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Data Report: 1978 Bottom Trawl Survey of Eastern Bering Sea Groundfish

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ABSTRACT

This data report describes results of a 1978 resource assessment survey for groundfish in the eastern Bering Sea. The report describes methods used and summarizes results in the form of a series of tables and figures and in data appendices. Summarized in the results section are a list of species taken during the survey, abundance estimates of major taxonomic groups of fish and invertebrates, and rankings of individual species of groundfish in terms of relative abundance. For principal species of groundfish, geographic distributions and size and age composition are illustrated and abundance estimates given. The appendices contain the detailed station and catch data and computer listings showing abundance estimates and biological characteristics of the sampled populations of principal species of groundfish.

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INTRODUCTION

A demersal trawl survey of the-eastern Bering Sea was conducted from May to August 1978 by the Resource Assessment and Conservation Engineering Division (RACE) of the Northwest and Alaska Fisheries Center (NWAFC). Two research vessels were employed to assess the abundance and biological condition of commercially important groundfish and shellfish resources.

Annual demersal trawl surveys have been conducted by the NWAFC in the Bering Sea since 1955. Until 1970 the purpose of these surveys was to study shellfish; but in 1971, data collections were broadened to incorporate studies of groundfish. Prior to 1975, the survey area was limited to the southeastern shelf area. In 1975 and 1976 the survey area was expanded to include a major portion of the eastern Bering Sea in order to provide the Bureau of Land Management with comprehensive fishery resource information with respect to areas being considered for development of potential offshore oil and natural gas reserves (Pereyra et-al. 1976; Smith and Bakkala 1982). The 1978 survey, although smaller in scope than the comprehensive surveys of 1975 and 1976, covered a substantial portion of the eastern Bering Sea shelf.

This report describes results of the 1978 survey for groundfish. The findings are presented in three main sections: 1) methods used during the survey; 2) results, with emphasis on distribution, abundance estimates, and biological characteristics of sampled populations of commercially important groundfish; and 3) the appendices which present basic station and catch data and computer-generated analyses of the data.

Results from the 1978 survey for shellfish are presented in reports issued by the Kodiak facility of the NWAFC (Otto et al. 1979a, 1979b).

METHODS

Survey Area

In planning the 1978 survey, the basic stratification system established for the baseline survey of 1975 was retained to facilitate comparisons of survey results. However, in 1978 subareas 3N, 4N, and 4S were only partially sampled and were, therefore, reduced in area from those of 1975 (Fig. 1). A further difference from the 1975 stratification was the addition in 1978 of subarea 5 to incorporate sampling in the vicinity of St. Matthew Island. Sampling density was fairly uniform throughout the survey area averaging 1,450 km^2 per station (Table 1).

Table 1.--Size of subareas used during the 1978 demersal trawl survey and sampling densities by subarea (see Fig. 1).

Subarea		Area (km^2)	Proportion of total area	Sampling density No. stns.	Sampling density km^2/stn.
1		83,368	0.244	50	1,667
2		60,965	0.178	45	1,355
3	Subdivision 3N	25,070	0.073	21	1,194
	Subdivision 3S	79,234	0.231	55	1,441
4	Subdivision 4N	22,367	0.065	16	1,398
	Subdivision 4S	49,322	0.144	35	1,409
5		21,977	0.064	14	1,570
Total survey area		342,303	1.000	236	1,450

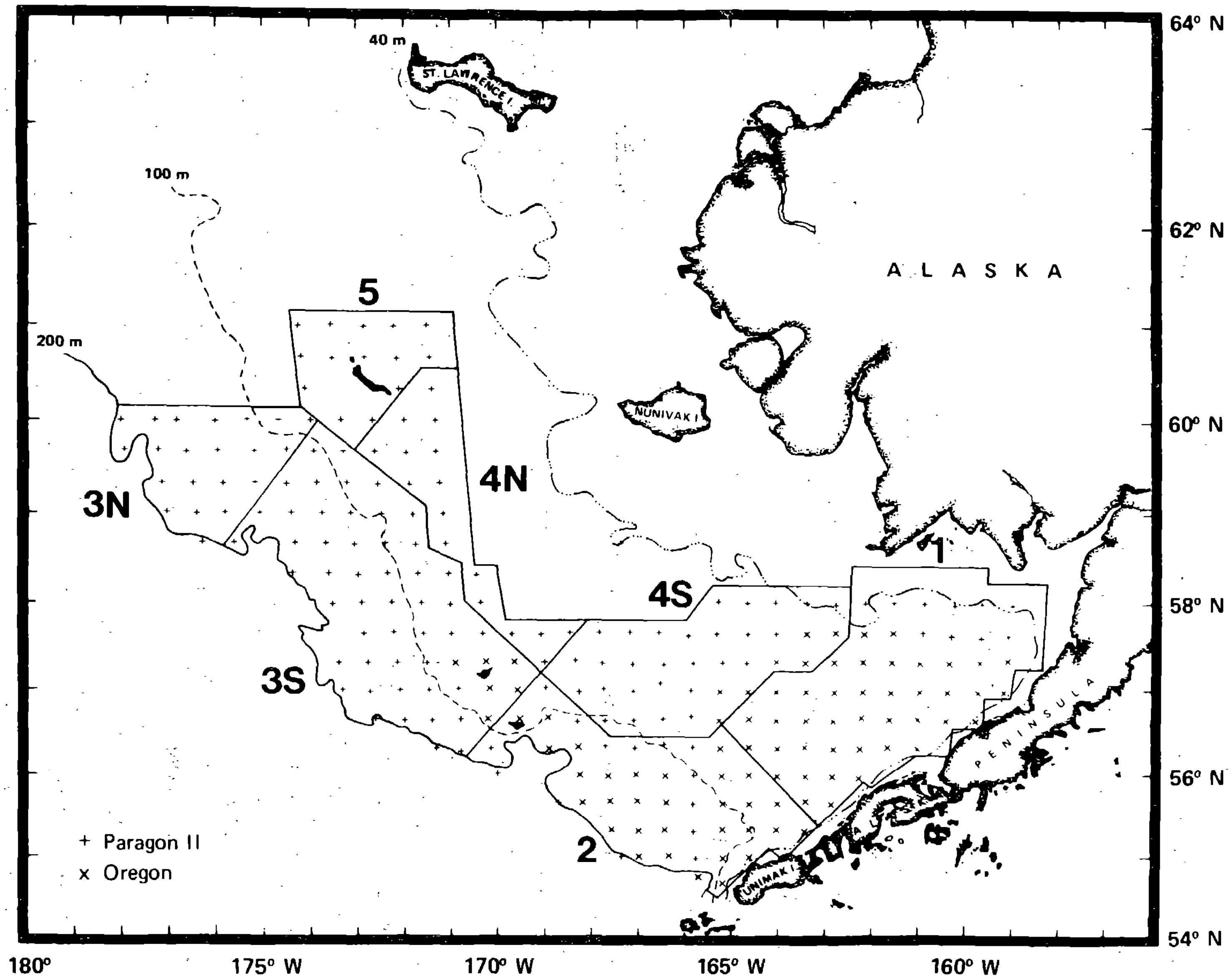

Figure 1---1978 survey area showing subareas and stations occupied by the <u>Paragon II</u> and the <u>Oregon</u>.

Vessels and Fishing Gear

The two vessels participating in the survey were the NOAA ship *Oregon* and the chartered commercial vessel Paragon II (Table 2). The trawl gear used by both vessels was the 400-mesh eastern trawl, the dimensions of which are given in Table 3.

Table 2.--Vessels participating in the 1978 demersal trawl survey.

Vessel	Overall length (m)	Gross tonnage	Horsepower	Survey period Start	Finish
Oregon	30.4	219	600	15 May	9 July
Paragon II	33.5	196	1,125	15 June	18 August

Table 3.--Characteristics and dimensions of the 400-mesh eastern trawl.

				Mesh sizes				Accessory gear	
Path width (m)	Vertical opening (m)	Headrope length (m)	Footrope length (m)	Wing and body (mm)	Inter-mediate (mm)	Cod-end (mm)	Codend liner (mm)	Door width and length (m)	Dandy-line length (m)
12.2	1.5	21.6	28.7	102	89	89	32	1.5x2.1	45.5

Relative fishing powers between the two vessels were determined from side-by-side trawling experiments. A procedure developed by Geisser and Eddy (1979) was employed to determine if the mean catches per unit effect ($\overline{\text{CPUE}}$) for a given species came from the same or distinct populations. If $\overline{\text{CPUE}}$ values we're determined to come from the same species population, then the -vessels were. considered to have equal fishing powers for that species. If, however, $\overline{\text{CPUE}}$ values were determined to come from distinct populations, the vessel having the greater

CPUE was considered to more accurately represent the actual abundance of this species. In the analyses of the data for those species in which fishing powers were significantly different, catches of the less effective vessel were adjusted to those of the more effective vessel by the ratio of CPUE values determined from the comparative fishing -experiments.

Results of the comparative trawling experiments are shown in Table 4. The Geisser and Eddy (1979) procedure showed that the Paragon II was more efficient than the Oregon in catching walleye pollock (Theragra chalcogramma) and sablefish (Anoplopoma fimbria). Catches of these species by the Oregon were therefore adjusted to those of the Paragon II by the ratios in Table 4.

Data Collection and Sampling Methods

Sampling methods used during the survey are described in detail by Smith and Bakkala (1982). In summary, tows were limited to 30 min. Total catches weighing up to about 1,150 kg (2,500 lb) were processed completely. For catches weighing more than 1,150 kg, a portion (split) of the catch was processed and the weights and numbers from the sampled portion expanded to the total catch. Catches were sorted into baskets by species and each basket was weighed to the nearest 0.5 lb. Numbers of each species of fish and invertebrate were determined by counting all or a representative subsample of the total catch.

Commercially important species of fish were randomly subsampled for purposes of determining their. size composition within that tow. Scales or otoliths were collected from most of these same species for age determination. The age samples for each species were stratified by sex and size-class. The approximate numbers of length-frequencies and age samples taken during the 1978 survey are given in Table 5.

Table 4.--Mean catch rates of species and species groups taken during comparative (side-by-side) fishing experiments to measure relative fishing powers of the Oregon and Paragon II.

Species	Number of stations at which species were caught[a]		Mean catch rates (kg/ha)		Ratio of catch rates
	Oregon	Paragon II	Oregon	Paragon II	Oregon/Paragon II
Walleye pollock	26	26	31.72	63.86	0.467[b]
Pacific cod	23	24	5.77	90.65	0.060
Sablefish	5	9	0.03	0.09	0.381[b]
Atka mackerel	2	1	<0.01	0.01	2.490
Pacific ocean perch	0	0	-	-	-
Pacific herring	0	7	-	0.24	-
Yellowfin sole	18	21	47.77	49.51	0.930
Rock sole	20	21	2.85	5.16	0.586
Flathead sole	25	25	5.37	4.18	1.236
Alaska plaice	16	16	2.21	3.18	0.643
Greenland turbot	17	16	1.20	1.71	0.676
Arrowtooth flounder	17	17	2.88	2.84	1.026
Pacific halibut	8	9	0.34	0.16	2.234
Other flounders	11	14	0.62	0.32	2.043
Smelts	4	6	<0.01	0.01	0.474
Sculpins	26	26	5.00	6.90	0.707
Snailfishes	5	4	0.08	0.02	3.099
Poachers	18	19	0.23	0.30	0.694
Eelpouts	21	22	5.26	5.02	1.089
Skates	15	15	2.61	1.49	1.807
Other fish	9	0	0.05	-	-

[a]A total of 26 side-by-side comparative trawls were successfully completed by the Oregon and Paragon II. The comparative trawling was conducted in subarea 1 (6 trawls), subarea 2 (16 trawls), and subarea 3S (4 trawls). See Appendix A-2 for geographical locations.

[b]Geisser and Eddy (1979) procedure indicates that the two vessels sampled distinct populations.

Table 5.--Approximate numbers of fish measured and age structures collected during the 1978 survey.

Species	Number measured	Number of age structures collected
Walleye pollock	32,483	1,256
Yellowfin sole	14,071	253
Greenland turbot	9,252	532
Pacific cod	6,568	639
Flathead sole	4,777	475
Rock sole	4,625	308
Arrowtooth flounder	2,661	262
Alaska plaice	1,938	135
Longhead dab	571	0
Sablefish	268	142
Pacific halibut	229	0
Pacific ocean perch	10	102
Eulachon	153	14
Pacific herring	29	22
Rex sole	52	0
Capelin	79	0
Atka mackerel	21	0
Rockfish (unidentified)	1	0
Total	77,788	4,140

Data Analysis

Methods used in analyzing the data collected are described in detail in Smith and Bakkala (1982). Briefly, catches at each station were standardized to a basic sampling unit. In surveys prior to 1978, the sampling unit was in terms of kilograms per kilometer (kg/km) trawled. In 1978 and for subsequent analyses the sampling unit is in terms of kilograms per hectare (kg/ha). Mean CPUE values for each species and stratum were computed from the standardized catch rates and then summed over strata after being weighted by each stratum area. This yielded catch rates by species for the entire survey area. Standing stock (biomass) estimates were derived using the area swept" method described by Alverson and Pereyra (1969). These estimates are not a true measure of biomass of fish populations within the survey area, but rather a measure of the trawl available biomass. Some fish come within the influence of the trawl gear but avoid capture. Semidemersal species are known to range above the effective sampling depth of the gear. Therefore, biomass estimates may be substantially underestimated, especially for species such as pollock, herring, and the smelts but closer to the true values for bottom tending species such as the flatfish.

The size composition of the sampled populations was determined by first expanding the subsample numbers by sex and size-classes from a catch to the total catch par standard sampling unit. The individual station data were then expanded to their respective strata and the stratum totals then summed to give estimates of the size canposition for the whole survey area.

Age composition estimates were derived by applying the age-length keys produced from age structure samples stratified by sex and size-class to the computed population length-frequency distributions. The aging of commercially important fish species, except Pacific cod, was accomplished through examination of otoliths. The aging of Pacific cod, Gadus macrocephalus, was carried out using a computer program which applies an iterative procedure to fit normal curves to the modes in the length-frequency distribution as described by MacDonald and Pitcher (1979).

RESULTS

Haul and Catch Data

Appendix A contains a listing of all station and catch data. Station data include, the haul location and depth, distance fished, and surface and bottom water temperatures. Catch data give the weight of each species caught at each station.

Environmental Conditions

Surface and bottom temperature isotherms observed during the 1978 survey are shown in Figures 2 and 3; means were 6.4° C and 3.2° C, respectively.

Environmental conditions in the eastern Bering Sea are characterized by cycles of warm and cold periods (Ingraham 1981). Figure 4 illustrates the annual changes in mean- bottom temperature in the southeastern Bering Sea since -1963. Mean bottom temperatures for the summer months of 1971-76 were relatively cold with the exception of 1973. The summer months of 1977-81, however, were relatively warm. Thus the 1978 survey was conducted during a relatively warm part of the cycle.

Species Taken

Approximately 72 species of fish from 20 families were identified during the 1978 survey (Table 6).

Abundance and Distribution of Major Fish Groups

Estimates of apparent abundance by weight (biomass) of all fish and invertebrates taken in the survey area are given in Table 7. Of the total biomass

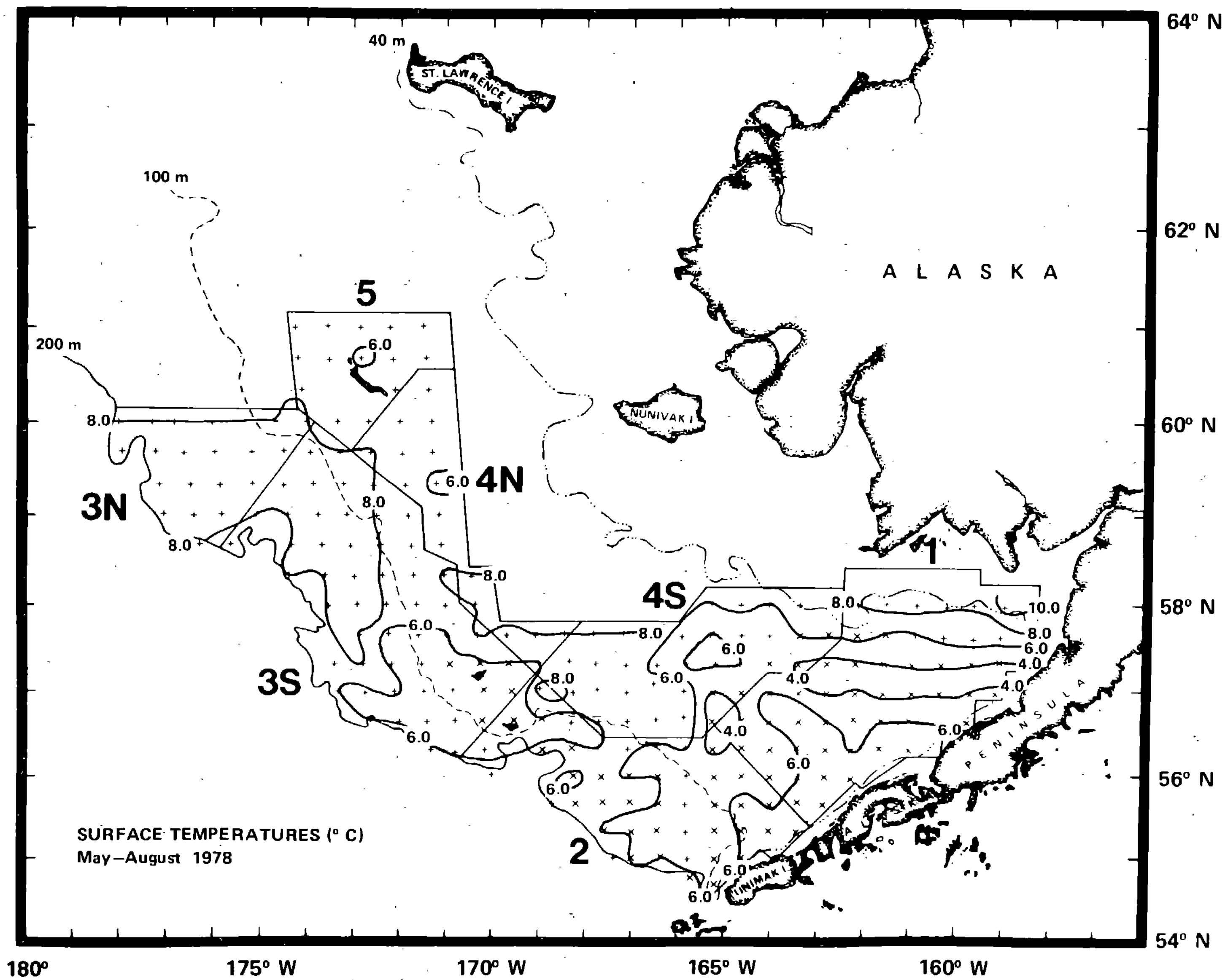

Figure 2.--Surface temperatures observed during the 1978 demersal trawl survey as shown by thermometer temperature readings of surface water samples.

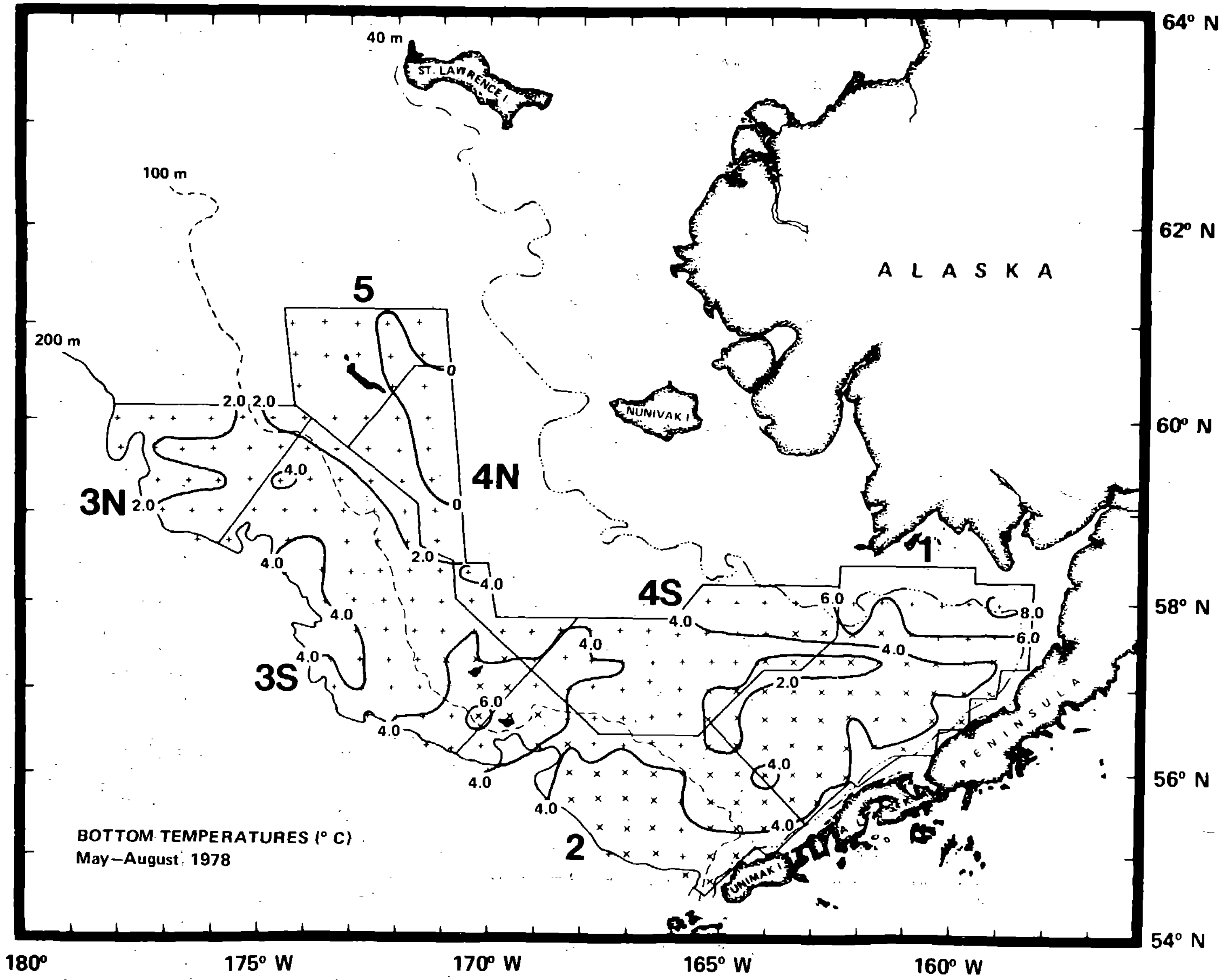

Figure 3.--Bottom temperatures observed during the 1978 demersal trawl survey as shown by bathythermograph traces.

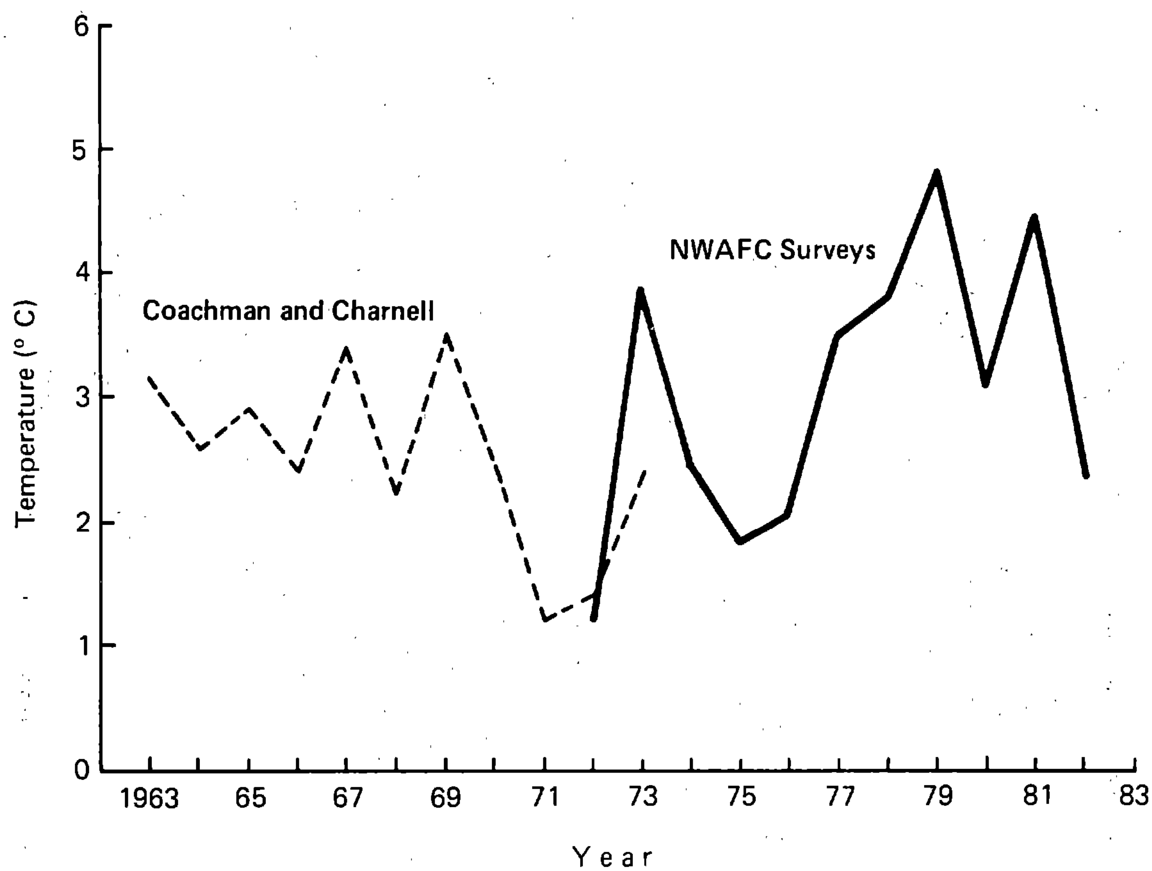

Figure 4.--Mean bottom temperatures in the southeast Bering Sea based on data from Japanese (Coachman and Charnell 1979) and NWAFC research vessel data (data on file at the Northwest and Alaska Fisheries Center, Seattle, WA 98112-2097).

Table 6.--List of fish species collected in the eastern Bering Sea during the 1978 survey.[a]

Species	Common Name
RAJIDAE	
Raja sp.	Skate unidentified
Raja binoculata	Big skate
Raja (Bathyraja) kincaidi	Sandpaper skate
CLUPEIDAE	
Clupea harengus pallasi	Pacific herring
OSMERIDAE	
Osmeridae sp.	Osmerid unidentified
Thaleichthys pacificus	Eulachon
Mallotus villosus	Capelin
Osmerus mordax	Rainbow smelt
BATHYLAGIDAE	
Bathylagus stilbius	California smoothtongue
GADIDAE	
Gadus macrocephalus	Pacific cod
Eleginus gracilis	Saffron cod
Theragra chalcogramma	Walleye pollock
ZOARCIDAE	
Zoarcidae sp.	Eelpout unidentified
Bothrocara brunneum [b]	Twoline eelpout [b]
Lycodes palearis	Wattled eelpout
Lycodes turneri [c]	Polar eelpout
Lycodes diapterus	Black eelpout
Lycodes brevipes	Shortfin eelpout
MACROURIDAE	
Macrouridae sp.	Grenadier unidentified
Albatrossia (Coryphoehoides) pectoralis [b]	Giant grenadier [b]

Table 6.--Continued:

Species	Common Name
SCORPAENIDAE	
Sebastes sp.	Rockfish unidentified
Sebastes alutus	Pacific ocean perch
Sebastes polyspinis	Northern rockfish
Sebastolobus alascanus	Shortspine thornyhead
HEXAGRAMMIDAE	
Pleurogrammus monopterygius	Atka mackerel
Hexagrammos stelleri	Whitespotted greenling
ANOPLOPOMATIDAE	
Anoplopoma fimbria	Sablefish
COTTIDAE	
Cottidae sp.	Sculpin unidentified
Icelinus borealis	Northern sculpin
Gymnocanthus sp.	Sculpin unidentified
Gymnocanthus pistilliger [b]	Threaded sculpin [b]
Gymnocanthus galeatus	Armorhead sculpin
Artediellus sp.	Sculpin unidentified
Malacocottus kincaidi	Blackfin sculpin
Hemilepidotus sp.	Irish lord unidentified
Hemilepidotus hemilepidotus	Red Irish lord
Hemilepidotus jordani	Yellow Irish lord
Melletes papilio	Butterfly sculpin
Triglops sp.	Sculpin unidentified
Triglops pingeli	Ribbed sculpin
Microcottus sellaris	Brightbelly sculpin
Myoxocephalus polyacanthocephalus	Great sculpin
Myoxocephalus jaok	Plain sculpin
Myoxocephalus sp.	Sculpin unidentified
Dasycottus setiger	Spinyhead sculpin
Blepsias bilobus	Crested sculpin
Nautichthys pribilovius	Eyeshade sculpin
Nautichthys robustus	Shortmast sculpin
Icelus spiniger	Thorny sculpin
AGONIDAE	
Agonidae sp.	Poacher unidentified
Pallasina barbata	Tubenose poacher
Sarritor frenatus	Sawback poacher
Bathyagonus nigripinnis	Blackfin poacher

Table 6.--Continued.

Species	Common Name
AGONIDAE (Continued)	
Bathyagonus alascanus	Gray starsnout
Agonus acipenserinus	Sturgeon poacher
Aspidophoroides bartoni	Aleutian alligatorfish
Anoplagonus inermis	Smooth alligatorfish
Occella verrucosa	Warty poacher
CYCLOPTERIDAE	
Cyclopteridae sp.	Snailfish unidentified
Liparis dennyi	Marbled snailfish
Crystallichthys cyclospilus	Blotched snailfish
Careproctus melanurus	Blacktail snailfish
Careproctus rastrinus [b]	Pink snailfish
Eumicrotremus orbis	Pacific spiny lumpsucker
TRICHODONTIDAE	
Trichodon trichodon	Pacific sandfish
BATHYMASTERIDAE	
Bathymasteridae sp.	Ronquil unidentified
Bathymaster signatus	Searcher
STICHAEIDAE	
Stichaeidae sp.	Prickleback unidentified
Lumpenus maculatus	Daubed shanny
Lumpenus sagitta	Snake prickleback
Lumpenella longirostris	Longsnout prickleback
Chirolophis decoratus	Decorated warbonnet
ZAPRORIDAE	
Zaprora silenus	Prowfish
AMMODYTIDAE	
Ammodytes hexapterus	Pacific sand lance

Table 6.--Continued.

Species	Common Name
	PLEURONECTIDAE
Atheresthes stomias	Arrowtooth flounder
Reinhardtius hippoglossoides	Greenland turbot
Hippoglossus stenolepis	Pacific halibut
Hippoglossoides elassodon	Flathead sole
Microstomus pacificus	Dover sole
Glyptocephalus zachirus	Rex sole
Limanda aspera	Yellowfin sole
Limanda proboscidea	Longhead dab
Platichthys stellatus	Starry flounder
Lepidopsetta bilineata	Rock sole
Isopsetta isolepis	Butter sole
Pleuronectes quadrituberculatus	Alaska plaice

[a]Nomenclature from Robins (1980), unless otherwise noted.
[b]Quast and Hall (1972).
[c]Based on more recent survey data, most of the specimens identified as *Lycodes turneri* were probably the sparse toothed lycod (*Lycodes raridens*).

estimated for the survey area, fish made up 74.5% and invertebrates 25.5%. Biomass estimates for both fish and invertebrates were highest in subarea 1. Gadids and pleuronectids accounted for a high proportion (89.3%) of the total fish biomass, while king (*Paralithodes* sp.) and Tanner (snow) crab (*Chionoecetes* sp.) were the principal component (50.7%) of the invertebrate biomass. Of the fish groups gadids were the dominant category on the outer shelf (subareas 2, 3S, and 3N) and pleuronectids were the dominant group on the inner shelf (subareas 1, 4S, and 5).

Relative Importance of Individual Fish Species

Mean catch rates for the 20 most abundant species of fish caught throughout the survey area are listed in Table 8 and for individual subareas in Tables 9-15. The 20 most abundant species of fish accounted for 72.8% of the total catch of fish and invertebrates. Their contribution ranged from 87.2% in

3.10.1

Table 7.--Summary of biomasses available to the trawls for major taxonomic groups, 1978 summer survey.[a]

Taxa	Estimated biomass for total survey area (t)	Proportion of total biomass	Estimated biomass by subarea (t)						
			1	2	3N	3S	4N	4S	5
Gadidae (cods)	2,623,610	0.352	312,807	777,541	290,269	1,007,008	114,614	112,821	8,551
Pleuronectidae (flounders)	2,336,202	0.313	1,156,195	164,768	22,543	75,528	60,018	845,687	11,464
Cottidae (sculpins)	293,835	0.039	123,029	60,353	4,088	19,143	14,830	65,189	7,202
Zoarcidae (eelpouts)	194,829	0.026	2,938	38,337	41,578	48,568	10,021	12,853	40,532
Rajidae (skates)	47,586	0.006	3,030	19,634	9,358	11,915	1,179	2,450	20
Agonidae (poachers)	18,165	0.002	10,039	2,246	23	459	466	4,918	12
Other fish	40,071	0.005	14,178	14,474	925	3,330	2,791	1,499	2,877
Total fish	5,554,298	0.745	1,622,216	1,077,353	368,784	1,165,951	203,919	1,045,417	70,658
Porifera (sponges)	141,287	0.019	133,163	7,544	2	21	558	0	0
Coelenterata (coelenterates)	11,789	0.002	637	1,897	73	330	644	8,172	36
Mollusca	134,642	0.018	19,811	15,814	12,173	21,100	11,755	49,966	4,023
Gastropoda (snails)	123,335	0.016	19,129	10,878	9,166	18,801	11,460	49,901	4,000
Pelecypoda (bivalves)	1,023	<0.001	421	19	11	189	295	65	23
Cephalopoda (squids & octopus)	10,284	0.001	261	4,917	2,996	2,110	0	0	0
Crustacea	1,132,377	0.152	391,471	171,093	24,933	193,889	71,047	213,141	66,803
Total crabs	1,111,290	0.149	391,374	169,583	20,863	178,927	70,647	213,108	66,787
Chionoecetes sp. (snow (Tanner) crab)	556,109	0.075	82,244	85,374	18,627	125,127	49,317	144,839	50,582
Paralithodes sp. (king crab)	406,686	0.054	277,874	67,119	661	30,029	2,585	21,057	7,360
Other crabs	148,494	0.020	31,256	17,090	1,575	23,771	18,745	47,212	8,845
Total shrimp	21,080	0.003	97	1,508	4,069	14,957	400	33	16
Other crustacea	7	<0.001	0	2	0	5	0	0	0
Echinodermata	383,654	0.051	201,310	22,147	16,744	42,677	14,239	79,415	7,121
Asteroidea (starfish)	288,209	0.039	170,792	4,545	12,105	19,670	11,156	67,651	2,289
Echinoidea (sea urchins, etc.)	13,303	0.002	11,386	935	70	911	2	0	0
Ophiuroidea (brittlestars)	68,267	0.009	5,443	16,523	4,568	22,096	3,081	11,724	4,832
Holothuroidea (sea cucumbers)	13,875	0.002	13,689	144	1	0	0	40	0
Ascidiacea	52,949	0.007	22,186	0	0	1	15,079	15,378	305
Other invertebrates	41,929	0.006	21	53	14	13	2,093	36,110	3,623
Total invertebrates	1,898,627	0.255	768,599	218,548	53,939	258,031	115,415	402,182	81,911
Total catch	7,452,925	1.000	2,390,815	1,295,901	422,723	1,423,982	319,334	1,447,599	152,569
Geographical area (km^2)	342,303		83,368	60,965	25,070	79,234	22,367	49,322	21,977

[a]Minor differences in sums of biomass estimates by subarea and totals due to rounding.

Table 8.--Rank order of abundance of the 20 most abundant species of fish taken during the 1978 demersal trawl survey, all subareas combined.

Rank	Species	CPUE (kg/ha[a])	Proportion of total CPUE[b]	Cumulative proportion
1	Walleye pollock	67.46	0.310	0.310
2	Yellowfin sole	49.81	0.229	0.539
3	Pacific cod	9.20	0.042	0.581
4	Rock sole	5.19	0.024	0.605
5	Alaska plaice	4.83	0.022	0.627
6	Plain sculpin	3.95	0.018	0.645
7	Greenland turbot	3.16	0.015	0.660
8	Flathead sole	2.50	0.011	0.671
9	Wattled eelpout	1.56	0.007	0.678
10	Shortfin eelpout	1.47	0.007	0.685
11	Polar eelpout	1.38	0.006	0.691
12	Arrowtooth flounder	1.32	0.006	0.697
13	Skate unidentified	1.29	0.006	0.703
14	Eelpout unidentified	1.28	0.006	0.709
15	Yellow Irish lord	0.93	0.004	0.713
16	Longhead dab	0.85	0.004	0.717
17	Great sculpin	0.82	0.004	0.721
18	Sculpin unidentified	0.70	0.003	0.724
19	Pacific halibut	0.52	0.002	0.726
20	*Myoxocephalus* sp.	0.52	0.002	0.728

[a] Total effort = 819.1 ha.
[b] Proportion of total CPUE, all fish and invertebrates combined. Total CPUE = 217.77 kg/ha.

Table 9.--Rank order of abundance of the 20 most abundant species of fish taken during the 1978 demersal trawl survey, subarea 1.

Rank	Species	CPUE (kg/ha[a])	Proportion of total CPUE[b]	Cumulative proportion
1	Yellowfin sole	112.51	0.392	0.392
2	Walleye pollock	28.66	0.100	0.492
3	Rock sole	15.26	0.053	0.545
4	Plain sculpin	12.44	0.043	0.588
5	Pacific cod	8.87	0.031	0.619
6	Alaska plaice	4.59	0.016	0.635
7	Longhead dab	2.96	0.010	0.645
8	Flathead sole	1.86	0.006	0.651
9	Sturgeon poacher	1.19	0.004	0.655
10	Sablefish	0.99	0.003	0.658
11	Pacific halibut	0.94	0.003	0.661
12	Threaded sculpin	0.61	0.002	0.663
13	*Myoxocephalus* sp.	0.60	0.002	0.665
14	*Gymnocanthus* sp.	0.48	0.002	0.667
15	Greenland turbot	0.39	0.001	0.668
16	Skate unidentified	0.36	0.001	0.669
17	Wattled eelpout	0.35	0.001	0.670
18	Whitespotted greenling	0.30	0.001	0.671
19	Great sculpin	0.27	0.001	0.672
20	Eulachon	0.16	0.001	0.673

[a] Total effort = 144.7 ha.

b Proportion of total CPUE, all fish and invertebrates combined. 'Total CPUE = 286.83 kg/ha.

Table. 10.--Rank order of abundance of the 20 most abundant species of fish taken during the 1978 demersal trawl survey, subarea 2.

Rank	Species	CPUE (kg/ha[a])	Proportion of total CPUE[b]	Cumulative proportion
1	Walleye pollock	99.27	0.467	0.467
2	Pacific cod	28.29	0.133	0.600
3	Flathead sole	7.89	0.037	0.637
4	Arrowtooth flounder	6.21	0.029	0.666
5	Yellowfin sole	6.07	0.028	0.694
6	Eelpout unidentified	4.68	0.022	0.716
7	Yellow Irish lord	3.43	0.016	0.732
8	Rock sole	3.25	0.015	0.747
9	Skate unidentified	3.17	0.015	0.762
10	Northern sculpin	2.13	0.010	0.772
11	Sculpin unidentified	1.68	0.008	0.780
12	Pacific halibut	1.42	0.007	0.787
13	Greenland turbot	1.29	0.006	0.793
14	Shortfin eelpout	1.05	0.005	0.798
15	Armorhead sculpin	0.89	0.004	0.802
16	Sablefish	0.86	0.004	0.806
17	Searcher	0.67	0.003	0.809
18	Alaska plaice	0.60	0.003	0.812
19	Eulachon	0.57	0.003	0.815
20	Wattled eelpout	0.55	0.003	0.818

[a]Total effort = 138.4 ha.
[b]Proportion of total CPUE, all fish and invertebrates combined. Total CPUE = 212.60 kg/ha.

Table 11.--Rank order of abundance of the 20 most abundant species of fish taken during the 1978 demersal trawl survey, subarea 3N.

Rank	Species	CPUE (kg/ha[a])	Proportion of total CPUE[b]	Cumulative proportion
1	Walleye pollock	114.20	0.677	0.677
2	Shortfin eelpout	13.22	0.078	0.755
3	Greenland turbot	6.92	0.041	0.796
4	Skate unidentified	3.73	0.022	0.818
5	Wattled eelpout	3.09	0.018	0.836
6	Flathead sole	1.71	0.010	0.846
7	Pacific cod	1.60	0.009	0.855
8	Thorny sculpin	1.23	0.007	0.862
9	Arrowtooth flounder	0.29	0.002	0.864
10	Polar eelpout	0.28	0.002	0.866
11	Pink snailfish	0.21	0.001	0.867
12	Bigmouth sculpin	0.13	0.001	0.868
13	Searcher	0.10	0.001	0.869
14	Spinyhead sculpin	0.09	<0.001	0.870
15	Irish lord unidentified	0.06	<0.001	0.870
16	Yellow Irish lord	0.06	<0.001	0.871
17	Great sculpin	0.04	<0.001	0.871
18	Rock sole	0.04	<0.001	0.871
19	Marbled snailfish	0.04	<0.001	0.872
20	Pacific halibut	0.02	<0.001	0.872

[a]Total effort = 75.6 ha.

[b]Proportion of total CPUE, all fish and invertebrates combined. Total CPUE = 168.65 kg/ha.

Table 12.--Rank order of abundance of the 20 most abundant species of fish taken during the 1978 demersal trawl survey, subarea 3S.

Rank	Species	CPUE (kg/ha[a])	Proportion of total CPUE[b]	Cumulative proportion
1	Walleye pollock	124.54	0.693	0.693
2	Greenland turbot	6.20	0.034	0.727
3	Wattled eelpout	2.85	0.016	0.743
4	Pacific cod	2.57	0.014	0.757
5	Eelpout unidentified	1.71	0.009	0.766
6	Shortfin eelpout	1.38	0.008	0.774
7	Skate unidentified	1.32	0.007	0.781
8	Flathead sole	1.17	0.006	0.787
9	Arrowtooth flounder	0.75	0.004	0.791
10	Rock sole	0.70	0.004	0.795
11	Yellow Irish lord	0.61	0.003	0.798
12	Yellowfin sole	0.57	0.003	0.801
13	Great sculpin	0.44	0.002	0.803
14	Sculpin unidentified	0.34	0.002	0.805
15	Thorny sculpin	0.27	0.001	0.806
16	Bigmouth sculpin	0.26	0.001	0.807
17	Spinyhead sculpin	0.23	0.001	0.808
18	Polar eelpout	0.19	0.001	0.809
19	Sandpaper skate	0.19	0.001	0.810
20	Marbled snailfish	0.09	<0.001	0.810

[a]Total effort = 210.2 ha.
[b]Proportion of total CPUE, all fish and invertebrates combined. Total CPUE = 179.75.kg/ha.

Table 13.--Rank order of abundance of the 20 most abundant species of fish takenduring the 1978 demersal trawl survey, subarea 4N.

Rank	Species	CPUE (kg/ha[a])	Proportion of total CPUE[b]	Cumulative proportion
1	Walleye pollock	49.17	0.344	0.344
2	Yellowfin sole	13.58	0.095	0.439
3	Alaska plaice	7.47	0.052	0.491
4	Greenland turbot	4.11	0.029	0.520
5	Polar eelpout	2.82	0.020	0.540
6	Plain sculpin	2.43	0.017	0.557
7	Pacific cod	2.08	0.014	0.571
8	Wattled eelpout	1.66	0.012	0.583
9	Irish lord unidentified	1.46	0.010	0.593
10	Yellow Irish lord	1.36	0.009	0.602
11	Rock sole	1.23	0.009	0.611
12	Marbled snailfish	0.93	0.006	0.617
13	Great sculpin	0.90	0.006	0.623
14	Flathead sole	0.45	0.003	0.626
15	Skate unidentified	0.32	0.002	0.628
16	Sandpaper skate	0.21	0.001	0.629
17	Pacific spiny lumpsucker	0.20	0.001	0.630
18	Sturgeon poacher	0.20	0.001	0.631
19	Sculpin unidentified	0.17	0.001	0.632
20	_Triglops_ sp.	0.15	0.001	0.633

[a]Total effort = 62.8 ha.
[b]Proportion of total CPUE, all fish and invertebrates combined. Total CPUE = 142.79 kg/ha.

Table 14.--Rank order of abundance of the 20 most abundant species of fish taken during the 1978 demersal trawl survey, subarea 4S.

Rank	Species	CPUE (kg/ha[a])	Proportion of total CPUE[b]	Cumulative proportion
1	Yellowfin sole	140.93	0.480	0.480
2	Alaska plaice	21.18	0.072	0.552
3	Walleye pollock	15.05	0.051	0.603
4	Pacific cod	7.83	0.027	0.630
5	Plain sculpin	5.06	0.017	0.647
6	Rock sole	4.51	0.015	0.662
7	Greenland turbot	2.58	0.009	0.671
8	Great sculpin	2.54	0.009	0.680
9	Wattled eelpout	2.35	0.008	0.688
10	Myoxocephalus sp.	2.30	0.008	0.696
11	Sculpin unidentified	1.91	0.006	0.702
12	Flathead sole	1.25	0.004	0.706
13	Sturgeon poacher	0.99	0.003	0.709
14	Gymnocanthus sp.	0.99	0.003	0.712
15	Longhead dab	0.86	0.003	0.715
16	Yellow Irish lord	0.36	0.001	0.716
17	Sandpaper skate	0.26	0.001	0.717
18	Eelpout unidentified	0.26	0.001	0.718
19	Skate unidentified	0.23	0.001	0.719
20	Pacific halibut	0.16	<0.001	0.719

[a]Total effort = 132.3 ha.
[b]Proportion of total CPUE, all fish and invertebrates combined. Total CPUE = 293.56 kg/ha.

Table 15.--Rank order of abundance of the 20 most abundant species of fish taken during the 1978 demersal trawl survey, subarea 5.

Rank	Species	CPUE (kg/ha[a])	Proportion of total CPUE[b]	Cumulative proportion
1	Polar eelpout[c]	17.63	0.254	0.254
2	Greenland turbot	3.92	0.056	0.310
3	Walleye pollock	3.45	0.050	0.360
4	Great sculpin	1.92	0.028	0.388
5	Irish lord unidentified	1.33	0.019	0.407
6	Marbled snailfish	1.22	0.018	0.425
7	Wattled eelpout	0.69	0.010	0.435
8	Alaska plaice	0.63	0.009	0.444
9	Flathead sole	0.57	0.008	0.452
10	Pacific cod	0.44	0.006	0.458
11	Eelpout unidentified	0.13	0.002	0.460
12	Pacific halibut	0.06	0.001	0.461
13	Pink snailfish	0.04	<0.001	0.461
14	Snake prickleback	0.03	<0.001	0.462
15	Rock sole	0.03	<0.001	0.462
16	Capelin	0.01	<0.001	0.463
17	Sculpin unidentified	0.01	<0.001	0.463
18	_Triglops_ sp.	0.01	<0.001	0.463
19	Sandpaper skate	0.01	<0.001	0.463
20	Blackfin poacher	<0.01	<0.001	0.463

[a]Total effort = 55.1 ha.
[b]Proportion of total CPUE, all fish and invertebrates combined. Total CPUE = 69.44 kg/ha.
[c]Based on more recent survey data, this species was probably misidentified and should be sparse toothed lycod (_Lycodes raridens_)

subarea 3N to 46.3% in subarea 5. Pollock, yellowfin sole, and Pacific cod ranked highest in relative abundance in the overall survey area and at least one of these species ranked highest in all subareas except subarea 5 where the polar eelpout was identified as the dominant species. However, based on more recent survey data, most of the specimens identified as polar eelpout are believed to be the sparse toothed lycod.

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

The following tables (16-34) and figures (5-33) summarize findings from the 1978 survey for the commercially important species of fish. Included, for each individual species, is a contour map showing distribution and relative abundance and a table showing abundance estimates in terms of CPUE, biomass, and population numbers.. In addition, size and age composition data are presented.

More detailed data are presented in the following appendices:

Appendix A - Station and catch data.

Appendix B - Rank order of relative abundance for all fish and invertebrates.

Appendix C - Population and biomass estimates for principal species of fish.

Appendix D - Estimates of population numbers by sex and size groups for principal species of fish.

Appendix E - Age composition estimates of principal species of fish.

Appendix F - Age-length keys for principal species of fish.

WALLEYE POLLOCK

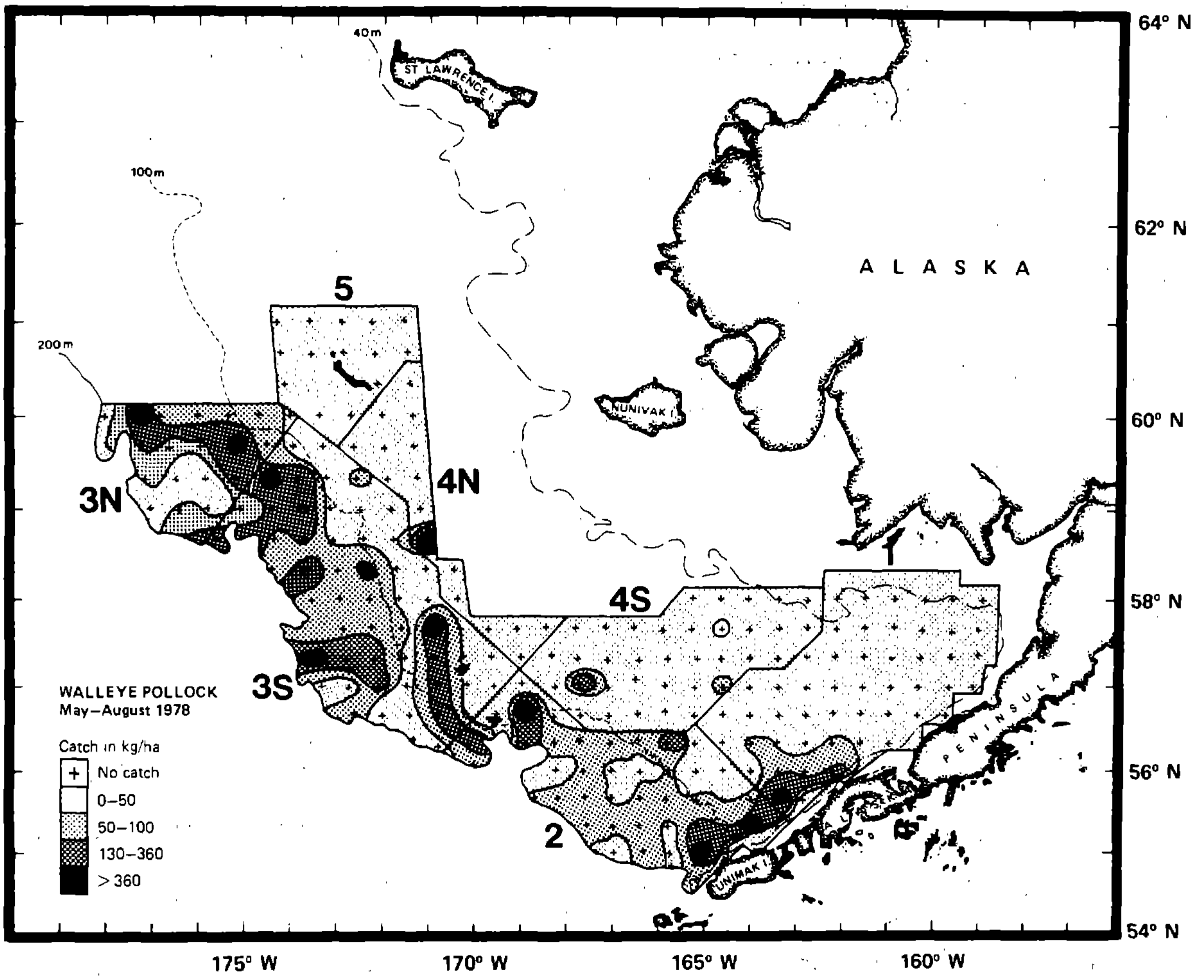

Figure 5.--Distribution and relative abundance of walleye pollock during the 1978 demersal trawl survey.

Table 16.--Apparent abundance and mean sizes of walleye pollock by subarea and for all subareas combined, 1978 trawl survey.

Sub-area	Mean CPUE[a] (kg/ha)	Estimated biomass (t)	Proportion of total estimated biomass	Estimated population (millions)	Proportion of total estimated population	Mean size per individual: Weight (kg)	Mean size per individual: Length (cm)
1	28.66	238,894	0.103	1,535.6	0.124	0.156	24.0
2	99.27	605,084	0.262	1,414.0	0.115	0.428	35.9
3N	114.20	286,249	0.124	1,412.0	0.114	0.203	25.6
3S	49.17	986,618	0.427	5,443.0	0.441	0.181	24.5
4N	124.54	109,966	0.048	591.6	0.048	0.186	27.7
4S	15.05	74,203	0.032	1,757.5	0.142	0.036	15.6
5	3.45	7,585	0.003	187.0	0.015	0.031	13.1
All sub-[c] areas combined	67.45	2,308,599[b]		12,340.8		0.187	24.6

[a] CPUE = catch per unit of effort.
[b] 95% confidence interval = 1,761,351-2,855,846.
[c] Minor differences between sum of figures by subarea and totals are due to rounding.

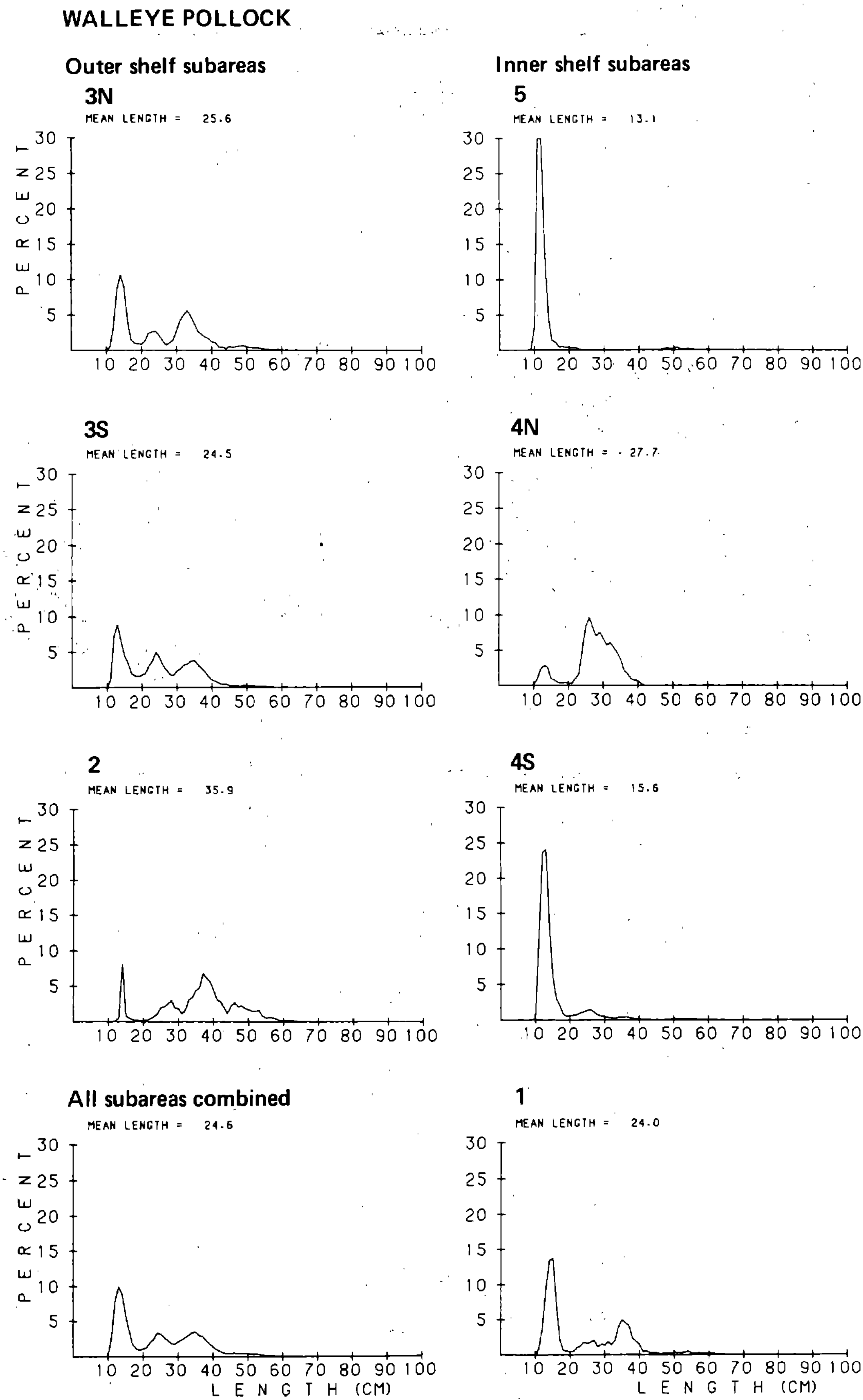

Figure 6.--Size composition of walleye pollock (sexes combined) from the 1978 survey by subarea and for all subareas combined.

WALLEYE POLLOCK

Table 17.--Estimated population size of walleye pollock age groups by subarea and for all subareas combined, 1978 demersal trawl survey (millions of fish).

Age	Year-class	Subareas 1	2	3N	3S	4N	4S	5	All[a] subareas combined	Proportion of total
1	1977	798.35	154.54	554.84	2006.07	67.55	1499.00	180.50	5260.84	0.4263
2	1976	174.64	165.81	233.61	1442.15	231.69	145.77	1.89	2395.56	0.1941
3	1975	308.85	381.23	373.56	1245.81	237.85	62.04	0.06	2609.39	0.2114
4	1974	165.76	331.71	155.32	535.55	47.87	18.63	0.13	1254.97	0.1017
5	1973	28.18	142.86	36.45	100.29	2.83	6.58	0.83	318.03	0.0258
6	1972	19.56	102.87	25.44	56.86	1.15	6.65	1.06	213.60	0.0173
7	1971	8.83	36.01	8.96	14.21	0.39	4.13	0.57	73.10	0.0059
8	1970	9.22	28.81	6.52	11.97	0.56	3.94	0.48	61.51	0.0050
9	1969	10.48	34.33	8.54	14.61	0.70	5.02	0.70	74.38	0.0060
10	1968	7.07	22.58	5.60	9.50	0.51	2.88	0.43	48.58	0.0039
11	1967	2.78	6.98	1.54	3.40	0.36	1.81	0.24	17.11	0.0014
12	1966	1.75	6.30	1.55	2.55	0.16	0.96	0.11	13.40	0.0011
Ages unknown		0.13					0.16		0.30	<.0001
All ages[a] combined		1535.62	1414.04	1411.93	5442.98	591.64	1757.54	187.00	12340.75	1.0000

[a]Minor differences between sums of figures by subarea and year-classes and totals are due to rounding.

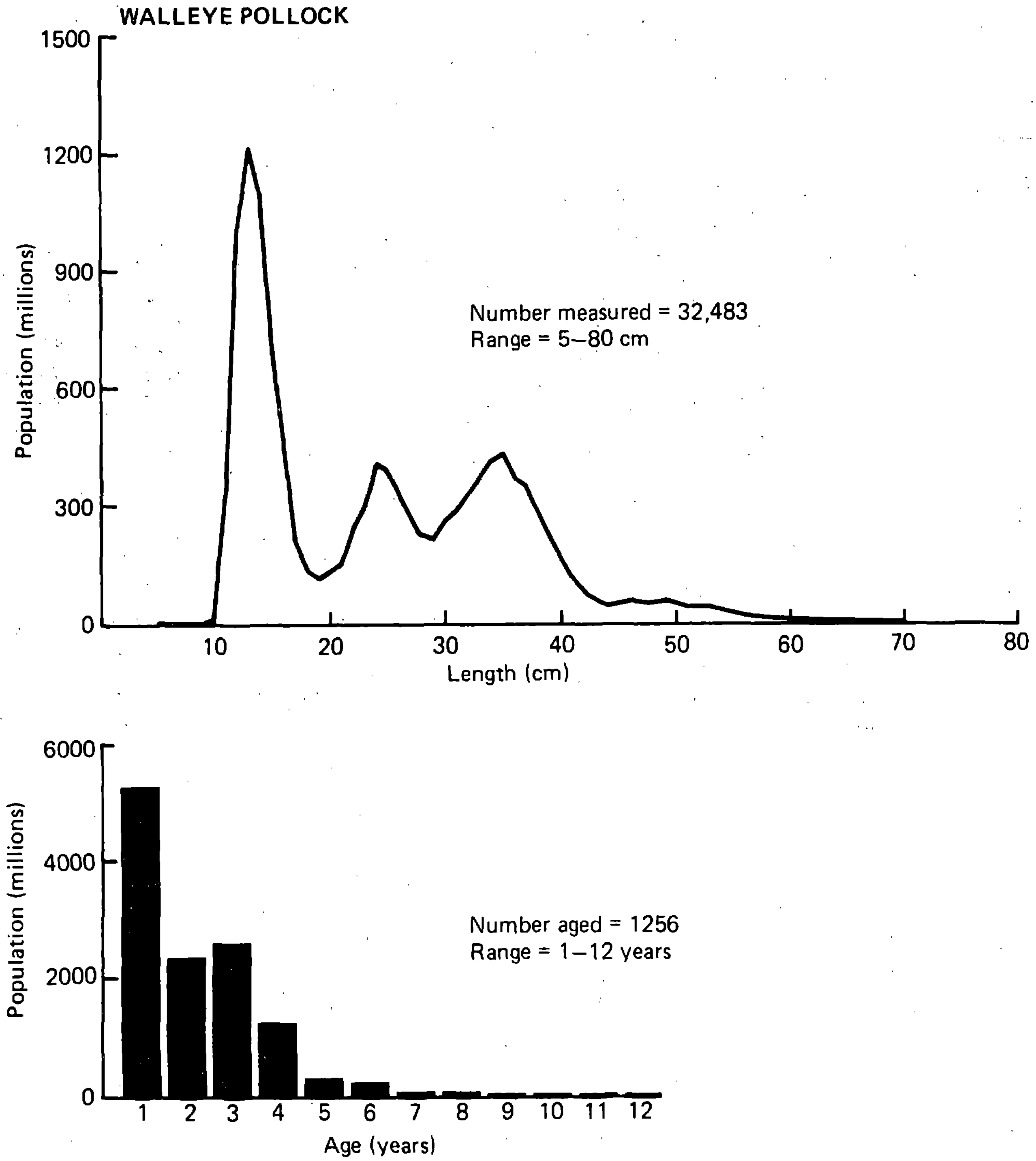

Figure 7.--Length and age composition of walleye pollock (sexes combined) from the overall 1978 survey area.

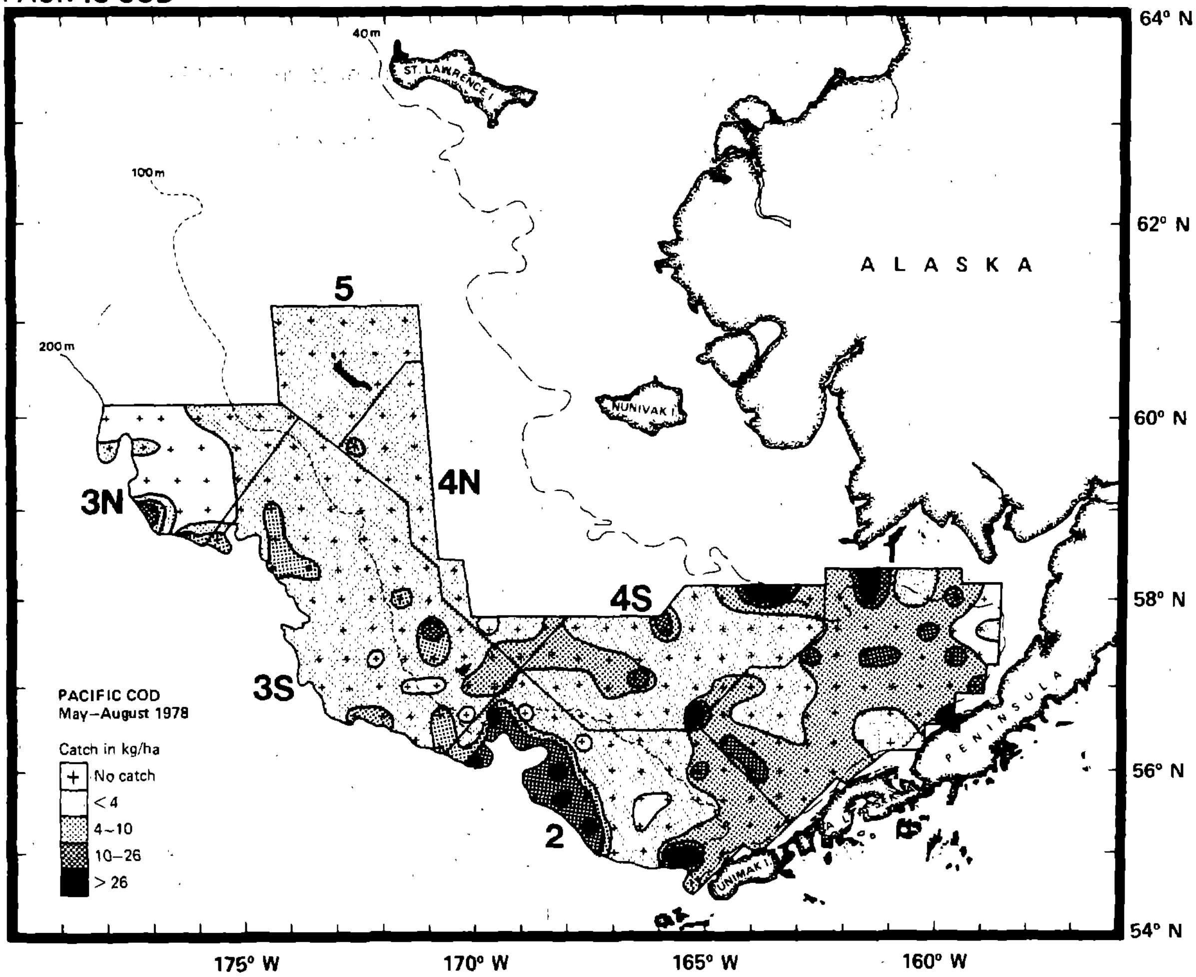

Figure 8.--Distribution and relative abundance of Pacific cod during the 1978 demersal trawl survey.

Table 18.--Apparent abundance and mean sizes of Pacific cod by subarea and for all subareas combined, 1978 trawl survey.

Sub-area	Mean CPUE (kg/ha)	Estimated biomass (t)	Proportion of total estimated biomass	Estimated population (millions)	Proportion of total estimated population	Mean size per individual	
						Weight (kg)	Length (cm)
1	8.87	73,913	0.235	819.8	0.588	0.090	20.9
2	28.29	172,457	0.547	79.3	0.057	2.174	53.6
3N	1.60	4,020	0.013	4.3	0.003	0.930	38.1
3S	2.57	20,390	0.065	34.1	0.024	0.598	33.1
4N	2.08	4,648	0.015	36.7	0.026	0.127	20.8
4S	7.83	38,601	0.122	405.6	0.291	0.124	19.2
5	0.44	966	0.003	14.0	0.010	0.079	17.6
All sub-[c] areas combined	9.20	314,995[b]		1,393.9		0.226	22.6

[a] CPUE = catch per unit of effort.
[b] 95% confidence interval = 89,855-540,135.
[c] Minor differences between sums of figures by subarea and totals are due to rounding.

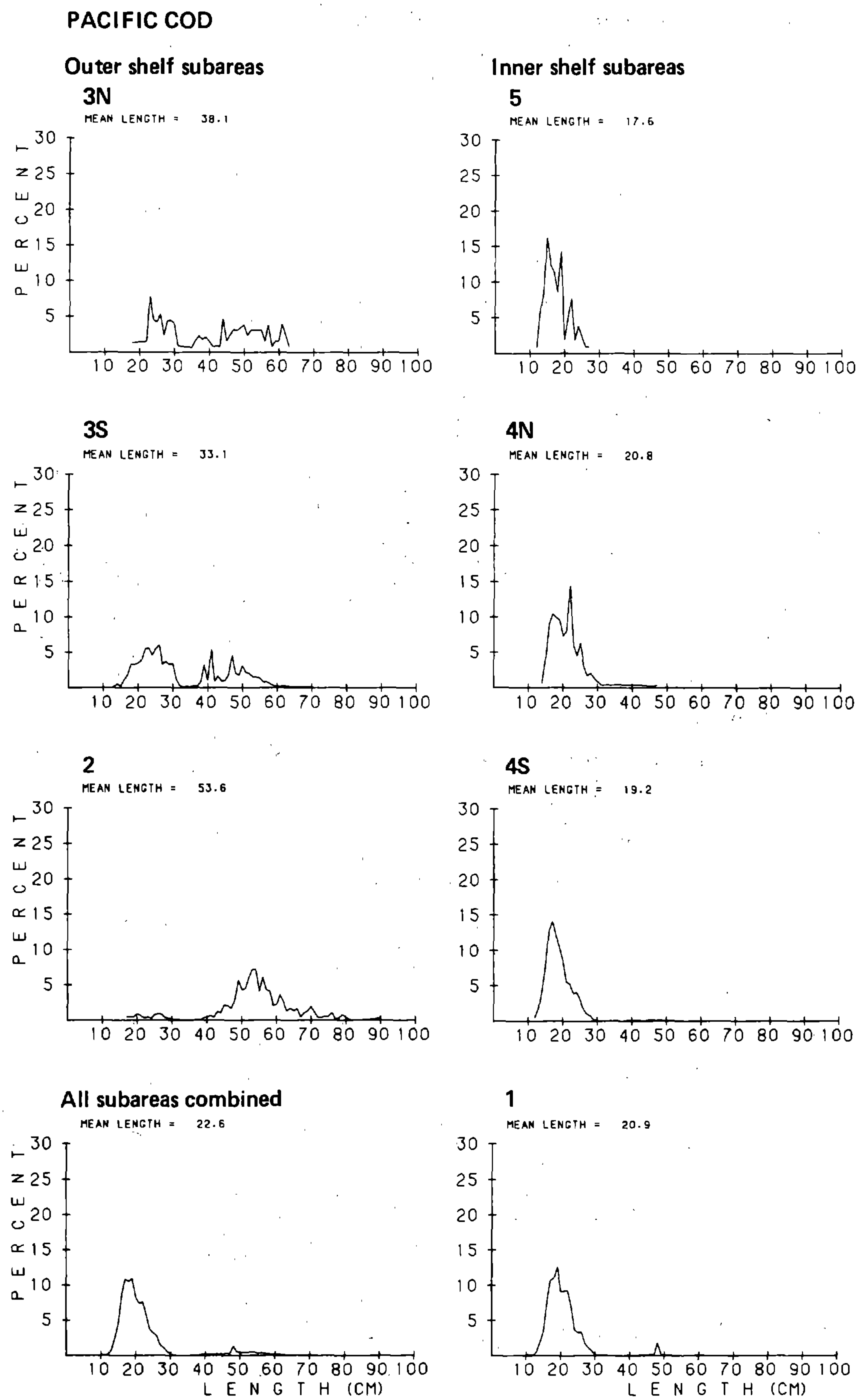

Figure 9.--Size composition of Pacific cod (sexes combined) from the 1978 survey by subarea and for all subareas combined.

PACIFIC COD

Table 19.-- Estimated population size of Pacific cod age groups by subarea and for all subareas combined, 1978 demersal trawl survey (millions of fish).[a]

Age	Year-class	Subareas 1	2	3N	3S	4N	4S	5	All[a] subareas combined	Proportion of total
1	1977	792.45	3.16	0.57	0.82	29.82	397.95	11.81	1268.23	0.9099
2	1976		2.41	1.39	19.76	6.92		2.19	24.17	0.0173
3	1975	5.64	3.04	0.74	7.34		7.69		32.80	0.0253
4	1974	17.98	15.62	1.02	4.26				24.81	0.0178
5	1973	3.73	31.44	0.26	1.10				23.00	0.0165
6	1972		4.80	0.34	0.50				9.78	0.0070
7	1971		10.22		0.31				2.80	0.0020
8	1970		0.98						4.24	0.0030
9	1969		4.09						2.13	0.0015
10	1968		3.54						1.80	0.0013
All ages[b] combined		819.80	79.30	4.32	34.09	36.74	405.64	14.00	1393.89	1.0000

[a]See text for method of deriving age composition for Pacific cod.
[b]Minor differences between sums of figures by subarea or year-class and totals are due to rounding.

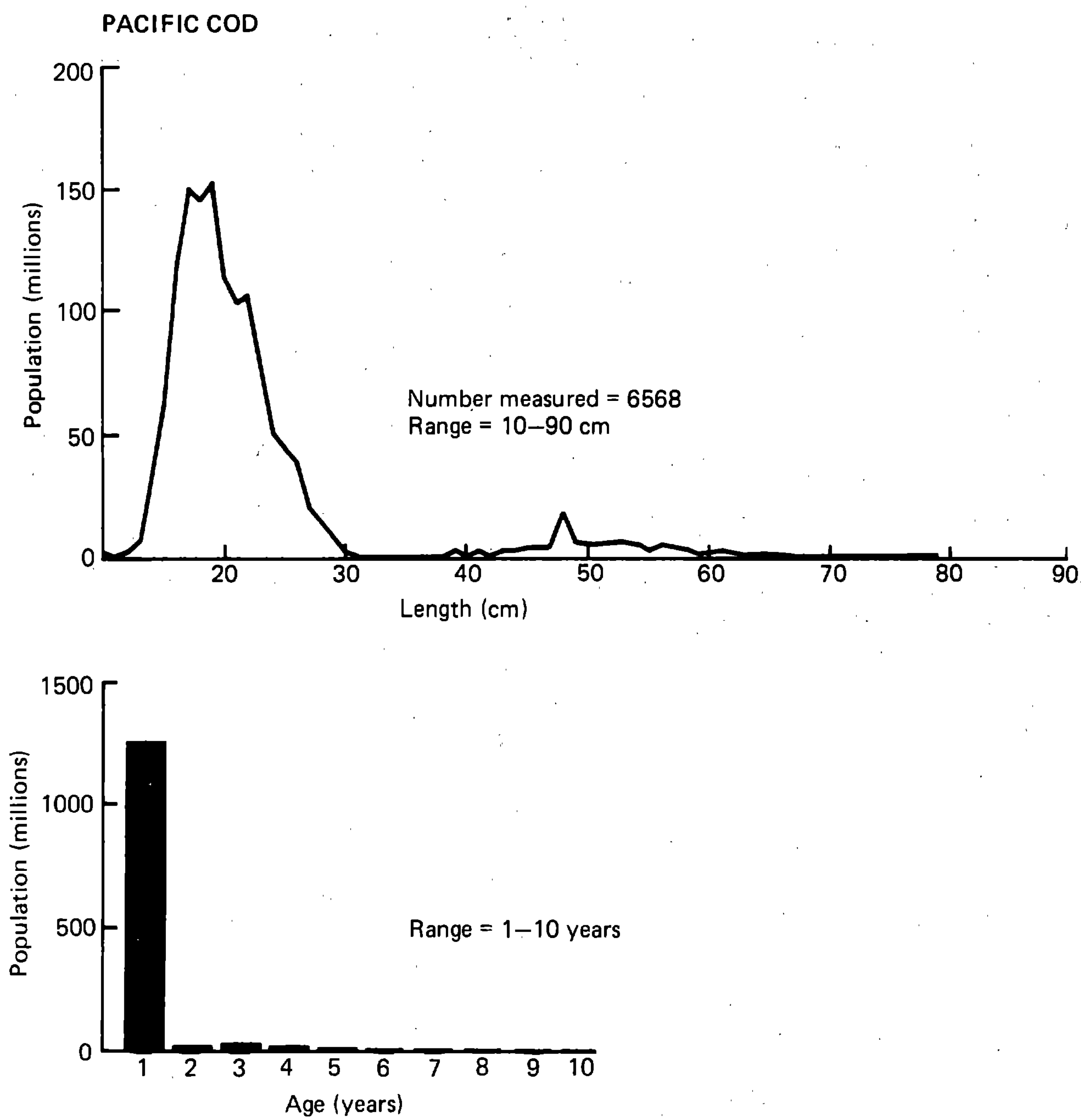

Figure 10.--Length and age composition of Pacific cod (sexes combined) from the overall 1978 survey area,

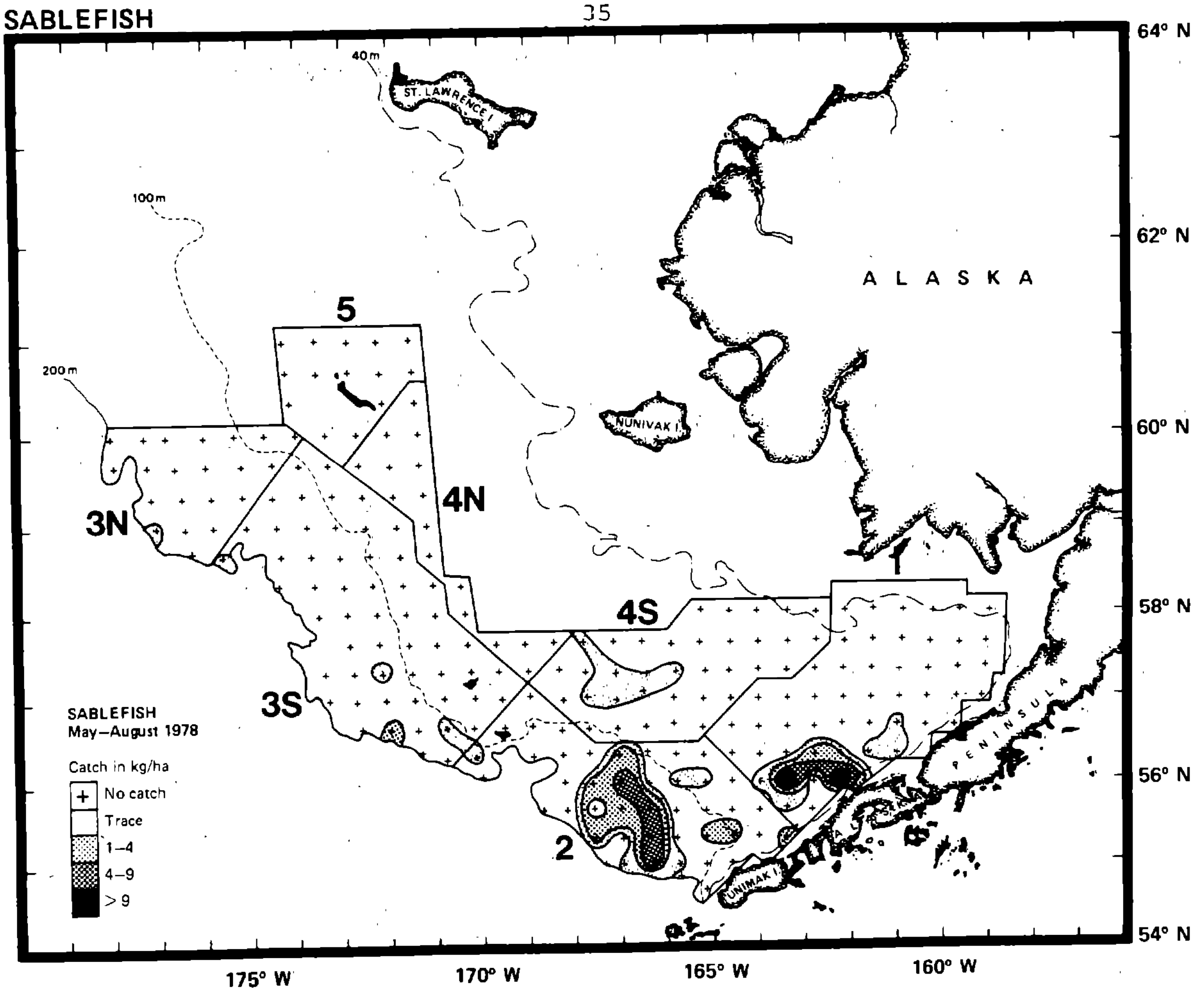

Figure 11.--Distribution and relative abundance of sablefish during the 1978 demersal trawl survey.

Table 20.--Apparent abundance and mean sizes of sablefish by subarea and for all subareas combined, 1978 trawl survey.

Sub-area	Mean CPUE[a] (kg/ha)	Estimated biomass (t)	Proportion of total estimated biomass	Estimated population (millions)	Proportion of total estimated population	Mean size per individual Weight (kg)	Length (cm)
1	0.99	8,274	0.602	33.2	0.779	0.249	30.5
2	0.86	5,231	0.381	8.8	0.207	0.591	41.2
3N	0.00	6	0.001	<0.1	<0.001	0.181	-
3S	0.02	160	0.012	0.2	0.005	0.685	-
4N	0.00	0	0.000	0.0	0.000	-	-
4S	0.01	67	0.005	0.2	0.005	0.429	-
5	0.00	0	0.000	0.0	0.000	-	-
All sub-[c] areas combined	0.40	13,739[b]		42.6		0.323	32.8

[a] CPUE = catch per unit of effort.
[b] 95% confidence interval = 64,243-67,413.
[c] Minor differences between sums of figures by subarea and totals are due to rounding.

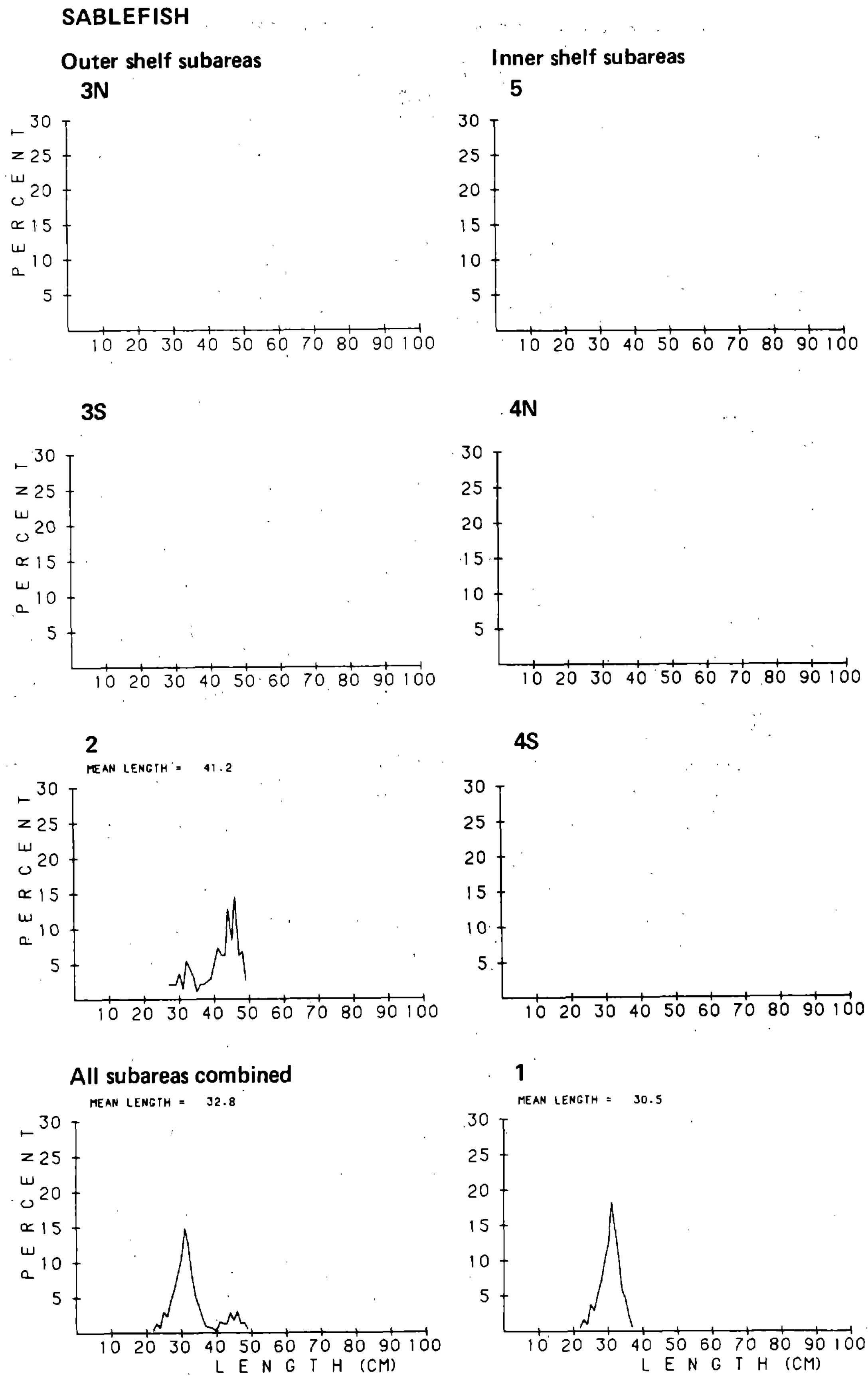

Figure 12. --Size composition of sablefish (sexes combined) from the 1978 survey by subarea and for all subareas combined.

SABLEFISH

Table 21.--Estimated population size of sablefish age groups by subarea and for all subareas combined, 1978 demersal trawl survey (millions of fish).

Age	Year-class	Subareas 1	2	3N	3S	4N	4S	5	All[a] subareas combined	Proportion of total
1	1977	13.53	0.80		0.02				14.35	0.3393
2	1976	19.29	6.59		0.22				26.09	0.6170
3	1975	0.39	0.72						1.11	0.0263
4	1974		0.64						0.64	0.0151
5	1973		0.10						0.10	0.0024
All ages[a] combined		33.21	8.85		0.24				42.29[b]	1.0000

[a]Minor differences between sums of figures by subarea or year-class and totals are due to rounding.

[b]Population estimates derived from ageing studies differed from those derived from biomass studies because occasionally weights and numbers were collected for this species, but no length-frequencies were taken.

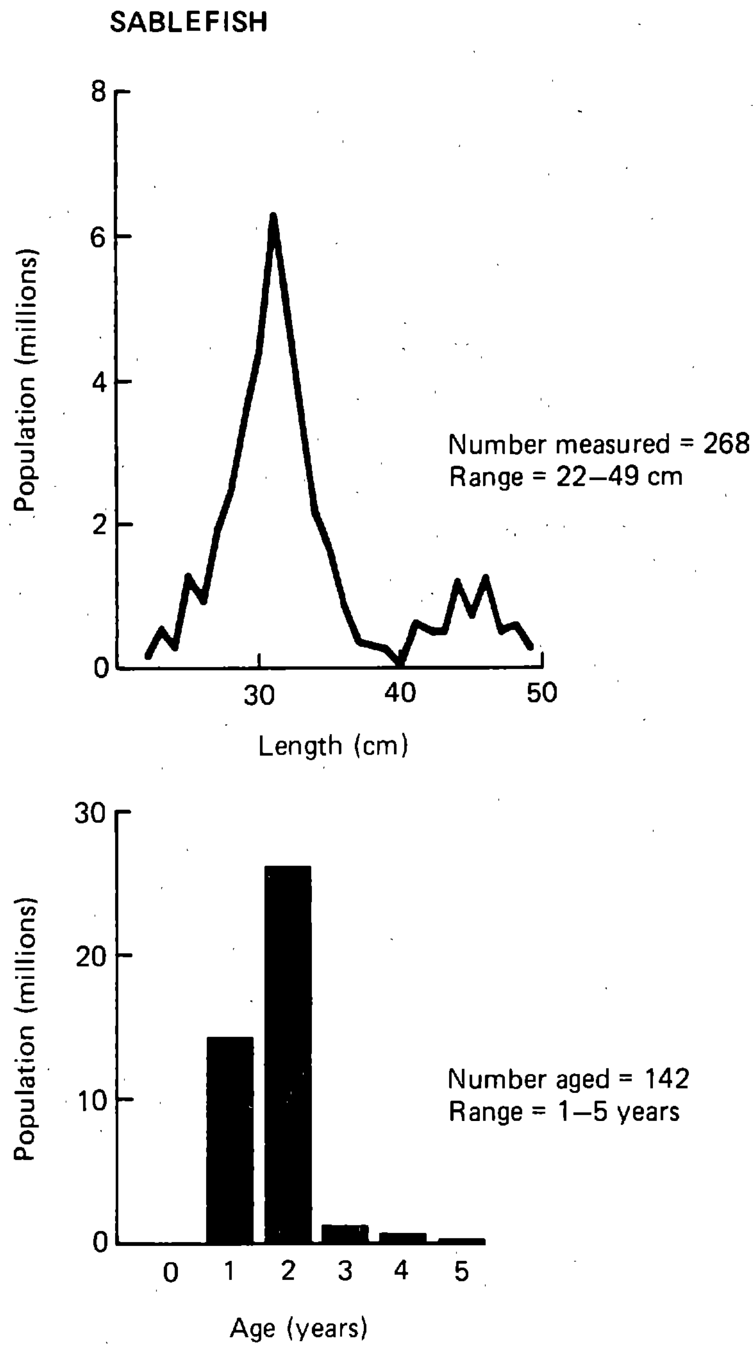

Figure 13.--Length and age composition of sablefish (sexes combined) from the overall 1978 survey area.

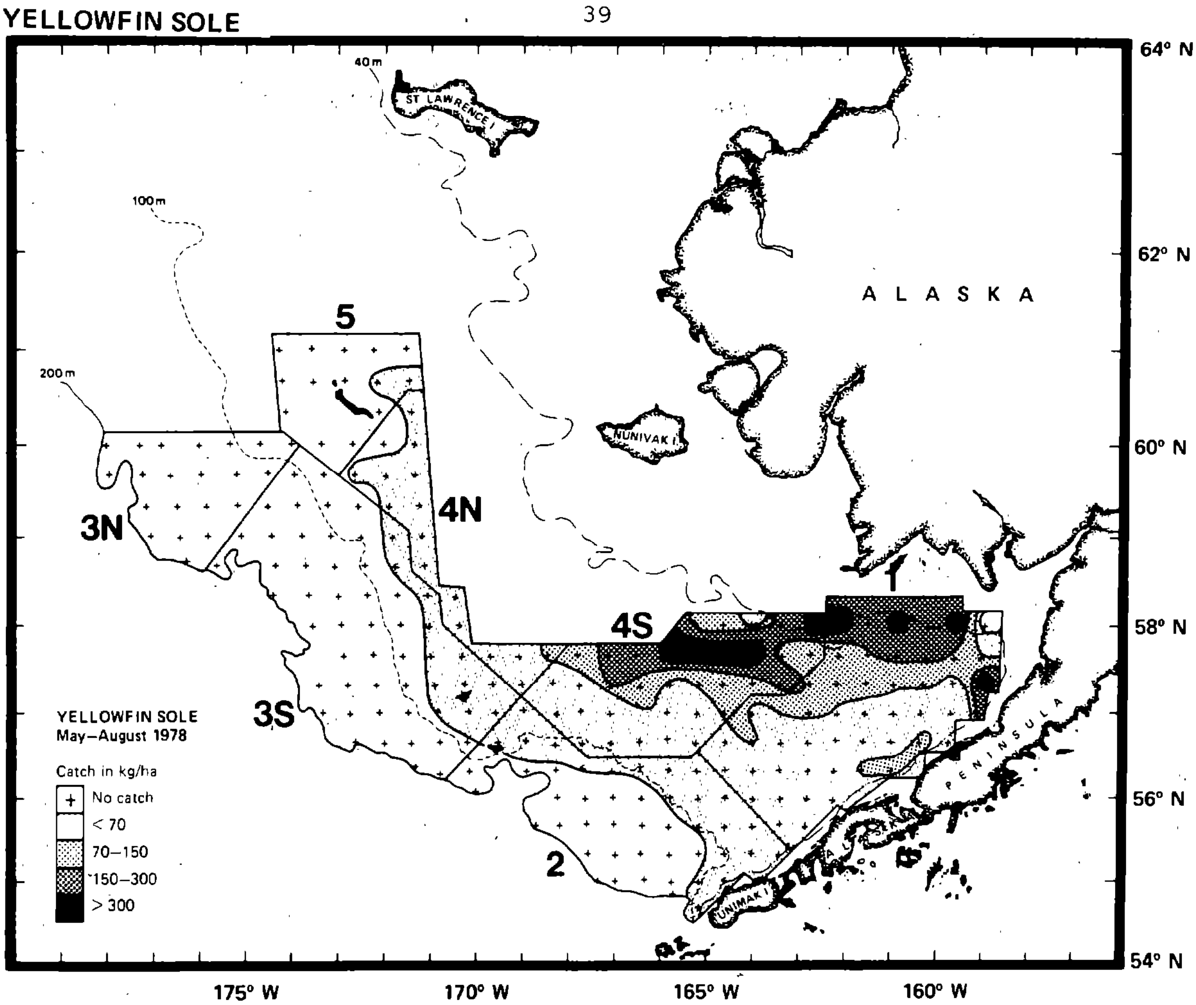

Figure 14. --Distribution and relative abundance of yellowfin sole during the 1978 demersal trawl survey.

Table 22. --Apparent abundance and mean sizes of yellowfin sole by subarea and for all subareas combined, 1978 trawl, survey.

Sub-area	Mean CPUE[a] (kg/ha)	Estimated biomass (t)	Proportion of total estimated biomass	Estimated population (millions)	Proportion of total estimated population	Mean size per individual Weight (kg)	Mean size per individual Length (cm)
1	112.51	937,829	0.550	7,137.8	0.593	0.131	22.1
2	6.07	37,006	0.022	172.2	0.014	0.215	26.6
3N	0.00	0	0.000	0.0	0.000	-	-
3S	0.57	4,555	0.003	25.0	0.002	0.182	24.4
4N	13.58	30,367	0.018	149.0	0.012	0.204	25.2
4S	140.93	694,943	0.408	4,561.1	0.379	0.153	22.9
5	<0.01	10	<0.001	0.1	<0.001	0.159	-
All sub-[c] areas combined	49.81	1,704,712[b]		12,045.2		0.142	22.5

[a] CPUE = catch per unit of effort.
[b] 95% confidence interval = 1,293,279-2,116,145.
[c] Minor differences between sums of figures by subarea and totals are due to rounding.

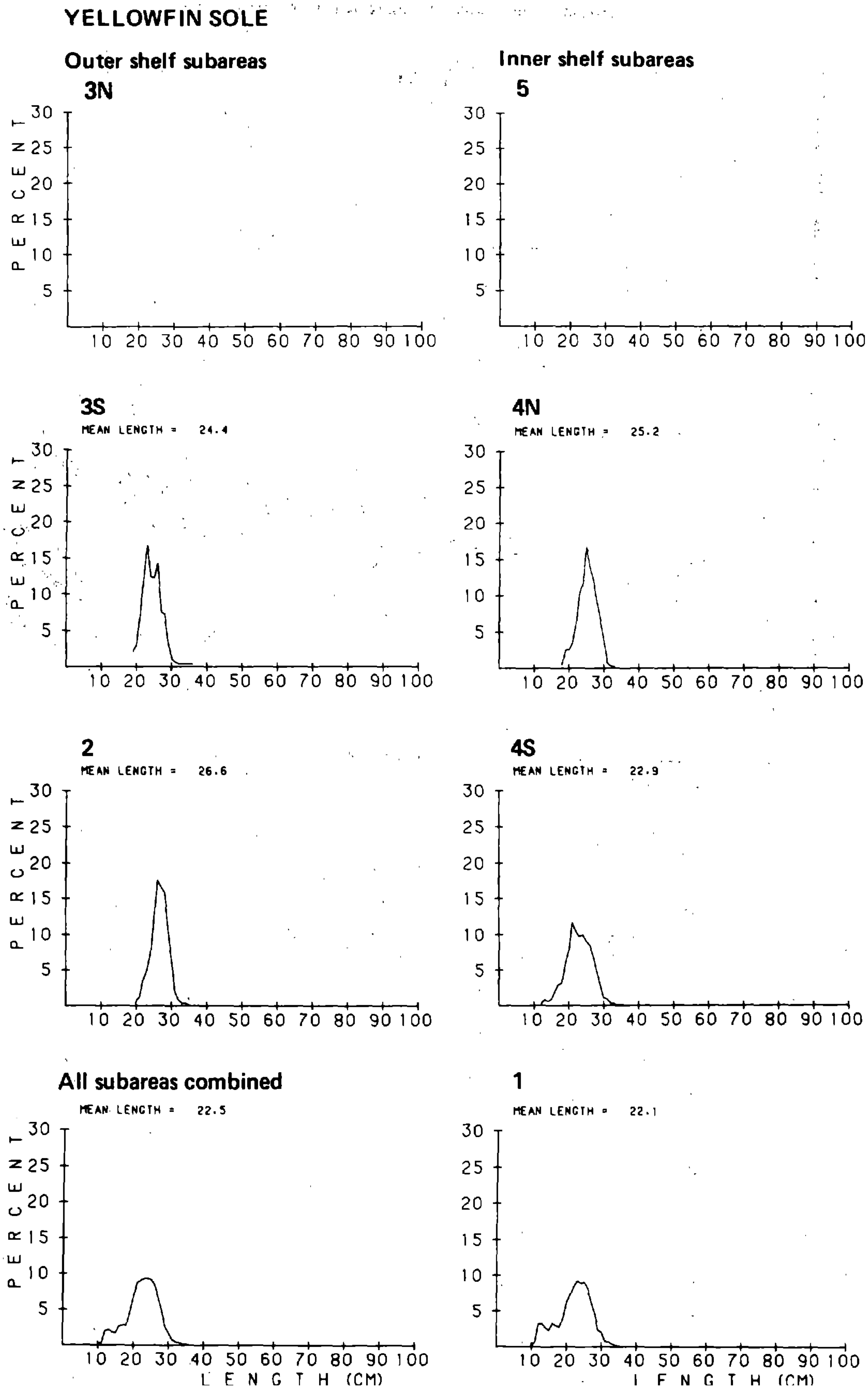

Figure 15 .--Size composition of yellowfin sole (sexes combined) from the 1978 survey by subarea and for all subareas combined.

YELLOWFIN SOLE

Table 23.--Estimated population size of yellowfin sole age groups by subarea and for all subareas combined, 1978 demersal trawl survey (millions of fish).

Age	Year-class	Subareas 1	2	3N	3S	4N	4S	5	All[a] subareas combined	Proportion of total
≤3	-	58.64							58.64	0.0049
4	1974	324.60					23.61		348.21	0.0289
5	1973	906.56	0.72		0.57	2.44	380.52		1290.81	0.1072
6	1972	690.35	4.57		1.79	8.41	494.15		1199.28	0.0996
7	1971	719.02	8.26		2.78	10.98	549.19		1290.23	0.1071
8	1970	1194.12	23.38		4.71	25.49	891.74		2139.44	0.1776
9	1969	1139.41	36.20		5.21	32.11	833.41		2046.35	0.1699
10	1968	830.77	28.53		4.19	25.82	570.68		1460.00	0.1212
11	1967	545.03	22.03		2.62	17.68	376.18		963.54	0.0800
12	1966	443.39	30.09		2.27	17.46	293.03		786.23	0.0653
13	1965	62.67	3.51		0.20	1.60	26.81		94.80	0.0079
14	1964	88.20	7.01		0.33	3.48	52.46		151.48	0.0126
15	1963	65.78	4.05		0.15	2.14	29.25		101.35	0.0084
16	1962	58.07	3.55		0.17	1.35	37.28		100.43	0.0083
17	1961	10.59	0.29		0.03		2.79		13.71	0.0011
Ages unknown		0.59							0.59	<0.0001
All ages[a] combined		7137.79	172.21		25.03	148.96	4561.10		12045.08	1.0000

[a]Minor differences between sums of figures by subarea or year-class and totals are due to rounding.

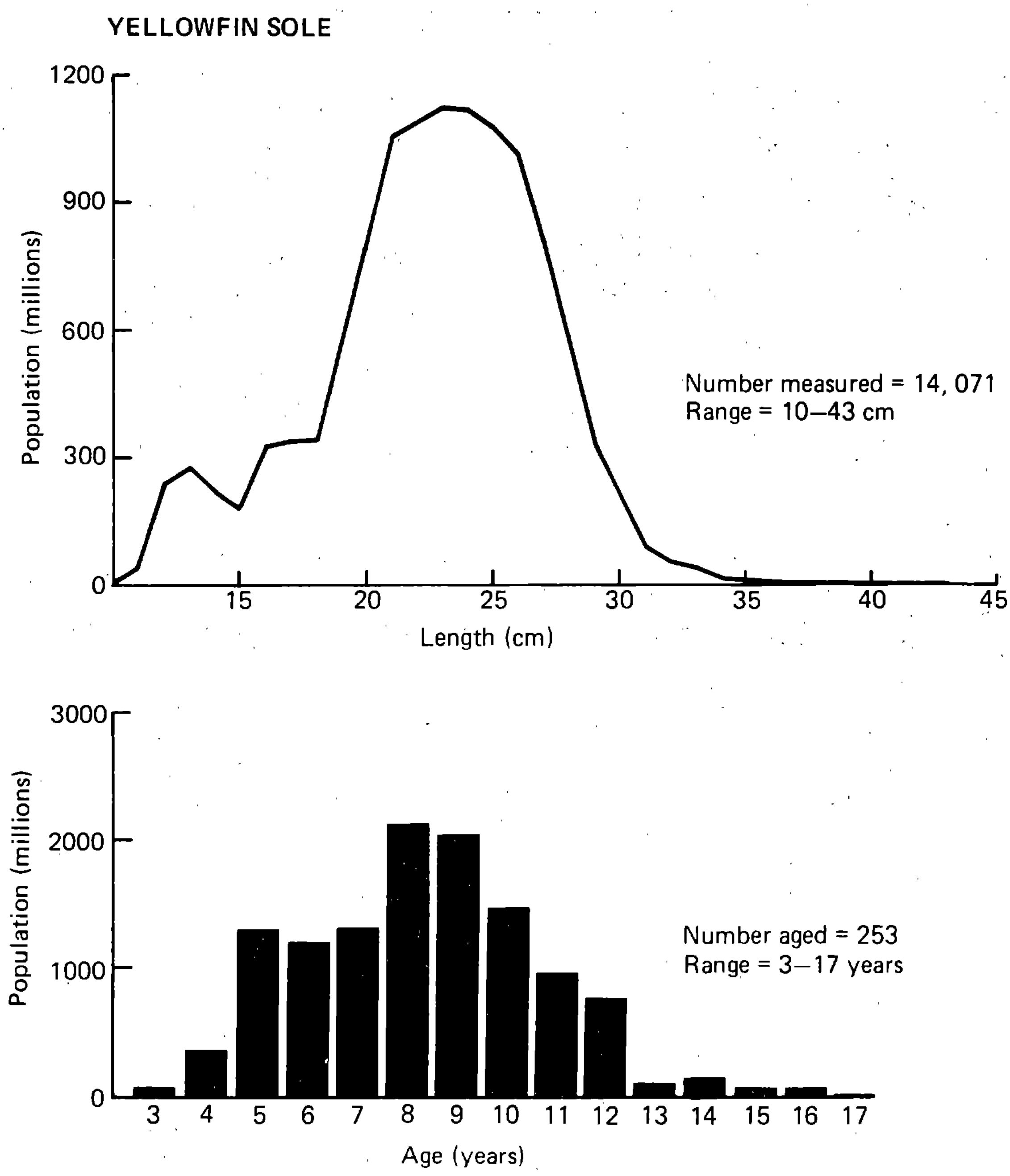

Figure 16. --Length and age composition of yellowfin sole (sexes combined) from the overall 1978 survey area.

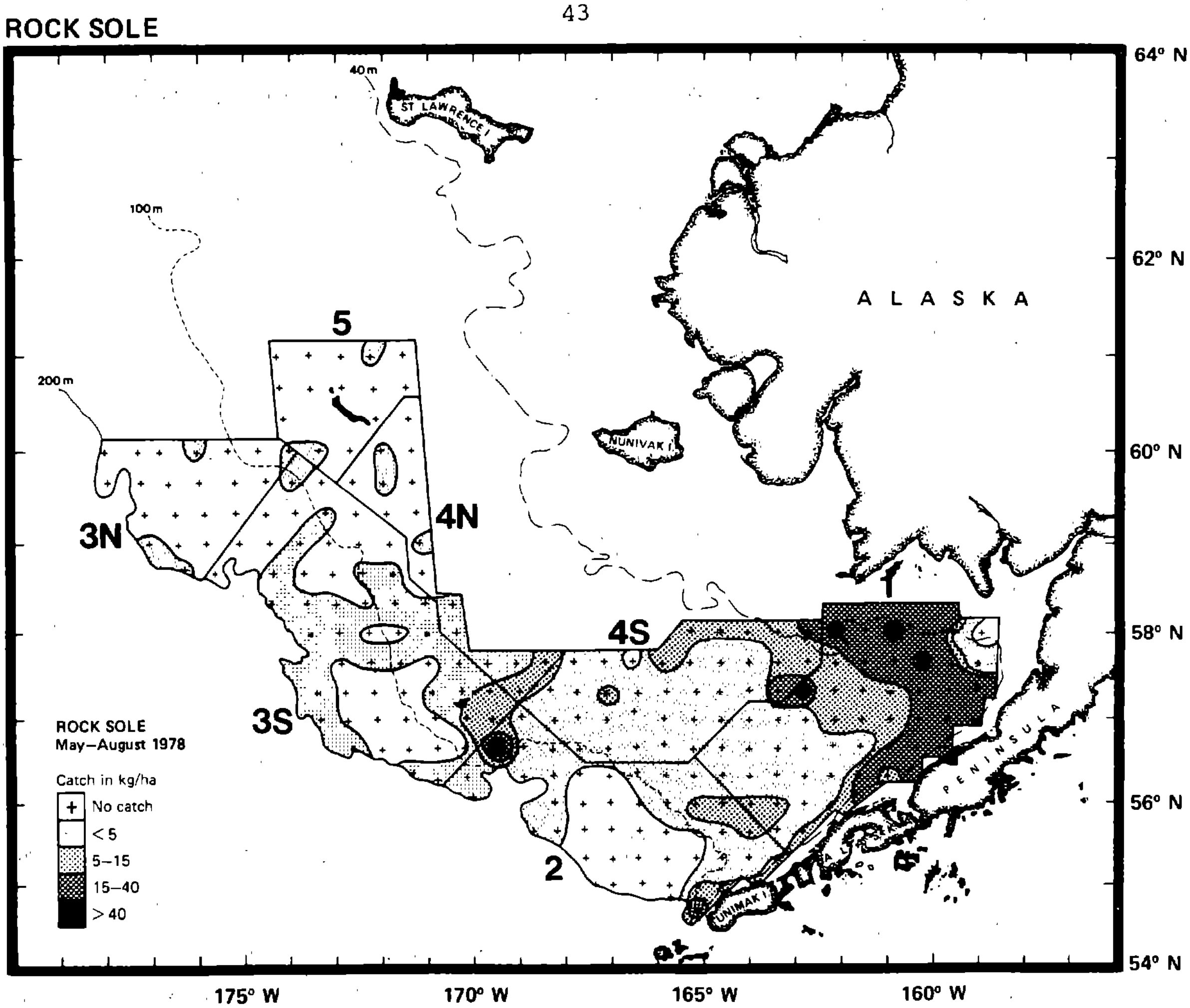

Figure 17.--Distribution and relative abundance of rock sole during the 1978 demersal trawl survey.

Table 24.--Apparent abundance and mean sizes of rock sole by subarea and for all subareas combined, 1978 trawl survey.

Sub-area	Mean CPUE[a] (kg/ha)	Estimated biomass (t)	Proportion of total estimated biomass	Estimated population (millions)	Proportion of total estimated population	Mean size per individual Weight (kg)	Mean size per individual Length (cm)
1	15.26	127,203	0.716	633.6	0.762	0.201	23.6
2	3.25	19,815	0.111	84.9	0.102	0.233	25.8
3N	0.04	104	0.001	0.3	<0.001	0.392	-
3S	0.70	5,525	0.031	16.7	0.020	0.332	28.7
4N	1.23	2,747	0.015	10.6	0.013	0.259	27.7
4S	4.51	22,251	0.125	85.7	0.103	0.259	26.7
5	0.03	73	<0.001	0.1	<0.001	0.511	-
All sub-areas combined[c]	5.19	177,719[b]		832.0		0.214	24.3

[a] CPUE = catch per unit of effort.
[b] 95% confidence interval = 130,377-225,062.
[c] Minor differences between sums of figures by subarea and totals are due to rounding.

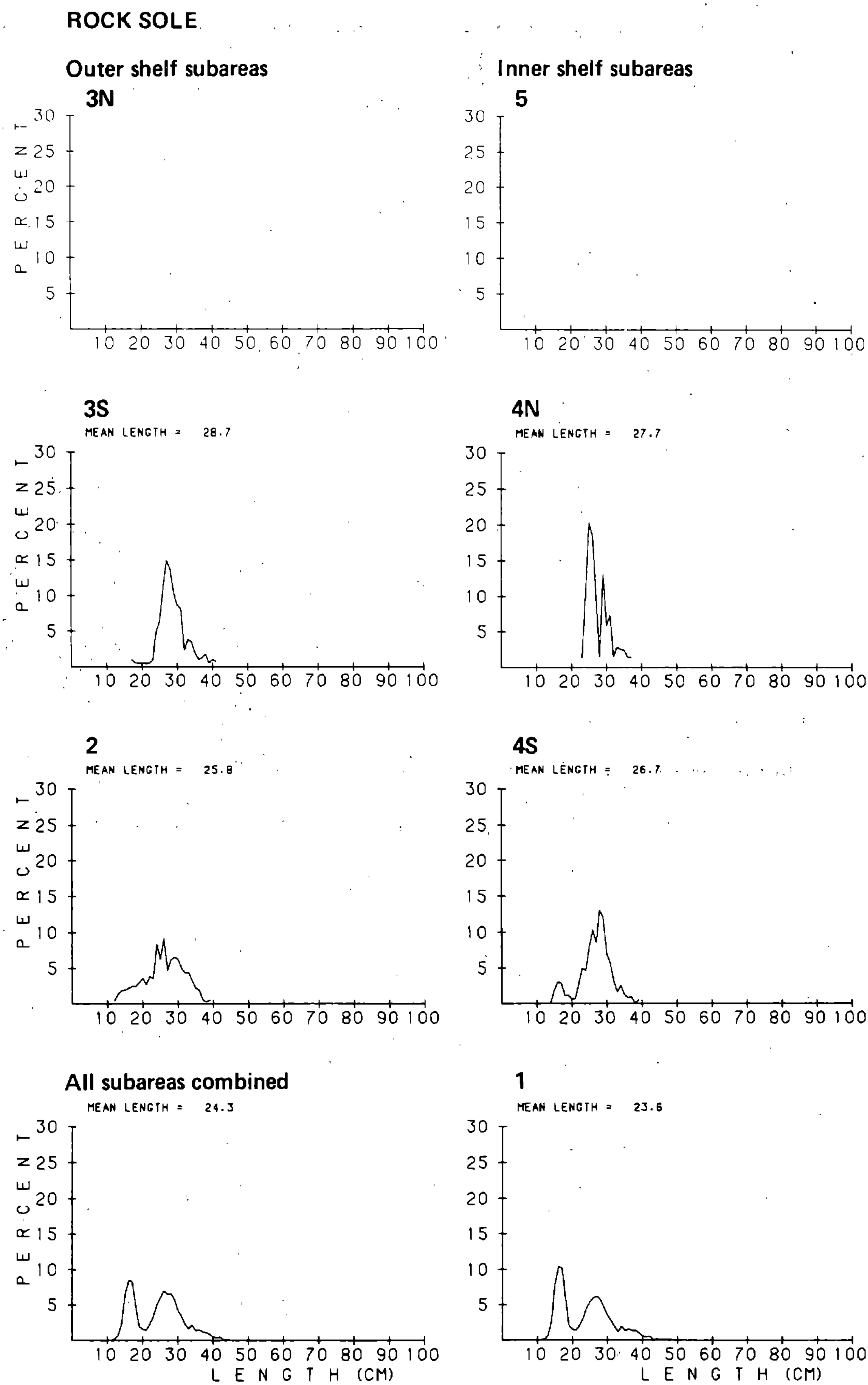

Figure 18.--Size composition of rock sole (sexes combined) from the 1978 survey by subarea and for all subareas combined.

ROCK SOLE

Table 25.--Estimated population size of rock sole age groups by subarea and for all subareas combined, 1978 demersal trawl survey (millions of fish).

Age	Year-class	Subareas 1	2	3N	3S	4N	4S	5	All[a] subareas combined	Proportion of total
3	1975	39.52	2.89		0.01		0.99		43.41	0.0522
4	1974	163.66	7.19		0.20		6.24		177.29	0.2132
5	1973	62.52	8.68		0.21	0.01	4.08		75.50	0.0908
6	1972	27.49	5.91		0.45	0.58	4.30		38.73	0.0466
7	1971	30.86	5.57		1.19	1.19	6.60		45.41	0.0546
8	1970	99.70	18.14		4.40	3.25	22.46		147.96	0.1779
9	1969	88.65	16.45		4.66	3.05	20.87		133.68	0.1608
10	1968	27.68	5.82		1.57	0.87	6.61		42.56	0.0512
11	1967	23.48	4.15		1.27	0.44	4.54		33.88	0.0407
12	1966	22.41	3.89		0.91	0.53	3.49		31.24	0.0376
13	1965	23.44	4.33		1.20	0.49	4.13		33.59	0.0404
14	1964	10.82	1.46		0.32	0.13	1.09		13.82	0.0166
15	1963	5.94	0.06		0.08		0.02		6.10	0.0073
16	1962	2.05	0.29		0.05	0.03	0.21		2.63	0.0032
17	1961	5.24	0.06		0.14	0.02	0.11		5.57	0.0067
Ages unknown		0.19							0.19	0.0002
All ages[a] combined		633.64	84.91		16.66	10.60	85.74		831.56	1.0000

[a]Minor differences between sums of figures by subarea or year-class and totals are due to rounding.

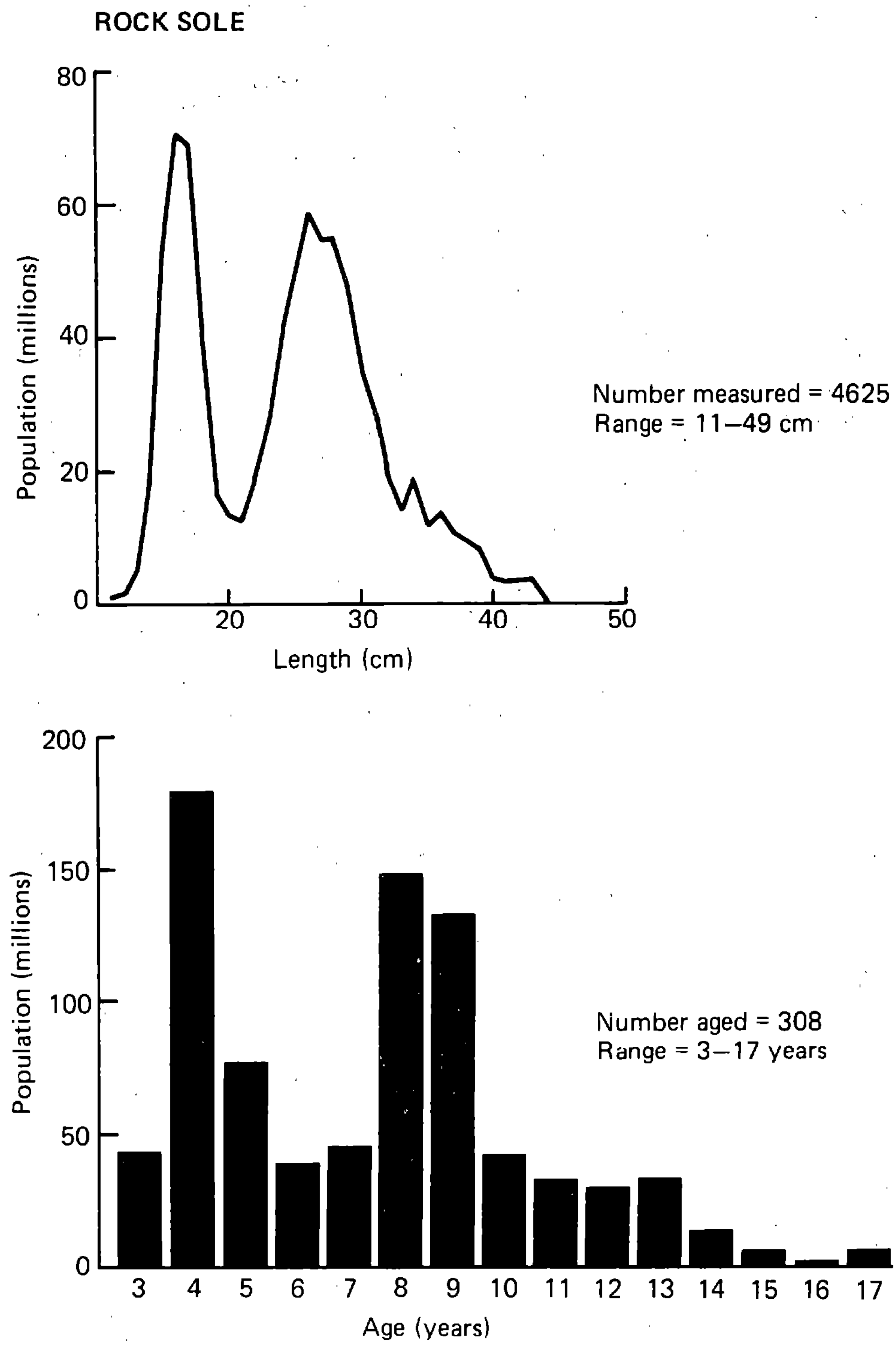

Figure 19. --Length and age composition of rock sole (sexes combined) from the overall 1978 survey area.

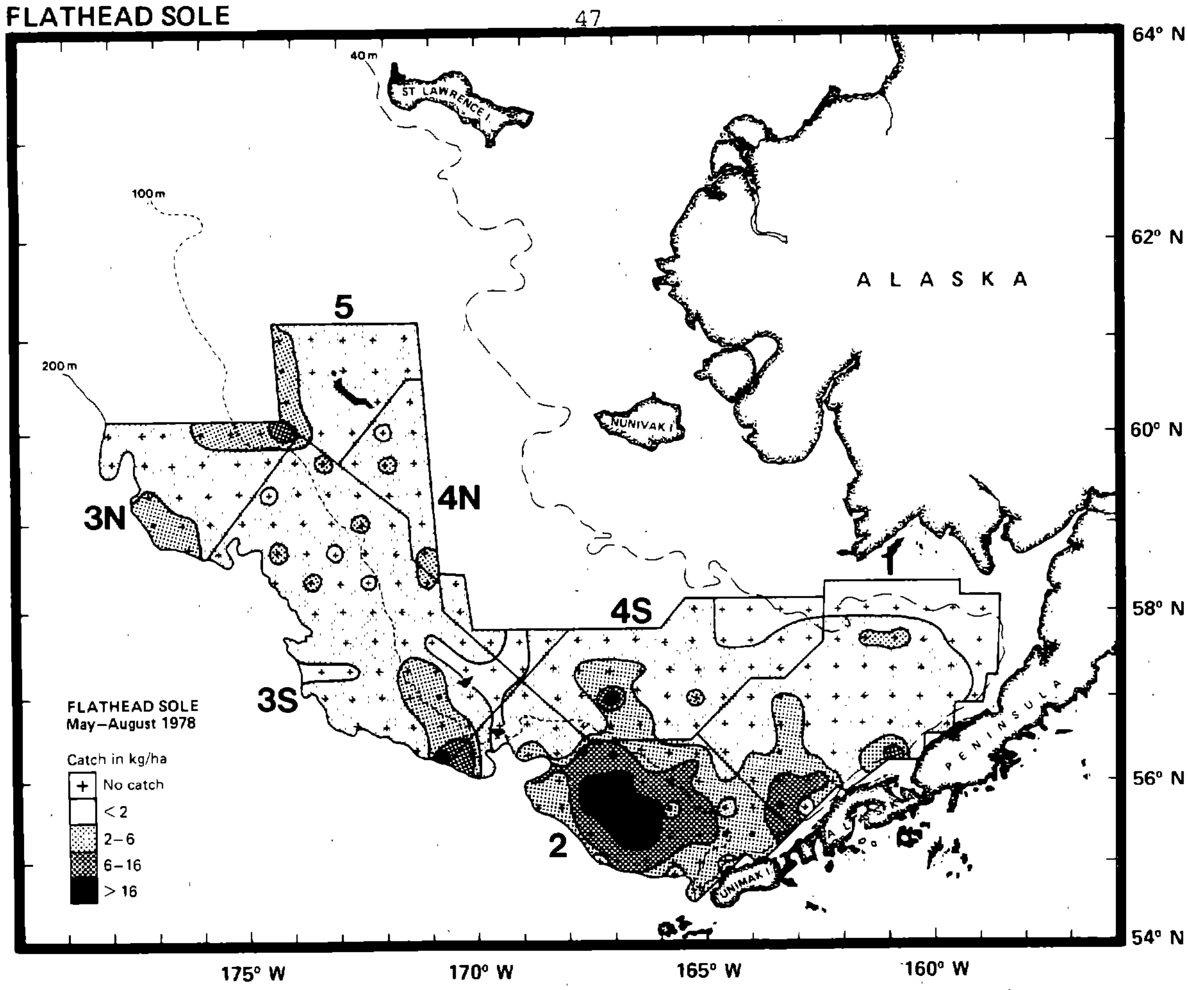

Figure 20.--Distribution and relative abundance of flathead sole during the 1978 demersal trawl survey.

Table 26.--Apparent abundance and mean sizes of flathead sole by subarea and for all subareas combined, 1978 trawl survey.

Sub-area	Mean CPUE[a] (kg/ha)	Estimated biomass (t)	Proportion of total estimated biomass	Estimated population (millions)	Proportion of total estimated population	Mean size per individual	
						Weight (kg)	Length (cm)
1	1.86	15,497	0.181	65.4	0.163	0.237	27.9
2	7.89	48,118	0.562	206.5	0.515	0.233	27.1
3N	1.71	4,296	0.050	42.9	0.107	0.100	20.7
3S	0.04	9,269	0.108	58.2	0.145	0.159	21.9
4N	0.44	997	0.012	4.2	0.010	0.237	24.3
4S	1.24	6,149	0.072	15.9	0.040	0.386	31.8
5	0.57	1,261	0.015	8.0	0.020	0.157	-
All sub-areas combined[c]	2.50	85,585[b]		401.2		0.213	25.9

[a] CPUE = catch per unit of effort.

[b] 95% confidence interval = 67,448-103,722.

[c] Minor differences between sums of figures by subarea and totals are due to rounding.

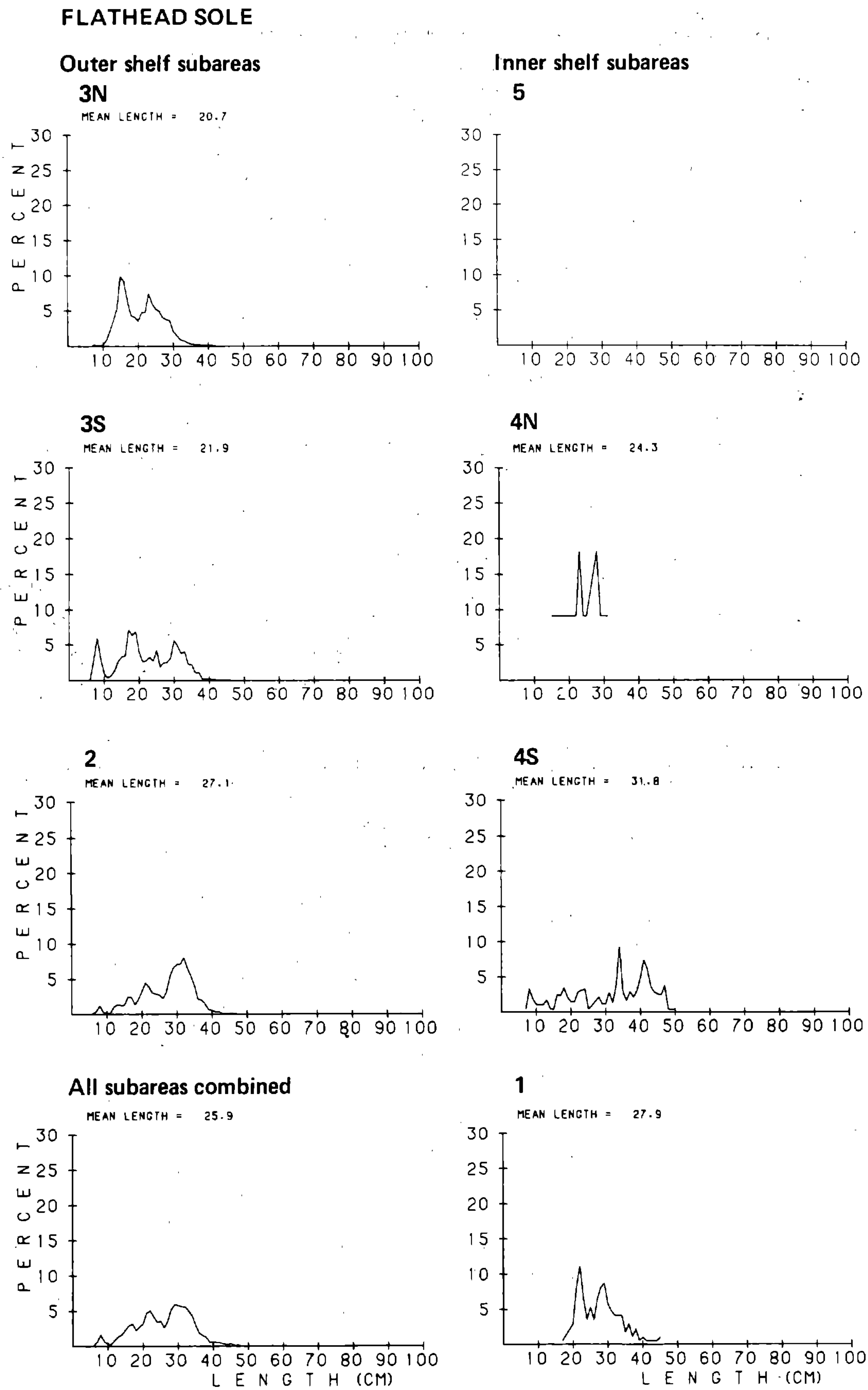

Figure 21.--Size composition of flathead sole (sexes combined) from the 1978 survey by subarea and for all subareas combined.

FLATHEAD SOLE

Table 27.--Estimated population size of flathead sole age groups by subarea and for all subareas combined, 1978 demersal trawl survey (millions of fish).

Age	Year-class	Subareas 1	2	3N	3S	4N	4S	5	All[a] subareas combined	Proportion of total
1	1977		4.05	0.09	6.54		0.82		11.49	0.0292
2	1976		3.06	1.89	1.71	0.03	0.34		7.04	0.0179
3	1975	2.86	25.47	15.55	14.46	0.51	1.79		60.64	0.1542
4	1974	9.09	20.32	7.75	7.93	0.78	0.92		46.78	0.1190
5	1973	10.70	18.81	6.33	5.35	0.94	0.67		42.80	0.1088
6	1972	4.82	8.42	2.31	1.93	0.32	0.24		18.04	0.0459
7	1971	3.68	12.46	1.25	2.21	0.15	0.26		20.01	0.0509
8	1970	6.48	21.82	2.05	4.00	0.38	0.81		35.53	0.0904
9	1969	9.18	28.99	2.83	4.97	0.56	1.30		47.83	0.1216
10	1968	7.89	25.19	2.00	4.16	0.43	1.17		40.85	0.1039
11	1967	3.18	13.25	0.37	1.83	0.10	1.09		19.83	0.0504
12	1966	2.04	8.83	0.30	1.31	0.02	0.54		13.04	0.0332
13	1965	1.38	4.93	0.06	0.53		0.88		7.77	0.0198
14	1964	0.93	3.09	0.03	0.32		0.58		4.96	0.0126
15	1963	0.91	3.51	0.05	0.46		0.60		5.54	0.0141
16	1962	0.74	1.91	0.02	0.21		1.12		4.00	0.0102
17	1961	0.52	1.65	0.01	0.19		0.66		3.03	0.0077
18	1960	0.60	0.37		0.06		0.67		1.70	0.0043
19	1959	0.09	0.18	0.01	0.01		0.30		0.59	0.0015
20	1958	0.09	0.13		0.01		0.87		1.10	0.0028
22	1956	0.23	0.08		0.02		0.23		0.57	0.0015
Ages unknown							0.06		0.06	0.0002
All ages[a] combined		65.42	206.53	42.92	58.21	4.20	15.92		393.19[b]	1.0000

[a]Minor differences between sums of figures by subarea or year-class and totals are due to rounding.

[b]Population estimates derived from ageing studies differed from those derived from biomass studies because occasionally weights and numbers were collected for this species, but no length-frequencies were taken.

FLATHEAD SOLE

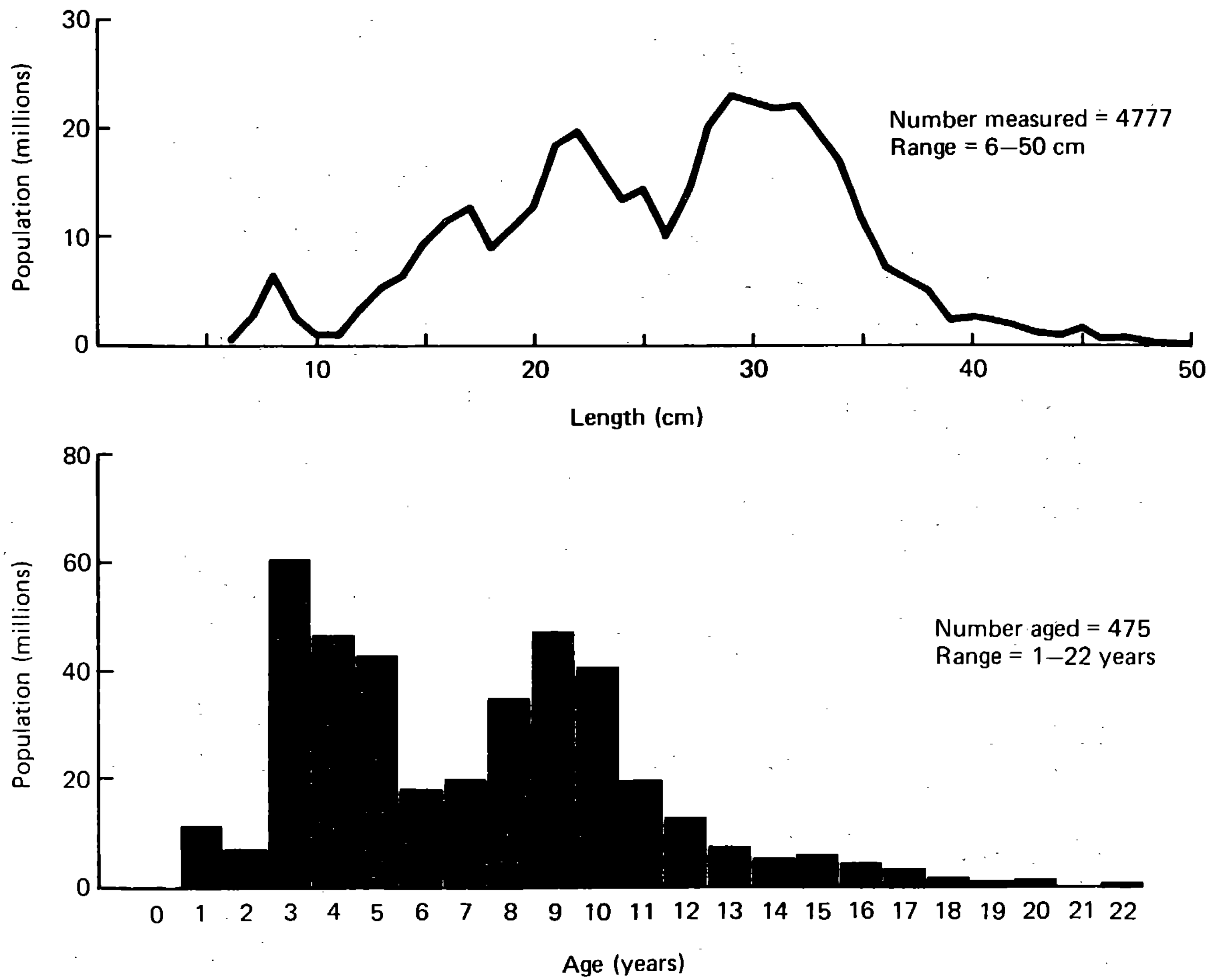

Figure 22. --Length and age composition of flathead sole (sexes combined) from the overall 1978 survey area.

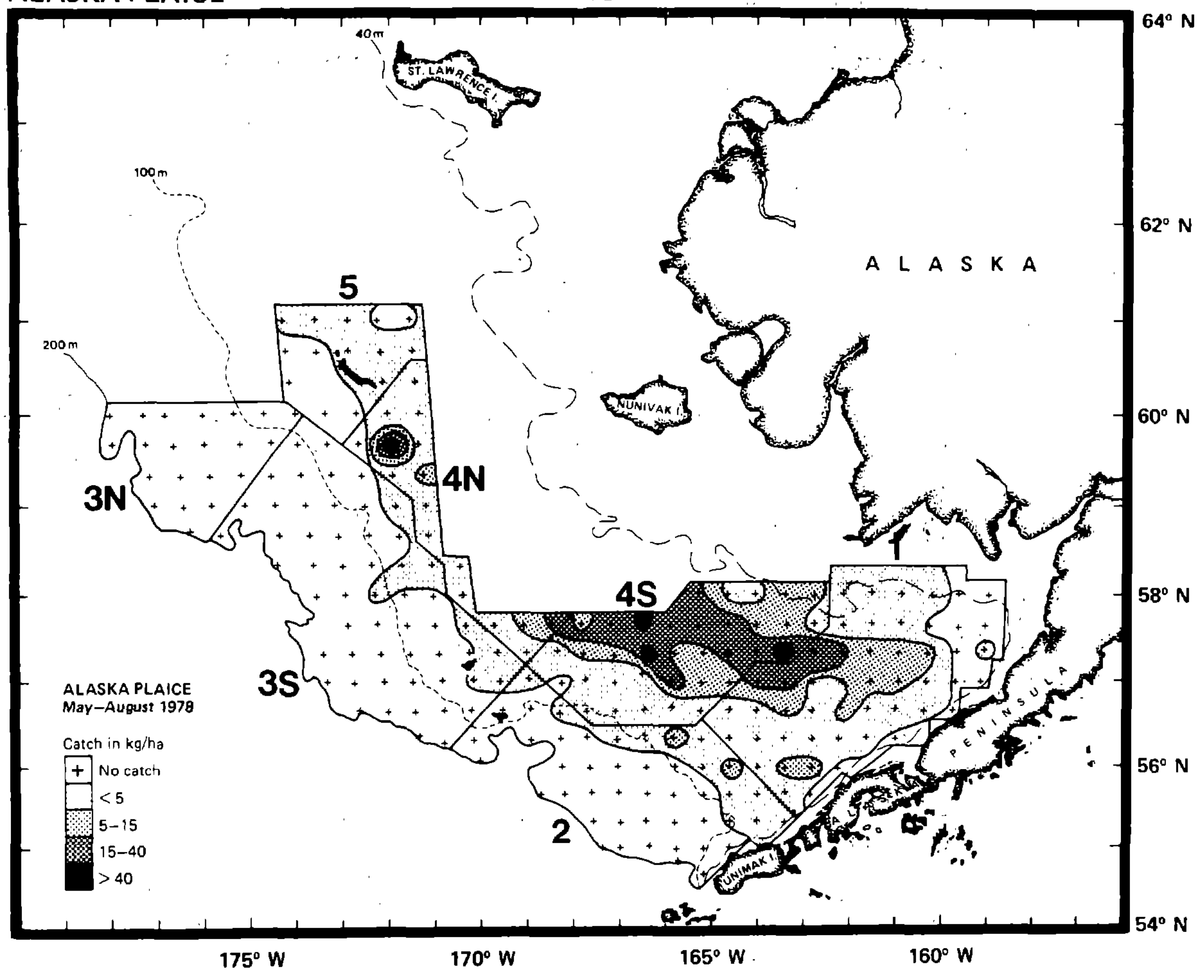

Figure 23.--Distribution and relative abundance of Alaska plaice during the 1978 demersal trawl survey.

Table 28.--Apparent abundance and mean sizes of Alaska plaice by subarea and for all subareas combined, 1978 trawl survey.

Sub-area	Mean CPUE[a] (kg/ha)	Estimated biomass (t)	Proportion of total estimated biomass	Estimated population (millions)	Proportion of total estimated population	Mean size per individual Weight (kg)	Mean size per individual Length (cm)
1	4.59	38,286	0.232	76.8	0.245	0.498	33.7
2	0.60	3,640	0.022	6.5	0.021	0.560	34.7
3N	0.00	19	<0.001	<0.1	<0.001	0.590	-
3S	0.09	714	0.004	1.8	0.006	0.396	27.9
4N	7.47	16,713	0.101	28.4	0.091	0.589	33.5
4S	21.18	104,469	0.632	198.0	0.632	0.529	34.0
5	0.63	1,386	0.008	1.7	0.005	0.781	-
All sub-areas combined[c]	4.83	165,228[b]		313.3		0.527	33.8

[a] CPUE = catch per unit of effort.
[b] 95% confidence interval = 77,932-252,523.
[c] Minor differences between sums of figures by subarea and totals are due to rounding.

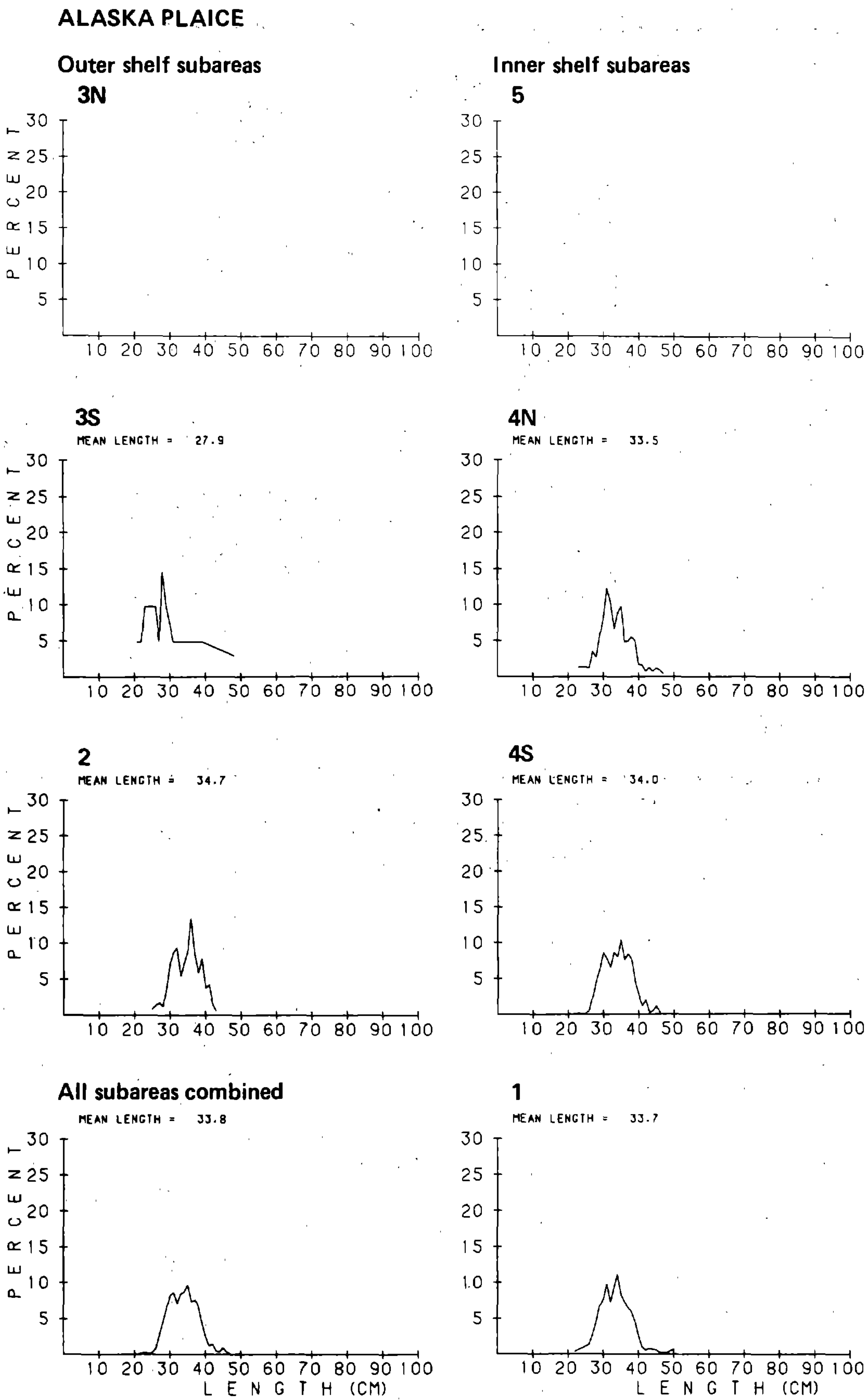

Figure 24.--Size composition of Alaska plaice (sexes combined) from the 1978 survey by subarea and for all subareas combined.

ALASKA PLAICE

Table 29.--Estimated population size of Alaska plaice age groups by subarea and for all subareas combined, 1978 demersal trawl survey (millions of fish).

Age	Year-class	Subareas 1	2	3N	3S	4N	4S	5	All[a] subareas combined	Proportion of total
≤5	1973	0.35	0.02		0.18	0.22	0.84		1.61	0.0051
6	1972	1.30	0.06		0.06	0.44	3.32		5.18	0.0166
7	1971	1.33	0.05		0.35	0.57	2.81		5.11	0.0164
8	1970	6.08	0.37		0.35	2.46	15.00		24.26	0.0779
9	1969	14.58	1.04		0.45	5.58	37.20		58.86	0.1889
10	1968	20.81	1.76		0.17	7.39	51.56		81.69	0.2622
11	1967	15.63	1.61		0.10	5.55	42.29		65.18	0.2092
12	1966	8.66	0.88		0.06	3.10	23.64		36.35	0.1167
13	1965	4.72	0.44		0.02	1.54	11.20		17.93	0.0576
14	1964	2.22	0.23		0.02	0.44	5.50		8.41	0.0270
16	1962	0.62	0.03			0.73	4.33		5.70	0.0183
17	1961	0.20	0.01			0.12	0.15		0.49	0.0016
19	1959	0.30			0.03	0.22	0.21		0.77	0.0025
All ages[a] combined		76.83	6.50		1.80	28.38	198.04		311.55[b]	1.0000

[a]Minor differences between sums of figures by subarea or year-class and totals are due to rounding.

[b]Population estimates derived from ageing studies differed from those derived from biomass studies because occasionally weights and numbers were collected for this species, but no length-frequencies were taken.

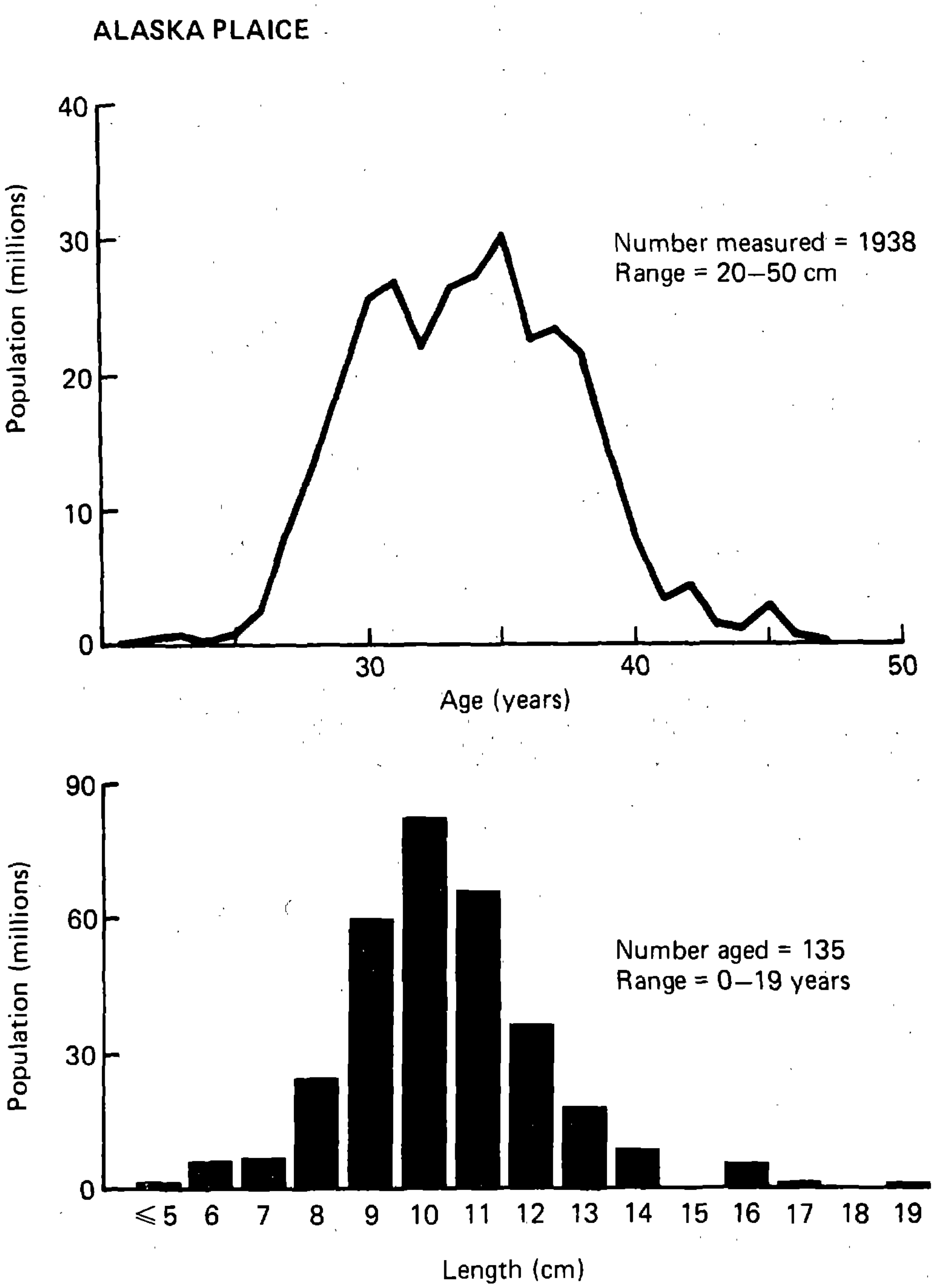

Figure 25.--Length and age composition of Alaska plaice (sexes combined) from the overall 1978 survey area.

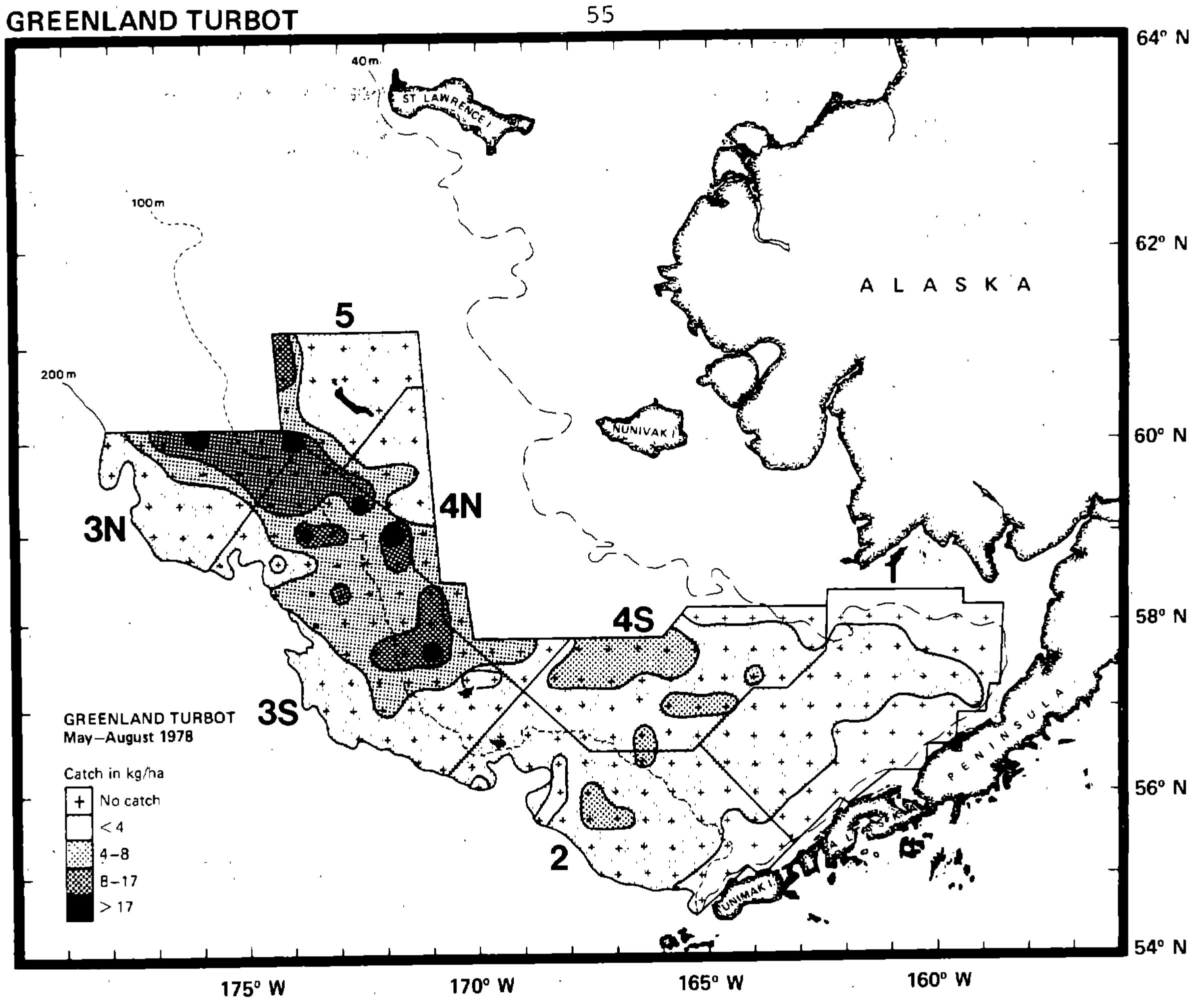

Figure 26.--Distribution and relative abundance of Greenland turbot during the 1978 demersal trawl survey.

Table 30.--Apparent abundance and mean sizes of Greenland turbot by subarea and for all subareas combined, 1978 trawl survey.

Sub-area	Mean CPUE[a] (kg/ha)	Estimated biomass (t)	Proportion of total estimated biomass	Estimated population (millions)	Proportion of total estimated population	Mean size per individual Weight (kg)	Mean size per individual Length (cm)
1	0.39	3,262	0.030	17.7	0.022	0.184	No L/F
2	1.29	7,856	0.073	17.6	0.022	0.447	37.7
3N	6.92	17,336	0.160	96.9	0.123	0.179	25.6
3S	6.20	49,123	0.454	302.5	0.383	0.162	25.3
4N	4.11	9,194	0.085	93.7	0.119	0.098	21.3
4S	2.58	12,750	0.118	155.3	0.197	0.089	18.4
5	3.92	8,608	0.080	105.4	0.134	0.082	19.5
All sub-[c] areas combined	3.16	108,129[b]		789.0		0.137	23.0

[a] CPUE = catch per unit of effort.
[b] 95% confidence interval = 91,121-125,138.
[c] Minor differences between sums of figures by subarea and totals are due to rounding.

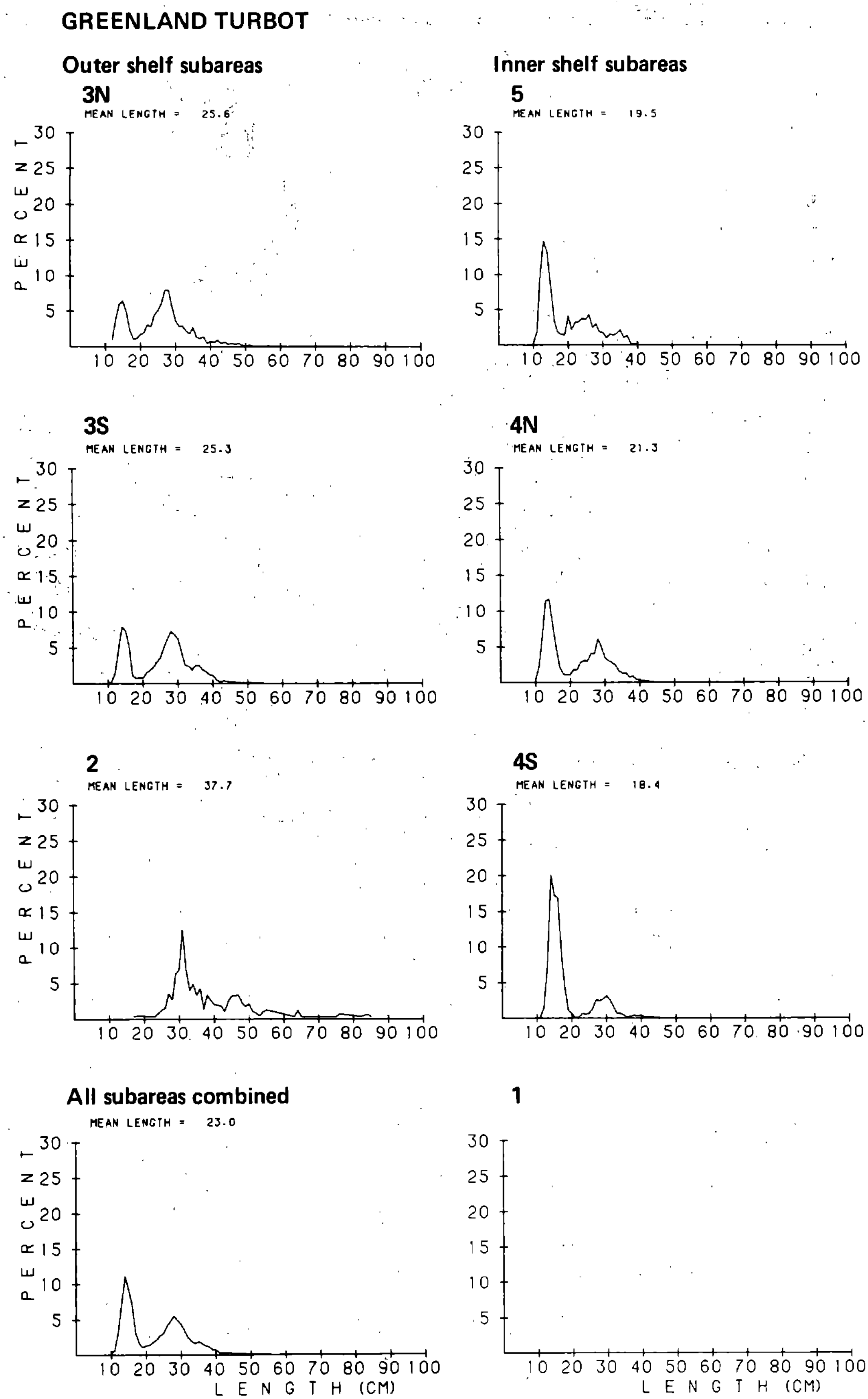

Figure 27.--Size composition of Greenland turbot (sexes combined) from the 1978 survey by subarea and for all subareas combined.

GREENLAND TURBOT

Table 31.--Estimated population size of Greenland turbot age groups by subarea and for all subareas combined, 1978 demersal trawl survey (millions of fish).

Age	Year-class	Subareas 1	2	3N	3S	4N	4S	5	All[a] subareas combined	Proportion of total
0	1978				0.14	0.26		0.32	0.73	0.0009
1	1977		0.27	31.58	103.00	49.61	120.51	65.72	370.69	0.4806
2	1976		7.47	48.48	145.49	35.66	28.83	31.45	297.37	0.3855
3	1975		4.43	11.99	45.23	7.78	4.89	7.62	81.94	0.1062
4	1974		2.22	2.63	5.49	0.34	0.82	0.23	11.73	0.0152
5	1973		2.06	1.87	2.88	0.03	0.18	0.01	7.04	0.0091
6	1972		0.35	0.27	0.16		0.03		0.81	0.0011
7	1971		0.03						0.03	<0.0001
8	1970		0.22	0.05					0.27	0.0003
9	1969		0.02						0.02	<0.0001
10	1968		0.04	0.02					0.06	0.0001
11	1967		0.03						0.03	<0.0001
13	1965		0.15		0.04				0.19	0.0002
14	1964		0.03		0.02				0.05	0.0001
15	1963		0.06	0.03	0.04				0.14	0.0002
16	1962		0.02						0.02	<0.0001
17	1961		0.03		0.02				0.05	0.0001
18	1960		0.13						0.13	0.0002
All ages[a] combined			17.56	96.92	302.51	93.68	155.26	105.35	771.30[b]	1.0000

[a]Minor differences between sums of figures by subarea or year-class and totals are due to rounding.
[b]Population estimates derived from ageing studies differed from those derived from biomass studies because occasionally weights and numbers were collected for this species, but no length-frequencies were taken.

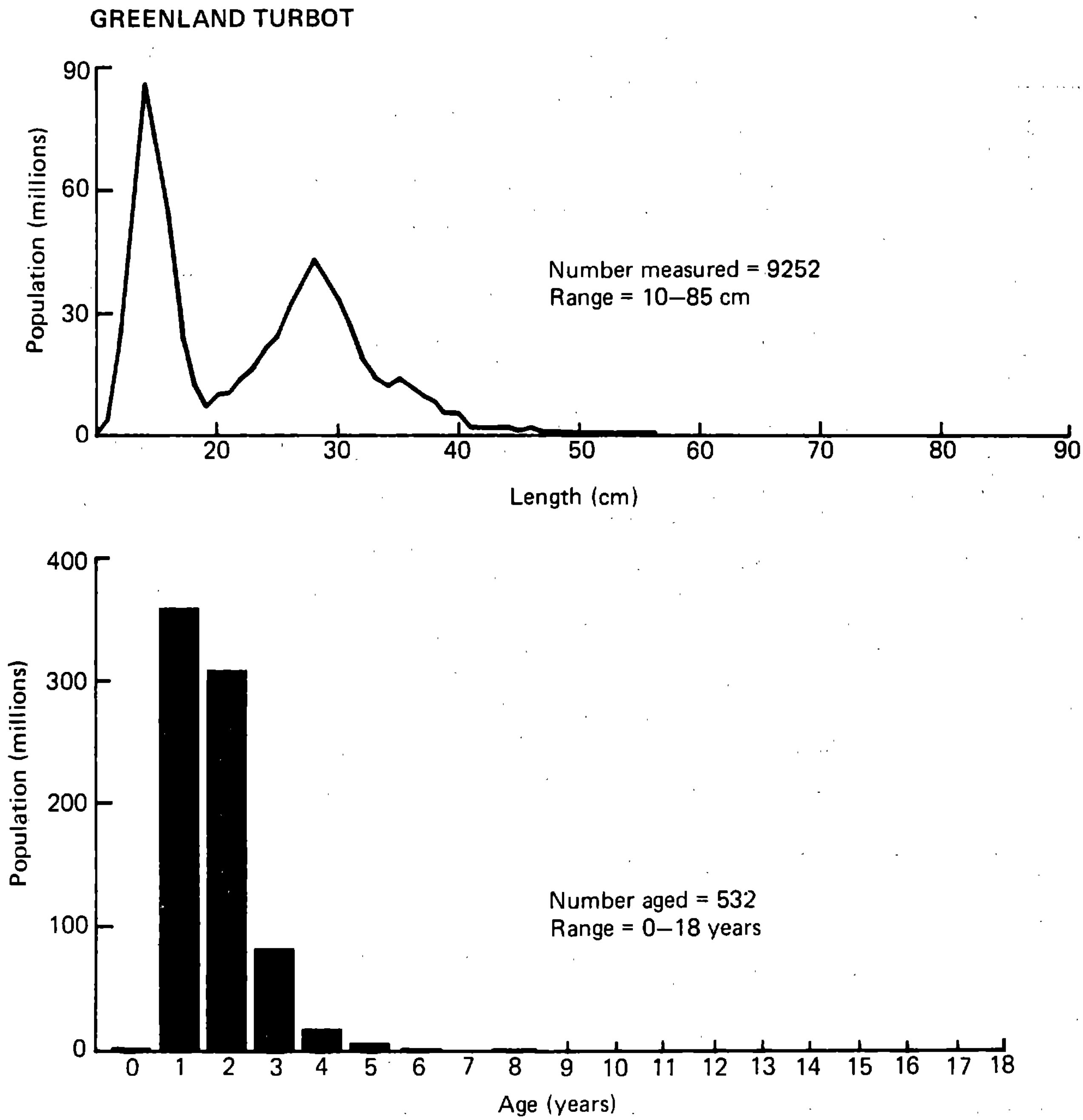

Figure 28.--Length and age composition of Greenland turbot (sexes combined) from the overall 1978 survey area.

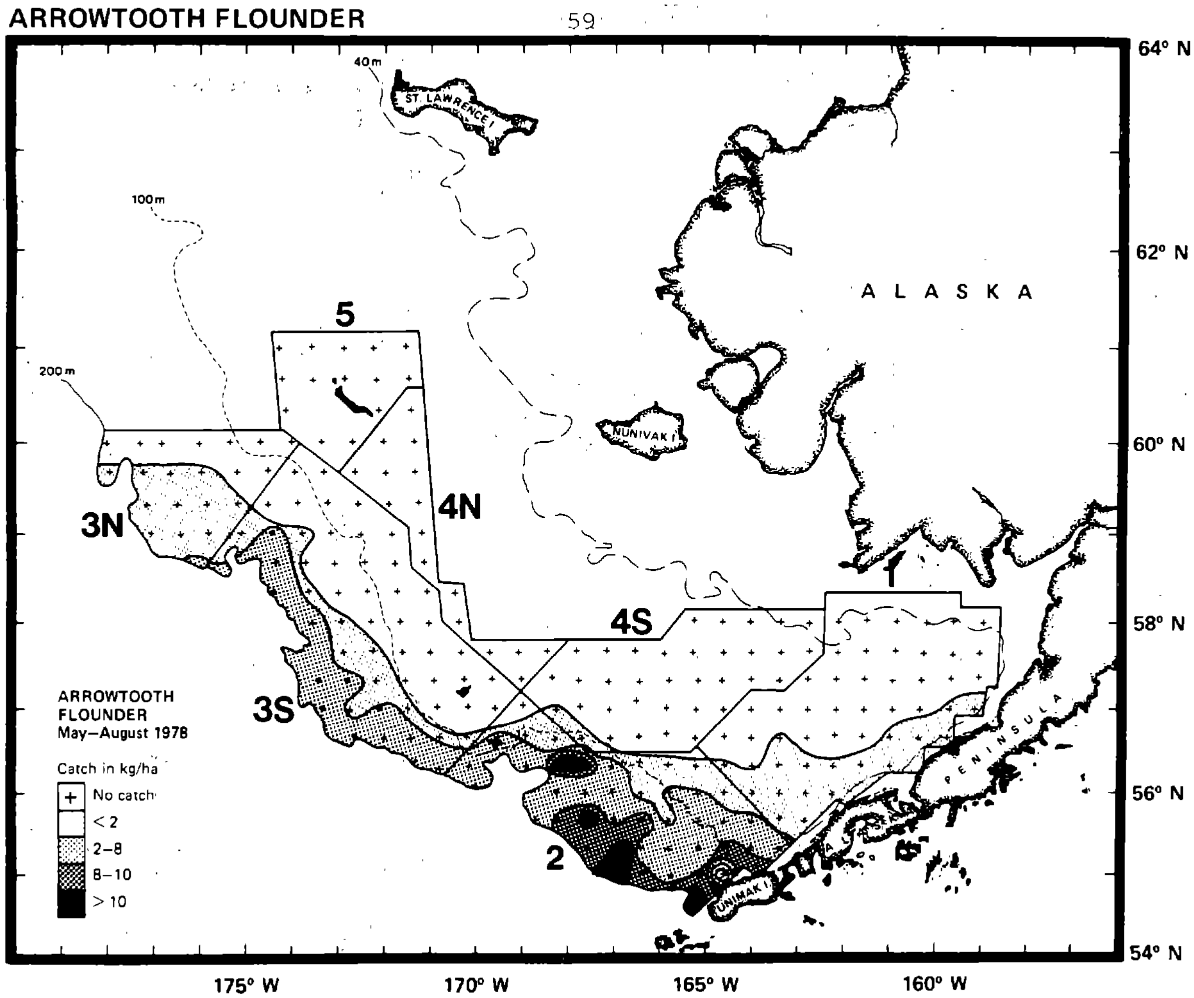

Figure 29. --Distribution and relative abundance of arrowtooth flounder during the 1978 demersal trawl survey.

Table 32.--Apparent abundance and mean sizes of arrowtooth flounder by subarea and for all subareas combined, 1978 trawl survey.

Sub-area	Mean CPUE[a] (kg/ha)	Estimated biomass (t)	Proportion of total estimated biomass	Estimated population (millions)	Proportion of total estimated population	Mean size per individual Weight (kg)	Mean size per individual Length (cm)
1	0.07	569	0.013	17.6	0.082	0.032	No L/F
2	6.21	37,863	0.837	171.3	0.800	0.221	27.4
3N	0.29	725	0.016	1.6	0.007	0.464	37.7
3S	0.75	5,983	0.132	23.4	0.109	0.255	26.5
4N	0.00	0	0.000	0.0	0.000	-	-
4S	0.02	89	0.002	0.3	0.001	0.356	29.9
5	0.00	0	0.000	0.0	0.000	-	-
All sub-areas combined[c]	1.32	45,229[b]		214.2		0.211	27.4

[a] CPUE = catch per unit of effort.
[b] 95% confidence interval = 31,305-59,152.
[c] Minor differences between sums of figures by subarea and totals are due to rounding.

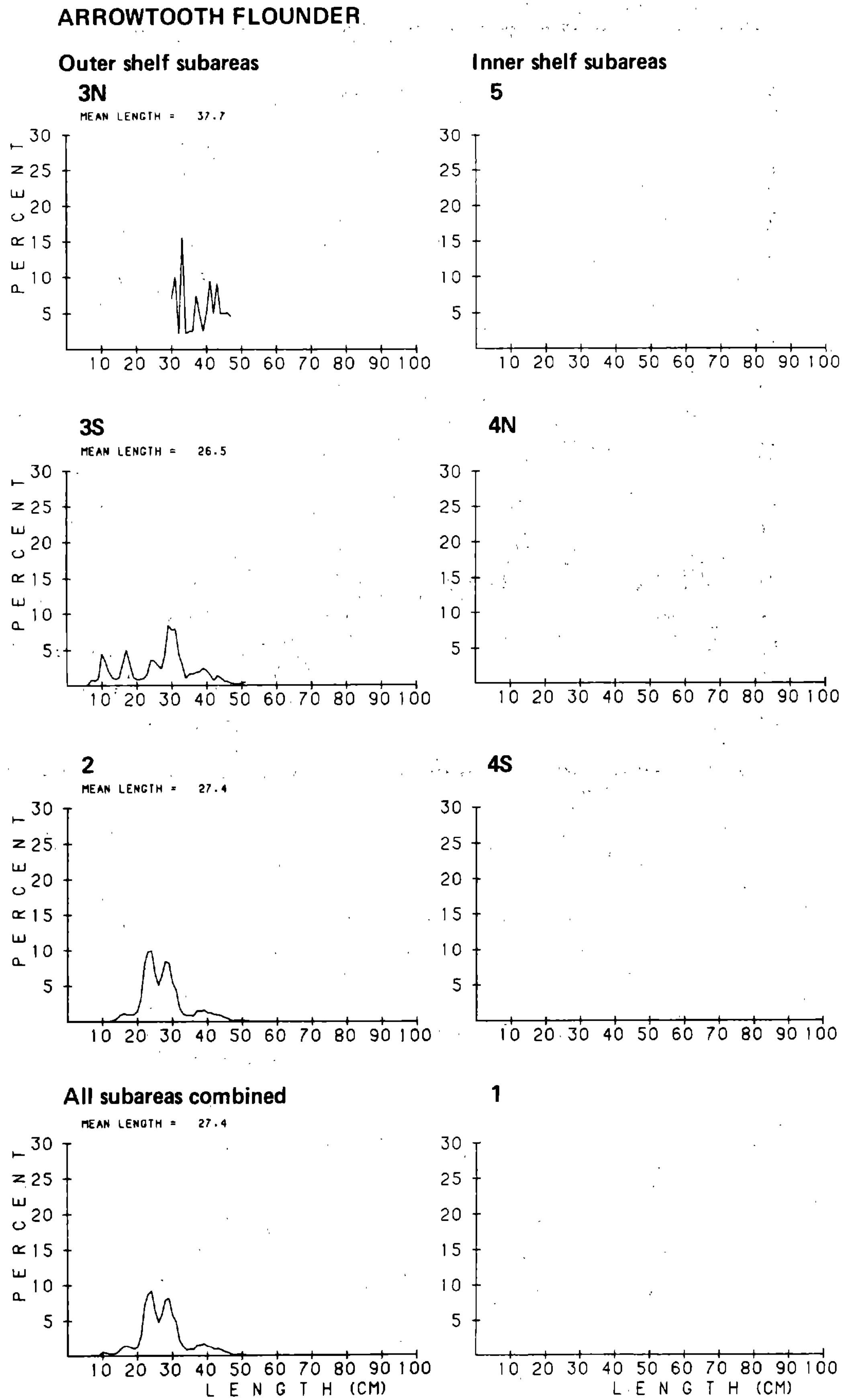

Figure 30. --Size composition of arrowtooth flounder (sexes combined) from the 1978 survey by subarea and for all subareas combined.

ARROWTOOTH FLOUNDER

Table 33.--Estimated population size of arrowtooth flounder age groups by subarea and for all subareas combined, 1978 demersal trawl survey (millions of fish).

Age	Year-class	Subareas 1	2	3N	3S	4N	4S	5	All[a] subareas combined	Proportion of total
0	1978				2.17				2.17	0.0110
1	1977		2.36		1.36				3.72	0.0189
2	1976		75.70		5.86		0.10		81.67	0.4154
3	1975		59.21	0.34	7.63		0.04		67.23	0.3420
4	1974		11.19	0.28	2.20		<0.01		13.68	0.0696
5	1973		10.62	0.37	2.02		0.04		13.04	0.0663
6	1972		8.06	0.34	1.57		0.05		10.01	0.0509
7	1971		2.62	0.17	0.38		0.02		3.19	0.0162
Ages unknown			1.57	0.07	0.23				1.87	0.0095
All ages[a] combined			171.33	1.57	23.41		0.25		196.58[b]	1.0000

[a]Minor differences between sums of figures by subarea or year-class and totals are due to rounding.

[b]Population estimates derived from ageing studies differed from those derived from biomass studies because occasionally weights and numbers were collected for this species, but no length-frequencies were taken.

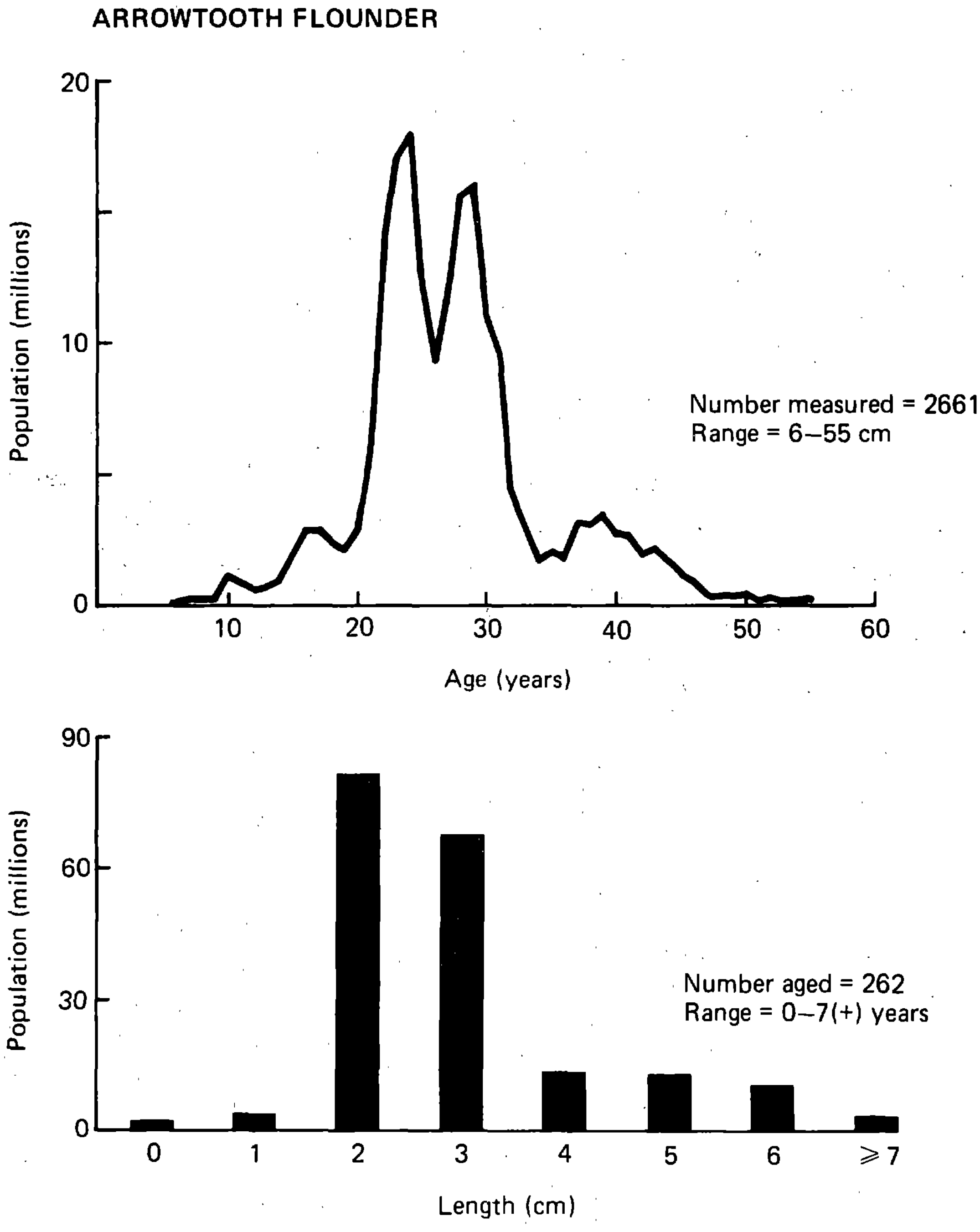

Figure 31.--Length and age composition of arrowtooth flounder (sexes combined) from the overall 1978 survey area.

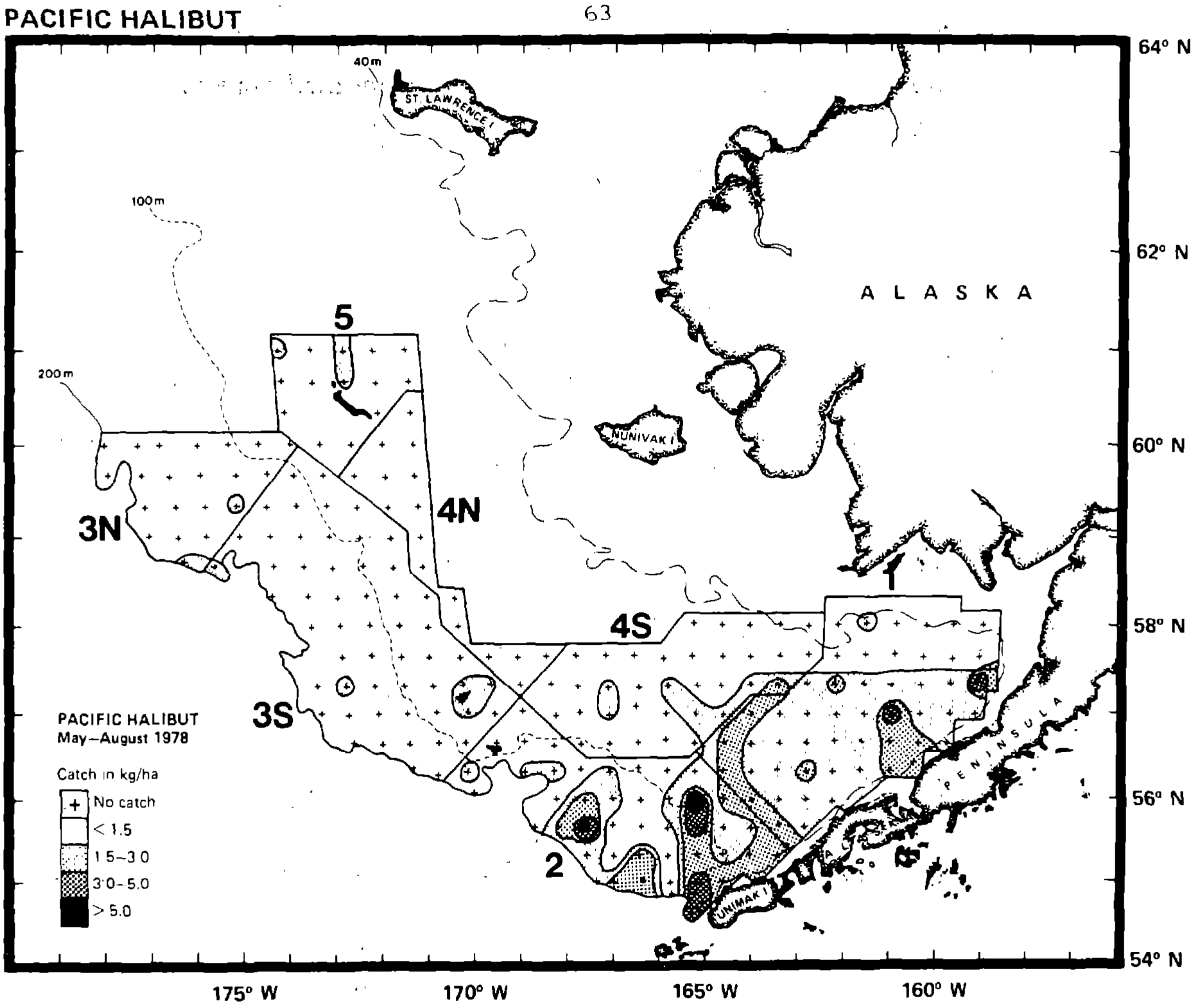

Figure 32. --Distribution and relative abundance of Pacific halibut during the 1978 demersal trawl survey.

Table 34.--Apparent abundance and mean sizes of Pacific halibut by subarea and for all subareas combined, 1978 trawl survey.

Sub-area	Mean CPUE[a] (kg/ha)	Estimated biomass (t)	Proportion of total estimated biomass	Estimated population (millions)	Proportion of total estimated population	Mean size per individual: Weight (kg)	Mean size per individual: Length (cm)
1	0.94	7,815	0.439	7.9	0.590	0.995	39.9
2	1.42	8,673	0.488	4.3	0.321	2.007	49.7
3N	0.02	60	0.003	0.1	0.007	0.907	41.5
3S	0.04	320	0.018	0.3	0.022	0.973	43.6
4N	0.00	0	0.000	0.0	0.000	-	-
4S	0.16	789	0.044	0.7	0.052	1.089	39.9
5	0.06	126	0.007	0.2	0.015	0.773	-
All sub-[c] areas combined	0.53	17,783[b]		13.4		1.322	43.2

[a] CPUE = catch per unit of effort.
[b] 95% confidence interval = 12,659-22,906.
[c] Minor differences between sums of figures by subarea and totals are due to rounding.

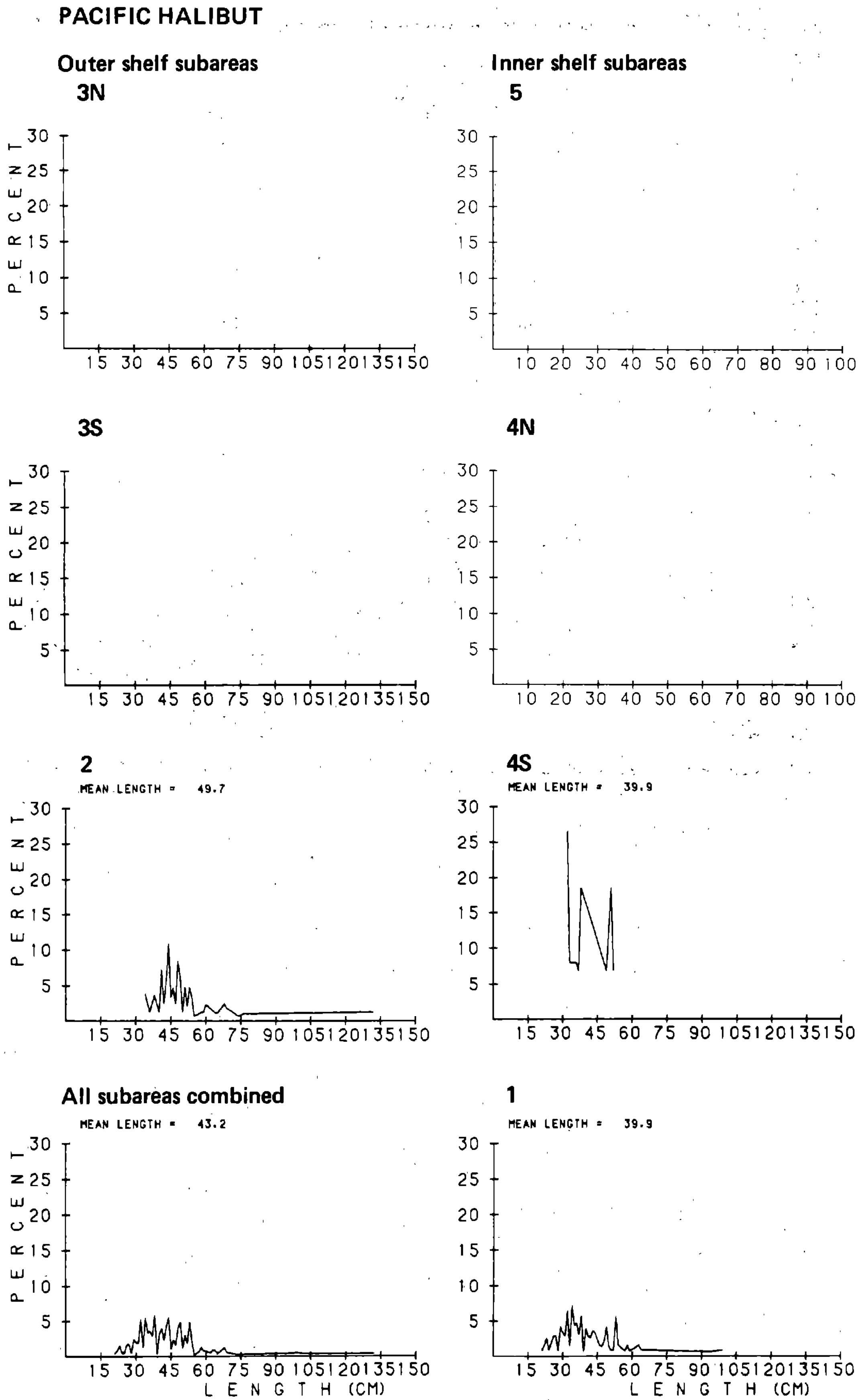

Figure 33. --Size composition of Pacific halibut (sexes combined) from the 1978 survey by subarea and for all subareas combined.

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LIST OF APPENDICES

APPENDIX A

Station and Catch Data
1978 Eastern Bering Sea Demersal Trawl Survey

Appendix A lists station and catch data for all hauls attempted during the 1978 survey. The data are organized into three tables: successful hauls used in the analysis as standard survey tows (Table A-l), comparative side-by-side tows used to determine relative fishing powers between vessels (Table A-2), and unsuccessful tows (Table A-3). Latitudes and longitudes are in degrees, minutes, and tenths of minutes. Gear depths are in fathoms. Duration of tow is in tenths of hours. Distance fished is in tenths of nautical miles. A performance code of 0 indicates a satisfactory tow and codes 5-7 unsatisfactory tows. Gear 20 represents the 400 Eastern trawl. Catch weights are in kilograms.

LIST OF TABLES

Table A-1a.--Station and catch data for hauls successfully completed--Oregon.

HAUL #	1	2	3	4	5	6	7	8	9	10	11
MONTH/DAY/YEAR	5/20/78	5/20/78	5/20/78	5/20/78	5/22/78	5/22/78	5/22/78	5/22/78	5/23/78	5/23/78	5/23/78
LATITUDE START	54 40.0	54 59.0	55 20.0	55 39.0	55 59.0	56 19.0	56 39.0	56 59.0	56 59.0	56 40.0	56 20.0
LONGITUDE START	165 8.9	165 8.9	165 8.9	165 8.9	165 9.9	165 12.0	165 13.0	165 12.0	164 36.0	164 35.0	164 35.0
LATITUDE END	54 41.0	55 0.9	55 21.1	55 41.0	56 0.7	56 20.4	56 40.6	57 0.8	57 0.7	56 38.9	56 18.9
LONGITUDE END	165 10.3	165 10.1	165 10.3	165 11.1	165 11.5	165 12.1	165 13.6	165 12.9	164 36.1	164 35.6	164 35.5
LORAN START	34607.90	34566.30	34517.00	34461.90	34399.10	34326.00	34238.80	34132.30	34022.50	34122.20	34214.00
LORAN START	48028.50	48056.10	48084.00	48110.00	48133.70	48154.30	48166.30	48160.20	47915.40	47916.00	47912.20
LORAN END	34608.50	34566.20	34516.60	34461.70	34396.80	34321.30	34234.20	34125.40	34015.10	34128.40	34219.50
LORAN END	48036.00	48063.30	48091.00	48118.90	48139.00	48155.20	48170.20	48161.50	47915.20	47916.80	47912.50
GEAR DEPTH	44	58	58	57	51	46	40	37	37	40	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	1.10	1.20	1.10	1.30	1.20	1.20	1.30	1.40	1.40	1.20	1.20
PERFORMANCE / GEAR	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20
POLLOCK	127.7	526.6	346.1	116.3	32.2	45.4	44.5	30.5	81.9	53.1	36.3
PAC COD	5.4	100.9	12.0	9.5	70.5	19.3	98.9	8.2	78.9	10.9	37.6
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	1.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
PAC HERRING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
ATKA MACKEREL	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	138.6	11.7	7.6	6.9	4.3	7.5	7.0	40.3	42.5	12.3	27.9
EELPOUTS	0.0	2.6	20.6	21.1	14.3	4.0	6.6	26.3	16.4	2.7	1.6
OTHER RNDFISH	23.0	2.5	0.2	0.1	1.0	0.3	0.1	0.4	0.3	0.2	0.1
TOT ROUNDFISH	294.7	644.4	387.9	153.9	122.5	76.3	157.0	105.6	220.1	79.2	103.5
YELLOW SOLE	110.8	0.5	0.0	0.1	19.3	12.1	158.1	210.2	330.9	96.6	34.0
ROCK SOLE	38.7	13.2	0.0	0.0	22.2	1.8	3.2	3.6	8.4	2.3	3.9
FLATHEAD SOLE	7.5	6.4	35.2	42.6	6.8	13.6	2.7	6.4	1.0	2.9	2.9
ALASKA PLAICE	0.0	0.0	0.0	0.0	3.6	3.6	5.4	14.7	39.0	3.2	2.9
GREENLAND TBT	0.0	0.0	0.7	3.9	5.0	7.0	2.3	14.1	13.6	5.9	4.3
ARROWTOOTH FL	88.4	25.9	12.7	23.6	6.6	0.1	0.0	0.0	0.0	0.0	0.1
PAC HALIBUT	9.1	14.1	7.7	13.2	17.7	0.9	0.0	2.3	2.3	4.5	6.4
OTHER FLTFISH	6.2	1.8	0.5	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
TOT FLATFISH	260.5	61.7	56.7	83.3	81.3	39.2	171.7	251.3	395.2	115.4	54.5
SKATES	8.1	9.1	11.8	22.5	0.9	1.6	3.4	0.0	0.5	0.0	0.0
TOT ELASMOBRH	8.1	9.1	11.8	22.5	0.9	1.6	3.4	0.0	0.5	0.0	0.0
RED KING CRAB	120.7	0.0	20.9	20.0	0.0	383.3	295.1	0.0	3.9	11.3	106.6
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	21.5	1.6	2.5	13.6	3.6	6.4	6.8	8.0	5.4	12.2	31.5
TANNER, OPILIO	0.2	8.2	5.0	8.8	10.4	22.9	17.7	27.1	23.1	18.0	27.2
TANNER, HYBRID	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.2	0.0	0.5
OTHER CRAB	3.6	3.1	7.3	1.6	51.3	39.9	0.6	21.5	36.3	11.8	28.1
SNAILS	0.1	1.8	0.3	0.2	41.6	45.6	33.9	57.8	33.6	34.3	48.8
SHRIMP	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0
STARFISH	0.0	0.0	0.0	0.0	0.1	23.8	100.0	104.8	46.9	58.5	21.8
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	1.1	0.0	0.0	0.0	0.2	0.9
OTHER INVERTS	0.0	0.0	0.0	0.0	0.1	2.2	5.4	2.7	1.5	0.8	4.6
TOTAL INVERTS	146.1	14.7	35.9	44.3	107.1	525.7	459.3	222.0	150.9	147.2	278.0
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	709.4	729.8	492.3	304.0	311.8	642.9	791.4	579.0	766.7	341.9	428.1

Table A-1a.--Continued.

HAUL #	12	13	14	15	16	17	18	19	20	21	22
MONTH/DAY/YEAR	5/23/78	5/24/78	5/24/78	5/24/78	5/24/78	5/25/78	5/25/78	5/25/78	5/25/78	5/26/78	5/26/78
LATITUDE START	56 0.0	55 59.0	56 19.0	56 39.0	56 59.0	57 20.0	57 19.0	57 20.0	57 20.0	57 20.0	57 19.0
LONGITUDE START	164 35.0	163 59.0	163 59.0	164 0.0	164 0.0	164 0.0	163 23.0	162 45.9	162 8.9	161 31.9	160 56.0
LATITUDE END	55 59.5	55 58.8	56 20.3	56 41.0	57 0.5	57 20.3	57 19.6	57 20.0	57 18.8	57 19.8	57 19.3
LONGITUDE END	164 35.4	163 59.5	163 59.8	164 0.5	164 0.9	163 58.6	163 20.9	162 44.6	162 8.9	161 30.3	160 54.2
LORAN START	34293.10	34195.60	34116.20	34019.20	33918.00	33796.80	33695.30	33592.60	33497.30	33404.90	33318.90
LORAN START	47902.40	47671.10	47676.70	47679.00	47676.20	47667.40	47415.90	47172.80	46923.70	46673.20	46431.90
LORAN END	34297.40	34199.50	34110.80	34015.00	33912.80	33790.20	33689.10	33589.00	33503.70	33401.50	33318.10
LORAN END	47903.20	47669.40	47676.30	47681.30	47678.80	47652.70	47400.70	47158.20	46919.90	46660.50	46419.20
GEAR DEPTH	49	49	46	39	35	33	28	26	26	30	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	1.00	1.20	1.20	1.10	1.20	1.20	1.20	1.30	1.40	1.10	1.20
PERFORMANCE / GEAR	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20
POLLOCK	16.6	15.2	99.6	45.6	7.7	2.7	1.5	0.5	3.9	1.6	1.8
PAC COD	14.5	44.7	27.7	2.7	15.4	8.6	7.7	45.4	21.8	32.9	46.3
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	0.1	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	0.0	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	10.4	1.4	7.4	6.1	18.3	25.7	19.1	22.4	26.0	26.4	11.6
EELPOUTS	12.9	5.9	12.2	2.3	1.8	3.4	1.0	0.0	0.0	0.0	0.0
OTHER RNDFISH	0.3	0.2	0.4	0.3	0.3	1.3	4.1	2.1	2.6	1.7	0.5
TOT ROUNDFISH	54.7	67.5	147.2	57.0	43.6	41.7	33.4	70.4	54.2	62.5	60.2
YELLOW SOLE	72.6	24.0	42.6	219.1	167.4	167.8	478.1	308.0	480.1	345.2	193.0
ROCK SOLE	25.6	20.0	5.4	2.0	1.8	4.5	55.3	129.7	44.7	14.3	27.2
FLATHEAD SOLE	5.0	6.4	5.0	1.8	0.1	0.1	1.1	0.7	1.7	0.4	2.2
ALASKA PLAICE	20.6	2.0	10.0	10.0	67.4	98.9	230.3	103.4	100.7	29.0	18.6
GREENLAND TBT	1.4	0.9	2.7	5.4	8.6	9.5	1.0	0.5	0.7	0.1	0.1
ARROWTOOTH FL	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HALIBUT	5.9	5.0	0.0	3.6	5.4	0.9	8.7	2.2	11.0	1.0	1.1
OTHER FLTFISH	0.1	0.0	0.0	0.0	0.0	0.0	54.2	24.0	48.5	2.3	4.5
TOT FLATFISH	131.6	58.7	65.8	241.9	250.7	281.8	828.8	568.5	687.4	392.3	246.8
SKATES	3.6	7.7	0.5	0.0	0.5	2.3	0.0	0.0	0.0	0.0	0.0
TOT ELASMOBRH	3.6	7.7	0.5	0.0	0.5	2.3	0.0	0.0	0.0	0.0	0.0
RED KING CRAB	2.9	5.4	58.7	399.8	151.5	14.5	16.3	45.4	48.5	123.4	170.6
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	134.0	67.1	27.0	16.8	13.2	78.0	54.0	23.8	28.6	14.5	6.4
TANNER, OPILIO	5.0	96.6	12.9	42.2	10.0	134.0	134.3	28.1	25.9	7.3	0.9
TANNER, HYBRID	0.2	0.0	0.2	0.0	0.0	0.5	0.9	0.0	0.0	0.7	0.0
OTHER CRAB	3.6	23.0	6.7	33.1	22.0	119.1	79.3	4.6	2.0	8.3	16.4
SNAILS	19.9	21.7	19.3	16.6	10.8	44.2	59.2	27.9	1.6	20.3	1.4
SHRIMP	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.2	0.2
STARFISH	0.2	0.0	0.0	35.2	22.0	17.2	311.2	14.5	0.9	5.9	1.8
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	2.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	0.8	0.5	0.5	0.5	3.9	1.3	17.0	1.6	7.0	14.4	236.9
TOTAL INVERTS	166.8	214.4	125.4	546.9	233.4	409.0	672.2	145.9	114.6	194.8	434.4
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	356.8	348.3	338.8	845.8	528.2	734.8	1534.5	784.7	856.2	649.6	741.4

Table A-1a .--Continued.

HAUL #	23	24	25	26	27	28	29	30	31	32	33
MONTH/DAY/YEAR	5/26/78	5/26/78	5/27/78	5/27/78	5/27/78	5/27/78	5/28/78	5/28/78	5/28/78	5/28/78	5/29/78
LATITUDE START	57 19.0	57 20.0	57 21.0	56 59.0	56 48.0	56 39.0	56 59.0	56 59.0	56 59.0	56 59.0	56 59.0
LONGITUDE START	160 17.9	159 38.9	159 2.9	159 8.0	159 8.9	159 44.0	159 41.0	160 20.0	160 56.0	161 32.9	162 8.9
LATITUDE END	57 19.8	57 20.7	57 25.5	56 58.3	56 48.4	56 38.9	56 59.9	56 59.8	56 59.7	56 59.9	56 59.4
LONGITUDE END	160 15.5	159 37.8	159 4.5	159 8.0	159 10.4	159 43.6	159 43.4	160 22.6	160 57.7	161 35.6	162 12.1
LORAN START	33232.50	33142.50	33063.10	33187.20	33244.20	33366.60	33258.50	33345.40	33431.10	33522.30	33614.80
LORAN START	46178.20	45922.30	45680.60	45716.70	45730.00	45969.70	45938.20	46198.60	46438.60	46691.50	46932.40
LORAN END	33226.60	33137.90	33040.80	33192.70	33247.60	33367.60	33262.00	33351.60	33434.60	33526.00	33621.70
LORAN END	46160.60	45908.20	45684.50	45714.90	45736.30	45962.20	45951.60	46214.70	46450.20	46703.80	46949.00
GEAR DEPTH	32	29	25	15	10	14	29	34	34	36	32
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	1.40	1.10	1.10	1.20	1.10	1.00	1.10	1.30	1.00	1.00	1.40
PERFORMANCE / GEAR	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20
POLLOCK	0.1	2.7	0.0	0.0	0.0	0.0	0.0	0.1	0.1	2.7	5.0
PAC COD	15.4	43.8	2.3	69.6	3.2	232.2	19.1	9.1	12.7	16.1	31.5
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 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	0.0	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	10.0	21.7	75.4	55.9	18.4	24.6	21.1	2.9	12.7	14.9	15.1
EELPOUTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5
OTHER RNDFISH	3.8	8.6	5.2	6.8	5.1	4.2	19.6	1.2	0.9	0.8	0.6
TOT ROUNDFISH	29.4	76.8	82.9	132.3	26.6	261.1	59.8	13.3	26.4	34.6	52.7
YELLOW SOLE	282.1	134.7	1651.3	495.2	187.8	112.0	78.0	90.4	79.6	117.0	208.2
ROCK SOLE	113.2	71.7	81.4	51.0	7.7	90.5	61.7	71.4	14.5	18.1	38.6
FLATHEAD SOLE	2.3	0.1	0.0	0.0	0.0	0.0	2.3	0.5	1.8	2.7	3.6
ALASKA PLAICE	22.7	0.0	0.5	0.0	0.4	0.0	0.0	2.3	13.2	32.2	5.9
GREENLAND TBT	0.5	0.1	0.0	0.3	0.0	0.0	0.0	0.0	0.0	2.0	0.9
ARROWTOOTH FL	0.0	0.0	0.0	0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.0
PAC HALIBUT	0.8	0.4	12.7	0.0	2.5	0.6	3.3	0.0	10.0	2.7	2.4
OTHER FLTFISH	16.8	9.3	0.7	15.3	3.6	16.3	2.3	5.7	3.4	1.1	13.5
TOT FLATFISH	438.3	216.3	1746.6	562.0	202.0	219.6	147.6	170.2	122.5	176.0	273.1
SKATES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
TOT ELASMOBRH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
RED KING CRAB	46.3	38.6	6.8	44.9	1.4	22.5	61.7	33.6	133.4	183.3	153.8
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	27.2	23.1	1.8	1.4	0.0	0.7	39.0	54.0	23.6	11.3	13.6
TANNER, OPILIO	0.0	0.0	0.1	0.0	0.0	0.0	0.0	1.4	0.0	0.0	1.4
TANNER, HYBRID	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
OTHER CRAB	15.1	7.1	5.0	26.2	2.5	4.2	5.4	5.7	1.9	2.5	4.3
SNAILS	0.4	0.1	0.1	0.0	0.0	0.0	0.0	2.5	0.0	0.1	0.0
SHRIMP	0.3	0.1	0.0	0.3	0.1	0.0	0.0	0.0	0.1	0.0	0.2
STARFISH	7.3	75.1	500.6	496.0	36.1	338.2	356.3	71.9	10.7	3.4	0.0
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	96.5	14.7	4.5	36.7	23.3	0.4	121.1	236.9	104.2	115.2	3.7
TOTAL INVERTS	193.5	158.8	518.9	605.5	63.3	365.9	583.5	405.8	274.3	315.8	176.9
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	661.1	451.9	2348.4	1299.7	291.9	846.5	790.9	589.3	423.1	527.5	502.7

Table A-la.--Continued.

HAUL #	34	35	36	37	38	39	40	41	43	44	45
MONTH/DAY/YEAR	5/29/78	5/29/78	5/29/78	5/30/78	5/30/78	5/30/78	5/30/78	5/31/78	6/ 1/78	6/ 1/78	6/ 1/78
LATITUDE START	56 59.0	56 59.0	56 39.0	56 39.0	56 41.0	56 40.0	56 40.0	56 39.0	56 5.0	56 19.0	56 20.0
LONGITUDE START	162 45.9	163 22.0	163 22.0	162 46.9	162 11.0	161 35.0	160 59.0	160 22.0	160 59.0	160 59.0	161 37.0
LATITUDE END	56 59.5	56 58.4	56 38.4	56 39.6	56 41.0	56 39.4	56 40.7	56 38.8	56 6.8	56 19.9	56 19.9
LONGITUDE END	162 49.2	163 22.3	163 21.0	162 45.1	162 10.1	161 35.6	160 56.8	160 21.6	160 59.5	161 1.8	161 40.3
LORAN START	33711.60	33808.90	33916.50	33816.70	33714.00	33628.00	33535.60	33451.90	33701.20	33635.50	33729.50
LORAN START	47179.90	47420.50	47428.10	47189.80	46952.00	46708.60	46467.30	46219.70	46485.00	46476.20	46729.60
LORAN END	33719.00	33615.20	33916.00	33812.60	33712.90	33632.50	33530.40	33455.80	33694.50	33641.50	33737.40
LORAN END	47198.30	47420.50	47416.70	47177.10	46941.60	46711.20	46451.40	46216.90	46482.30	46492.70	46748.80
GEAR DEPTH	31	34	40	37	39	46	38	30	14	28	33
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.30	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	1.50	1.20	1.30	1.10	1.10	0.80	1.30	1.10	1.40	1.40	1.60
PERFORMANCE / GEAR	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20
POLLOCK	2.7	11.5	51.3	5.4	39.7	5.0	9.5	15.2	1.8	10.4	84.4
PAC COD	5.0	9.1	3.6	13.6	9.1	0.5	9.8	16.3	380.8	9.5	5.2
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	0.1	0.0	0.9	0.2	0.1
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	0.1	0.0	0.0	0.0	0.0
SCULPINS	29.6	18.4	12.7	3.9	7.2	2.0	9.4	14.8	40.9	10.2	11.8
EELPOUTS	0.1	2.3	10.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RNDFISH	0.9	0.3	0.2	0.3	0.2	0.3	4.4	4.3	2.7	7.3	4.0
TOT ROUNDFISH	38.2	41.6	78.0	23.7	56.2	7.8	33.3	50.6	427.2	37.7	105.5
YELLOW SOLE	398.7	214.1	153.3	121.8	92.5	84.4	79.8	197.8	527.8	366.0	255.6
ROCK SOLE	5.0	2.7	1.4	0.9	4.5	2.9	57.6	69.6	281.7	28.1	98.7
FLATHEAD SOLE	0.9	7.5	9.1	4.5	2.7	1.1	3.6	1.5	0.5	29.5	7.9
ALASKA PLAICE	12.2	45.6	18.1	9.3	16.3	4.5	11.1	0.1	0.0	0.0	0.2
GREENLAND TBT	1.1	6.1	7.7	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ARROWTOOTH FL	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.3
PAC HALIBUT	0.5	0.5	2.3	2.5	2.7	0.0	5.2	5.4	11.5	10.5	5.3
OTHER FLTFISH	1.6	0.5	0.1	0.0	0.1	1.1	7.3	3.2	20.9	108.4	4.3
TOT FLATFISH	420.0	276.9	192.1	140.6	118.9	94.1	164.8	277.7	842.4	542.8	372.3
SKATES	0.0	0.0	0.8	0.0	1.1	0.0	0.0	21.8	0.0	0.0	0.0
TOT ELASMOBRH	0.0	0.0	0.8	0.0	1.1	0.0	0.0	21.8	0.0	0.0	0.0
RED KING CRAB	371.9	154.4	371.9	317.1	51.3	20.4	74.8	22.7	0.3	14.1	44.5
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	11.8	12.5	10.2	13.2	29.5	68.9	64.0	14.7	0.0	12.2	12.2
TANNER, OPILIO	4.1	5.7	8.4	2.5	2.3	0.1	0.7	0.7	0.0	1.4	0.7
TANNER, HYBRID	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	19.1	17.9	15.6	9.5	3.6	2.7	4.2	9.4	0.5	72.7	1.9
SNAILS	18.0	7.3	12.8	1.6	1.1	0.1	0.3	0.0	0.0	5.4	0.4
SHRIMP	0.2	0.1	0.3	0.2	0.0	0.2	0.2	0.1	0.1	0.1	0.0
STARFISH	16.3	6.8	2.9	0.9	7.3	1.4	2.3	51.0	454.3	5.9	5.9
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	1.6	5.0	1.5	6.5	336.4	9.9	370.0	90.3	0.8	5.3	3.3
TOTAL INVERTS	443.0	209.8	423.7	351.4	431.4	103.9	516.3	189.0	455.9	117.1	68.9
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	901.2	528.3	694.5	515.7	607.7	205.8	714.4	539.1	1725.4	697.5	546.7

Table A-1a.--Continued.

HAUL #	46	47	48	49	50	51	52	53	54	55	56
MONTH/DAY/YEAR	6/ 1/78	6/ 2/78	6/ 2/78	6/ 2/78	6/ 2/78	6/ 7/78	6/ 7/78	6/ 7/78	6/ 7/78	6/ 8/78	6/ 8/78
LATITUDE START	55 58.0	56 19.0	56 19.0	56 20.0	55 59.0	55 0.0	55 20.0	55 19.0	55 39.0	55 59.0	55 41.0
LONGITUDE START	162 14.0	162 13.0	162 46.9	163 23.9	163 23.0	164 35.0	164 0.0	163 23.9	162 50.0	162 47.9	163 23.0
LATITUDE END	56 0.2	56 19.6	56 19.3	56 18.7	55 58.8	55 1.8	55 20.3	55 20.8	55 40.7	55 58.2	55 41.6
LONGITUDE END	162 13.1	162 15.3	162 50.1	163 24.3	163 23.4	164 35.0	163 59.0	163 24.3	162 51.1	162 48.3	163 26.1
LORAN START	33915.90	33824.00	33915.20	34011.50	34096.40	34479.60	34336.20	34243.00	34087.20	34003.80	34168.00
LORAN START	46977.80	46968.40	47197.10	47438.30	47433.90	47852.40	47655.30	47426.80	47216.00	47202.00	47431.10
LORAN END	33908.00	33828.50	33922.70	34018.50	34100.10	34475.20	34331.00	34238.50	34083.50	34008.30	34172.70
LORAN END	46970.30	46980.90	47213.60	47440.80	47432.10	47851.50	47644.70	47424.70	47218.00	47202.20	47445.00
GEAR DEPTH	34	42	41	44	46	35	41	27	28	41	44
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	1.40	1.10	1.40	1.40	1.10	1.40	1.00	1.10	1.20	1.10	1.20
PERFORMANCE / GEAR	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20
POLLOCK	254.0	97.1	59.9	53.5	126.6	8.3	619.2	5.4	42.6	17.2	682.0
PAC COD	19.5	15.4	11.1	12.7	11.1	27.2	1.8	4.5	3.2	2.7	14.1
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 RCKFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	11.8	0.0	0.7	0.0	37.0	0.0	0.0	1.8	0.0	0.0	0.1
PAC HERRING	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ATKA MACKEREL	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
SCULPINS	1.0	0.0	1.8	5.4	12.1	10.9	5.9	4.8	31.3	9.1	7.3
EELPOUTS	0.0	0.0	0.1	5.0	2.9	0.0	0.0	0.0	0.0	0.0	0.7
OTHER RNDFISH	24.9	0.4	1.8	0.2	1.4	0.1	1.3	2.4	4.0	7.9	6.4
TOT ROUNDFISH	311.3	113.0	75.4	76.9	191.1	46.5	628.2	18.9	81.1	37.2	710.4
YELLOW SOLE	159.7	121.6	51.7	44.5	76.9	25.4	27.7	156.0	174.6	160.1	168.7
ROCK SOLE	21.3	10.0	2.3	6.8	13.6	24.3	9.5	23.6	42.0	3.4	5.0
FLATHEAD SOLE	12.7	3.2	6.4	7.7	24.0	1.4	5.9	16.3	3.6	37.0	40.4
ALASKA PLAICE	0.0	7.2	5.5	12.7	18.4	0.0	0.7	9.1	0.0	17.2	9.1
GREENLAND TBT	0.0	0.0	0.2	3.1	0.5	0.0	0.0	0.0	0.0	0.0	0.0
ARROWTOOTH FL	1.4	0.1	0.1	0.1	1.8	0.0	5.0	6.8	0.7	2.9	0.7
PAC HALIBUT	0.9	0.5	5.2	1.6	2.0	6.8	6.8	5.4	0.0	3.7	5.7
OTHER FLTFISH	1.4	0.9	0.0	0.0	0.1	1.4	1.1	1.6	14.1	0.1	0.0
TOT FLATFISH	197.3	143.3	71.5	76.4	137.3	59.2	56.7	218.9	235.0	224.4	229.5
SKATES	0.0	1.6	0.0	0.0	1.8	13.6	0.0	10.0	0.0	3.6	5.9
TOT ELASMOBRH	0.0	1.6	0.0	0.0	1.8	13.6	0.0	10.0	0.0	3.6	5.9
RED KING CRAB	219.5	51.7	31.8	14.5	3.2	31.3	155.1	113.4	59.0	90.7	170.6
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	10.9	35.4	10.9	5.4	33.3	7.3	52.4	68.9	8.6	76.9	41.7
TANNER, OPILIO	2.3	1.8	1.8	3.2	14.6	0.5	2.7	0.9	0.0	18.6	17.2
TANNER, HYBRID	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.9	0.0	0.0	1.4
OTHER CRAB	6.4	1.7	4.9	10.1	8.1	3.6	24.3	2.3	4.1	4.5	19.5
SNAILS	0.1	2.1	1.4	11.3	11.6	0.9	0.7	0.0	1.4	1.1	6.1
SHRIMP	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STARFISH	3.2	15.0	4.5	2.0	0.9	0.2	0.0	4.5	0.0	2.7	0.0
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	0.0	58.3	6.1	2.1	850.0	2.7	2.7	10.7	0.0	0.0	0.0
TOTAL INVERTS	242.4	166.0	61.4	48.9	921.8	46.5	238.4	201.6	73.0	194.6	256.5
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	751.0	423.9	208.3	202.2	1252.0	165.8	923.3	449.4	389.1	459.8	1202.3

Table A-la.--continued.

HAUL #	57	58	59	60	61	62	63	64	65	66	67
MONTH/DAY/YEAR	6/ 8/78	6/ 8/78	6/ 9/78	6/ 9/78	6/ 9/78	6/10/78	6/10/78	6/10/78	6/10/78	6/11/78	6/11/78
LATITUDE START	55 39.0	55 39.0	55 20.0	55 20.0	55 1.0	55 0.0	55 19.0	55 20.0	55 40.0	55 41.0	55 41.0
LONGITUDE START	163 59.0	164 35.0	164 35.0	166 23.9	166 19.0	166 57.0	166 57.0	167 31.9	168 8.9	167 34.0	166 59.0
LATITUDE END	55 39.2	55 38.8	55 20.2	55 19.7	55 1.3	55 2.1	55 19.8	55 21.7	55 42.1	55 41.6	55 41.5
LONGITUDE END	164 2.2	164 35.7	164 37.0	166 24.9	166 21.1	166 57.1	166 59.0	167 34.0	168 10.1	167 32.8	166 57.6
LORAN START	34271.50	34366.20	34426.40	34711.20	34736.00	34824.90	34795.20	34878.50	34938.00	34852.40	34760.20
LORAN START	47662.00	47889.40	47871.50	48540.10	48472.90	48685.30	48730.10	48932.80	49193.00	48998.30	48791.00
LORAN END	34278.40	34371.30	34431.50	34715.20	34740.60	34823.70	34800.20	34880.90	34937.70	34847.00	34754.50
LORAN END	47676.80	47891.90	47883.70	48542.10	48483.50	48689.00	48740.30	48942.70	49199.60	48988.50	48780.00
GEAR DEPTH	49	51	54	70	75	81	73	77	70	71	70
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	1.30	1.20	1.10	1.20	1.10	1.10	1.10	1.10	1.30	1.10	1.10
PERFORMANCE / GEAR	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20
POLLOCK	80.7	48.5	77.1	64.9	139.3	41.3	89.8	116.6	34.0	85.7	31.3
PAC COD	12.7	12.7	9.1	0.0	3.2	8.2	7.7	73.0	78.0	34.5	2.3
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	0.9	6.4	6.1	0.5	0.0	1.4	0.0	3.6	2.7
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	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	2.3	0.7	2.7	7.3	7.3	9.5	6.8	6.8	9.5	5.4	6.4
EELPOUTS	5.4	1.8	6.4	93.9	27.2	8.2	102.5	1.8	3.2	59.4	56.7
OTHER RNDFISH	0.2	0.0	0.4	5.4	0.5	0.1	4.1	0.0	0.2	9.5	7.8
TOT ROUNDFISH	101.4	63.7	96.8	177.8	183.5	67.7	210.9	199.6	124.9	198.2	107.2
YELLOW SOLE	25.9	5.9	16.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROCK SOLE	45.8	9.1	7.7	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
FLATHEAD SOLE	16.3	3.4	8.6	50.3	29.5	29.0	58.1	25.4	13.2	69.9	45.8
ALASKA PLAICE	3.4	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GREENLAND TBT	0.1	0.0	0.0	6.8	1.6	0.0	1.8	1.6	1.4	11.8	13.6
ARROWTOOTH FL	5.9	1.8	21.8	17.7	24.0	26.8	41.3	22.2	28.1	26.8	10.9
PAC HALIBUT	0.9	0.0	1.4	4.5	7.9	5.4	0.0	1.6	5.7	30.8	0.0
OTHER FLTFISH	0.1	0.0	5.4	2.7	1.8	0.7	2.9	0.5	0.5	0.0	0.5
TOT FLATFISH	98.5	20.5	62.0	82.1	64.9	61.9	104.1	51.3	49.0	139.3	70.8
SKATES	0.7	4.5	9.1	23.6	3.2	0.5	14.1	44.5	0.7	34.9	12.7
TOT ELASMOBRH	0.7	4.5	9.1	23.6	3.2	0.5	14.1	44.5	0.7	34.9	12.7
RED KING CRAB	56.7	10.0	230.9	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	82.6	38.1	28.6	13.2	34.6	27.2	10.4	24.9	45.8	24.0	15.4
TANNER, OPILIO	38.6	33.1	44.9	3.9	6.4	1.4	0.2	0.2	0.0	0.0	1.6
TANNER, HYBRID	1.1	0.0	0.5	0.7	12.2	1.4	1.8	0.2	0.2	0.0	0.9
OTHER CRAB	8.6	16.8	9.1	0.0	2.7	0.0	0.0	2.5	0.9	1.4	0.5
SNAILS	5.1	19.1	1.8	0.9	0.7	3.6	2.5	5.4	5.0	4.1	1.1
SHRIMP	0.0	0.0	0.0	0.0	5.4	5.0	0.0	0.0	0.0	0.0	0.0
STARFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	244.9	0.0	0.0
SQUID	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
OCTOPUS	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.6	0.0	0.0
OTHER INVERTS	55.3	0.0	0.0	0.0	4.5	10.0	0.0	7.7	2.9	0.0	0.0
TOTAL INVERTS	252.1	117.0	315.7	18.6	66.5	48.6	15.0	41.0	318.4	29.5	19.5
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	452.6	205.8	483.6	302.1	318.0	178.7	344.0	336.3	493.0	401.9	210.1

Table A-1a.--Continued.

HAUL #	68	69	70	71	72	73	74	75	76	77	78
MONTH/DAY/YEAR	6/11/78	6/11/78	6/12/78	6/12/78	6/12/78	6/13/78	6/13/78	6/18/78	6/18/78	6/18/78	6/18/78
LATITUDE START	55 40.0	55 59.0	56 0.0	55 59.0	56 0.0	56 19.0	56 20.0	56 40.0	56 41.0	57 0.0	57 20.0
LONGITUDE START	166 22.0	166 23.0	167 0.0	167 36.0	168 12.0	168 52.0	168 14.0	169 29.0	168 53.0	169 31.9	169 36.0
LATITUDE END	55 41.4	56 1.3	56 0.7	56 1.1	56 1.3	56 20.1	56 20.3	56 40.2	56 40.9	57 1.2	57 19.9
LONGITUDE END	166 22.8	166 23.7	167 2.2	167 37.1	168 12.5	168 51.0	168 13.0	169 28.2	168 52.9	169 33.5	169 38.4
LORAN START	34662.90	34610.20	34715.50	34820.10	34916.00	34990.40	34883.20	35056.00	34946.00	35018.00	34904.00
LORAN START	48565.70	48602.20	48832.50	49052.60	49263.40	49553.90	49330.90	49828.00	49612.00	49896.00	49896.00
LORAN END	34659.80	34606.00	34720.00	34819.30	34915.00	34985.00	34876.80	35053.00	34946.00	35017.00	34914.00
LORAN END	48568.30	48603.90	48844.60	49059.70	49268.80	49543.20	49319.30	49818.00	49610.00	49902.00	49910.00
GEAR DEPTH	66	65	71	70	79	67	80	43	53	33	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	1.30	1.30	1.10	1.30	1.20	1.10	1.10	1.00	1.40	1.00	1.20
PERFORMANCE / GEAR	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20
POLLOCK	116.1	16.3	53.5	77.6	59.0	303.9	148.3	0.9	909.0	0.1	1.4
PAC COD	0.0	9.1	0.7	7.3	152.9	62.6	36.3	59.4	0.0	8.6	21.8
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 RCKFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	4.1	0.0	6.4	0.7	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	0.0	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	0.1	0.0	0.0	0.0
SCULPINS	4.1	0.0	10.0	18.6	12.2	2.7	14.1	543.9	72.6	20.4	19.5
EELPOUTS	34.5	3.2	27.7	24.5	11.3	0.0	7.3	0.0	2.7	0.0	0.0
OTHER RNDFISH	7.3	0.2	8.4	18.1	0.0	0.0	0.5	6.5	0.0	1.8	4.7
TOT ROUNDFISH	166.0	28.8	106.6	146.7	235.4	369.2	206.4	610.8	984.3	31.0	47.4
YELLOW SOLE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.2	31.8	13.6	19.5
ROCK SOLE	0.0	0.0	0.0	0.0	2.0	6.8	2.7	105.7	4.1	30.8	13.6
FLATHEAD SOLE	48.5	20.9	74.4	73.0	12.2	18.1	1.4	0.0	2.7	0.0	0.0
ALASKA PLAICE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	5.9
GREENLAND TBT	9.1	3.6	7.3	14.1	0.0	0.1	0.0	0.9	3.6	0.1	0.0
ARROWTOOTH FL	28.0	0.7	14.5	7.7	12.7	16.8	34.9	4.1	3.2	0.0	0.0
PAC HALIBUT	0.0	0.0	2.5	5.4	0.0	2.6	1.5	0.0	0.0	0.0	0.7
OTHER FLTFISH	0.1	0.0	0.0	0.0	0.5	0.9	1.4	0.0	0.0	0.0	0.0
TOT FLATFISH	85.7	25.2	98.7	100.2	27.4	45.4	41.8	210.9	45.4	45.3	39.7
SKATES	6.4	10.0	3.2	12.7	2.0	7.3	5.4	0.0	0.5	0.0	0.0
TOT ELASMOBRH	6.4	10.0	3.2	12.7	2.0	7.3	5.4	0.0	0.5	0.0	0.0
RED KING CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.3	0.0
BLUE KING CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.8	0.0	259.0	20.9
TANNER, BAIRDI	5.0	0.0	6.4	3.2	1.4	2.7	15.0	22.2	4.3	6.1	0.9
TANNER, OPILIO	1.4	5.0	4.5	1.8	0.5	0.0	96.2	37.2	126.6	54.0	247.2
TANNER, HYBRID	0.0	0.0	0.2	0.0	0.0	0.2	1.1	1.4	1.4	0.2	0.0
OTHER CRAB	1.8	0.9	0.9	0.0	0.7	4.1	0.2	38.1	2.7	27.2	81.2
SNAILS	0.5	0.7	1.6	0.7	0.2	0.2	0.3	0.3	1.4	3.9	0.0
SHRIMP	0.0	0.0	0.5	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0
STARFISH	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	8.2	1.8
SQUID	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
OCTOPUS	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	0.0	0.0	0.0	0.0	15.9	0.0	0.0	73.5	0.0	0.0	0.0
TOTAL INVERTS	8.6	6.6	14.0	5.7	18.6	12.3	116.5	179.5	136.3	380.0	352.0
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	266.7	70.5	222.5	265.4	283.5	434.2	370.2	1001.2	1166.4	456.2	439.0

Table A-1a.--Continued.

HAUL #	79	80	81	88	89	90	111	112	113	114
MONTH/DAY/YEAR	6/19/78	6/19/78	6/19/78	6/30/78	6/30/78	6/30/78	7/ 7/78	7/ 7/78	7/ 7/78	7/ 7/78
LATITUDE START	57 20.0	57 19.0	57 1.0	54 45.0	54 40.0	54 32.0	57 39.0	57 40.0	57 39.0	57 40.0
LONGITUDE START	170 12.0	170 51.0	170 7.0	165 39.9	166 52.0	166 53.0	163 21.0	162 44.0	162 7.0	161 30.0
LATITUDE END	57 19.4	57 20.3	57 1.0	54 42.9	54 40.4	54 31.2	57 40.1	57 40.5	57 39.0	57 40.1
LONGITUDE END	170 15.9	170 53.0	170 6.0	165 43.1	166 51.8	166 52.0	163 19.2	162 42.2	162 6.3	161 28.6
LORAN START	18710.00	18516.00	18707.00	34671.00	34842.00	34852.00	33562.00	33462.00	33375.00	33280.00
LORAN START	50095.00	50153.00	50111.00	48218.00	48613.00	48595.00	47390.00	47144.00	46902.00	46653.00
LORAN END	18704.00	18506.00	18706.00	34683.00	34840.00	34851.00	33555.00	33455.00	33374.00	33276.00
LORAN END	50110.00	50151.00	50100.00	48230.00	48607.00	48586.00	47376.00	47130.00	46892.00	46642.00
GEAR DEPTH	32	44	35	150	204	252	25	22	25	28
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	1.70	1.10	1.10	1.40	1.20	1.40	1.10	1.20	0.90	0.90
PERFORMANCE / GEAR	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20
POLLOCK	0.7	199.6	1.8	40.8	1.1	1.6	0.9	0.1	0.9	7.3
PAC COD	2.7	12.2	9.5	120.7	0.0	0.0	6.4	0.9	10.4	20.0
PAC OC PERCH	0.0	0.0	0.0	1.8	1.8	0.9	0.0	0.0	0.0	0.0
OTHER RCKFISH	0.0	0.0	0.0	0.0	0.5	1.4	0.0	0.0	0.0	0.0
SABLEFISH	0.0	0.0	0.0	0.0	0.0	20.4	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
ATKA MACKEREL	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	0.5	48.5	5.0	14.1	8.4	5.9	54.0	13.6	15.9	22.7
EELPOUTS	0.0	0.9	0.0	0.0	1.1	22.2	0.0	0.0	0.0	0.0
OTHER RNDFISH	0.2	0.0	0.1	11.8	1.4	11.9	2.8	4.6	2.4	9.6
TOT ROUNDFISH	4.1	261.3	16.5	189.1	14.2	64.3	64.1	19.3	29.6	59.5
YELLOW SOLE	1.1	1.8	26.3	0.0	0.0	0.0	352.0	323.9	219.5	364.2
ROCK SOLE	4.5	0.9	21.3	0.0	0.0	0.0	20.0	10.0	3.9	33.1
FLATHEAD SOLE	0.0	4.1	0.1	4.1	34.9	0.5	2.3	1.4	1.6	3.2
ALASKA PLAICE	0.0	0.0	0.1	0.0	0.0	0.0	23.1	4.1	1.8	2.7
GREENLAND TBT	0.0	12.7	0.1	0.0	84.8	35.8	0.5	0.0	0.1	0.1
ARROWTOOTH FL	0.0	0.0	0.0	84.4	16.3	9.8	0.0	0.0	0.0	0.0
PAC HALIBUT	0.2	0.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER FLTFISH	0.0	0.0	0.0	1.8	2.5	3.2	7.3	5.4	7.9	6.8
TOT FLATFISH	5.9	19.5	51.4	90.3	138.6	49.2	405.1	344.7	234.8	410.1
SKATES	0.0	0.0	7.7	56.2	1.6	0.0	0.0	0.0	0.0	0.0
TOT ELASMOBRH	0.0	0.0	7.7	56.2	1.6	0.0	0.0	0.0	0.0	0.0
RED KING CRAB	0.0	0.0	0.0	0.0	0.0	0.0	8.2	40.4	91.2	60.3
BLUE KING CRAB	0.0	13.6	21.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	0.2	4.3	11.3	24.9	0.0	0.0	0.2	0.2	0.9	13.6
TANNER, OPILIO	5.2	94.3	28.6	0.0	0.0	0.7	1.8	0.1	0.2	0.0
TANNER, HYBRID	0.0	0.0	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	10.4	5.4	33.1	0.0	0.0	0.5	4.1	2.4	0.5	4.6
SNAILS	0.1	5.4	19.7	0.2	4.5	2.8	13.6	2.7	0.9	0.9
SHRIMP	0.0	0.0	0.0	1.8	1.8	0.0	0.0	0.0	0.0	0.0
STARFISH	0.0	0.0	74.8	1.4	25.9	20.4	52.2	22.7	7.4	8.8
SQUID	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0
OCTOPUS	0.0	0.0	0.0	0.1	2.7	0.9	0.0	0.0	0.0	0.0
OTHER INVERTS	0.0	0.0	2.7	0.0	168.3	22.9	0.0	0.0	0.0	0.0
TOTAL INVERTS	16.0	123.1	198.0	28.4	204.5	48.2	80.1	68.5	101.0	88.3
OTHER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	26.0	403.9	273.7	364.1	358.9	161.7	549.2	432.4	365.4	558.0

Table A-1b.--Station and catch data for hauls successfully completed--Paragon II.

HAUL #	1	2	3	4	11	14	15	16	17	18	20
MONTH/DAY/YEAR	6/18/78	6/19/78	6/19/78	6/19/78	6/25/78	6/25/78	6/26/78	6/26/78	6/26/78	6/26/78	6/27/78
LATITUDE START	54 59.0	55 19.0	55 39.0	56 0.0	56 15.0	56 19.0	56 17.0	56 39.0	56 39.0	56 40.0	57 0.0
LONGITUDE START	165 44.0	165 46.9	165 47.9	165 45.9	169 24.9	170 6.0	170 44.0	171 21.0	171 56.0	172 32.9	173 15.0
LATITUDE END	55 1.6	55 21.1	55 42.2	56 1.5	56 14.9	56 19.6	56 17.5	56 40.8	56 40.4	56 41.1	57 0.2
LONGITUDE END	165 44.9	165 46.4	165 48.6	165 46.3	169 28.6	170 10.6	170 48.2	171 23.7	171 59.4	172 36.4	173 12.6
LORAN START	34654.60	34618.20	34567.80	34502.00	35070.90	35128.50	35135.50	35071.00	34997.20	34913.30	17550.10
LORAN START	48268.10	48314.20	48349.80	48367.20	49709.30	49906.40	50008.00	18195.70	17975.60	17743.50	34728.40
LORAN END	34651.50	34612.30	34562.70	34495.30	35076.50	35131.50	35133.90	35064.00	34990.00	34904.20	17566.10
LORAN END	48272.00	48313.00	48356.60	48365.00	49722.60	49920.00	50016.90	18184.80	17963.40	17731.60	34733.80
GEAR DEPTH	66	65	63	58	151	59	65	62	68	73	76
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	1.70	1.60	2.00	1.50	1.60	2.00	1.90	1.70	1.50	1.70	1.30
PERFORMANCE / GEAR	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20
POLLOCK	39.8	71.0	231.1	184.2	63.8	994.0	165.7	102.9	112.9	338.5	82.2
PAC COD	3132.1	3.4	0.0	8.3	14.1	1.2	30.4	4.2	21.5	26.0	5.6
PAC OC PERCH	0.0	0.0	0.0	0.0	97.8	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	1.3	0.0	0.0	1.3	0.0	1.1	0.0	0.0	2.8	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	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	8.4	6.7	0.0	6.3	0.0	9.8	0.0	0.0	0.5	0.0	0.0
EELPOUTS	1.1	72.1	8.7	63.5	84.2	11.0	24.4	8.7	3.9	10.8	3.5
OTHER RNDFISH	0.0	7.3	0.7	0.6	0.4	0.3	2.7	6.3	5.4	11.2	14.0
TOT ROUNDFISH	3182.8	161.1	240.5	264.1	24.8	1.9	0.0	0.7	0.3	0.2	0.9
					285.0	1019.3	223.1	122.7	147.4	386.7	106.2
YELLOW SOLE	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROCK SOLE	0.0	0.0	0.0	0.2	0.0	0.2	0.2	0.0	0.0	1.1	2.5
FLATHEAD SOLE	6.9	63.0	13.3	44.4	0.0	38.3	72.0	5.2	2.5	2.4	0.9
ALASKA PLAICE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GREENLAND TBT	2.1	0.2	0.0	5.2	3.4	7.9	2.4	5.3	1.0	0.6	0.3
ARROWTOOTH FL	4.6	10.8	1.2	10.8	41.4	9.6	14.3	6.4	6.2	10.8	9.1
PAC HALIBUT	0.0	0.0	0.0	2.4	0.0	6.8	0.0	0.0	0.0	0.0	0.0
OTHER FLTFISH	1.0	0.8	0.2	0.0	0.5	0.1	0.4	0.5	0.0	0.2	0.0
TOT FLATFISH	14.7	74.8	14.7	63.4	45.3	62.9	89.3	17.4	9.8	15.1	12.8
SKATES	2.6	12.3	0.0	38.3	3.0	0.0	0.0	2.8	6.6	0.0	7.9
TOT ELASMOBRN	2.6	12.3	0.0	38.3	3.0	0.0	0.0	2.8	6.6	0.0	7.9
RED KING CRAB	11.3	4.1	4.1	39.5	0.0	0.0	0.0	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	0.0
TANNER, BAIRDI	6.4	4.5	3.2	4.1	0.8	3.9	10.6	7.8	19.7	6.4	4.9
TANNER, OPILIO	0.2	0.2	0.5	2.7	8.1	0.0	0.0	76.7	2.5	0.5	0.0
TANNER, HYBRID	0.0	0.0	0.0	0.5	1.5	0.1	0.7	0.0	0.7	0.1	0.0
OTHER CRAB	0.0	0.5	0.0	1.8	0.1	1.4	1.5	4.1	3.6	1.4	2.3
SNAILS	0.0	0.2	0.0	2.3	0.4	0.6	1.6	5.9	5.2	0.5	0.5
SHRIMP	0.0	0.0	0.0	0.0	3.3	0.0	0.5	0.6	0.0	0.0	0.3
STARFISH	0.0	0.0	0.0	0.0	2.6	5.9	61.3	24.8	287.9	22.7	0.0
SQUID	0.0	0.0	0.0	0.0	7.3	0.0	0.0	0.0	0.0	0.0	2.0
OCTOPUS	0.0	0.0	0.0	0.0	0.0	0.0	6.1	5.5	0.0	7.5	0.0
OTHER INVERTS	0.0	1.4	0.1	0.0	10.9	0.0	0.5	0.0	0.0	0.0	0.5
TOTAL INVERTS	17.9	10.9	7.8	50.8	35.0	11.8	82.8	125.5	319.7	38.9	10.4
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	3218.0	259.1	263.0	416.7	368.3	1094.0	395.2	268.4	483.4	440.6	137.3

Table A-1b.--Continued.

HAUL #	21	23	24	25	26	27	28	29	30	31	32
MONTH/DAY/YEAR	6/27/78	6/27/78	6/27/78	6/27/78	6/28/78	6/28/78	6/28/78	6/28/78	6/30/78	6/30/78	6/30/78
LATITUDE START	56 59.0	57 0.0	57 0.0	57 19.0	57 19.0	57 40.0	57 39.0	57 39.0	56 38.0	56 39.0	56 21.0
LONGITUDE START	172 39.9	172 1.9	171 24.9	171 28.0	172 6.0	172 9.9	171 31.9	170 56.0	168 15.0	167 39.9	167 39.9
LATITUDE END	57 0.5	57 1.3	57 2.1	57 19.9	57 20.7	57 41.2	57 40.5	57 39.9	56 39.9	56 38.2	56 20.2
LONGITUDE END	172 37.0	171 59.1	171 24.7	171 32.1	172 4.7	172 8.0	171 29.3	170 53.8	168 16.9	167 41.1	167 38.9
LORAN START	34813.30	34902.10	34994.10	34869.40	34779.00	34608.50	34685.70	34744.70	34831.40	34709.50	34772.40
LORAN START	17776.80	18022.50	18266.30	18284.00	18041.50	18027.10	18251.20	18446.80	18647.00	18659.60	18592.10
LORAN END	34816.60	34905.60	34988.70	34859.20	34773.10	34602.80	34684.60	34745.80	34831.60	34718.40	34774.00
LORAN END	17798.80	18047.50	18274.80	18260.30	18051.60	18040.60	18268.10	18461.20	18653.00	18654.20	18586.00
GEAR DEPTH	66	64	59	54	59	57	54	45	58	57	70
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	1.80	2.00	1.50	2.00	1.50	1.70	1.80	1.60	1.90	1.60	1.70
PERFORMANCE / GEAR	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20
POLLOCK	40.6	1166.8	128.7	166.0	842.4	402.9	390.0	4244.2	177.7	135.3	269.0
PAC COD	5.5	4.5	0.0	11.3	0.0	0.1	6.6	70.7	1.1	8.4	0.0
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 RCKFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
SABLEFISH	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
PAC HERRING	0.0	0.0	0.0	0.2	0.0	0.0	0.1	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	2.7	7.6	3.4	12.0	8.5	13.4	4.9	0.0	2.2	4.3	76.1
EELPOUTS	14.0	18.4	12.7	83.3	25.9	48.1	18.3	126.7	28.1	20.0	24.5
OTHER RNDFISH	0.3	0.1	5.9	0.6	0.1	0.2	0.3	0.0	0.2	1.4	2.3
TOT ROUNDFISH	63.1	1197.4	150.6	273.4	877.4	464.7	420.1	4441.6	209.3	169.3	372.4
YELLOW SOLE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.7	0.5	5.4	0.5
ROCK SOLE	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.0	4.3	6.7	0.0
FLATHEAD SOLE	0.5	4.3	6.1	20.2	3.4	1.0	0.9	0.0	1.2	1.3	42.8
ALASKA PLAICE	0.0	0.0	0.0	1.5	0.0	0.0	0.7	0.0	0.7	6.7	0.0
GREENLAND TBT	2.7	17.0	9.8	29.3	23.5	38.1	34.7	85.4	2.0	8.5	3.4
ARROWTOOTH FL	2.3	8.8	1.3	0.0	0.2	0.2	0.0	0.0	3.9	2.4	48.6
PAC HALIBUT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER FLTFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
TOT FLATFISH	5.4	30.1	17.1	51.0	27.1	39.8	36.7	92.0	12.6	31.1	95.7
SKATES	13.6	0.0	0.0	0.1	0.2	5.6	0.0	0.0	0.7	0.0	1.4
TOT ELASMOBRH	13.6	0.0	0.0	0.1	0.2	5.6	0.0	0.0	0.7	0.0	1.4
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	172.0	0.0	0.0	0.0
TANNER, BAIRDI	16.6	18.6	4.2	22.5	7.7	0.0	0.0	0.0	6.8	17.5	3.2
TANNER, OPILIO	2.9	49.9	89.6	257.2	168.7	127.5	12.2	370.1	168.1	170.1	11.8
TANNER, HYBRID	0.4	0.2	2.4	15.6	3.6	0.0	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	0.7	10.0	15.4	23.1	9.6	11.4	6.9	66.7	0.9	15.1	1.6
SNAILS	4.4	5.4	4.9	34.9	5.8	10.4	20.4	40.0	0.6	9.5	1.3
SHRIMP	0.7	0.4	1.5	0.9	0.0	0.9	0.3	0.0	0.0	0.0	15.1
STARFISH	0.5	0.2	0.5	0.7	0.2	1.8	1.4	102.1	5.9	8.6	11.2
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	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.5	0.0	1.1
TOTAL INVERTS	26.0	84.6	118.6	354.9	195.7	152.0	41.1	750.9	182.7	220.7	45.3
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	108.2	1312.2	286.4	679.4	1100.4	662.1	498.0	5284.5	405.4	421.1	514.7

Table A-lb.--Continued.

HAUL #	34	57	58	59	60	61	62	63	64	65	66
MONTH/DAY/YEAR	6/30/78	7/ 7/78	7/ 7/78	7/ 7/78	7/ 7/78	7/ 8/78	7/ 8/78	7/13/78	7/13/78	7/13/78	7/13/78
LATITUDE START	56 15.0	57 19.0	57 19.0	57 19.0	57 18.0	56 20.0	56 22.0	57 40.0	57 38.0	57 39.0	57 39.0
LONGITUDE START	167 1.9	164 38.0	165 8.9	165 46.9	166 24.9	165 47.9	166 24.9	166 30.9	165 53.0	165 15.9	164 36.0
LATITUDE END	56 19.9	57 17.2	57 18.7	57 19.8	57 17.7	56 20.9	56 22.2	57 39.7	57 40.2	57 38.8	57 40.2
LONGITUDE END	166 59.0	164 38.5	165 5.1	165 51.5	166 24.2	165 51.6	166 28.6	166 28.2	165 51.6	165 13.4	164 34.5
LORAN START	34663.70	33908.40	33989.70	34120.80	34250.90	34430.60	34539.60	34116.00	34008.00	33889.70	33776.30
LORAN START	18596.00	18732.60	18732.10	18736.60	18737.90	48396.10	48639.10	48641.50	48398.20	48150.70	47891.00
LORAN END	34651.50	33925.00	33994.70	34132.30	34250.80	34439.10	34548.40	34109.60	33992.20	33885.90	33761.90
LORAN END	18599.30	18730.00	18733.00	18736.90	18737.00	48415.60	48659.00	48623.60	48382.60	48132.40	47873.20
GEAR DEPTH	60	35	36	36	36	49	55	35	34	33	28
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	1.90	2.00	1.80	2.00	1.10	1.70	1.70	1.60	1.70	1.70	1.70
PERFORMANCE / GEAR	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20
POLLOCK	329.4	9.8	54.1	24.6	0.4	631.3	309.9	3.7	26.0	3.1	0.0
PAC COD	2.5	1.2	4.0	14.1	1.0	10.3	9.8	12.3	75.1	4.0	1.5
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 RCKFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	5.4	0.0	0.0	0.2	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	0.1	0.0	0.0	0.6	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	3.7	21.4	21.5	81.6	25.9	13.3	3.5	79.2	202.2	202.8	127.1
EELPOUTS	17.6	35.9	19.3	6.4	9.6	17.4	17.9	9.9	18.8	13.7	3.6
OTHER RNDFISH	24.6	7.3	0.7	2.7	0.9	0.2	4.5	4.3	5.8	17.7	9.3
TOT ROUNDFISH	383.3	75.6	99.6	129.7	37.9	672.6	345.6	109.5	328.4	241.4	141.4
YELLOW SOLE	1.6	488.6	328.9	194.9	222.5	73.3	12.6	1060.1	2230.3	1827.1	1490.3
ROCK SOLE	0.0	0.0	3.4	6.7	2.7	5.2	0.6	0.0	31.8	6.2	7.2
FLATHEAD SOLE	30.6	2.6	2.4	5.3	4.1	13.6	17.2	0.4	0.9	1.8	0.0
ALASKA PLAICE	2.6	92.8	43.0	22.7	113.4	25.3	8.2	806.8	66.5	153.3	136.8
GREENLAND TBT	7.7	3.8	9.8	20.8	6.5	8.9	15.1	18.6	28.9	14.2	2.2
ARROWTOOTH FL	9.4	0.0	0.0	0.0	0.0	0.5	0.8	0.0	0.0	0.0	0.0
PAC HALIBUT	0.8	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER FLTFISH	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT FLATFISH	53.0	587.8	387.5	253.4	349.2	126.8	54.4	1885.9	2358.3	2002.5	1636.5
SKATES	0.0	6.5	2.2	0.0	0.0	2.6	0.0	4.9	0.0	1.8	0.0
TOT ELASMOBRH	0.0	6.5	2.2	0.0	0.0	2.6	0.0	4.9	0.0	1.8	0.0
RED KING CRAB	15.0	5.2	1.8	0.0	0.0	39.0	7.3	0.0	0.0	0.0	2.7
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	6.8	5.5	2.4	2.3	4.5	6.8	3.2	0.7	0.0	0.2	0.5
TANNER, OPILIO	69.3	159.4	139.3	165.7	379.4	22.2	145.6	201.4	75.9	154.2	70.8
TANNER, HYBRID	5.5	0.0	2.4	1.4	2.7	0.0	0.0	32.7	2.0	5.9	9.1
OTHER CRAB	2.3	51.9	42.0	12.6	10.8	16.6	7.0	18.0	28.9	68.0	4.9
SNAILS	0.3	27.1	44.9	9.1	3.3	41.0	6.1	32.7	11.6	17.7	79.2
SHRIMP	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
STARFISH	73.2	30.8	52.7	28.5	28.6	37.4	25.6	28.4	53.5	118.7	25.2
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	0.4	0.2	0.1	0.2	0.8	2.5	0.0	0.0	0.0	0.0	0.0
TOTAL INVERTS	173.7	280.2	285.7	219.8	430.2	165.5	194.8	314.0	171.9	364.8	662.3
OTHER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	854.8
TOTAL CATCH	610.1	950.1	775.0	602.9	817.3	967.5	594.8	2314.3	2858.6	2610.5	2632.7

Table A-lb.--Continued.

HAUL #	67	68	69	70	71	72	73	74	75	76	77
MONTH/DAY/YEAR	7/13/78	7/14/78	7/14/78	7/14/78	7/14/78	7/14/78	7/15/78	7/15/78	7/15/78	7/15/78	7/15/78
LATITUDE START	57 39.0	57 40.0	57 38.0	57 37.0	57 38.0	57 59.0	58 0.0	57 59.0	58 0.0	58 1.0	58 0.0
LONGITUDE START	164 0.0	160 52.0	160 15.0	159 37.0	159 1.9	158 57.0	159 36.0	160 11.0	160 50.0	161 29.0	162 6.0
LATITUDE END	57 39.0	57 40.8	57 39.4	57 38.8	57 40.2	58 1.9	58 0.5	58 0.5	58 0.5	58 1.8	58 0.6
LONGITUDE END	163 57.6	160 49.6	160 13.8	159 36.8	159 0.1	158 57.6	159 38.8	160 15.3	160 54.8	161 32.8	162 8.4
LORAN START	33674.10	33187.20	33119.00	33042.60	32964.00	32829.20	32903.90	32981.90	33058.70	33139.50	33233.70
LORAN START	47651.90	46401.50	46155.20	45902.70	45673.20	45643.00	45896.00	46130.30	46385.90	46640.10	46884.20
LORAN END	33666.20	33180.70	33109.20	33033.40	32950.00	32817.30	32907.30	32983.20	33069.00	33145.40	33237.40
LORAN END	47630.70	46382.30	46144.90	45898.90	45656.20	45644.00	45913.30	46152.70	46412.10	46660.00	46894.80
GEAR DEPTH	27	30	29	26	24	20	23	27	23	27	21
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	1.70	1.60	1.40	1.40	2.00	2.00	1.40	2.00	2.00	1.60	0.90
PERFORMANCE / GEAR	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20
POLLOCK	0.3	13.0	1.5	0.5	3.2	0.0	0.0	0.0	0.0	0.7	0.0
PAC COD	9.6	29.0	37.3	0.0	4.1	0.0	51.2	10.7	0.5	123.8	7.2
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	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.1	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	159.6	67.2	74.0	43.1	3.6	0.0	20.0	26.5	19.6	222.5	732.3
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	13.4	21.9	14.8	8.6	1.6	0.0	5.0	14.1	15.5	54.5	13.8
TOT ROUNDFISH	182.9	131.1	128.4	52.1	12.4	0.0	76.2	51.3	35.6	401.7	753.3
YELLOW SOLE	1232.1	1083.3	554.7	430.5	49.0	0.0	1683.6	1011.5	1367.0	695.4	996.7
ROCK SOLE	13.3	62.6	301.0	71.2	9.5	0.0	13.1	145.1	238.5	48.0	116.5
FLATHEAD SOLE	0.0	6.8	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ALASKA PLAICE	45.8	3.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	8.3	6.3
GREENLAND TBT	4.4	0.1	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
OTHER FLTFISH	1.5	8.4	23.3	8.6	0.1	0.0	33.6	13.6	14.9	7.7	23.3
TOT FLATFISH	1297.1	1164.2	883.2	510.3	58.6	0.0	1730.3	1170.9	1620.5	759.6	1142.8
SKATES	10.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT ELASMOBRH	10.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED KING CRAB	37.2	65.8	39.7	63.3	2.7	0.0	2.3	139.7	101.6	85.0	38.6
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	0.3	2.7	4.7	2.0	0.2	0.0	0.0	0.7	0.0	0.7	1.4
TANNER, OPILIO	42.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, HYBRID	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	16.6	26.7	4.8	2.9	0.6	0.0	2.9	0.9	2.4	34.4	4.9
SNAILS	271.8	14.1	0.0	0.0	0.1	0.0	0.0	0.0	3.2	7.8	0.0
SHRIMP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STARFISH	28.1	18.3	48.2	145.6	71.7	37.6	19.1	83.9	11.0	55.6	136.3
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	382.6	0.0	24.1	13.2	0.9	0.0	0.0	0.0	0.0	77.7	0.0
TOTAL INVERTS	782.9	127.6	121.5	227.0	76.2	37.6	24.2	225.2	118.1	261.3	181.0
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	2273.3	1422.9	1133.1	789.4	147.3	37.6	1830.7	1447.4	1774.2	1422.6	2077.1

Table A-lb .--Continued.

HAUL #	78	79	80	81	82	83	84	85	87	88	89
MONTH/DAY/YEAR	7/16/78	7/16/78	7/16/78	7/16/78	7/16/78	7/17/78	7/17/78	7/18/78	7/18/78	7/18/78	7/18/78
LATITUDE START	57 59.0	58 0.0	58 0.0	58 0.0	58 1.0	57 5.0	57 0.0	56 42.0	56 40.0	56 39.0	56 59.0
LONGITUDE START	162 44.0	163 21.0	164 0.9	164 37.0	165 14.0	166 29.0	165 50.0	165 50.0	166 26.0	167 2.9	167 4.0
LATITUDE END	57 59.5	58 0.6	58 3.5	58 1.7	57 59.8	57 1.3	56 58.5	56 41.2	56 39.7	56 43.4	57 1.1
LONGITUDE END	162 47.8	163 25.3	164 5.0	164 39.8	165 15.5	166 28.2	165 52.0	165 50.6	166 29.8	167 4.8	167 5.0
LORAN START	33333.70	33419.30	33524.50	33621.50	33719.40	34343.30	34247.20	34337.50	34461.90	34589.00	34496.80
LORAN START	47133.00	47372.40	47632.50	47865.00	48103.40	48671.00	48416.50	48414.20	48655.00	48903.70	48911.70
LORAN END	33341.30	33429.30	33512.70	33620.90	33736.20	34362.90	34260.70	34346.00	34478.20	34576.10	34487.10
LORAN END	47153.00	47397.50	47652.20	47880.20	48114.10	48666.80	48424.40	48416.40	48677.10	48911.70	48912.70
GEAR DEPTH	21	22	24	24	26	39	38	42	45	51	40
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	1.60	2.00	2.00	1.70	1.80	2.00	1.90	1.50	2.00	2.00	1.90
PERFORMANCE / GEAR	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20
POLLOCK	0.7	2.0	35.8	6.8	11.8	57.2	60.3	100.2	176.9	148.1	197.3
PAC COD	31.3	163.4	188.2	28.9	9.8	62.6	1.6	9.5	12.7	5.0	29.9
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 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	0.4	0.0	0.0	0.0	0.0	0.2
PAC HERRING	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.7
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	60.1	61.2	74.1	56.4	40.3	25.4	25.4	21.3	12.8	15.0	8.2
EELPOUTS	0.0	0.0	0.0	0.0	0.0	10.9	18.1	2.9	7.3	51.3	8.2
OTHER RNDFISH	9.9	5.9	5.8	9.7	7.0	1.4	0.3	0.1	0.2	0.6	1.9
TOT ROUNDFISH	102.0	232.4	304.0	101.8	69.0	158.1	105.8	134.2	209.9	219.9	246.4
YELLOW SOLE	1142.8	1248.5	194.1	296.6	573.6	387.8	194.6	92.5	54.9	142.4	103.0
ROCK SOLE	85.8	19.5	30.4	39.5	38.4	15.0	11.8	13.6	12.7	6.8	3.4
FLATHEAD SOLE	0.0	0.0	0.0	0.0	0.1	3.6	2.7	1.4	12.7	7.3	94.3
ALASKA PLAICE	25.9	31.7	12.7	13.5	70.9	16.8	130.2	4.8	15.9	1.4	18.1
GREENLAND TBT	0.0	0.0	0.0	0.0	0.0	6.8	29.5	3.2	15.9	6.8	4.5
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	1.0
OTHER FLTFISH	11.6	3.7	1.8	3.1	2.4	0.0	0.0	0.0	0.0	0.0	0.0
TOT FLATFISH	1266.1	1303.4	239.0	352.6	685.3	430.0	368.8	115.4	112.0	164.7	224.4
SKATES	0.0	0.0	0.0	0.0	0.0	7.3	3.6	0.0	2.0	0.0	1.4
TOT ELASMOBRH	0.0	0.0	0.0	0.0	0.0	7.3	3.6	0.0	2.0	0.0	1.4
RED KING CRAB	12.5	15.9	3.2	2.7	0.0	0.0	1.6	6.4	2.3	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	0.0	0.0	0.1	0.9	0.0	1.8	4.5	4.5	3.4	4.1	0.5
TANNER, OPILIO	0.0	0.0	0.0	0.0	0.2	227.7	104.3	73.7	95.7	30.2	86.6
TANNER, HYBRID	0.0	0.0	0.0	0.0	0.0	32.7	2.7	0.3	1.8	2.5	0.3
OTHER CRAB	4.2	7.3	12.7	50.1	65.9	8.2	3.9	19.1	39.1	25.9	54.1
SNAILS	1.9	9.8	41.8	87.1	53.7	35.1	20.2	10.7	58.6	33.9	14.5
SHRIMP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STARFISH	58.6	287.8	85.3	119.4	52.2	47.6	32.7	10.4	6.4	29.0	31.3
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	173.5	24.9	19.1	2.7	0.0	5.4	0.0
TOTAL INVERTS	77.2	320.7	143.1	260.3	345.4	378.0	188.9	127.7	207.3	131.0	187.3
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	1445.3	1856.5	686.1	714.7	1099.8	973.4	667.1	377.3	531.2	515.6	659.4

Table A-lb .--Continued.

HAUL #	91	92	93	95	96	97	98	99	100	101	102
MONTH/DAY/YEAR	7/18/78	7/19/78	7/19/78	7/19/78	7/19/78	7/19/78	7/21/78	7/21/78	7/21/78	7/21/78	7/21/78
LATITUDE START	57 18.0	57 19.0	57 1.0	57 21.0	57 20.0	57 2.0	57 39.0	57 39.0	58 0.0	58 19.0	58 20.0
LONGITUDE START	167 5.0	167 44.0	167 42.0	168 17.9	168 58.0	168 56.0	169 38.9	170 15.9	170 19.0	170 23.9	171 0.0
LATITUDE END	57 20.3	57 18.2	56 59.6	57 22.0	57 19.6	57 0.6	57 40.1	57 39.7	58 2.2	58 19.8	58 20.0
LONGITUDE END	167 6.5	167 43.9	167 42.1	168 22.5	168 59.0	168 56.7	169 42.0	170 20.6	170 21.1	170 28.5	171 2.1
LORAN START	34381.70	34505.60	34613.20	34616.60	34763.10	34875.40	34705.50	34760.20	34512.30	34280.40	34268.80
LORAN START	48903.20	49158.70	49162.30	49386.40	49648.10	49657.90	18699.40	18616.40	18525.80	18437.70	18301.10
LORAN END	34374.00	34516.60	34623.10	34625.80	34774.80	34885.10	34710.00	34765.80	34490.30	34277.60	34275.00
LORAN END	48907.40	49159.10	49161.50	49409.00	49655.40	49659.00	18694.60	18604.40	18513.90	18423.30	18298.00
GEAR DEPTH	38	40	42	39	37	43	37	38	39	40	45
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	1.70	1.80	2.00	2.00	1.30	1.80	1.60	2.00	2.00	2.00	0.80
PERFORMANCE / GEAR	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20
POLLOCK	31.2	120.7	607.8	72.6	4.0	1.6	15.6	63.4	19.1	13.4	22.9
PAC COD	39.6	34.0	10.9	43.5	28.4	4.1	0.0	6.8	13.2	1.6	4.1
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 RCKFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	0.4	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HERRING	0.0	0.0	0.0	0.3	0.0	0.0	0.0	1.1	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	56.6	22.9	13.2	10.0	196.9	11.1	0.3	14.3	3.3	9.9	15.5
EELPOUTS	12.7	1.6	1.8	0.2	0.0	0.7	7.7	13.2	5.9	5.7	10.2
OTHER RNDFISH	4.7	2.6	5.5	13.9	17.6	1.2	0.9	2.8	1.7	2.4	1.8
TOT ROUNDFISH	145.1	181.7	640.1	140.5	246.8	18.7	24.5	101.6	43.1	32.9	54.5
YELLOW SOLE	718.0	190.5	73.5	65.8	61.5	25.4	14.5	9.5	7.5	11.1	4.1
ROCK SOLE	17.7	10.9	6.4	17.7	25.5	8.8	0.7	10.4	1.4	1.6	0.9
FLATHEAD SOLE	15.1	7.7	6.4	2.7	0.0	0.1	0.9	6.4	0.5	3.2	4.1
ALASKA PLAICE	41.3	32.2	4.5	11.8	4.6	0.7	2.7	1.1	1.1	5.9	0.5
GREENLAND TBT	25.3	20.0	10.0	21.3	4.6	8.2	17.7	35.8	27.9	20.6	29.3
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	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER FLTFISH	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT FLATFISH	818.3	261.3	100.7	119.4	96.3	43.2	36.5	63.3	38.3	42.5	38.8
SKATES	1.3	2.3	4.5	0.1	0.0	0.1	0.0	2.7	0.2	0.9	1.4
TOT ELASMOBRH	1.3	2.3	4.5	0.1	0.0	0.1	0.0	2.7	0.2	0.9	1.4
RED KING CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.0
BLUE KING CRAB	0.0	0.0	0.0	0.0	49.2	55.3	2.3	26.3	0.0	0.0	0.0
TANNER, BAIRDI	4.2	0.1	1.7	0.2	34.7	13.2	0.0	2.3	0.0	0.0	0.0
TANNER, OPILIO	458.9	30.2	115.2	108.0	189.1	128.1	313.9	216.4	129.5	37.2	81.2
TANNER, HYBRID	1.4	0.7	0.2	1.1	6.1	2.5	0.0	0.0	0.0	0.0	0.7
OTHER CRAB	44.9	44.6	40.9	85.6	96.1	38.2	103.1	82.7	17.2	4.5	2.8
SNAILS	29.5	9.3	9.2	14.7	5.5	1.5	23.3	7.2	8.9	5.6	11.4
SHRIMP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4	0.2	9.3	30.8
STARFISH	26.9	10.9	20.0	13.2	9.3	21.3	22.7	65.3	33.8	11.8	51.7
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	144.9	25.4	0.0	145.1	148.5	1.5	1.2	0.0	4.5	0.0	0.0
TOTAL INVERTS	710.7	121.1	187.2	367.8	538.5	261.6	466.3	407.9	194.2	68.4	178.6
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	1675.4	566.3	932.5	627.8	881.6	323.6	527.4	575.4	275.9	144.7	273.3

Table A-lb.--Continued.

HAUL #	103	104	105	106	107	108	109	110	111	112	113
MONTH/DAY/YEAR	7/22/78	7/22/78	7/22/78	7/22/78	7/22/78	7/23/78	7/23/78	7/23/78	7/23/78	7/23/78	7/24/78
LATITUDE START	58 40.0	59 0.0	59 20.0	59 40.0	60 0.0	60 20.0	60 20.0	60 39.0	60 40.0	61 0.0	60 59.0
LONGITUDE START	171 4.0	171 7.0	171 11.0	171 15.9	171 16.9	171 21.0	172 2.9	172 6.0	171 23.9	171 28.0	172 9.9
LATITUDE END	58 41.6	59 1.8	59 22.0	59 42.0	60 2.8	60 20.4	60 22.2	60 39.9	60 42.4	60 59.4	60 57.8
LONGITUDE END	171 5.6	171 7.8	171 11.7	171 18.6	171 18.5	171 25.2	172 3.2	172 2.3	171 23.4	171 33.5	172 10.8
LORAN START	34030.60	33792.20	33555.00	33316.50	33075.20	32843.20	32861.10	32635.10	32607.50	32376.40	32405.00
LORAN START	18222.20	18149.70	18077.50	49385.90	17942.80	17879.40	17741.40	17690.00	17820.40	17761.30	17635.10
LORAN END	34017.60	33776.10	33535.30	33298.00	33050.00	32842.90	32837.90	32632.30	32581.60	32387.70	32429.40
LORAN END	18215.10	18144.80	18070.90	49381.60	17934.10	17866.90	17739.10	17702.50	17817.20	17747.60	17637.50
GEAR DEPTH	44	41	40	38	36	35	31	33	33	31	34
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	1.20	1.40	1.70	1.90	2.00	1.90	2.00	1.90	2.00	2.00	2.00
PERFORMANCE / GEAR	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20
POLLOCK	1913.7	7.3	1.4	3.6	1.4	0.5	0.7	0.7	0.5	0.7	0.5
PAC COD	6.7	0.2	0.5	0.7	1.1	0.2	1.8	0.7	0.1	0.2	0.2
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	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	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	50.3	4.5	1.4	5.2	4.6	3.9	62.7	0.9	0.2	0.0	0.1
EELPOUTS	24.6	5.9	40.8	38.3	7.9	15.5	12.8	343.4	18.2	17.9	5.9
OTHER RNDFISH	0.0	7.0	7.8	3.6	13.0	4.6	19.8	6.6	1.2	2.7	0.5
TOT ROUNDFISH	1995.3	24.9	51.8	51.5	28.1	24.7	97.9	352.2	20.2	21.6	7.1
YELLOW SOLE	14.5	5.7	6.6	0.2	0.5	0.2	0.0	0.1	0.2	0.0	0.0
ROCK SOLE	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
FLATHEAD SOLE	4.5	0.5	1.4	0.9	2.3	0.2	0.1	0.9	0.1	0.1	0.9
ALASKA PLAICE	4.5	0.5	54.0	18.1	8.6	2.3	2.0	19.1	1.6	0.0	0.0
GREENLAND TBT	14.5	12.7	12.2	23.4	9.5	5.9	1.8	3.2	2.7	0.5	1.4
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	0.0
OTHER FLTFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT FLATFISH	38.0	20.6	74.2	42.6	20.9	8.6	4.0	23.2	4.6	0.6	2.7
SKATES	8.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT ELASMOBRH	8.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.7	0.0	0.0	0.0	0.0	0.0	5.4	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	55.3	42.9	32.4	75.7	68.5	9.3	61.7	29.5	13.6	29.9	15.9
TANNER, HYBRID	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	2.8	1.1	0.0	0.9	2.0	0.9	130.6	2.0	1.4	0.0	0.9
SNAILS	22.0	2.9	4.5	1.6	3.7	6.2	33.2	0.5	0.4	0.7	0.4
SHRIMP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
STARFISH	21.2	13.4	8.2	5.7	4.5	1.1	112.3	16.8	8.4	10.0	9.1
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	0.0	0.7	2.5	0.1	0.0	0.2	37.2	1.0	1.1	2.9	0.2
TOTAL INVERTS	102.0	61.3	47.6	84.1	78.8	17.8	380.5	49.8	24.9	43.5	26.6
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	2143.8	106.9	173.5	178.2	127.8	51.1	482.4	425.2	49.8	65.7	36.4

Table A-1b.--Continued.

HAUL #	114	115	116	117	118	119	120	122	123	124	125
MONTH/DAY/YEAR	7/24/78	7/24/78	7/24/78	7/24/78	7/25/78	7/25/78	7/25/78	7/26/78	7/26/78	7/26/78	7/26/78
LATITUDE START	60 59.0	60 40.0	60 39.0	61 0.0	60 59.0	60 40.0	60 20.0	60 0.0	60 0.0	60 0.0	59 39.0
LONGITUDE START	172 47.9	172 46.9	173 28.0	173 30.0	174 12.0	174 8.0	174 2.9	173 16.9	172 37.0	171 57.0	171 53.9
LATITUDE END	60 58.2	60 41.8	60 41.5	61 0.1	60 58.5	60 37.0	60 20.1	60 0.2	60 0.3	59 57.8	59 38.4
LONGITUDE END	172 48.1	172 45.9	173 27.3	173 34.0	174 13.2	174 8.3	173 59.6	173 14.9	172 34.2	171 57.2	171 53.9
LORAN START	32423.60	32646.50	32658.40	32440.10	32454.00	32683.00	32871.10	33092.10	33097.50	33094.30	33330.70
LORAN START	17513.30	17552.20	17405.80	17369.70	17218.50	17257.00	17296.10	17505.00	17662.80	17809.30	17870.00
LORAN END	32443.80	32627.60	32640.70	32440.00	32467.70	32692.80	32871.60	33091.80	33093.90	33120.10	33346.10
LORAN END	17516.30	17653.40	17406.50	17356.50	17217.60	17258.80	17311.10	17517.00	17675.40	17815.80	17874.80
GEAR DEPTH	35	24	35	40	44	46	49	38	35	35	42
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	1.80	1.80	1.70	1.80	1.30	0.90	1.90	1.50	1.80	2.00	1.30
PERFORMANCE / GEAR	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20
POLLOCK	3.6	8.2	2.7	8.6	4.3	5.0	135.9	6.4	0.1	1.6	36.5
PAC COD	0.1	1.8	1.8	0.9	2.3	0.1	3.2	7.0	1.1	1.6	4.3
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	0.0	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	0.0	5.2	17.9	0.8	2.7	6.6	26.3	22.1	14.9	6.0	14.3
EELPOUTS	4.5	0.0	0.3	16.4	452.7	20.4	31.8	12.9	6.6	13.6	27.0
OTHER RNDFISH	1.2	0.8	2.8	16.6	3.4	1.8	8.6	5.9	1.1	0.6	9.7
TOT ROUNDFISH	9.5	15.9	25.5	43.3	465.4	33.9	205.7	54.3	23.9	23.3	91.8
YELLOW SOLE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5
ROCK SOLE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.2	1.8
FLATHEAD SOLE	0.9	1.4	0.3	0.9	5.2	3.2	9.3	2.5	0.7	0.0	7.5
ALASKA PLAICE	1.1	1.8	0.0	2.5	4.1	0.0	0.0	1.8	0.0	2.7	152.6
GREENLAND TBT	7.0	2.3	11.3	8.4	49.0	27.2	24.3	28.1	3.2	2.3	22.9
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	0.6	1.9	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0
OTHER FLTFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT FLATFISH	9.7	7.3	11.7	11.8	58.9	30.4	33.6	33.6	3.9	5.2	189.4
SKATES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
TOT ELASMOBRH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	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	0.0	35.6	71.0	0.0	0.7	0.0	2.9	27.2	15.9	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	15.9	98.0	171.2	140.6	173.7	77.6	237.7	59.0	11.8	7.7	49.2
TANNER, HYBRID	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.4	0.5	0.1	0.0
OTHER CRAB	0.9	9.1	22.1	1.8	2.0	0.1	0.0	29.6	8.3	4.8	1.0
SNAILS	0.1	7.6	13.5	0.6	0.8	0.0	0.0	18.8	15.9	7.5	7.1
SHRIMP	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.1	0.0	0.0
STARFISH	3.2	5.4	11.1	2.9	1.4	0.9	0.0	2.3	0.0	0.0	8.2
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	0.0	0.1	35.0	0.5	0.1	0.0	0.0	10.8	3.4	5.7	2.5
TOTAL INVERTS	20.1	155.8	323.9	146.5	178.7	78.8	241.1	149.2	55.8	25.7	67.9
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	39.2	179.0	361.0	201.6	703.0	143.1	480.4	237.0	84.0	54.3	349.1

Table A-1b.--Continued.

HAUL #	126	127	128	129	130	131	132	133	134	135	136
MONTH/DAY/YEAR	7/26/78	7/27/78	7/27/78	7/27/78	7/27/78	7/27/78	7/31/78	8/ 1/78	8/ 1/78	8/ 1/78	8/ 1/78
LATITUDE START	59 19.0	58 59.0	58 39.0	58 20.0	58 0.0	57 59.0	56 59.0	57 40.0	57 40.0	57 40.0	57 39.0
LONGITUDE START	171 50.0	171 45.9	171 42.0	171 38.9	171 35.0	170 58.0	168 13.0	167 8.0	167 46.9	168 24.9	169 1.9
LATITUDE END	59 17.8	58 58.4	58 38.3	58 18.3	58 0.2	57 58.7	57 1.9	57 42.9	57 40.6	57 40.8	57 40.4
LONGITUDE END	171 51.5	171 47.8	171 44.1	171 39.4	171 31.8	170 58.4	168 19.3	167 17.2	167 51.5	168 28.9	169 5.6
LORAN START	33561.20	33794.90	34025.40	34252.10	34473.60	34513.40	34734.80	34234.80	34358.90	34485.50	34605.40
LORAN START	17933.60	17999.50	18067.80	18134.50	18199.90	18379.50	18716.00	18750.30	18749.10	18744.10	18731.80
LORAN END	33585.20	33809.80	34042.80	34270.80	34477.20	34526.90	34743.00	34241.90	34372.60	34492.10	34610.90
LORAN END	17935.00	17999.10	18066.40	18137.50	18217.60	18382.10	18721.90	18750.30	18748.80	18742.60	18728.90
GEAR DEPTH	43	47	50	52	53	47	44	36	36	37	37
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	2.00	1.40	1.70	1.70	1.90	1.20	2.00	1.00	2.00	2.00	1.90
PERFORMANCE / GEAR	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20
POLLOCK	79.6	32.0	179.6	124.3	160.1	32.9	6.4	1.8	18.8	27.7	34.7
PAC COD	0.9	0.9	10.4	0.5	24.0	1.6	4.4	0.6	1.6	32.5	10.7
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 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	0.7	0.4	0.5	0.0	0.0	0.0	0.0	0.1	0.0	0.0
ATKA MACKEREL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
SCULPINS	1.4	4.9	2.7	7.0	3.9	2.4	3.0	34.8	18.0	15.5	4.0
EELPOUTS	4.1	32.4	17.5	31.8	7.3	2.7	0.1	30.4	1.2	1.7	9.2
OTHER RNDFISH	4.2	4.1	0.4	0.1	0.1	0.0	7.1	7.1	1.6	1.5	1.8
TOT ROUNDFISH	90.1	75.0	211.0	164.1	195.4	39.6	20.9	74.7	41.4	78.9	60.4
YELLOW SOLE	0.5	0.9	0.5	0.0	0.0	0.2	47.6	487.4	453.8	521.3	265.9
ROCK SOLE	0.0	0.0	1.1	0.7	0.0	0.7	2.7	9.1	19.1	34.8	5.5
FLATHEAD SOLE	0.7	3.2	2.0	1.6	0.5	0.5	0.2	0.9	1.5	0.2	0.0
ALASKA PLAICE	8.2	1.4	0.0	0.5	0.0	0.0	0.0	76.9	57.8	150.5	23.2
GREENLAND TBT	13.2	60.8	34.5	18.1	21.3	29.5	6.7	14.4	18.2	8.3	27.7
ARROWTOOTH FL	0.0	0.0	0.0	0.0	0.0	0.0	0.1	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	0.0
OTHER FLTFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT FLATFISH	22.5	66.2	38.1	20.9	21.8	30.8	57.3	588.7	550.4	715.1	322.3
SKATES	0.0	0.5	20.0	12.7	1.4	0.0	0.0	5.8	5.2	8.8	11.8
TOT ELASMOBRH	0.0	0.5	20.0	12.7	1.4	0.0	0.0	5.8	5.2	8.8	11.8
RED KING CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6
BLUE KING CRAB	0.0	0.0	0.0	0.0	0.0	1.8	21.9	0.0	0.0	0.0	0.0
TANNER, BAIRDI	0.0	0.0	0.0	0.0	0.0	0.0	11.7	2.3	2.7	0.6	0.1
TANNER, OPILIO	9.5	224.1	36.3	10.0	2.0	6.8	69.0	93.9	63.0	79.8	89.8
TANNER, HYBRID	0.0	0.0	0.0	0.0	0.0	0.5	0.0	1.1	1.5	0.1	2.9
OTHER CRAB	0.0	5.2	8.4	5.9	3.3	3.2	5.5	72.3	68.0	102.2	170.9
SNAILS	7.0	22.4	9.5	13.7	2.1	1.1	2.0	53.7	57.6	106.3	112.6
SHRIMP	0.2	8.2	9.1	28.1	7.5	5.2	0.1	0.2	0.2	0.2	0.5
STARFISH	4.8	28.1	15.9	31.3	15.0	3.9	0.4	39.3	28.6	19.4	226.6
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	1.4	15.1	0.5	0.0	0.0	0.0	0.3	1.6	101.2	248.6	104.0
TOTAL INVERTS	22.9	303.1	79.6	89.0	29.9	22.4	110.8	264.4	322.8	557.3	711.1
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	135.4	444.7	348.7	286.6	248.4	92.8	189.1	933.5	919.9	1360.1	1105.6

Table A-1b.--Continued.

HAUL #	137	138	139	141	142	144	145	146	147	148	149
MONTH/DAY/YEAR	8/ 2/78	8/ 2/78	8/ 2/78	8/ 2/78	8/ 3/78	8/ 3/78	8/ 4/78	8/ 4/78	8/ 4/78	8/ 4/78	8/ 5/78
LATITUDE START	58 0.0	58 0.0	57 39.0	57 19.0	57 19.0	57 59.0	58 20.0	58 20.0	58 40.0	58 40.0	58 39.0
LONGITUDE START	172 13.0	172 51.0	172 47.9	172 43.0	173 20.0	173 28.0	173 32.9	174 19.0	174 15.9	173 37.0	173 0.0
LATITUDE END	58 0.8	57 58.5	57 38.0	57 20.7	57 20.4	58 1.8	58 21.8	58 22.1	58 24.5	58 40.5	58 38.3
LONGITUDE END	172 17.1	172 51.9	172 48.5	172 47.3	173 23.9	173 29.0	173 33.7	174 19.5	173 30.9	173 34.2	173 0.9
LORAN START	34414.00	34348.40	34529.70	34685.90	34601.10	34285.30	34101.30	34027.00	34859.70	33908.20	33955.60
LORAN START	17992.00	17778.90	17795.40	17801.70	17567.10	17561.20	17534.70	17278.80	17304.50	17506.30	17700.10
LORAN END	34405.00	34365.10	34544.20	34672.30	34590.40	34269.60	34085.10	34011.30	34860.80	33909.10	33971.30
LORAN END	17974.20	17776.70	17793.00	17778.70	17544.90	17560.70	17535.20	17279.30	17321.90	17524.70	17697.80
GEAR DEPTH	57	58	65	65	66	65	63	95	85	68	61
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	1.70	2.00	1.90	2.00	2.00	1.80	1.80	1.80	1.50	1.90	1.70
PERFORMANCE / GEAR	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20
POLLOCK	464.1	537.2	241.7	1430.0	1804.3	257.4	1261.9	371.0	340.6	579.1	186.9
PAC COD	1.6	6.1	3.6	7.9	0.0	1.8	24.6	22.9	15.0	8.8	9.2
PAC OC PERCH	0.0	0.0	0.0	0.0	0.0	2.0	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	2.4	0.0	0.0	2.0	0.2	0.0	0.0	0.0	0.0
ATKA MACKEREL	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	8.1	15.2	12.0	0.4	0.6	22.5	6.5	8.2	13.7	4.8	6.3
EELPOUTS	98.0	41.3	17.9	8.8	55.8	6.4	5.9	1.8	16.6	26.8	40.3
OTHER RNDFISH	2.5	2.0	3.1	0.5	0.0	0.3	1.9	3.8	3.9	1.3	2.1
TOT ROUNDFISH	574.2	601.7	281.0	1447.7	1860.7	292.4	1300.9	407.8	389.8	620.8	244.7
YELLOW SOLE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROCK SOLE	0.0	0.4	0.0	0.0	2.3	0.7	1.9	0.3	7.9	0.0	0.0
FLATHEAD SOLE	0.1	0.1	2.7	0.0	0.0	3.6	8.5	2.5	8.6	0.1	0.0
ALASKA PLAICE	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GREENLAND TBT	20.6	29.5	18.3	13.0	0.0	21.3	19.9	17.5	0.0	0.0	0.0
ARROWTOOTH FL	0.0	2.0	1.5	9.5	8.3	21.1	2.0	4.1	16.3	3.7	30.4
PAC HALIBUT	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER FLTFISH	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
TOT FLATFISH	22.3	32.0	22.5	24.4	10.6	46.9	32.3	24.4	32.9	3.8	30.4
SKATES	1.8	0.0	0.0	9.1	0.0	1.6	0.0	0.0	2.3	15.7	23.4
TOT ELASMOBRH	1.8	0.0	0.0	9.1	0.0	1.6	0.0	0.0	2.3	15.7	23.4
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	0.2	13.2	7.7	3.9	76.5	5.9	4.2	12.4	30.2	7.7	1.6
TANNER, OPILIO	18.1	25.4	14.3	12.5	17.2	9.5	4.2	2.6	33.1	16.1	24.0
TANNER, HYBRID	0.7	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
OTHER CRAB	22.6	16.3	4.6	0.0	19.1	4.8	1.2	0.6	1.7	12.0	12.8
SNAILS	34.5	26.8	5.4	0.2	6.3	2.0	0.6	0.1	0.9	12.2	33.5
SHRIMP	28.1	6.4	16.7	0.3	0.2	0.1	0.0	0.0	0.1	0.5	28.2
STARFISH	0.0	8.5	0.2	0.0	0.0	0.1	0.0	0.5	0.2	1.2	2.8
SQUID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.1	0.1	0.0
OCTOPUS	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	2.6	1.3	0.1	0.0	0.2	0.1	0.0	0.7	0.3	1.4	0.6
TOTAL INVERTS	108.1	97.9	49.2	16.8	119.4	22.5	10.2	19.5	66.7	51.1	103.5
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	706.4	731.7	352.7	1498.0	1990.7	363.4	1343.5	451.7	491.6	691.4	402.0

Table A-lb.--Continued.

HAUL #	150	151	153	154	155	156	159	160	161	162	163
MONTH/DAY/YEAR	8/ 5/78	8/ 5/78	8/ 5/78	8/ 6/78	8/ 6/78	8/ 6/78	8/ 6/78	8/ 7/78	8/ 7/78	8/ 7/78	8/ 7/78
LATITUDE START	58 19.0	58 20.0	58 40.0	58 59.0	59 0.0	59 0.0	59 0.0	59 0.0	58 40.0	59 0.0	58 59.0
LONGITUDE START	172 54.9	172 17.9	172 21.0	172 26.0	173 5.0	173 42.0	174 21.0	175 0.0	175 31.9	175 43.0	176 19.0
LATITUDE END	58 19.9	58 22.1	58 40.9	59 0.5	59 0.6	59 0.3	59 0.7	59 0.6	58 40.8	59 0.6	58 58.6
LONGITUDE END	172 51.3	172 18.7	172 25.7	172 30.3	173 8.7	173 45.9	174 25.8	175 3.5	175 36.4	175 47.3	176 19.7
LORAN START	34160.10	34206.70	33992.30	33773.30	33741.30	33707.20	33665.30	33622.00	33752.60	33572.00	33530.60
LORAN START	17747.30	17941.30	17888.70	17830.80	17649.10	17466.50	17270.80	17072.90	16887.40	16847.30	16661.80
LORAN END	34166.60	34187.40	33981.60	33764.50	33734.00	33702.50	33656.30	33614.80	33741.80	33563.50	33541.50
LORAN END	17767.90	17935.70	17869.00	17810.90	17632.40	17451.80	17250.90	17057.60	16868.40	16829.40	16658.10
GEAR DEPTH	60	55	55	53	58	63	68	70	73	73	74
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	2.00	1.90	2.00	2.00	1.80	1.50	2.00	1.60	2.00	1.90	1.40
PERFORMANCE / GEAR	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20
POLLOCK	510.9	1043.1	46.5	27.2	122.7	1206.0	608.0	255.1	859.3	122.8	291.0
PAC COD	7.5	2.6	2.9	0.1	6.8	7.3	24.5	5.7	20.0	0.0	0.0
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 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	0.2	0.0	0.0
PAC HERRING	0.1	0.4	0.0	0.0	0.0	0.0	0.2	0.5	0.1	0.2	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	5.3	5.7	4.8	1.5	5.3	9.8	3.9	7.2	10.5	4.4	4.6
EELPOUTS	18.0	36.4	39.5	22.5	45.8	40.7	10.9	14.1	3.8	55.5	48.0
OTHER RNDFISH	1.3	0.2	0.7	0.0	5.5	1.2	3.0	2.9	0.1	6.2	2.6
TOT ROUNDFISH	543.1	1088.3	94.5	51.3	186.1	1265.0	650.5	285.4	894.0	189.2	346.2
YELLOW SOLE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROCK SOLE	0.2	0.0	0.2	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0
FLATHEAD SOLE	0.1	0.0	0.8	8.3	1.8	4.8	0.1	5.4	4.1	1.9	5.2
ALASKA PLAICE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0
GREENLAND TBT	41.7	29.8	29.5	22.5	51.2	59.6	17.9	8.8	2.9	4.5	3.4
ARROWTOOTH FL	0.0	0.0	0.0	0.0	0.0	3.8	8.2	2.3	5.5	5.7	1.6
PAC HALIBUT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
OTHER FLTFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT FLATFISH	42.0	29.8	30.5	30.8	53.0	69.3	26.2	16.5	14.4	12.1	10.3
SKATES	12.0	23.4	10.8	10.3	27.4	3.2	4.9	5.9	1.3	16.6	21.5
TOT ELASMOBRH	12.0	23.4	10.8	10.3	27.4	3.2	4.9	5.9	1.3	16.6	21.5
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	0.0	5.4	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	0.0	0.0	0.0	0.0	0.0	0.1	0.5	0.5	3.5	1.5	0.1
TANNER, OPILIO	5.9	2.0	19.1	1.9	0.9	16.6	12.0	20.4	16.9	23.6	45.1
TANNER, HYBRID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0
OTHER CRAB	7.0	2.9	2.9	0.2	7.2	12.0	5.2	0.2	1.5	4.9	5.7
SNAILS	12.0	10.1	11.3	2.0	9.9	10.5	13.5	9.3	0.7	7.1	6.6
SHRIMP	12.6	17.3	17.7	6.3	19.0	23.0	13.7	2.4	0.0	1.5	0.1
STARFISH	1.4	6.7	3.4	0.4	1.1	4.8	2.1	0.6	0.2	0.5	0.6
SQUID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
OCTOPUS	4.3	0.0	5.2	3.9	3.9	0.0	0.0	0.0	0.0	0.0	0.5
OTHER INVERTS	1.9	0.1	0.5	1.4	2.4	0.3	1.2	0.4	0.1	0.1	0.2
TOTAL INVERTS	45.1	39.0	60.2	15.9	49.9	67.2	48.2	33.9	23.6	39.2	58.9
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	642.3	1180.5	196.0	108.3	316.4	1404.7	729.8	341.7	933.3	257.0	436.9

Table A-1b.--Continued.

HAUL #	164	165	166	167	168	169	170	171	172	173	174
MONTH/DAY/YEAR	8/ 8/78	8/ 8/78	8/ 8/78	8/ 8/78	8/ 8/78	8/ 9/78	8/ 9/78	8/ 9/78	8/ 9/78	8/ 9/78	8/10/78
LATITUDE START	58 40.0	58 40.0	59 0.0	59 0.0	59 0.0	59 19.0	59 19.0	59 19.0	59 19.0	59 20.0	59 19.0
LONGITUDE START	176 12.0	176 49.0	176 57.0	177 36.0	178 15.0	177 26.0	177 2.9	176 23.0	175 45.0	175 5.0	174 26.0
LATITUDE END	58 40.2	58 42.1	59 0.4	59 0.2	59 7.4	59 19.6	59 19.7	59 19.7	59 19.7	59 21.7	59 19.1
LONGITUDE END	176 15.5	176 49.6	177 0.3	177 39.7	178 17.3	177 23.5	177 0.5	176 20.6	175 41.7	175 5.4	174 23.9
LORAN START	33696.70	33847.40	33484.60	33438.30	33352.10	33297.80	33320.70	33361.90	33398.40	33434.30	33474.70
LORAN START	16670.00	16467.70	16465.00	16261.20	16060.60	16347.80	16463.10	16666.40	16856.30	17050.60	17241.30
LORAN END	33693.10	33632.40	33479.10	33433.90	33338.50	33303.10	33325.40	33365.50	33404.10	33420.30	33482.00
LORAN END	16654.00	16471.90	16449.20	16244.00	16068.20	16363.40	16478.70	16678.80	16872.10	17052.70	17254.30
GEAR DEPTH	76	73	75	74	82	97	81	74	73	72	65
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	1.60	2.00	1.60	1.70	2.00	1.70	1.60	1.30	1.70	1.60	1.50
PERFORMANCE / GEAR	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20
POLLOCK	598.2	107.9	156.7	1860.5	150.5	343.8	206.3	88.7	183.9	479.1	1547.6
PAC COD	30.3	6.1	46.4	0.4	8.1	5.3	0.0	0.0	0.0	2.6	5.4
PAC OC PERCH	0.0	0.0	0.0	0.0	0.1	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	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC HERRING	0.0	0.2	0.1	0.0	0.0	0.0	0.3	0.0	0.0	0.3	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	11.8	70.1	5.9	4.4	4.4	4.5	2.5	2.9	19.8	6.1	2.3
EELPOUTS	35.6	7.6	35.7	0.2	5.3	78.2	44.1	49.0	126.0	55.1	32.4
OTHER RNDFISH	3.0	0.2	1.3	0.0	3.9	1.4	2.5	0.0	0.8	1.2	0.3
TOT ROUNDFISH	678.8	192.1	246.3	1865.5	172.2	433.3	255.7	140.6	330.5	544.4	1587.9
YELLOW SOLE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROCK SOLE	1.5	0.2	0.5	0.9	1.6	0.0	0.0	0.0	0.0	0.0	0.0
FLATHEAD SOLE	9.1	4.4	7.7	2.6	46.5	7.6	7.0	2.0	4.5	0.6	0.0
ALASKA PLAICE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GREENLAND TBT	8.8	1.8	5.6	3.7	0.1	0.2	8.7	5.2	9.9	9.2	49.6
ARROWTOOTH FL	9.8	6.4	0.0	5.2	2.8	4.3	0.2	0.2	0.5	0.5	0.0
PAC HALIBUT	1.6	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.2	0.0
OTHER FLTFISH	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT FLATFISH	30.8	12.8	13.9	12.4	56.0	12.1	15.9	7.5	14.9	10.5	49.6
SKATES	7.7	21.5	8.8	15.7	6.1	1.1	4.0	11.3	0.8	9.3	15.1
TOT ELASMOBRH	7.7	21.5	8.8	15.7	6.1	1.1	4.0	11.3	0.8	9.3	15.1
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	83.4	11.0	1.8	4.8	18.6	3.1	0.0	0.0	0.0	0.0	0.0
TANNER, OPILIO	113.6	17.1	12.5	10.7	34.0	17.2	54.2	23.1	11.0	5.0	4.9
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	9.5	0.7	3.2	1.1	3.5	3.4	0.0	0.0	0.0	0.0	0.0
SNAILS	3.3	0.9	4.8	0.2	2.0	5.2	4.9	0.9	0.0	1.8	2.6
SHRIMP	0.0	0.0	0.1	0.0	0.2	0.2	7.3	15.8	22.0	20.6	7.7
STARFISH	0.3	0.1	0.5	0.0	0.1	0.1	0.2	1.2	15.1	11.3	5.1
SQUID	0.0	0.0	0.0	0.6	24.0	4.5	2.6	46.6	71.7	4.5	0.0
OCTOPUS	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
OTHER INVERTS	0.0	0.0	0.1	0.1	0.1	0.3	0.0	17.8	4.3	0.0	3.3
TOTAL INVERTS	210.2	29.8	23.0	17.4	82.5	34.1	69.4	105.8	125.7	44.0	23.9
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	927.5	256.2	292.0	1911.1	316.9	480.6	345.0	265.2	471.8	608.2	1676.6

Table A-1b.--Continued.

HAUL #	175	176	177	178	179	180	181	182	183	184	165
MONTH/DAY/YEAR	8/10/78	8/10/78	8/10/78	8/10/78	8/11/78	8/11/78	8/11/78	8/11/78	8/11/78	8/12/78	8/12/78
LATITUDE START	59 20.0	59 20.0	59 19.0	59 40.0	59 40.0	59 40.0	59 41.0	59 40.0	59 40.0	59 39.8	59 40.0
LONGITUDE START	173 47.9	173 8.9	172 30.0	172 34.0	173 14.0	173 52.0	174 26.0	175 6.0	175 52.0	176 31.9	177 8.0
LATITUDE END	59 20.1	59 19.7	59 21.3	59 39.8	59 40.0	59 39.9	59 41.1	59 40.1	59 40.1	59 39.5	59 39.5
LONGITUDE END	173 44.4	173 4.7	172 29.8	172 37.1	173 18.3	173 54.8	174 23.7	175 8.9	175 55.3	176 35.7	177 12.0
LORAN START	33501.80	33528.60	33551.50	33323.30	33310.50	17386.20	17229.10	17049.00	49765.60	33181.80	33150.80
LORAN START	17424.50	17603.20	17772.90	17716.70	17548.90	49659.40	49691.60	49731.50	16832.70	16639.70	16466.00
LORAN END	33503.90	33534.30	33534.80	33324.90	33309.30	17374.00	17244.00	17035.70	49768.60	33183.10	33153.20
LORAN END	17441.60	17622.80	17771.80	17704.30	17533.10	49663.20	49689.10	49734.60	16817.00	16624.10	16451.00
GEAR DEPTH	60	55	47	46	52	56	62	67	75	75	97
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	1.90	2.00	1.50	1.60	1.90	1.40	1.70	1.50	1.70	1.70	1.60
PERFORMANCE / GEAR	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20
POLLOCK	921.0	213.6	229.8	68.3	73.3	150.0	366.5	1294.4	425.6	377.4	571.8
PAC COD	9.6	0.9	5.6	19.7	2.7	1.3	7.3	8.5	0.0	0.0	5.0
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 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	0.0	0.1	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	4.2	3.2	11.2	6.2	1.8	0.0	0.0	0.0	0.0	0.0	0.0
EELPOUTS	28.0	47.8	21.0	55.9	81.4	2.9	3.8	1.4	6.1	5.0	6.4
OTHER RNDFISH	1.2	2.7	7.1	7.9	2.4	42.4	44.9	51.2	97.5	58.7	71.3
TOT ROUNDFISH	964.0	268.2	274.7	158.2	161.6	1.2	1.4	0.1	0.2	0.9	3.9
						197.9	423.9	1355.6	529.4	442.0	658.4
YELLOW SOLE	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROCK SOLE	0.0	0.5	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
FLATHEAD SOLE	0.6	1.7	4.1	1.5	12.0	2.9	1.5	1.1	4.9	2.4	3.9
ALASKA PLAICE	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
GREENLAND TBT	73.0	31.9	74.5	27.3	47.9	32.7	58.6	49.6	32.2	16.3	1.9
ARROWTOOTH FL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.9	1.4
PAC HALIBUT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER FLTFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT FLATFISH	73.7	34.1	78.6	28.8	59.9	36.3	60.1	50.7	37.3	19.6	7.2
SKATES	34.0	7.8	7.3	1.4	3.6	13.8	18.8	26.3	45.4	6.1	16.3
TOT ELASMOBRH	34.0	7.8	7.3	1.4	3.6	13.8	18.8	26.3	45.4	6.1	16.3
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	3.9	5.2	0.0	0.0	2.9	2.9	10.9	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	2.0	0.9	163.7	47.2	14.5	4.3	0.0	0.0	0.0	0.0	0.5
TANNER, HYBRID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.9	39.2
OTHER CRAB	1.9	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SNAILS	8.9	3.4	0.9	6.8	0.7	0.1	0.2	0.2	0.0	0.6	13.8
SHRIMP	12.8	21.5	2.6	6.2	2.8	13.1	6.6	9.1	28.6	18.3	13.2
STARFISH	0.8	0.5	4.9	2.0	21.8	7.6	14.4	6.4	9.7	4.6	7.8
SQUID	0.0	0.0	13.3	16.5	8.5	9.5	9.8	8.4	28.9	39.9	5.1
OCTOPUS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2
OTHER INVERTS	0.7	0.1	1.1	0.0	2.6	0.8	0.0	0.0	4.2	7.3	6.6
TOTAL INVERTS	31.0	33.0	0.1	0.1	0.3	1.2	0.6	0.3	0.7	0.3	2.4
			186.8	78.9	54.1	39.5	42.5	24.3	72.1	81.9	68.8
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	1102.7	343.1	547.3	267.2	279.3	287.6	545.4	1456.9	684.2	549.6	770.8

Table A-1b.--Continued.

HAUL #	186	187	188	189	190	191	192	193	194	196	197
MONTH/DAY/YEAR	8/12/78	8/12/78	8/12/78	8/12/78	8/13/78	8/13/78	8/13/78	8/13/78	8/14/78	8/15/78	8/15/78
LATITUDE START	59 40.0	59 59.0	59 59.0	59 59.0	59 59.0	60 0.0	60 0.0	60 0.0	56 19.0	56 1.0	55 40.0
LONGITUDE START	177 51.0	177 54.9	177 12.0	176 44.0	175 54.9	175 15.0	174 36.0	173 56.0	171 15.9	169 57.0	168 39.9
LATITUDE END	59 41.8	59 59.4	59 58.8	59 59.5	59 59.5	60 0.0	60 0.2	59 59.2	56 20.2	56 1.7	55 40.3
LONGITUDE END	177 49.8	177 52.1	177 9.4	176 42.6	175 52.6	175 13.1	174 32.4	173 55.2	171 13.6	169 54.9	168 37.6
LORAN START	16266.00	16276.20	49745.10	32999.10	33029.90	17001.90	17177.00	17343.80	35106.80	35120.00	18310.00
LORAN START	49827.00	49765.60	16472.20	16601.20	16823.90	49657.60	49618.20	49569.90	18092.40	18284.00	49353.00
LORAN END	16273.70	16292.00	49745.50	33004.30	33034.70	17014.10	17192.50	17352.70	35110.40	35117.40	18315.70
LORAN END	49822.00	49765.40	16486.50	16609.90	16836.60	49655.90	49614.00	49574.00	18111.70	18291.00	49339.70
GEAR DEPTH	92	78	75	77	70	63	59	53	78	82	92
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	1.50	1.90	1.80	1.10	1.50	1.40	1.80	1.60	1.80	1.50	1.60
PERFORMANCE / GEAR	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20
POLLOCK	193.0	203.9	1550.3	253.8	417.2	340.4	491.7	55.3	61.0	220.8	236.0
PAC COD	4.4	0.0	0.0	0.0	2.7	7.3	5.0	1.1	3.1	179.0	43.3
PAC OC PERCH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	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	0.0	0.0	0.0	0.0	0.1	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	1.9	0.0
SCULPINS	11.4	5.0	3.4	4.6	7.0	2.4	6.5	2.8	11.0	17.5	7.1
EELPOUTS	98.7	24.6	19.2	89.1	74.5	57.9	37.8	40.1	2.4	0.0	1.9
OTHER RNDFISH	1.6	0.2	0.0	0.1	0.4	0.1	1.1	2.0	3.5	81.1	11.9
TOT ROUNDFISH	309.1	233.7	1572.9	347.6	501.8	408.1	542.3	101.4	81.0	500.5	300.2
YELLOW SOLE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROCK SOLE	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.7	1.4	2.7	13.7
FLATHEAD SOLE	3.4	0.9	2.4	2.9	7.3	9.7	18.7	31.8	4.3	2.6	5.4
ALASKA PLAICE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0
GREENLAND TBT	6.4	13.6	26.1	22.5	62.4	42.0	63.3	68.3	0.6	0.0	0.0
ARROWTOOTH FL	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.9	7.1	7.7
PAC HALIBUT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER FLTFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT FLATFISH	11.4	14.5	28.5	25.4	70.2	51.7	82.0	101.3	22.2	12.4	26.9
SKATES	2.5	0.0	0.0	13.5	43.5	9.1	8.4	2.9	0.0	0.0	4.9
TOT ELASMOBRH	2.5	0.0	0.0	13.5	43.5	9.1	8.4	2.9	0.0	0.0	4.9
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	0.0	0.0	0.0	0.0	3.9	6.3	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	1.5	6.8
TANNER, OPILIO	47.2	11.1	5.9	3.4	4.8	36.1	9.1	7.3	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	0.0	0.5	0.0	0.1	0.5	0.6	0.1	0.2	0.0	50.4	9.3
SNAILS	19.4	1.0	4.1	18.7	40.1	12.5	2.7	0.6	0.1	1.4	2.2
SHRIMP	0.6	12.6	0.9	2.8	9.2	2.1	14.8	12.3	10.1	0.2	0.0
STARFISH	6.4	15.9	20.2	111.1	66.4	10.2	0.9	0.1	64.4	12.7	40.4
SQUID	0.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.1
OCTOPUS	2.5	0.0	0.0	3.4	28.6	5.7	0.9	0.0	8.4	13.0	66.7
OTHER INVERTS	0.7	0.8	0.2	0.3	0.7	0.3	0.2	0.4	0.0	3.6	3.8
TOTAL INVERTS	77.4	41.9	31.3	139.8	150.1	67.4	32.7	27.3	83.0	85.5	129.2
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	400.4	290.1	1632.6	526.4	765.7	536.3	665.3	232.9	186.2	598.4	461.2

Table A-lb.--Continued.

HAUL #	198	199	200
MONTH/DAY/YEAR	8/16/78	8/16/78	8/16/78
LATITUDE START	55 4.0	55 0.0	54 55.0
LONGITUDE START	167 22.0	167 20.0	167 21.0
LATITUDE END	55 4.9	54 57.4	54 56.6
LONGITUDE END	167 19.8	167 19.1	167 24.2
LORAN START	34876.30	18206.00	18180.90
LORAN START	18229.30	48612.80	48805.60
LORAN END	34870.90	18194.70	18182.70
LORAN END	18233.00	48796.50	48821.50
GEAR DEPTH	103	149	206
DURATION IN HOURS	0.50	0.50	0.50
DISTANCE FISHED	1.40	2.00	1.80
PERFORMANCE / GEAR	0 / 20	0 / 20	0 / 20
POLLOCK	142.8	60.0	5.9
PAC COD	5.9	115.5	0.0
PAC OC PERCH	0.0	2.0	1.2
OTHER RCKFISH	0.0	0.0	13.9
SABLEFISH	0.0	0.0	0.0
PAC HERRING	0.0	0.0	0.0
ATKA MACKEREL	0.0	0.0	0.0
SCULPINS	8.7	14.8	6.8
EELPOUTS	5.4	19.6	0.1
OTHER RNDFISH	1.6	3.6	1.8
TOT ROUNDFISH	164.4	215.6	29.7
YELLOW SOLE	0.0	0.0	0.0
ROCK SOLE	0.0	0.0	0.0
FLATHEAD SOLE	10.3	4.5	0.6
ALASKA PLAICE	0.0	0.0	0.0
GREENLAND TBT	0.3	32.4	258.4
ARROWTOOTH FL	33.4	98.7	380.1
PAC HALIBUT	0.0	4.3	0.0
OTHER FLTFISH	0.4	0.0	0.6
TOT FLATFISH	44.5	139.9	639.7
SKATES	4.2	17.2	0.0
TOT ELASMOBRH	4.2	17.2	0.0
RED KING CRAB	0.0	0.0	0.0
BLUE KING CRAB	0.0	0.0	0.0
TANNER, BAIRDI	12.1	0.7	0.2
TANNER, OPILIO	0.2	0.0	1.4
TANNER, HYBRID	0.0	0.0	0.0
OTHER CRAB	0.8	0.0	1.9
SNAILS	0.4	9.8	4.4
SHRIMP	29.9	6.0	0.4
STARFISH	17.4	3.6	5.0
SQUID	0.3	0.2	0.4
OCTOPUS	0.0	13.2	0.1
OTHER INVERTS	4.1	0.7	1.2
TOTAL INVERTS	65.2	34.1	14.9
OTHER	0.0	0.0	0.0
TOTAL CATCH	278.2	406.9	684.3

Table A-2a.--Station and catch data from comparative fishing experiments successfully completed--Oregon.

HAUL #	82	83	84	85	86	87	91	92	93	94	95
MONTH/DAY/YEAR	6/20/78	6/20/78	6/20/78	6/24/78	6/24/78	6/24/78	7/ 1/78	7/ 1/78	7/ 1/78	7/ 1/78	7/ 1/78
LATITUDE START	56 40.0	56 42.0	57 0.0	56 59.0	56 49.0	56 40.0	55 0.0	54 58.0	55 0.0	54 59.0	55 3.0
LONGITUDE START	170 8.9	170 47.9	170 46.9	169 31.9	169 12.0	168 53.9	165 45.0	165 45.0	165 44.0	165 35.0	165 31.9
LATITUDE END	56 41.5	57 31.7	57 0.7	56 59.2	56 48.1	56 39.0	55 1.6	54 56.8	55 1.7	55 1.2	55 2.7
LONGITUDE END	170 11.1	171 9.8	170 48.1	169 31.3	169 12.0	168 54.4	165 46.8	165 45.3	165 42.2	165 33.5	165 31.6
LORAN START	18542.00	18400.00	18507.00	18718.00	18676.00	18642.00	34655.00	34659.00	34652.00	34631.00	34617.00
LORAN START	50016.00	50106.00	35090.00	35017.00	34985.00	34951.00	48276.00	48270.00	48268.00	48212.00	48202.00
LORAN END	18544.00	18393.00	18505.00	18715.00	18671.00	18635.00	34656.00	34662.00	34645.00	34624.00	34616.00
LORAN END	50027.00	50112.00	35087.00	35017.00	34987.00	34956.00	48283.00	48266.00	48257.00	48204.00	48195.00
GEAR DEPTH	52	59	49	32	43	52	70	70	68	65	63
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	1.40	1.30	1.20	0.90	1.10	1.40	0.90	1.20	1.50	1.70	0.90
PERFORMANCE / GEAR	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20
POLLOCK	71.7	168.7	371.9	1.6	14.5	13.2	65.3	100.2	83.0	18.1	3.6
PAC COD	0.0	27.2	2.7	10.0	4.1	0.0	2.3	7.7	10.0	264.0	12.2
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	0.1
SABLEFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	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	0.9	5.9	0.9	4.5	54.4	34.0	19.1	7.3	12.7	6.8	8.6
EELPOUTS	1.1	0.0	0.0	0.0	0.5	3.2	34.0	19.5	39.0	11.3	22.2
OTHER RNDFISH	0.9	1.6	0.0	1.1	0.2	0.0	0.1	0.1	0.0	0.1	0.6
TOT ROUNDFISH	74.6	203.4	375.6	17.2	73.7	50.3	120.8	134.8	145.6	300.4	47.4
YELLOW SOLE	0.0	0.0	0.0	64.0	27.7	20.9	0.0	0.0	0.0	0.0	0.0
ROCK SOLE	0.0	0.0	0.0	19.1	2.5	0.2	0.1	0.0	0.0	0.0	0.1
FLATHEAD SOLE	5.0	7.7	12.2	0.0	9.5	5.0	10.4	14.1	14.1	4.5	10.0
ALASKA PLAICE	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
GREENLAND TBT	8.2	6.8	10.0	0.0	5.4	5.0	0.5	0.0	0.0	0.0	0.0
ARROWTOOTH FL	1.1	2.3	0.0	0.0	3.2	4.5	10.4	19.1	10.4	2.9	7.7
PAC HALIBUT	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	1.7	0.0
OTHER FLTFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.4
TOT FLATFISH	14.3	16.8	22.2	83.1	48.3	36.1	21.5	33.3	24.6	9.4	18.2
SKATES	0.5	0.0	13.2	0.0	0.0	0.0	25.9	38.1	33.6	14.5	20.4
TOT ELASMOBRH	0.5	0.0	13.2	0.0	0.0	0.0	25.9	38.1	33.6	14.5	20.4
RED KING CRAB	0.0	0.0	0.0	15.9	0.0	0.0	43.8	10.2	20.2	18.6	20.6
BLUE KING CRAB	0.0	0.0	0.0	1046.9	54.0	3.2	0.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	3.9	6.8	2.9	3.1	8.2	3.9	13.2	37.2	16.9	9.8	31.5
TANNER, OPILIO	4.1	1.6	1.8	18.7	60.3	69.4	3.6	5.9	4.2	11.3	13.2
TANNER, HYBRID	0.9	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	4.1	0.7	0.0	20.8	8.6	0.5	1.3	0.0	0.1	4.5	4.5
SNAILS	0.5	2.7	0.6	8.2	0.0	0.5	2.0	1.0	1.4	0.1	0.2
SHRIMP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	1.1	0.0
STARFISH	23.6	15.9	0.0	25.4	0.0	0.0	1.4	0.5	0.1	0.0	0.0
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	0.5
OTHER INVERTS	0.0	0.0	0.0	4.5	0.0	0.0	9.1	2.7	4.1	0.0	0.0
TOTAL INVERTS	37.0	27.7	5.3	1143.4	134.3	77.3	74.3	62.5	47.0	45.4	70.5
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	126.3	247.9	416.3	1243.8	256.3	163.7	242.4	268.7	250.8	369.7	156.5

Table A-2a.--Continued.

HAUL #	96	97	98	99	100	101	102	103	104	105	106
MONTH/DAY/YEAR	7/ 3/78	7/ 3/78	7/ 3/78	7/ 4/78	7/ 4/78	7/ 4/78	7/ 4/78	7/ 5/78	7/ 5/78	7/ 5/78	7/ 5/78
LATITUDE START	55 19.0	55 20.0	55 19.0	55 20.0	55 20.0	55 19.0	55 20.0	56 20.0	56 26.0	56 30.0	56 27.0
LONGITUDE START	164 0.0	164 0.0	164 1.9	164 35.0	164 36.0	164 41.0	164 44.0	165 12.0	165 4.0	164 49.0	164 19.0
LATITUDE END	55 18.4	55 20.2	55 20.0	55 19.2	55 21.4	55 19.9	55 19.5	56 21.4	56 26.5	56 31.1	56 28.3
LONGITUDE END	164 0.0	164 2.8	164 3.7	164 34.0	164 38.5	164 43.5	164 46.7	165 14.0	165 3.2	164 48.3	164 18.3
LORAN START	34336.00	34335.00	34340.00	34426.00	34429.00	34445.00	34452.00	34322.00	34274.00	34209.00	34137.00
LORAN START	47652.00	47656.00	47664.00	47872.00	47892.00	47911.00	47933.00	48158.00	48109.00	48009.00	47809.00
LORAN END	34339.00	34341.00	34344.00	34426.00	34432.00	34449.00	34459.00	34323.00	34268.00	34203.00	34128.00
LORAN END	47649.00	47668.00	47674.00	47863.00	47894.00	47923.00	47943.00	48168.00	48098.00	48000.00	47801.00
GEAR DEPTH	39	41	42	55	55	55	55	46	44	41	40
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	1.30	1.20	0.90	1.40	1.20	1.10	1.30	1.10	1.00	0.90	1.40
PERFORMANCE / GEAR	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20
POLLOCK	52.6	29.9	40.8	39.5	154.7	158.8	87.5	110.7	147.0	65.3	23.1
PAC COD	12.7	33.1	18.1	0.0	8.6	1.4	1.4	10.0	18.1	14.1	2.3
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	0.9	0.0	0.0	0.0	0.1	0.5	0.1	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	0.2	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	33.1	39.5	30.8	5.9	5.4	1.4	2.3	8.6	11.8	5.4	9.1
EELPOUTS	0.0	0.0	0.2	32.2	39.5	65.8	54.9	16.3	11.8	2.3	0.1
OTHER RNDFISH	0.4	5.0	4.2	0.6	0.2	0.8	0.3	0.1	0.2	0.2	0.1
TOT ROUNDFISH	99.7	107.7	94.2	78.1	209.0	228.5	146.5	145.7	188.9	87.3	34.7
YELLOW SOLE	662.2	337.0	349.7	16.3	28.1	18.6	14.5	137.4	239.9	266.3	366.5
ROCK SOLE	13.2	53.1	27.7	10.9	18.1	9.5	3.2	6.8	9.5	1.4	3.6
FLATHEAD SOLE	49.0	7.3	28.1	18.6	27.7	16.8	9.1	26.3	29.5	1.4	6.4
ALASKA PLAICE	1.4	1.4	0.9	1.8	3.6	11.3	5.4	24.5	22.7	13.6	15.9
GREENLAND TBT	0.0	0.0	0.0	0.0	1.3	1.1	0.7	10.0	8.2	5.2	8.6
ARROWTOOTH FL	16.3	4.1	11.8	14.5	39.5	40.4	8.2	0.5	0.0	0.0	0.0
PAC HALIBUT	1.6	0.5	0.0	1.8	13.8	2.0	3.2	0.0	0.0	0.0	0.0
OTHER FLTFISH	16.3	5.5	7.1	6.4	4.5	1.8	0.5	0.0	0.0	0.0	0.0
TOT FLATFISH	760.0	408.8	425.3	70.3	136.7	101.6	44.7	205.5	309.8	287.8	401.0
SKATES	0.0	0.5	7.3	16.8	3.2	0.4	0.1	0.9	0.0	0.0	0.0
TOT ELASMOBRH	0.0	0.5	7.3	16.8	3.2	0.4	0.1	0.9	0.0	0.0	0.0
RED KING CRAB	199.6	120.7	94.3	28.6	33.1	74.8	77.6	51.9	71.2	651.8	1232.0
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	169.0	150.6	127.5	84.4	53.5	54.4	50.8	4.3	5.4	15.5	5.0
TANNER, OPILIO	0.0	4.1	5.4	29.2	22.2	24.9	21.3	12.1	21.5	50.3	5.2
TANNER, HYBRID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
OTHER CRAB	5.9	25.3	25.4	25.6	11.4	15.0	17.3	11.4	12.4	9.1	1.8
SNAILS	0.5	2.3	0.9	0.6	3.9	3.7	1.4	265.1	32.2	4.5	1.0
SHRIMP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STARFISH	0.0	0.0	1.4	0.7	0.0	0.0	0.0	24.5	36.3	22.2	10.4
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	1.4	0.5	0.9	0.9
OTHER INVERTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL INVERTS	374.9	302.9	254.9	169.0	124.2	172.9	168.4	370.8	179.5	754.5	1256.3
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	1234.6	819.8	781.7	334.2	473.0	503.4	359.6	722.9	678.2	1129.6	1692.0

Table A-2a.--Continued.

HAUL #	107	108	109	110
MONTH/DAY/YEAR	7/ 6/78	7/ 6/78	7/ 6/78	7/ 6/78
LATITUDE START	56 59.0	57 3.0	57 5.0	57 7.0
LONGITUDE START	163 23.0	163 23.9	163 27.0	163 30.0
LATITUDE END	57 0.5	57 5.0	57 6.7	57 8.7
LONGITUDE END	163 25.3	163 25.6	163 28.9	163 31.0
LORAN START	33811.00	33792.00	33793.00	33788.00
LORAN START	47427.00	47434.00	47455.00	47472.00
LORAN END	33812.00	33788.00	33787.00	33782.00
LORAN END	47440.00	47440.00	47461.00	47475.00
GEAR DEPTH	35	34	33	33
DURATION IN HOURS	0.50	0.50	0.50	0.50
DISTANCE FISHED	1.20	1.30	1.60	1.30
PERFORMANCE / GEAR	0 / 20	0 / 20	0 / 20	0 / 20
POLLOCK	136.5	184.6	41.5	29.0
PAC COD	1.4	1.8	1.1	1.8
PAC OC PERCH	0.0	0.0	0.0	0.0
OTHER RCKFISH	0.0	0.0	0.0	0.0
SABLEFISH	0.0	0.0	0.0	0.0
PAC HERRING	0.0	0.0	0.0	0.0
ATKA MACKEREL	0.0	0.0	0.0	0.0
SCULPINS	11.3	6.8	3.4	7.7
EELPOUTS	5.0	0.5	1.4	1.4
OTHER RNDFISH	1.6	4.2	3.9	1.1
TOT ROUNDFISH	155.8	197.9	51.3	41.0
YELLOW SOLE	224.5	188.2	156.0	128.4
ROCK SOLE	3.2	1.1	1.4	0.2
FLATHEAD SOLE	36.3	5.9	5.9	7.3
ALASKA PLAICE	23.1	14.1	5.0	3.6
GREENLAND TBT	6.4	1.6	2.3	2.7
ARROWTOOTH FL	0.0	0.0	0.0	0.0
PAC HALIBUT	0.0	0.0	0.0	0.0
OTHER FLTFISH	0.0	0.0	0.0	0.0
TOT FLATFISH	293.5	210.9	170.6	142.2
SKATES	4.5	0.0	0.0	0.0
TOT ELASMOBRH	4.5	0.0	0.0	0.0
RED KING CRAB	55.6	12.7	7.0	6.4
BLUE KING CRAB	0.0	0.0	0.0	0.0
TANNER, BAIRDI	14.1	7.3	2.7	3.2
TANNER, OPILIO	55.3	34.6	21.5	24.7
TANNER, HYBRID	1.8	0.0	0.4	0.0
OTHER CRAB	16.1	4.6	3.2	1.7
SNAILS	10.0	1.8	2.5	2.7
SHRIMP	0.0	0.0	0.0	0.0
STARFISH	40.4	0.9	1.8	0.9
SQUID	0.0	0.0	0.0	0.0
OCTOPUS	0.5	0.0	0.0	0.0
OTHER INVERTS	0.0	0.5	0.0	1.4
TOTAL INVERTS	193.7	62.3	39.1	40.9
OTHER	0.0	0.0	0.0	0.0
TOTAL CATCH	647.5	471.1	261.0	224.1

Table A-2b.--Station and catch data from comparative fishing experiments successfully completed--Paragon II.

HAUL #	5	6	7	8	9	10	36	37	38	39	40
MONTH/DAY/YEAR	6/20/78	6/20/78	6/20/78	6/24/78	6/24/78	6/24/78	7/ 1/78	7/ 1/78	7/ 1/78	7/ 1/78	7/ 1/78
LATITUDE START	56 41.0	56 40.0	57 1.0	57 0.0	56 48.0	56 39.0	54 59.0	54 57.0	54 59.0	54 59.0	55 2.0
LONGITUDE START	170 8.0	170 44.0	170 46.9	169 31.9	169 12.0	168 53.0	165 45.0	165 44.0	165 43.0	165 34.0	165 30.9
LATITUDE END	56 43.4	56 41.7	57 3.0	57 19.7	56 47.0	56 38.3	55 1.2	54 56.0	54 59.8	55 1.4	55 1.4
LONGITUDE END	170 10.4	170 48.7	170 49.8	170 14.5	169 11.2	168 55.4	165 47.3	165 43.9	165 41.2	165 32.9	165 30.3
LORAN START	35130.90	18400.60	18508.40	35019.10	34986.30	34952.70	34657.60	34658.90	34653.50	34630.00	34616.20
LORAN START	50018.50	50109.10	35086.20	18718.30	49744.90	49612.30	18316.90	18308.30	18316.90	18325.80	18340.90
LORAN END	35132.90	18387.70	18503.40	35016.20	34987.60	34961.00	34658.50	34660.20	34646.20	34621.90	34615.60
LORAN END	50034.30	50119.30	35073.80	18714.30	49736.20	49620.00	18321.20	18302.20	18321.00	18334.50	18337.60
GEAR DEPTH	53	61	51	32	45	54	70	69	68	66	65
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	2.00	2.00	2.00	1.30	1.60	1.50	1.50	1.60	1.60	2.00	1.20
PERFORMANCE / GEAR	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20
POLLOCK	242.2	643.3	1590.7	0.7	74.5	46.2	254.0	497.9	349.0	10.1	44.0
PAC COD	1.2	30.6	0.0	18.2	3.2	2.0	3.5	5.3	16.6	9493.3	16.9
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 RCKFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	1.0	0.4	0.0	0.0	0.0	0.0	1.7	1.5	2.7	0.0	0.0
PAC HERRING	0.0	0.0	0.4	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	6.0	2.3	14.6	18.1	210.3	60.3	11.7	10.2	6.9	6.0	3.2
EELPOUTS	16.7	1.1	0.6	0.0	2.6	3.9	40.6	10.1	38.1	3.2	58.6
OTHER RNDFISH	4.2	1.1	0.0	1.2	1.3	0.1	0.2	1.0	0.2	0.0	0.0
TOT ROUNDFISH	271.4	678.7	1606.3	38.2	291.9	112.5	311.6	525.9	413.4	9512.6	122.7
YELLOW SOLE	0.2	0.0	0.4	155.7	55.7	29.5	0.4	0.0	0.0	0.0	0.0
ROCK SOLE	1.0	0.0	0.0	179.3	5.2	3.8	0.0	0.0	0.1	0.0	0.4
FLATHEAD SOLE	26.1	10.8	20.7	0.0	9.5	7.3	11.7	7.8	15.4	5.8	15.6
ALASKA PLAICE	0.0	0.0	0.0	6.1	0.0	1.5	0.0	0.0	0.0	0.0	0.0
GREENLAND TBT	24.0	9.9	14.5	0.2	10.7	9.7	0.0	0.0	0.0	0.0	0.0
ARROWTOOTH FL	3.3	2.0	0.0	0.0	3.0	9.1	24.6	11.1	17.9	7.1	19.1
PAC HALIBUT	1.7	0.0	0.0	0.9	0.3	0.0	0.2	0.0	0.0	0.0	0.0
OTHER FLTFISH	0.0	0.0	0.0	0.0	0.2	0.1	0.9	0.4	1.0	0.0	2.0
TOT FLATFISH	56.4	22.7	35.7	342.2	84.5	61.0	37.8	19.3	34.3	12.9	37.0
SKATES	2.3	2.0	0.7	0.0	0.0	0.0	12.0	16.4	49.0	4.5	24.4
TOT ELASMOBRH	2.3	2.0	0.7	0.0	0.0	0.0	12.0	16.4	49.0	4.5	24.4
RED KING CRAB	0.0	0.0	0.0	37.2	1.1	0.0	244.5	0.0	16.3	147.9	37.8
BLUE KING CRAB	0.0	0.0	13.4	1298.2	109.0	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	16.8	7.3	2.3	63.5	14.6	3.6	8.2	10.4	5.9	6.5	31.1
TANNER, OPILIO	11.3	3.2	4.3	77.1	99.3	90.3	0.0	0.0	0.0	0.0	17.8
TANNER, HYBRID	3.2	0.0	0.2	2.7	0.0	0.7	0.0	0.0	0.9	0.0	0.0
OTHER CRAB	0.0	0.0	0.1	103.6	33.3	1.5	0.2	0.1	0.0	0.0	2.7
SNAILS	0.9	0.9	0.0	9.5	4.5	3.0	0.2	0.1	0.2	0.0	0.2
SHRIMP	0.1	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.0
STARFISH	0.0	9.0	10.8	24.5	30.0	11.2	16.1	6.8	0.0	0.0	0.0
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	0.1	0.0	0.0	0.0	0.0
OTHER INVERTS	0.0	0.1	5.7	0.0	0.0	0.0	5.6	1.5	3.2	0.0	1.5
TOTAL INVERTS	32.3	20.5	36.8	1616.4	291.9	110.3	274.9	21.2	26.5	154.4	91.2
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	362.3	723.8	1679.4	1996.8	668.3	283.8	636.3	582.7	523.4	9684.4	275.3

Table A-2b.--Continued.

HAUL #	41	42	43	45	46	47	48	49	50	51	52
MONTH/DAY/YEAR	7/ 3/78	7/ 3/78	7/ 3/78	7/ 4/78	7/ 4/78	7/ 4/78	7/ 4/78	7/ 5/78	7/ 5/78	7/ 5/78	7/ 5/78
LATITUDE START	55 18.0	55 19.0	55 18.0	55 19.0	55 19.0	55 18.0	55 19.0	56 20.0	56 25.0	56 30.0	56 36.0
LONGITUDE START	163 59.0	163 59.0	164 0.9	164 34.0	164 35.0	164 41.0	164 44.0	165 11.0	165 4.0	164 47.9	164 34.0
LATITUDE END	55 17.2	55 19.3	55 18.9	55 18.4	55 20.5	55 18.8	55 20.1	56 21.1	56 26.5	56 30.8	56 37.2
LONGITUDE END	163 58.5	164 2.4	164 3.5	164 32.8	164 38.4	164 43.6	164 46.9	165 13.5	165 1.8	164 46.8	164 31.2
LORAN START	34336.20	34335.60	34341.40	34426.00	34429.50	34447.10	34453.00	34321.10	34274.40	34208.70	34135.80
LORAN START	18461.20	18463.30	18460.70	18446.20	18445.90	18438.10	18439.70	18623.60	18638.60	18650.60	18665.00
LORAN END	34339.00	34343.00	34346.70	34425.40	34434.30	34452.80	34457.80	34322.70	34264.30	34200.00	34123.00
LORAN END	18456.40	18461.30	18459.70	18442.70	18446.80	18438.00	18440.80	18625.60	18640.90	18652.60	18667.40
GEAR DEPTH	38	41	42	50	55	55	56	45	44	44	39
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	1.70	1.50	1.20	1.50	1.60	1.50	1.60	1.30	1.50	1.20	1.90
PERFORMANCE / GEAR	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20	0 / 20
POLLOCK	62.1	50.6	37.9	78.9	450.3	392.0	188.9	452.8	246.0	147.2	102.6
PAC COD	3.6	529.3	33.3	0.0	4.8	4.1	1.8	45.4	67.0	33.3	7.5
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 RCKFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	0.2	0.0	0.1	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0
PAC HERRING	15.2	6.6	0.1	0.0	0.4	0.0	0.0	0.0	0.1	0.0	0.0
ATKA MACKEREL	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SCULPINS	23.9	46.9	40.7	13.2	5.1	2.2	5.9	22.9	15.1	3.8	18.9
EELPOUTS	0.0	0.0	0.0	38.4	48.0	42.4	72.0	27.4	15.6	2.5	3.0
OTHER RNDFISH	2.1	5.2	1.6	1.1	0.4	0.4	0.3	0.3	0.2	0.1	0.5
TOT ROUNDFISH	107.1	638.9	113.7	132.2	509.2	441.0	269.0	548.7	343.9	186.9	132.6
YELLOW SOLE	396.3	351.3	321.1	32.7	27.8	18.1	24.9	121.8	253.6	442.7	628.1
ROCK SOLE	10.3	56.6	49.9	19.6	23.5	7.8	2.6	8.0	16.2	9.0	6.5
FLATHEAD SOLE	19.2	12.6	12.0	24.5	40.5	17.2	11.2	8.5	9.8	3.8	10.4
ALASKA PLAICE	0.0	0.8	0.5	0.9	2.7	0.8	5.7	20.4	32.7	28.0	54.0
GREENLAND TBT	0.0	0.0	0.0	0.1	1.1	0.0	0.0	21.9	10.2	16.1	18.8
ARROWTOOTH FL	12.0	6.9	5.7	23.1	58.4	33.2	18.1	0.4	0.0	0.0	0.0
PAC HALIBUT	0.0	0.0	1.4	5.6	2.4	0.0	1.6	0.5	0.0	0.0	0.0
OTHER FLTFISH	4.6	3.0	3.8	4.5	5.4	0.6	1.4	0.0	0.1	0.0	0.0
TOT FLATFISH	442.4	431.3	394.4	111.0	161.7	77.8	65.4	181.6	322.6	499.5	717.8
SKATES	0.1	6.8	0.7	1.8	8.6	2.0	0.0	0.0	0.0	0.0	0.0
TOT ELASMOBRH	0.1	6.8	0.7	1.8	8.6	2.0	0.0	0.0	0.0	0.0	0.0
RED KING CRAB	156.0	128.1	153.8	37.2	68.0	70.8	103.4	67.1	34.0	921.2	943.5
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	86.0	101.8	143.8	88.9	68.5	40.6	41.3	10.2	7.3	25.4	20.4
TANNER, OPILIO	0.9	2.3	0.0	20.0	16.1	22.7	16.3	15.6	26.1	18.1	35.8
TANNER, HYBRID	0.7	3.6	0.7	0.0	0.0	0.0	1.8	0.0	0.5	0.0	0.0
OTHER CRAB	9.9	9.8	28.2	23.9	11.4	6.7	20.5	25.6	14.5	8.3	1.3
SNAILS	0.9	0.2	0.2	0.3	1.1	0.2	0.5	183.6	33.3	16.5	0.0
SHRIMP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STARFISH	0.0	0.0	0.0	1.2	1.1	0.0	0.0	31.1	32.6	17.4	8.3
SQUID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OCTOPUS	0.4	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.9	0.0	0.0
OTHER INVERTS	40.1	37.2	23.0	3.9	4.0	7.6	2.3	1.5	0.0	0.1	0.0
TOTAL INVERTS	254.8	283.1	349.6	175.4	170.3	148.5	186.1	335.7	149.1	1007.0	1009.3
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	844.4	1360.0	858.4	420.5	849.9	669.4	520.5	1066.0	815.6	1693.5	1859.8

Table A-2b.--Continued.

HAUL #	53	54	55	56
MONTH/DAY/YEAR	7/ 6/78	7/ 6/78	7/ 6/78	7/ 6/78
LATITUDE START	56 59.0	57 2.0	57 4.0	57 6.0
LONGITUDE START	163 22.0	163 23.0	163 27.0	163 28.0
LATITUDE END	56 59.6	57 4.8	57 6.5	57 8.7
LONGITUDE END	163 24.4	163 25.4	163 27.7	163 28.6
LORAN START	33812.50	33793.40	33793.80	33787.10
LORAN START	18705.20	18710.40	18713.00	18715.20
LORAN END	33814.50	33788.40	33785.20	33774.80
LORAN END	18706.10	18712.90	18715.00	18717.70
GEAR DEPTH	35	34	34	34
DURATION IN HOURS	0.50	0.50	0.50	0.50
DISTANCE FISHED	1.50	2.00	1.80	2.00
PERFORMANCE / GEAR	0 / 20	0 / 20	0 / 20	0 / 20
POLLOCK	128.4	130.5	55.2	12.5
PAC COD	9.5	1.8	2.9	2.3
PAC OC PERCH	0.0	0.0	0.0	0.0
OTHER RCKFISH	0.0	0.0	0.0	0.0
SABLEFISH	0.0	0.0	0.0	0.0
PAC HERRING	0.1	0.0	0.0	0.0
ATKA MACKEREL	0.0	0.0	0.0	0.0
SCULPINS	15.3	12.5	16.4	42.9
EELPOUTS	6.0	3.6	3.0	4.2
OTHER RNDFISH	3.1	7.5	4.2	4.8
TOT ROUNDFISH	162.4	155.9	81.8	66.6
YELLOW SOLE	366.4	568.7	347.7	490.8
ROCK SOLE	4.4	6.6	4.5	3.9
FLATHEAD SOLE	49.2	17.0	8.4	20.2
ALASKA PLAICE	36.4	52.4	28.0	36.2
GREENLAND TBT	8.2	7.2	6.0	6.4
ARRCWTOOTH FL	0.0	0.0	0.0	0.0
PAC HALIBUT	0.0	0.0	0.0	0.0
OTHER FLTFISH	0.0	0.0	0.0	0.0
TOT FLATFISH	464.5	651.9	394.7	557.4
SKATES	0.0	0.0	0.8	0.0
TOT ELASMOBRH	0.0	0.0	0.8	0.0
RED KING CRAB	84.6	27.1	27.0	40.8
BLUE KING CRAB	0.0	0.0	0.0	0.0
TANNER, BAIRDI	27.2	32.7	63.5	49.1
TANNER, OPILIC	103.4	171.6	207.5	175.3
TANNER, HYBRID	5.0	0.0	0.0	0.1
OTHER CRAB	25.2	23.9	64.2	57.7
SNAILS	14.4	20.0	18.6	45.1
SHRIMP	0.0	0.0	0.0	0.0
STARFISH	98.2	3.3	2.9	1.8
SQUID	0.0	0.0	0.0	0.0
OCTOPUS	0.0	0.0	0.0	0.0
OTHER INVERTS	0.2	5.4	0.8	2.3
TOTAL INVERTS	358.2	284.0	384.5	372.3
OTHER	0.0	0.0	0.0	0.0
TOTAL CATCH	985.1	1091.8	861.7	996.4

Table A-3a.--Station and catch data for unsuccessful hauls--Oregon.

HAUL #	42
MONTH/DAY/YEAR	5/31/78
LATITUDE START	56 22.0
LONGITUDE START	160 29.0
LATITUDE END	56 21.5
LONGITUDE END	160 30.4
LORAN START	33554.40
LORAN START	46279.60
LORAN END	33558.60
LORAN END	46282.80
GEAR DEPTH	15
DURATION IN HOURS	0.30
DISTANCE FISHED	0.70
PERFORMANCE / GEAR	6 / 20
POLLOCK	0.5
PAC COD	5.0
PAC OC PERCH	0.0
OTHER RCKFISH	0.0
SABLEFISH	0.0
PAC HERRING	0.0
ATKA MACKEREL	0.0
SCULPINS	8.2
EELPOUTS	0.0
OTHER RNDFISH	3.5
TOT ROUNDFISH	17.1
YELLOW SOLE	277.6
ROCK SOLE	38.8
FLATHEAD SOLE	0.0
ALASKA PLAICE	0.1
GREENLAND TBT	0.0
ARROWTOOTH FL	0.1
PAC HALIBUT	13.6
OTHER FLTFISH	9.3
TOT FLATFISH	339.5
SKATES	0.0
TOT ELASMOBRH	0.0
RED KING CRAB	3.6
BLUE KING CRAB	0.0
TANNER, BAIRDI	1.4
TANNER, OPILIO	0.0
TANNER, HYBRID	0.0
OTHER CRAB	0.6
SNAILS	0.0
SHRIMP	0.0
STARFISH	15.7
SQUID	0.0
OCTOPUS	0.0
OTHER INVERTS	30.1
TOTAL INVERTS	51.4
OTHER	0.0
TOTAL CATCH	408.0

Table A-3b.--Station and catch data for unsuccessful hauls--Paragon II.

HAUL #	12	121	143	157	201	202
MONTH/DAY/YEAR	6/25/78	7/25/78	8/ 3/78	8/ 6/78	8/16/78	8/16/78
LATITUDE START	56 13.0	60 20.0	57 40.0	58 59.0	54 54.0	54 54.0
LONGITUDE START	169 27.0	173 23.0	174 0.9	174 22.0	167 27.0	167 24.9
LATITUDE END	56 13.8	60 19.9	57 40.7	59 0.4	54 54.1	54 55.4
LONGITUDE END	169 24.8	173 20.5	173 58.9	174 26.2	167 25.2	167 26.8
LORAN START	35074.50	32873.30	34375.90	33666.70	18167.90	18167.80
LORAN START	49711.00	17452.70	17345.40	17269.60	48836.30	48819.60
LORAN END	35070.00	32875.80	34376.20	33658.40	18168.00	18171.90
LORAN END	49700.00	17464.70	17361.20	17248.80	48820.00	48832.30
GEAR DEPTH	203	32	71	68	250	248
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	1.30	1.50	1.40	2.00	1.70	1.60
PERFORMANCE / GEAR	7 / 20	7 / 20	7 / 20	7 / 20	5 / 20	7 / 20
POLLOCK	0.0	0.0	3.1	5.5	0.0	2.4
PAC COD	0.0	0.0	2.3	0.0	0.0	0.0
PAC OC PERCH	0.0	0.0	11.1	0.0	0.0	0.0
OTHER RCKFISH	0.0	0.0	0.0	0.0	0.0	10.7
SABLEFISH	0.0	0.0	0.0	0.0	0.0	35.5
PAC HERRING	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
SCULPINS	0.0	0.0	8.4	1.0	0.0	5.3
EELPOUTS	0.0	0.0	0.0	4.4	0.0	49.6
OTHER RNDFISH	0.0	0.0	1.8	0.3	0.0	18.1
TOT ROUNDFISH	0.0	0.0	26.7	11.2	0.0	121.5
YELLOW SOLE	0.0	0.0	0.0	0.0	0.0	0.0
ROCK SOLE	0.0	0.0	2.4	0.0	0.0	0.0
FLATHEAD SOLE	0.0	0.0	8.7	0.0	0.0	0.0
ALASKA PLAICE	0.0	0.0	0.0	0.0	0.0	0.0
GREENLAND TBT	0.0	0.0	0.9	0.3	0.0	171.3
ARROWTOOTH FL	0.0	0.0	75.8	0.4	0.0	26.3
PAC HALIBUT	0.0	0.0	0.9	0.0	0.0	0.0
OTHER FLTFISH	0.0	0.0	0.0	0.0	0.0	6.4
TOT FLATFISH	0.0	0.0	88.8	0.7	0.0	204.0
SKATES	0.0	0.0	0.0	0.0	0.0	0.1
TOT ELASMOBRH	0.0	0.0	0.0	0.0	0.0	0.1
RED KING CRAB	0.0	0.0	0.0	0.0	0.0	0.0
BLUE KING CRAB	0.0	0.0	0.0	0.0	0.0	0.0
TANNER, BAIRDI	0.0	0.0	4.4	0.0	0.0	0.0
TANNER, OPILIO	0.0	0.0	0.0	0.7	0.0	0.9
TANNER, HYBRID	0.0	0.0	0.0	0.0	0.0	0.0
OTHER CRAB	0.0	0.0	0.8	1.3	0.0	0.2
SNAILS	0.0	0.0	0.0	3.3	0.0	5.5
SHRIMP	0.0	0.0	0.0	1.8	0.0	0.0
STARFISH	0.0	0.0	0.5	0.2	0.0	13.3
SQUID	0.0	0.0	0.0	0.0	0.0	0.0
OCTOPUS	0.0	0.0	0.0	0.0	0.0	0.6
OTHER INVERTS	0.0	0.0	0.6	0.1	0.0	3.1
TOTAL INVERTS	0.0	0.0	6.3	7.4	0.0	23.7
OTHER	0.0	0.0	0.0	0.0	0.0	0.1
TOTAL CATCH	0.0	0.0	121.7	19.4	0.0	349.5

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 1978 survey ranked in order of relative abundance (kg/ha).

LIST OF TABLES

Table B-1 .--Rank order of fish and invertebrates collected from the total survey area.

TOTAL TRAWLS 236 TOTAL SPECIES 218 TOTAL EFFORT 819.1 HA

SPECIES RANKED BY MEAN CPUE (KG/HA)

RANK	SPECIES	MEAN CPUE (KG/HA)	90 PERCENT ----CONFIDENCE LIMITS----		PROPORTION	CUMULATIVE PROPORTION	NAME
1	21740	67.45562	54.10235	80.80929	0.30975739	0.30975739	WALLEYE POLLOCK
2	10210	49.81061	40.01957	59.60165	0.22873054	0.53848793	YELLOWFIN SOLE
3	68580	12.26502	10.23364	14.29641	0.05632104	0.59480896	TANNER CRAB (OPILIO)
4	69322	10.65166	8.18906	13.11426	0.04891246	0.64372143	RED KING CRAB
5	21720	9.20396	3.78471	14.62320	0.04226460	0.68598603	PACIFIC COD
6	80000	7.08817	4.31265	9.86368	0.03254888	0.71853491	STARFISH UNIDENT
7	10260	5.19284	4.04342	6.34227	0.02384556	0.74238047	ROCK SOLE
8	10285	4.82785	2.88707	6.76864	0.02216952	0.76454999	ALASKA PLAICE
9	91000	4.12751	1.05794	7.19709	0.01895355	0.78350354	SPONGE UNIDENT
10	21371	3.95453	1.04408	6.86498	0.01815922	0.80166276	PLAIN SCULPIN
11	68560	3.75736	3.03007	4.48469	0.01725389	0.81891666	TANNER CRAB (BAIRDI)
12	10115	3.15947	2.74964	3.56931	0.01450830	0.83342496	GREENLAND TURBOT
13	69010	3.05290	2.45305	3.65276	0.01401895	0.84744391	HERMIT CRAB UNIDENT
14	10130	2.50075	2.05803	2.94346	0.01148343	0.85892734	FLATHEAD SOLE
15	83020	1.92805	1.06448	2.79162	0.00885359	0.86778093	GORGONOCEPHALUS CARYI
16	24185	1.55998	1.28766	1.83229	0.00716342	0.87494435	WATTLED EELPOUT
17	24191	1.47533	1.16066	1.78999	0.00677471	0.88171906	SHORTFIN EELPOUT
18	71884	1.46772	0.95081	1.98464	0.00673978	0.88845884	NEPTUNEA HEROS
19	24169	1.38103	0.26454	2.49751	0.00634169	0.89480053	POLAR EELPOUT
20	10110	1.32155	0.98657	1.65653	0.00606856	0.90086909	ARROWTOOTH FLOUNDER
21	00400	1.28533	1.03158	1.53907	0.00590222	0.90677131	SKATE UNIDENT
22	24100	1.27644	0.77065	1.78222	0.00586141	0.91263273	EELPOUT UNIDENT
23	69323	1.23146	0.34391	2.11901	0.00565488	0.91828760	BLUE KING CRAB

Table B-l .--Continued.

RANK	SPECIES	MEAN CPUE (KG/HA)	90 PERCENT ----CONFIDENCE LIMITS----		PROPORTION	CUMULATIVE PROPORTION	NAME
24	99990	1.22321	0.00000	2.44871	0.00561697	0.92390457	INVERTEBRATE UNIDENT
25	21347	0.93243	0.00000	1.90741	0.00428173	0.92818630	YELLOW IRISH LORD
26	10211	0.84761	0.50658	1.19264	0.00390141	0.93208771	LONGHEAD DAB
27	21370	0.81775	0.53915	1.09634	0.00375509	0.93584280	GREAT SCULPIN
28	98205	0.70430	0.20433	1.20426	0.00323414	0.93907695	HALOCYNTHIA (TETHYUM) AURANTIUM
29	21300	0.69845	0.23438	1.16252	0.00320728	0.94228423	SCULPIN UNIDENT
30	98105	0.56913	0.20542	0.93284	0.00261344	0.94489766	BOLTENIA OVIFERA
31	60595	0.56586	0.00000	1.26270	0.00259844	0.94749611	LEPTASTERIAS SP
32	66031	0.56367	0.40199	0.72535	0.00258836	0.95008447	PINK SHRIMP
33	10120	0.51960	0.39495	0.64425	0.00238597	0.95247046	PACIFIC HALIBUT
34	21375	0.51659	0.14290	0.89028	0.00237218	0.95484264	MYOXOCEPHALUS SP
35	20040	0.51272	0.37735	0.64810	0.00235443	0.95719707	STURGEON POACHER
36	69400	0.50731	0.24808	0.76653	0.00232955	0.95952663	KOREAN HORSEHAIR CRAB
37	71820	0.44462	0.33440	0.55484	0.00204169	0.96156831	NEPTUNEA PRIBILOFFENSIS
38	65200	0.40194	0.16098	0.64289	0.00184570	0.96341401	CUCUMARIA SP
39	20510	0.40143	0.07108	0.73178	0.00184337	0.96525738	SABLEFISH
40	71800	0.39968	0.24268	0.55668	0.00183533	0.96709272	NEPTUNEA SP
41	71882	0.39626	0.29301	0.49952	0.00181965	0.96891236	NEPTUNEA VENTRICOSA
42	71670	0.39054	0.23887	0.54222	0.00179337	0.97070574	NEPTUNEA LYRATA
43	21311	0.38769	0.00000	1.01402	0.00178025	0.97248599	NORTHERN SCULPIN
44	82730	0.33323	0.00000	0.75154	0.00153018	0.97401617	SAND DOLLAR UNIDENT
45	61780	0.31815	0.08351	0.55278	0.00146093	0.97547710	COMMON MUD STAR
46	78010	0.28969	0.14498	0.43441	0.00133027	0.97680737	OCTOPUS UNIDENT
47	21313	0.26989	0.13734	0.40243	0.00123932	0.97804669	GYMNOCANTHUS SP
48	98000	0.24425	0.00000	0.49402	0.00112162	0.97916830	TUNICATE UNIDENT
49	68577	0.23961	0.13097	0.34825	0.00110029	0.98026859	HYAS CRAB (ROUNDED SPINED)
50	68590	0.22677	0.12888	0.32466	0.00104134	0.98130993	TANNER CRAB (HYBRID)
51	43000	0.22340	0.00000	0.48649	0.00102585	0.98233578	SEA ANEMONE UNIDENT

Table B-1.--Continued.

RANK	SPECIES	MEAN CPUE (KG/HA)	90 PERCENT ----CONFIDENCE	LIMITS----	PROPORTION	CUMULATIVE PROPORTION	NAME
52	21342	0.20164	0.08845	0.31482	0.00092592	0.98326170	IRISH LORD
53	81742	0.17611	0.00000	0.41664	0.00080870	0.98407040	PURPLE-ORANGE SEASTAR
54	22204	0.17355	0.12033	0.22677	0.00079693	0.98486733	MARBLED SNAILFISH
55	71500	0.16522	0.11124	0.21919	0.00075868	0.98562601	SNAIL UNIDENT
56	21316	0.15791	0.00000	0.41063	0.00072512	0.98635113	ARMORHEAD SCULPIN
57	21438	0.15623	0.12347	0.18899	0.00071742	0.98706855	THORNY SCULPIN
58	80020	0.15349	0.00000	0.32496	0.00070485	0.98777340	EVASTERIAS ECHINOSOMA
59	21420	0.15138	0.03747	0.26530	0.00069515	0.98846854	BIGMOUTH SCULPIN
60	21314	0.14824	0.06133	0.23516	0.00068074	0.98914928	THREADED SCULPIN
61	20720	0.14441	0.00000	0.30167	0.00066311	0.98981239	SEARCHER
62	23010	0.14149	0.06294	0.22004	0.00064972	0.99046212	EULACHON
63	69070	0.13067	0.03970	0.22164	0.00060004	0.99106215	PAGURUS OCHOTENSIS
64	69120	0.11901	0.02015	0.21788	0.00054651	0.99160867	PAGURUS CAPILLATUS
65	69086	0.11371	0.04166	0.18577	0.00052217	0.99213083	PAGURUS TRIGONOCHEIRUS
66	21390	0.10966	0.06320	0.15612	0.00050354	0.99263437	SPINYHEAD SCULPIN
67	00430	0.09572	0.04286	0.14858	0.00043954	0.99307392	SANDPAPER SKATE
68	69060	0.09214	0.00000	0.20478	0.00042312	0.99349704	PAGURUS ALEUTICUS
69	41221	0.08858	0.00000	0.20629	0.00040676	0.99390380	EUNEPHTHYA (GERSEMIA) RUBIFORMIS
70	80310	0.08806	0.00910	0.16703	0.00040439	0.99430819	PISASTER SP
71	21932	0.08358	0.02580	0.14136	0.00038379	0.99469198	WHITESPOTTED GREENLING
72	83000	0.06667	0.01585	0.11749	0.00030613	0.99499811	BRITTLESTARFISH UNIDENT
73	72740	0.05912	0.03873	0.07950	0.00027147	0.99526958	BUCCINUM SP
74	72500	0.05703	0.03399	0.08007	0.00026189	0.99553147	FUSITRITON OREGONENSIS
75	22236	0.04328	0.03028	0.05628	0.00019873	0.99573020	PINK SNAILFISH
76	21350	0.04307	0.01593	0.07021	0.00019779	0.99592799	TRIGLOPS SP
77	10200	0.04273	0.02447	0.06099	0.00019620	0.99612419	REX SOLE
78	22200	0.03902	0.01945	0.05859	0.00017919	0.99630338	SNAILFISH UNIDENT
79	72743	0.03268	0.01897	0.04639	0.00015007	0.99645344	BUCCINUM ANGULOSSUM

Table B-l .--Continued.

RANK	SPECIES	MEAN CPUE (KG/HA)	90 PERCENT ----CONFIDENCE LIMITS----*		PROPORTION	CUMULATIVE PROPORTION	NAME
80	69410	0.03196	0.00000	0.07676	0.00014677	0.99660022	
81	23041	0.02976	0.01688	0.04263	0.00013664	0.99673686	CAPELIN
82	10220	0.02907	0.00080	0.05734	0.00013347	0.99687033	STARRY FLOUNDER
83	71001	0.02846	0.01117	0.04574	0.00013067	0.99700099	SNAIL (GASTROPOD) EGGS
84	82510	0.02832	0.00000	0.06391	0.00013004	0.99713103	GREEN SEA URCHIN
85	71750	0.02786	0.01759	0.03812	0.00012791	0.99725894	VOLUTOPSIUS SP
86	82500	0.02717	0.00000	0.06604	0.00012476	0.99736370	SEA URCHIN UNIDENT
87	71753	0.02382	0.00000	0.05955	0.00010940	0.99749311	PYRULOFUSUS DEFORMIS
88	66000	0.02292	0.00316	0.04269	0.00010526	0.99759837	SHRIMP UNIDENT
89	66020	0.02202	0.00000	0.04824	0.00010112	0.99769949	PANDALUS SP
90	20700	0.02178	0.00000	0.04485	0.00010000	0.99779949	RONQUIL UNIDENT
91	98080	0.02063	0.00000	0.04326	0.00009473	0.99789422	STYELA SP
92	21463	0.01773	0.00000	0.03971	0.00008140	0.99797562	PACIFIC SPINY LUMPSUCKER
93	21592	0.01709	0.00509	0.02909	0.00007847	0.99805409	PACIFIC SANDFISH
94	40500	0.01659	0.00367	0.02931	0.00007617	0.99813027	JELLYFISH UNIDENT
95	69035	0.01607	0.00000	0.03649	0.00007381	0.99820407	PAGURUS SP
96	72755	0.01568	0.00117	0.03020	0.00007202	0.99827609	BUCCINUM POLARE
97	71756	0.01534	0.00500	0.02569	0.00007045	0.99834654	VOLUTOPSIUS FRAGILIS
98	21340	0.01485	0.00229	0.02742	0.00006821	0.99841475	BLACKFIN SCULPIN
99	21110	0.01452	0.00823	0.02081	0.00006669	0.99848143	PACIFIC HERRING
100	71772	0.01450	0.00805	0.02095	0.00006659	0.99854802	BERINGIUS BERINGII
101	71891	0.01441	0.00595	0.02288	0.00006619	0.99861421	PLICIFUSUS KROYERI
102	69520	0.01392	0.00000	0.03153	0.00006392	0.99867813	HYAS SP
103	21921	0.01380	0.00000	0.02840	0.00006338	0.99874150	ATKA MACKEREL
104	81355	0.01248	0.00449	0.02046	0.00005729	0.99879880	PTERASTER OBSCURUS
105	21355	0.01127	0.00543	0.01712	0.00005177	0.99885056	RIBBED SCULPIN
106	71754	0.01110	0.00000	0.02753	0.00005098	0.99890154	PYRULOFUSUS SP
107	20006	0.01103	0.00378	0.01827	0.00005063	0.99895217	SAWBACK POACHER

Table B-1.--Continued.

RANK	SPECIES	MEAN CPUE (KG/HA)	90 PERCENT CONFIDENCE LIMITS		PROPORTION	CUMULATIVE PROPORTION	NAME
108	68578	0.01046	0.00117	0.01976	0.00004805	0.99900022	HYAS CRAB (SHARP SPINED)
109	72531	0.01027	0.00000	0.02634	0.00004714	0.99904736	MARGARITES SP
110	43042	0.01026	0.00262	0.01790	0.00004711	0.99909447	TEALIA CRASSICORNIS
111	23808	0.00995	0.00663	0.01328	0.00004571	0.99914018	SNAKE PRICKLEBACK
112	79000	0.00989	0.00173	0.01805	0.00004541	0.99918559	SQUID UNIDENT
113	21348	0.00980	0.00000	0.02132	0.00004499	0.99923058	BUTTERFLY SCULPIN
114	00420	0.00940	0.00000	0.02498	0.00004316	0.99927373	BIG SKATE
115	98300	0.00883	0.00163	0.01604	0.00004056	0.99931430	COMPOUND ASCIDIAN UNIDENT
116	10270	0.00831	0.00000	0.02210	0.00003818	0.99935247	BUTTER SOLE
117	75605	0.00808	0.00000	0.02147	0.00003710	0.99938957	PODODESMUS SP
118	71010	0.00795	0.00322	0.01267	0.00003650	0.99942607	NUDIBRANCH UNIDENT
119	80590	0.00789	0.00000	0.02098	0.00003624	0.99946231	LEPTASTERIAS POLARIS
120	71961	0.00683	0.00351	0.01015	0.00003135	0.99949367	CLINOPEGMA (ANCISTROLEPIS) MAGNA
121	30060	0.00649	0.00059	0.01240	0.00002982	0.99952348	PACIFIC OCEAN PERCH
122	75284	0.00502	0.00045	0.00959	0.00002305	0.99954653	SERRIPES SP
123	23800	0.00497	0.00000	0.01174	0.00002280	0.99956933	PRICKLEBACK UNIDENT
124	75600	0.00470	0.00000	0.01235	0.00002159	0.99959092	PODODESMUS MACROSCHISMA
125	42000	0.00448	0.00000	0.01054	0.00002058	0.99961150	SEA PEN UNIDENT
126	72752	0.00427	0.00116	0.00737	0.00001959	0.99963109	SILKY WHELK
127	69061	0.00400	0.00010	0.00789	0.00001835	0.99964944	LABIDOCHIRUS (PAGURUS) SPLENDESCENS
128	85000	0.00345	0.00000	0.00710	0.00001584	0.99966528	SEA CUCUMBER UNIDENT
129	24001	0.00334	0.00000	0.00745	0.00001532	0.99968060	PROWFISH
130	71835	0.00324	0.00185	0.00463	0.00001488	0.99969547	NEPTUNEA BOREALIS
131	20050	0.00318	0.00253	0.00383	0.00001459	0.99971006	ALEUTIAN ALLIGATORFISH
132	81360	0.00263	0.00000	0.00574	0.00001207	0.99972213	DIPLOPTERASTER MULTIPES
133	75286	0.00259	0.00000	0.00659	0.00001188	0.99973401	SERRIPES LAPEROUSII
134	81870	0.00258	0.00000	0.00687	0.00001187	0.99974588	DIPSACASTER BOREALIS
135	66611	0.00251	0.00169	0.00334	0.00001154	0.99975741	ARGIS LAR

Table B-1.--Continued.

RANK	SPECIES	MEAN CPUE (KG/HA)	90 PERCENT ----CONFIDENCE LIMITS----		PROPORTION	CUMULATIVE PROPORTION	NAME
136	22206	0.00246	0.00000	0.00654	0.00001131	0.99976872	BLOTCHED SNAILFISH
137	68781	0.00227	0.00000	0.00497	0.00001041	0.99977914	TELMESSUS CRAB
138	69070	0.00214	0.00000	0.00544	0.00000982	0.99978896	PAGURUS CONFRAGOSUS
139	66045	0.00208	0.00052	0.00364	0.00000955	0.99979851	HUMPY SHRIMP
140	20000	0.00202	0.00037	0.00366	0.00000926	0.99980777	POACHER UNIDENT
141	75110	0.00190	0.00000	0.00504	0.00000871	0.99981648	SPISULA SP
142	75285	0.00185	0.00011	0.00359	0.00000851	0.99982498	GREENLAND COCKLE
143	80010	0.00178	0.00000	0.00473	0.00000817	0.99983315	EVASTERIAS SP
144	21331	0.00176	0.00117	0.00235	0.00000807	0.99984122	ARTEDIELLUS SP
145	68510	0.00175	0.00065	0.00286	0.00000806	0.99984928	DECORATOR CRAB
146	56300	0.00155	0.00098	0.00212	0.00000712	0.99985640	SCALEWORM UNIDENT
147	66500	0.00142	0.00052	0.00232	0.00000652	0.99986292	CRANGONID SHRIMP UNIDENT
148	81315	0.00136	0.00000	0.00298	0.00000623	0.99986915	PTERASTER TESSELATUS
149	71774	0.00131	0.00000	0.00348	0.00000601	0.99987516	BERINGIUS STIMPSONI
150	75111	0.00125	0.00049	0.00202	0.00000576	0.99988092	ALASKA SURF CLAM
151	66570	0.00125	0.00026	0.00223	0.00000573	0.99988665	ARGIS SP
152	74983	0.00117	0.00030	0.00205	0.00000539	0.99989204	CLINOCARDIUM CILIATUM
153	20202	0.00117	0.00046	0.00188	0.00000536	0.99989740	PACIFIC SAND LANCE
154	71022	0.00115	0.00077	0.00153	0.00000528	0.99990268	SLIGHTLY BRANCHED DENDRONOTID
155	74000	0.00107	0.00050	0.00164	0.00000491	0.99990759	CLAM UNIDENT
156	21346	0.00100	0.00000	0.00202	0.00000460	0.99991219	RED IRISH LORD
157	79020	0.00092	0.00043	0.00141	0.00000423	0.99991642	ROSSIA PACIFICA
158	43020	0.00089	0.00000	0.00236	0.00000409	0.99992051	METRIDIUM SENILE
159	60200	0.00089	0.00000	0.00236	0.00000409	0.99992459	LETHASTERIAS NANIMENSIS
160	91020	0.00082	0.00000	0.00217	0.00000375	0.99992834	SUBERITES DOMUNCULA
161	69121	0.00070	0.00000	0.00186	0.00000321	0.99993155	ELASSOCHIRUS CAVIMANUS
162	75240	0.00064	0.00019	0.00110	0.00000294	0.99993449	MACOMA SP
163	81310	0.00063	0.00000	0.00167	0.00000288	0.99993736	PTERASTER SP

Table B-1.--Continued.

RANK	SPECIES	MEAN CPUE (KG/HA)	90 PERCENT ----CONFIDENCE LIMITS----		PROPORTION	CUMULATIVE PROPORTION	NAME
164	20010	0.00062	0.00028	0.00096	0.00000284	0.99994022	BLACKFIN POACHER
165	20060	0.00059	0.00019	0.00100	0.00000273	0.99994295	WARTY POACHER
166	21360	0.00057	0.00000	0.00152	0.00000262	0.99994557	BRIGHTBELLY SCULPIN
167	72758	0.00054	0.00006	0.00101	0.00000247	0.99994803	BUCCINUM GLACIALE
168	74100	0.00052	0.00000	0.00110	0.00000241	0.99995044	SCALLOP UNIDENT
169	72756	0.00051	0.00021	0.00080	0.00000233	0.99995277	BUCCINUM SOLENUM
170	81061	0.00050	0.00000	0.00115	0.00000232	0.99995508	SOLASTER ENDECA
171	21735	0.00049	0.00000	0.00130	0.00000225	0.99995733	SAFFRON COD
172	30040	0.00047	0.00000	0.00124	0.00000215	0.99995948	ROCKFISH UNIDENT
173	21407	0.00040	0.00000	0.00095	0.00000184	0.99996132	SHORTMAST SCULPIN
174	71525	0.00039	0.00012	0.00066	0.00000179	0.99996311	NATICA SP
175	75281	0.00039	0.00011	0.00067	0.00000179	0.99996489	CLINOCARDIUM SP
176	71760	0.00038	0.00000	0.00086	0.00000177	0.99996666	VOLUTOPSIUS CASTANEUS
177	71640	0.00037	0.00010	0.00065	0.00000172	0.99996838	SLIPPER SHELL
178	71530	0.00037	0.00014	0.00061	0.00000172	0.99997010	NATICA CLAUSA
179	71580	0.00037	0.00018	0.00056	0.00000169	0.99997179	POLINICES PALLIDA
180	20001	0.00033	0.00000	0.00087	0.00000150	0.99997328	TUBENOSE POACHER
181	21405	0.00033	0.00000	0.00071	0.00000150	0.99997478	EYESHADE SCULPIN
182	81092	0.00030	0.00000	0.00065	0.00000136	0.99997616	CROSSASTER BOREALIS
183	59100	0.00029	0.00005	0.00052	0.00000131	0.99997748	LEECH UNIDENT
184	20055	0.00028	0.00000	0.00061	0.00000129	0.99997877	SMOOTH ALLIGATORFISH
185	69110	0.00027	0.00000	0.00071	0.00000123	0.99997999	ELASSOCHIRUS TENUIMANUS
186	43010	0.00026	0.00005	0.00048	0.00000120	0.99998119	METRIDIUM SP
187	21397	0.00024	0.00000	0.00056	0.00000112	0.99998231	CRESTED SCULPIN
188	23805	0.00021	0.00000	0.00047	0.00000098	0.99998329	DAUBED SHANNY
189	71030	0.00021	0.00001	0.00040	0.00000095	0.99998424	DIOMEDES' TRITON
190	71726	0.00020	0.00000	0.00040	0.00000090	0.99998515	COLUS SPITZBERGENSIS
191	75266	0.00020	0.00000	0.00052	0.00000090	0.99998605	PACIFIC RAZOR CLAM

Table B-1 .--Continued.

RANK	SPECIES	MEAN CPUE (KG/HA)	90 PERCENT CONFIDENCE LIMITS		PROPORTION	CUMULATIVE PROPORTION	NAME
192	74981	0.00019	0.00000	0.00050	0.00000087	0.99998692	COCKLE UNIDENT
193	75201	0.00018	0.00000	0.00047	0.00000082	0.99998773	TELLINA SP
194	71710	0.00017	0.00001	0.00033	0.00000079	0.99998852	COLUS SP
195	72305	0.00017	0.00001	0.00033	0.00000078	0.99998930	TRICHOTROPIS BICARINATA
196	65000	0.00017	0.00000	0.00045	0.00000078	0.99999008	BARNACLE UNIDENT
197	71764	0.00016	0.00000	0.00035	0.00000074	0.99999082	VOLUTOPSIUS MIDDENDORFFII
198	72790	0.00016	0.00000	0.00042	0.00000073	0.99999155	ARCTOMELON (BOREOMELON) STEARNSII
199	80540	0.00015	0.00000	0.00030	0.00000070	0.99999225	HENRICIA SP
200	72751	0.00013	0.00000	0.00029	0.00000061	0.99999286	LYRE WHELK
201	71722	0.00013	0.00001	0.00025	0.00000060	0.99999346	COLUS HYPOLISPUS
202	72063	0.00013	0.00000	0.00029	0.00000058	0.99999404	AFORIA (LEUCOSYRINX) CIRCINATA
203	23055	0.00013	0.00000	0.00033	0.00000058	0.99999461	RAINBOW SMELT
204	71731	0.00012	0.00001	0.00024	0.00000057	0.99999519	COLUS HALLI
205	23641	0.00012	0.00000	0.00033	0.00000056	0.99999575	DECORATED WARBONNET
206	81340	0.00011	0.00000	0.00028	0.00000049	0.99999623	PTERASTER TESSELATUS ARCUATUS
207	71575	0.00010	0.00000	0.00022	0.00000047	0.99999670	POLINICES SP
208	75205	0.00010	0.00000	0.00026	0.00000045	0.99999715	GREAT ALASKAN TELLIN
209	95000	0.00009	0.00000	0.00024	0.00000041	0.99999756	BRYOZOAN UNIDENT
210	80728	0.00008	0.00000	0.00021	0.00000037	0.99999792	CERAMASTER SP
211	66301	0.00008	0.00000	0.00020	0.00000035	0.99999827	HEPTACARPUS SP
212	23000	0.00007	0.00000	0.00018	0.00000032	0.99999858	SMELT UNIDENT
213	80594	0.00006	0.00000	0.00017	0.00000029	0.99999887	LEPTASTERIAS ARCTICA
214	74104	0.00006	0.00000	0.00015	0.00000027	0.99999914	CHLAMYS SP
215	72300	0.00005	0.00000	0.00014	0.00000024	0.99999938	TRICHOTROPIDAE
216	65100	0.00005	0.00000	0.00013	0.00000023	0.99999961	GOOSE BARNACLE UNIDENT
217	23836	0.00004	0.00000	0.00012	0.00000020	0.99999981	LONGSNOUT PRICKLEBACK
218	71723	0.00004	0.00000	0.00011	0.00000019	1.00000000	COLUS OMBRONIUS
	TOTAL	217.76985					

APPENDIX C

Population and Biomass Estimates for Principal Species of Fish

Appendix C presents estimates of population numbers and biomass in metric tons (t) for commercially important species-of demersal fish. Estimates are given by strata and for the total survey area. Strata codes corresponding to subareas (illustrated in Fig. 1) are as follows:

Subarea	Stratum Code(s)
1	1
2	2
3N	3
3S	7
4N	4
4S	6, 11
5	5, 10

Table Page

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

STANDARD TRAWL WIDTH = 12.1920000 METERS

STRATUM	AREA SQ. MI.	SAMPLES	TOTAL HAULS	HAULS WITH CATCH	HAULS WITH NUMS.	HAULS WITH L-F	CPUE T/KM	VARIANCE CPUE T/KM	CPUE NO/KM	VARIANCE CPUE NO/KM
1	24,306.	.663775219E+07	50	41	41	28	0.03494	.192752E-03	224.57952	.347055E+04
2	17,774.	.500031165E+07	45	45	44	39	0.12101	.617643E-03	0.00000	0.
3	7,309.	.205619819E+07	21	21	21	21	0.13921	.686978E-03	666.67193	.218530E+05
4	6,521.	.183454289E+07	16	16	16	6	0.05994	.285620E-02	322.49854	.533046E+05
5	2,246.	.631825902E+06	6	6	6	2	0.00098	.178308E-06	57.18504	.135701E+04
6	5,348.	.150446527E+07	11	11	10	7	0.00482	.308262E-05	0.00000	0.
7	23,100.	.649870032E+07	55	55	54	51	0.15182	.914536E-03	0.00000	0.
10	4,161.	.117067417E+07	8	8	6	5	0.00595	.219357E-04	128.87707	.190761E+04
11	9,032.	.254083530E+07	24	23	23	15	0.02635	.537932E-04	590.53866	.890321E+05
TOTAL	99,797.	.280753059E+08	236	226	223	176				

STRATUM	MEAN WT T	POPULATION	VARIANCE POPULATION	METHOD USED	BIOMASS T.	VARIANCE BIOMASS
1	0.000156	.153561914E+10	.162265262E+18	1	.238894210E+06	.901207174E+10
2	0.000428	.141403967E+10	0.	3	.605083622E+06	.154429959E+11
3	0.000203	.141193357E+10	.923932297E+17	1	.286248561E+06	.290450913E+10
4	0.000186	.591637398E+09	.179399233E+18	1	.109966241E+06	.961268441E+10
5	0.000017	.361309698E+08	.541724416E+15	1	.620473798E+03	.711813648E+05
6	0.000028	.257074477E+09	0.	3	.724811293E+04	.697725314E+07
7	0.000181	.544296202E+10	0.	3	.985617996E+06	.386236941E+11
10	0.000046	.150673062E+09	.261433258E+16	1	.696414858E+04	.300623610E+08
11	0.000045	.150046199E+10	.574777660E+16	1	.669552765E+05	.347280618E+09
TOTAL		.123407523E+11	.101199144E+19		.230859866E+07	.759803466E+11
EFFECTIVE D. F. =		54.12436			104.92032	

CONFIDENCE LIMITS

	TOTAL BIOMASS T LOWER	TOTAL BIOMASS T UPPER	TOTAL POPULATION LOWER	TOTAL POPULATION UPPER
80.000 PERCENT	.195277730E+07	.266442003E+07	.110348925E+11	.136466122E+11
90.000 PERCENT	.185062314E+07	.276657419E+07	.106558400E+11	.140256646E+11
95.000 PERCENT	.176135038E+07	.285584652E+07	.103224590E+11	.143590457E+11

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

STANDARD TRAWL WIDTH = 12.19200000 METERS

STRATUM	AREA SQ. MI.	SAMPLES	TOTAL HAULS	HAULS WITH CATCH	HAULS WITH NUMS.	HAULS WITH L-F	CPUE T/KM	VARIANCE CPUE T/KM	CPUE NO/KM	VARIANCE CPUE NO/KM
1	24,306.	.683775219E+07	50	48	48	29	0.01081	.687187E-05	119.89418	.749953E+03
2	17,774.	.500031165E+07	45	40	40	29	0.03449	.483264E-03	15.86368	.599624E+02
3	7,309.	.205619819E+07	21	11	11	10	0.00196	.716474E-06	2.10156	.392338E+00
4	6,521.	.183454289E+07	16	15	14	3	0.00253	.802595E-06	0.00000	0.
5	2,246.	.631825902E+06	6	6	6	0	0.00023	.216617E-07	2.50365	.174061E+01
6	5,348.	.150446527E+07	11	11	10	7	0.01449	.286510E-04	0.00000	0.
7	23,100.	.649670032E+07	55	50	49	35	0.00314	.280796E-06	0.00000	0.
10	4,161.	.117067417E+07	8	8	8	1	0.00070	.770612E-07	10.60265	.168809E+02
11	9,032.	.254083530E+07	24	24	24	12	0.00662	.416651E-05	37.14164	.166761E+03
TOTAL	99,797.	.280753059E+08	236	213	210	126				

STRATUM	MEAN WT T	POPULATION	VARIANCE POPULATION	METHOD USED	BIOMASS T.	VARIANCE BIOMASS
1	0.000090	.819806697E+09	.350639490E+17	1	.739132585E+05	.321293313E+09
2	0.002174	.793243460E+08	.149974570E+16	1	.172457495E+06	.120831082E+11
3	0.000930	.432121886E+07	.165878473E+13	1	.402010313E+04	.302921514E+07
4	0.000127	.367369733E+08	0.	3	.464764507E+04	.270117277E+07
5	0.000092	.158186830E+07	.694860317E+12	1	.146050241E+03	.864744017E+04
6	0.000070	.311267612E+09	0.	3	.217926694E+05	.648491634E+08
7	0.000598	.340901530E+08	0.	3	.203897226E+05	.116589901E+08
10	0.000066	.124122533E+08	.231345676E+14	1	.820099922E+03	.105610712E+06
11	0.000178	.943706002E+08	.107658062E+16	1	.168078464E+05	.268983662E+08
TOTAL		.139391192E+10	.376657638E+17		.314994890E+06	.125138526E+11
EFFECTIVE D. F. =		60.33056			46.57305	

CONFIDENCE LIMITS

	TOTAL BIOMASS T LOWER	UPPER	TOTAL POPULATION LOWER	UPPER
80.000 PERCENT	.169547585E+06	.460442195E+06	.114238852E+10	.164543532E+10
90.000 PERCENT	.127195370E+06	.502794410E+06	.106960976E+10	.171621408E+10
95.000 PERCENT	.896547223E+05	.540135058E+06	.100575853E+10	.178206531E+10

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

STANDARD TRAWL WIDTH = 12.19200000 METERS

STRATUM	AREA SQ. MI.	SAMPLES	TOTAL HAULS	HAULS WITH CATCH	HAULS WITH NUMS.	HAULS WITH L-F	CPUE T/KM	VARIANCE CPUE T/KM	CPUE NO/KM	VARIANCE CPUE NO/KM
1	24,306.	.663775219E+07	50	8	8	7	0.00121	.939424E-06	4.85657	.130160E+02
2	17,774.	.500031165E+07	45	17	17	12	0.00105	.102526E-06	1.76969	.228994E+00
3	7,309.	.205619819E+07	21	1	1	0	0.00000	.850135E-11	0.01607	.258249E-03
4	6,521.	.163454289E+07	16	0	0	0	0.00000	0.	0.00000	0.
5	2,246.	.631825902E+06	6	0	0	0	0.00000	0.	0.00000	0.
6	5,346.	.150446527E+07	11	1	1	0	0.00000	.111543E-10	0.02454	.602363E-03
7	23,100.	.649670032E+07	55	4	4	2	0.00002	.350779E-09	0.03600	.374122E-03
10	4,161.	.117067417E+07	6	0	0	0	0.00000	0.	0.00000	0.
11	9,032.	.254083530E+07	24	5	5	0	0.00002	.142260E-09	0.00331	.136788E-02
TOTAL	99,797.	.280753059E+08	236	36	36	21				

STRATUM	MEAN WT T	POPULATION	VARIANCE POPULATION	METHOD USED	BIOMASS T.	VARIANCE BIOMASS
1	0.000249	.332080240E+08	.606562034E+15	1	.827447066E+04	.439226104E+08
2	0.000591	.884898912E+07	.572556151E+13	1	.523091201E+04	.256347893E+07
3	0.000181	.330433989E+05	.109186621E+10	1	.599527338E+01	.359433029E+02
4	0.000000	0.	0.	1	0.	0.
5	0.000000	0.	0.	1	0.	0.
6	0.000136	.369248300E+05	.136344307E+10	1	.502462953E+01	.252469019E+02
7	0.000685	.233934497E+06	.158003322E+11	1	.160130463E+03	.146144977E+05
10	0.000000	0.	0.	1	0.	0.
11	0.000293	.211666899E+06	.683081460E+10	1	.619691054E+02	.918407617E+03
TOTAL		.425725827E+08	.614314682E+15		.137385021E+05	.465018834E+08

EFFECTIVE D. F. = 50.03049 55.33905

CONFIDENCE LIMITS

	TOTAL BIOMASS T LOWER	TOTAL BIOMASS T UPPER	TOTAL POPULATION LOWER	TOTAL POPULATION UPPER
80.000 PERCENT	.488964778E+04	.225881565E+05	.103639913E+08	.747811741E+08
90.000 PERCENT	.232140606E+04	.251555962E+05	.995120602E+06	.841500448E+08
95.000 PERCENT	.642432955E+02	.274127610E+05	0.	.924035738E+08

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Table C-4.--Population and biomass estimates for yellowfin sole.

STANDARD TRAWL WIDTH = 12.19200000 METERS

STRATUM	AREA SQ. MI.	SAMPLES	TOTAL HAULS	HAULS WITH CATCH	HAULS WITH NUMS.	HAULS WITH L-F	CPUE T/KM	VARIANCE CPUE T/KM	CPUE NO/KM	VARIANCE CPUE NO/KM
1	24,306.	.663775219E+07	50	49	49	46	0.13715	.544257E-03	1043.37915	.607929E+05
2	17,774.	.500031165E+07	45	21	19	15	0.00740	.616335E-05	0.00000	0.
3	7,309.	.205619819E+07	21	0	0	0	0.00000	0.	0.00000	0.
4	6,521.	.183454289E+07	16	15	15	3	0.01655	.911608E-04	61.19613	.220187E+04
5	2,246.	.631825902E+06	6	1	1	0	0.00001	.104142E-09	0.04500	.202468E-02
6	5,348.	.150446527E+07	11	11	11	10	0.22944	.399137E-02	1534.03549	.186267E+06
7	23,100.	.649670032E+07	55	12	12	4	0.00070	.980172E-07	3.85107	.315228E+01
10	4,161.	.117067417E+07	8	1	1	0	0.00000	.103853E-10	0.03552	.126192E-02
11	9,032.	.254063530E+07	24	24	24	24	0.13765	.914235E-03	886.79465	.412073E+05
TOTAL	99,797.	.280753059E+08	236	134	132	102				

STRATUM	MEAN WT T	POPULATION	VARIANCE POPULATION	METHOD USED	BIOMASS T.	VARIANCE BIOMASS
1	0.000131	.713778693E+10	.284236122E+19	1	.937828806E+06	.254466540E+11
2	0.000215	.172208754E+09	0.	3	.370064905E+05	.154102885E+09
3	0.000000	0.	0.	1	0.	0.
4	0.000204	.148957792E+09	.741051516E+16	1	.303674036E+05	.306805875E+09
5	0.000227	.284298912E+05	.808258713E+09	1	.645776928E+01	.415737287E+02
6	0.000150	.230790312E+10	.421599164E+18	1	.345191334E+06	.903412672E+10
7	0.000182	.250269316E+08	.133130533E+15	1	.455518685E+04	.413957202E+07
10	0.000091	.415864134E+05	.172942978E+10	1	.377264334E+01	.142328378E+02
11	0.000155	.225319967E+10	.266028043E+18	1	.349752142E+06	.590215984E+10
TOTAL		.120451532E+11	.353753208E+19		.170471158E+07	.408479689E+11
EFFECTIVE D. F. =		52.19916			33.90603	

CONFIDENCE LIMITS

	TOTAL BIOMASS T LOWER	UPPER	TOTAL POPULATION LOWER	UPPER
80.000 PERCENT	.144037341E+07	.196904975E+07	.960232755E+10	.144879789E+11
90.000 PERCENT	.136252105E+07	.204690208E+07	.889250125E+10	.151978052E+11
95.000 PERCENT	.129327359E+07	.211614458E+07	.826768858E+10	.158226178E+11

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

STANDARD TRAWL WIDTH = 12.19200000 METERS

STRATUM	AREA SQ. MI.	SAMPLES	TOTAL HAULS	HAULS WITH CATCH	HAULS WITH NUMS.	HAULS WITH L-F	CPUE T/KM	VARIANCE CPUE T/KM	CPUE NO/KM	VARIANCE CPUE NO/KM
1	24,306.	.663775219E+07	50	49	48	24	0.01860	.103892E-04	0.00000	0.
2	17,774.	.500031165E+07	45	25	25	16	0.00396	.196435E-05	16.78190	.284737E+02
3	7,309.	.205619619E+07	21	4	4	0	0.00005	.735125E-09	0.12963	.516269E-02
4	6,521.	.183454289E+07	16	9	8	2	0.00150	.703229E-06	0.00000	0.
5	2,246.	.631825902E+06	6	1	1	0	0.00002	.416566E-09	0.04500	.202466E-02
6	5,348.	.150446527E+07	11	10	10	5	0.00637	.570729E-05	32.12675	.117433E+03
7	23,100.	.649870032E+07	55	27	27	7	0.00085	.136707E-06	2.56436	.147640E+01
10	4,161.	.117067417E+07	6	1	1	0	0.00005	.260354E-08	0.06999	.609870E-02
11	9,032.	.254083530E+07	24	23	21	10	0.00380	.101095E-05	0.00000	0.
TOTAL	99,797.	.280753059E+08	236	149	145	64				

STRATUM	MEAN WT T	POPULATION	VARIANCE POPULATION	METHOD USED	BIOMASS T.	VARIANCE BIOMASS
1	0.000201	.633645413E+09	0.	3	.127203445E+06	.485746585E+09
2	0.000233	.849147854E+08	.711930709E+15	1	.198151572E+05	.496149933E+08
3	0.000392	.266550084E+06	.216276187E+11	1	.104417678E+03	.310807231E+04
4	0.000259	.105970531E+08	0.	3	.274745124E+04	.236675070E+07
5	0.000454	.284296912E+05	.808258713E+09	1	.123955386E+02	.166294915E+03
6	0.000261	.483335768E+08	.265799740E+15	1	.125988152E+05	.129117748E+08
7	0.000332	.166650083E+08	.623528994E+14	1	.553520782E+04	.577355154E+07
10	0.000567	.105352247E+06	.110390960E+11	1	.597335196E+02	.356809336E+04
11	0.000256	.374079476E+08	0.	3	.965204550E+04	.652651519E+07
TOTAL		.831964116E+09	.104011706E+16		.177719168E+06	.562953213E+09

EFFECTIVE D. F. = 26.37892 74.73405

CONFIDENCE LIMITS

	TOTAL BIOMASS T LOWER	TOTAL BIOMASS T UPPER	TOTAL POPULATION LOWER	TOTAL POPULATION UPPER
80.000 PERCENT	.147006203E+06	.208430134E+06	.789554253E+09	.874373979E+09
90.000 PERCENT	.138143932E+06	.217294405E+06	.776944173E+09	.886984060E+09
95.000 PERCENT	.130376632E+06	.225061714E+06	.765656376E+09	.898271856E+09

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

STANDARD TRAWL WIDTH = 12.19200000 METERS

STRATUM	AREA SQ. MI.	SAMPLES	TOTAL HAULS	HAULS WITH CATCH	HAULS WITH NUMS.	HAULS WITH L-F	CPUE T/KM	VARIANCE CPUE T/KM	CPUE NO/KM	VARIANCE CPUE NO/KM
1	24,306.	.683775219E+07	50	39	38	3	0.00227	.325177E-06	0.00000	0.
2	17,774.	.500031165E+07	45	44	41	25	0.00962	.210415E-05	0.00000	0.
3	7,309.	.205619819E+07	21	21	21	21	0.00209	.270523E-06	20.87159	.176926E+02
4	6,521.	.183454289E+07	16	13	13	1	0.00054	.450361E-07	2.28742	.443866E+00
5	2,246.	.631825902E+06	6	6	6	0	0.00050	.113289E-06	3.58779	.495594E+01
6	5,348.	.150446527E+07	11	7	7	2	0.00019	.574105E-08	1.88447	.453946E+00
7	23,100.	.649870032E+07	55	45	46	29	0.00143	.154014E-06	8.95695	.478219E+01
10	4,161.	.117067417E+07	8	6	8	0	0.00061	.116055E-06	4.89994	.358518E+01
11	9,032.	.254083530E+07	24	22	22	7	0.00231	.119021E-05	5.15050	.233766E+01
TOTAL	99,797.	.280753059E+08	236	206	202	88				

STRATUM	MEAN WT T	POPULATION	VARIANCE POPULATION	METHOD USED	BIOMASS T.	VARIANCE BIOMASS
1	0.000237	.654168113E+08	0.	3	.154967063E+05	.152035929E+08
2	0.000233	.206533260E+09	0.	3	.461175610E+05	.526102850E+08
3	0.000100	.429161204E+08	.748034613E+14	1	.429558565E+04	.114375689E+07
4	0.000237	.419637166E+07	.149385809F+13	1	.995555673E+03	.151571307E+06
5	0.000140	.226685559E+07	.197943090E+13	1	.316414633E+03	.452253509E+05
6	0.000102	.283512706E+07	.102746873E+13	1	.289042087E+03	.129943918E+05
7	0.000159	.582065043E+08	.201966616F+15	1	.926931767F+04	.650448311E+07
10	0.000165	.573623417E+07	.491341672E+13	1	.944326533E+03	.159050839E+06
11	0.000448	.130865774E+08	.150915946E+14	1	.585965072E+04	.766378564F+07
TOTAL		.401195865F+09	.301274849E+15		.853651602E+05	.835147455E+08

EFFECTIVE D. F. = 62.67166 106.00937

CONFIDENCE LIMITS

	TOTAL BIOMASS T LOWER	TOTAL BIOMASS T UPPER	TOTAL POPULATION LOWER	TOTAL POPULATION UPPER
80.000 PERCENT	.737905265F+05	.973797939E+05	.376745392F+09	.423646337E+09
90.000 PERCENT	.704055742E+05	.100764746E+06	.372274602E+09	.430117128E+09
95.000 PERCENT	.674480055E+05	.103722315E+06	.366608610E+09	.435783120E+09

Table C-7.--Population and biomass estimates for Alaska plaice.

STANDARD TRAWL WIDTH = 12.19200000 METERS

STRATUM	AREA SQ. MI.	SAMPLES	TOTAL HAULS	HAULS WITH CATCH	HAULS WITH NUMS.	HAULS WITH L-F	CPUE T/KM	VARIANCE CPUE T/KM	CPUE NO/KM	VARIANCE CPUE NO/KM
1	24,306.	.663775219E+07	50	37	36	14	0.00560	.176005E-05	0.00000	0.
2	17,774.	.500031165E+07	45	13	13	8	0.00073	.100886E-06	1.30067	.313244E+00
3	7,309.	.205619819E+07	21	1	1	0	0.00001	.897955E-10	0.01607	.258249E-03
4	6,521.	.163454269E+07	16	15	15	4	0.00911	.196991E-04	15.46737	.585963E+02
5	2,246.	.631825902E+06	6	4	4	0	0.00054	.671412E-07	0.78109	.103600E+00
6	5,348.	.150446527E+07	11	10	10	4	0.03636	.569570E-03	63.81909	.106427E+04
7	23,100.	.649570032E+07	55	12	12	2	0.00011	.257350E-08	0.27772	.272613E-01
10	4,161.	.117067417E+07	8	4	4	0	0.00090	.427238E-06	1.02347	.518924E+00
11	9,032.	.254083530E+07	24	24	23	12	0.01959	.253966E-04	0.00000	0.
TOTAL	99,797.	.260753059E+08	236	120	118	44				

STRATUM	MEAN WT T	POPULATION	VARIANCE POPULATION	METHOD USED	BIOMASS T.	VARIANCE BIOMASS
1	0.000498	.768274553E+08	0.	3	.382858492E+05	.822906764E+08
2	0.000560	.650377935E+07	.783208525E+13	1	.363955158E+04	.252246784E+07
3	0.000590	.330433989E+05	.109186621E+10	1	.194846385E+02	.379651137E+03
4	0.000589	.283755565E+08	.197215443E+15	1	.167127917E+05	.662981624E+08
5	0.000686	.493513752E+06	.413575869E+11	1	.338315005E+03	.268030406E+05
6	0.000570	.960136082E+08	.240868506E+16	1	.547069047E+05	.128917446E+10
7	0.000396	.180483928E+07	.115133137E+13	1	.714210920E+03	.106686907E+06
10	0.000875	.119615078E+07	.711036327E+12	1	.104811368E+04	.585520922E+06
11	0.000488	.102020943E+09	0.	3	.497625272E+05	.163969524E+09
TOTAL		.313276889E+09	.261563740E+16		.165227749E+06	.160497668E+10

EFFECTIVE D. F. = 11.16168 12.26668

CONFIDENCE LIMITS

	TOTAL BIOMASS T LOWER	UPPER	TOTAL POPULATION LOWER	UPPER
80.000 PERCENT	.110903459E+06	.219552038E+06	.243565903E+09	.382987876E+09
90.000 PERCENT	.938369791E+05	.236618518E+06	.221420065E+09	.405133772E+09
95.000 PERCENT	.779323015E+05	.252523196E+06	.200706177E+09	.425847602E+09

Table C-8.--Population and biomass estimates for Greenland turbot.

STANDARD TRAWL WIDTH = 12.19200000 METERS

STRATUM	AREA SQ. MI.	SAMPLES	TOTAL HAULS	HAULS WITH CATCH	HAULS WITH NUMS.	HAULS WITH L-F	CPUE T/KM	VARIANCE CPUE T/KM	CPUE NO/KM	VARIANCE CPUE NO/KM
1	24,306.	.663775219E+07	50	25	25	0	0.00048	.183095E-07	2.58864	.759254E+00
2	17,774.	.500031165E+07	45	31	31	18	0.00157	.964214E-07	3.51295	.150425E+01
3	7,309.	.205619619E+07	21	21	21	21	0.00843	.269261E-05	47.14316	.127564E+03
4	6,521.	.183454239E+07	16	16	16	10	0.00501	.481439E-06	51.07010	.480253E+02
5	2,246.	.631825902E+06	6	6	6	3	0.00437	.103677E-04	42.00395	.562019E+03
6	5,348.	.150446527E+07	11	6	6	4	0.00324	.116644E-05	53.05003	.477909E+03
7	23,100.	.649870032E+07	55	51	51	46	0.00756	.956817E-06	46.54855	.709653E+02
10	4,161.	.117067417E+07	8	8	8	3	0.00500	.414817E-05	67.32561	.932955E+03
11	9,032.	.254083530E+07	24	23	21	6	0.00310	.243742E-06	0.00000	0.
TOTAL	99,797.	.280753059E+08	236	187	185	111				

STRATUM	MEAN WT T	POPULATION	VARIANCE POPULATION	METHOD USED	BIOMASS T.	VARIANCE BIOMASS
1	0.000184	.177005100E+08	.354988190E+14	1	.326236829E+04	.656059014E+06
2	0.000447	.175658337E+08	.376108955E+14	1	.785550588E+04	.241083617E+07
3	0.000179	.969356769E+08	.539418609E+15	1	.173362821E+05	.122306392E+08
4	0.000098	.936702872E+08	.161631574E+15	1	.917359298E+04	.162030539E+07
5	0.000104	.265391819E+08	.224360312E+15	1	.275876351E+04	.413963515E+07
6	0.000061	.798119340E+08	.108170758E+16	1	.489169852E+04	.264466653E+07
7	0.000162	.302505089E+09	.299706681E+16	1	.491227045E+05	.404093355E+08
10	0.000074	.768163511E+08	.127859495E+16	1	.564963145E+04	.568496934E+07
11	0.000104	.754462571E+08	0.	3	.786852817E+04	.157355893E+07
TOTAL		.769011120E+09	.635590955E+16		.108129295E+06	.715700052E+08

EFFECTIVE D. F. = 30.06941 50.80091

CONFIDENCE LIMITS

	TOTAL BIOMASS T LOWER	TOTAL BIOMASS T UPPER	TOTAL POPULATION LOWER	TOTAL POPULATION UPPER
80.000 PERCENT	.971356478E+05	.119122943E+06	.684572735E+09	.893449506E+09
90.000 PERCENT	.939378034E+05	.122320787E+06	.653719563E+09	.924302678E+09
95.000 PERCENT	.911206348E+05	.125137936E+06	.626214797E+09	.951807444E+09

Table C-9.--Population and biomass estimates for arrowtooth flounder.

STANDARD TRAWL WIDTH = 12.19200000 METERS

STRATUM	AREA SQ. MI.	SAMPLES	TOTAL HAULS	HAULS WITH CATCH	HAULS WITH NUMS.	HAULS WITH L-F	CPUE T/KM	VARIANCE CPUE T/KM	CPUE NO/KM	VARIANCE CPUE NO/KM
1	24,306.	.663775219E+07	50	18	17	0	0.00008	.125593E-08	0.00000	0.
2	17,774.	.500031165E+07	45	43	41	30	0.00757	.162922E-05	0.00000	0.
3	7,309.	.205619819E+07	21	11	11	5	0.00035	.284089E-07	0.76085	.112712E+00
4	6,521.	.183454289E+07	16	0	0	0	0.00000	0.	0.00000	0.
5	2,246.	.631825902E+06	6	0	0	0	0.00000	0.	0.00000	0.
6	5,348.	.150446527E+07	11	1	1	1	0.00000	.123937E-11	0.04909	.240953E-02
7	23,100.	.649870032E+07	55	25	25	21	0.00092	.447709E-07	3.60524	.799744E+00
10	4,161.	.117067417E+07	8	0	0	0	0.00000	0.	0.00000	0.
11	9,032.	.254083530E+07	24	1	1	1	0.00003	.118624E-08	0.07031	.494306E-02
TOTAL	99,797.	.280753059E+08	236	99	96	58				

STRATUM	MEAN WT T	POPULATION	VARIANCE POPULATION	METHOD USED	BIOMASS T.	VARIANCE BIOMASS
1	0.000032	.176149230E+08	0.	3	.568919184E+03	.587208204E+05
2	0.000221	.171336247E+09	0.	3	.378625133E+05	.457362657E+08
3	0.000464	.156446764E+07	.476541728E+12	1	.725379673E+03	.120111511E+06
4	0.000000	0.	0.	1	0.	0.
5	0.000000	0.	0.	1	0.	0.
6	0.000023	.738496600E+05	.545377226E+10	1	.167487651E+01	.280521132E+01
7	0.000255	.234293658E+08	.337756783E+14	1	.598252979E+04	.189081482E+07
10	0.000000	0.	0.	1	0.	0.
11	0.000490	.178638191E+06	.319116032E+11	1	.875109411E+02	.765816482E+04
TOTAL		.214197492E+09	.342835854E+14		.452285283E+05	.476135738E+08

EFFECTIVE D. F. = 58.18259 47.62706

CONFIDENCE LIMITS

	TOTAL BIOMASS T LOWER	TOTAL BIOMASS T UPPER	TOTAL POPULATION LOWER	TOTAL POPULATION UPPER
80.000 PERCENT	.362355684E+05	.542214882E+05	.206604365E+09	.221790618E+09
90.000 PERCENT	.336155749E+05	.568414816E+05	.204404953E+09	.223990031E+09
95.000 PERCENT	.313046701E+05	.591523864E+05	.202473733E+09	.225921251E+09

Table C-10.--Population and biomass estimates for Pacific halibut.

STANDARD TRAWL WIDTH = 12.1920000 METERS

STRATUM	AREA SQ. MI.	SAMPLES	TOTAL HAULS	HAULS WITH CATCH	HAULS WITH NUMS.	HAULS WITH L-F	CPUE T/KM	VARIANCE CPUE T/KM	CPUE NO/KM	VARIANCE CPUE NO/KM
1	24,306.	.683775219E+07	50	34	34	33	0.00114	.429279E-07	1.14837	.327718E-01
2	17,774.	.500031165E+07	45	26	26	26	0.00173	.175036E-06	0.86405	.471022E-01
3	7,309.	.205619819E+07	21	2	2	2	0.00003	.654870E-09	0.03214	.490674E-03
4	6,521.	.183454269E+07	16	0	0	0	0.00000	0.	0.00000	0.
5	2,246.	.631825902E+06	6	2	2	0	0.00007	.205403E-08	0.11922	.590734E-02
6	5,348.	.150446527E+07	11	0	0	0	0.00000	0.	0.00000	0.
7	23,100.	.649870032E+07	55	5	5	4	0.00005	.106401E-08	0.05055	.834066E-03
10	4,161.	.117067417E+07	6	1	1	0	0.00007	.486283E-08	0.07499	.562410E-02
11	9,032.	.254083530E+07	24	7	7	4	0.00031	.282002E-07	0.28525	.200927E-01
TOTAL	99,797.	.280753059E+08	236	77	77	69				

STRATUM	MEAN WT T	POPULATION	VARIANCE POPULATION	METHOD USED	BIOMASS T.	VARIANCE BIOMASS
1	0.000995	.785224604E+07	.153223876E+13	1	.781461624E+04	.200708709E+07
2	0.002007	.432054357E+07	.117770272E+13	1	.867323021E+04	.437644563E+07
3	0.000907	.660867977E+05	.207454580E+10	1	.599527338E+02	.276875755E+04
4	0.000000	0.	0.	1	0.	0.
5	0.000590	.753270621E+05	.235623311E+10	1	.444179662E+02	.819977642E+03
6	0.000000	0.	0.	1	0.	0.
7	0.000973	.328497712E+06	.352251790E+11	1	.319608375E+03	.449365631E+05
10	0.000930	.877935395E+05	.770770557E+10	1	.815356101E+02	.666440548E+04
11	0.001089	.724783836E+06	.129715522E+12	1	.789155921E+03	.182056392E+06
TOTAL		.134552786E+08	.288702267E+13		.117826173E+05	.662077682E+07

EFFECTIVE D. F. = 114.35438   86.15808

CONFIDENCE LIMITS

	TOTAL BIOMASS T LOWER	TOTAL BIOMASS T UPPER	TOTAL POPULATION LOWER	TOTAL POPULATION UPPER
80.000 PERCENT	.144557010E+05	.211095335E+05	.112639182E+08	.156466389E+08
90.000 PERCENT	.134974632E+05	.220677513E+05	.106359220E+08	.162746352E+08
95.000 PERCENT	.126587425E+05	.229064920E+05	.100876146E+08	.168229425E+08

APPENDIX D

Estimates of Population Numbers by Sex and Size Group for Principal Species of Fish

Appendix D is a computer listing of the estimated population numbers by 1 cm size and sex groups of commercially important fish species within the 1978 survey area.

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

TOTAL ALL STRATA
SPECIES 21740 THERAGRA CHALCOGRAMMA
WALLEYE POLLOCK

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
50.0	0.	0.	.278552515E+06	.278552515E+06	0.00002	0.00002
60.0	0.	0.	.455119955E+06	.455119955E+06	0.00004	0.00006
70.0	.164166634E+06	0.	.882637200E+05	.252450354E+06	0.00002	0.00008
90.0	.124086675E+06	0.	.478313338E+05	.171918009E+06	0.00001	0.00009
100.0	.215626885E+07	.407887442E+05	.902214602E+07	.112192036E+08	0.00091	0.00100
110.0	.196036687E+08	.146295591E+08	.320742119E+09	.355175346E+09	0.02878	0.02978
120.0	.104679167E+09	.601603443E+08	.843388030E+09	.100844759E+10	0.08172	0.11150
130.0	.133240759E+09	.845890868E+08	.100596263E+10	.122389247E+10	0.09917	0.21069
140.0	.161066334E+09	.116549627E+09	.806541897E+09	.108415786E+10	0.08785	0.29853
150.0	.158665220E+09	.130741736E+09	.416156959E+09	.705583915E+09	0.05718	0.35570
160.0	.100282539E+09	.100992965E+09	.229078831E+09	.430354334E+09	0.03487	0.39057
170.0	.662619304E+08	.537355034E+08	.831305115E+08	.203127945E+09	0.01646	0.40703
180.0	.488225402E+08	.403458892E+08	.442148334E+08	.133383263E+09	0.01081	0.41784
190.0	.560008289E+08	.525614853E+08	.100145933E+08	.118576908E+09	0.00961	0.42745
200.0	.646590442E+08	.601246724E+08	.114134255E+08	.136397142E+09	0.01105	0.43850
210.0	.812256961E+08	.637161967E+08	.101226847E+08	.155064779E+09	0.01257	0.45107
220.0	.112206617E+09	.123335023E+09	.895149116E+07	.244493131E+09	0.01981	0.47088
230.0	.162352573E+09	.137735408E+09	.152840266E+07	.301616384E+09	0.02444	0.49532
240.0	.202606816E+09	.202557424E+09	.239935206E+07	.407563592E+09	0.03303	0.52835
250.0	.175595078E+09	.192964605E+09	.104460469E+07	.369604488E+09	0.03157	0.55992
260.0	.180396569E+09	.146883974E+09	.705150000E+06	.327985713E+09	0.02658	0.58650
270.0	.161947323E+09	.115965897E+09	.504487201E+06	.278417708E+09	0.02256	0.60906
280.0	.128293336E+09	.979391613E+08	.957128283E+06	.227189625E+09	0.01841	0.62747
290.0	.107614459E+09	.105494787E+09	.236293284E+06	.213345539E+09	0.01729	0.64475
300.0	.147289362E+09	.113339312E+09	.316944515E+06	.260946139E+09	0.02115	0.66590
310.0	.166732559E+09	.120173443E+09	.484617590E+06	.287590619E+09	0.02330	0.68920
320.0	.172610778E+09	.156614846E+09	.274764531E+06	.329500369E+09	0.02670	0.71590
330.0	.207680664E+09	.164643135E+09	.446346343E+06	.372970145E+09	0.03022	0.74613
340.0	.223274923E+09	.191690109E+09	.598258545E+06	.415563350E+09	0.03367	0.77980
350.0	.250243561E+09	.177083715E+09	.316944515E+06	.427644241E+09	0.03465	0.81445
360.0	.220021564E+09	.146188124E+09	.316944515E+06	.366532633E+09	0.02970	0.84415
370.0	.212223612E+09	.140279539E+09	.316944515E+06	.352825076E+09	0.02859	0.87274
380.0	.161506533E+09	.113735006E+09	.239134046E+06	.275480672E+09	0.02232	0.89507
390.0	.127462051E+09	.948102024E+08	.109732217E+06	.222381986E+09	0.01802	0.91309
400.0	.830372977E+08	.791191775E+08	.578588933E+06	.162734994E+09	0.01319	0.92627
410.0	.603546064E+08	.527196593E+08	.484817590E+06	.113559283E+09	0.00920	0.93548
420.0	.421776362E+08	.426446962E+08	.707990762E+06	.857325252E+08	0.00695	0.94242
430.0	.290165436E+08	.289668449E+08	.943416070E+06	.589468046E+08	0.00478	0.94720
440.0	.249276379E+08	.202510658E+08	.120506049E+07	.463737642E+08	0.00376	0.95096
450.0	.327065046E+08	.205542549E+08	.100155673E+07	.543244165E+08	0.00440	0.95536
460.0	.377401461E+08	.204493071E+08	.118909961E+07	.593785548E+08	0.00481	0.96017
470.0	.331671791E+08	.201869278E+08	.106910916E+07	.544232381E+08	0.00441	0.96458
480.0	.313215516E+08	.216417552E+08	.720242898E+06	.538835497E+08	0.00437	0.96895

Table D-l .--Continued.

TOTAL ALL STRATA
SPECIES 21740 THERAGRA CHALCOGRAMMA
WALLEYE POLLOCK

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
490.0	.266127313E+08	.280663629E+08	.170583895E+07	.563849331E+08	0.00457	0.97352
500.0	.238544031E+08	.276526060E+08	.112725002E+07	.526342591E+08	0.00427	0.97778
510.0	.181617661E+08	.225069363E+08	.891624711E+06	.415625291E+08	0.00337	0.98115
520.0	.152800270E+08	.270066765E+08	.594549807E+06	.428832534E+08	0.00347	0.98462
530.0	.131860723E+08	.285347326E+08	.594549807E+06	.423153547E+08	0.00343	0.98805
540.0	.112466358E+08	.181948048E+08	0.	.294414406E+08	0.00239	0.99044
550.0	.863486067E+07	.121216658E+08	.329196651E+06	.210857231E+08	0.00171	0.99215
560.0	.854690276E+07	.107863972E+08	.297274904E+06	.196305749E+08	0.00159	0.99374
570.0	.581462658E+07	.113756953E+08	.109732217E+06	.173000541E+08	0.00140	0.99514
580.0	.250361102E+07	.757764424E+07	.356304852E+05	.101168857E+08	0.00082	0.99596
590.0	.161286162E+07	.610667342E+07	0.	.771953504E+07	0.00063	0.99659
600.0	.239737905E+07	.458987903E+07	0.	.698725808E+07	0.00057	0.99715
610.0	.292663316E+07	.651289173E+07	0.	.943952488E+07	0.00076	0.99792
620.0	.201618446E+07	.324839986E+07	0.	.526458432E+07	0.00043	0.99834
630.0	.117687556E+07	.324311885E+07	.109732217E+06	.452972662E+07	0.00037	0.99871
640.0	.197814613E+07	.309093520E+07	0.	.506908133E+07	0.00041	0.99912
650.0	.601429947E+05	.172386208E+07	.109732217E+06	.189373730E+07	0.00015	0.99928
660.0	.258726670E+06	.151054851E+07	0.	.176927518E+07	0.00014	0.99942
670.0	.389164090E+06	.132905003E+07	0.	.171821412E+07	0.00014	0.99955
680.0	.379829403E+06	.147077593E+07	0.	.185060533E+07	0.00015	0.99971
690.0	0.	.651628453E+06	0.	.651628453E+06	0.00005	0.99976
700.0	.712609704E+05	.764906369E+06	0.	.836167360E+06	0.00007	0.99983
710.0	0.	.887264293E+06	0.	.887264293E+06	0.00007	0.99990
720.0	.601429947E+05	.428658168E+05	0.	.103008813E+06	0.00001	0.99991
730.0	0.	.389069767E+06	0.	.389069767E+06	0.00003	0.99994
740.0	0.	.288386476E+06	0.	.288386476E+06	0.00002	0.99996
750.0	0.	.154733253E+06	0.	.154733253E+06	0.00001	0.99998
760.0	0.	.132710338E+06	0.	.132710338E+06	0.00001	0.99999
800.0	0.	.165023019E+06	0.	.165023019E+06	0.00001	1.00000
TOTAL	.465731477E+10	.385922613E+10	.382421143E+10	.123407523E+11		

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

TOTAL ALL STRATA
SPECIES 21720 GADUS MACROCEPHALUS
PACIFIC COD

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
100.0	.138258336E+07	0.	0.	.138258336E+07	0.00099	0.00099
110.0	.697132086E+06	0.	0.	.697132086E+06	0.00050	0.00149
120.0	.161235100E+07	.596224674E+06	.117116221E+06	.252769390E+07	0.00181	0.00331
130.0	.625646575E+07	.331060199E+07	.285098525E+07	.124179530E+08	0.00891	0.01221
140.0	.160367853E+08	.103560650E+08	.907129635E+07	.354661466E+08	0.02544	0.03766
150.0	.297883649E+08	.217066992E+08	.121843763E+08	.636794604E+08	0.04568	0.08334
160.0	.568316771E+08	.526079117E+08	.103652556E+08	.119604844E+09	0.08595	0.16927
170.0	.742266175E+08	.704261643E+08	.616276462E+07	.150815547E+09	0.10820	0.27747
180.0	.674549293E+08	.750949214E+08	.266250819E+07	.145212359E+09	0.10419	0.38165
190.0	.796603439E+08	.722657664E+08	.765331448E+06	.152691442E+09	0.10954	0.49120
200.0	.514170967E+08	.630452461E+08	.135720194E+06	.114590065E+09	0.08221	0.57342
210.0	.468699545E+08	.559844509E+08	.282587335E+06	.103116993E+09	0.07398	0.64739
220.0	.527054382E+08	.535920613E+08	.135720194E+06	.106433220E+09	0.07636	0.72375
230.0	.291968603E+08	.469254554E+08	.169960259E+06	.763032759E+08	0.05618	0.77992
240.0	.243774129E+08	.260987080E+08	.440475718E+06	.509165966E+08	0.03653	0.81645
250.0	.161300074E+08	.275526311E+08	.904601293E+05	.437731166E+08	0.03140	0.84785
260.0	.114735115E+08	.272395168E+08	.785552005E+05	.387915335E+08	0.02783	0.87569
270.0	.765264483E+07	.126482273E+08	.969281587E+05	.203978003E+08	0.01463	0.89032
280.0	.598968217E+07	.836407239E+07	0.	.143537546E+08	0.01030	0.90062
290.0	.191122720E+07	.603373342E+07	0.	.794496062E+07	0.00570	0.90632
300.0	.147486604E+07	.626296340E+06	0.	.210116238E+07	0.00151	0.90782
310.0	.756376983E+06	.180142425E+06	0.	.936519408E+06	0.00067	0.90850
320.0	.100993907E+06	.275645296E+06	0.	.376639203E+06	0.00027	0.90877
330.0	.792214574E+05	0.	0.	.792214574E+05	0.00006	0.90882
340.0	.756595026E+05	.486066934E+05	0.	.124265196E+06	0.00009	0.90891
350.0	.146325036E+06	.148301307E+06	0.	.294626343E+06	0.00021	0.90912
360.0	.632415238E+06	.133017647E+06	0.	.765432885E+06	0.00055	0.90967
370.0	.308141254E+06	.339033677E+06	.516680940E+05	.698863026E+06	0.00050	0.91017
380.0	.406985636E+06	.303673167E+06	0.	.710658803E+06	0.00051	0.91068
390.0	.120739614E+07	.177166934E+07	0.	.297908548E+07	0.00214	0.91282
400.0	.812590976E+06	.373427036E+06	.516680940E+05	.123770811E+07	0.00089	0.91371
410.0	.182852947E+07	.152061151E+07	0.	.334914099E+07	0.00240	0.91611
420.0	.955257129E+06	.745050105E+06	0.	.170030723E+07	0.00122	0.91733
430.0	.175339760E+07	.102675824E+07	0.	.278015583E+07	0.00199	0.91933
440.0	.175635113E+07	.713842859E+06	.159763200E+06	.262996719E+07	0.00189	0.92121
450.0	.210842501E+07	.158490397E+07	.277236141E+06	.397056512E+07	0.00285	0.92406
460.0	.162202923E+07	.249098063E+07	.211451294E+06	.432446115E+07	0.00310	0.92716
470.0	.247314476E+07	.160600478E+07	.159763200E+06	.423691274E+07	0.00304	0.93020
480.0	.160215629E+08	.270314265E+07	.267838305E+06	.189925438E+08	0.01363	0.94383
490.0	.434222704E+07	.158646019E+07	.648450634E+06	.657713787E+07	0.00472	0.94855
500.0	.308161376E+07	.207795774E+07	.606160375E+06	.576573187E+07	0.00414	0.95268
510.0	.264295072E+07	.184050429E+07	.864600845E+06	.535405565E+07	0.00384	0.95653
520.0	.236449887E+07	.330856974E+07	.441698258E+06	.611476687E+07	0.00439	0.96091

Table D-2.--Continued.

TOTAL ALL STRATA
SPECIES 21720 GADUS MACROCEPHALUS
PACIFIC COD

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
530.0	.324933969E+07	.307870418E+07	.742428957E+06	.707047286E+07	0.00507	0.96598
540.0	.245445867E+07	.337673869E+07	.803514916E+06	.665674047E+07	0.00478	0.97076
550.0	.136555575E+07	.210274178E+07	.577966869E+06	.406626440E+07	0.00292	0.97368
560.0	.223304622E+07	.232200867E+07	.761224657E+06	.531627975E+07	0.00381	0.97749
570.0	.202142099E+07	.157210411E+07	.380612329E+06	.397413744E+07	0.00285	0.98034
580.0	.140133720E+07	.165183409E+07	.211451294E+06	.346462259E+07	0.00249	0.98283
590.0	.106730502E+07	.795726201E+06	.216150211E+06	.207924143E+07	0.00149	0.98432
600.0	.971278630E+06	.896016678E+06	0.	.186729531E+07	0.00134	0.98566
610.0	.176884685E+07	.112426343E+07	.140296255E+06	.303340653E+07	0.00218	0.98784
620.0	.571514480E+06	.150439280E+07	.886081612E+05	.216461544E+07	0.00155	0.98939
630.0	.741290658E+06	.216504847E+06	.516880940E+05	.100948360E+07	0.00072	0.99011
640.0	.102791040E+06	.142196311E+07	0.	.152477415E+07	0.00109	0.99121
650.0	.618732022E+06	.396156650E+06	.443040806E+05	.105916675E+07	0.00076	0.99197
660.0	.859238551E+06	.404825575E+06	0.	.126406413E+07	0.00091	0.99287
670.0	.317425707E+06	0.	0.	.317425707E+06	0.00023	0.99310
680.0	.389789038E+06	.286412850E+06	.140296255E+06	.816498144E+06	0.00059	0.99369
690.0	0.	.972952358E+06	.443040806E+05	.101725644E+07	0.00073	0.99442
700.0	.381591144E+06	.114365140E+07	.443040806E+05	.157154563E+07	0.00113	0.99554
710.0	.338100944E+06	.405903120E+06	.959921746E+05	.839996239E+06	0.00060	0.99615
720.0	0.	.286412850E+06	0.	.286412850E+06	0.00021	0.99635
730.0	0.	.317425707E+06	0.	.317425707E+06	0.00023	0.99658
740.0	.516880940E+05	.389203890E+06	0.	.440891984E+06	0.00032	0.99690
750.0	.338100944E+06	0.	.443040806E+05	.382405025E+06	0.00027	0.99717
760.0	.572825701E+06	.286412850E+06	0.	.859238551E+06	0.00062	0.99779
770.0	.516880940E+05	.516880940E+05	0.	.103376188E+06	0.00007	0.99786
780.0	0.	.286412850E+06	0.	.286412850E+06	0.00021	0.99807
790.0	0.	.624513795E+06	0.	.624513795E+06	0.00045	0.99851
810.0	.106985617E+06	0.	.443040806E+05	.151289698E+06	0.00011	0.99862
860.0	.516880940E+05	0.	0.	.516880940E+05	0.00004	0.99866
900.0	.286412850E+06	0.	0.	.286412850E+06	0.00021	0.99887
TOTAL	.651154736E+09	.687382266E+09	.537930525E+08	.139233005E+10		

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

TOTAL ALL STRATA
SPECIES 20510 ANOPLOPOMA FIMBRIA
SABLEFISH

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
220.0	0.	0.	.171356770E+06	.171356770E+06	0.00403	0.00403
230.0	0.	0.	.556278064E+06	.556278064E+06	0.01307	0.01709
240.0	0.	0.	.276181651E+06	.276181651E+06	0.00649	0.02358
250.0	0.	0.	.125885892E+07	.125885892E+07	0.02957	0.05315
260.0	0.	0.	.942873463E+06	.942873463E+06	0.02215	0.07530
270.0	0.	0.	.190695658E+07	.190695658E+07	0.04479	0.12009
280.0	0.	0.	.255710176E+07	.255710176E+07	0.06006	0.18015
290.0	0.	0.	.355071657E+07	.355071657E+07	0.08340	0.26355
300.0	.970155232E+05	.428009661E+05	.433022150E+07	.447003778E+07	0.10500	0.36856
310.0	.144085536E+06	.542145571E+05	.607227797E+07	.627057308E+07	0.14729	0.51585
320.0	.428009661E+05	.542145571E+05	.505231768E+07	.514933320E+07	0.12095	0.63680
330.0	.584836242E+05	0.	.341018320E+07	.346866663E+07	0.08146	0.71828
340.0	.656017323E+05	0.	.210169388E+07	.218729561E+07	0.05138	0.76966
350.0	.948754749E+05	0.	.150863683E+07	.160351230E+07	0.03757	0.80732
360.0	0.	0.	.898107028E+06	.898107028E+06	0.02110	0.82842
370.0	0.	0.	.370074375E+06	.370074375E+06	0.00869	0.83711
390.0	.261355399E+06	0.	0.	.261355399E+06	0.00614	0.84325
400.0	.584836242E+05	0.	0.	.584836242E+05	0.00137	0.84462
410.0	.550770614E+06	.956727478E+05	0.	.646443362E+06	0.01518	0.85981
420.0	.550770614E+06	0.	0.	.550770614E+06	0.01294	0.87274
430.0	.545886023E+06	0.	0.	.545886023E+06	0.01282	0.88557
440.0	.762221978E+06	.564836242E+05	.369644708E+06	.119035031E+07	0.02796	0.91353
450.0	.734668356E+06	0.	0.	.734668356E+06	0.01726	0.93078
460.0	.128444935E+07	0.	0.	.128444935E+07	0.03017	0.96095
470.0	.542849656E+06	0.	0.	.542849656E+06	0.01275	0.97371
480.0	.600698466E+06	0.	0.	.600698466E+06	0.01411	0.98782
490.0	.236664436E+06	0.	0.	.236664436E+06	0.00556	0.99338
TOTAL	.665208010E+07	.305386452E+06	.353334810E+08	.422909476E+08		

Table D-4.--Population estimates by sex and size group for yellowfin sole.

TOTAL ALL STRATA
SPECIES 10210 LIMANDA ASPERA
YELLOWFIN SOLE

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
100.0	.10353141E+08	0.	0.	.10353141E+08	0.00086	0.00086
110.0	.27613407E+08	.20676542E+08	0.	.48269949E+08	0.00401	0.00487
120.0	.13915186E+09	.99812863E+08	0.	.23896472E+09	0.01984	0.02471
130.0	.17834088E+09	.97533203E+08	0.	.27567408E+09	0.02290	0.04761
140.0	.11931401E+09	.99175197E+08	0.	.21848920E+09	0.01814	0.06575
150.0	.11948762E+09	.85259318E+08	0.	.20474694E+09	0.01700	0.08275
160.0	.19025164E+09	.13258700E+09	0.	.32283865E+09	0.02680	0.10955
170.0	.19666725E+09	.14573614E+09	0.	.34240539E+09	0.02843	0.13798
180.0	.19722321E+09	.14511007E+09	0.	.34233328E+09	0.02842	0.16640
190.0	.32701208E+09	.24142087E+09	0.	.56843295E+09	0.04719	0.21359
200.0	.41770796E+09	.37893998E+09	0.	.79664795E+09	0.06614	0.27973
210.0	.60778206E+09	.45103459E+09	0.	.10588169E+10	0.08790	0.36763
220.0	.59221242E+09	.50047258E+09	0.	.10926850E+10	0.09072	0.45835
230.0	.59783476E+09	.52704875E+09	0.	.11248835E+10	0.09339	0.55174
240.0	.57510725E+09	.54783054E+09	0.	.11229378E+10	0.09323	0.64495
250.0	.57256412E+09	.53210570E+09	0.	.11046698E+10	0.09171	0.73668
260.0	.46803045E+09	.54698914E+09	0.	.10150196E+10	0.08427	0.82094
270.0	.32236532E+09	.48579768E+09	0.	.80816401E+09	0.06709	0.88804
280.0	.18537535E+09	.40163801E+09	0.	.58701336E+09	0.04873	0.93677
290.0	.87239193E+08	.23648076E+09	0.	.32371995E+09	0.02688	0.96365
300.0	.54225205E+08	.15799327E+09	0.	.21221848E+09	0.01762	0.98127
310.0	.10404138E+08	.85734031E+08	0.	.96138169E+08	0.00798	0.98925
320.0	.37608726E+07	.52943657E+08	0.	.56704530E+08	0.00471	0.99396
330.0	.11163115E+08	.30091616E+08	0.	.41254731E+08	0.00343	0.99738
340.0	0.	.15438424E+08	0.	.15438424E+08	0.00128	0.99866
350.0	.95603320E+06	.11915451E+08	0.	.12871484E+08	0.00107	0.99973
360.0	.47801660E+06	.58799558E+06	0.	.10660121E+07	0.00009	0.99982
370.0	0.	.59041195E+06	0.	.59041195E+06	0.00005	0.99987
380.0	.92417057E+06	0.	0.	.92417057E+06	0.00008	0.99995
430.0	0.	.59041195E+06	0.	.59041195E+06	0.00005	0.99999
TOTAL	.60135466E+10	.60315365E+10	0.	.12045083E+11		

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

TOTAL ALL STRATA
SPECIES 10260 LEPIDOPSETTA BILINEATA
ROCK SOLE

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
110.0	.448214392E+06	0.	0.	.448214392E+06	0.00054	0.00054
120.0	.127711983E+07	.601959749E+05	0.	.133731581E+07	0.00161	0.00215
130.0	.461966930E+07	.914845581E+06	0.	.553451518E+07	0.00665	0.00880
140.0	.139779430E+08	.466110455E+07	0.	.186390475E+08	0.02240	0.03120
150.0	.415572023E+08	.122003795E+08	0.	.537375818E+08	0.06459	0.09579
160.0	.541091096E+08	.162097648E+08	0.	.703188704E+08	0.08452	0.18031
170.0	.491501762E+08	.193611066E+08	0.	.690412828E+08	0.08299	0.26330
180.0	.233930364E+08	.164798356E+08	0.	.398728720E+08	0.04793	0.31123
190.0	.915142109E+07	.684950925E+07	0.	.160009303E+08	0.01923	0.33046
200.0	.777539180E+07	.534574732E+07	0.	.131211391E+08	0.01577	0.34623
210.0	.698085405E+07	.504397582E+07	0.	.120248299E+08	0.01445	0.36068
220.0	.130671959E+08	.568216914E+07	0.	.187493651E+08	0.02254	0.38322
230.0	.179734372E+08	.917977136E+07	0.	.271532586E+08	0.03264	0.41586
240.0	.272105568E+08	.145628550E+08	0.	.417734116E+08	0.05021	0.46607
250.0	.364488506E+08	.133651932E+08	0.	.498140438E+08	0.05988	0.52594
260.0	.410247443E+08	.175172101E+08	0.	.585419544E+08	0.07037	0.59631
270.0	.397132217E+08	.144893763E+08	0.	.542025980E+08	0.06515	0.66146
280.0	.358763282E+08	.169601952E+08	0.	.548365234E+08	0.06591	0.72737
290.0	.285066652E+08	.193824527E+08	0.	.478891179E+08	0.05756	0.78493
300.0	.166364273E+08	.183520625E+08	0.	.349884898E+08	0.04206	0.82699
310.0	.511135518E+07	.232401787E+08	0.	.283515339E+08	0.03408	0.86107
320.0	.136890883E+07	.173526551E+08	0.	.187215680E+08	0.02250	0.88357
330.0	.757208177E+06	.127236766E+08	0.	.134610868E+08	0.01620	0.89977
340.0	.403909591E+06	.182156934E+08	0.	.186196030E+08	0.02238	0.92215
350.0	.271824224E+06	.114141972E+08	0.	.116860214E+08	0.01405	0.93620
360.0	0.	.130304147E+08	0.	.130304147E+08	0.01566	0.95186
370.0	.348822092E+06	.988221982E+07	0.	.102310419E+08	0.01230	0.96416
380.0	0.	.929510218E+07	0.	.929510218E+07	0.01117	0.97533
390.0	0.	.729873040E+07	0.	.729873040E+07	0.00877	0.98411
400.0	0.	.370626338E+07	0.	.370626338E+07	0.00445	0.98856
410.0	0.	.300818790E+07	0.	.300818790E+07	0.00362	0.99218
420.0	0.	.364880948E+07	0.	.364880948E+07	0.00439	0.99656
430.0	0.	.379205512E+06	0.	.379205512E+06	0.00046	0.99702
440.0	0.	.101456732E+07	0.	.101456732E+07	0.00122	0.99824
450.0	0.	.379205512E+06	0.	.379205512E+06	0.00046	0.99869
460.0	0.	.189602756E+06	0.	.189602756E+06	0.00023	0.99892
480.0	0.	.307875268E+06	0.	.307875268E+06	0.00037	0.99929
490.0	0.	.189602756E+06	0.	.189602756E+06	0.00023	0.99952
TOTAL	.477169643E+09	.354394141E+09	0.	.831563784E+09		

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

TOTAL ALL STRATA
SPECIES 10130 HIPPOGLOSSOIDES ELASSODON
FLATHEAD SOLE

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
60.0	.951532628E+05	0.	.245901616E+06	.341055079E+06	0.00085	0.00085
70.0	.143076621E+07	.431793953E+06	.845851795E+06	.270841192E+07	0.00675	0.00760
80.0	.202121272E+07	.117132646E+07	.335091062E+07	.654344980E+07	0.01631	0.02391
90.0	.407162558E+06	.576018002E+06	.167442136E+07	.265960222E+07	0.00663	0.03054
100.0	.343537247E+06	.899294246E+05	.513816569E+06	.947283260E+06	0.00236	0.03290
110.0	.598093981E+06	.251237170E+06	.138072550E+06	.987403702E+06	0.00246	0.03535
120.0	.290558540E+07	.627657922E+06	.132173545E+06	.366541992E+07	0.00914	0.04450
130.0	.334830673E+07	.177053771E+07	.528694362E+06	.564763383E+07	0.01408	0.05858
140.0	.279232349E+07	.312403122E+07	.593235940E+06	.650959065E+07	0.01623	0.07480
150.0	.428487340E+07	.468599323E+07	.428018946E+06	.939586557E+07	0.02343	0.09823
160.0	.615778296E+07	.478429041E+07	.592150181E+06	.115342236E+08	0.02875	0.12698
170.0	.673579661E+07	.535095834E+07	.611737897E+06	.126984929E+08	0.03165	0.15863
180.0	.318613875E+07	.543655352E+07	.210286711E+06	.883298099E+07	0.02202	0.18065
190.0	.484345102E+07	.574094268E+07	.298309550E+06	.108827033E+08	0.02713	0.20777
200.0	.746001394E+07	.528119649E+07	0.	.127412104E+08	0.03176	0.23953
210.0	.104053296E+08	.803209860E+07	.359481185E+05	.184724763E+08	0.04604	0.28557
220.0	.132367130E+08	.656512017E+07	0.	.198218332E+08	0.04941	0.33498
230.0	.727180021E+07	.913645882E+07	0.	.164082590E+08	0.04090	0.37588
240.0	.617964251E+07	.708337695E+07	0.	.132632195E+08	0.03306	0.40894
250.0	.725383317E+07	.704431959E+07	0.	.142981528E+08	0.03564	0.44458
260.0	.544107787E+07	.470291359E+07	0.	.101439915E+08	0.02528	0.46986
270.0	.873669290E+07	.537142543E+07	0.	.141081183E+08	0.03517	0.50503
280.0	.132721064E+08	.724716844E+07	0.	.205192948E+08	0.05115	0.55617
290.0	.159897782E+08	.734954515E+07	0.	.233393233E+08	0.05817	0.61435
300.0	.140747904E+08	.859613162E+07	0.	.226709220E+08	0.05651	0.67085
310.0	.152112127E+08	.680628533E+07	0.	.220174961E+08	0.05488	0.72573
320.0	.127889069E+08	.931848989E+07	0.	.221073968E+08	0.05510	0.78084
330.0	.101140519E+08	.934680458E+07	0.	.194608564E+08	0.04851	0.82934
340.0	.689509937E+07	.996871690E+07	0.	.168638163E+08	0.04203	0.87138
350.0	.344588846E+07	.803086775E+07	0.	.114767762E+08	0.02861	0.89999
360.0	.165996437E+07	.555350945E+07	0.	.721347382E+07	0.01798	0.91796
370.0	.670825626E+06	.542983437E+07	0.	.610066000E+07	0.01521	0.93317
380.0	.475465803E+06	.456015404E+07	0.	.503563985E+07	0.01255	0.94572
390.0	.583798277E+05	.169794742E+07	0.	.228174570E+07	0.00569	0.95141
400.0	.371097725E+05	.264356969E+07	0.	.268097946E+07	0.00668	0.95809
410.0	0.	.218937790E+07	0.	.218937790E+07	0.00546	0.96355
420.0	0.	.190017219E+07	0.	.190017219E+07	0.00474	0.96829
430.0	0.	.109394317E+07	0.	.109394317E+07	0.00273	0.97101
440.0	.400227817E+06	.524443479E+06	0.	.924671295E+06	0.00230	0.97332
450.0	.467308246E+05	.135244771E+07	0.	.139917853E+07	0.00349	0.97681
460.0	0.	.420064255E+06	0.	.420064255E+06	0.00105	0.97785
470.0	0.	.690071335E+06	0.	.690071335E+06	0.00172	0.97957
480.0	0.	.641693561E+05	0.	.641693561E+05	0.00016	0.97973

Table D-6.--Continued.

TOTAL ALL STRATA
SPECIES 10130 HIPPOGLOSSOIDES ELASSODON
FLATHEAD SOLE

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
490.0	0.	.641693561E+05	0.	.641693561E+05	0.00016	0.97989
500.0	0.	.641693561E+05	0.	.641693561E+05	0.00016	0.98005
TOTAL	.200801468E+09	.182192672E+09	.101986320E+08	.393192772E+09		

Table D-7.--Population estimates by sex and size group for Alaska plaice.

TOTAL ALL STRATA

SPECIES 10285 PLEURONECTES QUADRITUBERCULATUS

ALASKA PLAICE

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
200.0	0.	.109274409E+06	0.	.109274409E+06	0.00035	0.00035
210.0	0.	.876135571E+05	0.	.876135571E+05	0.00028	0.00063
220.0	.409020634E+06	.876135571E+05	0.	.496634191E+06	0.00159	0.00221
230.0	.296793888E+06	.547943032E+06	0.	.844736920E+06	0.00270	0.00491
240.0	.937597396E+05	.175227114E+06	0.	.268986854E+06	0.00086	0.00577
250.0	.463299735E+06	.361585073E+06	0.	.824884808E+06	0.00263	0.00840
260.0	.160036657E+07	.103644712E+07	0.	.263681369E+07	0.00842	0.01682
270.0	.528120191E+07	.309027088E+07	0.	.837147280E+07	0.02672	0.04354
280.0	.104096084E+08	.342428196E+07	0.	.138338903E+08	0.04416	0.08770
290.0	.155900143E+08	.412843952E+07	0.	.197184539E+08	0.06294	0.15064
300.0	.198594746E+08	.573141410E+07	0.	.255908887E+08	0.08169	0.23233
310.0	.159430197E+08	.119094844E+08	0.	.269525040E+08	0.08603	0.31836
320.0	.860836785E+07	.134495544E+08	0.	.220579222E+08	0.07041	0.36877
330.0	.821023178E+07	.162078867E+08	0.	.264181185E+08	0.08433	0.47310
340.0	.629551938E+07	.209153497E+08	0.	.272108691E+08	0.08686	0.55996
350.0	.333722757E+07	.269996580E+08	0.	.303368856E+08	0.09684	0.65680
360.0	.268657252E+07	.201055075E+08	0.	.227920800E+08	0.07275	0.72955
370.0	.172744101E+07	.219385709E+08	0.	.236660119E+08	0.07554	0.80510
380.0	.949980316E+06	.204932625E+08	0.	.214432428E+08	0.06845	0.87354
390.0	.521904267E+06	.137080463E+08	0.	.142299526E+08	0.04542	0.91897
400.0	.207170731E+06	.772080204E+07	0.	.792797277E+07	0.02531	0.94427
410.0	0.	.368903496E+07	0.	.368903496E+07	0.01178	0.95605
420.0	0.	.465856296E+07	0.	.465856296E+07	0.01487	0.97092
430.0	.178026952E+06	.128511086E+07	0.	.146313782E+07	0.00467	0.97559
440.0	0.	.111405222E+07	0.	.111405222E+07	0.00356	0.97915
450.0	0.	.301125885E+07	0.	.301125885E+07	0.00961	0.98876
460.0	0.	.817514745E+06	0.	.817514745E+06	0.00261	0.99137
470.0	0.	.239923456E+06	0.	.239923456E+06	0.00077	0.99213
480.0	0.	.189951821E+06	0.	.189951821E+06	0.00061	0.99274
500.0	0.	.549534746E+06	0.	.549534746E+06	0.00175	0.99449
TOTAL	.101769002E+09	.209783179E+09	0.	.311552181E+09		

Table D-8.--Population estimates by sex and size group for Greenland turbot.

TOTAL ALL STRATA
SPECIES 10115 REINHARDTIUS HIPPOGLOSSOIDES
GREENLAND TURBOT

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
100.0	.201431451E+06	.165602886E+06	.358580238E+06	.725614575E+06	0.00092	0.00092
110.0	.214742344E+07	.521253131E+06	.228556823E+07	.495424479E+07	0.00628	0.00720
120.0	.591252062E+07	.305265517E+07	.158572742E+08	.248224500E+08	0.03146	0.03866
130.0	.153695747E+08	.824409327E+07	.318283180E+08	.554419860E+08	0.07027	0.10893
140.0	.261600131E+08	.155797747E+08	.439501155E+08	.856899032E+08	0.10860	0.21753
150.0	.209681308E+08	.152560532E+08	.351066222E+08	.713306112E+08	0.09041	0.30794
160.0	.174314169E+08	.138910367E+08	.235392790E+08	.548617327E+08	0.06953	0.37747
170.0	.896491083E+07	.667879174E+07	.838232537E+07	.240260279E+08	0.03045	0.40792
180.0	.576471358E+07	.302105337E+07	.375109838E+07	.125368653E+08	0.01589	0.42381
190.0	.315304530E+07	.343233686E+07	.107296063E+07	.765834280E+07	0.00971	0.43351
200.0	.516313366E+07	.466915413E+07	.514983187E+06	.103472710E+08	0.01311	0.44663
210.0	.562086097E+07	.495924711E+07	.106954266E+06	.106870574E+08	0.01354	0.46017
220.0	.621100091E+07	.754732936E+07	.227676167E+06	.139860064E+08	0.01773	0.47790
230.0	.860775862E+07	.823676639E+07	.310996695E+05	.168776247E+08	0.02139	0.49929
240.0	.126210714E+08	.873812301E+07	.188751461E+06	.215479458E+08	0.02731	0.52660
250.0	.111894461E+08	.126500741E+08	0.	.238395202E+08	0.03021	0.55682
260.0	.143263637E+08	.173400095E+08	.377502923E+06	.320438761E+08	0.04061	0.59743
270.0	.155723009E+08	.212483593E+08	.566254384E+06	.373869146E+08	0.04738	0.64481
280.0	.200497456E+08	.227267080E+08	.188751461E+06	.429652050E+08	0.05445	0.69927
290.0	.187954680E+08	.183529183E+08	.755005845E+06	.379033921E+08	0.04804	0.74731
300.0	.147197163E+08	.182982083E+08	.566254384E+06	.335841790E+08	0.04256	0.78987
310.0	.132891973E+08	.128897469E+08	.188751461E+06	.263676977E+08	0.03342	0.82329
320.0	.793476545E+07	.104822962E+08	.377502923E+06	.187945645E+08	0.02382	0.84711
330.0	.632321773E+07	.843536367E+07	.188751461E+06	.149473529E+08	0.01894	0.86605
340.0	.475871030E+07	.762150299E+07	.188751461E+06	.125689648E+08	0.01593	0.88198
350.0	.497028314E+07	.939006699E+07	0.	.143603501E+08	0.01820	0.90018
360.0	.579754324E+07	.641951514E+07	0.	.122170584E+08	0.01548	0.91567
370.0	.396789825E+07	.553019401E+07	.188751461E+06	.968684372E+07	0.01228	0.92795
380.0	.281116865E+07	.559900293E+07	.377502923E+06	.878767450E+07	0.01114	0.93908
390.0	.193406706E+07	.350453704E+07	0.	.543860410E+07	0.00689	0.94598
400.0	.153933131E+07	.396448198E+07	0.	.550381329E+07	0.00698	0.95295
410.0	.742947602E+06	.145424763E+07	0.	.219719523E+07	0.00278	0.95574
420.0	.947563462E+06	.127541635E+07	0.	.222297981E+07	0.00282	0.95855
430.0	.828859266E+06	.115705109E+07	0.	.198591036E+07	0.00252	0.96107
440.0	.555992852E+06	.160487931E+07	0.	.216087216E+07	0.00274	0.96381
450.0	.587168107E+06	.943795969E+06	0.	.153096408E+07	0.00194	0.96575
460.0	.752094635E+06	.113592861E+07	0.	.188802344E+07	0.00239	0.96814
470.0	.405026957E+06	.936245031E+06	0.	.134127199E+07	0.00170	0.96984
480.0	.280321210E+06	.996313271E+06	0.	.127663448E+07	0.00162	0.97146
490.0	.234286159E+06	.543184609E+06	0.	.782470768E+06	0.00099	0.97245
500.0	.459695277E+06	.307337094E+06	0.	.767032371E+06	0.00097	0.97343
510.0	.754407365E+05	.586635711E+06	0.	.662076448E+06	0.00084	0.97426
520.0	.249044363E+06	.251886655E+06	0.	.500931038E+06	0.00063	0.97490

Table D-8.--Continued.

TOTAL ALL STRATA
SPECIES 10115 REINHARDTIUS HIPPOGLOSSOIDES
GREENLAND TURBOT

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
530.0	0.	.356823766E+06	0.	.356823766E+06	0.00045	0.97535
540.0	.352462921E+05	.289527215E+06	0.	.324773507E+06	0.00041	0.97576
550.0	.641430684E+05	.264479062E+06	0.	.328622130E+06	0.00042	0.97618
560.0	.330433989E+05	.682896910E+05	0.	.101333090E+06	0.00013	0.97631
600.0	0.	.682896910E+05	0.	.682896910E+05	0.00009	0.97639
630.0	.627616165E+05	0.	0.	.627616165E+05	0.00008	0.97647
640.0	.218714724E+06	0.	0.	.218714724E+06	0.00028	0.97675
650.0	.627616165E+05	0.	0.	.627616165E+05	0.00008	0.97683
750.0	0.	.627616165E+05	0.	.627616165E+05	0.00008	0.97691
760.0	0.	.165293244E+06	0.	.165293244E+06	0.00021	0.97712
780.0	0.	.728134094E+05	0.	.728134094E+05	0.00009	0.97721
820.0	0.	.627616165E+05	0.	.627616165E+05	0.00008	0.97729
840.0	0.	.114112030E+06	0.	.114112030E+06	0.00014	0.97744
850.0	0.	.102531627E+06	0.	.102531627E+06	0.00013	0.97757
TOTAL	.298871342E+09	.301273881E+09	.171165387E+09	.771310610E+09		

Table D-9.--Population estimates by sex and size group for arrowtooth flounder.

TOTAL ALL STRATA
SPECIES 10110 ATHERESTHES STOMIAS
ARROWTOOTH FLOUNDER

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
60.0	0.	.347260455E+05	0.	.347260455E+05	0.00016	0.00016
70.0	.776229251E+05	.104178136E+06	0.	.181801061E+06	0.00085	0.00101
80.0	.116434358E+06	.388114626E+05	0.	.155245850E+06	0.00072	0.00174
90.0	.155245850E+06	.778229251E+05	0.	.232868775E+06	0.00109	0.00282
100.0	.624754555E+06	.217941290E+06	.219931621E+06	.106262747E+07	0.00496	0.00778
110.0	.201913884E+06	.160420712E+06	.439863242E+06	.802197839E+06	0.00375	0.01153
120.0	0.	0.	.501392486E+06	.501392486E+06	0.00234	0.01387
130.0	.184587731E+06	.676821681E+05	.318116135E+06	.570386034E+06	0.00266	0.01653
140.0	.291031569E+06	.393762888E+06	.184587731E+06	.869382167E+06	0.00406	0.02059
150.0	.127608194E+07	.500493273E+06	.615292437E+05	.183810445E+07	0.00858	0.02917
160.0	.116711965E+07	.140950542E+07	.164062576E+06	.276068765E+07	0.01289	0.04206
170.0	.125867721E+07	.132287615E+07	.245591819E+06	.282714519E+07	0.01320	0.05526
180.0	.122976508E+07	.846076108E+06	.369175462E+06	.244501665E+07	0.01141	0.06667
190.0	.632282116E+06	.690406404E+06	.676821681E+06	.199951020E+07	0.00933	0.07601
200.0	.130127207E+07	.556361118E+06	.799880168E+06	.265751336E+07	0.01241	0.08842
210.0	.365269682E+07	.769405456E+06	.110752639E+07	.572962866E+07	0.02675	0.11517
220.0	.118093093E+08	.720912868E+06	.147670185E+07	.140069241E+08	0.06539	0.18056
230.0	.148071497E+08	.139860479E+07	.984467899E+06	.171902224E+08	0.08025	0.26081
240.0	.149673468E+08	.220057127E+07	.861409412E+06	.180293275E+08	0.08417	0.34498
250.0	.971874614E+07	.201727394E+07	.738350924E+06	.124743710E+08	0.05824	0.40322
260.0	.716922590E+07	.160673479E+07	.553763193E+06	.932972388E+07	0.04356	0.44678
270.0	.734126511E+07	.383854973E+07	.492233950E+06	.116720468E+08	0.05449	0.50127
280.0	.952793840E+07	.536406668E+07	.676821681E+06	.155688470E+08	0.07268	0.57395
290.0	.976114509E+07	.602206641E+07	.246116975E+06	.160293285E+08	0.07483	0.64879
300.0	.600451677E+07	.522050960E+07	0.	.112250266E+08	0.05241	0.70119
310.0	.389441522E+07	.566593973E+07	.615292437E+05	.962188420E+07	0.04492	0.74611
320.0	.200500522E+07	.232784222E+07	0.	.433284744E+07	0.02023	0.76634
330.0	.110176484E+07	.168148875E+07	0.	.278325359E+07	0.01299	0.77934
340.0	.721015304E+06	.940581525E+06	0.	.166159683E+07	0.00776	0.78709
350.0	.115112529E+07	.813796378E+06	0.	.196492167E+07	0.00917	0.79627
360.0	.539454556E+06	.114520696E+07	.615292437E+05	.174619076E+07	0.00815	0.80442
370.0	.140538798E+07	.161778983E+07	.615292437E+05	.308470705E+07	0.01440	0.81882
380.0	.103029366E+07	.199692937E+07	0.	.302722303E+07	0.01413	0.83295
390.0	.134376494E+07	.210868912E+07	0.	.345245406E+07	0.01612	0.84907
400.0	.601565261E+06	.209493321E+07	0.	.269649847E+07	0.01259	0.86166
410.0	.675224187E+06	.186335360E+07	0.	.253857779E+07	0.01185	0.87351
420.0	.302612018E+06	.156813110E+07	0.	.187094312E+07	0.00873	0.88225
430.0	.557257708E+06	.156464638E+07	0.	.212190409E+07	0.00991	0.89215
440.0	.452787725E+06	.111315115E+07	.615292437E+05	.162746812E+07	0.00760	0.89975
450.0	.109873649E+06	.103077962E+07	0.	.114067327E+07	0.00533	0.90508
460.0	.206577425E+06	.635748903E+06	0.	.842326330E+06	0.00393	0.90901
470.0	0.	.355662372E+06	0.	.355662372E+06	0.00166	0.91067
480.0	0.	.256005603E+06	0.	.256005603E+06	0.00120	0.91186

Table D-9.--Continued.

TOTAL ALL STRATA
SPECIES 10110 ATHERESTHES STOMIAS
ARROWTOOTH FLOUNDER

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
490.0	0.	.385462827E+06	0.	.385462827E+06	0.00180	0.91366
500.0	0.	.314238637E+06	0.	.314238637E+06	0.00147	0.91513
510.0	0.	.122533332E+06	0.	.122533332E+06	0.00057	0.91570
520.0	0.	.132947116E+06	0.	.132947116E+06	0.00062	0.91632
530.0	0.	.423013550E+05	0.	.423013550E+05	0.00020	0.91652
540.0	0.	.132947116E+06	0.	.132947116E+06	0.00062	0.91714
550.0	0.	.132947116E+06	0.	.132947116E+06	0.00062	0.91776
TOTAL	.119574454E+09	.656236534E+08	.113644614E+08	.196582569E+09		

Table D-10 .--Population estimates by sex and size group for Pacific halibut.

TOTAL ALL STRATA
SPECIES 10120 HIPPOGLOSSUS STENOLEPIS
PACIFIC HALIBUT

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
210.0	0.	0.	.679274029E+05	.679274029E+05	0.00505	0.00505
220.0	0.	0.	.121298934E+06	.121298934E+06	0.00901	0.01406
230.0	0.	0.	.203782209E+06	.203782209E+06	0.01515	0.02921
240.0	0.	0.	.679274029E+05	.679274029E+05	0.00505	0.03426
250.0	0.	0.	.654812716E+05	.654812716E+05	0.00487	0.03912
260.0	0.	0.	.228041995E+06	.228041995E+06	0.01695	0.05607
270.0	0.	0.	.236253000E+06	.236253000E+06	0.01756	0.07363
280.0	0.	0.	.622667860E+05	.622667860E+05	0.00463	0.07826
290.0	0.	0.	.329186645E+06	.329186645E+06	0.02447	0.10272
300.0	0.	0.	.263946480E+06	.263946480E+06	0.01962	0.12234
310.0	0.	0.	.261206693E+06	.261206693E+06	0.01941	0.14175
320.0	0.	0.	.692638271E+06	.692638271E+06	0.05148	0.19323
330.0	0.	0.	.173291576E+06	.173291576E+06	0.01288	0.20611
340.0	0.	0.	.720439121E+06	.720439121E+06	0.05354	0.25965
350.0	0.	0.	.448887728E+06	.448887728E+06	0.03336	0.29301
360.0	0.	0.	.477774075E+06	.477774075E+06	0.03551	0.32852
370.0	0.	0.	.393888197E+06	.393888197E+06	0.02927	0.35780
380.0	0.	0.	.779241785E+06	.779241785E+06	0.05791	0.41571
390.0	0.	0.	.533715308E+05	.533715308E+05	0.00397	0.41968
400.0	0.	0.	.430551033E+06	.430551033E+06	0.03200	0.45167
410.0	0.	0.	.533414844E+06	.533414844E+06	0.03964	0.49132
420.0	0.	0.	.308325816E+06	.308325816E+06	0.02291	0.51423
430.0	0.	0.	.585026732E+06	.585026732E+06	0.04348	0.55771
440.0	0.	0.	.730052158E+06	.730052158E+06	0.05426	0.61197
450.0	0.	0.	.143553907E+06	.143553907E+06	0.01067	0.62264
460.0	0.	0.	.317033360E+06	.317033360E+06	0.02356	0.64620
470.0	0.	0.	.211286669E+06	.211286669E+06	0.01570	0.66190
480.0	0.	0.	.538421702E+06	.538421702E+06	0.04002	0.70192
490.0	0.	0.	.646547912E+06	.646547912E+06	0.04805	0.74997
500.0	0.	0.	.154616111E+06	.154616111E+06	0.01149	0.76145
510.0	0.	0.	.405878273E+06	.405878273E+06	0.03016	0.79163
520.0	0.	0.	.246190038E+06	.246190038E+06	0.01830	0.80992
530.0	0.	0.	.647657190E+06	.647657190E+06	0.04813	0.85806
540.0	0.	0.	.263604112E+06	.263604112E+06	0.01959	0.87765
550.0	0.	0.	.299994700E+05	.299994700E+05	0.00223	0.87988
570.0	0.	0.	.934917326E+05	.934917326E+05	0.00695	0.88683
580.0	0.	0.	.179078063E+06	.179078063E+06	0.01331	0.90014
590.0	0.	0.	.112021524E+06	.112021524E+06	0.00833	0.90846
600.0	0.	0.	.999982332E+05	.999982332E+05	0.00743	0.91589
620.0	0.	0.	.654812716E+05	.654812716E+05	0.00487	0.92076
630.0	0.	0.	.124533572E+06	.124533572E+06	0.00926	0.93002
640.0	0.	0.	.117926519E+06	.117926519E+06	0.00876	0.93878
650.0	0.	0.	.499991166E+05	.499991166E+05	0.00372	0.94250

Table D-10 .--Continued.

TOTAL ALL STRATA
SPECIES 10120 HIPPOGLOSSUS STENOLEPIS
PACIFIC HALIBUT

LENGTH(MM)	*** MALES ***	** FEMALES **	** UNSEXED **	*** TOTAL ***	PROPORTION	CUMULATIVE PROPORTION
660.0	0.	0.	.172471010E+06	.172471010E+06	0.01282	0.95531
690.0	0.	0.	.761525007E+05	.761525007E+05	0.00566	0.96097
710.0	0.	0.	.599989399E+05	.599989399E+05	0.00446	0.96543
740.0	0.	0.	.299994700E+05	.299994700E+05	0.00223	0.96766
760.0	0.	0.	.461530307E+05	.461530307E+05	0.00343	0.97109
940.0	0.	0.	.533715308E+05	.533715308E+05	0.00397	0.97506
990.0	0.	0.	.679274029E+05	.679274029E+05	0.00505	0.98011
1020.0	0.	0.	.499991166E+05	.499991166E+05	0.00372	0.98382
1320.0	0.	0.	.545444908E+05	.545444908E+05	0.00405	0.98788
TOTAL	0.	0.	.132921580E+08	.132921580E+08		

APPENDIX E

Age Composition Estimates for Principal Species of Fish

Appendix E gives population estimates by age for commercially important species of fish for the overall survey area and sexes combined. The computer-generated tables also give mean lengths (mm) and standard deviations of lengths for each age group. Population estimates for above and below key lengths are those that fall either above or below the range of sizes covered by the age-length key.

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

ALL STRATA COMBINED

SPECIES 21740 THERAGRA CHALCOGRAMMA
WALLEYE POLLOCK

MALES, FEMALES, AND UNSEXED

AGE CLASS	NUMBER	PROPORTION	CUMULATIVE NUMBER	CUMULATIVE PROPORTION	MEAN LENGTH	STD. DEV. OF LENGTH
BELOW MINIMUM KEY LENGTH	12,377,244	0.0010	12,377,244	0.0010	96.65	11.12
1	5,248,459,687	0.4253	5,260,836,931	0.4263	138.07	18.49
2	2,395,558,122	0.1941	7,656,395,054	0.6204	246.45	29.30
3	2,609,390,097	0.2114	10,265,785,150	0.8319	328.53	35.43
4	1,254,969,858	0.1017	11,520,755,009	0.9336	372.11	31.84
5	318,026,274	0.0258	11,838,781,283	0.9593	440.97	48.86
6	213,598,104	0.0173	12,052,379,387	0.9766	470.10	48.50
7	73,101,585	0.0059	12,125,480,972	0.9826	517.44	43.97
8	61,513,629	0.0050	12,186,994,600	0.9875	536.17	55.17
9	74,379,338	0.0060	12,261,373,938	0.9936	535.94	54.50
10	48,577,851	0.0039	12,309,951,790	0.9975	534.15	56.36
11	17,107,468	0.0014	12,327,059,258	0.9989	565.88	67.89
12	13,395,331	0.0011	12,340,454,589	1.0000	535.43	57.10
ABOVE MAXIMUM KEY LENGTH	297,733	0.0000	12,340,752,322	1.0000	782.17	19.88
TOTAL	12,340,752,322	1.0000	12,340,752,322	1.0000	245.92	112.53

END OF AGE/LENG

Table E-2 .--Population estimates by age for Pacific cod.

Age class	Number	Proportion	Cumulative number	Cumulative proportion	Mean length (mm)	Standard deviation of length
0	---	---	---	---	---	---
1	1,268,236,821	0.90984	1,268,236,821	1.90984	196.35	34.50
2	24,170,433	0.01734	1,292,407,254	0.92718	421.76	31.44
3	32,840,565	0.02356	1,325,247,819	0.95074	480.64	11.09
4	24,811,632	0.01780	1,350,059,451	0.96854	519.32	17.35
5	23,097,121	0.01657	1,373,156,572	0.98511	559.80	20.58
6	9,785,262	0.00702	1,382,941,834	0.99213	613.50	18.26
7	2,801,763	0.00201	1,385,743,597	0.99414	653.54	9.60
8	4,237,492	0.00304	1,389,981,089	0.99718	696.50	11.55
9	2,132,685	0.00153	1,392,113,774	0.00871	751.68	18.67
≥10	1,798,146	0.00129	1,393,911,920	1.00000	779.14	60.51
Total	1,393,911,920	1.00000	1,393,911,920	1.00000	225.70	---

Table E-3.--Population estimates by age for sablefish.

ALL STRATA COMBINED

SPECIES 20510 ANOPLOPOMA FIMBRIA
SABLEFISH

MALES, FEMALES, AND UNSEXED

AGE CLASS	NUMBER	PROPORTION	CUMULATIVE NUMBER	CUMULATIVE PROPORTION	MEAN LENGTH	STD. DEV. OF LENGTH
1	14,348,973	0.3393	14,348,973	0.3393	287.16	28.25
* 2	26,093,803	0.6170	40,442,775	0.9563	341.56	52.26
3	1,110,559	0.0263	41,553,334	0.9826	420.21	60.62
4	637,463	0.0151	42,190,798	0.9976	483.72	4.83
5	100,150	0.0024	42,290,948	1.0000	480.00	0.00
TOTAL	42,290,948	1.0000	42,290,948	1.0000	327.64	58.10

END OF AGE/LENGTH

Table E-4.--Population estimates by age for yellowfin sole.

ALL STRATA COMBINED

SPECIES 10210 LIMANDA ASPERA
YELLOWFIN SOLE

MALES, FEMALES, AND UNSEXED

AGE CLASS	NUMBER	PROPORTION	CUMULATIVE NUMBER	CUMULATIVE PROPORTION	MEAN LENGTH	STD. DEV. OF LENGTH
BELOW MINIMUM KEY LENGTH	10,353,141	0.0009	10,353,141	0.0009	100.00	0.00
3	48,289,950	0.0040	58,643,091	0.0049	110.00	0.00
4	348,209,332	0.0289	406,852,422	0.0338	126.27	9.28
5	1,290,809,233	0.1072	1,697,661,655	0.1409	164.90	29.11
6	1,199,281,633	0.0996	2,896,943,288	0.2405	202.72	26.77
7	1,290,230,814	0.1071	4,187,174,102	0.3476	214.94	22.98
8	2,139,436,454	0.1776	6,326,610,556	0.5252	225.16	28.34
9	2,046,346,486	0.1699	8,372,957,042	0.6951	240.74	27.62
10	1,459,996,952	0.1212	9,832,953,994	0.8163	247.44	19.30
11	963,540,460	0.0800	10,796,494,455	0.8963	250.23	26.24
12	786,231,083	0.0653	11,582,725,538	0.9616	271.75	13.82
13	94,795,924	0.0079	11,677,521,461	0.9695	300.29	18.33
14	151,478,543	0.0126	11,829,000,004	0.9821	294.74	12.73
* 15	101,352,617	0.0084	11,930,352,621	0.9905	307.78	18.49
* 16	100,431,179	0.0083	12,030,783,800	0.9988	312.53	17.82
* 17	13,708,982	0.0011	12,044,492,783	1.0000	344.80	5.94
ABOVE MAXIMUM KEY LENGTH	590,412	0.0000	12,045,083,195	1.0000	430.00	0.00
T O T A L	12,045,083,195	1.0000	12,045,083,195	1.0000	225.38	44.21

Table E-5.--Population estimates by age for rock sole.

ALL STRATA COMBINED

SPECIES 10260 LEPIDOPSETTA BILINEATA
ROCK SOLE

MALES, FEMALES, AND UNSEXED

AGE CLASS	NUMBER	PROPORTION	CUMULATIVE NUMBER	CUMULATIVE PROPORTION	MEAN LENGTH	STD. DEV. OF LENGTH
3	43,412,625	0.0522	43,412,625	0.0522	148.62	13.55
4	177,292,595	0.2132	220,705,220	0.2654	163.16	12.58
5	75,501,335	0.0908	296,206,555	0.3562	187.10	21.13
6	38,731,837	0.0466	334,938,392	0.4028	229.11	16.06
7	45,411,559	0.0546	380,349,951	0.4574	254.29	18.86
8	147,961,693	0.1779	528,311,644	0.6353	265.74	31.36
9	133,679,102	0.1608	661,990,746	0.7961	280.86	28.48
10	42,559,157	0.0512	704,549,904	0.8473	289.29	27.44
11	33,876,477	0.0407	738,426,381	0.8880	316.05	37.48
12	31,240,097	0.0376	769,666,478	0.9256	334.82	36.10
13	33,586,367	0.0404	803,252,844	0.9660	332.28	38.17
* 14	13,822,282	0.0166	817,075,127	0.9826	361.80	29.76
* 15	6,098,987	0.0073	823,174,113	0.9899	404.97	19.64
16	2,628,348	0.0032	825,802,462	0.9931	372.22	19.88
* 17	5,571,720	0.0067	831,374,181	0.9998	410.56	29.11
ABOVE MAXIMUM KEY LENGTH	189,603	0.0002	831,563,784	1.0000	490.00	0.00
T O T A L	831,563,784	1.0000	831,563,784	1.0000	243.23	68.87

END OF AGE/LENGTH

Table E-6.--Population estimates by age for flathead sole.

ALL STRATA COMBINED

SPECIES 10130 HIPPOGLOSSOIDES ELASSODON
FLATHEAD SOLE

MALES, FEMALES, AND UNSEXED

AGE CLASS	NUMBER	PROPORTION	CUMULATIVE NUMBER	CUMULATIVE PROPORTION	MEAN LENGTH	STD. DEV. OF LENGTH
1	11,492,633	0.0292	11,492,633	0.0292	78.70	7.09
2	7,042,342	0.0179	18,534,974	0.0471	123.89	17.37
3	60,640,306	0.1542	79,175,281	0.2014	167.60	26.08
4	46,778,810	0.1190	125,954,090	0.3203	207.83	26.09
5	42,798,104	0.1088	168,752,195	0.4292	233.25	25.09
6	18,036,520	0.0459	186,788,715	0.4751	254.86	26.34
7	20,014,790	0.0509	206,803,505	0.5260	298.88	21.51
8	35,531,810	0.0904	242,335,315	0.6163	300.80	26.00
9	47,825,589	0.1216	290,160,904	0.7380	303.40	34.64
10	40,846,817	0.1039	331,007,721	0.8418	307.73	32.70
11	19,826,488	0.0504	350,834,209	0.8923	335.26	30.21
12	13,040,504	0.0332	363,874,713	0.9254	334.33	24.48
13	7,771,510	0.0198	371,646,223	0.9452	356.78	34.60
14	4,957,767	0.0126	376,603,990	0.9578	359.38	33.37
15	5,535,121	0.0141	382,139,111	0.9719	356.22	28.96
• 16	3,996,831	0.0102	386,135,942	0.9821	388.31	42.09
17	3,028,891	0.0077	389,164,833	0.9898	383.94	21.94
• 18	1,701,522	0.0043	390,866,355	0.9941	437.96	23.13
19	590,181	0.0015	391,456,536	0.9956	424.63	4.99
• 20	1,100,658	0.0028	392,557,194	0.9984	459.40	17.25
• 22	571,409	0.0015	393,128,603	0.9998	451.84	3.87
ABOVE MAXIMUM KEY LENGTH	64,169	0.0002	393,192,772	1.0000	500.00	0.00
T O T A L	393,192,772	1.0000	393,192,772	1.0000	259.50	77.63

END OF AGE/LENGTH

Table E-7.--Population estimates by age for Alaska plaice.

ALL STRATA COMBINED

SPECIES 10285 PLEURONECTES QUADRITUBERCULATUS
ALASKA PLAICE

MALES, FEMALES, AND UNSEXED

AGE CLASS	NUMBER	PROPORTION	CUMULATIVE NUMBER	CUMULATIVE PROPORTION	MEAN LENGTH	STD. DEV. OF LENGTH
BELOW MINIMUM KEY LENGTH	196,888	0.0006	196,888	0.0006	204.45	4.97
* 5	1,416,296	0.0045	1,613,184	0.0052	263.35	10.26
6	5,183,239	0.0166	6,796,423	0.0218	280.57	8.37
* 7	5,106,110	0.0164	11,902,532	0.0382	270.34	24.64
* 8	24,259,493	0.0779	36,162,025	0.1161	292.84	17.86
* 9	58,864,117	0.1889	95,026,143	0.3050	313.66	27.47
10	81,692,680	0.2622	176,718,823	0.5672	340.52	33.83
11	65,178,602	0.2092	241,897,425	0.7764	348.89	29.10
12	36,346,793	0.1167	278,244,218	0.8931	370.79	24.93
13	17,931,863	0.0576	296,176,081	0.9506	351.23	27.61
* 14	8,414,363	0.0270	304,590,444	0.9777	382.37	37.77
* 16	5,698,709	0.0183	310,289,153	0.9959	442.63	12.50
17	487,713	0.0016	310,776,866	0.9975	430.00	0.00
* 19	775,315	0.0025	311,552,181	1.0000	466.36	7.47
T O T A L	311,552,181	1.0000	311,552,181	1.0000	338.50	41.48

END OF AGE/LENGTH

Table E-8.--Population estimates by age for Greenland turbot.

ALL STRATA COMBINED

SPECIES 10115 REINHARDTIUS HIPPOGLOSSOIDES
GREENLAND TURBOT

MALES, FEMALES, AND UNSEXED

AGE CLASS	NUMBER	PROPORTION	CUMULATIVE NUMBER	CUMULATIVE PROPORTION	MEAN LENGTH	STD. DEV. OF LENGTH
0	725,615	0.0009	725,615	0.0009	100.00	0.00
1	370,692,343	0.4806	371,417,958	0.4815	153.70	29.43
2	297,371,341	0.3855	668,789,299	0.8671	274.58	32.48
3	81,944,099	0.1062	750,733,398	0.9733	354.52	30.94
4	11,730,493	0.0152	762,463,891	0.9885	425.61	45.42
5	7,039,278	0.0091	769,503,169	0.9977	470.12	35.57
6	814,640	0.0011	770,317,809	0.9987	513.78	57.72
7	31,381	0.0000	770,349,190	0.9988	650.00	0.00
8	269,932	0.0003	770,619,122	0.9991	632.41	15.68
9	20,921	0.0000	770,640,043	0.9991	630.00	0.00
10	58,914	0.0001	770,698,956	0.9992	621.31	13.61
11	31,381	0.0000	770,730,337	0.9992	650.00	0.00
13	186,214	0.0002	770,916,551	0.9995	758.68	3.16
14	51,266	0.0001	770,967,816	0.9996	850.00	0.00
15	135,575	0.0002	771,103,391	0.9997	798.52	19.95
16	20,921	0.0000	771,124,312	0.9998	750.00	0.00
17	51,266	0.0001	771,175,578	0.9998	850.00	0.00
18	135,033	0.0002	771,310,610	1.0000	826.06	32.57
TOTAL	771,310,610	1.0000	771,310,610	1.0000	229.74	87.89

END OF AGE/LENGTH

Table E-9.--Population estimates by age for arrowtooth flounder.

ALL STRATA COMBINED

SPECIES 10110 ATHERESTHES STOMIAS
ARROWTOOTH FLOUNDER

MALES, FEMALES, AND UNSEXED

AGE CLASS	NUMBER	PROPORTION	CUMULATIVE NUMBER	CUMULATIVE PROPORTION	MEAN LENGTH	STD. DEV. OF LENGTH
BELOW MINIMUM KEY LENGTH	34,726	0.0002	34,726	0.0002	60.00	0.00
* 0	2,133,917	0.0109	2,168,643	0.0110	97.25	11.52
1	3,718,997	0.0189	5,887,640	0.0299	138.48	13.68
2	81,666,464	0.4154	87,554,104	0.4454	225.89	25.47
3	67,226,774	0.3420	154,780,878	0.7874	285.40	22.41
4	13,677,172	0.0696	168,458,050	0.8569	312.41	26.26
5	13,044,504	0.0664	181,502,554	0.9233	368.99	40.31
* 6	10,014,535	0.0509	191,517,089	0.9742	407.96	23.73
* 7	3,190,434	0.0162	194,707,523	0.9905	437.59	17.05
ABOVE MAXIMUM KEY LENGTH	1,875,045	0.0095	196,582,569	1.0000	498.65	24.29
T O T A L	196,582,569	1.0000	196,582,569	1.0000	273.99	69.81

END OF AGE/LENGTH

APPENDIX F

Age-Length Keys for Principal Species of Fish

Appendix F gives the computer generated age-length keys (sexes combined) for commercially important species of fish from samples collected during the 1978 survey.

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

1978 BERING SEA SURVEY,

SPECIES 21740 THERAGRA CHALCOGRAMMA
WALLEYE POLLOCK

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+
110	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
120	1.00	0.00	17	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	0	0
130	1.00	0.00	21	0	21	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	22	0	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
150	1.00	0.00	24	0	24	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
160	1.00	0.00	24	0	24	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
170	1.00	0.00	21	0	21	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
180	1.08	0.28	24	0	22	2	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	1.47	0.51	19	0	10	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
200	1.61	0.50	18	0	7	11	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	2.00	0.00	17	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	0
220	2.00	0.00	18	0	0	18	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	2.05	0.21	22	0	0	21	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
250	2.14	0.35	22	0	0	19	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
260	2.23	0.43	22	0	0	17	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
270	2.30	0.47	23	0	0	16	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
280	2.43	0.51	23	0	0	13	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
290	2.47	0.51	19	0	0	10	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300	2.84	0.37	19	0	0	3	16	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	0.50	16	0	0	3	12	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
320	3.26	0.45	19	0	0	0	14	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
330	3.16	0.47	25	0	0	1	19	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
340	3.20	0.41	20	0	0	0	16	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
350	3.14	0.48	21	0	0	1	16	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
360	3.67	0.66	21	0	0	0	9	10	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
370	3.48	0.51	23	0	0	0	12	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
380	3.63	0.71	24	0	0	0	11	12	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
390	3.85	0.59	20	0	0	0	5	13	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
400	4.24	0.70	21	0	0	0	1	16	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
410	4.18	0.66	22	0	0	0	3	12	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
420	4.43	0.68	21	0	0	0	0	14	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
430	5.06	1.00	18	0	0	0	2	2	7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
440	4.94	0.90	17	0	0	0	1	4	7	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
450	5.65	1.31	20	0	0	0	0	3	8	5	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
460	5.32	1.53	19	0	0	0	1	3	10	3	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
470	6.43	1.60	21	0	0	0	0	1	6	6	3	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
480	6.90	1.94	20	0	0	0	0	0	4	8	3	1	1	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
490	7.11	2.05	18	0	0	0	0	0	5	5	1	1	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
500	7.12	2.18	17	0	0	0	0	0	4	5	3	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
510	6.65	2.03	17	0	0	0	0	2	4	5	0	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
520	6.17	1.34	12	0	0	0	0	0	5	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
530	7.50	2.00	16	0	0	0	0	0	3	2	4	3	1	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table F-1.--Continued.

1978 BERING SEA SURVEY,

SPECIES 21740 THERAGRA CHALCOGRAMMA
WALLEYE POLLOCK

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+
540	7.64	1.71	22	0	0	0	0	0	1	6	4	5	3	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
550	7.59	1.76	22	0	0	0	0	0	1	8	3	2	4	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
560	8.26	1.89	23	0	0	0	0	0	1	3	4	6	5	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
570	8.24	1.44	17	0	0	0	0	0	0	2	4	3	5	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
580	9.14	1.29	14	0	0	0	0	0	0	0	1	4	4	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
590	8.18	1.81	17	0	0	0	0	0	1	2	4	2	4	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
600	9.33	1.08	18	0	0	0	0	0	0	0	1	3	5	7	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
610	8.73	1.39	15	0	0	0	0	0	0	1	1	6	1	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
620	8.58	1.71	19	0	0	0	0	0	1	1	2	5	6	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
630	8.85	1.46	13	0	0	0	0	0	0	1	2	1	4	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
640	8.86	1.10	14	0	0	0	0	0	0	0	2	2	7	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
650	9.55	0.93	11	0	0	0	0	0	0	0	0	1	5	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
660	9.15	1.34	13	0	0	0	0	0	0	0	1	4	2	5	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
670	9.57	1.51	7	0	0	0	0	0	0	0	0	2	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
680	10.29	1.60	7	0	0	0	0	0	0	0	0	1	2	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
690	8.78	1.56	9	0	0	0	0	0	0	0	2	3	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
700	8.92	1.24	12	0	0	0	0	0	0	0	2	2	4	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
710	10.80	1.10	5	0	0	0	0	0	0	0	0	0	1	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
720	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
730	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
740	9.67	2.08	3	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
750	8.00	0.00	1	0	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
TOTAL	4.57	3.04	1119	0	177	164	173	122	86	63	51	65	81	54	29	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table F-2.--Age-length key for sablefish.

```
***********************************************************************
* THIS KEY INCLUDES DATA GENERATED ARTIFICIALLY USING LINEAR          *
* INTERPOLATION TO ASSIGN AGE DISTRIBUTIONS TO LENGTH CLASSES         *
* NOT REPRESENTED BY REAL DATA.  THE USE OF THIS METHOD MUST          *
* BE CONSIDERED WHEN ANALYZING THE RESULTS OF THIS PROGRAM.           *
*                                                                     *
* LENGTH CLASSES WHICH HAVE BEEN GENERATED USING INTERPOLATION        *
* ARE MARKED WITH AN ASTERISK (*).                                    *
***********************************************************************
```

1978 BERING SEA SURVEY.

SPECIES 20510 ANOPLOPOMA FIMBRIA
SABLEFISH

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+
220	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
230	1.00	0.00	4	0	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
240	1.00	0.00	3	0	3	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
250	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
260	1.00	0.00	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
270	1.38	0.52	8	0	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
280	1.20	0.42	10	0	8	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
290	1.33	0.49	12	0	8	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
300	1.50	0.53	10	0	5	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
310	1.80	0.42	10	0	2	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
320	1.80	0.42	10	0	2	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
330	1.90	0.32	10	0	1	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
340	1.89	0.60	9	0	2	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
350	1.88	0.35	8	0	1	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
360	2.13	0.64	8	0	1	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
370	2.00	0.00	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* 390	2.00	0.00	1.6	0.0	0.0	1.6	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	0.0	0.0
* 400	2.00	0.00	1.4	0.0	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	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
* 410	2.00	0.00	1.2	0.0	0.0	1.2	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	0.0	0.0
420	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
* 430	2.00	0.00	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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

Table F-2. --Continued.

```
***************************************************************
* THIS KEY INCLUDES DATA GENERATED ARTIFICIALLY USING LINEAR  *
* INTERPOLATION TO ASSIGN AGE DISTRIBUTIONS TO LENGTH CLASSES *
* NOT REPRESENTED BY REAL DATA.  THE USE OF THIS METHOD MUST  *
* BE CONSIDERED WHEN ANALYZING THE RESULTS OF THIS PROGRAM.   *
*                                                             *
* LENGTH CLASSES WHICH HAVE BEEN GENERATED USING INTERPOLATION*
* ARE MARKED WITH AN ASTERISK (*).                            *
***************************************************************
```

1978 BERING SEA SURVEY,

SPECIES 20510 ANOPLOPOMA FIMBRIA
SABLEFISH

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+
* 440	2.00	0.00	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
* 450	2.00	0.00	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
460	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
470	3.00	0.00	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
480	4.00	0.63	6	0	0	0	1	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
490	4.00	0.00	5	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
510	5.00	0.00	1	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	0	0
520	5.00	0.00	1	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	0	0
530	5.00	0.00	1	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	0	0
550	5.00	0.00	1	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	0	0
570	5.00	0.00	1	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	0	0
650	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
690	6.00	0.00	1	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	0
TOTAL	1.96	1.14	149.2	0.0	57.0	69.2	6.0	9.0	6.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table F-3.--Age-length key for yellowfin sole.

```
*************************************************************
* THIS KEY INCLUDES DATA GENERATED ARTIFICIALLY USING LINEAR  *
* INTERPOLATION TO ASSIGN AGE DISTRIBUTIONS TO LENGTH CLASSES *
* NOT REPRESENTED BY REAL DATA.  THE USE OF THIS METHOD MUST  *
* BE CONSIDERED WHEN ANALYZING THE RESULTS OF THIS PROGRAM.   *
*                                                             *
* LENGTH CLASSES WHICH HAVE BEEN GENERATED USING INTERPOLATION*
* ARE MARKED WITH AN ASTERISK (*).                            *
*************************************************************
```

1978 BERING SEA SURVEY,

SPECIES 10210 LIMANDA ASPERA
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+
110	3.00	0.00	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	4.00	0.00	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	5.00	0.00	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	4.50	0.71	2	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	5.00	0.00	4	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	5.50	0.71	2	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	6.50	1.29	4	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	6.80	1.37	15	0	0	0	0	0	4	2	3	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
190	6.77	1.48	13	0	0	0	0	0	3	4	1	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200	7.67	1.35	15	0	0	0	0	0	0	3	4	5	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
210	7.53	1.74	19	0	0	0	0	0	3	3	3	4	4	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
220	7.88	1.62	17	0	0	0	0	0	1	2	5	3	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
230	8.50	1.59	24	0	0	0	0	0	0	2	6	5	3	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
240	8.72	1.45	18	0	0	0	0	0	0	2	0	6	5	4	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
250	9.47	1.35	19	0	0	0	0	0	0	1	0	3	5	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
260	9.53	1.50	17	0	0	0	0	0	0	0	1	3	6	3	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
270	9.88	1.50	16	0	0	0	0	0	0	0	1	2	3	5	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
280	11.60	1.35	15	0	0	0	0	0	0	0	0	1	0	1	3	8	1	1	0	0	0	0	0	0	0	0	0	0	0	0
290	11.46	2.63	13	0	0	0	0	0	0	0	0	1	4	0	2	2	0	2	1	1	0	0	0	0	0	0	0	0	0	0
300	12.00	2.35	14	0	0	0	0	0	0	0	0	0	3	2	1	2	1	2	3	0	0	0	0	0	0	0	0	0	0	0
310	13.67	3.01	6	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	3	0	0	0	0	0	0	0	0	0	0
320	13.29	0.49	7	0	0	0	0	0	0	0	0	0	0	0	0	0	5	2	0	0	0	0	0	0	0	0	0	0	0	0
330	15.33	0.58	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0
340	16.50	0.71	2	0	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
* 350	16.29	1.07	1.75	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	0.25	0.75	0.75	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
* 360	16.00	1.41	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	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
* 370	15.60	1.79	1.25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.75	0.25	0.25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table F-3.--Continued.

```
*****************************************************************
* THIS KEY INCLUDES DATA GENERATED ARTIFICIALLY USING LINEAR    *
* INTERPOLATION TO ASSIGN AGE DISTRIBUTIONS TO LENGTH CLASSES   *
* NOT REPRESENTED BY REAL DATA.  THE USE OF THIS METHOD MUST    *
* BE CONSIDERED WHEN ANALYZING THE RESULTS OF THIS PROGRAM.     *
*                                                               *
* LENGTH CLASSES WHICH HAVE BEEN GENERATED USING INTERPOLATION *
* ARE MARKED WITH AN ASTERISK (*).                              *
*****************************************************************
```

1978 BERING SEA SURVEY,

SPECIES 10210 LIMANDA ASPERA
YELLOWFIN SOLE

LENGTH	AVG AGE	STD. DEV.	FREQUENCY	AGE (IN YEARS) 0	1	2	3	4	5	6	7	8	9	10	11	12
380	15.00	0.00	1	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	9.20	2.96	257.5	0.0	0.0	0.0	2.0	4.0	20.0	21.0	25.0	42.0	42.0	28.0	21.0	19.0

LENGTH	13	14	15	16	17	18	19	20	21	22	23	24	25	26+
380	0	0	1	0	0	0	0	0	0	0	0	0	0	0
TOTAL	7.0	6.0	8.5	7.5	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table F-4.--Age-length key for rock sole.

```
****************************************************************
* THIS KEY INCLUDES DATA GENERATED ARTIFICIALLY USING LINEAR   *
* INTERPOLATION TO ASSIGN AGE DISTRIBUTIONS TO LENGTH CLASSES  *
* NOT REPRESENTED BY REAL DATA.  THE USE OF THIS METHOD MUST   *
* BE CONSIDERED WHEN ANALYZING THE RESULTS OF THIS PROGRAM.    *
*                                                              *
* LENGTH CLASSES WHICH HAVE BEEN GENERATED USING INTERPOLATION *
* ARE MARKED WITH AN ASTERISK (*).                             *
****************************************************************
```

1978 BERING SEA SURVEY,

SPECIES 10260 LEPIDOPSETTA BILINEATA
ROCK SOLE

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+
100	3.00	0.00	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	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
120	4.00	1.00	3	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	3.60	0.89	5	0	0	0	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	3.40	0.55	5	0	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	3.57	0.53	7	0	0	0	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	4.10	0.32	10	0	0	0	0	9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	4.22	0.44	9	0	0	0	0	7	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	4.75	1.49	8	0	0	0	1	3	3	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
190	4.89	0.60	9	0	0	0	0	2	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200	5.22	0.44	9	0	0	0	0	0	7	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
210	6.00	1.15	7	0	0	0	0	0	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
220	6.00	1.58	9	0	0	0	0	1	4	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
230	6.75	1.14	12	0	0	0	0	0	1	5	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
240	7.75	1.44	16	0	0	0	0	0	0	5	1	5	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
250	8.00	0.95	12	0	0	0	0	0	0	1	2	5	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
260	7.95	0.78	19	0	0	0	0	0	0	0	6	8	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
270	9.12	1.22	17	0	0	0	0	0	0	0	1	4	7	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
280	9.05	1.47	20	0	0	0	0	0	0	0	1	8	6	1	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
290	9.25	1.48	16	0	0	0	0	0	0	0	0	6	5	3	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
300	10.00	1.73	15	0	0	0	0	0	0	0	0	3	5	1	3	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0
310	9.83	1.86	18	0	0	0	0	0	0	0	1	3	6	3	1	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0
320	10.08	1.93	12	0	0	0	0	0	0	0	0	2	4	3	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
330	10.82	1.78	11	0	0	0	0	0	0	0	0	1	2	2	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0
340	10.90	2.23	10	0	0	0	0	0	0	0	0	1	3	1	1	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0
350	12.20	1.87	10	0	0	0	0	0	0	0	0	0	1	0	2	4	1	1	0	1	0	0	0	0	0	0	0	0	0	0
360	11.67	1.66	9	0	0	0	0	0	0	0	0	1	0	0	2	4	1	1	0	0	0	0	0	0	0	0	0	0	0	0
370	12.50	2.33	8	0	0	0	0	0	0	0	0	0	1	0	1	3	1	1	0	0	1	0	0	0	0	0	0	0	0	0
380	13.25	1.71	4	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0
390	13.60	1.52	5	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	1	0	0	0	0	0	0	0	0	0	0
400	12.40	0.89	5	0	0	0	0	0	0	0	0	0	0	0	1	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0
410	17.00	0.00	1	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	0
420	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

Table F-4.--continued.

```
*****************************************************************
* THIS KEY INCLUDES DATA GENERATED ARTIFICIALLY USING LINEAR    *
* INTERPOLATION TO ASSIGN AGE DISTRIBUTIONS TO LENGTH CLASSES   *
* NOT REPRESENTED BY REAL DATA.  THE USE OF THIS METHOD MUST    *
* BE CONSIDERED WHEN ANALYZING THE RESULTS OF THIS PROGRAM.     *
*                                                               *
* LENGTH CLASSES WHICH HAVE BEEN GENERATED USING INTERPOLATION* 
* ARE MARKED WITH AN ASTERISK (*).                              *
*****************************************************************
```

1978 BERING SEA SURVEY,

SPECIES 10260 LEPIDOPSETTA BILINEATA
ROCK SOLE

	LENGTH	AVG AGE	STD. DEV.	FREQUENCY	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	15.33	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	0.5	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	440	15.50	2.12	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0
*	450	15.71	2.27	1.75	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	0.75	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
*	460	16.00	2.45	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	0.5	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	480	17.00	0.00	1	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	0
	TOTAL	8.51	3.30	312.75	0.0	0.0	0.0	14.0	30.0	29.0	17.0	16.0	54.0	53.0	19.0	18.0	20.0	21.0	10.75	2.5	2.0	6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table F-5.--Age-length key for flathead sole.

```
*************************************************************
* THIS KEY INCLUDES DATA GENERATED ARTIFICIALLY USING LINEAR  *
* INTERPOLATION TO ASSIGN AGE DISTRIBUTIONS TO LENGTH CLASSES *
* NOT REPRESENTED BY REAL DATA.  THE USE OF THIS METHOD MUST  *
* BE CONSIDERED WHEN ANALYZING THE RESULTS OF THIS PROGRAM.   *
*                                                             *
* LENGTH CLASSES WHICH HAVE BEEN GENERATED USING INTERPOLATION*
* ARE MARKED WITH AN ASTERISK (*).                            *
*************************************************************
```

1978 BERING SEA SURVEY,

SPECIES 10130 HIPPOGLOSSOIDES ELASSODON
FLATHEAD SOLE

LEN GTH	AVG AGE	STD. DEV.	FREQ- UFNCY	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	1.00	0.00	2	0	2	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
70	1.00	0.00	4	0	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
80	1.00	0.00	13	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	0
90	1.29	0.49	7	0	5	2	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	2.50	0.58	4	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	2.55	0.52	11	0	0	5	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	2.57	0.51	14	0	0	6	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	2.67	0.49	15	0	0	5	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	2.91	0.54	11	0	0	2	8	1	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	0.41	13	0	0	1	11	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	3.21	0.43	14	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	0	0
170	3.31	0.60	16	0	0	0	12	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	3.28	0.46	18	0	0	0	13	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
190	3.75	0.75	12	0	0	0	5	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200	3.63	0.72	16	0	0	0	8	6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
210	4.05	0.71	19	0	0	0	4	10	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
220	4.73	0.88	15	0	0	0	1	5	6	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
230	4.64	0.67	11	0	0	0	0	5	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
240	6.00	1.88	18	0	0	0	0	3	8	2	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
250	6.53	2.07	15	0	0	0	0	2	5	2	0	2	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
260	7.27	1.98	15	0	0	0	0	0	3	3	3	3	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
270	6.93	1.91	15	0	0	0	0	1	3	3	3	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
280	8.86	1.66	14	0	0	0	0	0	1	1	0	2	4	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
290	8.41	1.46	17	0	0	0	0	0	1	1	2	3	5	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300	8.93	1.39	15	0	0	0	0	0	0	1	1	4	2	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	8.61	1.58	18	0	0	0	0	0	0	0	5	6	2	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
320	10.31	2.29	13	0	0	0	0	0	0	0	2	1	2	2	2	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0
330	9.50	2.10	14	0	0	0	0	0	0	0	1	3	7	0	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0
340	10.71	2.46	14	0	0	0	0	0	0	0	0	3	2	2	3	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0
350	10.83	1.64	12	0	0	0	0	0	0	0	0	0	2	4	3	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0
360	12.70	2.41	10	0	0	0	0	0	0	0	0	0	1	1	1	2	1	2	1	0	1	0	0	0	0	0	0	0	0	0
370	12.75	2.96	12	0	0	0	0	0	0	0	0	0	1	2	3	1	1	0	0	2	2	0	0	0	0	0	0	0	0	0
380	11.85	1.82	13	0	0	0	0	0	0	0	0	0	1	2	4	1	2	2	1	0	0	0	0	0	0	0	0	0	0	0

Table F-5.--Continued.

```
***************************************************************
* THIS KEY INCLUDES DATA GENERATED ARTIFICIALLY USING LINEAR  *
* INTERPOLATION TO ASSIGN AGE DISTRIBUTIONS TO LENGTH CLASSES *
* NOT REPRESENTED BY REAL DATA.  THE USE OF THIS METHOD MUST  *
* BE CONSIDERED WHEN ANALYZING THE RESULTS OF THIS PROGRAM.   *
*                                                             *
* LENGTH CLASSES WHICH HAVE BEEN GENERATED USING INTERPOLATION*
* ARE MARKED WITH AN ASTERISK (*).                            *
***************************************************************
```

1978 BERING SEA SURVEY.

SPECIES 10130 HIPPOGLOSSOIDES ELASSODON
FLATHEAD 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+
390	13.25	2.66	8	0	0	0	0	0	0	0	0	0	1	0	1	0	3	1	1	0	0	1	0	0	0	0	0	0	0	0
400	12.40	3.13	5	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0
410	14.20	2.39	5	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0
420	15.17	3.06	6	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	0	1	0	0	0	0	0	0	0
430	18.00	2.16	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	0	0	0	0	0	0
440	16.00	0.00	1	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	0	0
450	19.33	2.31	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0
* 460	19.50	2.35	2.0	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	1.0	0.0	0.5	0.0	0.5	0.0	0.0	0.0	0.0
470	20.00	0.00	1	0	0	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
* 480	18.00	0.00	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	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
490	16.00	0.00	1	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	0	0
TOTAL	6.85	4.43	467.0	0.0	24.0	23.0	99.0	50.0	42.0	17.0	17.0	29.0	42.0	36.0	22.0	13.0	12.0	8.0	8.0	7.5	6.0	5.0	2.0	3.0	0.0	1.5	0.0	0.0	0.0	0.0

Table F-6.--Age-length key for Alaska plaice.

```
************************************************************
* THIS KEY INCLUDES DATA GENERATED ARTIFICIALLY USING LINEAR  *
* INTERPOLATION TO ASSIGN AGE DISTRIBUTIONS TO LENGTH CLASSES *
* NOT REPRESENTED BY REAL DATA.  THE USE OF THIS METHOD MUST  *
* BE CONSIDERED WHEN ANALYZING THE RESULTS OF THIS PROGRAM.   *
*                                                             *
* LENGTH CLASSES WHICH HAVE BEEN GENERATED USING INTERPOLATION*
* ARE MARKED WITH AN ASTERISK (*).                            *
************************************************************
```

1978 BERING SEA SURVEY.

SPECIES 10285 PLEURONECTES QUADRITUBERCULATUS
ALASKA PLAICE

LEN	AVG	STD.	FREQ-	AGE (IN YEARS)																										
GTH	AGE	DEV.	UENCY	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+
220	7.00	0.00	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* 230	7.46	1.30		0.0		0.0		0.0		0.0		0.5		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0
			3.25		0.0		0.0		0.25		1.75		0.75		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
* 240	7.67	1.41		0.0		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
			4.5		0.0		0.0		0.5		1.5		1.5		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
* 250	7.78	1.45		0.0		0.0		0.0		0.0		1.5		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0
			5.75		0.0		0.0		0.75		1.25		2.25		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
260	7.86	1.46	7	0	0	0	0	0	1	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
270	8.00	1.89	10	0	0	0	0	0	1	2	0	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
280	8.00	1.00	9	0	0	0	0	0	0	1	1	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
290	8.60	1.40	10	0	0	0	0	0	0	1	1	1	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300	9.20	1.10	5	0	0	0	0	0	0	0	0	1	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	9.82	0.98	11	0	0	0	0	0	0	0	0	2	0	7	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
320	9.89	1.54	9	0	0	0	0	0	0	0	0	1	4	1	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
330	10.50	1.27	10	0	0	0	0	0	0	0	0	0	2	4	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
340	10.78	1.56	9	0	0	0	0	0	0	0	0	0	2	3	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0
350	10.83	1.17	6	0	0	0	0	0	0	0	0	0	1	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
360	11.43	1.51	7	0	0	0	0	0	0	0	0	0	0	2	3	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
370	10.86	1.57	7	0	0	0	0	0	0	0	0	0	1	2	3	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
380	11.00	1.00	5	0	0	0	0	0	0	0	0	0	0	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
390	11.50	1.05	6	0	0	0	0	0	0	0	0	0	0	1	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0
400	11.50	0.84	6	0	0	0	0	0	0	0	0	0	0	1	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
410	11.00	1.00	5	0	0	0	0	0	0	0	0	0	0	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
420	13.25	2.50	4	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0
430	13.00	3.61	3	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
440	16.00	0.00	1	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	0	0
450	16.00	0.00	1	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	0	0

Table F-6.--Continued.

```
**************************************************************
* THIS KEY INCLUDES DATA GENERATED ARTIFICIALLY USING LINEAR  *
* INTERPOLATION TO ASSIGN AGE DISTRIBUTIONS TO LENGTH CLASSES *
* NOT REPRESENTED BY REAL DATA.  THE USE OF THIS METHOD MUST  *
* BE CONSIDERED WHEN ANALYZING THE RESULTS OF THIS PROGRAM.   *
*                                                             *
* LENGTH CLASSES WHICH HAVE BEEN GENERATED USING INTERPOLATION*
* ARE MARKED WITH AN ASTERISK (*).                            *
**************************************************************
```

1978 BERING SEA SURVEY.

SPECIES 10285 PLEURONECTES QUADRITUBERCULATUS
ALASKA PLAICE

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*
* 460	17.50	0.00	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	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
470	19.00	0.00	1	0	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
* 480	17.33	0.00	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	0.0	0.0	.3333	0.0	0.0	0.0	0.0	.6667	0.0	0.0	0.0	0.0	0.0	0.0	0.0
500	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
TOTAL	10.09	2.45	150.5	0.0	0.0	0.0	0.0	0.0	3.5	4.0	9.5	17.0	28.5	33.0	22.0	15.0	7.0	4.333	0.0	3.5	1.0	0.0	2.167	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table F-7.--Age-length key for Greenland turbot.

```
**************************************************************
* THIS KEY INCLUDES DATA GENERATED ARTIFICIALLY USING LINEAR  *
* INTERPOLATION TO ASSIGN AGE DISTRIBUTIONS TO LENGTH CLASSES *
* NOT REPRESENTED BY REAL DATA.  THE USE OF THIS METHOD MUST  *
* BE CONSIDERED WHEN ANALYZING THE RESULTS OF THIS PROGRAM.   *
*                                                             *
* LENGTH CLASSES WHICH HAVE BEEN GENERATED USING INTERPOLATION*
* ARE MARKED WITH AN ASTERISK (*).                            *
**************************************************************
```

1978 BERING SEA SURVEY,

SPECIES 10115 REINHARDTIUS HIPPOGLOSSOIDES
GREENLAND TURBOT

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	0.00	0.00	2	2	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
110	1.00	0.00	6	0	6	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	10	0	10	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	10	0	10	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	12	0	12	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	1.00	0.00	12	0	12	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
160	1.00	0.00	17	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	0	0
170	1.00	0.00	13	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	0
180	1.11	0.33	9	0	8	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	1.44	0.53	9	0	5	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
200	1.60	0.52	10	0	4	6	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	1.58	0.51	12	0	5	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
220	1.60	0.52	10	0	4	6	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	1.70	0.48	10	0	3	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
240	1.73	0.47	11	0	3	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
250	1.80	0.41	15	0	3	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
260	1.87	0.35	15	0	2	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
270	2.06	0.25	16	0	0	15	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
280	2.07	0.27	14	0	0	13	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
290	2.00	0.00	19	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300	2.00	0.00	15	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	2.00	0.00	16	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	0
320	2.25	0.45	16	0	0	12	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
330	2.50	0.67	12	0	0	7	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
340	3.00	0.00	13	0	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
350	2.88	0.34	16	0	0	2	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
360	3.00	0.00	10	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
370	3.06	0.25	16	0	0	0	15	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
380	3.00	0.00	14	0	0	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
390	3.00	0.00	11	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
400	3.45	0.69	11	0	0	0	7	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
410	3.33	0.71	9	0	0	0	7	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
420	3.90	0.99	10	0	0	0	4	4	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table F-7.--Continued.

```
**************************************************************
* THIS KEY INCLUDES DATA GENERATED ARTIFICIALLY USING LINEAR  *
* INTERPOLATION TO ASSIGN AGE DISTRIBUTIONS TO LENGTH CLASSES *
* NOT REPRESENTED BY REAL DATA.  THE USE OF THIS METHOD MUST  *
* BE CONSIDERED WHEN ANALYZING THE RESULTS OF THIS PROGRAM.   *
*                                                             *
* LENGTH CLASSES WHICH HAVE BEEN GENERATED USING INTERPOLATION*
* ARE MARKED WITH AN ASTERISK (*).                            *
**************************************************************
```

1978 BERING SEA SURVEY,

SPECIES 10115 REINHARDTIUS HIPPOGLOSSOIDES
GREENLAND TURBOT

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	4.00	0.00	6	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
440	4.22	0.44	9	0	0	0	0	7	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
450	4.40	0.55	5	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* 460	4.50	0.56	5.0	0.0	0.0	0.0	0.0	2.5	2.5	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
470	4.60	0.55	5	0	0	0	0	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
480	5.00	0.00	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
490	4.38	0.74	8	0	0	0	1	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
500	4.00	0.00	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
510	5.00	0.00	1	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	0	0
520	5.00	0.00	1	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	0	0
530	4.67	0.58	3	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
540	5.50	0.71	2	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
550	6.00	0.00	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
560	6.00	0.00	1	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	0
590	8.00	0.00	1	0	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
* 600	8.50	1.73	1.3333	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	.3333	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
620	9.00	1.41	2	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
630	9.67	0.58	3	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
640	8.00	0.00	1	0	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
650	9.00	2.83	2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
660	3.00	2.83	2	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
680	10.00	0.00	1	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	0
690	9.67	0.58	3	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
700	17.50	0.71	2	0	0	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
720	13.00	0.00	1	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	0
730	14.00	1.41	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
740	12.00	0.00	1	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	0	0

Table F-7 .--Continued.

```
*****************************************************************
* THIS KEY INCLUDES DATA GENERATED ARTIFICIALLY USING LINEAR    *
* INTERPOLATION TO ASSIGN AGE DISTRIBUTIONS TO LENGTH CLASSES  *
* NOT REPRESENTED BY REAL DATA.  THE USE OF THIS METHOD MUST   *
* BE CONSIDERED WHEN ANALYZING THE RESULTS OF THIS PROGRAM.    *
*                                                               *
* LENGTH CLASSES WHICH HAVE BEEN GENERATED USING INTERPOLATION*
* ARE MARKED WITH AN ASTERISK (*).                              *
*****************************************************************
```

1978 BERING SEA SURVEY,

SPECIES 10115 REINHARDTIUS HIPPOGLOSSOIDES
GREENLAND TURBOT

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+
750	15.67	2.52	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0
760	13.00	0.00	1	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	0
770	15.75	1.50	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0
780	15.00	0.00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
800	16.67	2.52	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0
810	16.50	2.12	2	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	0	0
820	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
830	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
840	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
850	15.50	2.12	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0
870	16.00	0.00	1	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	0	0
900	20.00	0.00	1	0	0	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
TOTAL	3.30	3.50	499.33	2.0	119.0	163.0	106.0	36.5	23.5	6.0	1.0	4.0	2.0	7.333	1.0	1.0	4.0	3.0	6.0	2.0	5.0	5.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0

Table F-8.--Age-length key for arrowtooth flounder.

```
*************************************************************
* THIS KEY INCLUDES DATA GENERATED ARTIFICIALLY USING LINEAR  *
* INTERPOLATION TO ASSIGN AGE DISTRIBUTIONS TO LENGTH CLASSES *
* NOT REPRESENTED BY REAL DATA.  THE USE OF THIS METHOD MUST  *
* BE CONSIDERED WHEN ANALYZING THE RESULTS OF THIS PROGRAM.   *
*                                                             *
* LENGTH CLASSES WHICH HAVE BEEN GENERATED USING INTERPOLATION*
* ARE MARKED WITH AN ASTERISK (*).                            *
*************************************************************
```

1978 BERING SEA SURVEY.

SPECIES 10110 ATHERESTHES STOMIAS
ARROWTOOTH FLOUNDER

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	0.00	0.00	2	2	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
* 80	0.00	0.00	4.5	4.5	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	0.0	0.0	0.0	0.0
90	0.00	0.00	7	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	0	0
100	0.00	0.00	9	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	0
110	0.38	0.52	8	5	3	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	10	0	10	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	1.13	0.35	8	0	7	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
140	1.33	0.58	3	0	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	0
150	1.00	0.00	2	0	2	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
160	2.00	0.00	3	0	0	3	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	2.00	0.00	3	0	0	3	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	2.00	0.00	7	0	0	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
190	2.00	0.00	5	0	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
200	2.22	0.44	9	0	0	7	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
210	2.00	0.00	10	0	0	10	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	9	0	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
230	2.08	0.29	12	0	0	11	1	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	10	0	0	10	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	2.27	0.47	11	0	0	8	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
260	2.50	0.52	14	0	0	7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
270	2.83	0.39	12	0	0	2	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
280	3.31	0.63	13	0	0	0	10	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
290	3.12	0.33	17	0	0	0	15	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
300	3.36	0.63	14	0	0	0	10	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
310	3.13	0.34	16	0	0	0	14	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
320	3.29	0.49	7	0	0	0	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
330	3.67	0.58	3	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
340	3.50	0.58	4	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
350	4.50	0.58	4	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
360	5.00	0.00	3	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table F-8.--Continued.

```
*****************************************************************
* THIS KEY INCLUDES DATA GENERATED ARTIFICIALLY USING LINEAR    *
* INTERPOLATION TO ASSIGN AGE DISTRIBUTIONS TO LENGTH CLASSES   *
* NOT REPRESENTED BY REAL DATA.  THE USE OF THIS METHOD MUST    *
* BE CONSIDERED WHEN ANALYZING THE RESULTS OF THIS PROGRAM.     *
*                                                               *
* LENGTH CLASSES WHICH HAVE BEEN GENERATED USING INTERPOLATION  *
* ARE MARKED WITH AN ASTERISK (*).                              *
*****************************************************************
```

1978 BERING SEA SURVEY,

SPECIES 10110 ATHERESTHES STOMIAS
ARROWTOOTH FLOUNDER

	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+
	370	5.00	0.82	7	0	0	0	0	2	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	380	5.00	0.00	1	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	0	0
	390	6.00	0.00	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	400	5.33	0.58	3	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	410	5.60	0.55	5	0	0	0	0	0	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	420	6.33	1.15	3	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	430	6.00	0.82	4	0	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	440	6.00	0.00	1	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	0
*	450	6.50	0.00	1.0	0.0	0.0	0.0	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
	460	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
	TOTAL	2.59	1.56	267.5	27.5	24.0	84.0	80.0	19.0	17.0	11.5	4.5	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