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Data Report: 1983 Bottom Trawl Survey of the Eastern Bering Sea Continental Shelf

By Wendy A. Hirschberger

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DATA REPORT: 1983 BOTTOM TRAWL SURVEY OF THE EASTERN BERING SEA CONTINENTAL SHELF

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ABSTRACT

The 1983 data report is one in a series describing results of annual eastern Bering Sea resource assessment surveys. The report is divided into three sections: survey methods, results, and appendices. The methods section describes survey procedures, vessels and gear, the data collected, and procedures for its analysis. The results section presents a list of fish species taken during the survey and abundance estimates for fish and invertebrate families. Also included are rank orders of abundance of individual fish species, and geographic distributions, size and age compositions, and abundance estimates of principal groundfish species. The appendices contain computer listings of station and catch data, rank order of abundance for fish and invertebrates, population and biomass estimates by survey strata, population estimates by sex, age, and size groups, and age-length keys.

CONTENTS

INTRODUCTION

The 1983 eastern Bering Sea survey, conducted by the Resource Assessment and Conservation Engineering (RACE) Division of the Northwest and Alaska Fisheries Center (NWAFC), was the 13th annual survey in a series which was begun in 1971 to assess crab and groundfish stocks in the region. Through 1974, survey effort was limited to the southeastern Bering Sea. In 1975, the survey area was broadened to include a major portion of the eastern Bering Sea continental shelf (Pereyra et al. 1976). The 1976-78 surveys were again more limited in scope. Since 1979, the survey area covered in 1975 has been sampled annually and is the standard area for interannual comparisons of survey results. However, every third year starting in 1979, the survey has included the shelf region between St. Matthew Island and St. Lawrence Island, and in Norton Sound. In addition, the slope has been surveyed by Japanese researchers in cooperation with U.S. efforts. Also included in these comprehensive triennial surveys is the assessment of off bottom concentrations of walleye pollock using hydroacoustic and midwater trawling techniques. Reports describing these post-1975 surveys are as follows: for 1978, Bohle and Bakkala 1984; for 1979, Bakkala et al. 1982 and Bakkala and Wakabayashi 1985; for 1980, Umeda and Bakkala 1983; for 1981, Sample et al. 1985; and for 1982, Bakkala et al. 1985.

The 1983 survey, conducted in June-August, was one of the less extensive surveys, encompassing the approximate area of the 1975 baseline survey. Two vessels fishing bottom trawl gear, the NOAA ship Chapman and the chartered vessel Alaska, were used to assess the condition and relative abundance of demersal fish and invertebrates on the eastern Bering Sea continental shelf. This report describes the methods used during the survey and data analyses, and gives survey results in terms of abundance, distribution, and biological

features (size and age) of the fish sampled. Survey information, relative to the crabs and other invertebrates sampled in 1983, has been presented by Otto et al. (1983). The report also contains appendices with computer listings of station and catch data and data analyses.

SURVEY METHODS

Survey Area

Sampling, during the 1983 eastern Bering Sea survey, included continental shelf waters from about 20 to 200 m, extending north from Unimak Island and the Alaska Peninsula to St. Matthew and Nunivak Islands. The station pattern of each vessel is illustrated in Figure 1. Also shown are survey subdivisions, which are similar to those established for the 1975 baseline survey (Pereyra et al. 1976).

Table 1 shows the total area of each subarea and the actual and planned sampling density. Sampling effort was uniform (one station per 400 nmi) throughout the survey area with the exception of two regions around the Pribilof and St. Matthews Islands (Fig. 1), where sampling density was increased to provide more precise regional estimates of crab abundance and distribution. In the data analyses, the high density areas were considered as separate strata to prevent biases in abundance estimates from nonuniform sampling densities.

Vessels and Fishing Gear

Vessel characteristics of the NOAA ship Chapman and the chartered vessel Alaska are given in Table 2. Both vessels were equipped with a modified 83-112 eastern trawl (Table 3).

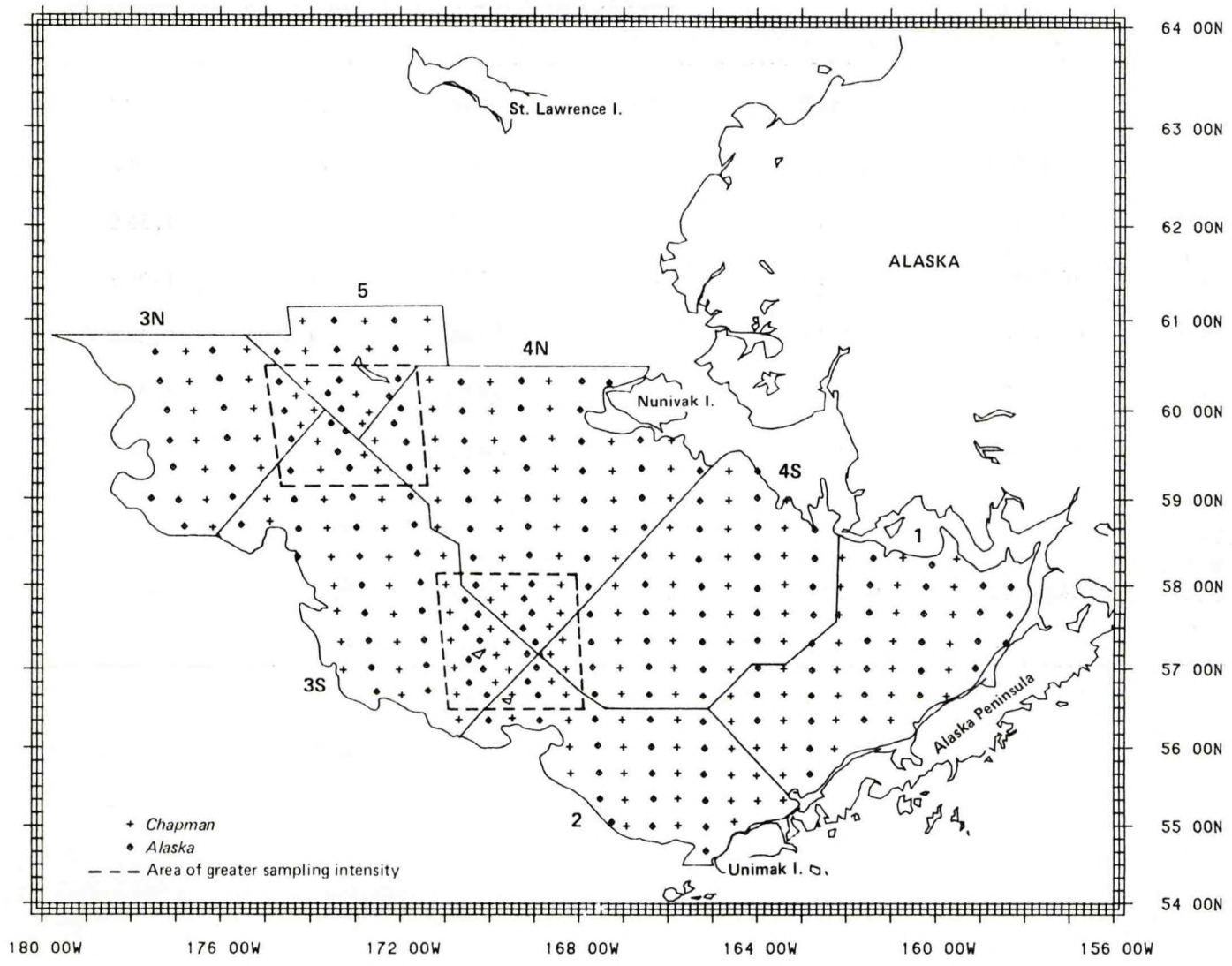

Figure 1.--Sampling stations and survey subareas used in the analysis of the 1983 survey data. Sampling density was increased in the vicinity of the Pribilof and St. Matthew Islands to improve the sampling of crab stocks in these areas.

Table 1.--Size of subareas and planned and actual sampling densities by subarea for the 1983 bottom trawl survey.

Subarea	Area (km^2)	Proportion of total area	Planned sampling density		Actual sampling density	
			No. stns.	km^2/stn.	No. stns.	km^2/stn.
1	78,694	0.169	59	1,334	58	1,357
2	60,864	0.131	47	1,295	45	1,353
3N	48,013	0.103	46	1,044	32	1,500
3S	80,917	0.174	61	1,327	67	1,208
4N	91,678	0.197	68	1,348	74	1,239
4S	81,503	0.175	57	1,430	58	1,405
5	22,843	0.049	33	692	20	1,142
Total survey area	464,512	1.000	371	1,252	354	1,312

Table 2.--Vessels participating in the 1983 bottom trawl survey.

Vessel	Overall length (m)	Gross tonnage	Horsepower	Survey period	
				Start	Finish
R/V Chapman	38.7	429	1,165	3 June	13 Aug
R/V Alaska	30.5	193	600	3 June	13 Aug

Table 3.--Description of bottom trawl used during the 1983 survey.

Trawl	Headrope length (m)	Footrope length (m)	Opening		Mesh sizes			Accessory gear	
			Vert. (m)	Horiz. (m)	Wing and body (mm)	Belly and codend (mm)	Codend liner (mm)	Door width and length (m)	Dandyline length (m)
83-112	25.3	34.1	2.3	16.5	102	89	32	1.8 x 2.7	54.9

Relative fishing powers of the two vessels were determined by having the vessels fish alternate rows of stations throughout most of the survey area and then comparing catch per unit effort (CPUE) values. The method of Geisser and Eddy (1979) was used to determine whether the CPUE distributions from the two vessels were the same or different. If the tests indicated that they were the same for a given species or that there were insufficient data to test for differences, the vessels were considered to have equal fishing power for that particular species. If the tests revealed that the sampled CPUE distributions were significantly different, then the most efficient vessel was considered to produce the more representative population abundance estimates. For those species having significant differences, the less efficient vessel's catch rates were adjusted to those of the most efficient vessel by applying the mean catch rate ratios from Table 4.

Stations used for comparing fishing powers (Fig. 2) were selected by first removing all nonpaired stations and pairs of stations where one vessel fished bottom water <0°C while the other vessel fished water >0°C. These latter stations might reflect environmentally induced differences in catch rates rather than differences in catch efficiences of the vessels. The stations were then paired from east to west, which resulted in a maximum number of pairings. The tests were based on a comparison of catch rates from 310 stations (155 per vessel) and indicated that the Chapman had a significantly higher fishing power for seven individual fish species or species groups: yellowfin sole, rock sole, Greenland turbot, arrowtooth flounder, Pacific halibut, other flounders, and eelpouts. The Alaska was more efficient for two invertebrate groups: shrimp and octopus.

Table 4.--Comparison of relative fishing powers of the chartered vessel Alaska and the NOAA ship Chapman for the 1983 eastern Bering Sea survey.[a]

Species	Mean catch rates (kg/ha)		Ratio of catch rates
	Alaska	Chapman	Alaska/Chapman
Walleye pollock	125.29	151.68	0.83
Pacific cod	27.14	23.44	1.16
Sablefish	0.58	0.17	3.50
Pacific ocean perch	-	<0.01	-
Pacific herring	1.87	1.33	1.40
Yellowfin sole	61.79	88.02	0.70[b]
Rock sole	10.79	19.77	0.55[b]
Flathead sole[c]	5.45	5.97	0.91
Alaska plaice	12.00	15.14	0.79
Greenland turbot	0.41	0.67	0.60[b]
Arrowtooth flounder[c]	2.00	2.78	0.72[b]
Pacific halibut	1.20	1.95	0.62[b]
Rex sole	0.14	0.15	0.93
Other flounders	0.58	1.37	0.43[b]
Smelts	0.10	0.15	0.65
Sculpins	5.69	6.73	0.85
Snailfish	0.04	0.06	0.74
Poachers	0.29	0.33	0.88
Eelpouts	1.11	2.36	0.47[b]
Skates	3.17	3.82	0.83
Other fish	0.04	0.08	0.55
Shrimp	0.08	0.04	0.48[b]
Octopus	0.04	0.01	0.24[b]

[a]Comparison based on 155 pairs of stations from alternate row fishing during the 1983 survey.

[b]Geisser and Eddy (1979) procedure indicates that the sampled CPUE distributions were significantly different.

[c]Flathead sole includes Bering flounder; Arrowtooth flounder includes Kamchatka flounder.

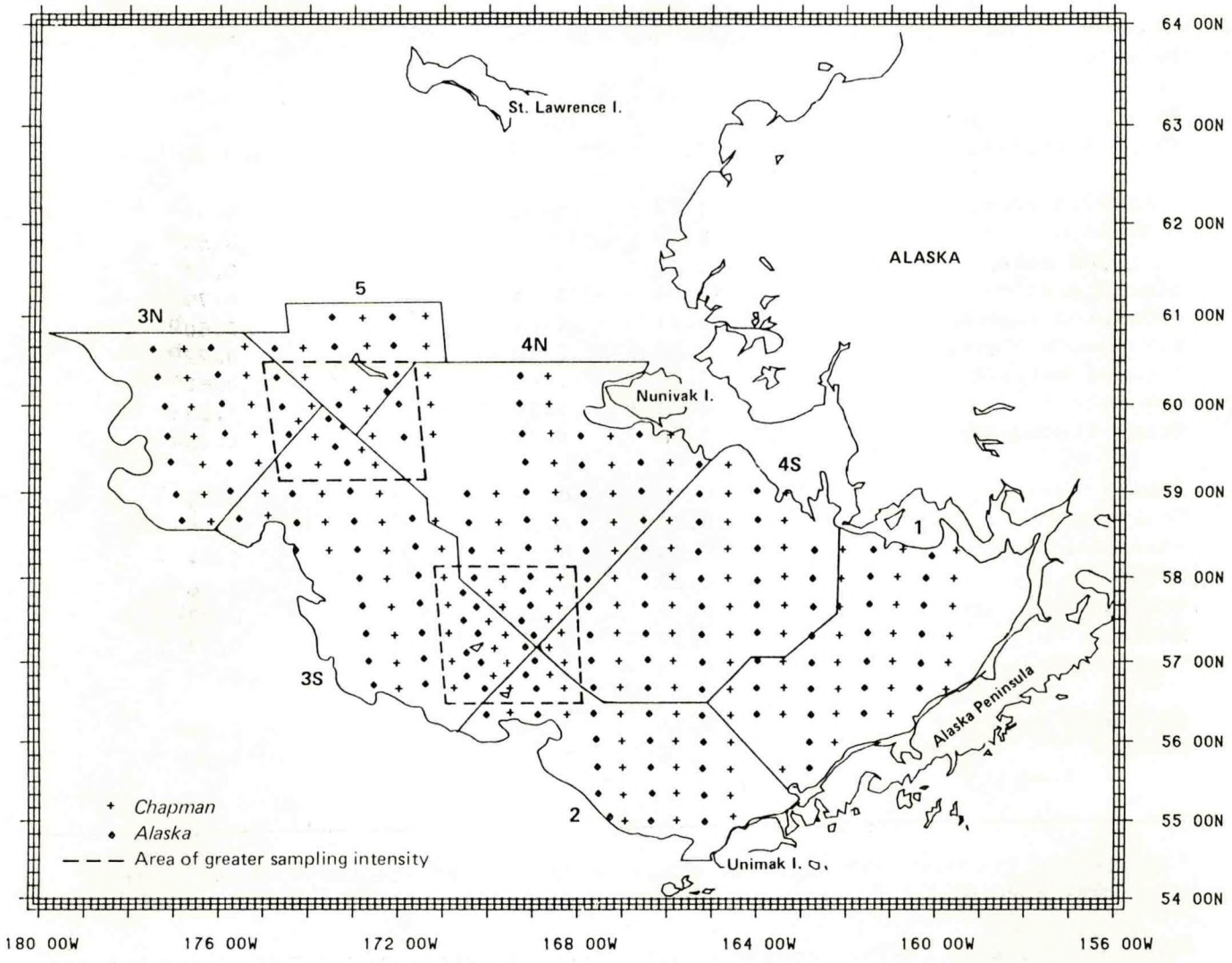

Figure 2.--Sampling stations (155 pairs) used for determining relative fishing powers of the vessels Alaska and Chapman during the 1983 eastern Bering Sea survey.

Data Collection and Sampling Methods

Sampling procedures established for the 1975 baseline survey (Pereyra et al. 1976) have formed the basis for the collection of catch and biological data on all subsequent surveys. Descriptions of these methods can also be found in Smith and Bakkala (1982) and Wakabayashi et al. (1985). Tow durations were 30 min unless circumstances required that the gear be retrieved sooner. Catches up to 2,500 lb (1,150 kg) were completely processed, while larger catches were processed according to methods established by Hughes (1976) which involves processing a subsample and expanding the subsampled weights and numbers of each species to the entire catch. The fish and economically important invertebrates captured (or subsampled) were sorted to the species level in most cases; other invertebrates were sorted to the lowest taxonomic level practicable within time constraints of the survey.

A random sample of up to 300 walleye pollock and up to 200 other commercially important fish species were measured according to sex at most stations where they appeared in the catches. Table 5 lists the number of fish measured and the number of age samples obtained. Scales were taken from Pacific cod <65 cm and from Pacific herring; scales and otoliths were collected from Pacific cod >65 cm. Otoliths were collected from all other species. Age structures were stratified by sex and size class.

Data Analysis

Detailed descriptions of analytical methods are given by Smith and Bakkala (1982) and Wakabayashi et al. (1985). At each station catches were standardized to a basic sampling unit of kilograms per hectare (ha = 10,000m^2). These values were then used to compute mean CPUE values by species and strata. Mean strata CPUE values were weighted by strata areas to obtain mean catch

Table 5.--Numbers of fish measured[a] and age structures collected[b] during the 1983 bottom trawl survey in the eastern Bering Sea.

Species	Number measured	Number of age structures collected
Walleye pollock	78,033	1,989
Pacific cod	11,353	747
Yellowfin sole	33,924	739
Flathead sole	17,284	590
Rock sole	16,285	452
Alaska plaice	11,624	369
Arrowtooth flounder	6,889	593
Pacific halibut	996	--
Greenland turbot	951	335
Pacific herring	2,202	154
Sablefish	155	--
Rex sole	82	--
Longhead dab	157	--
Saffron cod	135	--
Total	180,070	5,968

[a]Lengths were measured from the anterior tip of the head to the end of the midcaudal rays; this represented measurements of total length (TL) or fork length (FL), depending on the shape of the tail (TL: yellowfin sole, flathead sole, rock sole, Alaska plaice, longhead dab, and rex sole, FL: remaining species).

[b]Otoliths were collected from all species with the following exceptions: scales were collected from Pacific herring and Pacific cod <65 cm, and scales and otoliths were collected from Pacific cod >65 cm.

rates, by species, for the overall survey area. The "area swept" method of Alverson and Pereyra (1969) was used to calculate biomass (standing stock) estimates.

Length frequency subsamples were expanded to the total catch per standard sampling unit in order to obtain the number of individuals within sex and size classes for each station. These estimated length compositions at individual stations were then expanded to the total strata and summed over strata to obtain length composition estimates for the total survey area. Age composition was estimated by using age-length keys, stratified by sex and size group, to apportion the computed population distribution to ages. To date, only three 1983 age structure collections have been aged: walleye pollock, yellowfin sole and rock sole.

RESULTS

Haul and Catch Data

Appendix A lists the haul and catch data for each survey vessel (Alaska and Chapman). Station data include the vessel name, cruise and haul number, date, location, distance fished, and tow depth and duration. Catch data include weights (kg) of fish and invertebrate species encountered at each station.

Environmental Conditions

Bottom temperatures during the June-August survey period ranged from -1.0° to 9.0°C (Fig. 3). Residual cold water (<2.0°C) from winter cooling was found in the north central shelf area. Warmest water was found near the Alaska mainland and temperatures were progressively cooler toward the middle shelf, then slightly warmer near the shelf edge.

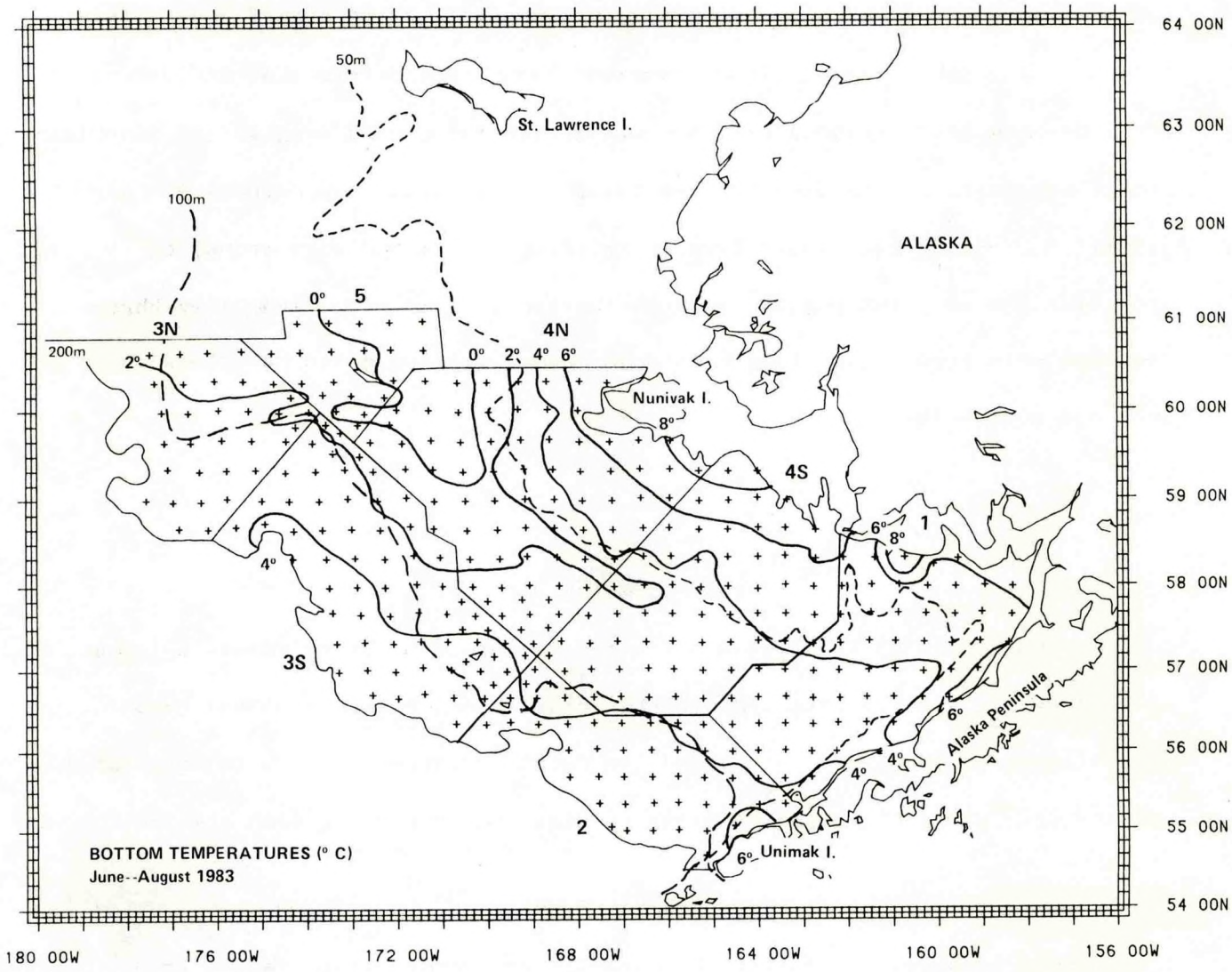

Figure 3.--Distribution of bottom water temperatures observed during the 1983 eastern Bering Sea survey.

Surface water temperatures observed during the survey ranged from 4.5° to 11.6°C (Fig. 4). Most of the surface water over the shelf ranged between 8° and 9°C. A warmer cell (10°C) appeared in the Pribilof and St. Matthew Islands regions. A cooler cell (6-7°C) extended southeast of Nunivak Island.

Figure 5 compares annual mean bottom water temperatures in the southeast Bering Sea in 1963-83. Mean temperatures for 1963-73 (Coachman and Charnell 1979) were collected in June by the Japanese research vessel Oshoro Maru between depths of 50 and 100 m and from a line connecting Nunivak Island and the Pribilof Islands to the Alaska Peninsula. The mean temperature data from 1972-83 NWAFC surveys (June-August) were collected at sampling stations from depths of about 30 to 200 m, and between lat. 58°N and the Alaska Peninsula. The 1983 mean bottom temperature of 3.6°C was moderately warm in relation to those observed in other years which have ranged from 1.2° to 4.8°C.

Species Taken

A list of fish species encountered during the survey is presented in Table 6. A total of 85 different species were taken, representing 20 families. Additionally, some specimens were taken which were only identified to genus.

Overall Abundance and Distribution of Fish and Invertebrate Groups

Biomass estimates for the major taxonomic groups of fish and invertebrates from the 1983 survey are listed in Tables 7 and 8. The estimate for the overall survey area was 16.1 million metric tons (t), with fish accounting for 87.4% (14 million t) of the total biomass and invertebrates accounting for the remaining 12.6% (2 million t). Over half (61%) of the total biomass was distributed throughout the three inshore subareas (1, 4S, 4N).

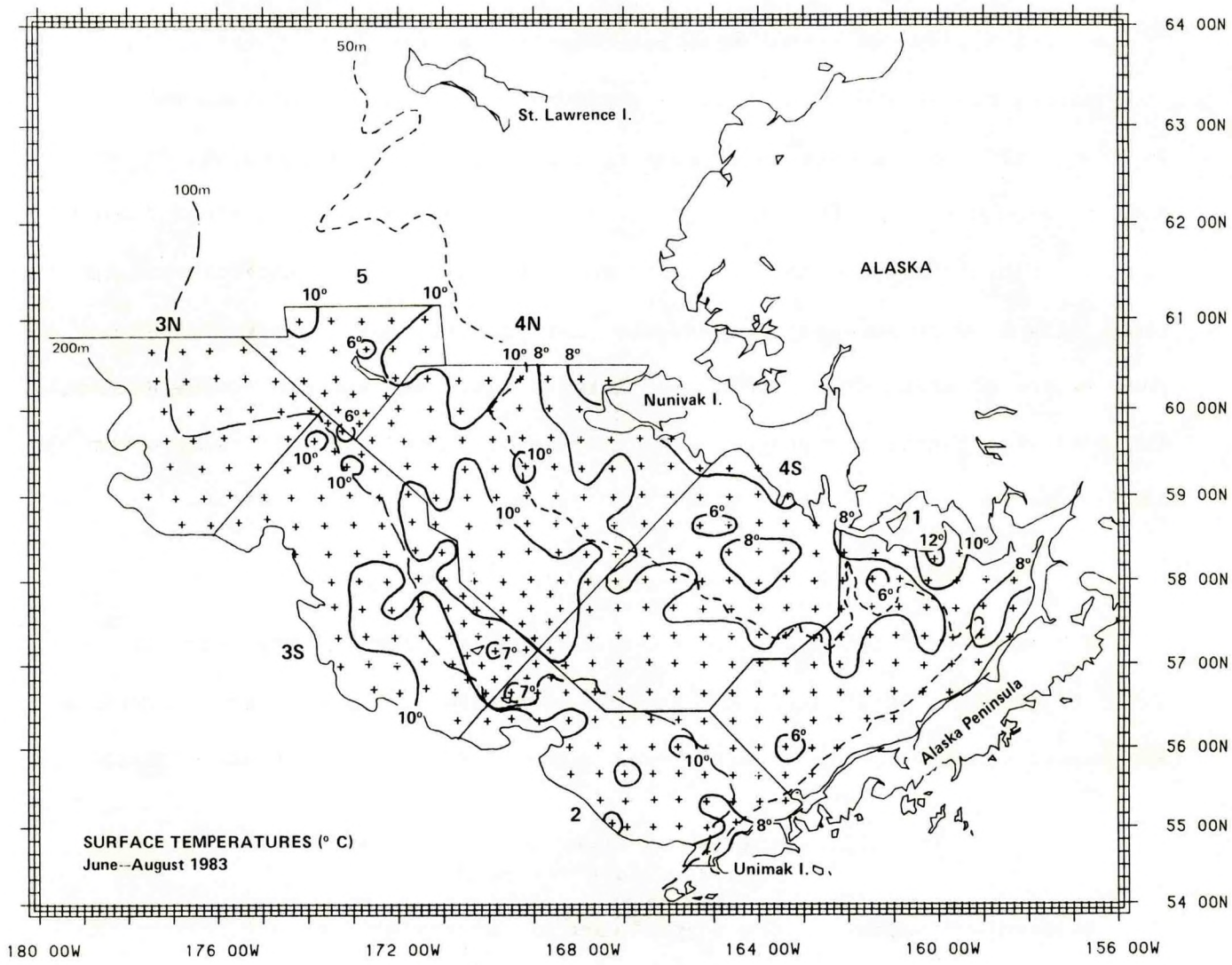

Figure 4.--Distribution of surface water temperatures observed during the 1983 eastern Bering Sea survey.

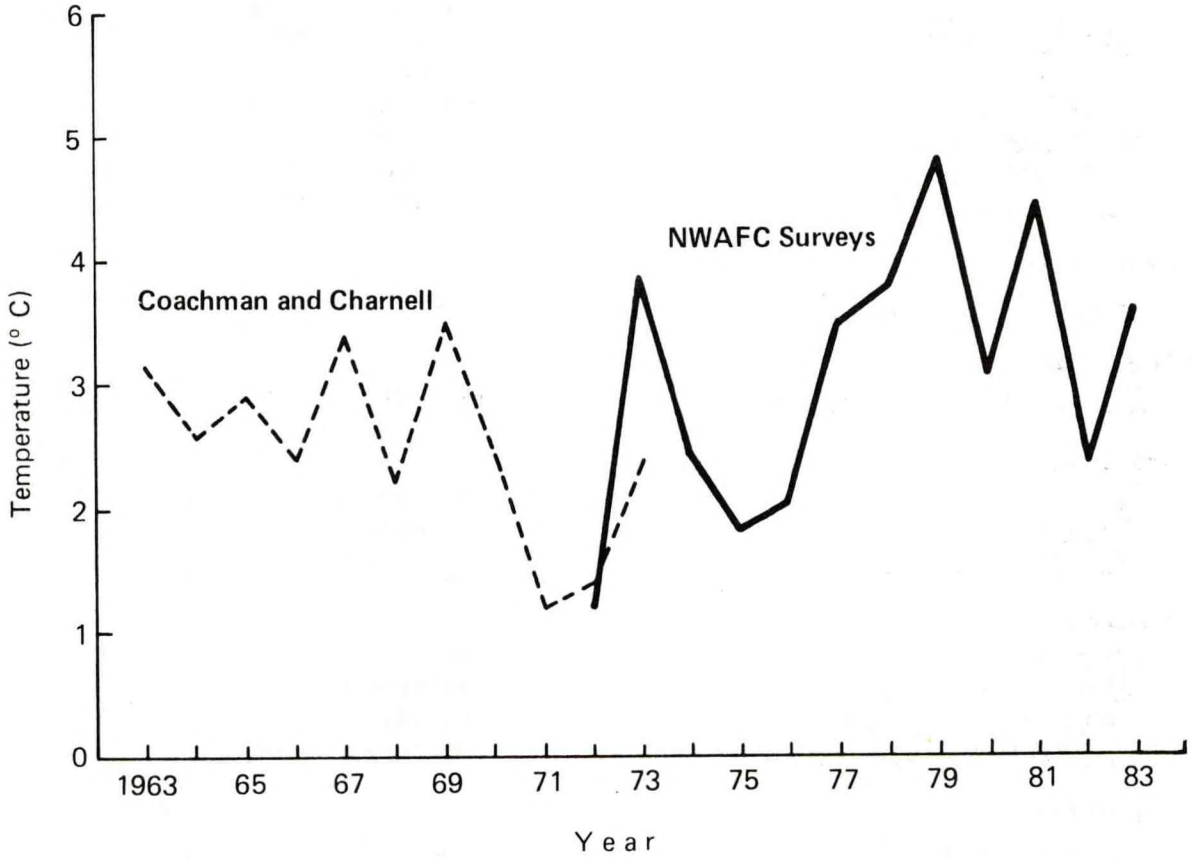

Figure 5.--Mean bottom water temperature in the southeastern Bering Sea 1963-83, based on data from a Japanese research vessel (Coachman and Charnell 1979) and from NWAFC annual survey data.

Table 6.--List of fish species identified during the 1983 eastern Bering Sea trawl survey.

Family and species[a]	Common name[a]
Squalidae	
Squalus acanthias	Spiny dogfish
Rajidae	
Bathyraja interrupta[b]	Bering skate
Bathyraja kincaidi[b]	Sandpaper skate
Bathyraja rosispinis[b]	Flathead skate
Bathyraja smirnovi[c]	Golden skate[c]
Raja sp.	Skate unid.
Raja aleutica	Aleutian skate
Raja binoculata	Big skate
Raja parmifera	Alaska skate
Raja stellulata	Starry skate
Salmonidae	
Oncorhynchus keta	Chum salmon
Clupeidae	
Clupea harengus pallasi	Pacific herring
Osmeridae	
Osmerus mordax	Rainbow smelt
Mallotus villosus	Capelin
Thaleichthys pacificus	Eulachon
Gadidae	
Boreogadus saida	Arctic cod
Eleginus gracilis	Saffron cod
Gadus macrocephalus	Pacific cod
Theragra chalcogramma	Walleye pollock
Zoarcidae	
Lycodes brevipes	Shortfin eelpout
Lycodes mucosus	Eelpout
Lycodes palearis	Wattled eelpout
Lycodes raridens[d]	Sparse toothed lycod[d]
Lycodes turneri	Polar eelpout
Scorpaenidae	
Sebastes aleutianus	Rougheye rockfish
Sebastes alutus	Pacific ocean perch
Sebastes polyspinis	Northern rockfish

Table 6.--Continued.

Family and species[a]	Common name[a]
Hexagrammidae	
Hexagrammos sp.	Greenling unid.
Hexagrammos decagrammus	Kelp greenling
Hexagrammos lagocephalus	Rock greenling
Hexagrammos stelleri	Whitespotted greenling
Pleurogrammus monopterygius	Atka mackerel
Anoplopomatidae	
Anoplopoma fimbria	Sablefish
Cottidae	
Cottidae sp.	Sculpin unid.
Dasycottus setiger	Spinyhead sculpin
Enophrys lucasi	Leister sculpin
Gymnocanthus galeatus	Armorhead sculpin
Gymnocanthus pistilliger[d]	Threaded sculpin[d]
Gymnocanthus tricuspis	Arctic staghorn sculpin
Hemilepidotus hemilepidotus	Red Irish lord
Hemilepidotus jordani	Yellow Irish lord
Hemitripterus bolini	Bigmouth sculpin
Icelus sp.	Sculpin unid.
Icelus canaliculatus[d]	Sculpin
Icelus spiniger	Thorny sculpin
Malacocottus kincaidi	Blackfin sculpin
Malacocottus zonurus[e]	Darkfin sculpin[e]
Melletes papilio	Butterfly sculpin
Myoxocephalus sp.	Sculpin unid.
Myoxocephalus jaok	Plain sculpin
Myoxocephalus polycanthocephalus	Great sculpin
Myoxocephalus verrucosus[d]	Warty sculpin[d]
Triglops sp.	Sculpin unid.
Triglops forficata	Scissortail sculpin
Triglops pingeli	Ribbed sculpin
Triglops scepticus	Spectacled sculpin
Agonidae	
Agonopsis vulsa	Northern spearnose poacher
Agonus acipenserinus	Sturgeon poacher
Anoplagonus inermis	Smooth alligatorfish
Aspidophoroides bartoni	Aleutian alligatorfish
Bathyagonus sp.	Poacher unid.
Bathyagonus alascanus	Gray starsnout
Ocella dodecaedron	Bering poacher
Ocella verrucosa	Warty poacher
Sarritor frenatus	Sawback poacher

Table 6.--Continued.

Family and species[a]	Common name[a]
Cyclopteridae	
Careproctus sp.	Snailfish unid.
Careproctus rastrinus[d]	Snailfish
Careproctus scottae[d]	Snailfish
Cyclopteridae sp.	Snailfish unid.
Eumicrotremus orbis	Pacific spiny lumpsucker
Liparis sp.	Snailfish unid.
Trichodontidae	
Trichodon trichodon	Pacific sandfish
Bathymasteridae	
Bathymaster signatus	Searcher
Anarhichadidae	
Anarhichas orientalis	Bering wolffish
Stichaeidae	
Lumpenella longirostris	Longsnout prickleback
Lumpenus maculatus	Daubed shanny
Lumpenus sagitta	Snake prickleback
Lumpenus fabricii	Slender eelblenny
Poroclinus rothrocki	Whitebarred prickleback
Zaproridae	
Zaprora silenus	Prowfish
Ammodytidae	
Ammodytes hexapterus	Pacific sand lance
Pleuronectidae	
Atheresthes evermanni	Kamchatka flounder
Atheresthes stomias	Arrowtooth flounder
Glyptocephalus zachirus	Rex sole
Hippoglossoides elassodon	Flathead sole
Hippoglossoides robustus	Bering flounder
Hippoglossus stenolepis	Pacific halibut
Isopsetta isolepis	Butter sole
Lepidopsetta bilineata	Rock sole

Table 6.--Continued.

Family and species[a]	Common name[a]
Limanda aspera	Yellowfin sole
Limanda proboscidea	Longhead dab
Platichthys stellatus	Starry flounder
Pleuronectidae sp.	Flatfish unid.
Pleuronectes quadrituberculatus	Alaska plaice
Psettichthys melanostictus	Sand sole
Reinhardtius hippoglossoides	Greenland turbot[f]

[a]Nomenclature from Robins (1980), unless noted.
[b]Eschmeyer et al. (1983).
[c]Shiino (1972).
[d]Quast and Hall (1972).
[e]Kessler (1985).
[f]Market name.

Table 7.--Summary of apparent biomasses of major fish species and species groups taken during the 1983 bottom trawl survey.

Taxon	Estimated biomass for total survey area (t)[a]	Proportion of total biomass[b]	Estimated biomass by subarea (t)						
			1	2	3N	3S	4N	4S	5
Gadidae (cods)									
Walleye pollock	5,986,265	0.373	1,034,708	1,135,696	422,146	1,820,614	711,202	514,617	347,282
Pacific cod	1,177,086	0.073	259,878	79,023	120,331	205,406	282,825	143,566	86,057
Other cods	5,117	<0.001	0	0	0	0	4,133	981	3
Total cods	7,168,467	0.446	1,294,587	1,214,719	542,476	2,026,019	998,160	659,164	433,342
Pleuronectidae (flatfishes)									
Yellowfin sole	3,971,871	0.247	1,452,518	168,294	29	46,644	948,052	1,337,118	19,216
Rock sole	922,433	0.057	580,461	48,120	2,574	51,310	80,195	155,106	4,667
Flathead sole	278,130	0.017	53,167	73,517	48,122	53,836	16,718	22,957	9,813
Alaska plaice	650,551	0.040	67,965	26,165	362	30,121	272,977	220,656	32,305
Greenland turbot	31,241	0.002	13	1,994	15,652	11,628	1,139	208	608
Arrowtooth flounder	137,853	0.009	5,505	69,684	12,236	43,714	2,219	4,490	5
Pacific halibut	96,455	0.006	33,907	20,138	2,164	10,955	14,940	12,492	1,860
Other flatfishes	77,034	0.005	42,461	8,574	100	1,641	11,560	12,451	247
Total flatfish	6,165,569	0.384	2,235,998	416,487	81,237	249,850	1,347,800	1,765,478	68,720
Anoplopomatidae (sablefish)	18,247	0.001	0	6,217	0	12,030	0	0	0
Clupeidae (Pacific herring)	72,770	0.005	26,994	1,180	110	22,144	20,169	1,173	999
Cottidae (sculpins)	284,621	0.018	17,418	35,196	3,370	39,629	74,867	54,815	59,325
Zoarcidae (eelpouts)	136,967	0.009	212	2,464	40,944	7,108	46,698	1,209	38,331
Osmeridae (smelts)	5,617	<0.001	253	3,357	5	6	581	798	618
Agonidae (poachers)	14,424	0.001	1,706	277	40	222	8,823	3,353	3
Scorpaenidae (rockfish)									
Pacific ocean perch	27	<0.001	0	27	0	0	0	0	0
Other rockfish	619	<0.001	70	550	0	0	0	0	0
Total rockfish	646	<0.001	70	577	0	0	0	0	0
Cyclopteridae (snailfish)	2,109	<0.001	1	1	399	8	440	43	1,217
Hexagrammidae (greenlings)	490	<0.001	29	68	0	87	253	52	0
Rajidae (skates)	165,749	0.010	6,819	51,716	17,803	47,827	20,545	14,546	6,493
Other fish	11,487	0.001	39	6,369	190	2,835	1,912	135	6
Total fish	14,047,163	0.874	3,584,126	1,738,628	686,575	2,407,764	2,520,246	2,500,768	609,055

[a]Rounding accounts for minor discrepancies between sums by subareas and total survey area and between sums of taxonomic subgroups and major groups.

[b]Proportion of total estimated biomass, fish and invertebrates combined, for the total survey area. Total estimated biomass = 16,068,330 t.

Table 8.--Summary of apparent biomasses of major invertebrate groups taken during the 1983 bottom trawl survey.

Taxon	Estimated biomass for total survey area (t)[a]	Proportion of total biomass[b]	Estimated biomass by subarea (t)						
			1	2	3N	3S	4N	4S	5
Porifera (sponges)	86,385	0.005	35,134	48,754	0	492	69	530	1,407
Coelenterata (coelenterates)	75,849	0.005	9,709	17,810	712	23,869	7,669	14,835	1,245
Mollusca									
Gastropoda (snails)	264,114	0.016	20,840	25,695	23,519	49,558	68,979	69,954	5,570
Pelecypoda (bivalves)	1,575	<0.001	321	61	30	18	528	586	30
Cephalopoda									
Squids	108	<0.001	0	1	82	24	0	0	0
Octopuses	10,579	0.001	0	8,493	433	1,572	0	0	82
Other mollusks	2	<0.001	0	0	0	0	0	0	2
Total mollusks	276,377	0.017	21,161	34,250	24,064	51,171	69,508	70,539	5,683
Crustacea									
Chionocetes sp. (Tanner crab)	412,057	0.026	22,086	34,275	49,604	126,567	108,309	49,000	22,216
Paralithodes sp. (king crab)	78,197	0.005	40,903	430	1,509	18,608	2,659	6,776	7,312
Other crab[c]	139,480	0.009	18,021	13,095	1,354	8,102	37,615	57,094	4,199
Total crab	629,735	0.039	81,010	47,800	52,467	153,277	148,583	112,871	33,728
Total shrimp	3,714	<0.001	32	51	3,029	310	123	84	85
Other crustaceans	115	<0.001	10	106	0	0	0	0	0
Total crustaceans	633,564	0.039	81,051	47,957	55,496	153,586	148,706	112,955	33,813
Echinodermata									
Asteroidea (starfish)	642,883	0.040	186,816	13,492	36,330	49,393	169,016	184,169	3,666
Ophiuroidea (brittlestars)	94,166	0.006	2,852	16,996	13,491	36,727	10,107	13,748	245
Echinoidea (sea urchins)	25,373	0.002	4,734	20,139	228	229	10	23	9
Holothuroidea (sea cucumbers)	6,582	<0.001	6,433	83	0	46	0	2	19
Total echinoderms	769,004	0.048	200,835	50,711	50,050	86,395	179,132	197,942	3,939
Ascidiacea	127,944	0.008	20,700	327	13	58,076	20,961	26,159	1,707
Other invertebrates	52,044	0.003	0	4	216	7,352	41,352	15	3,105
Total invertebrates	2,021,167	0.126	368,591	199,813	130,551	380,942	467,396	422,976	50,899

[a]Rounding accounts for minor discrepancies between sums by subareas and total survey area and between sums of taxonomic subgroups and major groups.

[b]Proportion of total estimated biomass, fish and invertebrates combined, for the total survey area. Total estimated biomass = 16,068,330 t.

[c]Major species included in other crab category: Korean horsehair crab, hermit crabs, and hyas crabs.

Figures 6-14 show the distributions and relative abundance of total fish and major families of fish during June-August 1983. Most of the larger CPUE values for total fish were documented from inner Bristol Bay stretching north along the inner Bering Shelf in subareas 1 and 4S (Fig. 6). The highest CPUE value (exceeding 1500 kg/ha) was found east of St. George Island (Pribilof Islands group).

Relative Importance of Individual Fish Species

Table 9 presents the top 20 fish species ranked in order of relative abundance for the total survey area, and Tables 10-16 show the ranks by subarea. Appendix B lists the rank order of abundance for all species of fish and invertebrates taken in the survey area.

For the overall survey area, the top 20 fish species represented 86% of the total catch; walleye pollock and yellowfin sole comprised greater than half of the total catch. Walleye pollock was the highest ranking species in the outer shelf subareas (2, 3S, 3N) and the northern most inner shelf subarea (5), while yellowfin sole dominated catches from inner shelf subareas (1, 4S, 4N). Yellowfin sole also ranked second in subarea 2, while Pacific cod ranked second in subareas 3S, 3N, and 5. Walleye pollock was the second most abundant species in subareas 1, 4S, and 4N. Mean CPUEs for walleye pollock in the outer shelf areas ranged from 88 to 225 kg/ha, while inner shelf values ranged from 63 to 132 kg/ha. Yellowfin sole mean CPUE values ranged from 103 to 185 kg/ha in the inner shelf areas.

Abundance, Distribution, and Size and Age Composition of Principal Fish Species

Abundance estimates (CPUE, biomass, and population numbers), geographical distributions, and size composition for principal species of fish taken during the 1983 eastern Bering Sea survey are shown in Figures 15-44 and Tables 17-31.

Age composition data are also presented for the three species from which age structures have been read: walleye pollock, yellowfin sole, and rock sole (Figs. 17, 26, 29). Listings of the computer analyses of abundance and biological data for the individual species, summarized in the above tables and figures, are contained in Appendices C-F.

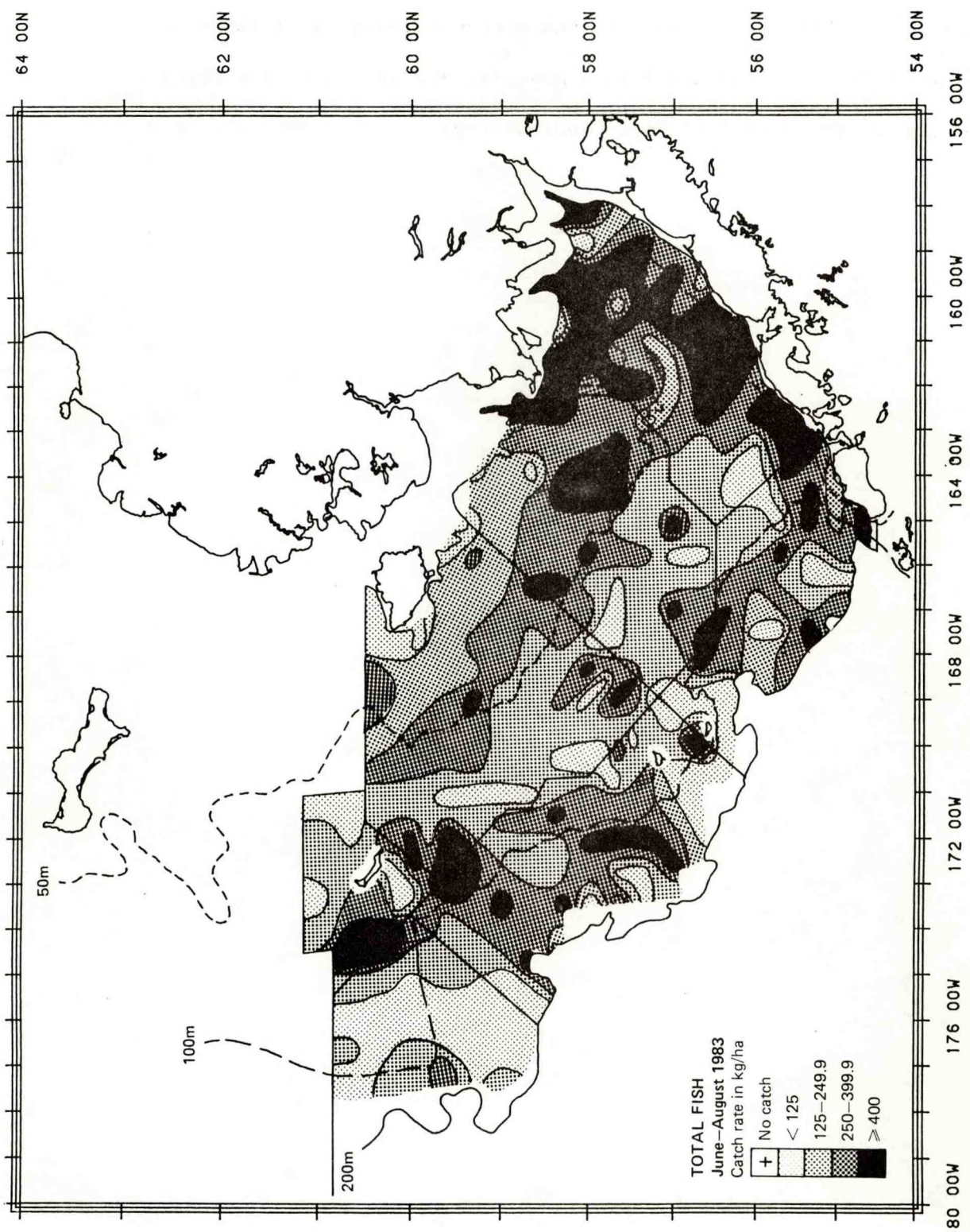

Figure 6.--Distribution and relative abundance of total fish taken during the 1983 survey.

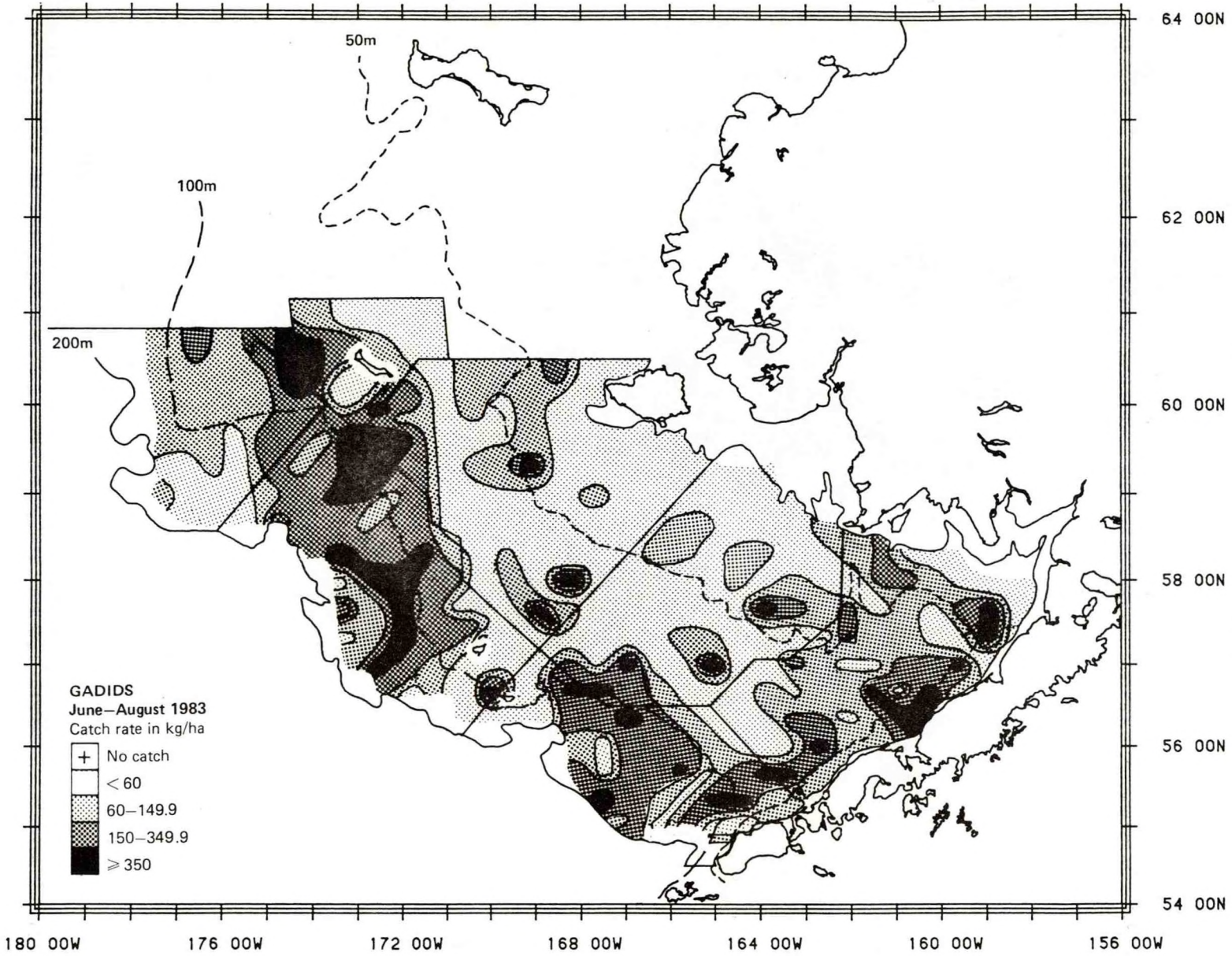

Figure 7.--Distribution and relative abundance of total gadids (codfishes) taken during the 1983 survey.

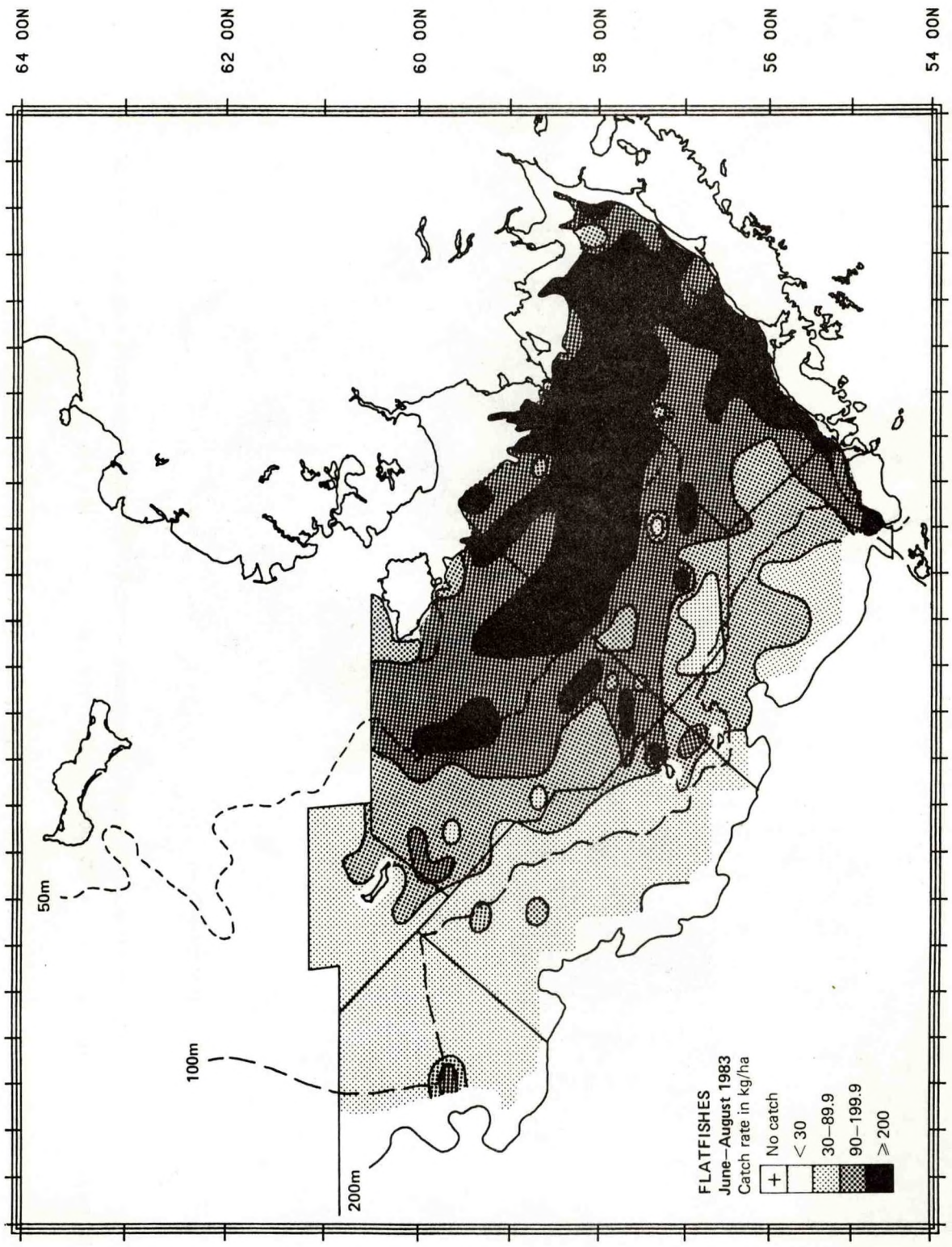

Figure 8.--Distribution and relative abundance of total flatfishes taken during the 1983 survey.

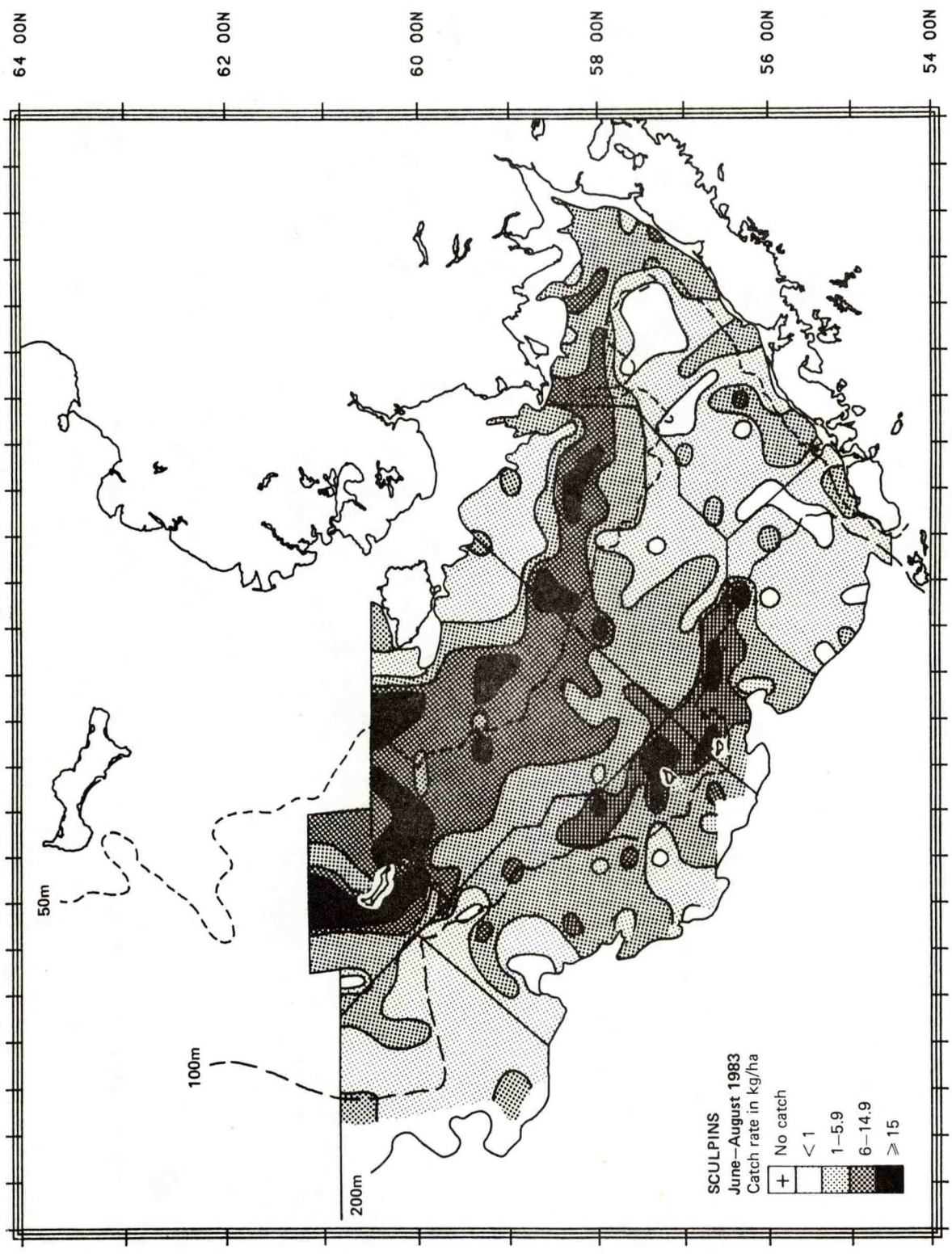

Figure 9.--Distribution and relative abundance of total sculpins taken during the 1983 survey.

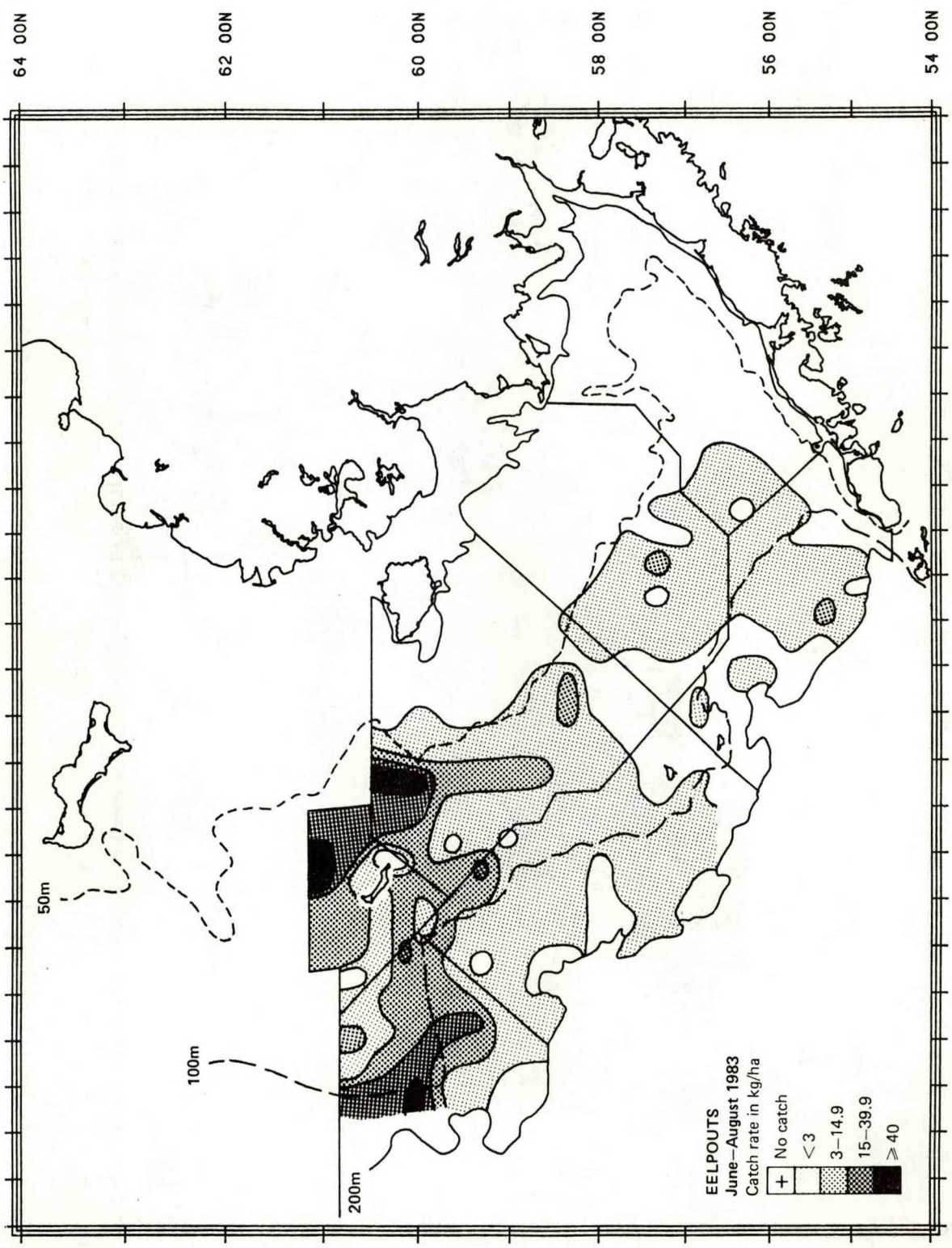

Figure 10.--Distribution and relative abundance of total eelpouts taken during the 1983 survey.

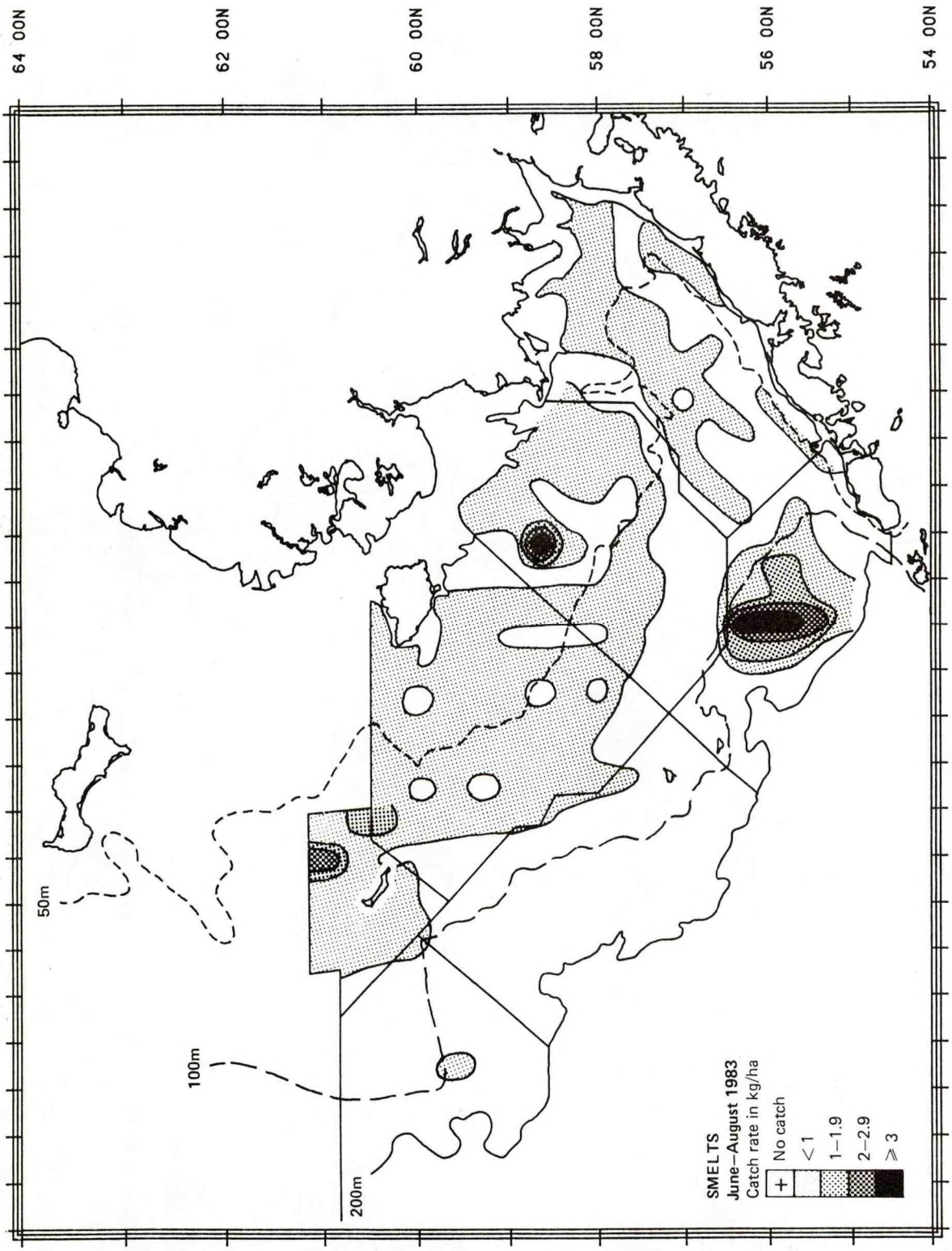

Figure 11.--Distribution and relative abundance of total smelts taken during the 1983 survey.

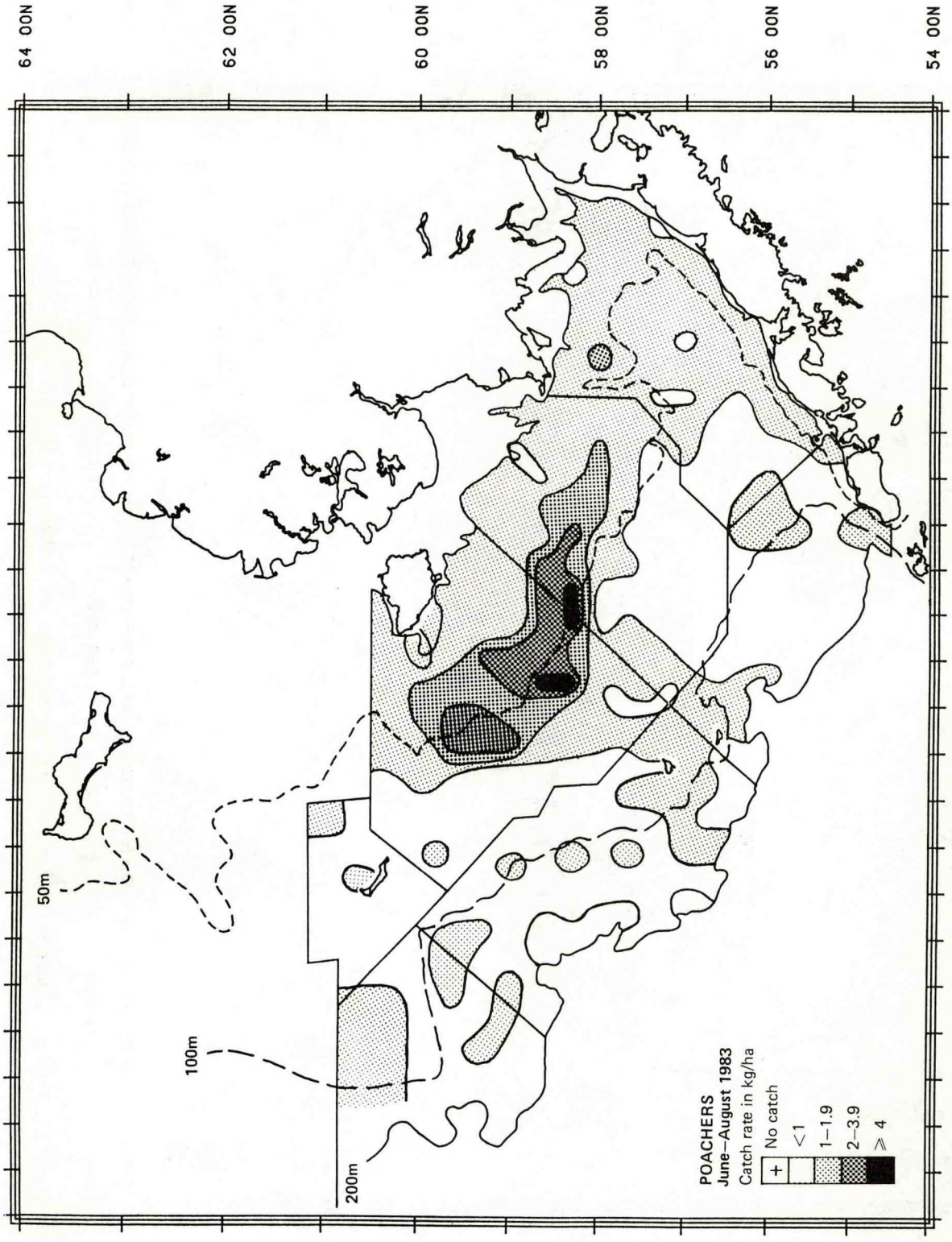

Figure 12.--Distribution and relative abundance of total poachers taken during the 1983 survey.

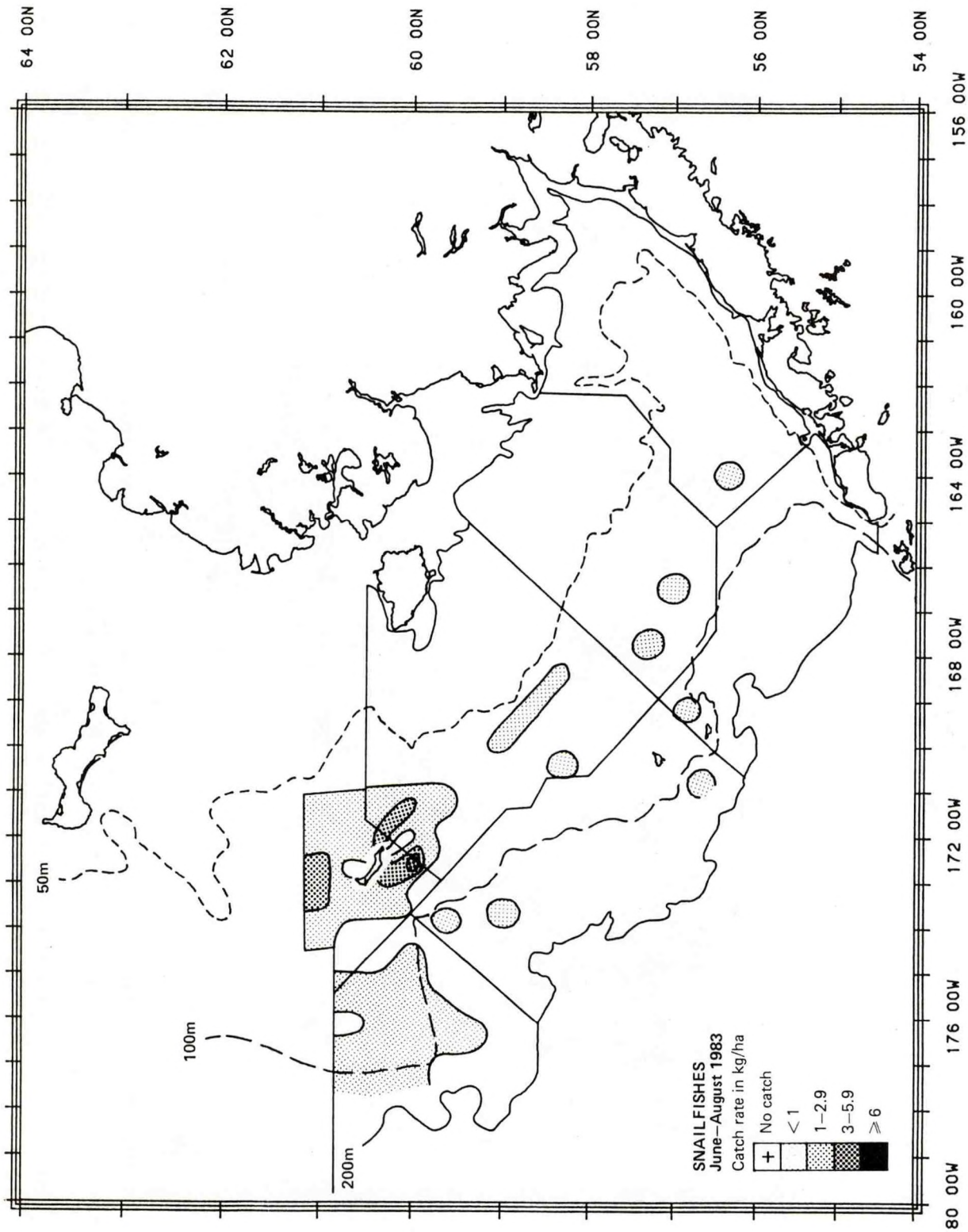

Figure 13.--Distribution and relative abundance of total snailfishes (includes lumpsuckers) taken during the 1983 survey.

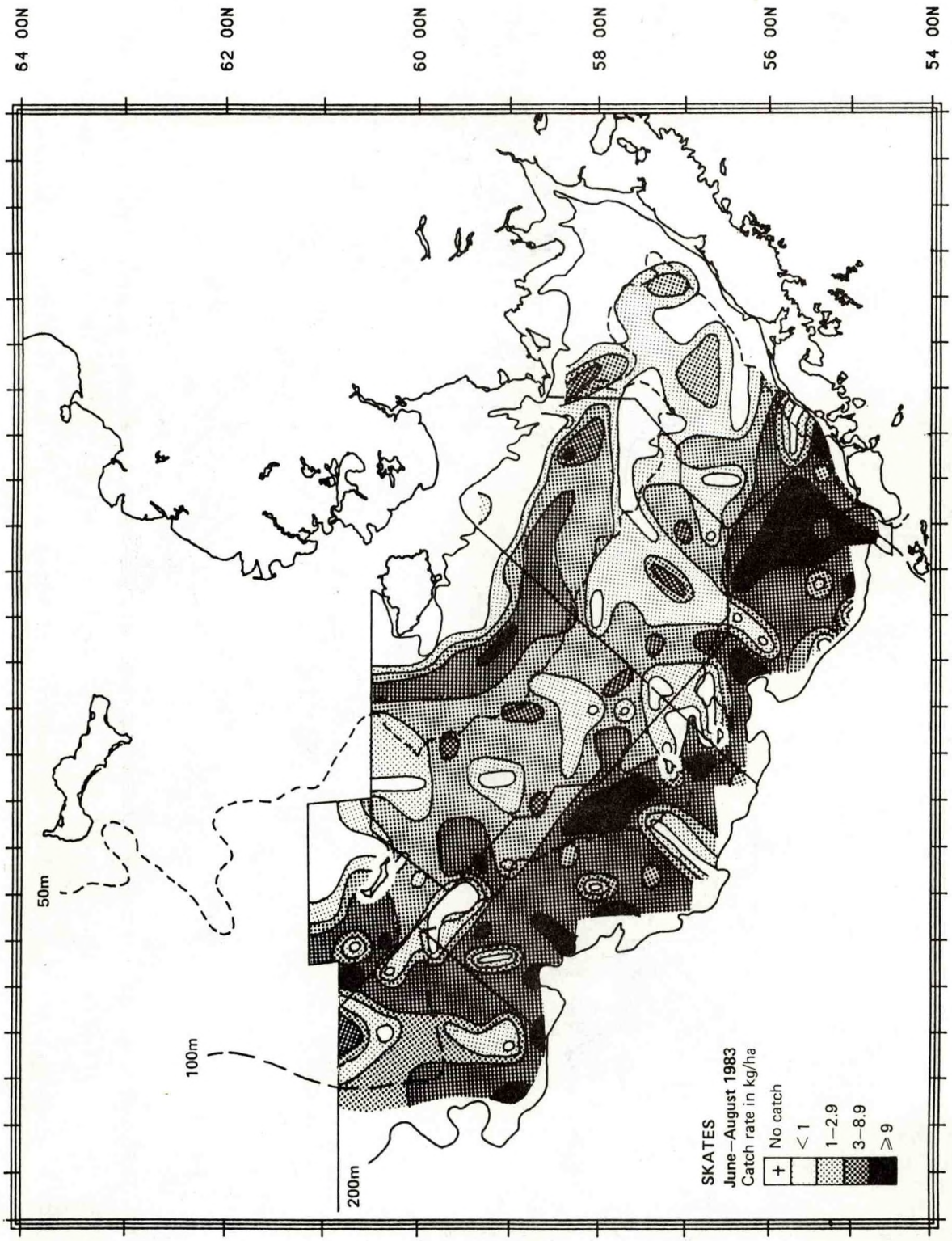

Figure 14.--Distribution and relative abundance of total skates taken during the 1983 survey.

Table 9.--Rank order of abundance of the 20 most abundant species of fish taken during the 1983 bottom trawl survey, total area.

Rank	Species	Mean CPUE (kg/ha)[a]	Proportion of total CPUE[b]	Cumulative proportion
1	Walleye pollock	128.85	0.373	0.373
2	Yellowfin sole	85.50	0.247	0.620
3	Pacific cod	25.34	0.073	0.693
4	Rock sole	19.86	0.057	0.750
5	Alaska plaice	14.00	0.040	0.791
6	Flathead sole[c]	5.99	0.017	0.808
7	Arrowtooth flounder[c]	2.97	0.009	0.817
8	Pacific halibut	2.08	0.006	0.823
9	Sparse toothed lycod	1.82	0.005	0.828
10	Plain sculpin	1.70	0.005	0.833
11	Pacific herring	1.57	0.005	0.837
12	Starry skate	1.21	0.003	0.841
13	Longhead dab	1.13	0.003	0.844
14	Alaska skate	1.07	0.003	0.847
15	*Myoxocephalus* sp.	1.02	0.003	0.850
16	Butterfly sculpin	0.98	0.003	0.853
17	Yellow Irish lord	0.90	0.003	0.856
18	Shortfin eelpout	0.87	0.003	0.858
19	Skate (unidentified)	0.85	0.002	0.861
20	Great sculpin	0.76	0.002	0.863

[a]Total effort = 1565.2 ha.
[b]Proportion of total CPUE, all fish and invertebrates combined. Total CPUE = 345.87 kg/ha.
[c]Flathead sole combined with Bering flounder; arrowtooth flounder combined with Kamchatka flounder.

Table 10.--Rank order of abundance of the 20 most abundant species of fish taken during the 1983 bottom trawl survey, Subarea 1.

Rank	Species	Mean CPUE (kg/ha)[a]	Proportion of total CPUE[b]	Cumulative proportion
1	Yellowfin sole	184.56	0.367	0.367
2	Walleye pollock	131.47	0.262	0.629
3	Rock sole	73.75	0.147	0.776
4	Pacific cod	33.02	0.066	0.842
5	Alaska plaice	8.64	0.017	0.859
6	Flathead sole[c]	6.76	0.013	0.872
7	Pacific halibut	4.31	0.009	0.881
8	Longhead dab	4.09	0.008	0.889
9	Pacific herring	3.43	0.007	0.896
10	Starry flounder	1.21	0.002	0.898
11	Great sculpin	1.12	0.002	0.901
12	Plain sculpin	0.97	0.002	0.903
13	Arrowtooth flounder[c]	0.70	0.001	0.904
14	Starry skate	0.56	0.001	0.905
15	Sturgeon poacher	0.21	<0.001	0.906
16	Aleutian skate	0.12	<0.001	0.906
17	Yellow Irish lord	0.12	<0.001	0.906
18	Alaska skate	0.12	<0.001	0.906
19	Rex sole	0.07	<0.001	0.906
20	Skate (unidentified)	0.06	<0.001	0.907

[a]Total effort = 263.2 ha.
[b]Proportion of total CPUE, all fish and invertebrates combined. Total CPUE = 502.22 kg/ha.
[c]Flathead sole combined with Bering flounder; arrowtooth flounder combined with Kamchatka flounder.

Table 11.--Rank order of abundance of the 20 most abundant species of fish taken during the 1983 bottom trawl survey, Subarea 2.

Rank	Species	Mean CPUE (kg/ha)[a]	Proportion of total CPUE[b]	Cumulative proportion
1	Walleye pollock	186.56	0.586	0.586
2	Yellowfin sole	27.65	0.087	0.673
3	Pacific cod	12.98	0.041	0.713
4	Flathead sole[c]	12.08	0.038	0.751
5	Arrowtooth flounder[c]	11.45	0.036	0.787
6	Rock sole	7.90	0.025	0.812
7	Alaska plaice	4.30	0.013	0.826
8	Starry skate	4.27	0.013	0.839
9	Yellow Irish lord	3.40	0.011	0.850
10	Pacific halibut	3.31	0.010	0.860
11	Alaska skate	1.95	0.006	0.866
12	Aleutian skate	1.29	0.004	0.870
13	Bigmouth sculpin	1.08	0.003	0.074
14	Sablefish	1.02	0.003	0.877
15	Armorhead sculpin	0.98	0.003	0.880
16	Searcher	0.98	0.003	0.883
17	Rex sole	0.81	0.003	0.886
18	Sand sole	0.59	0.002	0.888
19	Eulachon	0.55	0.002	0.889
20	Skate (unidentified)	0.52	0.002	0.890

[a]Total effort = 193.3 ha.
[b]Proportion of total CPUE, all fish and invertebrates combined. Total CPUE = 318.43 kg/ha.
[c]Flathead sole combined with Bering flounder; arrowtooth flounder combined with Kamchatka flounder.

Table 12.--Rank order of abundance of the 20 most abundant species of fish taken during the 1983 bottom trawl survey, Subarea 3N.

Rank	Species	Mean CPUE (kg/ha)[a]	Proportion of total CPUE[b]	Cumulative proportion
1	Walleye pollock	87.91	0.517	0.517
2	Pacific cod	25.06	0.147	0.664
3	Flathead sole[c]	10.02	0.059	0.723
4	Shortfin eelpout	7.84	0.046	0.769
5	Greenland turbot	3.26	0.019	0.788
6	Arrowtooth flounder[c]	2.55	0.015	0.803
7	Alaska skate	1.50	0.009	0.812
8	Starry skate	1.07	0.006	0.818
9	Wattled eelpout	0.64	0.004	0.822
10	Rock sole	0.54	0.003	0.825
11	Aleutian skate	0.53	0.003	0.828
12	Skate (unidentified)	0.49	0.003	0.831
13	Pacific halibut	0.45	0.003	0.834
14	Bigmouth sculpin	0.20	0.001	0.835
15	Bering skate	0.13	0.001	0.835
16	Great sculpin	0.13	0.001	0.836
17	Thorny sculpin	0.12	0.001	0.837
18	*Icelus* sp.	0.09	0.001	0.837
19	Warty sculpin	0.08	<0.001	0.838
20	Alaska plaice	0.08	<0.001	0.838

[a]Total effort = 141.0 ha.
[b]Proportion of total CPUE, all fish and invertebrates combined. Total CPUE = 170.17 kg/ha.
[c]Flathead sole combined with Bering flounder; arrowtooth flounder combined with Kamchatka flounder.

Table 13.--Rank order of abundance of the 20 most abundant species of fish taken during the 1983 bottom trawl survey, Subarea 3S.

Rank	Species	Mean CPUE (kg/ha)[a]	Proportion of total CPUE[b]	Cumulative proportion
1	Walleye pollock	224.97	0.653	0.653
2	Pacific cod	25.38	0.074	0.727
3	Flathead sole[c]	6.65	0.019	0.746
4	Rock sole	6.34	0.018	0.764
5	Yellowfin sole	5.76	0.017	0.781
6	Arrowtooth flounder[c]	5.40	0.016	0.797
7	Alaska plaice	3.72	0.011	0.807
8	Pacific herring	2.74	0.008	0.815
9	Skate (unidentified)	2.58	0.007	0.822
10	Yellow Irish lord	1.90	0.006	0.828
11	Alaska skate	1.66	0.005	0.833
12	Sablefish	1.49	0.004	0.837
13	Greenland turbot	1.44	0.004	0.842
14	Starry skate	1.42	0.004	0.846
15	Pacific halibut	1.35	0.004	0.850
16	Myoxocephalus sp.	1.24	0.004	0.853
17	Bigmouth sculpin	0.93	0.003	0.856
18	Wattled eelpout	0.48	0.001	0.857
19	Armorhead sculpin	0.46	0.001	0.859
20	Sparse toothed lycod	0.31	0.001	0.860

[a]Total effort = 293.6 ha.
[b]Proportion of total CPUE, all fish and invertebrates combined. Total CPUE = 344.59 kg/ha.
[c]Flathead sole combined with Bering flounder; arrowtooth flounder combined with Kamchatka flounder.

Table 14.--Rank order of abundance of the 20 most abundant species of fish taken during the 1983 bottom trawl survey, Subarea 4N.

Rank	Species	Mean CPUE (kg/ha)[a]	Proportion of total CPUE[b]	Cumulative proportion
1	Yellowfin sole	103.40	0.317	0.317
2	Walleye pollock	77.57	0.238	0.555
3	Pacific cod	30.85	0.095	0.650
4	Alaska plaice	29.78	0.091	0.741
5	Rock sole	8.75	0.027	0.768
6	Plain sculpin	4.93	0.015	0.783
7	Sparse toothed lycod	4.72	0.014	0.798
8	Pacific herring	2.20	0.007	0.805
9	Flathead sole[c]	1.82	0.006	0.810
10	Myoxocephalus sp.	1.81	0.006	0.816
11	Pacific halibut	1.63	0.005	0.821
12	Alaska plaice	1.16	0.004	0.824
13	Sturgeon poacher	0.96	0.003	0.827
14	Longhead dab	0.95	0.003	0.830
15	Skate (unidentified)	0.92	0.003	0.833
16	Butterfly sculpin	0.63	0.002	0.835
17	Saffron cod	0.45	0.001	0.836
18	Great sculpin	0.39	0.001	0.838
19	Wattled eelpout	0.34	0.001	0.839
20	Starry flounder	0.31	0.001	0.840

[a]Total effort = 329.5 ha.
[b]Proportion of total CPUE, all fish and invertebrates combined. Total CPUE = 325.84 kg/ha.
[c]Flathead sole combined with Bering flounder.

Table 15.--Rank order of abundance of the 20 most abundant species of fish taken during the 1983 bottom trawl survey, Subarea 4S.

Rank	Species	Mean CPUE (kg/ha)[a]	Proportion of total CPUE[b]	Cumulative proportion
1	Yellowfin sole	164.04	0.457	0.457
2	Walleye pollock	63.13	0.176	0.633
3	Alaska plaice	27.07	0.075	0.709
4	Rock sole	19.03	0.053	0.762
5	Pacific cod	17.61	0.049	0.811
6	Plain sculpin	3.09	0.009	0.820
7	Flathead sole[c]	2.82	0.008	0.827
8	Great sculpin	2.55	0.007	0.835
9	Pacific halibut	1.53	0.004	0.839
10	Longhead dab	1.41	0.004	0.843
11	Starry skate	0.97	0.003	0.845
12	Arrowtooth flounder[c]	0.55	0.002	0.847
13	Bigmouth sculpin	0.44	0.001	0.848
14	Aleutian skate	0.41	0.001	0.849
15	Sturgeon poacher	0.41	0.001	0.850
16	Alaska skate	0.34	0.001	0.851
17	Yellow Irish lord	0.31	0.001	0.852
18	Warty sculpin	0.17	<0.001	0.853
19	Pacific herring	0.14	<0.001	0.853
20	Saffron cod	0.12	<0.001	0.854

[a]Total effort = 259.7 ha.
[b]Proportion of total CPUE, all fish and invertebrates combined. Total CPUE = 358.68 kg/ha.
[c]Flathead sole combined with Bering flounder; arrowtooth flounder combined with Kamchatka flounder.

Table 16.--Rank order of abundance of the 20 most abundant species of fish taken during the 1983 bottom trawl survey, Subarea 5.

Rank	Species	Mean CPUE (kg/ha)[a]	Proportion of total CPUE[b]	Cumulative proportion
1	Walleye pollock	152.01	0.526	0.526
2	Pacific cod	37.67	0.130	0.657
3	Butterfly sculpin	17.13	0.059	0.716
4	Sparse toothed lycod	16.53	0.057	0.773
5	Alaska plaice	14.14	0.049	0.822
6	Myoxocephalus sp.	8.44	0.029	0.851
7	Yellowfin sole	8.41	0.029	0.880
8	Flathead sole[c]	4.30	0.015	0.895
9	Rock sole	2.04	0.007	0.902
10	Skate (unidentified)	1.65	0.006	0.908
11	Alaska skate	1.15	0.004	0.912
12	Pacific halibut	0.81	0.003	0.915
13	Snailfish (unidentified)	0.53	0.002	0.917
14	Pacific herring	0.44	0.002	0.918
15	Capelin	0.27	0.001	0.919
16	Greenland turbot	0.27	0.001	0.920
17	Wattled eelpout	0.14	<0.001	0.921
18	Great sculpin	0.11	<0.001	0.921
19	Plain sculpin	0.11	<0.001	0.921
20	Polar eelpout	0.10	<0.001	0.922

[a]Total effort = 84.8 ha.
[b]Proportion of total CPUE, all fish and invertebrates combined.
Total CPUE = 288.87 kg/ha.
[c]Flathead sole combined with Bering flounder.

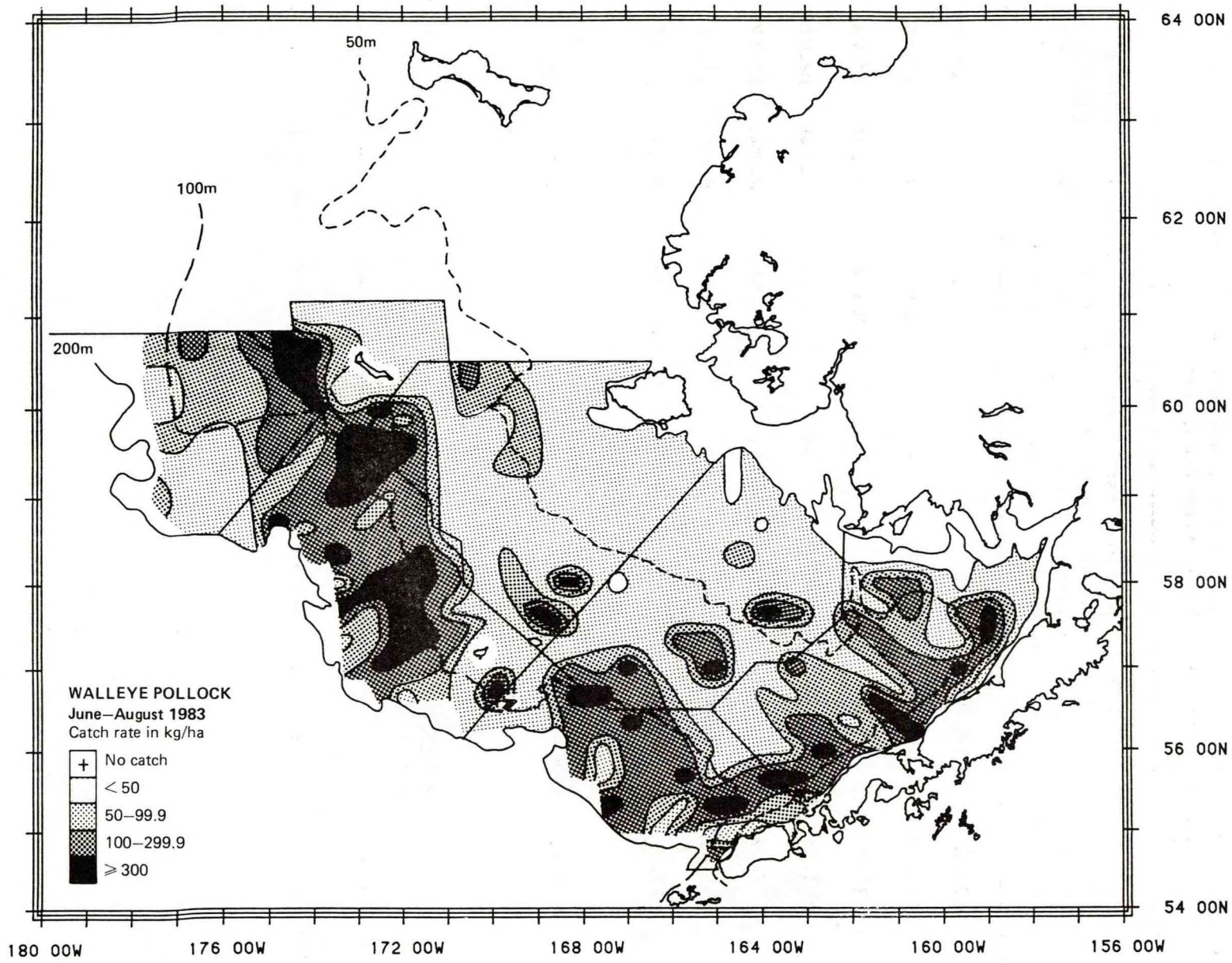

Figure 15.--Distribution and relative abundance of walleye pollock taken during the 1983 survey.

WALLEYE POLLOCK

Table 17.--Abundance estimates and mean size of walleye pollock by subarea and for subareas combined, 1983 bottom trawl survey.

Subarea	Mean CPUE[a] (kg/ha)	Estimated apparent biomass (t)	Proportion of total estimated biomass	Estimated apparent population (10^6)	Proportion of total estimated population	Mean size per individual	
						Weight (kg)	Length (cm)
1	131.45	1,034,708	0.173	1,496	0.142	0.692	45.16
2	186.54	1,135,696	0.190	1,834	0.174	0.619	43.15
3N	87.90	422,146	0.071	1,731	0.164	0.244	27.88
3S	224.94	1,820,614	0.119	4,929	0.466	0.144	34.81
4N	77.56	711,202	0.058	2,812	0.266	0.124	23.07
4S	63.12	514,617	0.086	991	0.094	0.519	35.72
5	151.99	347,282	0.304	772	0.073	0.450	39.03
All subareas combined[b]	128.84	5,986,265		14,567		0.567	34.12
95% confidence interval		5,023,787-6,948,742		12,391-16,742			

[a]CPUE = catch per unit effort.
[b]Minor discrepancies between sums over subareas and totals due to rounding.

Table 18.--Estimated population size of walleye pollock age groups by subarea and for all subareas combined (millions of fish).

Age	Year class	Subarea							All subareas combined[a]	Proportion of total
		1	2	3N	3S	4N	4S	5		
1	1982	31.91	6.76	669.35	753.74	1,877.83	287.29	43.43	3,670.32	0.2520
2	1981	8.18	7.68	179.90	351.97	9.21	9.34	6.13	572.42	0.0393
3	1980	29.03	47.50	261.04	784.32	14.52	26.36	82.63	1,245.41	0.0855
4	1979	139.57	298.36	259.27	1,038.13	87.99	97.30	221.15	2,141.77	0.1470
5	1978	803.88	1,104.71	264.76	1,519.17	511.78	339.73	297.19	4,841.23	0.3324
6	1977	311.63	300.62	71.78	393.10	186.18	131.52	88.14	1,482.98	0.1018
7	1976	66.10	44.33	11.85	55.53	44.43	34.10	15.22	271.56	0.0186
8	1975	46.86	10.37	5.45	12.82	33.66	29.03	7.73	145.92	0.0100
9	1974	20.08	4.25	2.56	5.81	16.26	13.46	3.72	66.16	0.0045
10	1973	16.28	5.23	2.17	7.93	13.17	9.73	2.89	57.39	0.0039
11	1972	14.08	3.03	1.88	4.29	9.48	7.49	2.44	42.68	0.0029
12	1971	4.97	0.81	0.58	1.49	3.49	2.90	0.93	15.17	0.0010
13	1970	1.47	0.13	0.42	0.25	1.95	1.34	0.40	5.95	0.0004
14	1969	1.77	0.34	0.20	0.43	1.13	0.91	0.23	5.02	0.0003
15	1968	0.18	0.03	0.08	0.07	0.52	0.38	0.12	1.38	0.0001
≥16	-	0.03	0.01	0.03	0.04	0.83	0.18	0.06	1.18	0.0001
All ages combined[a]		1,496.02	1,834.17	1,731.33	4,929.08	2,812.43	991.06	772.44	14,566.53	1.0000

[a]Minor discrepancies between sums by subareas and age groups and totals due to rounding.

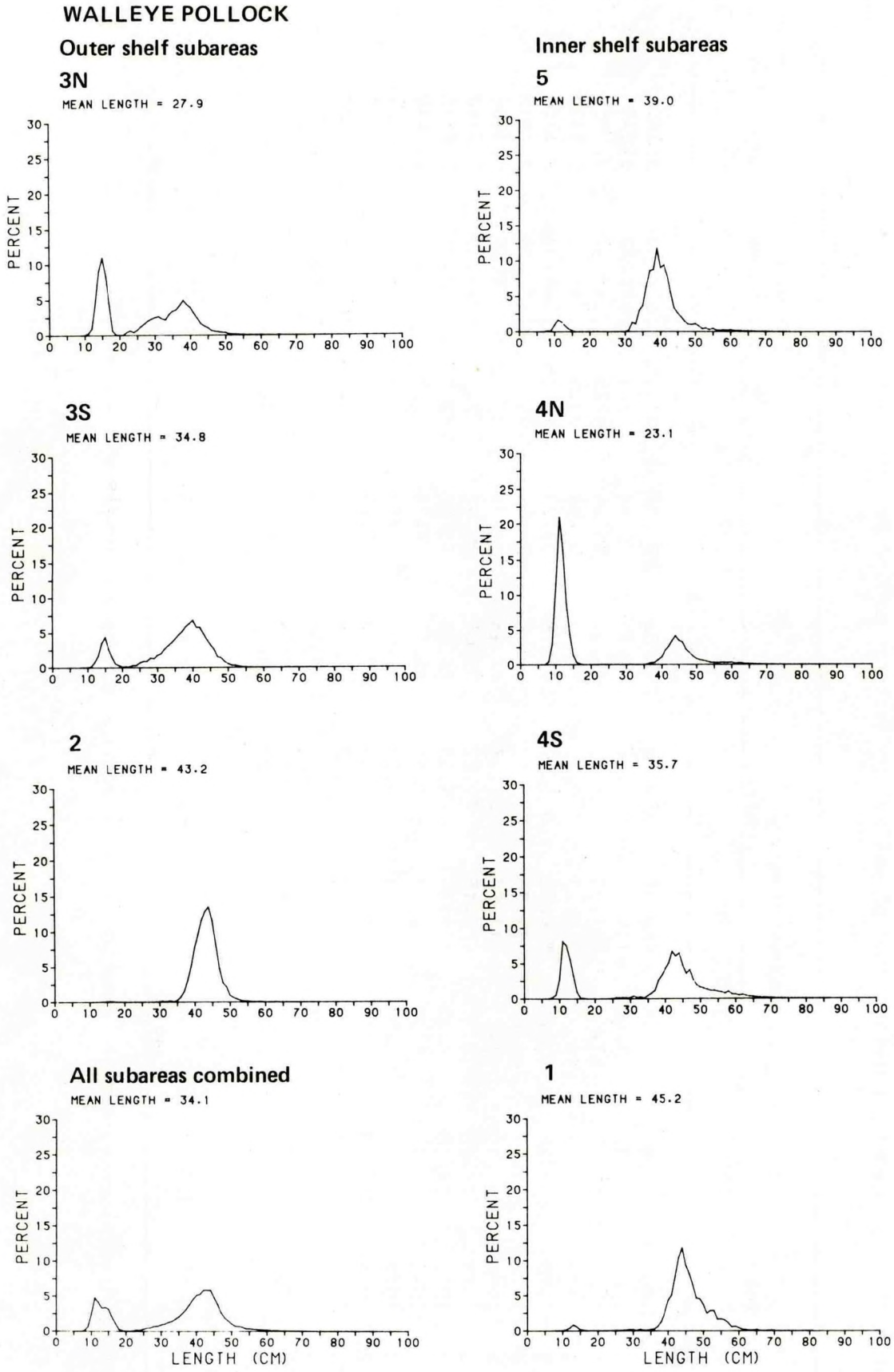

Figure 16.--Size composition, by subarea, of walleye pollock (sexes combined) taken during the 1983 survey.

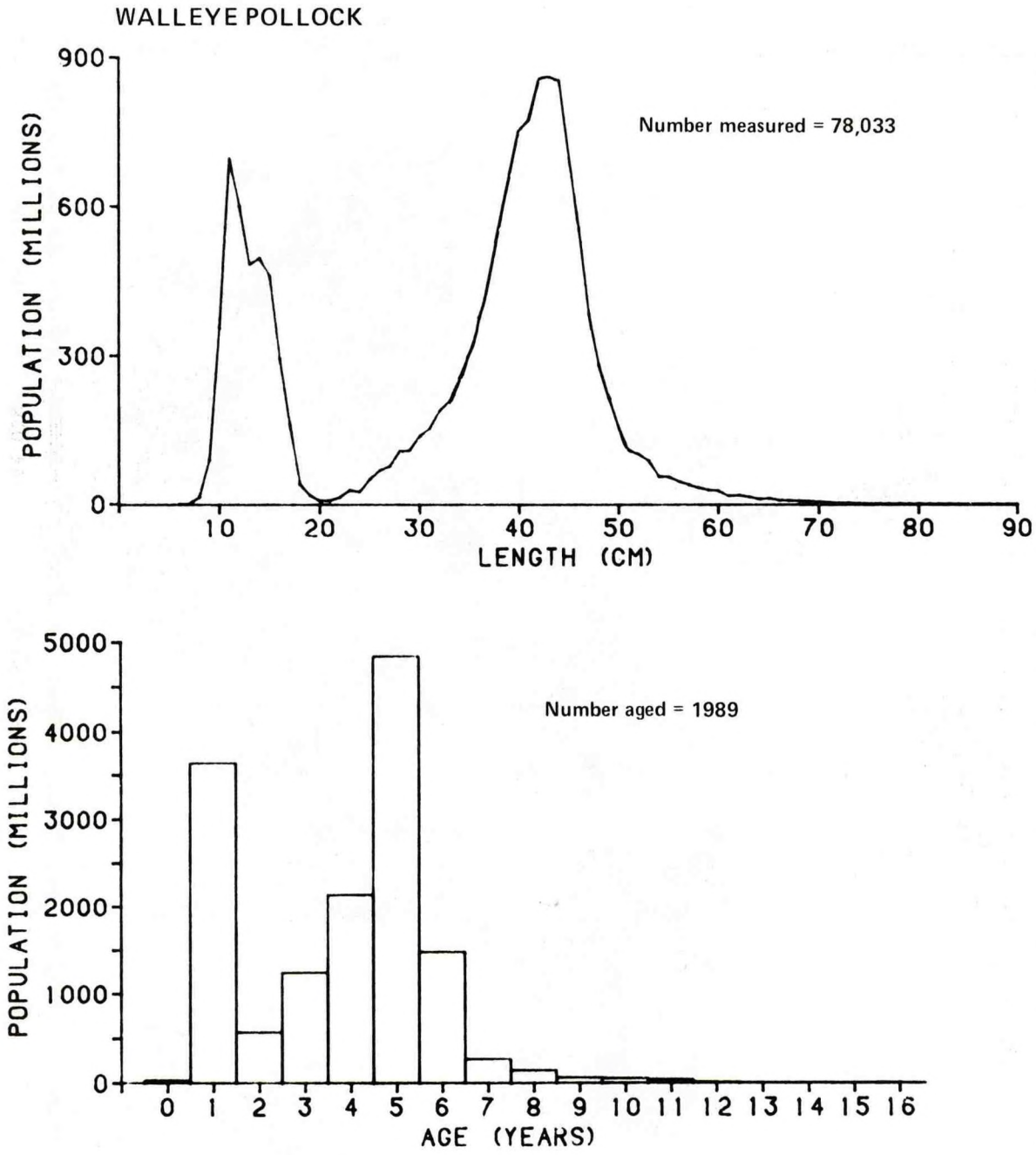

Figure 17.--Population estimates, by length and age group, for walleye pollock (sexes combined) from the 1983 survey area.

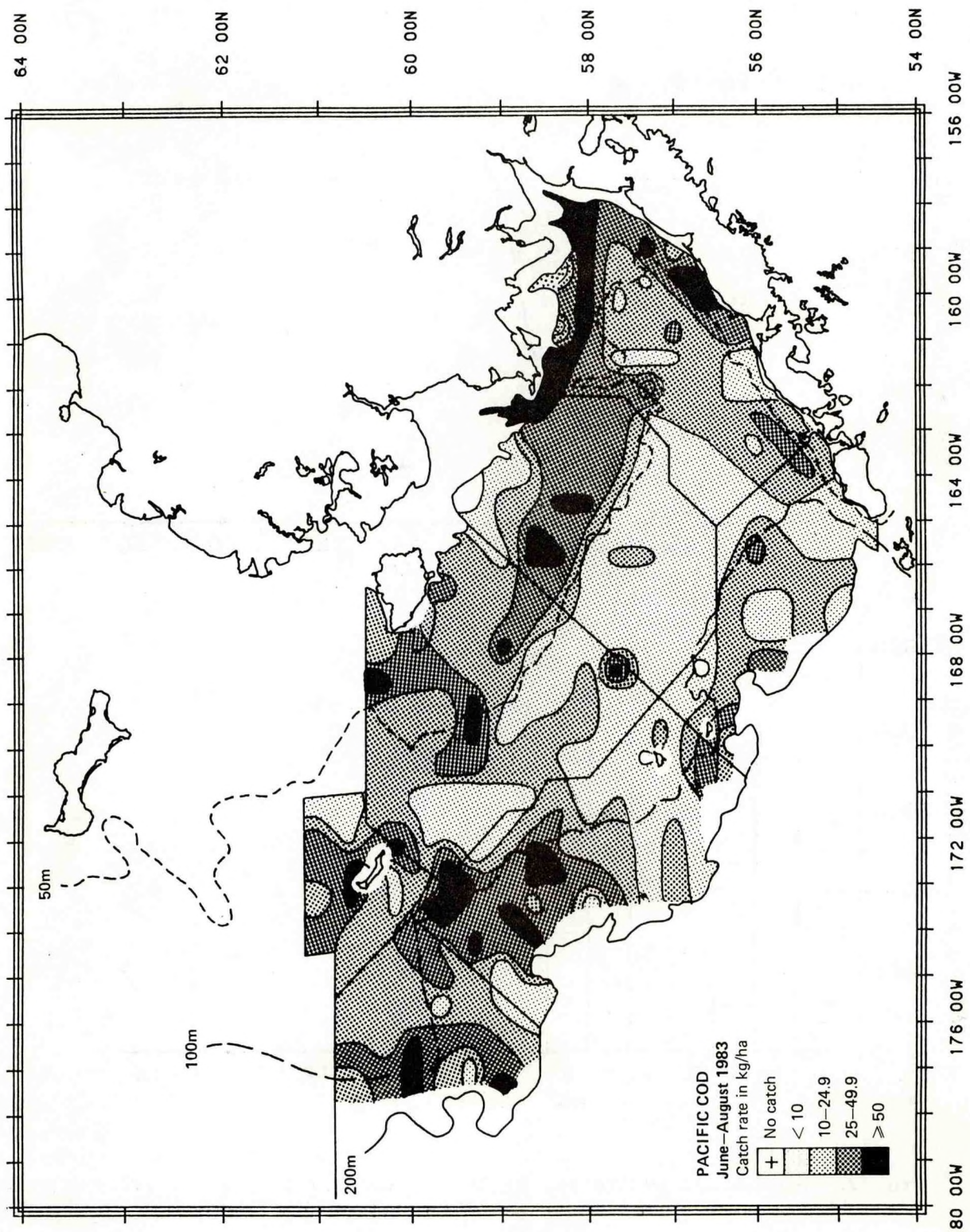

Figure 18.--Distribution and relative abundance of Pacific cod taken during the 1983 survey.

PACIFIC COD

Table 19.--Abundance estimates and mean size of Pacific cod by subarea and for subareas combined, 1983 bottom trawl survey.

Subarea	Mean CPUE[a] (kg/ha)	Estimated apparent biomass (t)	Proportion of total estimated biomass	Estimated apparent population (10^6)	Proportion of total estimated population	Mean size per individual	
						Weight (kg)	Length (cm)
1	33.02	259,878	0.221	180	0.248	1.444	39.83
2	12.98	79,023	0.067	29	0.040	2.725	57.11
3N	25.06	120,331	0.102	34	0.047	3.539	63.49
3S	25.38	205,406	0.175	79	0.109	2.600	56.30
4N	30.84	282,825	0.240	270	0.371	1.048	35.10
4S	17.61	143,566	0.122	76	0.105	1.889	47.16
5	37.66	86,057	0.073	59	0.081	1.459	47.31
All subareas combined[b]	25.33	1,177,086		727		1.619	43.04
95% confidence interval		938,984-1,415,187		570-885			

[a]CPUE = catch per unit effort.
[b]Minor discrepancies between sums over subareas and totals due to rounding.

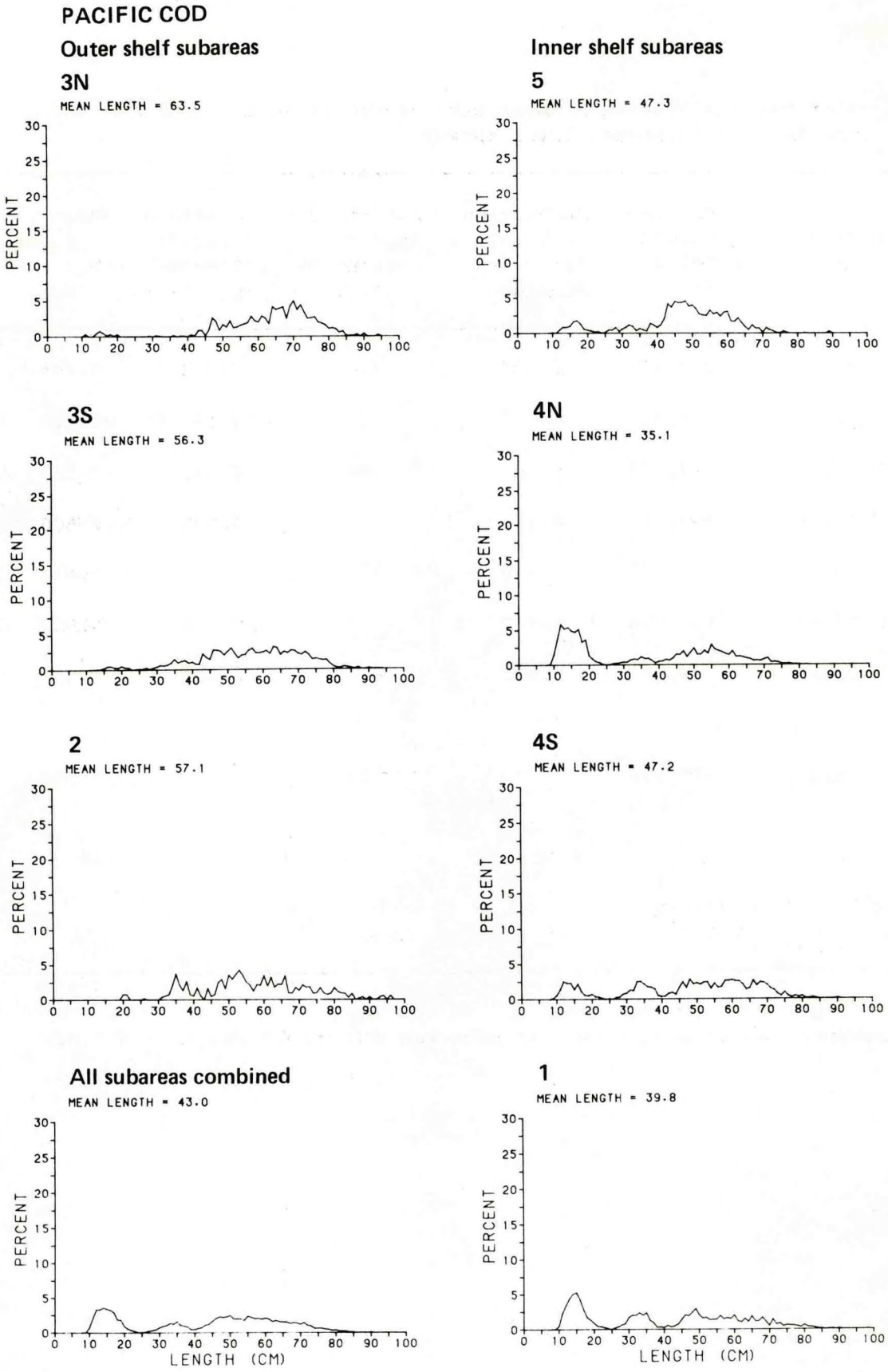

Figure 19.--Size composition, by subarea, of Pacific cod (sexes combined) taken during the 1983 survey.

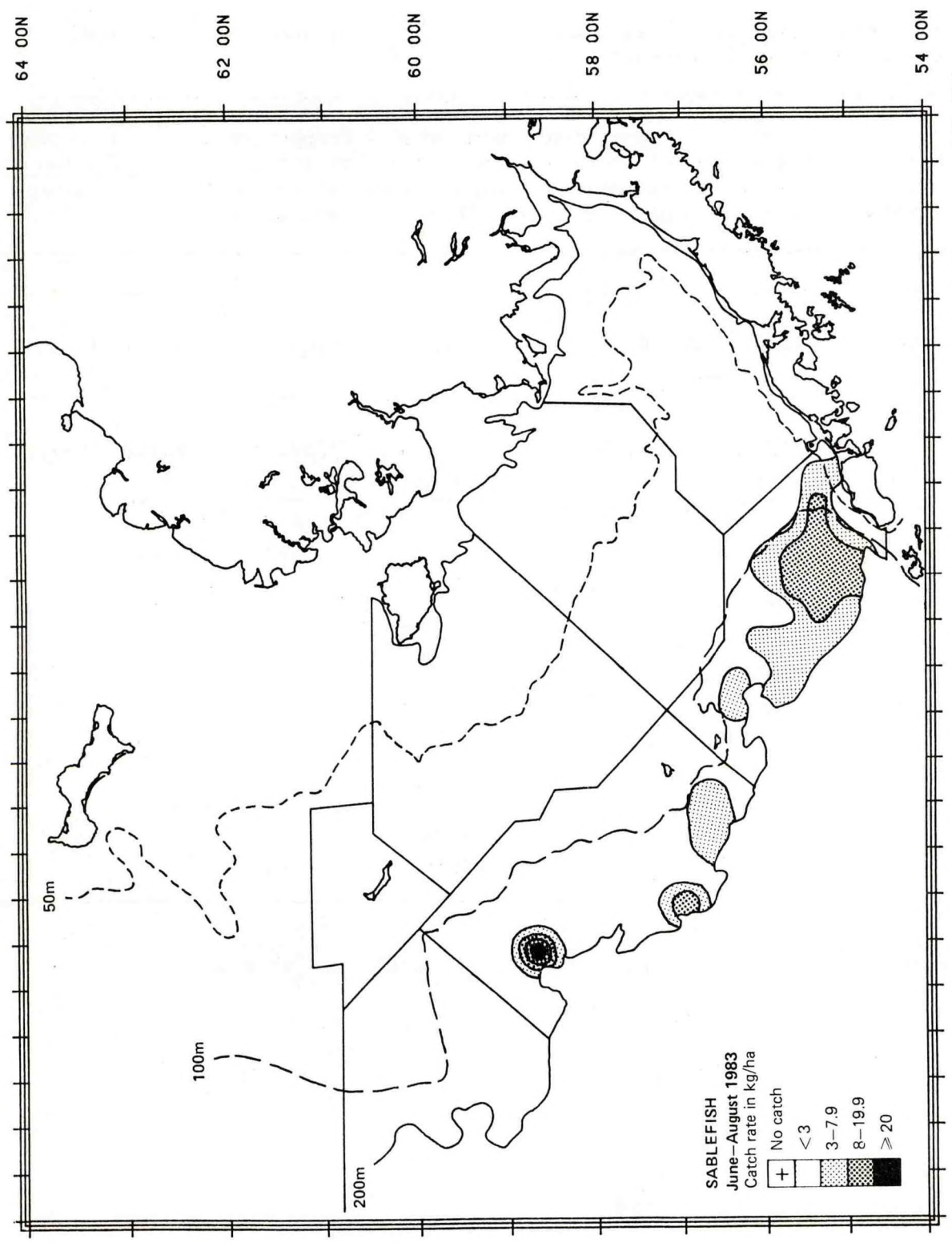

Figure 20.--Distribution and relative abundance of sablefish taken during the 1983 survey.

SABLEFISH

Table 20.--Abundance estimates and mean size of sablefish by subarea and subareas combined, 1983 bottom trawl survey.

Subarea	Mean CPUE[a] (kg/ha)	Estimated apparent biomass (t)	Proportion of total estimated biomass	Estimated apparent population (10^3)	Proportion of total estimated population	Mean size per individual	
						Weight (kg)	Length (cm)
1	--	--	--	--	--	--	--
2	1.02	6,217	0.341	5,595	0.607	1.111	44.13
3N	--	--	--	--	--	--	--
3S	1.49	12,030	0.659	3,621	0.393	3.322	63.23
4N	--	--	--	--	--	--	--
4S	--	--	--	--	--	--	--
5	--	--	--	--	--	--	--
All subareas combined[b]	0.39	18,247		9,216		1.980	51.61
95% confidence interval		0-40,818		1,969-16,463			

[a]CPUE = catch per unit effort.
[b]Minor discrepancies between sums over subareas and totals due to rounding.

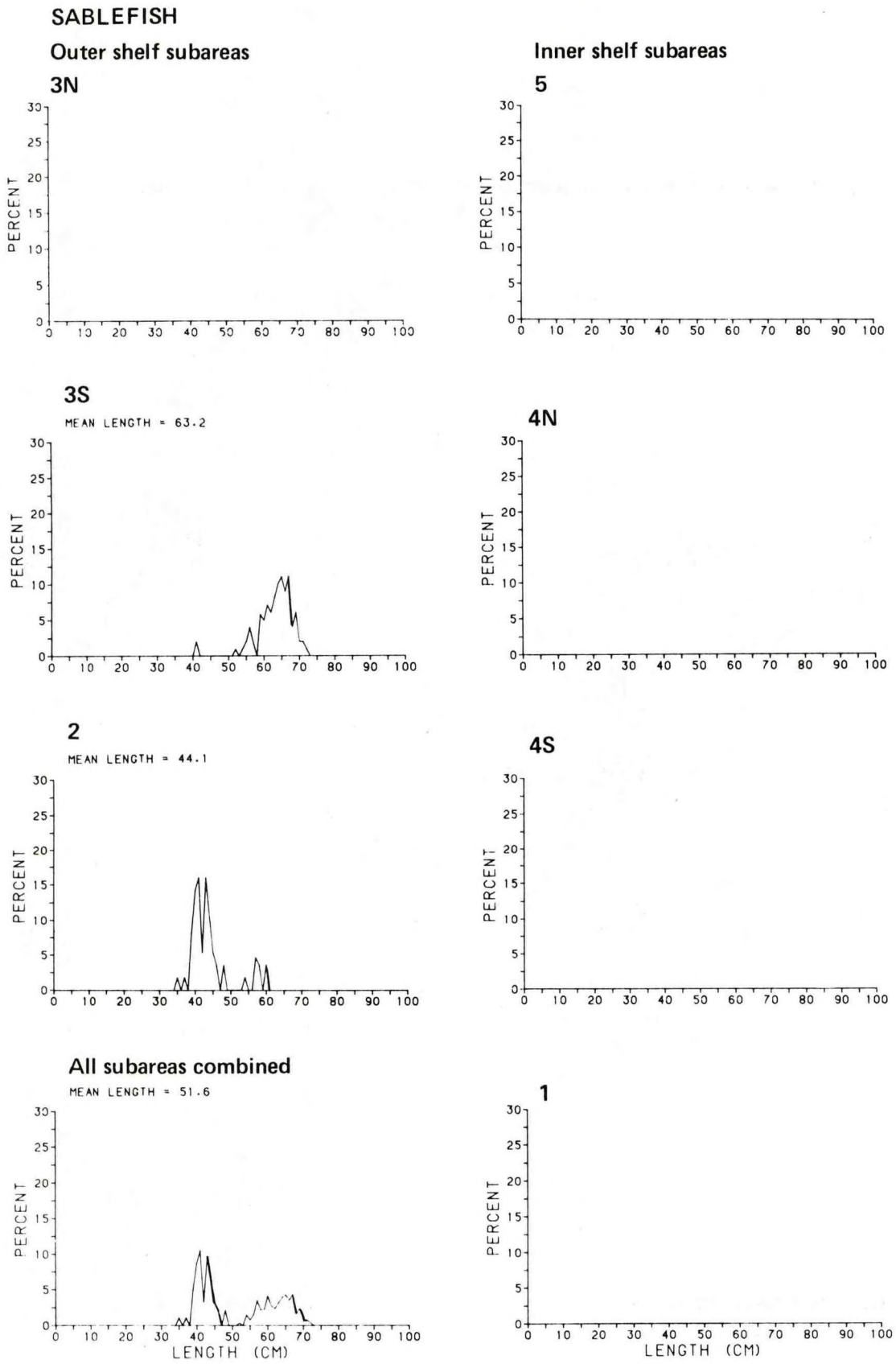

Figure 21.--Size composition, by subarea, of sablefish (sexes combined) taken during the 1983 survey.

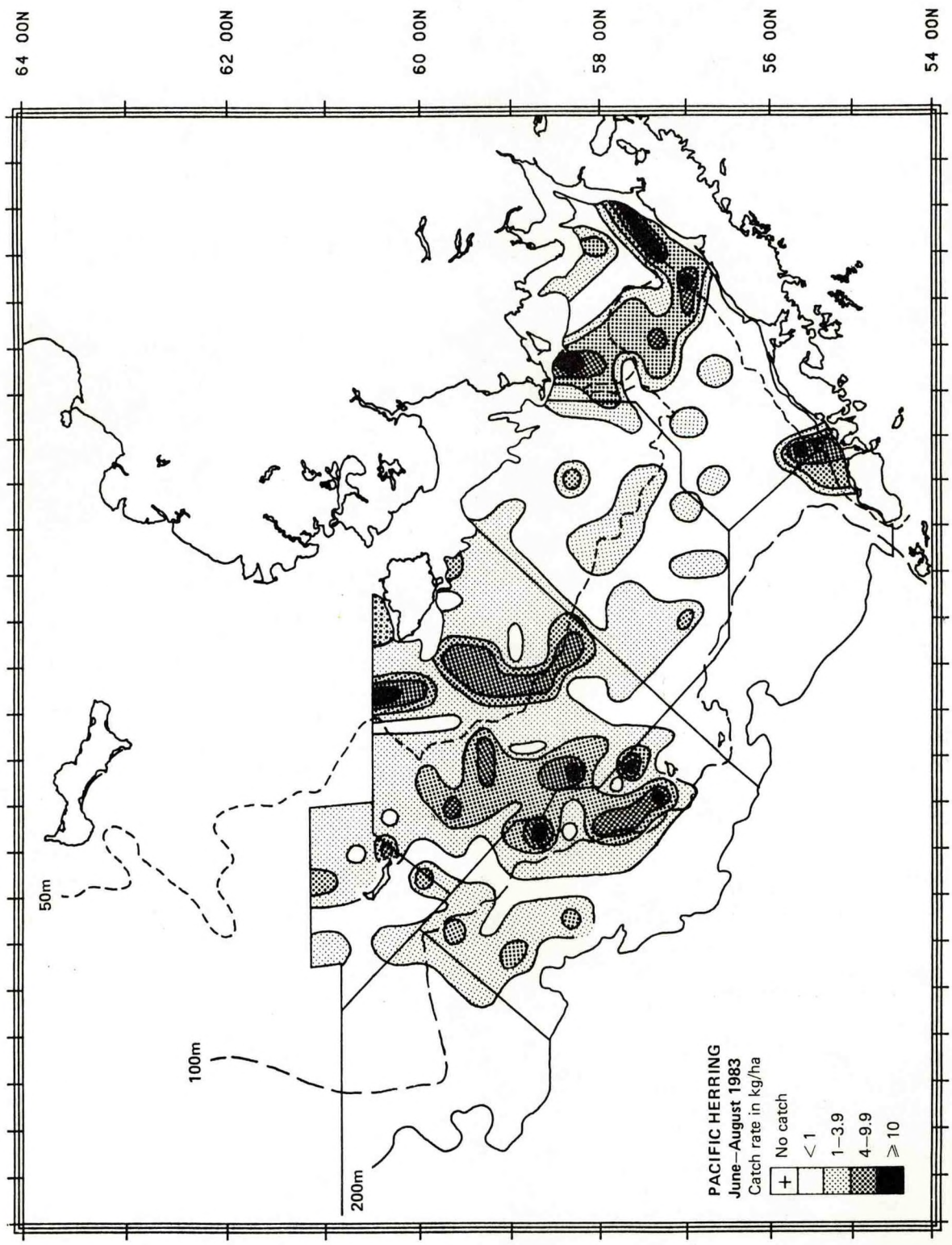

Figure 22.--Distribution and relative abundance of Pacific herring taken during the 1983 survey.

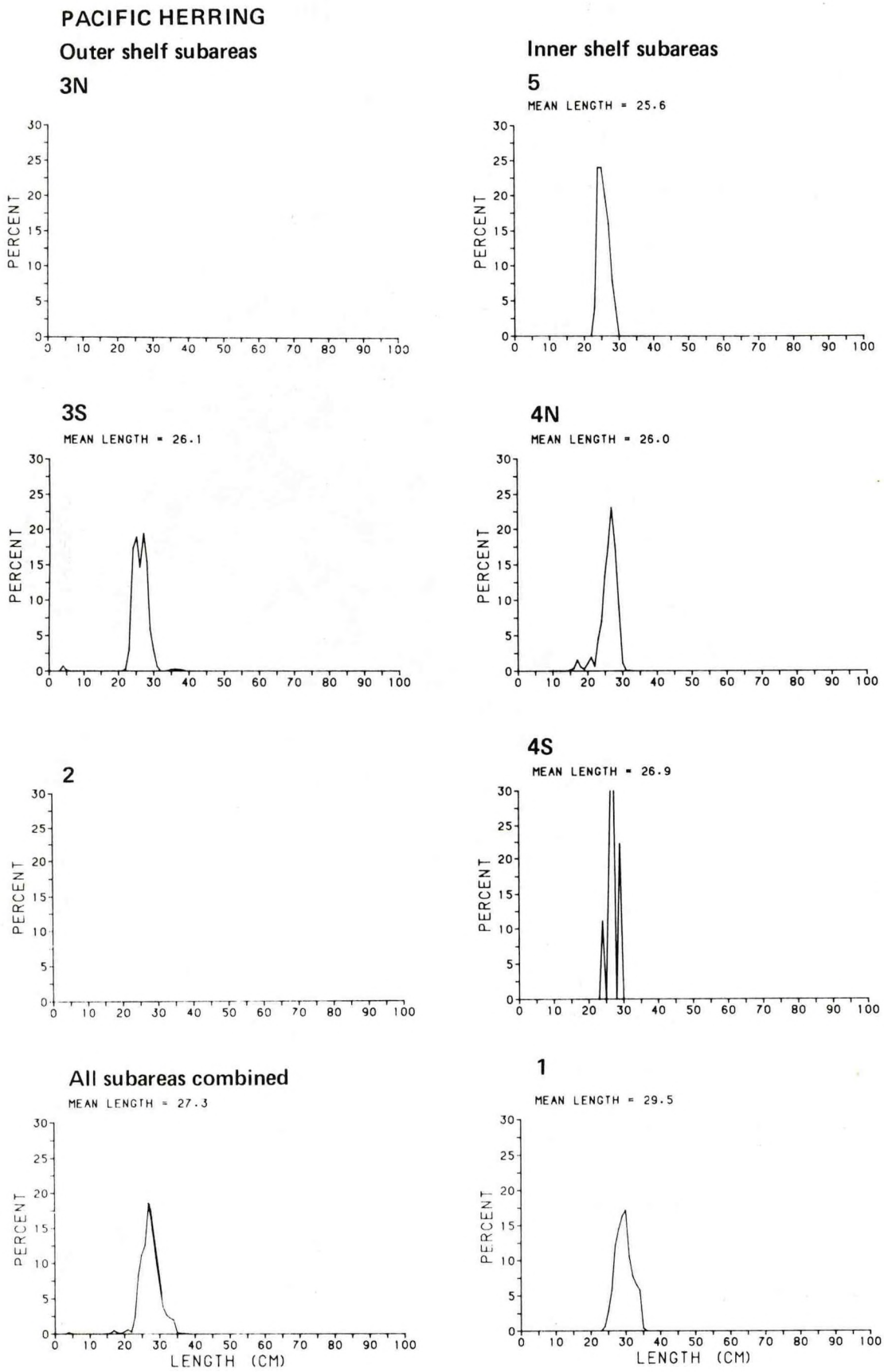

Figure 23.--Size composition, by subarea, of Pacific herring (sexes combined) taken during the 1983 survey.

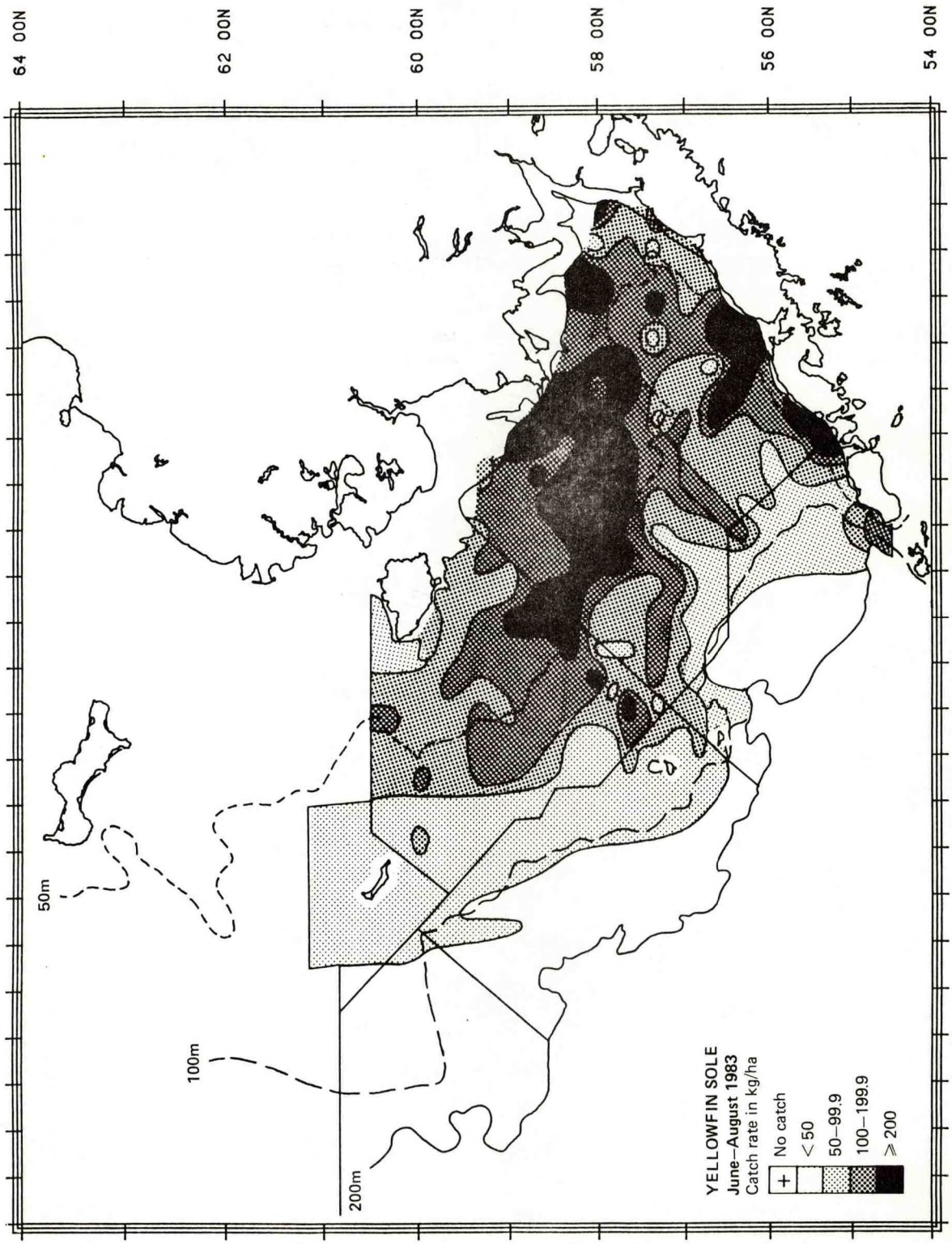

Figure 24.--Distribution and relative abundance of yellowfin sole taken during the 1983 survey.

YELLOWFIN SOLE

Table 21.--Abundance estimates of yellowfin sole by subarea and for subareas combined, 1983 bottom trawl survey.

Subarea	Mean CPUE[a] (kg/ha)	Estimated apparent biomass (t)	Proportion of total estimated biomass	Estimated apparent population (10^6)	Proportion of total estimated population	Mean size per individual	
						Weight (kg)	Length (cm)
1	184.53	1,452,518	0.366	7,129	0.374	0.204	25.94
2	27.64	168,294	0.042	674	0.035	0.250	27.23
3N	0.01	29	<0.001	<1	<0.001	0.029	--
3S	5.76	46,644	0.012	153	0.008	0.305	29.17
4N	103.38	948,052	0.239	4,097	0.215	0.231	26.19
4S	164.02	1,337,118	0.337	6,969	0.365	0.192	25.23
5	8.41	19,216	0.005	53	0.003	0.363	30.56
All subareas combined[b]	85.48	3,971,871		19,075		0.208	25.82
95% confidence interval		3,490,394-4,453,347		16,543-21,606			

[a] CPUE = catch per unit effort.
[b] Minor discrepancies between sums over subareas and totals due to rounding.

YELLOWFIN SOLE

Table 22.--Estimated population size of yellowfin sole age groups by subarea and for all subareas combined (millions of fish).

Age	Year class	Subarea 1	2	3N	3S	4N	4S	5	All subareas combined[a]	Proportion of total
2	1981	-	-	-	-	-	0.62	-	0.62	0.0000
3	1980	2.01	0.01	-	-	2.11	2.48	0.03	6.64	0.0003
4	1979	36.00	0.02	-	0.17	43.40	66.61	0.03	146.23	0.0077
5	1978	108.71	0.55	-	0.09	93.48	184.89	0.01	387.73	0.0203
6	1977	514.24	23.77	-	3.40	384.88	776.32	0.36	1,702.98	0.0893
7	1976	1,340.42	112.30	-	15.05	698.44	1,373.21	3.22	3,542.65	0.1857
8	1975	700.61	64.27	-	10.83	386.56	705.00	2.55	1,869.82	0.0980
9	1974	920.84	86.14	-	16.19	501.26	907.87	4.31	2,436.60	0.1277
10	1973	693.59	72.80	-	18.08	396.64	628.95	5.70	1,815.74	0.0952
11	1972	651.47	66.50	-	15.91	330.47	555.75	5.18	1,625.28	0.0852
12	1971	818.73	89.74	-	26.18	478.28	689.86	9.40	2,112.19	0.1107
13	1970	607.65	79.19	-	25.90	373.62	505.93	10.08	1,602.37	0.0840
14	1969	309.80	36.64	-	11.01	177.46	245.24	5.11	785.24	0.0412
15	1968	322.94	31.43	-	6.88	155.46	244.48	3.76	764.95	0.0401
16	1967	58.52	5.79	-	2.36	41.88	46.23	1.57	156.35	0.0082
17	1966	32.70	2.93	-	0.76	18.01	24.91	0.68	79.99	0.0042
18	1965	9.55	1.37	-	0.63	10.48	9.08	0.52	31.64	0.0017
19	1964	-	-	-	-	-	-	-	-	0.0000
≥20	-	0.90	0.09	-	0.07	4.58	1.54	0.21	7.39	0.0004
All ages combined[a]		7,128.69	673.54	-	153.49	4,097.00	6,968.98	52.72	19,074.42	1.0000

[a]Minor discrepancies between sums by subareas and age groups and totals due to rounding.

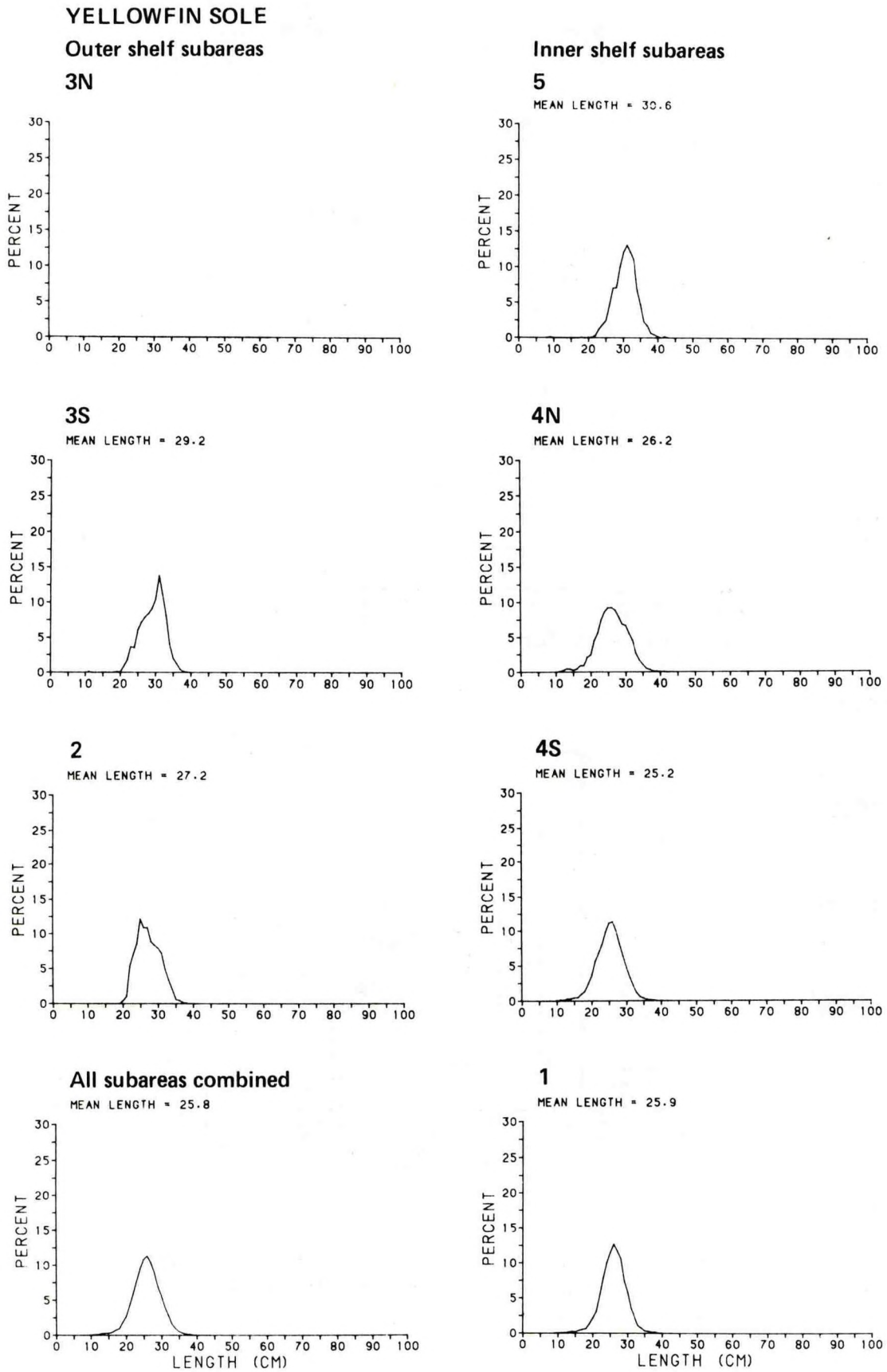

Figure 25.--Size composition, by subarea, of yellowfin sole (sexes combined) taken during the 1983 survey.

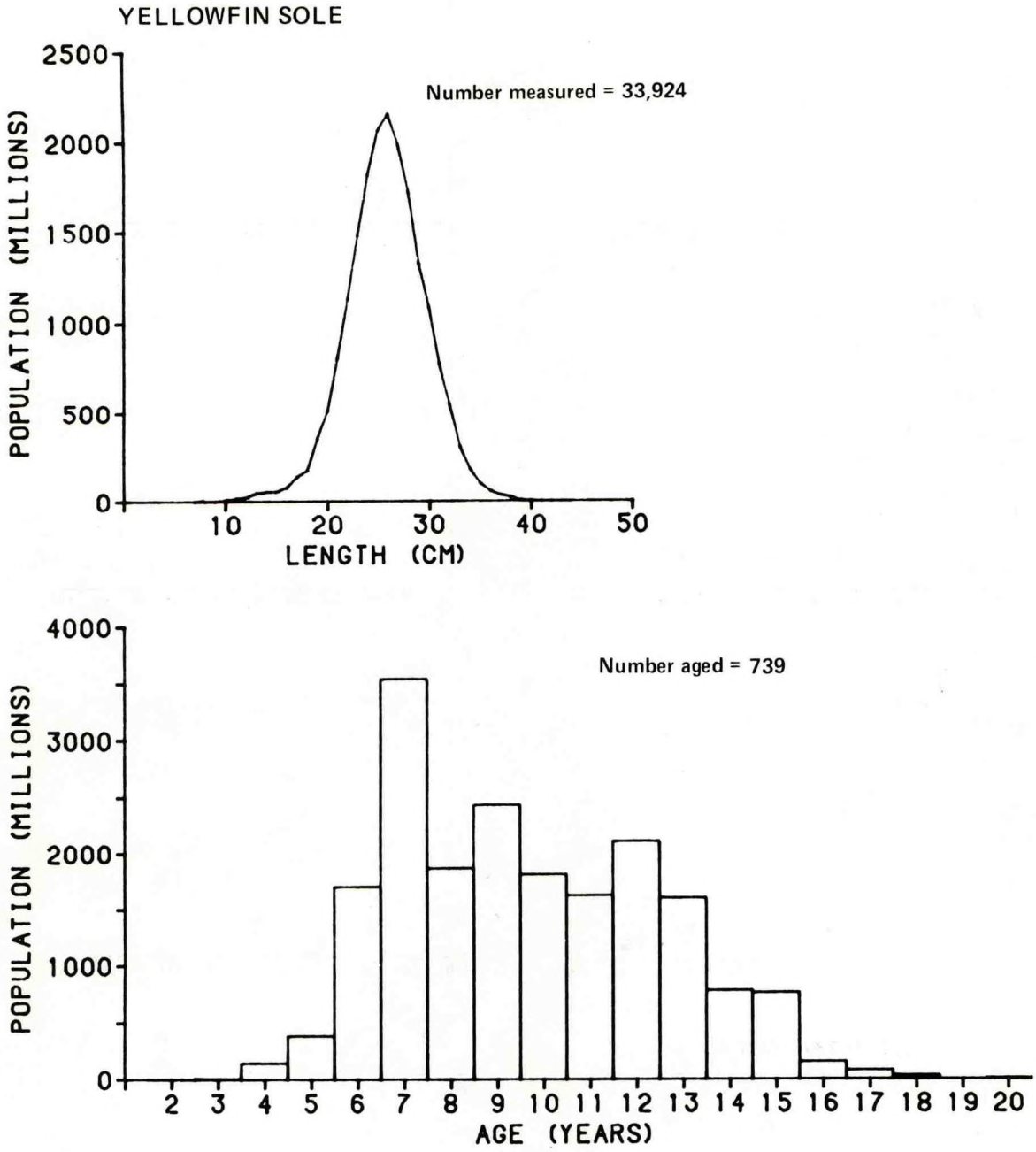

Figure 26.--Population estimates, by length and age group, for yellowfin sole (sexes combined) from the 1983 survey area.

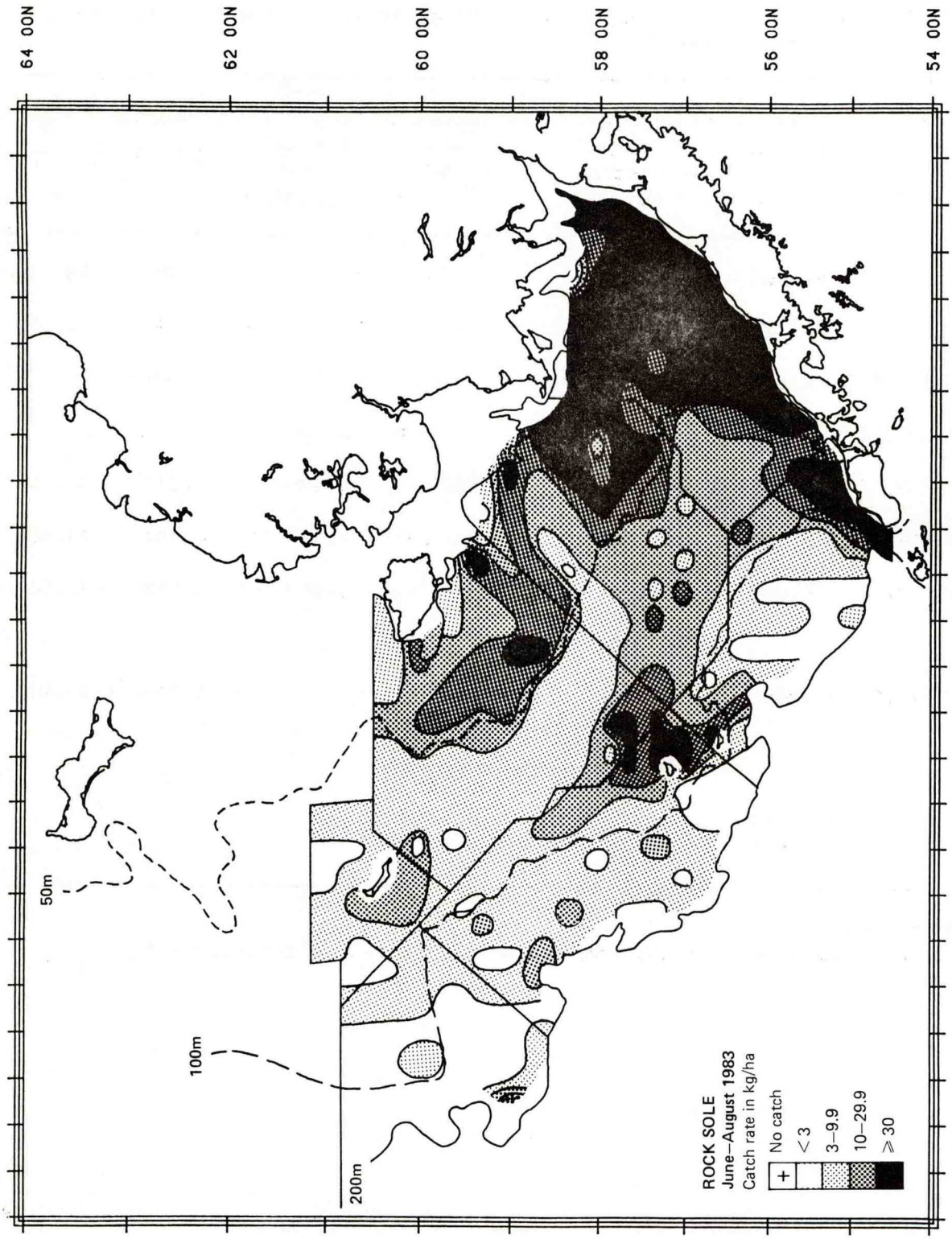

Figure 27.--Distribution and relative abundance of rock sole taken during the 1983 survey.

ROCK SOLE

Table 23.--Abundance estimates of rock sole by subarea and for subareas combined, 1983 bottom trawl survey.

Subarea	Mean CPUE[a] (kg/ha)	Estimated apparent biomass (t)	Proportion of total estimated biomass	Estimated apparent population (10^6)	Proportion of total estimated population	Mean size per individual: Weight (kg)	Mean size per individual: Length (cm)
1	73.74	580,461	0.629	3,034	0.620	0.191	24.77
2	7.90	48,120	0.052	193	0.039	0.249	25.89
3N	0.54	2,574	0.003	3	<0.001	0.858	--
3S	6.34	51,310	0.056	170	0.035	0.302	26.71
4N	8.75	80,195	0.087	612	0.125	0.131	18.86
4S	19.03	155,106	0.168	864	0.177	0.180	23.46
5	2.04	4,667	0.005	16	0.003	0.292	24.56
All subareas combined[b]	19.85	922,433		4,892		0.203	23.91
95% confidence interval		721,776-112,309		3,894-5,890			

[a]CPUE = catch per unit effort.
[b]Minor discrepancies between sums over subareas and totals due to rounding.

ROCK SOLE

Table 24.--Estimated population size of rock sole age groups by subarea and for all subareas combined (millions of fish).

Age	Year class	Subarea 1	2	3N	3S	4N	4S	5	All subareas combined[a]	Proportion of total
≤2	-	45.43	0.87	-	1.99	48.20	28.95	0.51	125.96	0.0258
3	1980	349.53	5.40	-	17.09	347.66	219.70	6.06	945.45	0.1935
4	1979	535.84	33.12	-	32.28	35.68	112.92	0.72	750.56	0.1536
5	1978	642.94	42.06	-	23.92	37.51	115.15	0.55	862.11	0.1764
6	1977	318.94	22.21	-	10.93	20.88	50.22	0.37	423.55	0.0867
7	1976	299.74	20.87	-	14.45	23.25	63.60	0.82	422.74	0.0865
8	1975	316.43	26.28	-	17.46	27.02	93.00	1.14	481.33	0.0985
9	1974	145.94	11.62	-	7.20	11.75	39.37	0.96	216.84	0.0444
10	1973	112.33	10.56	-	8.31	12.39	40.20	0.89	184.68	0.0378
11	1972	46.16	3.21	-	3.39	5.40	13.34	0.41	71.91	0.0147
12	1971	58.72	4.76	-	5.20	8.03	21.20	0.57	98.48	0.0202
13	1970	77.63	5.68	-	11.59	11.92	26.02	1.09	133.94	0.0274
14	1969	35.32	2.75	-	6.23	8.02	16.80	0.59	69.72	0.0143
15	1968	24.12	2.13	-	4.37	6.19	12.67	0.44	49.91	0.0102
16	1967	17.98	0.41	-	2.97	4.98	7.11	0.32	33.76	0.0069
17	1966	3.27	0.03	-	0.62	1.14	1.22	0.03	6.30	0.0013
18	1965	1.47	0.00	-	0.65	0.65	0.62	0.00	3.39	0.0007
≥19	-	2.49	0.84	-	0.23	1.22	1.49	0.05	6.32	0.0013
All ages combined[a]		3,034.29	192.78	-	168.87	611.88	863.59	15.54	4,886.96	1.0000

[a]Minor discrepancies between sums by subareas and age groups and totals due to rounding.

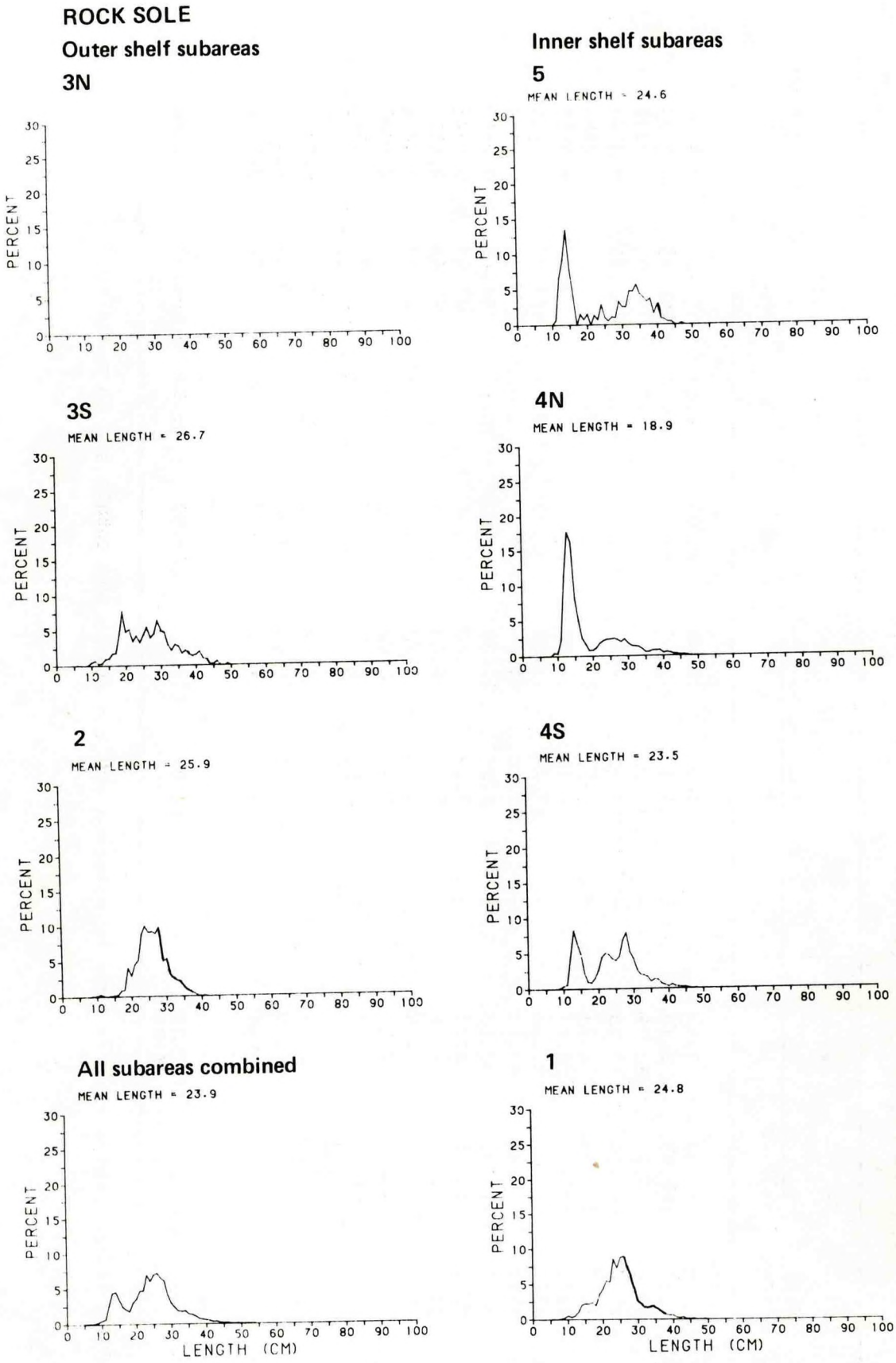

Figure 28.--Size composition, by subarea, of rock sole (sexes combined) taken during the 1983 survey.

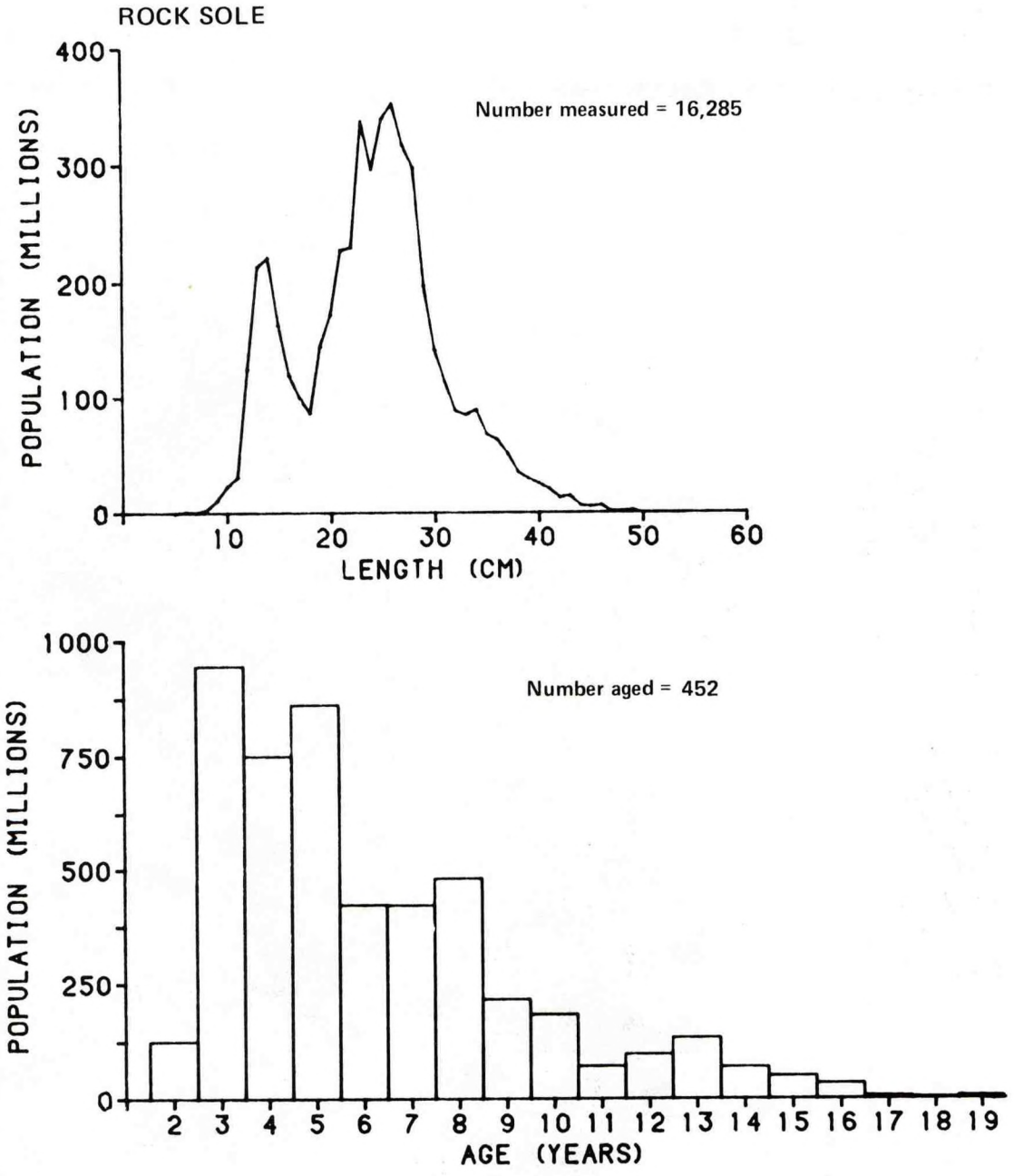

Figure 29.--Population estimates, by length and age group, for rock sole (sexes combined) from the 1983 survey area.

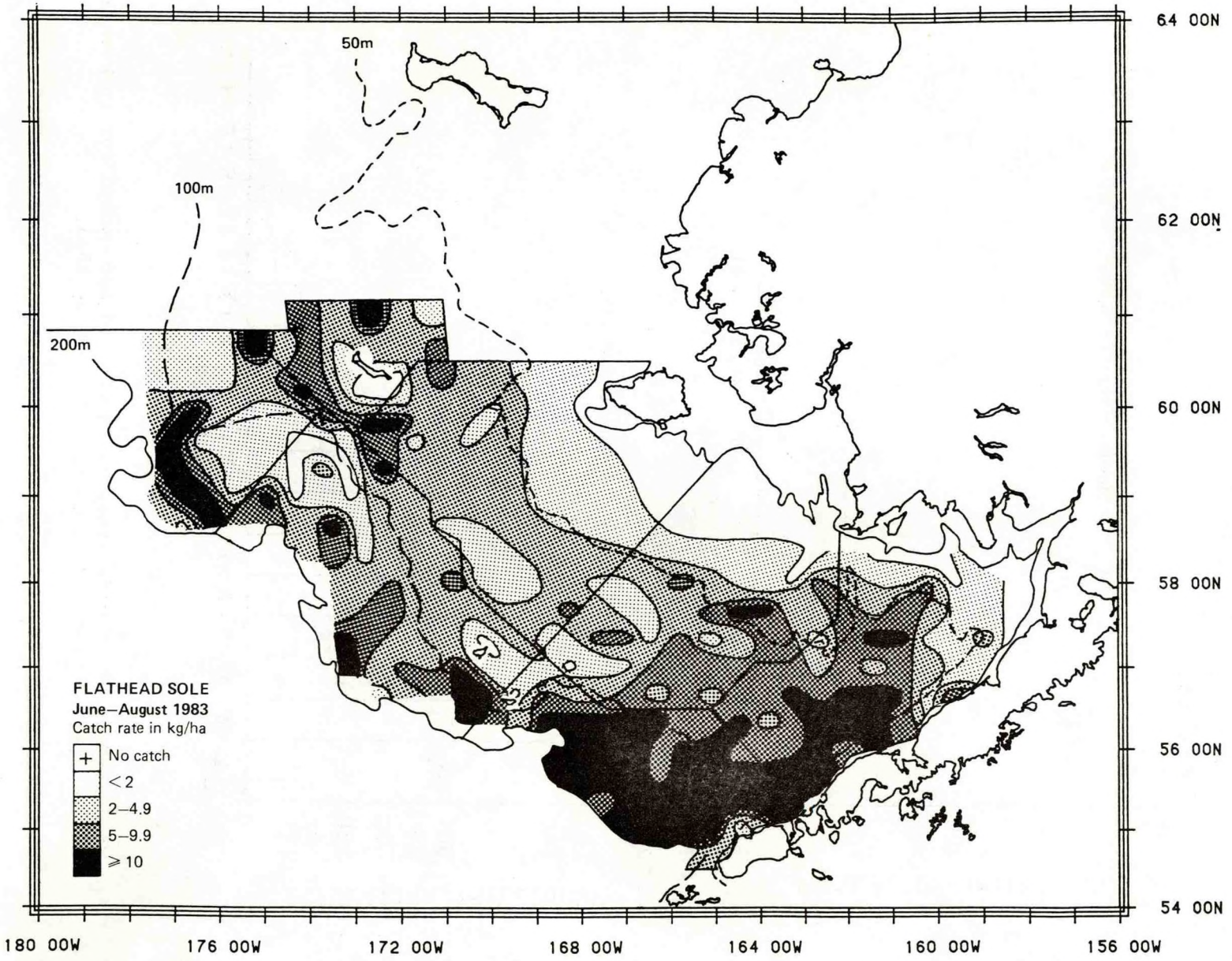

Figure 30.--Distribution and relative abundance of flathead sole and Bering flounder taken during the 1983 survey.

FLATHEAD SOLE

Table 25.--Abundance estimates of flathead sole[a] by subarea and for subareas combined, 1983 bottom trawl survey.

Subarea	Mean CPUE[b] (kg/ha)	Estimated apparent biomass (t)	Proportion of total estimated biomass	Estimated apparent population (10^3)	Proportion of total estimated population	Mean size per individual	
						Weight (kg)	Length (cm)
1	6.75	53,167	0.191	243,402	0.163	0.218	26.50
2	12.08	73,517	0.264	450,346	0.302	0.163	24.54
3N	10.02	48,122	0.173	188,476	0.126	0.255	28.25
3S	6.65	53,836	0.194	267,049	0.179	0.202	24.18
4N	1.82	16,718	0.060	136,923	0.092	0.122	20.26
4S	2.12	22,957	0.083	165,282	0.111	0.139	22.43
5	4.29	9,813	0.035	39,187	0.026	0.250	26.77
All subareas combined[c]	5.99	278,130		1,490,665		0.187	24.70
95% confidence interval		214,407-341,854		1,279,468-1,701,862			

[a]Includes Bering flounder.
[b]CPUE = catch per unit effort.
[c]Minor discrepancies between sums over subareas and totals due to rounding.

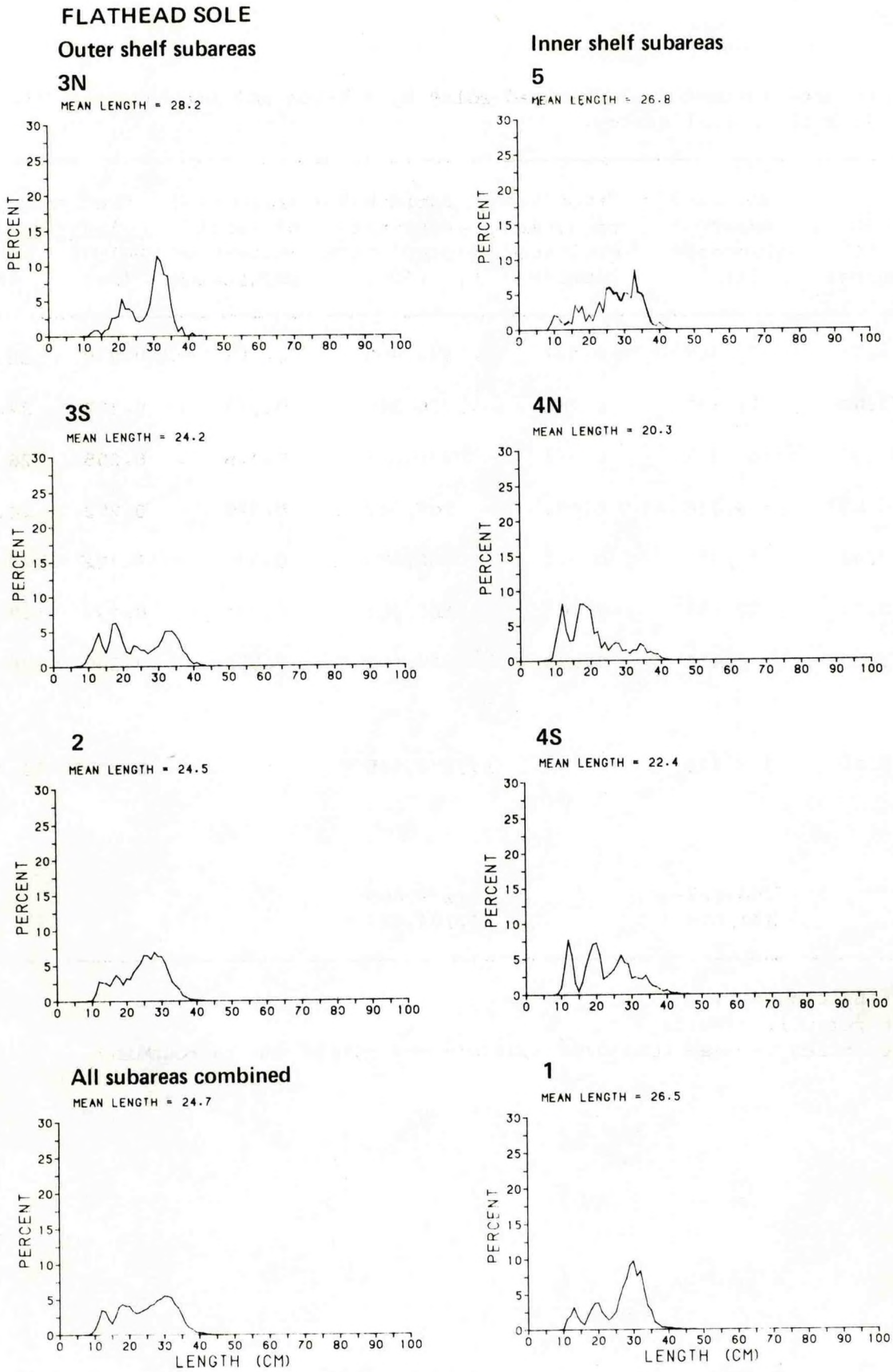

Figure 31.--Size composition, by subarea, of flathead sole (sexes combined) taken during the 1983 survey.

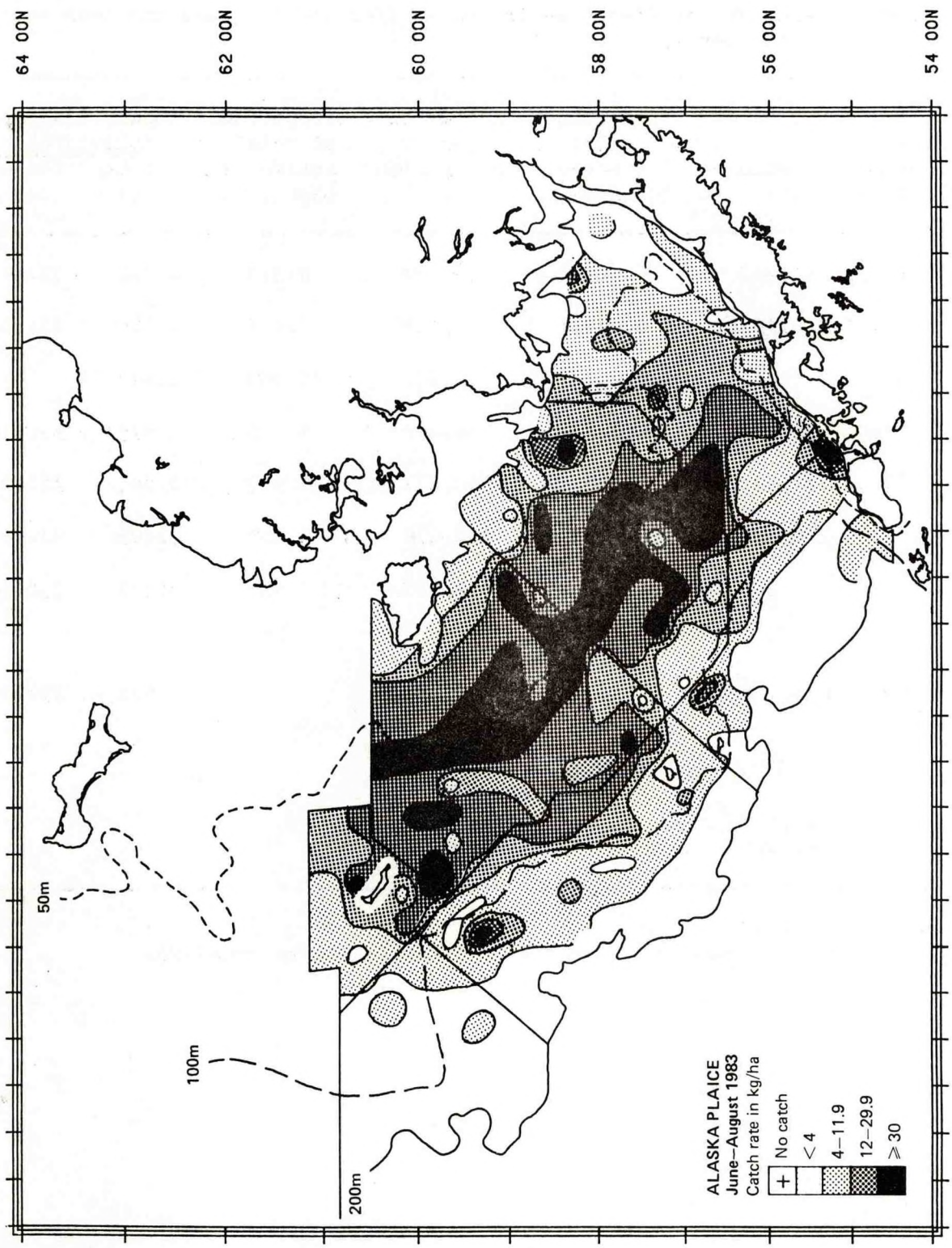

Figure 32.--Distribution and relative abundance of Alaska plaice taken during the 1983 survey.

ALASKA PLAICE

Table 26.--Abundance estimates for Alaska plaice by subarea and for subareas combined, 1983 bottom trawl survey.

Subarea	Mean CPUE[a] (kg/ha)	Estimated apparent biomass (t)	Proportion of total estimated biomass	Estimated apparent population (10^3)	Proportion of total estimated population	Mean size per individual	
						Weight (kg)	Length (cm)
1	8.63	67,965	0.104	135,363	0.109	0.502	35.69
2	4.30	26,165	0.040	47,608	0.038	0.550	33.46
3N	0.08	362	<0.001	412	<0.001	0.879	--
3S	3.72	30,121	0.046	36,490	0.029	0.825	37.13
4N	29.77	272,977	0.420	540,477	0.433	0.505	33.40
4S	27.07	220,656	0.339	447,596	0.359	0.493	33.10
5	14.14	32,305	0.050	39,265	0.031	0.823	37.61
All subareas combined[b]	14.00	650,551		1,247,211		0.522	33.78
95% confidence interval		540,217-760,885		1,040,281-1,454,140			

[a]CPUE = catch per unit effort.
[b]Minor discrepancies between sums over subareas and totals due to rounding.

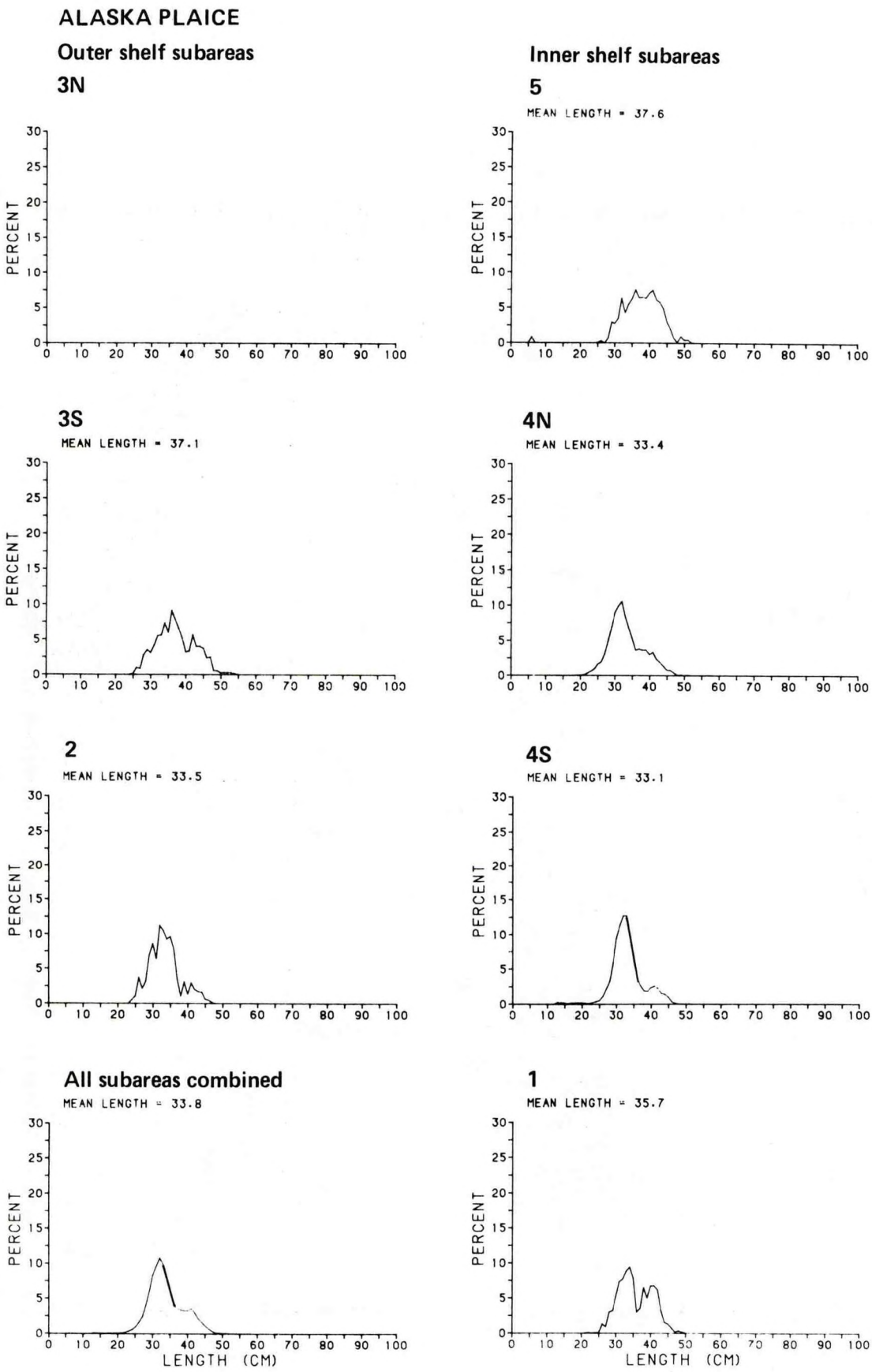

Figure 33.--Size composition, by subarea, of Alaska plaice (sexes combined) taken during the 1983 survey.

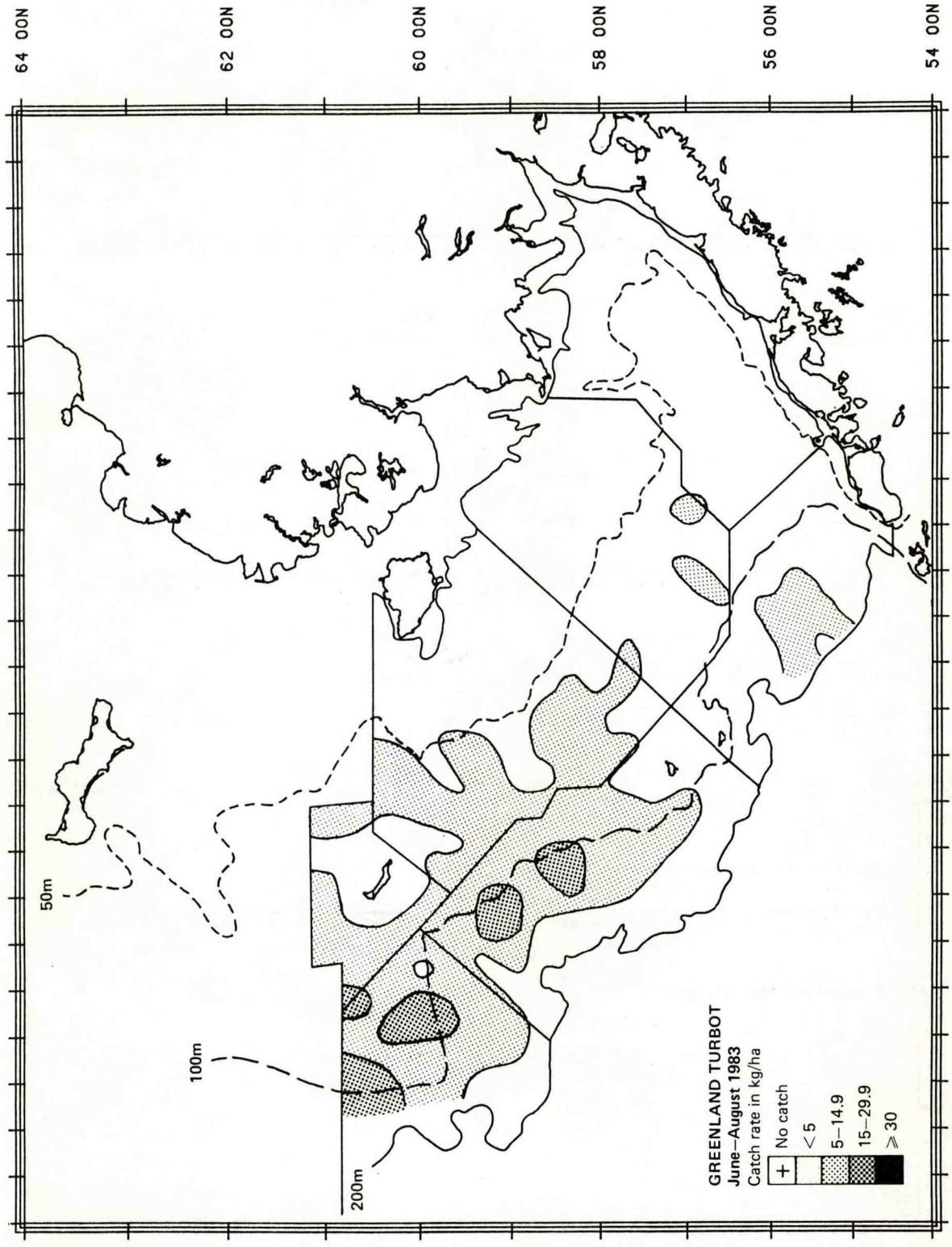

Figure 34.--Distribution and relative abundance of Greenland turbot taken during the 1983 survey.

GREENLAND TURBOT

Table 27.--Abundance estimates and mean size of Greenland turbot by subarea and subareas combined, 1983 bottom trawl surveys.

Subarea	Mean CPUE[a] (kg/ha)	Estimated apparent biomass (t)	Proportion of total estimated biomass	Estimated apparent population (10^3)	Proportion of total estimated population	Mean size per individual	
						Weight (kg)	Length (cm)
1	<0.01	13	<0.001	29	<0.001	0.448	--
2	0.33	1,994	0.064	518	0.009	3.849	85.00
3N	3.26	15,652	0.501	32,432	0.541	0.483	34.94
3S	1.44	11,628	0.372	19,920	0.332	0.584	38.43
4N	0.12	1,139	0.036	3,165	0.053	0.360	38.68
4S	0.03	208	0.007	304	0.005	0.684	--
5	0.27	608	0.019	3,601	0.060	0.169	13.63
All subareas combined[b]	0.67	31,241		59,970		0.521	35.59
95% confidence interval		23,818-38,664		45,197-74,743			

[a]CPUE = catch per unit effort.
[b]Minor discrepancies between sums over subareas and totals due to rounding.

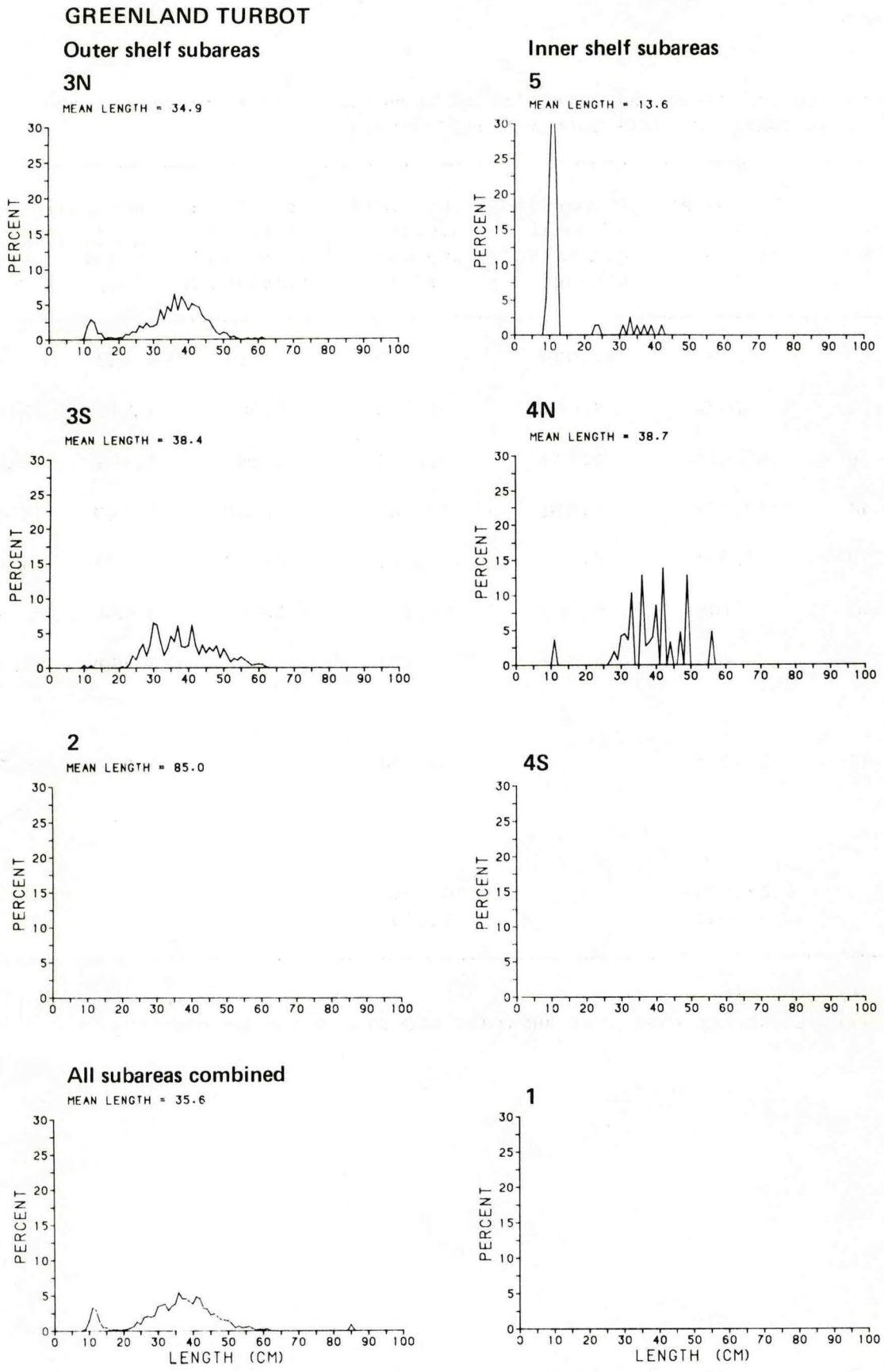

Figure 35.--Size composition, by subarea, of Greenland turbot (sexes combined) taken during the 1983 survey.

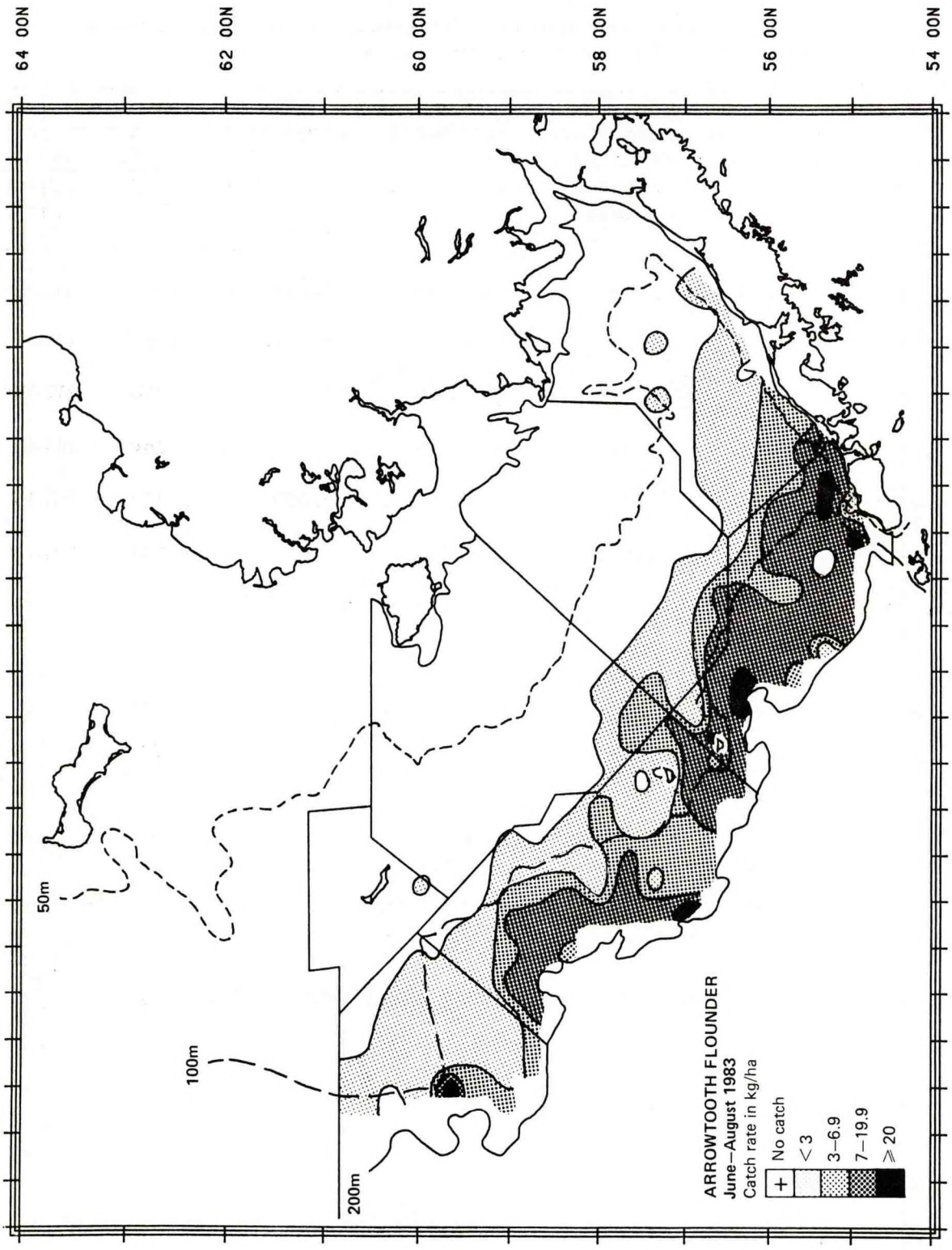

Figure 36.--Distribution and relative abundance of arrowtooth and Kamchatka flounders taken during the 1983 survey.

ARROWTOOTH FLOUNDER

Table 28.--Abundance estimates and mean size of arrowtooth flounder[a] by subarea and subareas combined, 1983 bottom trawl survey.

Subarea	Mean CPUE[b] (kg/ha)	Estimated apparent biomass (t)	Proportion of total estimated biomass	Estimated apparent population (10^3)	Proportion of total estimated population	Mean size per individual	
						Weight (kg)	Length (cm)
1	0.70	5,505	0.040	19,649	0.035	0.280	34.98
2	11.44	69,684	0.505	296,649	0.529	0.235	27.23
3N	2.55	12,236	0.089	20,591	0.037	0.594	37.92
3S	5.40	43,714	0.317	179,198	0.320	0.244	26.40
4N	0.24	2,219	0.016	12,882	0.023	0.172	24.34
4S	0.55	4,490	0.033	31,739	0.057	0.141	23.08
5	<0.01	5	<0.001	60	<0.001	0.083	--
All subareas combined[c]	2.97	137,853		560,769		0.246	27.42
95% confidence interval		116,610-159,097		459,417-662,120			

[a]Includes Kamchatka flounder.
[b]CPUE = catch per unit effort.
[c]Minor discrepancies between sums over subareas and totals due to rounding.

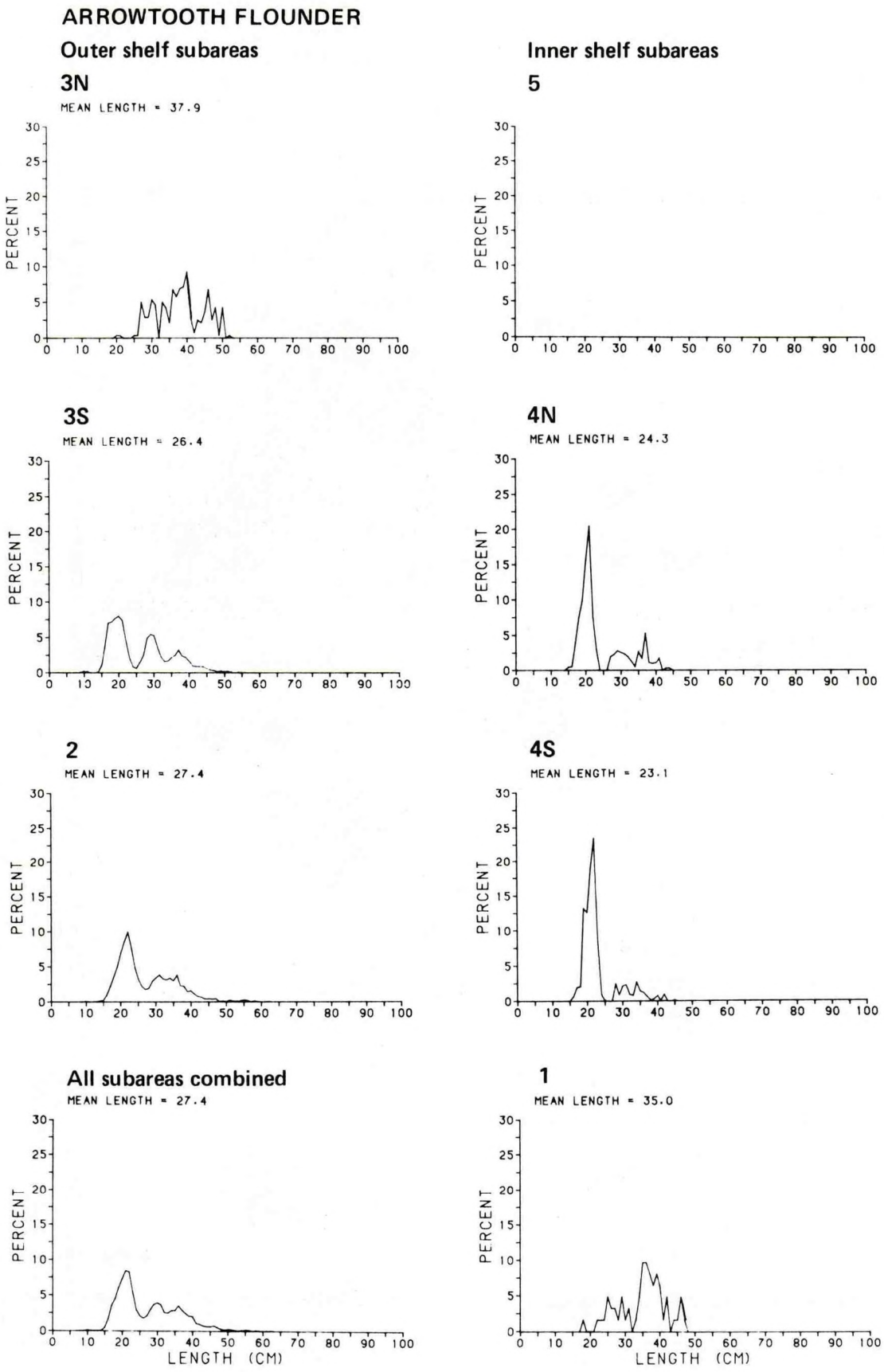

Figure 37.--Size composition, by subarea, of arrowtooth and Kamchatka flounders (sexes combined) taken during the 1983 survey.

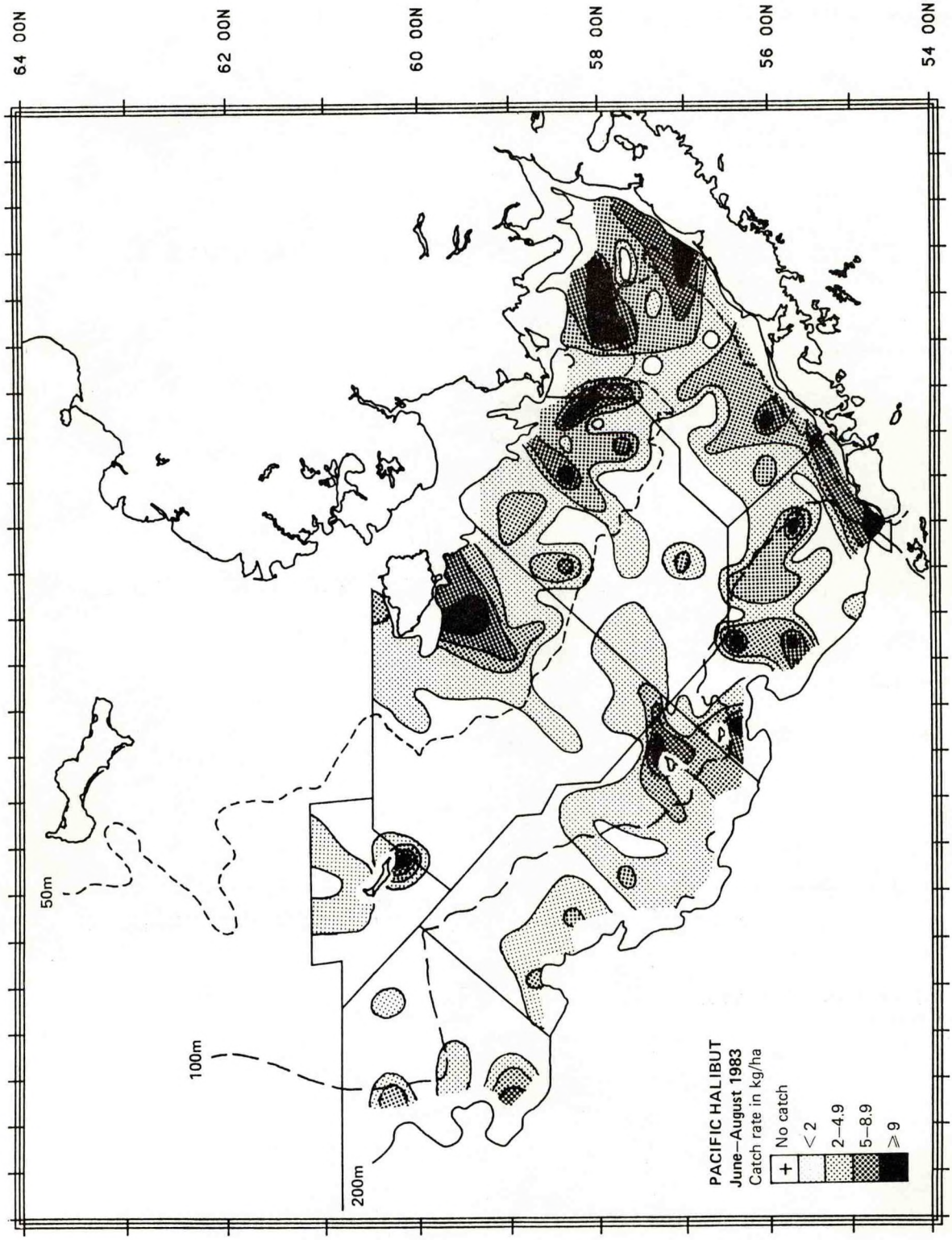

Figure 38.--Distribution and relative abundance of Pacific halibut taken during the 1983 survey.

PACIFIC HALIBUT

Table 29.--Abundance estimates and mean size of Pacific halibut by subarea and for subareas combined, 1983 bottom trawl survey.

Subarea	Mean CPUE[a] (kg/ha)	Estimated apparent biomass (t)	Proportion of total estimated biomass	Estimated apparent population (10^3)	Proportion of total estimated population	Mean size per individual	
						Weight (kg)	Length (cm)
1	4.31	33,907	0.352	17,108	0.361	1.982	53.47
2	3.31	20,138	0.209	5,518	0.117	3.650	60.72
3N	0.45	2,164	0.022	945	0.020	2.290	57.70
3S	1.35	10,955	0.114	7,560	0.160	1.454	46.50
4N	1.63	14,940	0.155	10,605	0.224	1.409	48.72
4S	1.53	12,492	0.130	5,066	0.107	2.466	57.14
5	0.81	1,860	0.019	554	0.012	3.357	55.18
All subareas combined[b]	2.08	96,455		47,355		2.037	52.64
95% confidence interval		74,716-118,195		35,218-59,492			

[a]CPUE = catch per unit effort.
[b]Minor discrepancies between sums over subareas and totals due to rounding.

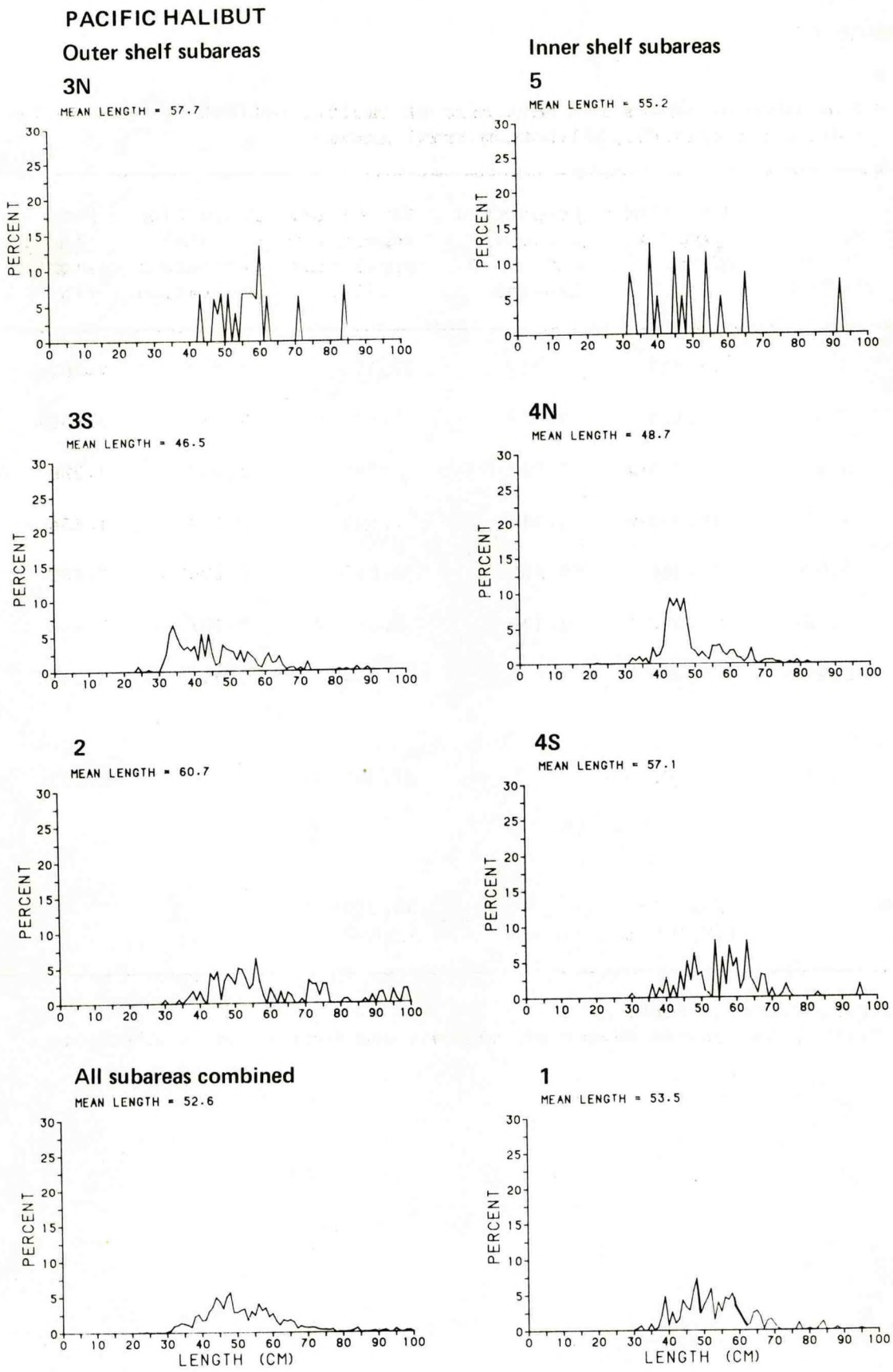

Figure 39.--Size composition, by subarea, of Pacific halibut (sexes combined) taken during the 1983 survey.

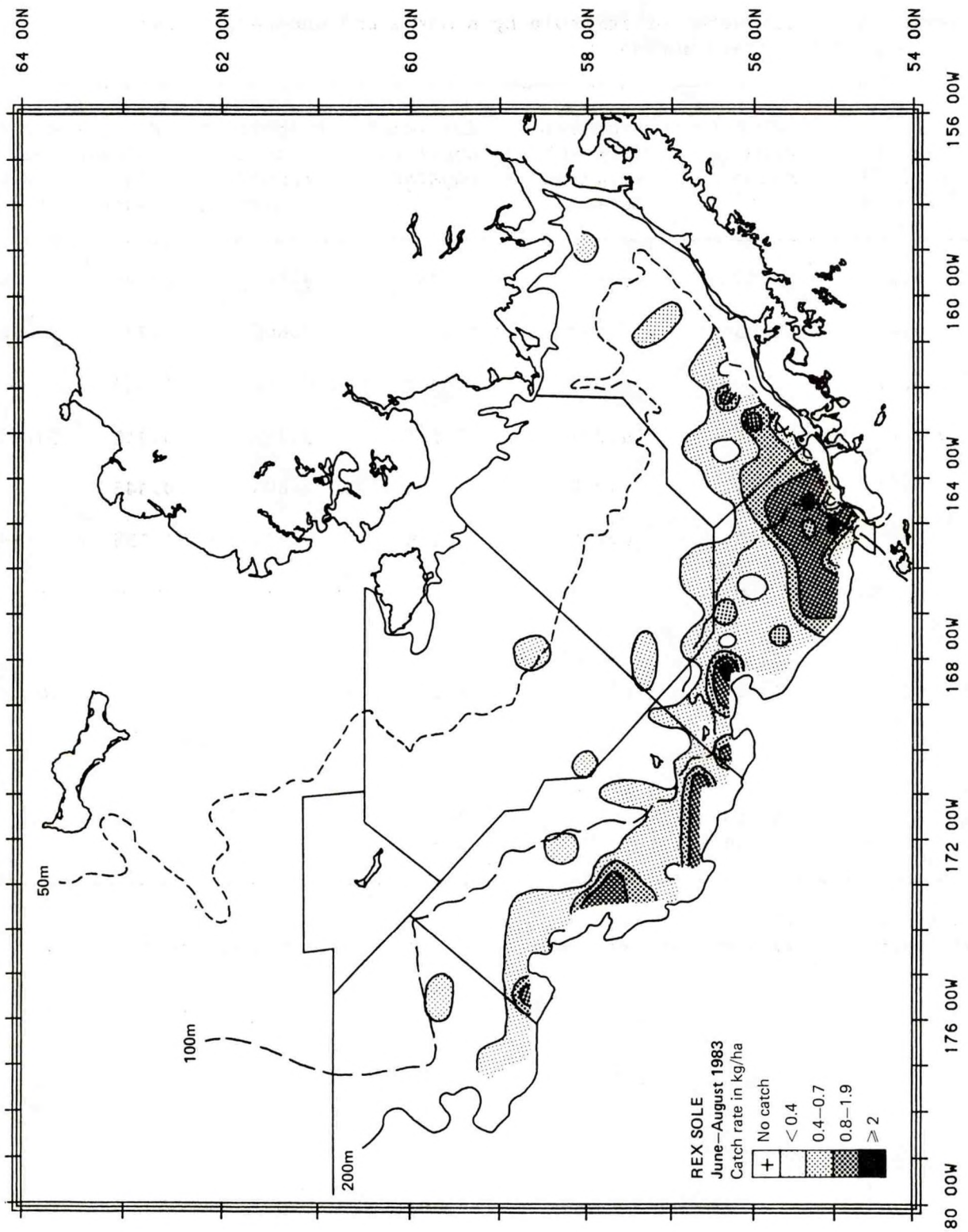

Figure 40.--Distribution and relative abundance of rex sole taken during the 1983 survey.

REX SOLE

Table 30.--Abundance estimates of rex sole by subarea and subareas combined, 1983 bottom trawl survey.

Subarea	Mean CPUE[a] (kg/ha)	Estimated apparent biomass (t)	Proportion of total estimated biomass	Estimated apparent population (10^3)	Proportion of total estimated population	Mean size per individual	
						Weight (kg)	Length (cm)
1	0.07	574	0.078	1,760	0.068	0.326	--
2	0.81	4,936	0.672	15,651	0.600	0.315	38.82
3N	0.02	100	0.014	614	0.024	0.163	--
3S	0.20	1,641	0.223	7,616	0.292	0.215	30.03
4N	<0.01	12	0.002	83	0.003	0.145	--
4S	0.01	81	0.011	345	0.013	0.235	--
5	--	--	--	--	--	--	--
All subareas combined[b]	0.16	7,345		26,070		0.282	36.04
95% confidence interval		4,756-9,934		19,207-32,932			

[a]CPUE = catch per unit effort.
[b]Minor discrepancies between sums over subareas and totals due to rounding.

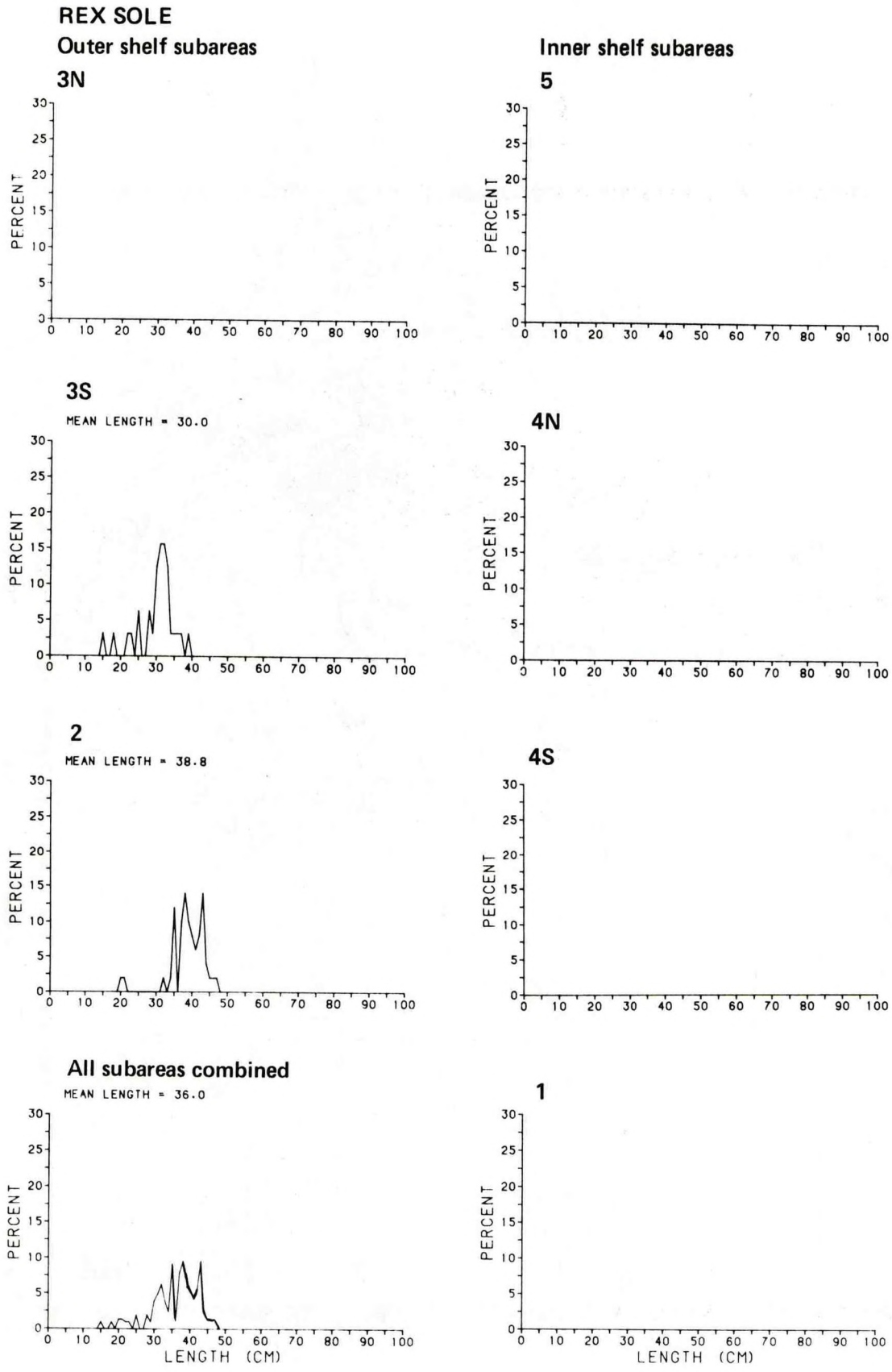

Figure 41.--Size composition, by subarea, of rex sole (sexes combined) taken during the 1983 survey.

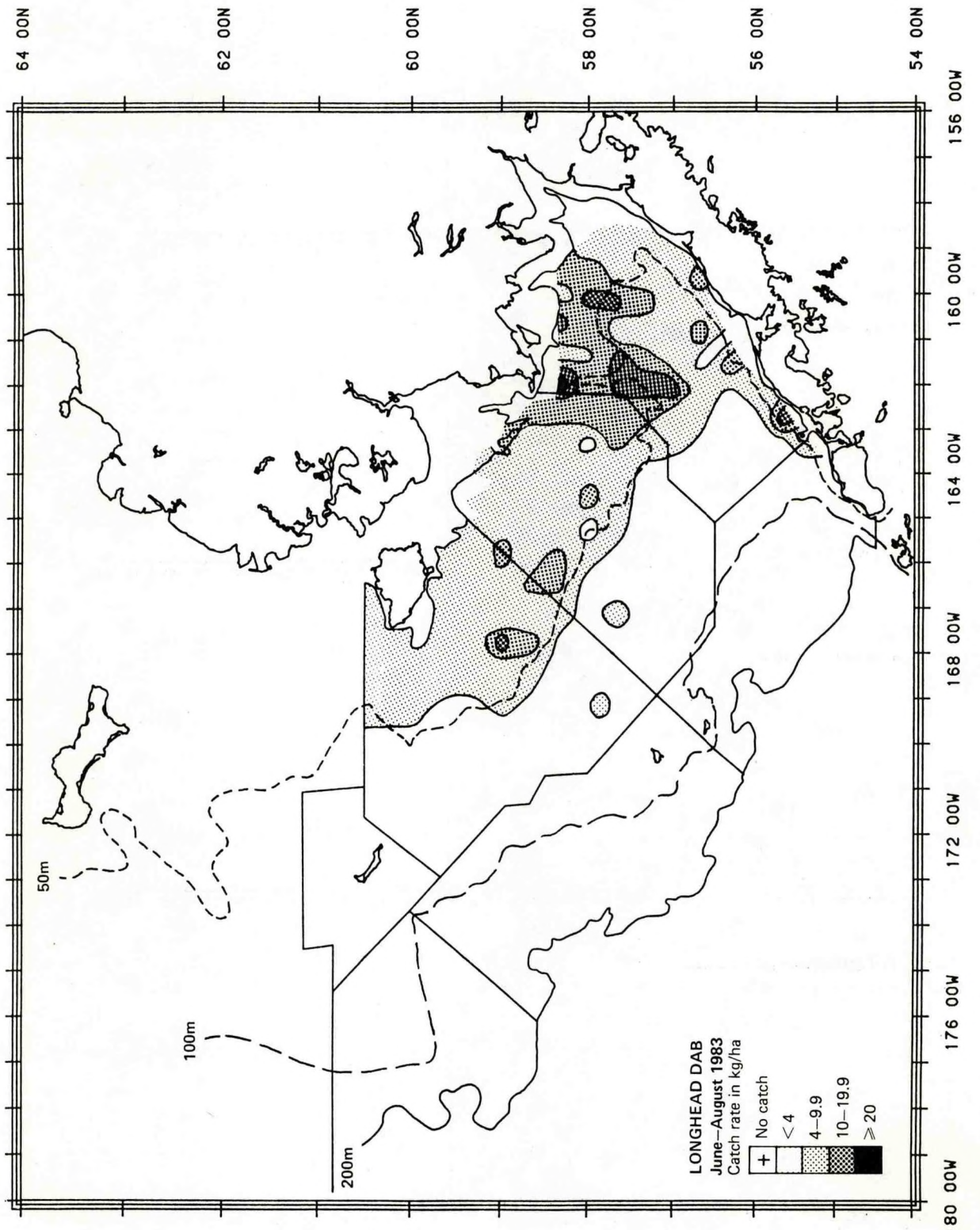

Figure 42.--Distribution and relative abundance of longhead dab taken during the 1983 survey.

LONGHEAD DAB

Table 31.--Abundance estimates of longhead dab by subarea and for subareas combined, 1983 bottom trawl survey.

Subarea	Mean CPUE[a] (kg/ha)	Estimated apparent biomass (t)	Proportion of total estimated biomass	Estimated apparent population (10^3)	Proportion of total estimated population	Mean size per individual: Weight (kg)	Mean size per individual: Length (cm)
1	4.09	32,177	0.614	192,455	0.510	0.167	26.59
2	<0.01	19	<0.001	152	<0.001	0.125	--
3N	--	--	--	--	--	--	--
3S	--	--	--	--	--	--	--
4N	0.95	8,714	0.166	87,992	0.233	0.099	--
4S	1.41	11,455	0.219	96,446	0.256	0.119	--
5	--	--	--	--	--	--	--
All subareas combined[b]	1.12	52,365		377,046		0.139	26.59
95% confidence interval		39,417-65,314		271,167-482,924			

[a]CPUE = catch per unit effort.
[b]Minor discrepancies between sums over subareas and totals due to rounding.

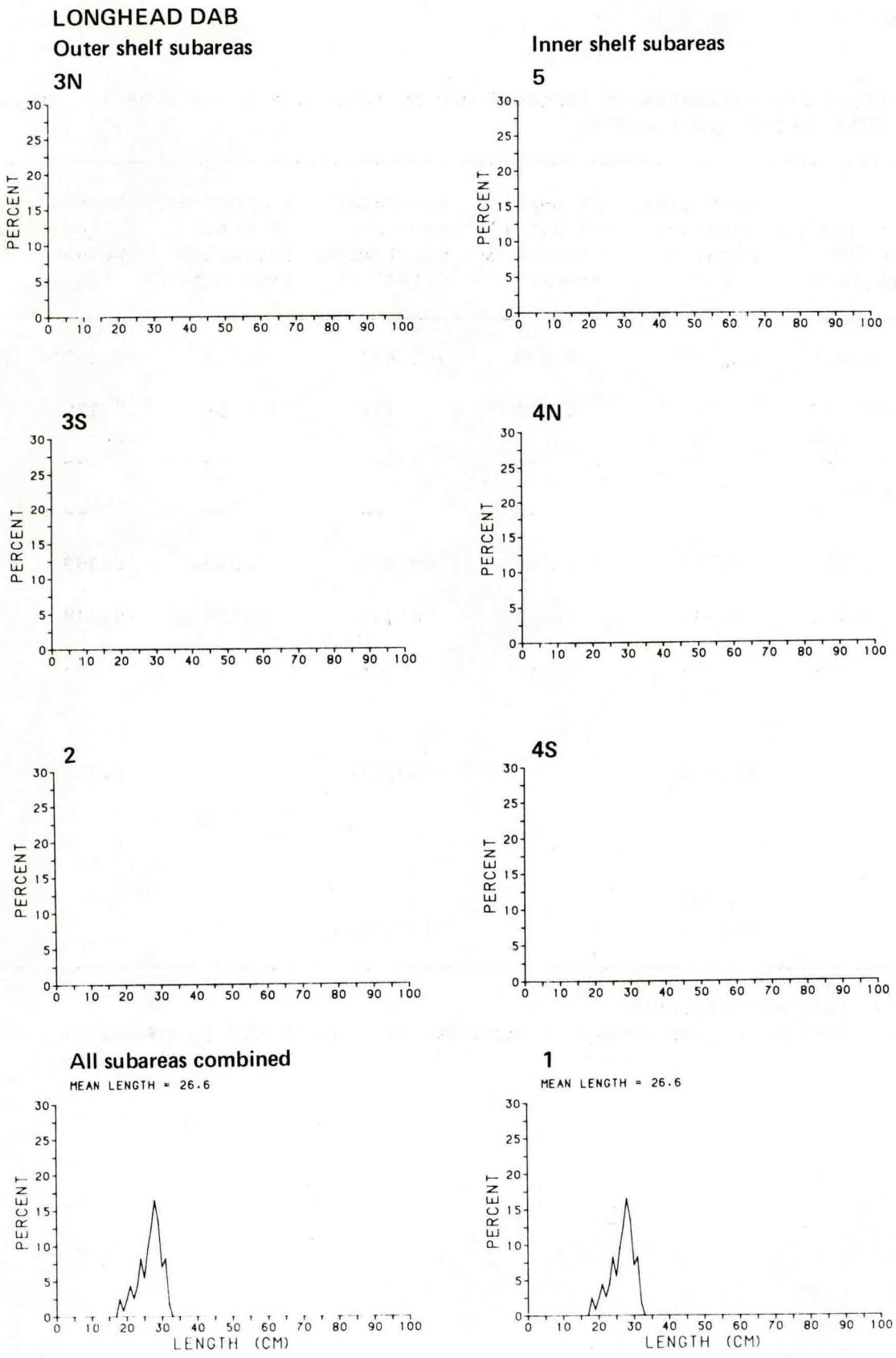

Figure 43.--Size composition, by subarea, of longhead dab (sexes combined) taken during the 1983 survey.

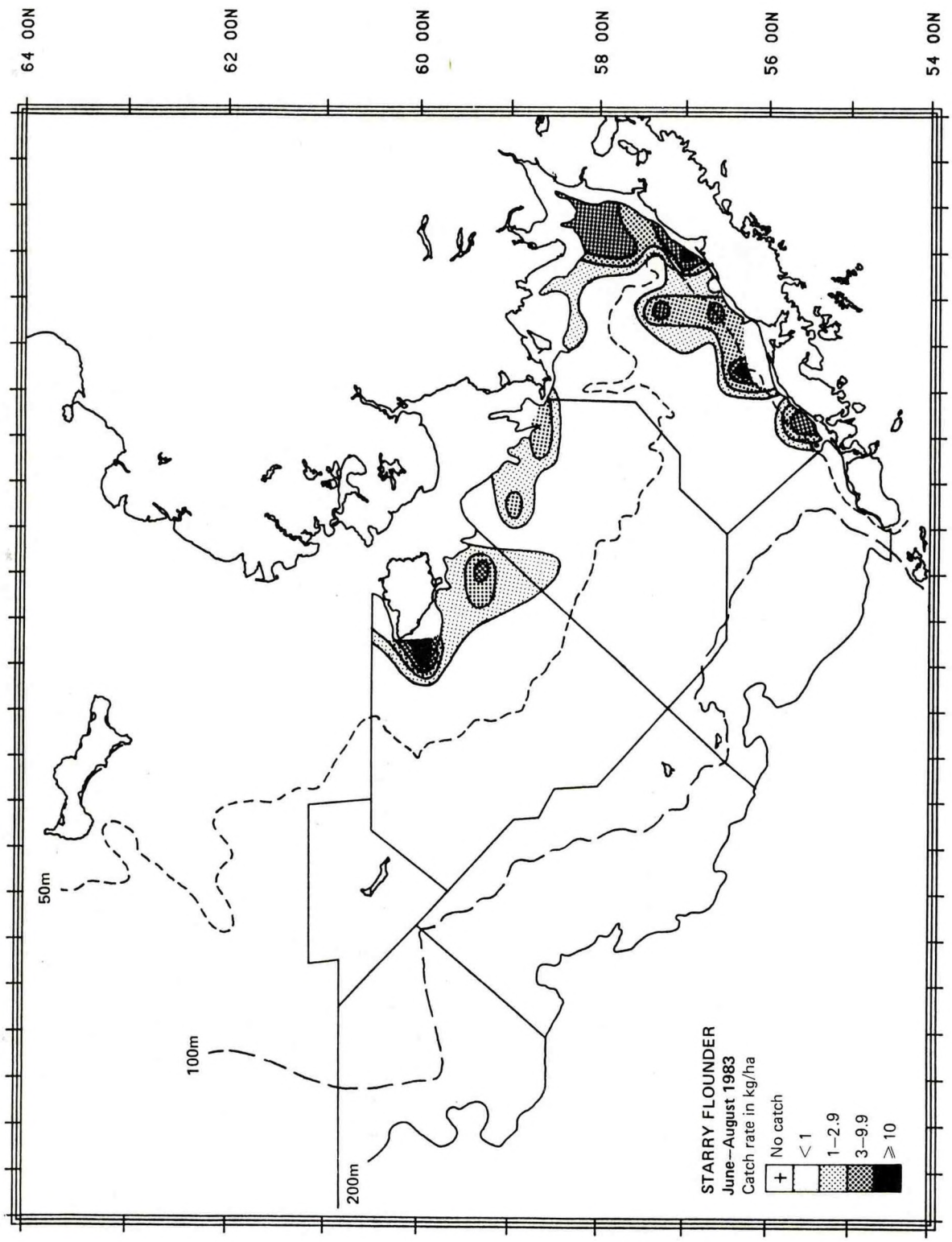

Figure 44.--Distribution and relative abundance of starry flounder taken during the 1983 survey.

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Appendix A

Station and Catch Data, 1983 U.S. Bering Sea Trawl Survey

Appendix A contains computer listings of station and catch data for all successfully completed stations used in the analysis of 1983 Bering Sea survey data. Missing haul numbers indicate unsatisfactory or non-research (comparative) tows.

Latitudes and longitudes are in degrees, minutes, and tenths of minutes. Gear depths are in meters. Tow duration is in tenths of hours; distance fished in kilometers. A performance code of 0 indicates a satisfactory tow. Gear code 37 represents the 83-112 eastern trawl. Catch weights are in kilograms.

List of Tables

Table A-1.--Station and catch data for the NOAA ship Chapman.

HAUL #	1	2	3	4	5	6	7	8	9	10	11
MONTH/DAY/YEAR	6/ 8/83	6/ 8/83	6/ 8/83	6/ 8/83	6/ 9/83	6/ 9/83	6/ 9/83	6/10/83	6/10/83	6/10/83	6/10/83
LATITUDE START	56 39.4	56 59.6	57 18.6	57 39.6	57 59.4	58 18.9	58 19.8	58 0.7	57 40.7	57 20.4	57 0.6
LONGITUDE START	159 45.4	159 42.5	159 41.0	159 37.0	159 35.3	159 32.4	160 44.0	160 51.4	160 52.9	160 56.8	160 57.5
LATITUDE END	56 40.9	57 0.9	57 19.9	57 40.9	58 0.8	58 20.2	58 19.2	57 59.2	57 39.2	57 18.9	56 59.0
LONGITUDE END	159 45.0	159 42.5	159 42.4	159 38.3	159 35.5	159 33.7	160 46.4	160 51.8	160 52.5	160 57.2	160 57.5
LORAN START	33369.30	33261.50	33156.80	33029.40	32908.40	32778.70	32917.40	33059.80	33188.70	33318.10	33429.60
LORAN START	45974.00	45945.90	45929.80	45901.00	45893.80	45875.80	46337.90	46389.30	46404.30	46436.70	46448.50
LORAN END	33361.00	33254.80	33152.40	33024.10	32898.90	32772.70	32926.10	33070.50	33197.20	33327.80	33438.00
LORAN END	45970.40	45945.30	45939.50	45909.10	45891.60	45884.60	46353.30	46392.40	46402.60	46440.20	46449.10
GEAR DEPTH	35	55	57	49	44	26	22	48	59	60	64
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.70	2.67	2.70	2.89	2.70	2.82	2.57	2.87	2.89	2.80	2.91
PERFORMANCE / GEAR	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37
POLLOCK	21.8	2450.3	98.5	1151.3	0.0	0.0	0.0	827.8	630.1	343.8	565.2
PAC COD	452.7	470.4	0.3	69.8	227.9	0.2	3.2	653.9	61.3	52.6	163.9
PAC OC PERCH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RCKFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HERRING	C.0	256.7	0.0	0.0	0.0	1.2	0.0	10.6	7.3	28.1	0.0
ATKA MACKEREL	C.0	0.0	0.0	0.0	0.0	0.0	C.0	0.0	0.0	0.0	0.0
SCULPINS	18.5	8.4	0.0	1.1	42.5	3.9	0.6	38.7	0.2	0.0	0.0
EELPOUTS	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RNDFISH	C.8	2.9	0.2	1.1	5.6	0.2	1.9	3.9	0.5	1.4	0.0
TOT ROUNDFISH	493.8	3188.8	99.0	1223.3	276.0	5.6	5.6	1534.9	699.4	425.9	729.1
YELLOW SOLE	300.0	369.0	679.5	950.9	1240.1	2808.0	553.4	752.3	755.1	215.5	777.1
ROCK SOLE	167.4	298.2	470.6	334.3	1371.9	0.0	174.2	532.6	497.7	199.1	343.3
FLATHEAD SOLE	36.0	6.2	5.1	4.5	0.0	2.5	0.0	0.9	36.8	80.7	33.9
ALASKA PLAICE	3.4	0.0	0.0	2.3	2.2	89.2	0.7	38.7	24.5	3.6	49.4
GREENLAND TBT	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARROWTOOTH FL	C.4	1.5	0.0	0.0	0.0	0.0	C.0	0.0	0.0	0.5	0.0
PAC HALIBUT	2.6	57.3	9.0	0.0	135.4	29.5	11.8	76.1	46.4	9.5	16.5
OTHER FLTFISH	30.1	9.3	5.1	13.5	26.8	39.7	47.2	38.7	14.7	15.6	5.9
TOT FLATFISH	539.8	741.5	1169.2	1305.4	2776.4	2968.9	787.2	1439.2	1375.2	524.5	1226.2
SKATES	C.0	7.7	8.5	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0
TOT ELASMOBRH	C.0	7.7	8.5	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0
RED KING CRAB	2.5	13.2	43.5	75.7	5.0	13.4	4.1	32.7	32.2	41.3	10.0
BLUE KING CRAB	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	C.0	6.1	39.9	1.8	0.0	0.0	0.0	0.1	59.0	19.1	11.3
TANNER, OPILIO	C.0	1.4	4.3	0.2	0.0	0.0	0.0	0.9	5.4	14.1	5.9
TANNER, HYBRID	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	13.4	1.2	42.5	10.7	5.6	2.5	10.0	1.6	1.7	3.6	0.0
SNAILS	C.0	0.0	20.4	0.5	0.0	0.0	0.0	6.2	5.1	0.0	0.0
SHRIMP	C.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STARFISH	496.3	451.2	64.5	164.3	143.0	173.5	20.9	645.1	370.2	0.9	0.0
SQUID	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCTOPUS	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	11.9	44.6	38.1	22.7	20.5	4.9	0.1	7.8	84.8	19[illegible].4	139.9
TOTAL INVERTS	524.4	517.6	253.2	276.0	174.2	194.3	35.0	694.2	558.5	275.3	167.6
OTHER	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	1558.0	4455.6	1529.9	2804.7	3226.6	3168.9	827.9	3668.3	2633.0	1226.7	2122.9

Table A-1.--Station and catch data for the NOAA ship Chapman (cont'd).

HAUL #	12	13	14	15	16	17	18	19	20	21	22
MONTH/DAY/YEAR	6/11/83	6/11/83	6/11/83	6/11/83	6/12/83	6/12/83	6/12/83	6/12/83	6/13/83	6/13/83	6/13/83
LATITUDE START	56 40.4	56 20.7	55 59.5	56 20.8	56 39.6	56 59.7	57 19.1	57 39.3	57 59.4	58 19.8	58 39.4
LONGITUDE START	160 59.3	160 59.9	162 15.5	162 13.3	162 10.8	162 11.8	162 9.8	162 9.5	162 7.7	162 5.7	163 20.9
LATITUDE END	56 39.0	56 19.3	56 0.1	56 22.2	56 41.0	57 1.0	57 19.9	57 39.8	58 0.7	58 19.1	59 0.4
LONGITUDE END	160 59.9	160 59.8	162 13.2	162 14.1	162 11.9	162 10.5	162 7.7	162 7.3	162 9.9	162 3.2	163 18.9
LORAN START	33538.00	33633.10	33916.70	33818.00	33721.50	33619.30	33504.10	33380.40	33243.60	33096.80	32954.40
LORAN START	46468.10	46479.40	46985.50	46968.20	46946.80	46946.80	46925.20	46913.40	46890.30	46864.50	47296.70
LORAN END	33546.10	33639.60	33908.20	33813.40	33717.40	33608.90	33494.00	33371.80	33240.30	33095.70	32941.80
LORAN END	46472.20	46479.50	46970.50	46972.70	46953.80	46938.00	46911.20	46899.00	46904.20	46848.70	47283.40
GEAR DEPTH	71	57	70	86	75	64	51	48	40	49	22
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.72	2.87	2.69	2.78	2.87	2.94	2.83	2.59	2.98	2.72	2.69
PERFORMANCE / GEAR	0 / 37	0 / 37	0 / 37	0 / 37	1 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37
POLLOCK	173.6	2395.8	468.6	53.3	385.1	154.2	284.8	1191.3	4.7	0.0	0.4
PAC COD	55.2	174.4	17.5	25.7	109.7	83.5	719.0	160.3	184.8	324.1	2.4
PAC OC PERCH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ROCKFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HERRING	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ATKA MACKEREL	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.6	0.4	0.0
SCULPINS	23.5	4.9	3.8	31.2	6.7	0.0	1.6	4.6	69.9	37.1	2.4
EELPOUTS	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RNDFISH	4.3	1.2	2.8	0.0	0.4	0.0	0.1	1.5	3.9	1.7	3.4
TOT ROUNDFISH	260.7	2576.3	492.6	110.2	500.9	237.7	1005.5	1357.7	282.0	363.3	8.8
YELLOW SOLE	1197.2	1269.2	487.7	1492.8	1474.5	370.6	305.6	1710.5	624.3	1278.6	1443.4
ROCK SOLE	760.0	406.0	550.3	1083.3	191.9	155.6	435.1	96.2	363.4	213.6	16.4
FLATHEAD SOLE	83.8	32.9	25.0	146.9	83.2	26.3	41.8	35.1	11.7	3.2	0.0
ALASKA PLAICE	22.5	19.5	23.4	30.8	92.6	12.2	96.9	30.5	5.4	43.1	12.3
GREENLAND TBT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARROWTOOTH FL	0.2	0.6	20.0	5.5	2.7	0.0	0.8	0.0	0.0	0.0	0.0
PAC HALIBUT	C.0	10.3	10.0	16.1	0.0	13.0	5.4	25.5	56.5	7.6	0.0
OTHER FLTFISH	28.6	10.3	2.9	3.7	10.8	53.5	61.0	65.7	45.8	121.0	20.9
TOT FLATFISH	2092.2	1748.8	1119.3	2829.0	1855.6	631.3	946.5	1963.5	1107.2	1667.1	1493.0
SKATES	10.2	0.0	8.3	0.0	5.4	0.1	0.0	0.0	2.3	37.9	0.0
TOT ELASMOBRH	10.2	0.0	8.3	0.0	5.4	0.1	0.0	0.0	2.3	37.9	0.0
RED KING CRAB	263.1	23.6	2.7	0.0	10.9	132.4	26.8	31.8	23.6	37.6	2.7
BLUE KING CRAB	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	22.7	0.2	1.1	36.3	6.4	5.4	0.9	5.0	1.8	0.1	0.0
TANNER, OPILIO	6.4	0.5	7.7	10.0	16.3	7.3	1.4	1.4	0.0	0.0	0.0
TANNER, HYBRID	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	66.0	28.5	5.0	22.0	12.8	7.3	3.5	6.3	13.2	13.2	9.8
SNAILS	1.3	1.2	0.0	0.0	2.8	0.6	2.5	25.9	8.2	13.0	0.0
SHRIMP	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
STARFISH	12.2	215.8	132.5	0.0	6.7	0.0	12.5	15.3	254.7	382.0	317.4
SQUID	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCTOPUS	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	185.9	3.7	0.8	21.1	559.6	7.5	0.0	0.0	0.0	0.3	0.4
TOTAL INVERTS	557.5	273.5	150.0	89.4	615.5	160.5	47.5	85.6	301.5	456.2	330.5
OTHER	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	2920.7	4598.6	1770.2	3028.7	2977.3	1029.5	1999.5	3406.8	1692.9	2524.5	1832.2

Table A-1.--Station and catch data for the NOAA ship Chapman (cont'd).

HAUL #	23	24	25	26	27	28	29	30	31	32	33
MONTH/DAY/YEAR	6/13/83	6/14/83	6/14/83	6/14/83	6/14/83	6/14/83	6/15/83	6/15/83	6/15/83	6/15/83	6/16/83
LATITUDE START	58 40.3	58 21.2	58 0.9	57 40.4	57 20.4	57 0.4	56 40.8	56 20.4	56 0.5	55 39.3	55 19.9
LONGITUDE START	163 23.1	163 23.6	163 23.0	163 22.8	163 24.0	163 24.3	163 23.2	163 24.2	163 24.0	163 24.9	163 24.4
LATITUDE END	58 38.8	58 21.5	57 59.7	57 39.8	57 18.7	56 59.1	56 39.3	56 19.0	55 59.1	55 40.5	55 21.0
LONGITUDE END	163 22.8	163 26.7	163 21.6	163 22.8	163 24.0	163 22.7	163 23.6	163 23.5	163 23.3	163 24.0	163 26.3
LORAN START	33118.80	33271.70	33420.90	33561.80	33692.90	33810.00	33910.50	34010.40	34094.80	34177.70	34241.90
LORAN START	47336.40	47363.50	47381.60	47398.60	47421.40	47433.20	47431.20	47439.80	47436.40	47436.20	47425.40
LORAN END	33130.80	33277.20	33425.80	33572.60	33703.10	33812.60	33919.20	34014.80	34099.70	34171.00	34243.30
LORAN END	47336.60	47382.90	47373.70	47400.00	47422.40	47422.70	47434.40	47435.20	47434.80	47431.30	47437.80
GEAR DEPTH	33	37	46	49	55	68	77	88	91	82	53
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.94	2.98	2.76	2.93	3.00	2.93	2.85	2.85	2.65	2.74	2.80
PERFORMANCE / GEAR	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	1 / 37	0 / 37	0 / 37	0 / 37
POLLOCK	2.1	7.0	171.5	812.8	240.1	802.9	30.8	987.0	109.3	5232.6	248.9
PAC COD	127.5	155.5	144.8	151.2	35.7	30.4	34.5	111.1	21.3	129.6	86.3
PAC OC PERCH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ROCKFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HERRING	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	70.5	27.1
ATKA MACKEREL	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	2.9	51.5	102.1	9.0	2.7	9.1	0.9	0.5	4.5	3.6	3.7
EELPOUTS	C.0	0.0	0.0	0.0	0.0	0.0	1.4	1.8	0.0	0.0	0.0
OTHER RNDFISH	2.9	4.2	5.0	4.6	0.0	0.2	0.0	0.0	0.0	0.0	3.9
TOT ROUNDFISH	135.4	218.2	423.4	977.6	278.5	842.5	67.6	1100.4	135.2	5441.2	369.9
YELLOW SOLE	1100.5	953.1	1254.5	1945.9	717.7	283.5	351.5	365.1	115.7	371.6	1713.0
ROCK SOLE	438.9	159.9	28.6	405.6	238.4	21.8	25.4	33.6	24.9	129.6	56.7
FLATHEAD SOLE	C.0	2.6	0.0	15.0	39.3	39.9	60.8	44.5	24.0	87.6	160.2
ALASKA PLAICE	128.5	166.0	53.3	110.8	57.2	100.7	150.6	49.4	3.2	34.3	463.4
GREENLAND TBT	C.0	0.0	C.0	0.0	0.0	0.0	0.0	C.0	0.0	0.0	0.0
ARROWTOOTH FL	C.0	0.0	0.0	0.0	0.0	0.0	0.1	9.1	15.4	51.4	59.1
PAC HALIBUT	40.6	7.3	16.2	35.2	0.0	0.0	13.9	1.4	8.2	6.7	36.2
OTHER FLTFISH	20.4	5.3	0.0	31.4	5.4	5.0	0.1	0.0	0.5	2.9	0.6
TOT FLATFISH	1728.9	1294.2	1352.6	2543.9	1057.9	450.9	602.5	503.1	191.9	684.1	2489.4
SKATES	C.0	69.9	33.3	0.0	0.0	6.4	6.4	9.5	15.0	0.0	62.9
TOT ELASMOBRH	C.0	69.9	33.3	0.0	0.0	6.4	6.4	9.5	15.0	0.0	62.9
RED KING CRAB	4.5	3.6	18.1	15.4	47.5	15.4	1.4	2.3	1.8	3.6	1.4
BLUE KING CRAB	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	C.0	0.0	0.7	0.9	1.4	1.8	4.5	3.2	4.5	41.7	10.4
TANNER, OPILIO	C.0	0.0	0.7	0.9	0.9	8.6	6.8	7.3	10.0	2.7	6.4
TANNER, HYBRID	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	4.2	11.0	2.9	10.5	28.6	25.4	17.3	18.6	0.7	13.5	0.6
SNAILS	C.0	6.8	38.1	123.2	15.6	17.3	29.0	12.6	36.4	13.5	3.7
SHRIMP	C.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STARFISH	503.7	350.3	296.2	50.9	67.0	0.9	0.0	0.0	0.5	1.9	26.8
SQUID	C.0	0.0	0.0	0.0	0.0	0.0	C.0	0.0	0.0	0.0	0.0
OCTOPUS	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	C.1	2.0	1.0	1.9	0.4	0.0	0.2	0.9	196.9	0.0	0.1
TOTAL INVERTS	512.5	373.8	357.8	203.6	161.4	69.5	59.2	44.9	250.7	77.0	249.4
OTHER	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	2376.3	1956.1	2167.1	3725.1	1497.3	1369.2	735.6	1657.9	592.7	6202.3	3171.5

Table A-1.--Station and catch data for the NOAA ship Chapman (cont'd).

HAUL #	34	35	36	37	38	39	40	41	42	43	44
MONTH/DAY/YEAR	6/16/83	6/16/83	6/16/83	6/17/83	6/17/83	6/17/83	6/17/83	6/18/83	6/18/83	6/18/83	6/18/83
LATITUDE START	55 19.3	55 38.9	56 0.1	55 3.6	55 19.3	55 39.3	55 59.4	56 19.6	56 39.4	56 59.7	57 19.3
LONGITUDE START	163 58.9	164 0.4	164 0.2	164 30.5	164 34.7	164 34.6	164 34.2	164 34.6	164 35.4	164 35.4	164 36.0
LATITUDE END	55 20.4	55 40.2	56 1.6	55 2.3	55 20.9	55 40.7	56 0.9	56 18.6	56 40.3	57 0.3	57 20.9
LONGITUDE END	164 0.7	164 2.1	164 0.5	164 31.7	164 35.0	164 35.7	164 34.3	164 32.6	164 37.6	164 37.9	164 38.0
LORAN START	34333.50	34274.20	34196.00	34459.50	34427.70	34366.40	34294.30	34214.10	34124.90	34016.00	33901.30
LORAN START	47643.10	47665.10	47674.00	47826.30	47867.80	47884.80	47895.60	47906.70	47914.30	47910.20	47903.10
LORAN END	34334.90	34274.60	34191.20	34465.80	34423.80	34364.90	34289.30	34212.70	34126.90	34022.30	33900.20
LORAN END	47655.30	47676.60	47676.50	47832.30	47871.40	47892.90	47897.30	47893.60	47929.30	47926.70	47915.40
GEAR DEPTH	62	99	91	62	104	101	95	90	77	71	68
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.78	2.78	2.80	2.59	2.89	2.72	2.91	2.83	2.87	2.89	2.93
PERFORMANCE / GEAR	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37
POLLOCK	293.0	2520.7	94.3	183.7	3815.4	800.6	44.0	32.2	1.6	27.2	177.4
PAC COD	167.4	76.3	66.2	13.1	31.0	57.2	39.9	14.1	43.1	10.9	7.3
PAC OC PERCH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ROCKFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	C.5	0.0	0.0	0.0	27.3	0.0	0.0	0.0	0.0	0.0	0.0
PAC HERRING	10.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	0.0
ATKA MACKEREL	C.0	0.0	0.0	0.0	0.0	0.0	C.0	0.0	0.0	0.0	0.0
SCULPINS	8.2	3.0	0.0	5.0	0.0	0.0	0.1	0.0	13.6	2.5	0.5
EELPOUTS	C.0	0.0	0.7	0.0	0.0	0.9	0.1	0.0	1.1	0.1	0.1
OTHER RNDFISH	C.0	0.0	0.1	0.0	0.0	0.5	0.1	0.2	0.0	0.0	0.1
TOT ROUNDFISH	479.4	2600.0	161.4	211.8	3873.7	859.1	84.2	46.5	59.4	43.4	185.3
YELLOW SOLE	392.8	267.9	142.0	113.9	123.9	171.5	244.0	186.4	477.6	513.9	270.3
ROCK SOLE	166.9	181.1	88.0	245.8	165.8	83.9	25.9	15.0	18.6	4.1	67.1
FLATHEAD SOLE	63.0	53.9	37.2	1.4	82.0	51.3	44.9	54.0	43.5	24.9	19.5
ALASKA PLAICE	2.3	3.0	14.1	0.0	7.3	7.7	8.6	11.8	297.1	358.3	166.9
GREENLAND TBT	C.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
ARROWTOOTH FL	103.4	22.5	23.6	6.4	129.3	52.6	46.3	5.4	0.0	0.0	0.0
PAC HALIBUT	24.1	0.0	19.5	26.3	0.0	6.1	8.3	0.0	0.0	0.0	0.0
OTHER FLTFISH	5.0	3.0	3.2	0.1	32.8	6.4	3.2	0.0	0.0	0.0	0.0
TOT FLATFISH	757.6	531.4	328.0	393.8	541.0	379.4	381.2	272.6	836.9	901.4	523.9
SKATES	9.5	77.8	38.6	24.0	306.0	66.7	23.1	7.3	0.7	6.4	10.4
TOT ELASMOBRH	9.5	77.8	38.6	24.0	306.0	66.7	23.1	7.3	0.7	6.4	10.4
RED KING CRAB	C.0	2.7	4.5	0.0	6.8	0.0	0.0	0.0	0.0	2.7	2.7
BLUE KING CRAB	C.0	0.0	0.0	0.0	0.0	0.0	C.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	C.0	13.2	13.2	0.4	24.0	3.6	7.7	5.0	0.9	0.5	0.0
TANNER, OPILIO	C.5	6.4	7.3	0.2	3.2	0.9	8.6	25.9	5.9	5.9	44.0
TANNER, HYBRID	C.0	0.0	0.0	0.0	0.0	0.0	C.0	0.0	0.0	0.0	0.0
OTHER CRAB	0.9	37.4	37.6	3.2	20.4	50.4	71.2	35.6	8.8	10.0	3.2
SNAILS	1.0	9.8	52.2	0.0	10.2	32.4	36.2	127.3	89.6	42.8	11.1
SHRIMP	C.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1
STARFISH	18.6	4.5	0.0	0.0	0.0	0.0	0.0	0.0	14.5	4.5	19.7
SQUID	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCTOPUS	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	C.9	0.0	5.2	577.4	0.0	0.0	0.5	5.0	4.1	0.0	0.0
TOTAL INVERTS	21.8	73.9	119.9	581.2	64.6	87.5	124.2	198.7	123.8	69.4	80.8
OTHER	C.0	0.0	0.0	2.3	10.9	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	1268.4	3283.1	647.8	1213.1	4796.3	1392.7	612.7	525.1	1020.8	1017.8	800.4

Table A-1.--Station and catch data for the NOAA ship Chapman (cont'd).

HAUL #	45	46	47	48	49	50	51	52	53	54	55
MONTH/DAY/YEAR	6/19/83	6/19/83	6/19/83	6/19/83	6/20/83	6/20/83	6/20/83	6/21/83	6/21/83	6/21/83	6/21/83
LATITUDE START	57 39.4	57 59.8	58 20.3	58 39.4	58 59.2	59 19.1	59 39.7	59 20.7	59 0.8	58 40.5	58 21.0
LONGITUDE START	164 36.4	164 39.1	164 39.5	164 39.5	164 38.4	164 38.5	165 55.8	165 56.5	165 56.9	165 57.5	165 55.3
LATITUDE END	57 40.9	57 59.9	58 20.1	58 40.8	59 0.7	59 19.8	59 40.2	59 19.2	58 59.3	58 39.3	58 19.5
LONGITUDE END	164 37.6	164 36.4	164 37.0	164 39.2	164 39.0	164 41.1	165 58.4	165 57.2	165 56.5	165 56.1	165 55.3
LORAN START	33773.00	33633.10	33473.00	33311.90	33131.80	32945.30	32895.50	33096.90	33305.30	33498.40	33671.40
LORAN START	47837.10	47878.50	47848.00	47812.30	47764.20	47720.90	48090.10	48154.60	48216.70	48282.90	48322.00
LORAN END	33766.70	33624.80	33467.30	33298.50	33119.20	32944.10	32895.20	33113.80	33314.90	33506.20	33684.10
LORAN END	47893.70	47860.80	47832.10	47807.20	47764.30	47734.00	48102.10	48163.50	48223.80	48277.90	48325.70
GEAR DEPTH	55	46	46	40	29	24	24	26	31	37	46
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.89	2.76	2.87	2.72	2.91	2.80	2.65	2.87	2.83	2.69	2.80
PERFORMANCE / GEAR	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37
POLLOCK	52.4	29.4	375.5	43.1	0.0	0.0	0.1	0.9	1.8	24.5	234.1
PAC COD	4.8	368.7	293.2	101.6	56.7	0.0	105.2	101.2	25.4	287.6	236.3
PAC OC PERCH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RCKFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HERRING	C.6	0.0	0.0	0.0	0.2	0.0	5.9	0.1	3.2	0.0	0.0
ATKA MACKEREL	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	11.9	55.4	368.7	17.0	2.0	0.6	3.9	2.0	2.6	93.0	55.0
EELPOUTS	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RNDFISH	0.6	8.0	5.5	5.1	1.5	2.9	18.9	2.8	4.5	14.2	6.6
TOT ROUNDFISH	70.3	461.5	1042.9	166.7	60.4	3.6	134.1	107.0	37.5	424.2	531.9
YELLOW SOLE	1650.8	1943.8	1666.3	1039.1	601.5	919.9	288.0	894.9	454.0	547.5	894.0
ROCK SOLE	67.9	201.4	14.4	24.9	103.2	0.0	0.0	348.4	18.6	44.9	0.0
FLATHEAD SOLE	48.8	6.9	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
ALASKA PLAICE	323.7	152.3	63.0	277.1	C.0	6.8	4.3	15.0	235.0	129.7	70.8
GREENLAND TBT	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARROWTOOTH FL	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HALIBUT	C.0	17.6	0.0	17.6	21.3	5.6	23.9	15.2	2.7	9.5	27.1
OTHER FLTFISH	C.4	25.9	2.7	4.5	13.6	1.4	8.6	20.9	30.2	16.3	23.4
TOT FLATFISH	2091.6	2403.0	1747.8	1413.3	739.6	933.6	324.9	1294.3	740.4	747.9	1016.3
SKATES	C.0	10.4	21.9	5.0	0.0	3.6	0.0	0.0	10.0	36.7	12.2
TOT ELASMOBRH	C.0	10.4	21.9	5.0	0.0	3.6	0.0	0.0	10.0	36.7	12.2
RED KING CRAB	12.2	4.5	6.8	1.4	0.0	0.0	0.0	0.0	0.0	5.9	1.4
BLUE KING CRAB	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	C.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
TANNER, OPILIO	10.4	13.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
TANNER, HYBRID	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	234.5	76.2	5.1	6.8	17.7	1.4	0.3	0.1	15.4	4.8	31.1
SNAILS	102.7	218.1	11.1	2.3	0.0	0.0	0.1	0.1	1.7	4.5	32.0
SHRIMP	C.0	0.0	0.1	0.2	0.2	0.0	0.1	0.1	0.1	0.2	0.1
STARFISH	2.4	143.7	380.9	284.4	261.3	172.4	192.3	190.5	142.4	287.6	78.5
SQUID	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCTOPUS	C.0	0.0	0.0	0.0	0.0	0.0	C.0	C.0	0.0	0.0	0.0
OTHER INVERTS	C.1	14.9	2.0	0.7	0.2	0.2	1.1	0.4	0.2	3.2	15.0
TOTAL INVERTS	362.3	470.9	406.3	295.8	279.4	173.9	193.9	191.3	159.9	306.2	158.1
OTHER	C.0	0.0	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	2524.2	3350.8	3218.9	1880.8	1079.4	1114.7	653.0	1592.6	947.8	1515.0	1718.6

Table A-1.--Station and catch data for the NOAA ship Chapman (cont'd).

HAUL #	56	57	58	59	60	61	62	63	64	65	66
MONTH/DAY/YEAR	6/22/83	6/22/83	6/22/83	6/22/83	6/23/83	6/23/83	6/23/83	6/23/83	6/24/83	6/24/83	6/25/83
LATITUDE START	56 C.9	57 40.5	57 20.8	57 0.9	56 40.8	56 20.7	56 0.6	55 40.9	55 21.2	55 0.6	57 59.9
LONGITUDE START	165 53.4	165 53.7	165 53.3	165 52.0	165 49.9	165 47.1	165 47.9	165 47.0	165 46.8	165 46.4	167 11.2
LATITUDE END	57 59.5	57 39.1	57 19.5	56 59.8	56 39.4	56 19.9	55 59.9	55 40.1	55 20.3	54 59.0	58 0.4
LONGITUDE END	165 53.8	165 53.2	165 52.0	165 50.2	165 50.7	165 49.5	165 50.6	165 49.0	165 48.7	165 46.7	167 8.7
LORAN START	33837.10	33995.70	34131.10	34247.40	34345.60	34426.00	34503.20	34562.00	34612.90		34078.40
LORAN START	48357.50	48395.30	48418.00	48423.50	48412.30	48385.90	48374.50	48345.30	48315.20		48852.30
LORAN END	33850.00	34004.60	34135.20	34243.40	34355.00	34436.60	34513.20	34569.90	34620.00		34065.90
LORAN END	48363.70	48394.20	48410.90	48412.30	48417.50	48401.20	48390.80	48356.60	48325.30		48834.70
GEAR DEPTH	59	66	70	75	80	93	108	121	123	134	66
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.74	2.69	2.67	2.83	2.91	2.70	2.80	2.96	2.87	2.93	2.76
PERFORMANCE / GEAR	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37
POLLOCK	38.5	123.4	503.5	10.4	68.5	376.5	562.0	1996.5	188.7	1141.2	0.0
PAC COD	35.1	96.6	63.5	29.0	16.3	23.6	170.1	52.8	36.3	33.1	15.6
PAC OC PERCH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RCKFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	C.0	0.0	0.0	0.0	0.0	0.0	1.4	27.3	10.0	23.1	0.0
PAC HERRING	C.7	0.0	0.0	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0
ATKA MACKEREL	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	16.5	6.1	0.5	4.5	14.1	2.7	0.9	0.4	0.9	0.5	69.3
EELPOUTS	C.0	0.1	19.7	2.7	1.5	0.1	0.1	7.3	5.0	2.3	0.6
OTHER RNDFISH	3.6	1.6	0.2	0.0	0.0	0.1	8.9	43.7	32.2	0.9	0.0
TOT ROUNDFISH	94.3	227.8	587.4	47.2	100.6	403.0	743.3	2128.0	273.1	1206.1	86.0
YELLOW SOLE	1147.6	1003.8	501.2	229.1	130.2	77.6	42.2	14.6	1.4	0.5	326.0
ROCK SOLE	34.4	16.8	20.0	12.2	37.2	6.3	1.9	4.5	0.9	0.5	0.6
FLATHEAD SOLE	24.0	15.4	22.2	30.4	31.3	39.0	112.5	80.1	47.6	55.3	7.2
ALASKA PLAICE	537.4	136.1	166.5	91.2	32.2	31.8	5.9	0.0	0.0	4.1	822.8
GREENLAND TBT	C.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARROWTOOTH FL	C.0	0.0	0.0	0.1	0.1	20.0	61.2	52.8	25.4	49.0	0.0
PAC HALIBUT	C.0	0.6	0.0	9.8	0.0	0.0	15.0	0.0	7.6	0.0	0.0
OTHER FLTFISH	8.3	0.0	0.0	0.0	0.1	0.9	1.4	1.8	4.1	1.4	0.0
TOT FLATFISH	1751.7	1172.7	709.9	373.6	231.1	176.0	239.9	153.9	87.0	110.7	1156.6
SKATES	4.1	0.7	15.9	4.1	5.4	24.0	48.1	69.2	76.7	19.5	0.0
TOT ELASMOBRH	4.1	0.7	15.9	4.1	5.4	24.0	48.1	69.2	76.7	19.5	0.0
RED KING CRAB	C.0	1.4	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BLUE KING CRAB	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	C.0	0.0	0.0	0.1	6.3	1.8	4.1	11.8	17.2	40.4	1.8
TANNER, OPILIO	1.4	27.2	28.6	11.4	8.2	11.3	7.3	4.1	1.8	3.6	406.4
TANNER, HYBRID	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	85.2	77.6	10.1	22.8	8.4	34.9	13.2	7.3	0.0	0.5	125.7
SNAILS	94.1	102.3	21.8	60.9	46.2	276.5	21.3	4.9	0.0	1.1	135.5
SHRIMP	C.0	0.2	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1
STARFISH	30.3	172.4	44.5	78.5	41.3	42.6	0.9	0.0	0.0	0.1	62.5
SQUID	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCTOPUS	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	21.7	1.8	0.0	0.8	0.0	0.9	0.0	19.1	50.3	7.3	165.6
TOTAL INVERTS	232.7	382.8	105.1	176.6	110.9	368.2	46.7	47.2	69.4	52.5	897.7
OTHER	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	2082.8	1784.0	1418.2	601.5	448.0	971.2	1078.0	2398.3	506.1	1339.2	2140.3

Table A-1.--Station and catch data for the NOAA ship Chapman (cont'd).

HAUL #	67	68	69	70	71	72	73	74	75	76	77
MONTH/DAY/YEAR	6/25/83	6/25/83	6/25/83	6/26/83	6/26/83	6/26/83	6/26/83	6/27/83	6/27/83	7/ 2/83	7/ 2/83
LATITUDE START	57 40.6	57 20.9	57 0.9	56 41.1	56 20.7	56 0.7	55 40.7	55 20.0	55 0.1	58 19.1	58 39.3
LONGITUDE START	167 7.7	167 7.2	167 4.8	167 2.9	167 2.0	167 0.2	166 59.3	166 58.1	166 56.0	167 10.9	167 12.6
LATITUDE END	57 39.2	57 19.4	56 59.9	56 40.0	56 19.4	55 59.0	55 39.2	55 20.6	54 58.8	58 20.4	58 40.0
LONGITUDE END	167 8.6	167 8.0	167 6.7	167 1.2	167 2.8	167 0.5	166 59.9	167 0.3	166 57.6	167 11.0	167 15.0
LORAN START	34229.50	34372.40	34487.40	34579.70	34657.70	34714.50	34760.70	34797.70	18240.50	33898.90	33701.20
LORAN START	48879.60	48911.00	48911.50	48897.10	48873.80	48832.30	48788.50	48735.80	48677.00	48783.60	48724.30
LORAN END	34243.20	34385.20	34499.40	34579.30	34664.70	34719.80	34765.40	34801.90	18231.70	33885.90	33699.30
LORAN END	48888.40	48918.40	48924.90	48885.60	48876.70	48831.30	48788.80	48749.80	48683.20	48784.50	48735.10
GEAR DEPTH	71	73	77	97	117	137	137	143	159	55	46
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.72	2.87	2.63	2.76	2.74	2.89	2.85	2.76	2.83	2.63	2.80
PERFORMANCE / GEAR	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37
POLLOCK	6.8	122.9	2407.9	1167.9	1977.0	924.0	1153.5	827.3	1072.7	64.8	62.3
PAC COD	0.9	29.0	11.3	36.5	72.7	41.7	24.5	100.7	36.7	96.2	205.4
PAC OC PERCH	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
OTHER RCKFISH	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
SABLEFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.4	4.1	0.0	0.0
PAC HERRING	4.1	4.1	5.0	0.0	0.0	0.0	0.0	0.0	0.0	12.9	0.8
ATKA MACKEREL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	5.4	11.8	2.5	28.5	24.5	0.2	0.4	0.2	4.3	48.3	51.1
EELPOUTS	0.1	0.1	0.3	0.5	0.0	0.1	2.7	27.7	2.9	2.9	0.0
OTHER RNDFISH	0.2	0.0	0.0	0.0	13.5	15.4	16.8	12.2	0.6	32.6	11.3
TOT ROUNDFISH	17.6	168.0	2427.0	1233.3	2087.7	983.3	1197.8	983.6	1121.4	257.6	340.9
YELLOW SOLE	308.9	567.9	28.8	2.7	0.0	0.0	0.0	0.0	0.0	1114.1	1105.3
ROCK SOLE	1.8	152.0	13.8	3.4	1.4	0.5	0.5	0.0	0.5	31.6	46.8
FLATHEAD SOLE	3.2	35.8	7.5	29.6	67.3	71.2	90.7	49.4	75.3	8.6	1.0
ALASKA PLAICE	66.2	196.4	8.8	20.5	20.2	0.0	0.0	0.0	0.0	202.1	235.5
GREENLAND TBT	0.0	0.0	0.0	0.0	0.0	20.4	1.4	15.9	0.0	0.0	0.0
ARROWTOOTH FL	0.0	0.1	7.5	26.2	71.3	76.7	49.0	45.4	37.6	0.0	0.0
PAC HALIBUT	3.3	0.0	0.0	0.0	0.0	5.2	0.0	0.0	4.5	0.0	13.7
OTHER FLTFISH	0.5	0.0	0.0	0.0	3.4	0.2	1.8	5.0	8.2	9.1	8.5
TOT FLATFISH	383.8	932.3	66.4	82.5	163.6	174.1	143.3	115.7	126.1	1365.5	1460.7
SKATES	11.3	4.1	3.8	0.6	0.0	17.2	15.9	33.1	0.0	17.7	26.0
TOT ELASMOBRH	11.3	4.1	3.8	0.6	0.0	17.2	15.9	33.1	0.0	17.7	26.0
RED KING CRAB	0.0	3.6	8.2	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0
BLUE KING CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	0.1	0.1	0.2	2.3	2.7	2.3	1.5	16.8	11.3	0.0	0.0
TANNER, OPILIO	98.9	10.9	21.8	8.3	1.4	0.1	1.4	1.4	2.9	1.4	0.0
TANNER, HYBRID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	48.5	31.5	35.3	94.5	25.0	2.3	0.0	0.5	2.9	128.2	54.1
SNAILS	70.4	60.6	7.7	100.7	5.3	6.2	4.8	4.8	9.8	92.7	34.6
SHRIMP	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2
STARFISH	81.2	56.2	57.6	30.8	174.9	15.9	1.3	0.0	2.0	47.7	369.2
SQUID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCTOPUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	163.5	59.0	0.0	0.0	4.6	27.2	24.0	14.1	33.1	58.5	15.9
TOTAL INVERTS	462.6	222.1	130.8	236.5	214.0	54.1	33.1	37.6	62.3	330.5	453.9
OTHER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	875.4	1326.4	2627.9	1552.9	2465.4	1228.7	1390.1	1170.0	1309.7	1971.3	2281.5

Table A-1.--Station and catch data for the NOAA ship Chapman (cont'd).

HAUL #	78	79	80	81	82	83	84	85	86	87	88
MONTH/DAY/YEAR	7/ 2/83	7/ 2/83	7/ 2/83	7/ 3/83	7/ 3/83	7/ 3/83	7/ 3/83	7/ 4/83	7/ 4/83	7/ 4/83	7/ 4/83
LATITUDE START	58 59.2	59 19.1	59 39.0	60 20.0	60 0.9	59 40.9	59 20.6	59 0.2	58 40.7	58 20.5	58 0.5
LONGITUDE START	167 13.7	167 15.4	167 16.7	168 41.0	168 39.3	168 36.9	168 32.4	168 30.5	168 30.5	168 27.2	168 24.4
LATITUDE END	59 0.7	59 20.6	59 40.5	60 18.6	59 59.4	59 39.4	59 19.5	58 59.5	58 39.9	58 19.6	57 59.6
LONGITUDE END	167 13.4	167 15.1	167 16.9	168 39.8	168 39.3	168 37.1	168 34.6	168 33.3	168 32.8	168 27.6	168 26.8
LORAN START	33493.60	33278.90	33057.20	32701.40	32930.10	33167.20	33403.00	33639.80	33865.20	34083.40	34283.30
LORAN START	48651.00	48577.70	48501.10	48679.30	48764.50	48853.30	48937.20	49033.00	49133.00	49216.30	49293.30
LORAN END	33476.80	33261.90	33040.50	32716.60	32947.50	33185.90	33419.10	33652.70	33878.70	34094.20	34303.40
LORAN END	48643.60	48570.30	48495.90	48681.50	48771.30	48862.00	48952.00	49049.40	49148.30	49223.20	49311.10
GEAR DEPTH	40	35	33	38	40	40	44	48	55	68	71
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.87	2.65	2.87	2.80	2.73	2.93	2.93	3.02	2.74	2.83	2.89
PERFORMANCE / GEAR	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37
POLLOCK	13.1	0.7	11.8	110.7	113.5	138.4	61.7	45.1	12.5	38.3	2502.9
PAC COD	71.4	49.9	92.3	670.0	123.4	128.6	90.7	100.7	7.5	14.6	52.7
PAC OC PERCH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ROCKFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HERRING	0.0	0.2	1.4	179.4	21.1	1.0	45.6	33.6	37.1	0.0	0.0
ATKA MACKEREL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	4.8	4.4	5.9	82.3	144.9	38.9	78.6	65.9	58.4	27.7	28.9
EELPOUTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	22.5	0.0
OTHER RNDFISH	1.5	8.9	16.8	20.6	7.9	8.3	11.0	10.6	19.2	23.5	1.6
TOT ROUNDFISH	90.7	64.1	128.1	1062.9	410.9	315.1	287.6	255.9	137.3	126.5	2596.1
YELLOW SOLE	1044.3	550.9	388.1	367.5	435.2	718.7	471.1	630.0	707.1	472.9	2047.6
ROCK SOLE	17.7	27.9	10.0	10.7	32.0	54.9	81.6	51.2	12.5	3.9	2.4
FLATHEAD SOLE	0.1	0.1	0.0	0.1	0.1	1.1	0.7	5.0	8.3	21.7	10.9
ALASKA PLAICE	76.8	60.6	48.1	80.3	90.9	74.4	176.1	297.2	125.3	205.7	51.5
GREENLAND TBT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
ARROWTOOTH FL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
PAC HALIBUT	8.6	179.2	42.6	4.5	0.0	3.4	6.3	0.9	0.0	0.0	0.0
OTHER FLTFISH	1.1	2.8	21.5	4.3	7.5	6.1	6.6	4.9	4.3	0.0	0.0
TOT FLATFISH	1148.7	821.5	510.4	467.4	565.7	858.6	742.5	989.1	857.5	704.3	2112.6
SKATES	46.7	0.0	0.0	16.9	27.0	33.6	18.0	13.1	4.2	3.2	6.1
TOT ELASMOBRH	46.7	0.0	0.0	16.9	27.0	33.6	18.0	13.1	4.2	3.2	6.1
RED KING CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0
BLUE KING CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
TANNER, BAIRDI	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.0
TANNER, OPILIO	0.0	0.0	0.0	0.0	0.1	0.1	0.5	0.5	1.0	3.8	33.6
TANNER, HYBRID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	4.7	0.4	0.6	13.6	23.8	18.4	22.4	28.8	41.2	74.2	20.3
SNAILS	7.7	0.1	0.1	1.8	11.3	19.6	37.9	86.9	41.9	66.6	19.5
SHRIMP	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.0	0.1	0.0
STARFISH	152.5	154.4	325.4	76.9	183.4	212.5	155.8	0.2	192.9	57.8	3.5
SQUID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCTOPUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	0.6	0.1	0.7	26.5	8.3	6.4	3.6	1.0	39.4	22.2	47.4
TOTAL INVERTS	165.7	155.0	326.8	118.9	227.5	257.2	221.4	117.6	316.6	224.8	135.3
OTHER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	1451.8	1040.6	965.3	1666.1	1231.2	1464.5	1269.4	1375.7	1315.5	1058.8	4850.1

Table A-1.--Station and catch data for the NOAA ship Chapman (cont'd).

HAUL #	89	90	91	92	93	95	96	97	98	99	100
MONTH/DAY/YEAR	7/ 4/83	7/ 5/83	7/ 5/83	7/ 5/83	7/ 5/83	7/ 6/83	7/ 6/83	7/ 6/83	7/ 6/83	7/ 7/83	7/ 7/83
LATITUDE START	57 50.7	57 40.3	57 30.8	57 21.1	57 10.7	56 59.6	56 50.7	56 40.4	56 20.4	56 0.8	55 40.6
LONGITUDE START	168 38.4	168 25.1	168 39.5	168 22.1	168 38.4	168 17.8	168 37.0	168 17.8	168 14.1	168 12.9	168 11.3
LATITUDE END	57 49.7	57 39.5	57 29.5	57 20.0	57 9.4	57 0.7	56 49.4	56 39.2	56 19.0	55 59.3	55 39.3
LONGITUDE END	168 40.6	168 22.7	168 37.9	168 20.4	168 37.0	168 19.4	168 38.2	168 16.6	168 14.9	168 13.1	168 10.1
LORAN START	34427.30	34484.10	34615.20	34631.00	34760.80	34749.00	34858.70			18468.00	
LORAN START	49417.80	49376.30	49498.00	49408.40	49532.70	49399.00	49523.60			49269.40	
LORAN END	34443.60	34483.80	34620.70	34633.10	34763.70	34749.20	34868.00			18459.40	
LORAN END	49434.90	49364.10	49491.80	49399.10	49524.10	49410.80	49530.00			49266.70	
GEAR DEPTH	73	73	73	77	79	84	99	110	154	154	139
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.89	2.91	2.76	2.78	2.89	2.83	2.78	2.54	2.85	2.93	2.76
PERFORMANCE / GEAR	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37
POLLOCK	22.3	367.0	7114.8	159.5	165.3	961.5	771.2	6231.9	865.6	542.3	995.8
PAC COD	27.7	339.2	96.6	6.3	13.4	24.6	20.4	0.0	75.1	174.9	155.0
PAC OC PERCH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ROCKFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HERRING	C.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	4.1
ATKA MACKEREL	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	6.4	28.9	46.7	6.3	10.2	4.8	53.3	63.6	0.7	0.0	0.0
EELPOUTS	C.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	1.3	1.7	16.1
OTHER RNDFISH	C.2	1.0	0.5	0.3	0.1	0.3	0.7	0.0	4.1	0.9	0.0
TOT ROUNDFISH	56.6	736.4	7258.5	172.3	189.0	991.1	846.0	6295.5	1.0	0.9	0.0
									950.0	720.7	1171.1
YELLOW SOLE	192.3	387.1	247.0	494.3	317.1	84.0	43.3	0.0	0.0	0.0	0.0
ROCK SOLE	12.2	31.9	51.7	86.5	50.8	22.5	9.1	0.0	15.0	1.8	2.9
FLATHEAD SOLE	19.7	36.2	7.6	6.3	4.1	0.0	20.4	14.0	110.2	55.3	57.1
ALASKA PLAICE	49.7	23.9	0.0	20.6	3.9	0.0	56.7	69.9	0.0	0.0	0.0
GREENLAND TBT	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.5
ARROWTOOTH FL	0.1	1.1	23.4	23.3	5.9	0.7	12.5	31.4	147.9	40.8	27.8
PAC HALIBUT	C.0	4.5	10.1	1.7	0.0	0.0	0.0	0.0	0.0	0.0	25.8
OTHER FLTFISH	C.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	10.0	1.8	1.5
TOT FLATFISH	275.1	485.2	339.7	632.9	381.7	107.2	142.0	115.3	283.0	99.8	131.5
SKATES	15.4	28.3	4.5	0.0	0.0	0.5	0.0	0.0	44.5	116.3	5.6
TOT ELASMOBRH	15.4	28.3	4.5	0.0	0.0	0.5	0.0	0.0	44.5	116.3	5.6
RED KING CRAB	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BLUE KING CRAB	3.3	18.1	1.0	3.2	3.4	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	C.0	0.0	0.0	0.0	3.6	8.2	3.2	1.0	99.7	2.3	0.8
TANNER, OPILIO	61.7	89.9	57.9	65.4	75.9	76.6	179.2	64.9	88.3	1.2	0.0
TANNER, HYBRID	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	34.6	26.1	10.0	1.5	8.3	0.0	9.3	26.7	1.1	4.1	2.0
SNAILS	31.9	50.1	0.0	0.5	0.7	0.7	12.6	21.6	1.7	1.4	2.6
SHRIMP	C.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
STARFISH	22.7	13.7	50.3	3.6	7.7	32.8	4.1	0.0	0.0	2.1	353.3
SQUID	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
OCTOPUS	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	51.5	227.2	571.2	527.5	0.3	6.8	11.3	63.6	0.3	21.1	5.7
TOTAL INVERTS	205.8	425.1	690.4	601.6	99.9	125.1	219.7	177.8	191.2	32.2	364.4
OTHER	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	552.9	1675.0	8293.1	1406.8	670.6	1224.0	1207.8	6588.6	1468.7	968.9	1672.7

Table A-1.--Station and catch data for the NOAA ship Chapman (cont'd).

HAUL #	102	104	105	106	107	108	109	110	111	112	113
MONTH/DAY/YEAR	7/ 7/83	7/ 8/83	7/ 8/83	7/ 8/83	7/ 8/83	7/ 9/83	7/ 9/83	7/ 9/83	7/ 9/83	7/10/83	7/10/83
LATITUDE START	56 21.8	56 40.4	56 49.9	56 59.3	57 10.0	57 19.5	57 29.1	57 39.3	57 49.7	57 59.3	58 19.3
LONGITUDE START	169 29.9	169 30.3	169 52.6	169 34.5	169 51.4	169 36.9	169 59.5	169 40.7	169 59.5	169 40.8	169 43.2
LATITUDE END	56 21.8	56 40.6	56 50.8	57 0.7	57 11.3	57 20.6	57 30.4	57 40.8	57 50.3	58 0.6	58 20.5
LONGITUDE END	169 28.8	169 29.5	169 55.1	169 33.5	169 52.1	169 35.8	170 1.0	169 41.2	170 1.8	169 42.1	169 44.3
LORAN START	18493.00	35058.10	35102.70	18714.80	35040.50	34911.60	34873.90	34716.40	34625.80	34482.10	34244.50
LORAN START	49757.30	49830.00	49985.50	35027.80	50021.50	49901.10	49977.50	49822.80	49841.60	49700.70	49585.70
LORAN END	18495.00	35055.70	35107.70	18720.40	35034.40	34897.60	34860.20	34700.10	34621.20	34469.20	34232.40
LORAN END	49751.50	49826.30	50001.90	35019.40	50024.20	49839.80	49975.10	49816.30	49846.40	49693.30	49584.80
GEAR DEPTH	137	80	75	62	51	64	70	73	75	73	71
DURATION IN HOURS	0.25	0.17	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	1.39	0.91	2.82	2.82	2.57	2.76	2.91	2.83	2.65	2.80	2.75
PERFORMANCE / GEAR	0 / 37	1 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37
POLLOCK	0.7	0.0	1431.1	10.8	0.0	42.7	27.9	40.5	90.8	287.1	330.4
PAC COD	61.2	26.4	79.2	23.2	71.5	43.4	20.6	21.7	12.7	73.0	33.0
PAC OC PERCH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ROCKFISH	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HERRING	0.0	0.0	0.0	0.0	0.0	0.2	15.8	0.1	0.1	5.2	4.5
ATKA MACKEREL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	8.7	332.7	203.2	35.4	180.1	133.9	111.0	24.2	7.1	31.5	51.8
EELPOUTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	3.4	0.2
OTHER RNDFISH	51.1	0.3	0.5	0.4	1.0	0.7	0.1	0.2	0.0	0.8	1.6
TOT ROUNDFISH	123.8	359.4	1713.9	69.9	252.6	220.9	175.4	86.7	111.5	401.1	451.5
YELLOW SOLE	0.0	24.2	376.5	178.9	33.7	229.2	106.6	496.3	154.7	197.3	225.9
ROCK SOLE	4.1	45.6	39.9	173.3	247.7	229.2	119.2	155.2	6.3	15.0	3.4
FLATHEAD SOLE	4.8	0.0	3.9	1.4	0.0	12.7	20.3	16.6	3.4	8.8	8.2
ALASKA PLAICE	0.0	0.0	6.4	4.5	0.0	109.7	44.3	262.0	39.5	73.5	76.7
GREENLAND TBT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	2.3	1.4	0.9
ARROWTOOTH FL	37.9	57.1	42.8	43.4	3.6	28.8	4.1	19.3	0.5	2.7	0.0
PAC HALIBUT	25.2	3.1	18.4	8.3	31.3	51.6	0.0	0.0	0.0	0.0	0.7
OTHER FLTFISH	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT FLATFISH	72.4	130.4	537.7	409.7	316.2	661.2	294.6	950.6	207.1	298.7	315.7
SKATES	12.0	0.0	32.1	9.8	0.0	3.3	8.9	16.6	13.2	16.6	0.1
TOT ELASMOBRH	12.0	0.0	32.1	9.8	0.0	3.3	8.9	16.6	13.2	16.6	0.1
RED KING CRAB	0.0	0.0	0.0	2.5	7.2	8.3	0.0	0.0	0.0	0.0	0.0
BLUE KING CRAB	0.0	0.0	9.1	34.5	628.3	17.6	34.7	13.8	12.8	4.1	0.0
TANNER, BAIRDI	0.6	0.1	18.8	13.2	0.0	37.9	3.9	0.1	0.1	0.0	0.0
TANNER, OPILIO	0.0	0.5	89.1	1.5	0.0	104.2	131.3	47.9	97.2	87.7	76.0
TANNER, HYBRID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	2.4	9.3	24.2	28.4	15.1	26.9	126.4	99.8	85.3	113.2	5.4
SNAILS	1.8	0.4	7.5	71.2	0.0	0.0	1.6	0.3	12.1	104.1	58.0
SHRIMP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
STARFISH	2.2	1.5	0.0	297.9	299.8	3.3	16.5	43.5	143.3	53.1	17.0
SQUID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCTOPUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	17.5	755.1	11.6	21.2	7.8	389.4	722.1	0.0	3.2	10.2	3.9
TOTAL INVERTS	24.4	767.0	160.2	470.3	958.1	587.5	1036.5	195.3	334.1	368.5	170.5
OTHER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	232.7	1256.8	2443.9	959.7	1527.0	1472.9	1515.4	1249.3	665.9	1084.8	937.8

Table A-1.--Station and catch data for the NOAA ship Chapman (cont'd).

HAUL #	114	115	116	117	118	119	120	121	122	123	124
MONTH/DAY/YEAR	7/10/83	7/10/83	7/11/83	7/11/83	7/11/83	7/11/83	7/12/83	7/12/83	7/12/83	7/12/83	7/12/83
LATITUDE START	58 39.4	58 59.3	59 19.3	59 39.6	59 59.2	60 19.2	61 0.2	60 40.5	60 20.6	60 0.5	59 40.4
LONGITUDE START	169 46.4	169 49.9	169 51.4	169 54.5	169 57.3	170 0.0	171 24.4	171 23.5	171 21.2	171 17.1	171 13.9
LATITUDE END	58 40.6	59 0.7	59 20.3	59 40.9	60 0.5	60 20.9	61 0.1	60 40.0	60 19.2	59 59.8	59 39.6
LONGITUDE END	169 47.9	169 50.6	169 51.5	169 55.7	169 57.6	170 4.3	171 27.4	171 25.8	171 20.7	171 19.4	171 16.8
LORAN START	34004.20	33764.40	33521.20	33276.30	33039.90	32797.50	32371.60		17878.50	17944.00	
LORAN START	49474.40	49367.20	49256.00	49152.30	49056.70	48958.90	48988.60		32838.60	33075.90	
LORAN END	33990.50	33748.20	33503.00	33260.80	33022.30	32780.70	32374.70		17883.50	17938.70	
LORAN END	49472.40	49361.60	49247.60	49149.00	49048.40	48963.60	48996.40		32855.50	33085.90	
GEAR DEPTH	70	66	62	59	57	53	62	66	70	71	75
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.82	2.78	2.83	2.79	2.93	2.67	2.69	2.85	2.72	2.70	2.63
PERFORMANCE / GEAR	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37
POLLOCK	49.8	80.5	261.7	163.0	135.1	254.6	34.7	43.1	137.0	80.3	22.6
PAC COD	62.7	41.4	253.1	99.7	77.9	52.9	43.1	31.1	88.5	26.3	32.7
PAC OC PERCH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ROCKFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HERRING	0.0	0.0	21.9	0.6	0.9	2.8	0.1	0.1	0.0	1.8	26.3
ATKA MACKEREL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	44.9	48.5	76.2	49.3	26.3	35.2	30.4	66.3	67.1	99.0	34.9
EELPOUTS	12.7	8.5	3.6	3.9	7.3	16.6	116.8	149.9	162.5	72.0	5.0
OTHER RNDFISH	2.1	14.1	17.7	15.2	4.6	2.9	0.7	8.1	6.9	9.1	4.6
TOT ROUNDFISH	172.2	193.0	634.3	331.7	252.1	365.0	225.8	298.6	462.0	279.6	126.1
YELLOW SOLE	778.9	463.8	773.7	450.1	338.4	353.6	15.9	30.8	198.4	142.9	64.4
ROCK SOLE	2.9	1.4	19.7	10.7	19.5	9.5	0.1	0.5	0.2	0.9	0.1
FLATHEAD SOLE	14.3	11.4	2.9	2.0	0.5	0.8	0.0	0.1	0.1	0.1	0.1
ALASKA PLAICE	118.4	275.6	410.5	665.7	791.7	196.9	24.7	70.1	88.0	147.4	182.1
GREENLAND TBT	0.1	0.0	0.1	2.4	0.0	0.1	0.1	0.1	0.0	1.4	0.1
ARROWTOOTH FL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HALIBUT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9
OTHER FLTFISH	0.0	0.0	19.2	20.6	1.2	8.7	4.1	23.7	25.7	15.9	10.5
TOT FLATFISH	914.6	752.3	1226.2	1151.6	1151.3	569.5	44.9	125.3	312.5	309.5	258.2
SKATES	5.2	6.4	4.5	14.3	3.7	3.8	0.0	2.3	9.5	4.1	5.4
TOT ELASMOBRN	5.2	6.4	4.5	14.3	3.7	3.8	0.0	2.3	9.5	4.1	5.4
RED KING CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BLUE KING CRAB	1.2	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, OPILIO	69.5	28.6	2.2	0.0	36.0	155.4	163.4	60.8	318.5	424.5	181.4
TANNER, HYBRID	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	56.3	107.1	14.3	129.1	126.2	95.5	0.1	0.9	1.1	22.8	4.3
SNAILS	56.9	44.8	14.6	79.6	79.0	152.6	1.8	0.7	17.9	34.1	11.3
SHRIMP	0.0	0.2	0.2	0.2	0.2	0.1	0.4	0.1	0.2	0.0	0.1
STARFISH	19.0	13.9	13.4	45.3	40.0	49.1	8.2	28.1	19.5	25.9	27.5
SQUID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCTOPUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	3.9	44.2	2.0	44.6	109.0	22.6	0.2	0.2	0.1	0.9	0.8
TOTAL INVERTS	208.7	238.8	46.7	298.7	391.9	475.4	174.1	90.8	357.3	508.1	225.4
OTHER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	1300.8	1190.4	1911.7	1796.3	1798.9	1413.7	444.8	517.0	1141.3	1101.4	615.2

Table A-1.--Station and catch data for the NOAA ship Chapman (cont'd).

HAUL #	125	126	127	128	129	130	131	132	133	134	135
MONTH/DAY/YEAR	7/13/83	7/13/83	7/13/83	7/13/83	7/13/83	7/14/83	7/14/83	7/14/83	7/14/83	7/14/83	7/15/83
LATITUDE START	59 20.7	58 59.1	58 40.5	58 20.6	58 0.4	57 40.8	57 20.9	57 0.7	56 40.6	56 20.7	56 40.1
LONGITUDE START	171 11.6	171 10.0	171 10.7	171 2.4	170 59.3	170 53.8	170 52.7	170 48.1	170 45.0	170 41.7	171 58.5
LATITUDE END	59 19.4	58 57.8	58 39.5	58 19.4	57 59.9	57 39.2	57 20.5	56 59.5	56 39.6	56 19.6	56 40.1
LONGITUDE END	171 10.4	171 8.4	171 8.4	171 0.7	170 57.2	170 54.1	170 50.1	170 46.6	170 43.5	170 39.8	171 56.2
LORAN START	18074.30	18144.60	34030.10	18294.70	18372.00	18458.00	18507.50	18504.30	18398.00		17957.10
LORAN START	33550.50	49606.50	49718.40	34267.90	34506.00	34736.30	34945.10	35096.60	35126.30		34992.50
LORAN END	18082.50	18154.40	34042.20	18305.60	18383.20	18461.20	18523.50	18508.30	18398.10		17961.40
LORAN END	33565.90	49610.40	49719.20	34282.90	34514.10	34753.00	34954.00	35094.30	35128.50		34997.30
GEAR DEPTH	79	80	86	86	90	88	86	97	115	123	130
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.74	2.78	2.76	2.76	2.76	2.80	2.69	2.76	2.67	2.83	2.70
PERFORMANCE / GEAR	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37
POLLOCK	64.4	37.5	126.3	230.2	657.3	184.8	1264.3	160.6	6.1	73.5	73.0
PAC COD	39.0	17.7	23.6	69.4	33.5	3.7	15.3	37.9	157.6	85.5	55.4
PAC OC PERCH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ROCKFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	1.6
PAC HERRING	7.7	0.9	6.4	2.3	8.8	5.2	65.1	0.7	0.0	0.0	0.0
ATKA MACKEREL	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	40.4	12.8	19.6	26.3	121.5	32.4	126.5	24.0	30.0	6.6	5.1
EELPOUTS	11.8	11.8	6.6	7.5	7.0	0.6	0.0	1.4	0.0	0.0	0.1
OTHER RNDFISH	1.9	0.2	0.2	0.0	11.1	0.1	1.9	20.6	17.8	0.4	0.2
TOT ROUNDFISH	165.2	80.8	182.6	335.7	839.5	226.7	1473.2	245.1	212.4	165.9	115.4
YELLOW SOLE	136.3	153.2	73.7	105.5	81.0	36.1	29.8	3.6	0.5	0.0	0.0
ROCK SOLE	0.3	2.0	1.1	19.1	15.0	10.3	23.9	0.0	0.0	0.0	1.6
FLATHEAD SOLE	0.2	5.0	6.1	18.6	36.6	18.4	14.0	89.8	67.1	55.8	16.8
ALASKA PLAICE	103.9	56.7	24.9	119.1	88.0	18.1	8.5	20.4	0.0	0.0	0.0
GREENLAND TBT	0.1	0.1	1.9	7.3	4.4	2.2	0.0	0.5	0.0	0.0	0.0
ARROWTOOTH FL	0.0	0.0	0.0	0.0	37.2	7.4	10.3	48.1	43.8	55.8	22.9
PAC HALIBUT	0.0	0.0	0.0	0.8	1.1	5.8	19.4	2.9	12.7	22.2	0.0
OTHER FLTFISH	8.3	7.0	2.6	0.0	0.0	0.3	0.7	0.0	5.0	1.4	6.0
TOT FLATFISH	249.6	224.0	110.4	270.2	263.3	98.5	106.5	165.2	129.0	135.1	47.3
SKATES	4.3	1.8	19.5	8.2	66.0	149.1	46.0	29.9	39.5	12.9	4.5
TOT ELASMOBRH	4.3	1.8	19.5	8.2	66.0	149.1	46.0	29.9	39.5	12.9	4.5
RED KING CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BLUE KING CRAB	0.0	0.0	0.0	5.9	8.2	7.9	0.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	0.0	0.0	0.0	0.1	0.9	1.3	15.0	4.8	35.2	32.9	32.0
TANNER, OPILIO	267.0	111.8	154.8	59.0	242.2	140.5	547.2	54.6	15.0	0.9	0.0
TANNER, HYBRID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	4.8	6.6	3.6	0.1	11.7	2.8	7.3	11.3	11.7	9.1	21.2
SNAILS	61.6	169.3	32.3	32.8	73.9	324.2	61.2	60.6	9.2	10.3	9.7
SHRIMP	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.3	0.0	0.3
STARFISH	12.9	32.0	13.4	352.5	30.8	8.8	444.2	11.3	64.0	291.8	586.5
SQUID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
OCTOPUS	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	3.8
OTHER INVERTS	1.6	0.5	2.2	5.0	31.7	71.4	83.1	22.7	0.7	3.2	0.8
TOTAL INVERTS	348.2	320.4	206.4	455.5	399.3	557.0	1177.9	165.2	136.0	348.2	654.3
OTHER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	767.2	627.1	519.0	1069.6	1568.3	1031.4	2803.6	605.6	516.9	652.2	821.5

Table A-1.--Station and catch data for the NOAA ship Chapman (cont'd).

HAUL #	136	137	138	139	140	141	142	143	144	145	146
MONTH/DAY/YEAR	7/15/83	7/15/83	7/15/83	7/15/83	7/16/83	7/16/83	7/16/83	7/16/83	7/16/83	7/17/83	7/17/83
LATITUDE START	56 59.5	57 19.4	57 39.4	57 59.6	58 19.5	58 39.4	58 59.4	59 19.4	59 29.6	59 39.2	59 50.7
LONGITUDE START	172 1.8	172 4.5	172 8.9	172 15.3	172 15.6	172 21.6	172 25.0	172 30.7	172 48.9	172 34.5	172 51.5
LATITUDE END	57 1.0	57 20.3	57 40.0	58 0.4	58 20.1	58 40.6	59 0.5	59 20.6	59 30.9	59 40.6	59 49.6
LONGITUDE END	172 3.1	172 6.5	172 11.3	172 13.4	172 18.4	172 19.9	172 23.3	172 29.0	172 47.6	172 33.7	172 53.4
LORAN START	18024.30	18051.40	18035.00	17985.00	17955.70	17891.10	17836.50	17771.30	17675.30	17715.30	17626.00
LORAN START	34907.80	34782.60	34616.40	34419.50	34218.10	34000.80	33780.50	33554.90	33435.10	33332.70	33200.00
LORAN END	18020.70	18039.90	18020.00	17994.40	17940.30	17896.90	17841.90	17776.30	17678.20	17715.30	17620.70
LORAN END	34897.20	34771.50	34605.80	34414.50	34208.90	33989.80	33768.80	33542.50	33421.10	33316.60	33212.70
GEAR DEPTH	121	112	112	108	106	104	101	91	95	88	82
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.80	2.78	2.74	2.78	2.87	2.76	2.78	2.78	2.87	2.72	2.72
PERFORMANCE / GEAR	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37
POLLOCK	1284.2	2602.3	3105.1	2930.7	750.0	601.2	392.8	3008.3	2586.0	2037.2	747.1
PAC COD	52.3	12.7	92.8	95.2	75.3	251.5	102.1	36.7	316.3	292.3	73.3
PAC OC PERCH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RCKFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HERRING	0.0	0.0	0.3	0.4	0.1	0.2	0.1	0.0	0.3	0.0	0.2
ATKA MACKEREL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	9.7	0.0	34.6	0.1	11.0	13.5	27.5	13.2	0.1	39.2	6.9
EELPOUTS	0.8	0.5	1.9	0.0	2.7	2.9	6.9	104.7	48.1	45.9	48.0
OTHER RNDFISH	0.3	0.9	0.4	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.1
TOT ROUNDFISH	1347.3	2616.4	3235.1	3026.7	839.4	869.5	529.5	3162.9	3050.9	2414.7	895.6
YELLOW SOLE	0.0	0.0	0.0	0.0	0.0	2.9	14.5	132.8	22.7	137.1	197.6
ROCK SOLE	0.8	25.3	1.3	0.0	3.2	0.6	1.8	0.5	1.3	12.1	12.0
FLATHEAD SOLE	34.7	17.7	22.5	29.1	9.8	10.9	12.2	17.9	6.7	4.5	0.0
ALASKA PLAICE	0.0	10.1	0.0	0.0	10.9	16.1	0.5	21.6	2.7	244.1	277.1
GREENLAND TBT	0.0	4.2	5.3	16.5	28.6	24.0	15.0	6.0	8.7	15.1	2.8
ARROWTOOTH FL	23.9	24.4	38.5	4.6	13.6	3.2	0.1	0.0	0.0	0.0	0.0
PAC HALIBUT	2.9	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER FLTFISH	0.4	1.4	0.0	0.0	0.4	0.0	6.4	56.6	22.7	34.7	87.3
TOT FLATFISH	62.8	83.1	67.6	51.4	66.4	57.7	50.4	235.4	64.8	447.6	575.7
SKATES	0.0	14.3	33.2	35.7	12.2	31.8	2.3	43.2	0.0	39.2	12.9
TOT ELASMOBRH	0.0	14.3	33.2	35.7	12.2	31.8	2.3	43.2	0.0	39.2	12.9
RED KING CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BLUE KING CRAB	0.0	0.0	4.4	0.0	1.8	0.0	0.0	2.0	12.8	0.0	5.9
TANNER, BAIRDI	66.0	32.5	10.8	4.6	8.7	6.1	0.9	0.0	0.0	0.0	0.0
TANNER, OPILIO	122.0	196.1	142.2	44.9	19.5	17.6	62.6	19.8	10.7	18.6	3.4
TANNER, HYBRID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	8.4	3.0	7.2	8.3	2.0	8.6	4.5	11.0	2.0	27.7	94.3
SNAILS	7.7	0.5	35.6	70.9	62.8	45.9	22.0	66.4	9.4	43.5	160.2
SHRIMP	0.2	0.0	0.1	0.3	0.4	0.7	0.1	0.5	0.0	0.0	0.2
STARFISH	15.5	16.9	39.2	15.5	14.7	24.3	19.4	65.9	9.3	63.6	4.2
SQUID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCTOPUS	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	3.4	0.0	4.2
OTHER INVERTS	0.4	0.0	0.0	0.3	1.3	0.9	0.3	0.2	0.0	0.6	0.4
TOTAL INVERTS	220.2	249.0	239.7	144.3	111.3	104.0	109.7	166.0	47.6	154.0	273.3
OTHER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	1630.3	2962.9	3575.6	3258.6	1029.3	1062.9	692.0	3607.5	3163.3	3055.4	1758.5

Table A-1.--Station and catch data for the NOAA ship Chapman (cont'd).

HAUL #	147	148	149	150	151	152	153	154	155	156	157
MONTH/DAY/YEAR	7/17/83	7/17/83	7/18/83	7/18/83	7/27/83	7/27/83	7/27/83	7/27/83	7/27/83	7/28/83	7/28/83
LATITUDE START	59 58.1	60 10.6	60 58.9	60 40.7	56 59.1	57 19.5	57 41.7	57 59.4	58 19.6	58 39.6	58 59.2
LONGITUDE START	172 42.6	172 59.7	172 48.3	172 42.3	173 16.7	173 19.4	173 24.7	173 29.0	173 32.7	173 37.7	173 42.1
LATITUDE END	59 57.3	60 10.0	61 0.4	60 39.3	57 0.1	57 20.8	57 43.1	58 0.8	58 20.7	58 40.8	59 0.5
LONGITUDE END	172 44.9	172 59.6	172 47.3	172 42.1	173 14.5	173 20.4	173 24.2	173 29.5	173 34.6	173 39.1	173 43.4
LORAN START	17647.50	17558.60	17513.80	17567.30	17535.80	17571.50	17572.30	17559.50	17540.50	17506.10	17470.90
LORAN START	33119.00	32978.00	32435.30	32637.90	34729.50	34606.20	34439.10	34289.90	34107.20	33912.60	33716.20
LORAN END	17640.00	17560.40	17513.00	17570.70	17553.20	17567.60	17577.00	17557.10	17529.70	17498.20	17463.20
LORAN END	33128.10	32985.50	32418.90	32654.50	34729.70	34595.50	34429.30	34276.50	34094.20	33899.30	33701.90
GEAR DEPTH	68	62	63	46	148	124	150	121	119	130	121
DURATION IN HOURS	0.50	0.25	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.65	1.28	2.78	2.60	2.78	2.78	2.76	2.82	2.72	2.74	2.76
PERFORMANCE / GEAR	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37
POLLOCK	1605.2	9.8	110.7	64.4	434.5	58.5	2239.5	83.0	2855.9	818.9	1687.2
PAC COD	117.0	13.4	156.3	624.8	92.5	24.9	116.1	43.5	201.8	65.8	386.9
PAC OC PERCH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RCKFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	C.0	0.0	0.0	0.0	24.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HERRING	10.7	0.0	4.5	4.3	0.0	0.0	0.0	0.0	11.2	0.5	1.2
ATKA MACKEREL	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	219.4	96.7	75.3	7.0	0.0	13.2	0.3	5.9	42.7	1.8	1.0
EELPOUTS	21.3	11.3	377.4	9.1	0.0	0.2	0.0	0.0	1.2	1.8	0.8
OTHER GNDFISH	14.7	2.5	5.1	0.5	0.3	0.3	0.8	0.5	0.0	2.9	2.3
TOT ROUNDFISH	1988.2	139.6	729.3	710.1	551.4	97.2	2356.6	133.0	3112.9	891.7	2079.3
YELLOW SOLE	155.6	11.3	12.5	20.9	0.0	0.0	0.0	0.0	0.0	0.0	0.8
ROCK SOLE	22.6	8.6	0.0	13.2	5.9	0.0	0.0	9.1	37.4	9.3	1.0
FLATHEAD SOLE	C.0	0.0	0.0	0.0	120.2	148.8	15.5	17.2	34.9	324.8	2.1
ALASKA PLAICE	432.2	2.7	9.3	147.0	0.0	0.0	0.0	0.0	6.2	6.3	21.5
GREENLAND TBT	C.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.2
ARROWTOOTH FL	C.3	0.0	0.0	0.0	78.0	15.9	27.9	30.8	27.4	32.6	25.7
PAC HALIBUT	C.0	0.0	0.0	4.8	0.0	4.3	0.0	1.8	9.3	0.9	0.0
OTHER FLTFISH	12.1	0.0	59.3	10.9	27.0	22.2	13.9	20.6	12.4	19.5	37.3
TOT FLATFISH	622.8	23.1	81.7	196.7	231.1	191.2	57.2	79.6	127.5	393.3	116.6
SKATES	4.0	4.5	0.0	11.8	35.2	15.9	88.2	49.9	23.7	87.8	19.1
TOT ELASMOBRH	4.0	4.5	0.0	11.8	35.2	15.9	88.2	49.9	23.7	87.8	19.1
RED KING CRAB	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BLUE KING CRAB	6.9	50.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	C.0	0.0	0.0	0.0	0.9	88.0	98.0	80.3	69.4	31.3	1.4
TANNER, OPILIO	134.7	0.6	17.5	0.4	0.0	0.0	0.0	0.7	8.6	49.0	15.1
TANNER, HYBRID	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	48.3	3.5	1.1	17.3	0.0	0.1	0.1	0.0	0.0	0.0	0.3
SNAILS	17.0	3.5	0.4	14.3	5.5	11.0	3.4	9.9	41.8	34.7	61.8
SHRIMP	C.3	0.4	0.2	0.1	0.2	0.1	0.0	0.2	0.1	0.2	0.4
STARFISH	9.6	8.5	8.2	1.6	0.4	0.6	0.0	1.5	5.0	3.7	15.1
SQUID	C.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.2
OCTOPUS	C.0	0.0	0.0	0.0	0.0	9.5	0.1	0.0	0.1	0.0	4.5
OTHER INVERTS	13.3	7.9	0.3	0.3	0.2	0.0	0.0	0.2	0.9	0.6	3.8
TOTAL INVERTS	230.2	74.5	28.1	34.0	7.4	109.4	101.6	92.7	126.0	119.5	102.6
OTHER	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	2845.1	240.7	839.1	952.6	825.1	413.7	2603.7	355.2	3390.1	1492.3	2317.5

Table A-1.--Station and catch data for the NOAA ship Chapman (cont'd).

HAUL #	158	159	160	161	162	163	164	165	166	167	168
MONTH/DAY/YEAR	7/28/83	7/28/83	7/28/83	7/29/83	7/29/83	7/29/83	7/29/83	7/29/83	7/30/83	7/30/83	7/30/83
LATITUDE START	59 19.5	59 38.6	59 49.4	59 59.6	60 9.6	60 19.3	60 39.3	60 59.0	60 40.3	60 20.6	60 0.7
LONGITUDE START	173 46.8	173 51.1	174 13.3	173 55.7	174 19.7	174 5.0	174 7.4	174 11.2	175 25.4	175 23.0	175 16.0
LATITUDE END	59 20.3	59 38.5	59 50.5	60 0.4	60 10.3	60 20.4	60 40.9	61 0.4	60 39.6	60 19.2	59 59.2
LONGITUDE END	173 49.4	173 53.9	174 15.2	173 58.4	174 22.2	174 2.9	174 7.8	174 11.6	175 28.0	175 23.4	175 16.1
LORAN START	17430.30	17391.90	17283.70	17349.70	17239.40	17290.40	17259.60	17224.30	16952.20	16966.70	17000.80
LORAN START	33507.70	33308.90	33185.60	33087.30	32976.70	32878.90	32664.40	32462.60	32655.40	32847.10	33043.10
LORAN END	17417.70	17379.50	17274.40	17337.40	17228.30	17297.40	17256.50	17221.50	16941.80	16965.40	17000.80
LORAN END	33497.60	33307.70	33173.90	33078.80	32968.60	32867.60	32653.00	32447.40	32661.70	32860.80	33057.20
GEAR DEPTH	113	108	110	101	102	93	90	86	112	115	121
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.74	2.80	2.76	2.76	2.78	2.82	2.76	2.78	2.76	2.74	2.78
PERFORMANCE / GEAR	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37
POLLOCK	1075.6	312.5	1109.0	1375.5	2234.7	2820.0	2300.7	227.2	646.4	438.3	343.1
PAC COD	114.9	249.9	177.4	145.3	122.5	71.5	50.1	210.5	53.5	79.8	69.5
PAC OC PERCH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ROCKFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HERRING	0.0	4.5	3.3	0.8	1.8	3.3	0.0	0.7	0.0	0.0	0.0
ATKA MACKEREL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	57.4	1.1	1.1	0.2	1.5	8.7	4.8	11.0	4.5	2.1	3.3
EELPOUTS	3.6	22.5	35.3	4.8	74.5	13.4	15.7	38.6	11.8	39.0	27.7
OTHER RNDFISH	0.6	0.3	0.2	0.1	0.0	0.1	0.1	0.7	1.6	0.7	0.5
TOT ROUNDFISH	1252.0	590.9	1326.3	1526.8	2435.0	2917.0	2381.4	488.8	717.7	559.5	444.3
YELLOW SOLE	2.1	0.6	0.0	1.0	0.8	25.4	3.7	5.0	0.0	0.0	0.0
ROCK SOLE	13.7	0.7	0.3	0.6	0.9	5.9	0.0	4.3	0.3	0.4	0.9
FLATHEAD SOLE	28.1	0.0	0.6	10.8	10.1	0.0	0.0	0.0	2.9	4.1	2.5
ALASKA PLAICE	176.5	0.0	2.0	1.0	10.8	16.2	0.0	1.0	0.0	1.0	0.0
GREENLAND TBT	36.9	10.4	9.0	11.4	12.0	4.9	0.1	3.2	38.1	17.7	26.1
ARROWTOOTH FL	6.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	3.2
PAC HALIBUT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0
OTHER FLTFISH	6.5	0.0	2.4	23.9	36.0	24.0	24.9	42.6	44.5	7.7	2.1
TOT FLATFISH	270.2	12.2	14.5	48.9	70.4	76.4	28.7	56.2	85.8	33.2	34.7
SKATES	86.7	0.7	0.0	4.0	2.3	42.0	0.0	37.0	0.4	35.4	27.7
TOT ELASMOBRH	86.7	0.7	0.0	4.0	2.3	42.0	0.0	37.0	0.4	35.4	27.7
RED KING CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BLUE KING CRAB	2.3	12.2	13.2	33.6	33.6	2.3	2.3	2.7	1.8	2.3	0.0
TANNER, BAIRDI	1.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, OPILIO	370.6	15.0	18.6	296.6	17.8	0.1	142.0	161.5	70.3	49.9	57.1
TANNER, HYBRID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	0.1	0.6	1.6	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.6
SNAILS	107.6	39.2	122.0	2.1	37.3	0.5	0.0	0.3	18.3	30.8	23.8
SHRIMP	2.4	4.9	4.5	0.1	1.0	0.0	0.0	0.1	2.9	3.0	3.2
STARFISH	12.5	20.5	57.1	0.8	19.3	0.0	1.4	2.0	12.6	22.1	65.2
SQUID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCTOPUS	0.0	0.0	0.0	5.2	0.0	0.0	0.0	0.0	2.9	0.0	0.1
OTHER INVERTS	2.0	1.2	2.8	0.0	7.7	7.8	15.7	2.6	1.8	1.8	1.7
TOTAL INVERTS	498.9	93.8	219.8	338.4	116.8	10.7	161.3	169.3	110.3	110.0	161.7
OTHER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	2107.8	697.5	1560.6	1918.0	2624.4	3046.2	2571.4	751.2	914.7	738.4	658.4

Table A-1.--Station and catch data for the NOAA ship Chapman (cont'd).

HAUL #	169	170	171	172	173	174	175	176	177	178	179
MONTH/DAY/YEAR	7/30/83	7/30/83	7/31/83	7/31/83	7/31/83	7/31/83	8/ 1/83	8/ 1/83	8/ 1/83	8/ 1/83	8/ 1/83
LATITUDE START	59 40.5	59 20.7	58 59.8	58 44.3	58 40.1	58 58.9	59 19.7	59 39.1	59 59.1	60 19.1	60 39.0
LONGITUDE START	175 11.6	175 6.5	174 58.0	174 54.1	176 10.3	176 19.5	176 21.8	176 33.6	176 37.0	176 43.0	176 47.7
LATITUDE END	59 39.2	59 19.3	59 0.4	58 43.3	58 40.3	59 0.1	59 21.0	59 40.4	60 0.5	60 20.5	60 40.4
LONGITUDE END	175 12.3	175 5.8	175 0.6	174 52.1	176 13.1	176 17.5	176 20.9	176 32.3	176 35.8	176 41.5	176 46.9
LORAN START	17022.70	17046.60	17084.90	17099.50	16681.80	16659.50	16672.30	16633.60	16635.00	16622.30	16614.50
LORAN START	33238.10	33427.70	33628.10	33770.10	33701.20	33538.90	33364.20	33188.00	33011.40	32831.00	32651.00
LORAN END	17019.50	17049.60	17071.70	17109.80	16667.20	16671.30	16678.20	16640.90	16641.60	16629.60	16613.30
LORAN END	33250.00	33441.50	33619.70	33780.80	33695.20	33531.70	33353.60	33178.00	32999.50	32819.00	32638.80
GEAR DEPTH	128	137	134	155	143	137	139	139	144	141	134
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.76	2.74	2.78	2.74	2.67	2.82	2.72	2.78	2.85	2.83	2.78
PERFORMANCE / GEAR	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37	0 / 37
POLLOCK	845.5	680.9	328.4	1467.1	11.8	158.8	185.4	219.3	265.9	353.3	516.1
PAC COD	195.4	89.8	20.4	213.0	39.5	64.9	176.4	178.7	235.9	58.5	181.0
PAC OC PERCH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ROCKFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HERRING	C.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ATKA MACKEREL	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	1.4	0.8	12.4	0.0	0.1	1.3	2.8	3.2	0.6	0.6	0.7
EELPOUTS	20.6	5.7	5.2	0.0	0.4	0.2	15.4	36.7	71.4	25.4	10.0
OTHER RNDFISH	C.3	0.7	7.5	1.4	0.4	0.1	0.3	0.7	0.1	2.0	1.0
TOT ROUNDFISH	1063.3	778.3	373.9	1681.5	52.1	225.3	380.4	438.7	573.9	439.9	708.8
YELLOW SOLE	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROCK SOLE	C.0	1.0	0.9	45.0	2.3	0.0	0.0	0.0	0.2	0.0	0.0
FLATHEAD SOLE	5.4	0.4	109.3	23.5	50.3	60.8	12.7	1.8	45.3	2.3	0.2
ALASKA PLAICE	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GREENLAND TBT	21.8	3.6	0.0	0.0	0.0	3.2	19.1	2.9	8.4	17.7	27.7
ARROWTOOTH FL	6.8	2.8	18.1	47.0	15.9	0.7	0.0	0.0	0.0	0.0	0.0
PAC HALIBUT	C.0	0.0	0.0	9.3	0.0	0.0	0.0	1.2	0.0	0.0	0.0
OTHER FLTFISH	5.9	6.4	29.5	9.1	10.4	8.6	3.6	6.4	7.5	3.4	1.8
TOT FLATFISH	39.9	14.2	158.3	133.9	78.9	73.3	35.4	12.2	61.9	23.4	29.7
SKATES	18.4	16.3	38.6	47.0	63.5	0.0	0.8	13.4	11.8	9.5	1.4
TOT ELASMOBRH	18.4	16.3	38.6	47.0	63.5	0.0	0.8	13.4	11.8	9.5	1.4
RED KING CRAB	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BLUE KING CRAB	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	C.9	0.9	7.3	9.9	48.1	1.8	3.2	0.5	0.1	0.0	0.0
TANNER, OPILIO	174.2	47.6	2.3	0.0	7.3	2.3	C.0	2.7	9.1	29.9	58.1
TANNER, HYBRID	C.0	0.0	0.0	0.0	0.0	0.0	C.0	0.0	0.0	0.0	0.0
OTHER CRAB	C.1	0.1	0.3	0.0	0.0	0.2	1.1	1.0	0.1	0.1	0.1
SNAILS	93.6	62.7	34.6	3.9	7.5	19.7	30.5	14.6	16.7	37.1	17.0
SHRIMP	2.4	1.3	0.2	0.0	0.0	0.3	0.6	9.1	8.2	3.6	1.6
STARFISH	27.6	21.6	52.2	1.9	1.7	3.1	254.9	88.7	80.0	163.3	44.5
SQUID	C.0	0.0	0.2	0.0	0.0	0.0	0.5	0.1	0.0	0.0	0.0
OCTOPUS	C.1	0.0	1.4	4.0	0.1	0.0	1.5	0.0	0.0	0.1	0.0
OTHER INVERTS	1.0	1.9	9.4	1.0	1.4	2.5	2.7	1.7	0.5	2.8	0.7
TOTAL INVERTS	299.9	136.1	107.7	20.7	66.0	29.9	295.1	118.4	114.3	237.0	122.0
OTHER	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	1421.5	944.9	678.5	1833.1	260.6	328.5	711.7	582.6	762.3	709.8	861.8

Table A-2.--Station and catch data for the chartered ship Alaska.

HAUL #	1	2	3	4	5	6	7	8	9	10	11
MONTH/DAY/YEAR	6/ 7/83	6/ 7/83	6/ 7/83	6/ 7/83	6/ 7/83	6/ 8/83	6/ 8/83	6/ 8/83	6/ 8/83	6/ 9/83	6/ 9/83
LATITUDE START	57 18.9	57 39.3	57 59.3	58 0.1	57 41.1	57 20.4	57 0.7	56 40.0	56 58.7	57 19.8	57 40.1
LONGITUDE START	158 25.2	158 20.8	158 19.5	158 56.7	159 0.7	159 3.2	159 6.6	160 21.1	160 19.5	160 18.5	160 16.0
LATITUDE END	57 20.1	57 40.6	57 59.5	58 0.1	57 40.1	57 19.4	56 59.7	56 39.7	57 0.2	57 20.8	57 41.5
LONGITUDE END	158 22.9	158 20.7	158 22.0	158 59.6	158 59.2	159 4.7	159 8.6	160 24.0	160 19.3	160 20.1	160 15.7
LORAN START	32996.30	32877.20	32759.60	32826.20	32945.80	33066.50	33177.40	33448.70	33349.30	33233.10	33109.70
LORAN START	45422.60	45394.70	45339.30	45637.70	45659.70	45677.20	45705.00	46212.50	46194.20	46180.50	46159.50
LORAN END	32985.30	32869.30	32765.40	32831.70	32949.20	33074.80	33186.90	33456.70	33341.50	33231.00	33101.20
LORAN END	45407.40	45394.10	45410.20	45656.30	45649.80	45686.90	45719.00	46232.10	46192.20	46190.80	46157.40
GEAR DEPTH	29	35	33	40	46	48	33	57	64	62	55
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	3.20	2.54	2.59	2.80	2.54	2.32	2.78	3.02	2.76	2.46	2.46
PERFORMANCE / GEAR	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38
POLLOCK	0.1	0.9	3.9	12.6	3817.8	1542.9	0.0	1346.6	768.2	3.6	10.9
PAC COD	217.3	204.6	231.2	233.1	88.1	235.1	55.0	482.7	100.0	51.8	58.1
PAC OC PERCH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ROCKFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HERRING	0.0	90.3	0.0	17.2	0.0	211.5	8.9	0.0	20.1	0.7	11.3
ATKA MACKEREL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	32.7	3.6	10.0	6.4	12.1	22.3	24.8	0.8	2.4	0.0	0.0
EELPOUTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER GNDFISH	0.3	0.1	1.8	0.4	0.9	2.0	1.2	0.5	0.2	1.3	1.5
TOT ROUNDFISH	250.3	299.5	246.9	269.8	3918.9	2013.7	89.9	1830.5	890.8	57.4	61.8
YELLOW SOLE	415.9	152.9	1171.7	63.0	350.1	106.5	226.8	1217.5	199.9	2978.7	284.9
ROCK SOLE	435.0	114.3	203.5	58.1	176.1	215.7	598.1	376.6	264.3	180.3	137.3
FLATHEAD SOLE	0.0	0.0	0.0	0.2	0.2	8.3	0.6	1.5	20.8	6.1	18.1
ALASKA PLAICE	0.2	0.0	2.0	0.0	0.0	0.0	0.3	0.0	2.6	17.9	2.5
GREENLAND TBT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARROWTOOTH FL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HALIBUT	19.9	18.1	10.6	8.7	0.0	16.5	90.7	2.9	15.3	3.4	21.3
OTHER FLTFISH	9.5	4.6	6.7	10.8	9.9	4.1	44.5	15.7	11.6	23.2	20.0
TOT FLATFISH	880.5	289.9	1394.5	140.7	536.4	351.0	961.0	1614.2	514.5	3209.6	534.1
SKATES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3
TOT ELASMOBRH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3
RED KING CRAB	0.0	0.7	5.0	0.1	0.7	8.6	0.0	1.8	27.0	15.9	27.0
BLUE KING CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	0.0	0.0	0.0	0.0	0.0	0.2	0.5	1.0	8.4	12.2	3.2
TANNER, OPILIO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.8	3.9	1.5
TANNER, HYBRID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	2.9	0.2	8.7	0.1	0.0	0.8	6.0	3.7	0.3	4.1	1.7
SNAILS	0.1	0.0	1.5	0.0	0.0	0.0	0.1	0.0	0.0	4.3	4.3
SHRIMP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STARFISH	94.3	159.2	129.4	48.1	44.0	565.4	438.7	233.6	116.1	53.6	3.9
SQUID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCTOPUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	4.0	15.5	1.9	2.9	3.8	23.3	3.4	78.8	71.4	72.3	39.5
TOTAL INVERTS	101.4	175.6	146.5	51.2	48.5	598.4	448.7	319.8	225.0	166.2	81.0
OTHER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	1232.2	765.0	1787.9	461.7	4503.7	2963.2	1499.5	3764.5	1630.3	3433.2	678.7

Table A-2.--Station and catch data for the chartered ship Alaska (cont'd).

HAUL #	12	14	15	16	17	18	19	20	21	22	23
MONTH/DAY/YEAR	6/ 9/83	6/10/83	6/11/83	6/11/83	6/11/83	6/11/83	6/11/83	6/12/83	6/12/83	6/12/83	6/13/83
LATITUDE START	57 59.5	58 14.9	58 19.4	58 0.7	57 41.0	57 20.8	57 0.3	56 40.4	56 20.9	56 40.2	55 59.5
LONGITUDE START	160 13.3	160 5.2	161 23.8	161 28.1	161 29.3	161 31.4	161 32.3	161 35.1	161 35.7	162 49.1	162 49.2
LATITUDE END	58 0.7	58 13.4	58 19.4	57 59.4	57 39.5	57 19.3	56 59.3	56 39.2	56 19.8	55 39.5	56 0.7
LONGITUDE END	160 13.2	160 6.2	161 26.8	161 29.5	161 30.3	161 33.2	161 34.2	161 36.1	161 37.3	162 51.6	162 50.2
LORAN START	32985.30	32869.60	33005.00	33142.40	33272.00	33398.80	33516.10	33626.10	33721.00	34079.20	34005.20
LORAN START	46139.60	46087.40	46594.60	46630.10	46645.80	46666.10	46681.80	46707.30	46717.60	47105.00	47207.50
LORAN END	32977.70	32881.50	33012.10	33153.80	33283.50	33411.60	33526.30	33634.50	33730.40	34088.40	34002.70
LORAN END	46139.00	46093.80	46614.20	46639.60	46653.30	46680.40	46695.00	46714.20	46728.30	47221.20	47214.00
GEAR DEPTH	49	27	35	55	53	55	68	91	66	51	80
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.19	2.98	2.96	2.69	2.89	3.24	2.70	2.43	2.74	2.96	2.52
PERFORMANCE / GEAR	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38
POLLOCK	42.1	0.0	0.0	606.9	17.7	599.0	39.0	1697.7	318.5	550.3	2167.5
PAC COD	298.2	165.7	1035.2	174.9	37.0	6.2	31.3	94.0	27.9	66.5	111.8
PAC OC PERCH	C.0	0.0	0.0	0.0	0.0	0.0	C.0	0.0	0.0	0.0	0.0
OTHER ROCKFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
SABLEFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HERRING	C.0	0.0	61.1	23.2	0.0	8.6	C.0	1.0	0.0	0.0	0.0
ATKA MACKEREL	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	11.2	33.9	16.7	36.8	0.0	0.1	6.1	0.0	3.3	6.4	15.6
EELPOUTS	C.0	0.0	0.0	0.0	0.0	0.0	C.0	0.0	0.0	0.0	0.0
OTHER GNDFISH	1.5	2.6	0.9	8.3	0.5	1.3	0.2	0.3	2.4	3.9	0.4
TOT ROUNDFISH	353.0	202.3	1163.9	850.2	55.1	615.2	76.6	1795.1	351.9	627.1	2295.3
YELLOW SOLE	731.1	1752.2	559.5	728.0	747.6	603.9	275.3	132.8	906.3	994.8	505.7
ROCK SOLE	119.4	112.9	80.2	102.0	81.4	86.3	108.2	71.0	465.0	1438.2	97.8
FLATHEAD SOLE	27.6	0.0	0.0	7.9	20.3	67.8	13.6	73.5	49.1	98.6	90.2
ALASKA PLAICE	3.8	0.0	6.8	16.6	12.6	32.0	43.5	26.6	5.7	9.8	71.2
GREENLAND TBT	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARROWTOOTH FL	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	10.8	10.8
PAC HALIBUT	26.3	15.6	0.0	1.1	2.4	0.0	2.2	11.7	6.9	14.1	28.4
OTHER FLTFISH	24.9	5.9	5.1	7.0	29.1	14.8	0.9	3.1	29.9	31.0	5.1
TOT FLATFISH	933.1	1886.7	651.7	862.6	893.8	804.7	443.7	319.0	1463.0	2598.2	809.2
SKATES	C.0	0.0	0.0	16.6	7.3	0.0	4.5	9.7	0.0	0.0	16.5
TOT ELASMOBRH	C.0	0.0	0.0	16.6	7.3	0.0	4.5	9.7	0.0	0.0	16.5
RED KING CRAB	34.0	6.8	17.5	93.0	67.4	65.3	38.8	5.0	6.6	0.1	0.8
BLUE KING CRAB	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	C.0	0.0	0.0	0.5	21.2	11.5	1.7	47.9	8.2	3.0	3.7
TANNER, OPILIO	C.1	0.0	0.0	0.1	15.4	3.6	7.8	31.5	5.7	2.4	22.7
TANNER, HYBRID	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	C.7	10.8	12.1	15.2	6.0	2.9	7.8	8.8	14.1	10.8	12.8
SNAILS	C.7	0.0	0.0	29.2	19.8	46.6	0.0	0.0	1.1	7.5	4.1
SHRIMP	C.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
STARFISH	37.3	26.9	144.3	264.5	93.9	51.8	2.3	1.5	21.3	102.8	48.3
SQUID	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCTOPUS	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	32.7	7.4	0.3	97.5	46.0	175.2	78.6	33.7	23.4	7.6	41.6
TOTAL INVERTS	105.5	51.9	174.1	500.1	269.8	356.9	137.1	128.5	80.3	134.2	133.9
OTHER	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	1391.6	2140.8	1989.7	2229.6	1226.6	1776.8	662.0	2252.3	1895.2	3359.5	3254.9

Table A-2.--Station and catch data for the chartered ship Alaska (cont'd).

HAUL #	24	25	26	27	28	29	30	31	32	33	34
MONTH/DAY/YEAR	6/13/83	6/13/83	6/13/83	6/13/83	6/14/83	6/14/83	6/14/83	6/14/83	6/15/83	6/15/83	6/15/83
LATITUDE START	56 19.9	56 39.6	56 59.2	57 18.6	57 39.1	57 59.3	58 19.1	58 38.9	59 19.1	59 1.0	58 40.8
LONGITUDE START	162 47.2	162 47.1	162 46.4	162 46.5	162 44.6	162 45.6	162 43.1	162 42.8	164 0.0	164 0.1	163 59.1
LATITUDE END	56 20.5	56 40.9	57 0.0	57 20.2	57 40.5	58 0.9	58 20.6	58 39.8	59 17.5	59 0.5	58 39.9
LONGITUDE END	162 49.2	162 47.1	162 49.2	162 47.2	162 46.4	162 47.5	162 43.6	162 43.8	164 0.1	164 1.8	164 1.5
LORAN START	33912.00	33817.60	33713.00	33602.70	33469.90	33337.00	33188.80	33037.50	32854.40		33200.90
LORAN START	47193.50	47189.80	47179.30	47171.20	47146.60	47138.50	47106.10	47085.70	47498.10		47559.90
LORAN END	33914.30	33811.30	33716.00	33594.70	33466.00	33331.20	33179.30	33032.80	32878.70	33036.30	33213.40
LORAN END	47206.80	47189.80	47197.70	47174.90	47157.50	47150.00	47107.70	47090.60	47501.70	47543.20	47576.00
GEAR DEPTH	80	73	60	48	44	42	33	24	20	27	35
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.43	2.37	3.20	3.11	3.00	3.43	2.69	1.83	2.83	1.85	2.74
PERFORMANCE / GEAR	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38
POLLOCK	746.2	307.3	374.2	5.0	84.3	76.5	8.1	0.0	0.5	0.1	0.0
PAC COD	52.9	51.3	69.2	2.7	235.4	157.3	145.5	231.3	0.0	16.8	14.5
PAC OC PERCH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ROCKFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HERRING	0.0	0.0	4.4	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
ATKA MACKEREL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	0.0	1.3	0.0	0.0	9.1	51.5	1.5	10.9	1.1	5.0	0.2
EELPOUTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RNDFISH	0.1	0.0	0.4	0.1	0.9	2.8	3.5	0.6	31.2	0.2	0.0
TOT ROUNDFISH	799.3	359.9	448.1	7.8	330.4	288.2	158.6	242.8	32.8	22.2	14.7
YELLOW SOLE	143.9	1603.4	646.5	130.6	639.1	801.3	1062.9	503.5	278.1	300.3	207.7
ROCK SOLE	25.4	34.8	18.6	79.4	71.0	122.6	332.6	145.1	0.1	60.8	16.3
FLATHEAD SOLE	70.5	30.9	17.3	2.7	14.0	36.7	0.0	0.0	0.0	0.0	0.0
ALASKA PLAICE	45.4	72.3	34.2	5.7	39.5	40.6	33.2	1.6	7.9	22.7	10.9
GREENLAND TBT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARROWTOOTH FL	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HALIBUT	7.1	0.0	0.0	0.0	2.4	0.0	50.2	4.4	5.6	3.8	2.7
OTHER FLTFISH	0.4	1.0	0.7	8.6	15.9	16.0	14.6	9.1	2.7	3.9	1.6
TOT FLATFISH	298.6	1742.4	717.8	228.1	781.3	1017.2	1493.4	663.7	294.4	390.4	239.2
SKATES	0.0	2.2	0.0	0.0	0.0	23.0	0.0	0.0	0.0	0.0	0.0
TOT ELASMOBRH	0.0	2.2	0.0	0.0	0.0	23.0	0.0	0.0	0.0	0.0	0.0
RED KING CRAB	3.4	1.8	82.3	25.2	3.9	7.7	2.0	1.8	0.0	0.0	0.0
BLUE KING CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	3.2	3.6	1.6	2.9	0.2	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, OPILIO	4.3	6.6	4.1	3.9	0.3	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, HYBRID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	4.2	2.0	10.1	0.5	5.2	5.6	1.0	1.1	18.7	4.6	3.8
SNAILS	4.5	4.1	50.5	6.6	10.7	13.3	0.2	0.0	0.0	0.0	0.1
SHRIMP	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0
STARFISH	6.4	8.7	6.5	0.4	73.5	160.0	212.7	106.6	103.0	78.5	51.8
SQUID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCTOPUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	25.9	43.1	16.3	20.4	1.0	0.2	0.0	0.9	0.1	0.1	1.2
TOTAL INVERTS	52.4	70.0	171.4	59.9	94.8	187.0	216.1	110.4	121.9	83.2	56.9
OTHER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	1150.3	2174.5	1337.2	295.8	1207.0	1515.3	1868.2	1016.9	449.2	495.8	290.9

Table A-2.--Station and catch data for the chartered ship Alaska (cont'd).

HAUL #	35	36	37	38	39	40	41	42	43	44	45
MONTH/DAY/YEAR	6/15/83	6/15/83	6/16/83	6/16/83	6/16/83	6/16/83	6/16/83	6/17/83	6/17/83	6/17/83	6/17/83
LATITUDE START	58 20.5	57 58.0	57 40.5	57 21.0	57 0.9	56 40.4	56 20.3	54 40.8	54 59.3	55 19.4	55 39.8
LONGITUDE START	163 59.6	163 59.8	164 0.1	163 59.5	163 58.8	164 0.0	163 59.5	165 9.2	165 9.0	165 9.8	165 12.0
LATITUDE END	58 18.9	57 56.6	57 39.3	57 19.7	56 59.9	56 38.9	56 18.9	54 42.4	55 0.8	55 20.7	55 40.3
LONGITUDE END	163 59.6	163 59.4	163 59.8	163 59.8	164 0.3	163 59.2	163 58.8	165 9.3	165 9.2	165 9.7	165 10.0
LORAN START	33367.60	33538.80	33663.30	33786.10	33904.70	34016.50	34109.90	34606.40	34566.80	34520.10	34468.00
LORAN START	47594.30	47624.90	47646.00	47658.20	47664.30	47677.50	47674.50	48029.40	48054.50	48086.30	48123.30
LORAN END	33380.00	33548.20	33670.20	33796.90	33914.40	34021.70	34113.70	34603.60	34564.00	34513.60	34461.10
LORAN END	47596.20	47623.90	47645.00	47661.10	47674.80	47672.60	47669.10	48032.40	48057.70	48080.60	48111.40
GEAR DEPTH	40	46	51	62	70	77	86	84	113	115	112
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.96	2.72	2.15	2.41	2.35	2.85	2.65	2.91	2.70	2.69	2.24
PERFORMANCE / GEAR	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38
POLLOCK	149.5	127.7	1124.2	66.7	26.8	274.9	74.4	1388.6	88.9	2144.8	68.9
PAC COD	152.6	124.4	120.4	12.7	0.1	13.2	27.2	41.8	37.6	26.4	5.4
PAC OC PERCH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RCKFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	16.8	1.3
PAC HERRING	10.6	0.0	0.2	0.1	0.0	0.7	0.0	1.1	0.0	0.0	0.0
ATKA MACKEREL	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	172.6	26.4	6.8	2.7	0.5	3.6	1.5	3.2	0.6	0.0	0.6
EELPOUTS	C.0	0.0	0.0	0.0	0.0	0.1	0.9	0.0	0.0	0.0	0.0
OTHER BNDFISH	3.8	8.7	0.7	0.1	0.0	0.1	0.1	0.5	2.3	0.0	3.7
TOT ROUNDFISH	485.2	287.2	1252.3	82.3	27.3	292.6	104.2	1435.2	130.1	2188.1	80.5
YELLOW SOLE	1432.8	1014.6	709.0	296.2	283.0	311.6	163.7	542.8	244.5	21.0	45.8
ROCK SOLE	82.1	53.4	150.8	25.6	12.2	19.1	11.8	115.9	40.4	0.2	0.5
FLATHEAD SOLE	2.6	8.7	36.0	22.7	20.0	24.7	10.9	19.2	76.9	79.4	67.6
ALASKA PLAICE	57.3	35.1	106.9	62.1	261.7	264.0	10.0	5.1	0.5	0.0	1.0
GREENLAND TBT	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARROWTOOTH FL	C.0	0.0	0.0	0.0	0.0	0.5	1.8	22.0	67.1	15.6	21.5
PAC HALIBUT	31.5	0.0	0.0	0.0	0.0	0.0	3.6	59.0	16.1	0.0	25.1
OTHER FLTFISH	2.6	1.3	4.5	0.0	0.0	0.0	2.6	53.4	24.2	14.7	18.1
TOT FLATFISH	1608.9	1094.2	1007.2	406.6	577.0	619.9	204.5	817.4	469.7	131.0	179.7
SKATES	12.3	4.7	0.0	3.4	0.9	0.0	0.0	70.7	48.0	39.1	65.3
TOT ELASMOBRH	12.3	4.7	0.0	3.4	0.9	0.0	0.0	70.7	48.0	39.1	65.3
RED KING CRAB	11.1	0.0	8.2	13.4	1.0	0.0	0.0	0.0	0.0	0.0	0.0
BLUE KING CRAB	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	C.0	0.2	0.2	0.4	2.0	2.0	1.4	9.3	4.7	2.5	3.4
TANNER, OPILIO	C.0	0.8	1.8	11.8	9.5	3.9	11.1	60.6	10.9	4.1	2.4
TANNER, HYBRID	C.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	7.7	20.4	46.7	38.8	12.4	8.4	5.6	0.7	3.6	0.6	1.1
SNAILS	18.1	35.3	41.9	19.3	11.1	28.1	16.0	1.5	6.7	0.2	5.0
SHRIMP	C.0	0.3	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
STARFISH	228.5	137.8	14.1	16.3	8.2	5.2	1.6	17.0	11.3	0.0	0.0
SQUID	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCTOPUS	C.0	0.0	0.0	0.0	0.0	0.0	0.0	67.9	0.0	0.0	0.0
OTHER INVERTS	4.6	5.2	2.5	7.9	27.4	22.4	19.1	6.9	0.1	0.0	34.7
TOTAL INVERTS	270.0	200.0	115.5	107.9	72.4	70.0	54.9	163.7	37.4	7.4	46.6
OTHER	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	2380.4	1586.1	2375.0	600.2	677.6	982.5	363.5	2487.0	685.2	2365.5	372.1

Table A-2.--Station and catch data for the chartered ship Alaska (cont'd).

HAUL #	46	47	48	49	50	51	52	53	54	55	56
MONTH/DAY/YEAR	6/17/83	6/18/83	6/18/83	6/18/83	6/18/83	6/19/83	6/19/83	6/19/83	6/19/83	6/20/83	6/20/83
LATITUDE START	55 59.7	56 19.4	56 39.3	56 59.8	57 19.5	57 39.5	57 59.3	58 18.2	58 39.2	58 58.9	59 19.3
LONGITUDE START	165 10.9	165 12.9	165 13.0	165 13.0	165 14.0	165 14.2	165 15.2	165 19.0	165 17.8	165 17.4	165 17.8
LATITUDE END	56 0.9	56 20.7	56 40.5	57 0.9	57 20.2	57 39.8	58 0.6	58 19.4	58 40.7	59 0.1	59 19.7
LONGITUDE END	165 11.4	165 13.9	165 14.7	165 14.7	165 16.3	165 16.7	165 16.0	165 17.3	165 18.2	165 17.0	165 21.0
LORAN START	34398.80	34327.90	34238.80	34131.50	34016.30	33883.40	33739.20	33595.90	33409.20	33226.00	33023.10
LORAN START	48134.70	48160.20	48166.00	48162.20	48157.20	48136.70	48113.20	48101.30	48046.80	47995.70	47943.70
LORAN END	34395.80	34325.60	34238.00	34130.70	34019.30	33888.70	33730.90	33581.30	33397.00	33215.10	33031.30
LORAN END	48138.50	48167.10	48177.30	48173.40	48171.40	48153.00	48116.20	48088.00	48046.00	47995.90	47961.10
GEAR DEPTH	97	88	77	71	68	62	49	46	40	27	20
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.24	2.50	2.85	2.69	2.46	2.59	2.67	2.76	2.76	2.46	3.20
PERFORMANCE / GEAR	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38
POLLOCK	254.0	18.6	7.7	2314.7	425.5	32.7	66.1	102.7	159.3	1.0	0.2
PAC COD	60.3	6.4	3.6	13.7	29.9	7.7	48.8	146.1	265.0	45.0	19.1
PAC OC PERCH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ROCKFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HERRING	0.0	0.0	0.0	0.0	0.0	0.6	2.9	0.5	0.0	0.0	0.1
ATKA MACKEREL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	5.9	2.3	3.2	2.0	0.0	1.8	2.5	62.1	1.3	0.4	8.7
EELPOUTS	0.9	1.0	0.7	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
OTHER RNDFISH	0.1	0.3	0.0	0.0	0.0	0.1	1.2	11.2	15.6	0.4	13.0
TOT ROUNDFISH	321.2	28.5	15.2	2330.4	455.4	43.1	121.5	322.6	441.3	46.8	46.0
YELLOW SOLE	45.8	307.5	237.7	225.2	39.0	480.8	806.4	850.4	391.0	502.1	316.8
ROCK SOLE	14.5	22.7	18.1	12.9	0.3	12.0	25.4	9.8	6.8	61.2	7.7
FLATHEAD SOLE	37.6	22.9	20.0	41.1	5.7	21.5	10.9	3.9	0.0	0.0	0.0
ALASKA PLAICE	24.9	112.5	248.6	561.5	18.1	127.9	252.2	82.4	141.8	15.0	1.4
GREENLAND TBT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARROWTOOTH FL	20.9	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HALIBUT	4.2	0.0	0.0	0.0	0.0	2.6	0.0	0.0	0.0	10.1	6.2
OTHER FLTFISH	20.4	4.5	0.0	0.0	0.0	0.2	0.0	5.3	0.6	2.3	2.1
TOT FLATFISH	168.4	472.0	524.4	840.8	63.6	645.1	1095.0	951.8	540.2	590.8	334.2
SKATES	47.8	26.3	0.0	16.7	0.0	3.2	10.7	5.3	25.8	0.0	0.0
TOT ELASMOBRH	47.8	26.3	0.0	16.7	0.0	3.2	10.7	5.3	25.8	0.0	0.0
RED KING CRAB	0.0	0.0	0.0	0.0	1.2	4.1	2.6	1.9	3.4	0.0	0.0
BLUE KING CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	2.0	10.4	1.4	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0
TANNER, OPILIO	2.0	10.0	4.2	4.5	2.1	48.3	5.5	3.1	0.1	0.0	0.0
TANNER, HYBRID	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0
OTHER CRAB	17.8	25.2	8.1	2.6	4.4	51.0	81.0	19.7	4.9	3.8	6.9
SNAILS	33.6	166.0	29.9	11.4	3.9	46.1	114.4	32.7	4.5	1.1	0.1
SHRIMP	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STARFISH	0.0	32.2	32.7	76.1	39.0	53.5	21.4	93.0	451.2	103.9	28.1
SQUID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCTOPUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	1.8	6.7	23.6	4.6	1.0	1.3	275.6	0.5	0.6	0.0	0.8
TOTAL INVERTS	57.3	250.7	99.8	99.3	51.6	204.8	500.6	150.8	464.3	107.8	35.9
OTHER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	594.7	777.5	639.4	3287.2	570.7	896.0	1727.7	1430.5	1472.5	745.3	416.2

Table A-2.--Station and catch data for the chartered ship Alaska (cont'd).

HAUL #	57	58	59	60	61	62	63	64	65	66	67
MONTH/DAY/YEAR	6/21/83	6/21/83	6/21/83	6/21/83	6/22/83	6/22/83	6/22/83	6/22/83	6/22/83	6/23/83	6/23/83
LATITUDE START	59 40.0	59 20.8	59 1.0	58 40.5	58 21.0	58 0.8	57 40.9	57 20.4	57 1.6	56 40.4	56 20.9
LONGITUDE START	166 37.9	166 36.5	166 35.5	166 32.3	166 32.0	166 31.1	166 30.3	166 28.9	166 26.1	166 25.7	166 23.8
LATITUDE END	59 38.8	59 19.2	58 59.9	58 40.1	58 20.0	57 59.3	57 39.5	57 19.7	57 0.6	56 39.4	56 19.8
LONGITUDE END	166 39.6	166 37.5	166 37.3	166 34.5	166 33.5	166 31.4	166 31.4	166 31.1	166 27.4	166 27.4	166 26.0
LORAN START	32973.90	33180.10	33387.90	33587.20	33772.90	33949.50	34107.20	34247.90	34354.00	34461.80	34538.30
LORAN START	48306.60	48369.40	48436.00	48488.30	48547.80	48597.00	48635.00	48655.90	48651.60	48650.30	48626.30
LORAN END	32990.60	33199.60	33403.60	33595.90	33786.50	33963.60	34121.00	34260.10	34364.30	34472.00	34549.20
LORAN END	48319.00	48380.90	48450.20	48502.50	48559.80	48602.90	48644.50	48671.80	48661.20	48661.40	48639.60
GEAR DEPTH	27	27	33	42	49	62	68	71	77	88	106
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.76	3.15	2.70	2.26	2.30	2.89	2.76	2.65	2.37	2.63	3.02
PERFORMANCE / GEAR	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38
POLLOCK	15.6	10.9	21.8	85.9	109.2	43.3	68.1	68.9	17.5	482.6	846.4
PAC COD	224.5	58.1	70.9	118.8	149.4	31.4	38.8	34.0	14.3	23.6	85.8
PAC OC PERCH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ROCKFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HERRING	C.0	0.2	0.1	0.6	0.0	0.0	1.9	0.0	0.0	0.0	0.0
ATKA MACKEREL	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7
SCULPINS	C.2	1.1	3.9	55.5	260.0	6.6	3.4	11.5	14.1	2.5	80.8
EELPOUTS	C.0	0.0	0.0	0.0	0.0	0.8	2.1	0.0	0.7	0.4	0.2
OTHER RNDFISH	8.4	1.2	5.6	14.1	17.3	0.3	0.1	0.1	1.1	0.0	1.0
TOT ROUNDFISH	248.8	71.4	102.3	274.9	535.9	82.3	114.3	114.5	47.6	514.1	1015.9
YELLOW SOLE	20C.9	216.4	282.4	836.8	995.0	614.3	193.5	290.3	281.7	34.5	29.4
ROCK SOLE	3.0	22.2	24.6	25.1	42.6	6.0	7.9	3.6	53.1	9.8	4.5
FLATHEAD SOLE	C.0	0.0	0.0	0.2	2.0	14.0	6.9	1.8	22.2	15.4	58.1
ALASKA PLAICE	0.6	45.8	137.0	41.9	99.3	160.4	129.7	94.8	320.2	6.4	28.6
GREENLAND TBT	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0
ARROWTOOTH FL	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	10.0	30.3
PAC HALIBUT	19.0	35.7	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0
OTHER FLTFISH	2.6	10.5	4.4	7.6	7.9	0.0	0.0	0.0	0.1	14.1	9.1
TOT FLATFISH	226.2	330.6	451.5	961.7	1146.9	794.7	338.1	390.5	677.4	93.2	180.1
SKATES	C.0	0.0	3.2	26.8	12.7	0.0	3.8	4.1	12.5	0.1	53.2
TOT ELASMOBRH	C.0	0.0	3.2	26.8	12.7	0.0	3.8	4.1	12.5	0.1	53.2
RED KING CRAB	C.2	0.0	0.1	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0
BLUE KING CRAB	C.0	0.0	0.0	0.0	0.0	0.0	C.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	C.0	0.0	0.0	0.0	0.2	0.0	C.0	0.0	0.1	2.7	6.8
TANNER, OPILIO	C.0	0.0	0.0	0.2	1.3	33.2	53.1	197.5	47.2	6.1	3.1
TANNER, HYBRID	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	C.9	1.8	2.4	3.0	22.3	291.3	23.1	22.7	8.4	20.5	34.5
SNAILS	C.1	0.6	1.0	6.0	12.9	214.9	26.0	55.1	10.4	91.1	80.7
SHRIMP	C.0	0.0	0.2	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.2
STARFISH	88.9	76.7	80.3	290.4	151.2	40.3	22.2	28.3	42.7	22.2	37.0
SQUID	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCTOPUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	C.8	0.2	0.2	3.1	17.8	23.3	2.6	5.2	14.6	14.7	3.2
TOTAL INVERTS	9C.9	79.3	84.3	302.7	211.5	602.9	127.1	308.9	123.5	157.5	165.6
OTHER	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	565.9	481.3	641.2	1566.0	1907.1	1480.0	583.2	818.0	861.0	764.9	1414.8

Table A-2.--Station and catch data for the chartered ship Alaska (cont'd).

HAUL #	68	69	70	71	72	73	74	75	76	77	78
MONTH/DAY/YEAR	6/23/83	6/23/83	6/24/83	6/24/83	6/25/83	6/25/83	6/25/83	6/25/83	6/25/83	6/26/83	6/26/83
LATITUDE START	56 C.8	55 40.6	55 20.9	54 60.0	57 19.4	57 1.2	56 40.8	56 21.1	56 1.9	55 41.1	55 20.8
LONGITUDE START	166 22.5	166 21.4	166 19.6	166 20.9	167 43.9	167 42.0	167 38.9	167 38.7	167 34.9	167 33.1	167 31.8
LATITUDE END	55 59.8	55 39.9	55 19.7	55 0.8	57 18.1	56 59.9	56 39.5	56 20.2	56 0.9	55 40.1	55 19.5
LONGITUDE END	166 24.6	166 23.1	166 20.7	166 19.6	167 43.9	167 43.5	167 40.9	167 40.6	167 36.2	167 34.8	167 33.4
LORAN START	34603.80	34657.90	34698.90	34742.20	34508.50	34614.20	34701.00	34770.60	34811.00	34848.50	34877.00
LORAN START	48595.30	48558.30	48512.10	48479.00	49157.40	49160.70	49134.40	49108.10	49047.73	48983.10	48923.40
LORAN END	34613.00	34664.30	34704.40	34737.70	34517.30	34626.10	34712.60	34779.10	34816.90	34854.50	34882.20
LORAN END	48607.10	48567.20	48516.90	48473.10	49159.20	49170.90	49146.00	49118.30	49053.70	48995.40	48933.40
GEAR DEPTH	126	130	137	148	77	80	106	132	139	141	154
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.85	2.20	2.52	2.04	2.41	2.74	3.06	2.56	2.20	2.54	2.83
PERFORMANCE / GEAR	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38
POLLOCK	1158.9	661.3	229.5	12.2	7.5	229.7	2788.5	791.8	103.9	204.1	2471.3
PAC COD	109.8	46.7	45.8	68.5	13.6	5.0	34.7	58.2	13.6	28.6	80.2
PAC OC PERCH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RCKFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	11.8	0.0	0.0	0.0
SABLEFISH	C.0	11.8	12.2	11.8	0.0	0.0	0.0	0.0	2.0	2.4	5.3
PAC HERRING	C.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0
ATKA MACKEREL	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	C.0	1.3	3.6	0.0	11.6	6.4	90.7	31.3	3.9	3.4	0.0
EELPOUTS	C.3	3.4	4.3	0.0	0.7	0.1	0.0	0.0	0.0	0.5	0.0
OTHER RNDFISH	5.8	6.1	2.7	0.1	0.3	0.0	0.0	5.1	7.1	18.6	0.0
TOT ROUNDFISH	1274.8	730.7	298.2	92.6	34.8	241.2	2913.9	898.2	130.6	255.5	2556.7
YELLOW SOLE	C.0	0.0	0.0	0.0	293.5	204.4	0.0	0.0	0.0	0.0	0.0
ROCK SOLE	C.0	0.0	0.0	0.0	17.9	23.6	1.4	0.0	0.0	0.0	0.0
FLATHEAD SOLE	29.4	26.8	46.0	43.1	25.9	5.9	24.1	80.8	93.4	52.0	26.3
ALASKA PLAICE	C.0	0.0	0.0	0.0	15.0	10.9	2.1	0.0	0.0	0.0	0.0
GREENLAND TBT	C.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0
ARROWTOOTH FL	11.7	12.2	16.8	17.7	0.0	5.5	20.3	19.9	28.8	16.9	2.4
PAC HALIBUT	15.2	7.1	0.0	0.0	1.5	0.0	0.0	25.3	9.3	55.1	0.0
OTHER FLTFISH	1.7	4.4	21.3	12.7	1.0	3.4	10.8	9.7	15.2	11.7	4.3
TOT FLATFISH	57.9	51.6	84.1	73.5	354.8	253.7	58.8	135.7	146.7	134.9	33.4
SKATES	22.2	13.4	3.2	29.9	18.4	11.8	33.6	68.4	0.0	21.8	0.0
TOT ELASMOBRH	22.2	13.4	3.2	29.9	18.4	11.8	33.6	68.4	0.0	21.8	0.0
RED KING CRAB	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BLUE KING CRAB	C.0	0.0	C.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	1.5	5.7	6.4	19.7	5.4	3.6	1.0	0.5	2.5	6.7	18.9
TANNER, OPILIO	0.6	0.3	0.7	0.1	69.1	35.2	16.8	7.5	0.5	0.1	0.1
TANNER, HYBRID	C.0	0.0	0.0	0.2	0.0	0.0	C.0	0.0	0.0	0.0	0.0
OTHER CRAB	C.3	0.2	0.1	0.2	23.0	8.3	67.4	2.2	0.0	1.1	0.0
SNAILS	C.2	2.4	1.5	4.6	22.6	10.1	61.9	2.7	2.4	5.9	0.3
SHRIMP	C.0	0.0	0.0	0.0	0.0	0.0	C.0	0.0	0.0	0.0	0.1
STARFISH	8.9	1.4	0.0	0.0	6.9	17.1	14.6	1.1	0.0	0.0	0.0
SQUID	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCTOPUS	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	57.7	20.0	6.8	11.8	36.9	1.3	4.5	0.0	4.4	7.9	19.0
TOTAL INVERTS	69.3	29.9	15.5	36.7	164.1	75.5	166.2	13.9	9.7	19.7	38.4
OTHER	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	1424.2	825.7	401.1	232.7	572.0	582.2	3172.6	1116.2	287.0	431.9	2628.5

Table A-2.--Station and catch data for the chartered ship Alaska (cont'd).

HAUL #	79	80	81	82	83	84	85	86	87	88	89
MONTH/DAY/YEAR	6/26/83	7/ 1/83	7/ 1/83	7/ 1/83	7/ 1/83	7/ 1/83	7/ 2/83	7/ 2/83	7/ 2/83	7/ 2/83	7/ 2/83
LATITUDE START	55 3.0	57 39.3	57 59.2	58 19.0	58 39.1	58 59.1	59 19.0	59 39.0	60 0.1	60 18.9	60 19.9
LONGITUDE START	167 16.1	167 45.6	167 47.9	167 49.9	167 51.3	167 53.2	167 55.7	167 57.1	167 58.9	167 19.9	167 56.5
LATITUDE END	55 2.0	57 40.6	58 0.7	58 20.5	58 40.4	59 0.5	59 20.3	59 40.4	60 1.6	60 19.6	60 19.2
LONGITUDE END	167 14.7	167 46.0	167 48.2	167 49.6	167 51.6	167 52.9	167 55.1	167 57.8	167 57.5	167 17.9	167 59.3
LORAN START	34854.70	34363.50	34194.70	34005.50	33797.70	33579.80	33357.20	33127.20	32881.90	32600.90	32642.50
LORAN START	48795.00	49128.20	49081.20	49017.00	48940.90	48856.90	48776.30	48689.70	48601.20	48351.20	48503.00
LORAN END	34863.00	34353.80	34181.30	33989.10	33782.50	33563.50	33341.90	33111.80	32861.60	32589.70	32654.60
LORAN END	48784.90	49127.10	49077.70	49009.20	48933.80	48849.10	48767.70	48686.40	48588.50	48339.80	48517.30
GEAR DEPTH	183	70	68	60	49	40	38	35	24	22	31
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.41	2.46	2.83	2.85	2.54	2.61	2.35	2.72	3.13	2.22	2.83
PERFORMANCE / GEAR	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38
POLLOCK	512.6	27.7	26.7	61.9	38.1	82.6	72.7	35.3	9.8	0.6	5.0
PAC COD	34.9	11.1	7.7	35.0	27.6	306.3	73.1	61.0	222.9	56.1	88.2
PAC OC PERCH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RCKFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	8.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HERRING	C.0	1.6	2.1	29.0	0.5	0.0	37.3	38.3	2.1	5.1	2.0
ATKA MACKEREL	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	3.8	19.4	11.0	27.9	46.3	111.1	67.6	28.7	3.2	4.3	0.3
EELPOUTS	C.1	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RNDFISH	C.5	0.4	1.4	7.2	17.0	17.7	10.7	3.2	0.8	72.7	7.5
TOT ROUNDFISH	56C.0	60.1	50.6	161.0	130.0	517.7	261.5	166.5	238.8	138.8	103.0
YELLOW SOLE	C.0	127.0	153.5	799.5	418.9	528.1	469.9	298.1	61.4	77.8	131.6
ROCK SOLE	C.0	13.6	2.2	3.6	71.9	82.3	38.5	15.3	77.3	2.3	3.5
FLATHEAD SOLE	41.7	11.9	3.3	12.4	2.7	1.0	1.7	0.3	0.0	0.0	0.1
ALASKA PLAICE	C.0	79.6	36.4	392.0	103.2	158.2	76.6	118.0	21.1	3.4	7.2
GREENLAND TBT	3.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARROWTOOTH FL	11.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HALIBUT	C.0	1.2	2.6	0.0	0.0	17.0	6.1	2.3	2.9	7.8	0.9
OTHER FLTFISH	14.3	0.0	0.0	0.0	13.9	24.0	5.3	2.2	23.9	7.6	0.5
TOT FLATFISH	7C.8	233.6	198.0	1207.5	610.5	810.5	598.1	436.2	186.6	103.9	143.7
SKATES	18.0	7.4	7.3	10.1	9.7	31.2	38.6	25.8	0.0	0.0	0.0
TOT ELASMOBRH	18.0	7.4	7.3	10.1	9.7	31.2	38.6	25.8	0.0	0.0	0.0
RED KING CRAB	C.0	1.4	0.0	0.0	3.2	0.0	0.3	5.0	0.0	0.0	0.0
BLUE KING CRAB	C.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	3.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, OPILIO	C.5	79.8	105.5	14.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, HYBRID	C.0	0.0	0.0	0.5	0.0	0.3	0.1	0.0	0.0	0.0	0.0
OTHER CRAB	1.7	1.3	0.5	7.7	2.1	0.9	1.3	0.2	0.3	0.0	0.2
SNAILS	6.2	28.9	14.7	80.8	21.0	49.0	11.9	3.4	0.0	0.2	0.1
SHRIMP	C.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
STARFISH	C.5	15.2	43.2	49.8	172.6	132.6	143.9	378.7	30.6	35.2	209.2
SQUID	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCTOPUS	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	17.4	15.1	4.7	177.1	48.2	35.2	0.0	9.3	0.3	0.9	5.2
TOTAL INVERTS	29.4	141.8	170.4	330.4	247.2	218.0	158.1	396.7	31.2	35.2	214.8
OTHER	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	678.2	443.0	426.3	1709.1	997.4	1577.4	1056.2	1025.2	456.6	328.9	461.5

Table A-2.--Station and catch data for the chartered ship Alaska (cont'd).

HAUL #	90	91	92	93	94	95	96	97	98	99	100
MONTH/DAY/YEAR	7/ 3/83	7/ 3/83	7/ 3/83	7/ 3/83	7/ 4/83	7/ 4/83	7/ 4/83	7/ 4/83	7/ 4/83	7/ 5/83	7/ 6/83
LATITUDE START	60 20.0	60 1.1	59 40.6	59 21.1	59 0.5	58 40.9	58 21.2	58 1.0	57 50.7	57 40.3	57 29.5
LONGITUDE START	169 17.9	169 19.0	169 15.1	169 11.0	169 9.7	169 8.9	169 7.0	169 3.9	169 14.0	169 3.9	169 15.6
LATITUDE END	60 19.6	59 59.7	59 39.4	59 19.8	58 59.5	58 39.5	58 19.9	57 59.6	57 49.4	57 41.1	57 29.2
LONGITUDE END	169 21.0	169 19.0	169 16.1	169 12.3	169 11.3	169 9.1	169 7.3	169 3.5	169 15.1	169 6.1	169 13.5
LORAN START	32744.80	32976.50	33222.00	33453.70	33700.40	33933.30	34162.90	34386.70	34524.40	34606.40	34742.50
LORAN START	48814.20	48913.40	49006.40	49095.90	49204.30	49311.30	49414.90	49511.10	49619.00	49613.60	49730.00
LORAN END	32753.60	32993.30	33238.00	33471.10	33715.80	33950.70	34177.60	34400.60	34541.50	34604.60	34744.50
LORAN END	48827.20	48920.50	49016.70	49108.00	49218.90	49320.30	49423.20	49515.90	49632.00	49622.70	49713.30
GEAR DEPTH	33	46	48	49	51	64	68	71	64	60	71
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.96	2.56	2.44	2.69	2.80	2.67	2.28	2.56	2.67	2.65	2.17
PERFORMANCE / GEAR	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38
POLLOCK	237.2	402.2	280.0	272.4	195.7	79.9	84.5	128.5	349.5	3394.0	171.3
PAC COD	76.1	94.3	74.0	3403.2	78.3	30.9	28.2	55.7	22.6	15.8	9.2
PAC OC PERCH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ROCKFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HERRING	C.0	0.0	0.0	1.2	1.3	2.9	2.5	0.0	0.0	0.0	0.0
ATKA MACKEREL	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	77.9	51.4	32.9	20.9	33.8	44.2	25.6	7.6	46.0	10.0	7.3
EELPOUTS	C.0	4.4	0.0	0.0	0.2	4.5	13.7	0.0	0.0	0.0	0.0
OTHER RNDFISH	8.8	11.4	9.9	12.5	9.3	5.8	3.0	1.2	0.7	0.0	0.2
TOT ROUNDFISH	399.9	563.6	396.8	3710.2	318.6	168.3	157.5	193.0	418.3	3419.8	188.0
YELLOW SOLE	521.9	196.4	257.0	360.1	264.6	358.8	500.1	161.3	232.1	956.3	391.5
ROCK SOLE	11.1	23.1	26.5	23.2	27.1	1.7	2.6	2.3	171.3	284.9	29.7
FLATHEAD SOLE	4.9	12.7	6.6	2.3	1.9	11.5	14.7	7.2	3.6	13.8	13.2
ALASKA PLAICE	139.9	89.1	273.0	535.3	194.9	167.6	67.0	43.5	104.8	124.2	59.0
GREENLAND TBT	C.0	0.0	0.0	0.0	0.0	0.1	0.8	0.9	0.0	0.0	0.0
ARROWTOOTH FL	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	14.8	13.5
PAC HALIBUT	C.0	2.2	0.0	0.0	0.0	3.3	0.0	0.0	0.8	2.6	2.8
OTHER FLTFISH	1.7	2.1	0.0	0.0	0.2	0.0	0.0	0.0	1.3	0.0	0.0
TOT FLATFISH	679.4	325.6	563.1	920.9	488.6	542.9	585.2	215.1	515.4	1398.6	509.7
SKATES	1.3	5.2	5.4	6.3	13.7	17.4	1.2	0.0	5.4	0.0	5.3
TOT ELASMOBRH	1.3	5.2	5.4	6.3	13.7	17.4	1.2	0.0	5.4	0.0	5.3
RED KING CRAB	C.7	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0
BLUE KING CRAB	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.0	7.2	3.2
TANNER, BAIRDI	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
TANNER, OPILIO	C.0	0.1	0.9	0.7	0.9	19.9	11.3	23.8	149.9	103.1	64.1
TANNER, HYBRID	C.0	0.0	0.2	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	C.8	1.0	0.1	0.9	2.1	0.2	1.1	0.2	5.5	6.9	9.1
SNAILS	31.8	46.9	39.8	96.8	40.9	74.7	40.8	7.7	130.1	59.1	1.3
SHRIMP	C.0	0.2	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0
STARFISH	275.1	99.1	52.9	73.7	63.3	59.7	46.0	18.6	86.0	96.6	8.6
SQUID	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCTOPUS	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	169.8	164.8	0.6	205.3	431.0	0.2	0.0	3.2	82.2	132.1	1.3
TOTAL INVERTS	478.3	314.4	94.6	377.4	538.7	155.0	99.2	53.7	489.7	406.0	88.7
OTHER	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	1558.9	1208.8	1060.0	5014.8	1359.6	883.6	843.0	461.8	1429.3	5224.4	791.6

Table A-2.--Station and catch data for the chartered ship Alaska (cont'd).

HAUL #	101	102	103	104	105	106	107	108	109	110	111
MONTH/DAY/YEAR	7/ 6/83	7/ 6/83	7/ 6/83	7/ 6/83	7/ 7/83	7/ 7/83	7/ 7/83	7/ 8/83	7/ 8/83	7/ 8/83	7/ 8/83
LATITUDE START	57 19.2	57 10.9	57 0.9	56 50.6	56 40.0	56 20.2	56 20.0	56 40.0	56 49.6	56 59.7	57 6.7
LONGITUDE START	168 59.1	169 10.2	168 57.5	169 9.4	168 55.2	168 53.2	170 2.1	170 4.4	170 28.4	170 9.7	170 28.9
LATITUDE END	57 18.5	57 9.9	57 0.3	56 49.8	56 39.7	56 19.8	56 20.8	56 40.3	56 50.8	57 0.5	57 7.5
LONGITUDE END	169 0.3	169 8.9	168 55.5	169 11.5	168 52.9	168 56.1	170 4.2	170 6.9	170 31.3	170 7.9	170 29.9
LORAN START	18750.30	34877.80	34886.40	34971.10	34955.70	34990.60	35124.30	35126.50	18542.50	18689.20	18652.00
LORAN START	34777.80	49744.80	49664.70	49732.30	49621.90	49556.10	49890.70	49994.20	50117.10	50111.10	35112.10
LORAN END	18750.10	34879.00	34882.20	34980.30	34949.00	34998.60	35126.30	35129.20	35131.50	18698.30	18647.70
LORAN END	34738.00	49737.20	49651.10	49743.70	49607.30	49571.00	49902.40	50005.00	50126.90	50106.60	35105.70
GEAR DEPTH	71	77	80	82	102	134	112	97	102	68	49
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.30
DISTANCE FISHED	1.87	2.20	2.39	2.48	2.37	3.02	2.63	2.54	2.78	2.33	1.81
PERFORMANCE / GEAR	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38
POLLOCK	0.0	5.4	1.7	1.5	83.3	135.7	1.5	5011.4	59.4	0.0	0.0
PAC COD	6.4	3.7	18.7	8.3	11.3	57.4	21.5	158.8	53.1	29.6	0.8
PAC OC PERCH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ROCKFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0
PAC HERRING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ATKA MACKEREL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	27.5	24.4	32.1	37.6	23.4	34.5	9.7	23.8	27.1	37.5	0.5
EELPOUTS	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0
OTHER RNDFISH	0.0	0.2	0.2	0.2	0.3	0.2	4.7	13.0	9.4	2.1	0.1
TOT ROUNDFISH	33.8	33.8	52.7	48.2	118.4	229.3	37.4	5207.0	149.1	69.2	1.4
YELLOW SOLE	99.1	137.7	168.3	172.9	30.5	0.4	0.0	2.2	6.7	113.8	3.7
ROCK SOLE	82.7	15.6	15.6	15.2	10.3	30.4	0.0	3.0	0.0	156.3	2.2
FLATHEAD SOLE	1.6	12.2	1.8	5.5	26.9	56.7	31.9	42.0	60.1	6.8	0.3
ALASKA PLAICE	12.9	11.2	6.6	1.3	12.8	1.1	0.0	4.8	3.1	4.1	0.0
GREENLAND TBT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARROWTOOTH FL	14.2	20.6	1.8	6.8	54.1	94.3	22.5	11.6	23.9	34.6	0.2
PAC HALIBUT	10.7	0.0	1.6	0.0	0.0	4.7	14.2	10.4	5.6	17.3	0.5
OTHER FLTFISH	0.0	0.1	0.0	0.1	0.2	5.2	7.1	0.5	0.5	0.0	0.0
TOT FLATFISH	221.2	197.4	195.7	201.8	134.9	192.9	75.8	74.7	100.1	333.3	6.9
SKATES	0.0	9.5	0.2	14.3	0.0	24.8	28.8	73.3	49.7	42.0	1.5
TOT ELASMOBRH	0.0	9.5	0.2	14.3	0.0	24.8	28.8	73.3	49.7	42.0	1.5
RED KING CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.6	0.0
BLUE KING CRAB	0.1	2.4	1.7	2.5	0.0	0.0	0.0	0.0	0.0	65.0	22.6
TANNER, BAIRDI	2.1	1.0	0.9	2.5	1.0	54.8	10.6	26.1	6.4	53.3	7.8
TANNER, OPILIO	93.9	14.6	118.3	100.2	65.6	5.5	0.5	0.0	17.2	10.6	0.3
TANNER, HYBRID	1.0	0.0	0.3	1.3	0.6	0.0	0.0	0.0	0.3	0.0	0.0
OTHER CRAB	20.2	10.0	4.3	1.4	0.0	0.0	0.0	0.0	0.0	7.4	4.9
SNAILS	0.0	0.0	2.3	6.9	2.6	0.9	2.3	6.9	2.2	87.9	0.9
SHRIMP	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
STARFISH	3.9	5.5	8.0	2.7	1.2	0.0	15.4	0.0	1.1	81.4	15.9
SQUID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCTOPUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	0.0	0.0	0.0	0.0	0.0	111.1	6.2	27.6	0.0	68.7	0.0
TOTAL INVERTS	121.2	33.5	135.7	117.6	71.0	172.2	35.0	60.6	27.2	387.8	52.4
OTHER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	376.2	274.2	384.3	381.9	324.1	619.2	177.0	5415.6	326.0	832.3	62.2

Table A-2.--Station and catch data for the chartered ship Alaska (cont'd).

HAUL #	112	113	114	115	116	117	118	119	120	121	122
MONTH/DAY/YEAR	7/ 9/83	7/ 9/83	7/ 9/83	7/ 9/83	7/10/83	7/10/83	7/10/83	7/10/83	7/10/83	7/11/83	7/11/83
LATITUDE START	57 20.6	57 29.8	57 39.2	57 49.5	58 0.0	58 19.3	58 39.0	58 59.2	59 18.9	59 39.1	59 59.1
LONGITUDE START	170 13.9	170 33.1	170 16.1	170 34.1	170 19.2	170 22.7	170 26.4	170 28.8	170 31.5	170 34.8	170 37.5
LATITUDE END	57 21.3	57 29.7	57 39.4	57 49.3	58 1.4	58 20.6	58 40.4	59 0.7	59 20.5	59 40.5	60 0.4
LONGITUDE END	170 12.5	170 36.2	170 13.8	170 31.3	170 18.7	170 22.8	170 26.6	170 29.7	170 32.2	170 34.7	170 38.4
LORAN START	18704.90	18592.10	18620.60	18515.90	18527.90	18443.80	18360.50	18283.10	18209.40	18136.30	18068.30
LORAN START	34996.60	34882.30	34769.10	34645.90	34515.70	34281.30	34041.80	33795.80	33556.90	33313.10	33071.20
LORAN END	18705.90	18577.80	18627.00	18527.10	18524.30	18438.50	18355.20	18275.30	18202.50	18132.30	18062.00
LORAN END	34986.70	34880.00	34765.50	34649.00	34498.90	34265.50	34024.90	33777.70	33538.00	33295.60	33056.70
GEAR DEPTH	59	77	75	79	77	77	75	73	70	68	68
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	1.91	3.07	2.30	2.76	2.56	2.41	2.57	2.94	2.98	2.67	2.46
PERFORMANCE / GEAR	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38
POLLOCK	C.0	739.1	121.4	52.1	156.9	58.0	186.2	8.8	204.8	140.6	226.7
PAC COD	C.0	34.6	8.6	13.0	22.2	27.9	65.6	52.4	208.9	117.1	68.4
PAC OC PERCH	C.0	0.0	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ROKFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HERRING	C.0	0.5	701.4	0.0	0.2	60.1	28.9	7.7	25.8	3.0	6.7
ATKA MACKEREL	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	48.6	20.1	42.0	16.3	3.6	5.8	22.3	24.6	57.0	40.0	9.8
EELPOUTS	C.0	0.0	0.2	1.8	1.1	1.7	6.5	15.8	30.6	24.9	182.8
OTHER RNDFISH	3.3	0.3	0.3	0.1	0.2	0.4	0.3	0.1	0.0	0.1	0.1
TOT ROUNDFISH	51.9	794.6	873.8	83.3	184.3	154.0	309.8	109.5	527.1	325.7	494.4
YELLOW SOLE	C.0	54.2	176.9	58.3	90.1	102.1	278.6	571.8	431.2	260.5	352.1
ROCK SOLE	328.3	61.4	67.6	27.2	12.2	1.2	2.6	1.7	6.9	1.5	2.4
FLATHEAD SOLE	C.0	8.4	11.8	14.9	6.3	3.2	3.1	14.3	10.9	8.2	10.3
ALASKA PLAICE	C.0	15.0	68.0	56.3	50.6	34.7	106.1	21.9	49.4	10.3	114.4
GREENLAND TBT	C.0	0.0	0.0	0.0	1.1	1.3	0.0	0.0	0.2	0.0	0.6
ARROWTOOTH FL	C.0	15.7	4.4	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HALIBUT	70.3	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER FLTFISH	C.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
TOT FLATFISH	398.5	161.7	328.7	158.0	160.9	142.4	390.4	609.7	498.7	280.4	480.0
SKATES	12.1	86.2	9.5	26.3	5.9	0.6	5.0	0.0	0.0	3.4	0.0
TOT ELASMOBRH	12.1	86.2	9.5	26.3	5.9	0.6	5.0	0.0	0.0	3.4	0.0
RED KING CRAB	C.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BLUE KING CRAB	4.1	15.2	6.6	18.6	7.3	3.2	0.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	1.5	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, OPILIO	C.0	202.8	25.2	8.4	120.6	111.6	154.6	283.9	131.3	52.4	51.7
TANNER, HYBRID	C.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	1.9	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
SNAILS	C.0	82.2	2.8	8.7	16.9	34.7	14.2	40.1	25.3	12.5	13.1
SHRIMP	C.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.1	0.0	0.0
STARFISH	205.2	80.1	109.3	57.8	72.5	99.9	38.2	9.1	142.4	13.8	5.7
SQUID	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCTOPUS	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	2430.4	183.8	0.0	0.0	0.0	0.2	0.0	7.9	6.5	0.0	0.1
TOTAL INVERTS	2643.1	567.0	144.0	98.5	217.5	249.8	206.9	341.1	306.0	78.8	70.5
OTHER	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	3105.6	1609.4	1356.0	366.1	568.7	546.8	912.1	1060.2	1331.8	693.3	1044.9

Table A-2.--Station and catch data for the chartered ship Alaska (cont'd).

HAUL #	123	124	125	126	127	128	129	131	132	133	134
MONTH/DAY/YEAR	7/11/83	7/12/83	7/12/83	7/12/83	7/12/83	7/12/83	7/12/83	7/13/83	7/13/83	7/13/83	7/13/83
LATITUDE START	60 19.1	60 59.4	60 40.9	60 21.1	60 9.5	60 0.9	59 50.9	59 38.2	59 21.2	59 1.6	58 42.1
LONGITUDE START	170 39.2	172 8.4	172 6.9	172 3.5	172 15.9	171 59.7	172 9.0	171 52.6	171 47.8	171 46.7	171 41.5
LATITUDE END	60 20.4	60 58.1	60 39.5	60 20.1	60 10.1	59 59.9	59 50.0	59 37.2	59 20.6	59 0.3	58 40.7
LONGITUDE END	170 39.8	172 8.0	172 6.0	172 1.4	172 14.0	171 58.2	172 10.9	171 50.9	171 45.5	171 47.9	171 41.5
LORAN START	18006.20	17641.20	17685.40	17740.10	17722.80	17799.60	17789.20	17879.30	17940.70	17995.60	18067.70
LORAN START	32831.20	32409.20	32622.50	32850.40	32987.30	33084.00	33200.90	33347.10	33545.80	33773.60	34000.40
LORAN END	18000.70	17645.40	17691.10	17749.50	17728.30	17807.40	17784.00	17888.90	17951.00	17993.80	18071.50
LORAN END	32815.20	32424.80	32637.80	32860.70	32980.00	33095.40	33211.30	33359.50	33552.70	33788.70	34016.30
GEAR DEPTH	64	66	54	62	59	66	77	80	82	84	95
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.59	2.59	2.63	2.65	2.17	2.35	2.46	2.57	2.43	2.78	2.57
PERFORMANCE / GEAR	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38
POLLOCK	497.1	111.2	11.2	354.5	38.2	846.5	330.8	4586.8	565.5	1231.6	751.4
PAC COD	64.3	131.6	23.8	192.0	716.7	128.6	58.1	31.5	32.2	33.8	42.0
PAC OC PERCH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RCKFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HERRING	1.2	0.3	0.0	20.8	0.0	0.0	0.0	3.4	0.0	15.1	73.3
ATKA MACKEREL	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	66.3	24.2	48.1	367.4	15.8	137.1	21.8	12.6	17.9	13.0	9.7
EELPOUTS	204.6	112.5	70.7	0.0	0.0	22.1	2.9	0.0	1.7	0.0	1.2
OTHER RNDFISH	1.3	12.6	5.6	10.8	0.2	0.0	1.4	0.0	0.0	0.0	0.0
TOT ROUNDFISH	834.8	392.4	159.3	945.5	770.9	1134.3	394.9	4634.2	617.3	1298.4	867.6
YELLOW SOLE	165.7	10.8	4.3	49.2	86.7	167.2	51.7	5.3	128.4	31.9	51.9
ROCK SOLE	1.0	0.0	0.0	2.2	7.3	29.5	1.4	0.0	0.9	2.9	6.9
FLATHEAD SOLE	17.0	15.4	9.0	0.0	0.0	1.0	45.5	3.7	8.5	10.6	14.9
ALASKA PLAICE	106.5	26.4	18.5	74.4	101.1	86.4	145.7	2.6	64.0	43.4	85.5
GREENLAND TBT	C.1	0.0	0.0	0.0	0.0	0.0	0.8	0.0	1.4	6.0	0.5
ARROWTOOTH FL	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
PAC HALIBUT	C.0	3.4	0.0	2.5	32.9	0.0	0.0	0.0	0.0	0.0	0.0
OTHER FLTFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT FLATFISH	290.3	56.0	32.3	128.4	228.0	284.0	245.1	11.6	203.2	100.0	159.3
SKATES	C.0	0.0	0.0	0.0	23.5	9.3	8.6	21.0	16.8	10.8	4.3
TOT ELASMOBRH	C.0	0.0	0.0	0.0	23.5	9.3	8.6	21.0	16.8	10.8	4.3
RED KING CRAB	C.0	0.0	0.0	0.0	0.0	0.0	C.0	0.0	0.0	0.0	0.0
BLUE KING CRAB	C.0	0.0	0.0	6.4	25.4	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, OPILIO	37.2	8.8	5.6	1.1	0.1	8.1	71.5	16.5	44.6	29.7	34.7
TANNER, HYBRID	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	C.0	0.0	0.0	25.4	3.2	0.9	0.0	0.0	0.0	0.0	0.0
SNAILS	6.4	0.2	0.1	37.1	3.3	23.3	32.6	15.5	11.3	9.6	20.5
SHRIMP	C.0	0.1	0.2	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0
STARFISH	4.4	16.2	14.4	14.8	7.0	7.3	5.9	0.0	3.6	8.3	4.6
SQUID	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCTOPUS	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	C.0	0.4	0.0	149.9	30.1	25.9	0.4	7.1	0.2	5.2	10.3
TOTAL INVERTS	48.0	25.8	20.3	235.2	69.2	65.5	110.3	39.0	59.7	53.8	70.1
OTHER	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	1173.1	474.1	211.9	1309.1	1091.6	1493.2	758.9	4705.7	897.0	1462.0	1111.8

Table A-2.--Station and catch data for the chartered ship Alaska (cont'd).

HAUL #	135	136	137	138	139	140	141	142	143	144	145
MONTH/DAY/YEAR	7/13/83	7/14/83	7/14/83	7/14/83	7/14/83	7/14/83	7/15/83	7/15/83	7/15/83	7/15/83	7/15/83
LATITUDE START	58 22.1	58 1.9	57 41.9	57 21.1	57 2.5	56 43.4	56 42.7	57 0.8	57 20.5	57 40.1	57 59.9
LONGITUDE START	171 37.3	171 33.3	171 31.1	171 28.2	171 25.6	171 23.3	172 32.3	172 39.3	172 42.8	172 47.9	172 52.1
LATITUDE END	58 20.9	58 0.6	57 40.8	57 19.7	57 1.0	56 42.1	56 44.2	57 2.4	57 21.9	57 41.6	58 1.4
LONGITUDE END	171 36.6	171 32.9	171 29.6	171 27.1	171 25.3	171 23.5	172 32.8	172 39.6	172 43.1	172 48.3	172 52.7
LORAN START	18137.80	18205.80	18255.40	18285.30	18269.80	18200.80	17764.30	17784.10	17807.60	17797.50	17774.00
LORAN START	34230.10	34457.00	34667.20	34859.30	34984.00	35058.40	34907.20	34809.10	34684.10	34528.60	34352.10
LORAN END	18144.30	18210.60	18265.40	18291.30	18266.40	18192.60	17767.00	17786.80	17807.80	17795.80	17771.10
LORAN END	34243.80	34471.60	34680.30	34872.50	34992.00	35061.30	34900.30	34800.10	34673.60	34516.10	34337.70
GEAR DEPTH	97	101	101	102	110	121	137	124	119	123	110
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.30	2.46	2.54	2.78	2.85	2.46	2.78	2.94	2.70	2.72	2.82
PERFORMANCE / GEAR	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38
POLLOCK	1440.2	1249.5	1123.4	1512.0	518.3	230.3	1027.7	2367.4	260.0	244.3	1493.9
PAC COD	90.4	17.7	70.8	15.0	43.3	14.5	28.3	53.2	10.3	100.7	136.9
PAC OC PERCH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ROCKFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0
PAC HERRING	0.0	21.1	33.8	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ATKA MACKEREL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	30.1	57.6	23.4	2.7	7.2	3.0	2.0	2.6	1.5	22.0	21.9
EELPOUTS	2.2	1.5	1.4	0.1	0.1	0.6	0.0	0.8	0.2	0.4	0.0
OTHER RNDFISH	0.0	0.0	0.1	0.0	14.3	0.0	0.5	2.6	0.4	2.9	0.0
TOT ROUNDFISH	1562.8	1347.3	1252.9	1532.9	583.7	252.3	1058.6	2426.6	272.5	370.4	1652.6
YELLOW SOLE	17.3	9.4	8.2	1.9	0.5	0.0	0.0	0.0	0.0	0.0	0.0
ROCK SOLE	7.4	1.8	2.9	1.6	0.7	0.0	3.4	0.0	1.3	2.3	0.3
FLATHEAD SOLE	12.7	14.1	16.0	13.3	21.5	28.9	3.9	18.6	41.5	25.3	11.2
ALASKA PLAICE	51.9	33.9	40.4	2.1	1.5	0.0	0.0	0.0	0.0	3.2	4.5
GREENLAND TBT	5.7	1.7	5.1	3.8	1.7	0.0	0.0	0.0	0.0	0.9	6.5
ARROWTOOTH FL	2.2	13.2	4.0	1.5	20.2	22.0	11.3	10.9	2.7	43.6	9.3
PAC HALIBUT	2.0	0.0	4.5	4.4	10.4	3.0	2.5	1.2	2.9	9.2	0.0
OTHER FLTFISH	0.0	0.0	0.0	0.0	0.7	5.3	5.4	0.0	0.1	4.0	0.0
TOT FLATFISH	99.1	74.1	81.1	28.5	57.2	59.2	26.7	30.7	49.0	88.5	32.3
SKATES	41.9	67.2	42.0	0.0	4.0	14.0	0.0	29.9	5.9	19.8	0.0
TOT ELASMOBRH	41.9	67.2	42.0	0.0	4.0	14.0	0.0	29.9	5.9	19.8	0.0
RED KING CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BLUE KING CRAB	3.1	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	0.6	0.7	0.5	3.6	2.5	33.5	4.1	24.8	21.3	11.7	10.2
TANNER, OPILIO	22.0	307.8	123.4	109.0	81.3	24.5	1.3	0.2	0.0	22.0	31.8
TANNER, HYBRID	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.2	0.1	0.0	0.0
OTHER CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
SNAILS	20.9	29.7	65.3	14.1	13.2	4.4	13.3	16.4	2.4	11.8	8.0
SHRIMP	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
STARFISH	18.0	24.2	9.6	3.5	0.0	6.1	5.5	0.0	0.0	0.6	6.5
SQUID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCTOPUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	3.2	14.4	6.4	0.8	0.0	0.0	1.0	8.7	0.0	0.2	11.5
TOTAL INVERTS	68.0	378.9	205.2	131.1	97.2	68.5	25.4	50.3	23.9	46.5	58.0
OTHER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	1771.8	1867.5	1581.2	1692.5	742.0	394.0	1110.7	2537.5	351.2	525.1	1752.9

Table A-2.--Station and catch data for the chartered ship Alaska (cont'd).

HAUL #	146	147	148	149	150	151	152	153	154	155	156
MONTH/DAY/YEAR	7/16/83	7/16/83	7/16/83	7/16/83	7/16/83	7/17/83	7/17/83	7/17/83	7/17/83	7/17/83	7/17/83
LATITUDE START	58 20.1	58 40.1	59 1.1	59 20.9	59 31.7	59 45.6	59 51.0	60 0.4	60 11.3	60 20.2	60 40.1
LONGITUDE START	172 54.9	172 59.1	173 4.4	173 8.3	173 24.2	173 14.0	173 33.3	173 19.6	173 37.4	173 28.5	173 25.7
LATITUDE END	58 21.5	58 41.6	59 2.7	59 22.4	59 33.0	59 46.8	59 52.4	60 1.9	60 12.7	60 21.2	60 41.4
LONGITUDE END	172 54.9	172 59.4	173 4.2	173 8.1	173 23.7	173 15.6	173 33.1	173 20.0	173 36.1	173 27.4	173 24.8
LORAN START	17747.40	17704.90	17651.80	17605.20	17519.30	17542.70	17454.20	17497.40	17410.40		17414.50
LORAN START	34158.90	33955.00	33732.50	33519.80	33395.40	33250.30	33186.10	33088.70	32967.90		32656.10
LORAN END	17746.40	17701.60	17650.70	17603.90	17519.90	17534.60	17453.50	17493.50	17413.70	17455.70	17415.70
LORAN END	34145.10	33938.90	33716.10	33503.70	33381.60	33237.40	33171.20	33072.00	32953.20	32852.00	32641.30
GEAR DEPTH	112	115	110	102	102	93	97	75	77	60	65
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.33	0.50
DISTANCE FISHED	2.65	2.89	2.94	2.82	2.52	2.56	2.63	2.87	2.83	1.87	2.61
PERFORMANCE / GEAR	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	1 / 38	1 / 38	0 / 38
POLLOCK	541.8	386.0	1617.5	3472.0	2229.6	1491.5	1100.0	97.8	41.0	158.9	317.8
PAC COD	277.4	236.9	187.6	349.4	462.8	159.3	261.8	55.8	25.4	39.3	390.1
PAC OC PERCH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ROCKFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HERRING	C.0	0.0	0.0	0.6	0.3	0.0	1.5	0.0	0.0	0.0	0.0
ATKA MACKEREL	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	9.4	11.1	26.2	0.0	0.0	28.7	3.4	45.9	39.1	544.7	446.1
EELPOUTS	1.8	0.4	3.1	9.3	0.5	8.0	5.0	4.3	11.5	2.1	6.0
OTHER RNDFISH	C.2	0.1	0.5	0.0	0.0	0.0	0.0	0.1	1.3	0.8	0.3
TOT ROUNDFISH	830.6	634.4	1834.9	3831.3	2693.7	1687.5	1371.7	203.9	118.8	725.7	1160.3
YELLOW SOLE	C.0	0.0	0.0	0.0	0.0	1.8	3.2	43.1	53.3	9.8	8.0
ROCK SOLE	3.4	0.5	5.1	0.0	0.0	1.0	0.3	15.4	17.0	9.8	15.6
FLATHEAD SOLE	7.5	5.2	0.0	0.0	0.0	1.7	29.6	21.8	25.8	1.2	1.2
ALASKA PLAICE	32.2	17.4	1.5	0.0	0.0	12.9	1.8	99.4	78.0	16.5	21.0
GREENLAND TBT	26.1	13.4	17.7	17.1	3.4	7.6	3.4	0.1	0.4	0.0	0.0
ARROWTOOTH FL	23.8	17.8	14.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HALIBUT	C.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7
OTHER FLTFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0
TOT FLATFISH	93.8	54.3	39.1	17.1	3.4	25.0	38.3	179.9	175.1	37.3	47.6
SKATES	32.0	36.2	17.6	0.0	0.0	0.0	0.0	10.2	11.2	9.2	21.8
TOT ELASMOBRH	32.0	36.2	17.6	0.0	0.0	0.0	0.0	10.2	11.2	9.2	21.8
RED KING CRAB	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BLUE KING CRAB	C.0	0.0	0.0	4.4	5.5	24.5	9.5	6.3	10.1	105.4	13.3
TANNER, BAIRDI	7.1	2.2	1.5	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, OPILIO	10.6	47.6	35.8	22.1	79.3	5.5	1.9	15.1	15.4	2.1	0.0
TANNER, HYBRID	C.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	C.0	0.2	1.5	0.0	0.0	0.0	0.0	0.1	0.3	1.9	0.0
SNAILS	82.0	51.2	20.4	12.4	0.0	4.1	1.2	4.0	1.0	5.8	7.0
SHRIMP	C.4	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1
STARFISH	3.4	5.3	7.6	7.6	6.6	5.3	3.1	0.4	1.0	6.4	3.1
SQUID	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCTOPUS	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	C.5	0.1	3.7	2.0	0.0	17.5	3.4	40.5	76.5	9.7	1.1
TOTAL INVERTS	104.1	106.9	70.6	49.3	91.4	56.8	19.1	66.3	104.5	130.4	29.6
OTHER	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	1060.4	831.8	1962.2	3897.7	2788.5	1769.3	1429.1	460.3	409.6	902.6	1259.3

Table A-2.--Station and catch data for the chartered ship Alaska (cont'd).

HAUL #	157	158	159	160	161	162	163	164	165	166	167
MONTH/DAY/YEAR	7/17/83	7/28/83	7/28/83	7/28/83	7/28/83	7/29/83	7/29/83	7/29/83	7/29/83	7/30/83	7/30/83
LATITUDE START	60 59.4	58 19.7	58 39.0	58 59.3	59 18.7	59 40.2	59 59.1	60 19.0	60 38.9	60 39.5	60 21.1
LONGITUDE START	173 29.0	174 17.1	174 15.9	174 21.7	174 26.9	174 26.2	174 35.3	174 42.6	174 45.4	176 11.4	176 2.0
LATITUDE END	61 0.8	58 21.1	58 40.3	59 0.7	59 19.3	59 41.6	60 0.4	60 20.4	60 40.3	60 38.2	60 20.0
LONGITUDE END	173 29.3	174 16.8	174 16.2	174 21.8	174 26.5	174 26.5	174 36.0	174 42.5	174 44.8	176 10.8	176 0.8
LORAN START	17374.30	17250.80	17303.30	17271.70	17240.00	17232.70	17180.60	17136.90	17112.40	16764.60	16800.50
LORAN START	32446.30	34035.20	33868.40	33673.90	33482.40	33272.10	33078.10	32874.60	32672.30	32655.00	32829.30
LORAN END	17371.50	17293.20	17301.90	17270.50	17241.70	17230.60	17176.50	17136.50	17113.80	16766.90	16805.40
LORAN END	32431.30	34024.10	33855.70	33660.00	33477.00	33257.80	33063.80	32860.20	32658.70	32667.20	32840.30
GEAR DEPTH	75	157	159	130	113	117	110	102	99	121	124
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.30	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.59	2.54	2.54	2.70	1.17	2.65	2.67	2.65	2.56	2.46	2.37
PERFORMANCE / GEAR	0 / 38	0 / 38	0 / 38	0 / 38	1 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38
POLLOCK	29.2	480.4	378.3	1030.8	104.1	643.3	798.9	2445.2	4159.3	262.6	300.7
PAC COD	62.7	170.3	531.2	184.0	163.1	73.7	125.6	61.7	93.9	60.1	59.6
PAC OC PERCH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ROCKFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	C.0	0.0	309.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HERRING	C.0	0.0	0.0	12.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0
ATKA MACKEREL	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	105.1	0.6	0.0	0.0	6.6	0.7	1.0	5.1	0.0	2.8	4.1
EELPOUTS	27.1	0.0	0.0	1.0	0.0	3.6	22.9	4.9	0.0	7.0	5.1
OTHER RNDFISH	4.6	6.9	3.4	1.0	0.1	0.2	0.3	0.0	0.0	0.3	1.5
TOT ROUNDFISH	228.7	658.3	1222.0	1229.0	274.1	721.8	948.7	2517.0	4253.7	332.9	371.1
YELLOW SOLE	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROCK SOLE	C.4	6.6	15.2	0.0	0.0	0.7	1.1	0.0	0.0	0.0	0.0
FLATHEAD SOLE	13.8	6.4	10.4	0.0	0.0	0.0	1.4	9.2	0.0	2.0	0.9
ALASKA PLAICE	1.0	0.0	0.0	0.0	1.7	1.8	2.3	0.0	12.6	0.0	0.0
GREENLAND TBT	0.4	0.0	0.0	1.4	0.0	8.2	0.0	6.1	5.7	7.5	18.4
ARROWTOOTH FL	C.0	17.0	34.7	4.8	1.6	1.6	6.4	0.0	0.0	0.0	0.0
PAC HALIBUT	1.0	3.9	0.9	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER FLTFISH	2.6	1.8	10.7	8.1	0.2	1.4	0.9	23.2	11.5	3.9	3.2
TOT FLATFISH	21.0	35.7	71.8	16.1	3.5	13.6	12.0	38.5	29.8	13.4	22.5
SKATES	C.9	52.6	31.8	0.0	0.0	20.0	25.9	0.0	52.7	16.3	0.0
TOT ELASMOBRH	0.9	52.6	31.8	0.0	0.0	20.0	25.9	0.0	52.7	16.3	0.0
RED KING CRAB	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BLUE KING CRAB	1.0	0.0	0.0	0.0	0.0	0.9	2.5	1.6	1.6	0.0	0.0
TANNER, BAIRDI	C.0	0.1	121.1	3.2	2.3	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, OPILIO	55.0	0.0	0.7	10.2	5.4	63.7	24.3	8.4	9.5	24.5	121.3
TANNER, HYBRID	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	0.0	4.2	1.5	2.5	0.7	0.4	0.8	0.2	0.0	1.6	1.6
SNAILS	C.5	1.7	2.5	19.7	9.0	17.5	30.9	7.2	0.0	9.8	15.8
SHRIMP	C.2	0.0	0.0	0.0	0.1	0.3	1.3	0.1	0.0	0.3	1.0
STARFISH	2.5	5.0	0.1	0.2	2.6	15.0	7.9	6.7	0.0	5.4	13.8
SQUID	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCTOPUS	C.0	4.8	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	C.0	0.9	0.2	2.9	2.8	1.9	1.7	2.6	0.0	0.2	0.8
TOTAL INVERTS	59.2	16.7	126.2	38.6	22.9	100.0	69.4	26.8	11.1	47.8	154.3
OTHER	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	309.8	763.2	1451.8	1283.7	300.5	855.3	1056.0	2582.3	4347.3	405.3	547.8

Table A-2.--Station and catch data for the chartered ship Alaska (cont'd).

HAUL #	168	169	170	171	172	173	174	175	176	177	178
MONTH/DAY/YEAR	7/30/83	7/30/83	7/30/83	7/30/83	7/31/83	7/31/83	7/31/83	7/31/83	8/ 1/83	8/ 1/83	8/ 1/83
LATITUDE START	60 1.2	59 41.0	59 20.5	59 1.2	58 41.8	58 40.7	58 58.7	59 0.1	59 21.3	59 39.0	59 59.4
LONGITUDE START	175 56.2	175 51.5	175 45.0	175 44.1	175 32.4	176 49.0	176 57.0	177 33.3	177 4.3	177 8.9	177 12.4
LATITUDE END	59 59.9	59 39.7	59 19.1	58 59.9	58 40.5	58 42.0	59 0.1	59 1.0	59 22.7	59 40.4	60 1.0
LONGITUDE END	175 56.2	175 52.4	175 45.1	175 43.5	175 32.0	176 49.0	176 56.3	177 31.1	177 4.2	177 8.2	177 11.9
LORAN START	16819.30		16856.60	16846.50	16890.80	16472.30	16462.80	16276.30	16462.00	16464.90	16473.50
LORAN START	32017.20		33393.90	33562.10	33739.20	33643.40	33495.50	33442.10	33308.20	33159.60	32985.70
LORAN END	16819.70	16831.20		16848.60	16891.30	16475.20	16468.70	16290.10	16464.50	16469.80	16477.30
LORAN END	32028.80	33215.70		33573.50	33750.30	33633.80	33485.80	33437.80	33296.90	33148.20	32973.10
GEAR DEPTH	132	139	137	137	137	135	137	137	132	137	139
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.41	2.54	2.59	2.41	2.43	2.39	2.59	2.70	2.61	2.74	2.85
PERFORMANCE / GEAR	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38	0 / 38
POLLOCK	233.1	151.0	145.1	115.2	175.3	51.4	100.4	305.7	69.9	441.7	218.4
PAC COD	55.6	35.2	94.8	26.1	3.6	41.7	129.3	282.6	39.2	76.8	368.3
PAC OC PERCH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ROCKFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HERRING	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ATKA MACKEREL	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	6.0	2.8	2.1	0.9	0.2	2.5	21.3	7.0	1.8	1.2	1.5
EELPOUTS	14.7	29.9	61.9	3.2	1.3	0.0	0.0	0.0	2.7	0.2	105.0
OTHER RNDFISH	2.4	0.2	0.6	0.2	0.0	0.0	0.1	0.0	1.8	0.0	0.2
TOT ROUNDFISH	311.9	219.1	304.6	145.6	180.4	95.6	251.1	595.3	115.4	520.0	693.5
YELLOW SOLE	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROCK SOLE	C.0	0.0	0.0	0.0	0.0	2.3	0.0	30.6	0.0	0.0	0.0
FLATHEAD SOLE	5.7	1.2	5.0	1.0	20.0	1.0	91.2	19.3	98.4	732.0	9.3
ALASKA PLAICE	C.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GREENLAND TBT	23.4	16.3	8.8	1.6	0.0	0.0	0.0	0.0	0.0	3.1	0.7
ARROWTOOTH FL	C.0	0.5	0.0	0.0	10.7	7.9	2.9	15.9	1.6	36.2	0.5
PAC HALIBUT	C.0	0.0	0.0	0.0	1.8	0.0	6.8	16.3	0.0	3.4	0.0
OTHER FLTFISH	10.7	0.7	5.0	2.3	18.3	6.1	3.8	2.3	14.1	60.8	0.5
TOT FLATFISH	39.7	18.8	19.7	4.9	51.3	17.4	104.7	84.4	114.1	835.5	10.9
SKATES	11.3	0.3	17.0	0.3	18.2	14.3	22.7	76.1	23.6	30.1	17.7
TOT ELASMOBRH	11.3	0.3	17.0	0.3	18.2	14.3	22.7	76.1	23.6	30.1	17.7
RED KING CRAB	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BLUE KING CRAB	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	C.0	0.0	0.9	0.1	32.0	13.4	4.4	19.3	4.8	4.1	0.0
TANNER, OPILIO	94.6	161.7	6.4	0.1	9.5	4.1	2.7	30.0	2.9	0.5	1.7
TANNER, HYBRID	C.0	0.0	0.2	0.0	4.5	2.5	0.7	4.5	0.7	0.1	0.0
OTHER CRAB	1.0	2.0	3.0	5.9	5.4	2.3	3.8	1.9	1.0	2.7	0.9
SNAILS	8.4	16.2	27.1	12.1	4.0	1.2	4.2	2.9	9.9	11.2	9.7
SHRIMP	1.2	5.9	0.0	0.6	0.0	0.0	0.0	0.0	0.3	0.1	4.3
STARFISH	34.0	55.1	176.0	31.5	4.0	0.8	2.0	1.0	1.7	0.6	61.0
SQUID	C.0	0.0	0.3	0.6	0.1	0.0	0.1	0.0	0.5	0.0	0.1
OCTOPUS	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	C.3	0.9	2.3	3.2	0.1	0.1	0.4	0.0	1.6	1.0	0.4
TOTAL INVERTS	139.5	241.9	216.2	54.2	59.6	24.3	18.3	59.6	23.5	20.4	78.1
OTHER	C.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	502.4	480.1	557.5	205.0	309.5	151.6	396.8	815.4	276.6	1406.0	800.1

Appendix B

Rank Order of Relative Abundance for Fish and Invertebrates

Appendix B contains a computer listing of all fish and invertebrates caught during the 1983 bottom trawl survey ranked in order of relative abundance (kg/ha).

List of Tables

Table B-1.--Rank order of fish and invertebrate taxa by relative abundance (kg/ha).

TOTAL TRAWLS 354 TOTAL SPECIES 263 TOTAL EFFORT 1565.2 HA

SPECIES RANKED BY MEAN CPUE (KG/HA)

RANK	SPECIES	MEAN CPUE (KG/HA)	90 PERCENT *---CONFIDENCE LIMITS---*		PROPORTION	CUMULATIVE PROPORTION	NAME
1	21740	128.85369	111.92908	145.77829	0.37254863	0.37254863	WALLEYE POLLOCK
2	10210	85.49535	76.81702	94.17367	0.24718369	0.61973733	YELLOWFIN SOLE
3	21720	25.33719	21.04533	29.62905	0.07325623	0.69299356	PACIFIC COD
4	10260	19.85573	16.25534	23.45612	0.05740794	0.75040150	ROCK SOLE
5	10285	14.00284	12.01436	15.99132	0.04048576	0.79088725	ALASKA PLAICE
6	81742	9.73401	7.83055	11.63746	0.02814348	0.81903074	PURPLE-ORANGE SEASTAR
7	68590	7.45114	6.22761	8.67467	0.02154313	0.84057387	TANNER CRAB (OPILIO)
8	10130	5.98670	4.86373	7.10968	0.01730908	0.85788294	FLATHEAD SOLE & BERING FLOUNDER
9	10110	2.96726	2.59854	3.33599	0.00857911	0.86646206	ARROWTOOTH & KAMCHATKA FLOUNDERS
10	80000	2.70465	1.95152	3.45778	0.00781982	0.87428187	STARFISH UNIDENT
11	69010	2.68471	2.14243	3.22700	0.00776218	0.88204406	HERMIT CRAB UNIDENT
12	71884	2.42702	1.98245	2.87158	0.00701712	0.88906118	NEPTUNEA HEROS
13	10120	2.07624	1.68440	2.46807	0.00600293	0.89506410	PACIFIC HALIBUT
14	83010	1.96857	1.08761	2.84952	0.00569163	0.90075573	BASKETSTARFISH UNIDENT
15	91000	1.85926	0.04773	3.67079	0.00537559	0.90613132	SPONGE UNIDENT
16	24184	1.81851	1.01897	2.61805	0.00525777	0.91138910	SPARSE TOOTHED LYCOD
17	21371	1.70434	1.20505	2.20363	0.00492769	0.91631678	PLAIN SCULPIN
18	21110	1.56642	0.87785	2.25499	0.00452892	0.92084571	PACIFIC HERRING
19	98000	1.56548	0.00000	3.62308	0.00452620	0.92537191	TUNICATE UNIDENT
20	68560	1.40217	1.10653	1.69781	0.00405403	0.92942593	TANNER CRAB (BAIRDI)
21	00450	1.20940	0.80555	1.61324	0.00349667	0.93292260	STARRY SKATE
22	71820	1.18145	0.92212	1.44077	0.00341586	0.93633846	NEPTUNEA PRIBILOFFENSIS
23	43000	1.17301	0.48583	1.86019	0.00339147	0.93972994	SEA ANEMONE UNIDENT

Table B-1.--Rank order of fish and invertebrate taxa by relative abundance (kg/ha).

RANK	SPECIES	MEAN CPUE (KG/HA)	90 PERCENT CONFIDENCE LIMITS		PROPORTION	CUMULATIVE PROPORTION	NAME
24	10211	1.12717	0.89470	1.35964	0.00325893	0.94298887	LONGHEAD DAB
25	99990	1.11354	0.52736	1.69971	0.00321952	0.94620838	INVERTEBRATE UNIDENT
26	00471	1.06536	0.83411	1.29661	0.00308023	0.94928862	ALASKA SKATE
27	69322	1.05361	0.71320	1.39402	0.00304626	0.95233487	RED KING CRAB
28	21375	1.01938	0.68855	1.35021	0.00294728	0.95528216	MYOXOCEPHALUS SP
29	21348	0.97987	0.42488	1.53486	0.00283305	0.95811520	BUTTERFLY SCULPIN
30	21347	0.90095	0.30319	1.49880	0.00260500	0.96072021	YELLOW IRISH LORD
31	24191	0.86944	0.48585	1.25304	0.00251379	0.96323399	SHORTFIN EELPOUT
32	00400	0.85149	0.65362	1.04936	0.00246187	0.96569586	SKATE UNIDENT
33	71870	0.80866	0.50903	1.10828	0.00233803	0.96803389	NEPTUNEA LYRATA
34	21370	0.76442	0.36595	1.16289	0.00221013	0.97024401	GREAT SCULPIN
35	10115	0.67246	0.53985	0.80507	0.00194425	0.97218826	GREENLAND TURBOT
36	69323	0.62954	0.21437	1.04471	0.00182016	0.97400842	BLUE KING CRAB
37	71882	0.57179	0.46057	0.68302	0.00165320	0.97566162	NEPTUNEA VENTRICOSA
38	82730	0.49944	0.00000	1.18596	0.00144401	0.97710563	SAND DOLLAR UNIDENT
39	40500	0.43683	0.30817	0.56550	0.00126299	0.97836862	JELLYFISH UNIDENT
40	98200	0.43644	0.14772	0.72516	0.00126185	0.97963047	SEA POTATO UNIDENT
41	81780	0.42328	0.06230	0.78426	0.00122380	0.98085427	COMMON MUD STAR
42	21420	0.39981	0.24981	0.54981	0.00115595	0.98201022	BIGMOUTH SCULPIN
43	20510	0.39279	0.00000	0.79099	0.00113566	0.98314588	SABLEFISH
44	00472	0.36568	0.23941	0.49195	0.00105728	0.98420316	ALEUTIAN SKATE
45	20040	0.30121	0.23623	0.36620	0.00087088	0.98507405	STURGEON POACHER
46	10220	0.28484	0.15400	0.41568	0.00082355	0.98589760	STARRY FLOUNDER
47	80020	0.27478	0.00000	0.58899	0.00079446	0.98669206	EVASTERIAS ECHINOSOMA
48	81779	0.26352	0.04515	0.48190	0.00076191	0.98745397	CTENODISCUS SP
49	21316	0.25105	0.10075	0.40135	0.00072585	0.98817982	ARMORHEAD SCULPIN
50	24185	0.24752	0.19124	0.30380	0.00071563	0.98889545	WATTLED EELPOUT
51	80590	0.24002	0.05089	0.42914	0.00069396	0.98958941	LEPTASTERIAS POLARIS

Table B-1.--Rank order of fish and invertebrate taxa by relative abundance (kg/ha).

RANK	SPECIES	MEAN CPUE (KG/HA)	90 PERCENT *---CONFIDENCE LIMITS---*		PROPORTION	CUMULATIVE PROPORTION	NAME
52	98105	0.2398C	0.12286	0.35674	0.00069332	0.99028273	BOLTENIA OVIFERA
53	98082	0.20664	0.00000	0.51695	0.00059746	0.99088019	STYELA RUSTICA
54	20720	0.1870E	0.06380	0.31037	0.00054090	0.99142110	SEARCHER
55	78403	0.1828?	0.00000	0.48594	0.00052860	0.99194970	OCTOPUS COFLEINI
56	98100	0.17795	0.07174	0.28417	0.00051451	0.99246420	SEA ONION UNIDENT
57	10200	0.1581C	0.11217	0.20403	0.00045709	0.99292130	REX SOLE
58	80595	0.1527E	0.08421	0.22135	0.00044172	0.99336302	LEPTASTERIAS SP
59	72500	0.13589	0.09127	0.18050	0.00039288	0.99375589	FUSITRITON OREGONENSIS
60	69400	0.1132E	0.08398	0.14255	0.00032748	0.99408337	KOREAN HORSEHAIR CRAB
61	21735	0.1100C	0.01905	0.20096	0.00031805	0.99440142	SAFFRON COD
62	85200	0.10404	0.02539	0.18269	0.00030081	0.99470223	CUCUMARIA SP
63	72740	0.10357	0.06403	0.14312	0.00029946	0.99500169	BUCCINUM SP
64	10250	0.08245	0.00000	0.21118	0.00023838	0.99524007	SAND SOLE
65	23010	0.07399	0.04192	0.10607	0.00021393	0.99545400	EULACHON
66	98205	0.07332	0.00000	0.14985	0.00021200	0.99566600	HALOCYNTHIA (TETHYUM) AURANTIUM
67	68781	0.07073	0.03902	0.10244	0.00020450	0.99587050	TELMESSUS CRAB
68	66031	0.06998	0.04597	0.09400	0.00020234	0.99607284	PINK SHRIMP
69	68577	0.0661E	0.04201	0.09031	0.00019128	0.99626412	HYAS CRAE (ROUNDED SPINED)
70	83000	0.05816	0.00458	0.11175	0.00016817	0.99643229	BRITTLESTARFISH UNIDENT
71	98310	0.0544E	0.00915	0.09981	0.00015751	0.99658979	APLIDIUM SP
72	72752	0.05264	0.03520	0.07007	0.00015218	0.99674197	SILKY WHELK
73	72751	0.05250	0.02153	0.08348	0.00015180	0.99689377	LYRE WHELK
74	00430	0.04505	0.00000	0.09188	0.00013026	0.99702404	SANDPAPER SKATE
75	71800	0.04495	0.01476	0.07514	0.00012996	0.99715399	NEPTUNEA SP
76	78010	0.0449C	0.01533	0.07447	0.00012983	0.99728382	OCTOPUS UNIDENT
77	21379	0.0423E	0.00000	0.08982	0.00012248	0.99740630	MYOXOCEPHALUS VERRUCOSUS (SYN. M. GROENLANDICUS)
78	23041	0.0421E	0.02108	0.06324	0.00012189	0.99752819	CAPELIN
79	71764	0.04181	0.03005	0.05356	0.00012088	0.99764907	VOLUTOPSIUS MIDDENDORFFII

Table B-1.--Rank order of fish and invertebrate taxa by relative abundance (kg/ha).

RANK	SPECIES	MEAN CPUE (KG/HA)	90 PERCENT CONFIDENCE LIMITS		PROPORTION	CUMULATIVE PROPORTION	NAME
80	69520	0.04092	0.02571	0.05614	0.00011832	0.99776739	HYAS SP
81	20322	0.04058	0.01422	0.06693	0.00011732	0.99788471	BERING WOLFFISH
82	22200	0.03945	0.02218	0.05672	0.00011406	0.99799877	SNAILFISH UNIDENT
83	72743	0.03879	0.02801	0.04957	0.00011215	0.99811091	BUCCINUM ANGULOSUM
84	85000	0.03728	0.01565	0.05891	0.00010780	0.99821871	SEA CUCUMBER UNIDENT
85	71753	0.03713	0.00184	0.07242	0.00010734	0.99832606	PYRULOFUSUS DEFORMIS
86	82500	0.03305	0.00693	0.05917	0.00009555	0.99842160	SEA URCHIN UNIDENT
87	71750	0.02355	0.01423	0.03288	0.00006809	0.99848970	VOLUTOPSIUS SP
88	81310	0.02164	0.00000	0.04865	0.00006256	0.99855225	PTERASTER SP
89	71961	0.01904	0.01057	0.02751	0.00005505	0.99860730	CLINOPEGMA (ANCISTROLEPIS) MAGNA
90	72501	0.01809	0.00251	0.03366	0.00005230	0.99865960	FUSITRITON SP
91	71772	0.01719	0.01214	0.02223	0.00004970	0.99870930	BERINGIUS BERINGII
92	71010	0.01714	0.00735	0.02694	0.00004957	0.99875886	NUDIBRANCH UNIDENT
93	68590	0.01606	0.00653	0.02559	0.00004643	0.99880529	TANNER CRAB (HYBRID)
94	21438	0.01591	0.00977	0.02206	0.00004600	0.99885129	THORNY SCULPIN
95	71756	0.01496	0.00442	0.02551	0.00004326	0.99889455	VOLUTOPSIUS FRAGILIS
96	71891	0.01352	0.00716	0.01989	0.00003910	0.99893365	PLICIFUSUS KROYERI
97	00435	0.01314	0.00365	0.02263	0.00003798	0.99897164	BERING SKATE
98	75111	0.01298	0.00787	0.01808	0.00003751	0.99900915	ALASKA SURF CLAM
99	82740	0.01221	0.00000	0.03074	0.00003529	0.99904444	PARMA SAND DOLLAR
100	21300	0.01204	0.00000	0.02681	0.00003480	0.99907925	SCULPIN UNIDENT
101	21390	0.01133	0.00553	0.01713	0.00003275	0.99911200	SPINYHEAD SCULPIN
102	71500	0.01123	0.00439	0.01806	0.00003246	0.99914446	SNAIL UNIDENT
103	24189	0.01106	0.00000	0.02373	0.00003197	0.99917643	POLAR EELPOUT
104	21446	0.01071	0.00638	0.01504	0.00003096	0.99920739	ICELUS SP
105	69090	0.01011	0.00000	0.02422	0.00002922	0.99923661	PAGURUS OCHOTENSIS
106	41100	0.00952	0.00397	0.01507	0.00002752	0.99926413	SOFT CORAL UNIDENT
107	00420	0.00935	0.00000	0.02484	0.00002702	0.99929115	BIG SKATE

Table B-1.--Rank order of fish and invertebrate taxa by relative abundance (kg/ha).

RANK	SPECIES	MEAN CPUE (KG/HA)	90 PERCENT CONFIDENCE LIMITS		PROPORTION	CUMULATIVE PROPORTION	NAME
108	30050	0.00914	0.00000	0.02335	0.00002643	0.99931758	ROUGHEYE ROCKFISH
109	00310	0.00855	0.00000	0.02029	0.00002471	0.99934229	SPINY DOGFISH
110	00490	0.00808	0.00000	0.01827	0.00002336	0.99936565	GOLDEN SKATE
111	21314	0.00768	0.00360	0.01175	0.00002219	0.99938784	THREADED SCULPIN
112	72063	0.00766	0.00504	0.01027	0.00002214	0.99940998	AFORIA (LEUCOSYRINX) CIRCINATA
113	71835	0.00761	0.00397	0.01125	0.00002200	0.99943198	NEPTUNEA BOREALIS
114	71001	0.00747	0.00229	0.01265	0.00002160	0.99945358	SNAIL (GASTROPOD) EGGS
115	81355	0.00728	0.00303	0.01153	0.00002106	0.99947464	PTERASTER OBSCURUS
116	68578	0.00705	0.00370	0.01041	0.00002039	0.99949503	HYAS CRAB (SHARP SPINED)
117	75260	0.00689	0.00000	0.01494	0.00001991	0.99951494	BUTTER CLAM
118	75285	0.00681	0.00286	0.01076	0.00001970	0.99953464	GREENLAND COCKLE
119	71030	0.00593	0.00112	0.01074	0.00001715	0.99955178	DIOMEDES' TRITON
120	69086	0.00590	0.00000	0.01367	0.00001705	0.99956884	PAGURUS TRIGONOCHEIRUS
121	41201	0.00577	0.00046	0.01109	0.00001669	0.99958553	EUNEPHTHYA (GERSEMIA) SP
122	20006	0.00574	0.00351	0.00797	0.00001659	0.99960213	SAWBACK POACHER
123	50160	0.00564	0.00105	0.01022	0.00001630	0.99961843	SEA MOUSE UNIDENT
124	23235	0.00562	0.00000	0.01275	0.00001626	0.99963469	CHUM SALMON
125	72755	0.00492	0.00000	0.01009	0.00001423	0.99964892	BUCCINUM POLARE
126	19990	0.00488	0.00000	0.01197	0.00001411	0.99966303	FLATFISH UNIDENT
127	23055	0.00476	0.00015	0.00937	0.00001376	0.99967679	RAINBOW SMELT
128	80010	0.00452	0.00000	0.01014	0.00001307	0.99968985	EVASTERIAS SP
129	22219	0.00451	0.00031	0.00872	0.00001305	0.99970291	CAREPROCTUS SP
130	30420	0.00419	0.00000	0.00931	0.00001212	0.99971503	NORTHERN ROCKFISH
131	81095	0.00403	0.00015	0.00791	0.00001165	0.99972668	CROSSASTER PAPPOSUS
132	21934	0.00392	0.00000	0.01021	0.00001135	0.99973803	ROCK GREENLING
133	80200	0.00361	0.00000	0.00761	0.00001043	0.99974846	LETHASTERIAS NANIMENSIS
134	42000	0.00346	0.00000	0.00720	0.00001001	0.99975846	SEA PEN UNIDENT
135	44000	0.00335	0.00000	0.00768	0.00000967	0.99976814	CORAL STONY UNIDENT

Table B-1.--Rank order of fish and invertebrate taxa by relative abundance (kg/ha).

RANK	SPECIES	MEAN CPUE (KG/HA)	90 PERCENT *---CONFIDENCE LIMITS---*		PROPORTION	CUMULATIVE PROPORTION	NAME
136	21932	0.00322	0.00095	0.00548	0.00000930	0.99977744	WHITESPOTTED GREENLING
137	71890	0.00293	0.00043	0.00543	0.00000847	0.99978591	PLICIFUSUS SP
138	71769	0.00267	0.00000	0.00646	0.00000772	0.99979363	BERINGIUS SP
139	71754	0.00254	0.00030	0.00479	0.00000736	0.99980098	PYRULOFUSUS SP
140	21340	0.00252	0.00072	0.00433	0.00000729	0.99980827	BLACKFIN SCULPIN
141	79020	0.00232	0.00100	0.00363	0.00000670	0.99981498	ROSSIA PACIFICA
142	65203	0.00228	0.00000	0.00605	0.00000658	0.99982156	BALANUS (CHIRONA) EVERMANNI
143	71761	0.00226	0.00000	0.00486	0.00000655	0.99982811	VOLUTOPSIUS MELONIS
144	71721	0.00217	0.00105	0.00328	0.00000627	0.99983437	COLUS HERENDEENII
145	24001	0.00209	0.00000	0.00556	0.00000605	0.99984043	PROWFISH
146	66045	0.00208	0.00145	0.00271	0.00000602	0.99984645	HUMPY SHRIMP
147	80594	0.00196	0.00000	0.00506	0.00000567	0.99985211	LEPTASTERIAS ARCTICA
148	66500	0.00190	0.00112	0.00268	0.00000549	0.99985761	CRANGONID SHRIMP UNIDENT
149	21355	0.00189	0.00074	0.00303	0.00000545	0.99986306	RIBBED SCULPIN
150	23805	0.00183	0.00137	0.00229	0.00000528	0.99986834	DAUBED SHANNY
151	24186	0.00180	0.00000	0.00477	0.00000519	0.99987354	LYCODES MUCOSUS
152	20035	0.00176	0.00000	0.00433	0.00000508	0.99987862	GRAY STARSNOUT
153	21900	0.00171	0.00000	0.00456	0.00000496	0.99988358	GREENLING UNIDENT
154	21921	0.00163	0.00000	0.00348	0.00000471	0.99988829	ATKA MACKEREL
155	71580	0.00153	0.00058	0.00247	0.00000441	0.99989270	POLINICES PALLIDA
156	66530	0.00146	0.00091	0.00200	0.00000421	0.99989691	CRANGON DALLI
157	68510	0.00141	0.00074	0.00209	0.00000409	0.99990100	DECORATOR CRAB
158	82510	0.00139	0.00017	0.00261	0.00000401	0.99990501	GREEN SEA URCHIN
159	66570	0.00136	0.00078	0.00193	0.00000392	0.99990893	ARGIS SP
160	80729	0.00132	0.00000	0.00351	0.00000382	0.99991276	RED BAT STAR
161	74050	0.00128	0.00000	0.00287	0.00000371	0.99991646	MUSSEL UNIDENT
162	22232	0.00128	0.00000	0.00293	0.00000370	0.99992016	CAREPROCTUS SCOTTAE
163	74000	0.00125	0.00028	0.00222	0.00000360	0.99992377	CLAM UNIDENT

Table B-1.--Rank order of fish and invertebrate taxa by relative abundance (kg/ha).

RANK	SPECIES	MEAN CPUE (KG/HA)	90 PERCENT CONFIDENCE LIMITS		PROPORTION	CUMULATIVE PROPORTION	NAME
164	71726	0.00118	0.00021	0.00215	0.00000341	0.99992718	COLUS SPITZBERGENSIS
165	66580	0.00093	0.00061	0.00125	0.00000269	0.99992987	ARGIS DENTATA
166	71774	0.00083	0.00000	0.00181	0.00000239	0.99993226	BERINGIUS STIMPSONI
167	56300	0.00079	0.00024	0.00134	0.00000229	0.99993454	SCALEWORM UNIDENT
168	10270	0.00077	0.00020	0.00135	0.00000224	0.99993678	BUTTER SOLE
169	20050	0.00076	0.00041	0.00111	0.00000220	0.99993898	ALEUTIAN ALLIGATORFISH
170	71760	0.00073	0.00000	0.00194	0.00000211	0.99994109	VOLUTOPSIUS CASTANEUS
171	75266	0.00073	0.00018	0.00128	0.00000211	0.99994320	PACIFIC RAZOR CLAM
172	42004	0.00063	0.00000	0.00130	0.00000183	0.99994503	SLENDER SEAWHIP
173	21354	0.00063	0.00000	0.00141	0.00000183	0.99994686	SPECTACLED SCULPIN
174	74120	0.00062	0.00000	0.00156	0.00000180	0.99994867	WEATHERVANE SCALLOP
175	69121	0.00060	0.00000	0.00159	0.00000173	0.99995040	ELASSOCHIRUS CAVIMANUS
176	74080	0.00060	0.00000	0.00158	0.00000172	0.99995212	BAY MUSSEL
177	21341	0.00058	0.00000	0.00124	0.00000167	0.99995379	MALACOCOTTUS ZONURUS
178	30060	0.00058	0.00000	0.00153	0.00000167	0.99995545	PACIFIC OCEAN PERCH
179	21592	0.00056	0.00000	0.00115	0.00000162	0.99995707	PACIFIC SANDFISH
180	71710	0.00055	0.00000	0.00114	0.00000160	0.99995867	COLUS SP
181	66611	0.00055	0.00025	0.00085	0.00000158	0.99996025	ARGIS LAR
182	71530	0.00055	0.00005	0.00104	0.00000158	0.99996182	NATICA CLAUSA
183	71731	0.00054	0.00024	0.00084	0.00000156	0.99996338	COLUS HALLI
184	20061	0.00052	0.00002	0.00102	0.00000150	0.99996488	BERING POACHER
185	66515	0.00045	0.00024	0.00066	0.00000130	0.99996618	CRANGON COMMUNIS
186	75284	0.00043	0.00000	0.00095	0.00000123	0.99996742	SERRIPES SP
187	71575	0.00042	0.00000	0.00101	0.00000121	0.99996863	POLINICES SP
188	68020	0.00042	0.00000	0.00111	0.00000120	0.99996983	DUNGENESS CRAB
189	81090	0.00040	0.00000	0.00105	0.00000114	0.99997097	CROSSASTER SP
190	20202	0.00039	0.00014	0.00063	0.00000112	0.99997209	PACIFIC SAND LANCE
191	21315	0.00038	0.00000	0.00102	0.00000111	0.99997320	ARCTIC STAGHORN SCULPIN

Table B-1.--Rank order of fish and invertebrate taxa by relative abundance (kg/ha).

RANK	SPECIES	MEAN CPUE (KG/HA)	95 PERCENT CONFIDENCE LIMITS		PROPORTION	CUMULATIVE PROPORTION	NAME
192	74100	0.00037	0.00000	0.00088	0.00000108	0.99997428	SCALLOP UNIDENT
193	85210	0.00035	0.00000	0.00074	0.00000102	0.99997530	PSOLUS SP
194	23808	0.00035	0.00006	0.00063	0.00000101	0.99997630	SNAKE PRICKLEBACK
195	72756	0.00034	0.00009	0.00059	0.00000098	0.99997728	BUCCINUM SOLENUM
196	66600	0.00031	0.00000	0.00072	0.00000089	0.99997817	SCLEROCRANGON SP
197	66502	0.00031	0.00005	0.00056	0.00000088	0.99997905	CRANGON SP
198	68040	0.00030	0.00000	0.00069	0.00000087	0.99997993	CANCER OREGONENSIS
199	75281	0.00029	0.00002	0.00056	0.00000085	0.99998078	CLINOCARDIUM SP
200	68010	0.00029	0.00000	0.00059	0.00000084	0.99998162	CANCER CRAB UNIDENT
201	20055	0.00029	0.00000	0.00062	0.00000084	0.99998245	SMOOTH ALLIGATORFISH
202	69060	0.00028	0.00000	0.00076	0.00000082	0.99998328	PAGURUS ALEUTICUS
203	21350	0.00028	0.00004	0.00053	0.00000082	0.99998409	TRIGLOPS SP
204	75267	0.00026	0.00008	0.00044	0.00000074	0.99998484	DALL'S RAZOR CLAM
205	74104	0.00025	0.00000	0.00058	0.00000073	0.99998556	CHLAMYS SP
206	66169	0.00025	0.00000	0.00050	0.00000071	0.99998628	HIPPOLYTID SHRIMP UNIDENT
207	74981	0.00022	0.00000	0.00047	0.00000065	0.99998693	COCKLE UNIDENT
208	65000	0.00021	0.00000	0.00045	0.00000060	0.99998753	BARNACLE UNIDENT
209	74655	0.00019	0.00000	0.00037	0.00000054	0.99998807	CYCLOCARDIA CREBRICOSTATA
210	71640	0.00018	0.00000	0.00036	0.00000052	0.99998859	SLIPPER SHELL
211	21346	0.00017	0.00000	0.00034	0.00000048	0.99998907	RED IRISH LORD
212	71759	0.00016	0.00002	0.00029	0.00000046	0.99998953	VOLUTOPSIUS FILOSUS
213	74065	0.00015	0.00000	0.00033	0.00000044	0.99998997	MYTILUS SP
214	75205	0.00015	0.00000	0.00033	0.00000044	0.99999040	GREAT ALASKAN TELLIN
215	21725	0.00015	0.00004	0.00026	0.00000043	0.99999084	ARCTIC COD
216	71755	0.00015	0.00000	0.00040	0.00000043	0.99999127	PYRULOFUSUS (VOLUTOPSIUS) HARPA
217	74983	0.00014	0.00000	0.00037	0.00000041	0.99999167	CLINOCARDIUM CILIATUM
218	71771	0.00012	0.00000	0.00027	0.00000034	0.99999202	BERINGIUS FRIELEI
219	72300	0.00012	0.00000	0.00031	0.00000034	0.99999236	TRICHOTROPIDAE

Table B-1.--Rank order of fish and invertebrate taxa by relative abundance (kg/ha).

RANK	SPECIES	MEAN CPUE (KG/HA)	90 PERCENT *---CONFIDENCE LIMITS---*		PROPORTION	CUMULATIVE PROPORTION	NAME
220	66033	0.00011	0.00000	0.00023	0.00000033	0.99999268	PANDALUS TRIDENS
221	00415	0.00011	0.00000	0.00030	0.00000032	0.99999301	FLATHEAD SKATE
222	72422	0.00011	0.00001	0.00020	0.00000031	0.99999332	TROPHONOPSIS (BOREOTROPHON) DALLI
223	22236	0.0001C	0.00000	0.00028	0.00000030	0.99999362	PINK SNAILFISH
224	23807	0.0001C	0.00002	0.00019	0.00000030	0.99999392	SLENDER EELBLENNY
225	75240	0.0001C	0.00000	0.00020	0.00000030	0.99999421	MACOMA SP
226	95000	0.00009	0.00000	0.00025	0.00000027	0.99999448	BRYOZOAN UNIDENT
227	95030	0.00009	0.00000	0.00023	0.00000025	0.99999473	FLUSTRA SERRULATA
228	20060	0.00009	0.00000	0.00023	0.00000025	0.99999498	WARTY POACHER
229	59100	0.00008	0.00000	0.00022	0.00000024	0.99999523	LEECH UNIDENT
230	20015	0.00008	0.00000	0.00022	0.00000024	0.99999546	NORTHERN SPEARNOSE POACHER
231	66548	0.00008	0.00000	0.00022	0.00000024	0.99999570	CRANGON SEPTENSPINOSA
232	72759	0.00008	0.00000	0.00022	0.00000023	0.99999593	BUCCINUM TENELLUM
233	66000	0.00008	0.00000	0.00021	0.00000023	0.99999616	SHRIMP UNIDENT
234	72403	0.00008	0.00000	0.00017	0.00000022	0.99999638	TROPHON DALLI
235	74105	0.00007	0.00000	0.00015	0.00000021	0.99999659	CHLAMYS ISLANDICA
236	71722	0.00007	0.00000	0.00015	0.00000019	0.99999678	COLUS HYPOLISPUS
237	80540	0.00006	0.00000	0.00014	0.00000018	0.99999696	HENRICIA SP
238	71025	0.00006	0.00000	0.00016	0.00000017	0.99999714	TRITONIA SP
239	75264	0.00006	0.00000	0.00016	0.00000017	0.99999731	SILIQUA SP
240	50000	0.00006	0.00000	0.00013	0.00000017	0.99999748	POLYCHAETE WORM UNIDENT
241	21935	0.00006	0.00000	0.00015	0.00000016	0.99999764	KELP GREENLING
242	94500	0.00006	0.00000	0.00015	0.00000016	0.99999780	ECHIUROID WORM UNIDENT
243	23836	0.00006	0.00000	0.00015	0.00000016	0.99999796	LONGSNOUT PRICKLEBACK
244	21387	0.00005	0.00000	0.00014	0.00000016	0.99999812	LEISTER SCULPIN
245	21352	0.00005	0.00000	0.00013	0.00000014	0.99999826	SCISSORTAIL SCULPIN
246	83020	0.00005	0.00000	0.00013	0.00000014	0.99999840	GORGONOCEPHALUS CARYI
247	66601	0.00004	0.00000	0.00011	0.00000012	0.99999852	TANK SHRIMP

Table B-1.--Rank order of fish and invertebrate taxa by relative abundance (kg/ha).

RANK	SPECIES	MEAN CPUE (KG/HA)	90 PERCENT CONFIDENCE LIMITS		PROPORTION	CUMULATIVE PROPORTION	NAME
248	66160	0.00004	0.00000	0.00011	0.00000012	0.99999863	SPIRONTOCARIS SP
249	21463	0.00004	0.00000	0.00009	0.00000012	0.99999875	PACIFIC SPINY LUMPSUCKER
250	70100	0.00004	0.00000	0.00011	0.00000011	0.99999886	CHITON UNIDENT
251	71535	0.00004	0.00000	0.00009	0.00000010	0.99999897	NATICA ALEUTICA
252	00401	0.00003	0.00000	0.00009	0.00000010	0.99999907	SKATE EGG CASE UNIDENT
253	71525	0.00003	0.00000	0.00009	0.00000010	0.99999917	NATICA SP
254	21439	0.00003	0.00000	0.00009	0.00000010	0.99999926	ICELUS CANALICULATUS
255	74320	0.00003	0.00000	0.00009	0.00000009	0.99999936	ARCTIC ROUGH MYA
256	23850	0.00003	0.00000	0.00009	0.00000009	0.99999945	WHITEBARRED PRICKLEBACK
257	50010	0.00003	0.00000	0.00009	0.00000009	0.99999955	TUBE WORM UNIDENT
258	56311	0.00003	0.00000	0.00009	0.00000009	0.99999964	EUNOE NODOSA
259	80112	0.00003	0.00000	0.00008	0.00000009	0.99999973	LEPTASTERIAS HYLODES
260	20034	0.00003	0.00000	0.00008	0.00000009	0.99999982	BATHYAGONUS SP
261	74439	0.00003	0.00000	0.00008	0.00000008	0.99999990	NUCULANA FOSSA
262	66170	0.00002	0.00000	0.00004	0.00000005	0.99999995	EUALUS SP
263	22201	0.00002	0.00000	0.00004	0.00000005	1.00000000	LIPARIS SP
	TOTAL	345.87078					

Appendix C

Population and Biomass Estimates for Principal Species of Fish

Appendix C presents estimates of population size in terms of number of individuals and biomass estimates in metric tons for the principal species of commercially important demersal fish. Estimates are given by stratum code. Stratum codes corresponding to subareas illustrated in Figure 1 are as follows:

Subarea Number	Stratum Code
1	10
2	20, 21
3N	30, 32
3S	70, 71, 72
4N	40, 41, 42
4S	60, 61
5	50, 52

Stratum codes 21, 32, 71, 72, 41, 42, 61, and 52 represent high density sampling areas around the Pribilof Islands and St. Matthew Island. Other less apparent heading definitions are as follows:

Samples refers to the number of sampling units in a stratum. One sampling unit equals the mean trawl path width times one nautical mile.

Method Used (Code 1) indicates that catch weights and numbers were available for each catch record.

Confidence Limits reflect sampling error only and do not incorporate other biases.

List of Tables

Table C-1.--Population and biomass estimates for walleye pollock.

STANDARD TRAWL WIDTH = 16.54000000 METERS

STRATUM	AREA SQ. MI.	SAMPLES	TOTAL HAULS	HAULS WITH CATCH	HAULS WITH NUMS.	HAULS WITH L-F	CPUE KG/HA	VARIANCE CPUE KG/HA	CPUE NO/HA	VARIANCE CPUE NO/HA
10*	22,950.	.25696849 2E+07	58	51	51	47	131.45031	.864111E+03	190.05555	.188498E+04
SUBTOTAL	22,950.	.25696849 2E+07	58	51	51	47	131.45031	.864111E+03	190.05556	.188498E+04
20*	16,030.	.17949426 2E+07	39	39	39	39	176.60898	.854681E+03	273.72336	.217442E+04
21*	1,720.	.19253532 8E+06	6	5	5	4	279.17456	.588727E+05	558.11733	.244074E+05
SUBTOTAL	17,750.	.19874779 5E+07	45	44	44	43	186.54494	.597274E+05	301.27380	.246248E+06
30*	12,731.	.14254645 0E+07	26	26	26	26	64.66136	.752303E+02	311.26669	.266757E+04
32*	1,271.	.14235092 8E+06	6	6	6	6	320.61039	.470842E+04	853.54519	.342547E+05
SUBTOTAL	14,002.	.15678154 3E+07	32	32	32	32	87.90044	.478365E+04	360.50325	.369223E+05
40*	21,612.	.24198898 0E+07	56	56	56	55	23.27748	.114172E+02	259.74719	.344183E+04
41*	3,115.	.34877158 6E+06	13	12	12	12	248.60165	.162288E+05	437.16730	.395511E+05
42*	2,009.	.22499000 2E+06	5	5	5	5	396.20101	.336514E+05	609.36042	.701937E+05
SUBTOTAL	26,736.	.29936513 9E+07	74	73	73	72	77.55593	.498915E+05	306.69273	.113187E+06
50*	4,345.	.48652537 0E+06	11	11	11	11	155.43369	.891962E+04	374.90508	.589573E+05
52*	2,317.	.25939744 9E+06	9	9	9	9	145.52760	.482479E+04	268.94959	.171798E+05
SUBTOTAL	6,662.	.74592281 9E+06	20	20	20	20	151.98881	.137444E+05	338.05866	.761371E+05
60*	22,793.	.25521853 8E+07	55	50	50	49	61.91059	.315461E+03	118.62623	.122249E+04
61*	975.	.10921236 3E+06	3	3	3	3	91.49241	.323004E+04	190.27673	.193030E+05
SUBTOTAL	23,769.	.26613977 5E+07	58	53	53	52	63.12450	.354550E+04	121.56646	.211255E+05
70*	16,921.	.18946668 7E+07	39	39	39	39	228.33485	.933171E+03	666.70383	.926685E+04
71*	4,231.	.47373123 8E+06	19	15	15	15	117.79081	.411196E+04	246.00616	.149056E+05
72*	2,446.	.27390361 8E+06	9	9	9	9	386.73820	.712710E+04	837.53005	.300006E+05
SUBTOTAL	23,598.	.26423017 2E+07	67	63	63	63	224.93596	.121722E+05	608.98612	.541730E+05
TOTAL	135,466.	.15168252 0E+08	354	336	336	329	128.83798	.144729E+06	313.50475	.549678E+06

Table C-1.--Population and biomass estimates for walleye pollock (cont'd).

STRATUM	MEAN WT KG	POPULATION	VARIANCE POPULATION	METHOD USED	EFF. DEG. FREEDOM	CONFIDENCE LIMITS - POPULATION PERCENT	LOWER	UPPER
10*	0.691641	.145601840E+10	.116793695E+18	1	57.00000	95.0	.811081197E+09	.218095561E+10
SUBTOTAL	0.691641	.145601840E+10	.116793695E+18		57.00000	95.0	.811081197E+09	.218095561E+10
20*	0.645210	.150500839E+10	.657350727E+17	1	38.00000	95.0	.985770363E+09	.202424642E+10
21*	0.500208	.329164074E+09	.848975681E+17	1	5.00000	95.0	0.	.107828116E+10
SUBTOTAL	0.619187	.183417247E+10	.150632641E+18		6.25049	95.0	.884456991E+09	.278388794E+10
30*	0.207736	.135914421E+10	.508606330E+17	1	25.00000	95.0	.894566791E+09	.182372164E+10
32*	0.375622	.372188806E+09	.651318611E+16	1	5.00000	95.0	.164698018E+09	.579679595E+09
SUBTOTAL	0.243827	.173133302E+10	.573738192E+17		23.79990	95.0	.123574891E+10	.222691713E+10
40*	0.089616	.192540872E+10	.189118404E+18	1	55.00000	95.0	.105291407E+10	.279790336E+10
41*	0.568665	.467052014E+09	.451433585E+17	1	12.00000	95.0	.408061460E+07	.930023414E+09
42*	0.650192	.415965821E+09	.333409408E+17	1	4.00000	95.0	0.	.926849592E+09
SUBTOTAL	0.252878	.281242655E+10	.267602703E+18		14.82205	95.0	.170281097E+10	.392204213E+10
50*	0.414595	.558731685E+09	.130948889E+18	1	10.00000	95.0	0.	.136497494E+10
52*	0.541096	.213704212E+09	.108468079E+17	1	8.00000	95.0	0.	.460014254E+09
SUBTOTAL	0.449593	.772435897E+09	.141795697E+18		11.97388	95.0	0.	.160123938E+10
60*	0.521896	.927404970E+09	.747177768E+17	1	54.00000	95.0	.378991840E+09	.147581810E+10
61*	0.480839	.636552140E+08	.222748568E+16	1	2.00000	95.0	0.	.256740663E+09
SUBTOTAL	0.519259	.991060184E+09	.769452625E+17		14.24735	95.0	.396058439E+09	.158606193E+10
70*	0.342493	.386938846E+10	.312140921E+18	1	38.00000	95.0	.273791786E+10	.500085905E+10
71*	0.478812	.356988722E+09	.313881168E+17	1	18.00000	95.0	0.	.730810919E+09
72*	0.461750	.702707604E+09	.211192486E+17	1	8.00000	95.0	.367569003E+09	.103782620E+10
SUBTOTAL	0.369361	.492908478E+10	.364648285E+18		57.03580	95.0	.371946032E+10	.613870924E+10
TOTAL	0.000411	.145665313E+11	.117579210E+19		54.17267	95.0	.123910210E+11	.167420416E+11

Table C-1.--Population and biomass estimates for walleye pollock (cont'd).

STRATUM	BIOMASS MT	VARIANCE BIOMASS	EFF. DEG. FREEDOM	CONFIDENCE LIMITS - BIOMASS PERCENT	LOWER	UPPER
10*	.103470839E+07	.535404846E+11	57.00000	95.0	.571203177E+06	.149321360E+07
SUBTOTAL	.103470839E+07	.535404846E+11	57.00000	95.0	.571203177E+06	.149321360E+07
20*	.971046071E+06	.258379447E+11	38.00000	95.0	.645511662E+06	.129658043E+07
21*	.164650387E+06	.204780241E+11	5.00000	95.0	0.	.532564207E+06
SUBTOTAL	.113569646E+07	.463159683E+11	7.09437	95.0	.626721376E+06	.164467154E+07
30*	.282343462E+06	.143436214E+10	25.00000	95.0	.204325136E+06	.360361788E+06
32*	.139802319E+06	.895258598E+09	5.00000	95.0	.628757567E+05	.216728882E+06
SUBTOTAL	.422145782E+06	.232962074E+10	9.13119	95.0	.312967762E+06	.531323801E+06
40*	.172547280E+06	.627341153E+09	55.00000	95.0	.122322225E+06	.222772334E+06
41*	.265596042E+06	.185233883E+11	12.00000	95.0	0.	.565153583E+06
42*	.273058237E+06	.159838779E+11	4.00000	95.0	0.	.524020594E+06
SUBTOTAL	.711201558E+06	.351346074E+11	7.87924	95.0	.267900572E+06	.115450254E+07
50*	.231647250E+06	.198111877E+11	10.00000	95.0	0.	.545243193E+06
52*	.115634531E+06	.304622812E+10	8.00000	95.0	0.	.242908771E+06
SUBTOTAL	.347281780E+06	.228574158E+11	13.51517	95.0	.207185262E+05	.673945035E+06
60*	.484009227E+06	.192807016E+11	54.00000	95.0	.205424509E+06	.762593945E+06
61*	.306078883E+05	.361497147E+09	2.00000	95.0	0.	.272183062E+06
SUBTOTAL	.514617115E+06	.196421987E+11	23.26974	95.0	.224645465E+06	.804588766E+06
70*	.132520040E+07	.314325853E+11	38.00000	95.0	.965775575E+06	.168462523E+07
71*	.170930639E+06	.865895586E+10	18.00000	95.0	0.	.366436066E+06
72*	.324482540E+06	.501720159E+10	8.00000	95.0	.161143470E+06	.487821611E+06
SUBTOTAL	.182061358E+07	.451087427E+11	49.04294	95.0	.139338412E+07	.224784304E+07
TOTAL	.598626466E+07	.224929039E+12	36.99760	95.0	.502378753E+07	.694874179E+07

Table C-1.--Population and biomass estimates for walleye pollock (cont'd).

CONFIDENCE LIMITS

	TOTAL BIOMASS MT		TOTAL POPULATION	
	LOWER	UPPER	LOWER	UPPER
80.000 PERCENT	.536696702E+07	.650556231E+07	.131589502E+11	.159741124E+11
90.000 PERCENT	.518513311E+07	.678739621E+07	.127503711E+11	.163826915E+11
95.000 PERCENT	.502378753E+07	.694874179E+07	.123910210E+11	.167420416E+11

Table C-2.--Population and biomass estimates for Pacific cod.

STANDARD TRAWL WIDTH = 16.54000000 METERS

STRATUM	AREA SQ. MI.	SAMPLES	TOTAL HAULS	HAULS WITH CATCH	HAULS WITH NUMS.	HAULS WITH L-F	CPUE KG/HA	VARIANCE CPUE KG/HA	CPUE NO/HA	VARIANCE CPUE NO/HA
10*	22,950.	.25696849 2E+07	58	58	58	26	33.01519	.312232E+02	22.93380	.247252E+02
SUBTOTAL	22,950.	.25696849 2E+07	58	58	58	26	33.01519	.312232E+02	22.93380	.247252E+02
20*	16,030.	.17949426 2E+07	39	39	39	15	13.80268	.239490E+01	4.82776	.454911E+00
21*	1,720.	.19253532 8E+06	6	5	5	4	5.30984	.652414E+01	3.55164	.692594E+01
SUBTOTAL	17,750.	.19874779 5E+07	45	44	44	19	12.97994	.891904E+01	4.70414	.738085E+01
30*	12,731.	.14254645 0E+07	26	26	26	26	24.94076	.128485E+02	7.19327	.769028E+00
32*	1,271.	.14235092 8E+06	6	6	6	6	26.20532	.142782E+02	7.27217	.101969E+01
SUBTOTAL	14,002.	.15678154 3E+07	32	32	32	32	25.05557	.271267E+02	7.20043	.173372E+01
40*	21,612.	.24198898 0E+07	56	56	56	54	34.02409	.188546E+03	32.44188	.744066E+02
41*	3,115.	.34877158 6E+06	13	13	13	12	12.76565	.259219E+02	16.45381	.554012E+02
42*	2,009.	.22499000 2E+06	5	5	5	5	24.63588	.124959E+03	16.98253	.449675E+02
SUBTOTAL	26,736.	.29936513 9E+07	74	74	74	71	30.84132	.339426E+03	29.41736	.174775E+03
50*	4,345.	.48652537 0E+06	11	11	11	11	37.17429	.150917E+03	22.55772	.118653E+03
52*	2,317.	.25939744 9E+06	9	9	9	9	38.58019	.429763E+03	31.65331	.199700E+03
SUBTOTAL	6,662.	.74592281 9E+06	20	20	20	20	37.66320	.580680E+03	25.72075	.318353E+03
60*	22,793.	.25521853 8E+07	55	53	53	25	18.22963	.798757E+01	9.66522	.205229E+01
61*	975.	.10921236 3E+06	3	3	3	3	3.13603	.128487E+01	1.71582	.200675E+00
SUBTOTAL	23,769.	.26613977 5E+07	58	56	56	28	17.61026	.927243E+01	9.33901	.225297E+01
70*	16,921.	.18946668 7E+07	39	39	39	34	24.59920	.168781E+02	7.77500	.144228E+01
71*	4,231.	.47373123 8E+06	19	18	18	16	9.41992	.626288E+01	7.52207	.325760E+01
72*	2,446.	.27390361 8E+06	9	9	9	9	58.36342	.111405E+03	27.17325	.300896E+02
SUBTOTAL	23,598.	.26423017 2E+07	67	66	66	59	25.37778	.134546E+03	9.74050	.347895E+02
TOTAL	135,466.	.15168252 0E+08	354	350	350	255	25.33355	.113119E+04	15.65204	.564065E+03

Table C-2.--Population and biomass estimates for Pacific cod (cont'd).

STRATUM	MEAN WT KG	POPULATION	VARIANCE POPULATION	METHOD USED	EFF. DEG. FREEDOM	CONFIDENCE LIMITS - POPULATION PERCENT	LOWER	UPPER
10*	1.439586	.180522927E+09	.153198033E+16	1	57.00000	95.0	.102118594E+09	.258927260E+09
SUBTOTAL	1.439586	.180522927E+09	.153198033E+16		57.00000	95.0	.102118594E+09	.258927260E+09
20*	2.859025	.265443770E+08	.137524620E+14	1	38.00000	95.0	.190262744E+08	.340624796E+08
21*	1.495037	.209467262E+07	.240908873E+13	1	5.00000	95.0	0.	.608518328E+07
SUBTOTAL	2.759263	.286390496E+08	.161615507E+14		16.01376	95.0	.201163462E+08	.371617530E+08
30*	3.467237	.314093553E+08	.146624995E+14	1	25.00000	95.0	.235212767E+08	.392974338E+08
32*	3.603509	.317103264E+07	.193883757E+12	1	5.00000	95.0	.203896392E+07	.430310135E+07
SUBTOTAL	3.479733	.345803879E+08	.148563833E+14		27.49570	95.0	.266711634E+08	.424896124E+08
40*	1.048770	.240479514E+09	.408842012E+16	1	55.00000	95.0	.112262316E+09	.368696713E+09
41*	0.775648	.175785928E+08	.632344378E+14	1	12.00000	95.0	.251159603E+06	.349060260E+08
42*	1.450656	.117042454E+08	.213588463E+14	1	4.00000	95.0	0.	.245337043E+08
SUBTOTAL	1.048423	.269762352E+09	.417301345E+16		65.22867	95.0	.140672286E+09	.398852419E+09
50*	1.647963	.336184130E+08	.263537010E+15	1	10.00000	95.0	0.	.697373707E+08
52*	1.219836	.251513496E+08	.126084781E+15	1	8.00000	95.0	0.	.510448424E+08
SUBTOTAL	1.464312	.587697626E+08	.389621791E+15		17.59427	95.0	.171208109E+08	.100413714E+09
60*	1.886106	.755614895E+08	.125434337E+15	1	54.00000	95.0	.530914368E+08	.980315423E+08
61*	1.827717	.574010079E+06	.224590014E+11	1	2.00000	95.0	0.	.121897178E+07
SUBTOTAL	1.885666	.761354996E+08	.125456796E+15		54.33929	95.0	.536634353E+08	.986075639E+08
70*	3.163883	.451242391E+08	.485811414E+14	1	38.00000	95.0	.310085600E+08	.592399181E+08
71*	1.252303	.109155633E+08	.685985318E+13	1	18.00000	95.0	.541276662E+07	.164183599E+08
72*	2.147827	.227989988E+08	.211818999E+14	1	8.00000	95.0	.121859112E+08	.334120864E+08
SUBTOTAL	2.605389	.788388011E+08	.766228934E+14		21.18061	95.0	.606316244E+08	.970459779E+08
TOTAL	0.001619	.727248780E+09	.632771320E+16		119.66657	95.0	.569719354E+09	.884778206E+09

Table C-2.--Population and biomass estimates for Pacific cod (cont'd).

STRATUM	BIOMASS MT	VARIANCE BIOMASS	EFF. DEG. FREEDOM	CONFIDENCE LIMITS - BIOMASS PERCENT	LOWER	UPPER
10*	.259878363E+06	.193459547E+10	57.00000	95.0	.171771740E+06	.347984986E+06
SUBTOTAL	.259878363E+06	.193459547E+10	57.00000	95.0	.171771740E+06	.347984986E+06
20*	.758910482E+05	.724005801E+08	38.00000	95.0	.586589191E+05	.931231774E+05
21*	.313161404E+04	.226932614E+07	5.00000	95.0	0.	.700464113E+04
SUBTOTAL	.790226623E+05	.746699062E+08	41.85692	95.0	.615679207E+05	.964774038E+05
30*	.108903667E+06	.244972224E+09	25.00000	95.0	.766613948E+05	.141145940E+06
32*	.114268431E+05	.271486529E+07	5.00000	95.0	.719064544E+04	.156630408E+05
SUBTOTAL	.120330510E+06	.247687089E+09	27.14580	95.0	.880359749E+05	.152625046E+06
40*	.252207810E+06	.103600306E+11	55.00000	95.0	.481049719E+05	.456310649E+06
41*	.136383114E+05	.295871038E+08	12.00000	95.0	.178585248E+04	.254907703E+05
42*	.169788302E+05	.593533987E+08	4.00000	95.0	0.	.383654554E+05
SUBTOTAL	.282824952E+06	.104489711E+11	60.27877	95.0	.783845340E+05	.487265370E+06
50*	.554013977E+05	.335198311E+09	10.00000	95.0	.146107338E+05	.961930617E+05
52*	.306553676E+05	.271339530E+09	8.00000	95.0	0.	.586406918E+05
SUBTOTAL	.860572654E+05	.606537841E+09	17.79839	95.0	.340922086E+05	.138022322E+06
60*	.142516991E+06	.488193505E+09	54.00000	95.0	.981875892E+05	.186846393E+06
61*	.104912807E+04	.143798501E+06	2.00000	95.0	0.	.268085893E+04
SUBTOTAL	.143566119E+06	.488337303E+09	54.54184	95.0	.992301891E+05	.187902049E+06
70*	.142767813E+06	.568516166E+09	38.00000	95.0	.944798008E+05	.191055825E+06
71*	.136695956E+05	.131883624E+08	18.00000	95.0	.600696498E+04	.213322262E+05
72*	.489682977E+05	.784247106E+08	8.00000	95.0	.285468858E+05	.693897095E+05
SUBTOTAL	.205405706E+06	.660129239E+09	38.07319	95.0	.153372283E+06	.257439130E+06
TOTAL	.117708558E+07	.144609280E+11	126.45268	95.0	.938983895E+06	.141518726E+07

Table C-2.--Population and biomass estimates for Pacific cod (cont'd).

CONFIDENCE LIMITS

	TOTAL BIOMASS MT		TOTAL POPULATION	
	LOWER	UPPER	LOWER	UPPER
80.000 PERCENT	.102207884E+07	.133209231E+07	.624703514E+09	.829794046E+09
90.000 PERCENT	.977705399E+06	.137646576E+07	.595342744E+09	.859154816E+09
95.000 PERCENT	.938983895E+06	.141518726E+07	.569719354E+09	.834778206E+09

Table C-3.--Population and biomass estimates for sablefish.

STANDARD TRAWL WIDTH = 16.54000000 METERS

STRATUM	AREA SQ. MI.	SAMPLES	TOTAL HAULS	HAULS WITH CATCH	HAULS WITH NUMS.	HAULS WITH L-F	CPUE KG/HA	VARIANCE CPUE KG/HA	CPUE NO/HA	VARIANCE CPUE NO/HA
10*	22,950.	.256968492E+07	58	0	0	0	0.00000	0.	0.00000	0.
SUBTOTAL	22,950.	.256968492E+07	58	0	0	0	0.00000	0.	0.00000	0.
20*	16,030.	.179494262E+07	39	21	21	5	1.13073	.798358E-01	1.01751	.105405E+00
21*	1,720.	.192533328E+06	6	0	0	0	0.00000	0.	0.00000	0.
SUBTOTAL	17,750.	.198747795E+07	45	21	21	5	1.02119	.798358E-01	0.91894	.105405E+00
30*	12,731.	.142546450E+07	26	0	0	0	0.00000	0.	0.00000	0.
32*	1,271.	.142350928E+06	6	0	0	0	0.00000	0.	0.00000	0.
SUBTOTAL	14,002.	.156781543E+07	32	0	0	0	0.00000	0.	0.00000	0.
40*	21,612.	.241988980E+07	56	0	0	0	0.00000	0.	0.00000	0.
41*	3,115.	.348771586E+06	13	0	0	0	0.00000	0.	0.00000	0.
42*	2,009.	.224990002E+06	5	0	0	0	0.00000	0.	0.00000	0.
SUBTOTAL	26,736.	.299365139E+07	74	0	0	0	0.00000	0.	0.00000	0.
50*	4,345.	.486525370E+06	11	0	0	0	0.00000	0.	0.00000	0.
52*	2,317.	.259397449E+06	9	0	0	0	0.00000	0.	0.00000	0.
SUBTOTAL	6,662.	.745922819E+06	20	0	0	0	0.00000	0.	0.00000	0.
60*	22,793.	.255218538E+07	55	0	0	0	0.00000	0.	0.00000	0.
61*	975.	.109212363E+06	3	0	0	0	0.00000	0.	0.00000	0.
SUBTOTAL	23,769.	.266139775E+07	58	0	0	0	0.00000	0.	0.00000	0.
70*	16,921.	.189466687E+07	39	4	4	3	2.07031	.362374E+01	0.62098	.295157E+00
71*	4,231.	.473731238E+06	19	1	1	0	0.00974	.949049E-04	0.01193	.142369E-03
72*	2,446.	.273903618E+06	9	0	0	0	0.00000	0.	0.00000	0.
SUBTOTAL	23,598.	.264230172E+07	67	5	5	3	1.48626	.362383E+01	0.44742	.295299E+00
TOTAL	135,466.	.151682520E+08	354	26	26	8	0.39271	.370367E+01	0.19835	.400703E+00

Table C-3.--Population and biomass estimates for sablefish (cont'd).

STRATUM	MEAN WT KG	POPULATION	VARIANCE POPULATION	METHOD USED	EFF. DEG. FREEDOM	CONFIDENCE LIMITS - POPULATION PERCENT	LOWER	UPPER
10*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
SUBTOTAL	0.000000	0.	0.		0.00000	95.0	0.	0.
20*	1.111268	.559458076E+07	.318649595E+13	1	38.00000	95.0	.197944506E+07	.920971646E+07
21*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
SUBTOTAL	1.111268	.559458076E+07	.318649595E+13		38.00000	95.0	.197944506E+07	.920971646E+07
30*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
32*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
SUBTOTAL	0.000000	0.	0.		0.00000	95.0	0.	0.
40*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
41*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
42*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
SUBTOTAL	0.000000	0.	0.		0.00000	95.0	0.	0.
50*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
52*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
SUBTOTAL	0.000000	0.	0.		0.00000	95.0	0.	0.
60*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
61*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
SUBTOTAL	0.000000	0.	0.		0.00000	95.0	0.	0.
70*	3.333918	.360403679E+07	.994194142E+13	1	38.00000	95.0	0.	.998966337E+07
71*	0.815464	.173147382E+05	.299800160E+09	1	18.00000	95.0	0.	.538488359E+05
72*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
SUBTOTAL	3.321831	.362135152E+07	.994224122E+13		38.00470	95.0	0.	.100079744E+08
TOTAL	0.001980	.921593228E+07	.131287372E+14		60.09523	95.0	.196921243E+07	.164626521E+08

Table C-3.--Population and biomass estimates for sablefish (cont'd).

STRATUM	BIOMASS MT	VARIANCE BIOMASS	EFF. DEG. FREEDOM	CONFIDENCE LIMITS - BIOMASS PERCENT	LOWER	UPPER
10*	0.	0.	0.00000	95.0	0.	0.
SUBTOTAL	0.	0.	0.00000	95.0	0.	0.
20*	.621707845E+04	.241352405E+07	38.00000	95.0	.307082479E+04	.936333212E+04
21*	0.	0.	0.00000	95.0	0.	0.
SUBTOTAL	.621707845E+04	.241352405E+07	38.00000	95.0	.307082479E+04	.936333212E+04
30*	0.	0.	0.00000	95.0	0.	0.
32*	0.	0.	0.00000	95.0	0.	0.
SUBTOTAL	0.	0.	0.00000	95.0	0.	0.
40*	0.	0.	0.00000	95.0	0.	0.
41*	0.	0.	0.00000	95.0	0.	0.
42*	0.	0.	0.00000	95.0	0.	0.
SUBTOTAL	0.	0.	0.00000	95.0	0.	0.
50*	0.	0.	0.00000	95.0	0.	0.
52*	0.	0.	0.00000	95.0	0.	0.
SUBTOTAL	0.	0.	0.00000	95.0	0.	0.
60*	0.	0.	0.00000	95.0	0.	0.
61*	0.	0.	0.00000	95.0	0.	0.
SUBTOTAL	0.	0.	0.00000	95.0	0.	0.
70*	.120155624E+05	.122060514E+09	38.00000	95.0	0.	.343901746E+05
71*	.141368523E+02	.199850594E+03	18.00000	95.0	0.	.439656108E+02
72*	0.	0.	0.00000	95.0	0.	0.
SUBTOTAL	.120296993E+05	.122060714E+09	38.00026	95.0	0.	.344043297E+05
TOTAL	.182467777E+05	.124474238E+09	39.50243	95.0	0.	.408181045E+05

Table C-3.--Population and biomass estimates for sablefish (cont'd).

CONFIDENCE LIMITS	TOTAL BIOMASS MT		TOTAL POPULATION	
	LOWER	UPPER	LOWER	UPPER
80.000 PERCENT	-.370165454E+04	.327919009E+05	.432005782E+07	.139118067E+08
90.000 PERCENT	0.	.370493367E+05	.316129784E+07	.152705667E+08
95.000 PERCENT	0.	.408181045E+05	.196921243E+07	.164626521E+08

Table C-4.--Population and biomass estimates for Pacific herring.

STANDARD TRAWL WIDTH = 16.54000000 METERS

STRATUM	AREA SQ. MI.	SAMPLES	TOTAL HAULS	HAULS WITH CATCH	HAULS WITH NUMS.	HAULS WITH L-F	CPUE KG/HA	VARIANCE CPUE KG/HA	CPUE NO/HA	VARIANCE CPUE NO/HA
10*	22,950.	.25696849 2E+07	58	21	21	3	3.42935	.205944E+01	16.00721	.428552E+02
SUBTOTAL	22,950.	.256968492E+07	58	21	21	3	3.42935	.205944E+01	16.00721	.428552E+02
20*	16,030.	.17949426 2E+07	39	3	3	0	0.21468	.255086E-01	1.01559	.651135E+00
21*	1,720.	.19253532 8E+06	6	0	0	0	0.00000	0.	0.00000	0.
SUBTOTAL	17,750.	.19874779 5E+07	45	3	3	0	0.19388	.255086E-01	0.91721	.651135E+00
30*	12,731.	.14254645 0E+07	26	1	1	0	0.00308	.947732E-05	0.00848	.719742E-04
32*	1,271.	.14235092 8E+06	6	4	4	0	0.22193	.133140E-01	0.84024	.237428E+00
SUBTOTAL	14,002.	.15678154 3E+07	32	5	5	0	0.02295	.133235E-01	0.08400	.237500E+00
40*	21,612.	.24198898 0E+07	56	46	46	10	2.69143	.622683E+00	15.31402	.214440E+02
41*	3,115.	.34877158 6E+06	13	6	6	0	0.10055	.735978E-02	0.58439	.209214E+00
42*	2,009.	.22499000 2E+06	5	1	1	0	0.16102	.259268E-01	0.80463	.647434E+00
SUBTOTAL	26,736.	.29936513 9E+07	74	53	53	10	2.19941	.655969E+00	12.50750	.223013E+02
50*	4,345.	.48652537 0E+06	11	6	6	1	0.19918	.130665E-01	1.28970	.456015E+00
52*	2,317.	.25939744 9E+06	9	4	4	0	0.88378	.308658E+00	5.82070	.160579E+02
SUBTOTAL	6,662.	.74592281 9E+06	20	10	10	1	0.43725	.321725E+00	2.86537	.165139E+02
60*	22,793.	.25521853 8E+07	55	19	19	1	0.15005	.257653E-02	0.94897	.992414E-01
61*	975.	.10921236 3E+06	3	0	0	0	0.00000	0.	0.00000	0.
SUBTOTAL	23,769.	.26613977 5E+07	58	19	19	1	0.14389	.257653E-02	0.91003	.992414E-01
70*	16,921.	.18946668 7E+07	39	15	15	6	1.05814	.254627E+00	5.45024	.720542E+01
71*	4,231.	.47373123 8E+06	19	8	8	3	10.91257	.952902E+02	56.71786	.256431E+04
72*	2,446.	.27390361 8E+06	9	6	6	0	0.19921	.108819E-01	1.14238	.271651E+00
SUBTOTAL	23,598.	.26423017 2E+07	67	29	29	9	2.73587	.955557E+02	14.19532	.257175E+04
TOTAL	135,466.	.15168252 0E+08	354	140	140	24	1.56617	.986342E+02	8.08259	.265445E+04

Table C-4.--Population and biomass estimates for Pacific herring (cont'd).

STRATUM	MEAN WT KG	POPULATION	VARIANCE POPULATION	METHOD USED	EFF. DEG. FREEDOM	CONFIDENCE LIMITS - POPULATION PERCENT	LOWER	UPPER
10*	0.214238	.126000440E+09	.265531641E+16	1	57.00000	95.0	.227785963E+08	.229222283E+09
SUBTOTAL	0.214238	.126000440E+09	.265531641E+16		57.00000	95.0	.227785963E+08	.229222283E+09
20*	0.211380	.558401041E+07	.196845452E+14	1	38.00000	95.0	0.	.145592696E+08
21*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
SUBTOTAL	0.211380	.558401041E+07	.196845452E+14		38.00000	95.0	0.	.145592696E+08
30*	0.362873	.370442959E+05	.137227986E+10	1	25.00000	95.0	0.	.113355545E+06
32*	0.264132	.366385328E+06	.451445700E+11	1	5.00000	95.0	0.	.956209032E+06
SUBTOTAL	0.273198	.403429624E+06	.465168499E+11		5.07034	95.0	0.	.957936869E+06
40*	0.175749	.113517103E+09	.117828139E+16	1	55.00000	95.0	.446486414E+08	.182385565E+09
41*	0.172057	.624333762E+06	.239594597E+12	1	12.00000	95.0	0.	.169091942E+07
42*	0.200114	.554545651E+06	.307520879E+12	1	4.00000	95.0	0.	.209396433E+07
SUBTOTAL	0.175847	.114695983E+09	.117882851E+16		55.41198	95.0	.458475845E+08	.183544381E+09
50*	0.154440	.192207807E+07	.101284477E+13	1	10.00000	95.0	0.	.416434149E+07
52*	0.151834	.462506367E+07	.101384763E+14	1	8.00000	95.0	0.	.119675923E+08
SUBTOTAL	0.152599	.654714174E+07	.111513211E+14		9.31148	95.0	0.	.141007727E+08
60*	0.158116	.741891335E+07	.606554897E+13	1	54.00000	95.0	.247514447E+07	.123626822E+08
61*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
SUBTOTAL	0.158116	.741891335E+07	.606554897E+13		54.00000	95.0	.247514447E+07	.123626822E+08
70*	0.194145	.316318756E+08	.242704600E+15	1	38.00000	95.0	.486106299E+05	.632151406E+08
71*	0.192401	.823053965E+08	.539993008E+16	1	18.00000	95.0	0.	.236695736E+09
72*	0.174381	.958485129E+06	.191232004E+12	1	8.00000	95.0	0.	.196690031E+07
SUBTOTAL	0.192731	.114895757E+09	.564282591E+16		18.79539	95.0	0.	.272720241E+09
TOTAL	0.000194	.375545675E+09	.951391877E+16		28.45986	95.0	.175785149E+09	.575306200E+09

Table C-4.--Population and biomass estimates for Pacific herring (cont'd).

STRATUM	BIOMASS MT	VARIANCE BIOMASS	EFF. DEG. FREEDOM	CONFIDENCE LIMITS - BIOMASS PERCENT	LOWER	UPPER
10*	.269940893E+05	.127603132E+09	57.00000	95.0	.435433414E+04	.496338444E+05
SUBTOTAL	.269940893E+05	.127603132E+09	57.00000	95.0	.435433414E+04	.496338444E+05
20*	.118034798E+04	.771152547E+06	38.00000	95.0	0.	.295878326E+04
21*	0.	0.	0.00000	95.0	0.	0.
SUBTOTAL	.118034798E+04	.771152547E+06	38.00000	95.0	0.	.295878326E+04
30*	.134423630E+02	.180697122E+03	25.00000	95.0	0.	.411336307E+02
32*	.967739164E+02	.253152251E+04	5.00000	95.0	0.	.236446240E+03
SUBTOTAL	.110216279E+03	.271221963E+04	5.16580	95.0	0.	.244111324E+03
40*	.195505645E+05	.342145627E+08	55.00000	95.0	.821507065E+04	.316860583E+05
41*	.107421108E+03	.840039813E+04	12.00000	95.0	0.	.307134490E+03
42*	.110972133E+03	.123148142E+05	4.00000	95.0	0.	.464085459E+03
SUBTOTAL	.201689577E+05	.342352779E+08	55.54850	95.0	.843605544E+04	.319013600E+05
50*	.296846344E+03	.290217653E+05	10.00000	95.0	0.	.676403426E+03
52*	.702242782E+03	.194377692E+06	8.00000	95.0	0.	.172022541E+04
SUBTOTAL	.999089126E+03	.223899457E+06	9.95013	95.0	0.	.206942263E+04
60*	.117305197E+04	.157475660E+06	54.00000	95.0	.376471196E+03	.196963275E+04
61*	0.	0.	0.00000	95.0	0.	0.
SUBTOTAL	.117305197E+04	.157475660E+06	54.00000	95.0	.376471196E+03	.196963275E+04
70*	.614117099E+04	.857674550E+07	38.00000	95.0	.204003758E+03	.120783382E+05
71*	.158356341E+05	.200661962E+09	18.00000	95.0	0.	.455973920E+05
72*	.167141908E+03	.766042277E+04	8.00000	95.0	0.	.374135793E+03
SUBTOTAL	.221439470E+05	.209246368E+09	18.75655	95.0	0.	.525356486E+05
TOTAL	.727696993E+05	.372240018E+09	29.59532	95.0	.331144454E+05	.112224953E+06

Table C-4.--Population and biomass estimates for Pacific herring (cont'd).

CONFIDENCE LIMITS	TOTAL BIOMASS MT		TOTAL POPULATION	
	LOWER	UPPER	LOWER	UPPER
80.000 PERCENT	.47475891 1E+05	.980635076E+05	.247476549E+09	.503614801E+09
90.000 PERCENT	.399900043E+05	.105549394E+06	.209631293E+09	.541460057E+09
95.000 PERCENT	.333144454E+05	.112224953E+06	.175785149E+09	.575306200E+09

Table C-5.--Population and biomass estimates for yellowfin sole.

STANDARD TRAWL WIDTH = 16.54000000 METERS

STRATUM	AREA SQ. MI.	SAMPLES	TOTAL HAULS	HAULS WITH CATCH	HAULS WITH NUMS.	HAULS WITH L-F	CPUE KG/HA	VARIANCE CPUE KG/HA	CPUE NO/HA	VARIANCE CPUE NO/HA
10*	22,950.	.25696849 2E+07	58	58	58	58	184.52918	.554574E+03	905.63548	.145492E+05
SUBTOTAL	22,950.	.25696849 2E+07	58	58	58	58	184.52918	.554574E+03	905.63548	.145492E+05
20*	16,030.	.17949426 2E+07	39	20	20	17	27.77812	.113437E+03	113.92171	.300654E+04
21*	1,720.	.19253532 8E+06	6	5	5	5	26.38692	.122980E+03	79.97560	.122951E+04
SUBTOTAL	17,750.	.19874779 5E+07	45	25	25	22	27.64334	.236417E+03	110.63321	.423605E+04
30*	12,731.	.14254645 0E+07	26	0	0	0	0.00000	0.	0.00000	0.
32*	1,271.	.14235092 8E+06	6	2	2	0	0.06607	.180741E-02	0.25488	.268186E-01
SUBTOTAL	14,002.	.15678154 3E+07	32	2	2	0	0.00600	.180741E-02	0.02314	.268186E-01
40*	21,612.	.24198898 0E+07	56	56	56	54	108.72388	.819660E+02	483.75834	.224137E+04
41*	3,115.	.34877158 6E+06	13	13	13	13	112.63652	.114438E+04	425.31731	.155561E+05
42*	2,009.	.22499000 2E+06	5	5	5	5	31.61080	.109023E+03	82.25761	.615879E+03
SUBTOTAL	26,736.	.29936513 9E+07	74	74	74	72	103.38423	.133537E+04	446.77467	.134134E+05
50*	4,345.	.48652537 0E+06	11	10	10	8	2.51589	.349483E+00	6.95573	.305854E+01
52*	2,317.	.25939744 9E+06	9	9	9	9	19.46501	.244757E+02	53.29926	.177663E+03
SUBTOTAL	6,662.	.74592281 9E+06	20	19	19	17	8.41001	.248252E+02	23.07199	.180722E+03
60*	22,793.	.25521853 8E+07	55	54	54	54	168.29686	.249495E+03	881.04069	.813958E+04
61*	975.	.10921236 3E+06	3	3	3	3	63.95231	.671329E+03	242.45643	.129199E+05
SUBTOTAL	23,769.	.26613977 5E+07	58	57	57	57	164.01501	.920824E+03	854.83593	.210595E+05
70*	16,921.	.18946668 7E+07	39	11	11	9	1.74279	.602920E+00	5.02865	.567438E+01
71*	4,231.	.47373123 8E+06	19	18	18	17	22.86182	.332093E+02	79.70605	.502059E+03
72*	2,446.	.27390361 8E+06	9	6	6	4	3.99748	.994885E+01	10.29489	.664531E+02
SUBTOTAL	23,598.	.26423017 2E+07	67	35	35	30	5.76289	.437611E+02	18.96327	.574187E+03
TOTAL	135,466.	.15168252 0E+08	354	270	270	256	85.48367	.311577E+04	410.52705	.590131E+05

Table C-5.--Population and biomass estimates for yellowfin sole (cont'd).

STRATUM	MEAN WT KG	POPULATION	VARIANCE POPULATION	METHOD USED	EFF. DEG. FREEDOM	CONFIDENCE LIMITS - POPULATION PERCENT	LOWER	UPPER
10*	0.203757	.712869101E+10	.901472604E+18	1	57.00000	95.0	.522578506E+10	.903159695E+10
SUBTOTAL	0.203757	.712869101E+10	.901472604E+18		57.00000	95.0	.522578506E+10	.903159695E+10
20*	0.243835	.626373746E+09	.908909948E+17	1	38.00000	95.0	.158137481E+08	.123693374E+10
21*	0.329937	.471676671E+08	.427667758E+15	1	5.00000	95.0	0.	.100336280E+09
SUBTOTAL	0.249865	.673541413E+09	.913186626E+17		40.07506	95.0	.628158695E+08	.128426696E+10
30*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
32*	0.259201	.111141999E+06	.509928709E+10	1	5.00000	95.0	0.	.294735291E+06
SUBTOTAL	0.259201	.111141999E+06	.509928709E+10		5.00000	95.0	0.	.294735291E+06
40*	0.224748	.358591954E+10	.123156432E+18	1	55.00000	95.0	.288220410E+10	.428963497E+10
41*	0.264829	.454391962E+09	.177556457E+17	1	12.00000	95.0	.164039531E+09	.744744392E+09
42*	0.384290	.566912172E+08	.292533181E+15	1	4.00000	95.0	.921161973E+07	.104170815E+09
SUBTOTAL	0.231401	.409700271E+10	.141204611E+18		53.75709	95.0	.334269675E+10	.485130668E+10
50*	0.361698	.103663942E+08	.679324801E+13	1	10.00000	95.0	.455936615E+07	.161734222E+08
52*	0.365202	.423509694E+08	.112171220E+15	1	8.00000	95.0	.179279122E+08	.667740265E+08
SUBTOTAL	0.364513	.527173635E+08	.118964468E+15		8.79517	95.0	.275656292E+08	.778690979E+08
60*	0.191021	.686786571E+10	.497484333E+18	1	54.00000	95.0	.547277077E+10	.830296064E+10
61*	0.263768	.811114202E+08	.144596230E+16	1	2.00000	95.0	0.	.244736485E+09
SUBTOTAL	0.191867	.696897713E+10	.498930295E+18		55.64243	95.0	.555256883E+10	.838538543E+10
70*	0.346571	.291851201E+08	.191133520E+15	1	38.00000	95.0	.118651805E+07	.571837222E+08
71*	0.286827	.115664436E+09	.105723639E+16	1	18.00000	95.0	.473500606E+08	.183973812E+09
72*	0.388297	.863765433E+07	.467803466E+14	1	8.00000	95.0	0.	.244096088E+08
SUBTOTAL	0.303897	.153487211E+09	.129515026E+16		24.55412	95.0	.792075741E+08	.227766848E+09
TOTAL	0.000208	.190745280E+11	.163434029E+19		155.29758	95.0	.165432973E+11	.216057587E+11

Table C-5.--Population and biomass estimates for yellowfin sole (cont'd).

STRATUM	BIOMASS MT	VARIANCE BIOMASS	EFF. DEG. FREEDOM	CONFIDENCE LIMITS - BIOMASS PERCENT	LOWER	UPPER
10*	.145251761E+07	.343614950E+11	57.00000	95.0	.108100198E+07	.182403323E+07
SUBTOTAL	.145251761E+07	.343614950E+11	57.00000	95.0	.108100198E+07	.182403323E+07
20*	.152731928E+06	.342933628E+10	38.00000	95.0	.341351322E+05	.271328724E+06
21*	.155623666E+05	.427766871E+08	5.00000	95.0	0.	.323777064E+05
SUBTOTAL	.168294295E+06	.347211297E+10	42.29855	95.0	.493313429E+05	.237257246E+06
30*	0.	0.	0.00000	95.0	0.	0.
32*	.288081131E+02	.343660143E+03	5.00000	95.0	0.	.764694933E+02
SUBTOTAL	.288081131E+02	.343660143E+03	5.00000	95.0	0.	.764694983E+02
40*	.805929471E+06	.450378675E+10	55.00000	95.0	.671356626E+06	.940502316E+06
41*	.120336342E+06	.130618837E+10	12.00000	95.0	.415846058E+05	.199080079E+06
42*	.217858846E+05	.517844181E+08	4.00000	95.0	.180940241E+04	.417623667E+05
SUBTOTAL	.948051697E+06	.586175954E+10	37.10999	95.0	.792837294E+06	.110326610E+07
50*	.374950922E+04	.776229165E+06	10.00000	95.0	.178655503E+04	.571246341E+04
52*	.154666707E+05	.154532274E+08	8.00000	95.0	.640164788E+04	.245316935E+05
SUBTOTAL	.192161799E+05	.162294566E+08	8.65938	95.0	.992627449E+04	.285060853E+05
60*	.131572378E+07	.152489292E+11	54.00000	95.0	.106784304E+07	.156360451E+07
61*	.213946187E+05	.751332401E+08	2.00000	95.0	0.	.131529506E+06
SUBTOTAL	.133711839E+07	.153240625E+11	52.60660	95.0	.108849776E+07	.158573903E+07
70*	.101147217E+05	.203085374E+08	38.00000	95.0	.988159001E+03	.192412844E+05
71*	.331756339E+05	.699322099E+08	18.00000	95.0	.156059204E+05	.507453473E+05
72*	.335397780E+04	.700360011E+07	8.00000	95.0	0.	.945664902E+04
SUBTOTAL	.466443334E+05	.972443474E+08	29.67977	95.0	.264780672E+05	.668105996E+05
TOTAL	.397187131E+07	.591329041E+11	155.12686	95.0	.349039482E+07	.445334781E+07

Table C-5.--Population and biomass estimates for yellowfin sole (cont'd).

	CONFIDENCE LIMITS			
	TOTAL BIOMASS MT		TOTAL POPULATION	
	LOWER	UPPER	LOWER	UPPER
80.000 PERCENT	.365842368E+07	.428531895E+07	.174266630E+11	.207223930E+11
90.000 PERCENT	.356869456E+07	.437504807E+07	.169549367E+11	.211941192E+11
95.000 PERCENT	.349039482E+07	.445334781E+07	.165432973E+11	.216057587E+11

Table C-6.--Population and biomass estimates for rock sole.

STANDARD TRAWL WIDTH = 16.54000000 METERS

STRATUM	AREA SQ. MI.	SAMPLES	TOTAL HAULS	HAULS WITH CATCH	HAULS WITH NUMS.	HAULS WITH L-F	CPUE KG/HA	VARIANCE CPUE KG/HA	CPUE NO/HA	VARIANCE CPUE NO/HA
10*	22,950.	.256968492E+07	58	57	57	41	73.74230	.139038E+03	385.47841	.352996E+04
SUBTOTAL	22,950.	.256968492E+07	58	57	57	41	73.74230	.139038E+03	385.47841	.352996E+04
20*	16,030.	.179494262E+07	39	28	28	7	7.83340	.543633E+01	30.89601	.113980E+03
21*	1,720.	.192535328E+06	6	5	5	4	8.56247	.203990E+02	38.84001	.681311E+03
SUBTOTAL	17,750.	.198747795E+07	45	33	33	11	7.90403	.258354E+02	31.66558	.795291E+03
30*	12,731.	.142546450E+07	26	8	8	0	0.57046	.235176E+00	0.73653	.308373E+00
32*	1,271.	.142350928E+06	6	5	5	0	0.18969	.480480E-02	0.52193	.230716E-01
SUBTOTAL	14,002.	.156781543E+07	32	13	13	0	0.53589	.239981E+00	0.71704	.331445E+00
40*	21,612.	.241988980E+07	56	55	55	30	6.92251	.251584E+01	64.16773	.995979E+02
41*	3,115.	.348771586E+06	13	13	13	9	24.74814	.999780E+02	119.58033	.164363E+04
42*	2,009.	.224990002E+06	5	4	4	2	3.54192	.704453E+01	12.30003	.406207E+02
SUBTOTAL	26,736.	.299365139E+07	74	72	72	41	8.74519	.109538E+03	66.72536	.178385E+04
50*	4,345.	.486525370E+06	11	6	6	2	0.97682	.391118E+00	2.01269	.135358E+01
52*	2,317.	.259397449E+06	9	9	9	6	4.04089	.481815E+00	15.73720	.867361E+01
SUBTOTAL	6,662.	.745922819E+06	20	15	15	8	2.04236	.872933E+00	6.80283	.100382E+02
60*	22,793.	.255218538E+07	55	53	53	26	19.35115	.146455E+02	107.70642	.318844E+03
61*	975.	.109212363E+06	3	3	3	3	11.42226	.165258E+02	64.43903	.101255E+04
SUBTOTAL	23,769.	.266139775E+07	58	56	56	29	19.02578	.311713E+02	105.93091	.133139E+04
70*	16,921.	.189466687E+07	39	31	31	6	1.60911	.143852E+00	3.54809	.585052E+00
71*	4,231.	.473731238E+06	19	16	16	13	28.65868	.108266E+03	102.18065	.795641E+03
72*	2,446.	.273903618E+06	9	6	6	0	0.45730	.105236E+00	1.74068	.757485E+00
SUBTOTAL	23,598.	.264230172E+07	67	53	53	19	6.33936	.108515E+03	21.04430	.796984E+03
TOTAL	135,466.	.151682520E+08	354	299	299	149	19.85284	.415211E+03	105.28394	.824786E+04

Table C-6.--Population and biomass estimates for rock sole (cont'd).

STRATUM	MEAN WT KG	POPULATION	VARIANCE POPULATION	METHOD USED	EFF. DEG. FREEDOM	CONFIDENCE LIMITS - POPULATION PERCENT	LOWER	UPPER
10*	0.191301	.303428534E+10	.218717284E+18	1	57.00000	95.0	.209697672E+10	.397159396E+10
SUBTOTAL	0.191301	.303428534E+10	.218717284E+18		57.00000	95.0	.209697672E+10	.397159396E+10
20*	0.253541	.169874999E+09	.344575510E+16	1	38.00000	95.0	.508713645E+08	.288878633E+09
21*	0.220455	.225068945E+08	.236983976E+15	1	5.00000	95.0	0.	.624355983E+08
SUBTOTAL	0.249609	.192781893E+09	.368273908E+16		31.58978	95.0	.689893876E+08	.316574399E+09
30*	0.774524	.321605271E+07	.587953003E+13	1	25.00000	95.0	0.	.822078671E+07
32*	0.363432	.227587154E+06	.438682980E+10	1	5.00000	95.0	.573017323E+05	.397872576E+06
SUBTOTAL	0.747355	.344363987E+07	.588391686E+13		25.16061	95.0	0.	.844053786E+07
40*	0.107881	.475651359E+09	.547260692E+16	1	55.00000	95.0	.327308839E+09	.623993880E+09
41*	0.206958	.127754881E+09	.187603328E+16	1	12.00000	95.0	.333754186E+08	.222134344E+09
42*	0.287960	.847707503E+07	.192942054E+14	1	4.00000	95.0	0.	.206707022E+08
SUBTOTAL	0.131062	.611883316E+09	.736793441E+16		31.60991	95.0	.436785087E+09	.786981545E+09
50*	0.485330	.299956922E+07	.301972449E+13	1	10.00000	95.0	0.	.693032680E+07
52*	0.255960	.125443271E+08	.547942012E+13	1	8.00000	95.0	.714640503E+07	.179422490E+08
SUBTOTAL	0.300223	.155439963E+08	.849914461E+13		14.48496	95.0	.929051504E+07	.217972775E+08
60*	0.179666	.842035269E+09	.194874928E+17	1	54.00000	95.0	.561814007E+09	.112225653E+10
61*	0.177257	.215574444E+08	.113321513E+15	1	2.00000	95.0	0.	.673639886E+08
SUBTOTAL	0.179606	.863592714E+09	.196008143E+17		50.59986	95.0	.582116867E+09	.114506856E+10
70*	0.453515	.205922478E+08	.197066642E+14	1	38.00000	95.0	.115926194E+08	.295918763E+08
71*	0.280471	.148278161E+09	.167546037E+16	1	18.00000	95.0	.622792138E+08	.234277107E+09
72*	0.262717	.146046799E+07	.533239657E+12	1	8.00000	95.0	0.	.318746810E+07
SUBTOTAL	0.301239	.170330876E+09	.169570027E+16		18.23091	95.0	.838140466E+08	.256847706E+09
TOTAL	0.000189	.489186167E+10	.251078856E+18		83.82075	95.0	.389354783E+10	.589017547E+10

Table C-6.--Population and biomass estimates for rock sole (cont'd).

STRATUM	BIOMASS MT	VARIANCE BIOMASS	EFF. DEG. FREEDOM	CONFIDENCE LIMITS - BIOMASS PERCENT	LOWER	UPPER
10*	.580461004E+06	.86147981 7E+10	57.00000	95.0	.394439303E+06	.766482705E+06
SUBTOTAL	.580461004E+06	.861479817E+10	57.00000	95.0	.394439303E+06	.766482705E+06
20*	.430702527E+05	.164346166E+09	38.00000	95.0	.170807596E+05	.690597458E+05
21*	.501993763E+04	.709550978E+07	5.00000	95.0	0.	.118994127E+05
SUBTOTAL	.481201904E+05	.171441676E+09	38.98618	95.0	.216030846E+05	.746372961E+05
30*	.249091045E+04	.448393532E+07	25.00000	95.0	0.	.685302323E+04
32*	.827123903E+02	.913585330E+03	5.00000	95.0	0.	.166618584E+03
SUBTOTAL	.257362284E+04	.448484891E+07	25.04407	95.0	0.	.693617996E+04
40*	.513139470E+05	.138238012E+09	55.00000	95.0	.277372878E+05	.748906061E+05
41*	.264399248E+05	.114114128E+09	12.00000	95.0	.316292852E+04	.497169211E+05
42*	.244105751E+04	.334604076E+07	4.00000	95.0	0.	.826163116E+04
SUBTOTAL	.801949293E+05	.255693181E+09	21.37084	95.0	.469345533E+05	.113455305E+06
50*	.145578164E+04	.868703174E+06	10.00000	95.0	0.	.353237227E+04
52*	.321084745E+04	.304204033E+06	8.00000	95.0	.190643893E+04	.451525598E+04
SUBTOTAL	.466662909E+04	.117290721E+07	16.59249	95.0	.237065127E+04	.696260691E+04
60*	.151284859E+06	.895120195E+09	54.00000	95.0	.912592537E+05	.211310465E+06
61*	.382120609E+04	.184952571E+07	2.00000	95.0	0.	.967316856E+04
SUBTOTAL	.155106065E+06	.896969720E+09	55.99900	95.0	.950499253E+05	.215162206E+06
70*	.933889501E+04	.484545071E+07	38.00000	95.0	.487632430E+04	.138014657E+05
71*	.415876846E+05	.227986615E+09	18.00000	95.0	.986421152E+04	.733111577E+05
72*	.383689236E+03	.740817206E+05	8.00000	95.0	0.	.101133533E+04
SUBTOTAL	.513102689E+05	.232906148E+09	18.39868	95.0	.192463553E+05	.833741824E+05
TOTAL	.922432710E+06	.101774716E+11	93.45133	95.0	.721775516E+06	.112308990E+07

Table C-6.--Population and biomass estimates for rock sole (cont'd).

	CONFIDENCE LIMITS			
	TOTAL BIOMASS MT		TOTAL POPULATION	
	LOWER	UPPER	LOWER	UPPER
80.000 PERCENT	.792076153E+06	.105278927E+07	.424380954E+10	.553991381E+10
90.000 PERCENT	.754577772E+06	.109028765E+07	.405705788E+10	.572666546E+10
95.000 PERCENT	.721775516E+06	.112308990E+07	.389354788E+10	.589017547E+10

Table C-7.--Population and biomass estimates for flathead sole and Bering flounder.

STANDARD TRAWL WIDTH = 16.54000000 METERS

STRATUM	AREA SQ. MI.	SAMPLES	TOTAL HAULS	HAULS WITH CATCH	HAULS WITH NUMS.	HAULS WITH L-F	CPUE KG/HA	VARIANCE CPUE KG/HA	CPUE NO/HA	VARIANCE CPUE NO/HA
10*	22,950.	.25696849 2E+07	58	51	51	24	6.75443	.870924E+00	30.92197	.193086E+02
SUBTOTAL	22,950.	.25696849 2E+07	58	51	51	24	6.75443	.870924E+00	30.92197	.193086E+02
20*	16,030.	.17949426 2E+07	39	39	39	32	13.07640	.115912E+01	80.62426	.522772E+02
21*	1,720.	.19253532 8E+06	6	5	5	3	2.74512	.117481E+01	11.95533	.220262E+02
SUBTOTAL	17,750.	.19874779 5E+07	45	44	44	35	12.07556	.233393E+01	73.97202	.104303E+03
30*	12,731.	.14254645 0E+07	26	26	26	10	10.58303	.386260E+02	41.55452	.279408E+03
32*	1,271.	.14235092 8E+06	6	5	5	2	4.38269	.332420E+01	16.11813	.480492E+02
SUBTOTAL	14,002.	.15678154 3E+07	32	31	31	12	10.02007	.419502E+02	39.24501	.327457E+03
40*	21,612.	.24198898 0E+07	56	46	46	25	1.44810	.435388E-01	13.65794	.469735E+01
41*	3,115.	.34877158 6E+06	13	13	13	8	2.60475	.279617E+00	21.22684	.151952E+02
42*	2,009.	.22499002 E+06	5	5	5	2	4.64501	.499463E+01	18.86877	.403094E+02
SUBTOTAL	26,736.	.29936513 9E+07	74	64	64	35	1.82312	.531779E+01	14.93137	.602020E+02
50*	4,345.	.48652537 0E+06	11	11	11	10	4.34252	.126833E+01	17.53317	.183217E+02
52*	2,317.	.25939744 9E+06	9	6	6	4	4.20516	.420676E+01	16.43217	.629257E+02
SUBTOTAL	6,662.	.74592281 9E+06	20	17	17	14	4.29475	.547509E+01	17.15029	.817473E+02
60*	22,793.	.25521853 8E+07	55	41	41	19	2.90486	.162485E+00	20.95734	.880508E+01
61*	975.	.10921236 3E+06	3	2	2	0	0.73887	.157988E+00	4.30530	.743907E+01
SUBTOTAL	23,769.	.26613977 5E+07	58	43	43	19	2.81597	.320473E+00	20.27401	.162431E+02
70*	16,921.	.18946668 7E+07	39	37	37	33	7.45299	.407108E+01	34.60847	.300122E+02
71*	4,231.	.47373123 8E+06	19	17	17	11	4.98711	.168430E+01	35.83285	.954275E+02
72*	2,446.	.27390361 8E+06	9	5	5	4	3.98499	.338710E+01	16.91429	.530205E+02
SUBTOTAL	23,598.	.26423017 2E+07	67	59	59	48	6.65140	.914248E+01	32.99379	.178460E+03
TOTAL	135,466.	.15168252 0E+08	354	309	309	187	5.98599	.654109E+02	32.08249	.787722E+03

Table C-7.--Population and biomass estimates for flathead sole and Bering flounder (cont'd).

STRATUM	MEAN WT KG	POPULATION	VARIANCE POPULATION	METHOD USED	EFF. DEG. FREEDOM	CONFIDENCE LIMITS - POPULATION PERCENT	LOWER	UPPER
10*	0.218435	.243401669E+09	.119636581E+16	1	57.00000	95.0	.174115673E+09	.312687666E+09
SUBTOTAL	0.218435	.243401669E+09	.119636581E+16		57.00000	95.0	.174115673E+09	.312687666E+09
20*	0.162189	.443294950E+09	.248733112E+16	1	38.00000	95.0	.342291846E+09	.544298054E+09
21*	0.229614	.705099451E+07	.766150373E+13	1	5.00000	95.0	0.	.141673738E+08
SUBTOTAL	0.163245	.450345944E+09	.249499263E+16		39.41677	95.0	.349292299E+09	.551399590E+09
30*	0.254673	.181447583E+09	.532727094E+16	1	25.00000	95.0	.310919813E+08	.331803185E+09
32*	0.271910	.702831892E+07	.913606813E+13	1	5.00000	95.0	0.	.147994054E+08
SUBTOTAL	0.255321	.188475902E+09	.533640701E+16		25.36595	95.0	.379914284E+08	.338960376E+09
40*	0.106026	.101241190E+09	.258105308E+15	1	55.00000	95.0	.690255334E+08	.133456847E+09
41*	0.122710	.226779092E+08	.173437138E+14	1	12.00000	95.0	.136032928E+08	.317525257E+08
42*	0.246175	.130041908E+08	.191463378E+14	1	4.00000	95.0	.857378507E+06	.251510031E+08
SUBTOTAL	0.122100	.136923290E+09	.294595359E+15		22.73606	95.0	.101325610E+09	.172520971E+09
50*	0.247675	.261301833E+08	.418043723E+14	1	10.00000	95.0	.117247595E+08	.405356071E+08
52*	0.255910	.130568069E+08	.397294085E+14	1	8.00000	95.0	0.	.275918175E+08
SUBTOTAL	0.250419	.391869902E+08	.815337807E+14		17.39176	95.0	.201345220E+08	.582394585E+08
60*	0.138608	.163841854E+09	.538159286E+15	1	54.00000	95.0	.117274826E+09	.210408882E+09
61*	0.171618	.144029638E+07	.832447150E+12	1	2.00000	95.0	0.	.130330655E+08
SUBTOTAL	0.138896	.165282150E+09	.538991733E+15		55.89253	95.0	.118727874E+09	.211336426E+09
70*	0.215352	.200859205E+09	.101091787E+16	1	38.00000	95.0	.136401334E+09	.265317076E+09
71*	0.139177	.519983900E+08	.200951214E+15	1	18.00000	95.0	.222151892E+08	.317815903E+08
72*	0.235599	.141914872E+08	.373243890E+14	1	8.00000	95.0	0.	.286401448E+08
SUBTOTAL	0.201595	.267049082E+09	.124919347E+16		63.42583	95.0	.196396564E+09	.337701601E+09
TOTAL	0.000187	.149066503E+10	.111920798E+17		71.11217	95.0	.127946768E+10	.170186237E+10

Table C-7.--Population and biomass estimates for flathead sole and Bering flounder (cont'd).

STRATUM	BIOMASS MT	VARIANCE BIOMASS	EFF. DEG. FREEDOM	CONFIDENCE LIMITS - BIOMASS PERCENT	LOWER	UPPER
10*	.531673411E+05	.539626129E+08	57.00000	95.0	.384523516E+05	.678823306E+05
SUBTOTAL	.531673411E+05	.539626129E+08	57.00000	95.0	.384523516E+05	.678823306E+05
20*	.718977336E+05	.350414261E+08	38.00000	95.0	.598969693E+05	.838984980E+05
21*	.161900789E+04	.408641836E+06	5.00000	95.0	0.	.326252220E+04
SUBTOTAL	.735167415E+05	.354500680E+08	42.13908	95.0	.614562191E+05	.855372640E+05
30*	.462107602E+05	.736454398E+09	25.00000	95.0	0.	.102114408E+06
32*	.191107261E+04	.632063071E+06	5.00000	95.0	0.	.411805907E+04
SUBTOTAL	.481218328E+05	.737086462E+09	25.18456	95.0	0.	.104049465E+06
40*	.107341874E+05	.239232767E+07	55.00000	95.0	.763263685E+04	.138357379E+05
41*	.278280901E+04	.319152737E+06	12.00000	95.0	.155181336E+04	.401380465E+04
42*	.320130106E+04	.237237184E+07	4.00000	95.0	0.	.747703666E+04
SUBTOTAL	.167182974E+05	.508385225E+07	5.20692	95.0	.109213610E+05	.225152338E+05
50*	.647178302E+04	.281704995E+07	10.00000	95.0	.267522645E+04	.102683396E+05
52*	.334136862E+04	.265602535E+07	8.00000	95.0	0.	.709952987E+04
SUBTOTAL	.981315164E+04	.547307531E+07	17.41654	95.0	.487689004E+04	.147494132E+05
60*	.227097985E+05	.993094767E+07	54.00000	95.0	.163872639E+05	.290323332E+05
61*	.247180566E+03	.176815462E+05	2.00000	95.0	0.	.819358975E+03
SUBTOTAL	.229569791E+05	.994862921E+07	55.97262	95.0	.166321303E+05	.292818279E+05
70*	.432553773E+05	.137128726E+09	38.00000	95.0	.195398853E+05	.669708694E+05
71*	.723697914E+04	.354680379E+07	18.00000	95.0	.328017426E+04	.111937840E+05
72*	.334350215E+04	.238438264E+07	8.00000	95.0	0.	.690429967E+04
SUBTOTAL	.538358586E+05	.143059913E+09	46.84613	95.0	.297385042E+05	.779332130E+05
TOTAL	.278130202E+06	.990064612E+09	38.88910	95.0	.214406692E+06	.341853712E+06

Table C-7.--Population and biomass estimates for flathead sole and Bering flounder (cont'd).

CONFIDENCE LIMITS

	TOTAL BIOMASS MT		TOTAL POPULATION	
	LOWER	UPPER	LOWER	UPPER
80.000 PERCENT	.237086875E+06	.319173529E+06	.135369355E+10	.162763651E+10
90.000 PERCENT	.225060640E+06	.331199564E+06	.131413769E+10	.166719237E+10
95.000 PERCENT	.214406692E+06	.341853712E+06	.127946768E+10	.170186237E+10

Table C-8.--Population and biomass estimates for Alaska plaice.

STANDARD TRAWL WIDTH = 16.54000000 METERS

STRATUM	AREA SQ. MI.	SAMPLES	TOTAL HAULS	HAULS WITH CATCH	HAULS WITH NUMS.	HAULS WITH L-F	CPUE KG/HA	VARIANCE CPUE KG/HA	CPUE NO/HA	VARIANCE CPUE NO/HA
10*	22,950.	.25696849 2E+07	58	50	50	8	8.63437	.362283E+01	17.19670	.112026E+02
SUBTOTAL	22,950.	.25696849 2E+07	58	50	50	8	8.63437	.362288E+01	17.19670	.112026E+02
20*	16,030.	.17949426 2E+07	39	17	17	1	4.14581	.693649E+01	7.57902	.341540E+02
21*	1,720.	.19253532 8E+06	6	5	5	2	5.71379	.826276E+01	10.06522	.398478E+02
SUBTOTAL	17,750.	.19874779 5E+07	45	22	22	3	4.29771	.151993E+02	7.81937	.740017E+02
30*	12,731.	.14254645 0E+07	26	2	2	0	0.01705	.139744E-03	0.01752	.147311E-03
32*	1,271.	.14235092 8E+06	6	5	5	0	0.65848	.113904E+00	0.76837	.212901E+00
SUBTOTAL	14,002.	.15678154 3E+07	32	7	7	0	0.07529	.119044E+00	0.08569	.213048E+00
40*	21,612.	.24198898 0E+07	56	56	56	47	32.17442	.205402E+02	65.15457	.698344E+02
41*	3,115.	.34877158 6E+06	13	12	12	9	15.59195	.159226E+02	34.15952	.845755E+02
42*	2,009.	.22499000 2E+06	5	5	5	4	25.86029	.826321E+02	30.49377	.764959E+02
SUBTOTAL	26,736.	.29936513 9E+07	74	73	73	60	29.76796	.119095E+03	58.93857	.230906E+03
50*	4,345.	.48652537 0E+06	11	10	10	5	6.64414	.790607E+01	7.03390	.833338E+01
52*	2,317.	.25939744 9E+06	9	9	9	6	28.19393	.114404E+03	36.22245	.217074E+03
SUBTOTAL	6,662.	.74592281 9E+06	20	19	19	11	14.13816	.122310E+03	17.18433	.225457E+03
60*	22,793.	.25521853 8E+07	55	54	54	24	28.14915	.219797E+02	57.14785	.814406E+02
61*	975.	.10921236 3E+06	3	2	2	0	1.76288	.190238E+01	2.45539	.420718E+01
SUBTOTAL	23,769.	.26613977 5E+07	58	56	56	24	27.06637	.238821E+02	54.90351	.856477E+02
70*	16,921.	.18946668 7E+07	39	20	20	5	3.03181	.888742E+00	3.45161	.158969E+01
71*	4,231.	.47373123 8E+06	19	15	15	6	5.51246	.293325E+01	9.09140	.937628E+01
72*	2,446.	.27390361 8E+06	9	6	6	1	5.39441	.178671E+02	3.99080	.722890E+01
SUBTOTAL	23,598.	.26423017 2E+07	67	41	41	12	3.72147	.216891E+02	4.50828	.181949E+02
TOTAL	135,466.	.15168252 0E+08	354	268	268	118	14.00133	.305917E+03	26.84280	.645623E+03

Table C-8.--Population and biomass estimates for Alaska plaice (cont'd).

STRATUM	MEAN WT KG	POPULATION	VARIANCE POPULATION	METHOD USED	EFF. DEG. FREEDOM	CONFIDENCE LIMITS - POPULATION PERCENT	LOWER	UPPER
10*	0.502094	.135363462E+09	.694113156E+15	1	57.00000	95.0	.825607536E+08	.188166170E+09
SUBTOTAL	0.502094	.135363462E+09	.694113156E+15		57.00000	95.0	.825607536E+08	.188166170E+09
20*	0.547011	.416715904E+08	.103251197E+16	1	38.00000	95.0	0.	.106746784E+09
21*	0.567677	.593622148E+07	.138604666E+14	1	5.00000	95.0	0.	.155079639E+08
SUBTOTAL	0.549538	.476078119E+08	.104637244E+16		42.46368	95.0	0.	.112914544E+09
30*	0.973071	.765050146E+05	.281248461E+10	1	25.00000	95.0	0.	.185964945E+06
32*	0.856930	.335043118E+06	.404809336E+11	1	5.00000	95.0	0.	.852330083E+06
SUBTOTAL	0.878561	.411553133E+06	.432934182E+11		5.16135	95.0	0.	.946502915E+06
40*	0.493817	.482966462E+09	.383719355E+16	1	55.00000	95.0	.358751081E+09	.607181844E+09
41*	0.456445	.364946570E+08	.965339650E+14	1	12.00000	95.0	.150856116E+08	.579037023E+08
42*	0.848052	.210160361E+08	.363343522E+14	1	4.00000	95.0	.428286800E+07	.377492041E+08
SUBTOTAL	0.505067	.540477155E+09	.397006187E+16		67.12198	95.0	.414607321E+09	.666346990E+09
50*	0.944588	.104828276E+08	.186201523E+14	1	10.00000	95.0	.868768046E+06	.200968871E+08
52*	0.778355	.287819399E+08	.137054130E+15	1	8.00000	95.0	.178557024E+07	.557733095E+08
SUBTOTAL	0.822736	.392647674E+08	.155674282E+15		9.78070	95.0	.110419064E+08	.674876284E+08
60*	0.492567	.446774738E+09	.497757973E+16	1	54.00000	95.0	.305226331E+09	.588323144E+09
61*	0.717962	.821426324E+06	.470855046E+12	1	2.00000	95.0	0.	.377409666E+07
SUBTOTAL	0.492981	.447596164E+09	.497805058E+16		54.18306	95.0	.306041062E+09	.589151265E+09
70*	0.878375	.200323265E+08	.535465852E+14	1	38.00000	95.0	.521281770E+07	.348518353E+08
71*	0.606338	.131928627E+08	.197445623E+14	1	18.00000	95.0	.385709979E+07	.225286256E+08
72*	1.386453	.326447403E+07	.508886600E+13	1	8.00000	95.0	0.	.859956283E+07
SUBTOTAL	0.825474	.364896632E+08	.783800140E+14		59.27882	95.0	.187738697E+08	.542054567E+08
TOTAL	0.000522	.124721058E+10	.109226956E+17		179.57621	95.0	.104028119E+10	.145413997E+10

Table C-8.--Population and biomass estimates for Alaska plaice (cont'd).

STRATUM	BIOMASS MT	VARIANCE BIOMASS	EFF. DEG. FREEDOM	CONFIDENCE LIMITS - BIOMASS PERCENT	LOWER	UPPER
10*	.679652352E+05	.224474205E+09	57.00000	95.0	.379373823E+05	.979930880E+05
SUBTOTAL	.679652352E+05	.224474205E+09	57.00000	95.0	.379373823E+05	.979930880E+05
20*	.227948332E+05	.209697948E+09	38.00000	95.0	0.	.521520655E+05
21*	.336985692E+04	.287407951E+07	5.00000	95.0	0.	.807504036E+04
SUBTOTAL	.261646901E+05	.212572027E+09	42.50823	95.0	0.	.555999493E+05
30*	.744448356E+02	.266439610E+04	25.00000	95.0	0.	.180983951E+03
32*	.287129526E+03	.226083778E+05	5.00000	95.0	0.	.673707208E+03
SUBTOTAL	.361574362E+03	.252727739E+05	5.27489	95.0	0.	.770296849E+03
40*	.238496920E+06	.112852029E+10	55.00000	95.0	.171130658E+06	.305863183E+06
41*	.166578137E+05	.181739705E+08	12.00000	95.0	.736853183E+04	.259470955E+05
42*	.178226832E+05	.392489731E+08	4.00000	95.0	.431320611E+03	.352140459E+05
SUBTOTAL	.272977417E+06	.118604324E+10	37.66258	95.0	.203159276E+06	.342795558E+06
50*	.990194982E+04	.175600094E+08	10.00000	95.0	.565590471E+03	.192383092E+05
52*	.224025711E+05	.722314348E+08	8.00000	95.0	.280408954E+04	.420010526E+05
SUBTOTAL	.323045209E+05	.897914442E+08	11.14622	95.0	.114482086E+05	.531608332E+05
60*	.220066534E+06	.134337890E+10	54.00000	95.0	.146492874E+06	.293640195E+06
61*	.589753015E+03	.212909270E+06	2.00000	95.0	0.	.257324725E+04
SUBTOTAL	.220656287E+06	.134359191E+10	54.30188	95.0	.147115285E+06	.294197290E+06
70*	.175959004E+05	.299360291E+08	38.00000	95.0	.651525606E+04	.236765447E+05
71*	.799933566E+04	.617684382E+07	18.00000	95.0	.277766637E+04	.132210049E+05
72*	.452603904E+04	.125777403E+08	8.00000	95.0	0.	.127042934E+05
SUBTOTAL	.301212751E+05	.486906133E+08	23.35552	95.0	.156840704E+05	.445584798E+05
TOTAL	.650551000E+06	.310518861E+10	131.43819	95.0	.540217422E+06	.760884579E+06

Table C-8.--Population and biomass estimates for Alaska plaice (cont'd).

	CONFIDENCE LIMITS			
	TOTAL BIOMASS MT		TOTAL POPULATION	
	LOWER	UPPER	LOWER	UPPER
80.000 PERCENT	.578722613E+06	.722379388E+06	.111249632E+10	.138192484E+10
90.000 PERCENT	.558160489E+06	.742941512E+06	.107393263E+10	.142048852E+10
95.000 PERCENT	.540217422E+06	.760884579E+06	.104028119E+10	.145413997E+10

Table C-9.--Population and biomass estimates for Greenland turbot.

STANDARD TRAWL WIDTH = 16.54000000 METERS

STRATUM	AREA SQ. MI.	SAMPLES	TOTAL HAULS	HAULS WITH CATCH	HAULS WITH NUMS.	HAULS WITH L-F	CPUE KG/HA	VARIANCE CPUE KG/HA	CPUE NO/HA	VARIANCE CPUE NO/HA
10*	22,950.	.256968492E+07	58	1	1	0	0.00169	.285868E-05	0.00373	.138943E-04
SUBTOTAL	22,950.	.256968492E+07	58	1	1	0	0.00169	.285868E-05	0.00373	.138943E-04
20*	16,030.	.179494262E+07	39	7	7	1	0.36266	.276539E-01	0.09420	.132934E-02
21*	1,720.	.192535328E+06	6	0	0	0	0.00000	0.	0.00000	0.
SUBTOTAL	17,750.	.198747795E+07	45	7	7	1	0.32753	.276539E-01	0.08508	.132934E-02
30*	12,731.	.142546450E+07	26	21	21	10	3.37567	.375329E+00	6.35332	.207124E+01
32*	1,271.	.142350928E+06	6	5	5	2	2.09103	.197866E+00	5.74922	.263482E+01
SUBTOTAL	14,002.	.156781543E+07	32	26	26	12	3.25903	.573195E+00	6.75307	.470605E+01
40*	21,612.	.241988980E+07	56	17	17	4	0.04999	.300979E-03	0.19504	.292173E-02
41*	3,115.	.348771586E+06	13	7	7	4	0.16864	.279993E-02	0.65007	.393878E-01
42*	2,009.	.224990002E+06	5	3	3	3	0.85286	.400110E+00	1.48720	.664389E+00
SUBTOTAL	26,736.	.299365139E+07	74	27	27	11	0.12415	.403211E+00	0.34515	.706699E+00
50*	4,345.	.486525370E+06	11	7	7	3	0.29893	.421538E-01	2.16151	.858339E+00
52*	2,317.	.259397449E+06	9	4	4	0	0.20420	.159901E-01	0.47838	.104773E+00
SUBTOTAL	6,662.	.745922819E+06	20	11	11	3	0.26599	.581439E-01	1.57619	.963113E+00
60*	22,793.	.255218538E+07	55	4	4	0	0.02658	.500455E-03	0.03838	.591605E-03
61*	975.	.109212363E+06	3	0	0	0	0.00000	0.	0.00000	0.
SUBTOTAL	23,769.	.266139775E+07	58	4	4	0	0.02549	.500455E-03	0.03729	.591605E-03
70*	16,921.	.189466687E+07	39	21	21	18	1.57565	.145076E+00	2.63966	.308602E+00
71*	4,231.	.473731238E+06	19	3	3	3	0.08126	.305438E-02	0.33395	.829006E-01
72*	2,446.	.273903618E+06	9	8	8	7	2.81876	.767174E+00	4.90509	.106201E+01
SUBTOTAL	23,598.	.264230172E+07	67	32	32	28	1.43659	.915304E+00	2.46111	.145352E+01
TOTAL	135,466.	.151682520E+08	354	108	108	55	0.67237	.197801E+01	1.29069	.733131E+01

Table C-9.--Population and biomass estimates for Greenland turbot (cont'd).

STRATUM	MEAN WT KG	POPULATION	VARIANCE POPULATION	METHOD USED	EFF. DEG. FREEDOM	CONFIDENCE LIMITS - POPULATION PERCENT	LOWER	UPPER
10*	0.453591	.293410017E+05	.860894373E+09	1	57.00000	95.0	0.	.88146237E+05
SUBTOTAL	0.453591	.293410017E+05	.860894373E+09		57.00000	95.0	0.	.88146237E+05
20*	3.849820	.517948067E+06	.401873335E+11	1	38.00000	95.0	-.111960705E+06	.923935428E+06
21*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
SUBTOTAL	3.849820	.517948067E+06	.401873335E+11		38.00000	95.0	-.111960705E+06	.923935428E+06
30*	0.492560	.299249679E+08	.394907516E+14	1	25.00000	95.0	-.169795845E+08	.428703514E+08
32*	0.363706	.250694835E+07	.500983885E+12	1	5.00000	95.0	-.687189015E+06	.432670768E+07
SUBTOTAL	0.482599	.324319163E+08	.399917354E+14		27.41004	95.0	-.194552695E+08	.454085630E+08
40*	0.256308	.144573792E+07	.160540616E+12	1	55.00000	95.0	-.642283977E+06	.2249191[illegible]E+07
41*	0.259419	.694507769E+06	.449569064E+11	1	12.00000	95.0	-.227828776E+06	.11[illegible]8676E+07
42*	0.573470	.102496422E+07	.315574493E+12	1	4.00000	95.0	0.	.258441048E+07
SUBTOTAL	0.359695	.316520991E+07	.521072021E+12		4.83632	95.0	-.116134547E+07	.516907435E+07
50*	0.138298	.322135378E+07	.190643962E+13	1	10.00000	95.0	-.145067747E+06	.629763981E+07
52*	0.426851	.380116848E+06	.661508402E+11	1	8.00000	95.0	0.	.973215568E+06
SUBTOTAL	0.168753	.360147063E+07	.197259046E+13		10.84180	95.0	-.472268258E+06	.673067299E+07
60*	0.683662	.303971603E+06	.361583769E+11	1	54.00000	95.0	0.	.685676355E+06
61*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
SUBTOTAL	0.683662	.303971603E+06	.361583769E+11		54.00000	95.0	0.	.685676355E+06
70*	0.596914	.153199490E+08	.103948310E+14	1	38.00000	95.0	-.878372785E+07	.218561701E+08
71*	0.243319	.484612580E+06	.174571946E+12	1	18.00000	95.0	0.	.136244836E+07
72*	0.574661	.411548331E+07	.747616544E+12	1	8.00000	95.0	-.212160452E+07	.610936211E+07
SUBTOTAL	0.583714	.195200449E+08	.113170195E+14		47.03828	95.0	-.131459696E+08	.266941202E+08
TOTAL	0.000521	.599699024E+08	.538796240E+14		48.76850	95.0	.451968667E+08	.747429330E+08

Table C-9.--Population and biomass estimates for Greenland turbot (cont'd).

STRATUM	BIOMASS MT	VARIANCE BIOMASS	EFF. DEG. FREEDOM	CONFIDENCE LIMITS - BIOMASS PERCENT	LOWER	UPPER
10*	.133088099E+02	.177124422E+03	57.00000	95.0	0.	.399823268E+02
SUBTOTAL	.133088099E+02	.177124422E+03	57.00000	95.0	0.	.399823268E+02
20*	.199400689E+04	.836008451E+06	38.00000	95.0	-.140375590E+03	.384763819E+04
21*	0.	0.	0.00000	95.0	0.	0.
SUBTOTAL	.199400689E+04	.836008451E+06	38.00000	95.0	-.140375590E+03	.384763819E+04
30*	.147398291E+05	.715612130E+07	25.00000	95.0	-.922913801E+04	.202505202E+05
32*	.911792628E+03	.376223405E+05	5.00000	95.0	-.413109148E+03	.141047611E+04
SUBTOTAL	.156516217E+05	.719374364E+07	26.08438	95.0	-.101371922E+05	.211660512E+05
40*	.370554064E+03	.165378880E+05	55.00000	95.0	-.112679475E+03	.628423653E+03
41*	.180168664E+03	.319581983E+04	12.00000	95.0	-.569863446E+02	.303350983E+03
42*	.587786693E+03	.190046233E+06	4.00000	95.0	0.	.179796425E+04
SUBTOTAL	.113850942E+04	.209779941E+06	4.11463	95.0	0.	.240996573E+04
50*	.445507211E+03	.936269564E+05	10.00000	95.0	0.	.112724229E+04
52*	.162253118E+03	.100956818E+05	8.00000	95.0	0.	.393953703E+03
SUBTOTAL	.607760329E+03	.103722638E+06	12.53731	95.0	0.	.130952905E+04
60*	.207813757E+03	.305873990E+05	54.00000	95.0	0.	.558884288E+03
61*	0.	0.	0.00000	95.0	0.	0.
SUBTOTAL	.207813757E+03	.305873990E+05	54.00000	95.0	0.	.558884288E+03
70*	.914468818E+04	.488666928E+07	38.00000	95.0	-.466317690E+04	.138261995E+05
71*	.117915386E+03	.643191854E+04	18.00000	95.0	0.	.236413995E+03
72*	.236500896E+04	.540060607E+06	8.00000	95.0	-.670356862E+03	.405966105E+04
SUBTOTAL	.116276125E+05	.543316180E+07	39.92282	95.0	-.691193966E+04	.163432854E+05
TOTAL	.312406335E+05	.138071810E+08	67.42724	95.0	-.238177006E+05	.386635663E+05

Table C-9.--Population and biomass estimates for Greenland turbot (cont'd).

	CONFIDENCE LIMITS			
	TOTAL BIOMASS MT		TOTAL POPULATION	
	LOWER	UPPER	LOWER	UPPER
80.000 PERCENT	.26427989 3E+05	.36053277 7E+05	.50426078 0E+08	.69513726 8E+08
90.000 PERCENT	.25037164 7E+05	.37444102 2E+05	.47647050 2E+08	.72292754 5E+08
95.000 PERCENT	.23817700 6E+05	.38663566 3E+05	.45196866 7E+08	.74742938 0E+08

Table C-10.--Population and biomass estimates for arrowtooth and Kamchatka flounders.

STANDARD TRAWL WIDTH = 16.54000000 METERS

STRATUM	AREA SQ. MI.	SAMPLES	TOTAL HAULS	HAULS WITH CATCH	HAULS WITH NUMS.	HAULS WITH L-F	CPUE KG/HA	VARIANCE CPUE KG/HA	CPUE NO/HA	VARIANCE CPUE NO/HA
10*	22,950.	.256968492E+07	58	22	22	1	0.69934	.591863E-01	2.49622	.100204E+01
SUBTOTAL	22,950.	.256968492E+07	58	22	22	1	0.69934	.591863E-01	2.49622	.100204E+01
20*	16,030.	.179494252E+07	39	39	39	30	11.41314	.122820E+01	44.60836	.177337E+02
21*	1,720.	.192535328E+06	6	6	6	5	11.75335	.353400E+02	37.11762	.249700E+04
SUBTOTAL	17,750.	.198747795E+07	45	45	45	35	11.44609	.365682E+02	48.72641	.251518E+04
30*	12,731.	.142546450E+07	26	23	23	2	2.75282	.131099E+01	4.56330	.369807E+01
32*	1,271.	.142350928E+06	6	2	2	0	0.49386	.116823E+00	1.52479	.151573E+01
SUBTOTAL	14,002.	.156781543E+07	32	25	25	2	2.54772	.142781E+01	4.26742	.521380E+01
40*	21,612.	.241988980E+07	56	0	0	0	0.00000	0.	0.00000	0.
41*	3,115.	.348771586E+06	13	11	11	3	2.07709	.507650E+00	12.05814	.231698E+02
42*	2,009.	.224990002E+06	5	0	0	0	0.00000	0.	0.00000	0.
SUBTOTAL	26,736.	.299365139E+07	74	11	11	3	0.24199	.507650E+00	1.40482	.231698E+02
50*	4,345.	.486525370E+06	11	0	0	0	0.00000	0.	0.00000	0.
52*	2,317.	.259397449E+06	9	1	1	0	0.00690	.476564E-04	0.07610	.579072E-02
SUBTOTAL	6,662.	.745922819E+06	20	1	1	0	0.00240	.476564E-04	0.02645	.579072E-02
60*	22,793.	.255218538E+07	55	11	11	1	0.48225	.522265E-01	3.55676	.295296E+01
61*	975.	.109212363E+06	3	3	3	2	2.15109	.223481E+01	11.75485	.371661E+02
SUBTOTAL	23,769.	.266139775E+07	58	14	14	3	0.55073	.228703E+01	3.89318	.401190E+02
70*	15,921.	.189466687E+07	39	37	36	30	6.18668	.672012E+00	0.00000	0.
71*	4,231.	.473731238E+06	19	18	18	13	5.10718	.912363E+00	29.76093	.401128E+02
72*	2,446.	.273903618E+06	9	3	3	0	0.47313	.108440E+00	1.03634	.443419E+00
SUBTOTAL	23,598.	.264230172E+07	67	58	57	43	5.40086	.169282E+01	5.44677	.412562E+02
TOTAL	135,466.	.151682520E+08	354	176	175	87	2.96692	.425427E+02	9.16108	.262595E+04

Table C-10.--Population and biomass estimates for arrowtooth and Kamchatka flounders (cont'd).

STRATUM	MEAN WT KG	POPULATION	VARIANCE POPULATION	METHOD USED	EFF. DEG. FREEDOM	CONFIDENCE LIMITS - POPULATION PERCENT	LOWER	UPPER
10*	0.280159	.196489393E+08	.620865865E+14	1	57.00000	95.0	.386511046E+07	.354327681E+08
SUBTOTAL	0.280159	.196489393E+08	.620865865E+14		57.00000	95.0	.386511046E+07	.354327681E+08
20*	0.255852	.245269377E+09	.537619984E+15	1	38.00000	95.0	.198263114E+09	.292275639E+09
21*	0.134914	.513798609E+08	.868682512E+15	1	5.00000	95.0	0.	.127156025E+09
SUBTOTAL	0.234905	.296649237E+09	.140630250E+16		5.99032	95.0	.200234938E+09	.393063537E+09
30*	0.603252	.199256328E+08	.705084502E+14	1	25.00000	95.0	.262795490E+07	.372233106E+08
32*	0.323885	.664886740E+06	.288201268E+12	1	5.00000	95.0	0.	.204511216E+07
SUBTOTAL	0.594231	.205905195E+08	.707966515E+14		25.85291	95.0	.325752581E+07	.379235132E+08
40*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
41*	0.172257	.128824327E+08	.264458836E+14	1	12.00000	95.0	.156366554E+07	.242011998E+08
42*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
SUBTOTAL	0.172257	.128824327E+08	.264458886E+14		12.00000	95.0	.156366554E+07	.242011993E+08
50*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
52*	0.090718	.604656059E+05	.365608950E+10	1	8.00000	95.0	0.	.203466764E+06
SUBTOTAL	0.090718	.604656059E+05	.365608950E+10		8.00000	95.0	0.	.203466764E+06
60*	0.135586	.278063245E+08	.180482401E+15	1	54.00000	95.0	.838834121E+06	.547738149E+08
61*	0.182996	.393246871E+07	.415952220E+13	1	2.00000	95.0	0.	.127083971E+08
SUBTOTAL	0.141460	.317387932E+08	.184641923E+15		18.77430	95.0	.318977286E+07	.602878135E+08
70*	0.265749	.135112419E+09	0.	3	0.00000	95.0	0.	0.
71*	0.171492	.432162132E+08	.859435166E+14	1	18.00000	95.0	.237387401E+08	.626936862E+08
72*	0.456538	.369515366E+06	.312149731E+12	1	8.00000	95.0	0.	.215788591E+07
SUBTOTAL	0.243943	.179198148E+09	.862556663E+14		18.27468	95.0	.159685335E+09	.198710900E+09
TOTAL	0.000246	.560768535E+09	.183653287E+16		7.17975	95.0	.459416961E+09	.662120109E+09

Table C-10.--Population and biomass estimates for arrowtooth and Kamchatka flounders (cont'd).

STRATUM	BIOMASS MT	VARIANCE BIOMASS	EFF. DEG. FREEDOM	CONFIDENCE LIMITS - BIOMASS PERCENT	LOWER	UPPER
10*	.550483146E+04	.366719386E+07	57.00000	95.0	.166680475E+04	.934285816E+04
SUBTOTAL	.550483146E+04	.366719386E+07	57.00000	95.0	.166680475E+04	.934285816E+04
20*	.627526487E+05	.371297435E+08	38.00000	95.0	.504122585E+05	.750930389E+05
21*	.693184328E+04	.122925059E+08	5.00000	95.0	0.	.159459416E+05
SUBTOTAL	.696844920E+05	.494222494E+08	10.43030	95.0	.540214381E+05	.853475458E+05
30*	.120201863E+05	.249956569E+08	25.00000	95.0	.172108106E+04	.223192916E+05
32*	.215346992E+03	.222127542E+05	5.00000	95.0	0.	.598527387E+03
SUBTOTAL	.122355333E+05	.250178697E+08	25.19105	95.0	.193185285E+04	.225392138E+05
40*	0.	0.	0.00000	95.0	0.	0.
41*	.221908461E+04	.579427704E+06	12.00000	95.0	.543680140E+03	.389445909E+04
42*	0.	0.	0.00000	95.0	0.	0.
SUBTOTAL	.221908461E+04	.579427704E+06	12.00000	95.0	.543680140E+03	.389448909E+04
50*	0.	0.	0.00000	95.0	0.	0.
52*	.548532914E+01	.300888358E+02	8.00000	95.0	0.	.184581326E+02
SUBTOTAL	.548532914E+01	.300888358E+02	8.00000	95.0	0.	.184581326E+02
60*	.377014269E+04	.319203923E+07	54.00000	95.0	.185631145E+03	.735495423E+04
61*	.719624552E+03	.250112985E+06	2.00000	95.0	0.	.287161067E+04
SUBTOTAL	.448976724E+04	.344215221E+07	5.65227	95.0	0.	.925975332E+04
70*	.359059830E+05	.226357901E+08	38.00000	95.0	.262706718E+05	.455412943E+05
71*	.741121331E+04	.192125373E+07	18.00000	95.0	.449903198E+04	.103233947E+05
72*	.396966608E+03	.763378552E+05	8.00000	95.0	0.	.103409840E+04
SUBTOTAL	.437141629E+05	.246333817E+08	50.42421	95.0	.337356438E+05	.536926821E+05
TOTAL	.137853357E+06	.106762305E+09	26.33764	95.0	.116609563E+06	.159097151E+06

Table C-10.--Population and biomass estimates for arrowtooth and Kamchatka flounders (cont'd).

CONFIDENCE LIMITS	TOTAL BIOMASS MT		TOTAL POPULATION	
	LOWER	UPPER	LOWER	UPPER
80.000 PERCENT	.12426008E+06	.151440706E+06	.500129010E+09	.621408060E+09
90.000 PERCENT	.120225968E+06	.155480746E+06	.479558712E+09	.641978359E+09
95.000 PERCENT	.116609563E+06	.159097151E+06	.459416961E+09	.662120109E+09

Table C-11.--Population and biomass estimates for Pacific halibut.

STANDARD TRAWL WIDTH = 16.54000000 METERS

STRATUM	AREA SQ. MI.	SAMPLES	TOTAL HAULS	HAULS WITH CATCH	HAULS WITH NUMS.	HAULS WITH L-F	CPUE KG/HA	VARIANCE CPUE KG/HA	CPUE NO/HA	VARIANCE CPUE NO/HA
10*	22,950.	.256968492E+07	58	44	44	44	4.30758	.700581E+00	2.17342	.169010E+00
SUBTOTAL	22,950.	.256968492E+07	58	44	44	44	4.30758	.700581E+00	2.17342	.169010E+00
20*	16,030.	.179494262E+07	39	23	23	23	3.61388	.673335E+00	0.94674	.597078E-01
21*	1,720.	.192535328E+06	6	2	2	2	0.45474	.114522E+00	0.52915	.189399E+00
SUBTOTAL	17,750.	.198747795E+07	45	25	25	25	3.30784	.787857E+00	0.90629	.249107E+00
30*	12,731.	.142546450E+07	26	6	6	6	0.49561	.671260E-01	0.21636	.175882E-01
32*	1,271.	.142350928E+06	6	0	0	0	0.00000	0.	0.00000	0.
SUBTOTAL	14,002.	.156781543E+07	32	6	6	6	0.45061	.671260E-01	0.19671	.175882E-01
40*	21,612.	.241988980E+07	56	26	26	26	1.89024	.600557E+00	1.27685	.316801E+00
41*	3,115.	.348771586E+06	13	6	6	6	0.86876	.192887E+00	1.05725	.356235E+00
42*	2,009.	.224990002E+06	5	0	0	0	0.00000	0.	0.00000	0.
SUBTOTAL	26,736.	.299365139E+07	74	32	32	32	1.62917	.793444E+00	1.15647	.673037E+00
50*	4,345.	.486525370E+06	11	4	4	4	0.30564	.211219E-01	0.24749	.130016E-01
52*	2,317.	.259397449E+06	9	2	2	2	1.76703	.273630E+01	0.23283	.272832E-01
SUBTOTAL	6,662.	.745922819E+06	20	6	6	6	0.81384	.275742E+01	0.24241	.402847E-01
60*	22,793.	.255218538E+07	55	24	24	24	1.59253	.192896E+00	0.64178	.340392E-01
61*	975.	.109212363E+06	3	1	1	1	0.12504	.156357E-01	0.14509	.210514E-01
SUBTOTAL	23,769.	.266139775E+07	58	25	25	25	1.53231	.208532E+00	0.62140	.550907E-01
70*	16,921.	.189466687E+07	39	23	23	22	0.75786	.317266E-01	0.43274	.845145E-02
71*	4,231.	.473731238E+06	19	15	15	15	4.51794	.361915E+01	3.47894	.221816E+01
72*	2,446.	.273903618E+06	9	0	0	0	0.00000	0.	0.00000	0.
SUBTOTAL	23,598.	.264230172E+07	67	38	38	37	1.35343	.365087E+01	0.93402	.222661E+01
TOTAL	135,466.	.151682520E+08	354	176	176	175	2.07594	.896583E+01	1.01919	.343073E+01

Table C-11.--Population and biomass estimates for Pacific halibut (cont'd).

STRATUM	MEAN WT KG	POPULATION	VARIANCE POPULATION	METHOD USED	EFF. DEG. FREEDOM	CONFIDENCE LIMITS - POPULATION PERCENT	LOWER	UPPER
10*	1.981935	.171080493E+08	.104718635E+14	1	57.00000	95.0	.106224062E+08	.235936924E+08
SUBTOTAL	1.981935	.171080493E+08	.104718635E+14		57.00000	95.0	.106224062E+08	.235936924E+08
20*	3.817171	.520545694E+07	.180503420E+13	1	38.00000	95.0	.248174774E+07	.792916614E+07
21*	0.859366	.312084181E+06	.658796163E+11	1	5.00000	95.0	0.	.971983389E+06
SUBTOTAL	3.649871	.551754112E+07	.187091382E+13		40.74191	95.0	.275319001E+07	.828189224E+07
30*	2.290718	.944717818E+06	.335341585E+12	1	25.00000	95.0	0.	.213763674E+07
32*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
SUBTOTAL	2.290718	.944717818E+06	.335341585E+12		25.00000	95.0	0.	.213763674E+07
40*	1.480397	.946477791E+07	.174072878E+14	1	55.00000	95.0	.109846547E+07	.178310904E+08
41*	0.814015	.114021556E+07	.406604546E+12	1	12.00000	95.0	0.	.252966692E+07
42*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
SUBTOTAL	1.408749	.106049935E+08	.178138923E+14		63.67053	95.0	.216791273E+07	.190420742E+08
50*	1.234931	.368843819E+06	.288775074E+11	1	10.00000	95.0	0.	.747456398E+06
52*	7.587848	.185041212E+06	.172257891E+11	1	8.00000	95.0	0.	.487696912E+06
SUBTOTAL	3.357306	.553885031E+06	.461032966E+11		17.96222	95.0	.100832621E+06	.100693744E+07
60*	2.481428	.501734034E+07	.208044818E+13	1	54.00000	95.0	.212198711E+07	.791269356E+07
61*	0.861823	.485388282E+05	.235601784E+10	1	2.00000	95.0	0.	.257401406E+06
SUBTOTAL	2.465910	.506587916E+07	.208280420E+13		55.61824	95.0	.217191768E+07	.795984065E+07
70*	1.751306	.251150200E+07	.284675508E+12	1	38.00000	95.0	.143095672E+07	.359204728E+07
71*	1.298655	.504841269E+07	.467099577E+13	1	18.00000	95.0	.507629253E+06	.958919612E+07
72*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
SUBTOTAL	1.449031	.755991469E+07	.495567128E+13		19.07679	95.0	.290061684E+07	.122192125E+08
TOTAL	0.002037	.473549806E+08	.375765900E+14		134.34538	95.0	.352176832E+08	.594922780E+08

Table C-11.--Population and biomass estimates for Pacific halibut (cont'd).

STRATUM	BIOMASS MT	VARIANCE BIOMASS	EFF. DEG. FREEDOM	CONFIDENCE LIMITS - BIOMASS PERCENT	LOWER	UPPER
10*	.339070390E+05	.434081223E+08	57.00000	95.0	.207023993E+05	.471116786E+05
SUBTOTAL	.339070390E+05	.434081223E+08	57.00000	95.0	.207023993E+05	.471116783E+05
20*	.198701171E+05	.203556560E+08	38.00000	95.0	.107234985E+05	.290167358E+05
21*	.268194417E+03	.398349073E+05	5.00000	95.0	0.	.822247489E+03
SUBTOTAL	.201383116E+05	.203954909E+08	38.92501	95.0	.109922315E+05	.292843917E+05
30*	.216408209E+04	.127984199E+07	25.00000	95.0	0.	.449456218E+04
32*	0.	0.	0.00000	95.0	0.	0.
SUBTOTAL	.216408209E+04	.127984199E+07	25.00000	95.0	0.	.449456213E+04
40*	.140116241E+05	.329988088E+08	55.00000	95.0	.249254777E+04	.255307005E+05
41*	.928152401E+03	.220160210E+06	12.00000	95.0	0.	.195056607E+04
42*	0.	0.	0.00000	95.0	0.	0.
SUBTOTAL	.149397765E+05	.332189690E+08	57.98729	95.0	.339444132E+04	.264951117E+05
50*	.455496788E+03	.469134787E+05	10.00000	95.0	0.	.938070883E+03
52*	.140406459E+04	.172761793E+07	8.00000	95.0	0.	.451259411E+04
SUBTOTAL	.185956138E+04	.177453141E+07	8.35613	95.0	0.	.493141946E+04
60*	.124501680E+05	.117896501E+08	54.00000	95.0	.556132435E+04	.193390117E+05
61*	.418318600E+02	.174990452E+04	2.00000	95.0	0.	.221834354E+03
SUBTOTAL	.124919999E+05	.117914000E+08	54.28343	95.0	.560264499E+04	.193813548E+05
70*	.439840828E+04	.106866783E+07	38.00000	95.0	.230265869E+04	.649415785E+04
71*	.655614512E+04	.762119613E+07	18.00000	95.0	.756016540E+03	.123562737E+05
72*	0.	0.	0.00000	95.0	0.	0.
SUBTOTAL	.109545534E+05	.868986397E+07	20.49799	95.0	.480532261E+04	.171037842E+05
TOTAL	.964553239E+05	.120558220E+09	202.99457	95.0	.747156720E+05	.118194976E+06

Table C-11.--Population and biomass estimates for Pacific halibut (cont'd).

CONFIDENCE LIMITS	TOTAL BIOMASS MT		TOTAL POPULATION	
	LOWER	UPPER	LOWER	UPPER
80.000 PERCENT	.823024249E+05	.110608223E+06	.394534616E+08	.552564996E+08
90.000 PERCENT	.782510070E+05	.114659641E+06	.371915167E+08	.575184445E+08
95.000 PERCENT	.747156720E+05	.118194976E+06	.352176832E+08	.594922780E+08

Table C-12.--Population and biomass estimates for rex sole.

STANDARD TRAWL WIDTH = 16.54000000 METERS

STRATUM	AREA SQ. MI.	SAMPLES	TOTAL HAULS	HAULS WITH CATCH	HAULS WITH NUMS.	HAULS WITH L-F	CPUE KG/HA	VARIANCE CPUE KG/HA	CPUE NO/HA	VARIANCE CPUE NO/HA
10*	22,950.	.256968492E+07	58	14	14	0	0.07294	.688769E-03	0.22357	.658260E-02
SUBTOTAL	22,950.	.256968492E+07	58	14	14	0	0.07294	.688769E-03	0.22357	.658260E-02
20*	16,030.	.179494262E+07	39	33	33	1	0.89160	.475605E-01	2.30177	.238597E+00
21*	1,720.	.192535328E+06	6	3	3	0	0.05690	.193559E-02	0.41686	.102516E+00
SUBTOTAL	17,750.	.198747795E+07	45	36	36	1	0.81074	.494961E-01	2.57074	.341213E+00
30*	12,731.	.142546450E+07	26	6	6	0	0.02282	.252760E-03	0.14063	.490197E-02
32*	1,271.	.142350928E+06	6	0	0	0	0.00000	0.	0.00000	0.
SUBTOTAL	14,002.	.156781543E+07	32	6	6	0	0.02074	.252760E-03	0.12786	.490197E-02
40*	21,612.	.241988980E+07	56	1	1	0	0.00156	.242080E-05	0.00858	.735377E-04
41*	3,115.	.348771586E+06	13	1	1	0	0.00083	.691752E-06	0.01834	.336219E-03
42*	2,009.	.224990002E+06	5	0	0	0	0.00000	0.	0.00000	0.
SUBTOTAL	26,736.	.299365139E+07	74	2	2	0	0.00135	.311255E-05	0.00907	.409757E-03
50*	4,345.	.486525370E+06	11	0	0	0	0.00000	0.	0.00000	0.
52*	2,317.	.259397449E+06	9	0	0	0	0.00000	0.	0.00000	0.
SUBTOTAL	6,662.	.745922819E+06	20	0	0	0	0.00000	0.	0.00000	0.
60*	22,793.	.255218538E+07	55	4	4	0	0.00984	.469597E-04	0.03797	.683242E-03
61*	975.	.109212363E+06	3	1	1	0	0.01316	.173249E-03	0.14509	.210514E-01
SUBTOTAL	23,769.	.266139775E+07	58	5	5	0	0.00997	.220209E-03	0.04236	.217347E-01
70*	16,921.	.189466687E+07	39	19	19	1	0.26153	.475485E-02	1.22527	.117257E+00
71*	4,231.	.473731238E+06	19	6	6	0	0.08517	.351034E-02	0.34823	.514701E-01
72*	2,446.	.273903618E+06	9	0	0	0	0.00000	0.	0.00000	0.
SUBTOTAL	23,598.	.264230172E+07	67	25	25	1	0.20280	.826518E-02	0.94101	.168727E+00
TOTAL	135,466.	.151682520E+08	354	88	88	2	0.15808	.589262E-01	0.56108	.543569E+00

Table C-12.--Population and biomass estimates for rex sole (cont'd).

STRATUM	MEAN WT KG	POPULATION	VARIANCE POPULATION	METHOD USED	EFF. DEG. FREEDOM	CONFIDENCE LIMITS - POPULATION PERCENT	LOWER	UPPER
10*	0.326276	.175979306E+07	.407859383E+12	1	57.00000	95.0	.479833386E+06	.303975273E+07
SUBTOTAL	0.326276	.175979306E+07	.407859383E+12		57.00000	95.0	.479833386E+06	.303975273E+07
20*	0.318227	.154049398E+08	.721305698E+13	1	38.00000	95.0	-.996583281E+07	.208440467E+08
21*	0.136495	.245856513E+06	.356934345E+11	1	5.00000	95.0	0.	.731587989E+06
SUBTOTAL	0.315372	.156507963E+08	.724875041E+13		40.16801	95.0	-.102095562E+08	.210920364E+08
30*	0.162239	.614071790E+06	.934623684E+11	1	25.00000	95.0	0.	.124384707E+07
32*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
SUBTOTAL	0.162239	.614071790E+06	.934623684E+11		25.00000	95.0	0.	.124384707E+07
40*	0.181436	.635663035E+05	.404067495E+10	1	55.00000	95.0	0.	.191032634E+06
41*	0.045359	.195897379E+05	.383757829E+09	1	12.00000	95.0	0.	.522757765E+05
42*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
SUBTOTAL	0.149380	.831560414E+05	.442443277E+10		61.79949	95.0	0.	.216166689E+06
50*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
52*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
SUBTOTAL	0.000000	0.	0.		0.00000	95.0	0.	0.
60*	0.259078	.296821617E+06	.417591572E+11	1	54.00000	95.0	0.	.707024742E+06
61*	0.090718	.485388282E+05	.235601784E+10	1	2.00000	95.0	0.	.257401406E+06
SUBTOTAL	0.235416	.345360445E+06	.441151750E+11		7.47766	95.0	0.	.842095887E+06
70*	0.213449	.711114302E+07	.394963666E+13	1	38.00000	95.0	-.308632275E+07	.111359633E+08
71*	0.244594	.505324710E+06	.108385703E+12	1	18.00000	95.0	0.	.119701559E+07
72*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
SUBTOTAL	0.215515	.761646773E+07	.405802236E+13		42.11938	95.0	-.354948783E+07	.116834476E+08
TOTAL	0.000282	.260696454E+08	.118566341E+14		81.47351	95.0	-.192070561E+08	.329322346E+08

Table C-12.--Population and biomass estimates for rex sole (cont'd).

STRATUM	BIOMASS MT	VARIANCE BIOMASS	EFF. DEG. FREEDOM	CONFIDENCE LIMITS - BIOMASS PERCENT	LOWER	UPPER
10*	.574178846E+03	.426762833E+05	57.00000	95.0	.160146423E+03	.988211269E+03
SUBTOTAL	.574178846E+03	.426762833E+05	57.00000	95.0	.160146423E+03	.988211269E+03
20*	.490226751E+04	.143780787E+07	38.00000	95.0	.247135992E+04	.733317510E+04
21*	.335580920E+02	.673268493E+03	5.00000	95.0	0.	.100263903E+03
SUBTOTAL	.493582560E+04	.143848114E+07	38.22898	95.0	.250686760E+04	.736478360E+04
30*	.996263635E+02	.481919657E+04	25.00000	95.0	0.	.242632456E+03
32*	0.	0.	0.00000	95.0	0.	0.
SUBTOTAL	.996263635E+02	.481919657E+04	25.00000	95.0	0.	.242632456E+03
40*	.115332375E+02	.133015567E+03	55.00000	95.0	0.	.346602620E+02
41*	.888572588E+00	.789561245E+00	12.00000	95.0	0.	.202477226E+01
42*	0.	0.	0.00000	95.0	0.	0.
SUBTOTAL	.124218101E+02	.133805129E+03	57.67581	95.0	0.	.355930808E+02
50*	0.	0.	0.00000	95.0	0.	0.
52*	0.	0.	0.00000	95.0	0.	0.
SUBTOTAL	0.	0.	0.00000	95.0	0.	0.
60*	.769000600E+02	.287013639E+04	54.00000	95.0	0.	.184384832E+03
61*	.440335369E+01	.193895237E+02	2.00000	95.0	0.	.603523657E+02
SUBTOTAL	.813034137E+02	.288952592E+04	48.22940	95.0	0.	.189489339E+03
70*	.151786629E+04	.160160403E+06	38.00000	95.0	.706539912E+03	.232919267E+04
71*	.123599177E+03	.739206739E+04	18.00000	95.0	0.	.304237133E+03
72*	0.	0.	0.00000	95.0	0.	0.
SUBTOTAL	.164146547E+04	.167552470E+06	44.69425	95.0	.815925222E+03	.246700571E+04
TOTAL	.734482150E+04	.165655242E+07	49.74997	95.0	.475581331E+04	.993382969E+04

Table C-12.--Population and biomass estimates for rex sole (cont'd).

CONFIDENCE LIMITS

	TOTAL BIOMASS MT		TOTAL POPULATION	
	LOWER	UPPER	LOWER	UPPER
80.000 PERCENT	.567182193E+04	.901782108E+04	.216155047E+08	.305237860E+08
90.000 PERCENT	.518492287E+04	.950472014E+04	.203314808E+08	.318078099E+08
95.000 PERCENT	.475581331E+04	.993382969E+04	.192070561E+08	.329322346E+08

Table C-13.--Population and biomass estimates for longhead dab.

STANDARD TRAWL WIDTH = 16.54000000 METERS

STRATUM	AREA SQ. MI.	SAMPLES	TOTAL HAULS	HAULS WITH CATCH	HAULS WITH NUMS.	HAULS WITH L-F	CPUE KG/HA	VARIANCE CPUE KG/HA	CPUE NO/HA	VARIANCE CPUE NO/HA
10*	22,950.	.256968492E+07	58	43	43	2	4.08780	.514293E+00	24.44971	.318742E+02
SUBTOTAL	22,950.	.256968492E+07	58	43	43	2	4.08780	.514293E+00	24.44971	.318742E+02
20*	16,030.	.179494262E+07	39	1	1	0	0.00352	.123922E-04	0.02772	.768252E-03
21*	1,720.	.192535328E+06	6	0	0	0	0.00000	0.	0.00000	0.
SUBTOTAL	17,750.	.198747795E+07	45	1	1	0	0.00318	.123922E-04	0.02503	.768252E-03
30*	12,731.	.142546450E+07	26	0	0	0	0.00000	0.	0.00000	0.
32*	1,271.	.142350928E+06	6	0	0	0	0.00000	0.	0.00000	0.
SUBTOTAL	14,002.	.156731543E+07	32	0	0	0	0.00000	0.	0.00000	0.
40*	21,612.	.241988980E+07	56	29	29	0	1.16617	.924063E-01	11.83005	.913990E+01
41*	3,115.	.348771586E+06	13	1	1	0	0.06542	.427915E-02	0.28116	.790488E-01
42*	2,009.	.224990002E+06	5	0	0	0	0.00000	0.	0.00000	0.
SUBTOTAL	26,736.	.299365139E+07	74	30	30	0	0.95028	.966854E-01	9.59546	.921894E+01
50*	4,345.	.486525370E+06	11	0	0	0	0.00000	0.	0.00000	0.
52*	2,317.	.259397449E+06	9	0	0	0	0.00000	0.	0.00000	0.
SUBTOTAL	5,662.	.745922819E+06	20	0	0	0	0.00000	0.	0.00000	0.
60*	22,793.	.255218538E+07	55	30	30	0	1.46521	.898020E-01	12.33657	.603072E+01
61*	975.	.109212363E+06	3	0	0	0	0.00000	0.	0.00000	0.
SUBTOTAL	23,769.	.266139775E+07	58	30	30	0	1.40508	.898020E-01	11.83033	.603072E+01
70*	16,921.	.189466687E+07	39	0	0	0	0.00000	0.	0.00000	0.
71*	4,231.	.473731238E+06	19	0	0	0	0.00000	0.	0.00000	0.
72*	2,446.	.273903618E+06	9	0	0	0	0.00000	0.	0.00000	0.
SUBTOTAL	23,598.	.264230172E+07	67	0	0	0	0.00000	0.	0.00000	0.
TOTAL	135,466.	.151682520E+08	354	104	104	2	1.12702	.700793E+00	8.11488	.471747E+02

Table C-13.--Population and biomass estimates for longhead dab (cont'd).

STRATUM	MEAN WT KG	POPULATION	VARIANCE POPULATION	METHOD USED	EFF. DEG. FREEDOM	CONFIDENCE LIMITS - POPULATION PERCENT	LOWER	UPPER
10*	0.167192	.192455353E+09	.197493323E+16	1	57.00000	95.0	.103434925E+09	.281475781E+09
SUBTOTAL	0.167192	.192455353E+09	.197493323E+16		57.00000	95.0	.103434925E+09	.281475781E+09
20*	0.127005	.152397913E+06	.232251239E+11	1	38.00000	95.0	0.	.461354202E+06
21*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
SUBTOTAL	0.127005	.152397913E+06	.232251239E+11		38.00000	95.0	0.	.461354202E+06
30*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
32*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
SUBTOTAL	0.000000	0.	0.		0.00000	95.0	0.	0.
40*	0.098577	.876917320E+08	.502210048E+15	1	55.00000	95.0	.427539923E+08	.132629472E+09
41*	0.232665	.300375980E+06	.902257296E+11	1	12.00000	95.0	0.	.954895242E+06
42*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
SUBTOTAL	0.099034	.879921079E+08	.502300274E+15		55.08501	95.0	.430503318E+08	.132933884E+09
50*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
52*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
SUBTOTAL	0.000000	0.	0.		0.00000	95.0	0.	0.
60*	0.118769	.964457752E+08	.371648706E+15	1	54.00000	95.0	.577679376E+08	.135123613E+09
61*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
SUBTOTAL	0.118769	.964457752E+08	.371648706E+15		54.00000	95.0	.577679376E+08	.135123613E+09
70*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
71*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
72*	0.000000	0.	0.	1	0.00000	95.0	0.	0.
SUBTOTAL	0.000000	0.	0.		0.00000	95.0	0.	0.
TOTAL	0.000139	.377045634E+09	.284890544E+16		109.42619	95.0	.271167151E+09	.482924118E+09

Table C-13.--Population and biomass estimates for longhead dab (cont'd).

STRATUM	BIOMASS MT	VARIANCE BIOMASS	EFF. DEG. FREEDOM	CONFIDENCE LIMITS - BIOMASS PERCENT	LOWER	UPPER
10*	.321770126E+05	.318656943E+08	57.00000	95.0	.208633623E+05	.434906629E+05
SUBTOTAL	.321770126E+05	.318656943E+08	57.00000	95.0	.208633623E+05	.434906629E+05
20*	.193553638E+02	.374630107E+03	38.00000	95.0	0.	.585538465E+02
21*	0.	0.	0.00000	95.0	0.	0.
SUBTOTAL	.193553638E+02	.374630107E+03	38.00000	95.0	0.	.585538465E+02
30*	0.	0.	0.00000	95.0	0.	0.
32*	0.	0.	0.00000	95.0	0.	0.
SUBTOTAL	0.	0.	0.00000	95.0	0.	0.
40*	.864435458E+04	.507744869E+07	55.00000	95.0	.412588569E+04	.131628235E+05
41*	.698869669E+02	.488418814E+04	12.00000	95.0	0.	.222170658E+03
42*	0.	0.	0.00000	95.0	0.	0.
SUBTOTAL	.871424155E+04	.508233289E+07	55.45239	95.0	.419359994E+04	.132348832E+05
50*	0.	0.	0.00000	95.0	0.	0.
52*	0.	0.	0.00000	95.0	0.	0.
SUBTOTAL	0.	0.	0.00000	95.0	0.	0.
60*	.114547928E+05	.548862604E+07	54.00000	95.0	.675446987E+04	.161551157E+05
61*	0.	0.	0.00000	95.0	0.	0.
SUBTOTAL	.114547928E+05	.548862604E+07	54.00000	95.0	.675446987E+04	.161551157E+05
70*	0.	0.	0.00000	95.0	0.	0.
71*	0.	0.	0.00000	95.0	0.	0.
72*	0.	0.	0.00000	95.0	0.	0.
SUBTOTAL	0.	0.	0.00000	95.0	0.	0.
TOTAL	.523654022E+05	.424370279E+08	97.34036	95.0	.394170044E+05	.653138001E+05

Table C-13.--Population and biomass estimates for longhead dab (cont'd).

	CONFIDENCE LIMITS			
	TOTAL BIOMASS MT		TOTAL POPULATION	
	LOWER	UPPER	LOWER	UPPER
80.000 PERCENT	.439508979E+05	.607799065E+05	.308176582E+09	.445914686E+09
90.000 PERCENT	.415321120E+05	.631986924E+05	.289422443E+09	.465668825E+09
95.000 PERCENT	.394170044E+05	.653138001E+05	.271167151E+09	.482924118E+09

Appendix D

Population Estimates by Sex and Size Groups for Principal Species of Fish

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

List of Tables

Table D-1.--Population estimates by sex and size group for walleye pollock.

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
70.0	0.	0.	.230938051E+06	.230938051E+06	0.00002	0.00002
80.0	.632169671E+06	.577525254E+05	.137567255E+08	.144466477E+08	0.00099	0.00101
90.0	.164778960E+07	.577525254E+05	.877804749E+08	.894860171E+08	0.00614	0.00715
100.0	.812325946E+07	.255673692E+06	.348382578E+09	.356761511E+09	0.02449	0.03164
110.0	.115356847E+08	.255039982E+07	.683086500E+09	.697172584E+09	0.04786	0.07950
120.0	.854208279E+07	.501377921E+07	.586539079E+09	.600094941E+09	0.04120	0.12070
130.0	.151823079E+08	.632806855E+07	.461309551E+09	.482819928E+09	0.03315	0.15385
140.0	.359658429E+08	.227888840E+08	.437031956E+09	.495786683E+09	0.03404	0.18783
150.0	.409749126E+08	.331611597E+08	.385609488E+09	.459745561E+09	0.03156	0.21944
160.0	.191862573E+08	.103596438E+08	.265460541E+09	.295006443E+09	0.02025	0.23970
170.0	.655365729E+07	.607283123E+07	.149144394E+09	.161770882E+09	0.01111	0.25080
180.0	.185568386E+07	.455479655E+07	.335412711E+08	.399517566E+08	0.00274	0.25355
190.0	.235274175E+07	.141506727E+07	.138954536E+08	.176632626E+08	0.00121	0.25476
200.0	.485993444E+07	.107747824E+07	.701344329E+06	.663875701E+07	0.00046	0.25521
210.0	.433587015E+07	.268325747E+07	.286190866E+05	.704774670E+07	0.00048	0.25570
220.0	.530739043E+07	.331574807E+07	.522286580E+07	.138460043E+08	0.00095	0.25665
230.0	.104391741E+08	.125169669E+08	.530016199E+07	.282563030E+08	0.00194	0.25859
240.0	.127884750E+08	.117823354E+08	0.	.245708103E+08	0.00169	0.26027
250.0	.225173191E+08	.272233355E+08	0.	.497406546E+08	0.00341	0.26369
260.0	.352406665E+08	.329496883E+08	0.	.681903547E+08	0.00468	0.26837
270.0	.423218591E+08	.339087567E+08	0.	.762306158E+08	0.00523	0.27360
280.0	.546618395E+08	.516223152E+08	0.	.106284155E+09	0.00730	0.28090
290.0	.603614060E+08	.476677015E+08	0.	.108029108E+09	0.00742	0.28832
300.0	.682437979E+08	.690144242E+08	0.	.137258222E+09	0.00942	0.29774
310.0	.817274036E+08	.709855463E+08	0.	.152712950E+09	0.01048	0.30822
320.0	.111571966E+09	.770462245E+08	0.	.188618191E+09	0.01295	0.32117
330.0	.102356381E+09	.106101127E+09	0.	.208457508E+09	0.01431	0.33548
340.0	.133434942E+09	.121838275E+09	0.	.255273216E+09	0.01752	0.35301
350.0	.172059882E+09	.130934161E+09	0.	.302994043E+09	0.02080	0.37381
360.0	.214708326E+09	.158419547E+09	0.	.373127874E+09	0.02562	0.39942
370.0	.259428807E+09	.194484107E+09	0.	.453912914E+09	0.03116	0.43058
380.0	.325676151E+09	.232638978E+09	0.	.558315128E+09	0.03833	0.46891
390.0	.360607102E+09	.304110981E+09	0.	.664718083E+09	0.04563	0.51455
400.0	.432648031E+09	.320107134E+09	0.	.752755165E+09	0.05168	0.56622
410.0	.418843339E+09	.354542001E+09	0.	.773385341E+09	0.05309	0.61931
420.0	.479966325E+09	.376838516E+09	0.	.856804841E+09	0.05882	0.67814
430.0	.466860448E+09	.392832837E+09	0.	.859693284E+09	0.05902	0.73716
440.0	.411952306E+09	.441141681E+09	0.	.853093987E+09	0.05857	0.79572
450.0	.300824897E+09	.395807483E+09	0.	.696632380E+09	0.04782	0.84355
460.0	.226082303E+09	.329153902E+09	0.	.555236204E+09	0.03812	0.88167
470.0	.151809166E+09	.231619675E+09	0.	.383428841E+09	0.02632	0.90798
480.0	.111259336E+09	.169275199E+09	0.	.280534535E+09	0.01926	0.92724
490.0	.929861989E+08	.123793946E+09	0.	.216780145E+09	0.01488	0.94213
500.0	.638865991E+08	.899648710E+08	0.	.153851470E+09	0.01056	0.95269

Table D-1.--Population estimates by sex and size group for walleye pollock (cont'd).

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
510.0	.449065763E+08	.628680195E+08	0.	.107774596E+09	0.00740	0.96009
520.0	.425495035E+08	.576447082E+08	0.	.100194212E+09	0.00688	0.96696
530.0	.338378995E+08	.533142566E+08	0.	.871521561E+08	0.00598	0.97295
540.0	.175796426E+08	.376362928E+08	0.	.552159354E+08	0.00379	0.97674
550.0	.192954362E+08	.354317448E+08	0.	.547271810E+08	0.00376	0.98050
560.0	.165828896E+08	.286768968E+08	0.	.452597864E+08	0.00311	0.98361
570.0	.125114452E+08	.262762690E+08	0.	.387877141E+08	0.00266	0.98627
580.0	.106128272E+08	.223544068E+08	0.	.329672339E+08	0.00226	0.98853
590.0	.725543306E+07	.211378902E+08	0.	.283933233E+08	0.00195	0.99048
600.0	.845874854E+07	.182442976E+08	0.	.267030461E+08	0.00183	0.99231
610.0	.574815252E+07	.106581147E+08	0.	.164062672E+08	0.00113	0.99344
620.0	.655032281E+07	.114862894E+08	0.	.180366122E+08	0.00124	0.99468
630.0	.481538193E+07	.975299846E+07	0.	.145683804E+08	0.00100	0.99568
640.0	.250867776E+07	.744328307E+07	0.	.995196083E+07	0.00068	0.99636
650.0	.391555829E+07	.732216809E+07	0.	.117377264E+08	0.00081	0.99716
660.0	.248317315E+07	.515975144E+07	0.	.764292459E+07	0.00052	0.99769
670.0	.179424690E+07	.519482066E+07	0.	.698906756E+07	0.00048	0.99817
680.0	.206902191E+07	.430921123E+07	0.	.637823314E+07	0.00044	0.99861
690.0	.154553030E+07	.412304871E+07	0.	.566857901E+07	0.00039	0.99900
700.0	.427601687E+06	.373627890E+07	0.	.416388059E+07	0.00029	0.99928
710.0	.745938551E+06	.223791231E+07	0.	.298385086E+07	0.00020	0.99949
720.0	.250765247E+06	.146031541E+07	0.	.171108066E+07	0.00012	0.99961
730.0	.163256851E+06	.176407009E+07	0.	.192732694E+07	0.00013	0.99974
740.0	.394537356E+06	.569345302E+06	0.	.963882657E+06	0.00007	0.99980
750.0	.273511524E+05	.521149253E+06	0.	.548500405E+06	0.00004	0.99984
760.0	.273511524E+05	.323611949E+06	0.	.350963102E+06	0.00002	0.99986
770.0	.133571913E+06	.372559300E+06	0.	.506131212E+06	0.00003	0.99990
780.0	.547023048E+05	.382793029E+06	0.	.437495334E+06	0.00003	0.99993
790.0	.257665325E+05	.123537208E+06	0.	.149303741E+06	0.00001	0.99994
800.0	.273511524E+05	.257186911E+06	0.	.284538063E+06	0.00002	0.99996
810.0	.109404610E+06	.286190866E+05	0.	.138023696E+06	0.00001	0.99997
820.0	.547023048E+05	.342877480E+05	0.	.889900528E+05	0.00001	0.99997
830.0	.273511524E+05	0.	0.	.273511524E+05	0.00000	0.99998
850.0	.273511524E+05	0.	0.	.273511524E+05	0.00000	0.99998
860.0	.273511524E+05	.655543862E+05	0.	.929055386E+05	0.00001	0.99998
870.0	.820534571E+05	0.	0.	.820534571E+05	0.00001	0.99999
880.0	.273511524E+05	0.	0.	.273511524E+05	0.00000	0.99999
890.0	.820534571E+05	0.	0.	.820534571E+05	0.00001	1.00000
900.0	.273511524E+05	0.	0.	.273511524E+05	0.00000	1.00000
TOTAL	.564008367E+10	.544942570E+10	.347702194E+10	.145665313E+11		

Table D-2.--Population estimates by sex and size group for Pacific cod.

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
90.0	.193009308E+05	.151985128E+06	.204984473E+06	.376270531E+06	0.00052	0.00052
100.0	.893273730E+06	.300179859E+06	.388550159E+07	.507895518E+07	0.00698	0.00750
110.0	.124477120E+07	.773246969E+06	.130601886E+08	.150782068E+08	0.02073	0.02823
120.0	.321108600E+07	.173587396E+07	.191943875E+08	.241413475E+08	0.03320	0.06143
130.0	.252807061E+07	.259586346E+07	.192117558E+08	.243356899E+08	0.03346	0.09489
140.0	.473317357E+07	.361653097E+07	.178018845E+08	.261515890E+08	0.03596	0.13085
150.0	.464155653E+07	.336551371E+07	.168265097E+08	.248335799E+08	0.03415	0.16500
160.0	.486489471E+07	.325962458E+07	.154639271E+08	.235884464E+08	0.03244	0.19743
170.0	.437213703E+07	.288286744E+07	.140852383E+08	.213402427E+08	0.02934	0.22678
180.0	.257987712E+07	.277247190E+07	.818976488E+07	.135421139E+08	0.01862	0.24540
190.0	.210615086E+07	.234133393E+07	.869011074E+07	.131375955E+08	0.01806	0.26346
200.0	.240880951E+07	.241289014E+07	.177769706E+07	.659939671E+07	0.00907	0.27254
210.0	.181660911E+07	.186400058E+07	.315800018E+06	.399640971E+07	0.00550	0.27803
220.0	.138652227E+07	.109526830E+07	0.	.248179057E+07	0.00341	0.28145
230.0	.894520171E+06	.591880602E+06	.137472587E+06	.162387336E+07	0.00223	0.28368
240.0	.435909960E+06	.287548949E+05	0.	.464664855E+06	0.00064	0.28432
250.0	.524036717E+05	.249838709E+06	0.	.302242381E+06	0.00042	0.28473
260.0	.462304069E+06	.496495053E+06	0.	.958799122E+06	0.00132	0.28605
270.0	.108494127E+07	.823076830E+06	0.	.190801810E+07	0.00262	0.28868
280.0	.114428935E+07	.134641334E+07	0.	.249070273E+07	0.00342	0.29210
290.0	.195174742E+07	.126431615E+07	0.	.321606357E+07	0.00442	0.29652
300.0	.275798221E+07	.264395787E+07	0.	.540194007E+07	0.00743	0.30395
310.0	.365913292E+07	.312257289E+07	0.	.678170582E+07	0.00933	0.31328
320.0	.346930897E+07	.425199554E+07	0.	.772130451E+07	0.01062	0.32389
330.0	.489767679E+07	.479819623E+07	0.	.969587302E+07	0.01333	0.33723
340.0	.477061216E+07	.430705645E+07	0.	.907766862E+07	0.01248	0.34971
350.0	.559459908E+07	.596575865E+07	0.	.115603577E+08	0.01590	0.36560
360.0	.364198781E+07	.410372481E+07	0.	.774571262E+07	0.01065	0.37625
370.0	.347526482E+07	.353967634E+07	0.	.701494116E+07	0.00965	0.38590
380.0	.248606011E+07	.342769344E+07	0.	.591375354E+07	0.00813	0.39403
390.0	.214362470E+07	.118091605E+07	0.	.332454076E+07	0.00457	0.39860
400.0	.192239890E+07	.159013300E+07	0.	.351253190E+07	0.00483	0.40343
410.0	.232889157E+07	.231865104E+07	0.	.464754261E+07	0.00639	0.40982
420.0	.286556713E+07	.244753446E+07	0.	.531310159E+07	0.00731	0.41713
430.0	.384946774E+07	.405339219E+07	0.	.790285992E+07	0.01087	0.42800
440.0	.436918731E+07	.436429479E+07	0.	.873348210E+07	0.01201	0.44001
450.0	.634949073E+07	.544712147E+07	0.	.117966122E+08	0.01622	0.45623
460.0	.734548603E+07	.740107764E+07	.403095833E+05	.147868733E+08	0.02033	0.47656
470.0	.890819171E+07	.749647103E+07	0.	.164046627E+08	0.02256	0.49912
480.0	.848211861E+07	.740881512E+07	0.	.158909337E+08	0.02185	0.52097
490.0	.782498647E+07	.846730428E+07	.144642010E+06	.164369328E+08	0.02260	0.54357
500.0	.916798871E+07	.859065682E+07	.201547916E+05	.177788003E+08	0.02445	0.56801
510.0	.681921762E+07	.744442988E+07	0.	.142636475E+08	0.01961	0.58763
520.0	.782070740E+07	.640161512E+07	0.	.142223225E+08	0.01956	0.60718

Table D-2.--Population estimates by sex and size group for Pacific cod (cont'd).

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
530.0	.756141381E+07	.665857410E+07	0.	.142199879E+08	0.01955	0.62674
540.0	.706535494E+07	.556862316E+07	0.	.126339781E+08	0.01737	0.64411
550.0	.109239641E+08	.610346256E+07	.201547916E+05	.170475815E+08	0.02344	0.66755
560.0	.741684622E+07	.832631124E+07	0.	.157431575E+08	0.02165	0.68921
570.0	.911390128E+07	.541879422E+07	0.	.145326955E+08	0.01998	0.70918
580.0	.783315052E+07	.692040272E+07	0.	.147535532E+08	0.02029	0.72947
590.0	.795460128E+07	.603025756E+07	0.	.139848588E+08	0.01923	0.74870
600.0	.825780573E+07	.672610638E+07	.562987413E+05	.150402109E+08	0.02068	0.76938
610.0	.759730331E+07	.643820646E+07	0.	.140355098E+08	0.01930	0.78868
620.0	.644190813E+07	.502375709E+07	0.	.114656652E+08	0.01577	0.80444
630.0	.777868631E+07	.475653853E+07	0.	.125352248E+08	0.01724	0.82168
640.0	.560521577E+07	.565402402E+07	.562987413E+05	.113155385E+08	0.01556	0.83724
650.0	.559905675E+07	.556776357E+07	0.	.111668203E+08	0.01535	0.85260
660.0	.598228861E+07	.502697904E+07	0.	.110092677E+08	0.01514	0.86773
670.0	.438486729E+07	.510094737E+07	0.	.948581465E+07	0.01304	0.88078
680.0	.467891109E+07	.558237557E+07	.201547916E+05	.102814415E+08	0.01414	0.89491
690.0	.436304343E+07	.544912498E+07	0.	.981216841E+07	0.01349	0.90841
700.0	.438314620E+07	.410766015E+07	0.	.849080635E+07	0.01168	0.92008
710.0	.465285408E+07	.571009092E+07	0.	.103629450E+08	0.01425	0.93433
720.0	.308318436E+07	.435336953E+07	.764535330E+05	.751300744E+07	0.01033	0.94465
730.0	.203449413E+07	.476636493E+07	0.	.680085906E+07	0.00935	0.95401
740.0	.211669943E+07	.226198567E+07	0.	.437868510E+07	0.00602	0.96003
750.0	.119197410E+07	.340627541E+07	.562987413E+05	.465454825E+07	0.00640	0.96643
760.0	.131344359E+07	.304621553E+07	.562987413E+05	.441595786E+07	0.00607	0.97251
770.0	.891218039E+06	.273621512E+07	0.	.362743316E+07	0.00499	0.97749
780.0	.940924356E+06	.231482142E+07	0.	.325574577E+07	0.00448	0.98197
790.0	.802377491E+06	.149164377E+07	0.	.229402127E+07	0.00315	0.98513
800.0	.648799805E+06	.208446097E+07	0.	.273326077E+07	0.00376	0.98888
810.0	.456508808E+06	.113465135E+07	0.	.159116016E+07	0.00219	0.99107
820.0	.473884187E+06	.102861372E+07	0.	.150249791E+07	0.00207	0.99314
830.0	.370842655E+06	.924393951E+06	0.	.129523661E+07	0.00178	0.99492
840.0	.198720673E+06	.635750746E+06	0.	.834471420E+06	0.00115	0.99607
850.0	.216267636E+06	.369452007E+06	0.	.585719642E+06	0.00081	0.99687
860.0	0.	.732127096E+05	0.	.732127096E+05	0.00010	0.99697
870.0	.136846197E+06	.272477606E+06	0.	.409323803E+06	0.00056	0.99754
880.0	.995405517E+05	.238970943E+06	0.	.338511494E+06	0.00047	0.99800
890.0	0.	.161478123E+06	0.	.161478123E+06	0.00022	0.99822
900.0	.212041873E+06	.374073147E+06	0.	.586115020E+06	0.00081	0.99903
910.0	0.	.174911422E+05	0.	.174911422E+05	0.00002	0.99905
920.0	0.	.330064815E+05	0.	.330064815E+05	0.00005	0.99910
930.0	0.	.138789462E+06	0.	.138789462E+06	0.00019	0.99929
940.0	.158674471E+06	.780072040E+05	0.	.236681675E+06	0.00033	0.99961
960.0	.528914903E+05	.105782981E+06	0.	.158674471E+06	0.00022	0.99983
980.0	0.	.686749402E+05	0.	.686749402E+05	0.00009	0.99993

Table D-2.--Population estimates by sex and size group for Pacific cod (cont'd).

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
1040.0	0.	.528914903E+05	0.	.528914903E+05	0.00007	1.00000
TOTAL	.300775951E+09	.287080542E+09	.139392287E+09	.727248780E+09		

Table D-3.--Population estimates by sex and size group for sablefish.

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
350.0	.992744037E+05	0.	0.	.992744037E+05	0.01077	0.01077
370.0	.992744037E+05	0.	0.	.992744037E+05	0.01077	0.02154
390.0	.257180677E+06	.201127363E+06	0.	.458308033E+06	0.04973	0.07127
400.0	.496372018E+06	.300401767E+06	0.	.796773785E+06	0.08646	0.15773
410.0	.930599471E+06	.135678646E+06	0.	.966278117E+06	0.10485	0.26258
420.0	.297823211E+06	0.	0.	.297823211E+06	0.03232	0.29489
430.0	.791886213E+06	.101852960E+06	0.	.893739173E+06	0.09698	0.39187
440.0	.297823211E+06	.198548807E+06	.969653873E+05	.593337406E+06	0.06438	0.45625
450.0	.201127363E+06	.992744037E+05	0.	.300401767E+06	0.03260	0.48885
460.0	.198548807E+06	0.	0.	.198548807E+06	0.02154	0.51039
480.0	.992744037E+05	.992744037E+05	0.	.198548807E+06	0.02154	0.53194
520.0	0.	.329967627E+05	0.	.329967627E+05	0.00358	0.53552
540.0	.137600086E+06	0.	0.	.137600086E+06	0.01493	0.55045
550.0	.728084839E+05	0.	0.	.728084839E+05	0.00790	0.55835
560.0	.109212726E+06	.329967627E+05	0.	.142209488E+06	0.01543	0.57378
570.0	.157906266E+06	.167189369E+06	0.	.325095635E+06	0.03528	0.60906
580.0	.202391688E+06	0.	0.	.202391688E+06	0.02196	0.63102
590.0	.102397767E+06	.105805247E+06	0.	.208203014E+06	0.02259	0.65361
600.0	.246812811E+06	.134192606E+06	0.	.381005418E+06	0.04134	0.69495
610.0	.218425452E+06	.364042419E+05	0.	.254829694E+06	0.02765	0.72260
620.0	.109212726E+06	.109212726E+06	0.	.218425452E+06	0.02370	0.74630
630.0	.218425452E+06	.728084839E+05	0.	.291233935E+06	0.03160	0.77790
640.0	.728084839E+05	.287826456E+06	0.	.360634940E+06	0.03913	0.81704
650.0	.142209488E+06	.254829694E+06	0.	.397039182E+06	0.04308	0.86012
660.0	.329967627E+05	.291233935E+06	0.	.324230698E+06	0.03518	0.89530
670.0	.182021210E+06	.218425452E+06	0.	.400446661E+06	0.04345	0.93875
680.0	.728084839E+05	.728084839E+05	0.	.145616968E+06	0.01580	0.95455
690.0	.364042419E+05	.183116074E+06	0.	.219520316E+06	0.02382	0.97837
700.0	.364042419E+05	.364042419E+05	0.	.728084839E+05	0.00790	0.98627
710.0	0.	.728084839E+05	0.	.728084839E+05	0.00790	0.99417
720.0	0.	.364042419E+05	0.	.364042419E+05	0.00395	0.99812
TOTAL	.582003055E+07	.328162161E+07	.969653873E+05	.919861755E+07		

Table D-4.--Population estimates by sex and size group for Pacific herring.

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
40.0	.812015594E+06	0.	0.	.812015594E+06	0.00216	0.00216
50.0	0.	.123453668E+06	0.	.123453668E+06	0.00033	0.00249
100.0	0.	0.	.529524332E+05	.529524332E+05	0.00014	0.00263
150.0	.529524332E+05	.105904866E+06	0.	.158857300E+06	0.00042	0.00305
160.0	.158857300E+06	.264762166E+06	0.	.423619466E+06	0.00113	0.00418
170.0	.529524332E+06	.844320293E+06	.367029385E+06	.174087401E+07	0.00464	0.00882
180.0	.211809733E+06	.423619466E+06	0.	.635429199E+06	0.00169	0.01051
190.0	.529524332E+05	.264762166E+06	0.	.317714599E+06	0.00085	0.01136
200.0	.158857300E+06	.679625718E+06	.367029385E+06	.120551240E+07	0.00321	0.01457
210.0	.677985883E+06	.778053474E+06	.734058769E+06	.219009813E+07	0.00583	0.02040
220.0	.670073417E+06	.403188999E+06	0.	.107326242E+07	0.00286	0.02326
230.0	.223366973E+07	.322016689E+07	.311603673E+07	.856992335E+07	0.02282	0.04608
240.0	.125240873E+08	.107623800E+08	.642581357E+07	.297122809E+08	0.07912	0.12519
250.0	.132248150E+08	.126733568E+08	.148113977E+08	.407095695E+08	0.10840	0.23359
260.0	.116904585E+08	.112399765E+08	.228749712E+08	.458054062E+08	0.12197	0.35557
270.0	.165676536E+08	.154235757E+08	.351210310E+08	.671122603E+08	0.17871	0.53427
280.0	.138712255E+08	.146336004E+08	.274973754E+08	.560022013E+08	0.14912	0.68339
290.0	.958573153E+07	.106118656E+08	.188078740E+08	.390054711E+08	0.10386	0.78725
300.0	.101980726E+08	.126028989E+08	.339691898E+07	.261978899E+08	0.06976	0.85702
310.0	.556769148E+07	.698846307E+07	.475120590E+06	.140312751E+08	0.03736	0.89438
320.0	.435551683E+07	.518373334E+07	.259029998E+06	.979828017E+07	0.02609	0.92047
330.0	.259186667E+07	.570210667E+07	0.	.829397334E+07	0.02209	0.94255
340.0	.414698667E+07	.317188037E+07	0.	.731886704E+07	0.01949	0.96204
350.0	.518373334E+06	.246561461E+06	0.	.764934795E+06	0.00204	0.96408
360.0	0.	.308201826E+06	0.	.308201826E+06	0.00082	0.96490
370.0	0.	.246561461E+06	0.	.246561461E+06	0.00066	0.96556
380.0	0.	.184921096E+06	0.	.184921096E+06	0.00049	0.96605
TOTAL	.111401177E+09	.117087941E+09	.134306689E+09	.362795807E+09		

Table D-5.--Population estimates by sex and size group for yellowfin sole.

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
80.0	.53688323E+06	.107376647E+07	0.	.161064971E+07	0.00008	0.00008
90.0	.53352986CE+05	.347896238E+06	0.	.401249224E+06	0.00002	0.00011
100.0	.56861614EE+07	.265532047E+07	0.	.834148193E+07	0.00044	0.00054
110.0	.923090444E+07	.706589510E+07	0.	.162967995E+08	0.00085	0.00140
120.0	.159056313E+08	.774423402E+07	0.	.236498653E+08	0.00124	0.00264
130.0	.262967466E+08	.210572294E+08	0.	.473539760E+08	0.00248	0.00512
140.0	.274374048E+08	.288488663E+08	0.	.562862711E+08	0.00295	0.00807
150.0	.340396497E+08	.224352677E+08	0.	.564749174E+08	0.00296	0.01103
160.0	.423147880E+08	.383828695E+08	0.	.806976575E+08	0.00423	0.01526
170.0	.831208143E+08	.577027712E+08	0.	.140823585E+09	0.00738	0.02264
180.0	.101418048E+09	.757960747E+08	0.	.177214123E+09	0.00929	0.03194
190.0	.199219976E+09	.149781566E+09	.428715018E+06	.349430257E+09	0.01832	0.05025
200.0	.302693130E+09	.205889534E+09	.428715018E+06	.509011379E+09	0.02669	0.07694
210.0	.428124471E+09	.377705916E+09	.128614505E+07	.807116532E+09	0.04231	0.11925
220.0	.593691044E+09	.529946975E+09	.278664762E+07	.112642467E+10	0.05905	0.17831
230.0	.837672514E+09	.635481957E+09	.385843516E+07	.147701291E+10	0.07743	0.25574
240.0	.107842227E+10	.732505091E+09	.578765274E+07	.181671501E+10	0.09524	0.35098
250.0	.125192854E+10	.808480983E+09	.364407765E+07	.206405360E+10	0.10821	0.45919
260.0	.127603250E+10	.878954648E+09	.300100512E+07	.215798816E+10	0.11313	0.57233
270.0	.111490028E+10	.864322941E+09	.493022270E+07	.198415345E+10	0.10402	0.67635
280.0	.833278871E+09	.878166240E+09	.342972014E+07	.171987483E+10	0.09017	0.76652
290.0	.493050726E+09	.826678133E+09	.150050256E+07	.132623936E+10	0.06953	0.83605
300.0	.270470744E+09	.814132107E+09	.107178754E+07	.108567464E+10	0.05692	0.89296
310.0	.134960486E+09	.636893659E+09	.857430036E+06	.772711575E+09	0.04051	0.93347
320.0	.629200512E+08	.485058717E+09	.214357509E+06	.548193125E+09	0.02874	0.96221
330.0	.260919140E+08	.278196351E+09	.214357509E+06	.304502623E+09	0.01596	0.97818
340.0	.116708566E+08	.170695575E+09	.214357509E+06	.182580789E+09	0.00957	0.98775
350.0	.350386314E+07	.988498846E+08	0.	.102353748E+09	0.00537	0.99311
360.0	.347861576E+07	.548548076E+08	0.	.583334234E+08	0.00306	0.99617
370.0	.951653055E+06	.353990684E+08	0.	.363507214E+08	0.00191	0.99808
380.0	.793258072E+06	.244323198E+08	0.	.252255779E+08	0.00132	0.99940
390.0	0.	.547168555E+07	0.	.547168555E+07	0.00029	0.99969
400.0	0.	.377009046E+07	0.	.377009046E+07	0.00020	0.99989
410.0	0.	.103835573E+07	0.	.103835573E+07	0.00005	0.99994
420.0	0.	.565494204E+06	0.	.565494204E+06	0.00003	0.99997
430.0	0.	.474267385E+06	0.	.474267385E+06	0.00002	0.99999
TOTAL	.927990615E+10	.976085656E+10	.336541289E+08	.190744168E+11		

Table D-6 .--Population estimates by sex and size group for rock sole.

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
60.0	.126442391E+07	.747910161E+05	0.	.133921493E+07	0.00027	0.00027
70.0	.837544615E+05	.540219522E+06	0.	.623973984E+06	0.00013	0.00040
80.0	.226258524E+07	.693708482E+06	0.	.295629372E+07	0.00060	0.00101
90.0	.713768843E+07	.376140842E+07	0.	.108990969E+08	0.00223	0.00323
100.0	.138870595E+08	.872319797E+07	.570735184E+06	.231809931E+08	0.00474	0.00797
110.0	.173390914E+08	.112425721E+08	.262781984E+07	.312094833E+08	0.00638	0.01435
120.0	.723603427E+08	.382236041E+08	.144485676E+08	.125032514E+09	0.02556	0.03991
130.0	.111033245E+09	.806466578E+08	.222822664E+08	.213962169E+09	0.04374	0.08365
140.0	.114749283E+09	.873804075E+08	.196599336E+08	.221789624E+09	0.04534	0.12899
150.0	.97374171CE+08	.691983015E+08	.771116248E+07	.164283635E+09	0.03358	0.16257
160.0	.709901854E+08	.458062775E+08	.326795270E+07	.120064416E+09	0.02454	0.18712
170.0	.666869962E+08	.331014139E+08	.816562202E+06	.100604972E+09	0.02057	0.20768
180.0	.502746559E+08	.359445361E+08	.373594120E+06	.865927861E+08	0.01770	0.22538
190.0	.978387975E+08	.476117089E+08	0.	.145450506E+09	0.02973	0.25512
200.0	.957841873E+08	.769616638E+08	.102743804E+06	.172848595E+09	0.03533	0.29045
210.0	.138462607E+09	.893056878E+08	0.	.228268295E+09	0.04666	0.33711
220.0	.133508667E+09	.968734017E+08	0.	.230382069E+09	0.04709	0.38421
230.0	.209141053E+09	.129090900E+09	0.	.338231953E+09	0.06914	0.45335
240.0	.184042361E+09	.112202933E+09	0.	.296245295E+09	0.06056	0.51391
250.0	.213978148E+09	.125387326E+09	0.	.339365475E+09	0.06937	0.58328
260.0	.216333956E+09	.136225349E+09	0.	.352559306E+09	0.07207	0.65535
270.0	.200947280E+09	.116304984E+09	0.	.317252264E+09	0.06485	0.72020
280.0	.177662441E+09	.120487350E+09	0.	.298149791E+09	0.06095	0.78115
290.0	.966849198E+08	.100911830E+09	0.	.197596750E+09	0.04039	0.82155
300.0	.548783381E+08	.874819620E+08	0.	.142360300E+09	0.02910	0.85065
310.0	.239917081E+08	.898557274E+08	0.	.113847436E+09	0.02327	0.87392
320.0	.125107017E+08	.759550766E+08	0.	.884657783E+08	0.01808	0.89200
330.0	.101209570E+08	.751164126E+08	0.	.852373697E+08	0.01742	0.90943
340.0	.436504643E+07	.852065510E+08	0.	.895715975E+08	0.01831	0.92774
350.0	.331550149E+07	.647242431E+08	0.	.680397446E+08	0.01391	0.94165
360.0	.146046228E+07	.620360340E+08	0.	.634964962E+08	0.01298	0.95463
370.0	.738839818E+06	.505832935E+08	0.	.513221333E+08	0.01049	0.96512
380.0	.273913941E+06	.351777365E+08	0.	.354516504E+08	0.00725	0.97237
390.0	0.	.299262010E+08	0.	.299262010E+08	0.00612	0.97849
400.0	0.	.257429242E+08	0.	.257429242E+08	0.00526	0.98375
410.0	.589904533E+05	.207218846E+08	0.	.207808751E+08	0.00425	0.98799
420.0	0.	.133607077E+08	0.	.133607077E+08	0.00273	0.99073
430.0	0.	.149555473E+08	0.	.149555473E+08	0.00306	0.99378
440.0	0.	.643906048E+07	0.	.643906048E+07	0.00132	0.99510
450.0	0.	.570642415E+07	0.	.570642415E+07	0.00117	0.99627
460.0	0.	.684203428E+07	0.	.684203428E+07	0.00140	0.99765
470.0	0.	.162661968E+07	0.	.162661968E+07	0.00033	0.99800
480.0	0.	.169860443E+07	0.	.169860443E+07	0.00035	0.99834
490.0	.197319495E+07	.547702886E+06	0.	.252089783E+07	0.00052	0.99886

Table D-6.--Population estimates by sex and size group for rock sole (cont'd).

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
500.0	0.	.119883629E+06	0.	.119883629E+06	0.00002	0.99883
510.0	0.	.377553109E+06	0.	.377553109E+06	0.00008	0.99895
520.0	0.	.111911792E+06	0.	.111911792E+06	0.00002	0.99893
530.0	0.	.663457519E+05	0.	.663457519E+05	0.00001	0.99900
TOTAL	.24935155€E+10	.232158067E+10	.718613380E+08	.488695757E+10		

Table D-7.--Population estimates by sex and size group for flathead sole and Bering flounder.

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
60.0	.133434674E+06	0.	.922898255E+05	.225724499E+06	0.00015	0.00015
70.0	.310283209E+06	0.	.328410125E+06	.638693333E+06	0.00043	0.00058
80.0	.204459520E+06	0.	.446792232E+06	.651251751E+06	0.00044	0.00102
90.0	.116395715E+07	.509245146E+06	.153441511E+07	.320761741E+07	0.00215	0.00317
100.0	.443512421E+07	.300987299E+07	.428223466E+07	.117272319E+08	0.00787	0.01104
110.0	.132788940E+08	.934671894E+07	.648721528E+07	.291128282E+08	0.01953	0.03057
120.0	.249264820E+08	.195139151E+08	.777972151E+07	.522201186E+08	0.03503	0.06560
130.0	.255700710E+08	.189921368E+08	.494891732E+07	.495111251E+08	0.03321	0.09881
140.0	.169619465E+08	.135965964E+08	.202748529E+07	.325860282E+08	0.02186	0.12067
150.0	.111888373E+08	.115801356E+08	.744498696E+06	.235134717E+08	0.01577	0.13645
160.0	.185190322E+08	.186164963E+08	.628247169E+06	.377637756E+08	0.02533	0.16178
170.0	.318208865E+08	.259601856E+08	.324199584E+06	.581052717E+08	0.03898	0.20076
180.0	.348577653E+08	.296209623E+08	.148184711E+06	.646269124E+08	0.04335	0.24411
190.0	.329508106E+08	.280304184E+08	.488210355E+05	.610300501E+08	0.04094	0.28505
200.0	.314755595E+08	.294021371E+08	0.	.608776966E+08	0.04084	0.32589
210.0	.260779094E+08	.243955152E+08	0.	.504734245E+08	0.03386	0.35975
220.0	.231134116E+08	.223759886E+08	0.	.454894002E+08	0.03052	0.39027
230.0	.259874060E+08	.218218434E+08	0.	.478092494E+08	0.03207	0.42234
240.0	.280921111E+08	.239468665E+08	0.	.520389776E+08	0.03491	0.45725
250.0	.291573695E+08	.265139431E+08	0.	.556713126E+08	0.03735	0.49460
260.0	.358313085E+08	.264840677E+08	0.	.623153762E+08	0.04180	0.53640
270.0	.360504651E+08	.239652905E+08	0.	.650157556E+08	0.04362	0.58002
280.0	.407471305E+08	.322982993E+08	0.	.730454298E+08	0.04900	0.62902
290.0	.462613453E+08	.301438599E+08	0.	.764052052E+08	0.05126	0.68027
300.0	.459277228E+08	.364851778E+08	0.	.824129006E+08	0.05529	0.73556
310.0	.382767825E+08	.433885295E+08	0.	.816653124E+08	0.05478	0.79035
320.0	.349463380E+08	.439623234E+08	0.	.789086614E+08	0.05294	0.84328
330.0	.267605672E+08	.380271550E+08	0.	.647877221E+08	0.04346	0.88674
340.0	.158046930E+08	.412614516E+08	0.	.570661445E+08	0.03828	0.92503
350.0	.978085612E+07	.331207246E+08	0.	.419015807E+08	0.02811	0.95315
360.0	.526088179E+07	.189518200E+08	0.	.242127018E+08	0.01624	0.96938
370.0	.210991246E+07	.132278419E+08	0.	.153377543E+08	0.01029	0.97967
380.0	.142363335E+07	.102267951E+08	0.	.116504285E+08	0.00782	0.98748
390.0	.966653908E+05	.552467824E+07	0.	.562134363E+07	0.00377	0.99125
400.0	.356690118E+05	.411677837E+07	0.	.415244738E+07	0.00279	0.99404
410.0	.942536354E+05	.382974721E+07	0.	.392400084E+07	0.00263	0.99667
420.0	0.	.135453969E+07	0.	.135453969E+07	0.00091	0.99758
430.0	0.	.131479237E+07	0.	.131479237E+07	0.00088	0.99846
440.0	0.	.801550515E+05	0.	.801550515E+05	0.00005	0.99852
450.0	0.	.283974024E+06	0.	.283974024E+06	0.00019	0.99871
460.0	0.	.780972614E+05	0.	.780972614E+05	0.00005	0.99876
470.0	0.	.410247408E+06	0.	.410247408E+06	0.00028	0.99903
TOTAL	.718633976E+09	.740769323E+09	.298214326E+08	.148922473E+10		

Table D-8.--Population estimates by sex and size group for Alaska plaice.

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
60.0	0.	.321525063E+06	0.	.321525063E+06	0.00026	0.00026
110.0	0.	.485625099E+05	0.	.485625099E+05	0.00004	0.00030
120.0	.971250199E+05	.485625099E+05	0.	.145687530E+06	0.00012	0.00041
130.0	.969063088E+06	.291375060E+06	0.	.126043815E+07	0.00101	0.00142
140.0	.582750119E+06	.424191301E+06	0.	.100694142E+07	0.00081	0.00223
150.0	.571814567E+06	.194250040E+06	0.	.766064606E+06	0.00061	0.00285
160.0	.282626618E+06	.187688708E+06	0.	.470315326E+06	0.00038	0.00322
170.0	.655816924E+06	.234064108E+06	0.	.889881031E+06	0.00071	0.00394
180.0	.609441524E+06	.266969632E+06	0.	.876411156E+06	0.00070	0.00464
190.0	.300366582E+06	.499696590E+06	0.	.130006317E+07	0.00104	0.00568
200.0	.603914166E+06	.644142036E+06	0.	.124805620E+07	0.00100	0.00668
210.0	.771957940E+06	.520274730E+06	0.	.129223267E+07	0.00104	0.00772
220.0	.141523905E+07	.101062829E+07	0.	.242586734E+07	0.00195	0.00966
230.0	.314920169E+07	.124956259E+07	0.	.439876428E+07	0.00353	0.01319
240.0	.430909821E+07	.277665825E+07	0.	.708575646E+07	0.00568	0.01887
250.0	.699528655E+07	.490648244E+07	0.	.119017690E+08	0.00954	0.02841
260.0	.111046774E+08	.855764909E+07	0.	.196623265E+08	0.01577	0.04418
270.0	.212103757E+08	.828443509E+07	0.	.294948108E+08	0.02365	0.06783
280.0	.345609201E+08	.145339625E+08	0.	.490948826E+08	0.03936	0.10719
290.0	.582120412E+08	.161996103E+08	0.	.744116515E+08	0.05966	0.16685
300.0	.833977640E+08	.205879366E+08	0.	.103985701E+09	0.08337	0.25023
310.0	.951642135E+08	.251813608E+08	0.	.120345574E+09	0.09649	0.34672
320.0	.103767007E+09	.306909815E+08	0.	.134457988E+09	0.10781	0.45453
330.0	.927213828E+08	.305414261E+08	0.	.123262809E+09	0.09883	0.55336
340.0	.727985613E+08	.290259244E+08	0.	.101824486E+09	0.08164	0.63500
350.0	.409347546E+08	.354825393E+08	0.	.764172939E+08	0.06127	0.69627
360.0	.221293459E+08	.286526948E+08	0.	.507820407E+08	0.04072	0.73699
370.0	.998387899E+07	.343938003E+08	0.	.443776793E+08	0.03558	0.77257
380.0	.582399214E+07	.366825446E+08	0.	.425065367E+08	0.03408	0.80665
390.0	.273510258E+07	.379804752E+08	0.	.407155778E+08	0.03265	0.83930
400.0	.242895973E+07	.383459577E+08	0.	.407749174E+08	0.03269	0.87199
410.0	.212380341E+07	.423329856E+08	0.	.444567890E+08	0.03564	0.90763
420.0	.182447899E+07	.351280644E+08	0.	.369525434E+08	0.02963	0.93725
430.0	.403323688E+06	.258288498E+08	0.	.262321735E+08	0.02103	0.95829
440.0	0.	.199381684E+08	0.	.199381684E+08	0.01599	0.97428
450.0	.585751011E+05	.134013601E+08	0.	.134599352E+08	0.01079	0.98507
460.0	.297303919E+06	.825196110E+07	0.	.854926502E+07	0.00685	0.99193
470.0	0.	.415865372E+07	0.	.415865372E+07	0.00333	0.99526
480.0	0.	.129051207E+07	0.	.129051207E+07	0.00103	0.99630
490.0	0.	.146097079E+07	0.	.146097079E+07	0.00117	0.99747
500.0	.437989884E+05	.515828881E+06	0.	.559627869E+06	0.00045	0.99792
510.0	0.	.776680199E+06	0.	.776680199E+06	0.00062	0.99854
520.0	0.	.177123747E+06	0.	.177123747E+06	0.00014	0.99868
530.0	0.	.974469859E+05	0.	.974469859E+05	0.00008	0.99876

Table D-8.--Population estimates by sex and size group for Alaska plaice (cont'd).

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
540.0	0.	.487234930E+05	0.	.487234930E+05	0.00004	0.99880
570.0	0.	.266372851E+06	0.	.266372851E+06	0.00021	0.99901
TOTAL	.683537963E+09	.562439634E+09	0.	.124597760E+10		

Table D-9.--Population estimates by sex and size group for Greenland turbot.

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
90.0	0.	0.	.163452687E+06	.163452687E+06	0.00273	0.00273
100.0	.124015452E+06	0.	.730982703E+06	.854998155E+06	0.01426	0.01693
110.0	.191444617E+06	0.	.175464286E+07	.194608748E+07	0.03245	0.04943
120.0	.113956512E+06	.469854495E+05	.158972573E+07	.175066769E+07	0.02919	0.07863
130.0	.288829223E+06	0.	.519992261E+06	.808821484E+06	0.01349	0.09211
140.0	.145429816E+06	0.	.148841663E+06	.294271481E+06	0.00491	0.09702
150.0	.189393183E+06	.964512741E+05	0.	.285844457E+06	0.00477	0.10179
160.0	.495031424E+05	0.	0.	.495031424E+05	0.00083	0.10261
170.0	0.	.996707565E+05	0.	.996707565E+05	0.00166	0.10427
180.0	.959266751E+05	0.	0.	.959266751E+05	0.00160	0.10587
190.0	.495031424E+05	0.	0.	.495031424E+05	0.00083	0.10670
200.0	.993385207E+05	0.	0.	.993385207E+05	0.00166	0.10836
210.0	.335975230E+05	.993385207E+05	0.	.132936044E+06	0.00222	0.11057
220.0	.146286652E+06	.990062848E+05	0.	.245292937E+06	0.00409	0.11466
230.0	.189563285E+06	.181992454E+06	0.	.371555744E+06	0.00620	0.12086
240.0	.383598933E+06	.377035228E+06	0.	.760634161E+06	0.01268	0.13354
250.0	.279215144E+06	.295795847E+06	0.	.575010991E+06	0.00959	0.14313
260.0	.679132201E+06	.471065666E+06	0.	.115019787E+07	0.01918	0.16231
270.0	.324656258E+06	.919988943E+06	0.	.124464520E+07	0.02075	0.18306
280.0	.640672825E+06	.541389003E+06	0.	.118206183E+07	0.01971	0.20278
290.0	.774436539E+06	.511604750E+06	0.	.128604129E+07	0.02144	0.22422
300.0	.105822872E+07	.998399817E+06	0.	.205662853E+07	0.03429	0.25851
310.0	.945697046E+06	.121351854E+07	0.	.215921559E+07	0.03600	0.29452
320.0	.121306656E+07	.105948419E+07	0.	.227255075E+07	0.03789	0.33241
330.0	.113460067E+07	.582810496E+06	0.	.172627116E+07	0.02879	0.36120
340.0	.880441189E+06	.121855362E+07	0.	.209899481E+07	0.03500	0.39620
350.0	.980188513E+06	.130168722E+07	0.	.228187573E+07	0.03805	0.43425
360.0	.203184112E+07	.122583834E+07	0.	.325767946E+07	0.05432	0.48857
370.0	.124656476E+07	.147243301E+07	0.	.271899779E+07	0.04534	0.53391
380.0	.161679602E+07	.110797497E+07	0.	.272477099E+07	0.04544	0.57935
390.0	.135173080E+07	.114795483E+07	0.	.249968563E+07	0.04168	0.62103
400.0	.126340852E+07	.101328411E+07	0.	.227669263E+07	0.03796	0.65899
410.0	.148161172E+07	.142203736E+07	0.	.290364908E+07	0.04842	0.70741
420.0	.145624022E+07	.126779692E+07	0.	.272403714E+07	0.04542	0.75284
430.0	.613304732E+06	.128785893E+07	0.	.190116366E+07	0.03170	0.78454
440.0	.626971800E+06	.123829974E+07	0.	.186527154E+07	0.03110	0.81564
450.0	.556864626E+06	.805718560E+06	0.	.136258319E+07	0.02272	0.83836
460.0	.295106145E+06	.116893479E+07	0.	.146404094E+07	0.02441	0.86278
470.0	.542593224E+06	.660396804E+06	0.	.120299003E+07	0.02006	0.88284
480.0	.423771470E+06	.543114392E+06	0.	.966885862E+06	0.01612	0.89896
490.0	.496774119E+06	.421283827E+06	0.	.918057946E+06	0.01531	0.91427
500.0	.645939474E+05	.808895424E+06	0.	.873489371E+06	0.01457	0.92883
510.0	.296705713E+06	.336696962E+06	0.	.633402675E+06	0.01056	0.93939
520.0	.322969737E+05	.234735745E+06	0.	.267032719E+06	0.00445	0.94383

Table D-9.--Population estimates by sex and size group for Greenland turbot (cont'd).

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
530.0	.322969737E+05	.377667593E+06	0.	.409964566E+06	0.00684	0.95068
540.0	.57951843EE+05	.208939542E+06	0.	.266891385E+06	0.00445	0.95513
550.0	.181002362E+06	.136367874E+06	0.	.317370236E+06	0.00529	0.96043
560.0	0.	.378574050E+06	0.	.378574050E+06	0.00631	0.96674
570.0	.828103843E+05	.125146890E+06	0.	.207957274E+06	0.00347	0.97021
580.0	.448185075E+05	.322969737E+05	0.	.771154812E+05	0.00129	0.97149
590.0	.322969737E+05	.115107358E+06	0.	.147404332E+06	0.00246	0.97395
600.0	.448185075E+05	.658944967E+05	0.	.110713004E+06	0.00185	0.97580
610.0	.910253121E+05	.967832645E+05	0.	.187808577E+06	0.00313	0.97893
620.0	0.	.322969737E+05	0.	.322969737E+05	0.00054	0.97947
850.0	0.	.517948067E+06	0.	.517948067E+06	0.00864	0.98810
TOTAL	.259837791E+08	.283650559E+08	.490763790E+07	.592564729E+08		

Table D-10.--Population estimates by sex and size group for arrowtooth and Kamchatka flounders.

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
80.0	.669469015E+05	0.	0.	.669469015E+05	0.00012	0.00012
90.0	.133893803E+06	0.	0.	.133893803E+06	0.00024	0.00036
100.0	.314876276E+06	.774740707E+05	.211318549E+06	.603668896E+06	0.00108	0.00143
110.0	.669469015E+05	.219560249E+06	0.	.286507149E+06	0.00051	0.00195
120.0	.349904236E+05	.604230604E+05	0.	.954134841E+05	0.00017	0.00212
130.0	.273182604E+05	.144643583E+06	0.	.171961843E+06	0.00031	0.00242
140.0	.334008045E+06	.255955202E+06	0.	.589963247E+06	0.00105	0.00347
150.0	.139953921E+07	.110488014E+07	0.	.250441935E+07	0.00447	0.00794
160.0	.609036373E+07	.333398135E+07	0.	.942435008E+07	0.01681	0.02475
170.0	.983949071E+07	.101397514E+08	0.	.199792421E+08	0.03563	0.06037
180.0	.117060739E+08	.135341384E+08	0.	.252402124E+08	0.04501	0.10538
190.0	.162461895E+08	.176203832E+08	0.	.338665727E+08	0.06039	0.16578
200.0	.209364611E+08	.199913995E+08	0.	.409278606E+08	0.07299	0.23876
210.0	.207274901E+08	.265121420E+08	0.	.472396321E+08	0.08424	0.32300
220.0	.201492514E+08	.263295983E+08	0.	.464788497E+08	0.08288	0.40589
230.0	.116563598E+08	.187231291E+08	0.	.303794888E+08	0.05417	0.46006
240.0	.691659406E+07	.980680786E+07	0.	.167234019E+08	0.02982	0.48989
250.0	.573771013E+07	.608400715E+07	0.	.118217173E+08	0.02108	0.51097
260.0	.449830356E+07	.543889399E+07	0.	.993719755E+07	0.01772	0.52869
270.0	.580939951E+07	.481661274E+07	0.	.116260122E+08	0.02073	0.54942
280.0	.772390939E+07	.873378114E+07	0.	.164576905E+08	0.02935	0.57877
290.0	.939141007E+07	.112401848E+08	0.	.206315949E+08	0.03679	0.61556
300.0	.105359341E+08	.114233174E+08	0.	.219592516E+08	0.03916	0.65472
310.0	.697792755E+07	.135381638E+08	0.	.205160913E+08	0.03659	0.69130
320.0	.453435565E+07	.983333360E+07	0.	.143676893E+08	0.02562	0.71693
330.0	.435964538E+07	.961830056E+07	0.	.139779459E+08	0.02493	0.74186
340.0	.529033935E+07	.105496679E+08	0.	.158400073E+08	0.02825	0.77010
350.0	.415310426E+07	.118166808E+08	0.	.159697851E+08	0.02848	0.79858
360.0	.574905877E+07	.139280502E+08	0.	.196771089E+08	0.03509	0.83367
370.0	.446339029E+07	.117600694E+08	0.	.162234597E+08	0.02893	0.86260
380.0	.260076612E+07	.110679231E+08	0.	.136686892E+08	0.02437	0.88697
390.0	.443245038E+07	.715186910E+07	0.	.115843195E+08	0.02066	0.90763
400.0	.311483216E+07	.813169373E+07	0.	.112465258E+08	0.02006	0.92769
410.0	.248349311E+07	.364241659E+07	0.	.612590971E+07	0.01092	0.93861
420.0	.190603147E+07	.335115650E+07	0.	.525723797E+07	0.00938	0.94799
430.0	.799595069E+06	.323278803E+07	0.	.403238310E+07	0.00719	0.95518
440.0	.117861399E+07	.234006397E+07	0.	.351867796E+07	0.00627	0.96145
450.0	.107188777E+07	.242429700E+07	0.	.349618477E+07	0.00623	0.96769
460.0	.485045186E+06	.368950703E+07	0.	.417455221E+07	0.00744	0.97513
470.0	.521328086E+06	.216181217E+07	0.	.278314025E+07	0.00496	0.98009
480.0	.315463596E+06	.119172043E+07	0.	.150718403E+07	0.00269	0.98278
490.0	.216751975E+06	.806867248E+06	0.	.102361922E+07	0.00183	0.98461
500.0	.360804284E+05	.134804897E+07	0.	.138412940E+07	0.00247	0.98707
510.0	0.	.118958210E+07	0.	.118958210E+07	0.00212	0.98920

Table D-10.--Population estimates by sex and size group for arrowtooth and Kamchatka flounders (cont'd).

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
520.0	0.	.636465722E+06	0.	.636465722E+06	0.00113	0.99033
530.0	0.	.315780389E+06	0.	.315780389E+06	0.00056	0.99089
540.0	0.	.720124931E+06	0.	.720124931E+06	0.00128	0.99218
550.0	0.	.103022357E+07	0.	.103022357E+07	0.00184	0.99402
560.0	0.	.722818439E+06	0.	.722818439E+06	0.00129	0.99530
570.0	.349904236E+05	.561473507E+05	0.	.911377744E+05	0.00016	0.99547
580.0	.533294033E+05	.415854118E+06	0.	.469183522E+06	0.00084	0.99630
590.0	0.	.128105027E+06	0.	.128105027E+06	0.00023	0.99653
600.0	0.	.639614408E+05	0.	.689614408E+05	0.00012	0.99665
610.0	0.	.536054686E+05	0.	.536054686E+05	0.00010	0.99675
620.0	0.	.227189380E+06	0.	.227189380E+06	0.00041	0.99716
TOTAL	.226221996E+09	.332740353E+09	.211318549E+06	.559173668E+09		

Table D-11.--Population estimates by sex and size group for Pacific halibut.

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
220.0	0.	0.	.180057608E+05	.180057608E+05	0.00038	0.00038
240.0	0.	0.	.537661696E+05	.537661696E+05	0.00114	0.00152
270.0	0.	0.	.179375705E+05	.179375705E+05	0.00038	0.00189
300.0	0.	0.	.614134888E+05	.614134888E+05	0.00130	0.00319
310.0	0.	0.	.152519827E+06	.152519827E+06	0.00322	0.00641
320.0	0.	0.	.435424495E+06	.435424495E+06	0.00919	0.01561
330.0	0.	0.	.501519565E+06	.501519565E+06	0.01059	0.02620
340.0	0.	0.	.642207676E+06	.642207676E+06	0.01356	0.03976
350.0	0.	0.	.577403379E+06	.577403379E+06	0.01219	0.05195
360.0	0.	0.	.506373790E+06	.506373790E+06	0.01069	0.06265
370.0	0.	0.	.374169284E+06	.374169284E+06	0.00790	0.07055
380.0	0.	0.	.110705214E+07	.110705214E+07	0.02338	0.09392
390.0	0.	0.	.121063007E+07	.121063007E+07	0.02556	0.11949
400.0	0.	0.	.811404728E+06	.811404728E+06	0.01713	0.13662
410.0	0.	0.	.866610336E+06	.866610336E+06	0.01830	0.15492
420.0	0.	0.	.142461751E+07	.142461751E+07	0.03008	0.18501
430.0	0.	0.	.171620598E+07	.171620598E+07	0.03624	0.22125
440.0	0.	0.	.235363298E+07	.235363298E+07	0.04970	0.27095
450.0	0.	0.	.208974259E+07	.208974259E+07	0.04413	0.31508
460.0	0.	0.	.161902587E+07	.161902587E+07	0.03419	0.34927
470.0	0.	0.	.238018372E+07	.238018372E+07	0.05026	0.39953
480.0	0.	0.	.268869087E+07	.268869087E+07	0.05678	0.45631
490.0	0.	0.	.135043412E+07	.135043412E+07	0.02852	0.48483
500.0	0.	0.	.135746680E+07	.135746680E+07	0.02867	0.51349
510.0	0.	0.	.148661781E+07	.148661781E+07	0.03139	0.54489
520.0	0.	0.	.159370775E+07	.159370775E+07	0.03365	0.57854
530.0	0.	0.	.820988125E+06	.820988125E+06	0.01734	0.59588
540.0	0.	0.	.141369889E+07	.141369889E+07	0.02985	0.62573
550.0	0.	0.	.113611578E+07	.113611578E+07	0.02399	0.64972
560.0	0.	0.	.191206739E+07	.191206739E+07	0.04038	0.69010
570.0	0.	0.	.146419393E+07	.146419393E+07	0.03092	0.72102
580.0	0.	0.	.163209196E+07	.163209196E+07	0.03447	0.75548
590.0	0.	0.	.104995438E+07	.104995438E+07	0.02217	0.77765
600.0	0.	0.	.126361766E+07	.126361766E+07	0.02668	0.80434
610.0	0.	0.	.770279871E+06	.770279871E+06	0.01627	0.82061
620.0	0.	0.	.475765698E+06	.475765698E+06	0.01005	0.83065
630.0	0.	0.	.833069881E+06	.833069881E+06	0.01759	0.84824
640.0	0.	0.	.745228454E+06	.745228454E+06	0.01574	0.86398
650.0	0.	0.	.832193785E+06	.832193785E+06	0.01757	0.88156
660.0	0.	0.	.679392510E+06	.679392510E+06	0.01435	0.89590
670.0	0.	0.	.267114981E+06	.267114981E+06	0.00564	0.90154
680.0	0.	0.	.420459369E+06	.420459369E+06	0.00888	0.91042
690.0	0.	0.	.330550830E+06	.330550830E+06	0.00698	0.91740
700.0	0.	0.	.302657505E+06	.302657505E+06	0.00639	0.92379

Table D-11.--Population estimates by sex and size group for Pacific halibut (cont'd).

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
710.0	0.	0.	.336528000E+06	.336528000E+06	0.00711	0.93090
720.0	0.	0.	.309409558E+06	.309409558E+06	0.00653	0.93743
730.0	0.	0.	.208011981E+06	.208011981E+06	0.00439	0.94183
740.0	0.	0.	.179418468E+06	.179418468E+06	0.00379	0.94561
750.0	0.	0.	.182497544E+06	.182497544E+06	0.00385	0.94947
760.0	0.	0.	.149284181E+06	.149284181E+06	0.00315	0.95262
770.0	0.	0.	.207192915E+06	.207192915E+06	0.00438	0.95700
790.0	0.	0.	.544286474E+05	.544286474E+05	0.00115	0.95815
800.0	0.	0.	.309824563E+05	.309824563E+05	0.00065	0.95880
810.0	0.	0.	.508119775E+05	.508119775E+05	0.00107	0.95987
820.0	0.	0.	.630928110E+05	.630928110E+05	0.00133	0.96121
830.0	0.	0.	.147942569E+06	.147942569E+06	0.00312	0.96433
840.0	0.	0.	.278229726E+06	.278229726E+06	0.00588	0.97020
860.0	0.	0.	.394028020E+05	.394028020E+05	0.00083	0.97104
870.0	0.	0.	.308887045E+05	.308887045E+05	0.00065	0.97169
880.0	0.	0.	.599246598E+05	.599246598E+05	0.00127	0.97295
890.0	0.	0.	.939890474E+05	.939890474E+05	0.00198	0.97494
910.0	0.	0.	.779433314E+05	.779433314E+05	0.00165	0.97659
920.0	0.	0.	.126726123E+06	.126726123E+06	0.00268	0.97926
950.0	0.	0.	.218266672E+06	.218266672E+06	0.00461	0.98387
960.0	0.	0.	.306827798E+05	.306827798E+05	0.00065	0.98452
980.0	0.	0.	.109012425E+06	.109012425E+06	0.00230	0.98682
990.0	0.	0.	.110313040E+06	.110313040E+06	0.00233	0.98915
1010.0	0.	0.	.158259542E+06	.158259542E+06	0.00334	0.99249
1030.0	0.	0.	.287694237E+05	.287694237E+05	0.00061	0.99310
1050.0	0.	0.	.308887045E+05	.308887045E+05	0.00065	0.99375
1140.0	0.	0.	.302184041E+05	.302184041E+05	0.00064	0.99439
1160.0	0.	0.	.100448711E+06	.100448711E+06	0.00212	0.99651
1200.0	0.	0.	.807738047E+05	.807738047E+05	0.00171	0.99822
1520.0	0.	0.	.167337067E+05	.167337067E+05	0.00035	0.99857
1560.0	0.	0.	.677026017E+05	.677026017E+05	0.00143	1.00000
TOTAL	0.	0.	.473549806E+08	.473549806E+08		

Table D-12.--Population estimates by sex and size group for rex sole.

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
150.0	0.	.222223219E+06	0.	.222223219E+06	0.00852	0.00852
180.0	0.	.222223219E+06	0.	.222223219E+06	0.00852	0.01705
200.0	.308098796E+06	0.	0.	.308098796E+06	0.01182	0.02887
210.0	.308098796E+06	0.	0.	.308098796E+06	0.01182	0.04069
220.0	.222223219E+06	0.	0.	.222223219E+06	0.00852	0.04921
230.0	0.	.222223219E+06	0.	.222223219E+06	0.00852	0.05773
250.0	.222223219E+06	.222223219E+06	0.	.444446439E+06	0.01705	0.07478
280.0	.444446439E+06	0.	0.	.444446439E+06	0.01705	0.09183
290.0	0.	.222223219E+06	0.	.222223219E+06	0.00852	0.10035
300.0	.222223219E+06	.666669658E+06	0.	.888892877E+06	0.03410	0.13445
310.0	.222223219E+06	.888892877E+06	0.	.111111510E+07	0.04262	0.17707
320.0	.222223219E+06	.119699167E+07	0.	.141921489E+07	0.05444	0.23151
330.0	.444446439E+06	.444446439E+06	0.	.888892877E+06	0.03410	0.26561
340.0	.308098796E+06	.222223219E+06	0.	.530322015E+06	0.02034	0.28595
350.0	.616197591E+06	.145461840E+07	0.	.207081599E+07	0.07943	0.36539
360.0	0.	.222223219E+06	0.	.222223219E+06	0.00852	0.37391
370.0	.924296387E+06	.838420810E+06	0.	.176271720E+07	0.06762	0.44153
380.0	.616197591E+06	.154049398E+07	0.	.215669157E+07	0.08273	0.52425
390.0	.123239518E+07	.530322015E+06	0.	.176271720E+07	0.06762	0.59187
400.0	.616197591E+06	.616197591E+06	0.	.123239518E+07	0.04727	0.63914
410.0	0.	.924296387E+06	0.	.924296387E+06	0.03545	0.67460
420.0	0.	.123239518E+07	0.	.123239518E+07	0.04727	0.72187
430.0	.308098796E+06	.184859277E+07	0.	.215669157E+07	0.08273	0.80460
440.0	0.	.616197591E+06	0.	.616197591E+06	0.02364	0.82823
450.0	0.	.308098796E+06	0.	.308098796E+06	0.01182	0.84005
460.0	0.	.308098796E+06	0.	.308098796E+06	0.01182	0.85187
470.0	0.	.308098796E+06	0.	.308098796E+06	0.01182	0.86369
TOTAL	.72376885CE+07	.152783943E+08	0.	.225160828E+08		

Table D-13.--Population estimates by sex and size group for longhead dab.

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
180.0	.472045475E+07	0.	0.	.472045475E+07	0.01252	0.01252
190.0	.157348492E+07	0.	0.	.157348492E+07	0.00417	0.01669
200.0	.472045475E+07	0.	0.	.472045475E+07	0.01252	0.02921
210.0	.497871608E+07	.340523116E+07	0.	.838394724E+07	0.02224	0.05145
220.0	.497871608E+07	0.	0.	.497871608E+07	0.01320	0.06465
230.0	.274761937E+07	.563632787E+07	0.	.838394724E+07	0.02224	0.08689
240.0	.838394724E+07	.746807412E+07	0.	.158520214E+08	0.04204	0.12893
250.0	.472045475E+07	.589458920E+07	0.	.106150440E+08	0.02815	0.15708
260.0	0.	.183413794E+08	0.	.183413794E+08	0.04864	0.20573
270.0	0.	.242359686E+08	0.	.242359686E+08	0.06428	0.27001
280.0	0.	.317040427E+08	0.	.317040427E+08	0.08409	0.35409
290.0	0.	.260677149E+08	0.	.260677149E+08	0.06914	0.42323
300.0	0.	.136209247E+08	0.	.136209247E+08	0.03613	0.45936
310.0	0.	.158520214E+08	0.	.158520214E+08	0.04204	0.50140
320.0	0.	.340523116E+07	0.	.340523116E+07	0.00903	0.51043
TOTAL	.368238479E+08	.155631505E+09	0.	.192455353E+09		

Appendix E

Age-length Keys for Principal Species of Fish

Appendix E presents age-length keys for fish species (sexes combined) from the 1983 bottom trawl survey for which age samples were collected and have been read.

List of Tables

Table E-1.--Age-length key for walleye pollock.

LEN GTH	AVG AGE	STD. DEV.	FREQ- UENCY	AGE (IN YEARS) 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26+
***	*****	*****	*****	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
70	1.00	0.00	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80	0.67	0.52	6	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90	1.00	0.00	9	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	1.00	0.00	14	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0.96	0.21	23	1	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	1.00	0.00	25	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	1.00	0.00	34	0	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	1.00	0.00	36	0	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	1.03	0.19	29	0	28	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	1.04	0.19	27	0	26	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	1.04	0.20	25	0	24	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	1.10	0.32	10	0	9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
190	1.38	0.67	11	0	8	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200	1.78	0.44	9	0	2	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
210	1.89	0.33	9	0	1	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
220	2.00	0.00	13	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
230	2.00	0.00	23	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
240	2.00	0.00	25	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
250	2.19	0.40	36	0	0	29	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
260	2.28	0.46	32	0	0	23	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
270	2.31	0.47	35	0	0	24	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
280	2.40	0.50	30	0	0	18	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
290	2.45	0.62	31	0	0	19	10	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300	2.75	0.44	24	0	0	6	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	2.88	0.78	25	0	0	8	13	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
320	2.93	0.65	23	0	0	7	13	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
330	3.29	0.91	24	0	0	2	16	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
340	3.19	0.40	21	0	0	0	17	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
350	3.65	0.65	23	0	0	0	10	11	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
360	3.88	0.78	33	0	0	0	11	16	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
370	4.23	0.77	30	0	0	0	5	14	10	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
380	4.40	0.81	35	0	0	0	2	21	9	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
390	4.74	0.79	41	0	0	0	1	15	17	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
400	4.54	0.70	35	0	0	0	1	17	14	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
410	4.71	0.72	41	0	0	0	2	11	26	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
420	5.08	0.53	40	0	0	0	0	4	29	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
430	4.95	0.39	41	0	0	1	0	9	23	6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
440	5.24	0.54	36	0	0	0	0	2	25	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
450	5.24	0.66	42	0	0	0	1	0	31	8	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
460	5.05	0.60	39	0	0	0	1	2	31	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
470	5.43	0.91	42	0	0	0	0	1	29	8	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
480	5.80	1.49	40	0	0	0	0	0	26	8	1	1	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
490	5.78	1.10	40	0	0	0	0	0	18	18	2	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table E-1.--Age-length key for walleye pollock (cont'd).

LEN GTH	AVG AGE	STD. DEV.	FREQ- UENCY	AGE (IN YEARS) 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26+
***	*****	*****	*****	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
500	5.95	1.59	39	0	0	0	0	0	20	13	2	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
510	6.34	1.55	41	0	0	0	0	0	10	19	6	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
520	7.13	2.09	39	0	0	0	0	0	7	13	7	5	1	3	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
530	6.97	2.02	35	0	0	0	0	0	8	14	3	2	2	2	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
540	7.24	1.58	33	0	0	0	0	0	2	12	5	9	3	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
550	6.92	1.71	36	0	0	0	0	0	3	17	5	9	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
560	6.88	1.77	40	0	0	0	1	0	6	14	5	7	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
570	7.57	1.72	37	0	0	0	0	0	0	13	7	9	5	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
580	7.70	1.49	37	0	0	0	0	0	0	9	10	9	3	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
590	7.38	1.19	40	0	0	0	0	0	0	12	10	11	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
600	8.24	1.55	38	0	0	0	0	0	1	4	8	9	9	5	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
610	8.61	1.85	33	0	0	0	0	0	0	1	5	11	5	3	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
620	8.24	1.87	33	0	0	0	0	0	0	7	4	12	2	3	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
630	7.85	1.74	34	0	0	0	0	0	0	3	7	11	4	1	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
640	8.48	1.91	33	0	0	0	0	0	0	6	3	8	9	3	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
650	8.78	2.05	34	0	0	0	0	0	0	5	3	10	6	4	3	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0
660	9.06	2.11	33	0	0	0	0	0	0	2	6	8	4	5	5	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0
670	8.77	1.57	22	0	0	0	0	0	0	1	3	7	5	3	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
680	8.96	2.07	25	0	0	0	0	0	0	2	6	4	4	1	6	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
690	9.09	1.88	23	0	0	0	0	0	0	2	3	4	4	5	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0
700	10.40	2.33	20	0	0	0	0	0	0	0	2	2	2	6	4	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0
710	10.05	1.54	20	0	0	0	0	0	0	0	2	1	4	5	4	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0
720	9.85	1.54	9	0	0	0	0	0	0	0	0	0	6	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
730	11.13	0.83	8	0	0	0	0	0	0	0	0	0	0	1	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
740	9.83	1.72	6	0	0	0	0	0	0	0	0	2	1	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
750	11.00	0.00	3	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
760	9.75	0.50	4	0	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
770	10.33	0.58	3	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
780	11.00	0.00	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
790	15.00	0.00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
800	14.00	0.00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
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TOTAL	5.16	2.97	1931	3	243	219	162	138	356	260	123	157	93	68	60	20	13	5	4	2	0	0	0	0	0	0	0	0	0	0

Table E-2.--Age-length key for yellowfin sole.

LENGTH	AVG AGE	STD. DEV.	FREQUENCY	AGE (IN YEARS) 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26+
60	2.00	0.00	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80	3.00	0.00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* 90	3.50	0.00	1.0	0.0	0.0	0.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100	4.00	0.00	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	3.80	0.45	5	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	3.83	0.41	6	0	0	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	4.33	0.52	6	0	0	0	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	4.17	0.39	12	0	0	0	0	10	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	4.82	0.75	11	0	0	0	0	4	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	5.21	0.43	14	0	0	0	0	0	11	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	5.50	0.62	18	0	0	0	0	1	7	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	5.76	0.66	17	0	0	0	0	0	6	9	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
190	5.93	0.54	28	0	0	0	0	0	5	20	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200	6.21	0.32	29	0	0	0	0	0	4	17	7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
210	7.08	1.32	37	0	0	0	0	0	1	16	8	5	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
220	7.65	1.53	37	0	0	0	0	0	0	9	13	4	7	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
222	7.00	0.00	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
230	7.98	1.08	41	0	0	0	0	0	0	2	15	9	12	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
240	8.08	1.44	38	0	0	0	0	0	0	3	15	5	9	4	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
250	8.68	1.80	40	0	0	0	0	0	0	3	10	8	6	5	4	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0
260	9.93	2.29	40	0	0	0	0	0	0	0	8	7	2	6	6	5	4	1	1	0	0	0	0	0	0	0	0	0	0	0
270	10.50	2.54	40	0	0	0	0	0	0	0	7	3	7	2	6	6	3	3	3	0	0	0	0	0	0	0	0	0	0	0
280	11.27	2.20	41	0	0	0	0	0	0	0	4	0	3	6	7	13	4	1	1	1	1	0	0	0	0	0	0	0	0	0
290	11.82	2.31	40	0	0	0	0	0	0	0	1	3	5	2	4	9	5	5	5	0	0	0	0	0	0	0	0	0	0	0
300	12.36	2.19	39	0	0	0	0	0	0	0	1	1	2	5	2	8	9	3	6	2	0	0	0	0	0	0	0	0	0	0
310	12.72	1.78	36	0	0	0	0	0	0	0	0	0	2	3	4	4	12	3	8	0	0	0	0	0	0	0	0	0	0	0
320	13.23	1.76	31	0	0	0	0	0	0	0	0	0	0	3	2	4	7	10	3	1	0	1	0	0	0	0	0	0	0	0
330	13.32	1.63	19	0	0	0	0	0	0	0	0	0	0	1	1	4	5	3	3	2	0	0	0	0	0	0	0	0	0	0
340	14.20	1.57	20	0	0	0	0	0	0	0	0	0	0	0	0	3	4	6	4	0	2	1	0	0	0	0	0	0	0	0
350	14.78	1.40	18	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3	6	5	1	0	0	0	0	0	0	0	0	0

Table E-2.--Age-length key for yellowfin sole (cont'd).

LEN GTH	AVG AGE	STD. DEV.	FREQ- UENCY	AGE (IN YEARS) 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26+
360	15.46	1.20	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	4	4	1	1	0	0	0	0	0	0	0	0
370	16.00	1.73	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	1	3	1	0	1	0	0	0	0	0	0
380	16.42	1.44	12	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	4	3	3	0	0	0	0	0	0	0	0
390	17.25	1.89	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	1	0	0	0	0	0	0
400	17.80	0.45	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0
410	18.50	2.12	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
TOTAL	9.82	3.77	717.0	0.0	0.0	1.0	3.5	29.5	43.0	94.0	95.0	45.0	61.0	45.0	38.0	52.0	56.0	43.0	51.0	22.0	14.0	11.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0

Table E-3.--Age-length key for rock sole.

LENGTH	AVG AGE	STD. DEV.	FREQUENCY	AGE (IN YEARS) 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26+
100	2.00	0.00	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	2.50	0.53	8	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	2.75	0.50	4	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	2.92	0.29	12	0	0	1	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	2.94	0.24	18	0	0	1	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	3.00	0.00	17	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	3.13	0.35	15	0	0	0	13	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	3.00	0.00	16	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	3.64	0.84	14	0	0	0	7	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
190	4.00	0.58	19	0	0	0	3	13	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200	4.03	0.49	13	0	0	0	1	10	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
210	4.39	0.50	18	0	0	0	0	11	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
220	4.35	0.49	17	0	0	0	0	11	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
230	4.75	0.63	19	0	0	0	0	6	11	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
240	5.25	0.77	16	0	0	0	0	3	6	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
250	6.00	1.21	16	0	0	0	0	0	7	5	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
260	6.11	1.15	19	0	0	0	0	0	8	3	7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
270	8.07	1.27	14	0	0	0	0	0	0	1	3	7	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
280	7.89	2.19	18	0	0	0	0	1	1	2	3	7	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
290	8.28	2.59	18	0	0	0	0	0	3	2	2	4	2	2	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0
300	8.67	2.64	12	0	0	0	0	0	1	1	2	3	1	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
310	8.92	2.40	13	0	0	0	0	0	0	1	3	4	0	3	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
320	10.55	3.05	11	0	0	0	0	0	0	0	3	1	1	0	1	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0
330	10.55	2.73	11	0	0	0	0	0	0	0	1	2	1	3	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0
340	10.42	2.19	12	0	0	0	0	0	0	0	0	2	4	2	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0
350	11.29	2.63	7	0	0	0	0	0	0	0	1	1	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0
360	11.10	2.96	10	0	0	0	0	0	0	0	0	2	3	0	1	0	2	0	1	1	0	0	0	0	0	0	0	0	0	0
370	11.00	2.45	10	0	0	0	0	0	0	0	1	0	2	2	1	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0
380	12.89	2.57	9	0	0	0	0	0	0	0	0	1	0	1	0	1	2	1	2	1	0	0	0	0	0	0	0	0	0	0
390	12.11	1.96	9	0	0	0	0	0	0	0	0	0	0	2	2	2	1	1	0	1	0	0	0	0	0	0	0	0	0	0
400	13.44	1.74	9	0	0	0	0	0	0	0	0	0	0	0	2	0	3	1	2	1	0	0	0	0	0	0	0	0	0	0
410	13.75	1.75	8	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3	0	2	0	0	0	0	0	0	0	0	0	0
420	13.89	1.45	9	0	0	0	0	0	0	0	0	0	0	0	0	1	4	1	1	2	0	0	0	0	0	0	0	0	0	0

Table E-3.--Age-length key for rock sole (cont'd).

LENGTH	AVG AGE	STD. DEV.	FREQUENCY	AGE (IN YEARS) 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26+
***	*****	*****	*****	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
430	13.33	2.52	3	0	0	0	0	0	0	0	0	1	0	0	0	0	4	0	2	0	1	0	0	0	0	0	0	0	0	0
440	15.00	2.00	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0
450	15.60	2.30	5	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	1	0	0	0	0	0	0	0
460	17.00	1.00	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0
470	15.50	0.71	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
* 480	16.33	2.16	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
490	18.00	0.00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
TOTAL	7.19	4.17	445.5	0.0	8.0	63.0	25.0	36.0	19.0	13.0	16.0	13.5	2.5	0.0	0.0	0.0	0.0	0.0	12.5	3.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix F

Estimated Age Composition for Principal Species of Fish

Appendix F presents estimates of the number of individuals at each age over the entire survey area for species having age samples read.

Estimated numbers listed as "below minimum key length" and "above maximum key length" resulted from population data with lengths not covered by the age-length key.

Asterisks (*) designate length classes which have been generated using linear interpolation to assign age distributions to length classes not represented by real data.

List of Tables

Table F-1.--Population estimates by age for walleye pollock.

AGE CLASS	NUMBER	PROPORTION	CUMULATIVE NUMBER	CUMULATIVE PROPORTION	MEAN LENGTH	STD. DEV. OF LENGTH
0	34,797,258	0.0024	34,797,258	0.0024	105.77	10.44
1	3,635,516,437	0.2496	3,670,313,695	0.2520	129.22	21.57
2	572,422,104	0.0393	4,242,735,799	0.2913	274.90	50.64
3	1,245,405,255	0.0855	5,488,141,053	0.3768	338.48	38.44
4	2,141,768,606	0.1470	7,629,909,660	0.5238	368.10	29.01
5	4,941,228,750	0.3324	12,471,138,410	0.8562	431.29	34.53
6	1,482,978,142	0.1018	13,954,116,552	0.9580	454.39	50.56
7	271,562,308	0.0186	14,225,679,359	0.9766	489.78	68.89
* 8	145,920,520	0.0100	14,371,599,879	0.9866	557.72	54.27
* 9	66,155,981	0.0045	14,437,755,860	0.9912	564.57	66.64
* 10	57,393,205	0.0039	14,495,149,065	0.9951	548.09	73.23
* 11	42,683,235	0.0029	14,537,832,300	0.9980	566.45	75.52
* 12	15,172,935	0.0010	14,553,005,235	0.9991	565.01	71.15
* 13	5,947,822	0.0004	14,558,953,057	0.9995	631.05	49.17
14	5,022,022	0.0003	14,563,975,079	0.9998	563.24	70.97
15	1,375,754	0.0001	14,565,350,834	0.9999	649.98	54.24
16	479,220	0.0000	14,565,830,053	1.0000	679.49	19.99
ABOVE MAXIMUM KEY LENGTH	701,251	0.0000	14,566,531,304	1.0000	839.39	36.39
TOTAL	14,566,531,305	1.0000	14,566,531,304	1.0000	341.18	136.78

Table F-2.--Population estimates by age for yellowfin sole.

AGE CLASS	NUMBER	PROPORTION	CUMULATIVE NUMBER	CUMULATIVE PROPORTION	MEAN LENGTH	STD. DEV. OF LENGTH
* 2	623,857	0.0000	623,857	0.0000	81.39	3.46
* 3	6,637,502	0.0003	7,261,359	0.0004	109.67	11.42
* 4	146,234,012	0.0077	153,495,371	0.0080	132.69	16.28
5	387,725,697	0.0203	541,221,068	0.0284	176.62	20.65
6	1,702,975,922	0.0893	2,244,196,991	0.1177	208.74	21.43
7	3,542,646,154	0.1857	5,786,843,144	0.3034	242.64	22.27
8	1,869,817,483	0.0980	7,656,660,627	0.4014	248.05	21.04
9	2,436,601,145	0.1277	10,093,261,772	0.5292	250.54	25.71
10	1,815,744,374	0.0952	11,909,006,146	0.6243	266.06	27.76
11	1,625,283,897	0.0852	13,534,290,043	0.7096	274.07	21.54
12	2,112,186,562	0.1107	15,646,476,605	0.8203	282.90	22.90
13	1,602,367,868	0.0840	17,248,844,473	0.9043	292.00	24.22
14	785,242,179	0.0412	18,034,086,652	0.9455	298.89	27.31
15	764,950,347	0.0401	18,799,036,999	0.9856	298.42	28.93
16	156,351,000	0.0082	18,955,387,999	0.9938	321.42	33.89
17	79,994,948	0.0042	19,035,382,947	0.9980	317.78	41.75
18	31,639,116	0.0017	19,067,022,064	0.9996	355.29	25.02
20	4,610,105	0.0002	19,071,632,168	0.9999	380.44	13.78
ABOVE MAXIMUM KEY LENGTH	2,784,673	0.0001	19,074,416,841	1.0000	393.22	24.70
TOTAL	19,074,416,841	1.0000	19,074,416,841	1.0000	258.18	38.90

Table F-3.--Population estimates by age for rock sole.

AGE CLASS	NUMBER	PROPORTION	CUMULATIVE NUMBER	CUMULATIVE PROPORTION	MEAN LENGTH	STD. DEV. OF LENGTH
BELOW MINIMUM KEY LENGTH	17,793,778	0.0059	17,793,778	0.0059	89.70	10.93
2	27,634,854	0.0091	45,428,632	0.0150	115.54	14.49
3	349,532,489	0.1152	394,961,121	0.1302	156.10	18.75
4	535,841,820	0.1766	930,802,941	0.3068	211.47	20.16
5	642,936,461	0.2119	1,573,739,402	0.5187	237.70	22.15
6	318,942,947	0.1051	1,892,682,349	0.6238	251.92	20.75
7	299,744,490	0.0988	2,192,426,840	0.7226	277.24	26.98
8	316,429,231	0.1043	2,508,856,071	0.8268	287.92	28.06
9	145,942,317	0.0481	2,654,798,388	0.8749	299.24	39.61
10	112,333,945	0.0370	2,767,132,334	0.9120	311.46	32.79
11	46,163,342	0.0152	2,813,295,676	0.9272	320.72	49.13
12	58,715,152	0.0194	2,872,010,828	0.9465	322.28	39.10
13	77,633,099	0.0256	2,949,643,927	0.9721	353.55	43.53
14	35,316,627	0.0116	2,984,960,554	0.9837	355.57	40.42
* 15	24,117,279	0.0079	3,009,077,833	0.9917	366.37	48.42
* 16	17,980,329	0.0059	3,027,058,163	0.9976	393.70	36.62
17	3,268,036	0.0011	3,030,326,199	0.9987	444.03	13.11
* 18	1,470,685	0.0005	3,031,796,884	0.9992	463.07	7.21
19	515,259	0.0002	3,032,312,143	0.9993	450.00	0.00
ABOVE MAXIMUM KEY LENGTH	1,973,195	0.0007	3,034,285,338	1.0000	490.00	0.00
TOTAL	3,034,285,338	1.0000	3,034,285,338	1.0000	247.72	60.93