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### **The 1980 Pacific West Coast Bottom Trawl Survey of Groundfish Resources: Estimates of Distribution, Abundance, Length and Age Composition**

by  
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THE 1980 PACIFIC WEST COAST BOTTOM TRAWL SURVEY  
OF GROUND FISH RESOURCES: ESTIMATES OF DISTRIBUTION,  
ABUNDANCE, LENGTH AND AGE COMPOSITION

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## ABSTRACT

In 1980, the Northwest and Alaska Fisheries Center completed the second in a series of bottom trawl surveys to assess Pacific whiting (Merluccius productus) and rockfish (Sebastes spp.) resources off Washington, Oregon, and California.

The survey encompassed the geographic/bathymetric region from Monterey Bay, California to the northern end of Vancouver Island, British Columbia , (lat. 36°48'N - 50°00'N) between the depths of 55 and 366 m (30 and 200 fathoms). There were 611 bottom trawl hauls attempted of which 581 were successfully completed. This report describes the methods used and summarizes the data collected during the survey. Included are summaries of temperature (surface and bottom) data, catch composition, distribution and relative abundance of the major groundfish species, and rankings of fish species by International North Pacific Fisheries Commission (INPFC) statistical areas and depth strata by catch per unit effort; Estimates of biomass, population numbers, and length compositions for the commercially important species are presented by INPFC area. Length distributions are presented for more important species and age compositions for Pacific whiting, chilipepper (Sebastes goodei), Pacific ocean perch (S. alutus), yellowtail (S. flavidus), canary (S. pinniger), and splitnose (S. diploproa) rockfishes are also provided.

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## INTRODUCTION

surveys was initiated in the coastal waters off California, Oregon, and Washington to determine the distribution, abundance, and biological characteristics of Pacific whiting (Merluccius productus), shelf rockfish (Sebastes spp.), and other groundfish species (Gunderson and Sample 1980). Similar surveys were conducted in 1980 and 1983 as part of a long-term program to monitor population changes and trends which may serve as a basis for future regulatory action. The results of the 1983 bottom trawl survey were presented by Weinberg et al. (1984) in a data report.

This data report summarizes bottom trawl sampling data from the 1980 survey which, with few exceptions, followed the design of the 1983 survey (Weinberg et al. 1984). Primary survey objectives were to determine the distribution, abundance, and biological characteristics of Pacific whiting, yellowtail rockfish (Sebastes flavidus), and canary rockfish (S. pinniger) resources in the California to British Columbia region.

In this report, discussion is focused on the three species of primary concern, but data summaries for other commercially important groundfish species are also presented. Summaries of catch, relative abundance and distribution, biomass, and population estimates as well as length distributions for the more important species can be found herein. Estimates of population age composition are also provided for Pacific whiting, yellowtail rockfish, canary rockfish, splitnose rockfish (S. diploproa), Pacific ocean perch (S. alutus), and chilipepper (S. goodei). Detailed station and catch data are also provided (Tables 52-53). Detailed length composition, biomass, and population estimates are not included but are available as routine computer outputs and may be obtained upon request.

## SURVEY METHODS

## Survey Period and Area

The 1980 west coast groundfish survey took place between 12 July and 28 September 1980. That time frame was selected because it coincided with the 1977 survey period and provided an optimum time for determining abundance for Pacific whiting which are thought to be well established in summer feeding areas during this period (Dark et al. 1983). The survey encompassed an area from Monterey Bay, California to northern Vancouver Island, British Columbia (lat.  $36^{\circ}48'N$  -  $50^{\circ}00'N$ ) between the depths of 55 and 366 m (30 and 200 fathoms). This area was selected for study because it included the range in which Pacific whiting normally occur in commercial concentrations (Dark et al. 1980) and contained the rockfish areas of major concern.

## Vessels and Fishing Gear

Two stern ramp trawlers, the Pat San Marie and MaryLou, were chartered for 80 days each to conduct the bottom trawl work. The Pat San Marie is 31 m (101 ft) overall and is powered by an 865 horsepower main engine. The Mary

Lou is 26 m (86 ft) overall with 700 continuous horsepower from twin main engines. Both vessels were equipped with hydraulically powered split trawl winches, lifting winches on main booms, and a picking boom. The Pat San Marie had a single net reel situated over the stern ramp and dual net reels just aft of the house. The Mary Lou had dual net reels mounted over the stern ramp. Both vessels were electronically equipped with loran C receivers, dual radars, dual echo sounders, sector scanning sonars, net sounders, automatic pilots, and VHF/single-sideband radios. The Pat San Marie was also equipped with a loran-to-geodetic position converter.



The bottom trawl used exclusively during this survey was the standard Noreastern high-opening bottom trawl equipped with 35.6 cm and 45.7 cm (14 and 18 inch) roller gear on the footrope (Fig. 54) In order to maintain inter-annual comparability, trawl specifications, trawling procedures, temperature data collection, and on-deck sampling procedures are held as constant as possible from year to year. Standard sampling procedures utilized by the Resource Assessment and Conservation Engineering (RACE) Division are those presented by Gunderson and Sample (1980). The methods of collecting and analyzing the biological data are described by Weinberg et al. (1984).

#### Trawl Station Allocation

In an attempt to reduce the variance in mean catch per unit effort (CPUE) values, sampling intensity was greatest in areas known to have high whiting and shelf rockfish abundance. Sampling intensity was controlled by the spacing of tracklines along which trawl stations were positioned. Tracklines ran roughly perpendicular to the 55 m (30 fathoms) depth contour; In "normal" density whiting areas (lat. 36°38'N - 42°00'N; 45°00'N - 50°00'N) tracklines were spaced every 22.2 km (12 nmi) along the coast between 55 and 366 m (30 and 200 fathoms). In the "high" density whiting area (lat. 42°00'N - 45°00'N), tracklines were spaced every 11.1 km (6 nmi). In rockfish study areas (lat. 42°50'N - 44°18'N, 46°16'N - 47°20'N), the tracklines were spaced every 5.6 km (3 nmi). The rockfish study tracklines were drawn between the 55 and 220 m(30 and 120 fathoms) isobaths to include most of the species bathymetric range, but those tracklines within the rockfish study area which corresponded to the underlying whiting sampling design were extended seaward to 366 m (200 fathoms). Rockfish study areas were stratified by depth at

55-183 m and 184-228 m (30-100 fathoms and 101-120 fathoms) because canary and yellowtail rockfish densities are usually much reduced in waters deeper than 183 m. Whiting study areas were stratified at 55-183 m and 184-366 m (311-100 fathoms and 101-200 fathoms) for the same reason. Strata boundaries and areas (square nautical miles) are presented in Table 1 and the station pattern is shown in Figure 1.

The number of trawl stations on a trackline within a depth stratum was proportional to the width of the depth stratum at that point. Station allocation was determined as follows:

<u>Linear distance along trackline within depth stratum (km)</u>	<u>No. of stations on trackline section</u>
< 9.25	1
9.26 - 18.50	2
18.51 - 27.75	
etc.	etc.

The placement of stations on a trackline segment was done at random but with the stipulation that no two stations could be assigned within 3.7 km (2 nmi) of one another.

## RESULTS

### Haul, Catch, and Biological Data

There were 581 trawl hauls successfully completed during this survey. Included were 505 standard survey stations, 22 widow rockfish stations, 43 replicated rockfish stations, and 11 stations selected by the skipper of the Pat San Marie in an attempt to locate concentrations of shelf rockfish. The standard survey stations used in the present analyses are presented by depth stratum and International North Pacific Fisheries Commission (INPFC) statistical area (Fig. 1) in Table 2. The locations of successfully sampled trawl stations are shown by vessel in Figure 2.

A total of 107 fish species belonging to 38 families were identified in the samples. Table 3 lists these species in taxonomic order as presented by Robins (1980). Biological data were collected from target species and other dominant components of the catches. Tables 4-7 summarize the samples of lengths, age structures, maturity data, and stomachs collected by INPFC area and depth stratum. Stomach samples were analyzed in a separate study of trophodynamics. The results of these analyses are presented in papers by Livingston (1983) and Brodeur and Pearcy (1984).

#### Temperature Data

A total of 363 sea surface temperatures were collected from throughout the survey area. Surface temperatures ranged from a high of 16.1°C in the southern Monterey area to a low of 8.8°C within the central Columbia area. Figure 3 displays the surface temperature distribution throughout the survey region. Bottom temperatures were recorded at 67 sites and ranged from a high of 9.2°C to a low of 6.0°C, depending largely on depth. Figure 4 shows the geographic distribution of bottom temperatures throughout the survey area.

#### Relative Population Densities

In Tables 8-13, the 20 most predominant fish species observed are ranked by mean CPUE (kg/Ian) as an indication of relative abundance and presented by INPFC area and depth stratum. The target species for the survey were ranked among the top 20. Pacific whiting was ranked the top species overall with a mean CPUE value which accounted for 19% of the total average groundfish CPUE. The highest average CPUE for Pacific whiting was in the INPFC Monterey area where it accounted for 55% of the average groundfish CPUE, and the lowest CPUE was in the INPFC Vancouver area where it comprised 7% of the average groundfish CPUE. Yellowtail rockfish ranked ninth overall with a mean CPUE

value which accounted for 3% of the average groundfish CPUE for the survey area. The highest average CPUE for yellowtail was in the INPFC Vancouver area (U.S. portion) and comprised 5% of the total groundfish CPUE. The lowest average density was in the Monterey area and was too low to be included among the 20 highest CPUE values. Canary rockfish ranked 12th overall with the greatest density occurring in the Vancouver area where mean CPUE accounted for 4% of the average groundfish CPUE. The lowest mean density was in the INPFC Monterey area where the average CPUE was too low, to be ranked among the top 20 values.

After Pacific whiting, sablefish (Anoplopoma fimbria), Pacific ocean perch, spiny dogfish (Squalus acanthias), splitnose rockfish, and Dover sole (Microstomus pacificus) had the highest relative density overall. The mean CPUE for these top six species comprised 59% of the mean CPUE for all groundfish. Although Dover sole densities ranked relatively high throughout the entire survey area, it should be noted that the CPUE values for flatfish are likely to be conservative because the trawl used is not particularly well suited for the efficient capture of flatfish.

As one would expect, the relative abundance varied among depth strata. Pacific whiting was the most abundant species in the shallow stratum (55-183 m) comprising 32% of the shallow stratum CPUE, but in the deep stratum (184-366 m) Pacific whiting was fifth in relative abundance, accounting for 6% of the CPUE. Yellowtail and canary rockfishes ranked fourth and seventh, respectively, in relative abundance in the shallow stratum. The CPUE for both species was too low to be included in the 20 highest values for the deep stratum. Sablefish ranked third in relative abundance for both the shallow and deep strata. Pacific ocean perch and splitnose rockfish ranked first and second in relative abundance for the deep stratum, but in the shallow stratum CPUE values did not occur among the top 20.

Latitudinal variability in relative abundance was also observed. The five most abundant species in, the Monterey area were Pacific whiting, sablefish, stripetail rockfish (*S. saxicola*), chilipepper, and bank rockfish (*S. rufus*); in the Eureka area--splitnose rockfish, Pacific whiting, sablefish, Dover sole, and darkblotched rockfish (*S. Crameri*); in the Columbia area--sablefish, Pacific ocean perch, Pacific whiting, splitnose rockfish, and Dover sole; and spiny-dogfish, Pacific whiting, Pacific ocean perch, arrowtooth flounder (*Atheresthes stomias*), and Dover sole in the Vancouver area.

Figures 5-26 present the geographic distributions of commercially important groundfish based on categorized CPUE. Species CPUEs for each station were sorted in decreasing order and categorized as the top 10%, middle 30%, and lowest 60% of the values. In-some instances, a fifth category was used, to highlight stations where-outstanding' catches occurred.. The CPUE levels (assumed to be-proportional to abundance) are represented here by (polka dot) symbol size. It should be noted that high sampling density in some areas may create the illusion of high species abundance when, in fact, CPUEs were only low or moderate. Variations in sampling intensity should be considered when interpreting Figures 5-26.

#### Biomass and Population Estimates

Tables 14-25 present biomass estimates, 90% confidence intervals, estimations of population numbers, mean lengths (cm), and mean weights (kg) by species, area, and depth. Biomass and population estimates are likely to be conservative because only a portion of the stock may be available to the

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<sup>1</sup> Outstanding catches were considered to be those having a CPUE value 2 x (or greater) the highest CPUE value range in Figures 5-26.

bottom trawl and some escapement from the trawl may occur. For lack of information on species-by-species catchability abundance calculations are based on the assumption that all fish in front of the trawl are captured. The degree of conservative bias will vary among species. The depths and areas sampled and the characteristics of the sampling gear should be considered in evaluating the accuracy of abundance estimates on a species-by-species basis. The following discussion is aimed primarily at the survey target species in the interest of maintaining brevity in this report.

The biomass as derived from bottom trawl data for Pacific whiting was estimated at 188,299 metric tons (t) for the survey area<sup>2</sup>. The Monterey area accounted for 75% of the biomass; the Eureka area, 6%; the Columbia area, 11%; and the Vancouver area, 9% of which 6% occurred in the U.S. portion of the Vancouver area (47°30'N latitude--U.S./Canada border). The total estimated biomass for yellowtail rockfish was 19,588 t. The Monterey area accounted for 1% of the total biomass; the Eureka area, 3%; the Columbia area, 27%; and the Vancouver area, 69%. Yellowtail rockfish biomass within the U.S. portion of the Vancouver area comprised 37% of the biomass estimate for the entire Vancouver area. The total estimated biomass for canary rockfish was 14,465 t. The Monterey area accounted for 1% of the total biomass estimate; the Eureka area, 9%; the Columbia, 20%, and the Vancouver area, 70%. Twenty-six percent of the Vancouver area biomass was found in the portion lying in U.S. waters.

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<sup>2</sup> This estimate represents only 14% of the total estimated whiting biomass as another 1,344,436 t occurred in midwater and were accounted for by a hydroacoustic survey.

Pacific whiting (140,948 t), sablefish (16,181 t), and chilipepper (9,779 t) were the most abundant species in the Monterey area; Pacific whiting (11,338 t), sablefish (8,671 t), and canary rockfish (1,246 t) dominated in the Eureka area; Pacific whiting (19,888 t), sablefish (14,458 t), and lingcod (8,715 t) in the Columbia area; and Pacific whiting (16,155 t), yellowtail rockfish (13,585 t), and sablefish (11,268 t) in the Vancouver area. In the U.S. portion of the Vancouver area, Pacific whiting (11,770 t), yellowtail rockfish (4,976 t), and arrowtooth flounder (3,998 t) were prevalent.

#### Size Compositions

Length distributions for the species of major interest are presented by INPFC area and depth stratum in Figures 27-47. The Pacific whiting distribution was bimodal with the left mode comprised of fish 31-41 cm long. This mode is indicative of the strong 1977 year class. The mode on the right represents those fish <45 cm long and is dominated by the 1973 year class. The overall mean length for Pacific whiting was 42.0 cm. Whiting typically exhibit a latitudinal trend-in size, whereby, the average length increases from south to north. Mean lengths for Pacific whiting in the Monterey, Eureka, Columbia, and Vancouver areas were 40.5 cm, 45.3 cm, 51.2 cm, and 55.0 cm, respectively. There seemed to be little difference in mean lengths or length distribution between depth strata within INPFC areas.

The size composition for yellowtail rockfish was unimodal with most fish falling between 35 and 53 cm. Fish measuring 46 cm were the most frequent. This mode represents several year classes within the population, but centers around the 1969 year class. A somewhat smaller mode occurred at 34-40 cm in the INPFC Columbia area, suggesting the recruitment of younger fish. Again, there appeared to be little variability in mean lengths or length

distributions between depth strata within and between INPFC areas. The mean length for yellowtail rockfish for the entire survey area was 44.8 cm.

The overall size composition for canary rockfish was trimodal with modes occurring between 39-45 cm, 46-50 cm; and 51-57 cm. The smaller mode is centered at 45 cm which corresponds to the mean length of the 1971 year class. The middle mode occurs at about 48 cm and represents to a large extent the 1969 year class. The largest mode is at 49 cm and is indicative of the 1968 year class. Some very small (15-38 cm) fish were present in the Columbia shallow stratum and a trace appeared in the Vancouver shallow stratum. The mean length for canary rockfish throughout the survey area was 49.3 cm. Mean lengths increased latitudinally with 46.8 cm, 48.3 cm, and 49.9 cm for the Eureka, Columbia, and Vancouver areas, respectively.

#### Age Composition

Age structures were collected from a number of commercially important species and read by the NWAFC's age reading unit. Tables 26-51 present estimated age compositions for Pacific whiting and some shelf rockfish species by INPFC area and for the total survey area. Figures 48-53 present the age composition of each species by sex, INPFC area, and depth stratum.

Ages of Pacific whiting ranged from 1 to 22 years of age. The 3-year-olds (1977 year class) dominated the population age composition. The 1977 year class was strongest in the INPFC Monterey and Eureka areas where it accounted for 77% and 44% of the population estimates, respectively. The 1- and 2-year-old fish (1978-79 year classes) accounted for less than 1% of the total population estimate, but the bulk of those year classes would be expected to be present in the area south of the region surveyed. Fish >5 years of age became more important in the northern portion of the survey area. Mean ages



for the INPFC Monterey, Eureka, Columbia, and Vancouver areas were 3.9 years, 5.4 years, 8.4 years, and 9.7 years, respectively. The mean age for the entire Pacific whiting population was 4.6 years. There was little difference in mean ages between depth strata within INPFC areas.

Yellowtail rockfish ages ranged from 3 to 38 years and the dominant age varied by INPFC areas. The 1971 year class was prominent in the Vancouver area and comprised 12% of the population estimate. The 1970 year class accounted for 28% of the estimate in the Eureka area, and the 1966 year class represented 11% of the population estimate in the Columbia area. The 1960 year class accounted for 9% of the population estimate for yellowtail in the U.S. portion of the Vancouver area. Overall, the 1969 year class was the most prominent, accounting for 11% of the total population estimate and most prevalent in the Columbia deep stratum. The mean age for the entire yellowtail population was 12.9 years of age. Mean ages tended to increase from south to north and were 10.4 years, 13.2 years, and 13.6 years for the Eureka, Columbia, and Vancouver areas; Differences in mean ages between depth strata were minimal.

The age composition for canary rockfish included fish 2-25 years of age, and was predominated by three age groups. The 1968 year class was the most prevalent and strongest in the Columbia area, accounting for 16% of the population estimate. The 1967 year class represented 19% of the estimate in the Vancouver area and the 1966 year class comprised 21% of the population estimate in the Eureka area. All three year classes were present throughout the survey area and represented 43% of the total population estimate. Fish less than 7 years old were present in very small numbers and only in the

Columbia and Vancouver areas. Mean ages increased from south to north with ages of 11.7 years, 12.2 years, and 13.8 years in the Eureka, Columbia, and Vancouver areas, respectively. The mean age for the entire canary population was 12.9 years of age.

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Table 1.--The 1980 sampling strata boundaries and areas (Square nautical miles).

Latitude bounds	Stratum							
	55-183 m		184-220 m		221-366 m		184-366 m	
	No.	Area	No.	Area	No.	Area	No.	Area
36°48'-40°30'	1	2,490.82	21	133.12	41	340.84	61	473.96
40°30'-42°00'	2	686.06	22	48.17	42	116.54	62	164.71
42°00'-42°50'	3	400.95	23	28.86	43	82.56	63	111.42
42°50'-43°00'	4	105.66	24	12.62	44	25.03	64	37.65
43°00'-44°18'	5	1,355.79	25	91.56	45	235.93	65	327.49
44°18'-45°00'	6	771.85	26	45.20	46	238.48	66	283.68
45°00'-46°10'	7	1,193.31	27	146.73	47	270.93	67	417.66
46°10'-47°20'	8	1,141.72	28	63.89	48	79.46	68	143.35
47°20'-47°30'	9	97.57	29	4.19	49	5.05	69	9.24
47°30'-U.S./Can. border	10	1,031.27	30	129.05	50	221.11	70	350.20
U.S./Can. border-49°15'	11	1,916.18	31	94.65	51	146.53	71	241.20

Table 2.--Number of successful hauls by International North Pacific Fisheries Commission area, and depth stratum.

	Monterey	Eureka	Columbia	Vancouver
Shallow (55-183 m)	56	25	248	65
Deep (184-366 m)	20	13	58	20

Table 3.--Fish species caught during the 1980 west coast groundfish survey.

Family and species <sup>a</sup>	Common name <sup>a</sup>
Myxinidae	
<u>Eptatretus deani</u>	Black hagfish
<u>Eptatretus stouti</u>	Pacific hagfish
Petromyzontidae	
<u>Lampetra tridentata</u>	Pacific lamprey
Scyliorhinidae	
<u>Apristurus brunneus</u>	Brown cat shark
Carcharhinidae	
<u>Galeorhinus zyopterus</u>	Soupfin shark
Squalidae	
<u>Squalus acanthias</u>	Spiny dogfish
Torpedinidae	
<u>Torpedo californica</u>	Pacific electric ray
Rajidae	
<u>Raja binoculata</u>	Big skate
<u>Raja inornata</u>	California skate
<u>Raja kincaidi</u>	Sandpaper skate
<u>Raja rhina</u>	Longnose skate
<u>Raja stellulata</u>	Starry skate
Chimaeridae	
<u>Hydrolagus colliei</u>	Spotted ratfish
Clupeidae	
<u>Alosa sapidissima</u>	American shad
<u>Clupea harengus pallasii</u>	Pacific herring
Engraulidae	
<u>Engraulis mordax</u>	Northern anchovy
Salmonidae	
<u>Oncorhynchus keta</u>	Chum salmon
<u>Oncorhynchus kisutch</u>	Coho salmon
<u>Oncorhynchus tshawytscha</u>	Chinook salmon
Sternoptychidae	
Sternoptychidae unidentified	Hatchetfish unidentified

Table 3.--Continued.

Family and species <sup>a</sup>	Common name <sup>a</sup>
Osmeridae	
Osmeridae unidentified	Smelt unidentified
<u>Allosmerus elongatus</u>	Whitebait smelt
<u>Spirinchus starksi</u>	Night smelt
<u>Thaleichthys pacificus</u>	Eulachon
Melanostomiidae	
<u>Tactostoma macropus</u>	Longfin dragonfish
Chauliodontidae	
Chauliodontidae spp.	Viperfish unidentified
Myctophidae	
Myctophidae unidentified	Lanternfish unidentified
<u>Diaphus theta</u>	California headlightfish
<u>Stenobrachius leucopsarus</u>	Northern lampfish
Batrachoididae	
<u>Porichthys notatus</u>	Plainfin midshipman
Gadidae	
<u>Gadus macrocephalus</u>	Pacific cod
<u>Microgadus proximus</u>	Pacific tomcod
<u>Theragra chalcogramma</u>	Walleye pollock
Merlucciidae <sup>b</sup>	
<u>Merluccius productus</u>	Pacific whiting
Ophidiidae	
<u>Chilara taylori</u>	Spotted cusk-eel
Zoarcidae	
Zoarcidae unidentified	Eelpout unidentified
<u>Aprodon cortezianus</u> <sup>b</sup>	Bigfin eelpout
<u>Lycodapus fierasfer</u>	Blackmouth eelpout
<u>Lycodes diapterus</u>	Black eelpout
<u>Lycodopsis pacifica</u> <sup>b</sup>	Blackbelly eelpout
Scomberesocidae	
<u>Cololabis saira</u>	Pacific saury
Carangidae	
<u>Trachurus symmetricus</u>	Jack mackerel
Sciaenidae	
<u>Genyonemus lineatus</u>	White croaker

Table 3.--Continued.

Family and species <sup>a</sup>	Common. name <sup>a</sup>
Embiotocidae	
<u>Zalembius rosaceus</u>	Pink seaperch
Cryptacanthodidae	
<u>Delolepis gigantea</u>	Giant wrymouth
Zaproridae	
<u>Zaprora silenus</u>	Prowfish
Scombridae	
Scombridae unidentified	Mackerel unidentified
Icosteidae	
<u>Icosteus aenigmaticus</u>	Ragfish
Scorpaenidae	
Scorpaenidae unidentified	Rockfish unidentified
<u>Sebastes aleutianus</u>	Rougheye rockfish
<u>Sebastes alutus</u>	Pacific ocean perch
<u>Sebastes auriculatus</u>	Brown rockfish
<u>Sebastes aurora</u>	Aurora rockfish
<u>Sebastes babcocki</u>	Redbanded rockfish
<u>Sebastes borealis</u>	Shortraker rockfish
<u>Sebastes brevispinis</u>	Silvergray rockfish
<u>Sebastes caurinus</u>	Copper rockfish
<u>Sebastes chlorostictus</u>	Greenspotted rockfish
<u>Sebastes cramerii</u>	Darkblotched rockfish
<u>Sebastes diploproa</u>	Splitnose rockfish
<u>Sebastes elongatus</u>	Greenstriped rockfish
<u>Sebastes entomelas</u>	Widow rockfish
<u>Sebastes flavidus</u>	Yellowtail rockfish
<u>Sebastes goodei</u>	Chilipepper
<u>Sebastes helvomaculatus</u>	Rosethorn rockfish
<u>Sebastes jordani</u>	Shortbelly rockfish
<u>Sebastes levis</u>	Cowcod
<u>Sebastes maliger</u>	Quillback rockfish
<u>Sebastes melanops</u>	Black rockfish
<u>Sebastes melanostomus</u>	Blackgill rockfish
<u>Sebastes nigrocinctus</u>	Tiger rockfish
<u>Sebastes ovalis</u>	Speckled rockfish
<u>Sebastes paucispinis</u>	Bocaccio
<u>Sebastes pinniger</u>	Canary rockfish
<u>Sebastes proriger</u>	Redstripe rockfish
<u>Sebastes reedi</u>	Yellowmouth rockfish
<u>Sebastes ruberrimus</u>	Yelloweye rockfish

Table 3.--Continued.

Family and species <sup>a</sup>	Common name <sup>a</sup>
<u>Sebastes rufus</u>	Bank rockfish
<u>Sebastes saxicola</u>	Stripetail rockfish
<u>Sebastes wilsoni</u>	Pygmy rockfish
<u>Sebastes zacentrus</u>	Sharpchin rockfish
<u>Sebastolobus alascanus</u>	Shortspine thornyhead
Anoplopomatidae	
<u>Anoplopoma fimbria</u>	Sablefish
Hexagrammidae	
Hexagrammidae unidentified	Greenling unidentified
<u>Hexagrammos decagrammus</u>	Kelp greenling
<u>Ophiodon elongatus</u>	Lingcod
<u>Zaniolepis latipinnis</u>	Longspine combfish
Cottidae	
<u>Icelinus filamentosus</u>	Threadfin sculpin
<u>Icelinus tenuis</u>	Spotfin sculpin
<u>Leptocottus armatus</u>	Pacific staghorn sculpin
Agonidae	
Agonidae unidentified	Poacher unidentified
Cyclopteridae	
<u>Careproctus melanurus</u>	Blacktail snailfish
Bothidae	
<u>Citharichthys sordidus</u>	Pacific sanddab
Pleuronectidae	
<u>Atheresthes stomias</u>	Arrowtooth flounder
<u>Eopsetta jordani</u>	Petrale sole
<u>Glyptocephalus zachirus</u>	Rex sole
<u>Hippoglossoides elassodon</u>	Flathead sole
<u>Hippoglossus stenolepis</u>	Pacific halibut
<u>Isopsetta isolepis</u>	Butter sole
<u>Lepidopsetta bilineata</u>	Rock sole
<u>Lyopsetta exilis</u>	Slender sole
<u>Microstomus pacificus</u>	Dover sole
<u>Parophrys vetulus</u>	English sole
<u>Platichthys stellatus</u>	Starry flounder
<u>Pleuronichthys decurrens</u>	Curfin sole
<u>Psettichthys melanostictus</u>	Sand sole
Molidae	
<u>Mola mola</u>	Ocean sunfish

<sup>a</sup> Nomenclature from Robins (1980) unless otherwise noted.<sup>b</sup> Nomenclature from Eschmeyer and Herald (1983).

Table 4.--Number of length measurements taken by species, International North Pacific Fisheries Commission area, and depth stratum.

Species	Monterey		Eureka		Columbia		Vancouver	
	55-183 m	184-366 m	55-183 m	184-366 m	55-183 m	184-366 m	55-183 m	184-366 m
Pacific whiting	4,744	1,138	946	336	6,495	648	977	248
Sablefish	457	--	211	--	890	414	243	--
Pacific ocean perch	--	--	--	41	27	1,609	84	1,566
Splitnose rockfish	--	440	--	322	48	1,079	--	157
Dover sole	81	272	--	--	743	219	63	318
Redstripe rockfish	--	--	--	--	871	25	263	550
Arrowtooth flounder	--	--	--	--	155	106	607	61
Yellowtail rockfish	28	--	100	--	1,544	68	500	--
Sharpchin rockfish	--	--	--	--	679	939	53	423
Canary rockfish	--	--	130	--	819	58	348	--
Stripetail rockfish	504	89	136	--	45	72	--	--
Darkblotched rockfish	--	--	--	96	210	443	--	--
Bocaccio	345	201	26	12	63	--	--	7
Rex sole	265	--	--	--	411	13	179	97
Silvergray rockfish	--	--	--	--	47	113	73	33
Chilipepper	581	697	67	--	--	--	--	--
Yellowmouth rockfish	--	--	--	--	--	163	--	--
Shortspine thornyhead	--	--	--	--	--	153	--	--
Bank rockfish	--	101	--	--	--	--	--	--
English sole	90	--	--	--	379	--	177	--
Petrale sole	--	--	--	--	16	--	--	--
Pacific cod	--	--	--	--	13	--	152	--
Redbanded rockfish	--	--	--	--	--	--	--	9
Walleye pollock	--	--	--	--	--	--	343	16
Widow rockfish	--	--	--	--	166	5	--	--
Shortbelly rockfish	--	194	--	--	299	--	--	--
Pacific sanddab	--	--	--	--	574	--	--	--
Greenstriped rockfish	--	--	--	--	94	--	--	--
Rougheye rockfish	--	--	--	--	187	--	--	231
Pacific halibut	--	--	--	--	--	--	11	8
Rock sole	--	--	--	--	--	--	50	--
Rosethorn rockfish	--	--	--	--	--	--	29	--

Table 5.--Number of age structure samples taken by species, International North Pacific Fisheries Commission area, and depth stratum.

Species	Monterey		Eureka		Columbia		Vancouver	
	55-183 m	184-366 m	55-183 m	184-366 m	55-183 m	184-366 m	55-183 m	184-366 m
Pacific whiting	1,101	490	289	102	1,784	314	348	120
Pacific ocean perch	--	--	--	--	--	283	88	214
Silvergray rockfish	--	--	--	--	27	64	--	--
Darkblotched rockfish	--	--	--	--	35	130	--	--
Splitnose rockfish	--	250	--	100	48	770	--	394
Widow rockfish	--	--	--	--	22	5	--	--
Yellowtail rockfish	--	--	87	--	872	--	305	--
Chilipepper	196	324	67	--	--	--	--	--
Shortbelly rockfish	200	--	--	--	--	--	--	--
Bocaccio	116	66	--	--	14	--	--	--
Canary rockfish	--	--	90	--	647	20	301	--

Table 6.--Number of maturity observations made by species and depth stratum within the International North Pacific Fisheries Commission Columbia area.

Species	Columbia	
	55-183 m	184-366 m
Pacific whiting	276	45
Pacific ocean perch	--	63
Darkblotched rockfish	--	93
Splitnose rockfish	--	34

Table 7.--Number of stomach samples collected by species, International North Pacific Fisheries Commission area, and depth stratum.

Species	Columbia		Vancouver	
	55-183 m	184-366 m	55-183 m	184-366 m
Pacific whiting	52	2	29	6
Pacific ocean perch	--	42	33	62
Splitnose rockfish	--	31	--	--
Widow rockfish	8	--	7	--
Yellowtail rockfish	98	--	88	6
Canary rockfish	55	--	6	--



Table 8.--DOMINANT fish species caught during the 1980 west coast groundfish survey, ranked in order of abundance (kilograms per kilometer trawled).

Total survey area shallow strata combined (55-183 m)				Total survey area deep strata combined (184-366 m)				Total survey area total area (55-366 m)			
Rank	Species	a CPUE	Cumulative %	Rank	Species	a CPUE	Cumulative %	Rank	Species	a CPUE	Cumulative %
1	Pacific whiting	39.91	32.5	1	Pacific ocean perch	18.96	17.9	1	Pacific whiting	21.10	18.6
2	Spiny dogfish	16.13	45.6	2	Splitnose rockfish	16.43	33.4	2	Sablefish	11.02	28.4
3	Sablefish	13.38	56.5	3	Sablefish	9.20	42.1	3	Pacific ocean perch	10.86	38.0
4	Yellowtail rockfish	7.48	62.6	4	Dover sole	7.14	48.9	4	Spiny dogfish	9.78	46.6
5	Lingcod	5.51	67.1	5	Pacific whiting	6.65	55.2	5	Splitnose rockfish	9.30	54.8
6	Arrowtooth flounder	4.66	70.9	6	Redstripe rockfish	5.57	60.4	6	Dover sole	5.24	59.5
7	Canary rockfish	4.59	74.7	7	Sharpchin rockfish	5.40	65.5	7	Redstripe rockfish	4.82	63.7
8	Redstripe rockfish	3.84	77.8	8	Spiny dogfish	4.90	70.1	8	Arrowtooth flounder	4.62	67.8
9	Pacific herring	3.14	80.3	9	Arrowtooth flounder	4.58	74.5	9	Yellowtail rockfish	3.67	71.0
10	Stripetail rockfish	2.97	82.8	10	Darkblotched rockfish	4.14	78.4	10	Lingcod	3.42	74.1
11	Dover sole	2.79	85.0	11	Stripetail rockfish	2.10	80.4	11	Sharpchin rockfish	3.34	77.0
12	Bocaccio	2.47	87.0	12	Yellowmouth rockfish	1.99	82.2	12	Canary rockfish	2.56	79.3
13	Silvergray rockfish	1.88	88.6	13	Lingcod	1.82	84.0	13	Darkblotched rockfish	2.50	81.5
14	English sole	1.87	90.1	14	Rex sole	1.73	85.6	14	Stripetail rockfish	2.48	83.7
15	Chilipepper	1.67	91.5	15	Bank rockfish	1.71	87.2	15	Bocaccio	1.75	85.2
16	Petrale sole	1.29	92.5	16	Spotted ratfish	1.67	88.9	16	Rex sole	1.43	86.5
17	Rex sole	1.03	93.3	17	Shortspine thornyhead	1.57	90.3	17	Silvergray rockfish	1.38	87.7
18	Pacific cod	0.94	94.1	18	Bocaccio	1.20	91.4	18	Pacific herring	1.37	88.9
19	Walleye pollock	0.68	94.7	19	Longnose skate	1.06	92.4	19	Chilipepper	1.25	90.0
20	Sharpchin rockfish	0.67	95.2	20	Silvergray rockfish	1.00	93.4	20	Spotted ratfish	1.13	91.0

a Total effort 1166.1 km  
Total CPUE for fish 122.77 kg/km

a Total effort 303.6 km  
Total CPUE for fish 105.85 kg/km

a Total effort 1472.1 km  
Total CPUE for fish 113.20 kg/km

Table 9.--Dominant fish species caught during the 1980 west coast groundfish survey, ranked in order of abundance (kilograms per kilometer trawled) in the International North Pacific Fisheries Commission Monterey area.

Monterey shallow stratum (55-183 m)				Monterey deep stratum (184-366 m)				Monterey total area (55-366 m)			
Rank	Species	a CPUE	Cumulative %	Rank	Species	a CPUE	Cumulative %	Rank	Species	a CPUE	Cumulative %
1	Pacific whiting	218.00	69.5	1	Bank rockfish	21.86	18.9	1	Pacific whiting	118.81	55.3
2	Sablefish	24.88	77.4	2	Pacific whiting	19.62	35.8	2	Sablefish	13.95	61.8
3	Stripetail rockfish	16.31	82.6	3	Chilipepper	12.10	46.3	3	Stripetail rockfish	13.87	68.3
4	Chilipepper	13.08	86.8	4	Stripetail rockfish	11.42	56.2	4	Chilipepper	12.59	74.1
5	Pacific herring	12.88	90.9	5	Dover sole	9.95	64.8	5	Bank rockfish	10.99	79.2
6	Spiny dogfish	10.19	94.1	6	Splitnose rockfish	9.50	73.0	6	Pacific herring	6.44	82.2
7	Bocaccio	4.65	95.6	7	Bocaccio	6.19	78.3	7	Dover sole	6.06	85.1
8	White croaker	2.51	96.4	8	Darkblotched rockfish	5.66	83.2	8	Bocaccio	5.42	87.6
9	Dover sole	2.16	97.1	9	Shortbelly rockfish	5.11	87.6	9	Spiny dogfish	5.37	90.1
10	Pacific sanddab	1.20	97.5	10	Sablefish	3.02	90.2	10	Splitnose rockfish	4.80	92.3
11	Sharpchin rockfish	1.00	97.8	11	Rex sole	2.45	92.4	11	Darkblotched rockfish	2.84	93.6
12	English sole	0.88	98.1	12	Redbanded rockfish	2.01	94.1	12	Shortbelly rockfish	2.77	94.9
13	Rex sole	0.83	98.3	13	Lingcod	1.73	95.6	13	Rex sole	1.64	95.7
14	Lingcod	0.79	98.6	14	Sharpchin rockfish	0.90	96.4	14	Lingcod	1.26	96.3
15	Shortbelly rockfish	0.43	98.7	15	Shortspine thornyhead	0.74	97.0	15	White croaker	1.25	96.9
16	Greenstriped rockfish	0.37	98.8	16	Spiny dogfish	0.54	97.5	16	Redbanded rockfish	1.09	97.4
17	Plainfin midshipman	0.36	99.0	17	English sole	0.37	97.8	17	Sharpchin rockfish	0.95	97.8
18	Yellowtail rockfish	0.32	99.1	18	Longnose skate	0.33	98.1	18	Pacific sanddab	0.66	98.1
19	Canary rockfish	0.32	99.2	19	Widow rockfish	0.32	98.4	19	English sole	0.62	98.4
20	Widow rockfish	0.28	99.2	20	Greenspotted rockfish	0.28	98.6	20	Shortspine thornyhead	0.39	98.6

a Total effort 157.2 km  
Total CPUE for fish 313.81 kg/km

a Total effort 56.0 km  
Total CPUE for fish 115.74 kg/km

a Total effort 213.3 km  
Total CPUE for fish 214.78 kg/km

Table 10.--Dominant fish species caught during the 1980 west coast groundfish survey, ranked in order of abundance (kilograms per kilometer trawled) in the International North Pacific Fisheries Commission Eureka area.

Eureka shallow stratum (55-183 m)				Eureka deep stratum (184-366 m)				Eureka total area (55-366 m)			
Rank	Species	a CPUE	Cumulative %	Rank	Species	a CPUE	Cumulative %	Rank	Species	a CPUE	Cumulative %
1	Pacific whiting	30.86	34.0	1	Splitnose rockfish	32.93	48.2	1	Splitnose rockfish	21.97	29.0
2	Sablefish	24.00	60.5	2	Pacific whiting	8.37	60.5	2	Pacific whiting	15.87	49.9
3	Stripetail rockfish	6.14	67.3	3	Darkblotched rockfish	6.77	70.4	3	Sablefish	10.22	63.4
4	Canary rockfish	4.16	71.8	4	Dover sole	6.11	79.3	4	Dover sole	5.23	70.3
5	Yellowtail rockfish	3.58	75.8	5	Sablefish	3.33	84.3	5	Darkblotched rockfish	4.53	76.3
6	Pacific herring	3.56	79.7	6	Stripetail rockfish	3.14	88.8	6	Stripetail rockfish	4.14	81.8
7	Dover sole	3.47	83.5	7	Pacific ocean perch	1.96	91.6	7	Canary rockfish	1.58	83.8
8	Bocaccio	2.46	86.2	8	Rex sole	1.07	93.2	8	Pacific ocean perch	1.41	85.7
9	Petrale sole	1.82	88.2	9	Shortspine thornyhead	0.91	94.5	9	Bocaccio	1.28	87.4
10	Lingcod	1.70	90.1	10	Bocaccio	0.70	95.6	10	Yellowtail rockfish	1.19	89.0
11	Chilipepper	1.66	92.0	11	Longnose skate	0.61	96.4	11	Pacific herring	1.19	90.5
12	Spiny dogfish	1.46	93.6	12	Lingcod	0.40	97.0	12	Rex sole	0.85	91.7
13	English sole	1.29	95.0	13	Canary rockfish	0.29	97.5	13	Lingcod	0.83	92.8
14	Longnose skate	0.79	95.9	14	Spotted ratfish	0.29	97.9	14	Petrale sole	0.69	93.7
15	Eulachon	0.69	96.6	15	Redbanded rockfish	0.26	98.3	15	Longnose skate	0.67	94.5
16	Widow rockfish	0.42	97.1	16	Arrowtooth flounder	0.25	98.6	16	Shortspine thornyhead	0.62	95.4
17	Big skate	0.42	97.5	17	Brown cat shark	0.20	98.9	17	Chilipepper	0.55	96.1
18	Rex sole	0.40	98.0	18	Petrale sole	0.12	99.1	18	Spiny dogfish	0.49	96.8
19	Pacific ocean perch	0.30	98.3	19	Shortraker rockfish	0.10	99.2	19	English sole	0.49	97.4
20	Arrowtooth flounder	0.29	98.6	20	English sole	0.10	99.4	20	Spotted ratfish	0.29	97.8

a Total effort 66.3 km  
Total CPUE for fish 90.69 kg/km

a Total effort 32.2 km  
Total CPUE for fish 66.33 kg/km

a Total effort 98.5 km  
Total CPUE for fish 75.78 kg/km

Table 11.--Dominant fish species caught during the 1980 west coast groundfish survey, ranked in order of abundance (kilograms per kilometer trawled) in the International North Pacific Fisheries Commission Columbia area.

Columbia shallow stratum (55-183 m)				Columbia deep stratum (184-366 m)				Columbia total area (55-366 m)			
Rank	Species	a CPUE	Cumulative %	Rank	Species	a CPUE	Cumulative %	Rank	Species	a CPUE	Cumulative %
1	Pacific whiting	14.27	22.4	1	Pacific ocean perch	15.99	21.6	1	Sablefish	10.63	15.3
2	Lingcod	8.59	36.0	2	Sablefish	13.09	39.2	2	Pacific ocean perch	8.75	27.9
3	Sablefish	7.69	48.0	3	Splitnose rockfish	8.43	50.6	3	Pacific whiting	8.61	40.4
4	Yellowtail rockfish	5.17	56.2	4	Sharpchin rockfish	5.90	58.5	4	Splitnose rockfish	4.61	47.0
5	Arrowtooth flounder	4.61	63.4	5	Dover sole	5.76	66.2	5	Dover sole	4.38	53.3
6	Redstripe rockfish	3.11	68.3	6	Arrowtooth flounder	4.18	71.9	6	Arrowtooth flounder	4.38	59.6
7	Dover sole	2.72	72.6	7	Pacific whiting	3.90	77.2	7	Lingcod	4.35	65.9
8	English sole	2.43	76.4	8	Yellowmouth rockfish	3.25	81.6	8	Sharpchin rockfish	3.49	70.9
9	Canary rockfish	2.34	80.1	9	Darkblotched rockfish	3.20	85.9	9	Yellowtail rockfish	2.60	74.7
10	Pacific herring	1.83	83.0	10	Shortspine thornyhead	2.02	88.6	10	Darkblotched rockfish	2.08	77.7
11	Petrals sole	1.56	85.4	11	Rex sole	1.14	90.1	11	Yellowmouth rockfish	1.77	80.2
12	Rex sole	1.20	87.3	12	Lingcod	0.82	91.2	12	Redstripe rockfish	1.66	82.6
13	Shortspine thornyhead	0.80	88.6	13	Longnose cod	0.76	92.3	13	Shortspine thornyhead	1.47	84.7
14	Big skate	0.73	89.7	14	Redbanded rockfish	0.62	93.1	14	Canary rockfish	1.28	86.6
15	Darkblotched rockfish	0.73	90.9	15	Stripetail rockfish	0.59	93.9	15	English sole	1.24	88.4
16	Pacific sanddab	0.68	91.9	16	Yellowtail rockfish	0.46	94.5	16	Rex sole	1.16	90.0
17	Sharpchin rockfish	0.60	92.9	17	Redstripe rockfish	0.45	95.1	17	Petrals sole	0.83	91.2
18	Flathead sole	0.55	93.7	18	Canary rockfish	0.40	95.7	18	Pacific herring	0.83	92.4
19	Widow rockfish	0.53	94.6	19	Silvergray rockfish	0.33	96.1	19	Longnose skate	0.51	93.2
20	Spiny dogfish	0.35	95.1	20	Widow rockfish	0.30	96.5	20	Stripetail rockfish	0.43	93.8

a Total effort 670.5 km  
Total CPUE for fish 63.59 kg/km

a Total effort 157.6 km  
Total CPUE for fish 74.18 kg/km

a Total effort 828.1 km  
Total CPUE for fish 69.37 kg/km

Table 12.--Dominant fish species caught during the 1980 west coast groundfish survey, ranked in order of abundance (kilograms per kilometer trawled) in the U.S. portion of the International North Pacific Fisheries Commission Vancouver area.

U.S. portion of Vancouver shallow stratum (55-183 m)				U.S. portion of Vancouver deep stratum (184-366 m)				U.S. portion of Vancouver total area (55-366 m)			
Rank	Species	<sup>a</sup> CPUE	Cumulative %	Rank	Species	<sup>a</sup> CPUE	Cumulative %	Rank	Species	<sup>a</sup> CPUE	Cumulative %
1	Spiny dogfish	90.74	39.5	1	Spiny dogfish	32.92	21.9	1	Spiny dogfish	61.83	32.6
2	Pacific whiting	42.91	58.2	2	Pacific ocean perch	29.12	41.3	2	Pacific whiting	24.12	45.3
3	Yellowtail rockfish	18.86	66.4	3	Dover sole	17.61	53.1	3	Pacific ocean perch	15.56	53.5
4	Redstripe rockfish	14.05	72.5	4	Splitnose rockfish	14.23	62.6	4	Arrowtooth flounder	10.84	59.2
5	Arrowtooth flounder	11.86	77.7	5	Arrowtooth flounder	9.82	69.1	5	Dover sole	9.94	64.4
6	Canary rockfish	9.80	82.0	6	Sablefish	8.17	74.6	6	Yellowtail rockfish	9.51	69.4
7	Pacific cod	6.55	84.8	7	Pacific whiting	5.34	78.1	7	Sablefish	7.34	73.3
8	Sablefish	6.50	87.7	8	Shortraker rockfish	4.44	81.1	8	Splitnose rockfish	7.11	77.0
9	Lingcod	3.61	89.2	9	Lingcod	4.39	84.0	9	Redstripe rockfish	7.07	80.8
10	Walleye pollock	3.42	90.7	10	Rex sole	3.32	86.2	10	Canary rockfish	4.95	83.4
11	Silvergray rockfish	3.28	92.1	11	Redbanded rockfish	3.19	88.3	11	Lingcod	4.00	85.5
12	Dover sole	2.26	93.1	12	Shortspine thornyhead	2.95	90.3	12	Pacific cod	3.53	87.3
13	English sole	2.11	94.1	13	Longnose skate	2.83	92.2	13	Rex sole	2.51	88.7
14	Pacific ocean perch	2.00	94.9	14	Roughey rockfish	2.23	91.7	14	Walleye pollock	2.41	89.9
15	Pacific herring	1.96	95.8	15	Flathead sole	2.02	95.0	15	Shortraker rockfish	2.22	91.1
16	Rex sole	1.71	96.5	16	Spotted ratfish	1.81	96.2	16	Redbanded rockfish	1.88	92.1
17	Spotted ratfish	1.67	97.2	17	Walleye pollock	1.40	97.2	17	Spotted ratfish	1.74	93.0
18	Petrale sole	0.84	97.6	18	Petrale sole	0.70	97.6	18	Silvergray rockfish	1.64	93.9
19	Sharpchin rockfish	0.68	97.9	19	Darkblotched rockfish	0.65	98.1	19	Longnose skate	1.63	94.7
20	Redbanded rockfish	0.57	98.2	20	Pacific cod	0.51	98.4	20	Shortspine thornyhead	1.53	95.5

<sup>a</sup> Total effort 41.6 km  
Total CPUE for fish 229.62 kg/km

<sup>a</sup> Total effort 23.8 km  
Total CPUE for fish 150.06 kg/km

<sup>a</sup> Total effort 65.4 km  
Total CPUE for fish 189.84 kg/km

Table 13.--Dominant fish species caught during the 1980 west coast groundfish survey, ranked in order of abundance (kilograms per kilometer trawled) in the International North Pacific Fisheries Commission Vancouver area.

Vancouver shallow stratum (55-183 m)				Vancouver deep stratum (184-366 m)				Vancouver total area (55-366 m)			
Rank	Species	a CPUE	Cumulative %	Rank	Species	a CPUE	Cumulative %	Rank	Species	a CPUE	Cumulative %
1	Spiny dogfish	72.73	35.3	1	Pacific ocean perch	57.29	23.7	1	Spiny dogfish	49.35	22.1
2	Pacific whiting	25.51	47.7	2	Redstripe rockfish	34.86	38.2	2	Pacific ocean perch	29.25	35.1
3	Yellowtail rockfish	18.18	56.5	3	Spiny dogfish	25.97	48.9	3	Redstripe rockfish	23.14	45.5
4	Canary rockfish	12.24	62.4	4	Arrowtooth flounder	16.55	55.8	4	Pacific whiting	15.78	52.5
5	Arrowtooth flounder	11.62	68.1	5	Dover sole	12.40	60.9	5	Arrowtooth flounder	14.09	58.8
6	Redstripe rockfish	11.41	73.6	6	Splitnose rockfish	12.30	66.0	6	Sablefish	11.48	64.0
7	Sablefish	11.32	79.1	7	Sharpchin rockfish	12.19	71.1	7	Yellowtail rockfish	9.40	68.2
8	Silvergray rockfish	8.65	83.3	8	Sablefish	11.64	75.9	8	Canary rockfish	8.29	71.9
9	Bocaccio	6.75	86.6	9	Spotted ratfish	9.48	79.8	9	Dover sole	7.54	75.2
10	Pacific cod	4.34	88.7	10	Lingcod	6.55	82.5	10	Sharpchin rockfish	6.77	78.3
11	Lingcod	3.95	90.6	11	Pacific herring	6.06	85.0	11	Splitnose rockfish	6.15	81.0
12	Walleye pollock	3.38	92.3	12	Rex sole	4.46	86.9	12	Silvergray rockfish	6.11	83.7
13	Dover sole	2.68	93.6	13	Canary rockfish	4.34	88.7	13	Spotted ratfish	5.38	86.1
14	English sole	1.59	94.3	14	Silvergray rockfish	3.57	90.1	14	Lingcod	5.25	88.5
15	Rex sole	1.51	95.1	15	Longnose rockfish	2.76	91.3	15	Bocaccio	4.63	90.6
16	Sharpchin rockfish	1.35	95.7	16	Bocaccio	2.51	92.3	16	Rex sole	2.98	91.9
17	Pacific herring	1.27	96.3	17	Shortspine thornyhead	2.39	93.3	17	Pacific cod	2.74	93.1
18	Spotted ratfish	1.27	97.0	18	Shortraker rockfish	2.22	94.2	18	Walleye pollock	2.28	94.1
19	Pacific ocean perch	1.21	97.5	19	Redbanded rockfish	2.10	95.1	19	Longnose skate	1.57	94.8
20	Petrale sole	0.64	97.8	20	Yellowmouth rockfish	1.60	95.8	20	Redbanded rockfish	1.25	95.4

a Total effort 169.3 km  
Total CPUE for fish 206.03 kg/km

a Total effort 51.4 km  
Total CPUE for fish 241.47 kg/km

a Total effort 220.7 km  
Total CPUE for fish 223.75 kg/km

Table 14. --Estimates of 1980 biomass, 90% confidence intervals population numbers, mean lengths, and mean weights for Pacific whiting by International North Pacific Fisheries Commission (INPFC) area and all areas combined.

Depths (m)	Biomass <sup>a</sup> (t)	90% Confidence interval	Population numbers <sup>a</sup> (x 1000)	Mean length (cm)	Mean weight (kg)
INPFC Monterey					
55-183	138,575	70,814 - 206,336 (+49%)	291,104	40.5	0.48
184-366	2,373	1,108 - 3,638 (+53%)	4,240	43.3	0.56
55-366	140,948	73,176 - 208,720 (+48%)	295,344	40.5	0.48
INPFC Eureka					
55-183	10,536	694 - 20,379 (+93%)	15,127	45.6	0.70
184-366	802	0 - 1,827 (+128%)	1,453	42.0	0.55
55-366	11,338	1,451 - 21,266 (+87%)	16,580	45.3	0.68
INPFC Columbia					
55-183	18,999	11,861 - 26,138 (+38%)	20,319	51.4	0.94
184-366	859	438 - 1,280 (+49%)	1,125	48.1	0.76
55-366	19,858	12,710 - 27,006 (+36%)	21,443	51.2	0.93
U.S. portion of INPFC Vancouver					
55-183	11,293	1,687 - 20,899 (+85%)	10,000	54.5	1.13
184-366	477	190 - 765 (+60%)	416	54.4	1.15
55-366	11,770	2,160 - 21,380 (+82%)	10,417	54.5	1.13
INPFC Vancouver					
55-183	15,261	4,970 - 25,551 (+67%)	13,021	55.0	1.17
184-366	894	343 - 1,446 (+62%)	742	54.9	1.21
55-366	16,155	5,850 - 26,460 (+64%)	13,764	55.0	1.17
Total survey area					
55-183	183,371	114,103 - 252,639 (+38%)	339,571	41.9	0.54
184-366	4,928	3,238 - 6,618 (+34%)	7,561	44.9	0.65
55-366	188,299	119,011 - 257,587 (+37%)	347,132	42.0	0.54

<sup>a</sup>Differences between totals may exist due to rounding.

Table 1.5--Estimates of 1980 biomass, 90% confidence intervals, population numbers, mean lengths, and mean weights for yellowtail rockfish by International North Pacific Fisheries Commission (INPFC) area and all areas combined.

Depths (m)	Biomass <sup>a</sup> (t)	90% Confidence interval		Population numbers <sup>a</sup> (x 1000)	Mean length (cm)	Mean weight (kg)
INPFC Monterey						
55-183	205	0 -	416 (+103%)	227	38.0	0.90
184-219	0	-	b -	0	-	-
55-219	205	0 -	416 (+103%)	227	38.0	0.90
220-366	0	-	b -	0	-	-
55-366	205	-	416 (+103%)	227	38.0	0.90
INPFC Eureka						
55-183	522	10 -	1,033 (+98%)	340	44.5	1.54
183-219	0	-	b -	0	-	-
55-219	522	10 -	1,033 (+98%)	340	44.5	1.54
220-366	0	-	b -	0	-	-
55-366	522	10 -	1,033 (+98%)	340	44.5	1.54
INPFC Columbia						
55-183	5,177	155 -	10,199 (+97%)	3,407	44.9	1.52
184-219	58	0 -	121 (+109%)	33	43.8	1.74
55-219	5,235	212 -	10,257 (+96%)	3,440	44.9	1.52
220-366	42	0 -	108 (+157%)	27	45.4	1.55
55-366	5,276	254 -	10,299 (+95%)	3,467	44.9	1.52
U.S. portion of INPFC Vancouver						
55-183	4,965	0 -	10,903 (+120%)	3,091	46.1	1.61
184-219	11	0 -	37 (+236%)	4	-	2.72
55-219	4,976	0 -	10,914 (+119%)	3,095	46.1	1.61
220-366	0	-	b -	0	-	-
55-366	4,976	0 -	10,914 (+119%)	3,095	46.1	1.61



Table 15. --Continued.

Depths (m)	Biomass <sup>a</sup> (t)	90% Confidence interval	Population numbers <sup>a</sup> (x 1000)	Mean length (cm)	Mean weight (kg)
INPFC Vancouver					
55-183	13,522	683 - 26,360 ( <u>+95%</u> )	9,198	45.0	1.47
184-219	47	0 - 102 ( <u>+117%</u> )	26	-	1.84
55-219	13,569	730 - 26,407 ( <u>+95%</u> )	9,223	45.0	1.47
220-366	16	0 - 50 ( <u>+213%</u> )	11	-	1.45
55-366	13,585	746 - 26,424 ( <u>+95%</u> )	9,235	45.0	1.47
Total survey area					
55-183	19,425	5,694 - 33,156 ( <u>+71%</u> )	13,172	44.8	1.48
184-219	105	27 - 183 ( <u>+74%</u> )	59	43.8	1.78
55-219	19,530	5,799 - 33,261 ( <u>+70%</u> )	13,231	44.8	1.48
220-366	58	0 - 126 ( <u>+117%</u> )	38	45.4	1.52
55-366	19,588	5,856 - 33,319 ( <u>+70%</u> )	13,269	44.8	1.48

<sup>a</sup>Differences between totals may exist due to rounding.

<sup>b</sup>No confidence interval calculated because of limited observations.

Table 16. --Estimates of 1980 biomass, 90% confidence intervals, population numbers, mean lengths, and mean weights for canary rockfish by International North Pacific Fisheries Commission (INPFC) area and all areas combined.

Depths (m)	Biomass <sup>a</sup> (t)	90% Confidence interval		Population numbers <sup>a</sup> (x 1000)	Mean length (cm)	Mean weight (kg)
INPFC Monterey						
55-183	200	0 -	430 (+115%)	105	-	1.91
184-219	12	0 -	29 (+142%)	9	-	2.05
55-219	213	0 -	443 (+108%)	111	-	1.92
220-366	0	-	b -	0	-	-
55-366	213	0	443 (+108%)	111	-	1.92
INPFC Eureka						
55-183	1,235	0 -	3,237 (+162%)	622	46.8	1.99
184-219	6	0 -	b	3	-	1.81
55-219	1,241	0 -	3,242 (+161%)	625	46.8	1.99
220-366	5	0 -	12 (+140%)	3	-	1.64
55-366	1,246	0 -	3,247 (+161%)	628	46.8	1.99
INPFC Columbia						
55-183	2,835	1,086 -	4,585 (+62%)	1,350	48.3	2.10
184-219	71	0 -	198 (+179%)	31	49.8	2.26
55-219	2,906	1,156 -	4,656 (+60%)	1,381	48.3	2.11
220-366	13	0 -	31 (+138%)	7	-	1.98
55-366	2,920	1,170 -	4,670 (+60%)	1,388	48.3	2.10
U.S. portion of INPFC Vancouver						
55-183	2,579	0 -	6,650 (+158%)	1,357	48.3	1.90
184-219	7	0 -	28 (+300%)	3	-	2.72
55-219	2,586	0 -	6,658 (+157%)	1,360	48.3	1.90
220-366	0	-	b -	0	-	-
55-366	2,586	0 -	6,658 (+157%)	1,360	48.3	1.90

Table 16. --Continued.

Depths (m)	Biomass <sup>a</sup> (t)	90% Confidence interval	Population numbers <sup>a</sup> (x 1000)	Mean length (cm)	Mean weight (kg)
INPFC Vancouver					
55-183	9,754	991 - 18,516 (+90%)	4,394	49.9	2.22
184-219	333	0 - 829 (+149%)	130	-	2.57
55-219	10,087	1,317 - 18,856 (+87%)	4,524	49.9	2.23
220-366	0	- b -	0	-	-
55-366	10,087	1,317 - 18,856 (+87%)	4,524	49.9	2.23
Total survey area					
55-183	14,025	4,911 - 23,138 (+65%)	6,470	49.3	2.17
184-219	422	0 - 926 (+119%)	171	49.8	2.48
55-219	14,447	5,326 - 23,568 (+63%)	6,641	49.3	2.18
220-366	18	0.21 - 36 (+100%)	10	-	1.87
55-366	14,465	5,344 - 23,587 (+63%)	6,650	49.3	2.18

<sup>a</sup>Differences between totals may exist due to rounding.

<sup>b</sup>No confidence interval calculated because of limited observations.

Table 17.--Estimates of 1980 biomass, 90% confidence intervals, population numbers, mean lengths, and mean weights for widow rockfish by International North Pacific Fisheries Commission (INPFC) area and all areas combined.

Depths (m)	Biomass <sup>a</sup> (t)	90% Confidence interval	Population numbers <sup>a</sup> (x1000)	Mean length (cm)	Mean weight (kg)
INPFC Monterey					
55-183	178	0 - 370 (+108%)	184	--	0.97
184-366	39	9 - 68 (+ 74%)	37	--	1.06
55-366	217	23 - 411 (+ 89%)	220	--	0.99
INPFC Eureka					
55-183	149	0 - 302 (+103%)	89	--	1.67
184-366	7	0 - 20 (+186%)	5	--	1.60
55-366	156	2 - 311 (+ 99%)	94	--	1.67
INPFC Columbia					
55-183	793	0 -1,749 (+121%)	669	41.1	1.18
184-366	121	0 - 320 (+164%)	90	--	1.35
55-366	914	0 -1,890 (+107%)	759	41.1	1.20
U.S. portion of INPFC Vancouver					
55-183	0	-- b --	0	--	--
184-366	0	-- b --	0	--	--
55-366	0	-- b --	0	--	--
INPFC Vancouver					
55-183	358	0 792 (+121%)	422	--	0.85
184-366	0	-- b --	0	--	--
55-366	358	0 - 792 (+121%)	422	--	0.85
Total survey area					
55-183	1,477	405 -2,550 (+ 73%)	1,364	41.1	1.08
184-366	167	0 - 369 (+121%)	131	--	1.28
55-366	1,645	557 -2,732 (+ 66%)	1,495	41.1	1.10

<sup>a</sup> Difference between totals may exist due to rounding.

<sup>b</sup> No confidence interval calculated because of limited observation.

Table 18. --Estimates of 1980 biomass, 90% confidence intervals, population numbers, mean lengths, and mean weights for sablefish by International North Pacific Fisheries Commission (INPFC) area and all areas combined.

Depths (m)	Biomass <sup>a</sup> (t)	90% Confidence interval	Population numbers <sup>a</sup> (x 1000)	Mean length (cm)	Mean weight (kg)
INPFC Monterey					
55-183	15,815	0 - 36,800 (+133%)	20,610	42.1	0.77
184-366	366	128 - 604 (+65%)	319	-	1.15
55-366	16,181	0 - 37,167 (+130%)	20,929	42.1	0.77
INPFC Eureka					
55-183	8,324	0 - 22,342 (+168%)	15,477	37.9	0.54
184-366	347	0 - 701 (+102%)	355	50.8	0.98
55-366	8,671	0 - 22,694 (+162%)	15,833	38.0	0.55
INPFC Columbia					
55-183	9,470	3,739 - 15,202 (+61%)	8,729	44.9	1.09
184-366	4,988	1,556 - 8,420 (+69%)	3,287	50.2	1.52
55-366	14,458	7,827 - 21,089 (+46%)	12,016	45.8	1.20
U.S. portion of INPFC Vancouver					
55-183	1,711	384 - 3,039 (+78%)	1,107	-	1.55
184-366	731	136 - 1,325 (+81%)	274	-	2.67
55-366	2,442	1,032 - 3,851 (+58%)	1,380	-	1.77
INPFC Vancouver					
55-183	9,607	4,645 - 14,570 (+52%)	5,690	53.2	1.69
184-366	1,661	1,017 - 2,305 (+39%)	620	-	2.68
55-366	11,268	6,274 - 16,262 (+44%)	6,310	53.2	1.79
Total survey area					
55-183	43,217	17,105 - 69,328 (+60%)	50,507	42.3	0.86
184-366	7,361	3,863 - 10,859 (+48%)	4,581	50.2	1.61
55-366	50,578	24,314 - 76,842 (+52%)	55,088	42.6	0.92

<sup>a</sup>Differences between totals may exist due to rounding.

Table 19. --Estimates of 1980 biomass, 90% confidence intervals, population numbers, mean lengths, and mean weights for Pacific ocean perch by International North Pacific Fisheries Commission (INPFC) area and all areas combined.

Depths (m)	Biomass <sup>a</sup> (t)	90% Confidence interval		Population numbers <sup>a</sup> (x 1000)	Mean length (cm)	Mean weight (kg)
INPFC Monterey						
55-183	0	-	b -	0	-	-
184-366	6	0 -	12 (+100%)	33	-	0.17
55-366	6	0 -	12 (+100%)	33	-	0.17
INPFC Eureka						
55-183	90	0 -	232 (+158%)	142	-	0.63
184-366	238	101 -	375 (+58%)	320	36.5	0.74
55-366	328	137 -	518 (+58%)	462	36.5	0.71
INPFC Columbia						
55-183	96	13 -	178 (+85%)	218	41.0	0.44
184-366	3,245	1,176 -	5,313 (+64%)	3,954	36.4	0.82
55-366	3,340	1,270 -	5,410 (+62%)	4,172	36.6	0.80
U.S. portion of INPFC Vancouver						
55-183	525	0 -	1,291 (+146%)	555	-	0.95
184-366	2,602	0 -	5,616 (+116%)	258	38.7	1.00
55-366	3,128	5 -	6,250 (+100%)	313	38.7	1.00
INPFC Vancouver						
55-183	733	0 -	1,529 (+109%)	1,323	25.8	0.55
184-366	7,863	2,050 -	13,676 (+74%)	8,552	37.7	0.92
55-366	8,596	2,729 -	14,463 (+68%)	9,875	36.7	0.87
Total survey area						
55-183	918	110 -	1,726 (+88%)	1,683	28.8	0.55
184-366	11,351	5,271 -	12,431 (+54%)	12,858	37.3	0.88
55-366	12,269	6,136 -	18,401 (+50%)	14,541	36.7	0.84

<sup>a</sup>Differences between totals may exist due to rounding.

<sup>b</sup>No confidence interval calculated because of limited observations.

Table 20.--Estimates of 1980 biomass, 90% confidence intervals, population numbers, mean lengths, and mean weights for chilipepper by International North Pacific Fisheries Commission (INPFC) area and all areas combined.

Depths (m)	Biomass <sup>a</sup> (t)	90% Confidence interval	Population numbers <sup>a</sup> (x 1000)	Mean length (cm)	Mean weight (kg)
INPFC Monterey					
55-183	8,316	0 - 16,802 (+102%)	18,234	37.0	0.46
184-366	1,463	423 - 2,504 (+71%)	1,940	36.9	0.75
55-366	9,779	1,248 - 18,311 (+87%)	20,174	37.0	0.49
INPFC Eureka					
55-183	583	0 - 1,601 (+175%)	464	43.3	1.26
184-366	0	- b -	0	-	-
55-366	583	0 - 1,601 (+175%)	464	43.3	1.26
INPFC Columbia					
55-183	87	0 - 181 (+108%)	71	43.2	1.23
184-366	0	- - -	0	-	-
55-366	87	0 - 181 (+108%)	71	43.2	1.23
U.S. portion of INPFC Vancouver					
55-183	0	- b -	-	-	-
184-366	0	- b -	-	-	-
55-366	0	- b -	-	-	-
INPFC Vancouver					
55-183	0	- b -	-	-	-
184-366	0	- b -	-	-	-
55-366	0	- b -	-	-	-
Total survey area					
55-183	8,986	457 - 17,515 (+95%)	18,769	37.2	0.48
184-366	1,463	423 - 2,504 (+71%)	1,940	36.9	0.75
55-366	10,449	1,868 - 19,030 (+82%)	20,709	37.1	0.51

<sup>a</sup>Differences between totals may exist due to rounding.

<sup>b</sup>No confidence interval calculated because of limited observations.

Table.21 --Estimates of 1980 biomass, 90% confidence intervals, population numbers, mean lengths, and mean weights for bocaccio by International North Pacific Fisheries Commission (INPFC) area and all areas combined.

Depths (m)	Biomass <sup>a</sup> (t)	90% Confidence interval	Population numbers <sup>a</sup> (x 1000)	Mean length (cm)	Mean weight (kg)
INPFC Monterey					
55-183	2,956	966 - 4,946 (+67%)	3,263	42.3	0.91
184-366	749	52 - 1,445 (+93%)	755	41.9	0.99
55-366	3,705	1,612 - 5,797 (+56%)	4,018	42.2	0.92
INPFC Eureka					
55-183	668	172 - 1,164 (+74%)	695	40.7	0.96
184-366	105	12 - 197 (+88%)	88	42.2	1.19
55-366	773	272 - 1,275 (+65%)	783	40.9	0.99
INPFC Columbia					
55-183	475	194 - 756 (+59%)	330	44.8	1.44
184-366	68	0 - 137 (+101%)	25	-	2.78
55-366	544	257 - 830 (+53%)	354	44.8	1.53
U.S. portion of INPFC Vancouver					
55-183	130	0 - 290 (+123%)	24	-	5.36
184-366	34	0 - 99 (+191%)	5	-	7.03
55-366	164	0 - 332 (+102%)	29	-	5.64
INPFC Vancouver					
55-183	6,490	0 - 16,789 (+159%)	1,872	-	3.47
184-366	319	92 - 547 (+71%)	71	-	4.51
55-366	6,809	0 - 17,110 (+151%)	1,943	73.1	3.51
Total survey area					
55-183	10,590	97 - 21,083 (+99%)	6,159	42.2	1.72
184-366	1,241	516 - 1,966 (+58%)	939	44.3	1.32
55-366	11,831	1,322 - 22,340 (+89%)	7,098	42.6	1.67

<sup>a</sup>Differences between totals may exist due to rounding.



Table 22.--Estimates of 1980 biomass, 90% confidence intervals, population numbers, mean, lengths, and mean weights for lingcod by International North Pacific Fisheries Commission (INPFC) area and all areas combined.

Depths (m)	Biomass <sup>a</sup> (t)	90% Confidence interval		Population numbers <sup>a</sup> (x 1000)	Mean length (cm)	Mean weight (kg)	
INPFC Monterey							
55-183	504	176 -	832	(+65%)	265	-	1.90
184-366	210	7 -	413	(+97%)	40	-	5.24
55-366	714	331 -	1,096	(+54%)	305	-	2.34
INPFC Eureka							
55-183	356	0 -	752	(+111%)	130	-	2.74
184-366	67	0 -	168	(+151%)	13	-	5.27
55-366	423	21 -	825	(+95%)	142	-	2.97
INPFC Columbia							
55-183	8,548	0 -	19,463	(+128%)	1,118	-	7.64
184-366	167	41 -	292	(+75%)	19	-	8.94
55-366	8,715	0 -	19,630	(+125%)	1,137	-	7.67
U..S. portion of INPFC Vancouver							
55-183	951	47 -	1,854	(+95%)	220	-	4.31
184-366	393	0 -	1,059	(+169%)	442	-	0.89
55-366	1,343	272 -	2,415	(+80%)	663	-	2.03
INPFC Vancouver							
55-183	3,051	1,709 -	4,393	(+44%)	678	-	4.50
184-366	928	225 -	1,632	(+76%)	570	-	1.63
55-366	3,980	2,489 -	5,470	(+37%)	1,248	-	3.19
Total survey area							
55-183	12,459	1,463 -	23,456	(+88%)	2,192	-	5.69
184-366	1,372	629 -	2,114	(+54%)	641	-	2.14
55-366	13,831	2,824 -	24,837	(+80%)	2,832	-	4.88

<sup>a</sup>Differences in totals may exist due to rounding.

Table 23.--Estimates of 1980 biomass, 90% confidence intervals, population numbers, mean lengths, and mean weights for arrowtooth flounder by International North Pacific Fisheries Commission (INPFC) area and all areas combined.

Depths (m)	Biomass <sup>a</sup> (t)	90% Confidence interval		Population numbers <sup>a</sup> (x 1000)	Mean length (cm)	Mean weight (kg)
INPFC Monterey						
55-183	7	0 -	15 (+114%)	15	-	0.45
184-366	14	0 -	36 (+157%)	16	-	0.91
55-366	21	0 -	45 (+114%)	31	-	0.69
INPFC Eureka						
55-183	54	14 -	94 (+74%)	82	-	0.66
184-366	36	6 -	66 (+83%)	56	-	0.64
55-366	90	42 -	138 (+53%)	139	-	0.65
INPFC Columbia						
55-183	1,779	172 -	3,386 (+90%)	1,832	47.5	0.97
184-366	1,164	700 -	1,628 (+40%)	813	54.2	1.43
55-366	2,943	1,151 -	4,734 (+61%)	2,645	50.4	1.11
U.S. portion of INPFC Vancouver						
55-183	3,121	0 -	6,527 (+109%)	4,428	41.4	0.71
184-366	877	175 -	1,579 (+80%)	563	48.6	1.56
55-366	3,998	554 -	7,442 (+86%)	4,991	42.2	0.80
INPFC Vancouver						
55-183	8,688	4,352 -	13,025 (+50%)	10,357	42.7	0.84
184-366	2,311	1,455 -	3,166 (+37%)	1,560	53.8	1.48
55-366	10,999	6,608 -	15,390 (+40%)	11,917	44.2	0.92
Total survey area						
55-183	10,528	6,064 -	14,992 (+42%)	12,286	43.0	0.86
184-366	3,525	2,571 -	4,479 (+27%)	2,445	53.8	1.44
55-366	14,053	9,521 -	18,585 (+32%)	14,731	44.7	0.95

<sup>a</sup>Differences in totals may exist due to rounding.

Table 24. --Estimates of 1980 biomass, 90% confidence intervals, population numbers, mean lengths, and mean weights. for Dover sole by International North Pacific Fisheries Commission (INPFC) area, and all areas combined.

Depths (m)	Biomass <sup>a</sup> (t)	90% Confidence interval	Population numbers <sup>a</sup> (x 1000)	Mean length (cm)	Mean weight (kg)
INPFC Monterey					
55-183	1,375	797 - 1,952 (+42%)	3,799	-	0.36
184-366	1,203	557 - 1,850 (+54%)	3,309	33.8	0.36
55-366	2,578	1,715 - 3,441 (+33%)	7,107	33.8	0.36
INPFC Eureka					
55-183	430	165 - 695 (+62%)	974	-	0.44
184-366	630	364 - 897 (+42%)	1,470	-	0.43
55-366	1,060	702 - 1,419 (+34%)	2,444	-	0.43
INPFC Columbia					
55-183	3,326	2,608 - 4,043 (+22%)	8,026	33.1	0.41
184-366	1,565	739 - 2,391 (+53%)	3,261	36.5	0.48
55-366	4,890	3,781 - 6,000 (+23%)	11,286	33.7	0.43
U.S. portion of INPFC Vancouver					
55-183	595	110 - 1,081 (+82%)	1,138	-	0.52
184-366	1,574	713 - 2,436 (+55%)	2,345	40.1	0.67
55-366	2,170	1,200 - 3,139 (+45%)	3,483	40.1	0.62
INPFC Vancouver					
55-183	2,115	1,303 - 2,927 (+38%)	3,718	41.2	0.57
184-366	2,017	1,131 - 2,902 (+44%)	3,145	40.1	0.64
55-366	4,132	2,936 - 5,328 (+29%)	6,863	40.7	0.60
Total survey area					
55-183	7,245	6,005 - 8,458 (+17%)	16,516	34.9	0.44
184-366	5,415	4,097 - 6,733 (+24%)	11,185	36.4	0.48
55-366	12,660	10,851 - 14,469 (+14%)	27,701	35.4	0.46

<sup>a</sup>Differences between totals may exist due to rounding.

Table 25.--Estimates of 1980 biomass, 90% confidence intervals, population numbers, mean lengths, and mean-weights for English sole by International North Pacific Fisheries Commission (INPFC) area and all areas combined.

Depths (m)	Biomass <sup>a</sup> (t)	90% Confidence interval			Population numbers <sup>a</sup> (x 1000)	Mean length (cm)	Mean weight (kg)
INPFC Monterey							
55-183	558	320 -	796	(+43%)	2,490	28.0	0.22
184-366	45	5 -	85	(+89%)	131	-	0.34
55-366	603	362 -	843	(+40%)	2,621	28.0	0.23
INPFC Eureka							
55-183	98	25 -	170	(+73%)	328	-	0.30
184-366	5	0 -	10	(+100%)	13	-	0.37
55-366	102	30 -	175	(+72%)	340	-	0.30
INPFC Columbia							
55-183	1,262	501 -	2,024	(+60%)	5,238	28.2	0.24
184-366	53	0 -	112	(+111%)	142	-	0.37
55-366	1,315	547 -	2,082	(+58%)	5,380	28.2	0.24
U.S. portion of INPFC Vancouver							
55-183	556	0 -	1,149	(+107%)	1,883	29.9	0.30
184-366	23	0 -	51	(+122%)	45	-	0.51
55-366	578	0 -	1,170	(+102%)	1,928	29.9	0.30
INPFC Vancouver							
55-183	1,076	387 -	1,764	(+64%)	3,128	29.9	0.34
184-366	25	0 -	54	(+116%)	49	-	0.51
55-366	1,101	412 -	1,790	(+63%)	3,178	29.9	0.35
Total survey area							
55-183	2,994	2,024 -	3,963	(+32%)	11,184	28.5	0.27
184-366	127	53 -	202	(+59%)	335	-	0.38
55-366	3,121	2,148 -	4,094	(+31%)	11,519	28.5	0.27

<sup>a</sup>Differences between totals may exist due to rounding.

Table 26. --Population estimates for Pacific whiting by age group and mean length at age for the entire survey-area.

Age	Year class	Population number (x100)	Cumulative %	Mean length (cm)
2	1978	8,891	0.5	30.8
3	1977	2,269,680	77.4	38.4
4	1976	63,883	79.6	41.5
5	1975	106,074	83.1	45.3
6	1974	81,818	85.9	47.4
7	1973	147,299	90.9	48.3
8	1972	77,883	93.5	48.5
9	1971	83,164	96.4	51.2
10	1970	52,980	98.2	51.6
11	1969	16,970	98.7	54.3
12	1968	8,831	99.0	52.9
13	1967	4,006	99.2	57.7
14	1966	6,431	99.4	54.6
15	1965	3,320	99.5	53.9
16	1964	1,845	99.6	62.1
18	1962	1,910	99.6	52.0
22	1958	67	99.6	73.0
Above, below, or between key lengths		18,094	100.0	--
Total <sup>a</sup>		2,953,145	100.0	40.5

<sup>a</sup>Differences in totals due to rounding.

Table 27.--Population estimates for Pacific whiting by age group and mean-length at age in the International North Pacific Fisheries Commission Monterey area.

Age	Year class	Population number (x100)	Cumulative %	Mean length (cm)
2	1978	8,891	0.5	30.8
3	1977	2,269,680	77.4	38.4
4	1976	63,883	79.6	41.5
5	1975	106,074	83.1	45.3
6	1974	81,818	85.9	47.4
7	1973	147,299	90.9	48.3
8	1972	77,883	93.5	48.5
9	1971	83,164	96.4	51.2
10	1970	52,980	98.2	51.6
11	1969	16,970	98.7	54.3
12	1968	8,831	99.0	52.9
13	1967	4,006	99.2	57.7
14	1966	6,431	99.4	54.6
15	1965	3,320	99.5	53.9
16	1964	1,845	99.6	62.1
18	1962	1,910	99.6	52.0
22	1958	67	99.6	73.0
Above, below, or between key lengths		18,094	100.0	--
Total <sup>a</sup>		2,953,145	100.0	40.5

<sup>a</sup>Difference in totals due to rounding.

Table 28.--Population estimates for pacific whiting by age group and mean length at age in the International North Pacific Fisheries Commission Eureka area.

Age	Year class	Population number (x100)	Cumulative %	Mean length (cm)
1	1979	61	0.1	31.0
2	1978	263	0.2	28.9
3	1977	72,292	43.9	40.7
4	1976	4,411	46.6	41.3
5	1975	11,239	53.4	45.7
6	1974	12,963	61.2	48.4
7	1973	22,580	74.9	49.0
8	1972	10,473	81.2	48.7
9	1971	16,786	91.4	50.4
10	1970	10,064	97.5	51.0
11	1969	1,189	98.2	55.3
12	1968	527	98.5	50.0
13	1967	405	98.7	54.0
15	1965	61	98.8	68.0
16	1964	159	98.9	65.0
Above, below, or between key lengths		1,919	100.0	--
Total <sup>a</sup>		165,393	100.0	45.3

<sup>a</sup>Differences in totals due to rounding.

Table 29. --Population estimates for Pacific whiting by age group and mean length at age in the International North Pacific Fisheries Commission Columbia area.

Age	Year class	Population number (x100)	Cumulative %	Mean length (cm)
1	1979	2,861	1.4	21.2
2	1978	15	1.4	33.0
3	1977	2,568	2.6	39.4
4	1976	858	3.0	42.4
5	1975	6,602	6.1	48.4
6	1974	16,291	13.8	49.4
7	1973	44,070	34.5	50.3
8	1972	40,919	53.7	51.4
9	1971	43,864	74.3	52.1
10	1970	28,353	87.6	53.4
11	1969	11,227	92.8	54.0
12	1968	6,155	95.7	56.7
13	1967	2,971	97.1	55.9
14	1966	1,562	97.8	54.8
15	1965	762	98.2	55.8
16	1964	728	98.5	55.0
17	1963	513	98.8	54.3
18	1962	786	99.2	57.9
19	1961	494	99.4	56.3
20	1960	110	99.4	53.0
21	1959	119	99.5	54.0
Above, below, or between key lengths		1,280	100.0	--
Total <sup>a</sup>		213,108	100.0	51.2

<sup>a</sup>Differences in totals due to rounding.



Table 30. --Population estimates for Pacific whiting by age group and mean length at age in the U.S. portion of the International North-Pacific Fisheries Commission Vancouver area.

Age	Year class	Population number (x100)	Cumulative %	Mean length (cm)
5	1975	847	3.6	49.0
6	1974	4,080	7.5	50.4
7	1973	9,062	16.2	52.3
8	1972	19,060	34.5	54.1
9	1971	16,998	50.8	54.0
10	1970	22,704	72.6	53.6
11	1969	12,105	84.2	57.2
12	1968	5,713	89.7	55.8
13	1967	3,658	93.2	58.5
14	1966	1,288	94.5	58.0
15	1965	942	95.4	54.9
Above, below, or between key lengths		7,707	100.0	--
Total <sup>a</sup>		104,163	100.0	54.5

<sup>a</sup>Differences in totals due to rounding.

Table 31.--Population estimates for Pacific whiting by age group and mean length at age in the International North Pacific Fisheries Commission Vancouver area.

Age	Year class	Population number (x100)	Cumulative %	Mean length (cm)
5	1975	713	0.9	48.5
6	1974	3,520	3.4	50.5
7	1973	11,825	12.0	52.6
8	1972	18,423	25.4	53.4
9	1971	29,541	46.9	54.6
10	1970	33,229	71.0	55.4
11	1969	19,686	85.3	56.2
12	1968	8,666	91.6	57.6
13	1967	5,815	95.8	58.1
14	1966	2,224	97.5	57.6
15	1965	1,150	98.3	59.9
16	1964	131	98.4	63.0
17	1963	274	98.6	62.5
18	1962	421	98.9	64.3
19	1961	625	99.4	60.5
Above, below, or between key lengths		1,392	100.0	--
Total <sup>a</sup>		137,636	100.0	55.0

<sup>a</sup>Differences in totals due to rounding.

Table 32. --Population estimates for yellowtail rockfish by age group and mean length at age for the entire survey area.

Age	Year class	Population number (x100)	Cumulative %	Mean length (cm)
3	1977	25	0.1	26.0
4	1976	323	0.3	30.9
5	1975	2,059	1.9	34.3
6	1974	5,133	5.8	37.7
7	1973	6,765	10.9	40.0
8	1972	7,647	16.6	42.6
9	1971	12,582	26.2	43.7
10	1970	12,440	35.6	44.3
11	1969	14,138	46.3	45.2
12	1968	11,669	55.1	46.2
13	1967	10,487	63.1	46.4
14	1966	10,845	71.3	46.5
15	1965	6,769	76.4	46.6
16	1964	3,739	79.2	47.1
17	1963	5,338	83.3	47.0
18	1962	4,491	86.7	46.4
19	1961	3,103	89.0	46.5
20	1960	3,781	91.9	47.2
21	1959	3,029	94.2	47.5
22	1958	1,366	95.2	47.2
23	1957	346	95.5	47.2
24	1956	1,800	96.9	48.5
25	1955	1,070	97.7	48.1
26	1954	986	98.4	47.3
27	1953	330	98.7	47.5
28	1952	164	98.8	48.0
29	1951	299	99.0	46.6
30	1950	152	99.1	44.0
31	1949	325	99.4	47.0
34	1946	499	99.7	47.0
37	1943	164	99.9	48.0
38	1942	161	100.0	46.0
Above, below, or between key lengths		68	100.0	--
Total <sup>a</sup>		132,094	100.0	44.8

<sup>a</sup>Differences in totals due to rounding.

Table 33.--Population estimated for yellowtail rockfish by age group and mean length at age in the International North Pacific Fisheries Commission Eureka area.

Age	Year class	Population number (x100)	Cumulative %	Mean length (cm)
6	1974	198	7.4	41.4
7	1973	121	11.0	41.4
8	1972	380	22.2	42.8
9	1971	487	36.5	45.1
10	1970	952	64.5	44.5
11	1969	310	73.6	45.0
12	1968	282	81.9	45.2
13	1967	204	87.9	47.8
14	1966	142	92.1	51.4
15	1965	159	96.8	45.4
16	1964	39	97.9	49.5
17	1963	42	99.2	51.0
19	1961	28	100.0	44.0
Above, below, or between key lengths		55	100.0	--
Total <sup>a</sup>		3,399	100.0	44.5

<sup>a</sup>Differences in totals due to rounding.

Table 34. --Population estimates for yellowtail rockfish by age group and mean length at age in the International North Pacific Fisheries-Commission Columbia area.

Age	Year class	Population number (x100)	Cumulative %	Mean length (cm)
3	1977	25	0.1	26.0
4	1976	350	1.1	30.8
5	1975	1,274	4.8	33.4
6	1974	2,191	11.2	36.9
7	1973	1,705	16.1	40.0
8	1972	1,337	20.0	42.4
9	1971	2,014	25.8	43.7
10	1970	1,862	31.2	44.2
11	1969	3,234	40.6	46.0
12	1968	3,107	49.6	46.9
13	1967	3,278	59.2	46.9
14	1966	3,726	70.0	47.1
15	1965	1,705	74.9	47.6
16	1964	756	77.1	48.3
17	1963	1,540	81.6	47.5
18	1962	955	84.4	46.0
19	1961	636	86.2	46.9
20	1960	997	89.1	47.9
21	1959	860	91.6	47.8
22	1958	330	92.6	47.9
23	1957	143	93.0	48.0
24	1956	1,045	96.0	49.6
25	1955	226	96.7	47.9
26	1954	324	97.6	47.5
27	1953	162	98.1	47.5
28	1952	85	98.3	48.0
29	1951	123	98.7	47.1
30	1950	42	98.8	44.0
31	1949	85	99.0	48.0
34	1946	232	99.7	47.0
37	1943	85	100.0	48.0
Above, below, or between key lengths		13	100.0	--
Total <sup>a</sup>		34,445	100.0	44.9

<sup>a</sup>Differences in totals due to rounding.

Table 35. --Population estimates for yellowtail rockfish by age group and mean length at age in the U.S. portion of the International North Pacific Fisheries commission Vancouver area.

Age	Year class	Population number (x100)	Cumulative %	Mean length (cm)
8	1972	547	3.5	43.5
9	1971	551	5.2	40.9
10	1970	2,096	12.0	43.0
11	1969	2,293	19.4	44.0
12	1968	2,022	26.0	45.7
13	1967	1,839	31.9	46.7
14	1966	2,080	38.7	45.6
15	1965	1,923	44.9	46.1
16	1964	2,412	52.7	46.5
17	1963	2,299	60.1	47.0
18	1962	2,823	69.3	47.5
19	1961	1,836	75.2	47.0
20	1960	2,939	84.7	47.1
21	1959	1,318	89.0	48.0
22	1958	833	91.7	46.8
24	1956	552	93.5	46.8
25	1955	868	96.3	49.4
26	1954	567	98.1	47.1
31	1949	244	98.9	46.0
38	1942	244	100.0	46.0
Above, below, or between key lengths		624	100.0	--
Total <sup>a</sup>		30,909	100.0	46.1

<sup>a</sup>Differences in totals due to rounding.

Table 36--Population estimates for yellowtail rockfish by age group and mean length at age in the International North Pacific Fisheries Commission Vancouver area.

Age	Year class	Population number (x100)	Cumulative %	Mean length (cm)
5	1975	908	0.1	37.7
6	1974	835	1.9	36.7
7	1973	3,001	5.2	39.3
8	1972	4,355	9.9	42.1
9	1971	11,287	22.2	43.2
10	1970	9,420	32.4	44.0
11	1969	9,298	42.5	43.9
12	1968	7,076	50.2	46.6
13	1967	4,817	55.4	46.6
14	1966	4,594	60.4	45.3
15	1965	5,794	66.7	46.3
16	1964	4,604	71.8	46.7
17	1963	4,914	77.1	46.9
18	1962	5,330	82.8	46.9
19	1961	3,223	86.4	46.8
20	1960	3,923	90.7	46.8
21	1959	2,075	92.9	47.5
22	1958	1,624	94.7	46.6
24	1956	1,164	95.9	47.3
25	1955	1,343	97.4	48.7
26	1954	702	98.2	47.0
31	1949	358	98.6	46.0
38	1942	358	98.9	46.0
Above, below, or between key lengths		974	100.0	--
Total <sup>a</sup>		91,977	100.0	45.0

<sup>a</sup>Differences in totals due to rounding.

Table 37.--Population estimates for canary rockfish by age group and mean length at age for the entire survey area.

Age	Year class	Population number (x100)	Cumulative %	Mean length (cm)
2	1978	98	0.2	15.5
3	1977	49	0.2	21.0
4	1976	176	0.5	30.3
5	1975	211	0.9	34.2
6	1974	358	1.4	37.1
7	1973	1,133	3.2	39.8
8	1972	2,672	7.5	42.3
9	1971	2,688	11.7	45.0
10	1970	5,063	19.8	45.8
11	1969	7,873	32.3	48.0
12	1968	10,379	48.8	49.1
13	1967	9,011	63.1	50.2
14	1966	6,075	72.8	51.6
15	1965	5,196	81.0	51.9
16	1964	4,291	87.9	52.7
17	1963	2,840	92.4	53.4
18	1962	2,629	96.6	54.4
19	1961	732	97.7	53.8
20	1960	531	98.6	54.8
21	1959	301	99.0	53.4
22	1958	418	99.7	55.6
25	1955	173	100.0	52.5
Above, below, or between key lengths		17	100.0	--
Total <sup>a</sup>		62,914	100.0	49.3

<sup>a</sup>Differences in totals due to rounding.



Table 38. -Population estimates for canary rockfish by age group and mean length at age in the International North Pacific Fisheries Commission Eureka area.

Age	Year class	Population number (x100)	Cumulative %	Mean length (cm)
7	1973	93	1.5	45.0
8	1972	463	9.2	43.4
9	1971	837	22.9	44.6
10	1970	774	35.7	44.8
11	1969	1,311	57.2	47.0
12	1968	676	68.4	47.5
13	1967	631	78.8	47.0
14	1966	140	81.1	52.7
15	1965	349	86.8	47.8
16	1964	156	89.4	49.0
17	1963	366	95.4	50.9
18	1962	93	96.9	54.0
20	1960	93	98.5	50.0
Above, below, or between key lengths		93	100.0	--
Total <sup>a</sup>		6,077	100.0	46.8

<sup>a</sup>Differences in totals due to rounding.

Table 39. --Population estimates for, canary rockfish by age group and mean length at age in the International North Pacific Fisheries Commission Columbia area.

Age	Year class	Population number (x100)	Cumulative %	Mean length (cm)
2	1978	98	0.8	15.5
3	1977	49	1.1	21.0
4	1976	157	2.4	30.1
5	1975	113	3.2	36.6
6	1974	153	4.4	37.3
7	1973	412	7.6	40.4
8	1972	804	13.9	41.9
9	1971	639	18.8	45.0
10	1970	992	26.5	45.7
11	1969	1,461	37.8	48.1
12	1968	2,104	54.2	49.2
13	1967	1,770	67.9	50.6
14	1966	1,247	77.6	51.2
15	1965	1,090	86.0	52.4
16	1964	708	91.5	52.7
17	1963	367	94.3	54.1
18	1962	443	97.8	53.9
19	1961	94	98.5	53.8
20	1960	58	98.9	53.5
21	1959	37	99.2	54.0
22	1958	38	99.5	55.7
25	1955	30	99.8	50.5
Above, below, or between key lengths		32	100.0	--
Total <sup>a</sup>		12,895	100.0	48.3

<sup>a</sup> Differences in totals to rounding.

Table 40. --Population estimates for canary rockfish by age group and mean length at age in the International North Pacific Fisheries Commission Vancouver area.

Age	Year class	Population number (x100)	Cumulative %	Mean length (cm)
4	1976	41	0.1	32.0
5	1975	83	0.3	30.0
6	1974	122	0.6	37.3
7	1973	616	2.0	38.0
8	1972	642	3.4	39.5
9	1971	302	4.1	40.3
10	1970	815	6.0	46.0
11	1969	4,167	15.5	46.6
12	1968	6,653	30.6	48.2
13	1967	8,175	49.2	49.0
14	1966	5,013	60.6	50.9
15	1965	4,224	70.2	51.9
16	1964	5,923	83.7	52.2
17	1963	2,806	90.1	53.0
18	1962	1,422	93.3	54.2
19	1961	554	94.6	52.7
20	1960	531	95.8	54.3
21	1959	421	96.7	53.6
22	1958	236	97.3	54.0
25	1955	58	97.4	57.0
Above, below, or between key lengths		1,139	100.0	--
Total <sup>a</sup>		43,942	100.0	49.9

<sup>a</sup>Differences in totals due to rounding.

Table 41.--Population estimates for Pacific ocean perch by age group and mean length at age for the entire survey area.

Age	Year class	Population number (x100)	Cumulative %	Mean length (cm)
2	1978	1,191	1.4	18.1
3	1977	3,397	3.8	23.2
4	1976	8,091	9.8	27.8
5	1975	15,112	20.8	30.1
6	1974	10,534	28.5	32.0
7	1973	5,721	32.7	35.0
8	1972	9,853	39.9	36.0
9	1971	10,333	47.4	37.6
10	1970	7,105	52.6	39.1
11	1969	11,508	61.0	39.1
12	1968	13,013	70.6	40.2
13	1967	10,480	78.2	41.4
14	1966	6,461	82.9	41.0
15	1965	9,228	89.7	42.5
16	1964	5,528	93.7	42.8
17	1963	3,418	96.2	43.6
18	1962	2,539	98.1	44.2
21	1959	1,172	98.9	47.0
27	1953	671	99.4	43.0
30	1950	148	99.5	46.0
Above, below, or between key lengths		1,314	100.0	--
Total <sup>a</sup>		136,816	100.0	36.7

<sup>a</sup>Differences in totals due to rounding.

Table 42.--Population estimates for Pacific ocean perch by age group and mean length at age in the International North Pacific Fisheries Commission Columbia area.

Age	Year class	Population number (x100)	Cumulative %	Mean length (cm)
4	1976	2,531	7.3	26.5
5	1975	3,270	15.2	29.1
6	1974	3,679	24.1	31.5
7	1973	2,994	31.4	34.0
8	1972	4,318	41.8	35.5
9	1971	5,295	54.6	36.6
10	1970	1,082	57.2	39.4
11	1969	2,437	63.1	38.6
12	1968	3,449	71.4	40.4
13	1967	3,380	79.6	42.0
14	1966	2,245	85.0	41.3
15	1965	2,388	90.7	42.7
16	1964	1,984	95.5	43.2
17	1963	1,132	98.3	42.9
18	1962	682	99.9	43.6
Above, below, or between key lengths		543	100.0	--
Total <sup>a</sup>		41,411	100.0	36.6

<sup>a</sup>Differences in totals due to rounding.

Table 43.7--Population estimates for Pacific ocean perch by age group and mean length at age in the International North Pacific Fisheries Commission Vancouver area.

Age	Year class	Population number (x100)	Cumulative %	Mean length (cm)
2	1978	1,112	1.9	18.5
3	1977	2,808	4.9	23.0
4	1976	5,495	10.8	28.6
5	1975	11,901	23.6	30.3
6	1974	6,466	30.5	32.1
7	1973	2,597	33.3	36.0
8	1972	4,615	38.3	37.0
9	1971	3,844	42.4	38.3
10	1970	6,917	49.8	39.3
11	1969	11,377	62.0	39.2
12	1968	9,632	72.4	40.2
13	1967	5,267	78.0	41.0
14	1966	2,855	81.1	41.7
15	1965	5,448	86.9	41.5
16	1964	3,019	90.2	41.9
17	1963	1,134	91.4	44.8
18	1962	1,668	93.2	45.7
21	1959	2,545	95.9	46.5
27	1953	1,020	97.0	43.0
30	1950	274	97.3	46.0
Above, below, or between key lengths		3,203	100.0	--
Total <sup>a</sup>		93,199	100.0	36.7

<sup>a</sup>Differences in totals due to rounding.

Table 44.--Population estimates for chilipepper by age group and mean length at age for the entire survey area.

Age	Year class	Population number (x100)	Cumulative %	Mean length (cm)
2	1978	310	0.2	22.7
3	1977	222	0.3	26.9
4	1976	27,924	13.8	33.5
5	1975	47,165	36.6	34.6
6	1974	36,286	54.1	37.0
7	1973	25,375	66.4	39.7
8	1972	23,061	77.5	37.8
9	1971	14,078	84.3	40.8
10	1970	12,350	90.3	39.4
11	1969	7,504	93.9	41.0
12	1968	3,996	95.8	40.2
13	1967	2,575	97.1	41.9
14	1966	941	97.5	45.4
15	1965	1,041	98.0	44.1
16	1964	462	98.3	48.2
17	1963	816	98.7	36.7
18	1962	289	98.8	50.0
21	1959	258	98.9	52.0
Above, below, or between key lengths		2,399	100.0	--
Total <sup>a</sup>		207,049	100.0	37.1

<sup>a</sup>Differences in totals due to rounding.

Table 45 --Population estimates for chilipepper by age group and mean length at age in the International North Pacific Fisheries Commission Monterey area.

Age	Year class	Population number (x100)	Cumulative %	Mean length (cm)
2	1978	310	0.2	22.7
3	1977	222	0.4	26.9
4	1976	28,271	14.4	33.6
5	1975	47,198	37.8	34.5
6	1974	33,431	54.3	37.0
7	1973	25,122	66.8	39.9
8	1972	22,197	77.8	37.4
9	1971	15,164	85.3	40.9
10	1970	11,930	91.2	38.9
11	1969	6,927	94.7	39.6
12	1968	2,812	96.0	39.7
13	1967	2,056	97.1	40.0
14	1966	955	97.5	45.3
15	1965	1,145	98.1	43.8
16	1964	556	98.4	47.7
17	1963	586	98.7	36.0
18	1962	289	98.8	50.0
21	1959	258	98.9	52.0
Above, below, or between key lengths		2,315	100.0	--
Total <sup>a</sup>		201,744	100.0	37.0

<sup>a</sup>Differences in totals due to rounding.



Table 46.--Population estimates for canary rockfish by age group and mean length at age in the International North Pacific Fisheries Commission Eureka area.

Age	Year class	Population number (x100)	Cumulative %	Mean length (cm)
5	1975	319	6.9	37.3
6	1974	816	24.5	39.4
7	1973	595	37.3	40.5
8	1972	429	46.5	42.9
9	1971	244	51.8	43.6
10	1970	638	65.6	46.0
11	1969	1,013	87.4	48.1
12	1968	235	92.4	43.1
13	1967	241	97.6	47.1
17	1963	74	99.2	38.0
Above, below, or between key lengths		37	100.0	--
Total <sup>a</sup>		4,640	100.0	43.3

<sup>a</sup>Differences in totals due to rounding.

Table 47. --Population estimates for splitnose rockfish  
rockfish by age froup and mean length at age for  
the entire survey area.

Age	Year class	Population number (x100)	Cumulative %	Mean length (cm)
1	1979	535	0.2	15.7
2	1978	927	0.6	15.5
3	1977	2,192	1.6	16.5
4	1976	3,871	3.3	18.1
5	1975	7,621	6.6	20.3
6	1974	11,724	11.6	22.6
7	1973	15,088	18.2	23.6
8	1972	18,467	26.2	25.7
9	1971	13,460	32.0	26.3
10	1970	10,997	36.8	27.2
11	1969	5,381	39.1	28.3
12	1968	4,149	40.9	27.3
13	1967	2,747	42.1	27.5
14	1966	2,889	43.3	28.2
15	1965	1,410	44.0	27.8
16	1964	3,516	45.5	29.5
17	1963	3,439	47.0	28.9
18	1962	2,665	48.1	29.7
19	1961	2,849	49.4	30.4
20	1960	4,641	51.4	29.6
21	1959	3,763	53.0	30.1
22	1958	5,318	55.3	30.7
23	1957	7,260	58.4	30.5
24	1956	5,581	60.9	30.7
25	1955	7,540	64.1	31.1
26	1954	6,721	67.0	31.1
27	1953	5,745	69.5	32.1
28	1952	7,195	72.6	31.8
29	1951	6,376	75.4	32.7
30	1950	7,861	78.8	32.6
31	1949	4,882	80.9	32.6
32	1948	3,260	82.3	32.5
33	1947	5,275	84.6	33.1
34	1946	2,668	85.8	33.0
35	1945	5,602	88.2	34.4
36	1944	3,743	89.8	34.8
37	1943	3,569	91.4	34.4
38	1942	4,341	93.3	34.2
39	1941	2,783	94.5	34.7
40	1940	1,713	95.2	33.2
41	1939	1,689	95.9	34.7
42	1938	1,099	96.4	33.8
43	1937	1,098	96.9	33.7
44	1936	2,022	97.8	35.3
45	1935	693	98.1	35.8

Table 47.--Continued.

Age	Year class	Population number (x100)	Cumulative %	Mean length (cm)
46	1934	1,233	98.6	35.4
47	1933	1,022	99.0	34.9
48	1932	494	99.3	35.4
49	1931	376	99.4	36.5
50	1930	503	99.6	35.2
55	1925	693	99.9	35.8
Above, below, or between key lengths		170	100.0	--
Total <sup>a</sup>		230,856	100.0	28.8

<sup>a</sup>Differences in totals due to rounding.

Table 48.--Population estimates for splitnose rockfish by age group and mean length at age in the International North Pacific Fisheries Commission Monterey area.

Age	Year class	Population number (x100)	Cumulative %	Mean length (cm)
1	1979	400	1.3	13.4
2	1978	676	3.6	15.7
3	1977	1,302	7.9	15.7
4	1976	2,390	15.9	16.9
5	1975	2,972	25.8	19.6
6	1974	2,639	34.6	20.5
7	1973	2,120	41.7	22.1
8	1972	2,924	51.4	23.7
9	1971	1,436	56.2	23.5
10	1970	581	58.2	23.4
11	1969	172	58.7	21.5
12	1968	270	59.6	25.7
13	1967	175	60.2	26.2
14	1966	169	60.8	25.7
15	1965	246	61.6	27.8
16	1964	347	62.8	28.0
17	1963	330	63.9	27.8
18	1962	185	64.5	29.5
19	1961	160	65.0	30.3
20	1960	269	65.9	28.2
21	1959	1,058	69.4	26.8
22	1958	546	71.3	28.6
23	1957	984	74.5	30.0
24	1956	237	75.3	30.3
25	1955	517	77.1	31.6
26	1954	1,058	80.6	30.2
27	1953	745	83.1	30.8
28	1952	569	85.0	31.2
29	1951	540	86.8	31.1
30	1950	1,243	90.9	30.3
31	1949	686	93.2	30.9
32	1948	96	93.5	30.2
33	1947	498	95.2	32.1

Table 48.--Continued.

Age	Year class	Population number (x100)	Cumulative %	Mean length (cm)
34	1946	330	96.3	30.3
35	1945	240	97.1	32.1
36	1944	144	97.6	31.5
37	1943	287	98.5	30.8
38	1942	139	99.0	31.9
39	1941	68	99.2	27.0
40	1940	118	99.6	30.4
43	1937	82	99.9	33.5
44	1936	38	100.0	34.0
Above, below, or between key lengths		0	--	--
Total <sup>a</sup>		29,985	100.0	24.2

<sup>a</sup>Differences in totals due to rounding.

Table 49. --Population estimates for splitnose rockfish by age group and mean length at age in the International North Pacific Fisheries Commission Columbia area.

Age	Year class	Population number (x100)	Cumulative %	Mean length (cm)
1	1979	70	0.1	23.4
2	1978	206	0.5	15.9
3	1977	597	1.4	17.8
4	1976	1,477	3.7	19.5
5	1975	4,107	10.1	20.9
6	1974	6,589	20.3	22.9
7	1973	8,723	33.9	23.2
8	1972	5,409	42.3	23.5
9	1971	2,491	46.1	23.6
10	1970	1,851	49.0	25.3
11	1969	1,052	50.7	26.7
12	1968	859	52.0	24.7
13	1967	476	52.7	25.6
14	1966	465	53.5	27.4
15	1965	278	53.9	27.0
16	1964	657	54.9	29.2
17	1963	946	56.4	28.8
18	1962	405	57.0	29.7
19	1961	605	57.9	30.1
20	1960	1,227	59.9	29.8
21	1959	443	60.5	30.6
22	1958	1,051	62.3	30.5
23	1957	1,166	64.0	29.8
24	1956	1,033	65.6	31.1
25	1955	1,358	67.7	31.4
26	1954	893	69.1	31.3
27	1953	1,067	70.8	32.8
28	1952	963	72.3	32.7
29	1951	1,315	74.3	33.3
30	1950	1,068	76.0	33.3
31	1949	772	77.2	32.9
32	1948	984	78.7	34.4
33	1947	842	80.0	34.9
34	1946	701	81.1	34.2
35	1945	1,677	83.7	35.8
36	1944	1,473	86.0	35.6
37	1943	1,300	88.0	35.6
38	1942	1,416	90.2	35.7
39	1941	1,210	92.1	35.8
40	1940	350	92.6	34.5
41	1939	778	93.8	35.7
42	1938	252	94.2	35.2
43	1937	201	94.5	34.8
44	1936	934	96.0	35.9
45	1935	356	96.5	36.2
46	1934	556	97.4	35.8

Table 49.--Continued.

Age	Year class	Population number (x100)	Cumulative %	Mean length (cm)
47	1933	394	98.0	35.8
48	1932	207	98.3	35.6
49	1931	280	98.8	36.5
50	1930	267	99.2	37.2
55	1925	356	99.7	36.2
Above, below, or between key lengths		189	100.0	--
Total <sup>a</sup>		64,339	100.0	27.8

<sup>a</sup>Differences in totals due to rounding.

Table 50.--Population estimates for splitnose rockfish by age group and mean length at age in the U.S. portion of the International North Pacific Fisheries Commission Vancouver area.

Age	Year class	Population number (x100)	Cumulative %	Mean length (cm)
4	1976	40	0.1	22.0
5	1975	403	0.9	21.1
6	1974	1,706	4.4	23.1
7	1973	1,544	7.6	25.0
8	1972	9,348	26.7	27.6
9	1971	10,295	47.8	27.8
10	1970	6,325	60.8	27.7
11	1969	135	61.0	26.0
12	1968	5,558	72.4	28.8
14	1966	1,808	76.1	29.4
20	1960	705	77.6	30.0
23	1957	1,369	80.4	33.0
26	1954	1,369	83.2	33.0
27	1953	1,369	86.0	33.0
28	1952	1,369	88.8	32.0
30	1950	1,369	91.6	35.0
31	1949	1,369	94.4	38.0
36	1944	1,369	97.2	37.0
44	1936	1,369	100.0	36.0
Above, below, or between key lengths		0	--	--
Total <sup>a</sup>		48,823	100.0	29.2

<sup>a</sup>Differences in totals due to rounding.



Table 51.--Population estimates for splitnose rockfish by age group and mean length at age in the International North Pacific Fisheries Commission Vancouver area.

Age	Year class	Population number (x100)	Cumulative %	Mean length (cm)
4	1976	40	0.1	22.0
5	1975	385	0.9	21.2
6	1974	1,727	4.4	23.1
7	1973	2,072	8.7	25.6
8	1972	8,415	25.9	27.6
9	1971	8,175	42.6	27.7
10	1970	7,194	57.4	28.0
11	1969	2,553	62.6	27.9
12	1968	3,885	70.6	28.7
13	1967	973	72.6	28.7
14	1966	1,732	76.1	29.2
16	1964	352	76.8	30.0
19	1961	11	76.8	28.0
20	1960	352	77.6	30.0
23	1957	1,369	80.4	33.0
26	1954	1,369	83.2	33.0
27	1953	1,369	86.0	33.0
28	1952	1,369	88.8	32.0
30	1950	1,369	91.6	35.0
31	1949	1,369	94.4	38.0
36	1944	1,369	97.2	37.0
39	1941	685	98.6	36.0
44	1936	685	100.0	36.0
Above, below, or between key lengths		0	--	--
Total <sup>a</sup>		48,823	100.0	29.2

<sup>a</sup>Differences in totals due to rounding.

Table 52.--Station and catch (lbs.) data for the F/V Pat San Marie.

## 1980 WESTCOAST GROUND FISH SURVEY - PAT SAN MARIE

HAUL #	2	3	4	5	6	7	8	9	10	11	12
MONTH/DAY/YEAR	7/12/80	7/12/80	7/12/80	7/12/80	7/13/80	7/13/80	7/13/80	7/13/80	7/13/80	7/13/80	7/14/80
LATITUDE START	36 49.0	36 51.7	36 54.8	37 9.8	37 9.4	37 7.4	37 6.2	37 26.4	37 28.6	37 32.3	37 52.2
LONGITUDE START	122 8.8	122 8.1	122 6.3	122 29.8	122 35.1	122 39.6	122 40.6	122 50.1	122 47.6	122 43.8	122 53.5
LATITUDE END	36 50.2	36 52.6	36 55.4	37 10.4	37 8.0	37 6.9	37 7.0	37 27.6	37 30.3	37 31.6	37 51.8
LONGITUDE END	122 5.5	122 9.1	122 7.1	122 31.5	122 35.8	122 41.3	122 41.8	122 49.0	122 47.8	122 42.1	122 54.8
LORAN START	16251.70	16249.40	16249.60	16157.50	16143.70	16134.70	16134.70	16061.50	16062.70	16065.60	15981.50
LORAN END	16248.30	16244.60	16244.60	16151.60	16144.50	16131.60	16129.70	16061.70	16059.70	16072.50	15977.50
GEAR DEPTH	247	97	55	82	104	146	198	101	84	64	60
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	2.44	2.78	2.04	2.61	2.80	2.69	2.32	2.83	3.17	2.82	2.04
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	0.7	1.4	0.0	0.0	0.2	29.9	47.6	0.0	0.0	1817.6	4118.9
PACIFIC COD	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	0.2	0.0	0.0	4.5	8.6	0.0	0.0	0.0	0.0
LINGCOD	6.8	0.0	0.7	0.0	0.0	1.4	0.0	0.0	0.0	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
ROUGHEYE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARKBLOTCHED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPLITNOSE	87.3	6.4	0.0	0.0	0.0	0.0	48.1	0.0	0.0	0.0	0.0
YELLOWTAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHILIPEPPER	25.4	7.3	0.0	0.0	0.5	7.3	138.8	380.6	0.5	0.0	0.0
SHORTBELLY	0.0	0.0	0.0	0.0	0.0	3.2	20.9	10.9	0.2	0.0	0.0
BOCACCI	0.9	0.0	0.0	0.0	0.0	5.4	122.0	1.8	0.0	0.0	15.4
CANARY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
REC STRIPE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIPE TAIL	0.0	0.0	0.0	0.0	0.0	0.0	133.8	0.0	0.0	0.0	0.0
OTHER RND FISH	161.3	21.1	223.2	0.5	0.0	2.5	55.9	1.8	0.5	14.6	3.1
TOT RND FISH	282.6	36.1	224.1	0.5	0.7	54.2	575.7	395.1	1.1	1832.2	4137.4
ARROWTOOTH FL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DOVER SOLE	5.0	0.0	0.0	0.0	0.0	1.4	31.8	0.9	0.5	15.3	0.0
REX SOLE	1.4	0.9	6.8	0.0	0.2	2.7	4.1	6.1	0.1	1.7	0.0
ENGLISH SOLE	0.0	0.2	4.1	0.0	0.0	0.0	0.5	0.0	0.0	22.1	6.2
PETRALE SOLE	0.0	0.2	5.4	0.0	0.0	3.2	0.0	0.5	0.0	1.7	0.0
PAC SANDDAE	0.0	0.0	7.7	0.0	0.0	2.7	0.0	6.8	0.2	22.1	6.2
OTHER FLTFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
TOT FLTFISH	6.4	1.4	24.0	0.0	0.2	10.0	36.7	14.3	0.8	62.9	12.3
SKATES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.3	0.0
SPINY DOGFISH	0.0	0.0	106.6	0.0	0.0	1.4	5.4	0.0	0.0	0.0	27.8
RATFISH	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ELASMOBRH	0.0	0.0	0.2	0.0	0.0	5.9	0.0	0.0	0.0	0.0	0.0
TOT ELASMOBRH	0.2	0.0	106.8	0.0	0.0	7.3	5.4	0.0	0.0	15.3	27.8
DUNGENESS CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SQUID	0.0	0.0	24.0	0.0	0.0	0.0	0.0	19.1	0.0	0.0	0.0
SEA URCHINS	11.3	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	9.1	0.9	0.0	0.0	0.0	2.3	0.0	0.0
TOT INVERTS	11.3	0.0	24.0	9.1	0.9	0.0	0.0	19.1	2.3	0.0	0.0
TOTAL CATCH	300.5	37.4	379.0	9.5	1.8	71.4	617.9	428.4	4.2	1910.4	4177.5

Table 52.--Continued.

## 1980 WESTCAST GROUND FISH SURVEY - PAT SIN LARGE

HAUL #	13	14	15	16	17	18	19	20	21	22	23
MONTH/DAY/YEAR	7/14/80	7/14/80	7/14/80	7/14/80	7/14/80	7/15/80	7/15/80	7/15/80	7/15/80	7/15/80	7/15/80
LATITUDE START	37 51.0	37 49.6	37 48.9	37 45.9	37 55.0	38 7.3	38 9.2	38 8.2	38 9.9	38 9.9	38 11.2
LONGITUDE START	122 56.8	122 59.5	123 4.6	123 11.3	123 16.6	123 26.1	123 23.3	123 21.6	123 12.3	123 6.3	123 2.1
LATITUDE END	37 49.6	37 49.7	37 47.6	37 46.0	37 56.3	38 8.7	38 7.7	38 6.6	38 8.7	38 11.0	38 10.9
LONGITUDE END	122 57.1	123 1.0	123 5.3	123 13.3	123 17.0	123 26.1	123 22.5	123 22.0	123 11.3	123 5.1	123 0.3
LORAN START	15973.70	15968.60	15954.70	15943.10	15898.60	15827.40	15829.60	15838.70	15861.70	15881.70	15890.70
LORAN END	43222.10	43216.40	43215.00	43203.10	43248.20	43316.00	43324.10	43309.00	43315.40	43316.10	43321.10
LORAN END	15976.50	15963.70	15956.60	15937.50	15893.60	15822.60	15837.50	15842.70	15869.60	15881.60	15897.70
LORAN END	43215.80	43217.90	43209.00	43204.10	43254.30	43321.30	43316.90	43302.20	43311.00	43321.90	43319.30
GEAR DEPTH	68	77	73	161	104	267	159	201	102	77	64
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.63	2.20	2.61	2.80	2.44	2.59	3.07	2.87	2.74	2.59	2.67
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	450.0	5213.9	1193.5	100.7	0.0	63.5	104.8	166.0	1023.8	2308.1	2976.1
PACIFIC COD	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	3.5	0.0	6.4	68.0	2.3	0.0	0.0	0.0
LINGCOD	0.0	0.0	9.0	3.5	1.4	0.0	49.9	45.4	0.0	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
ROUGHEY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARKBLOTCHED	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0
SPLITNOSE	0.0	0.0	0.0	3.5	0.0	59.0	2.7	0.0	0.0	0.0	0.0
YELLOWTAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.1	0.0
CHILIFEPPEP	0.0	0.0	0.0	53.3	1.8	0.0	38.6	146.5	0.0	0.0	0.0
SHORTBELLY	0.0	0.0	0.0	16.6	0.0	0.0	0.9	0.9	0.0	0.0	0.0
BOCACCIO	0.0	0.0	0.0	56.8	4.5	0.0	285.8	124.3	10.4	13.4	0.0
CANARY	0.0	0.0	0.0	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
REDSTRIPE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIPETAILED	0.0	0.0	0.0	715.0	4.1	3.6	91.2	130.2	0.0	0.0	0.0
OTHER RND FISH	0.0	5.3	7.3	56.8	0.3	3.3	39.2	5.9	0.2	36.9	75.4
TOT RND FISH	450.0	5219.2	1109.8	1014.5	12.1	135.7	682.4	621.4	1034.4	2378.6	3051.5
ARROWTOOTH FL	0.0	0.0	0.0	0.0	0.0	5.4	0.0	0.0	0.0	0.0	0.0
DOVER SOLE	0.0	0.0	0.0	41.5	0.9	89.4	29.0	21.8	0.0	0.0	0.0
REX SOLE	0.5	0.0	0.5	2.4	0.9	21.8	3.6	2.3	0.0	1.7	5.1
ENGLISH SOLE	0.0	0.0	3.6	0.0	1.9	0.0	1.4	0.4	0.0	13.4	5.1
PETRALE SOLE	0.0	0.0	7.2	0.0	0.0	2.3	0.0	0.5	0.0	0.0	0.0
PAC SANDDAG	0.2	1.8	16.1	0.0	4.1	0.0	0.0	0.0	0.0	0.0	3.6
OTHER FLTFISH	0.0	0.0	3.6	2.4	0.2	0.5	0.5	0.5	0.0	0.0	4.6
TOT FLTFISH	0.7	1.8	31.1	46.2	7.9	119.3	34.5	25.3	0.0	15.1	18.3
SKATES	0.0	0.0	0.0	0.0	0.0	0.5	3.6	0.0	0.0	0.0	0.0
SPINY DOGFISH	5.4	66.8	96.8	22.5	0.0	0.0	5.4	0.0	0.0	0.0	122.3
RATFISH	0.0	0.0	0.0	1.2	0.0	0.0	0.2	0.0	0.0	0.0	10.2
OTHER ELASMOBRH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT ELASMOBRH	5.4	66.8	96.8	23.7	0.0	0.5	9.3	0.0	0.0	0.0	132.5
DUNGENESS CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
SEA URCHINS	0.0	0.0	0.0	0.0	0.0	9.1	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	0.0	0.0	1.8	14.2	0.0	0.0	0.0	3.6	0.0	0.0	0.0
TOT INVERTS	0.0	0.0	1.8	14.2	0.0	9.1	0.0	3.6	0.0	0.0	0.0
TOTAL CATCH	456.1	5287.7	1139.5	1098.6	20.1	264.5	726.2	650.4	1034.4	2393.7	3202.4

Table 52.--Continued.

## 1980 WESTCOAST GROUND FISH SURVEY - PAT SIN VARIE

HAUL #	24	25	26	27	29	30	31	32	33	34	35
MONTH/DAY/YEAR	7/16/80	7/16/80	7/16/80	7/16/80	7/17/80	7/17/80	7/17/80	7/17/80	7/17/80	7/17/80	7/18/80
LATITUDE START	38 32.8	38 36.1	38 37.6	38 41.8	38 42.7	38 44.0	38 43.6	38 54.2	38 54.7	39 7.6	39 8.6
LONGITUDE START	123 35.3	123 37.5	123 33.8	123 27.6	123 40.6	123 44.8	123 47.3	123 56.8	123 55.5	123 53.0	123 55.8
LATITUDE END	38 31.9	38 36.1	38 39.4	38 42.7	38 46.6	38 44.8	38 42.6	38 55.3	38 53.8	39 8.2	39 7.0
LONGITUDE END	123 40.6	123 35.3	123 34.1	123 29.3	123 39.6	123 46.0	123 46.6	123 57.6	123 54.3	123 53.5	123 55.6
LORAN START	15688.30	15679.60	15615.40	15686.60	15619.30	15622.60	15615.60	15537.60	15539.50	15484.60	15471.40
LORAN END	43413.80	43428.10	43434.90	43452.20	43472.80	43457.20	43455.00	43492.00	43494.30	43540.00	43542.80
LORAN END	15679.50	15686.50	15675.70	15677.60	15627.40	15614.50	15622.70	15530.60	15547.50	15477.40	15479.00
LORAN END	43418.80	43428.20	43411.20	43456.00	43468.80	43460.70	43451.00	43496.00	43491.90	43544.80	43538.50
GEAR DEPTH	252	144	117	60	95	135	234	338	201	121	141
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.78	3.06	3.35	2.85	2.41	2.28	2.19	2.28	2.41	2.33	2.96
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	323.4	5.4	137.0	0.0	1063.3	63.0	25.9	0.0	15.0	32.2	0.0
PACIFIC COD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	3.6	15.4	38.6	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0
LINGCOD	2.3	3.6	5.9	0.0	0.0	0.0	0.0	0.0	0.0	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
ROUGHEY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARKBLOTCHED	43.5	0.0	0.5	0.0	0.0	0.0	0.0	172.7	0.0	0.0	0.0
SPLITNOSE	20.0	0.0	0.0	0.0	0.0	0.0	0.0	104.2	1.4	0.0	0.0
YELLOWTAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHILIPEPPER	3.6	18.1	0.0	0.0	0.0	8.6	1.8	0.0	176.0	4.1	0.0
SHORTBELLY	0.0	0.9	0.0	0.0	0.0	4.1	0.2	0.0	0.0	0.1	0.0
BOCACCIO	1.4	2.3	32.7	0.0	0.0	9.1	0.9	0.0	0.9	0.2	0.0
CANARY	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0
REDSTRIPE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIPETAIL	11.3	1.8	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1	4.5
OTHER RND FISH	20.2	0.9	5.0	2041.2	0.0	12.2	3.2	833.2	9.5	0.0	0.0
TOT RND FISH	429.3	48.5	220.0	2041.2	1063.3	100.2	32.0	1110.0	202.8	36.7	4.5
ARROWTOOTH FL	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DOVER SOLE	5.4	29.9	39.9	0.0	1.9	15.9	0.0	19.9	0.5	2.3	0.0
REX SOLE	1.8	8.6	12.7	0.0	0.0	0.9	0.1	3.0	0.2	0.9	0.0
ENGLISH SOLE	3.6	0.9	5.9	0.0	0.0	0.9	0.2	0.0	0.0	0.0	0.0
PETRALE SOLE	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
PAC SANDDAB	0.0	0.4	13.6	0.0	0.0	0.9	0.0	0.0	0.0	3.2	0.2
OTHER FLT FISH	0.2	0.0	0.5	0.0	0.0	0.5	0.1	0.0	0.0	0.0	0.0
TOT FLT FISH	11.1	39.9	73.5	0.0	1.9	19.1	0.7	22.9	0.7	6.4	0.2
SKATES	0.0	3.2	2.3	0.0	0.0	0.0	0.0	1.5	0.2	0.0	0.0
SPIRY DOGFISH	2.7	5.9	50.8	68.0	110.5	12.7	5.0	0.0	0.0	0.0	0.0
RATFISH	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ELASHORRH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT ELASHORRH	2.9	9.1	53.1	68.0	110.5	12.7	5.0	1.5	0.2	0.0	0.0
DUNGENESS CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
SEA URCHINS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	5.9
TOT INVERTS	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	5.9
TOTAL CATCH	443.4	97.5	346.5	2109.2	1175.8	132.0	38.6	1134.4	203.7	43.1	10.7

Table 52.--Continued.

## 1980 WESTCAST GROUND FISH SURVEY - PAT SPN MARIE

HAUL #	36	37	38	39	40	41	43	44	45	46	47
MONTH/DAY/YEAR	7/18/80	7/20/80	7/20/80	7/20/80	7/20/80	7/20/80	7/21/80	7/21/80	7/21/80	7/21/80	7/21/80
LATITUDE START	39 7.4	39 43.3	39 44.5	39 43.6	40 1.8	40 3.6	40 41.6	40 42.9	40 52.8	40 54.9	40 53.1
LONGITUDE START	123 57.1	123 54.8	123 58.6	124 1.1	124 7.6	124 15.6	124 30.5	124 31.1	124 25.5	124 22.3	124 20.6
LATITUDE END	39 8.5	39 44.7	39 43.5	39 45.1	40 3.2	40 4.9	40 43.0	40 44.7	40 54.1	40 53.7	40 52.1
LONGITUDE END	123 57.3	123 55.5	123 57.6	124 2.3	124 8.1	124 16.3	124 30.1	124 30.8	124 25.8	124 22.1	124 19.6
LORAN START	15473.60	15286.70	15266.50	15265.30	15137.00	15104.30	14814.70	14801.60	14748.50	14740.30	14756.80
LORAN END	43537.90	43652.10	43653.30	43549.70	43694.30	43694.60	43768.10	43771.00	43791.80	43797.00	43795.60
LORAN START	15467.60	15276.50	15275.60	15253.60	15127.20	15092.70	14805.60	14792.40	14737.70	14749.70	14767.40
LORAN END	43541.50	43655.90	43651.00	43653.00	43697.70	43697.00	43771.00	43773.80	43793.40	43795.00	43793.70
GEAR DEPTH	273	130	154	214	84	241	165	265	232	130	88
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	2.07	2.72	2.33	3.26	2.69	2.67	2.63	2.65	2.46	2.24	2.32
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	51.3	18.6	1.4	34.9	0.0	90.3	707.2	21.3	20.3	199.1	1173.6
PACIFIC COD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	45.8	78.9	0.0	7.7	0.0	0.0	0.0	0.0	8.7	34.0	0.0
LINGCOD	0.0	1.8	7.3	0.0	0.0	0.0	13.5	0.0	0.0	0.0	1.4
PAC OC PERCH	0.9	0.0	0.0	0.0	0.0	0.0	20.8	0.0	29.5	0.0	0.0
ROGUEYE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARKBLTCHED	2.7	0.5	0.0	0.0	0.0	22.7	1.0	0.0	145.9	1.8	0.0
SPLITNOSE	36.3	0.0	0.0	0.0	0.0	1.4	0.0	0.0	4.1	0.0	0.0
YELLOWTAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1
CHILIPEPPER	0.0	0.0	137.4	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.0	0.0	2.7	0.0	0.1	0.0	0.1	0.0	1.0	0.2	0.0
BOCACCO	0.0	13.2	10.0	1.4	0.0	4.1	32.3	0.0	23.9	33.6	2.7
CANARY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0
REDSTRIPE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIPETAIL	1.8	0.0	67.6	28.1	2.3	7.7	129.0	1.8	0.0	269.9	0.0
OTHER RND FISH	0.2	1.9	4.7	0.0	0.0	0.5	3.1	0.0	12.2	15.4	0.0
TOT RND FISH	135.0	114.9	231.1	75.3	2.4	126.6	907.1	23.1	247.1	554.1	1181.7
ARROWTOOTH FL	0.0	0.9	0.0	0.0	0.0	0.0	3.1	0.0	0.0	0.5	0.0
DOVER SOLE	8.6	24.5	15.4	16.3	0.0	6.8	14.6	0.0	26.4	18.6	12.3
REX SOLE	2.3	21.3	1.8	2.3	0.2	0.1	1.0	0.0	10.2	3.6	1.4
ENGLISH SOLE	0.0	0.9	0.0	1.8	0.5	0.5	1.0	0.0	1.0	1.8	0.0
PETRALE SOLE	0.0	0.0	0.0	0.0	0.2	0.5	0.0	0.0	0.0	0.0	0.0
PAC SANDDAB	0.0	1.4	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	2.7
OTHER FLYFISH	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
TOT FLYFISH	11.0	49.0	17.2	20.4	1.1	7.8	19.8	0.0	37.6	24.5	17.1
SKATES	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.8	0.0
SPINY DOGFISH	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RATFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ELASMOBRH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT ELASMOBRH	0.9	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	31.8	0.0
DUNGENESS CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SQUID	0.0	0.0	0.0	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0
SEA URCHINS	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	0.0	0.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT INVERTS	0.0	3.6	4.5	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	150.9	167.5	254.2	96.2	3.7	134.4	926.8	23.1	284.7	610.3	1198.8

Table 52. --Continued.

## 1980 WESTCOAST GROUND FISH SURVEY - PAT SON VARIE

HAUL #	48	49	50	51	52	53	54	55	56	57	58
MONTH/DAY/YEAR	7/23/80	7/23/80	7/23/80	7/23/80	7/23/80	7/23/80	7/24/80	7/28/80	8/ 5/80	8/ 5/80	8/ 5/80
LATITUDE START	41 15.4	41 16.3	41 14.7	41 36.5	41 37.3	41 37.4	41 59.5	42 10.1	43 19.3	43 19.1	43 21.5
LONGITUDE START	124 24.6	124 22.8	124 15.3	124 28.6	124 27.5	124 20.6	124 25.3	124 35.3	124 27.1	124 32.0	124 39.1
LATITUDE END	41 16.6	41 15.8	41 16.2	41 37.8	41 36.0	41 38.4	42 0.7	42 11.3	43 17.7	43 20.3	43 20.1
LONGITUDE END	124 25.6	124 20.8	124 15.1	124 28.6	124 26.6	124 20.6	124 25.8	124 35.8	124 27.8	124 31.5	124 39.8
LORAN START	14584.60	14581.70	14609.60	14414.60	14408.70	14422.50	14236.70	14131.60	13554.60	13553.60	13528.60
LORAN START	43828.00	43830.30	43812.80	43853.90	43855.80	43859.00	43880.00	43885.00	43927.10	43926.00	43925.20
LORAN END	14573.60	14589.50	14599.70	14403.70	14420.70	14415.00	14226.60	14121.50	13568.60	13543.20	13540.70
LORAN END	43829.10	43830.90	43814.80	43855.00	43854.10	43860.20	43881.00	43885.90	43926.90	43926.70	43924.90
GEAR DEPTH	249	137	80	190	143	73	86	212	65	101	188
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	2.63	2.82	2.80	2.41	2.65	1.85	2.30	2.30	3.11	2.59	2.76
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	282.1	77.1	22.7	2.3	0.5	0.9	20.4	0.5	0.0	0.1	52.6
PACIFIC COD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	18.1	10.0	0.0	3.2	0.0	0.0	0.0	0.9	0.0	0.0	15.0
LINGCOD	6.8	1.8	0.0	24.5	0.0	40.4	0.2	0.0	0.0	0.0	0.0
PAC OC PERCH	12.7	1.4	0.0	0.0	0.0	0.0	0.0	5.4	0.0	0.0	0.0
ROUGEYE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARKBLOTCHED	84.4	0.0	0.0	12.2	0.5	0.0	0.0	0.5	0.0	0.0	0.0
SPLITNOSE	40.4	0.0	0.0	0.0	0.0	0.0	0.0	16.3	0.0	0.0	0.9
YELLOWTAIL	0.0	28.1	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0
CHILIPEPPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.0	0.0	0.0	0.1	0.4	0.0	0.0	0.1	0.0	0.0	0.0
BOCACCI	5.0	63.5	0.0	3.2	3.2	0.0	0.0	1.4	0.0	0.0	7.7
CANARY	0.0	313.9	1.8	0.0	1.4	0.0	0.0	1.8	0.0	0.0	45.4
REDSTRIPE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIPETAILED	4.1	7.3	0.0	15.9	1.8	0.5	0.0	24.5	0.0	0.0	0.0
OTHER RNDFISH	6.1	17.7	2.3	2.9	5.4	0.0	2.0	2.3	0.0	0.6	14.2
TOT RNDFISH	455.7	520.7	26.8	64.3	14.9	41.7	22.6	53.6	0.0	0.7	135.7
ARROWTOOTH FL	8.2	1.8	0.0	2.3	5.0	0.9	0.0	0.9	0.0	0.0	3.6
DOVER SOLE	75.7	7.3	0.0	10.4	4.5	0.0	1.8	20.4	0.0	0.0	33.1
REX SOLE	21.3	0.5	0.0	0.0	0.0	0.1	0.0	1.8	0.1	0.0	1.8
ENGLISH SOLE	0.2	0.0	0.0	0.0	0.0	0.9	0.9	0.0	2.3	2.9	0.0
PETRALE SOLE	0.0	0.0	0.0	0.9	0.0	0.0	1.8	0.0	12.7	0.9	0.0
PAC SANDDAB	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.2	0.0	0.0
OTHER FLT FISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT FLT FISH	105.5	9.5	0.0	13.6	9.5	2.8	4.5	23.1	15.3	3.9	38.6
SKATES	7.7	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPINY DOGFISH	0.9	0.0	0.0	0.0	0.0	3.2	0.9	0.0	0.0	0.0	6.8
RAJFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ELASMOBRH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT ELASMOBRH	8.6	0.0	0.0	0.2	0.0	3.2	0.9	0.0	0.0	0.0	6.8
DUNGENESS CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SQUID	0.0	0.0	1.4	0.0	0.2	0.9	0.0	0.0	3.8	0.0	0.0
SEA URCHINS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0	0.0
OTHER INVERTS	4.0	0.0	0.0	0.9	0.5	0.0	0.0	0.2	0.0	0.9	0.0
TOT INVERTS	0.0	0.0	1.4	0.9	0.7	0.9	0.0	4.8	3.8	0.9	0.0
TOTAL CATCH	571.8	530.2	28.1	79.0	25.1	48.6	28.0	81.5	19.1	5.5	181.1

Table 52.--Continued.

## 1980 WESTCOAST GROUND FISH SURVEY - PAT SUMMARY

HAUL #	59	60	62	63	64	65	66	67	68	69	71
MONTH/DAY/YEAR	8/ 5/80	8/ 5/80	8/ 6/80	8/ 6/80	8/ 6/80	8/ 6/80	8/ 6/80	8/ 7/80	8/ 7/80	8/ 7/80	8/ 7/80
LATITUDE START	43 15.5	43 14.1	43 8.3	43 7.6	43 9.5	43 9.1	43 5.0	42 53.2	42 50.7	42 51.0	42 54.0
LONGITUDE START	124 43.6	124 40.5	124 36.6	124 39.8	124 43.8	124 48.1	124 50.6	124 47.1	124 42.5	124 38.8	124 42.8
LATITUDE END	43 13.9	43 15.3	43 6.7	43 8.7	43 8.2	43 9.7	43 3.7	42 51.9	42 51.5	42 52.0	42 55.0
LONGITUDE END	124 43.5	124 40.0	124 37.1	124 40.1	124 44.8	124 49.5	124 51.1	124 47.8	124 42.6	124 38.8	124 42.6
LORAN START	13577.70	13591.50	13643.30	13646.70	13628.60	13628.70	13661.60	13761.70	13787.70	13787.60	13758.60
LORAN END	43922.00	43922.70	43920.90	43920.10	43920.00	43918.90	43916.20	43910.60	43911.00	43912.10	43912.30
LORAN START	13590.60	13581.40	13656.60	13637.50	13638.70	13622.50	13671.70	13772.50	13780.50	13779.60	13750.60
LORAN END	43921.90	43923.40	43920.10	43920.80	43919.10	43915.00	43915.20	43909.90	43911.30	43913.00	43913.20
GEAR DEPTH	240	155	126	159	263	280	183	219	126	70	128
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.96	2.32	3.04	2.07	2.76	2.20	2.46	2.59	1.48	1.85	1.87
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	0.0	12.2	0.0	0.0	0.0	24.9	0.9	39.5	8.2	0.0	0.1
PACIFIC COD	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	2.7	0.0	16.4	0.0	161.0	3.2	0.0	0.0	0.0	7.9
LINGCOD	0.0	1.8	0.0	26.3	0.0	0.0	0.0	0.0	0.0	0.0	15.2
PAC DC PERCH	0.0	0.0	0.0	0.0	0.0	24.0	31.9	0.0	1.4	0.0	0.0
ROUGEYE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0	0.0	0.0
DARKBLUTCHED	0.0	1.8	0.0	0.1	0.0	57.2	0.0	0.0	0.0	0.0	0.5
SPLITNOSE	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0
YELLOWTAIL	0.0	6.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	67.4
CHILIPEPPER	0.0	0.0	0.0	0.0	0.0	0.0	37.2	0.0	0.0	0.0	0.0
SHORTBELLY	0.0	0.9	0.0	0.5	0.0	0.0	0.2	0.0	0.1	0.0	0.0
BOCACCO	0.0	1.4	0.0	0.0	0.0	0.0	1.8	0.0	15.4	0.0	0.0
CANARY	0.0	22.2	0.0	0.0	0.0	0.0	0.0	0.0	3.6	5.0	2.7
REDSTRIPE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIPE TAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
OTHER RND FISH	0.1	180.3	0.0	37.7	0.1	6.9	45.4	0.1	2.4	89.8	8.8
TOT RND FISH	0.1	230.2	0.0	81.0	0.1	275.4	123.7	39.6	31.0	94.8	102.6
ARROWTOOTH FL	0.0	0.0	0.0	2.3	0.0	1.6	7.3	0.0	0.9	0.0	0.9
DOVER SOLE	0.1	43.5	0.0	14.1	0.0	30.8	2.7	0.7	46.7	0.0	19.1
REX SOLE	0.0	0.0	0.0	0.0	0.0	10.4	1.1	0.0	1.4	1.4	0.2
ENGLISH SOLE	0.0	0.0	0.0	0.2	0.0	0.2	0.5	0.0	0.0	19.3	0.9
PETRALE SOLE	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.5	27.7	0.0
PAC SANDDAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
OTHER FLT FISH	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0
TOT FLT FISH	0.1	45.8	0.0	16.7	0.0	43.1	11.6	0.7	49.5	48.6	21.1
SKATES	0.0	57.2	0.0	0.0	0.0	1.6	8.2	0.0	6.4	0.0	4.8
SPINY DOGFISH	0.0	10.9	0.0	9.1	0.0	0.0	0.0	0.0	0.5	0.0	10.4
RATFISH	0.0	4.1	0.0	4.5	0.0	0.0	0.9	0.0	3.2	3.2	0.9
OTHER ELASHORRH	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT ELASHORRH	0.0	76.2	0.0	13.6	0.0	1.6	9.1	0.0	10.0	3.2	16.1
DUNGENESS CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	16.8	67.8
SEA URCHINS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT INVERTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.8	67.8
TOTAL CATCH	0.2	352.2	0.0	111.3	0.1	320.1	144.4	40.2	90.6	163.4	207.6

Table 52.--Continued.

## 1980 WESTCOAST GROUND FISH SURVEY - PAT SPIN NARIE

HAUL #	72	73	74	75	76	77	78	79	80	81	82
MONTH/DAY/YEAR	8/ 7/80	8/ 7/80	8/ 7/80	8/ 8/80	8/ 8/80	8/ 8/80	8/ 8/80	8/ 8/80	8/ 8/80	8/ 8/80	8/ 8/80
LATITUDE START	42 55.9	42 56.1	43 1.3	43 24.5	43 25.3	43 26.8	43 26.2	43 31.1	43 32.1	43 30.6	43 30.7
LONGITUDE START	124 38.1	124 34.0	124 32.3	124 25.3	124 29.6	124 33.3	124 40.3	124 35.6	124 31.1	124 27.1	124 22.6
LATITUDE END	42 56.9	42 57.0	43 2.6	43 23.4	43 26.9	43 25.5	43 27.8	43 32.3	43 30.7	43 31.5	43 29.3
LONGITUDE END	124 38.6	124 32.8	124 31.6	124 26.6	124 28.8	124 33.6	124 39.8	124 34.6	124 31.1	124 26.0	124 22.1
LORAN START	13746.70	13749.50	13746.70	13510.50	13501.50	13486.40	13488.40	13448.40	13442.50	13456.60	13457.70
LORAN START	43915.00	43916.80	43919.20	43929.90	43928.90	43928.80	43926.80	43929.70	43930.80	43930.80	43931.50
LORAN END	13739.70	13741.70	13695.50	13519.60	13487.40	13497.60	13474.60	13438.30	13453.70	13448.40	13469.60
LORAN END	43916.00	43917.10	43920.00	43929.00	43929.80	43928.00	43927.10	43929.90	43930.10	43930.90	43931.00
GEAR DEPTH	86	57	79	95	112	139	331	210	144	117	101
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.76	2.33	2.54	2.78	3.11	2.43	3.02	2.54	2.59	2.32	2.69
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	2.3	1.4	0.0	1.2	7.7	3.2	1.1	13.4	15.2	0.0	24.5
PACIFIC COD	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	0.5	0.0	0.0	0.0	0.9	1.4	66.2	28.3	1.1	0.0	0.0
LINGCOD	9.1	3.6	0.0	0.0	0.0	609.0	0.0	0.0	0.0	0.0	0.5
PAC OC PERCH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0
ROUGEYE	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARKBLOTCHED	0.0	0.0	0.0	0.0	0.9	0.0	3.4	0.7	0.3	0.0	0.5
SPLITINGSE	0.0	0.0	0.0	0.0	0.0	0.0	15.6	6.4	0.0	0.0	0.0
YELLOWTAIL	9.5	0.0	0.0	0.0	0.0	103.2	0.0	0.0	7.3	0.0	19.4
CHILIPEPPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.0	0.0	0.0	0.0	0.1	0.3	0.0	0.1	0.2	0.0	0.1
BOCACCI	0.0	0.0	0.0	0.0	0.0	36.7	0.0	2.5	0.5	0.0	0.0
CANARY	14.5	0.0	0.0	0.0	2.3	82.4	2.3	0.0	2.0	0.0	0.0
REDSTRIPE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIPETAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RND FISH	8.3	25.4	0.1	0.3	2.0	9.7	4.3	10.9	2.0	0.1	0.9
TOT RND FISH	44.1	30.4	0.1	1.5	13.9	846.0	97.5	63.1	28.7	0.1	45.8
ARROWTOOTH FL	0.0	0.0	0.0	0.0	1.6	7.8	1.6	7.7	13.0	0.0	3.4
DOVER SOLE	0.5	0.0	0.0	0.5	51.7	80.3	60.6	24.9	17.9	0.0	7.5
HEX SOLE	0.2	3.9	0.0	0.1	3.2	3.2	26.8	6.1	2.9	0.0	1.7
ENGLISH SOLE	15.6	5.8	0.3	1.2	29.5	1.1	0.0	0.0	0.0	0.0	0.8
PETRALE SOLE	23.1	11.6	0.7	0.0	1.8	2.5	0.0	0.0	0.0	0.0	1.4
PAC SANDDAE	0.1	0.3	0.0	0.0	4.8	0.2	0.0	0.0	0.0	0.0	6.0
OTHER FLT FISH	0.2	0.3	0.0	0.0	0.5	1.1	0.3	0.5	0.0	0.0	0.0
TOT FLT FISH	39.8	21.9	1.0	1.9	93.0	96.3	89.2	39.2	33.9	0.0	20.7
SKATES	5.9	0.0	0.0	0.0	7.3	0.0	0.7	10.8	12.7	0.0	0.0
SPINY DOGFISH	12.7	0.0	0.0	0.0	7.9	0.0	0.0	1.4	0.9	0.0	0.9
RATFISH	0.0	0.0	0.0	0.0	0.5	3.6	0.0	0.0	0.0	0.0	0.0
OTHER ELASMOBRH	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0
TOT ELASMOBRH	18.6	0.0	0.0	0.0	15.8	3.6	3.5	12.1	13.6	0.0	0.9
DUNGENESS CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SQUID	25.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEA URCHINS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	2.1	0.0
TOT INVERTS	25.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	2.1	0.0
TOTAL CATCH	128.3	52.3	1.1	3.3	122.7	945.8	190.2	114.5	77.3	2.2	67.4



Table 52.--Continued.

## 1980 WESTCAST GROUND FISH SURVEY - PAT SPN LARIE

HAUL #	83	84	85	86	87	88	89	90	91	92	93
MONTH/DAY/YEAR	8/ 9/80	8/ 9/80	8/ 9/80	8/ 9/80	8/ 9/80	8/ 9/80	8/ 9/80	8/ 9/80	8/10/80	8/10/80	8/10/80
LATITUDE START	43 37.4	43 37.6	43 37.1	43 35.1	43 35.6	43 41.0	43 43.1	43 42.3	43 48.1	43 49.6	43 47.5
LONGITUDE START	124 36.6	124 28.0	124 23.5	124 18.6	124 16.5	124 19.8	124 30.1	124 34.0	124 34.3	124 32.1	124 24.8
LATITUDE END	43 32.9	43 36.2	43 36.0	43 36.4	43 40.9	43 42.1	43 41.7	43 43.4	43 49.7	43 48.4	43 48.9
LONGITUDE END	124 36.6	124 27.6	124 22.6	124 17.6	124 16.8	124 21.1	124 31.1	124 34.1	124 34.3	124 31.0	124 24.1
LORAN START	13393.80	13395.60	13400.70	13419.70	13380.70	13367.60	13346.70	13352.60	13301.60	13290.30	13309.60
LORAN START	43930.30	43932.00	43932.10	43932.30	43933.90	43933.20	43932.20	43932.00	43933.10	43933.80	43934.10
LORAN END	13380.70	13407.60	13410.60	13409.40	13368.60	13357.70	13358.60	13342.70	13288.60	13300.60	13297.50
LORAN END	43930.50	43931.40	43932.00	43933.30	43934.00	43933.10	43932.00	43932.00	43933.10	43933.80	43934.80
GEAR DEPTH	280	135	113	93	90	110	163	209	203	150	113
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.78	2.63	2.37	2.76	2.44	2.59	2.93	2.06	2.96	2.67	2.76
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	0.9	19.4	17.2	31.3	185.8	36.9	10.9	11.1	6.4	3.3	2.7
PACIFIC COD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	4.5	1.1	0.0	0.3	2.9	0.0	15.9	26.5	1.4	18.4	0.0
LINGCOD	0.0	0.0	5.7	3.2	9.1	0.0	0.0	0.0	0.0	1.7	0.0
PAC OC PERCH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.2	0.0	0.0
ROUGHEYE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARKBLOTCHED	0.8	0.7	0.0	0.0	0.1	0.0	0.1	1.1	0.0	0.0	0.0
SPLITNOSE	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.5	0.1	0.0	0.0
YELLOWTAIL	0.0	9.5	58.5	9.5	5.9	4.2	1.8	0.0	0.0	9.8	2.3
CHILIPEPPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.5	0.8	0.7	0.0
BOCACCI	0.0	0.0	1.1	0.0	0.7	0.0	8.6	0.0	0.0	1.0	0.0
CANARY	0.0	13.8	7.9	0.7	0.0	0.0	12.7	0.0	0.0	2.1	0.0
REDSTRIPE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIPETAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.0	0.0	0.0
OTHER RND FISH	0.1	0.2	0.9	13.5	2.0	1.7	17.2	7.5	4.2	5.9	0.1
TOT RND FISH	6.4	47.0	91.4	58.5	206.5	42.8	68.3	48.8	13.0	42.8	5.1
ARROWTOOTH FL	33.6	0.0	0.3	0.0	0.0	0.0	6.1	10.2	0.8	3.0	0.0
DOVER SOLE	2.3	0.7	46.9	25.9	9.5	0.2	30.4	5.7	12.9	21.3	0.5
REX SOLE	0.0	0.5	8.2	6.8	0.9	0.0	0.0	0.1	2.6	0.2	0.0
ENGLISH SOLE	0.0	0.0	0.5	2.7	1.4	0.8	0.1	0.0	0.5	0.8	0.0
PETRALE SOLE	0.0	0.0	1.1	5.0	10.4	2.3	0.7	0.0	0.0	0.0	0.0
PAC SANDDAE	0.2	0.0	0.3	5.0	27.2	2.3	0.0	0.1	0.0	0.0	0.0
OTHER FLTFISH	0.0	0.1	0.1	0.2	0.0	0.0	0.1	0.1	0.1	0.1	0.0
TOT FLTFISH	36.1	1.2	57.4	45.6	49.4	5.6	37.4	16.2	16.9	25.4	0.5
SKATES	0.0	0.0	4.5	0.0	15.4	0.0	0.0	7.6	6.9	0.0	0.0
SPINY DOGFISH	0.0	0.2	0.0	2.3	1.1	0.2	5.4	0.0	0.0	0.0	1.4
RATFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.5	4.1	1.0	0.0	0.0
OTHER ELASHORRH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT ELASHORRH	0.0	0.2	4.5	2.3	16.6	0.2	5.9	11.7	7.9	0.0	1.4
DUNGENESS CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	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
SEA URCHINS	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	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT INVERTS	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0
TOTAL CATCH	42.4	48.5	157.1	106.3	272.5	48.6	111.6	76.6	38.3	68.3	6.9

Table 52.--Continued.

## 1980 WESTCOAST GROUND FISH SURVEY - PAT SIMON ARRIE

HAUL #	94	97	98	110	111	112	113	114	115	116	117
MONTH/DAY/YEAR	8/10/80	8/11/80	8/11/80	8/14/80	8/14/80	8/14/80	8/14/80	8/14/80	8/14/80	8/14/80	8/15/80
LATITUDE START	43 46.9	44 34.1	44 35.6	44 29.1	44 28.1	44 29.0	44 29.5	44 28.7	44 29.2	44 30.0	43 56.4
LONGITUDE START	124 15.0	124 44.1	124 47.0	124 13.1	124 16.3	124 24.8	124 31.8	124 36.0	124 41.3	124 50.6	124 55.5
LATITUDE END	43 42.5	44 35.1	44 35.2	44 27.5	44 28.7	44 28.6	44 28.7	44 28.9	44 30.0	44 28.5	43 55.6
LONGITUDE END	124 14.8	124 45.6	124 48.6	124 13.8	124 18.3	124 27.0	124 33.6	124 38.1	124 43.0	124 51.5	124 53.8
LORAN START	13316.50	12915.40	12934.40	12943.60	12953.60	12946.90	12947.70	12956.70	12955.20	12951.60	13230.70
LORAN START	43935.00	27855.70	27862.70	27904.40	27897.00	27882.90	27871.00	27862.00	27853.20	27837.90	27777.00
LORAN END	13302.30	12908.40	12938.60	12957.70	12948.70	12953.70	12956.40	12956.40	12949.50	12964.60	13237.50
LORAN END	43935.60	27854.70	27869.00	27901.00	27894.20	27878.00	27866.70	27858.80	27851.90	27834.90	27778.90
GEAR DEPTH	79	333	342	62	73	71	106	143	165	329	183
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 FISHER	2.98	2.72	2.37	3.07	2.76	2.89	2.82	2.82	2.59	2.98	2.61
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	24.9	0.0	0.0	321.1	138.6	1.0	149.7	0.0	0.0	0.0	5.9
PACIFIC COD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.8	0.0	0.0	0.0
SABLEFISH	0.0	0.0	0.0	0.0	0.4	0.0	0.0	105.8	0.0	0.0	146.7
LINGCOD	0.0	0.0	0.0	6.6	16.0	0.0	0.0	2.7	0.0	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	212.1	0.0
ROUGEYE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.2	0.0	3.6
DARKBLOTCHED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.6	0.0
SPLITNOSE	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	596.7	0.0
YELLOWTAIL	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.3	0.0	1.8
CHILIPEPPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	8.2
BOCACCIO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.1	0.0	12.0
CANARY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	236.0	0.0	0.0
REDSTRIPE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	242.9	0.0	1.6
STRIPETALE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1
OTHER RND FISH	1.6	0.1	0.0	22.6	0.0	1.8	0.0	6.2	141.2	514.4	64.7
TOT RND FISH	31.0	0.1	0.0	351.1	154.9	2.7	149.7	126.5	689.0	1362.7	248.7
ARROWTOOTH FL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.4	0.0	0.0	16.8
DOVER SOLE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	28.6
REX SOLE	0.1	0.0	0.0	12.1	7.8	0.0	0.1	1.4	0.0	0.0	2.7
ENGLISH SOLE	1.4	0.0	0.0	17.9	12.5	0.0	0.0	17.9	0.0	0.0	0.0
PETRALE SOLE	1.0	0.0	0.0	7.5	10.5	2.4	0.0	0.0	0.0	0.0	1.8
PAC SANDDAB	10.0	0.0	0.0	16.9	10.4	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	1.4	0.0	0.0	0.1
TOT FLTFISH	12.5	0.0	0.0	54.4	41.2	2.4	0.1	39.2	0.0	0.0	50.0
SKATES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3
SPINY COGFISH	4.1	0.0	0.0	1.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0
RATFISH	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	6.8
OTHER ELASMOBRH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4
TOT ELASMOBRH	4.1	0.0	0.0	1.0	3.4	0.4	0.0	0.0	0.0	0.0	16.6
DUNGENESS CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SQUID	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEA URCHINS	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	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT INVERTS	0.0	0.5	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	47.6	0.6	0.0	408.2	199.6	5.5	149.8	165.7	689.0	1362.7	315.2

Table 52.--Continued.

## 1980 WESTCOAST GROUND FISH SURVEY - PAT SPN (ARIE)

HAUL #	118	119	120	121	122	123	124	125	126	127	128
MONTH/DAY/YEAR	8/15/80	8/15/80	8/15/80	8/15/80	8/15/80	8/15/80	8/15/80	8/15/80	8/16/80	8/16/80	8/16/80
LATITUDE START	43 55.7	43 55.6	43 55.4	43 55.0	43 54.7	43 53.5	43 54.7	43 52.3	43 54.8	43 56.7	43 56.2
LONGITUDE START	124 50.8	124 46.9	124 43.6	124 38.5	124 33.1	124 27.3	124 23.8	124 14.3	124 14.6	124 20.5	124 23.3
LATITUDE END	43 55.8	43 56.1	43 55.4	43 54.6	43 53.4	43 54.8	43 53.3	43 53.2	43 56.0	43 55.0	43 57.3
LONGITUDE END	124 48.8	124 45.0	124 41.6	124 36.6	124 32.3	124 26.8	124 22.6	124 13.0	124 14.8	124 20.1	124 24.5
LORAN START	13236.50	13237.60	13239.30	13243.60	13245.60	13256.70	13246.60	13268.60	13245.70	13229.60	13233.60
LORAN END	27784.90	27791.20	27797.60	27806.00	27815.20	27824.90	27833.90	27848.90	27851.30	27843.10	27836.90
GEAR DEPTH	166	159	187	212	155	124	113	66	79	112	115
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	2.69	2.76	2.82	2.65	2.57	2.46	2.98	2.41	2.24	3.17	2.52
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	14.9	33.2	5.4	3.6	35.3	18.9	52.5	1.8	130.8	3.3	33.8
PACIFIC COD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	192.3	8.3	33.6	25.9	148.0	39.1	0.0	0.0	7.7	0.0	8.2
LINGCOD	0.0	0.0	2.1	4.1	0.0	0.0	0.0	0.0	0.0	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
ROUGHEY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILVERGRAY	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARKBLOTCHED	0.0	0.0	0.0	7.7	2.5	0.0	0.0	0.0	0.0	0.0	0.0
SPLITNOSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOWTAIL	0.0	0.0	0.7	0.0	6.5	29.3	0.9	0.0	0.0	0.0	0.0
CHILIPEPPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.1	34.9	0.8	0.8	0.2	0.0	0.1	0.0	0.0	0.0	0.0
BOCACCIO	0.4	63.1	1.7	0.0	9.6	0.0	0.0	0.0	0.0	0.0	0.0
CANARY	10.7	73.1	1.8	0.0	6.5	6.4	0.9	0.0	0.0	0.0	0.0
REDSTRIFE	0.0	1746.2	6.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIPETAIL	1.7	0.0	10.0	0.2	17.9	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RND FISH	14.5	176.4	12.0	13.4	21.8	2.6	0.3	3.6	0.0	0.0	3.0
TOT RND FISH	246.0	2135.4	74.1	56.2	248.4	96.3	54.7	5.4	138.5	3.3	45.0
ARROWTOOTH FL	10.1	0.0	4.1	10.9	10.3	0.0	1.4	0.0	1.1	0.0	0.5
DOVER SOLE	63.7	109.7	93.8	28.6	18.5	52.0	0.0	1.1	5.9	0.0	32.1
REX SOLE	4.5	18.3	5.0	4.1	3.0	2.9	0.0	5.0	0.7	0.0	0.3
ENGLISH SOLE	44.0	0.8	0.0	0.0	0.0	0.0	0.0	7.3	15.9	0.1	1.4
PETRALE SOLE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	2.3	0.1	0.7
PAC SANDDAB	0.0	0.0	0.0	0.0	0.0	0.7	0.0	46.3	12.9	0.0	2.0
OTHER FLT FISH	0.2	0.0	0.0	2.7	0.4	0.3	0.0	0.0	0.1	0.0	0.0
TOT FLT FISH	122.5	128.8	102.9	46.3	32.3	56.0	1.4	63.3	38.9	0.2	36.9
SKATES	1.0	0.0	1.1	0.0	0.2	0.0	0.0	3.9	0.0	0.0	0.0
SPINY DOGFISH	0.0	0.0	0.0	6.8	29.9	8.2	6.7	0.0	0.0	0.0	12.0
RATFISH	2.9	3.3	5.0	0.2	0.0	0.7	0.0	0.0	0.3	0.0	0.5
OTHER ELASMOBRN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT ELASMOBRN	3.9	3.3	6.1	7.0	30.2	8.8	6.7	3.9	0.3	0.0	12.5
DUNGENESS CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
SEA URCHINS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	8.6	0.0
TOT INVERTS	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	8.6	0.0
TOTAL CATCH	372.5	2267.5	183.1	109.5	311.7	161.1	62.7	72.6	177.7	12.1	94.5



Table 52.--Continued.

## 1980 WESTCAST GROUND FISH SURVEY - PAT SYN MARIE

HAUL #	142	143	144	145	146	147	148	149	151	152	153
MONTH/DAY/YEAR	8/18/80	8/18/80	8/18/80	8/20/80	8/20/80	8/20/80	8/20/80	8/20/80	8/20/80	8/20/80	8/20/80
LATITUDE START	44 22.5	44 23.4	44 23.3	44 17.4	44 16.6	44 14.5	44 14.0	44 16.9	44 18.5	44 20.2	44 19.3
LONGITUDE START	124 14.6	124 25.3	124 28.5	124 12.3	124 15.0	124 20.0	124 22.8	124 28.6	124 41.8	124 47.5	124 50.1
LATITUDE END	44 23.0	44 23.3	44 23.4	44 16.0	44 16.4	44 13.4	44 14.1	44 17.4	44 18.5	44 19.1	44 17.7
LONGITUDE END	124 16.3	124 27.3	124 30.3	124 12.6	124 17.0	124 21.1	124 24.8	124 30.3	124 43.8	124 48.8	124 50.6
LORAN START	13002.40	12997.70	12999.50	13045.70	13053.50	13073.60	13077.70	13054.60	13044.50	13032.50	13040.60
LORAN START	27892.70	27874.00	27866.10	27850.10	27883.90	27871.00	27865.00	27858.10	27836.90	27829.10	27823.10
LORAN END	12997.60	12998.60	12999.70	13057.70	13056.60	13083.70	13077.60	13050.70	13044.70	13040.90	13053.60
LORAN END	27890.10	27870.00	27854.30	27887.10	27879.90	27867.20	27861.90	27855.90	27833.10	27825.00	27820.00
GEAR DEPTH	68	82	88	59	73	84	91	97	95	155	201
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	2.32	2.67	2.54	2.65	2.69	2.50	2.54	2.44	2.67	2.76	3.02
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	49.0	0.0	0.0	183.2	43.5	20.0	58.4	6.6	0.0	83.8	55.0
PACIFIC COD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	7.7	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	6.6	591.7
LINGCOD	0.0	1.1	0.6	2.4	0.0	0.0	0.0	0.0	0.0	8.5	5.6
PAC OC PERCH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
ROUGHEY	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARKBLOTCHED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPLITNOSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
YELLOWTAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	1.4	8.7
CHILipePPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOCACCHO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.2
CANARY	0.0	0.9	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
REDSTRIFE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
STRIPE TAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.7
OTHER RND FISH	0.2	1.0	5.0	0.3	0.1	0.0	0.2	0.9	33.7	7.6	0.3
TOT RND FISH	56.9	3.0	5.6	187.6	43.9	20.0	58.7	8.8	34.0	107.8	721.5
ARROWTOOTH FL	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.3	21.9
DOVER SOLE	0.3	2.0	3.4	0.0	0.0	2.0	2.8	3.7	0.0	13.4	1.6
REX SOLE	20.0	13.2	0.8	20.3	23.6	4.5	6.7	8.9	0.0	0.7	1.7
ENGLISH SOLE	9.1	11.1	0.8	48.6	7.7	7.3	21.3	10.2	0.0	0.1	11.2
PETRALE SOLE	2.0	8.8	1.5	3.8	0.9	0.5	1.8	1.0	0.0	2.8	0.0
PAC SANDDAB	24.9	9.1	0.1	42.5	23.9	13.2	8.7	7.0	0.0	0.0	0.0
OTHER FLT FISH	0.1	1.2	12.1	1.7	0.1	0.0	0.0	0.0	0.0	8.4	0.0
TOT FLT FISH	56.4	48.4	18.7	116.9	56.3	27.4	41.3	30.9	0.0	32.8	36.3
SKATES	12.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPINY DOGFISH	0.0	0.0	0.0	2.3	0.0	0.0	6.8	0.0	0.0	4.5	2.7
RATFISH	0.6	1.8	0.0	2.0	0.0	0.7	1.4	0.0	0.0	0.0	0.2
OTHER ELASMOBRH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	2.9
TOT ELASMOBRH	10.8	1.8	0.0	4.4	0.0	0.7	8.2	0.0	0.0	8.2	5.9
DUNGENESS CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
SEA URCHINS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT INVERTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	132.2	53.3	24.3	308.8	100.1	48.1	108.1	39.7	34.0	148.8	763.6

Table 52.--Continued.

## 1980 WESTCOAST GROUND FISH SURVEY - PAT SYN MARIE

HAUL #	154	155	157	158	159	160	161	162	163	164	165
MONTH/DAY/YEAR	8/21/80	8/21/80	8/21/80	8/21/80	8/21/80	8/21/80	8/21/80	8/22/80	8/22/80	8/22/80	8/22/80
LATITUDE START	44 39.3	44 41.2	44 40.3	44 45.1	44 50.9	44 56.7	44 58.1	44 57.3	44 59.1	45 4.3	45 5.7
LONGITUDE START	124 33.1	124 28.1	124 20.3	124 16.3	124 8.8	124 7.8	124 12.6	124 22.3	124 25.0	124 26.6	124 23.6
LATITUDE END	44 40.4	44 40.3	44 39.8	44 46.4	44 52.1	44 57.9	44 59.3	44 58.5	45 0.4	45 5.4	45 6.9
LONGITUDE END	124 32.5	124 26.3	124 18.5	124 16.0	124 8.8	124 8.1	124 13.6	124 21.5	124 24.8	124 25.5	124 22.5
LORAN START	12866.20	12846.60	12850.70	12806.60	12752.20	12701.40	12639.70	12708.40	12695.60	12654.60	12640.40
LORAN START	27882.00	27853.60	27906.00	27919.70	27940.30	27949.70	27942.00	27924.70	27922.00	27925.10	27932.70
LORAN END	12856.50	12854.30	12853.70	12795.70	12741.70	12691.40	12684.60	12697.40	12684.60	12644.50	12629.50
LORAN END	27884.80	27895.70	27908.40	27921.70	27942.00	27950.00	27941.90	27927.00	27923.80	27928.80	27935.90
GEAR DEPTH	154	108	79	99	70	88	137	190	274	338	305
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.24	2.91	2.69	2.44	2.22	2.28	2.52	2.46	2.43	2.57	2.65
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	5.2	0.0	0.0	0.0	0.0	0.0	0.9	36.1	1.8	21.3	8.5
PACIFIC COG	15.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	213.6	0.0	0.0	2.7	0.0	0.0	0.0	24.0	3.2	5.4	41.2
LINGCOD	0.0	2722.6	15.4	12.7	22.7	0.0	0.0	12.7	0.0	0.0	0.0
PAC OC PERCH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	249.7	11.3	5.0
ROUGHEYE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILVERGRAY	27.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARKBLOTCHED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	90.5	9.8	9.8
SPLITNOSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	90.7	18.3
YELLOWTAIL	12.6	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHILIPEPPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOCACCI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	0.0	0.0	0.0
CANARY	150.8	0.0	0.0	0.0	0.0	0.0	0.0	22.9	1.8	0.0	0.0
REDSTRIPE	330.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIPETAILED	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RNDFISH	136.7	338.6	0.1	0.0	9.3	47.2	0.9	16.5	10.1	29.3	16.5
TOT RNDFISH	907.5	3061.1	15.5	15.6	32.0	47.2	1.8	120.4	357.3	167.8	99.2
ARRONTOOTH FL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.2	15.4	4.5	3.7
DOVER SOLE	12.6	0.0	0.0	0.0	0.0	0.0	0.0	0.2	7.3	15.0	4.1
REX SOLE	0.0	0.0	0.7	0.1	1.1	1.8	0.0	9.1	0.0	1.4	0.2
ENGLISH SOLE	0.0	0.5	0.0	0.2	3.3	1.8	0.1	0.0	0.0	0.0	0.0
PETRALE SOLE	0.0	1.2	1.8	0.3	2.3	0.7	0.0	0.0	0.0	0.0	0.0
PAC SANDDAE	0.0	0.0	1.8	0.0	1.9	0.2	0.0	0.0	0.0	0.0	0.0
OTHER FLTFISH	0.0	0.0	0.1	0.1	0.7	0.0	0.0	0.0	0.0	0.0	0.0
TOT FLTFISH	12.6	1.7	4.4	0.7	9.3	4.5	0.1	26.5	22.7	20.9	8.0
SKATES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0
SPINY DOGFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RAIFISH	0.0	15.2	1.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ELASHOBRH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT ELASHOBRH	0.0	15.2	1.0	0.0	0.3	0.0	0.0	0.0	0.9	0.0	0.0
DUNGENESS CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	20.9	0.0
SEA URCHINS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0
TOT INVERTS	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	20.9	0.0
TOTAL CATCH	920.1	3078.1	20.9	16.3	41.6	51.7	21.9	146.9	380.9	209.6	107.1

Table 52.--Continued.

## 1980 WESTCAST GROUND FISH SURVEY - PAT SPIN VARIO

HAUL #	166	167	168	169	170	171	172	173	174	175	176
MONTH/DAY/YEAR	8/22/80	8/22/80	8/22/80	8/22/80	8/23/80	8/23/80	8/23/80	8/23/80	8/23/80	8/23/80	8/24/80
LATITUDE START	45 8.4	45 4.6	45 4.8	45 3.2	45 38.3	45 40.1	45 38.8	45 39.1	45 39.5	45 39.9	46 1.2
LONGITUDE START	124 18.5	124 14.6	124 10.5	124 6.6	124 2.1	124 9.1	124 13.1	124 23.1	124 26.6	124 35.6	124 43.3
LATITUDE END	45 5.1	45 5.5	45 3.2	45 4.2	45 40.1	45 38.7	45 40.0	45 38.5	45 39.9	45 41.1	46 2.5
LONGITUDE END	124 17.3	124 13.6	124 9.8	124 5.6	124 2.1	124 9.8	124 14.3	124 25.0	124 28.6	124 37.1	124 43.1
LORAN START	12629.40	12640.80	12635.60	12645.60	12347.50	12346.70	12362.40	12374.50	12375.60	12385.50	12241.70
LORAN END	27941.90	27946.00	27954.00	27959.00	28004.00	27993.50	27986.00	27969.90	27964.10	27950.80	27960.20
LORAN END	12638.70	12632.60	12648.40	12635.40	12336.60	12358.70	12355.60	12381.60	12375.60	12378.60	12233.30
LORAN END	27942.00	27949.10	27953.70	27961.90	28005.10	27991.00	27985.00	27966.00	27961.90	27949.20	27961.90
GEAR DEPTH	192	155	113	82	66	104	128	166	188	278	283
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.82	2.13	3.11	2.28	2.41	2.74	2.72	2.70	2.70	3.04	2.43
PERFORMANCE / GEAR	0 / 160	0 / 160	0 / 160	0 / 160	0 / 160	0 / 160	0 / 160	0 / 160	0 / 160	0 / 160	0 / 160
PAC WHITING	0.0	138.1	691.2	0.9	0.0	0.0	484.4	0.9	0.9	0.0	0.0
PACIFIC COD	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0
SABLEFISH	50.4	12.9	576.0	0.3	0.0	0.0	0.0	10.4	23.6	0.0	8.2
LINGCOD	14.3	0.0	0.0	0.0	7.3	0.0	0.0	0.0	0.0	0.0	0.0
PAC OC PERCH	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.2
ROUGHEYE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.2	0.0	0.0
DARKBLOTCHED	115.6	4.1	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.1	4.1
SPLITNOSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8
YELLOWTAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	252.2	4.1	0.7	1.4
CHILIPEPPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOCACCID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CANARY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4	0.0	0.0	0.0
REDSTRIPE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.8	2.3	0.0	0.0
STRIPETAILED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4	0.0	0.0
OTHER GROUND FISH	7.0	3.6	0.7	0.1	0.0	0.0	12.8	31.8	7.8	0.0	12.5
TOT GROUND FISH	188.7	158.8	1367.9	1.4	7.3	0.0	499.3	332.6	52.3	0.0	80.1
ARROWTOOTH FL	32.9	11.3	4.0	0.0	0.9	0.0	2.7	0.0	17.2	0.0	51.7
DOVER SOLE	1.9	11.8	1.4	0.0	0.0	0.0	12.7	0.5	15.4	0.1	13.6
REX SOLE	1.4	2.5	0.4	0.2	5.4	0.2	0.1	0.1	24.0	0.2	1.8
ENGLISH SOLE	0.0	0.0	13.5	0.1	8.2	0.2	0.0	0.0	0.0	0.0	0.0
PETRALE SOLE	0.0	0.0	0.0	0.0	20.9	0.0	0.5	0.7	1.8	0.0	4.1
PAC SANDDAE	0.0	0.0	0.0	0.1	9.5	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	6.4	0.0	0.0	0.0	27.4
TOT FLTFISH	38.1	25.6	19.3	0.4	44.9	0.4	22.3	1.2	52.5	0.2	98.5
SKATES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0
SPINY DOGFISH	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0
RATFISH	0.0	0.0	0.0	0.0	0.7	0.0	1.1	0.0	1.4	0.0	0.7
OTHER ELASMOBRN	0.0	0.0	6.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT ELASMOBRN	0.0	0.0	6.7	0.0	0.7	0.0	2.3	0.0	2.7	0.0	0.7
DUNGENESS CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
SEA URCHINS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT INVERTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	226.8	184.4	1393.9	1.7	52.8	0.4	523.9	333.8	113.5	1.1	179.3

Table 52.--Continued.

## 1980 WESTCOAST GROUND FISH SURVEY - PAT S/N (ARIE)

HAUL #	177	178	179	180	181	182	183	184	185	186	187
MONTH/DAY/YEAR	8/25/80	8/25/80	8/25/80	8/25/80	8/25/80	8/25/80	8/26/80	8/26/80	8/26/80	8/26/80	8/26/80
LATITUDE START	46 4.6	46 3.6	46 4.3	46 2.1	46 2.5	46 3.1	45 50.8	45 49.7	45 51.6	45 51.4	45 51.6
LONGITUDE START	124 6.5	124 8.8	124 14.6	124 19.5	124 30.6	124 38.5	124 42.6	124 38.5	124 32.8	124 17.5	124 13.8
LATITUDE END	46 3.2	46 3.4	46 2.9	46 3.3	46 3.2	46 1.6	45 49.5	45 51.2	45 51.2	45 51.5	45 51.7
LONGITUDE END	124 6.3	124 10.6	124 14.1	124 20.4	124 32.5	124 39.1	124 42.1	124 38.8	124 30.8	124 15.3	124 11.8
LORAN START	12156.60	12168.60	12173.40	12197.30	12212.70	12220.60	12314.70	12316.70	12294.50	12273.40	12265.50
LORAN END	28020.20	28016.00	28007.80	27997.90	27981.10	27970.00	27950.90	27956.00	27967.10	27991.60	27997.50
LORAN START	12166.80	12173.50	12193.30	12190.40	12210.70	12232.60	12323.70	12306.50	12294.60	12268.70	12262.20
LORAN END	28020.10	28013.00	28007.40	27997.70	27979.00	27967.10	27950.30	27957.80	27970.00	27994.90	28000.50
GEAR DEPTH	70	84	97	121	150	183	287	192	137	134	115
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	2.61	2.48	2.67	2.37	2.67	2.89	2.46	2.80	2.57	2.72	2.59
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	3.6	2.1	58.4	16.1	7.2	1.8	0.0	0.0	0.0	9.0	0.0
PACIFIC COD	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	4.7	4.8	0.0	10.4	0.0	5.8	0.0
LINGCOD	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC OC PERCH	0.0	0.0	0.0	0.0	0.0	0.1	0.0	16.8	1.4	1.2	0.0
ROUGHEY	0.0	0.0	0.0	0.0	0.8	0.3	0.0	0.0	0.0	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.5	0.0	0.0	0.0
DARKBLOTCHED	0.0	0.0	0.0	2.7	2.0	0.1	0.0	0.0	0.0	1.1	0.0
SPLITNOSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.3	0.0	0.0
YELLOWTAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHILIPEPPER	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOCACCIO	0.0	0.0	0.0	0.0	0.0	28.0	0.0	0.9	0.0	0.0	0.0
CANARY	0.0	0.0	0.0	0.7	0.0	0.0	0.0	2.3	5.9	10.2	0.0
REGSTRIPE	0.0	0.0	0.0	0.0	0.0	1.9	0.0	27.0	0.0	0.1	0.0
STRIPETAIL	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.5	0.0	0.0	0.0
OTHER RNFISH	0.1	3.4	0.0	3.0	12.7	17.2	0.1	89.1	0.1	0.8	0.0
TOT RNFISH	4.0	5.5	58.4	22.6	27.4	57.8	0.1	157.4	7.4	28.2	0.0
ARROWTOOTH FL	0.0	0.0	0.0	0.0	13.7	23.8	1.8	12.2	0.0	5.2	0.0
DOVER SOLE	0.0	0.0	0.0	29.9	26.3	4.8	0.9	16.6	0.0	2.7	0.0
REX SOLE	0.5	0.0	0.0	13.4	31.7	2.9	0.0	1.6	0.1	2.7	0.1
ENGLISH SOLE	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PETRALE SOLE	2.7	0.0	1.8	0.1	1.9	0.7	0.0	0.0	0.0	0.3	0.1
PAC SANDDAE	1.4	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER FLYFISH	0.0	0.0	0.0	0.1	0.7	0.0	0.0	0.0	0.0	0.0	0.0
TOT FLYFISH	5.5	0.0	1.8	43.6	74.3	32.3	2.7	30.4	0.1	10.8	0.2
SKATES	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
SPINY DOGFISH	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0
RATFISH	0.0	0.0	0.0	1.4	2.5	0.9	0.0	0.0	0.5	0.8	0.0
OTHER ELASHOBRRH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT ELASHOBRRH	0.0	0.0	0.0	1.4	2.6	3.2	0.0	0.0	0.5	0.8	0.0
DUNGENESS CRAB	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	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
SEA URCHINS	0.0	0.0	0.0	0.0	4.5	0.0	0.1	0.0	0.0	0.0	0.0
OTHER INVERTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT INVERTS	0.0	0.0	0.0	0.0	5.0	0.0	0.1	0.0	0.0	0.0	0.0
TOTAL CATCH	9.5	5.5	60.2	67.5	109.2	93.2	2.9	187.8	7.9	39.8	0.2









Table 52.--Continued.

## 1980 WESTCOAST GROUND FISH SURVEY - PAT SIN VARIE

HAUL #	222	223	225	226	228	229	230	231	232	233	234
MONTH/DAY/YEAR	9/ 8/80	9/ 8/80	9/ 8/80	9/ 8/80	9/ 9/80	9/ 9/80	9/ 9/80	9/ 9/80	9/ 9/80	9/ 9/80	9/ 9/80
LATITUDE START	47 2.3	47 1.0	46 59.2	46 56.6	47 6.2	47 6.2	47 7.0	47 8.6	47 9.4	47 14.2	47 13.4
LONGITUDE START	124 44.5	124 48.8	124 58.5	124 57.0	124 52.1	124 46.1	124 39.3	124 33.3	124 29.3	124 31.2	124 45.0
LATITUDE END	47 1.2	47 1.7	46 57.9	46 56.7	47 5.7	47 6.3	47 7.9	47 8.8	47 10.8	47 16.0	47 13.5
LONGITUDE END	124 43.8	124 50.6	124 57.6	124 55.1	124 50.3	124 44.1	124 38.0	124 31.3	124 28.8	124 33.1	124 47.1
LORAN START	11861.50	11876.60	11955.50	11916.60	11855.40	11843.30	11824.70	11804.60	11791.60	11768.60	11802.50
LORAN START	28014.00	28007.10	27992.70	27992.00	28006.90	28014.80	28024.10	28034.00	28040.00	28040.10	28021.90
LORAN END	11866.60	11876.60	11910.70	11912.70	11854.30	11838.60	11817.60	11799.30	11783.30	11764.70	11806.60
LORAN END	28013.80	28005.10	27992.20	27994.30	28008.70	28017.10	28027.00	28036.80	28041.70	28039.50	28019.00
GEAR DEPTH	124	155	256	229	149	121	93	71	59	62	134
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.22	2.74	2.61	2.43	2.33	2.41	2.33	2.56	2.67	2.76	2.65
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	0.0	0.0	10.9	28.4	0.0	68.9	59.4	0.0	0.5	0.0	0.0
PACIFIC COE	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	27.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LINGCOD	0.0	0.0	0.0	0.0	6.4	0.0	0.0	0.0	1.8	0.0	0.0
PAC OC PERCH	0.0	0.0	44.9	469.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROUGEYE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARKBLOTCHED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPLITNOSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOWTAIL	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
CHILIPEPPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOCACCI	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
CANARY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
REDSTRIPE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIPETAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RND FISH	0.0	0.0	18.8	163.1	0.1	0.0	0.0	0.0	47.6	0.4	0.0
TOT RND FISH	0.0	0.0	74.6	688.2	6.5	69.9	59.6	0.2	49.9	0.4	0.0
ARROWTOOTH FL	0.0	0.0	0.0	5.0	12.2	0.0	0.0	0.0	0.0	0.0	0.0
DOVER SOLE	0.0	0.0	0.9	18.4	7.7	0.7	10.0	0.0	0.5	0.0	0.0
REX SOLE	0.0	0.0	0.2	2.8	0.9	1.4	3.2	0.5	0.0	0.0	0.0
ENGLISH SOLE	0.0	0.0	0.0	0.0	0.0	0.0	1.4	2.7	37.6	2.7	0.7
PETRALE SOLE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
PAC SANDBAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.1	0.0
OTHER FLT FISH	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
TOT FLT FISH	0.0	0.0	1.1	26.2	21.1	2.0	14.5	3.6	38.8	2.8	0.7
SKATES	0.0	0.0	0.0	30.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPINY DOGFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RATFISH	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ELASHOERN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT ELASHOERN	0.0	0.0	0.0	34.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DUNGENESS CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
SEA URCHINS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	1360.8	90.7	0.5	0.0	0.0	34.0	13.6	4.5	0.0	2.3	2.3
TOT INVERTS	1360.8	90.7	0.5	0.0	0.0	34.0	13.6	4.5	0.0	2.3	2.3
TOTAL CATCH	1360.8	90.7	76.2	748.8	27.6	105.9	87.8	6.4	82.7	5.5	2.9

Table 52.--Continued.

1980 WESTCOAST GROUND FISH SURVEY - PAT SYN MARIE											
HAUL #	235	236	237	238	239	240	241	242	243	244	245
MONTH/DAY/YEAR	9/ 9/80	9/10/80	9/10/80	9/10/80	9/10/80	9/11/80	9/11/80	9/11/80	9/12/80	9/12/80	9/12/80
LATITUDE START	47 14.1	47 12.3	47 12.7	47 9.1	47 10.9	47 16.5	47 16.9	47 21.2	47 21.7	47 23.4	47 45.7
LONGITUDE START	124 49.8	124 53.6	124 53.3	124 56.8	124 44.8	124 36.3	124 40.0	124 46.1	124 37.3	124 34.3	124 42.3
LATITUDE END	47 15.3	47 13.4	47 11.9	47 8.3	47 9.9	47 18.1	47 18.4	47 22.6	47 23.1	47 24.8	47 46.7
LONGITUDE END	124 50.1	124 52.8	124 55.3	124 58.8	124 43.3	124 36.1	124 40.1	124 46.0	124 38.0	124 35.0	124 43.8
LORAN START	11809.50	11826.30	11823.40	11849.60	11815.60	11769.40	11774.60	11766.10	11744.60	11730.30	11643.70
LORAN START	28016.00	28009.70	28010.00	28002.20	28020.10	28035.90	28031.10	28026.10	28038.10	28043.70	28048.50
LORAN END	11803.60	11818.30	11810.60	11856.70	11817.60	11760.60	11767.60	11758.60	11739.50	11723.70	11642.40
LORAN END	28016.30	28011.90	28007.10	27999.20	28021.90	28037.00	28032.00	28027.30	28038.80	28044.00	28047.80
GEAR DEPTH	163	176	210	210	117	82	101	174	84	64	60
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	2.26	2.59	2.82	2.96	2.65	2.96	2.78	2.61	2.74	2.74	2.63
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	0.0	0.0	0.0	0.0	0.9	0.0	16.3	10.0	8.2	5.0	0.0
PACIFIC COG	0.0	19.5	9.1	10.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	10.9	44.5	12.7	6.3	0.0	0.0	0.0	24.0	0.0	0.0	0.0
LINGCOD	35.4	36.7	42.2	12.5	0.0	0.0	0.0	25.4	2.7	0.9	0.0
PAC OC PERCH	0.0	0.0	5.2	333.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROUGHEY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILVERGRAY	0.0	0.0	2.7	25.2	0.0	3.6	0.0	0.0	1.8	0.0	0.0
DARKBLOTCHED	0.0	1.8	0.5	3.8	0.0	0.1	0.0	24.5	0.0	0.0	0.0
SPLITNOSE	0.0	0.0	19.1	81.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOWTAIL	3.6	0.0	0.0	0.0	0.0	0.0	2.7	0.0	32.7	3.6	0.0
CHILIPEPPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOCACCIO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CANARY	0.0	0.0	0.0	0.0	0.0	16.3	4.1	0.0	9.1	0.0	0.0
RECSAIBE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIPETAIL	0.0	0.0	0.5	23.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RND FISH	9.1	5.4	17.1	107.7	0.0	0.7	0.0	25.9	0.0	0.0	2.7
TOT RND FISH	59.0	108.0	109.0	605.3	0.9	20.7	23.1	109.8	54.4	9.5	2.7
ARROWTOOTH FL	45.8	179.6	88.5	7.6	0.0	0.0	0.0	145.6	0.0	0.0	0.0
DOVER SOLE	6.4	13.6	10.0	16.4	0.5	0.0	17.2	6.8	5.4	16.8	0.0
REX SOLE	1.4	18.6	9.1	2.5	0.9	0.5	2.7	2.5	8.2	0.9	4.5
ENGLISH SOLE	1.4	7.7	2.5	0.0	0.0	3.2	0.2	0.0	5.0	62.6	11.8
PETRALE SOLE	4.1	22.7	9.1	2.5	0.0	0.0	0.0	44.5	0.7	0.5	2.5
PAC SANDDAE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	16.3
OTHER FLTFISH	1.4	3.6	0.0	0.0	0.0	0.0	0.0	20.9	0.5	0.5	1.8
TOT FLTFISH	60.3	245.8	119.1	29.0	1.4	3.6	20.2	220.2	19.7	82.1	37.0
SKATES	9.1	10.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	27.7	0.0
SPINY DOGFISH	2.3	28.6	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.9
RAIFISH	3.2	0.5	0.9	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.2
OTHER ELASMOBRH	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	1.8	0.0
TOT ELASMOBRH	14.5	39.0	4.5	0.0	0.0	3.6	0.0	0.9	0.0	29.5	16.1
DUNGENESS CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.1
SEA URCHINS	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	0.9	2.3	0.0	0.0	0.0	2.3	0.0	28.1	0.0	0.0	7.7
TOT INVERTS	0.9	2.3	0.0	0.0	1.4	2.3	0.0	28.1	0.0	0.0	7.8
TOTAL CATCH	134.7	395.1	232.6	634.3	3.6	30.3	43.3	359.0	74.2	121.1	63.6



Table 52. --Continued.

1980 WESTCAST GROUND FISH SURVEY - PAT SPN VARIE												
HAUL #	259	260	261	262	263	264	265	267	268	269	270	
MONTH/CLAY/YEAR	9/15/80	9/15/80	9/15/80	9/16/80	9/16/80	9/16/80	9/16/80	9/16/80	9/17/80	9/17/80	9/17/80	
LATITUDE START	48 27.9	48 26.5	48 24.2	48 21.6	48 21.7	48 18.7	48 24.2	48 35.9	48 48.3	48 46.6	48 45.0	
LONGITUDE START	125 32.6	125 35.8	125 41.1	125 44.1	125 47.8	125 52.6	126 4.1	125 39.3	125 22.8	125 24.3	125 28.0	
LATITUDE END	48 27.0	48 26.3	48 22.7	48 22.1	48 20.8	48 18.0	48 25.4	48 37.1	48 47.6	48 45.2	48 44.9	
LONGITUDE END	125 34.1	125 37.8	125 40.1	125 44.1	125 48.3	125 52.1	126 5.6	125 38.0	125 24.0	125 24.3	125 30.0	
LORAN START	14741.50	14729.60	14710.60	14700.30	14686.60	14669.40	14623.70	14713.50	14773.60	14768.60	14754.60	
LORAN END	28964.80	28961.00	28954.40	28942.20	28949.20	28938.70	28997.10	29035.90	29099.50	29089.80	29083.90	
LORAN END	14735.60	14722.30	14714.60	14599.70	14684.60	14671.60	14617.60	14718.30	14769.60	14768.60	14746.70	
LORAN END	28961.80	28963.30	28942.10	28945.00	28944.20	28932.10	29007.90	29040.50	29096.20	29078.20	29086.00	
GEAR DEPTH	102	128	146	146	154	219	223	66	95	101	123	
DURATION IN HOURS	0.50	0.50	0.50	0.20	0.30	0.50	0.50	0.50	0.40	0.50	0.50	
DISTANCE FISHED	2.57	2.50	3.09	0.93	1.78	2.04	2.89	2.82	1.96	2.59	2.46	
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	
PAC WHITING	0.0	148.3	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	495.3	
PACIFIC COD	0.0	0.0	0.0	13.7	39.2	0.0	5.4	0.0	0.0	0.0	42.2	
SABLEFISH	0.0	5.9	0.0	39.2	104.3	15.5	70.3	0.0	0.0	0.0	0.9	
LINGCOD	0.0	1.4	0.0	0.0	1.9	0.0	14.5	5.4	0.0	0.0	18.1	
PAC OC PERCH	0.0	0.0	0.0	0.0	0.0	1091.2	215.7	0.0	0.0	0.0	0.0	
ROUGHEYE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
SILVERGRAY	0.0	4.1	0.0	10.3	28.7	0.0	0.0	0.0	0.0	0.0	2.3	
DARKBLOTCHED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
SPLITNOSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
YELLOWTAIL	0.0	6.4	0.0	625.8	23.0	0.0	0.0	0.0	7.3	1.8	0.0	
CHILIPEPPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
SHORTBELLY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
BOCACCID	0.0	0.0	0.0	11.1	0.0	17.5	0.0	0.0	0.0	0.0	0.0	
CANARY	0.0	32.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	
REDSTRIPE	0.0	0.7	0.0	177.3	117.7	916.8	4.0	0.0	0.0	0.0	0.0	
STRIPE TAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
OTHER RND FISH	31.3	102.1	16.6	66.9	14.3	323.7	12.7	0.0	11.3	3.3	11.6	
TOT RND FISH	31.3	301.0	17.9	944.1	329.6	2364.6	318.6	5.4	12.6	5.1	572.2	
ARROWTOOTH FL	0.0	17.2	0.5	8.5	0.0	56.2	39.9	0.0	5.4	0.0	8.2	
DOVER SOLE	0.0	46.7	4.5	11.9	10.5	7.8	4.1	0.0	7.7	0.9	20.0	
REX SOLE	0.0	15.0	0.5	3.4	0.0	2.0	16.3	0.0	4.1	0.0	11.3	
ENGLISH SOLE	0.0	11.8	0.2	17.1	7.7	0.0	0.0	0.0	7.3	0.0	0.0	
PETRALE SOLE	0.0	0.0	0.0	0.0	1.9	0.0	4.1	0.0	0.0	0.0	0.0	
PAC SANDDAB	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	0.2	0.0	0.0	0.0	0.0	0.5	3.6	0.0	33.6	
TOT FLTFISH	0.0	90.7	5.9	40.9	20.1	65.9	64.4	0.5	28.1	0.9	73.0	
SKATES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.1	0.0	0.0	0.0	
SPINY DOGFISH	1.8	40.4	0.0	624.1	795.9	0.0	24.5	11.3	12.7	0.0	117.9	
HATFISH	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0	1.4	1.4	21.8	
OTHER ELASHORRH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
TOT ELASHORRH	1.8	40.4	0.0	624.1	795.9	0.0	27.7	29.5	14.1	1.4	139.7	
DUNGENESS CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	
SEA URCHINS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
OTHER INVERTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
TOT INVERTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
TOTAL CATCH	33.1	432.0	23.8	1609.1	1145.6	2430.5	410.7	35.4	60.8	7.4	784.9	

Table 52. -- Continued.

## 1980 WESTCOAST GROUND FISH SURVEY - PAT SAN MARIE

HAUL #	271	272	273	274	275	276	277	278	279	280	281
MONTH/CAY/YEAR	9/17/80	9/17/80	9/17/80	9/17/80	9/17/80	9/18/80	9/18/80	9/18/80	9/18/80	9/18/80	9/20/80
LATITUDE START	48 52.8	48 52.5	48 48.7	48 41.2	48 40.3	48 56.2	48 58.3	49 1.0	49 6.8	49 10.3	49 22.2
LONGITUDE START	125 56.3	125 58.3	126 2.3	126 12.3	126 13.1	126 31.6	126 31.0	126 28.1	126 23.3	126 19.1	126 47.8
LATITUDE END	48 54.1	48 51.2	48 47.8	48 39.9	48 41.1	48 57.4	48 59.4	49 2.4	49 2.2	49 11.7	49 23.8
LONGITUDE END	125 52.3	125 57.3	126 2.3	126 11.6	126 14.6	126 31.6	126 29.3	126 27.3	126 22.6	126 18.1	126 49.5
LORAN START	14638.60	14631.60	14617.70	14582.70	14580.20	14492.70	14492.70	14502.60	14517.50	14531.50	14391.70
LORAN END	29194.90	29187.20	29156.00	29127.10	29122.80	29258.40	29272.10	29287.10	29322.10	29342.90	29453.00
LORAN END	14630.60	14635.70	14617.70	14586.60	14573.70	14490.70	14498.70	14504.40	14518.20	14534.40	14382.60
LORAN END	29199.90	29176.30	29159.90	29117.90	29130.90	29266.80	29277.10	29296.80	29331.60	29351.80	29465.10
GEAR DEPTH	59	70	84	150	198	185	161	144	101	64	106
DURATION IN HOURS	0.50	0.50	0.30	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.50	2.70	1.67	2.56	2.28	2.22	2.91	2.72	2.70	2.87	3.54
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PACIFIC COD	0.0	0.0	0.7	4.5	2.7	9.5	0.0	0.0	0.0	0.0	0.0
SABLEFISH	0.0	0.0	0.0	14.5	54.9	30.3	0.0	0.0	0.0	0.0	0.0
LINGCOD	0.9	0.0	5.2	10.9	7.3	4.8	0.0	9.1	0.0	20.4	0.0
PAC OC PERCH	0.0	0.0	0.0	25.9	228.2	0.0	0.0	0.0	0.0	0.0	0.0
ROUGHEYE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	1.1	1.4	60.5	2.7	0.0	0.0	0.0	0.0
DARKBLOICED	0.0	0.0	0.0	0.0	43.5	0.0	0.0	0.5	0.0	0.0	0.0
SPLITNOSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOWTAIL	0.0	0.0	0.0	0.0	0.0	17.5	0.0	66.2	6.8	2.3	75.7
CHILLIPEPPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOCACCIO	0.0	0.0	0.0	0.0	0.0	36.6	0.0	0.0	0.0	0.0	0.0
CANARY	0.0	0.1	0.0	0.0	3.2	168.6	0.0	0.0	0.0	0.0	0.0
REDSTRIPE	0.0	0.0	0.0	16.3	12.1	440.8	16.3	0.0	0.0	0.0	0.0
STRIPETAII	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RNDFISH	0.0	1.4	0.0	0.7	65.3	217.2	16.3	0.5	0.0	0.5	30.8
TOT RNDFISH	0.9	1.5	5.9	73.9	424.6	985.7	35.4	76.2	6.8	23.1	106.6
ARROWTOOTH FL	0.0	0.0	0.0	74.8	98.4	0.0	3.6	19.1	0.0	0.0	0.0
DOVER SOLE	0.0	0.0	0.7	15.9	29.0	52.5	1.8	12.7	0.0	0.0	0.0
REX SOLE	0.0	0.0	0.0	30.8	38.6	26.3	0.2	5.0	0.2	0.9	0.0
ENGLISH SOLE	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	18.6	0.0
PETRALE SOLE	0.0	0.0	0.0	2.9	1.9	0.0	0.0	0.0	0.0	18.6	0.0
PAC SANDDAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
OTHER FLTFISH	3.9	1.4	1.1	1.8	1.9	0.0	0.0	3.9	0.1	2.3	0.0
TOT FLTFISH	3.9	1.4	1.8	126.3	170.1	78.8	5.7	40.6	0.3	41.5	0.0
SKATES	0.0	0.0	0.0	0.0	7.7	36.6	0.0	0.0	0.0	6.8	0.0
SPIRY DOGFISH	0.0	5.2	0.0	78.5	137.4	25.4	0.0	4.1	0.0	12.2	0.0
RATFISH	0.0	0.0	0.0	3.6	3.2	11.9	0.0	1.4	0.0	0.7	0.0
OTHER ELASMOBRM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT ELASMOBRM	0.0	5.2	0.0	82.1	148.3	74.0	0.0	5.4	0.0	19.7	0.0
DUNGENESS CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SQUID	0.0	0.0	19.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEA URCHINS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	7.3	2.3	0.0	0.0	0.0	58.9	0.0	0.0	9.1	0.0	0.0
TOT INVERTS	7.3	2.3	19.3	0.0	0.0	58.9	0.0	0.0	9.1	0.0	0.0
TOTAL CATCH	12.0	10.3	27.0	282.4	743.0	1197.3	41.0	122.2	16.2	84.4	106.6



Table 52.--Continued.

## 1980 WESTCOAST GROUND FISH SURVEY - PAT SIN MARIE

HAUL #	282	283	284	285	286	287	288	289
MONTH/DAY/YEAR	9/20/80	9/20/80	9/20/80	9/20/80	9/21/80	9/21/80	9/21/80	9/21/80
LATITUDE START	49 20.3	49 16.3	49 13.0	49 12.2	49 42.9	49 39.9	49 36.6	49 42.9
LONGITUDE START	126 51.0	126 54.3	127 1.0	127 2.0	127 3.6	127 7.8	127 15.3	127 27.1
LATITUDE END	49 15.1	49 16.4	49 13.9	49 13.1	49 42.0	49 41.1	49 35.3	49 44.0
LONGITUDE END	126 50.8	126 56.3	127 2.3	127 3.3	127 5.6	127 9.3	127 16.1	127 28.8
LORAN START	14381.60	14372.30	14376.60	14343.60	14287.20	14273.70	14244.70	14178.60
LORAN START	29442.20	29418.60	29404.00	29398.60	29601.50	29584.00	29566.30	29612.30
LORAN END	14383.40	14363.30	14300.60	14336.70	14280.20	14263.70	14243.60	14171.30
LORAN END	29434.00	29420.80	29499.50	29405.10	29597.00	29593.00	29559.00	29620.80
GEAR DEPTH	128	148	216	293	77	75	148	141
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.22	2.43	2.30	2.39	2.83	2.94	2.56	2.89
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	0.0	0.0	0.0	24.0	0.0	0.0	0.0	0.0
PACIFIC COD	0.0	0.0	12.7	0.0	0.0	0.0	0.0	1.8
SABLEFISH	0.0	0.0	21.3	16.3	0.0	0.0	158.0	0.0
LINGCOD	15.9	83.9	31.3	21.8	0.0	0.0	51.0	0.0
PAC OC PERCH	0.0	0.0	52.2	347.5	0.0	0.0	0.0	0.0
ROUGEYE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILVERGRAY	2.7	0.0	40.4	0.0	0.0	0.0	1554.3	23.6
DARKBLOTCHED	0.0	0.0	2.3	5.4	0.0	0.0	0.0	0.0
SPLITNOSE	0.0	0.0	0.2	6.8	0.0	0.0	0.0	0.0
YELLOWTAIL	7.7	0.0	5.9	3.2	0.0	0.0	107.0	49.0
CHILIPEPPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOCACCI	0.0	0.0	14.5	2.3	0.0	0.0	1539.0	16.8
CANARY	0.0	476.7	31.8	0.0	0.0	0.0	1070.2	0.0
REDSTRIPE	0.0	0.0	161.0	13.2	0.0	0.0	341.4	23.6
STRIPE TAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RNDFISH	8.6	1.6	27.7	16.3	0.5	0.2	119.7	14.8
TOT RNDFISH	34.9	562.2	601.2	456.8	0.5	0.2	4940.7	129.6
ARROWTOOTH FL	6.8	20.9	112.9	109.3	0.0	0.0	122.3	32.2
DOVER SOLE	1.4	1.8	14.5	35.8	0.0	0.0	71.3	0.0
REX SOLE	1.8	2.3	29.0	10.4	1.8	0.0	0.0	0.0
ENGLISH SOLE	0.0	0.0	0.0	0.0	4.1	0.2	0.0	0.0
PETRALE SOLE	0.0	0.0	1.8	2.3	5.4	0.2	10.2	0.0
PAC SANDDAB	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0
OTHER FLTFISH	0.2	24.0	2.4	0.0	1.8	0.0	0.0	0.0
TOT FLTFISH	10.2	48.9	160.7	157.8	15.0	0.5	203.8	32.2
SKATES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPINY DOGFISH	5.5	7.7	19.5	0.0	5.4	0.0	25.5	0.0
RATFISH	0.0	0.0	2.7	0.0	0.9	0.0	40.8	0.0
OTHER ELASMOBRH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT ELASMOBRH	5.5	7.7	22.2	0.0	6.4	0.0	66.3	0.0
DUNGENESS CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SQUID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEA URCHINS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
TOT INVERTS	8.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL CATCH	54.7	621.1	584.1	614.6	21.8	0.7	5210.8	161.8

Table 53.--Station and catch (lbs.) data for the F/V Mary Lou.

## 1980 WESTCAST GROUND FISH SURVEY - MARY LOU

HAUL #	1	2	3	4	5	6	7	8	9	10	12
MONTH/DAY/YEAR	7/12/80	7/12/80	7/12/80	7/12/80	7/13/80	7/13/80	7/13/80	7/13/80	7/13/80	7/13/80	7/14/80
LATITUDE START	36 50.8	36 47.9	36 58.4	37 1.5	37 23.8	37 22.5	37 21.2	37 20.8	37 17.9	37 25.5	37 38.8
LONGITUDE START	121 52.2	121 54.4	122 21.7	122 19.0	122 31.3	122 37.3	122 41.6	122 44.0	122 52.8	122 51.4	122 55.8
LATITUDE END	36 51.7	36 47.8	36 59.1	37 2.6	37 25.2	37 24.0	37 22.7	37 21.4	37 19.5	37 25.4	37 37.6
LONGITUDE END	121 53.7	121 56.1	122 22.9	122 20.2	122 34.5	122 38.1	122 42.6	122 45.9	122 53.3	122 54.0	122 54.6
LORAN START	16291.30	16289.80	16291.60	16293.40	16117.20	16108.30	16098.70	16092.60	16073.50	16059.40	16011.40
LORAN END	42825.60	42812.10	42912.40	42926.50	43065.80	43062.10	43059.00	43058.70	43050.80	43089.10	43160.10
LORAN END	16286.10	16285.80	16197.30	16198.00	16110.40	16102.40	16092.40	16085.80	16068.60	16052.10	16018.60
LORAN END	42833.70	42814.00	42917.80	42934.50	43074.60	43071.00	43067.40	43063.20	43059.20	43090.20	43153.30
GEAR DEPTH	64	348	165	80	60	73	90	101	293	256	86
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.85	2.50	2.11	2.78	3.19	3.06	3.02	2.94	2.93	3.82	2.91
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	2.7	27.2	179.2	2.7	57.2	352.0	42.3	4.5	0.0	2.3	374.7
PACIFIC COD	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	23.1	0.0	0.0	0.0	0.0	3315.4	411.2	3.6	4.5	0.0
LINGCOD	4.1	0.0	4.5	0.0	0.0	1.8	1.5	8.2	0.0	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
ROUGHEYE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARKBLOTCHED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4	5.9	0.0
SPLITNOSE	0.0	10.0	1.8	0.0	0.0	0.0	0.0	0.0	14.1	17.7	0.0
YELLOWTAIL	0.0	0.0	0.0	0.0	3.2	24.5	0.0	0.0	0.0	0.0	3.6
CHILPEPPER	0.2	0.5	66.2	0.9	0.0	0.0	0.0	0.0	0.0	29.0	0.0
SHORTBELLY	0.0	0.0	15.4	0.2	0.1	0.0	0.0	0.0	0.2	335.9	0.0
BOCACCI	0.0	0.0	20.4	0.9	0.5	2.7	1.5	5.9	0.0	14.5	5.0
CANARY	0.0	0.0	0.0	0.0	0.9	2.3	0.0	0.0	0.0	0.0	2.3
RECSRIPE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIPETAIL	0.0	0.9	83.5	1.4	0.1	0.0	0.0	0.0	0.5	21.8	0.0
OTHER RND FISH	19.7	120.2	35.5	4.6	1.0	28.6	0.0	15.4	5.9	11.2	5.0
TGT RND FISH	30.8	181.9	106.5	10.8	62.9	411.9	3360.7	445.2	29.7	442.8	390.5
ARROWTOOTH FL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DOVER SOLE	0.0	117.0	18.1	0.0	1.4	0.0	3.0	1.8	0.2	11.3	1.8
REX SOLE	0.1	28.6	5.4	1.4	0.9	0.1	0.0	0.9	0.0	1.4	3.2
ENGLISH SOLE	7.3	0.0	0.0	7.3	1.4	2.3	0.0	0.0	0.0	0.0	3.2
PETRALE SOLE	0.0	0.0	0.0	0.0	0.5	0.0	0.0	6.8	0.0	0.0	0.5
PAC SANDDAE	14.1	1.4	0.0	5.0	5.4	3.2	24.2	20.9	0.0	0.0	0.0
OTHER FLTFISH	0.0	0.0	0.0	0.0	1.0	1.4	0.0	0.0	0.0	0.0	0.0
TOT FLTFISH	21.4	147.0	23.6	13.6	10.5	6.9	27.2	30.4	0.2	12.7	8.6
SKATES	0.0	15.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPINY DOGFISH	2.3	0.0	1.4	0.0	0.0	1.8	27.2	5.9	0.0	0.0	15.0
RATFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ELASPOBRH	0.2	1.4	2.3	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0
TOT ELASPOBRH	2.5	16.8	3.6	0.0	0.0	1.8	27.2	7.7	0.0	0.0	15.0
DUNGENESS CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SQUID	0.0	0.0	0.0	1.8	0.0	0.0	0.0	20.4	0.0	0.0	0.0
SEA URCHINS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	2268.0	0.0	0.0	453.6	0.0	0.0	0.0	0.0	0.1	0.0	0.0
TGT INVERTS	2268.0	0.0	0.0	453.6	0.0	0.0	0.0	20.4	0.1	0.0	0.0
TOTAL CATCH	2322.7	345.6	633.7	479.8	73.4	420.7	3415.2	503.8	30.0	455.5	414.1

Table 53.--Continued.

## 1980 WESTCOAST GROUND FISH SURVEY - MARY 10U

HAUL #	13	14	15	16	17	18	19	20	21	22	23
MONTH/DAY/YEAR	7/14/80	7/14/80	7/14/80	7/15/80	7/15/80	7/15/80	7/15/80	7/15/80	7/15/80	7/15/80	7/15/80
LATITUDE START	37 36.0	37 35.1	37 54.4	37 59.6	37 58.9	37 57.0	38 14.0	38 15.8	38 18.8	38 19.6	38 21.6
LONGITUDE START	122 58.2	122 59.6	123 24.9	122 7.1	123 9.0	123 13.5	123 23.0	123 18.9	123 13.8	123 10.5	123 7.7
LATITUDE END	37 37.5	37 36.2	37 53.1	38 1.0	37 57.2	37 58.0	38 12.3	38 17.3	38 17.6	38 20.5	38 20.6
LONGITUDE END	122 59.0	123 1.0	123 23.7	123 8.1	123 9.0	123 15.0	123 22.3	123 19.8	123 12.4	123 9.0	123 6.1
LORAN START	16011.60	16010.00	15874.80	15913.50	15910.10	15901.80	15813.10	15819.70	15825.20	15833.20	15834.70
LORAN START	43147.50	43143.40	43246.90	43267.10	43264.10	43256.20	43335.30	43343.20	43356.30	43359.90	43368.90
LORAN END	16005.50	16002.80	15832.60	15905.90	15915.50	15894.00	15821.60	15811.50	15834.20	15833.00	15843.60
LORAN END	43155.10	43149.80	43204.60	43273.80	43255.80	43261.30	43327.70	43349.70	43350.90	43366.00	43364.80
GEAR DEPTH	115	183	219	82	97	101	203	119	95	88	64
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.85	2.89	2.94	2.91	3.24	2.82	3.32	2.98	3.02	3.30	2.94
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	1.8	0.0	1.8	853.7	898.6	0.0	37.6	28.1	7.7	339.3	4068.2
PACIFIC COD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	6.8	201.4	0.0	0.0	0.0	1.4	1.4	0.0	0.0	0.5	0.0
LINGCOD	0.0	0.0	0.0	0.0	0.0	11.3	0.0	0.0	0.0	0.5	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
ROUGHEYE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARKBLOTCHED	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
SPLITNOSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOWTAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHILIPEPPER	9.5	1232.7	59.0	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.5	5.4	6.4	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
BOCACCIO	10.4	137.9	5.0	0.0	0.9	0.0	0.0	3.6	0.9	7.7	7.0
CANARY	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
REDSTRIPE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIPETAILED	164.2	1329.7	2.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RND FISH	17.8	134.3	3.6	5.0	0.9	0.0	0.0	0.0	3.9	7.4	14.3
TOT RND FISH	211.5	3041.4	81.6	865.2	900.4	12.8	39.0	31.9	12.5	355.3	4089.5
ARROWTOOTH FL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DOVER SOLE	0.9	21.8	0.5	0.0	0.0	0.0	0.0	0.9	0.0	3.2	0.0
REX SOLE	0.9	3.6	0.9	0.1	0.0	0.0	0.5	0.0	0.1	2.3	3.5
ENGLISH SOLE	0.5	0.0	0.0	0.0	0.0	0.2	0.5	0.0	0.0	13.6	1.7
PETRALE SOLE	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
PAC SANDDAE	0.9	0.0	0.0	0.0	0.0	2.3	3.6	0.0	0.0	0.9	1.7
OTHER FLT FISH	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
TOT FLT FISH	3.2	25.4	1.4	0.1	0.0	2.7	4.8	0.9	0.1	20.0	6.9
SKATES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPINY DOGFISH	0.0	14.5	1.4	10.9	36.3	7.7	1.8	6.8	7.3	79.4	157.0
RATFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0
OTHER ELASHOBRRH	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT ELASHOBRRH	5.0	14.5	1.4	10.9	36.3	7.7	1.8	6.8	7.3	79.4	154.0
DUMGENESS CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0
SQUID	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEA URCHINS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT INVERTS	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0
TOTAL CATCH	228.7	3081.3	84.4	876.2	936.7	23.2	45.6	39.6	19.8	455.5	4260.4

Table 53.--Continued.

## 1980 WESTCOAST GROUND FISH SURVEY - MARY LOU

HAUL #	24	25	26	27	28	29	30	31	32	33	34
MONTH/DAY/YEAR	7/16/80	7/16/80	7/16/80	7/16/80	7/17/80	7/17/80	7/18/80	7/18/80	7/20/80	7/20/80	7/20/80
LATITUDE START	38 29.5	38 27.9	38 24.3	38 20.2	38 57.4	39 21.5	39 21.7	39 21.2	39 34.6	39 33.2	39 34.4
LONGITUDE START	123 18.2	123 21.4	123 26.6	123 32.3	123 47.1	123 50.6	123 54.4	123 56.4	123 56.0	123 52.6	123 48.3
LATITUDE END	38 36.5	38 26.5	38 25.7	38 21.0	38 55.9	39 22.9	39 20.0	39 19.7	39 33.3	39 35.7	39 32.9
LONGITUDE END	123 19.8	123 19.8	123 27.8	123 33.2	123 46.5	123 51.8	123 53.4	123 56.1	123 55.4	123 52.6	123 48.2
LORAN START	15769.60	15765.10	15752.70	15760.00	15553.20	15420.80	15407.70	15404.00	15332.20	15346.80	15357.10
LORAN END	43402.80	43395.90	43380.00	43362.40	43506.30	43587.40	43586.30	43583.90	43625.40	43625.00	43629.10
LORAN END	15760.20	15776.10	15753.30	15751.40	15562.50	15409.50	15419.70	15413.20	15341.20	15336.50	15366.00
LORAN END	43407.10	43390.00	43395.80	43368.80	43501.00	43591.50	43581.50	43578.90	43621.80	43630.60	43624.50
GEAR DEPTH	86	126	144	309	82	95	128	170	205	121	60
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	3.00	3.56	3.13	3.07	2.96	3.13	3.39	2.96	2.54	3.44	2.83
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	896.4	573.8	0.0	59.9	1134.0	0.0	80.3	843.7	5.9	7.7	4.5
PACIFIC COD	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	2.7	15.9	0.0	0.0	7.3	8.2	4.1	7.3	0.0
LINGCOD	4.5	0.0	0.0	9.1	0.0	0.0	0.0	0.0	0.0	0.0	3.2
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
ROUGHEYE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARKBLOTCHED	0.0	0.0	0.0	16.8	0.0	0.0	0.0	1.4	2.7	0.0	0.0
SPLITNOSE	0.0	0.0	0.0	68.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0
YELLOWTAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHILIPEPPER	0.0	0.0	12.2	6.8	0.0	0.0	0.0	32.2	3.6	0.0	0.0
SHORTBELLY	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0
BOCACCIQ	0.9	1.8	14.5	0.9	0.0	0.0	1.8	20.0	4.1	7.7	0.0
CANARY	0.0	0.0	1.8	0.0	0.0	0.0	2.7	0.0	0.0	0.0	0.0
REDSTRIFE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIPE TAIL	0.0	0.0	0.0	2.3	0.0	0.0	0.0	105.2	100.2	3.2	0.0
OTHER RNFISH	21.3	0.0	0.0	9.6	3.6	0.0	0.0	0.0	5.4	0.1	4.2
TOT RNFISH	923.2	575.6	31.3	189.2	1137.6	0.0	92.2	1010.6	129.3	26.1	11.9
ARROWTOOTH FL	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DOVER SOLE	5.4	0.0	0.5	74.4	7.3	0.0	55.8	1.4	10.4	7.3	0.0
REX SOLE	7.7	0.0	0.0	24.9	1.8	0.0	10.9	2.3	1.8	2.7	2.7
ENGLISH SOLE	20.4	0.2	0.0	11.3	3.6	0.0	7.3	0.0	0.5	0.7	2.3
PETRALE SOLE	0.0	0.0	0.0	0.0	3.6	0.0	0.5	0.0	0.0	0.0	0.9
PAC SANDDAG	7.3	0.0	0.0	0.0	3.6	0.0	1.8	0.0	0.0	2.3	2.7
OTHER FLTFISH	0.0	0.0	0.0	1.4	0.0	0.0	1.8	0.0	0.1	0.1	0.6
TOT FLTFISH	40.8	0.2	0.5	112.9	20.0	0.0	78.0	3.6	12.8	13.0	9.2
SKATES	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0
SPINY DOGFISH	60.3	42.2	6.8	2.3	364.7	0.0	0.0	0.0	0.0	7.7	10.9
RATFISH	0.5	0.0	0.0	0.9	0.0	0.0	0.0	0.0	2.3	0.0	3.6
OTHER ELASMOBRN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT ELASMOBRN	60.8	42.6	6.8	3.2	364.7	0.0	0.0	0.0	3.2	7.7	14.5
DUNCENESS CRAB	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.9
SEA URCHINS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.1	0.0
OTHER INVERTS	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	94.3
TOT INVERTS	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.3	95.3
TOTAL CATCH	1025.3	618.9	38.6	305.4	1522.3	0.0	170.2	1014.2	145.2	58.1	130.8

Table 53.--Continued.

## 1980 WESTCAST GROUND FISH SURVEY - MARY TOU

HAUL #	35	36	37	38	39	40	41	42	43	44	45
MONTH/DAY/YEAR	7/20/80	7/20/80	7/21/80	7/21/80	7/21/80	7/21/80	7/21/80	7/23/80	7/23/80	7/23/80	7/23/80
LATITUDE START	39 51.2	39 52.5	40 10.2	40 11.3	40 31.0	40 32.8	40 33.8	41 3.4	41 4.3	41 4.5	41 26.6
LONGITUDE START	124 6.2	124 4.5	124 20.8	124 19.9	124 31.5	124 36.3	124 39.1	124 14.0	124 18.0	124 21.1	124 28.2
LATITUDE END	39 52.8	39 51.5	40 11.3	40 10.4	40 32.9	40 31.3	40 35.0	41 5.0	41 2.7	41 6.1	41 28.0
LONGITUDE END	124 7.3	124 3.4	124 22.9	124 19.0	124 30.9	124 35.8	124 38.5	124 14.4	124 17.6	124 20.7	124 28.1
LORAN START	15204.90	15201.80	15046.10	15041.50	14882.10	14857.80	14844.20	14696.40	14679.99	14671.90	14489.20
LORAN START	43666.70	43671.20	43706.00	43709.00	43745.30	43746.20	43746.50	43814.40	43813.60	43812.00	43839.80
LORAN END	15191.90	15211.20	15033.30	15049.50	14870.50	14868.80	14837.60	14683.20	14692.40	14660.80	14478.40
LORAN END	43670.30	43669.20	43707.30	43707.50	43749.60	43743.50	43749.30	43816.80	43811.30	43814.70	43841.70
GEAR DEPTH	276	141	192	108	82	139	256	71	119	219	283
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.40	0.50	0.50	0.50	0.50
DISTANCE FISHED	3.39	2.46	3.65	2.06	3.70	2.80	2.43	3.11	2.96	3.00	2.65
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	44.0	7.3	99.3	0.0	0.0	163.3	0.0	109.3	41.7	22.7	1.4
PACIFIC COD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	15.9	5.0	15.0	0.0	0.0	3.2	6.0	18.1	0.0	112.9	12.7
LINGCOD	0.0	0.0	44.9	2.3	0.0	3.2	0.0	0.0	2.7	0.0	0.0
PAC OC PERCH	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	30.8	7.3
ROUGHEYE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARRELTCHED	0.8	0.0	0.0	0.0	0.0	0.0	166.3	0.0	0.5	26.8	88.0
SPLITNOSE	0.2	0.0	0.0	0.0	0.0	0.0	2128.7	0.0	0.0	5.4	233.1
YELLOWTAIL	0.0	0.0	0.0	0.0	0.0	70.8	0.0	0.0	0.0	0.0	0.0
CHILipePPER	0.0	27.7	47.2	0.0	0.0	158.3	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.0	0.0	9.1	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.0
BOCACCIO	0.0	33.6	61.2	1.4	0.0	19.1	0.0	4.5	4.1	9.5	1.4
CANARY	0.0	29.5	6.8	0.0	0.0	9.5	0.0	0.0	0.0	0.0	0.0
REDSTRIPE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIPETAII	0.0	0.0	218.6	0.2	1.4	97.1	12.1	0.0	1.8	1.8	0.0
OTHER RND FISH	2.5	29.9	15.6	0.0	0.0	21.3	0.0	7.8	1.0	3.9	16.9
TOT RND FISH	77.3	132.9	519.6	3.9	1.5	544.9	2313.1	139.8	51.8	214.1	360.7
ARRDNTTOOTH FL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
DOVER SOLE	117.9	0.5	20.0	0.0	1.4	6.8	18.1	0.0	0.5	16.3	15.0
REX SOLE	40.4	0.0	2.3	0.5	1.4	1.4	0.0	0.5	0.0	5.0	2.7
ENGLISH SOLE	3.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
PETRALE SOLE	5.9	0.0	0.0	0.0	0.5	0.5	0.0	0.2	0.0	0.0	0.0
PAC SANDDAB	3.2	0.0	0.0	0.0	0.1	0.2	0.0	0.1	0.0	0.0	0.0
OTHER FLTFISH	0.5	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT FLTFISH	173.0	0.5	22.3	0.5	3.5	8.8	18.1	0.8	0.5	22.2	18.6
SKATES	3.4	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPINY COGFISH	11.8	0.0	0.0	0.0	0.0	3.6	0.0	60.8	0.0	0.0	0.0
RATFISH	1.4	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ELASMOBRH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT ELASMOBRH	16.6	0.0	1.1	0.0	0.0	3.6	0.0	60.8	0.0	0.0	0.0
DUNGENESS CRAB	0.0	0.0	0.0	0.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0
SQUID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0
SEA URCHINS	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	1.4	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT INVERTS	2.3	0.0	0.0	0.2	2.5	0.0	0.0	0.0	0.9	0.0	0.0
TOTAL CATCH	267.2	133.4	543.0	4.5	7.5	557.3	2331.2	201.4	53.2	236.3	379.3

Table 53.--Continued.

1980 WESTCOAST GROUND FISH SURVEY - MARY LOU											
HAUL #	46	47	48	49	50	51	52	53	54	55	56
MONTH/DAY/YEAR	7/23/80	7/23/80	7/23/80	7/24/80	7/28/80	7/28/80	8/ 5/80	8/ 5/80	8/ 5/80	8/ 5/80	8/ 5/80
LATITUDE START	41 27.2	41 26.5	41 28.1	41 48.9	41 48.2	41 47.9	43 22.2	43 22.3	43 23.7	43 18.2	43 17.1
LONGITUDE START	124 20.8	124 15.2	124 10.4	124 23.6	124 27.5	124 29.5	124 28.0	124 30.9	124 38.1	124 42.8	124 40.5
LATITUDE END	41 25.6	41 27.8	41 27.2	41 47.7	41 49.8	41 46.7	43 20.5	43 23.8	43 22.1	43 16.6	43 18.5
LONGITUDE END	124 20.6	124 16.0	124 9.1	124 22.6	124 28.6	124 29.1	124 29.0	124 30.7	124 38.9	124 43.1	124 40.7
LORAN START	14499.70	14517.10	14514.50	14322.70	14321.70	14320.30	13529.10	13526.80	13510.70	13555.10	13565.40
LORAN START	43844.60	43846.70	43851.30	27561.70	27551.50	27546.70	27768.40	27762.80	27751.30	27731.80	27734.30
LORAN END	14512.70	14504.90	14523.70	14334.10	14306.80	14330.60	13542.90	13513.80	13524.30	13568.30	13553.80
LORAN END	43842.60	43848.00	43851.00	27560.40	27553.80	27544.20	27763.30	27766.00	27746.80	27728.20	27736.50
GEAR DEPTH	95	75	55	75	143	236	93	110	187	247	185
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 FISHER	3.02	2.72	2.37	2.61	3.37	2.30	3.33	2.82	3.19	2.94	2.52
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	0.0	1.4	0.9	0.0	0.0	21.3	0.0	0.5	42.0	0.0	53.7
PACIFIC COD	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	2039.6	0.0	0.5	0.0	0.0	5.7	0.0	8.8
LINGCOD	0.0	0.0	0.0	0.0	0.0	0.0	9.2	0.0	0.0	0.0	0.0
PAC OC PERCH	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0
ROUGEYE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARKBLOTCHED	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0
SPLITNOSE	1.4	0.2	1.4	2.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0
YELLOWTAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHILIPEPPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.1
BOCACCIO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0
CANARY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
REDSTRIPE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIPETAILED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
OTHER GROUND FISH	0.9	2.7	2.4	5.1	0.0	0.1	0.0	0.9	0.1	0.0	13.1
TOT GROUND FISH	2.3	4.3	4.6	2046.6	0.0	34.6	9.2	1.7	51.3	0.0	75.7
ARROWTOOTH FL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	2.8	0.0	5.7
DOVER SOLE	0.0	0.9	0.9	0.0	0.0	0.5	0.0	0.5	21.2	0.0	109.1
HEX SOLE	0.0	0.0	1.4	3.9	0.0	0.5	0.0	0.2	0.9	0.0	4.4
ENGLISH SOLE	0.0	0.5	0.5	2.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0
PETRALE SOLE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC SANDDAB	0.0	1.4	0.5	1.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0
OTHER FLTFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
TOT FLTFISH	0.0	2.7	3.2	6.9	0.0	0.9	0.0	2.6	24.9	0.0	119.3
SKATES	14.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPINY DOGFISH	0.0	1.4	0.0	0.0	0.0	0.0	0.0	1.1	12.7	0.0	1.1
RATFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0
OTHER ELASMOBRH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT ELASMOBRH	14.1	1.4	0.0	0.0	0.0	0.0	0.0	1.6	12.7	0.0	1.1
DUNGENESS CRAB	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
SQUID	0.0	5.4	6.4	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
SEA URCHINS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6
OTHER INVERTS	1.4	0.0	20.4	0.0	0.0	0.0	0.0	0.8	1.4	0.0	1.1
TOT INVERTS	1.4	5.4	26.8	2.0	0.0	0.0	0.0	1.1	1.4	0.0	4.7
TOTAL CATCH	17.7	13.8	34.6	2055.5	0.0	35.5	9.2	6.9	90.3	0.0	200.8

Table 53 --- Continued.

## 1980 WESTCOAST GROUND FISH SURVEY - MARY LOU

HAUL #	57	58	59	60	61	62	63	64	65	66	67
MONTH/DAY/YEAR	8/ 6/80	8/ 6/80	8/ 6/80	8/ 6/80	8/ 6/80	8/ 6/80	8/ 6/80	8/ 6/80	8/ 6/80	8/ 6/80	8/ 7/80
LATITUDE START	43 16.4	43 11.5	43 11.2	43 12.3	43 6.5	43 5.1	43 5.2	42 59.9	42 59.7	43 0.1	42 53.3
LONGITUDE START	124 29.3	124 35.3	124 38.7	124 43.2	124 42.5	124 37.3	124 31.2	124 37.6	124 41.4	124 45.3	124 54.0
LATITUDE END	43 14.8	43 9.9	43 12.6	43 10.6	43 4.6	43 6.4	43 3.6	42 58.3	43 1.1	43 1.3	42 54.2
LONGITUDE END	124 25.1	124 34.4	124 38.8	124 42.4	124 43.0	124 37.2	124 31.5	124 38.4	124 40.3	124 45.9	124 54.9
LORAN START	13578.10	13616.50	13617.00	13504.90	13654.40	13669.70	13673.60	13714.10	13712.60	13705.60	13755.60
LORAN END	27755.00	27733.30	27726.10	27719.40	27709.10	27716.70	27729.00	27705.20	27697.30	27690.60	27659.70
GEAR DEPTH	64	110	135	216	183	132	77	100	137	155	366
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	3.13	3.30	2.57	3.33	3.46	2.24	3.04	3.20	3.04	2.30	2.24
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	0.0	0.0	0.7	0.0	18.2	0.0	0.0	0.0	22.9	0.0	2.3
PACIFIC COD	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	10.5	5.2	0.0	0.0	0.0	268.8	39.2
LINGCOD	4.5	0.0	28.5	0.0	0.0	2.1	0.0	0.0	0.0	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	8.1	4.1
ROUGHEYE	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARKBLOTCHED	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	2.5
SPLITNOSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5
YELLOWTAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0
CHILIPEPPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0
SHORTBELLY	0.0	0.0	0.1	0.0	0.5	0.2	0.0	0.1	0.0	0.7	0.0
BOCACCIO	0.0	0.0	0.0	0.0	6.8	0.0	0.0	0.0	0.0	17.2	0.0
CANARY	0.0	0.0	523.6	0.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0
REDSTRIPE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIPETAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	159.7	0.0
OTHR RNDFISH	0.1	0.9	3.4	0.0	4.9	7.2	1.0	1.0	4.0	57.7	5.2
TOT RNDFISH	4.6	0.9	356.2	0.0	45.1	14.7	1.0	1.1	27.0	518.3	58.8
ARROWTOOTH FL	0.0	0.0	0.0	0.0	3.6	4.1	0.0	0.9	3.7	4.9	0.0
DOVER SOLE	0.0	0.0	39.9	0.0	4.2	0.2	0.0	0.0	1.5	17.9	46.8
REX SOLE	0.0	0.1	2.3	0.0	0.5	0.5	0.0	0.0	0.0	0.5	9.5
ENGLISH SOLE	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	2.3	1.7
PETRALE SOLE	0.0	0.1	4.5	0.0	0.0	0.0	0.0	0.0	0.0	6.6	2.9
PAC SANDDAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
OTHER FLTFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0
TOT FLTFISH	0.0	0.3	46.9	0.0	8.3	4.8	0.0	0.9	5.2	32.5	61.0
SKATES	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	4.5	6.8	8.6
SPINY DOGFISH	0.0	0.2	14.3	0.0	0.5	3.6	1.4	0.0	5.7	0.9	0.0
RATFISH	0.0	1.1	1.1	0.0	0.5	0.9	0.0	0.0	0.9	0.0	6.8
OTHER ELASHOGRH	0.0	0.0	0.0	0.0	0.0	13.6	0.0	0.0	0.0	0.0	4.4
TOT ELASHOGRH	0.0	1.5	15.4	0.0	0.9	19.1	1.4	0.0	11.1	7.7	19.8
DUNGENESS CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SQUID	0.0	0.0	0.1	0.0	0.0	27.8	0.0	0.1	20.1	1.4	0.0
SEA URCHINS	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.5
OTHER INVERTS	6.4	12.2	3.5	0.0	1.8	4.4	0.0	5.0	0.6	2.3	0.1
TOT INVERTS	6.4	12.2	3.7	0.0	2.0	32.2	0.0	5.1	20.6	3.6	0.6
TOTAL CATCH	11.0	14.9	422.2	0.0	56.2	69.8	2.4	7.1	64.0	562.1	140.1

Table 53.--Continued.

1980 WESTCOAST GROUND FISH SURVEY - MARY 100

HAUL #	68	69	70	71	72	73	74	75	76	77	78
MONTH/DAY/YEAR	8/ 7/80	8/ 7/80	8/ 7/80	8/ 7/80	8/ 8/80	8/ 8/80	8/ 8/80	8/ 8/80	8/ 8/80	8/ 8/80	8/ 8/80
LATITUDE START	42 55.1	42 58.2	42 58.1	43 1.3	43 27.0	43 27.6	43 28.0	43 29.3	43 33.9	43 36.2	43 32.5
LONGITUDE START	124 53.6	124 53.1	124 47.0	124 51.3	124 22.2	124 25.5	124 33.5	124 36.0	124 33.9	124 28.0	124 25.1
LATITUDE END	42 56.2	42 59.5	42 56.8	43 2.0	43 28.8	43 26.0	43 29.5	43 27.6	43 35.6	43 32.7	43 34.0
LONGITUDE END	124 53.9	124 53.5	124 48.9	124 51.5	124 22.3	124 25.1	124 32.8	124 36.1	124 36.6	124 28.2	124 24.8
LORAN START	13740.40	13715.90	13721.60	13691.20	13489.70	13482.80	13476.10	13464.20	13425.00	13424.00	13440.70
LORAN START	27664.40	27671.70	27683.00	27681.70	27789.00	27783.60	27768.30	27765.70	27778.30	27790.50	27793.10
LORAN END	13731.50	13704.40	13730.90	13685.70	13474.00	13496.90	13463.20	13478.10	13410.30	13437.60	13427.70
LORAN END	27666.00	27673.90	27686.70	27682.70	27792.10	27781.50	27772.60	27762.50	27780.00	27787.20	27796.40
GEAR DEPTH	238	302	157	201	88	101	155	201	210	132	117
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	1.98	2.56	3.50	1.67	3.32	3.00	3.02	3.02	3.24	2.93	2.82
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	0.0	0.0	0.0	0.0	12.0	0.0	19.6	10.6	1.8	31.8	6.2
PACIFIC COD	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	1.1	0.0	0.0	3.0	15.4	0.0	3.8	5.5
LINGCOD	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0
PAC OC PERCH	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROUGHYE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARKBLOTCHED	3.2	0.0	0.0	1.0	0.0	0.0	0.9	0.1	0.0	3.3	0.5
SPLITNOSE	1.4	0.0	0.0	80.1	0.0	0.0	0.0	0.6	0.0	0.0	0.0
YELLOWTAIL	0.0	0.0	0.0	0.0	0.0	0.0	58.2	1.2	0.0	25.4	6.3
CHILIPEPPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.2	0.0
BOCACCIO	0.7	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CANARY	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1	0.0
REC STRIPE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIPETAIL	0.5	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RND FISH	16.0	0.0	0.0	9.3	1.1	0.0	1.5	5.2	0.0	1.1	1.6
TOT RNFISH	25.8	0.0	0.0	92.4	13.2	0.0	85.7	33.3	1.9	69.7	20.1
ARROWTOOTH FL	0.0	0.0	0.0	0.0	0.0	0.0	4.4	2.0	0.0	5.4	0.3
DOVER SOLE	2.9	0.0	0.0	0.9	0.0	0.0	21.3	13.4	0.0	60.2	42.5
REX SOLE	1.1	0.0	0.0	0.0	0.2	0.0	3.8	2.4	0.1	5.5	5.9
ENGLISH SOLE	0.5	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.9
PETRALE SOLE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC SANDDAB	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.5	0.7
OTHER FLT FISH	0.0	0.0	0.0	0.0	2.9	0.0	1.4	0.1	0.0	1.6	3.6
TOT FLT FISH	4.5	0.0	0.0	0.9	3.7	0.0	30.8	17.8	0.1	73.3	53.9
SKATES	5.4	0.0	0.0	11.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPINY DOGFISH	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	0.0	2.3	2.3
RAT FISH	0.9	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.0	2.1	2.8
OTHER ELASMOBRH	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT ELASMOBRH	7.3	0.0	0.0	11.9	0.0	0.0	3.5	0.7	0.0	4.4	5.1
DUNGENESS CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
SQUID	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
SEA URCHINS	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	0.3	0.0	0.0	3.9	0.9	0.0	1.0	1.0	0.0	11.1	19.5
TOT INVERTS	0.5	0.0	0.0	3.9	1.0	0.0	1.0	1.0	0.0	11.1	19.9
TOTAL CATCH	42.2	0.0	0.0	109.1	17.9	0.0	121.1	52.7	2.0	158.4	99.0



Table 53. --Continued.

## 1980 WESTCAST GROUND FISH SURVEY - HARY 10U

HAUL #	79	80	81	82	83	84	85	86	87	88	89
MONTH/DAY/YEAR	8/ 8/80	8/ 9/80	8/ 9/80	8/ 9/80	8/ 9/80	8/ 9/80	8/ 9/80	8/ 9/80	8/ 9/80	8/10/80	8/10/80
LATITUDE START	43 32.1	43 39.8	43 39.5	43 37.9	43 38.2	43 43.2	43 44.7	43 44.9	43 45.7	43 50.8	43 51.2
LONGITUDE START	124 22.0	124 33.7	124 27.3	124 22.8	124 15.4	124 15.0	124 20.0	124 32.2	124 33.6	124 34.4	124 29.5
LATITUDE END	43 33.7	43 41.2	43 37.8	43 39.3	43 36.6	43 44.6	43 43.1	43 46.3	43 44.3	43 52.6	43 49.8
LONGITUDE END	124 21.9	124 32.8	124 27.5	124 22.2	124 15.3	124 14.4	124 19.6	124 31.8	124 33.4	124 34.6	124 28.6
LORAN START	13444.70	13374.60	13378.70	13393.70	13393.30	13349.00	13334.50	13330.60	13323.00	13279.50	13276.50
LORAN START	27798.70	27789.10	27811.00	27907.20	27822.70	27832.00	27824.50	27800.80	27799.50	27806.50	27816.50
LORAN END	13430.90	13362.40	13393.30	13381.80	13408.10	13336.60	13349.30	13318.60	13335.90	13263.50	13289.00
LORAN END	27801.70	27793.20	27797.70	27810.80	27820.00	27835.50	27822.50	27803.90	27797.30	27809.30	27816.00
GEAR DEPTH	106	192	130	113	64	66	104	170	195	196	130
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.93	2.89	3.13	2.69	3.07	2.72	3.13	2.63	2.78	3.44	2.94
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	60.1	3.6	32.3	35.5	0.0	0.0	46.0	17.9	17.4	12.0	9.2
PACIFIC COD	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	2.0	5.5	0.0	0.0	0.0	0.0	2.2	1.6	12.2	23.8
LINGCOD	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	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
ROUGHEYE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARKBLOTCHED	0.0	0.7	0.3	0.2	0.0	0.0	0.0	0.4	0.4	0.2	0.0
SPLITNOSE	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOWTAIL	5.9	2.5	38.8	0.0	1.1	1.1	0.0	1.6	0.0	0.0	3.6
CHILIPEPPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.2	0.2
BOCACCID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CANARY	0.0	0.0	7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.2
REDSTRIFE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIPETAILED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RND FISH	0.2	10.0	4.6	1.7	33.2	15.4	0.0	0.1	1.7	6.4	1.9
TOT RND FISH	66.2	19.2	88.7	37.4	35.0	16.6	46.0	22.3	21.5	31.1	51.8
ARROWTOOTH FL	0.0	4.1	10.6	1.6	0.0	0.0	0.0	0.0	2.2	9.1	1.1
DOVER SOLE	0.0	11.0	51.6	43.5	0.2	0.4	0.0	0.9	7.4	17.6	28.3
REX SOLE	0.0	0.8	4.9	6.8	33.7	0.9	0.0	0.0	0.7	0.4	2.4
ENGLISH SOLE	0.0	0.0	0.0	0.0	54.4	15.4	0.5	0.0	0.0	0.0	0.6
PETRALE SOLE	0.7	0.0	0.7	0.0	13.2	1.4	0.0	0.0	0.0	0.0	0.0
PAC SANDDAE	0.0	0.0	0.0	3.6	31.9	41.8	0.2	0.0	0.0	0.0	0.0
OTHER FLT FISH	0.7	0.5	0.8	1.8	28.8	0.1	0.0	0.0	0.3	1.1	0.2
TOT FLT FISH	1.4	16.4	68.5	57.4	162.2	60.0	0.7	0.9	10.5	28.1	32.6
SKATES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.4
SPINY DOGFISH	0.0	4.0	0.5	2.5	1.8	0.0	0.2	2.0	1.4	0.9	2.0
RAIFISH	0.0	2.7	0.9	2.7	0.0	0.0	0.0	0.0	1.0	0.9	1.8
OTHER ELASMOBRH	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT ELASMOBRH	5.0	6.8	1.4	5.2	1.8	0.0	0.2	2.0	2.4	3.2	4.4
DUNGENESS CRAB	0.0	0.2	0.5	0.0	8.7	2.8	0.5	0.0	1.4	1.6	1.0
SQUID	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
SEA URCHINS	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0
OTHER INVERTS	0.1	3.5	9.2	15.8	20.4	2.2	1.8	6.4	7.9	3.8	0.5
TOT INVERTS	0.1	5.5	9.7	15.8	29.3	4.9	2.3	6.4	10.0	5.4	1.5
TOTAL CATCH	72.7	47.9	168.2	115.8	228.4	81.5	49.2	31.6	44.3	67.7	90.3

Table 53.--Continued.

1980 WESTCAST GROUND FISH SURVEY - MARY LOU											
HAUL #	90	91	104	105	107	108	109	110	111	112	113
MONTH/DAY/YEAR	8/10/80	8/10/80	8/15/80	8/15/80	8/15/80	8/15/80	8/15/80	8/15/80	8/16/80	8/16/80	8/16/80
LATITUDE START	43 50.0	43 50.6	44 34.7	44 34.1	44 34.6	44 25.4	44 24.0	44 25.0	44 1.4	44 2.5	44 0.4
LONGITUDE START	124 25.2	124 21.6	124 11.7	124 16.3	124 33.8	124 47.8	124 43.0	124 38.7	124 56.8	124 53.9	124 44.9
LATITUDE END	43 51.1	43 49.0	44 33.0	44 35.4	44 36.3	44 23.9	44 25.7	44 23.4	44 2.8	44 1.3	44 1.9
LONGITUDE END	124 25.1	124 21.3	124 10.8	124 17.0	124 33.7	124 48.2	124 42.8	124 38.1	124 56.4	124 54.4	124 45.8
LORAN START	13287.30	13282.90	12893.80	12902.10	12905.90	12989.10	12998.50	12988.90	13189.10	13179.70	13197.40
LORAN END	13278.20	13296.60	12908.10	12990.70	12892.10	13001.30	12984.30	13002.00	13177.80	13190.10	13184.80
LORAN END	27824.90	27828.90	27914.20	27905.70	27876.70	27833.40	27845.60	27850.60	27786.10	27787.20	27803.50
GEAR DEPTH	106	93	55	75	152	293	134	119	329	146	119
DURATION IN HOURS	0.30	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	1.94	2.91	3.37	2.69	3.04	2.74	3.15	3.06	2.59	2.41	3.06
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITE	15.1	7.3	0.7	1.6	0.0	5.9	0.0	0.0	0.0	4.3	0.0
PACIFIC COD	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	212.2	1.8	0.0	354.1	3.2	0.0
LANGOOD	0.0	0.0	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC OC PERCH	0.0	0.0	0.0	0.0	0.0	6.9	0.0	0.0	4.5	0.0	0.0
ROUGHEY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARKBLOTCHED	0.2	0.0	0.0	0.0	0.0	3.5	0.0	0.0	13.6	1.2	0.0
SPLITNOSE	0.0	0.0	0.0	0.0	0.0	11.2	0.7	0.0	41.0	0.0	0.0
YELLOWTAIL	130.4	7.8	0.0	0.0	0.0	0.0	0.0	0.0	12.0	0.0	0.0
CHILIPEPPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.4	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.1	0.0	0.0
BOCACCI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CANARY	7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
REDSTRIPE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0
STRIPETAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RND FISH	1.2	1.0	0.4	0.0	0.0	6.9	0.0	0.0	9.5	27.6	0.0
TOT RND FISH	154.5	16.1	6.4	1.6	0.0	247.2	2.5	0.0	432.7	36.3	0.0
ARROWTOOTH FL	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	6.2	0.0	0.0
DOVER SOLE	13.3	1.9	0.5	0.2	0.0	14.0	0.0	0.0	140.1	13.0	0.0
REX SOLE	0.7	0.5	19.3	0.6	0.0	1.6	0.0	0.0	6.5	0.0	0.0
ENGLISH SOLE	0.7	0.5	26.9	3.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
PEYRALE SOLE	0.5	0.0	2.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC SANDDAB	0.0	0.0	35.3	8.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER FLT FISH	0.1	0.0	1.2	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0
TOT FLT FISH	15.2	2.9	85.4	12.3	0.0	19.4	0.0	0.0	152.8	13.0	0.0
SKATES	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	20.0	3.9	0.0
SPIKY DOGFISH	4.3	1.1	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RAT FISH	1.5	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0
OTHER ELASMOBRH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0
TOT ELASMOBRH	5.7	1.1	0.0	0.5	0.0	2.0	0.0	0.0	22.0	3.9	0.0
DUNGENESS CRAB	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SQUID	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEA URCHINS	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	13.6	0.0	0.0
OTHER INVERTS	3.0	1.6	1.0	2.3	0.0	2.3	3.6	0.0	4.5	0.1	0.0
TOT INVERTS	4.1	1.6	1.1	2.4	0.0	2.7	3.6	0.0	18.1	0.1	0.0
TOTAL CATCH	179.6	21.7	92.9	16.8	0.0	271.2	6.1	0.0	631.7	53.4	0.0

Table 53.--Continued.

## 1980 WESTCOAST GROUND FISH SURVEY - MARY 100

HAUL #	114	115	116	117	118	119	120	121	122	123	124
MONTH/DAY/YEAR	8/16/80	8/16/80	8/16/80	8/16/80	8/16/80	8/17/80	8/17/80	8/17/80	8/17/80	8/17/80	8/17/80
LATITUDE START	44 1.4	43 59.9	44 0.8	43 58.6	43 55.6	44 3.8	44 6.1	44 5.1	44 6.6	44 5.7	44 7.3
LONGITUDE START	124 41.0	124 36.7	124 31.1	124 20.0	124 15.7	124 13.4	124 24.5	124 30.0	124 33.5	124 37.0	124 47.0
LATITUDE END	43 55.6	44 1.4	43 59.3	43 59.9	43 57.9	44 5.2	44 4.5	44 6.6	44 5.1	44 7.2	44 5.9
LONGITUDE END	124 41.1	124 36.9	124 30.6	124 21.0	124 15.6	124 14.0	124 24.8	124 30.3	124 33.6	124 37.0	124 47.7
LORAN START	13188.90	13201.00	13193.30	13212.10	13203.60	13166.50	13147.40	13156.00	13143.80	13152.00	13139.10
LORAN START	27811.50	27817.20	27829.10	27847.00	27856.80	27867.80	27849.90	27838.00	27833.70	27825.70	27810.20
LORAN END	13203.50	13188.50	13206.60	13200.80	13218.40	13153.90	13161.10	13143.00	13156.80	13139.30	13151.00
LORAN END	27808.50	27819.20	27827.50	27847.10	27854.40	27868.80	27846.90	27839.80	27831.20	27828.10	27806.70
GEAR DEPTH	146	144	139	108	82	66	110	121	124	121	110
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	3.19	2.72	2.93	2.72	3.09	2.76	2.94	2.83	2.82	2.76	2.78
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	27.2	0.0	12.9	42.2	21.1	0.0	19.1	24.7	71.1	26.5	0.0
PACIFIC COD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	1.7	0.0	0.0	2.7	0.0	0.0	0.0	6.0	13.3	0.0	0.0
LINGCOD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
ROUGHEYE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARKBLOTCHED	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	3.5	0.0	0.0
SPLITNOSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOWTAIL	1.7	0.0	4.7	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHILIPEPPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EDCACCIO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CANARY	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
REDSTRIPE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIPETAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RND FISH	3.4	0.0	1.1	0.3	0.0	0.0	0.1	0.7	0.9	0.1	0.0
TOT RND FISH	34.0	0.0	21.9	47.9	21.1	0.0	19.2	31.4	88.9	26.6	0.0
ARRONTOOTH FL	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.9	0.0	0.0
DOVER SOLE	2.1	0.0	0.5	38.0	0.0	0.0	0.0	2.7	60.6	0.5	0.0
REX SOLE	0.5	0.0	0.3	6.4	0.0	0.0	0.3	0.2	21.7	0.2	0.0
ENGLISH SOLE	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
PETRALE SOLE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC SANDDAE	0.0	0.0	0.0	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0
OTHER FLTFISH	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.5	2.4	0.0	0.0
TOT FLTFISH	3.8	0.0	0.8	45.7	0.0	0.0	3.9	3.4	66.0	1.3	0.0
SKATES	0.0	0.0	0.0	5.4	0.0	0.0	0.0	3.2	0.2	0.0	0.0
SPINY DOGFISH	1.0	0.0	3.1	6.8	0.0	0.0	0.0	4.4	21.6	0.7	0.0
RATFISH	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.9	0.0	0.0
OTHER ELASHOBRH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT ELASHOBRH	1.0	0.0	3.1	13.9	0.0	0.0	0.0	7.6	22.7	0.7	0.0
DUGGENESS CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	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
SEA URCHINS	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	4.1	0.0	0.5	11.5	0.0	0.0	1.0	5.1	5.9	0.0	9.1
TOT INVERTS	4.8	0.0	0.5	11.5	0.0	0.0	1.0	6.1	5.9	0.0	9.1
TOTAL CATCH	43.5	0.0	26.2	118.9	21.1	0.0	24.1	48.5	203.5	28.6	9.1

Table 53.--Continued.

## 1980 WESTCOAST GROUND FISH SURVEY - MARY 100

HAUL #	125	126	127	128	129	130	131	132	133	134	135
MONTH/DAY/YEAR	8/17/80	8/17/80	8/17/80	8/18/80	8/18/80	8/20/80	8/20/80	8/20/80	8/20/80	8/20/80	8/20/80
LATITUDE START	44 6.9	44 8.2	44 10.6	44 10.5	44 13.4	44 8.6	44 10.1	44 12.2	44 8.9	44 7.8	44 11.1
LONGITUDE START	124 55.3	124 56.5	124 57.8	124 56.6	124 56.7	124 15.2	124 20.7	124 23.7	124 23.1	124 28.3	124 29.6
LATITUDE END	44 6.5	44 7.0	44 12.0	44 11.4	44 14.7	44 7.1	44 11.5	44 10.4	44 7.5	44 9.2	44 12.4
LONGITUDE END	124 55.2	124 56.0	124 57.8	124 55.5	124 56.1	124 14.7	124 21.1	124 23.3	124 22.5	124 28.7	124 29.8
LORAN START	13143.40	13133.30	13113.10	13114.10	13090.60	13123.90	13112.20	13094.20	13122.30	13132.50	13104.70
LORAN END	27794.80	27794.60	27796.30	27798.20	27802.50	27871.60	27863.10	27860.60	27856.90	27845.40	27847.90
LORAN END	13130.10	13143.00	13102.30	13106.40	13079.80	13137.80	13100.00	13109.60	13135.00	13120.60	13093.10
LORAN END	27797.50	27793.60	27798.50	27801.50	27805.60	27870.10	27864.40	27858.60	27855.70	27846.60	27849.50
GEAR DEPTH	174	198	240	165	219	71	86	91	95	110	106
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.98	2.30	2.44	2.20	2.54	2.98	2.67	3.33	2.82	2.65	2.54
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	54.0	9.5	0.0	0.0	0.0	2.0	2.5	44.5	87.1	7.7	6.0
PACIFIC COD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	144.1	29.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.4
LINGCOD	7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.7
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
ROUGH EYE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILVER GRAY	2.3	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARK BLOTCHED	1.2	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPLITNOSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOWTAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHILIPEPPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOCACCIO	15.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CANARY	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RED STRIPE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIPETAIL	10.8	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RNFISH	0.7	0.4	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.6	0.3
TOT RNFISH	249.3	44.2	0.0	0.0	0.0	2.0	2.5	44.7	87.5	9.2	18.3
ARROWTOOTH FL	4.6	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DOVER SOLE	25.3	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.4	14.5
REX SOLE	2.4	6.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	11.9
ENGLISH SOLE	0.8	23.5	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.5	0.0
PETRALE SOLE	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
PAC SANDDAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.2	1.3	0.2
OTHER FLT FISH	2.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.7
TOT FLT FISH	45.1	47.1	0.0	0.0	0.0	1.6	0.0	0.7	0.2	41.6	28.8
SKATES	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2
SPINY DOGFISH	1.4	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.6	1.1	0.8
RATFISH	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	4.9
OTHER ELASMOBRN	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT ELASMOBRN	2.0	0.1	0.0	0.0	0.0	0.0	0.0	1.8	1.6	2.0	8.8
DUNGENESS CRAB	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	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
SEA URCHINS	62.3	8.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	7.0	0.5	0.0	0.0	0.0	0.0	0.0	6.6	0.7	0.7	0.0
TOT INVERTS	75.3	9.4	0.0	0.0	0.0	1.4	0.0	6.6	0.7	0.7	0.0
TOTAL CATCH	371.7	100.8	0.0	0.0	0.0	5.0	2.5	53.8	89.9	53.5	55.9

Table 53.--Continued.

## 1980 WESTCAST GROUND FISH SURVEY - MARY TOU

HAUL #	136	137	138	140	141	142	144	145	146	147	148
MONTH/DAY/YEAR	8/20/80	8/20/80	8/20/80	8/21/80	8/21/80	8/21/80	8/22/80	8/22/80	8/22/80	8/22/80	8/22/80
LATITUDE START	44 12.3	44 10.1	44 9.2	44 13.3	44 14.0	44 12.3	44 46.1	44 47.7	44 46.8	44 47.9	44 52.9
LONGITUDE START	124 33.5	124 39.7	124 44.3	124 55.2	124 48.1	124 43.4	124 18.5	124 22.8	124 29.6	124 33.4	124 30.6
LATITUDE END	44 10.8	44 8.5	44 10.7	44 14.6	44 12.6	44 13.6	44 47.5	44 46.4	44 48.0	44 46.4	44 54.4
LONGITUDE END	124 33.3	124 39.8	124 44.3	124 55.3	124 48.7	124 44.4	124 19.3	124 24.0	124 30.4	124 34.3	124 29.8
LORAN START	13094.70	13114.60	13122.90	13090.70	13083.80	13096.70	12800.10	12789.70	12801.60	12794.70	12751.60
LORAN END	27842.50	27827.70	27818.00	27805.00	27818.60	27824.40	27916.90	27911.10	27898.00	27892.80	27904.10
LORAN START	13108.10	13128.30	13110.20	13080.00	13095.50	13085.90	12789.00	12801.70	12792.10	12808.10	12738.70
LORAN END	27840.40	27825.10	27820.30	27806.90	27815.40	27824.70	27917.10	27907.30	27898.20	27889.30	27907.30
GEAR DEPTH	106	121	106	155	101	106	115	132	172	212	256
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	2.93	3.00	2.80	2.41	2.69	2.74	2.80	2.91	2.46	3.07	2.94
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	15.4	59.0	0.0	3.6	0.0	1.1	10.8	0.0	8.3	3.9	0.0
PACIFIC COD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	4.4	9.1	10.7	0.0	0.0	0.0	836.3	0.0	0.0	1.4	0.0
LINGCOD	0.0	0.0	0.0	22.3	0.0	3.7	0.9	0.0	0.0	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
ROUGEYE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	2.0	0.0	3.4	0.0	0.0	0.0	0.0	0.0
DARKBLOTCHED	0.0	0.0	0.0	21.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0
SPLITNOSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOWTAIL	0.0	0.0	0.0	7.9	0.0	4.4	0.0	0.0	0.0	0.0	0.0
CHILIPEPPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.0	0.0	0.0	69.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOCACCIO	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CANARY	0.0	0.0	24.9	4.7	2.5	6.3	0.0	0.0	0.0	0.0	0.0
REOSTRIPE	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIPETAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	0.0
OTHER RND FISH	1.1	1.3	0.4	11.9	0.0	7.3	2.9	0.0	0.5	2.1	0.0
TOT RND FISH	21.0	109.3	36.0	148.2	2.5	26.9	850.9	0.0	8.8	11.2	0.0
ARROWTOOTH FL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0
DOVER SOLE	12.7	11.7	1.0	1.3	0.0	0.5	0.0	0.0	1.0	3.3	0.0
REX SOLE	2.7	4.9	1.0	0.5	0.0	0.5	0.0	0.0	0.0	1.9	0.0
ENGLISH SOLE	5.1	1.2	0.2	0.5	0.0	0.3	1.6	0.0	0.0	0.0	0.0
PETRALE SOLE	0.8	0.0	15.9	6.5	0.0	1.9	0.0	0.0	0.0	0.0	0.0
PAC SANDDAE	0.2	0.2	0.2	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0
OTHER FLTFISH	0.2	0.2	0.9	0.0	0.0	0.9	0.5	0.0	0.0	0.1	0.0
TOT FLTFISH	21.7	18.2	19.2	8.8	0.0	4.0	3.2	0.0	1.0	7.4	0.0
SKATES	0.0	0.0	0.0	6.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPINY DOGFISH	1.8	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RAIFISH	5.2	1.6	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ELASMOGRH	0.0	0.0	0.0	0.0	0.0	0.0	5.4	0.0	0.0	0.0	0.0
TOT ELASMOGRH	7.0	5.5	0.5	6.2	0.0	0.0	5.4	0.0	0.0	0.0	0.0
DUNGENESS CRAB	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	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
SEA URCHINS	0.0	0.0	0.5	0.9	0.0	2.5	0.0	0.0	0.2	7.3	0.0
OTHER INVERTS	4.8	0.5	0.6	1.9	4.5	4.4	0.4	27.2	4.5	2.7	0.0
TOT INVERTS	5.0	0.8	1.0	2.8	4.5	6.9	0.4	27.2	4.3	10.0	0.0
TOTAL CATCH	54.7	133.8	56.7	166.0	7.1	37.8	859.9	27.2	14.6	28.6	0.0

Table 53. -- Continued.

1980 WESTCAST GROUND FISH SURVEY - MARY 10U

HAUL #	149	150	151	152	153	154	155	156	157	158	159
MONTH/DAY/YEAR	8/22/80	8/22/80	8/22/80	8/23/80	8/23/80	8/23/80	8/23/80	8/23/80	8/23/80	8/23/80	8/23/80
LATITUDE START	44 51.3	44 52.0	44 57.8	45 16.1	45 15.5	45 16.5	45 15.7	45 27.2	45 28.2	45 27.5	45 28.3
LONGITUDE START	124 22.9	124 14.8	124 17.4	124 4.5	124 10.3	124 14.9	124 21.1	124 27.6	124 19.4	124 10.7	124 3.3
LATITUDE END	44 51.7	44 53.2	44 59.0	45 14.8	45 17.0	45 15.2	45 17.1	45 28.6	45 26.7	45 28.9	45 26.9
LONGITUDE END	124 22.8	124 15.2	124 17.3	124 4.1	124 9.8	124 16.0	124 21.7	124 28.4	124 19.0	124 10.3	124 4.3
LORAN START	12742.30	12747.40	12770.10	12535.00	12546.60	12543.40	12556.50	12472.40	12454.70	12449.30	12433.40
LORAN START	27918.10	27930.80	27933.40	27976.80	27966.00	27959.20	27947.70	27949.60	27964.20	27978.10	27991.50
LORAN END	12755.70	12737.30	12690.00	12545.30	12533.10	12554.70	12545.70	12462.40	12465.40	12437.20	12446.00
LORAN END	27916.20	27931.60	27934.90	27976.00	27968.60	27956.00	27948.30	27949.90	27963.40	27980.30	27988.40
GEAR DEPTH	152	128	161	77	126	176	311	348	176	124	77
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	2.98	2.33	2.22	2.41	2.98	2.69	2.74	2.76	2.69	2.72	2.89
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	0.0	628.9	8.2	0.0	380.0	0.0	7.7	0.0	0.0	0.0	0.0
PACIFIC COC	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	45.0	0.0	0.0	0.5	0.0	60.6	0.0	0.0	0.0	0.0
LINGCOD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC OC PERCH	0.0	0.0	0.0	0.0	0.0	0.0	6.7	0.0	0.0	0.0	0.0
ROUCHEYE	0.0	0.0	0.0	0.0	0.0	0.0	4.7	0.0	0.0	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARKBLOTCHED	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0
SPLITNOSE	0.0	0.0	0.0	0.0	0.0	0.0	11.7	0.0	0.0	0.0	0.0
YELLOWTAIL	0.0	940.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHILIPEPPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOCACCO	0.0	7.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CANARY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
REDSTRIPE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIPETAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RND FISH	0.0	0.1	0.0	0.0	1.0	0.0	51.6	0.0	0.0	0.0	18.4
TOT RND FISH	0.0	1622.1	8.2	0.0	381.4	0.0	144.4	0.0	0.0	0.0	18.4
ARROWTOOTH FL	0.0	0.0	0.0	0.0	0.4	0.0	32.4	0.0	0.0	0.0	0.0
DOVER SOLE	0.0	0.8	0.0	0.0	5.5	0.0	46.9	0.0	0.0	0.0	0.0
REX SOLE	0.0	1.5	0.0	0.0	0.5	0.0	2.5	0.0	0.0	0.0	0.0
ENGLISH SOLE	0.0	25.7	1.8	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.1
PETRALE SOLE	0.0	1.5	0.0	0.0	1.5	0.0	1.1	0.0	0.0	0.0	0.0
PAC SANDDAB	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
OTHER FLT FISH	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
TOT FLT FISH	0.0	29.5	1.8	0.0	8.9	0.0	83.4	0.0	0.0	0.0	0.1
SKATES	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0
SPIKY DOGFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RATFISH	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ELASMOBRH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT ELASMOBRH	0.0	0.0	0.0	0.0	1.0	0.0	1.6	0.0	0.0	0.0	0.0
DUNGENESS CRAB	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	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
SEA URCHINS	0.0	0.0	0.0	0.0	0.0	0.0	11.3	0.0	0.0	0.0	0.0
OTHER INVERTS	0.0	0.0	0.0	27.2	0.4	27.2	16.3	0.0	0.0	0.0	27.2
TOT INVERTS	0.0	0.0	0.0	27.2	1.5	27.2	27.7	0.0	0.0	0.0	27.2
TOTAL CATCH	0.0	1651.6	10.0	27.2	392.8	27.2	257.1	0.0	0.0	0.0	45.7

Table 53.--Continued.

## 1980 WESTCAST GROUND FISH SURVEY - MARY 100

HAUL #	160	161	162	163	164	165	166	167	168	169	170
MONTH/DAY/YEAR	8/25/80	8/25/80	8/25/80	8/25/80	8/25/80	8/25/80	8/25/80	8/25/80	8/26/80	8/26/80	8/26/80
LATITUDE START	46 12.7	46 13.8	46 11.6	46 14.4	46 13.7	46 11.4	46 10.3	46 10.0	46 20.6	46 19.1	46 21.8
LONGITUDE START	124 14.4	124 18.3	124 20.1	124 24.0	124 27.7	124 29.3	124 34.8	124 40.2	124 24.4	124 27.6	124 35.5
LATITUDE END	46 11.8	46 15.0	46 10.4	46 13.1	46 12.9	46 9.8	46 8.6	46 10.3	46 19.0	46 20.5	46 22.9
LONGITUDE END	124 16.3	124 19.0	124 19.3	124 24.9	124 29.3	124 28.9	124 35.0	124 37.8	124 23.3	124 27.8	124 34.1
LORAN START	12113.20	12112.60	12110.90	12118.40	12129.60	12148.70	12165.20	12176.30	12077.20	12092.90	12089.40
LORAN START	28015.40	28010.40	28005.70	28002.30	27996.00	27991.50	27982.20	27973.80	28007.20	28001.00	27991.70
LORAN END	12122.80	12105.60	12118.00	12128.80	12138.30	12159.00	12177.30	12170.40	12086.10	12084.30	12079.30
LORAN END	28011.80	28010.40	28005.80	27999.80	27992.80	27990.60	27980.20	27977.60	28007.40	28001.90	27994.80
GEAR DEPTH	82	110	113	168	247	132	155	256	124	132	201
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.87	2.37	2.44	2.63	2.59	2.96	3.15	3.07	3.28	2.48	2.80
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	149.8	2.0	12.5	4.1	0.0	165.6	14.7	4.4	0.0	1.7	3.7
PACIFIC COI	0.0	0.0	2.5	0.0	0.0	23.2	0.0	0.0	0.0	0.0	0.0
SABLEFISH	0.0	0.0	0.5	271.4	0.0	34.9	19.4	0.0	0.0	0.0	5.1
LINGCOD	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC OC PERCH	0.0	0.0	0.0	2.9	0.0	1.3	0.0	13.5	0.0	0.0	46.0
ROUGHEY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARKBLOTCHED	0.0	0.0	0.8	5.4	0.0	3.8	3.7	1.1	1.7	0.8	52.5
SPLITNOSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	82.2	0.0	0.0	9.3
YELLOWTAIL	2.1	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
CHILIPEPPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOCACCI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CANARY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
REDSTRIPE	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
STRIPETAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RNDFISH	0.0	0.0	5.8	24.8	0.0	2.6	13.5	3.0	0.2	0.0	4.7
TOT RNDFISH	152.0	2.0	22.1	310.5	0.0	233.4	51.7	104.3	2.0	2.5	121.3
ARROWTOOTH FL	0.0	0.0	4.7	6.6	0.0	20.9	23.9	0.0	4.3	5.4	3.5
DOYER SOLE	0.0	0.0	21.6	66.5	0.0	12.7	23.9	3.1	16.7	5.4	12.5
REX SOLE	0.0	0.0	13.0	15.2	0.0	2.7	11.5	0.4	2.9	2.6	3.3
ENGLISH SOLE	0.0	0.0	0.7	0.0	0.0	0.5	0.0	0.0	0.1	0.0	0.0
PETRALE SOLE	0.0	0.0	0.5	0.8	0.0	0.5	0.0	0.0	0.0	0.0	0.0
PAC SANDDAE	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	1.4	0.5	0.0	0.4	0.5	0.0	0.2	0.2	0.3
TOT FLTFISH	0.0	0.0	41.9	89.6	0.0	37.6	59.8	3.4	24.2	13.5	19.6
SKATES	0.1	0.0	0.5	0.1	0.0	0.0	0.0	0.0	6.8	0.0	0.0
SPINY DOGFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HATFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
OTHER ELASHOBRH	0.0	0.0	0.2	0.0	0.0	1.8	0.1	0.0	0.0	0.0	0.0
TOT ELASHOBRH	0.1	0.0	0.7	0.1	0.0	1.8	0.1	0.0	7.2	0.0	0.0
DUNGENESS CRAB	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	3.1	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
SEA URCHINS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0
OTHER INVERTS	18.1	45.4	22.2	18.1	0.0	3.9	24.9	1.4	8.4	455.9	6.8
TOT INVERTS	18.1	45.4	23.4	18.1	0.0	3.9	24.9	1.4	15.8	455.9	6.8
TOTAL CATCH	170.2	47.4	88.0	418.4	0.0	276.7	136.4	109.1	49.2	471.8	147.7

Table 53.--Continued.

## 1980 WESTCAST GROUND FISH SURVEY - MARY 10U

HAUL #	171	172	173	174	175	176	177	178	179	180	181
MONTH/DAY/YEAR	8/26/80	8/26/80	8/26/80	8/26/80	8/27/80	8/27/80	8/27/80	8/27/80	8/27/80	8/27/80	8/27/80
LATITUDE START	46 23.7	46 22.3	46 24.4	46 25.3	46 39.3	46 29.5	46 26.7	46 24.7	46 25.7	46 28.0	46 28.6
LONGITUDE START	124 27.1	124 22.7	124 16.3	124 17.3	124 17.1	124 18.2	124 21.4	124 27.6	124 32.9	124 31.4	124 29.1
LATITUDE END	46 22.5	46 23.8	46 23.2	46 26.8	46 37.6	46 28.1	46 24.8	46 26.0	46 24.1	46 28.8	46 27.4
LONGITUDE END	124 25.8	124 23.1	124 15.7	124 18.0	124 16.5	124 18.2	124 21.0	124 28.6	124 33.5	124 30.0	124 29.5
LORAN START	12061.50	12062.30	12037.00	12032.30	11941.80	12006.40	12031.10	12055.30	12059.00	12041.10	12032.80
LORAN START	28005.90	28011.30	28022.60	28021.90	28033.70	28024.10	28016.90	28006.10	27999.10	28003.30	28007.20
LORAN END	12067.20	12053.50	12043.80	12023.70	11951.30	12016.10	12042.70	12049.00	12070.20	12033.10	12041.20
LORAN END	28006.70	28011.90	28022.50	28022.10	28033.20	28022.80	28016.00	28005.70	27996.80	28006.10	28005.60
GEAR DEPTH	115	95	59	70	62	70	84	95	192	256	143
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.74	2.72	2.32	2.93	3.22	2.72	3.56	2.63	2.96	2.37	2.24
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	0.0	150.8	20.9	17.5	5.8	0.0	257.7	0.0	154.9	1.8	0.0
PACIFIC COD	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SABLEFISH	4.9	3.8	0.0	0.0	0.0	0.0	0.5	7.3	7.3	8.7	0.0
LINGCOD	16.4	0.0	0.0	0.0	3.6	0.0	0.0	44.0	16.0	0.0	0.0
PAC OC PERCH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.1	104.1	0.6
RCUGHEYE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	0.0
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARKBLOTCHED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.9	12.5	0.1
SPLITNOSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	102.0	0.0
YELLOWTAIL	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0
CHILIPPPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BCCACCIO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	0.0
CANARY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0
REDSTRIPE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIPE TAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RND FISH	69.9	0.1	0.1	0.0	0.0	0.0	0.0	688.7	0.3	55.0	18.1
TOT RND FISH	94.4	154.6	21.0	17.5	9.4	0.0	258.3	741.5	205.1	288.0	18.8
ARROWTOOTH FL	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	50.8	0.0
DOVER SOLE	13.2	3.8	0.0	0.0	2.1	0.0	1.1	1.7	8.3	61.4	0.3
REX SOLE	2.0	2.0	0.5	0.0	3.9	0.0	0.0	0.0	2.4	10.2	0.5
ENGLISH SOLE	0.7	0.0	0.0	0.0	3.9	0.0	0.0	0.5	1.0	0.0	0.0
PETRALE SOLE	0.5	0.5	0.3	0.4	0.0	0.0	0.0	0.0	0.7	0.0	0.0
PAC SANDDAE	0.0	0.5	0.0	0.0	31.8	0.0	0.0	0.0	0.0	0.0	0.0
OTHER FLT FISH	0.7	0.0	0.3	0.0	0.0	0.0	0.0	0.4	0.2	0.0	0.0
TOT FLT FISH	17.6	6.8	1.1	0.4	41.6	0.0	1.1	2.5	14.8	122.4	0.7
SKATES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.5	0.0
SPIKY DOGFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RATFISH	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.2	0.0
OTHER ELASHOBRH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT ELASHOBRH	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.7	0.0
DUNEENESS CRAB	1.5	0.0	0.7	0.0	0.0	0.0	0.3	0.0	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
SEA URCHINS	0.0	1.4	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0
OTHER INVERTS	5.1	11.3	5.9	15.9	0.0	0.0	6.1	0.0	0.0	0.0	0.0
TOT INVERTS	10.6	12.7	6.6	15.9	0.0	0.0	8.2	0.0	0.0	0.0	0.0
TOTAL CATCH	123.6	174.1	28.7	33.8	51.1	0.0	267.6	744.0	219.9	432.1	19.5



Table 53.--Continued.

## 1980 WESTCAST GROUND FISH SURVEY - MARY 10U

HAUL #	182	183	184	185	186	187	188	189	190	191	192
MONTH/DAY/YEAR	8/28/80	8/28/80	9/ 5/80	9/ 5/80	9/ 5/80	9/ 5/80	9/ 5/80	9/ 5/80	9/ 5/80	9/ 6/80	9/ 7/80
LATITUDE START	46 36.0	46 32.8	46 35.9	46 32.1	46 29.4	46 34.7	46 35.0	46 37.1	46 37.8	46 47.0	46 42.0
LONGITUDE START	124 22.2	124 21.8	124 26.4	124 26.8	124 24.8	124 28.7	124 32.3	124 36.8	124 40.8	124 19.5	124 21.2
LATITUDE END	46 34.6	46 31.4	46 34.3	46 30.5	46 27.9	46 35.9	46 35.9	46 38.2	46 37.5	46 45.9	46 40.9
LONGITUDE END	124 22.3	124 21.7	124 27.0	124 26.7	124 24.4	124 29.6	124 34.1	124 38.2	124 38.9	124 19.1	124 20.2
LORAN START	11972.60	11992.30	11991.40	12006.30	12019.50	11993.30	11998.10	11993.80	11996.70	11899.00	11932.80
LORAN END	28023.60	28021.50	28017.30	28013.50	28014.20	28013.00	28008.00	28003.30	27998.30	28036.40	28030.00
LORAN END	11981.30	12001.00	11992.70	12016.30	12028.70	11987.20	11995.80	11989.30	11995.00	11905.20	11938.20
LORAN END	28022.30	28020.50	28015.10	28012.40	28013.50	28012.80	28006.30	28002.30	28000.70	28036.00	28030.40
GEAR DEPTH	80	84	115	124	99	132	172	176	329	59	75
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.46	2.57	3.07	3.00	2.89	2.52	2.72	2.78	2.43	2.17	2.46
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	0.0	0.0	0.0	0.9	4.1	4.1	1.8	2.3	2.3	0.0	1.4
PACIFIC COD	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	3.2	1.4	16.3	0.0	0.0
LINGCOD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAC DC PERCH	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	7.7	0.0	0.0
ROUGHEYE	0.0	0.0	0.0	0.0	0.0	4.5	0.5	0.0	4.1	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARKBLOTCHED	0.0	0.0	0.0	0.0	0.1	4.1	3.2	2.3	0.2	0.0	0.0
SPLITNOSE	0.0	0.0	0.0	0.0	0.0	0.0	9.1	0.9	4.5	0.2	0.0
YELLOWTAIL	0.0	0.0	0.0	0.0	1.8	0.9	0.0	0.0	0.0	0.0	0.0
CHILIPEPPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOCACCIO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CANARY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
REDSTRIPE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIPETAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RND FISH	0.0	0.0	0.2	0.1	2.3	9.2	9.0	4.2	23.8	14.2	0.3
TOT RND FISH	0.0	0.0	0.2	1.0	8.3	22.8	26.8	11.0	58.9	14.4	1.6
ARROWTOOTH FL	0.0	0.0	0.0	0.0	0.5	6.4	3.2	10.0	29.0	0.0	0.0
DOVER SOLE	0.0	0.0	0.0	0.0	1.4	1.8	0.9	0.9	13.2	0.0	1.8
REX SOLE	0.0	0.0	0.0	0.0	1.4	20.0	0.5	4.1	2.3	2.3	0.5
ENGLISH SOLE	0.0	0.0	0.0	0.0	0.5	0.9	0.0	0.0	0.0	9.5	0.2
PETRALE SOLE	0.0	0.5	0.0	0.0	0.0	5.0	1.8	2.3	6.8	0.0	0.0
PAC SANDDAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.0	0.9
OTHER FLTFISH	0.0	0.0	0.0	0.0	0.2	1.0	0.6	0.5	0.0	0.0	0.0
TOT FLTFISH	0.0	0.5	0.0	0.0	3.9	35.0	6.9	17.7	51.3	45.8	3.4
SKATES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.0
SPINY DOGFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0
RATFISH	0.0	0.0	0.0	0.0	0.9	0.1	0.0	0.0	0.0	0.0	0.0
OTHER ELASMOBRH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT ELASMOBRH	0.0	0.0	0.0	0.0	0.9	0.1	0.0	0.1	0.1	1.6	0.0
DUNGENESS CRAB	0.0	0.0	0.0	0.0	0.9	1.8	0.0	0.0	0.0	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
SEA URCHINS	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	22.7	18.1	25.0	10.4	2.7	1.8	0.0	0.0	9.1
TOT INVERTS	0.0	0.0	22.7	18.1	26.0	12.3	2.7	1.8	0.0	0.0	9.1
TOTAL CATCH	0.0	0.5	22.9	19.2	39.0	70.3	36.5	30.6	110.3	61.8	14.1

Table 53.--Continued.

## 1980 WESTCAST GROUND FISH SURVEY - MARY 10U

HAUL #	193	194	195	196	197	198	199	200	201	202	203
MONTH/DAY/YEAR	9/ 7/80	9/ 7/80	9/ 7/80	9/ 7/80	9/ 7/80	9/ 7/80	9/ 8/80	9/ 8/80	9/ 8/80	9/ 8/80	9/ 8/80
LATITUDE START	46 40.5	46 40.8	46 39.8	46 39.9	46 45.1	46 46.4	46 47.1	46 46.0	46 50.6	46 52.8	46 51.5
LONGITUDE START	124 26.5	124 37.0	124 39.7	124 44.2	124 49.8	124 42.9	124 29.2	124 34.3	124 52.2	124 41.8	124 37.6
LATITUDE END	46 42.1	46 39.3	46 41.3	46 40.6	46 46.8	46 45.0	46 45.7	46 47.4	46 52.1	46 50.6	46 52.7
LONGITUDE END	124 26.6	124 36.3	124 40.6	124 45.9	124 50.4	124 42.2	124 28.5	124 35.1	124 53.1	124 41.3	124 38.8
LORAN START	11952.90	11971.00	11932.40	11590.40	11969.50	11949.00	11918.10	11934.70	11941.80	11910.80	11908.60
LORAN START	28021.00	28006.30	28031.60	27995.30	27992.00	28002.70	28022.60	28014.40	27993.40	28009.40	28014.40
LORAN END	11943.00	11979.40	11975.10	11989.10	11961.10	11956.00	11925.20	11927.60	11935.00	11921.00	11904.00
LORAN END	28022.20	28005.90	28031.60	27993.50	27992.50	28002.50	28022.40	28014.50	27993.50	28008.40	28013.70
GEAR DEPTH	91	132	150	210	219	150	88	113	183	135	117
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	3.06	3.04	2.96	2.61	3.15	2.76	2.72	2.85	2.91	3.57	2.72
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	0.9	0.0	3.2	6.8	0.0	0.0	3.2	31.3	1.4	1.1	0.0
PACIFIC COD	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	8.2	0.0	0.0	0.0	43.1	7.7	0.0
LINGCOD	0.0	0.0	0.0	0.0	0.0	5.9	0.0	0.0	0.0	0.0	0.0
PAC OC PERCH	0.0	0.0	0.0	7.3	174.6	2.3	0.0	1.4	1.8	0.0	0.0
ROUGHEYE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	151.5	0.0	0.0
DARKBLOTCHED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	0.0
SPLITNOSE	0.0	0.0	0.0	0.2	42.6	1.4	0.0	0.0	0.0	0.0	0.0
YELLOWTAIL	1.8	0.0	10.0	0.0	0.0	76.2	0.0	4.5	0.0	1.8	0.0
CHILIPEPPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOCACCIO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CANARY	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	4.5	0.0	0.0
REDSTRIPE	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIPETAILED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
OTHER RND FISH	0.9	7.3	13.2	4.8	20.2	2.0	0.0	0.0	8.6	11.8	0.0
TOT RND FISH	3.6	7.3	26.8	20.9	245.6	87.8	3.2	37.2	211.4	26.1	0.0
ARROWTOOTH FL	0.1	0.0	0.0	1.8	7.3	5.4	0.0	0.5	96.2	8.6	0.0
DOVER SOLE	0.1	0.0	0.0	3.6	3.2	0.3	0.0	0.0	16.3	0.5	0.0
REX SOLE	1.8	0.0	0.0	0.0	1.8	1.6	0.0	0.0	5.0	1.1	0.0
ENGLISH SOLE	0.0	0.0	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0
PETRALE SOLE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0
PAC SANDDAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER FLT FISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0
TOT FLT FISH	2.1	0.0	0.0	5.4	16.3	7.3	0.0	0.5	117.9	12.9	0.0
SKATES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1	0.0	0.0
SPIRY DOGFISH	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	8.6	0.0	0.0
RATFISH	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.5	2.7	0.0	0.0
OTHER ELASMOBRH	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0
TOT ELASMOBRH	0.0	0.0	0.0	0.0	1.8	2.5	0.0	0.5	15.4	0.0	0.0
DURGENESS CRAB	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SQUID	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEA URCHINS	0.0	0.0	0.0	13.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	0.0	10.4	1.8	0.0	0.0	0.9	2.3	0.0	1.6	0.2	0.0
TOT INVERTS	3.2	10.4	1.9	13.6	0.0	0.9	2.3	0.0	1.6	0.2	0.0
TOTAL CATCH	6.9	17.7	28.7	40.0	263.9	98.5	5.4	38.1	346.3	39.2	0.0

Table 53.--Continued.

## 1980 WESTCOAST GROUND FISH SURVEY - MARY TOU

HAUL #	204	205	206	207	208	209	210	211	212	213	214
MONTH/DAY/YEAR	9/ 8/80	9/ 8/80	9/ 8/80	9/ 9/80	9/ 9/80	9/ 9/80	9/ 9/80	9/ 9/80	9/ 9/80	9/ 9/80	9/ 9/80
LATITUDE START	46 52.6	46 51.7	46 60.0	46 59.6	46 60.0	46 58.2	46 58.3	47 3.5	47 5.4	47 5.0	47 7.3
LONGITUDE START	124 34.5	124 31.1	124 26.8	124 30.1	124 40.1	124 46.7	124 52.3	124 48.8	124 43.5	124 35.9	124 31.4
LATITUDE END	46 51.0	46 52.6	47 1.3	47 1.0	46 58.9	46 59.3	46 56.6	47 4.6	47 4.1	47 6.4	47 5.7
LONGITUDE END	124 33.0	124 29.9	124 27.0	124 30.3	124 39.4	124 47.1	124 53.1	124 49.5	124 44.6	124 35.8	124 30.8
LORAN START	11896.10	11894.70	11888.50	11847.50	11865.30	11882.50	11898.70	11863.40	11842.70	11829.30	11807.80
LORAN START	28019.60	28023.60	28036.10	28031.20	28017.80	28007.30	27999.70	28008.70	28017.40	28027.50	28035.30
LORAN END	11904.00	11887.10	11851.40	11839.70	11870.30	11882.90	11909.70	11858.40	11851.90	11821.90	11815.10
LORAN END	28019.20	28026.00	28036.90	28032.10	28017.80	28007.60	27997.20	28008.80	28014.90	28028.50	28035.00
GEAR DEPTH	102	88	62	70	108	152	168	144	117	80	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	3.02	2.24	2.46	2.70	2.26	2.26	3.30	2.26	2.76	2.57	3.09
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC. WHITING	95.7	0.0	0.0	0.0	3.2	0.0	0.0	9.1	161.9	5.0	0.0
PACIFIC COD	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	5.0	0.7	0.0	0.0
LINGCOD	0.0	0.0	3.6	0.0	0.0	65.1	0.9	0.0	3.6	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
ROUGHIE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARKBLOTCHED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
SPLITNOSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOWTAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHILIPEPPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BACCAIO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CANARY	0.0	0.0	0.0	0.0	0.0	2.7	3.6	0.0	0.0	0.0	0.0
REC STRIPE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIPE TAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RND FISH	0.0	0.0	1.4	0.0	0.0	8.6	12.7	0.1	0.1	0.0	0.0
TOT RND FISH	95.7	0.0	5.0	0.0	3.2	76.4	17.2	14.6	166.3	5.0	0.0
ARROWTOOTH FL	1.4	0.0	0.0	0.0	0.0	0.0	0.0	3.9	4.1	0.0	0.0
DOVER SOLE	9.5	0.0	0.1	0.0	0.0	1.4	0.0	0.5	0.0	6.8	1.1
REX SOLE	1.4	0.0	10.9	0.0	0.0	0.2	0.0	0.9	1.4	1.4	2.3
ENGLISH SOLE	0.7	0.0	12.7	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0
PETRALE SOLE	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
PAC SANDDAE	0.2	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER FLT FISH	0.6	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
TOT FLT FISH	13.7	0.0	35.0	0.0	0.0	1.7	0.0	5.3	5.4	9.5	3.4
SKATES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPINY DOGFISH	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0
RATFISH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER ELASMOBRH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0
TOT ELASMOBRH	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.4	0.0	0.0	0.0
DUNGENESS CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
SEA URCHINS	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	45.4	2268.0	46.3	0.9	0.0	453.6	0.3	46.7
TOT INVERTS	0.0	0.0	0.0	45.4	2268.0	46.3	0.9	0.0	453.6	0.3	46.7
TOTAL CATCH	109.5	0.0	40.0	45.4	2271.1	124.4	19.7	21.3	625.4	14.8	50.1

Table 53.--Continued.

## 1980 WESTCOAST GROUND FISH SURVEY - MARY 100

HAUL #	215	216	217	219	220	221	222	223	224	225	227	
MONTH/DAY/YEAR	9/10/80	9/10/80	9/10/80	9/12/80	9/12/80	9/12/80	9/12/80	9/12/80	9/12/80	9/12/80	9/13/80	9/13/80
LATITUDE START	47 12.0	47 11.9	47 10.2	47 33.4	47 33.1	47 32.3	47 32.8	47 52.8	47 54.8	47 56.7	48 8.6	
LONGITUDE START	124 30.5	124 36.7	124 40.3	124 48.4	124 53.6	124 57.0	124 59.6	125 14.4	125 6.0	124 55.8	124 57.8	
LATITUDE END	47 13.3	47 10.2	47 11.7	47 34.8	47 31.8	47 33.8	47 31.5	47 53.6	47 53.4	47 57.9	48 10.1	
LONGITUDE END	124 25.8	124 37.0	124 41.0	124 48.6	124 53.1	124 58.3	124 58.1	125 16.0	125 4.8	124 55.6	124 56.7	
LORAN START	11780.90	11794.30	11810.10	11711.80	11723.90	11734.20	11736.70	14807.60	14835.60	14869.80	14864.70	
LORAN START	28040.10	28031.60	28025.60	28032.30	28025.40	28020.50	28017.70	28676.90	28670.30	28657.20	28748.30	
LORAN END	11772.40	11803.70	11804.10	11705.50	11728.60	11729.70	11739.90	14802.20	14839.60	14870.60	14868.60	
LORAN END	28042.10	28030.00	28025.70	28033.10	28025.20	28020.00	28018.60	28686.40	28657.50	28665.40	28756.30	
GEAR DEPTH	60	84	99	110	154	181	210	348	144	90	128	
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	2.63	3.15	2.82	2.70	2.43	3.26	3.09	2.52	3.02	2.28	3.00	
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	
PAC WHITING	0.0	0.0	127.0	0.9	0.0	0.0	1.4	8.6	0.0	298.7	430.9	
PACIFIC COD	0.0	0.0	0.0	0.0	0.0	9.3	2.3	0.0	0.0	0.0	1.1	
SABLEFISH	0.0	0.0	0.0	0.0	5.4	62.8	2.3	74.8	9.1	0.0	4.3	
LINGCOD	5.9	0.0	0.0	0.0	4.3	74.4	110.7	0.0	0.0	0.0	0.0	
PAC OC PERCH	0.0	0.0	0.0	0.0	0.0	13.6	2.7	40.4	0.0	0.0	0.0	
ROUGHEYE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.2	2.3	0.0	0.0	
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
DARKBLOTCHED	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	
SPLITNOSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
YELLOWTAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	336.6	0.0	0.0	
CHILIPEPPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
SHORTBELLY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
BOCACCI	0.0	0.0	0.0	0.0	0.0	16.8	0.0	0.0	0.0	0.0	0.0	
CANARY	0.0	0.0	0.0	0.0	0.0	5.9	2.7	0.0	0.0	0.0	0.0	
REDSTRIFE	0.0	0.0	0.0	0.0	0.0	286.9	2.7	0.0	0.0	0.0	0.0	
STRIPETAILED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
OTHER GROUND FISH	0.5	0.0	0.0	0.0	1.4	26.4	20.8	122.9	5.9	0.0	0.5	
TOT GROUND FISH	6.4	0.0	127.0	1.0	11.1	456.1	145.5	259.0	353.8	299.7	436.9	
ARROWTOOTH FL	0.0	0.0	0.0	0.9	10.9	8.2	11.3	34.5	49.0	0.9	3.6	
DOVER SOLE	0.7	0.0	0.0	2.7	2.3	8.6	4.3	48.1	3.6	3.6	0.2	
REX SOLE	0.2	0.0	0.5	0.1	0.5	1.8	5.4	12.2	2.7	0.7	0.1	
ENGLISH SOLE	36.7	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	
PETRALE SOLE	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0	0.0	1.4	1.1	
PAC SAND DAE	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	
OTHER FLTFISH	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	1.9	0.0	0.7	
TOT FLTFISH	37.9	0.0	1.1	3.7	14.1	23.1	21.1	94.8	57.2	9.3	5.8	
SKATES	0.0	0.0	0.0	0.0	0.0	0.9	26.3	33.1	0.0	0.0	0.0	
SPINY DOGFISH	0.0	0.0	0.0	3.6	1.1	11.3	35.8	24.9	29.5	43.3	1.6	
RATFISH	0.0	0.0	0.0	0.0	0.0	0.0	4.3	7.3	0.0	0.0	0.0	
OTHER ELASMOBRM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
TOT ELASMOBRM	0.0	0.0	0.0	3.6	1.1	12.2	66.5	65.3	29.5	43.3	1.6	
DUNGENESS CRAB	0.0	0.0	0.0	0.1	2.3	0.1	0.0	0.0	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	
SEA URCHINS	0.0	0.0	6.8	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	
OTHER INVERTS	0.0	11.3	0.0	0.0	0.9	0.0	4.5	0.7	0.0	0.0	0.0	
TOT INVERTS	0.0	11.3	6.8	0.1	3.3	0.1	4.5	0.7	0.0	0.0	0.0	
TOTAL CATCH	44.2	11.3	134.9	8.5	29.6	531.6	237.6	419.8	440.4	351.3	444.3	

Table 53.--Continued.

HAUL #	228	230	231	232	233	234	235	236	238	239	240
MONTH/DAY/YEAR	9/13/80	9/13/80	9/13/80	9/13/80	9/13/80	9/14/80	9/14/80	9/14/80	9/16/80	9/16/80	9/16/80
LATITUDE START	48 8.5	48 6.9	48 17.3	48 19.6	48 19.7	48 22.1	48 21.1	48 21.1	48 29.2	48 25.0	48 22.1
LONGITUDE START	125 6.9	125 8.0	125 12.0	125 5.1	125 1.9	124 47.8	124 53.6	124 57.3	125 5.9	125 18.7	125 23.8
LATITUDE END	48 7.0	48 8.2	48 18.6	48 19.2	48 18.5	48 21.7	48 20.0	48 19.7	48 28.2	48 23.7	48 23.6
LONGITUDE END	125 1.6	125 8.7	125 12.8	125 6.1	125 0.7	124 49.7	124 54.6	124 58.2	125 4.3	125 17.9	125 23.2
LORAN START	14854.30	14829.80	14816.40	14840.70	14851.80	14901.10	14880.90	14868.20	14838.30	14791.90	14774.00
LORAN START	28754.70	28760.10	28844.80	28846.30	28840.20	28826.20	28832.20	28840.50	28920.60	28915.50	28905.00
LORAN END	14851.60	14827.60	14813.30	14837.20	14856.00	14894.50	14877.50	14864.90	14844.10	14795.10	14775.90
LORAN END	28745.50	28770.70	28855.70	28845.60	28828.40	28827.20	28825.70	28831.50	28909.70	28904.20	28914.50
GEAR DEPTH	271	229	194	113	216	91	311	155	161	132	176
DURATION IN HOURS	0.50	0.50	0.50	0.30	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.94	2.48	2.52	1.43	2.70	2.46	2.39	2.93	2.70	2.61	2.80
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	14.7	15.9	32.7	0.9	37.2	0.0	14.5	0.0	105.7	46.7	14.1
PACIFIC COD	0.0	0.0	6.8	0.0	3.2	0.0	0.0	24.5	0.0	15.0	0.0
SABLEFISH	26.8	4.5	20.9	0.0	6.9	0.0	50.3	5.9	7.7	322.5	345.2
LINGCOD	0.0	0.0	5.9	4.1	0.0	20.0	3.4	0.0	2.9	0.0	0.0
PAC OC PERCH	4.1	422.1	26.8	0.0	63.5	0.0	3.6	4.1	0.0	17.7	0.0
ROUGHEY	2.3	0.0	34.9	4.1	0.5	0.0	0.9	0.0	0.0	0.0	0.2
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DARKBLOTCHED	0.3	4.8	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPLITNOSE	0.0	36.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOWTAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	14.5	0.0
CHILIPEPPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BACACCIO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.5	0.0	0.0	6.8
CANARY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
REDSTRIPE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
STRIPE TAIL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RND FISH	13.9	73.5	20.4	0.0	28.6	76.9	8.6	6.6	25.1	218.2	38.3
TOT RND FISH	62.1	557.2	152.9	9.1	139.7	96.8	81.4	50.6	142.6	634.6	404.6
ARROWTOOTH FL	15.4	0.0	99.3	0.0	29.0	0.0	34.0	6.4	67.6	191.0	357.9
DOVER SOLE	21.3	46.7	82.1	0.0	99.8	0.0	93.0	2.3	12.2	4.1	46.3
REX SOLE	3.6	3.6	34.0	0.0	14.5	1.8	2.9	0.7	1.8	0.0	53.1
ENGLISH SOLE	0.7	0.0	0.9	0.0	0.0	54.0	0.3	0.0	0.0	0.0	0.5
PETRALE SOLE	2.9	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	2.3
PAC SANDDAE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER FLT FISH	2.7	1.1	42.2	0.0	3.6	3.6	0.0	0.0	0.0	0.0	10.5
TOT FLT FISH	46.7	51.5	258.5	0.0	147.0	59.4	130.3	12.5	81.6	195.0	470.5
SKATES	2.5	1.8	0.0	0.0	0.0	7.7	13.2	11.3	0.0	0.0	0.0
SPINY DOGFISH	125.2	212.3	61.2	6.8	65.3	62.6	223.6	237.2	42.2	182.8	72.6
RAIFISH	0.6	0.9	0.7	2.3	5.4	0.9	15.4	38.1	1.8	7.7	1.8
OTHER ELASMOBRH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT ELASMOBRH	136.3	215.0	61.9	9.1	70.8	71.2	252.2	286.7	44.0	190.5	74.4
DUNGENESS CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
SEA URCHINS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	0.9	0.0	2.0	0.0	0.9	0.0	0.0	0.0	1.4	3.2	2.2
TOT INVERTS	0.9	0.0	2.0	0.0	0.9	0.0	0.0	0.0	1.4	3.2	2.2
TOTAL CATCH	246.0	823.7	175.4	18.1	358.3	227.5	463.9	349.7	269.6	1023.3	951.6

Table 53.--Continued.

## 1980 WESTCAST GROUND FISH SURVEY - MARY 10U

HAUL #	241	242	243	244	246	247	248	249	250	251	252
MONTH/DAY/YEAR	9/16/80	9/16/80	9/17/80	9/17/80	9/17/80	9/17/80	9/17/80	9/17/80	9/18/80	9/18/80	9/18/80
LATITUDE START	48 22.4	48 18.3	48 18.8	48 15.9	48 29.7	48 35.4	48 36.2	48 39.8	48 42.1	48 44.2	48 47.3
LONGITUDE START	125 27.4	125 31.9	125 36.3	125 42.5	126 9.9	126 4.6	126 0.4	125 58.6	125 53.3	125 49.6	126 22.5
LATITUDE END	48 20.9	48 19.9	48 17.4	48 17.3	48 31.2	48 33.9	48 37.5	48 38.4	48 41.1	48 44.0	48 48.6
LONGITUDE END	125 27.7	125 31.4	125 35.2	125 42.4	126 9.9	126 4.7	126 0.8	125 57.6	125 52.6	125 47.0	126 23.7
LORAN START	14760.80	14745.00	14729.10	14707.20	14599.20	14616.20	14632.00	14637.30	14656.80	14670.40	14537.20
LORAN START	28914.20	28894.10	28906.60	28999.00	29044.20	29075.10	29073.90	29096.40	29104.40	29113.50	29184.80
LORAN END	14759.70	14746.70	14733.20	14707.00	14598.10	14616.80	14629.90	14642.00	14660.00	14680.20	14531.30
LORAN END	28904.40	28904.20	28894.60	28908.30	29054.50	29064.70	29083.80	29084.70	29095.70	29113.90	29195.40
GEAR DEPTH	135	132	135	219	241	154	115	106	75	112	219
DURATION IN HOURS	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
DISTANCE FISHED	2.74	2.98	2.89	2.50	2.76	2.80	2.48	2.89	2.13	3.35	2.82
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	91.6	1.1	6.4	11.8	0.0	1.4	0.0	0.0	0.0	0.0	5.2
PACIFIC COD	0.0	29.9	22.7	2.3	0.9	0.0	0.0	5.0	0.0	0.0	6.4
SABLEFISH	578.0	12.2	193.7	46.7	23.6	97.1	0.0	1.6	0.0	0.0	74.4
LINGCOD	0.0	0.0	0.9	71.2	4.1	112.0	0.0	8.2	0.0	0.7	59.9
PAC OC PERCH	0.0	0.5	0.0	2.7	63.5	0.7	0.0	0.0	0.0	0.0	97.3
ROUGHEYE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
SILVERGRAY	0.0	0.0	0.0	73.9	0.0	19.1	0.0	0.0	0.0	0.0	2.7
DARKBLOTCHED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4
SPLITNOSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	313.0
YELLOWTAIL	3.2	49.0	3.2	0.0	1.1	3.6	0.0	4.8	0.0	0.0	0.0
CHILIPEPPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOCACCIO	0.0	0.0	0.5	41.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CANARY	3.2	0.0	0.0	6.4	0.0	34.0	0.0	0.0	0.0	0.0	0.0
REDSTRAPE	0.9	0.5	2.3	0.0	0.0	0.5	0.0	0.7	0.0	0.0	11.3
STRIPETAILED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER RND FISH	25.4	0.5	20.9	42.6	0.7	23.1	0.0	0.0	0.0	0.1	58.1
TOT RND FISH	703.1	93.7	250.4	299.4	93.9	291.4	0.0	20.2	0.0	0.2	631.8
ARROWTOOTH FL	0.0	36.3	2.7	70.3	39.9	9.1	0.0	5.9	0.0	0.0	52.6
DOVER SOLE	0.0	6.8	3.4	4.1	0.0	6.4	0.0	0.0	0.0	0.0	14.1
REX SOLE	0.0	0.0	2.3	0.2	0.0	0.9	0.0	2.3	1.4	0.5	14.1
ENGLISH SOLE	0.0	1.8	16.8	0.7	0.0	0.0	0.0	4.8	2.3	3.2	0.0
PETRALE SOLE	0.0	0.0	0.0	4.1	0.0	2.3	0.0	2.7	0.9	2.7	0.7
PAC SANDDAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	6.4	0.0
OTHER FLTFISH	0.0	9.1	0.1	32.3	0.0	0.0	0.0	0.0	30.4	23.4	4.1
TOT FLTFISH	0.0	54.0	25.3	111.7	39.9	18.6	0.0	15.6	37.0	36.1	85.5
SKATES	36.3	0.0	0.0	10.9	0.0	0.0	0.0	0.0	0.0	0.0	16.3
SPINY DOGFISH	575.2	124.7	520.9	261.3	16.8	676.2	0.0	7.3	0.0	0.0	11.3
RATFISH	0.9	2.7	0.0	440.9	0.0	0.0	0.0	0.7	0.0	0.0	7.3
OTHER ELASHOBRH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT ELASHOBRH	612.3	127.5	520.9	713.0	16.8	676.2	0.0	7.9	0.0	0.0	34.9
DUNGENESS CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SQUID	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0
SEA URCHINS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.1
OTHER INVERTS	0.0	0.0	0.9	1.8	0.0	0.0	0.0	0.5	0.0	2.7	0.0
TOT INVERTS	0.0	0.0	0.9	1.8	0.0	0.0	0.0	1.4	0.0	2.7	9.1
TOTAL CATCH	1315.4	275.1	197.5	1125.9	150.6	986.2	0.0	45.1	37.0	39.6	761.3

Table 53. --Continued.

## 1980 WESTCAST GROUNDFISH SURVEY - MARY TOU

HAUL #	253	254	255	256	257	258	260	261	263	264	265
MONTH/DAY/YEAR	9/18/80	9/18/80	9/18/80	9/18/80	9/20/80	9/20/80	9/20/80	9/20/80	9/21/80	9/21/80	9/21/80
LATITUDE START	48 45.8	48 52.4	48 56.2	49 1.3	49 15.3	49 11.4	49 5.3	49 3.7	49 29.8	49 27.0	49 24.3
LONGITUDE START	126 21.9	126 17.8	126 15.1	126 7.5	126 34.8	126 40.4	126 46.3	126 48.5	126 58.8	127 2.4	127 7.4
LATITUDE END	48 45.1	48 53.9	48 54.9	49 2.8	49 17.0	49 10.9	49 4.2	49 2.4	49 28.6	49 28.5	49 23.0
LONGITUDE END	126 20.1	126 18.4	126 15.5	126 7.5	126 35.8	126 38.4	126 44.5	126 47.2	126 57.8	127 3.5	127 6.9
LORAN START	14537.60	14552.10	14550.30	14587.70	14458.30	14438.50	14420.70	14413.00	14331.60	14320.20	14301.90
LORAN END	14545.60	14548.40	14559.70	14586.60	14451.90	14447.60	14429.80	14420.20	14337.80	14312.50	14306.50
LORAN END	29219.00	29225.50	29228.20	29274.90	29406.10	29367.00	29327.20	29318.00	29503.50	29506.40	29472.90
GEAR DEPTH	179	143	124	64	106	126	168	210	117	141	161
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	2.61	2.87	2.50	2.87	3.30	2.56	3.04	2.98	2.52	3.11	2.44
PERFORMANCE / GEAR	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160	0 /160
PAC WHITING	0.0	0.0	0.0	0.0	0.0	0.0	0.0	149.7	0.0	74.4	4.3
PACIFIC COO	3.6	0.0	0.0	0.0	0.0	20.9	0.0	9.5	4.8	16.8	2.7
SABLEFISH	34.9	0.0	0.9	0.0	0.0	0.7	6.4	79.8	7.0	39.5	9.1
LINGCOD	0.0	28.1	9.1	16.8	0.7	9.5	20.4	34.0	10.4	57.6	44.0
PAC OC PERCH	1.1	0.0	0.0	0.0	0.0	0.0	0.7	7.3	0.0	0.0	5.9
ROUGHEY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SILVERGRAY	0.0	0.0	0.0	0.0	0.0	34.0	2.0	7.7	0.0	3.6	0.0
DARKBLOTCHED	0.7	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPLITNOSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
YELLOWTAIL	5.0	8.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHILIPEPPER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORTBELLY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BOCACCIO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.7	0.0	5.4	0.0
CANARY	0.0	0.0	0.0	0.0	0.0	143.3	0.0	2.3	0.0	15.6	0.0
REDSTRIPE	0.5	0.0	0.0	0.0	0.0	12.7	5.0	88.9	0.0	0.0	0.0
STRIPETAILED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER GROUNDFISH	2.7	11.3	5.6	0.2	0.2	4.5	7.3	83.2	9.3	32.7	2.7
TOT GROUNDFISH	48.5	49.0	16.6	17.0	0.9	225.7	41.7	468.1	31.5	245.6	68.7
ARROWTOOTH FL	39.0	75.1	16.8	0.0	0.0	65.8	22.9	44.0	23.6	147.9	69.9
DOVER SOLE	24.0	5.9	1.6	0.5	3.6	2.7	4.3	28.3	7.0	14.7	9.8
REX SOLE	2.0	2.7	1.8	0.0	0.0	0.7	3.2	12.2	1.8	3.2	4.5
ENGLISH SOLE	0.0	0.0	0.0	0.9	0.0	1.4	0.0	0.0	1.8	0.0	0.0
PETRALE SOLE	0.0	1.1	0.0	0.9	0.0	1.8	0.9	0.0	1.6	0.0	1.4
PAC SANDDAB	0.0	0.0	0.0	2.7	0.0	0.1	0.0	0.0	0.0	0.0	0.0
OTHER FLTFISH	0.0	10.0	5.4	0.5	0.0	7.5	16.4	0.4	2.8	6.8	1.5
TOT FLTFISH	65.1	94.8	25.6	5.4	3.6	79.9	47.6	85.0	38.7	172.6	87.0
SKATES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.9	0.0	0.0	0.0
SPINY DOGFISH	1298.4	36.3	10.0	0.0	0.0	12.2	15.6	17.7	15.9	19.5	6.8
RATFISH	0.7	5.4	3.6	0.0	0.0	1.8	0.5	2.3	0.0	2.5	2.3
OTHER ELASMOBRH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOT ELASMOBRH	1299.0	41.7	13.6	0.0	0.0	14.1	16.1	31.9	15.9	22.0	9.1
DUNGENESS CRAB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
SEA URCHINS	0.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER INVERTS	0.0	0.0	0.7	0.0	0.0	2.0	0.0	0.0	0.3	26.3	0.0
TOT INVERTS	0.0	4.5	0.7	0.0	0.0	2.0	0.0	0.0	0.3	26.3	0.0
TOTAL CATCH	1412.7	190.1	56.5	22.5	4.5	321.7	105.5	584.9	86.4	466.5	164.8

Table 53. --Continued.

## 1980 WESTCOAST GROUND FISH SURVEY - MARY LOU

HAUL #	266	267
MONTH/DAY/YEAR	9/21/80	9/21/80
LATITUDE START	49 21.3	49 20.9
LONGITUDE START	127 9.5	127 13.5
LATITUDE END	49 22.5	49 20.0
LONGITUDE END	127 11.3	127 12.2
LORAN START	14297.70	14280.50
LORAN START	29463.70	29464.30
LORAN END	14287.80	14288.00
LORAN END	29472.90	29457.20
GEAR DEPTH	181	320
DURATION IN HOURS	0.50	0.50
DISTANCE FISHED	3.13	2.39
PERFORMANCE / GEAR	0 / 160	0 / 160
PAC WHITING	0.0	18.4
PACIFIC COD	0.0	0.0
SABLEFISH	0.0	0.0
LINGCOD	0.0	0.0
PAC OC PERCH	0.1	0.9
ROUGHEYE	0.0	0.0
SILVERGRAY	5.0	0.0
DARKBLOTCHED	0.0	0.0
SPLITNOSE	0.0	0.0
YELLOWTAIL	0.0	0.0
CHILIPEPPER	0.0	0.0
SHORTBELLY	0.0	0.0
BOCACCO	0.0	0.0
CANARY	2.9	0.0
REDSTRIPE	2.9	0.5
STRIPETAILED	0.0	0.0
OTHER RNDFISH	0.3	0.0
TOT RNDFISH	11.3	19.7
ARROWTOOTH FL	4.1	1.4
DOVER SOLE	1.6	0.0
REX SOLE	0.0	0.0
ENGLISH SOLE	0.0	0.0
PETRALE SOLE	0.0	0.0
PAC SANDDAB	0.0	0.0
OTHER FLTFISH	0.2	0.0
TOT FLTFISH	5.9	1.4
SKATES	0.0	0.0
SPIKY DOGFISH	0.0	0.0
RATFISH	0.0	0.0
OTHER ELASHOBRH	0.0	0.0
TOT ELASHOBRH	0.0	0.0
DUNGENESS CRAB	0.0	0.0
SQUID	0.0	0.0
SEA URCHINS	0.0	0.0
OTHER INVERTS	0.0	0.0
TOT INVERTS	0.0	0.0
TOTAL CATCH	17.2	21.1



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Figure 29. --Estimated size composition for canary rockfish by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

Figure 30. --Estimated size composition for sablefish by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

Figure 31. --Estimated size composition for chilipepper by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

Figure 32. --Estimated size composition for widow rockfish-by sex/depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

Figure 33. --Estimated size composition for bocaccio by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

Figure 34. --Estimated size composition for redstripe rockfish by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

Figure 35.--Estimated size composition for 'darkblotched rockfish by sex, depth stratum-and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

Figure 36. --Estimated size composition for stripetail rockfish by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

Figure 37. --Estimated size composition for Pacific ocean perch by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

Figure 38. --Estimated size composition for sharpchin rockfish by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

- Figure 39.--Estimated size composition for shortbelly rockfish by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.
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Figure 50.--Estimated age composition for canary rockfish by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

Figure 51.--Estimated age composition for splitnose rockfish by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

Figure 52.--Estimated age composition for Pacific ocean perch by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

Figure 53.--Estimated age composition for chilipepper by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

Figure 54.--Specifications and design of the Noreastern bottom trawl used during the 1980 west coast groundfish survey.

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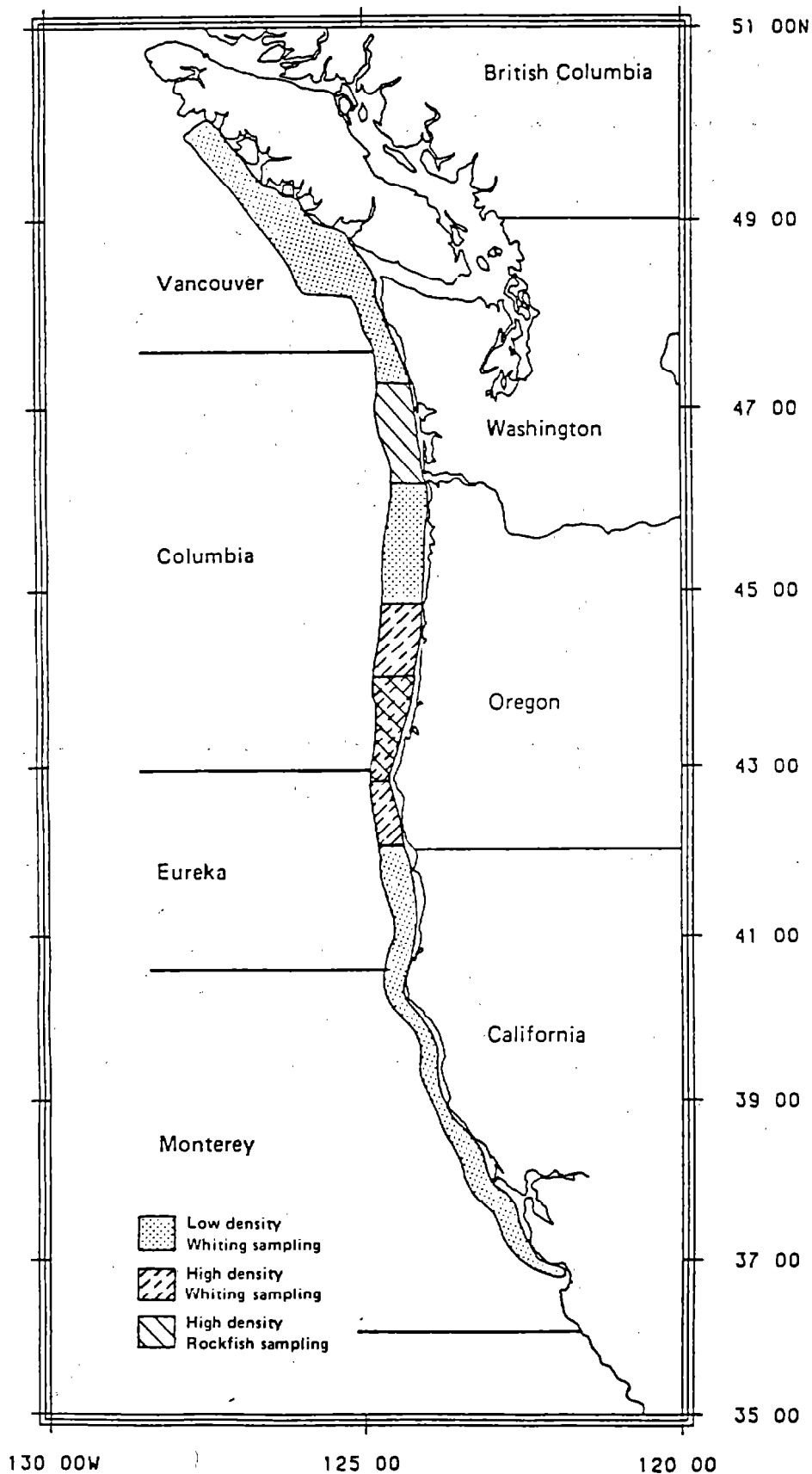


Figure 1. --The 1980 bottom trawl survey area with trawl sampling density patterns.

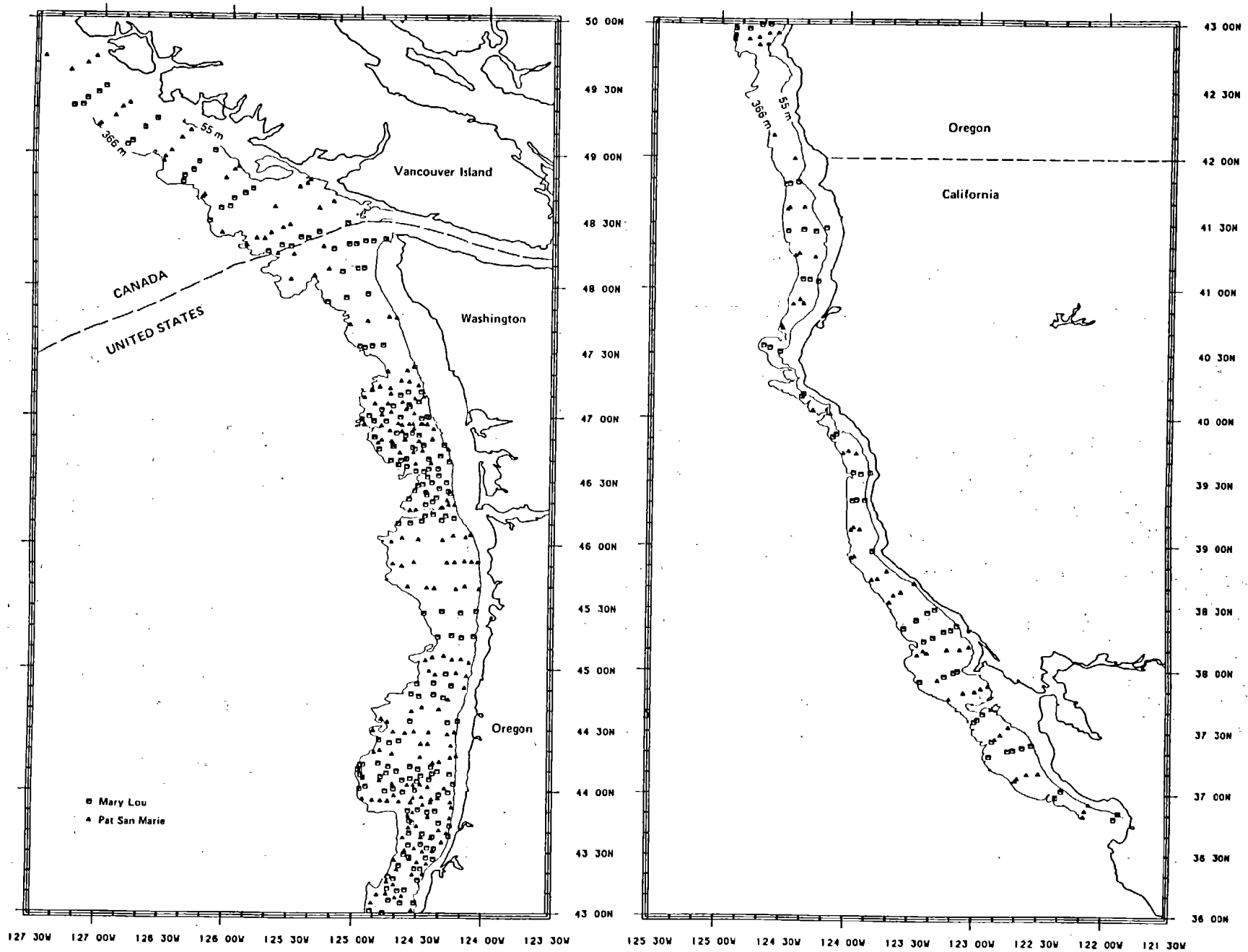


Figure 2.--The distribution of successfully completed bottom trawl hauls in 1980.



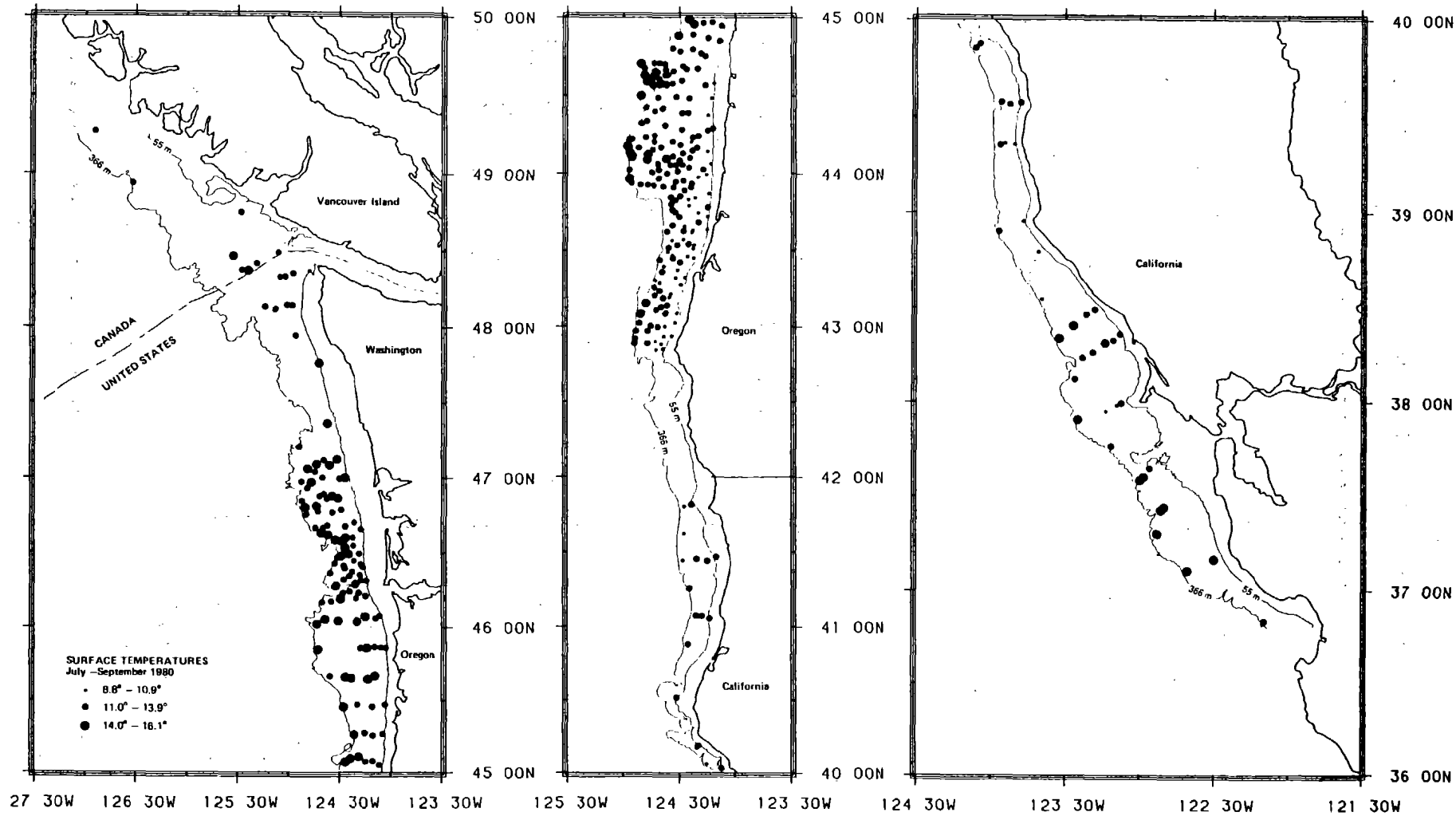


Figure 3.--Distribution of sea surface temperatures during July-September 1980.

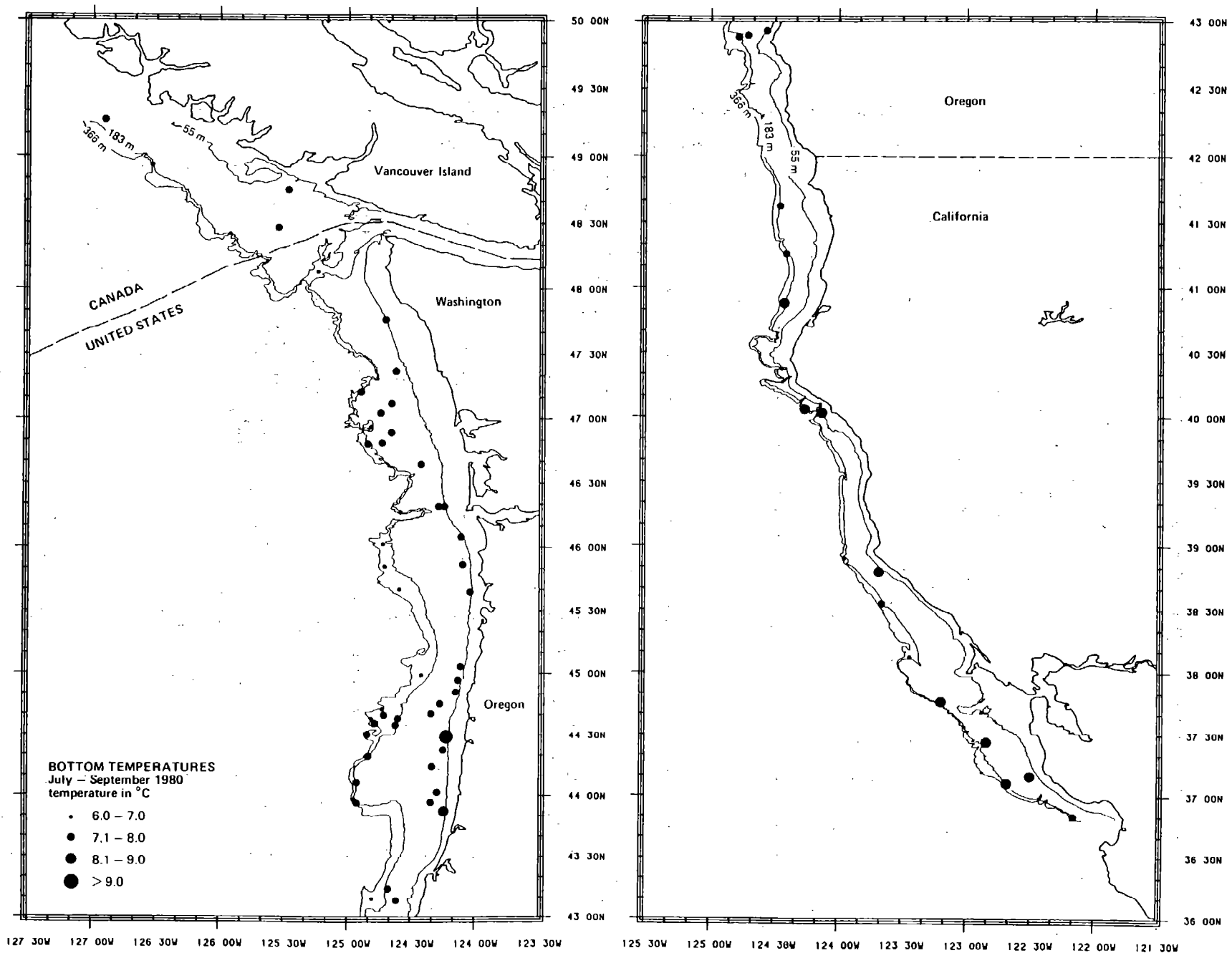


Figure 4.--Distribution of sea bottom temperatures during July-September 1980.

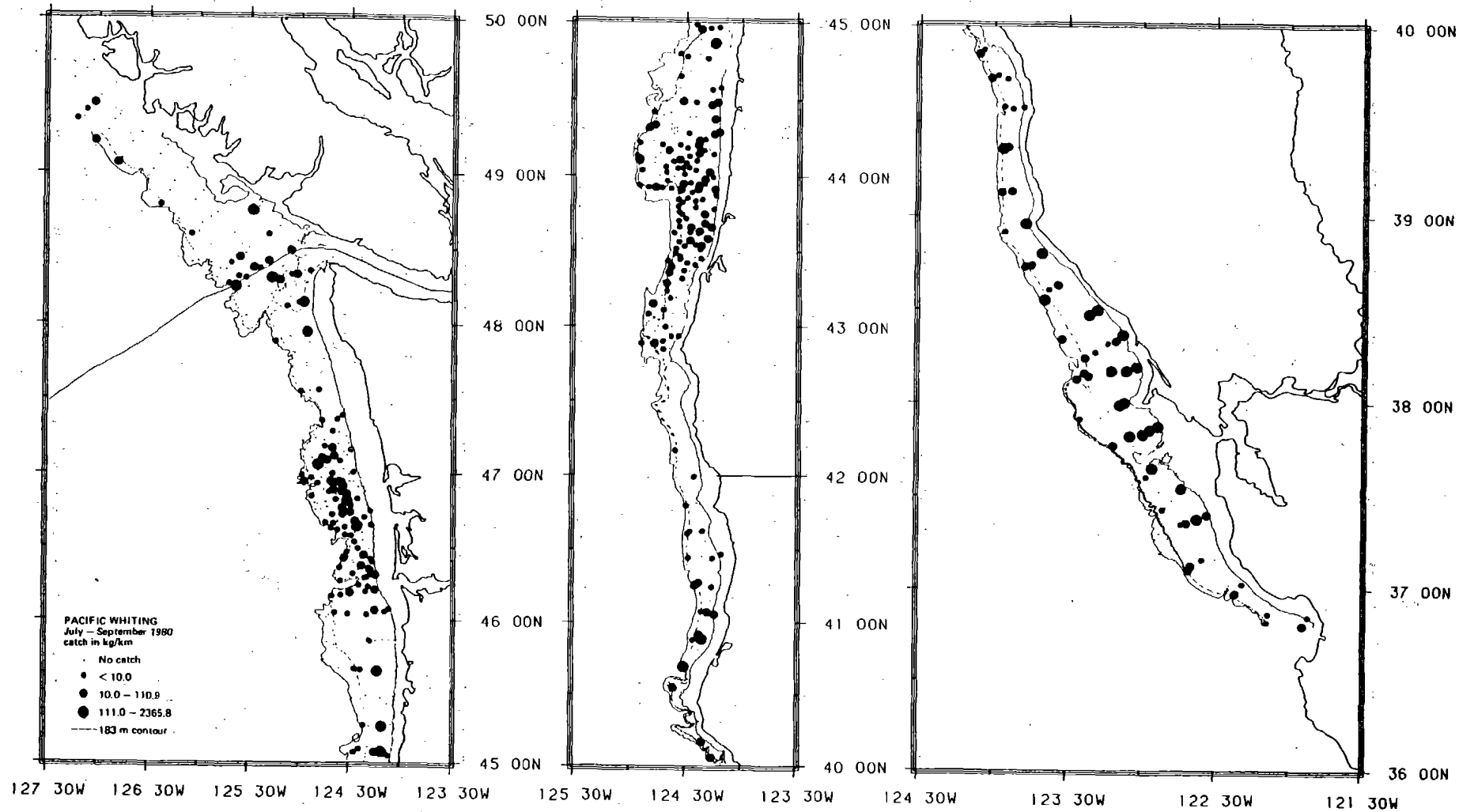


Figure 5.--Distribution and relative abundance measured in catch rates (kg/km) for Pacific whiting during the 1980 bottom trawl survey.

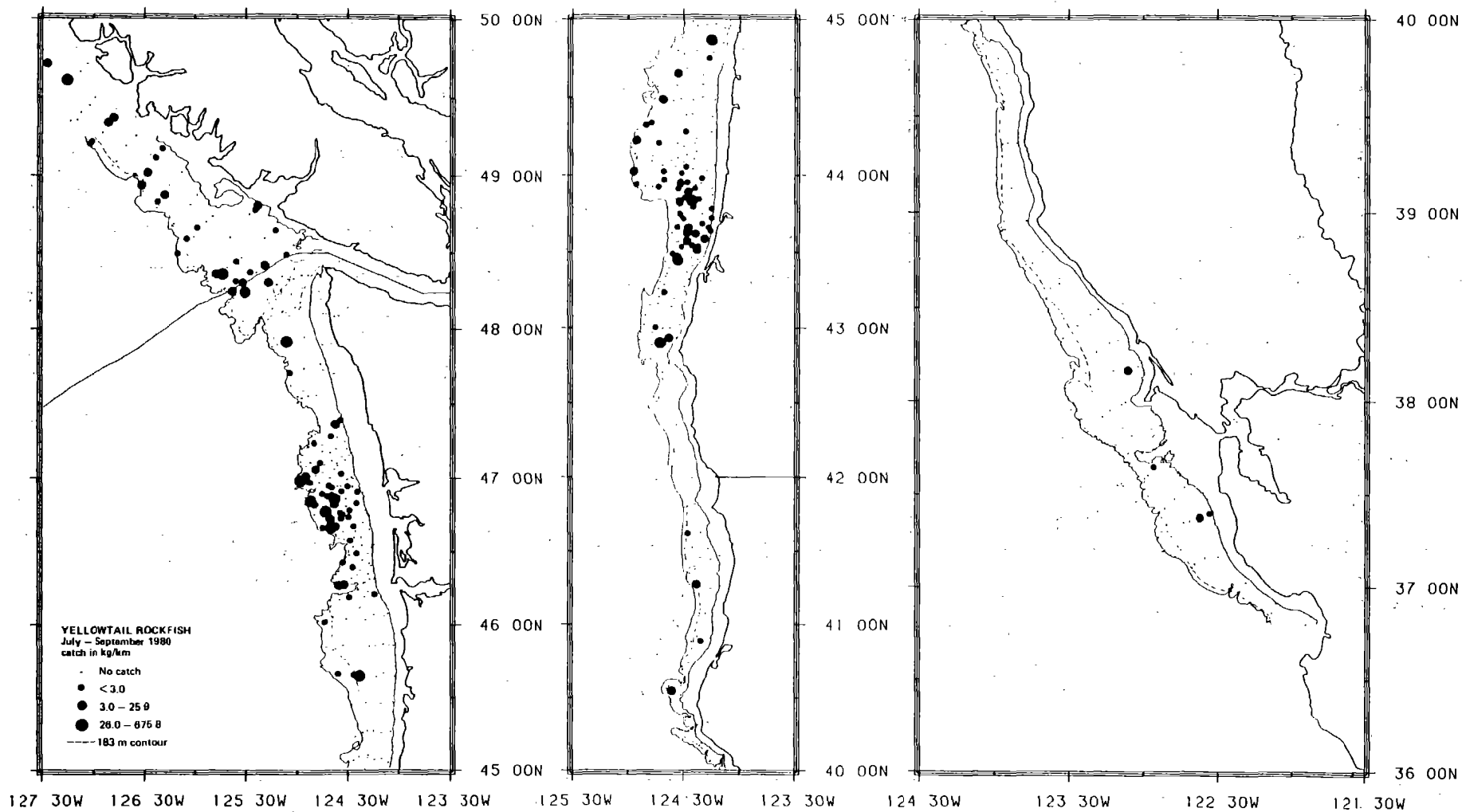


Figure 6.--Distribution and relative abundance measured in catch rates (kg/km) for yellowtail rockfish during the 1980 bottom trawl survey.

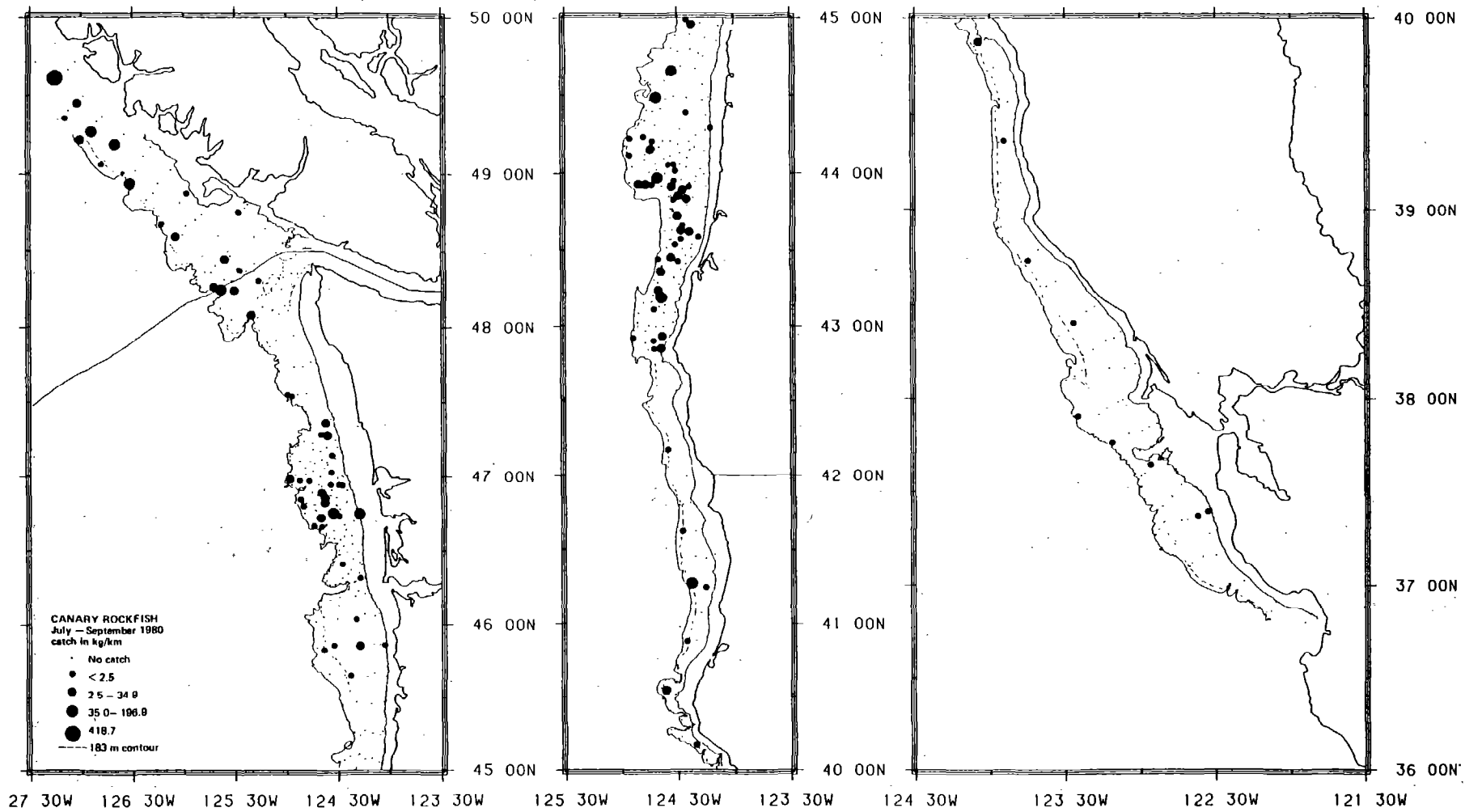


Figure 7.--Distribution and relative abundance measured in catch rates (kg/km) for canary rockfish during the 1980 bottom trawl survey.

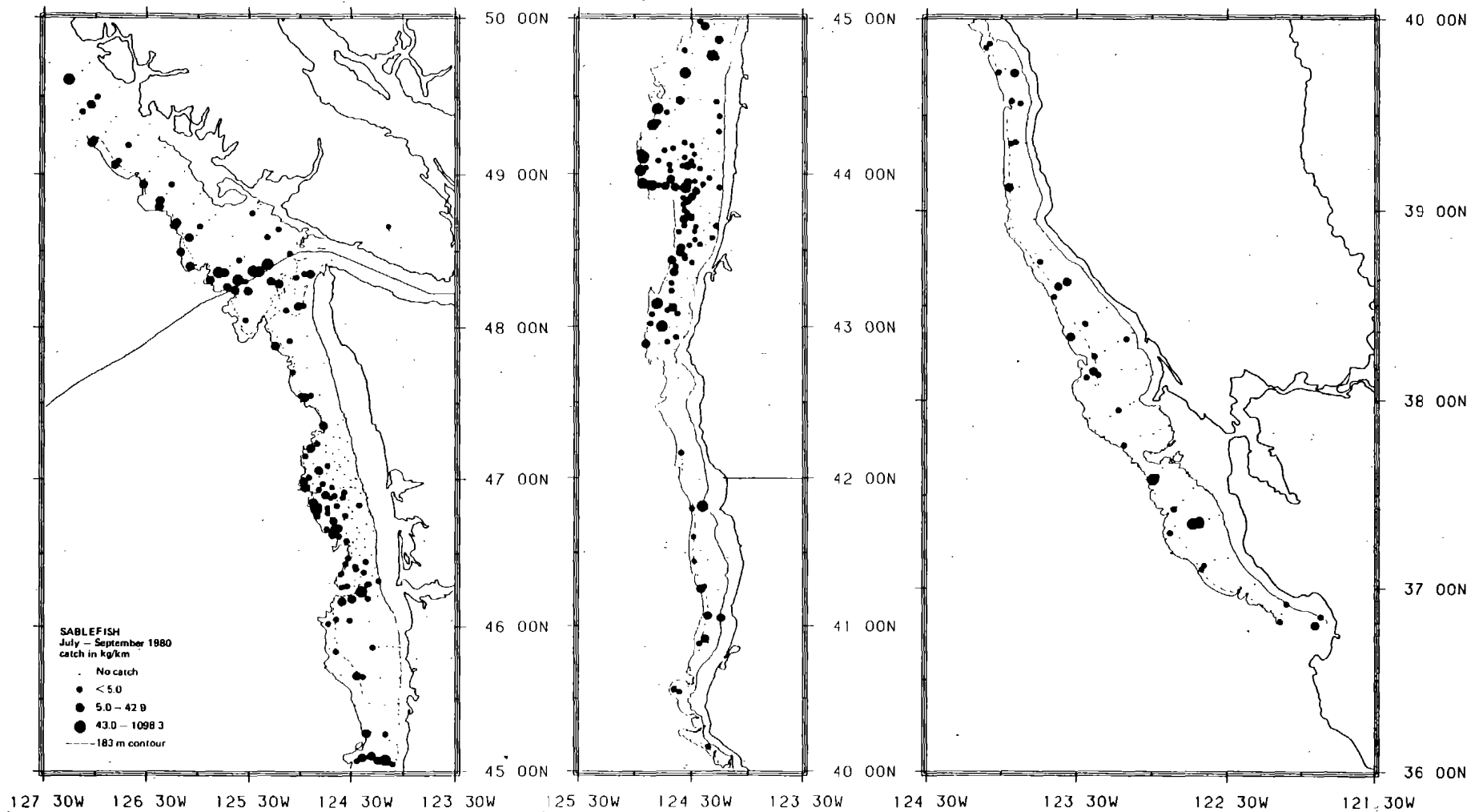


Figure 8.--Distribution and relative abundance measured in catch rates (kg/km) for sablefish during the 1980 bottom trawl survey.

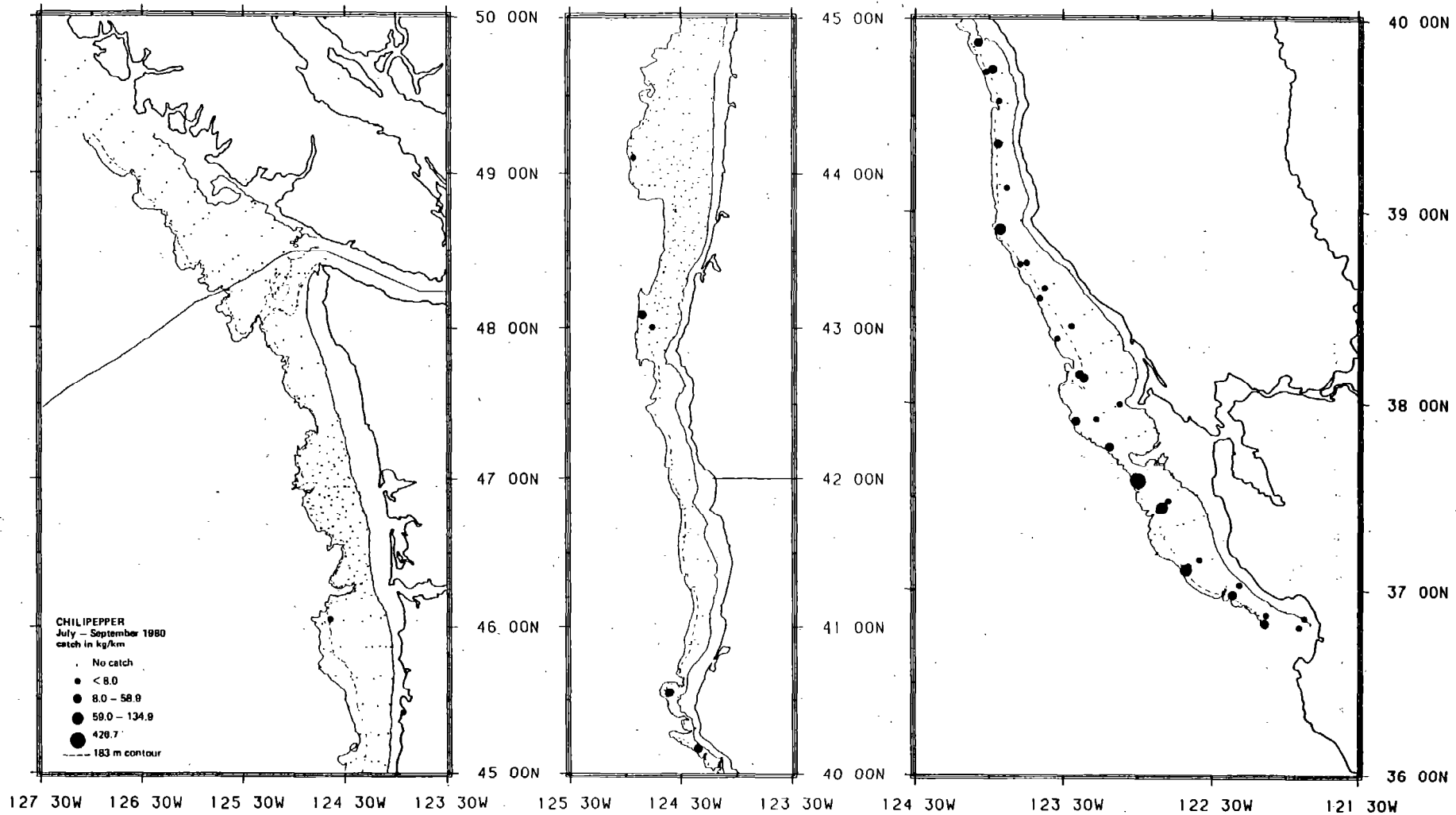


Figure 9.--Distribution and relative abundance measured in catch rates (kg/km) for chilipepper during the 1980 bottom trawl survey.

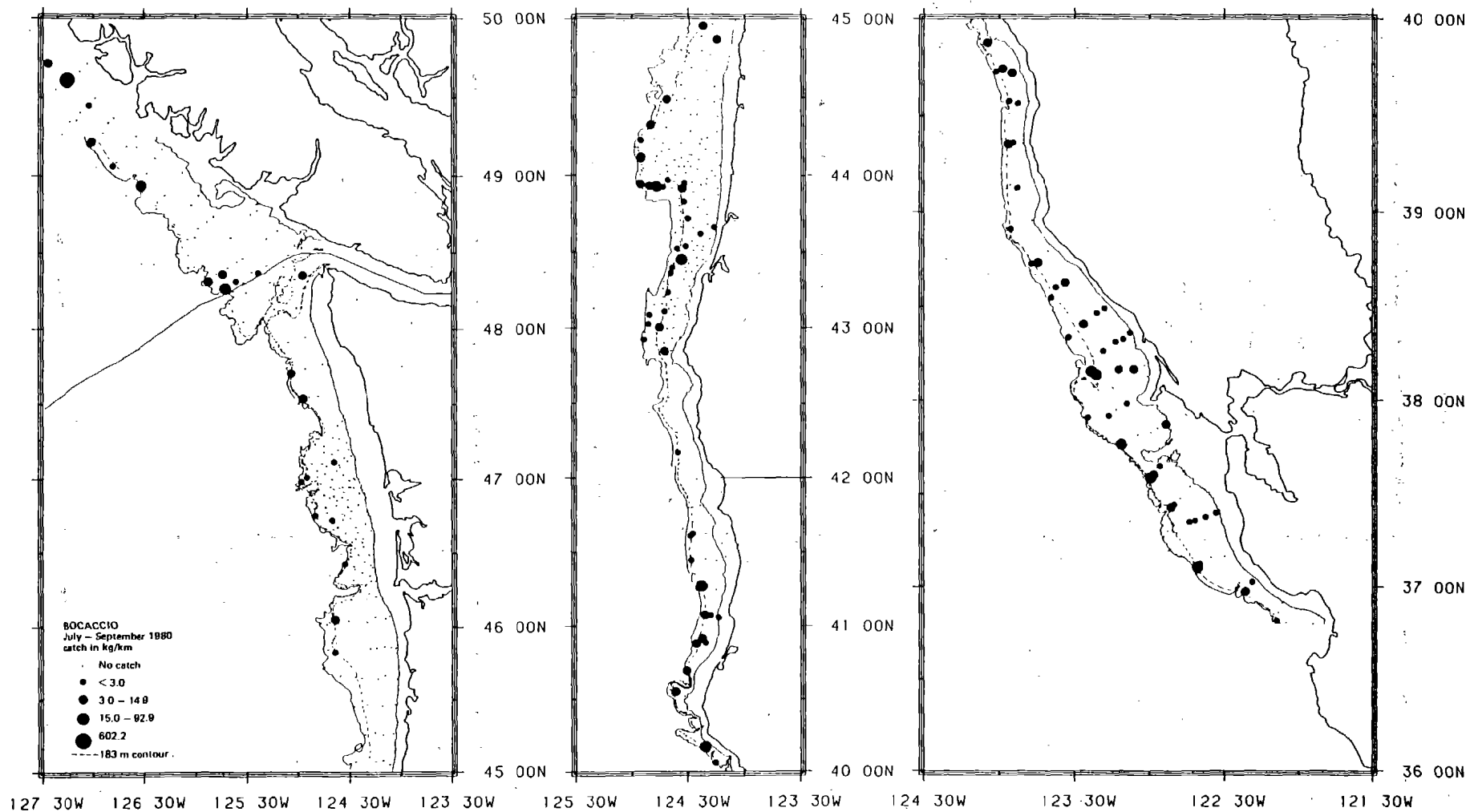


Figure 10.--Distribution and relative abundance measured in catch rates (kg/km) for bocaccio during the 1980 bottom trawl survey.



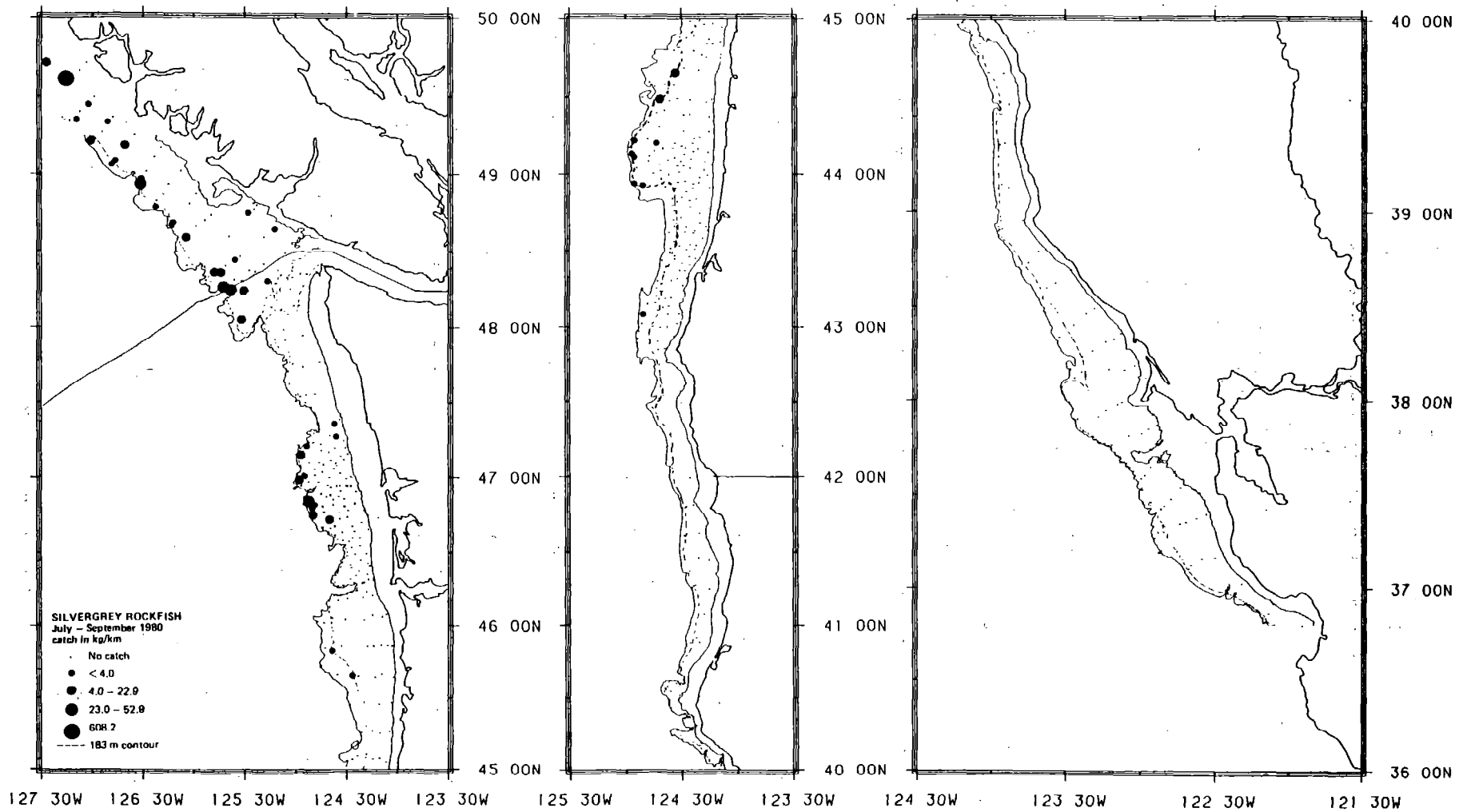


Figure 11. --Distribution and relative abundance measured in catch rates (kg/km) for silvergray rockfish during the 1980 bottom trawl survey.

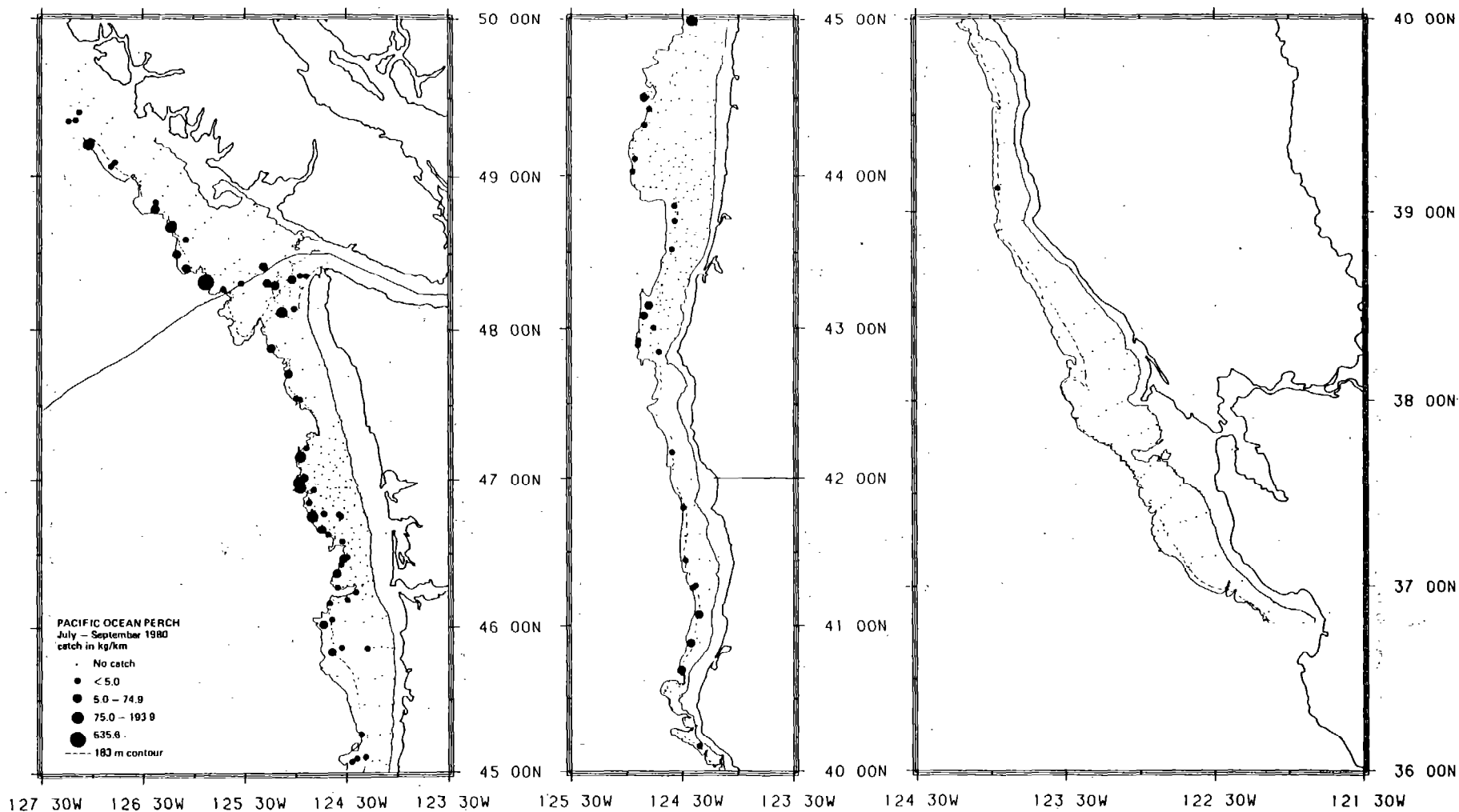


Figure 12.--Distribution and relative abundance measured in catch rates (kg/km) for Pacific ocean perch during the 1980 bottom trawl survey.

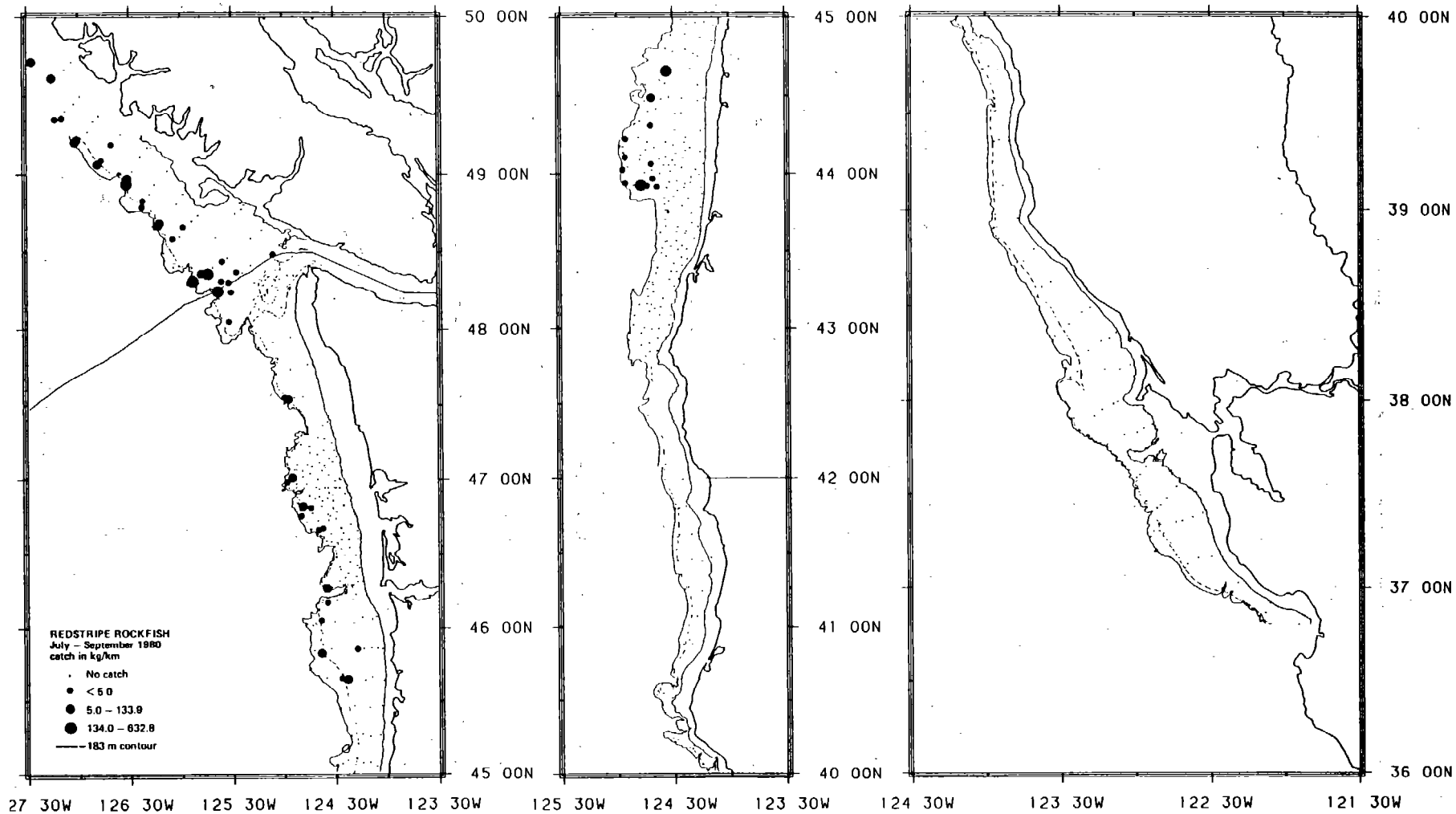


Figure 13.--Distribution and relative abundance measured in catch rates (kg/km) for redstripe rockfish during the 1980 bottom trawl survey.

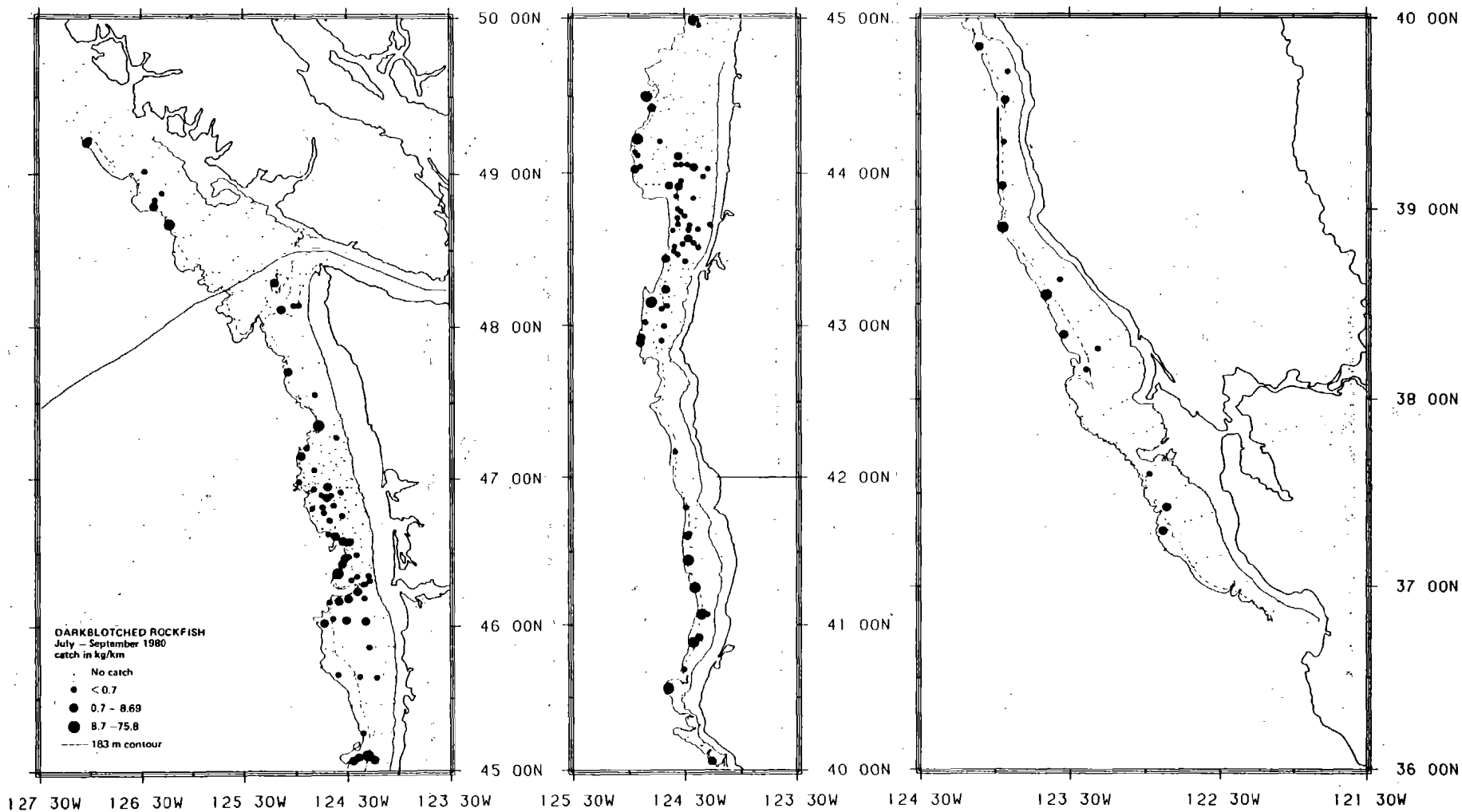


Figure 14.--Distribution and relative abundance measured in catch rates (kg/km) for darkblotched rockfish during the 1980 bottom trawl survey.

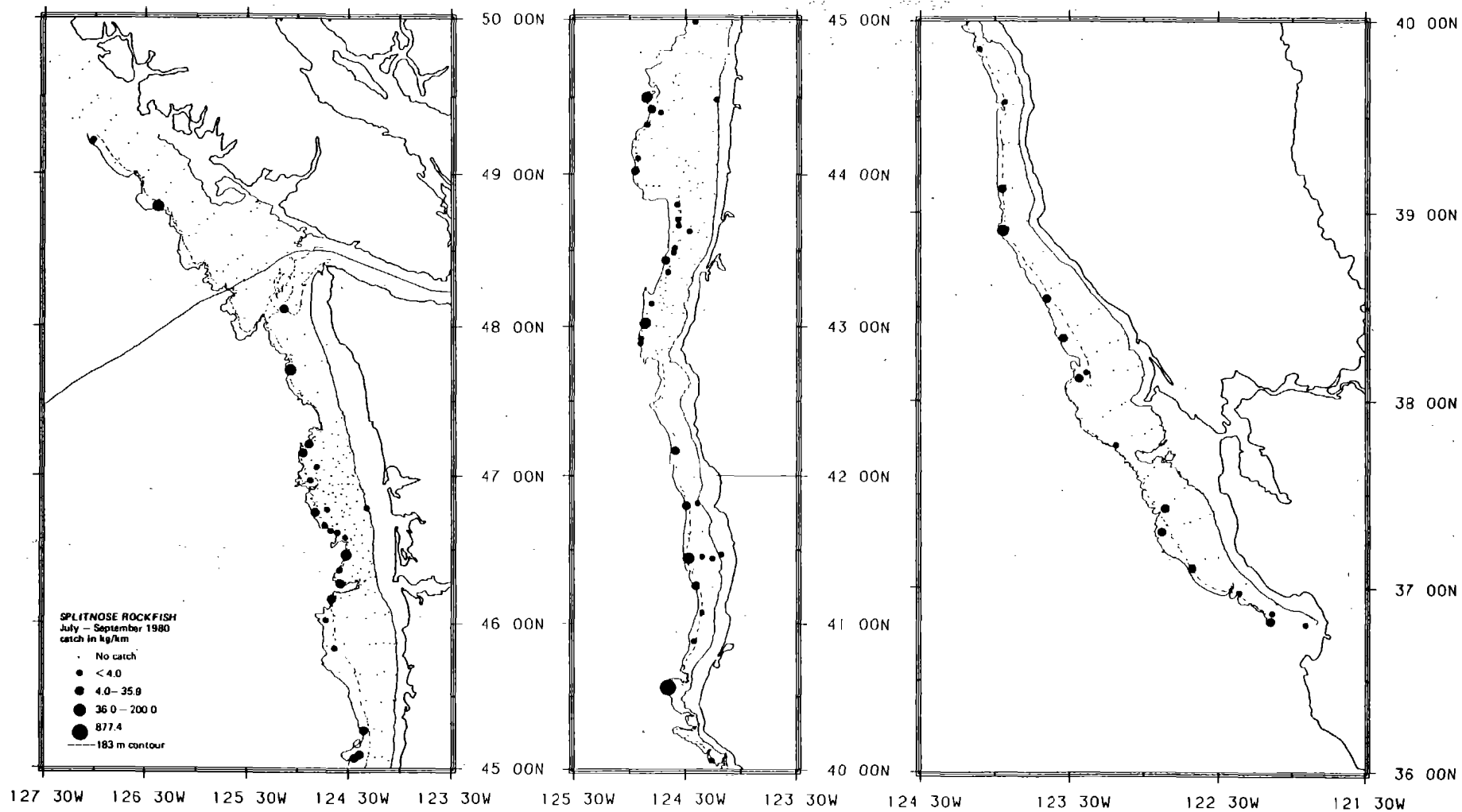


Figure 15.--Distribution and relative abundance measured in catch rates (kg/km) for splitnose rockfish during the 1980 bottom trawl survey.

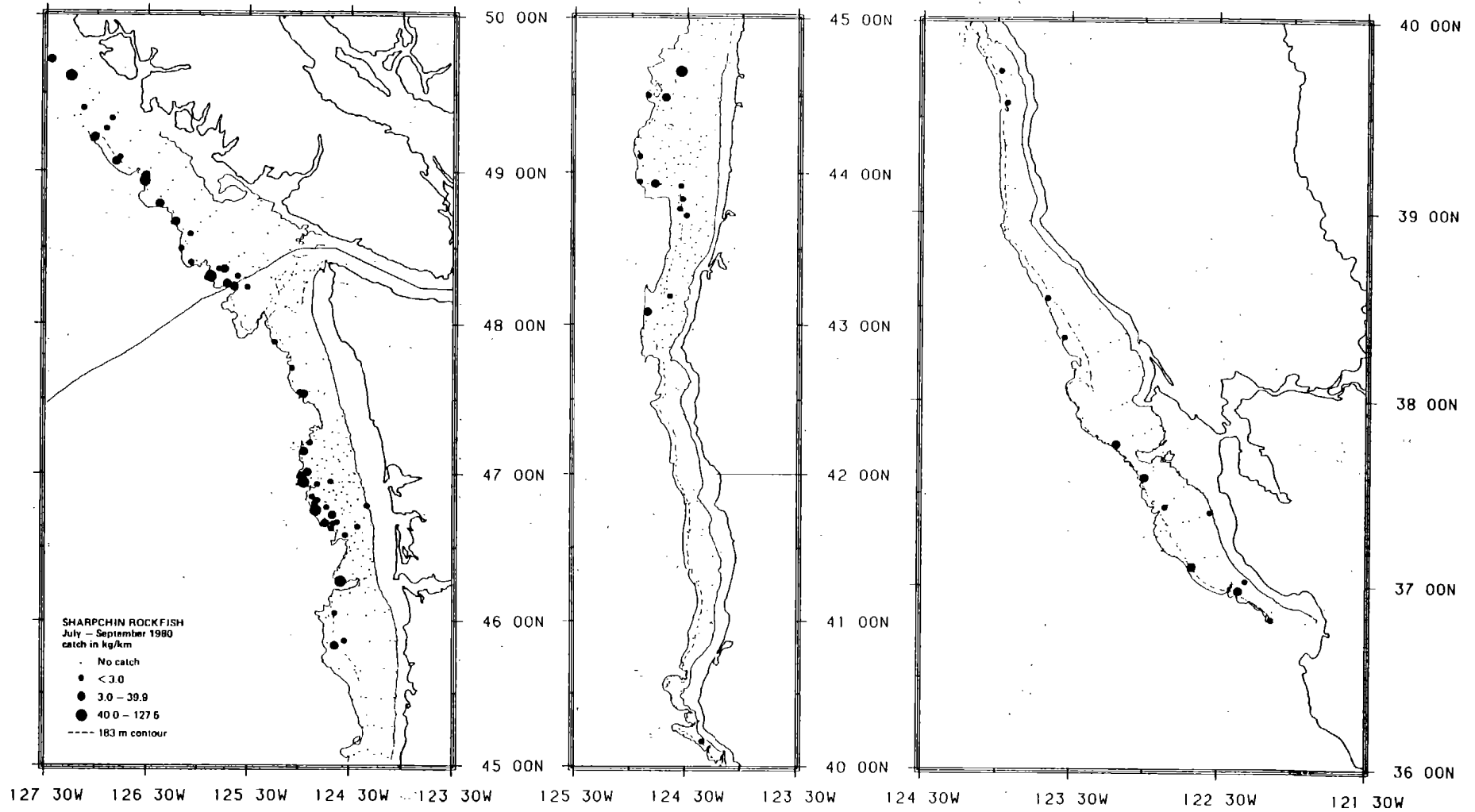


Figure 16.--Distribution and relative abundance measured in catch rates (kg/km) for sharpchin rockfish during the 1980 bottom trawl survey.

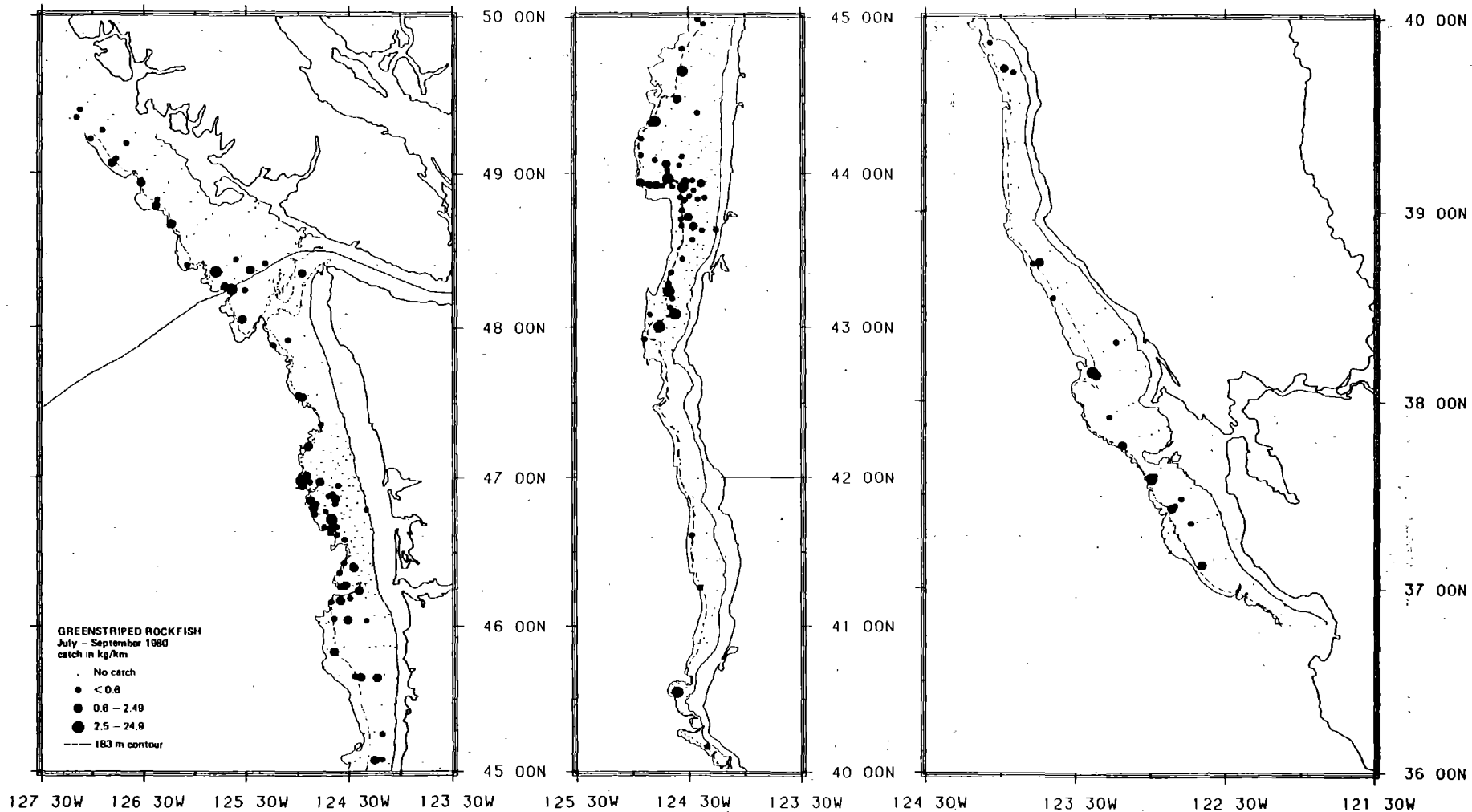


Figure 17.--Distribution and relative abundance measured in catch rates (kg/km) for greenstriped rockfish during the 1980 trawl survey.

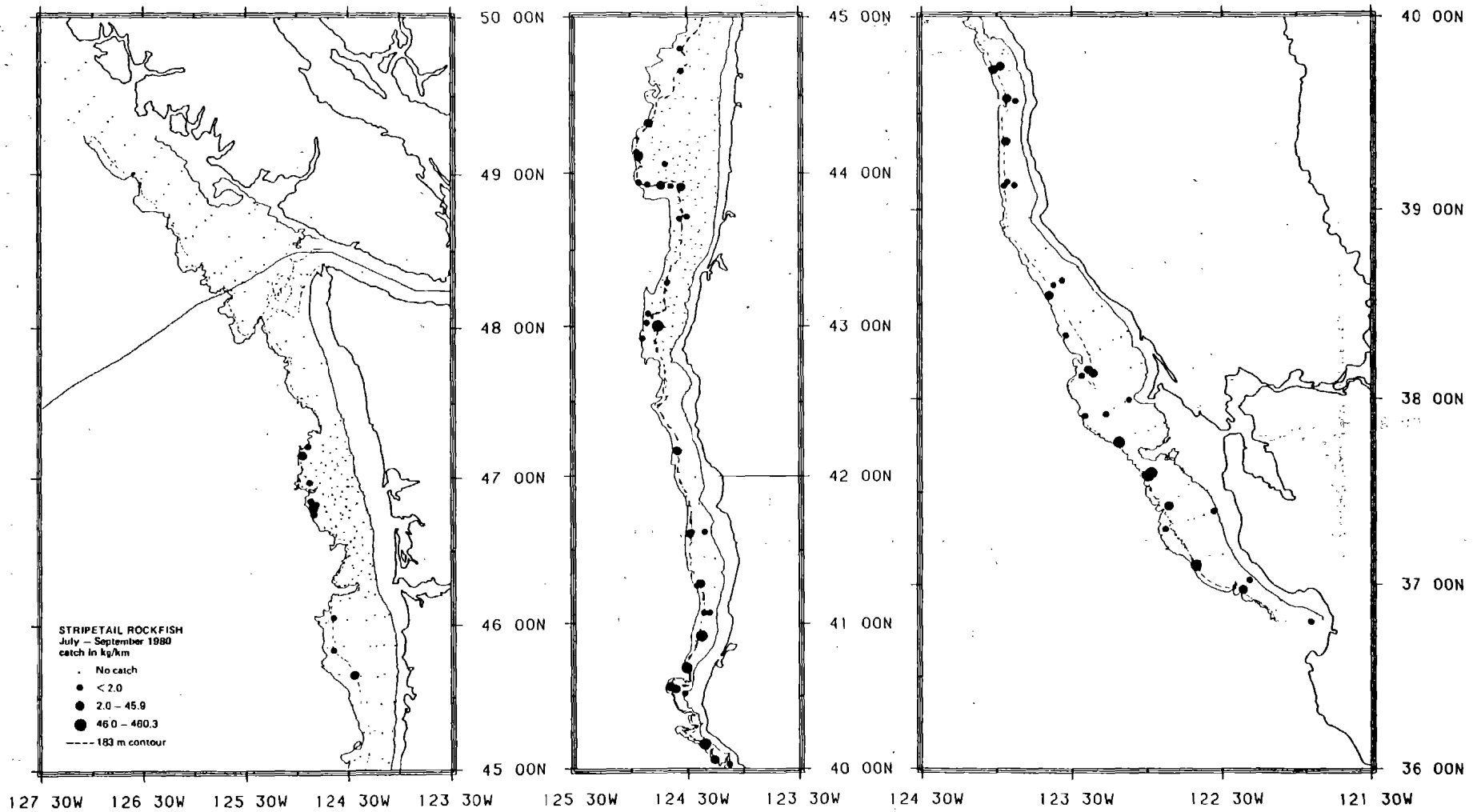


Figure 18.--Distribution and relative abundance measured in catch rates (kg/km) for stripetail rockfish during the 1980 bottom trawl survey.



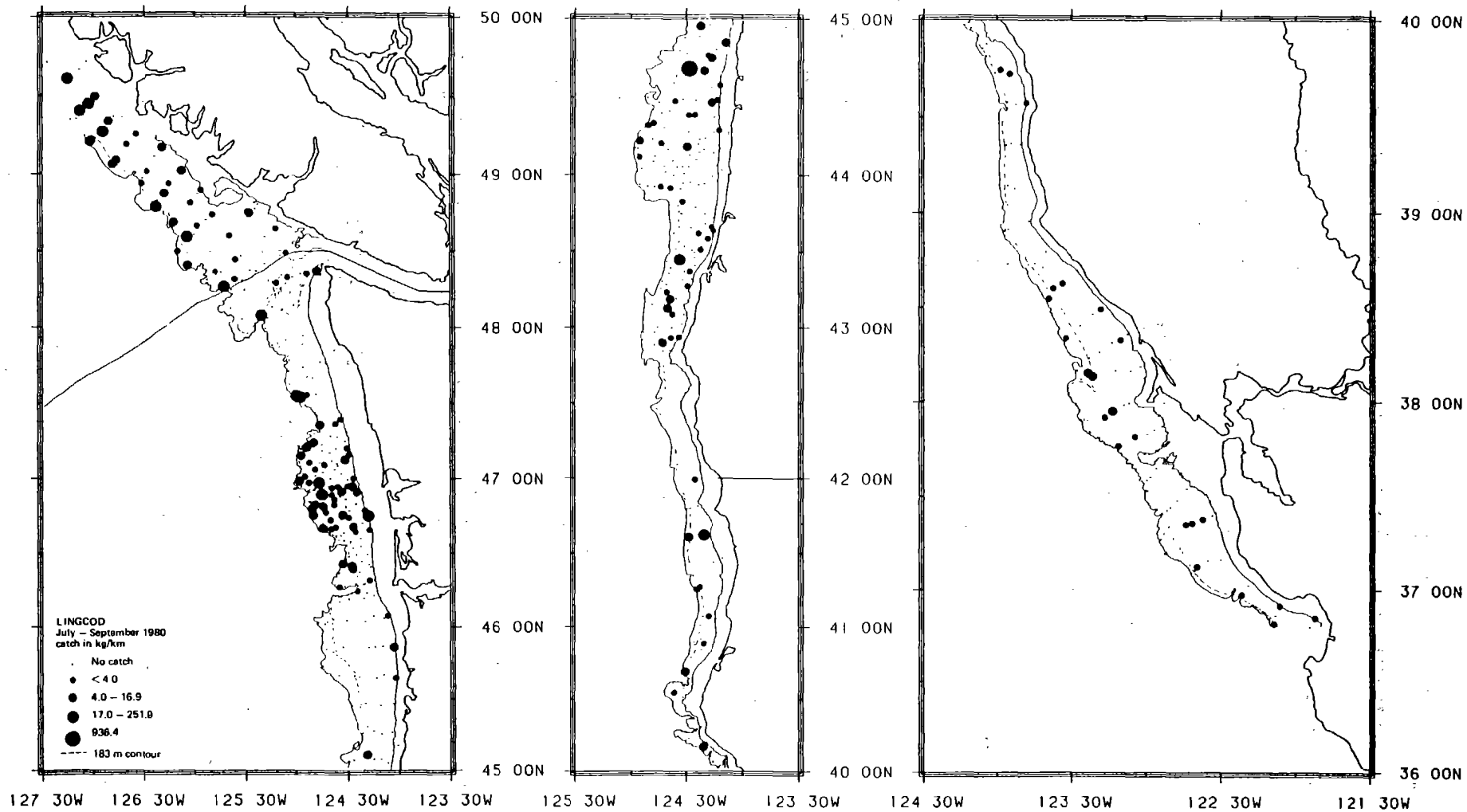


Figure 19.--Distribution and relative abundance measured in catch rates (kg/km) for lingcod during the 1980 bottom trawl survey.

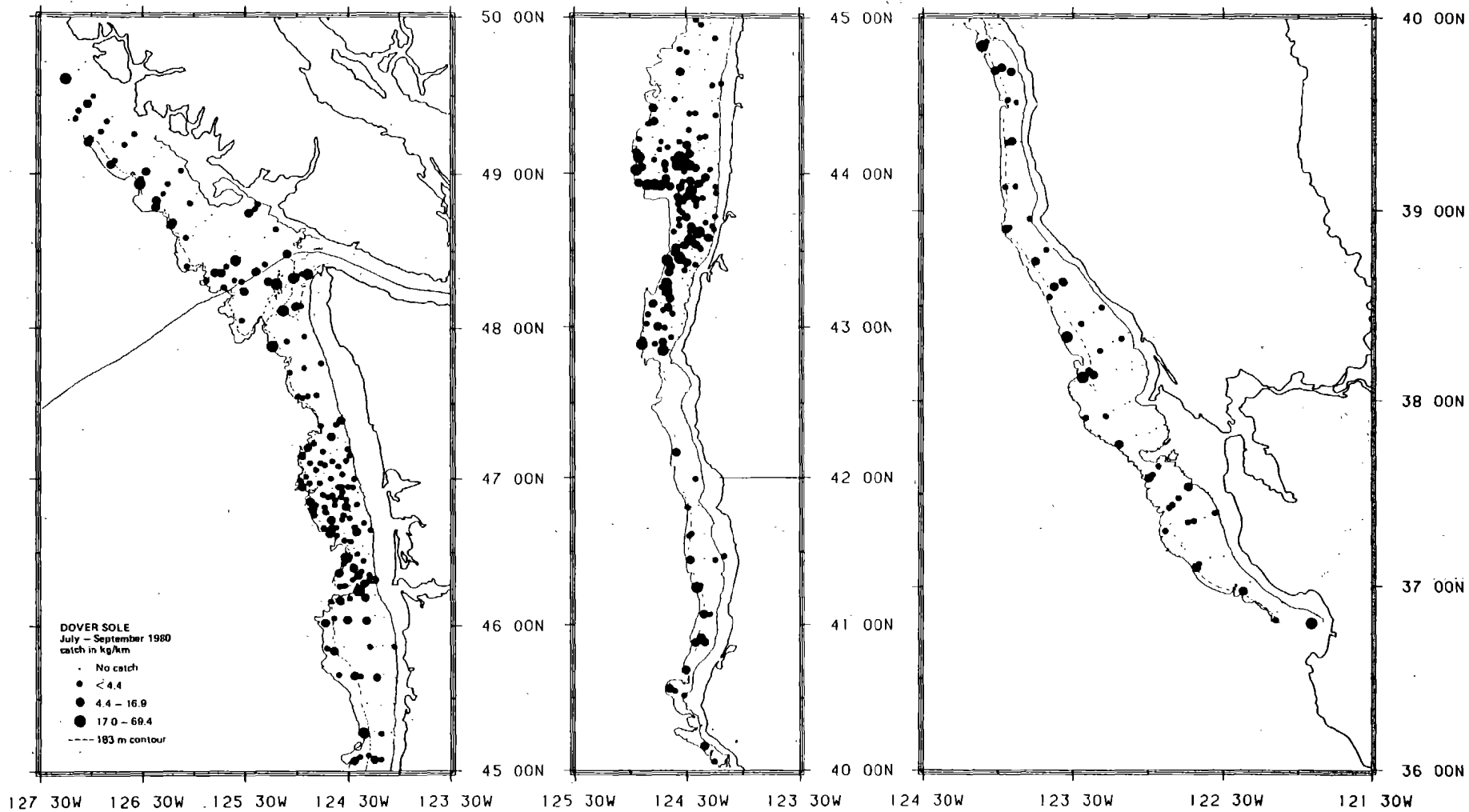


Figure 20.--Distribution and relative abundance measured in catch rates (kg/km) for Dover sole during the 1980 bottom trawl survey.

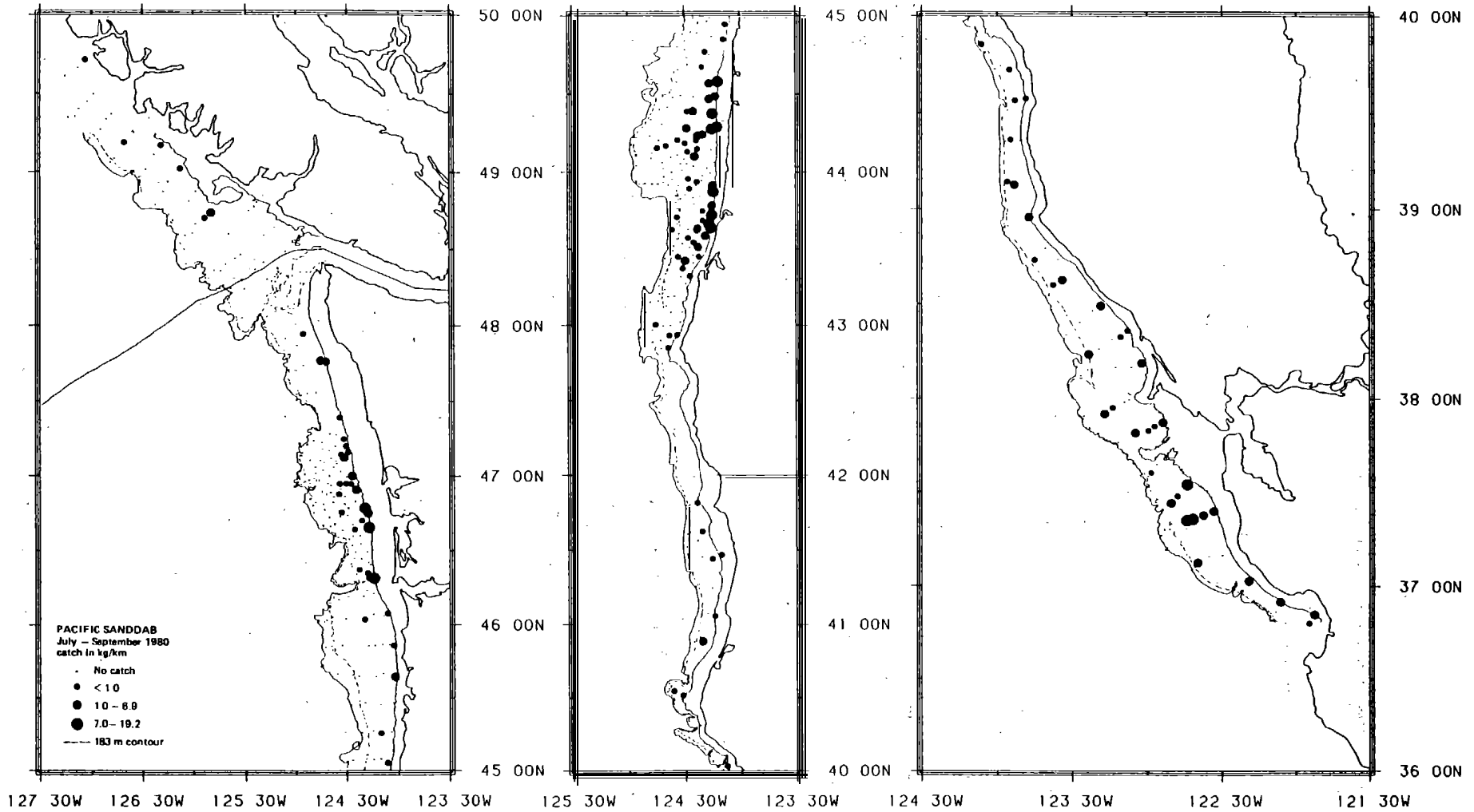


Figure 21.--Distribution and relative abundance measured in catch rates (kg/km) for Pacific sanddab during the 1980 bottom trawl survey.

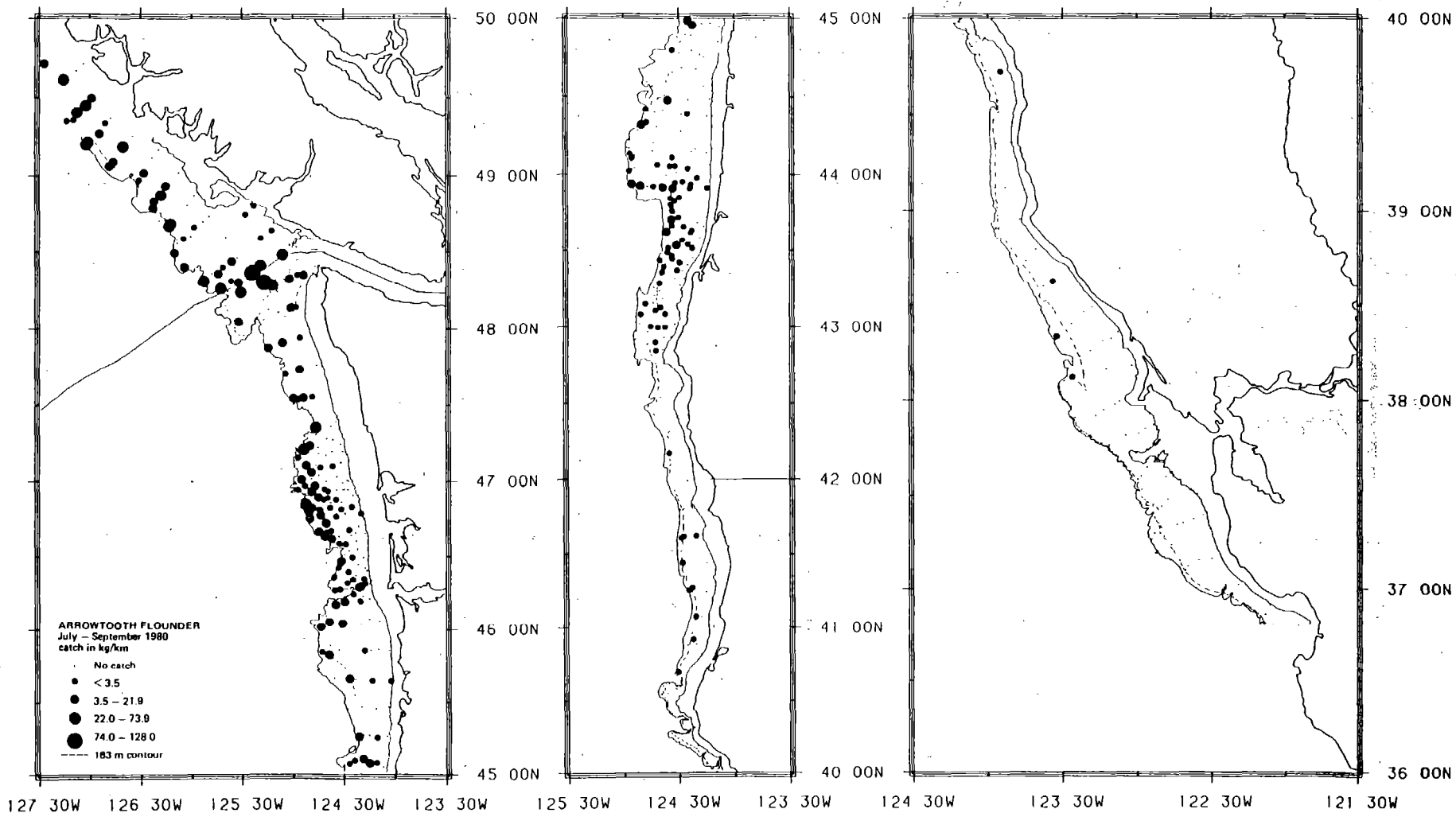


Figure 22.--Distribution and relative abundance measured in catch rates (kg/km) for arrowtooth flounder during the 1980 bottom trawl survey.

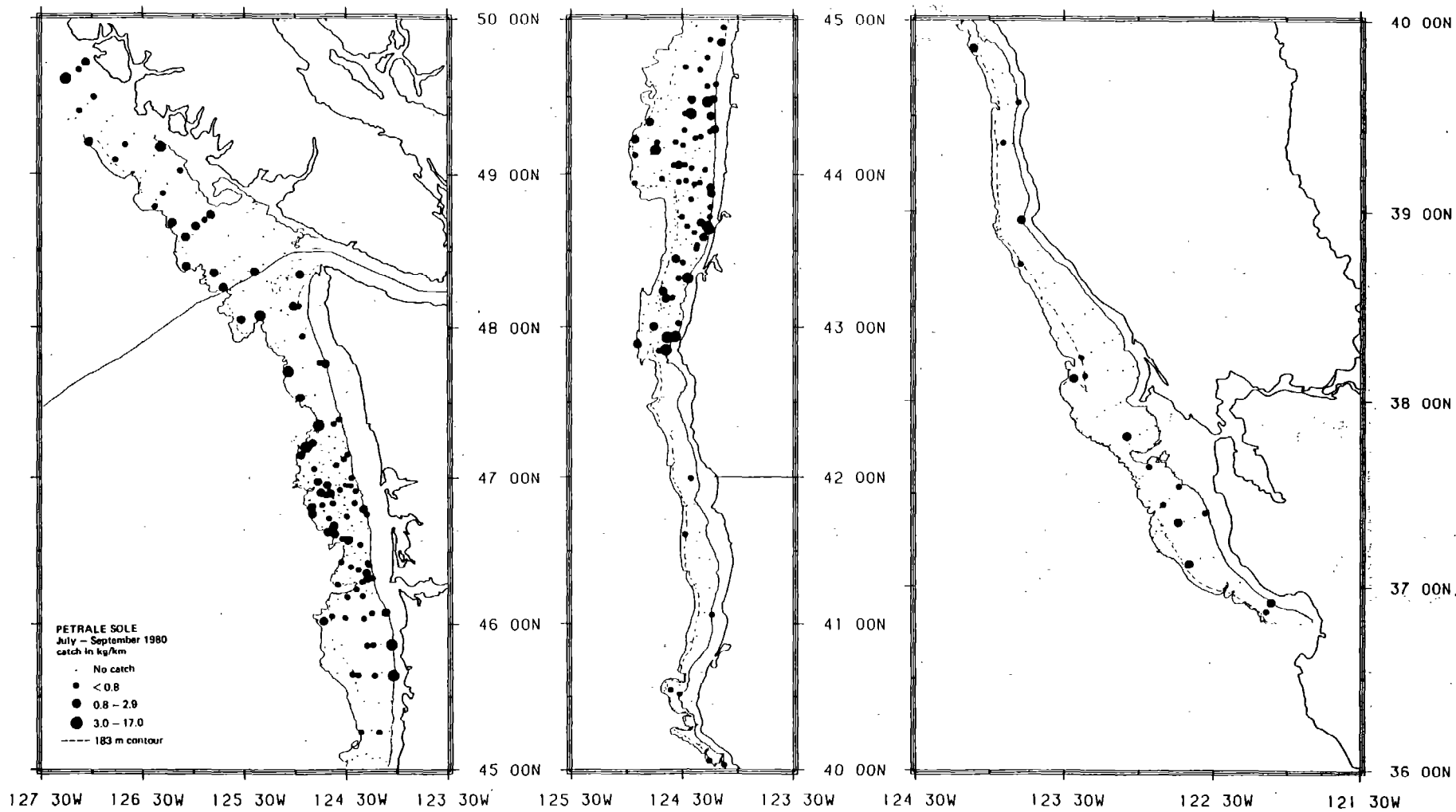


Figure 23.--Distribution and relative abundance measured in catch rates (kg/km) for petrale sole during the 1980 bottom trawl survey.

Figure 23.--Distribution and relative abundance measured in catch rates (kg/km) for petrale sole during the 1980 bottom trawl survey.

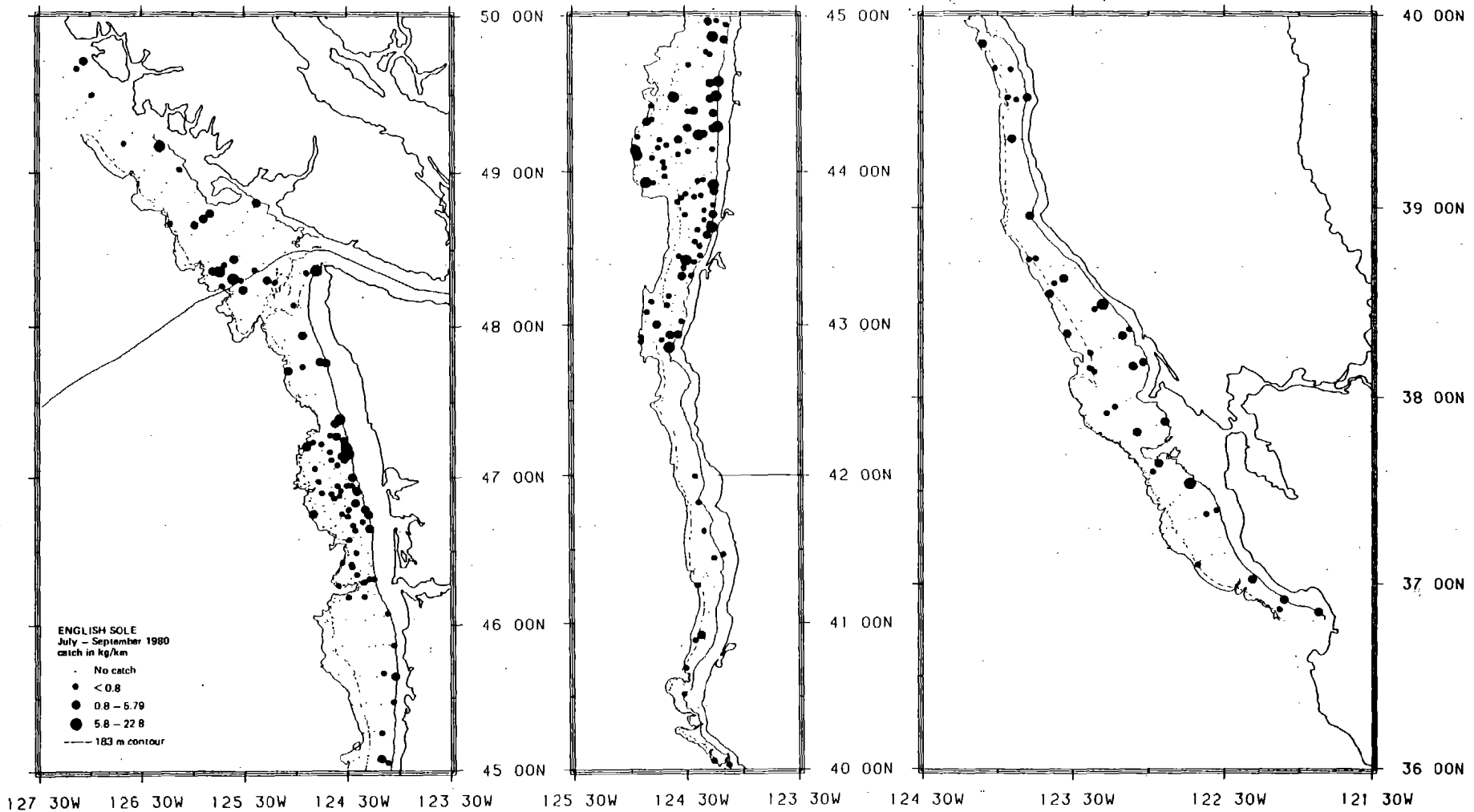


Figure 24.--Distribution and relative abundance measured in catch rates (kg/km) for English sole during the 1980 bottom trawl survey.

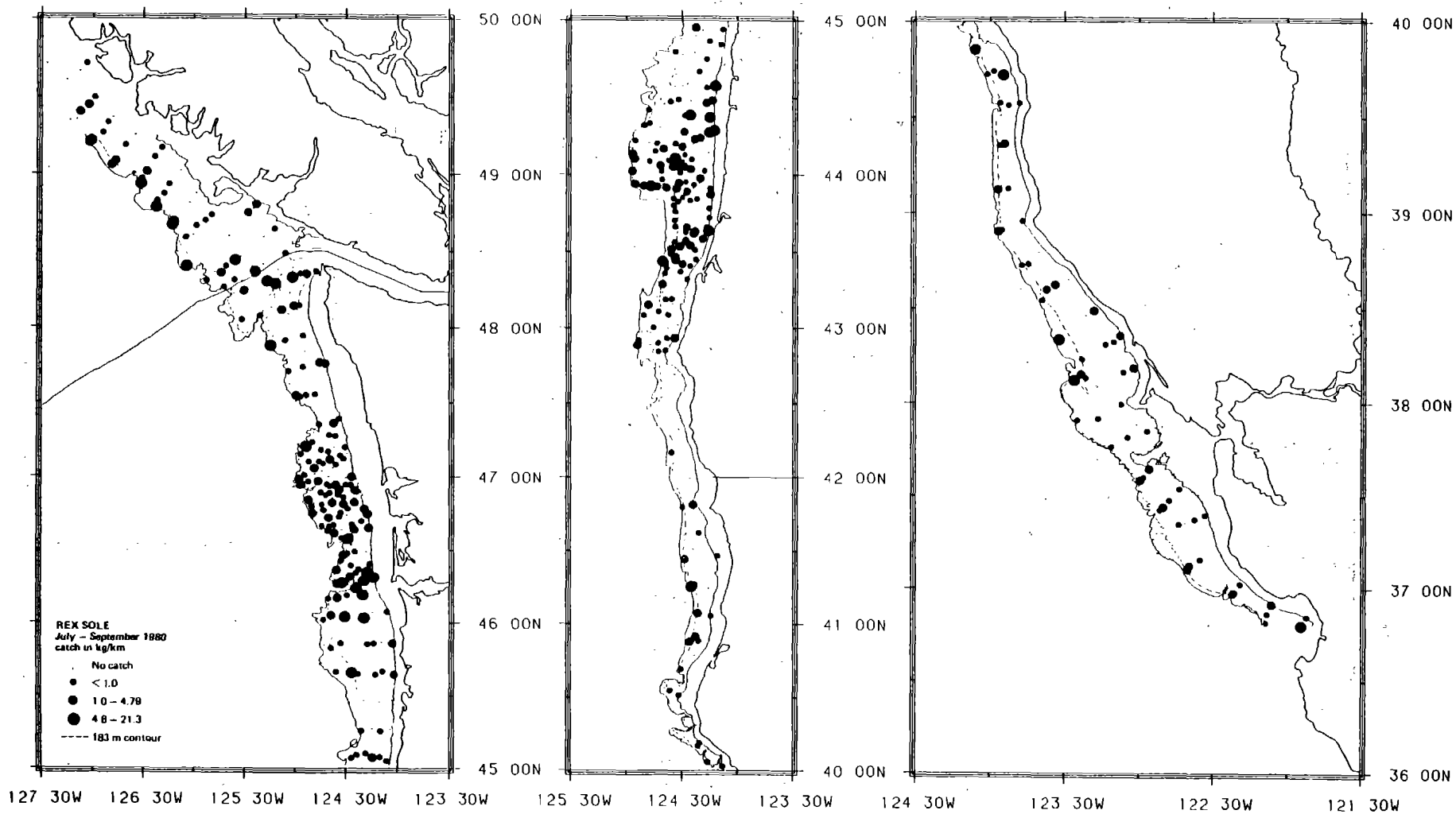


Figure 25.--Distribution and relative abundance measured in catch rates (kg/km) for rex sole during the 1980 bottom trawl survey.

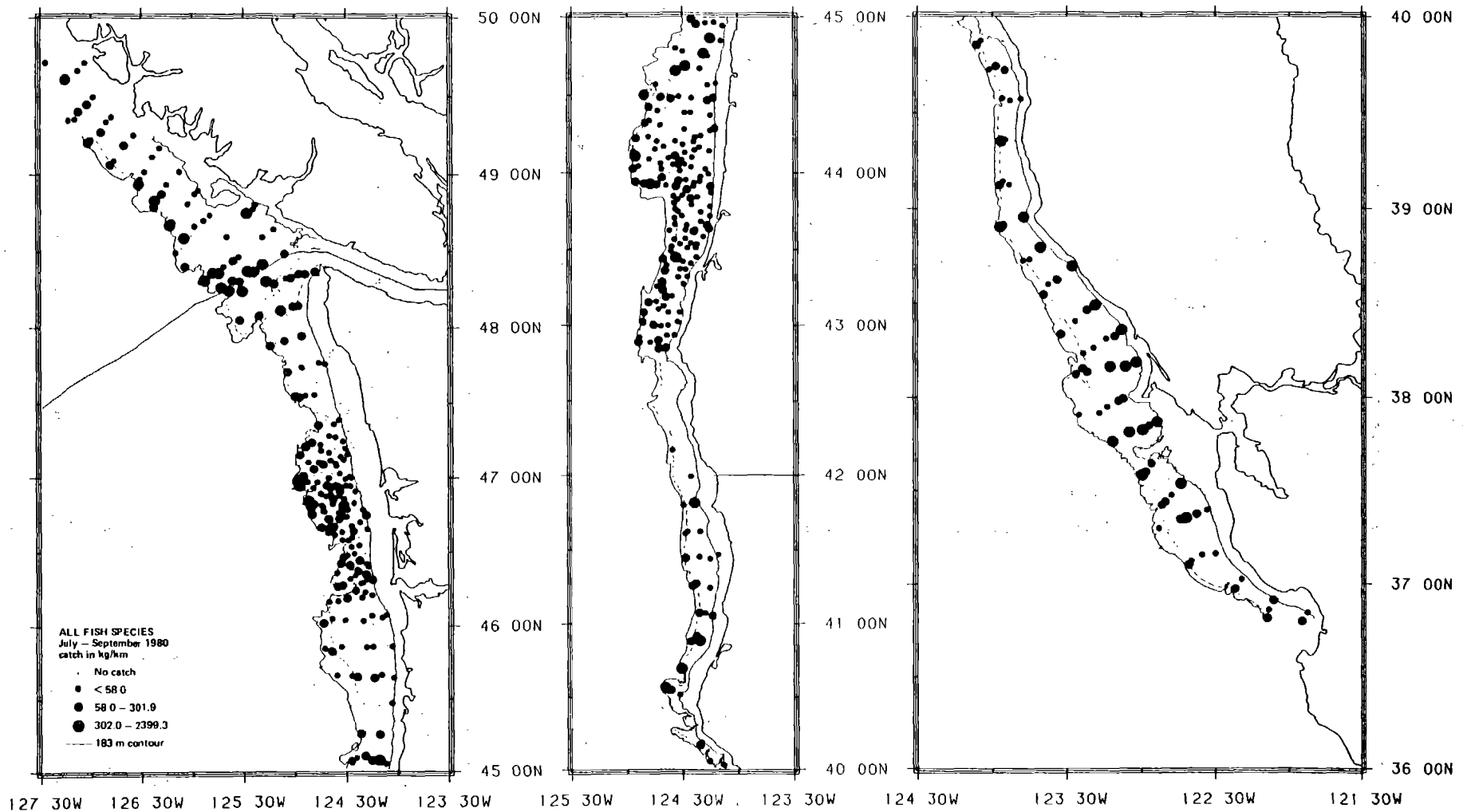


Figure 26.--Distribution and relative abundance measured in catch rates (kg/km) for all fish species during the 1980 bottom trawl survey.



PACIFIC WHITING

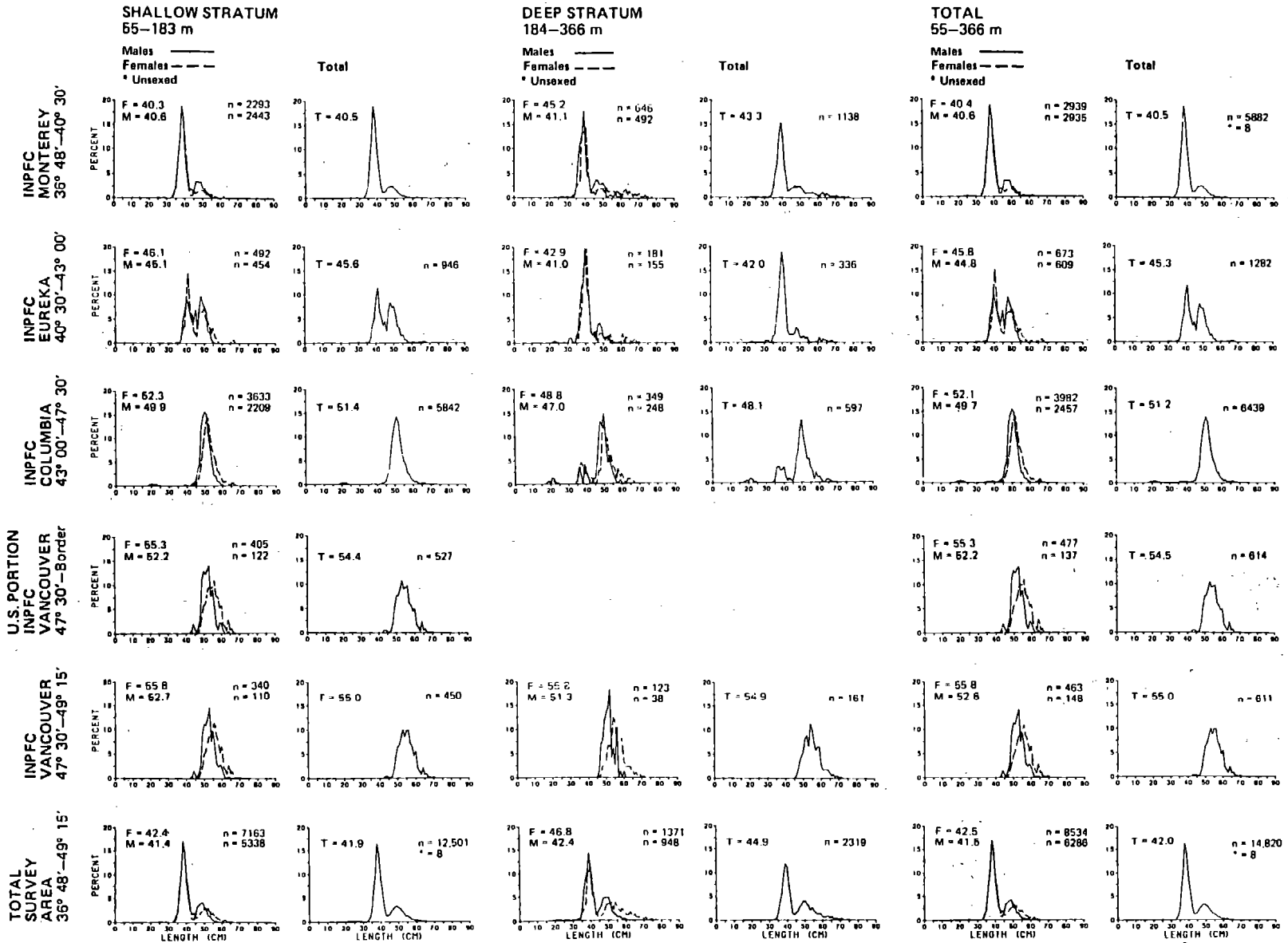


Figure 27. --Estimated size composition. for Pacific whiting by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

# YELLOWTAIL ROCKFISH

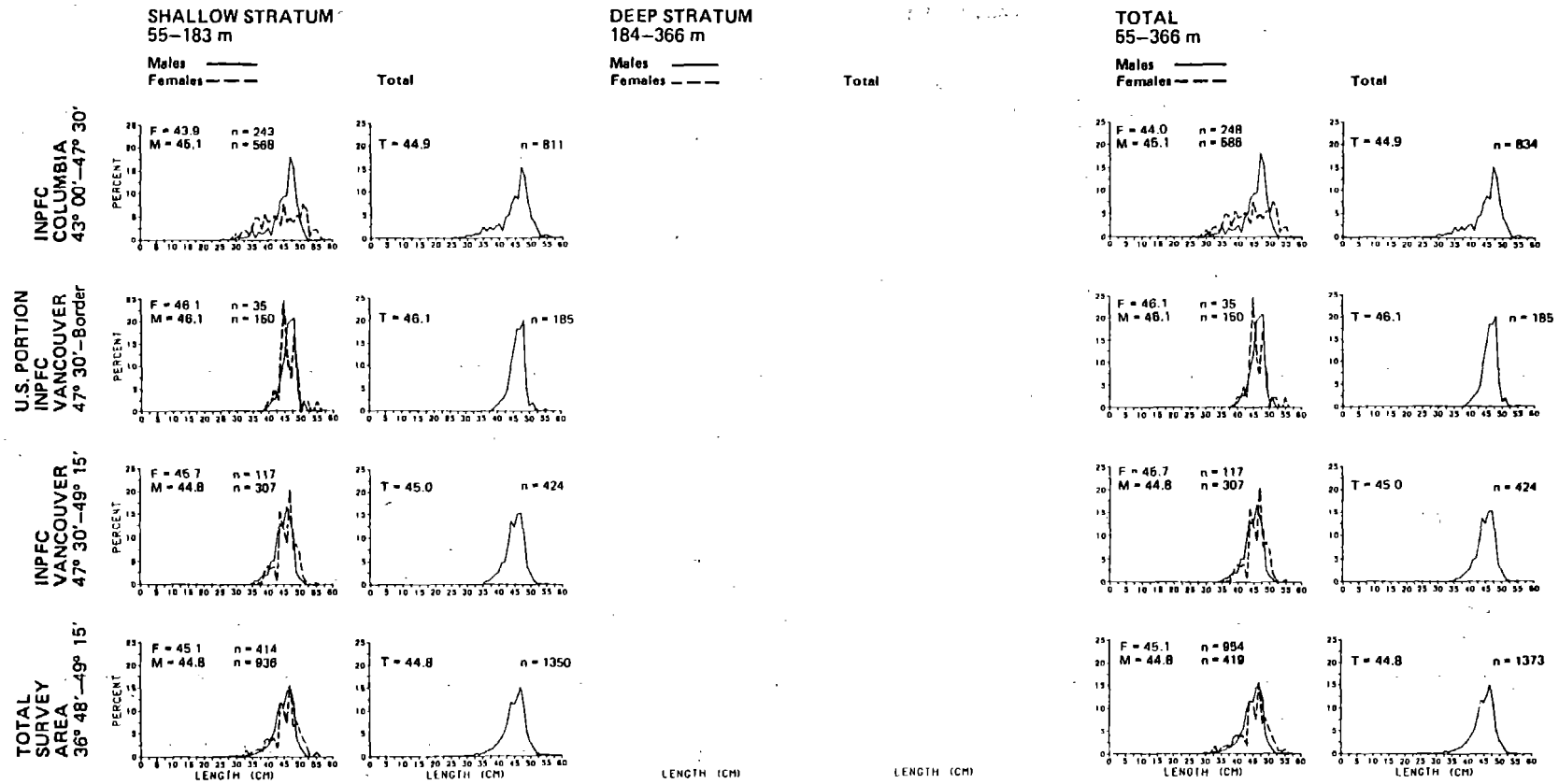


Figure 28. --Estimated size composition for yellowtail rockfish by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

# CANARY ROCKFISH

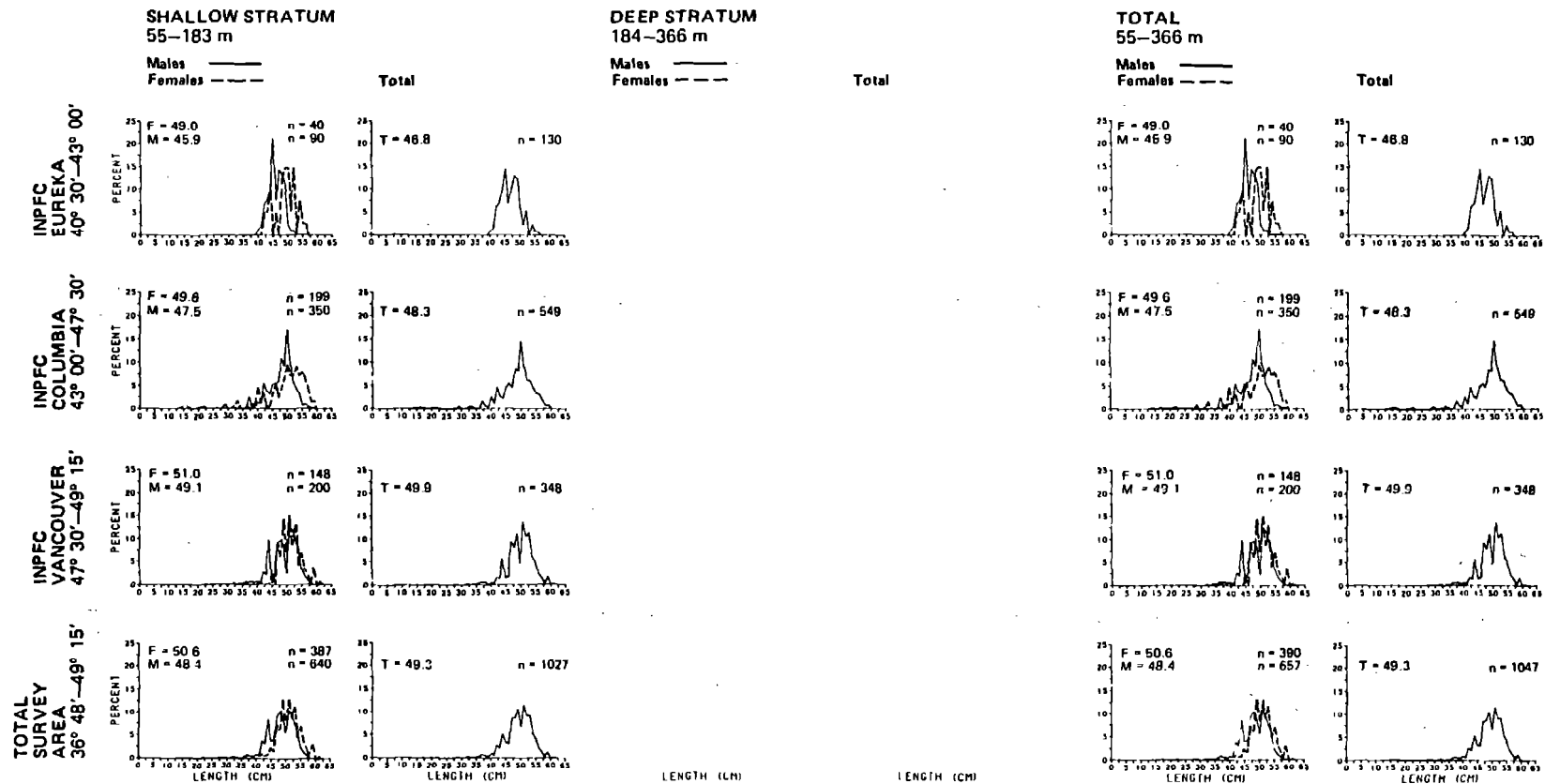


Figure 29.--Estimated size composition for canary rockfish by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

SABLEFISH

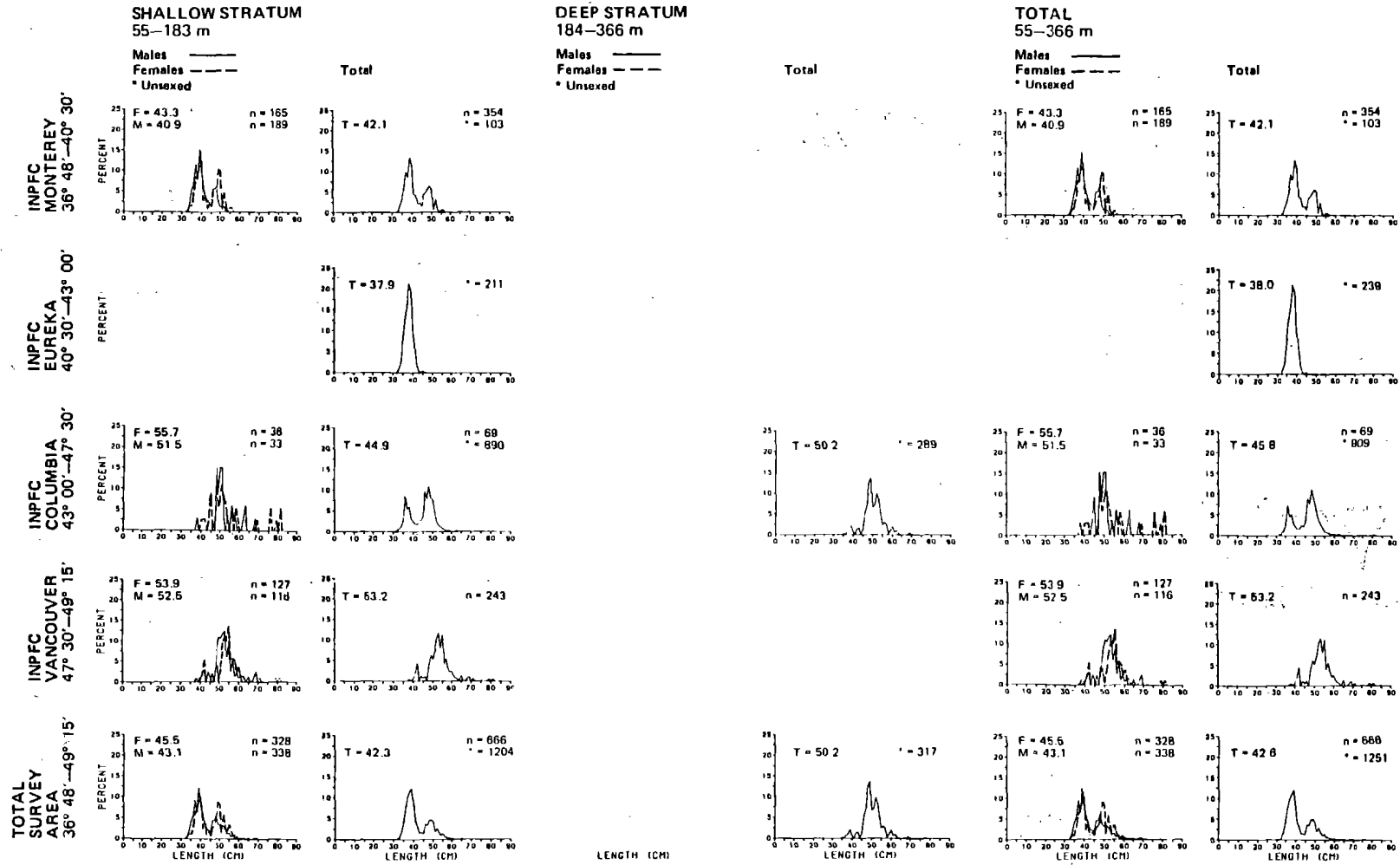


Figure 30.--Estimated size composition for sablefish by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

# CHILIPEPPER

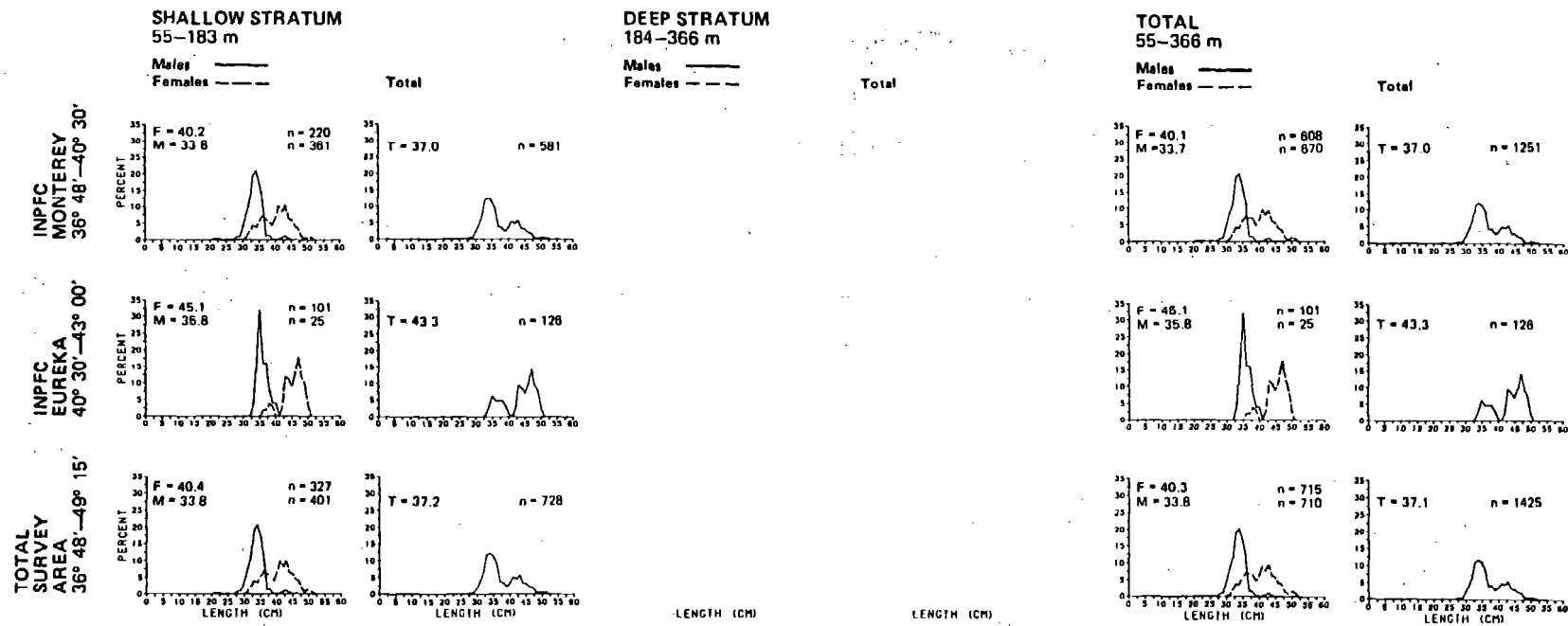


Figure 31.--Estimated size composition for chilipepper by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

# WIDOW ROCKFISH

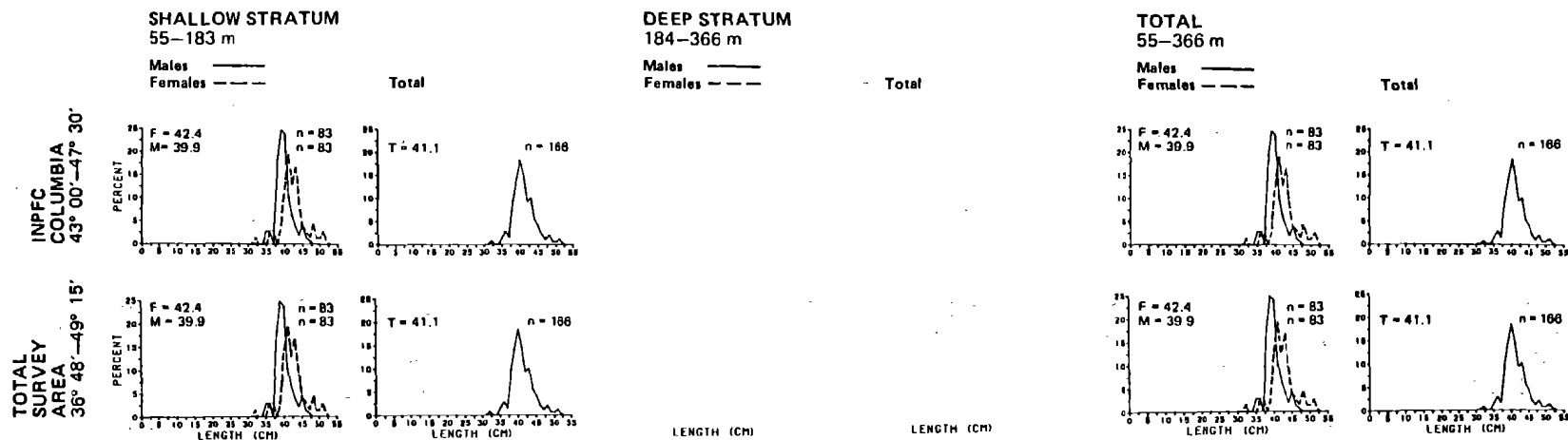


Figure 32.--Estimated size composition for widow rockfish by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

# BOCACCIO

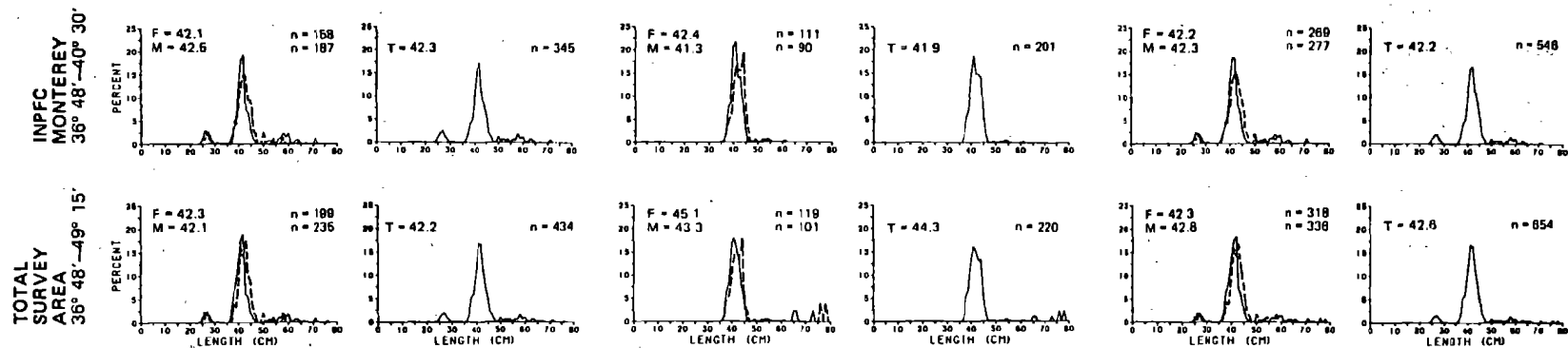


Figure 33.--Estimated size composition for bocaccio by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

# REDSTRIPE ROCKFISH

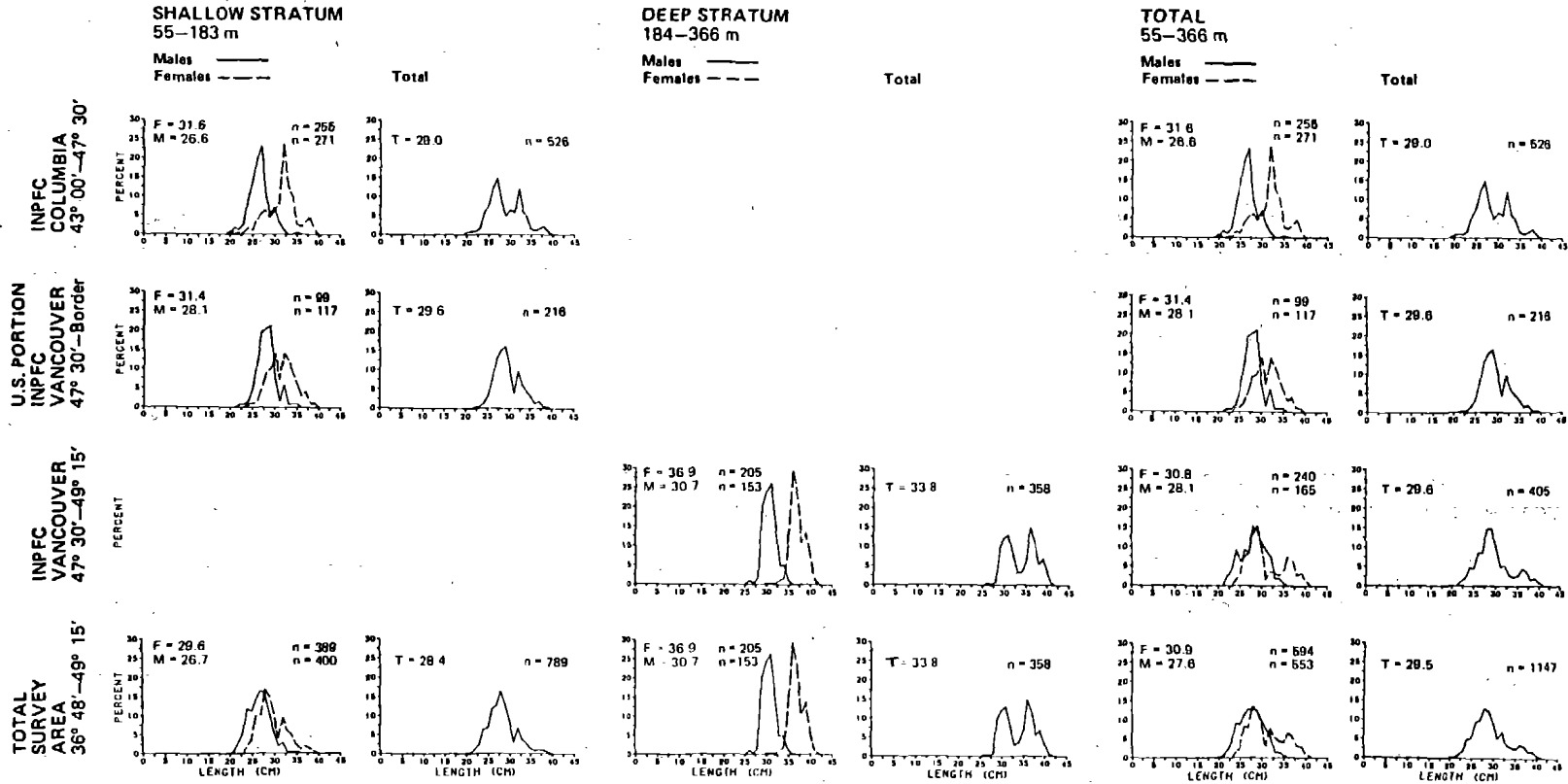


Figure 34.--Estimated size composition for redstripe rockfish by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

# DARKBLOTCHED ROCKFISH

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
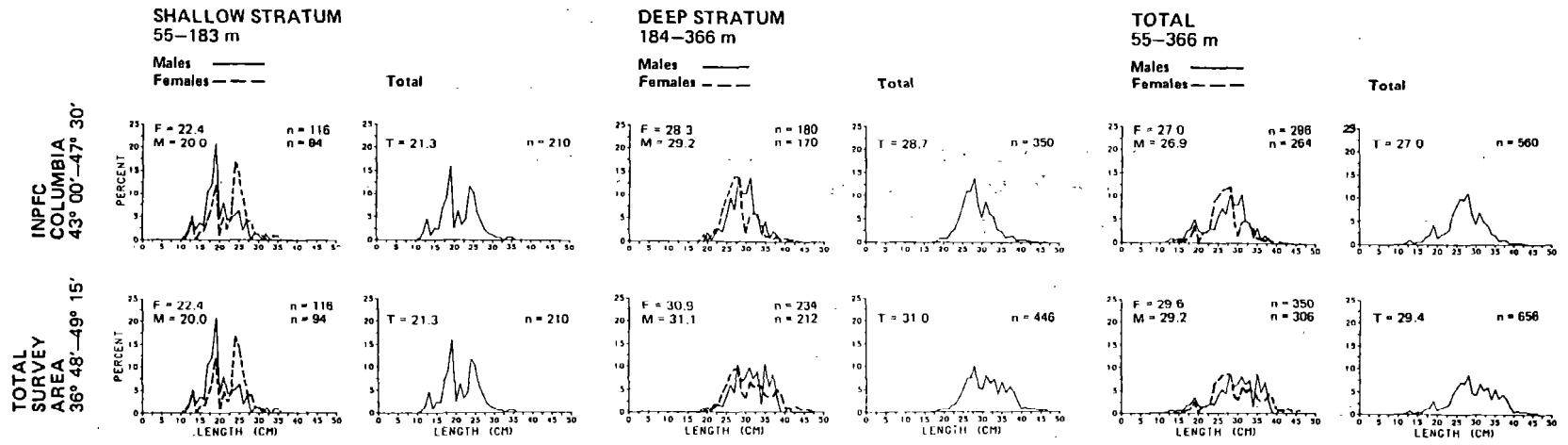



Figure 35.--Estimated size composition for darkblotched rockfish by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

# STRIPETAILED ROCKFISH

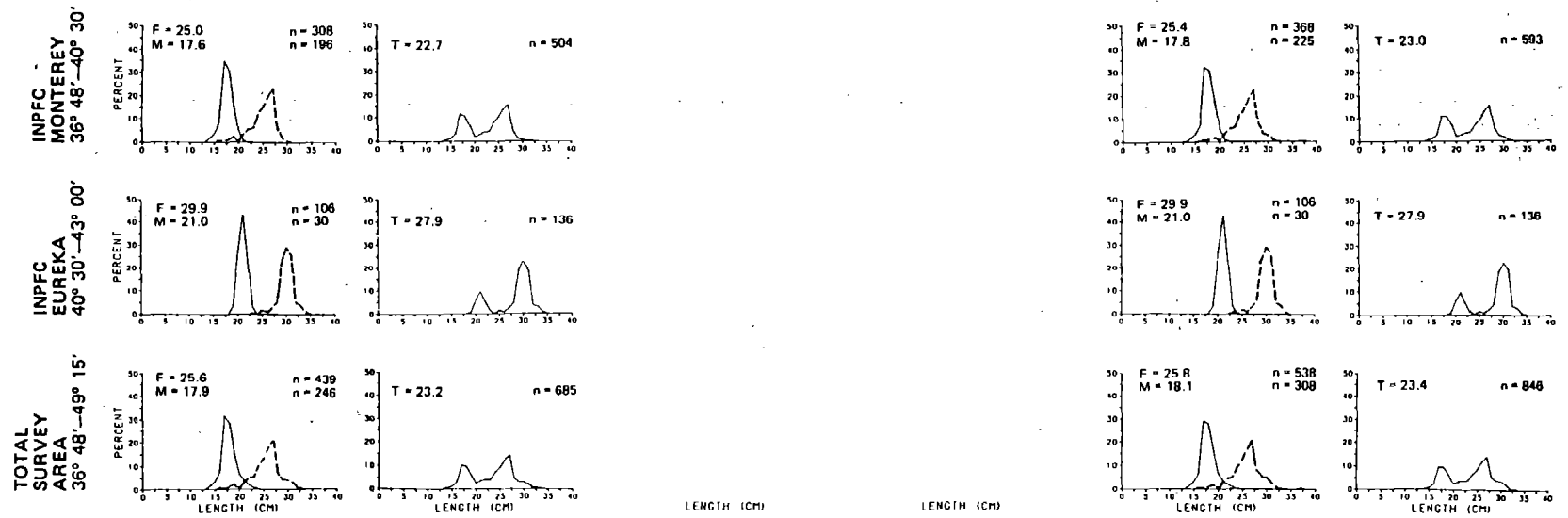


Figure 36.--Estimated size composition for stripetail rockfish by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west-coast survey.



# PACIFIC OCEAN PERCH

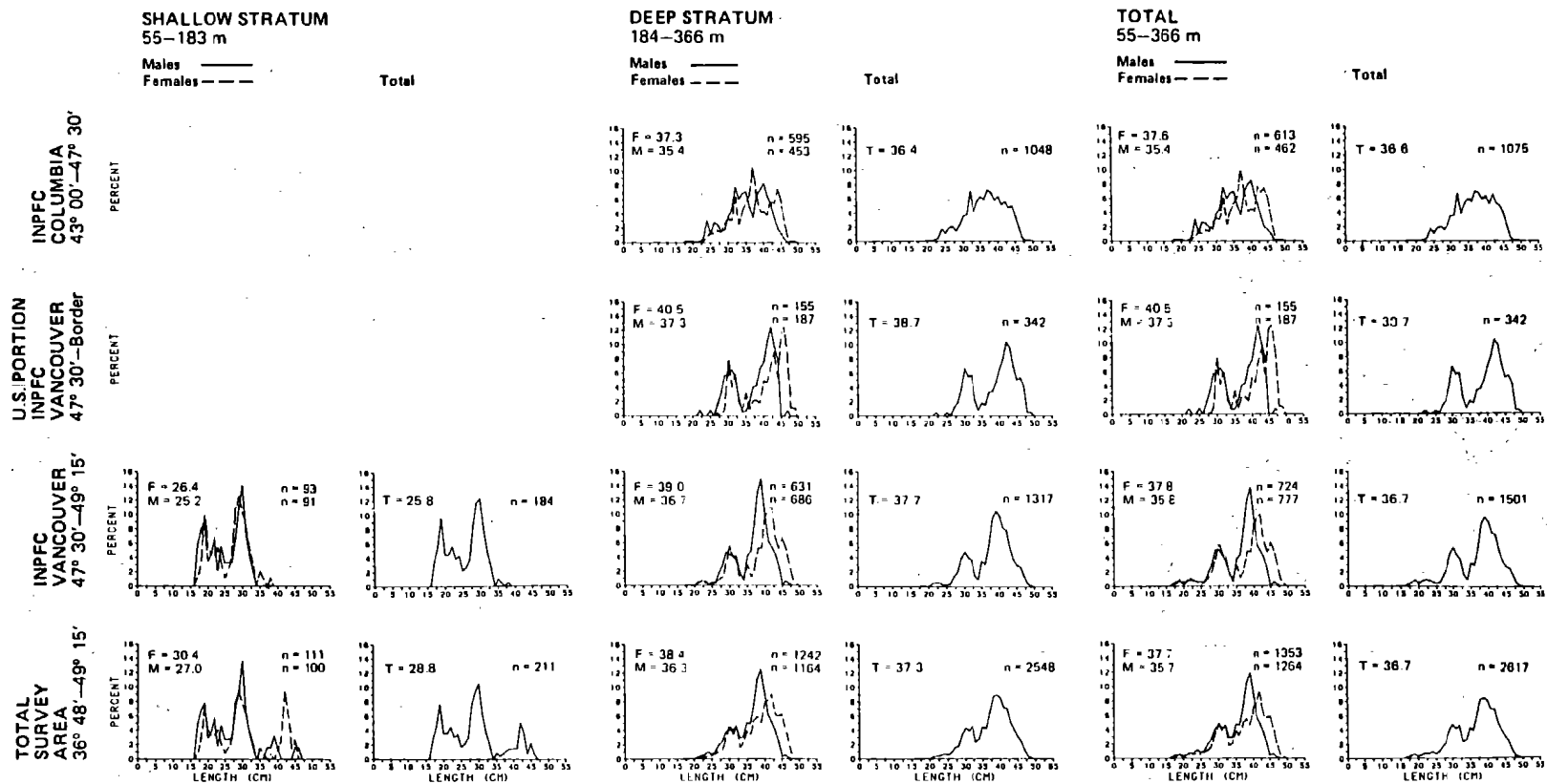


Figure 37.--Estimated size composition for Pacific ocean perch by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

# SHARPCHIN ROCKFISH

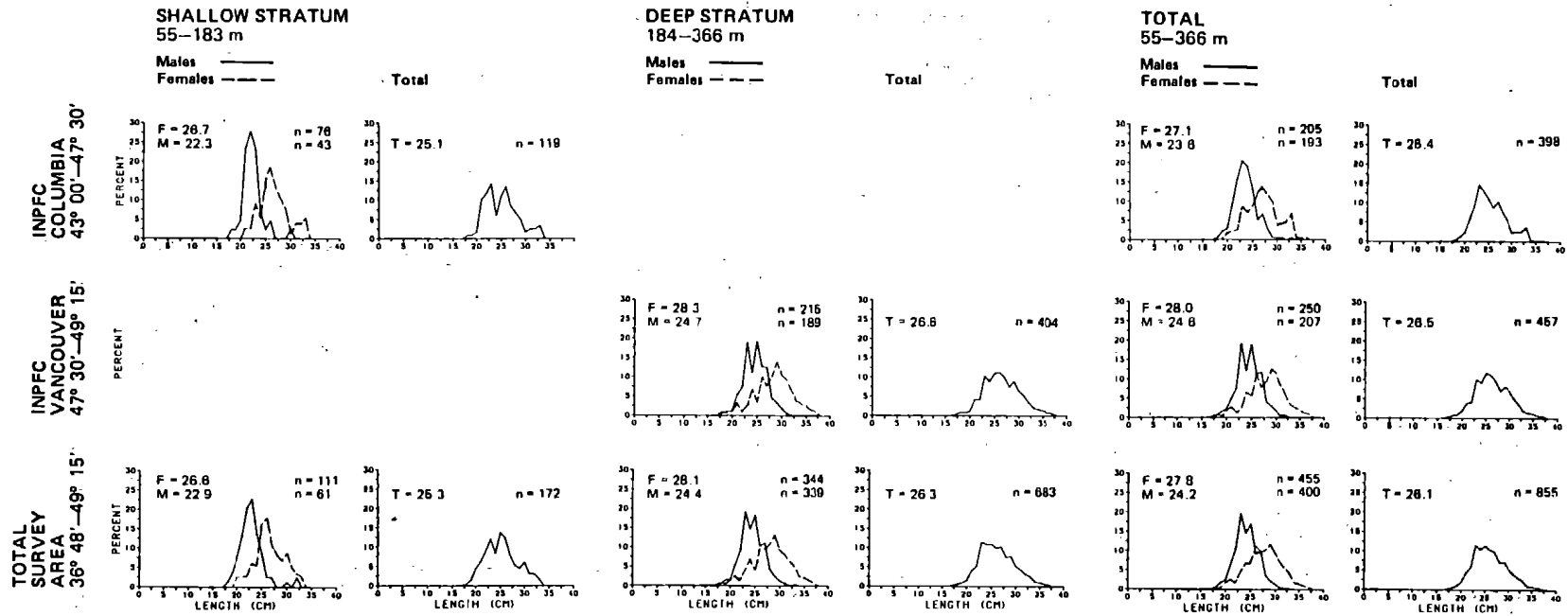


Figure 38.--Estimated size composition for sharpchin rockfish by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

# SHORTBELLY ROCKFISH

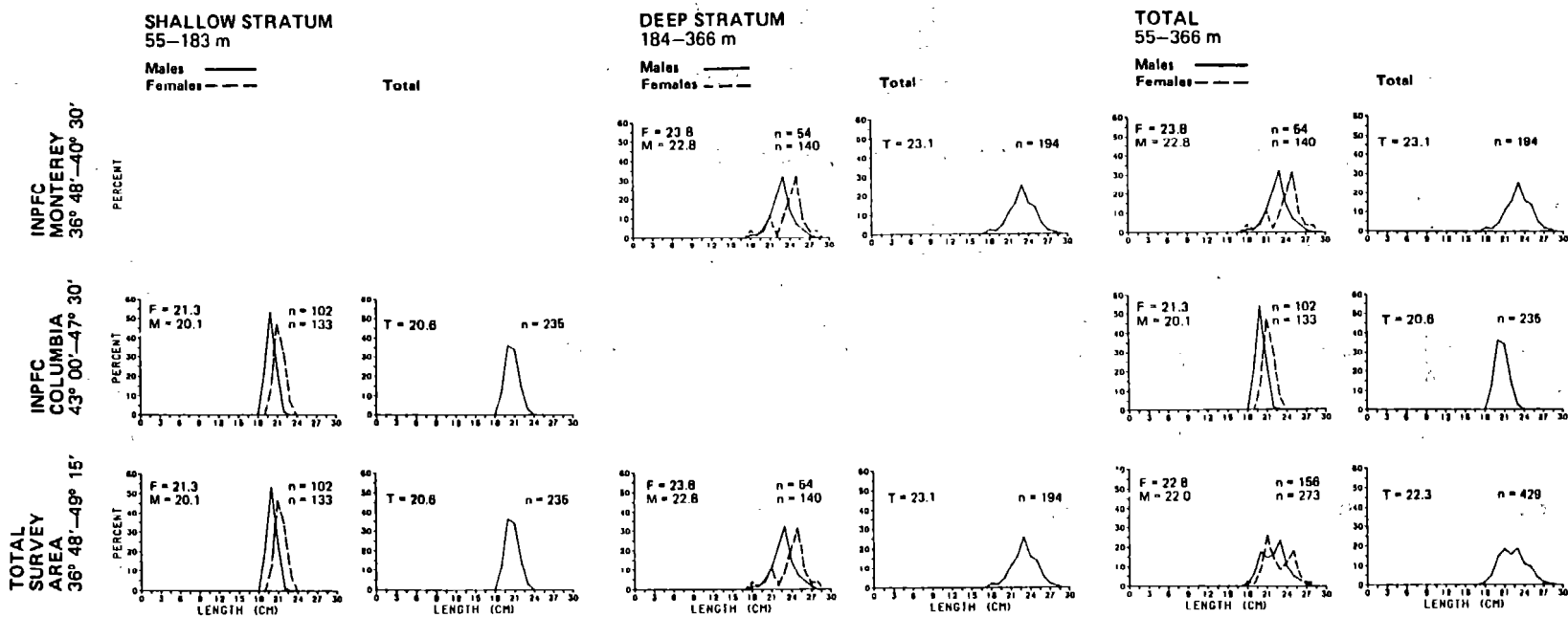


Figure 39. --Estimated size composition for shortbelly rockfish by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west Coast trawl survey.

# SPLITNOSE ROCKFISH

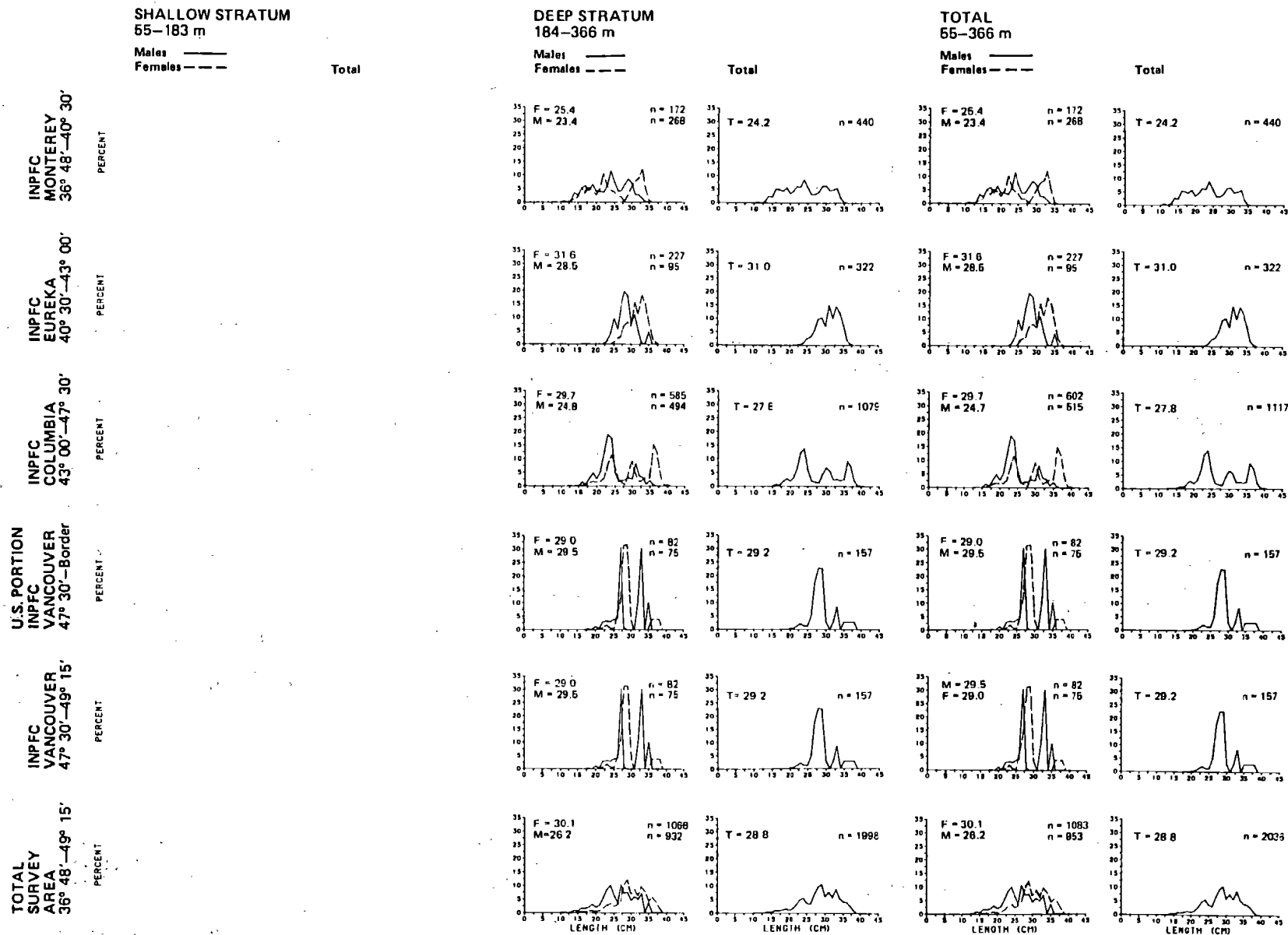


Figure 40.--Estimated size composition for splitnose rockfish by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

PACIFIC COD

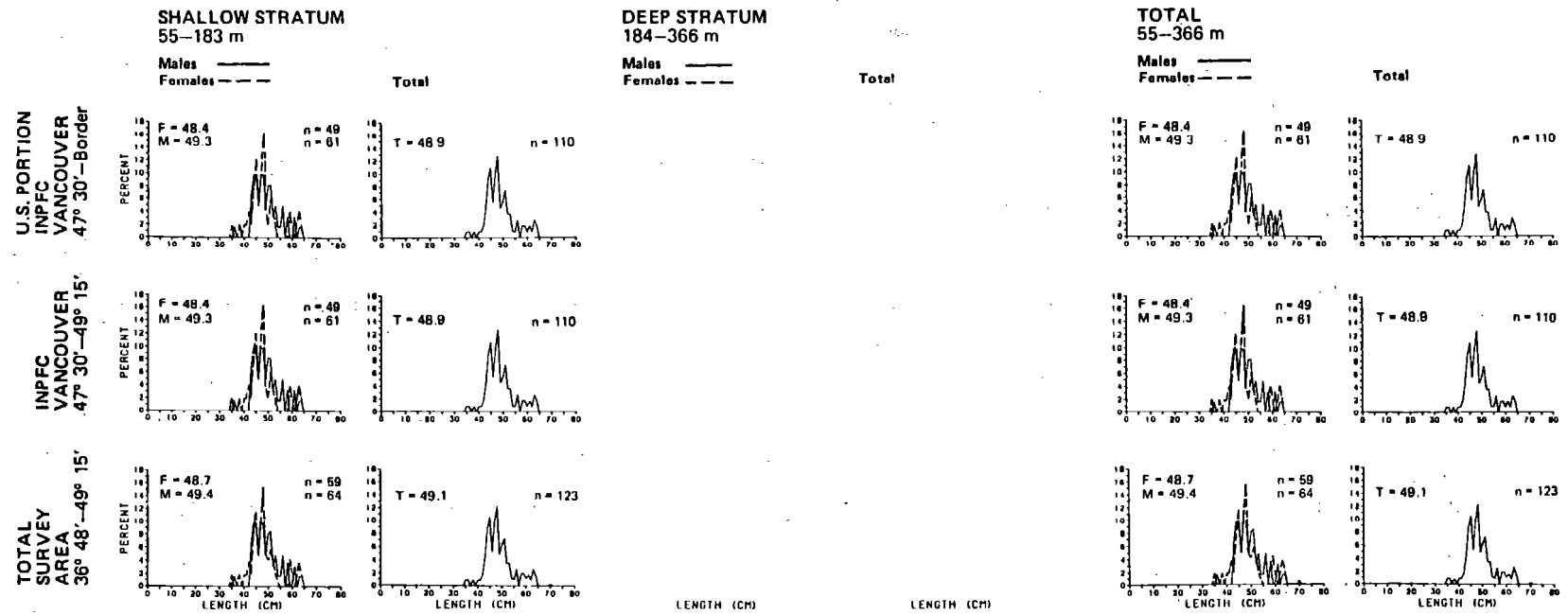



Figure 41.--Estimated size composition for Pacific cod by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

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PACIFIC SANDDAB

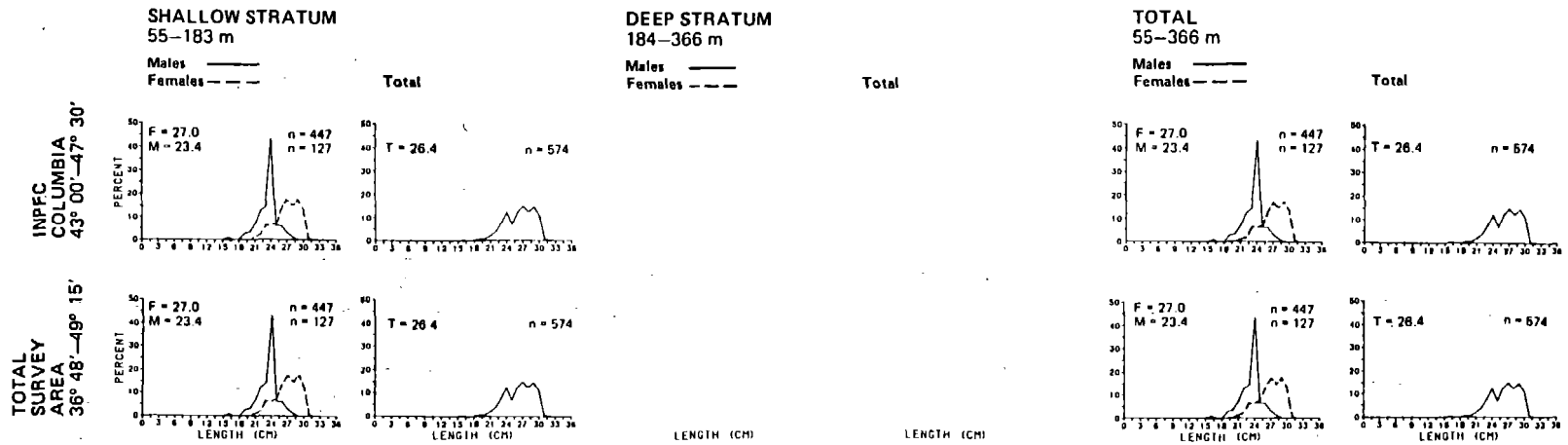


Figure 42.--Estimated size composition for Pacific sanddab by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

WALLEYE POLLOCK

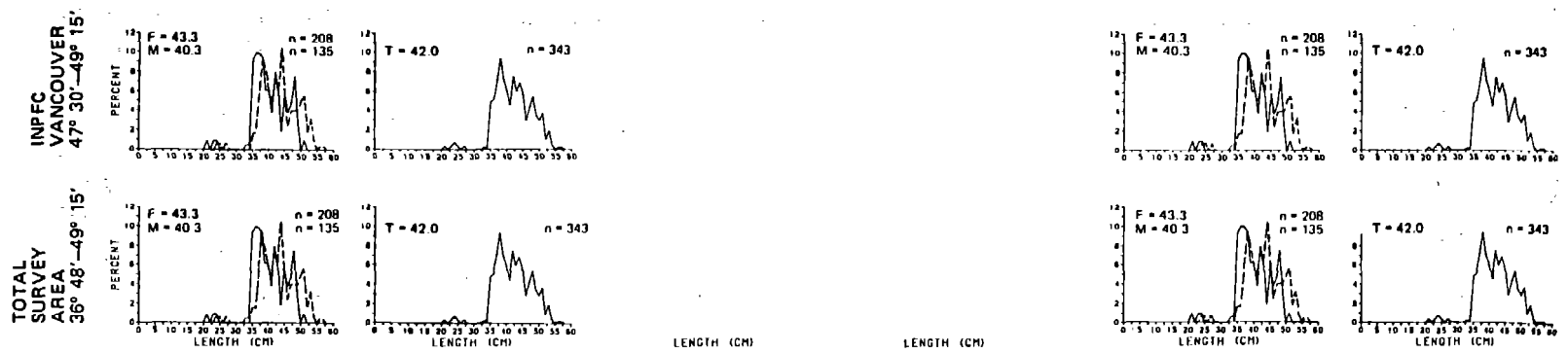


Figure 43.--Estimated size composition for walleye pollock by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

# ARROWTOOTH FLOUNDER

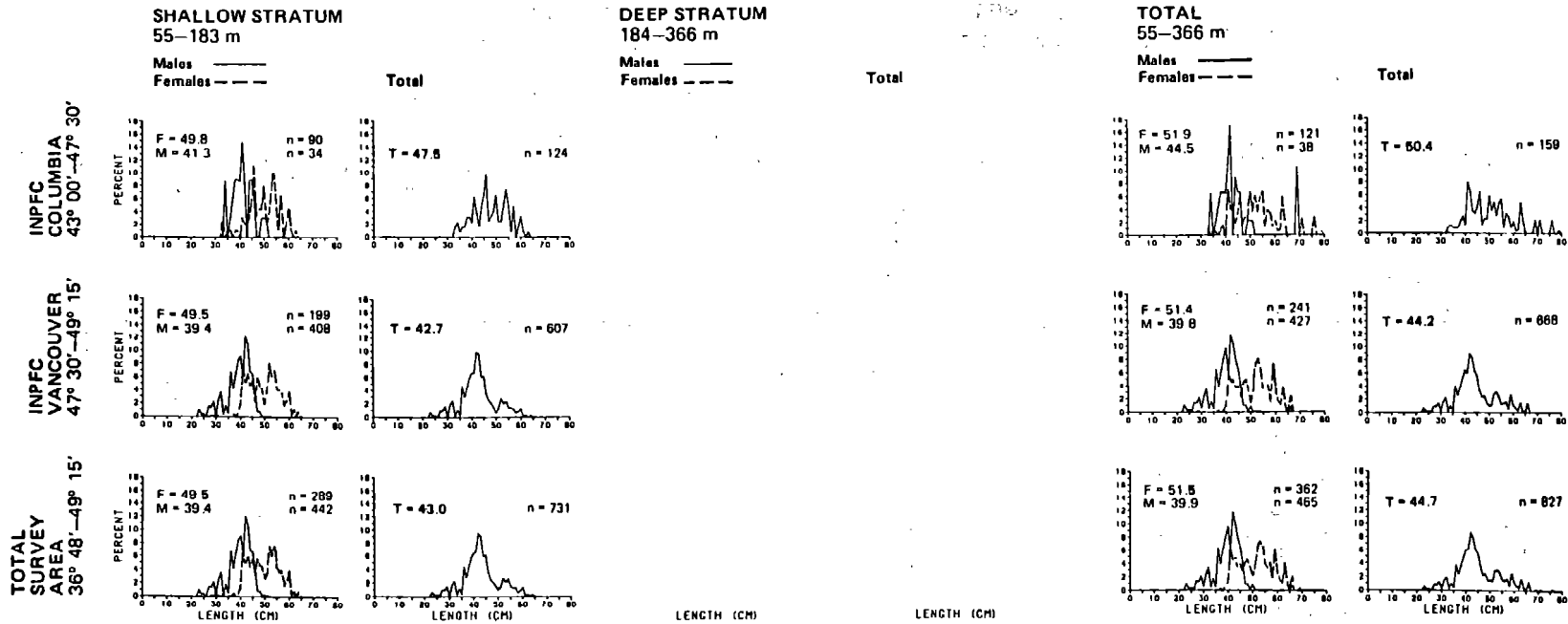


Figure 44.--Estimated size composition for arrowtooth flounder by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

# DOVER SOLE

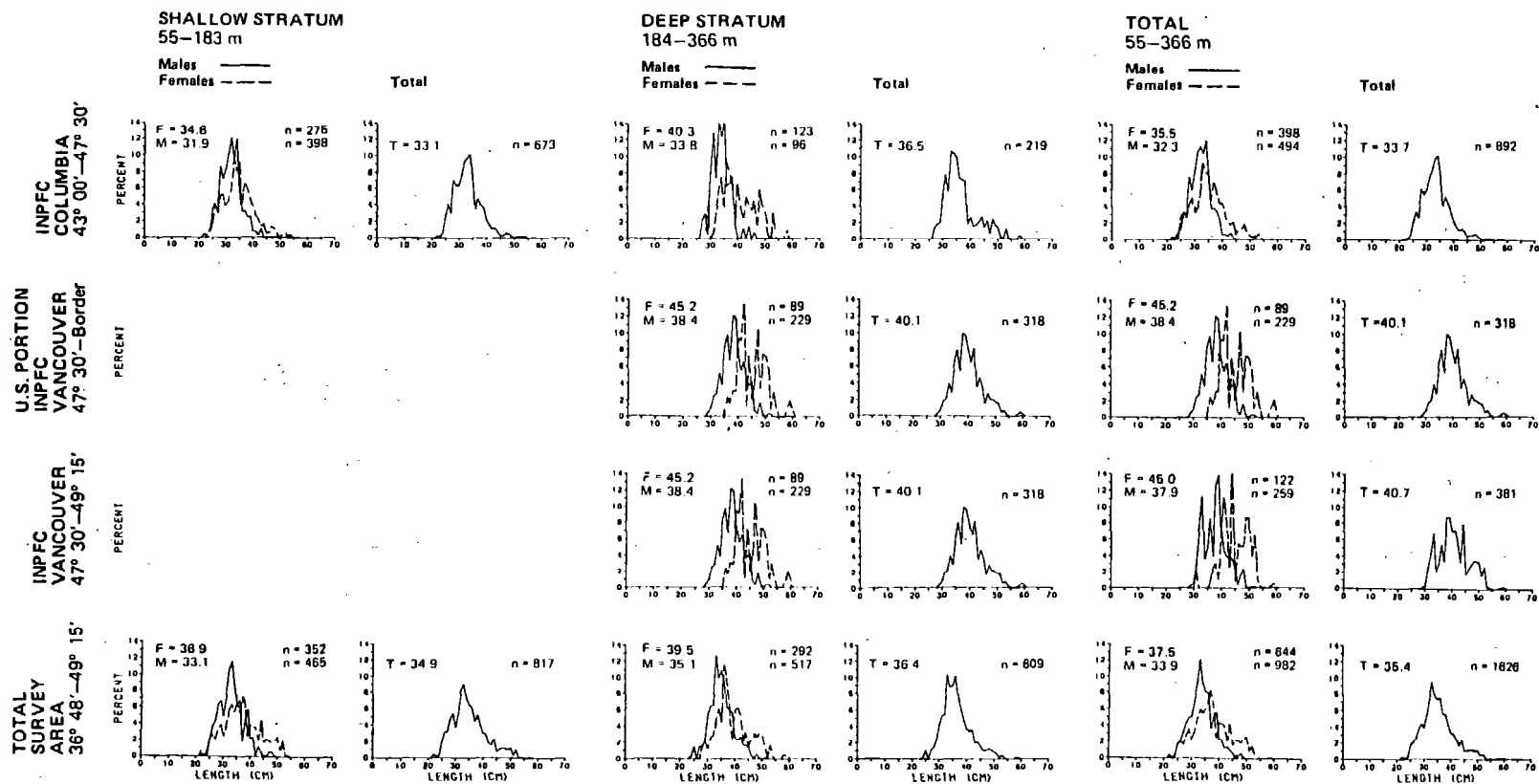


Figure 45. --Estimated size composition for Dover sole by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.



REX SOLE

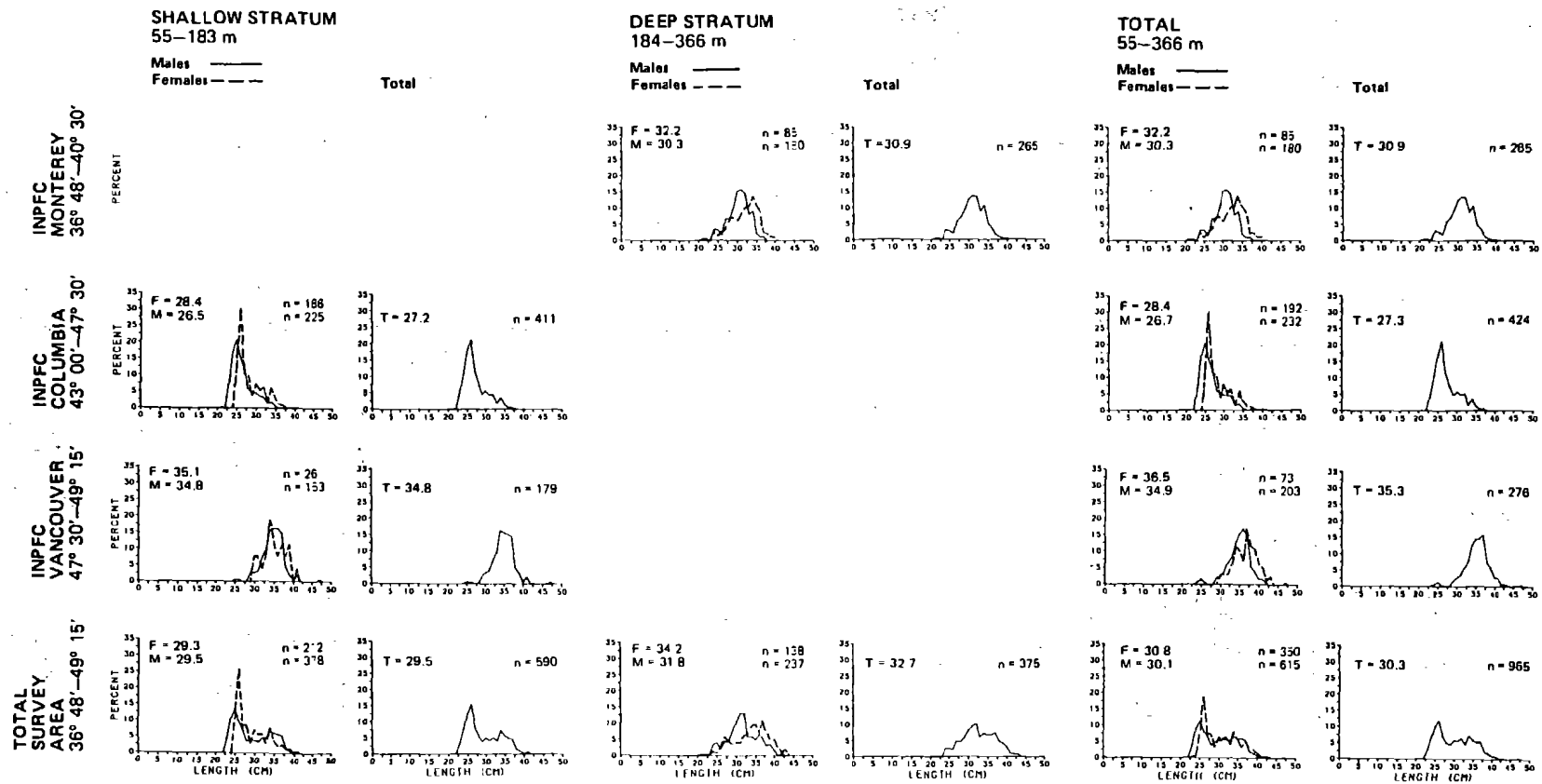


Figure 46.--Estimated size composition for rex sole by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

ENGLISH SOLE

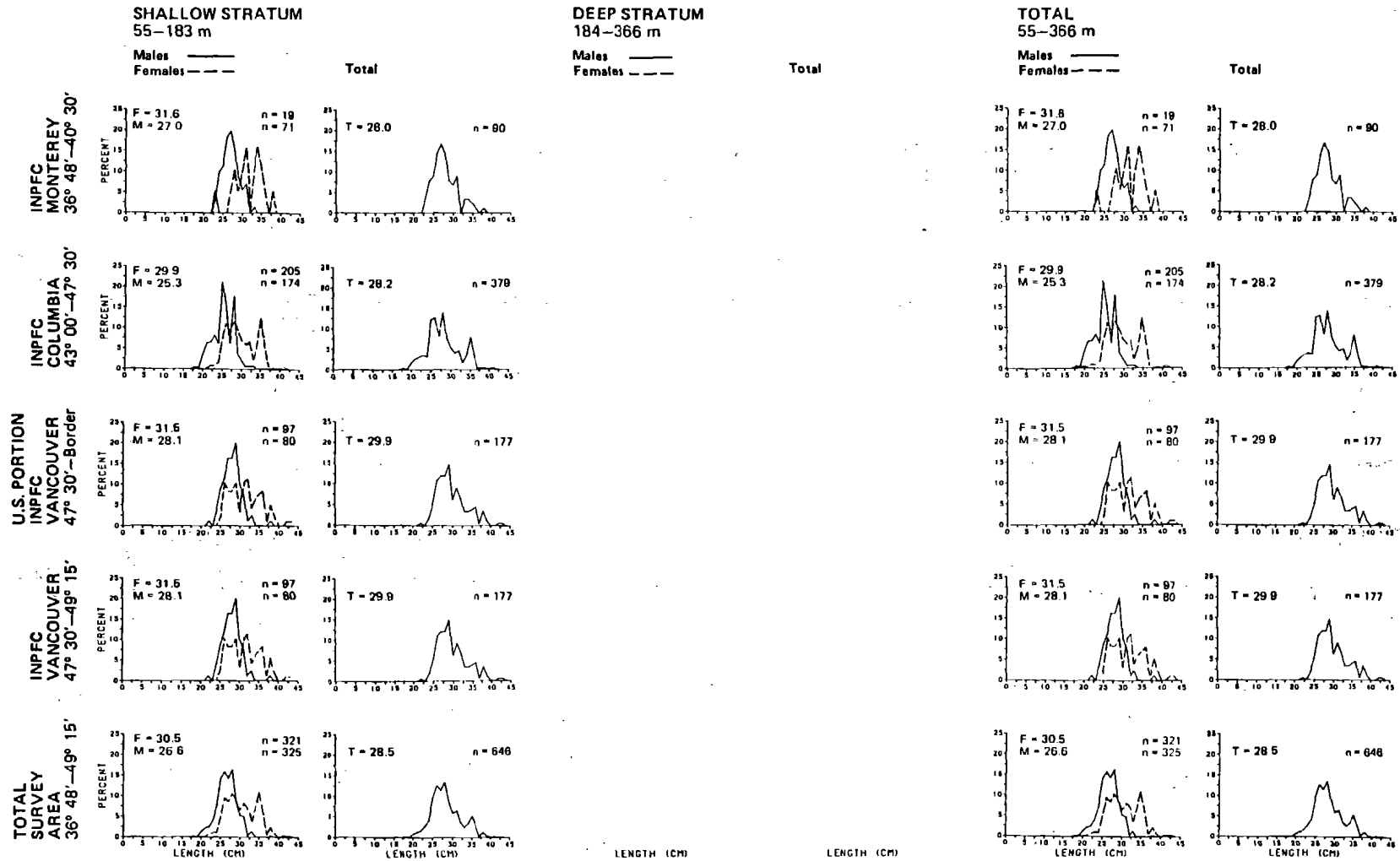


Figure 47.--Estimated size composition for English sole by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

PACIFIC WHITING

Male Female

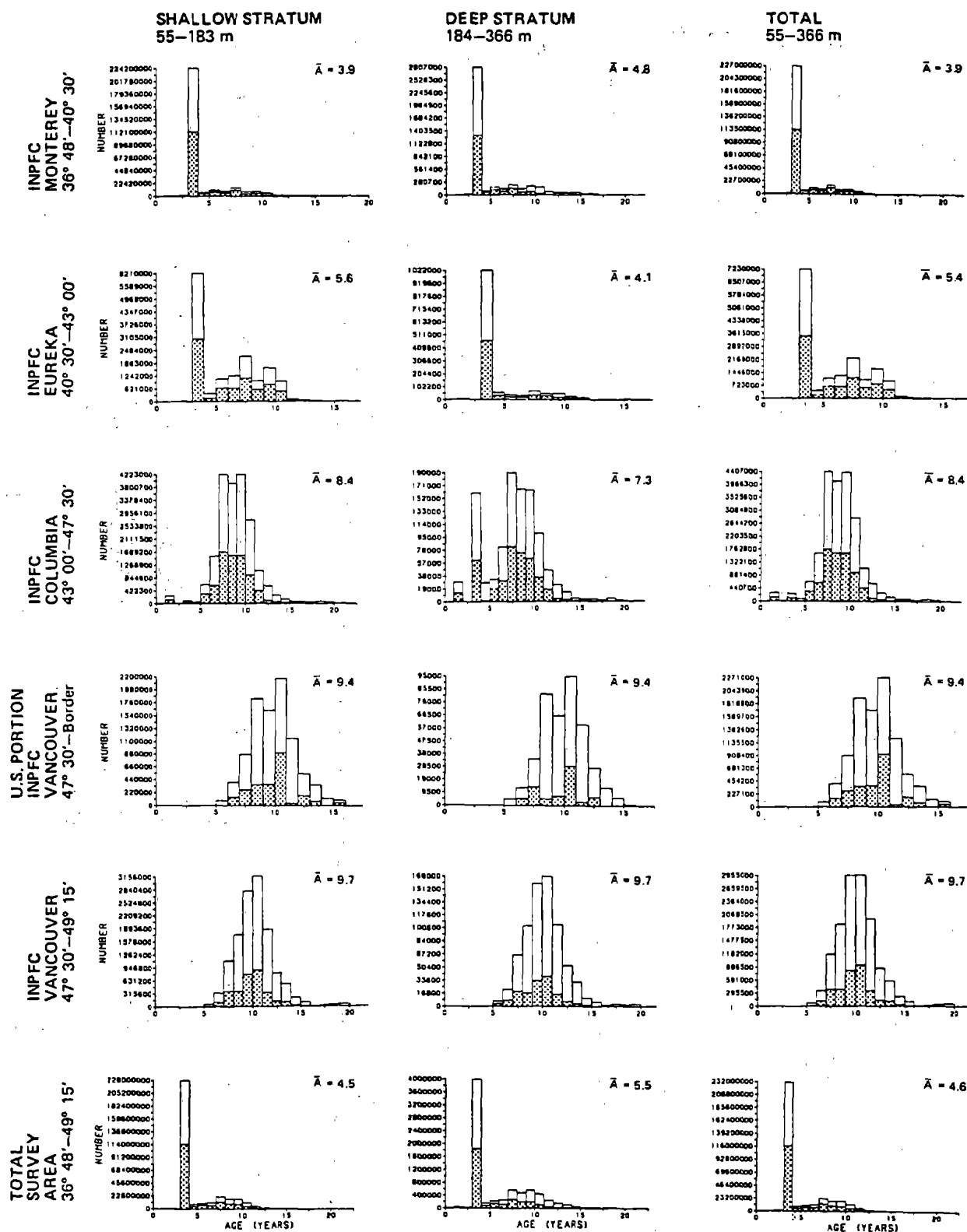


Figure 48.--Estimated age composition for Pacific whiting by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

YELLOWTAIL ROCKFISH

Male Female

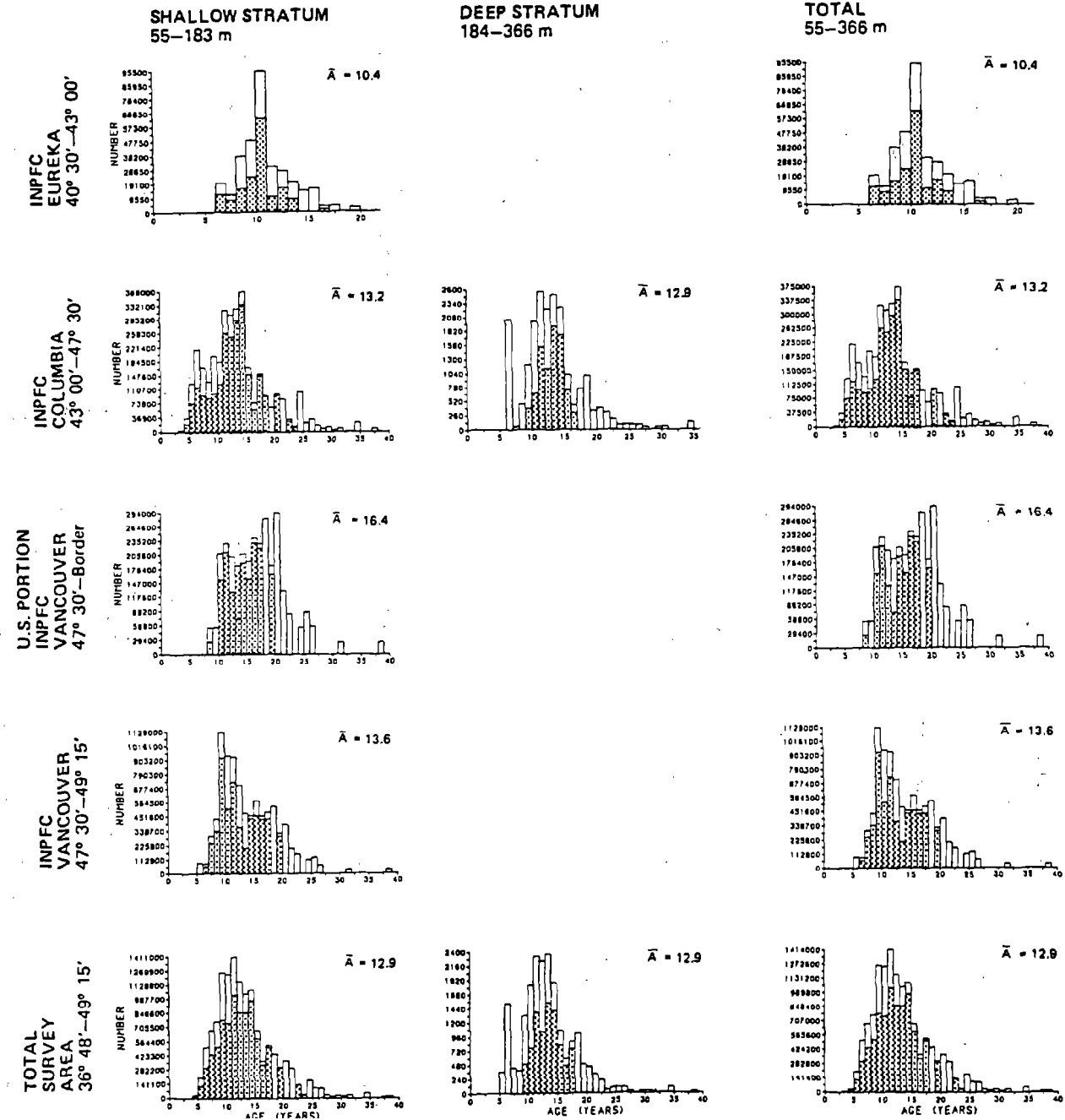


Figure 49. --Estimated age composition for yellowtail rockfish by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

CANARY ROCKFISH

Male Female

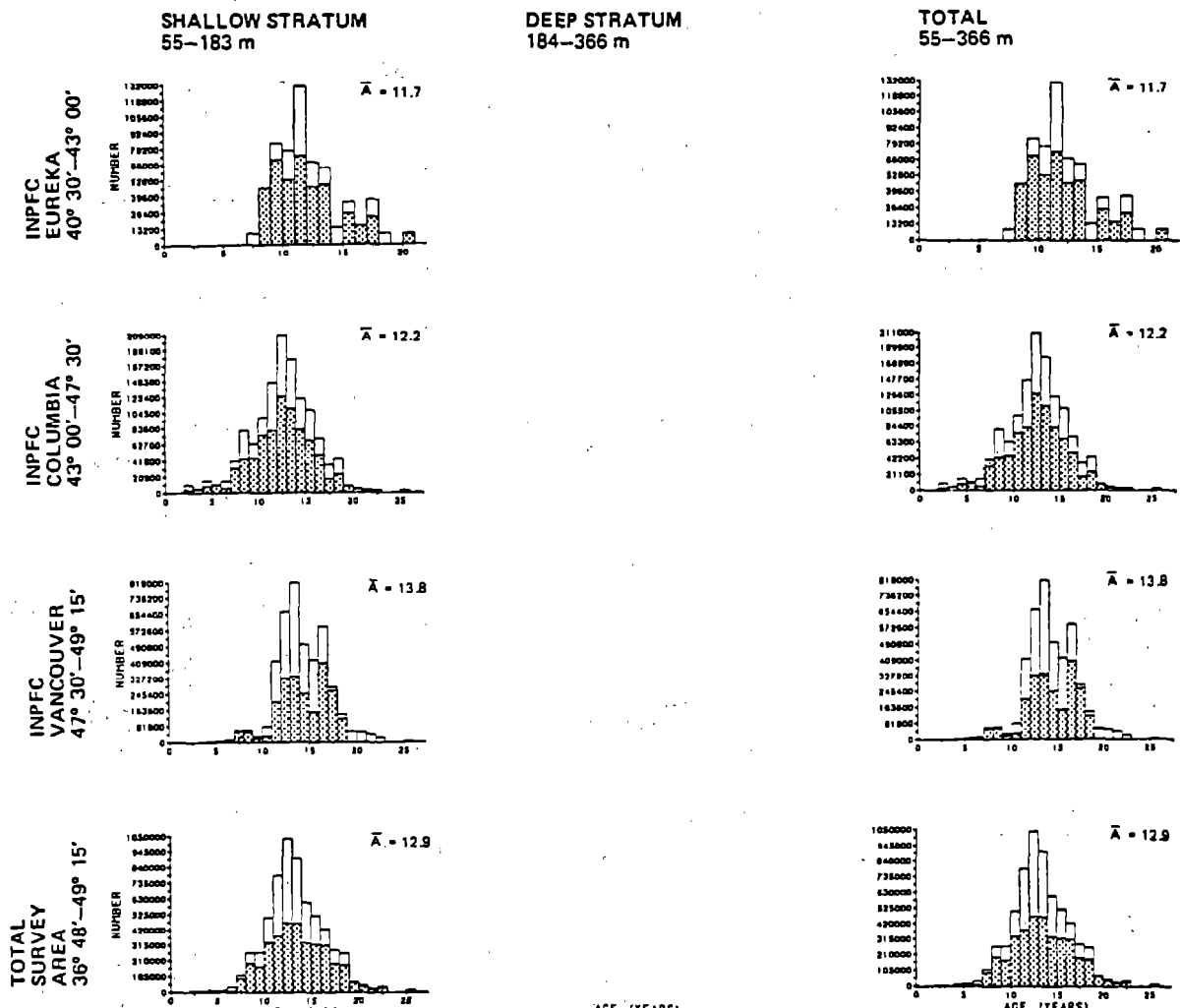
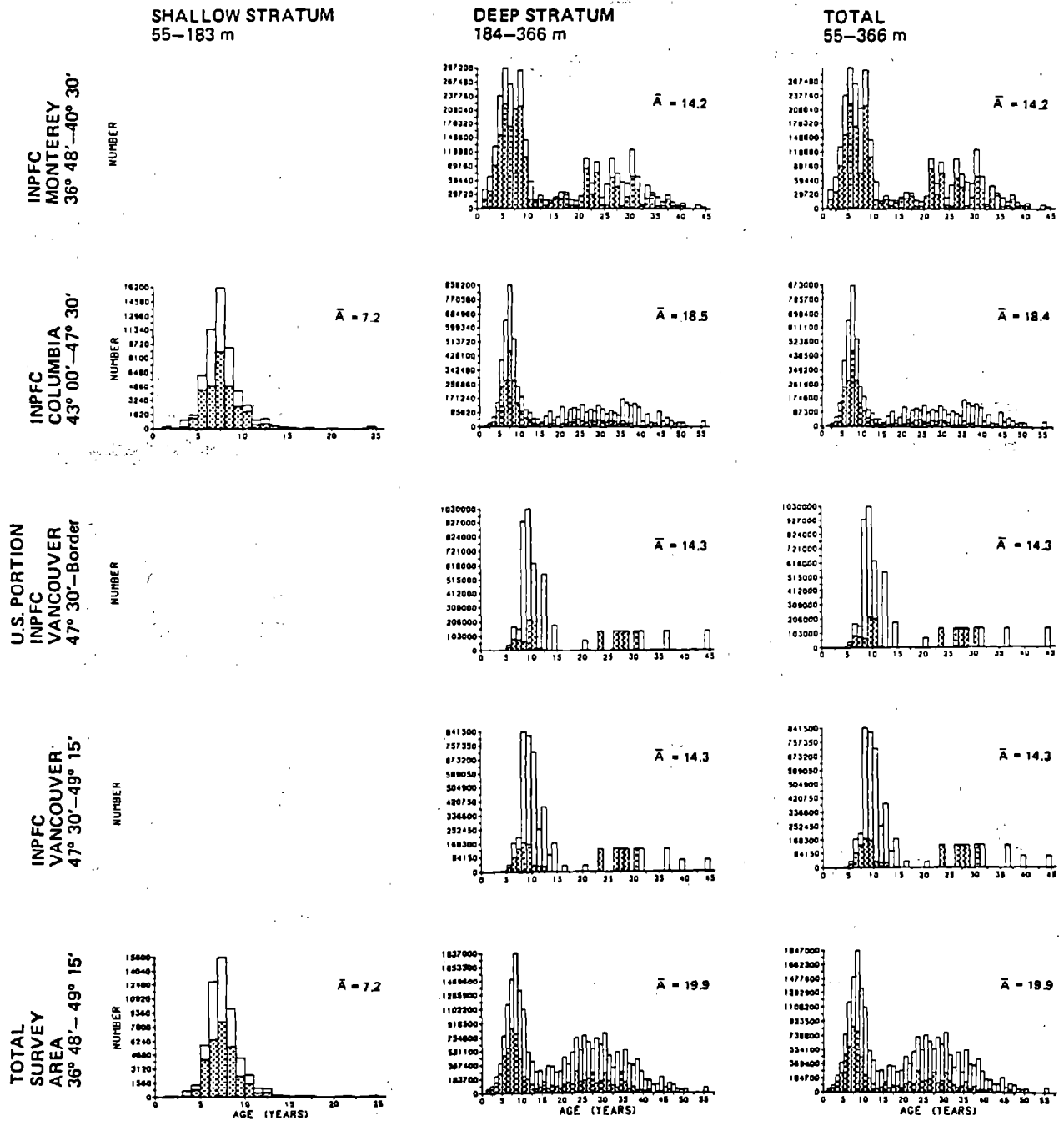


Figure 50. --Estimated age composition for canary rockfish by sex; depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

SPLITNOSE ROCKFISH



51. --Estimated age composition for splitnose rockfish by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

PACIFIC OCEAN PERCH

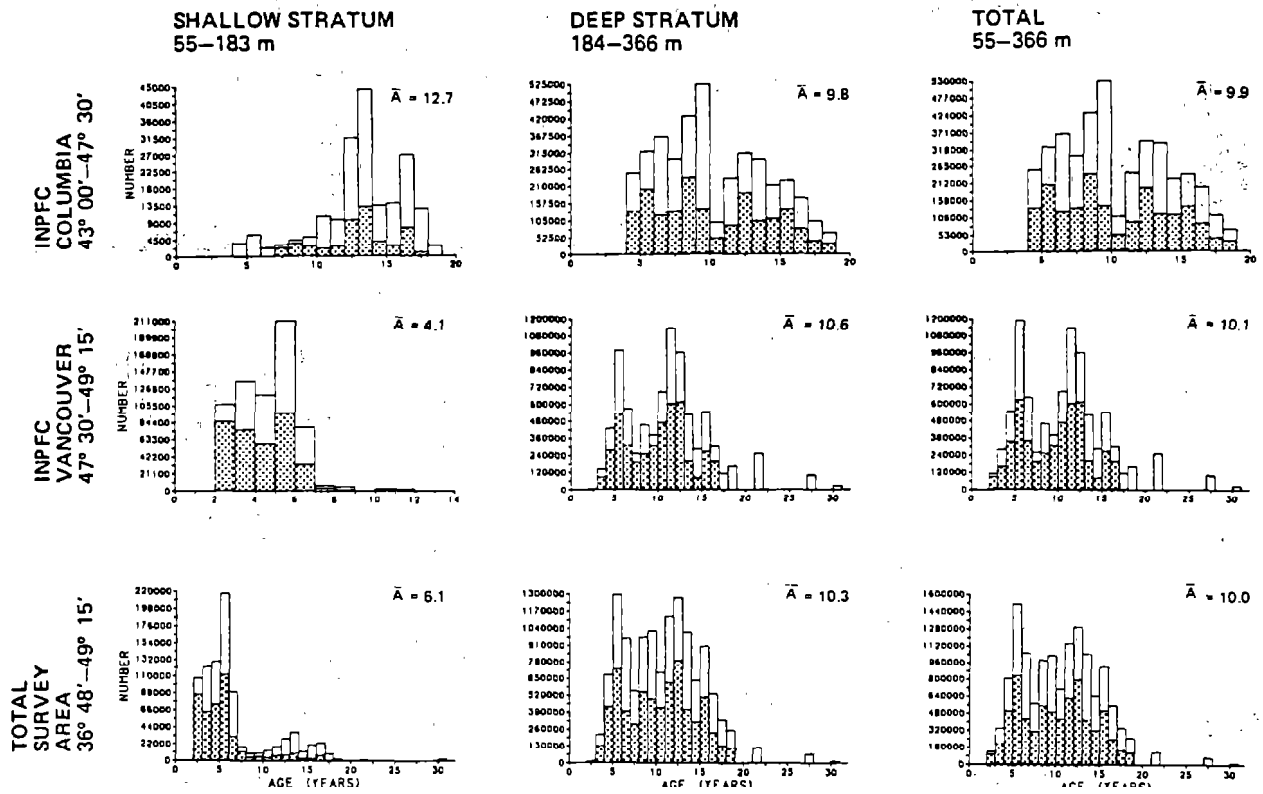


Figure 52. --Estimated age composition for Pacific ocean perch by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.

CHILIPEPPER

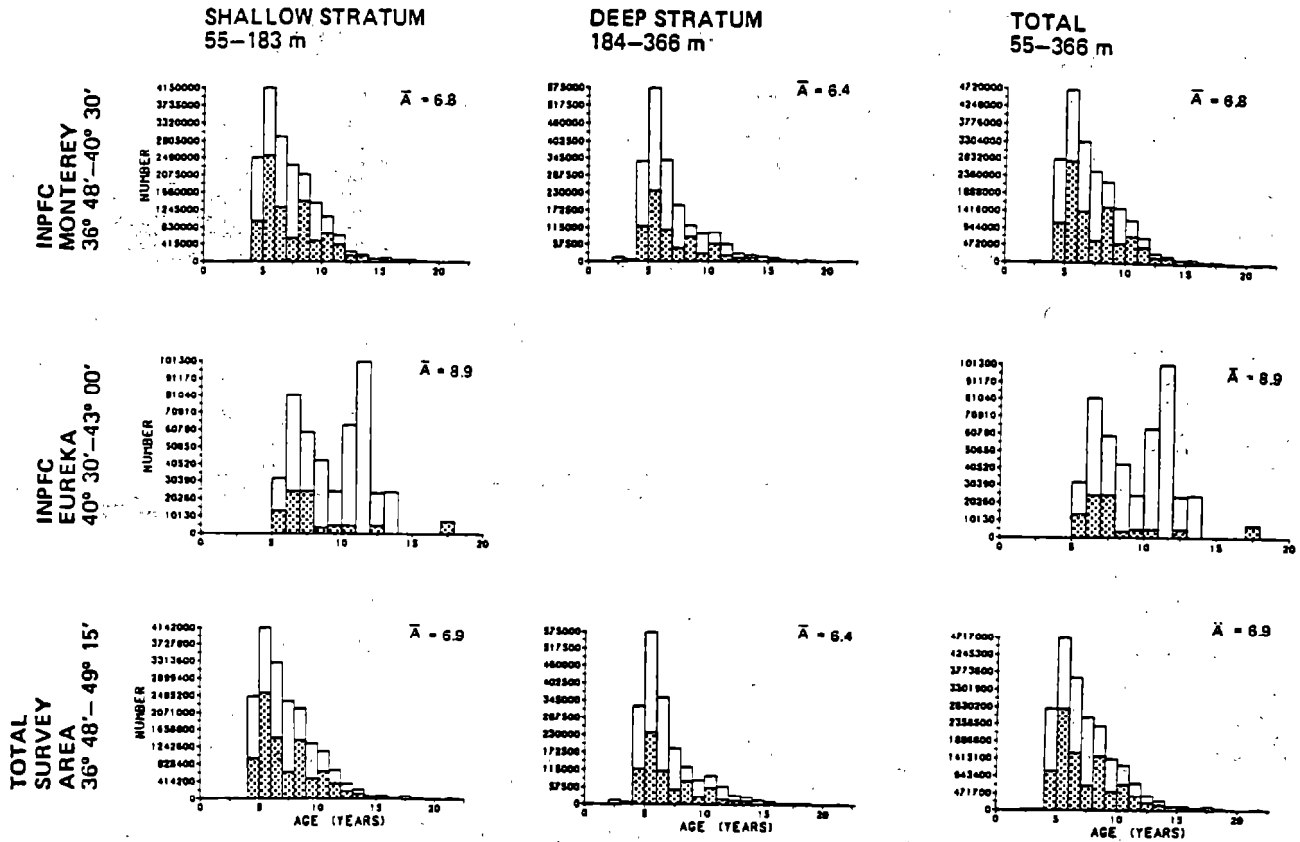


Figure 53.--Estimated age composition for chilipepper by sex, depth stratum, and International North Pacific Fisheries Commission (INPFC) area from the 1980 west coast trawl survey.





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## LITERATURE CITED

- Brodeur, R. D., and W. C. Pearcy. 1984. Food habits and dietary overlap of some shelf rockfishes (genus Sebastes) from the northeastern Pacific Ocean. U.S. Natl. Mar. Fish. Serv., Fish Bull. 82(2):1-25.
- Dark, T. A., M. E. Wilkins, and K. Edwards. 1983. Bottom trawl survey of canary rockfish (Sebastes pinniger), yellowtail rockfish (S. flavidus), bocaccio (S. paucispinis), and chilipepper (S. goodei) off Washington-California, 1980. U.S. Dep. Commer., NOAA Tech. Memo. NMFS F/NWC-48, 40 p.
- Dark, T. A., M. O. Nelson, J. J. Traynor, and E. P. Nunnallee. 1980. The distribution, abundance, and biological characteristics of Pacific whiting (Merluccius productus), in the California-British Columbia region during July-September 1977. U.S. Natl. Mar. Fish. Serv., Mar. Fish. Rev. 42(3-4):17-30.
- Eschmeyer, W. N., and E. S. Herald. 1983. A field guide to Pacific coast fishes of North America. Houghton Miffler Co., Boston, MA, 336 p.
- Gunderson, D. R., and T. M. Sample. 1980. Distribution and abundance of rockfish off Washington, Oregon, and California during 1977. U.S. Natl. Mar. Fish. Serv., Mar. Fish. Rev. 42(3-4):2-16.
- Livingston, P. A. 1983. Food habits of Pacific whiting, Merluccius productus, off the west coast of North America, 1967 and 1980. U.S. Natl. Mar. Fish. Serv., Fish. Bull. 81(3):629-636.
- Robins, C. R. (chairman). 1980. A list of common and scientific names of fishes from the United States and Canada. Am. Fish. Soc., Spec. Publ. 12, 174 p.
- Weinberg, K. L., M. E. Wilkins, and T. A. Dark. 1984. The 1983 Pacific west coast bottom trawl survey of groundfish resources: estimates of distribution, abundance, age, and length composition. U.S. Dep. Commer., NOAA Tech. Memo. NMFS F/NWC-70, 376 p.