,056,795	5,820,913	0	17,877,708	0.0021	0.1506
310	12,831,345	10,392,247	0	23,223,591	0.0028	0.1534
320	19,281,367	14,435,854	0	33,717,222	0.0040	0.1574
330	26,500,037	17,477,920	0	43,977,957	0.0052	0.1626
340	38,050,846	28,203,477	0	66,254,323	0.0079	0.1705
350	45,958,579	41,436,573	0	87,395,152	0.0104	0.1810
360	74,575,674	65,598,409	0	140,174,083	0.0167	0.1977
370	108,858,111	77,714,155	0	186,572,266	0.0222	0.2199
380	145,196,234	105,994,729	0	251,190,963	0.0300	0.2499
390	140,694,855	110,768,198	0	251,463,053	0.0300	0.2799
400	211,201,427	149,273,448	0	360,474,875	0.0430	0.3229
410	206,007,241	168,367,825	0	374,375,066	0.0446	0.3675
420	241,631,454	199,466,032	0	441,097,486	0.0526	0.4201
430	219,906,420	159,926,802	0	379,833,222	0.0453	0.4654
440	239,873,183	202,141,503	0	442,014,687	0.0527	0.5181
450	260,150,106	150,989,001	0	411,139,107	0.0490	0.5671
460	288,819,096	194,468,685	0	483,287,782	0.0576	0.6248
470	252,665,041	191,213,036	0	443,878,077	0.0529	0.6777

Appendix E Table 1.--Continued.

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative Proportion
480	253,096,196	238,934,534	0	492,030,731	0.0587	0.7364
490	169,187,747	199,667,965	0	368,855,712	0.0440	0.7804
500	166,315,266	184,159,666	0	350,474,932	0.0418	0.8222
510	117,069,557	151,379,800	0	268,449,357	0.0320	0.8542
520	113,561,293	134,193,513	0	247,754,806	0.0295	0.8837
530	76,153,216	90,315,774	0	166,468,990	0.0199	0.9036
540	62,946,957	75,283,891	0	138,230,848	0.0165	0.9201
550	38,637,895	64,247,212	0	102,885,107	0.0123	0.9323
560	48,077,624	55,473,825	0	103,551,449	0.0123	0.9447
570	26,214,025	38,422,386	0	64,636,410	0.0077	0.9524
580	25,756,077	46,088,144	0	71,844,221	0.0086	0.9610
590	19,387,786	32,106,033	0	51,493,819	0.0061	0.9671
600	19,032,985	26,992,030	0	46,025,015	0.0055	0.9726
610	11,942,342	20,951,057	0	32,893,399	0.0039	0.9765
620	14,592,713	19,091,305	0	33,684,019	0.0040	0.9805
630	8,659,824	15,664,638	0	24,324,462	0.0029	0.9834
640	9,576,966	14,192,224	0	23,769,190	0.0028	0.9863
650	8,625,491	12,033,479	0	20,658,970	0.0025	0.9887
660	6,403,139	9,331,924	0	15,735,063	0.0019	0.9906
670	6,122,541	8,342,239	0	14,464,779	0.0017	0.9923
680	5,720,373	7,678,471	0	13,398,844	0.0016	0.9939
690	4,011,806	7,395,602	0	11,407,409	0.0014	0.9953
700	2,737,017	5,819,776	0	8,556,794	0.0010	0.9963
710	2,061,497	5,430,162	0	7,491,658	0.0009	0.9972
720	1,534,143	4,338,456	0	5,872,599	0.0007	0.9979
730	918,593	5,091,833	0	6,010,425	0.0007	0.9986
740	609,221	2,932,129	0	3,541,350	0.0004	0.9990
750	419,241	1,766,248	0	2,185,489	0.0003	0.9993
760	201,315	1,788,860	0	1,990,175	0.0002	0.9995
770	65,563	1,062,515	0	1,128,078	0.0001	0.9997
780	0	1,186,572	0	1,186,572	0.0001	0.9998
790	0	784,970	0	784,970	0.0001	0.9999
800	0	185,758	0	185,758	0.0000	0.9999
810	119,478	235,057	0	354,535	0.0000	1.0000
820	0	99,006	0	99,006	0.0000	1.0000
830	0	48,630	0	48,630	0.0000	1.0000
840	0	29,065	0	29,065	0.0000	1.0000
860	0	64,445	0	64,445	0.0000	1.0000
940	32,839	0	0	32,839	0.0000	1.0000
Total	3,916,248,617	3,523,280,219	946,059,229	8,385,588,065	1.0000	1.0000

Appendix E Table 2.--Population estimates by sex and size group for Pacific cod from the 2000 eastern Bering Sea bottom trawl survey.

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative Proportion
70	129,025	29,003	0	158,028	0.0003	0.0003
80	0	28,987	358,958	387,945	0.0008	0.0011
90	63,505	0	828,598	892,104	0.0019	0.0030
100	151,977	58,404	1,766,023	1,976,405	0.0041	0.0071
110	383,552	625,888	2,803,734	3,813,175	0.0079	0.0150
120	1,318,079	1,032,581	2,907,708	5,258,368	0.0109	0.0259
130	4,260,145	2,625,121	4,576,357	11,461,623	0.0238	0.0498
140	6,971,248	5,350,426	6,079,578	18,401,252	0.0382	0.0880
150	7,651,616	8,833,161	5,918,873	22,403,650	0.0465	0.1345
160	6,621,208	7,762,226	2,640,641	17,024,075	0.0354	0.1699
170	4,744,179	4,585,690	1,371,898	10,701,767	0.0222	0.1921
180	4,130,114	5,398,172	1,009,366	10,537,652	0.0219	0.2140
190	2,873,666	2,363,740	200,687	5,438,094	0.0113	0.2253
200	2,096,748	1,082,825	177,485	3,357,058	0.0070	0.2323
210	650,802	530,400	77,141	1,258,343	0.0026	0.2349
220	183,772	168,257	0	352,028	0.0007	0.2356
230	291,266	178,966	0	470,232	0.0010	0.2366
240	374,964	566,307	0	941,270	0.0020	0.2386
250	583,012	903,653	0	1,486,665	0.0031	0.2416
260	1,583,571	1,391,702	0	2,975,272	0.0062	0.2478
270	1,807,013	2,756,002	0	4,563,015	0.0095	0.2573
280	3,196,912	3,328,890	0	6,525,803	0.0136	0.2709
290	3,006,358	4,572,273	0	7,578,631	0.0157	0.2866
300	4,457,519	3,987,055	0	8,444,574	0.0175	0.3042
310	4,538,464	5,377,125	0	9,915,588	0.0206	0.3248
320	6,547,874	5,129,853	0	11,677,727	0.0243	0.3490
330	4,828,004	3,680,225	0	8,508,229	0.0177	0.3667
340	3,967,900	3,584,474	0	7,552,375	0.0157	0.3824
350	3,883,108	3,189,529	0	7,072,637	0.0147	0.3971
360	3,727,780	3,475,218	30,070	7,233,067	0.0150	0.4121
370	3,453,662	3,234,949	0	6,688,611	0.0139	0.4260
380	3,720,762	3,941,179	0	7,661,941	0.0159	0.4419
390	4,551,237	3,999,422	0	8,550,659	0.0178	0.4597
400	5,011,319	4,833,230	0	9,844,549	0.0205	0.4801
410	4,952,764	5,297,057	0	10,249,821	0.0213	0.5014
420	6,372,119	5,242,389	0	11,614,508	0.0241	0.5255
430	5,694,682	6,032,664	0	11,727,346	0.0244	0.5499
440	6,736,982	6,591,757	0	13,328,739	0.0277	0.5776
450	5,493,827	6,329,634	0	11,823,462	0.0246	0.6022
460	7,834,842	5,762,845	0	13,597,687	0.0282	0.6304
470	6,427,311	5,830,862	0	12,258,173	0.0255	0.6559
480	7,676,162	7,322,440	0	14,998,601	0.0312	0.6870
490	6,594,822	6,531,231	0	13,126,053	0.0273	0.7143
500	7,210,821	6,221,254	0	13,432,075	0.0279	0.7422

Appendix E Table 2.--Continued.

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative Proportion
510	5,326,774	4,648,722	0	9,975,496	0.0207	0.7629
520	5,809,897	6,212,136	0	12,022,033	0.0250	0.7879
530	4,025,127	5,097,886	0	9,123,013	0.0190	0.8069
540	5,273,221	4,460,144	0	9,733,365	0.0202	0.8271
550	3,548,646	3,862,546	0	7,411,192	0.0154	0.8425
560	4,249,566	3,410,798	0	7,660,364	0.0159	0.8584
570	3,584,310	3,433,095	0	7,017,405	0.0146	0.8730
580	3,195,582	2,901,146	0	6,096,727	0.0127	0.8856
590	3,266,236	2,778,978	0	6,045,213	0.0126	0.8982
600	2,456,577	3,202,906	0	5,659,484	0.0118	0.9100
610	2,305,753	1,982,670	0	4,288,422	0.0089	0.9189
620	1,668,370	2,199,348	0	3,867,718	0.0080	0.9269
630	1,805,125	1,656,996	0	3,462,121	0.0072	0.9341
640	1,522,720	1,749,420	0	3,272,140	0.0068	0.9409
650	946,974	1,130,064	0	2,077,038	0.0043	0.9452
660	1,184,022	1,289,749	0	2,473,771	0.0051	0.9503
670	858,405	1,383,344	0	2,241,749	0.0047	0.9550
680	949,422	1,063,792	0	2,013,214	0.0042	0.9592
690	563,495	808,677	0	1,372,172	0.0029	0.9620
700	993,948	912,107	0	1,906,055	0.0040	0.9660
710	668,672	622,359	0	1,291,032	0.0027	0.9687
720	944,731	549,164	0	1,493,895	0.0031	0.9718
730	481,859	680,846	0	1,162,704	0.0024	0.9742
740	682,993	640,419	0	1,323,412	0.0027	0.9769
750	667,351	465,890	0	1,133,242	0.0024	0.9793
760	292,028	554,916	0	846,945	0.0018	0.9811
770	221,419	243,554	0	464,973	0.0010	0.9820
780	160,771	353,767	0	514,538	0.0011	0.9831
790	272,685	556,385	0	829,070	0.0017	0.9848
800	268,805	582,465	0	851,270	0.0018	0.9866
810	83,809	378,485	0	462,295	0.0010	0.9875
820	154,257	520,928	0	675,185	0.0014	0.9889
830	318,319	393,912	0	712,231	0.0015	0.9904
840	147,370	177,274	0	324,644	0.0007	0.9911
850	172,617	199,468	0	372,085	0.0008	0.9919
860	61,730	142,928	0	204,658	0.0004	0.9923
870	45,732	286,584	0	332,316	0.0007	0.9930
880	179,495	832,156	0	1,011,650	0.0021	0.9951
890	17,828	234,722	0	252,551	0.0005	0.9956
900	56,177	219,067	0	275,245	0.0006	0.9962
910	19,725	264,913	0	284,638	0.0006	0.9968
920	0	142,687	0	142,687	0.0003	0.9971
930	31,480	135,406	0	166,887	0.0003	0.9974
940	16,554	362,478	0	379,033	0.0008	0.9982
950	0	92,655	0	92,655	0.0002	0.9984
960	0	298,948	0	298,948	0.0006	0.9990
970	132,473	54,579	0	187,052	0.0004	0.9994

Appendix E Table 2.--Continued.

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative Proportion
980	0	122,620	0	122,620	0.0003	0.9997
990	18,934	18,613	0	37,547	0.0001	0.9997
1000	0	17,878	0	17,878	0.0000	0.9998
1010	0	106,657	0	106,657	0.0002	1.0000
Total	226,406,675	224,204,317	30,747,117	481,358,109	1.0000	1.0000

Appendix E Table 3.--Population estimates by sex and size group for yellowfin sole from the 2000 eastern Bering Sea bottom trawl survey.

Length (mm)	Males	Females	Unsexed	Total*	Proportion	Cumulative Proportion
50	0	289,857	0	289,857	0.0000	0.0000
60	0	0	539,541	539,541	0.0001	0.0001
80	745,389	401,340	0	1,146,729	0.0002	0.0003
90	289,857	4,431,927	539,541	5,261,325	0.0008	0.0011
100	15,179,115	10,699,814	10,579,689	36,458,618	0.0054	0.0065
110	18,876,317	18,043,074	10,157,021	47,076,412	0.0070	0.0135
120	27,957,839	33,884,385	4,867,177	66,709,401	0.0099	0.0234
130	45,767,973	53,898,977	4,869,775	104,536,725	0.0155	0.0389
140	57,883,497	60,195,786	635,301	118,714,583	0.0176	0.0566
150	71,003,497	64,142,784	5,717,710	140,863,991	0.0209	0.0775
160	83,654,454	78,223,124	1,905,903	163,783,481	0.0243	0.1019
170	77,720,401	89,681,567	1,270,602	168,672,571	0.0251	0.1269
180	103,955,941	111,222,048	3,176,505	218,354,494	0.0325	0.1594
190	108,759,440	118,032,205	2,541,204	229,332,850	0.0341	0.1935
200	158,929,873	135,384,603	1,905,903	296,220,380	0.0440	0.2375
210	150,435,429	140,008,091	3,176,505	293,620,026	0.0436	0.2811
220	162,300,307	153,868,739	4,447,108	320,616,153	0.0476	0.3288
230	141,691,283	130,527,433	2,541,204	274,759,920	0.0408	0.3696
240	140,347,990	135,429,898	1,270,602	277,048,490	0.0412	0.4108
250	127,997,776	114,411,962	1,270,602	243,680,340	0.0362	0.4470
260	155,707,457	148,013,360	0	303,720,817	0.0451	0.4921
270	154,643,990	121,536,776	1,905,903	278,086,670	0.0413	0.5335
280	208,256,748	165,899,380	1,905,903	376,062,032	0.0559	0.5894
290	231,416,426	176,873,003	3,176,505	411,465,935	0.0612	0.6505
300	247,855,279	215,834,978	4,447,108	468,137,364	0.0696	0.7201
310	217,098,379	227,615,192	3,176,505	447,890,077	0.0666	0.7867
320	167,547,441	263,038,638	1,905,903	432,491,983	0.0643	0.8509
330	100,701,603	213,298,292	4,447,108	318,447,003	0.0473	0.8983
340	56,983,349	204,124,338	4,447,108	265,554,794	0.0395	0.9377
350	23,260,376	131,347,465	2,541,204	157,149,046	0.0234	0.9611
360	10,870,120	107,234,259	1,905,903	120,010,282	0.0178	0.9789
370	1,642,930	61,461,149	635,301	63,739,381	0.0095	0.9884
380	1,357,980	36,852,529	0	38,210,509	0.0057	0.9941
390	79,703	18,295,730	0	18,375,432	0.0027	0.9968
400	32,724	13,554,638	0	13,587,362	0.0020	0.9988
410	32,724	5,768,010	0	5,800,734	0.0009	0.9997
420	0	1,504,602	0	1,504,602	0.0002	0.9999
430	552,138	93,832	0	645,970	0.0001	1.0000
Total	3,071,535,743	3,565,123,787	91,906,347	6,728,565,878	1.0000	1.0000

*Total may differ from other tables due to method of calculation.

Appendix E Table 4.--Population estimates by sex and size group for *Lepidopsetta* spp. from the 2000 eastern Bering Sea bottom trawl survey.

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative Proportion
50	259,200	0	0	259,200	0.0000	0.0000
70	841,634	909,259	0	1,750,893	0.0002	0.0002
80	304,286	1,124,623	0	1,428,909	0.0002	0.0004
90	3,846,090	1,385,824	0	5,231,914	0.0006	0.0010
100	17,023,007	8,091,752	0	25,114,759	0.0030	0.0041
110	20,332,895	15,767,982	0	36,100,877	0.0044	0.0084
120	41,099,228	25,199,329	0	66,298,557	0.0080	0.0164
130	61,689,927	34,319,888	0	96,009,815	0.0116	0.0280
140	60,821,004	35,495,508	0	96,316,512	0.0116	0.0397
150	72,127,704	52,841,243	0	124,968,947	0.0151	0.0548
160	101,391,205	80,863,729	0	182,254,934	0.0220	0.0768
170	73,590,310	67,837,645	0	141,427,955	0.0171	0.0939
180	81,763,556	68,738,059	0	150,501,615	0.0182	0.1120
190	71,809,365	54,295,470	0	126,104,835	0.0152	0.1273
200	83,060,631	67,447,656	0	150,508,286	0.0182	0.1455
210	82,284,210	67,051,531	0	149,335,741	0.0180	0.1635
220	104,715,564	68,828,026	0	173,543,590	0.0210	0.1845
230	114,869,475	72,631,926	0	187,501,401	0.0226	0.2071
240	167,024,404	114,106,626	0	281,131,030	0.0340	0.2411
250	268,304,329	124,199,139	0	392,503,468	0.0474	0.2885
260	449,985,835	181,554,347	0	631,540,183	0.0763	0.3647
270	572,272,183	223,883,563	0	796,155,746	0.0962	0.4609
280	642,134,344	260,286,896	0	902,421,240	0.1090	0.5699
290	442,361,720	287,892,677	0	730,254,398	0.0882	0.6581
300	203,480,207	266,352,562	0	469,832,768	0.0567	0.7149
310	81,283,359	291,461,982	0	372,745,341	0.0450	0.7599
320	28,517,579	376,445,574	0	404,963,153	0.0489	0.8088
330	13,381,263	388,359,527	0	401,740,790	0.0485	0.8573
340	10,345,334	424,085,678	0	434,431,012	0.0525	0.9098
350	2,578,845	306,468,520	0	309,047,365	0.0373	0.9471
360	3,149,785	189,756,432	0	192,906,217	0.0233	0.9704
370	862,851	95,542,852	0	96,405,703	0.0116	0.9821
380	90,669	77,368,440	0	77,459,109	0.0094	0.9914
390	110,206	39,962,968	0	40,073,174	0.0048	0.9963
400	230,124	9,415,139	0	9,645,264	0.0012	0.9974
410	0	13,048,625	0	13,048,625	0.0016	0.9990
420	0	2,822,593	0	2,822,593	0.0003	0.9993
430	0	3,098,445	0	3,098,445	0.0004	0.9997
440	0	1,580,012	0	1,580,012	0.0002	0.9999
450	0	537,071	0	537,071	0.0001	1.0000
460	0	96,374	0	96,374	0.0000	1.0000
500	0	164,130	0	164,130	0.0000	1.0000
Total	3,877,942,329	4,401,319,622	0	8,279,261,952	1.0000	1.0000

Appendix E Table 5.--Population estimates by sex and size group for *Hippoglossoides* spp. from the 2000 eastern Bering Sea bottom trawl survey.

Length (mm)	Males	Females	Unsexed	Total*	Proportion	Cumulative Proportion
60	0	219,554	0	219,554	0.0002	0.0002
70	63,063	29,658	0	92,720	0.0001	0.0003
80	0	60,900	103,167	164,068	0.0001	0.0004
90	358,693	340,128	324,703	1,023,524	0.0008	0.0012
100	1,989,525	343,007	169,178	2,501,711	0.0020	0.0033
110	3,310,038	1,344,379	314,106	4,968,523	0.0041	0.0073
120	4,044,061	1,946,079	333,964	6,324,103	0.0052	0.0125
130	3,506,718	2,958,499	516,723	6,981,940	0.0057	0.0182
140	4,737,822	3,020,849	292,896	8,051,568	0.0066	0.0248
150	6,509,698	5,933,754	1,292,538	13,735,990	0.0112	0.0360
160	12,474,732	8,728,425	5,142,180	26,345,337	0.0215	0.0575
170	11,471,909	9,037,290	5,052,586	25,561,786	0.0209	0.0784
180	13,299,734	10,111,347	2,407,158	25,818,239	0.0211	0.0995
190	8,573,056	8,180,169	276,310	17,029,535	0.0139	0.1135
200	11,945,153	10,812,064	0	22,757,217	0.0186	0.1321
210	13,287,343	10,447,760	42,150	23,777,253	0.0194	0.1515
220	14,873,087	9,733,635	0	24,606,722	0.0201	0.1716
230	12,979,173	10,586,136	0	23,565,309	0.0193	0.1909
240	18,139,007	14,857,037	0	32,996,044	0.0270	0.2178
250	24,510,573	14,434,955	0	38,945,528	0.0318	0.2497
260	28,272,300	18,799,820	0	47,072,121	0.0385	0.2881
270	34,986,170	18,855,507	0	53,841,677	0.0440	0.3322
280	33,410,128	20,232,744	0	53,642,872	0.0438	0.3760
290	30,796,988	20,281,396	0	51,078,384	0.0417	0.4177
300	40,705,350	26,003,697	0	66,709,047	0.0545	0.4723
310	46,002,009	27,012,213	0	73,014,222	0.0597	0.5320
320	45,643,899	29,567,683	0	75,211,582	0.0615	0.5934
330	41,245,304	28,718,844	0	69,964,149	0.0572	0.6506
340	39,874,505	32,695,779	0	72,570,284	0.0593	0.7099
350	33,023,619	30,722,767	0	63,746,386	0.0521	0.7620
360	27,697,155	39,413,091	0	67,110,246	0.0549	0.8169
370	20,966,737	29,034,415	0	50,001,152	0.0409	0.8578
380	12,666,479	27,249,346	0	39,915,825	0.0326	0.8904
390	6,498,478	22,224,314	0	28,722,792	0.0235	0.9139
400	5,119,355	19,141,212	0	24,260,566	0.0198	0.9337
410	1,167,991	16,264,705	0	17,432,696	0.0142	0.9479
420	1,259,562	15,355,931	0	16,615,494	0.0136	0.9615
430	480,258	10,930,907	0	11,411,166	0.0093	0.9708
440	97,635	10,695,178	0	10,792,813	0.0088	0.9797
450	0	7,100,939	0	7,100,939	0.0058	0.9855
460	190,818	4,952,055	0	5,142,873	0.0042	0.9897
470	43,900	4,007,203	0	4,051,104	0.0033	0.9930
480	0	3,706,929	0	3,706,929	0.0030	0.9960
490	33,323	3,074,144	0	3,107,466	0.0025	0.9985
500	0	913,456	0	913,456	0.0007	0.9993
510	0	340,359	0	340,359	0.0003	0.9996

Appendix E Table 5.--Continued

Length (mm)	Males	Females	Unsexed	Total*	Proportion	Cumulative Proportion
520	0	211,037	0	211,037	0.0002	0.9997
530	0	233,358	0	233,358	0.0002	0.9999
540	0	78,231	0	78,231	0.0001	1.0000
Total	616,255,349	590,942,884	16,267,661	1,223,465,894	1.0000	1.0000

*Total may differ from other tables due to method of calculation.

Appendix E Table 6.--Population estimates by sex and size group for Alaska plaice from the 2000 eastern Bering Sea bottom trawl survey.

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative Proportion
100	49,614	0	0	49,614	0.0001	0.0001
140	29,533	0	0	29,533	0.0000	0.0001
160	49,614	49,614	0	99,228	0.0001	0.0002
170	327,767	209,934	0	537,701	0.0007	0.0009
180	758,517	186,369	0	944,886	0.0012	0.0021
190	812,635	792,925	0	1,605,559	0.0020	0.0041
200	1,615,240	1,495,125	0	3,110,365	0.0039	0.0081
210	1,906,980	1,585,315	0	3,492,295	0.0044	0.0125
220	2,915,356	3,332,739	0	6,248,095	0.0079	0.0205
230	5,373,826	4,748,373	44,613	10,166,811	0.0129	0.0334
240	9,345,571	6,576,149	44,613	15,966,332	0.0203	0.0536
250	9,588,091	5,771,815	133,838	15,493,744	0.0197	0.0733
260	12,750,678	9,624,697	89,225	22,464,600	0.0285	0.1018
270	15,962,935	9,690,555	178,450	25,831,940	0.0328	0.1346
280	22,013,430	11,545,525	89,225	33,648,181	0.0427	0.1774
290	25,651,825	15,215,454	267,675	41,134,954	0.0522	0.2296
300	34,247,699	16,228,311	223,063	50,699,073	0.0644	0.2940
310	30,036,121	15,714,376	267,675	46,018,172	0.0584	0.3524
320	35,028,758	17,625,409	133,838	52,788,005	0.0670	0.4194
330	31,725,848	15,847,259	44,613	47,617,720	0.0605	0.4799
340	36,749,771	17,129,821	178,450	54,058,042	0.0686	0.5485
350	38,808,303	17,805,999	0	56,614,303	0.0719	0.6204
360	33,475,359	18,614,075	89,225	52,178,659	0.0663	0.6867
370	22,394,042	18,624,347	44,613	41,063,002	0.0521	0.7388
380	16,203,828	17,429,075	0	33,632,903	0.0427	0.7815
390	10,404,789	17,638,984	44,613	28,088,386	0.0357	0.8172
400	3,715,201	17,308,662	0	21,023,863	0.0267	0.8439
410	2,735,649	16,098,648	0	18,834,298	0.0239	0.8678
420	1,330,158	15,872,975	0	17,203,133	0.0218	0.8896
430	590,309	13,123,274	0	13,713,583	0.0174	0.9070
440	90,103	13,519,964	0	13,610,067	0.0173	0.9243
450	224,389	10,519,565	0	10,743,954	0.0136	0.9380
460	174,389	11,308,174	0	11,482,563	0.0146	0.9525
470	531,321	8,382,166	0	8,913,488	0.0113	0.9639
480	107,365	8,990,961	0	9,098,326	0.0116	0.9754
490	359,791	6,172,282	0	6,532,073	0.0083	0.9837
500	104,457	4,393,747	0	4,498,204	0.0057	0.9894
510	75,392	3,220,814	0	3,296,206	0.0042	0.9936
520	75,392	1,571,219	0	1,646,611	0.0021	0.9957
530	75,392	1,368,223	0	1,443,615	0.0018	0.9975
540	75,392	720,816	0	796,209	0.0010	0.9985
550	0	380,541	0	380,541	0.0005	0.9990
560	29,065	128,559	0	157,624	0.0002	0.9992
570	0	67,284	0	67,284	0.0001	0.9993
580	0	176,153	0	176,153	0.0002	0.9995
590	0	319,563	0	319,563	0.0004	0.9999

Appendix E Table 6.--Continued

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative Proportion
640	0	47,241	0	47,241	0.0001	1.0000
Total	408,519,896	377,173,079	1,873,728	787,566,702	1.0000	1.0000

Appendix E Table 7.--Population estimates by sex and size group for Greenland turbot from the 2000 eastern Bering Sea bottom trawl survey.

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative Proportion
100	39,804	0	35,560	75,364	0.0134	0.0134
110	30,727	0	126,890	157,617	0.0281	0.0415
120	0	0	112,478	112,478	0.0200	0.0616
130	84,832	0	28,570	113,401	0.0202	0.0818
140	53,938	0	0	53,938	0.0096	0.0914
200	111,790	0	0	111,790	0.0199	0.1113
220	26,964	0	0	26,964	0.0048	0.1161
230	0	26,964	0	26,964	0.0048	0.1209
240	35,590	0	0	35,590	0.0063	0.1273
250	29,465	0	0	29,465	0.0053	0.1325
260	27,779	0	0	27,779	0.0050	0.1375
300	27,120	0	0	27,120	0.0048	0.1423
310	0	41,878	0	41,878	0.0075	0.1497
320	16,649	0	0	16,649	0.0030	0.1527
350	0	41,878	0	41,878	0.0075	0.1602
370	52,083	0	0	52,083	0.0093	0.1695
380	57,028	0	0	57,028	0.0102	0.1796
390	0	28,785	0	28,785	0.0051	0.1847
400	82,229	0	0	82,229	0.0147	0.1994
410	0	29,249	0	29,249	0.0052	0.2046
420	45,334	0	0	45,334	0.0081	0.2127
430	54,827	0	0	54,827	0.0098	0.2225
440	29,465	0	0	29,465	0.0053	0.2277
450	91,936	0	0	91,936	0.0164	0.2441
460	119,531	0	0	119,531	0.0213	0.2654
470	0	29,465	0	29,465	0.0053	0.2706
480	17,641	0	0	17,641	0.0031	0.2738
490	87,306	0	0	87,306	0.0156	0.2893
510	29,749	0	0	29,749	0.0053	0.2946
520	24,473	27,924	0	52,397	0.0093	0.3040
530	22,834	0	0	22,834	0.0041	0.3081
600	0	22,834	0	22,834	0.0041	0.3121
650	56,429	0	0	56,429	0.0101	0.3222
660	29,249	27,924	0	57,173	0.0102	0.3324
670	29,465	0	0	29,465	0.0053	0.3376
690	59,290	27,120	0	86,410	0.0154	0.3530
700	27,924	27,120	0	55,044	0.0098	0.3628
710	24,473	160,718	0	185,191	0.0330	0.3958
720	60,206	111,978	0	172,183	0.0307	0.4265
730	0	111,978	0	111,978	0.0200	0.4465
740	62,007	29,538	0	91,545	0.0163	0.4628
750	32,171	29,249	0	61,419	0.0109	0.4737
760	94,254	29,538	0	123,792	0.0221	0.4958
770	0	203,451	0	203,451	0.0363	0.5320
780	17,641	0	0	17,641	0.0031	0.5352
790	27,707	155,381	0	183,087	0.0326	0.5678

Appendix E Table 7.--Continued

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative Proportion
800	28,570	331,081	0	359,651	0.0641	0.6319
810	29,538	116,336	0	145,874	0.0260	0.6579
820	0	97,458	0	97,458	0.0174	0.6753
830	0	91,461	0	91,461	0.0163	0.6916
840	0	118,542	0	118,542	0.0211	0.7127
850	0	280,910	0	280,910	0.0501	0.7627
860	0	137,965	0	137,965	0.0246	0.7873
870	0	81,837	0	81,837	0.0146	0.8019
880	0	232,518	0	232,518	0.0414	0.8433
890	0	140,948	0	140,948	0.0251	0.8685
900	0	145,473	0	145,473	0.0259	0.8944
910	0	258,287	0	258,287	0.0460	0.9404
920	0	82,596	0	82,596	0.0147	0.9551
930	0	98,391	0	98,391	0.0175	0.9727
950	0	45,702	0	45,702	0.0081	0.9808
960	0	29,749	0	29,749	0.0053	0.9861
980	0	44,792	0	44,792	0.0080	0.9941
1000	0	33,222	0	33,222	0.0059	1.0000
Total	1,778,018	3,530,238	303,498	5,611,753	1.0000	1.0000

Appendix E Table 8.--Population estimates by sex and size group for arrowtooth flounder from the 2000 eastern Bering Sea bottom trawl survey.

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative Proportion
90	187,072	0	132,457	319,529	0.0005	0.0005
100	237,840	44,858	264,914	547,612	0.0009	0.0015
110	246,495	30,065	85,577	362,137	0.0006	0.0021
120	387,280	299,141	79,211	765,632	0.0013	0.0034
130	654,599	658,142	0	1,312,741	0.0022	0.0056
140	1,475,694	1,863,302	0	3,338,996	0.0057	0.0113
150	2,895,680	6,382,233	0	9,277,913	0.0158	0.0272
160	6,370,141	10,819,288	0	17,189,429	0.0293	0.0565
170	5,624,555	7,346,452	0	12,971,007	0.0221	0.0786
180	5,625,768	9,848,158	0	15,473,926	0.0264	0.1050
190	2,341,757	10,316,827	0	12,658,584	0.0216	0.1266
200	3,271,927	6,231,254	0	9,503,181	0.0162	0.1429
210	2,744,078	5,942,397	0	8,686,475	0.0148	0.1577
220	4,686,866	6,875,962	0	11,562,828	0.0197	0.1774
230	3,463,972	7,474,147	0	10,938,119	0.0187	0.1961
240	3,236,037	8,187,412	0	11,423,449	0.0195	0.2156
250	4,176,735	9,388,561	0	13,565,296	0.0231	0.2387
260	5,113,085	9,143,369	0	14,256,454	0.0243	0.2631
270	5,205,691	7,264,457	0	12,470,148	0.0213	0.2843
280	5,948,234	9,925,936	0	15,874,170	0.0271	0.3114
290	5,462,021	9,231,002	0	14,693,023	0.0251	0.3365
300	7,040,771	13,681,698	0	20,722,469	0.0354	0.3719
310	7,284,639	12,275,608	0	19,560,247	0.0334	0.4052
320	7,078,368	15,618,364	0	22,696,732	0.0387	0.4440
330	5,729,873	11,558,909	0	17,288,782	0.0295	0.4735
340	6,374,446	13,308,198	0	19,682,644	0.0336	0.5071
350	7,015,547	11,129,509	0	18,145,056	0.0310	0.5380
360	6,187,991	12,398,103	0	18,586,094	0.0317	0.5697
370	4,784,265	12,280,597	0	17,064,862	0.0291	0.5989
380	6,343,737	15,008,133	0	21,351,869	0.0364	0.6353
390	3,983,630	13,352,706	0	17,336,336	0.0296	0.6649
400	5,065,433	13,373,680	0	18,439,113	0.0315	0.6963
410	3,455,898	12,443,488	0	15,899,386	0.0271	0.7235
420	3,196,065	10,520,274	0	13,716,339	0.0234	0.7469
430	3,064,443	8,257,870	0	11,322,312	0.0193	0.7662
440	2,707,794	8,786,253	0	11,494,048	0.0196	0.7858
450	1,767,585	6,447,017	0	8,214,602	0.0140	0.7998
460	2,865,229	8,126,731	0	10,991,960	0.0188	0.8186
470	1,721,449	6,727,757	0	8,449,206	0.0144	0.8330
480	650,307	7,909,074	0	8,559,381	0.0146	0.8476
490	991,457	6,829,672	0	7,821,130	0.0133	0.8610
500	991,495	9,826,736	0	10,818,230	0.0185	0.8794
510	550,919	5,764,391	0	6,315,310	0.0108	0.8902
520	796,191	9,463,671	0	10,259,862	0.0175	0.9077
530	201,200	8,625,167	0	8,826,367	0.0151	0.9228
540	816,789	7,599,329	0	8,416,117	0.0144	0.9371

Appendix E Table 8.--Continued

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative Proportion
550	158,216	5,486,132	0	5,644,349	0.0096	0.9468
560	251,849	5,614,201	0	5,866,050	0.0100	0.9568
570	228,851	3,513,043	0	3,741,894	0.0064	0.9632
580	144,974	2,824,821	0	2,969,794	0.0051	0.9682
590	75,478	2,834,538	0	2,910,016	0.0050	0.9732
600	414,298	2,600,161	0	3,014,458	0.0051	0.9783
610	31,123	1,001,717	0	1,032,840	0.0018	0.9801
620	77,848	2,331,518	0	2,409,366	0.0041	0.9842
630	77,383	1,230,323	0	1,307,706	0.0022	0.9864
640	237,735	1,504,348	0	1,742,083	0.0030	0.9894
650	28,281	1,519,789	0	1,548,071	0.0026	0.9921
660	28,281	928,459	0	956,741	0.0016	0.9937
670	29,218	759,902	0	789,120	0.0013	0.9950
680	0	875,310	0	875,310	0.0015	0.9965
690	16,599	660,499	0	677,097	0.0012	0.9977
700	0	174,870	0	174,870	0.0003	0.9980
710	0	391,808	0	391,808	0.0007	0.9987
720	29,218	213,672	0	242,890	0.0004	0.9991
730	0	90,908	0	90,908	0.0002	0.9992
740	0	67,727	0	67,727	0.0001	0.9993
750	0	134,712	0	134,712	0.0002	0.9996
760	0	88,982	0	88,982	0.0002	0.9997
770	0	162,115	0	162,115	0.0003	1.0000
Total	161,850,400	423,595,451	562,159	586,008,009	1.0000	1.0000

Appendix E Table 9.--Population estimates by sex and size group for Kamchatka flounder from the 2000 eastern Bering Sea bottom trawl survey.

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative Proportion
60	30,269	0	0	30,269	0.0008	0.0008
120	0	30,593	0	30,593	0.0008	0.0016
130	0	95,441	0	95,441	0.0025	0.0040
140	122,705	183,572	0	306,277	0.0079	0.0119
150	204,444	141,148	0	345,592	0.0089	0.0208
160	185,782	201,053	0	386,835	0.0100	0.0308
170	57,868	0	0	57,868	0.0015	0.0323
180	94,601	66,093	0	160,693	0.0041	0.0364
200	212,607	92,083	0	304,690	0.0078	0.0443
210	344,578	214,759	0	559,337	0.0144	0.0587
220	659,432	375,915	0	1,035,348	0.0267	0.0854
230	887,042	731,961	0	1,619,003	0.0417	0.1271
240	1,502,467	1,051,501	31,074	2,585,042	0.0666	0.1937
250	1,331,240	740,359	0	2,071,598	0.0534	0.2470
260	983,595	688,657	0	1,672,252	0.0431	0.2901
270	629,661	409,527	0	1,039,188	0.0268	0.3169
280	349,142	200,121	0	549,263	0.0142	0.3310
290	421,347	558,036	0	979,383	0.0252	0.3563
300	1,329,727	611,719	0	1,941,446	0.0500	0.4063
310	1,197,496	503,700	0	1,701,196	0.0438	0.4501
320	1,577,911	881,663	0	2,459,574	0.0634	0.5135
330	631,576	699,434	31,074	1,362,084	0.0351	0.5486
340	794,589	1,151,540	0	1,946,129	0.0501	0.5987
350	342,912	557,833	0	900,745	0.0232	0.6219
360	1,099,566	420,352	31,074	1,550,992	0.0400	0.6619
370	694,945	455,211	0	1,150,156	0.0296	0.6915
380	847,237	658,786	0	1,506,023	0.0388	0.7303
390	704,137	254,949	0	959,086	0.0247	0.7550
400	490,434	314,501	0	804,935	0.0207	0.7758
410	663,920	617,404	0	1,281,324	0.0330	0.8088
420	213,747	142,850	0	356,597	0.0092	0.8180
430	386,565	62,655	0	449,220	0.0116	0.8295
440	204,387	152,344	31,074	387,805	0.0100	0.8395
450	185,312	31,123	0	216,435	0.0056	0.8451
460	180,962	129,458	0	310,420	0.0080	0.8531
470	203,150	209,254	0	412,404	0.0106	0.8637
480	258,546	98,094	0	356,640	0.0092	0.8729
490	221,242	171,970	0	393,213	0.0101	0.8830
500	191,768	202,904	0	394,672	0.0102	0.8932
510	68,005	202,711	0	270,717	0.0070	0.9002
520	51,235	77,418	0	128,653	0.0033	0.9035
530	120,004	184,625	0	304,629	0.0078	0.9114
540	232,608	367,883	0	600,491	0.0155	0.9268
550	207,619	179,217	0	386,837	0.0100	0.9368
560	16,649	174,173	0	190,822	0.0049	0.9417
570	20,860	307,215	0	328,074	0.0085	0.9502

Appendix E Table 9.--Continued

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative Proportion
580	0	29,249	0	29,249	0.0008	0.9509
590	0	227,528	0	227,528	0.0059	0.9568
600	26,388	56,532	0	82,919	0.0021	0.9589
610	0	49,494	0	49,494	0.0013	0.9602
620	26,388	82,307	0	108,694	0.0028	0.9630
640	0	42,716	0	42,716	0.0011	0.9641
650	0	166,627	0	166,627	0.0043	0.9684
660	0	270,969	0	270,969	0.0070	0.9754
670	0	57,173	0	57,173	0.0015	0.9768
680	0	58,068	0	58,068	0.0015	0.9783
690	0	229,209	0	229,209	0.0059	0.9842
700	0	162,771	0	162,771	0.0042	0.9884
710	0	161,294	0	161,294	0.0042	0.9926
720	0	48,112	0	48,112	0.0012	0.9938
740	0	149,938	0	149,938	0.0039	0.9977
750	0	58,770	0	58,770	0.0015	0.9992
770	0	30,979	0	30,979	0.0008	1.0000
Total	21,206,663	17,483,540	124,296	38,814,499	1.0000	1.0000

Appendix E Table 10.--Population estimates by sex and size group for Pacific halibut from the 2000 eastern Bering Sea bottom trawl survey.

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative Proportion
40	0	0	30,409	30,409	0.0008	0.0008
70	0	0	45,976	45,976	0.0012	0.0021
80	0	0	61,960	61,960	0.0017	0.0037
130	32,095	0	0	32,095	0.0009	0.0046
140	160,476	126,479	0	286,955	0.0077	0.0123
150	376,087	128,381	30,471	534,939	0.0144	0.0267
160	314,846	221,717	32,115	568,678	0.0153	0.0420
170	538,617	449,332	99,910	1,087,860	0.0293	0.0712
180	536,731	507,625	120,918	1,165,274	0.0313	0.1026
190	379,141	156,673	233,292	769,106	0.0207	0.1233
200	220,712	309,976	215,833	746,521	0.0201	0.1433
210	160,476	96,182	62,021	318,679	0.0086	0.1519
220	125,328	56,955	192,640	374,923	0.0101	0.1620
230	0	89,108	0	89,108	0.0024	0.1644
240	0	30,194	0	30,194	0.0008	0.1652
250	0	0	31,301	31,301	0.0008	0.1661
300	0	28,987	149,130	178,117	0.0048	0.1708
310	29,358	0	33,406	62,764	0.0017	0.1725
320	29,090	0	34,247	63,336	0.0017	0.1742
330	57,497	90,182	180,806	328,485	0.0088	0.1831
340	0	16,432	113,388	129,820	0.0035	0.1866
350	16,432	90,726	213,438	320,597	0.0086	0.1952
360	45,078	90,606	156,910	292,595	0.0079	0.2031
370	0	32,011	367,220	399,231	0.0107	0.2138
380	16,498	93,730	210,310	320,538	0.0086	0.2224
390	85,720	32,011	107,693	225,424	0.0061	0.2285
400	42,899	16,432	212,535	271,866	0.0073	0.2358
410	89,375	105,835	292,868	488,078	0.0131	0.2489
420	92,457	133,022	289,435	514,913	0.0138	0.2628
430	75,509	178,549	224,641	478,699	0.0129	0.2756
440	315,172	368,693	234,011	917,876	0.0247	0.3003
450	223,426	132,192	196,886	552,505	0.0149	0.3152
460	208,680	175,908	761,517	1,146,105	0.0308	0.3460
470	244,794	144,595	592,501	981,890	0.0264	0.3724
480	159,945	145,719	724,957	1,030,620	0.0277	0.4001
490	182,496	207,920	554,453	944,868	0.0254	0.4256
500	323,852	109,871	592,051	1,025,774	0.0276	0.4531
510	253,237	29,233	472,073	754,543	0.0203	0.4734
520	215,229	147,970	386,858	750,057	0.0202	0.4936
530	437,766	108,110	448,407	994,283	0.0267	0.5204
540	88,121	334,354	590,074	1,012,550	0.0272	0.5476
550	44,491	174,768	587,594	806,853	0.0217	0.5693
560	60,756	92,787	324,969	478,512	0.0129	0.5822
570	185,992	146,705	421,723	754,420	0.0203	0.6024
580	102,535	61,368	431,001	594,905	0.0160	0.6184
590	89,068	87,774	269,676	446,518	0.0120	0.6305

Appendix E Table 10.--Continued

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative Proportion
600	107,622	57,651	474,346	639,619	0.0172	0.6477
610	323,382	58,752	159,282	541,416	0.0146	0.6622
620	28,528	76,614	509,249	614,390	0.0165	0.6787
630	46,822	30,054	357,333	434,210	0.0117	0.6904
640	28,174	16,412	267,154	311,741	0.0084	0.6988
650	44,682	202,068	165,869	412,619	0.0111	0.7099
660	54,391	58,344	107,460	220,194	0.0059	0.7158
670	0	28,407	159,260	187,667	0.0050	0.7209
680	27,477	58,573	127,822	213,872	0.0058	0.7266
690	119,158	0	181,040	300,199	0.0081	0.7347
700	58,697	60,538	149,732	268,967	0.0072	0.7419
710	62,157	0	262,627	324,784	0.0087	0.7507
720	45,725	144,960	138,536	329,220	0.0089	0.7595
730	130,252	59,634	244,106	433,993	0.0117	0.7712
740	159,055	0	208,968	368,023	0.0099	0.7811
750	87,241	91,386	114,595	293,222	0.0079	0.7890
760	27,155	31,073	344,883	403,111	0.0108	0.7998
770	99,368	28,266	299,280	426,914	0.0115	0.8113
780	99,864	56,231	112,575	268,670	0.0072	0.8185
790	42,763	0	238,716	281,479	0.0076	0.8261
800	123,848	26,844	233,263	383,956	0.0103	0.8364
810	54,994	0	80,183	135,178	0.0036	0.8401
820	57,820	53,916	257,705	369,440	0.0099	0.8500
830	66,587	29,766	252,930	349,282	0.0094	0.8594
840	47,561	59,218	148,838	255,617	0.0069	0.8663
850	89,068	32,916	199,766	321,750	0.0087	0.8749
860	88,550	87,563	334,213	510,326	0.0137	0.8887
870	28,407	57,150	168,840	254,396	0.0068	0.8955
880	0	14,662	28,410	43,072	0.0012	0.8967
890	59,745	0	179,747	239,492	0.0064	0.9031
900	15,964	0	190,851	206,815	0.0056	0.9087
910	0	92,891	105,577	198,468	0.0053	0.9140
920	28,772	103,075	115,828	247,675	0.0067	0.9207
930	46,898	57,050	170,245	274,192	0.0074	0.9280
940	29,362	0	115,081	144,443	0.0039	0.9319
950	0	57,258	91,600	148,858	0.0040	0.9359
960	63,215	0	97,189	160,405	0.0043	0.9402
970	28,772	30,572	157,812	217,156	0.0058	0.9461
980	29,985	0	184,647	214,632	0.0058	0.9518
990	0	47,761	124,949	172,710	0.0046	0.9565
1000	0	0	114,493	114,493	0.0031	0.9596
1010	0	0	114,591	114,591	0.0031	0.9627
1020	0	29,418	153,015	182,433	0.0049	0.9676
1030	0	0	65,320	65,320	0.0018	0.9693
1040	0	0	49,992	49,992	0.0013	0.9707
1050	0	0	151,364	151,364	0.0041	0.9747
1060	0	0	17,472	17,472	0.0005	0.9752
1070	0	0	65,172	65,172	0.0018	0.9770

Appendix E Table 10.--Continued

Length (mm)	Males	Females	Unsexed	Total	Proportion	Cumulative Proportion
1090	0	0	75,434	75,434	0.0020	0.9790
1100	0	27,707	19,891	47,598	0.0013	0.9803
1110	27,155	0	49,141	76,296	0.0021	0.9823
1120	29,459	0	29,788	59,247	0.0016	0.9839
1130	0	44,960	18,613	63,573	0.0017	0.9856
1140	0	0	26,717	26,717	0.0007	0.9863
1150	0	17,405	28,921	46,325	0.0012	0.9876
1160	0	0	49,146	49,146	0.0013	0.9889
1170	0	0	29,458	29,458	0.0008	0.9897
1180	0	32,930	0	32,930	0.0009	0.9906
1190	0	0	32,716	32,716	0.0009	0.9915
1200	0	28,981	0	28,981	0.0008	0.9922
1210	0	28,528	29,506	58,033	0.0016	0.9938
1220	0	0	28,963	28,963	0.0008	0.9946
1230	0	27,731	0	27,731	0.0007	0.9953
1250	0	0	43,512	43,512	0.0012	0.9965
1260	0	0	31,550	31,550	0.0008	0.9973
1280	0	0	30,593	30,593	0.0008	0.9982
1360	0	0	31,971	31,971	0.0009	0.9990
1550	0	0	18,613	18,613	0.0005	0.9995
1720	0	0	17,400	17,400	0.0005	1.0000
Total	9,068,660	7,596,373	20,515,482	37,180,515	1.0000	1.0000