

NORTHWEST FISHERIES CENTER

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Crab from Experimental Fishing in
Port Gardner Bay and Adjacent Areas,
January 1973 through December 1974

by

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TRAWL CATCHES OF FISH AND DUNGENESS CRAB FROM
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ABSTRACT

Five fishing areas in Port Gardner, Washington, were routinely sampled (1) with an otter trawl and (2) for water quality information during 1973 and 1974.

Data on distribution and relative abundance of 33 species, predominantly bottom fish, are presented in tabular form. Members of the family Pleuronectidae were found to be the most abundant with English sole, Parophrys vetulus, the dominant species. Length data were analyzed for the two most important commercial species of bottom fish (English sole and rock sole, Lepidopsetta bilineata) and the abundant slender sole, Lyopsetta exilius.

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INTRODUCTION

Port Gardner near Everett, Washington (Figure 1), is contiguous to the site of moderately heavy wood product and related industries. Boat traffic is relatively intense and consists mainly of foreign log and lumber ships, tow boats and barges, oil tankers, and sizable fishing and pleasure boat fleets. Port Gardner also supports a valuable commercial and sports salmon fishery. In addition, bottom fish and a variety of shellfish are taken year round.

Five areas (Figure 2) were sampled routinely during 1973 and 1974 to obtain fish to serve as bioassay animals for the study of the effects of thermal effluents and other environmental contaminants on the marine biota. This report enumerates the relative distribution and abundance of fishes of the five sampling areas and provides length data for five species. Pertinent hydrographic data are included.

MATERIALS AND METHODS

Forty-nine cruises were conducted aboard the 17-meter (45 ft) research vessel Harold W. Streeter. The vessel was originally constructed and outfitted for water quality monitoring and is powered by a 225-horsepower diesel engine. Two hydraulic winches, each containing 305 m (1,000 ft) of steel trawl cable were used to raise and lower fishing gear and oceanographic equipment.

The fishing gear was a bottom trawl similar in design and size as to the modified Gulf of Mexico shrimp trawl described by Ellis and Stockley (1970). Double and single cod-end trawls were used interchangeably.

Experimental fishing was conducted routinely in five areas (Table 1 and Figure 2) during late morning and early afternoon hours. Trawls were generally fished for 15 minutes. Occasional 10-minute trawls were conducted where dense populations of demersal fish were suspected. Average trawling speed was approximately 5.5 kilometers (3 knots) per hour. A brief description of the areas and depths fished is given in Table 1.

FISH AND DUNGENESS CRAB DATA

About 75% of the fish were identified to species; all were identified to family. Identification was checked against Clemens and Wilby (1961) and Bailey, et al. (1970). Delacy, Miller, and Borton (1972) report 136 species taken in the Port Gardner Bay area; however, their method of capture included seine, trawl, gillnet, and traps. Thirty-three species (Table 55) were captured by Otter trawling with the Harold W. Streeter. This included a few pelagic species that were probably captured as the trawl was raised and lowered.

The nine predominant species captured were within the family Pleuronectidae. The most abundant of the pleuronectids for both years was the English sole, Parophrys vetulus. Thirty cruises during 1973 produced 3,438 English sole, and 19 cruises in 1974 produced 1,269 (Table 2).

A variety of invertebrates was captured. However, with the exception of Dungeness crab, no attempt was made to enumerate them.

Tables 3 through 51 present data from each haul including the number of fish and Dungeness crab taken and the percentage composition of the catch. Percentages of individual species are listed only for those which exceeded 10 percent of the haul. Each table shows location, depth, and time (duration) of all trawling operations and gives a brief description of the weather during most of the hauls.

Table 2 is a summary of the catch composition for four commercially valuable species in relation to the total catch for both years. Because of the relative importance of English sole (English, 1967) and rock sole, Lepidopsetta bilineata (Hart, 1973), length and abundance comparisons are provided for selected trawls in Tables 52 and 53. Numbers and lengths for slender sole, Lyopsetta exilis, though of lesser importance because of their relatively small size, are shown in Table 54.

WATER QUALITY

Data on subsurface water temperature and salinity were collected at the Mukilteo Biological Field Facility, a National Marine Fisheries Service laboratory adjacent to the sampling areas (Figure 2). Temperature (Figure 3) was recorded by means of a Bristol single pen thermograph at a site approximately 60 m (200 feet) from shore and is presented in degrees Celsius.

Salinity was determined by use of Hydrolab Model 6D with Model 70 Sonde (sensing unit) and is recorded as parts per thousand. Both temperature and salinity are presented in Tables 3 through 51.

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FIGURES

Figure 1.--Map of Puget Sound showing relationship to Port Gardner Bay.

Figure 2.--Location of areas fished within Port Gardner Bay.

Figure 3.--Average monthly water temperatures for Port Gardner Bay during
1973-74.

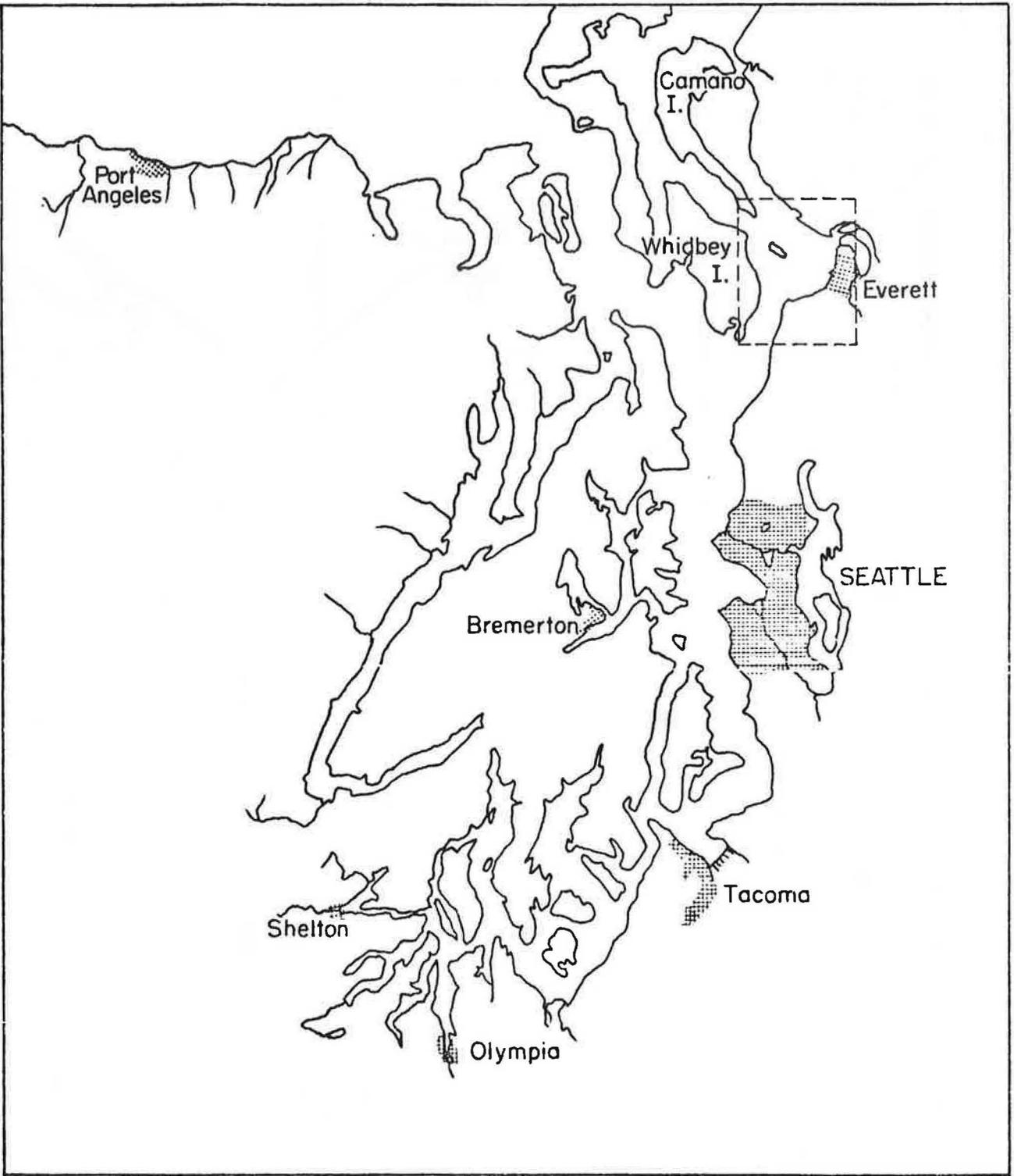


Figure 1.

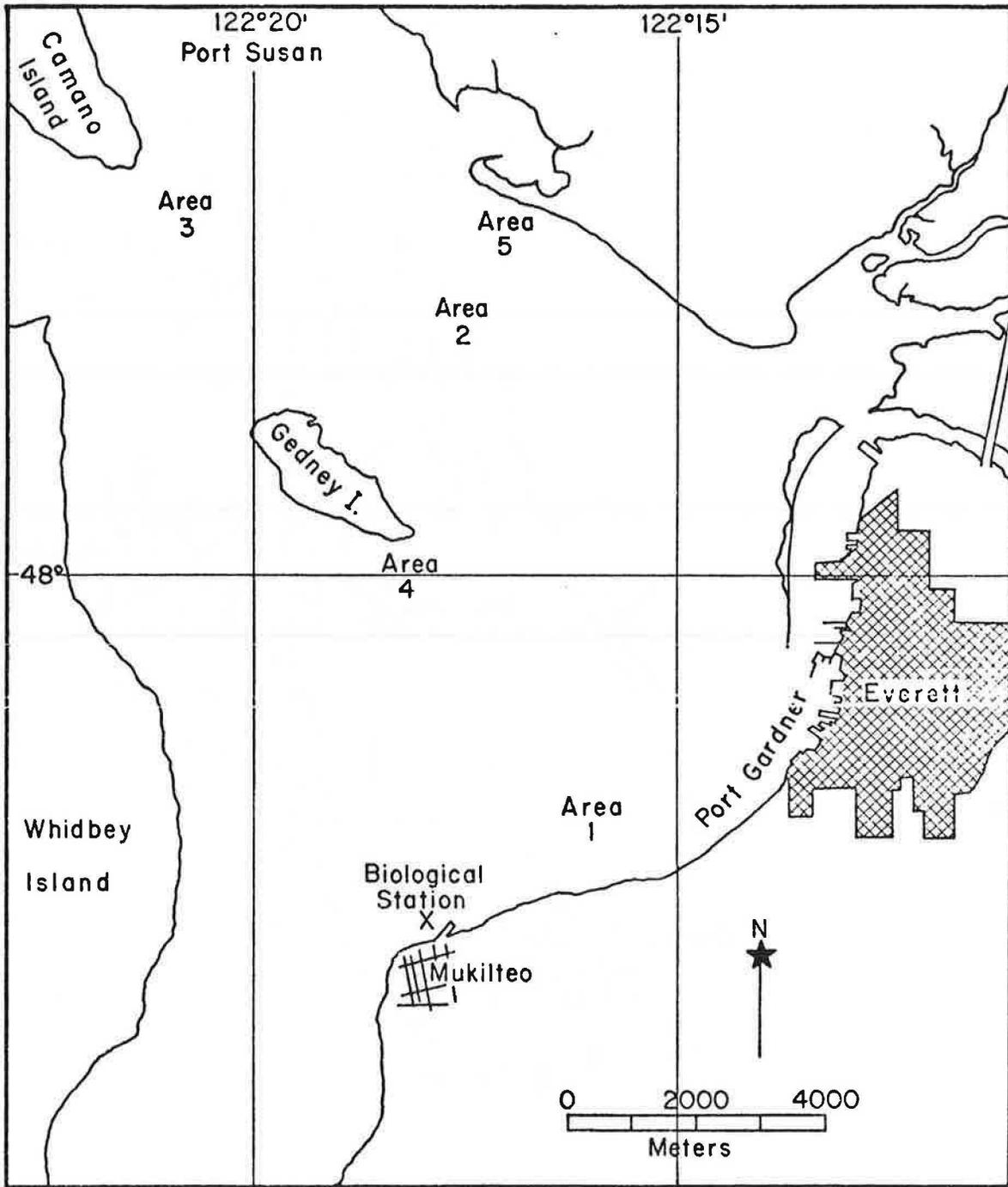


Figure 2.

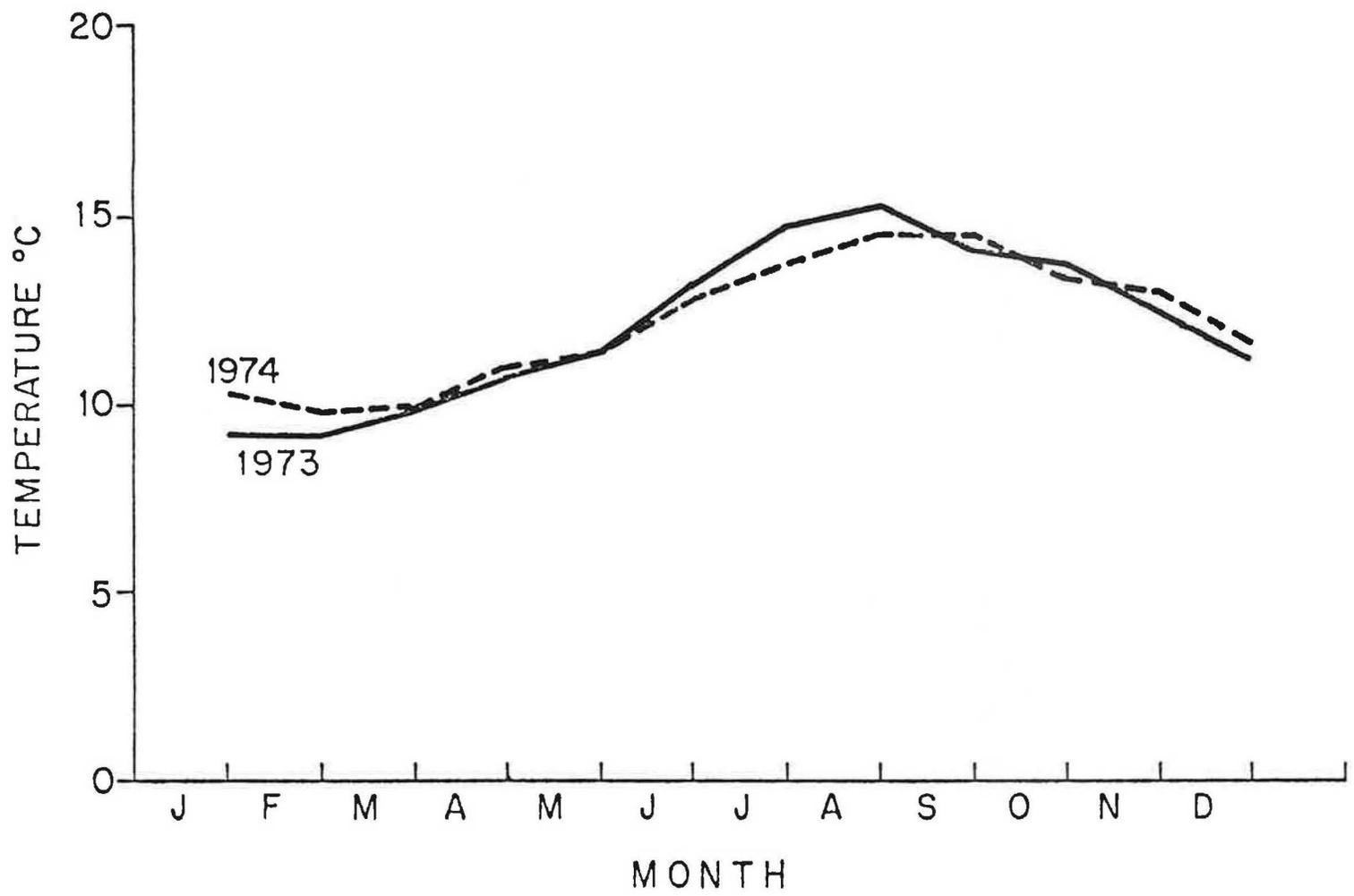


Figure 3.

TABLES

Table 1.—Description of areas sampled.

Table 2.—Numbers of fish and Dungeness crabs taken by otter trawl from five Port Gardner Bay locations. Included are percentages for four commercially important species by haul.

Tables 3-32.—Species composition for Cruise No. 1-34; January 9, 1973-December 12, 1973.

Tables 32-51.—Species composition for Cruise No. 1-19; January 31, 1974-November 5, 1974.

Table 52.—Numbers and lengths of English sole from selected trawls in Port Gardner Bay from April 1973 to November 1974.

Table 53.—Numbers and lengths of rock sole from selected trawls in Port Gardner Bay from May 1973 to November 1974.

Table 54.—Numbers and lengths of slender sole from selected trawls in Port Gardner Bay from August 1973 to October 1974.

Table 55.—List of fin fish species taken from 49 Otter trawl cruises, January 1973 to December 1974.

Table 1.--Description of areas sampled.

- Area 1. Southeast shore of Port Gardner Bay. Sampling area between the 15-55 meter contours. Average depth fished was 25 meters. Bottom consists of sandy mud.
- Area 2. The lower (southeast) arm of Port Susan, midway between Gedney Island and Tulalip Bay. The 100-200 meter contours are primarily clay and debris.
- Area 3. Rocky gravel ridge extending between Camano Head and Gedney Island. Average depth fished was 35 meters.
- Area 4. Rocky gravel shelf adjacent to the south shore of Gedney Island. Fishing was between the 15-35 meter contours at an average depth of 25 meters.
- Area 5. Mission Bar area adjacent to Tulalip Bay. Consists of sandy mud and at times great amounts of sea lettuce (Ulva sp.). Fishing occurred between the 18-85 meter contours.
-

Table 2. -- Numbers of fish and Dungeness crabs taken by otter trawl from five Port Gardner Bay locations. Included are percentages for four commercially important species by haul.

1973

Area	Hauls	No. of fish all species	Av. per haul	English sole	%	Rock sole	%	Dover sole	%	Dungeness crab	%
1.	19	4784	251	2889	60.3	261	5.4	19	0.4	129	2.7
2.	22	1304	59	153	11.7	-	-	140	10.7	61	4.6
3.	9	617	68	69	11.1	195	31.6	11	1.7	8	1.3
4.	7	686	98	191	27.8	428	62.3	29	4.2	17	2.4
5.	<u>4</u>	<u>372</u>	<u>93</u>	<u>136</u>	<u>36.5</u>	<u>6</u>	<u>1.6</u>	<u>16</u>	<u>4.3</u>	<u>18</u>	<u>4.8</u>
Totals	61	7763	127	3438	44.3	890	11.4	215	2.7	233	3.0

1974

1.	7	1682	240	577	34.3	172	10.2	44	2.6	153	9.1
2.	9	467	51	22	4.7	-	-	42	8.9	106	22.7
3.	6	355	59	55	15.4	171	48.1	5	1.4	13	3.6
4.	4	240	60	40	16.6	54	22.5	6	2.5	17	7.0
5.	<u>13</u>	<u>1973</u>	<u>151</u>	<u>575</u>	<u>29.1</u>	<u>36</u>	<u>1.8</u>	<u>33</u>	<u>1.6</u>	<u>117</u>	<u>5.9</u>
Totals	39	4717	120	1269	26.9	433	9.1	130	2.7	406	8.6

Table 3.--Species composition for Cruise No. 1; Jan. 9, 1973

Name of fish	HAUL # 1		HAUL # 2		HAUL #	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
Roaches			-			
Sablefish			-			
Ronquils			-			
Pacific sanddab			2			
Speckled sanddab			-			
Red brotula	-	-	-			
Ratfish	13	43.3	-			
Pacific herring	-	-	-			
Filamented sculpin	-	-	-			
Buffalo sculpin	-	-	-			
Staghorn sculpin			-			
Sailfin sculpin			-			
Grunt sculpin			-			
Lumpfish/Snailfish			-			
Surfperches			1			
Pacific hake			-			
Pacific cod			-			
Pacific tomcod			1			
Painted greenling			-			
Surf smelt			-			
Gunnels	-	-	-	-		
Slender sole	14	46.6	1	-		
C-0 sole	-	-	-	-		
English sole	-	-	3	-		
Rock sole	-	-	34	62.9		
Dover sole	2		1			
Rex sole	-		-			
Starry flounder	-		-			
Spiny dogfish	-		-			
Pricklebacks	-		-			
Eelpouts	-		-	-		
Poachers	1		3	-		
Rockfishes	-		7	12.9		
Sand sole	-		-	-		
Dungeness crab	-		1	-		

* Weather observations legend; cldy-cloudy, rny-rainey, cr-clear, cl-cool, wm-warm

Table 4.--Species composition for Cruise No. 2; Jan. 16, 1973

Name of fish	HAUL # <u>1</u>		HAUL # <u>2</u>		HAUL # <u>3</u>	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
	LOCATION <u>Area 2</u>		LOCATION <u>Area 3</u>		LOCATION <u>Area 3</u>	
	TIME <u>15 min.</u>		TIME <u>15 min.</u>		TIME <u>15 min.</u>	
	DEPTH <u>100 m</u>		DEPTH <u>40 m</u>		DEPTH <u>40 m</u>	
	TEMP. <u>9.4</u>		TEMP. <u>9.4</u>		TEMP. <u>9.4</u>	
	SALINITY <u>26.5</u>		SALINITY <u>26.5</u>		SALINITY <u>26.5</u>	
	WEATHER <u>-</u>		WEATHER <u>-</u>		WEATHER <u>-</u>	
Roaches					-	
Sablefish					-	
Ronquils					2	
Pacific sanddab					3	
Speckled sanddab					-	
Red brotula	-	-	-	-	-	-
Ratfish	6	33.3	3	13.0	24	37.5
Pacific herring	-	-	-	-	-	-
Filamented sculpin	-	-	-	-	-	-
Buffalo sculpin	-	-	-	-	-	-
Staghorn sculpin					1	
Sailfin sculpin					-	
Grunt sculpin					-	
Lumpfish/Snailfish					-	
Surfperches					-	
Pacific hake	1					
Pacific cod	-					
Pacific tomcod	-					
Painted greenling	-					
Surf smelt	-					
Gunnels	-	-	-	-	-	-
Slender sole	7	38.8	1	-	3	-
C-0 sole	-	-	-	-	-	-
English sole	-	-	7	30.4	5	-
Rock sole	-	-	12	52.1	22	34.3
Dover sole	1					
Rex sole	-					
Starry flounder	-					
Spiny dogfish	1					
Pricklebacks	-					
Eelpouts	-				-	
Poachers	-				4	
Rockfishes	1				-	
Sand sole	-				-	
Dungeness crab	1				-	

Table 5.--Species composition for Cruise No. 3; Jan. 23, 1973

Name of fish	HAUL # <u>1</u>		HAUL # _____		HAUL # _____	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
Roaches						
Sablefish						
Ronquils						
Pacific sanddab						
Speckled sanddab						
Red brotula	-					
Ratfish	2					
Pacific herring	-					
Filamented sculpin	-					
Buffalo sculpin	-					
Staghorn sculpin	46	17.4				
Sailfin sculpin	-	-				
Grunt sculpin	-	-				
Lumpfish/Snailfish	-	-				
Surfperches	58	22.0				
Pacific hake	-	-				
Pacific cod	28	10.6				
Pacific tomcod	-	-				
Painted greenling	-	-				
Surf smelt	-	-				
Gunnels	-	-				
Slender sole	-	-				
C-0 sole	-	-				
English sole	121	46.0				
Rock sole	2	-				
Dover sole	3					
Rex sole	-					
Starry flounder	-					
Spiny dogfish	-					
Pricklebacks	-					
Eelpouts	-					
Poachers	6					
Rockfishes	1					
Sand sole	2					
Dungeness crab	-					

Table 7.--Species composition for Cruise No. 5; Feb. 6, 1973

Name of fish	HAUL # 1		HAUL # 2		HAUL # 3	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
Roaches						
Sablefish						
Ronquils						
Pacific sanddab						
Speckled sanddab						
Red brotula	-	-	-	-	-	-
Ratfish	37	62.7	69	72.6	46	48.4
Pacific herring	-	-	-	-	-	-
Filamented sculpin	-	-	-	-	-	-
Buffalo sculpin	-	-	-	-	-	-
Staghorn sculpin	-		-		-	
Sailfin sculpin	-		-		-	
Grunt sculpin	-		-		-	
Lumpfish/Snailfish	1		-		2	
Surfperches	-		-		-	
Pacific hake	-		5		5	
Pacific cod	-		-		-	
Pacific tomcod	1		-		-	
Painted greenling	-		-		-	
Surf smelt	-		-		-	
Gunnels	-		-		-	-
Slender sole	2		8		30	31.5
C-0 sole	-		-		-	-
English sole	1		-		-	-
Rock sole	-		-		-	-
Dover sole	2		9		9	
Rex sole	-		-		1	
Starry flounder	-		-		-	
Spiny dogfish	1		-		-	
Pricklebacks	-		-		-	
Eelpouts	-	-	-		-	
Poachers	1	-	-		-	
Rockfishes	1	-	-		-	
Sand sole	-	-	-		-	
Dungeness crab	12	20.3	4		2	

Table 8.--Species composition for Cruise No. 6; Feb. 14, 1973

	HAUL # 1		HAUL # 2		HAUL # 3	
	LOCATION Area 2		LOCATION Area 2		LOCATION Area 2	
	TIME 15 min		TIME 15 min		TIME 15 min	
	DEPTH 110 m		DEPTH 110 m		DEPTH 110 m	
	TEMP. 9.3		TEMP. 9.3		TEMP. 9.3	
	SALINITY 29.0		SALINITY 29.0		SALINITY 29.0	
	WEATHER -		WEATHER -		WEATHER -	
Name of fish	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
Roaches						
Sablefish						
Ronquils						
Pacific sanddab						
Speckled sanddab						
Red brotula	-	-	-	-	-	-
Ratfish	61	59.8	13	23.6	10	
Pacific herring	-	-	-	-	-	-
Filamented sculpin	-	-	-	-	-	-
Buffalo sculpin	-	-	-	-	-	-
Staghorn sculpin						
Sailfin sculpin						
Grunt sculpin						
Lumpfish/Snailfish						
Surfperches						
Pacific hake	7		11	20.0	12	10.4
Pacific cod	-		-	-	-	
Pacific tomcod	2		2	-	-	
Painted greenling	-		-	-	-	
Surf smelt	-		-	-	-	
Gunnels	-	-	-	-	-	
Slender sole	25	24.5	26	47.2	86	74.7
C-0 sole	-	-	-	-	-	
English sole	1	-	-	-	-	
Rock sole	-	-	-	-	-	
Dover sole	2		1		-	
Rex sole	1		-		-	
Starry flounder	-	-	-		-	
Spiny dogfish	-		-		1	
Pricklebacks	1		2		4	
Eelpouts	-				-	
Poachers	-				-	
Rockfishes	1				-	
Sand sole	-				-	
Dungeness crab	1				2	

Table 10.--Species composition for Cruise No. 10; Mar. 13, 1973.

Name of fish	HAUL # <u>1</u>		HAUL # <u>2</u>		HAUL # <u>3</u>	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
	LOCATION <u>Area 1</u>		LOCATION <u>Area 1</u>		LOCATION <u>Area 1</u>	
	TIME <u>15 min</u>		TIME <u>15 min</u>		TIME <u>15 min.</u>	
	DEPTH <u>15 m</u>		DEPTH <u>15 m</u>		DEPTH <u>25 m</u>	
	TEMP. <u>-</u>		TEMP. <u>-</u>		TEMP. <u>-</u>	
	SALINITY <u>28.3</u>		SALINITY <u>28.3</u>		SALINITY <u>28.3</u>	
	WEATHER <u>Cl dy, Rny, Cl</u>		WEATHER <u>Cl dy, Rny, Cl</u>		WEATHER <u>Cl dy, Cl</u>	
Roaches			-		-	
Sablefish			-		-	
Ronquils			-		-	
Pacific sanddab			5		2	
Speckled sanddab			5		7	
Red brotula					-	
Ratfish					1	
Pacific herring					-	
Filamented sculpin					-	
Buffalo sculpin					-	
Staghorn sculpin			2		17	-
Sailfin sculpin			-		-	-
Grunt sculpin			-		-	-
Lumpfish/Snailfish			-		-	-
Surfperches			24	17.0	58	22.0
Pacific hake			-		1	
Pacific cod			-		10	
Pacific tomcod			-		-	
Painted greenling			-		-	
Surf smelt			1		-	
Gunnels	-	-	-	-	-	-
Slender sole	-	-	-	-	-	-
C-0 sole	-	-	-	-	1	-
English sole	5	31.2	60	42.5	121	46.0
Rock sole	4	25.0	13	-	14	-
Dover sole	-		-		2	
Rex sole	-		-		-	
Starry flounder	1		3		4	
Spiny dogfish	-		-		-	
Pricklebacks	-		-		-	
Eelpouts	-	-	-	-	2	
Poachers	-	-	-	-	1	
Rockfishes	-	-	7	-	7	
Sand sole	1	-	18	12.7	10	
Dungeness crab	5	31.2	3	-	5	

Table 11.--Species composition for Cruise No. 12; Mar. 27, 1973.

Name of fish	HAUL # <u>1</u>		HAUL # <u>2</u>		HAUL # <u>3</u>	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
	LOCATION <u>Area 2</u>		LOCATION <u>Area 2</u>		LOCATION <u>Area 2</u>	
	TIME <u>15 min</u>		TIME <u>15 min</u>		TIME <u>15 min</u>	
	DEPTH <u>110 m</u>		DEPTH <u>100 m</u>		DEPTH <u>100 m</u>	
	TEMP. <u>9.6</u>		TEMP. <u>9.6</u>		TEMP. <u>9.6</u>	
	SALINITY <u>29.5</u>		SALINITY <u>29.5</u>		SALINITY <u>29.5</u>	
	WEATHER <u>Cldy, Rny</u>		WEATHER <u>Cldy, Rny</u>		WEATHER <u>Cldy, Rny</u>	
Roaches					-	
Sablefish					1	
Ronquils					-	
Pacific sanddab					-	
Speckled sanddab					-	
Red brotula	-	-	-	-	-	-
Ratfish	33	56.8	8	13.3	20	21.0
Pacific herring	-	-	-	-	-	-
Filamented sculpin	-	-	-	-	-	-
Buffalo sculpin	-	-	-	-	-	-
Staghorn sculpin						
Sailfin sculpin						
Grunt sculpin						
Lumpfish/Snailfish						
Surfperches						
Pacific hake			1			
Pacific cod			-			
Pacific tomcod			-			
Painted greenling			-			
Surf smelt			-			
Gunnels	-	-	-	-	-	-
Slender sole	12	20.6	30	50.0	59	62.1
C-O sole	-	-	-	-	-	-
English sole	1	-	-	-	-	-
Rock sole	-	-	-	-	-	-
Dover sole	7	12.0	1		3	
Rex sole	-	-	-		-	
Starry flounder	-	-	-		-	
Spiny dogfish	-	-	-		-	
Pricklebacks	-	-	-		-	
Eelpouts	4		7	11.6	3	
Poachers	-		10	16.6	3	
Rockfishes	-		-	-	2	
Sand sole	-		-	-	-	
Dungeness crab	1		3	-	4	

Table 12.--Species composition for Cruise No. 14; Apr. 10, 1973

	HAUL # <u>1</u> LOCATION <u>Area 2</u> TIME <u>15 min</u> DEPTH <u>115 m</u> TEMP. <u>10.0</u> SALINITY <u>-</u> WEATHER <u>Cldy, Wm</u>		HAUL # <u>2</u> LOCATION <u>Area 1</u> TIME <u>15 min</u> DEPTH <u>30 m</u> TEMP. <u>10.0</u> SALINITY <u>-</u> WEATHER <u>Cldy, Wm</u>		HAUL # <u>3</u> LOCATION <u>Area 1</u> TIME <u>15 min</u> DEPTH <u>40 m</u> TEMP. <u>10.0</u> SALINITY <u>-</u> WEATHER <u>Cldy, Wm</u>	
Name of fish	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
Roaches			-		-	
Sablefish			-		-	
Ronquils			-		-	
Pacific sanddab			1		1	
Speckled sanddab			-		20	
Red brotula	-					
Ratfish	4					
Pacific herring	-					
Filamented sculpin	-					
Buffalo sculpin	-					
Staghorn sculpin					13	
Sailfin sculpin					-	
Grunt sculpin					-	
Lumpfish/Snailfish					-	
Surfperches					3	
Pacific hake	-					
Pacific cod	2					
Pacific tomcod	-					
Painted greenling	-					
Surf smelt	-					
Gunnels	-		-	-	3	-
Slender sole	-		-	-	-	-
C-0 sole	-		-	-	-	-
English sole	4		14	60.9	128	61.2
Rock sole	-		4	17.3	12	-
Dover sole	55	83.3	-		1	
Rex sole	-	-	-		1	
Starry flounder	-	-	1		-	
Spiny dogfish	-	-	-		-	
Pricklebacks	-	-	-		-	
Eelpouts	-		-		-	-
Poachers	-		-		2	-
Rockfishes	-		-		1	-
Sand sole	-		1		4	-
Dungeness crab	1		2		21	10.0

Table 14.--Species composition for Cruise No. 16; May 3, 1973.

	HAUL # 1		HAUL # 2		HAUL # 3	
	LOCATION	Area 2	LOCATION	Area 3	LOCATION	Area 2
	TIME	15 min	TIME	15 min	TIME	15 min
	DEPTH	100 m	DEPTH	42 m	DEPTH	100 m
	TEMP.	11.7	TEMP.	11.7	TEMP.	11.7
	SALINITY	29.5	SALINITY	29.5	SALINITY	29.5
	WEATHER	Cldy, cl	WEATHER	Cldy, Cl	WEATHER	Cldy, cl
Name of fish	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
Roaches			-			
Sablefish			-			
Ronquils			-			
Pacific sanddab			-			
Speckled sanddab			1			
Red brotula	-					
Ratfish	10					
Pacific herring	-					
Filamented sculpin	-					
Buffalo sculpin	-					
Staghorn sculpin			-	-		
Sailfin sculpin			-	-		
Grunt sculpin			-	-		
Lumpfish/Snailfish			-	-		
Surfperches			3	12.0		
Pacific hake	1					
Pacific cod	-					
Pacific tomcod	6					
Painted greenling	-					
Surf smelt	-					
Gunnels	-	-	-	-	-	-
Slender sole	9	-	1	4	4	40.0
C-O sole	-	-	-	-	-	-
English sole	125	71.8	3	12.0	-	-
Rock sole	-	-	13	52.0	-	-
Dover sole	17		-			
Rex sole	1		2			
Starry flounder	-		-			
Spiny dogfish	-		-			
Pricklebacks	-		-			
Belpouts	2		-		-	-
Poachers	1		-		2	20.0
Rockfishes	-		-		-	-
Sand sole	-		-		-	-
Dungeness crab	2		2		4	40.0

Table 15.--Species composition for Cruise No. 17; May 15, 1973.

Name of fish	HAUL # 1		HAUL # 2		HAUL # 3	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
Roaches					-	
Sablefish					-	
Ronquils					-	
Pacific sanddab					10	
Speckled sanddab					-	
Red brotula	-	-	-	-	-	
Ratfish	8	19.5	7	43.7	1	
Pacific herring	-	-	-	-	-	
Filamented sculpin	-	-	-	-	-	
Buffalo sculpin	-	-	-	-	-	
Staghorn sculpin					1	
Sailfin sculpin					-	
Grunt sculpin					-	
Lumpfish/Snailfish					-	
Surfperches					-	
Pacific hake						
Pacific cod						
Pacific tomcod						
Painted greenling						
Surf smelt						
Gunnels	-	-			-	-
Slender sole	8	19.5			-	-
C-O sole	-	-			-	-
English sole	12	29.2			42	30.0
Rock sole	-	-			83	59.2
Dover sole	5	12.1	4	25.0	1	
Rex sole	-	-	-	-	-	
Starry flounder	-	-	-	-	-	
Spiny dogfish	-	-	-	-	-	
Pricklebacks	-	-	-	-	-	
Eelpouts	2	-	2	12.5	-	
Poachers	1	-	1	-	-	
Rockfishes	-	-	-	-	-	
Sand sole	-	-	-	-	-	
Dungeness crab	6	12.1	2	12.5	2	

Table 16.--Species composition for Cruise No. 18; May 22, 1973

Name of fish	HAUL # 1		HAUL # 2		HAUL #	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
Roaches			-	-		
Sablefish			-	-		
Ronquils			-	-		
Pacific sanddab			10	14.4		
Speckled sanddab			-	-		
Red brotula	-	-	-	-		
Ratfish	31	24.2	5			
Pacific herring	-	-	-			
Filamented sculpin	-	-	-			
Buffalo sculpin	-	-	-			
Staghorn sculpin	1					
Sailfin sculpin	-					
Grunt sculpin	-					
Lumpfish/Snailfish	-					
Surfperches	-					
Pacific hake						
Pacific cod						
Pacific tomcod						
Painted greenling						
Surf smelt						
Gunnels	-	-	-	-		
Slender sole	8	-	-	-		
C-O sole	-	-	-	-		
English sole	50	39.0	8	11.5		
Rock sole	5	-	44	63.7		
Dover sole	12		2			
Rex sole	1		-			
Starry flounder	-		-			
Spiny dogfish	-		-			
Pricklebacks	-		-			
Eelpouts	1	-				
Poachers	3	-				
Rockfishes	1	-				
Sand sole	1	-				
Dungeness crab	14	10.9				

Table 17.--Species composition for Cruise No. 19; May 30, 1973

Name of fish	HAUL # <u>1</u>		HAUL # _____		HAUL # _____	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
Roaches	-					
Sablefish	-					
Ronquils	-					
Pacific sanddab	1					
Speckled sanddab	1					
Red brotula	-					
Ratfish	1					
Pacific herring	-					
Filamented sculpin	-					
Buffalo sculpin	2					
Staghorn sculpin						
Sailfin sculpin						
Grunt sculpin						
Lumpfish/Snailfish						
Surfperches						
Pacific hake						
Pacific cod						
Pacific tomcod						
Painted greenling						
Surf smelt						
Gunnels	-	-				
Slender sole	1	-				
C-O sole	1	-				
English sole	20	17.2				
Rock sole	82	70.6				
Dover sole						
Rex sole						
Starry flounder						
Spiny dogfish						
Pricklebacks						
Eelpouts	-					
Poachers	-					
Rockfishes	-					
Sand sole	-					
Dungeness crab	9					

Table 18.--Species composition for Cruise No. 20; June 5, 1973.

Name of fish	HAUL # 1		HAUL # 2		HAUL #	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
Roaches			-			
Sablefish			-			
Ronquils			-			
Pacific sanddab			11			
Speckled sanddab			3			
Red brotula	-	-	-			
Ratfish	28	75.6	-			
Pacific herring	-	-	-			
Filamented sculpin	-	-	-			
Buffalo sculpin	-	-	1			
Staghorn sculpin	-					
Sailfin sculpin	-					
Grunt sculpin	-					
Lumpfish/Snailfish	1					
Surfperches	-					
Pacific hake						
Pacific cod						
Pacific tomcod						
Painted greenling						
Surf smelt						
Gunnels	-		-	-		
Slender sole	11		-	-		
C-O sole	-		-	-		
English sole	-		44	42.7		
Rock sole	-		50	48.5		
Dover sole	1					
Rex sole	-					
Starry flounder	-					
Spiny dogfish	-					
Pricklebacks	-					
Eelpouts	-	-	-			
Poachers	1	-	-			
Rockfishes	-	-	1			
Sand sole	-	-	-			
Dungeness crab	4	10.8	2			

Table 19.--Species composition for Cruise No. 21; July 10, 1973

Name of fish	HAUL # <u>1</u>		HAUL # <u>2</u>		HAUL # <u>3</u>	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
	LOCATION <u>Area 2</u>		LOCATION <u>Area 4</u>		LOCATION <u>Area 4</u>	
	TIME <u>15 min</u>		TIME <u>15 min</u>		TIME <u>15 min</u>	
	DEPTH <u>100 m</u>		DEPTH <u>25 m</u>		DEPTH <u>20 m</u>	
	TEMP. <u>14.3</u>		TEMP. <u>14.3</u>		TEMP. <u>14.3</u>	
	SALINITY <u>26.2</u>		SALINITY <u>26.2</u>		SALINITY <u>26.2</u>	
	WEATHER <u>-</u>		WEATHER <u>-</u>		WEATHER <u>-</u>	
Roaches			-		-	
Sablefish			-		-	
Ronquils			-		-	
Pacific sanddab			2		3	
Speckled sanddab			2		-	
Red brotula	-				-	
Ratfish	2				1	
Pacific herring	-				-	
Filamented sculpin	-				-	
Buffalo sculpin	1				-	
Staghorn sculpin						
Sailfin sculpin						
Grunt sculpin						
Lumpfish/Snailfish						
Surfperches						
Pacific hake	1		1			
Pacific cod	-		-			
Pacific tomcod	-		-			
Painted greenling	-		-			
Surf smelt	-		-			
Gunnels	-	-	-	-	-	-
Slender sole	12	48.0	-	-	-	-
C-O sole	-	-	-	-	-	-
English sole	-	-	19	36.5	14	18.1
Rock sole	-	-	27	51.9	46	59.7
Dover sole			-		11	
Rex sole			-		-	
Starry flounder			-		-	
Spiny dogfish			-		-	
Pricklebacks			-		-	
Eelpouts	6	24.0	-		-	
Poachers	2	-	-		-	
Rockfishes	-	-	-		-	
Sand sole	-	-	-		-	
Dungeness crab	1	-	1		3	

Table 20.--Species composition for Cruise No. 22; July 24, 1973.

Name of fish	HAUL # <u>1</u> LOCATION <u>Area 1</u> TIME <u>15 min</u> DEPTH <u>25 m</u> TEMP. <u>14.4</u> SALINITY <u>30.3</u> WEATHER <u>Cl, Wm</u>		HAUL # <u>2</u> LOCATION <u>Area 1</u> TIME <u>15 min</u> DEPTH <u>13 m</u> TEMP. <u>14.4</u> SALINITY <u>30.3</u> WEATHER <u>Cl, Wm</u>		HAUL # <u>3</u> LOCATION <u>Area 2</u> TIME <u>15 min</u> DEPTH <u>100 m</u> TEMP. <u>14.4</u> SALINITY <u>30.3</u> WEATHER <u>Cl, Wm</u>	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
Roaches	-	-	-	-	-	-
Sablefish	-	-	-	-	-	-
Ronquils	-	-	-	-	-	-
Pacific sanddab	9	13.8	9	-	-	-
Speckled sanddab	4	-	21	14.6	-	-
Red brotula	-	-	-	-	-	-
Ratfish	1	-	-	-	4	12.5
Pacific herring	-	-	-	-	-	-
Filamented sculpin	-	-	-	-	-	-
Buffalo sculpin	1	-	2	-	-	-
Staghorn sculpin	1	-	4	-	-	-
Sailfin sculpin	-	-	-	-	-	-
Grunt sculpin	-	-	-	-	-	-
Lumpfish/Snailfish	-	-	-	-	-	-
Surfperches	-	-	-	-	-	-
Pacific hake	-	-	-	-	4	12.5
Pacific cod	-	-	-	-	-	-
Pacific tomcod	-	-	-	-	-	-
Painted greenling	-	-	-	-	-	-
Surf smelt	-	-	-	-	-	-
Gunnels	-	-	-	-	-	-
Slender sole	-	-	-	-	-	-
C-0 sole	-	-	-	-	-	-
English sole	28	43.0	29	20.2	9	28.1
Rock sole	4	-	26	18.1	-	-
Dover sole	-	-	-	-	5	15.6
Rex sole	-	-	-	-	-	-
Starry flounder	2	-	5	-	-	-
Spiny dogfish	-	-	-	-	-	-
Pricklebacks	-	-	-	-	-	-
Eelpouts	-	-	-	-	-	-
Poachers	-	-	-	-	3	-
Rockfishes	-	-	-	-	-	-
Sand sole	12	18.4	25	17.4	-	-
Dungeness crab	3	-	22	15.3	7	21.8

Table 21.--Species composition for Cruise No. 23; Aug. 1, 1973

Name of fish	HAUL # <u>1</u>		HAUL # <u>2</u>		HAUL # _____	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
	LOCATION <u>Area 1</u>		LOCATION <u>Area 1</u>		LOCATION _____	
	TIME <u>15 min</u>		TIME <u>15 min</u>		TIME _____	
	DEPTH <u>10 m</u>		DEPTH <u>10 m</u>		DEPTH _____	
	TEMP. <u>16.6</u>		TEMP. <u>16.6</u>		TEMP. _____	
	SALINITY <u>29.5</u>		SALINITY <u>29.5</u>		SALINITY _____	
	WEATHER <u>Cldy, Wm</u>		WEATHER <u>Cldy, Wm</u>		WEATHER _____	
Roaches	-	-	-	-		
Sablefish	-	-	-	-		
Ronquils	-	-	-	-		
Pacific sanddab	13	-	15	-		
Speckled sanddab	21	16.0	21	10.7		
Red brotula	-		-			
Ratfish	-		-			
Pacific herring	-		-			
Filamented sculpin	-		-			
Buffalo sculpin	1		4			
Staghorn sculpin	8		9			
Sailfin sculpin	-		-			
Grunt sculpin	-		-			
Lumpfish/Snailfish	-		-			
Surfperches	-		-			
Pacific hake						
Pacific cod						
Pacific tomcod						
Painted greenling						
Surf smelt						
Gunnels	-	-	-	-		
Slender sole	1	-	-	-		
C-O sole	-	-	-	-		
English sole	35	26.7	62	31.7		
Rock sole	17	12.9	23	11.7		
Dover sole	1		1			
Rex sole	-		-			
Starry flounder	9		11			
Spiny dogfish	-		-			
Pricklebacks	-		-			
Eelpouts	-	-	-	-		
Poachers	-	-	-	-		
Rockfishes	-	-	-	-		
Sand sole	8	-	35	17.9		
Dungeness crab	17	12.9	14	-		

Table 22.--Species composition for Cruise No. 24; Aug. 7, 1973.

Name of fish	HAUL # <u>1</u>		HAUL # _____		HAUL # _____	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
Roaches	-					
Sablefish	-					
Ronquils	-					
Pacific sanddab	6					
Speckled sanddab	-					
Red brotula	-					
Ratfish	1					
Pacific herring	-					
Filamented sculpin	-					
Buffalo sculpin	-					
Staghorn sculpin						
Sailfin sculpin						
Grunt sculpin						
Lumpfish/Snailfish						
Surfperches						
Pacific hake						
Pacific cod						
Pacific tomcod						
Painted greenling						
Surf smelt						
Gunnels	-	-				
Slender sole	50	39.3				
C-O sole	-	-				
English sole	33	25.9				
Rock sole	30	23.6				
Dover sole	6					
Rex sole	-					
Starry flounder	-					
Spiny dogfish	-					
Pricklebacks	1					
Eelpouts						
Poachers						
Rockfishes						
Sand sole						
Dungeness crab						

Table 24.--Species composition for Cruise No. 26; Sept. 19, 1973

Name of fish	HAUL # 1		HAUL #		HAUL #	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
Roaches	-					
Sablefish	-					
Ronquils	-					
Pacific sanddab	4					
Speckled sanddab	-					
Red brotula						
Ratfish						
Pacific herring						
Filamented sculpin						
Buffalo sculpin						
Staghorn sculpin						
Sailfin sculpin						
Grunt sculpin						
Lumpfish/Snailfish						
Surfperches						
Pacific hake	-					
Pacific cod	-					
Pacific tomcod	1					
Painted greenling	-					
Surf smelt	-					
Gunnels	-	-				
Slender sole	61	45.8				
C-0 sole	-	-				
English sole	13	-				
Rock sole	47	35.3				
Dover sole	-					
Rex sole	1					
Starry flounder	-					
Spiny dogfish	-					
Pricklebacks	-					
Eelpouts	-					
Poachers	2					
Rockfishes	-					
Sand sole	-					
Dungeness crab	4					

Table 25.--Species composition for Cruise No. 27; Sept. 26, 1973.

Name of fish	HAUL # 1		HAUL #		HAUL #	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
Roaches	-					
Sablefish	-					
Ronquils	-					
Pacific sanddab	2					
Speckled sanddab	8					
Red brotula						
Ratfish						
Pacific herring						
Filamented sculpin						
Buffalo sculpin						
Staghorn sculpin	3					
Sailfin sculpin	-					
Grunt sculpin	-					
Lumpfish/Snailfish	-					
Surfperches	2					
Pacific hake	-					
Pacific cod	-					
Pacific tomcod	6					
Painted greenling	-					
Surf smelt	-					
Gunnels	-	-				
Slender sole	2	-				
C-0 sole	-	-				
English sole	81	56.2				
Rock sole	19	13.1				
Dover sole	-	-				
Rex sole	-	-				
Starry flounder	2	-				
Spiny dogfish	-	-				
Pricklebacks	-	-				
Eelpouts	-	-				
Poachers	-	-				
Rockfishes	-	-				
Sand sole	19	13.1				
Dungeness crab	-	-				

Table 26.--Species composition for Cruise No. 28; Oct. 2, 1973

Name of fish	No. of fish		Percentage of catch		No. of fish	Percentage of catch	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch		No. of fish	Percentage of catch
Roaches	-						
Sablefish	-						
Ronquils	-						
Pacific sanddab	2						
Speckled sanddab	4						
Red brotula							
Ratfish							
Pacific herring							
Filamented sculpin							
Buffalo sculpin							
Staghorn sculpin	9	-					
Sailfin sculpin	-	-					
Grunt sculpin	-	-					
Lumpfish/Snailfish	-	-					
Surfperches	13	13.4					
Pacific hake							
Pacific cod							
Pacific tomcod							
Painted greenling							
Surf smelt							
Gunnels	-	-					
Slender sole	2	-					
C-O sole	-	-					
English sole	17	17.5					
Rock sole	15	15.4					
Dover sole	-	-					
Rex sole	-	-					
Starry flounder	1	-					
Spiny dogfish	-	-					
Pricklebacks	-	-					
Eelpouts	-	-					
Poachers	-	-					
Rockfishes	7	-					
Sand sole	25	25.7					
Dungeness crab	4	-					

Table 27.--Species composition for Cruise No. 29; Oct. 16, 1973

Name of fish	HAUL # <u>1</u>		HAUL # <u>2</u>		HAUL # _____	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
Roaches						
Sablefish						
Ronquils						
Pacific sanddab						
Speckled sanddab						
Red brotula			-	-		
Ratfish			11	64.7		
Pacific herring			-	-		
Filamented sculpin			-	-		
Buffalo sculpin			-	-		
Staghorn sculpin	9					
Sailfin sculpin	-					
Grunt sculpin	-					
Lumpfish/Snailfish	-					
Surfperches	-					
Pacific hake						
Pacific cod						
Pacific tomcod						
Painted greenling						
Surf smelt						
Gunnels	-		-	-		
Slender sole	-		5	29.4		
C-0 sole	-		-	-		
English sole	92	81.4	-	-		
Rock sole	6		-	-		
Dover sole						
Rex sole						
Starry flounder						
Spiny dogfish						
Pricklebacks						
Eelpouts	-		-			
Poachers	-		-			
Rockfishes	-		-			
Sand sole	2		-			
Dungeness crab	4		1			

Table 28.--Species composition for Cruise No. 30; Oct. 30, 1973

Name of fish	HAUL # <u>1</u>		HAUL # <u>2</u>		HAUL # _____	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
	LOCATION <u>Area 5</u>		LOCATION <u>Area 4</u>		LOCATION _____	
	TIME <u>15 min</u>		TIME <u>15 min.</u>		TIME _____	
	DEPTH <u>36 m</u>		DEPTH <u>16 m</u>		DEPTH _____	
	TEMP. <u>13.5</u>		TEMP. <u>13.5</u>		TEMP. _____	
	SALINITY <u>29.5</u>		SALINITY <u>29.5</u>		SALINITY _____	
	WEATHER <u>Cl dy, Cl, Rny</u>		WEATHER <u>Cl dy, Cl, Rny</u>		WEATHER _____	
Roaches						
Sablefish						
Ronquils						
Pacific sanddab						
Speckled sanddab						
Red brotula						
Ratfish						
Pacific herring						
Filamented sculpin						
Buffalo sculpin						
Staghorn sculpin	31	20.1	9	10.2		
Sailfin sculpin	-	-	-	-		
Grunt sculpin	-	-	-	-		
Lumpfish/Snailfish	-	-	-	-		
Surfperches	-	-	1	-		
Pacific hake	-		-			
Pacific cod	1		-			
Pacific tomcod	11		1			
Painted greenling	-		-			
Surf smelt	-		-			
Gunnels	-	-	-	-		
Slender sole	18	11.6	-	-		
C-0 sole	-	-	-	1		
English sole	26	16.8	18	20.4		
Rock sole	-	-	55	62.5		
Dover sole	9					
Rex sole	-					
Starry flounder	-					
Spiny dogfish	-					
Pricklebacks	-					
Eelpouts	45	29.2	-			
Poachers	5	-	3			
Rockfishes	2	-	-			
Sand sole	-	-	-			
Dungeness crab	6	-	-			

Table 29.--Species composition for Cruise No. 31; Nov. 13, 1973

Name of fish	HAUL # <u>1</u>		HAUL # <u>2</u>		HAUL # _____	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
	LOCATION <u>Area 1</u>		LOCATION <u>Area 1</u>		LOCATION _____	
	TIME <u>10 min</u>		TIME <u>15 min</u>		TIME _____	
	DEPTH <u>10 m</u>		DEPTH <u>16 m</u>		DEPTH _____	
	TEMP. <u>12.8</u>		TEMP. <u>12.8</u>		TEMP. _____	
	SALINITY <u>29.5</u>		SALINITY <u>29.5</u>		SALINITY _____	
	WEATHER <u>Cldy, Cl</u>		WEATHER <u>Cldy, Cl</u>		WEATHER _____	
Roaches	-		-	-		
Sablefish	-		-	-		
Ronquils	-		1	-		
Pacific sanddab	3		1	-		
Speckled sanddab	2		10	21.7		
Red brotula						
Ratfish						
Pacific herring						
Filamented sculpin						
Buffalo sculpin						
Staghorn sculpin	41		2			
Sailfin sculpin	-		-			
Grunt sculpin	-		-			
Lumpfish/Snailfish	-		-			
Surfperches	5		1			
Pacific hake	-					
Pacific cod	-					
Pacific tomcod	4					
Painted greenling	-					
Surf smelt	-					
Gunnels	-		-	-		
Slender sole	2		1	-		
C-O sole	-		-	-		
English sole	493	82.8	15	32.6		
Rock sole	17		12	26.0		
Dover sole						
Rex sole						
Starry flounder						
Spiny dogfish						
Pricklebacks						
Belpouts	-		-			
Poachers	-		-			
Rockfishes	-		1			
Sand sole	26		2			
Dungeness crab	2		-			

Table 30.--Species composition for Cruise No. 32; Nov. 20, 1973

Name of fish	HAUL # <u>1</u>		HAUL # _____		HAUL # _____	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
Roaches						
Sablefish						
Ronquils						
Pacific sanddab						
Speckled sanddab						
Red brotula	-	-				
Ratfish	26	47.2				
Pacific herring	-	-				
Filamented sculpin	-	-				
Buffalo sculpin	-	-				
Staghorn sculpin						
Sailfin sculpin						
Grunt sculpin						
Lumpfish/Snailfish						
Surfperches						
Pacific hake						
Pacific cod						
Pacific tomcod						
Painted greenling						
Surf smelt						
Gunnels	-	-				
Slender sole	12	23.0				
C-O sole	-	-				
English sole	1	-				
Rock sole	-	-				
Dover sole	2					
Rex sole	1					
Starry flounder	-					
Spiny dogfish	-					
Pricklebacks	-					
Eelpouts	9	17.3				
Poachers	2	-				
Rockfishes	-	-				
Sand sole	-	-				
Dungeness crab	2	-				

Table 32. -- Species composition for Cruise No. 34; December 12, 1973

Name of fish	HAUL # <u>1</u>		HAUL # <u>2</u>		HAUL # _____	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
Roaches			-			
Sablefish			-			
Ronquils			1			
Pacific sanddab			-			
Speckled sanddab			-			
Red brotula			-			
Ratfish			16	23.5		
Pacific herring			-			
Filamented sculpin			-			
Buffalo sculpin			-			
Staghorn sculpin	1		-			
Sailfin sculpin	-		1			
Grunt sculpin	-		-			
Lumpfish/Snailfish	-		-			
Surfperches	-		2			
Pacific hake	1					
Pacific cod	-					
Pacific tomcod	-					
Painted greenling	-					
Surf smelt	-					
Gunnels	-	-	-	-		
Slender sole	11	-	1	-		
C-O sole	-	-	-	-		
English sole	17	41.4	5	-		
Rock sole	-	-	30	44.1		
Dover sole	5	12.1				
Rex sole	4	-				
Starry flounder	-	-				
Spiny dogfish	-	-				
Pricklebacks	-	-				
Eelpouts	2	-	1	-		
Poachers	4	-	10	14.7		
Rockfishes	-	-	-	-		
Sand sole	-	-	-	-		
Dungeness crab	5	12.1	1	-		

Table 33. -- Species composition for Cruise No. 1; Jan. 31, 1974

Name of fish	HAUL # <u>1</u>		HAUL # <u>2</u>		HAUL # _____	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
Roaches						
Sablefish						
Ronquils						
Pacific sanddab						
Speckled sanddab						
Red brotula	-	-	-	-		
Ratfish	6	30	50	48.0		
Pacific herring	-	-	-	-		
Filamented sculpin	-	-	-	-		
Buffalo sculpin	-	-	-	-		
Staghorn sculpin			1			
Sailfin sculpin			-			
Grunt sculpin			-			
Lumpfish/Snailfish			-			
Surfperches			-			
Pacific hake	11	55	3			
Pacific cod	-	-	-			
Pacific tomcod	-	-	-			
Painted greenling	-	-	-			
Surf smelt	-	-	-			
Gunnels	-	-	-			
Slender sole	2	10	6			
C-O sole	-	-	-			
English sole	-	-	7			
Rock sole	-	-	2			
Dover sole			2			
Rex sole			4			
Starry flounder			1			
Spiny dogfish			4			
Pricklebacks			-			
Eelpouts	-		4	-		
Poacher	1		6	-		
Rockfish	-		-	-		
Sandsole	-		-	-		
Dungeness crab	-		14	13.4		

Table 34. -- Species composition for Cruise No. 2, Feb. 8, 1974

Name of fish	HAUL # 1		HAUL # 2		HAUL # 3	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
Roaches						
Sablefish						
Ronquils						
Pacific sanddab						
Speckled sanddab						
Red brotula					-	
Ratfish					9	
Pacific herring					-	
Filamented sculpin					-	
Buffalo sculpin					-	
Staghorn sculpin						
Sailfin sculpin						
Grunt sculpin						
Lumpfish/Snailfish						
Surfperches						
Pacific hake	3	100	6	85.7	11	
Pacific cod	-	-	-	-	-	
Pacific tomcod	-	-	-	-	-	
Painted greenling	-	-	-	-	-	
Surf smelt	-	-	-	-	-	
Gunnels					-	
Slender sole					19	
C-O sole					-	
English sole					-	
Rock sole					-	
Dover sole					2	
Rex sole					-	
Starry flounder					-	
Spiny dogfish					-	
Pricklebacks					-	
Eelpouts			-	-	126	65.6
Poacher			1	14.2	10	-
Rockfish			-	-	-	-
Sandsole			-	-	-	-
Dungeness crab			-	-	15	-

Table 35. -- Species composition for Cruise No. 3, Feb. 20, 1974

Name of fish	No. of fish		Percentage of catch		No. of fish	Percentage of catch	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch		No. of fish	Percentage of catch
Roaches							
Sablefish							
Ronquils							
Pacific sanddab							
Speckled sanddab							
Red brotula	-	-					
Ratfish	50	34.9					
Pacific herring	-	-					
Filamented sculpin	-	-					
Buffalo sculpin	-	-					
Staghorn sculpin							
Sailfin sculpin							
Grunt sculpin							
Lumpfish/Snailfish							
Surfperches							
Pacific hake	5						
Pacific cod	-						
Pacific tomcod	2						
Painted greenling	-						
Surf smelt	-						
Gunnels	-						
Slender sole	-						
C-O sole	-						
English sole	7						
Rock sole	-						
Dover sole	7						
Rex sole	3						
Starry flounder	-						
Spiny dogfish	-						
Pricklebacks	-						
Eelipouts	19	13.2					
Poacher	11	-					
Rockfish	-	-					
Sandsole	26	18.1					
Dungeness crab	13	-					

Table 36. -- Species composition for Cruise No. 4, Feb. 26, 1974

Name of fish	HAUL # 1		HAUL # 2		HAUL # 3	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
	HAUL # 1 LOCATION 3 TIME 15 min DEPTH 35 m TEMP. 8.0 SALINITY 27.5 WEATHER Cl dy, Cl		HAUL # 2 LOCATION 3 TIME 15 min DEPTH 35 m TEMP. 8.0 SALINITY 27.5 WEATHER Same		HAUL # 3 LOCATION 4 TIME 10 min DEPTH 53 m TEMP. 8.0 SALINITY 27.5 WEATHER Same	
Roaches	-					
Sablefish	-					
Ronquils	1					
Pacific sanddab	3					
Speckled sanddab	-					
Red brotula					-	-
Ratfish					16	23.6
Pacific herring					-	-
Filamented sculpin					-	-
Buffalo sculpin					5	-
Staghorn sculpin						
Sailfin sculpin						
Grunt sculpin						
Lumpfish/Snailfish						
Surfperches						
Pacific hake					-	
Pacific cod					-	
Pacific tomcod					3	
Painted greenling					-	
Surf smelt					-	
Gunnels	-	-	-	-	-	-
Slender sole	-	-	-	-	-	-
C-0 sole	-	-	-	-	-	-
English sole	18	20.9	10	13.5	10	14.4
Rock sole	57	66.2	48	64.8	1	-
Dover sole	1				2	
Rex sole	-				1	
Starry flounder	-				-	
Spiny dogfish	-				-	
Pricklebacks	-				-	
Eelpouts	-		-	-	8	11.5
Poacher	2		1	-	3	-
Rockfish	-		-	-	-	-
Sandsole	-		11	14.8	11	15.9
Dungeness crab	4		4	-	9	13.0

Table 37. -- Species composition for Cruise No. 5, April 2, 1974

Name of fish	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
	Roaches					
Sablefish						
Ronquils						
Pacific sanddab						
Speckled sanddab						
Red brotula	-	-				
Ratfish	32	11.9				
Pacific herring	-	-				
Filamented sculpin	-	-				
Buffalo sculpin	-	-				
Staghorn sculpin	21					
Sailfin sculpin	-					
Grunt sculpin	-					
Lumpfish/Snailfish	↓					
Surfperches	1					
Pacific hake	-					
Pacific cod	18					
Pacific tomcod	-					
Painted greenling	-					
Surf smelt	-					
Gunnels	-	-				
Slender sole	7	-				
C-O sole	-	-				
English sole	48	17.8				
Rock sole	1	-				
Dover sole	6					
Rex sole	3					
Starry flounder	-					
Spiny dogfish	-					
Pricklebacks	-					
Eelpouts	66	24.5				
Poacher	49	18.2				
Rockfish	1	-				
Sandsole	-	-				
Dungeness crab	16	↓				

Table 38 -- Species composition for Cruise No. 6; April 16, 1974

Name of fish	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
	Roaches	-	-			
Sablefish	-	-				
Ronquils	-	-				
Pacific sanddab	18					
Speckled sanddab	8					
Red brotula	-	-				
Ratfish	72	11.3				
Pacific herring	-	-				
Filamented sculpin	-	-				
Buffalo sculpin	-	-				
Staghorn sculpin	42	-				
Sailfin sculpin	-	-				
Grunt sculpin	-	-				
Lumpfish/Snailfish	-	-				
Surfperches	137	21.6				
Pacific hake	-	-				
Pacific cod	28					
Pacific tomcod	3					
Painted greenling	-	-				
Surf smelt	-	-				
Gunnels	-	-				
Slender sole	-	-				
C-O sole	-	-				
English sole	148	23.3				
Rock sole	62	-				
Dover sole	8					
Rex sole	2					
Starry flounder	4					
Spiny dogfish	-	-				
Pricklebacks	-	-				
Eelpouts	-	-				
Poacher	30					
Rockfish	9					
Sandsole	12					
Dungeness crab	50					

Table 40. -- Species composition for Cruise No. 8; April 30, 1974

Name of fish	HAUL # 1		HAUL # 2		HAUL # 3	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
Roaches					-	-
Sablefish					-	-
Ronquils					4	14.2
Pacific sanddab					-	-
Speckled sanddab					-	-
Red brotula	-	-	-	-	-	-
Ratfish	55	41.6	1	14.2	1	-
Pacific herring	-	-	-	-	-	-
Filamented sculpin	-	-	-	-	-	-
Buffalo sculpin	-	-	-	-	-	-
Staghorn sculpin					2	-
Sailfin sculpin					-	-
Grunt sculpin					-	-
Lumpfish/Snailfish					-	-
Surfperches					1	-
Pacific hake	-	-				
Pacific cod	1	-				
Pacific tomcod	-	-				
Painted greenling	-	-				
Surf smelt	-	-				
Gunnels	-	-	-	-	-	-
Slender sole	12	-	-	-	-	-
C-O sole	-	-	-	-	-	-
English sole	14	10.6	-	-	-	-
Rock sole	-	-	3	42.8	16	57.1
Dover sole	33	25.0	1	14.2		
Rex sole	-	-	-	-	-	-
Starry flounder	-	-	-	-	-	-
Spiny dogfish	-	-	-	-	-	-
Pricklebacks	-	-	-	-	-	-
Eelpouts	-	-	-	-	-	-
Poachers	-	-	-	-	1	-
Rockfish	-	-	-	-	-	-
Sandsole	-	-	-	-	-	-
Dungeness crab	17	12.8	2	28.5	3	10.7

Table 41 -- Species Composition for Cruise No. 9; May 21, 1974

Name of fish	HAUL # 1		HAUL # 2		HAUL # 3	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
Roaches					-	
Sablefish					-	
Ronquils					-	
Pacific sanddab					1	
Speckled sanddab					-	
Red brotula					-	
Ratfish					4	
Pacific herring					-	
Filamented sculpin					-	
Buffalo sculpin					-	
Staghorn sculpin					2	
Sailfin sculpin					-	
Grunt sculpin					-	
Lumpfish/Snailfish					-	
Surfperches					12	
Pacific hake	-	-	1			
Pacific cod	-	-	-			
Pacific tomcod	-	-	-			
Painted greenling	1	11.1	-			
Surf smelt	-	-	-			
Gunnels	-	-	-		-	-
Slender sole	5	55.5	2		21	-
C-O sole	-	-	-		-	-
English sole	-	-	-		164	71.0
Rock sole	-	-	-		9	-
Dover sole					7	
Rex sole					-	
Starry flounder					-	
Spiny dogfish,					-	
Pricklebacks					-	
Eelpouts	1	11.1	-	-	-	
Poacher	2	22.2	26	89.6	2	
Rockfish	-	-	-	-	-	
Sandsole	-	-	-	-	-	
Dungeness crab	-	-			9	

Table 42. -- Species composition for Cruise No. 10; May 29, 1974

Name of fish	HAUL # 1		HAUL # 2		HAUL #	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
Roaches	-		-			
Sablefish	-		-			
Ronquils	-		-			
Pacific sanddab	-		7			
Speckled sanddab	1		9			
Red brotula	-					
Ratfish	9					
Pacific herring	-					
Filamented sculpin	-					
Buffalo sculpin	-					
Staghorn sculpin	3					
Sailfin sculpin	-					
Grunt sculpin	-					
Lumpfish/Snailfish	-					
Surfperches	-					
Pacific hake	-	-				
Pacific cod	29	16.2				
Pacific tomcod	-	-				
Painted greenling	-	-				
Surf smelt	-	-				
Gunnels	-	-	-	-		
Slender sole	17	-	-	-		
C-O sole	-	-	2	-		
English sole	75	41.9	38	41.3		
Rock sole	6	-	31	31.6		
Dover sole	7					
Rex sole	1					
Starry flounder	-					
Spiny dogfish	-					
Pricklebacks	-					
Eelpouts	-		-			
Poacher	13		-			
Rockfish	3		-			
Sandsole	4		2			
Dungeness crab	11		3			

Table 43. -- Species composition for Cruise No. 11; June 4, 1974

Name of fish	HAUL # 1		HAUL # _____		HAUL # _____	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
Roaches	-					
Sablefish	-					
Ronquils	-					
Pacific sanddab	1					
Speckled sanddab	-					
Red brotula						
Ratfish						
Pacific herring						
Filamented sculpin						
Buffalo sculpin						
Staghorn sculpin	3					
Sailfin sculpin	-					
Grunt sculpin	-					
Lumpfish/Snailfish	-					
Surfperches	2					
Pacific hake	1					
Pacific cod	5					
Pacific tomcod	-					
Painted greenling	-					
Surf smelt	-					
Gunnels	-	-				
Slender sole	21	11.2				
C-O sole	-	-				
English sole	85	45.7				
Rock sole	16	-				
Dover sole	12					
Rex sole	3					
Starry flounder	-					
Spiny dogfish	-					
Pricklebacks	-					
Eelpouts	-					
Poacher	18					
Rockfish	4					
Sandsole	3					
Dungeness crab	12					

Table 44. -- Species composition for Cruise No. 12; July 16, 1974

Name of fish	HAUL # 1		HAUL # 2		HAUL # 3	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
Roaches			-			
Sablefish			1			
Ronquils			-			
Pacific sanddab			-			
Speckled sanddab			-			
Red brotula	-	-	-	-	-	-
Ratfish	51	24.5	19	22.6	22	17.0
Pacific herring	-	-	-	-	-	-
Filamented sculpin	-	-	-	-	-	-
Buffalo sculpin	-	-	1	-	1	-
Staghorn sculpin						
Sailfin sculpin						
Grunt sculpin						
Lumpfish/Snailfish						
Surfperches						
Pacific hake						
Pacific cod						
Pacific tomcod						
Painted greenling						
Surf smelt						
Gunnels	-	-	-	-	-	-
Slender sole	50	24.0	16	19.0	36	28.0
C-O sole	-	-	-	-	-	-
English sole	15	-	-	-	27	21.0
Rock sole	-	-	-	-	32	25.0
Dover sole	2				3	
Rex sole	6				-	
Starry flounder	-				-	
Spiny dogfish	-				-	
Pricklebacks	-				-	
Eelpouts	39	18.7	-	-	-	
Poacher	10	-	3	-	9	
Rockfish	1	-	-	-	-	
Sandsole	-	-	-	-	-	
Dungeness crab	34	16.3	43	51.1	-	

Table 45. -- Species composition for Cruise No. 13, July 24, 1974

Name of fish	HAUL # 1		HAUL # 2		HAUL #	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
Roaches	-	-	-	-		
Sablefish	-	-	-	-		
Ronquils	-	-	-	-		
Pacific sanddab	7	10.9	3			
Speckled sanddab	-	-	1			
Red brotula	-					
Ratfish	-					
Pacific herring	-					
Filamented sculpin	-					
Buffalo sculpin	1					
Staghorn sculpin			1			
Sailfin sculpin			-			
Grunt sculpin			-			
Lumpfish/Snailfish			-			
Surfperches			-			
Pacific hake						
Pacific cod						
Pacific tomcod						
Painted greenling						
Surf smelt						
Gunnels	-	-	-	-		
Slender sole	-	-	10	-		
C-O sole	-	-	-	-		
English sole	26	40.6	52	37.4		
Rock sole	22	34.3	25	17.9		
Dover sole	4		6			
Rex sole	-		-			
Starry flounder	-		1			
Spiny dogfish	-		-			
Pricklebacks	-		-			
Eelpouts	-		-	-		
Poacher	1		1	-		
Rockfish	-		-	-		
Sandsole	-		13	-		
Dungeness crab	2		25	17.9		

Table 46. -- Species composition for Cruise No. 14; August 6, 1974

Name of fish	HAUL # 1		HAUL # 2		HAUL #	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
Roaches						
Sablefish						
Ronquils						
Pacific sanddab						
Speckled sanddab						
Red brotula	-	-				
Ratfish	4	66.6				
Pacific herring	-	-				
Filamented sculpin	-	-				
Buffalo sculpin	-	-				
Staghorn sculpin						
Sailfin sculpin						
Grunt sculpin						
Lumpfish/Snailfish						
Surfperches						
Pacific hake						
Pacific cod						
Pacific tomcod						
Painted greenling						
Surf smelt						
Gunnels	-	-	-	-		
Slender sole	1	16.6	3	60.0		
C-O sole	-	-	-	-		
English sole	-	-	-	-		
Rock sole	-	-	-	-		
Dover sole			-	-		
Rex sole			-	-		
Starry flounder			-	-		
Spiny dogfish			2	40.0		
Pricklebacks			-	-		
Eelpouts	-	-				
Poacher	-	-				
Rockfish	-	-				
Sandsole	-	-				
Dungeness crab	1	16.6				

Table 47. -- Species composition for Cruise No. 15; September 10, 1974

Name of fish	HAUL # 1		HAUL # 2		HAUL #	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
Roaches			-			
Sablefish			-			
Ronquils			-			
Pacific sanddab			2			
Speckled sanddab			1			
Red brotula	-	-				
Ratfish	31	31.9				
Pacific herring	-	-				
Filamented sculpin	-	-				
Buffalo sculpin	-	-				
Staghorn sculpin						
Sailfin sculpin						
Grunt sculpin						
Lumpfish/Snailfish						
Surfperches						
Pacific hake			-			
Pacific cod			16			
Pacific tomcod			-			
Painted greenling			-			
Surf smelt			-			
Gunnels	-		-			
Slender sole	7		31	13.6		
C-O sole	-		-			
English sole	8		81	35.5		
Rock sole	-		21	-		
Dover sole	9		4			
Rex sole	-		2			
Starry flounder	-		-			
Spiny dogfish	-		-			
Pricklebacks	-		-			
Eelpouts	1	-	1	-		
Poacher	4	-	29	12.7		
Rockfish	-	-	17	-		
Sandsole	-	-	2	-		
Dungeness crab	37	38.1	21	-		

Table 48. -- Species composition for Cruise No. 16; October 8, 1974

Name of fish	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
	Roaches	-				
Sablefish	-					
Ronquils	-					
Pacific sanddab	5					
Speckled sanddab	5					
Red brotula						
Ratfish						
Pacific herring						
Filamented sculpin						
Buffalo sculpin						
Staghorn sculpin	9	-				
Sailfin sculpin	-	-				
Grunt sculpin	-	-				
Lumpfish/Snailfish	-	-				
Surfperches	18	10.2				
Pacific hake	-					
Pacific cod	9					
Pacific tomcod	-					
Painted greenling	-					
Surf smelt	-					
Gunnels	-	-				
Slender sole	2	-				
C-O sole	-	-				
English sole	91	52.0				
Rock sole	11	-				
Dover sole	-					
Rex sole	1					
Starry flounder	1					
Spiny dogfish	-					
Pricklebacks	-					
Eelpouts	-	-				
Poacher	1	-				
Rockfish	4	-				
Sandsole	-	-				
Dungeness crab	18	10.2				

Table 49. -- Species composition for Cruise No. 17; October 18, 1974

Name of fish	HAUL # 1		HAUL # 2		HAUL #	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
Roaches						
Sablefish						
Ronquils						
Pacific sanddab						
Speckled sanddab						
Red brotula	-	-	-	-		
Ratfish	8	15.3	6			
Pacific herring	-	-	-			
Filamented sculpin	-	-	-			
Buffalo sculpin	-	-	-			
Staghorn sculpin						
Sailfin sculpin						
Grunt sculpin						
Lumpfish/Snailfish						
Surfperches						
Pacific hake	1		4			
Pacific cod	-		-			
Pacific tomcod	-		-			
Painted greenling	-		-			
Surf smelt	-		-			
Gunnels	-	-	-	-		
Slender sole	21	40.3	28	38.3		
C-O sole	-	-	-	-		
English sole	-	-	-	-		
Rock sole	-	-	-	-		
Dover sole						
Rex sole						
Starry flounder						
Spiny dogfish						
Pricklebacks						
Belpouts	7	13.4	5	-		
Poacher	7	13.4	26	35.6		
Rockfish	-	-	-	-		
Sandsole	-	-	-	-		
Dungeness crab	4	-	4	-		

Table 50. -- Species composition for Cruise No. 18; October 30, 1974

Name of fish	HAUL # 1		HAUL # 2		HAUL #	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
Roaches						
Sablefish						
Ronquils						
Pacific sanddab						
Speckled sanddab						
Red brotula	-					
Ratfish	5					
Pacific herring	-					
Filamented sculpin	-					
Buffalo sculpin	-					
Staghorn sculpin	7		-	-		
Sailfin sculpin	-		-	-		
Grunt sculpin	-		-	-		
Lumpfish/Snailfish	-		-	-		
Surfperches	12		14	42.4		
Pacific hake	2					
Pacific cod	-					
Pacific tomcod	-					
Painted greenling	-					
Surf smelt	-					
Gunnels	-	-	-	-		
Slender sole	14	-	2	-		
C-0 sole	-	-	-	-		
English sole	100	55.5	-	-		
Rock sole	8	-	15	45.4		
Dover sole	2		-			
Rex sole	-		1			
Starry flounder	2		-			
Spiny dogfish	1		-			
Pricklebacks	-		-			
Eelpouts	9		-			
Poacher	11		1			
Rockfish	3		-			
Sandsole	3		-			
Dungeness crab	3		-			

Table 51. -- Species composition for Cruise No. 19; November 5, 1974

Name of fish	HAUL # <u>1</u>		HAUL # <u>2</u>		HAUL # _____	
	No. of fish	Percentage of catch	No. of fish	Percentage of catch	No. of fish	Percentage of catch
Roaches						
Sablefish						
Ronquils						
Pacific sanddab						
Speckled sanddab						
Red brotula	-					
Ratfish	19					
Pacific herring	-					
Filamented sculpin	-					
Buffalo sculpin	-					
Staghorn sculpin	35		-	-		
Sailfin sculpin	-		-	-		
Grunt sculpin	-		-	-		
Lumpfish/Snailfish	-		-	-		
Surfperches	19		61	79.2		
Pacific hake	12					
Pacific cod	-					
Pacific tomcod	5					
Painted greenling	-					
Surf smelt	-					
Gunnels	-	-	-	-		
Slender sole	27	-	-	-		
C-O sole	-	-	-	-		
English sole	221	52.8	2	-		
Rock sole	15	-	12	15.5		
Dover sole	3					
Rex sole	2					
Starry flounder	2					
Spiny dogfish	-					
Pricklebacks	-					
Eelpouts	22		-			
Poacher	22		1			
Rockfish	1		1			
Sandsole	3		-			
Dungeness crab	10		-			

Table 52. -- Numbers and lengths of English sole from selected trawls in Port Gardner Bay from April 1973 to November 1974.

Date	Area	Depth	No.	Total length	
				Mean	Range
<u>1973</u>		<u>Meter</u>		<u>mm</u>	<u>mm</u>
Apr 20	1	35	30	106.2	104-335
Jun 5	4	25	19	282.7	215-383
Jul 24	1	25	10	126.2	062-242
Aug 7	1	26	35	284.6	230-324
Sep 16	1	23	51	234.3	163-380
Oct 16	1	20	54	139.1	094-270
<u>1974</u>					
Jul 16	5	45	25	292.2	240-345
Oct 8	1	100	38	199.0	159-314
Nov 5	5	70	39	163.6	093-400

Table 53. -- Numbers and lengths of rock sole from selected trawls in Port Gardner Bay from May 1973 to November 1974.

Date	Area	Depth	No.	Total length	
				Mean	Range
<u>1973</u>		<u>Meter</u>		<u>mm</u>	<u>mm</u>
May 15	4	30	20	185.1	123-315
May 30	4	25	21	180.4	103-298
Jun 5	4	25	20	187.5	088-268
Aug 7	3	26	30	208.9	116-249
<u>1974</u>					
Oct 8	1	100	11	173.2	132-244
Nov 5	5	20	12	175.0	068-330

Table 54. -- Numbers and length of slender sole from selected trawls in Port Gardner Bay from August 1973 to October 1974.

Date	Area	Depth	No.	Total length	
				Mean	Range
<u>1973</u>		<u>Meter</u>		<u>mm</u>	<u>mm</u>
Aug 7	3	26	47	233.1	142-262
<u>1974</u>					
Jul 16	5	65	50	180.2	089-248
Oct 18	2	100	17	168.7	126-241
Oct 18	2	80	26	158.2	062-277

Table 55. -- List of fin fish species taken from 49 Otter trawl cruises,
January 1973 to December 1974.

<u>Common name</u>	<u>Scientific name</u>
English sole	<u>Parophrys ventulus</u>
Rock sole	<u>Lepidopsetta bilineata</u>
Slender sole	<u>Lyopsetta exilis</u>
Ratfish	<u>Hydrolagus colliei</u>
Staghorn sculpin	<u>Leptocottus armatus</u>
Sand sole	<u>Psettichthys melanostictus</u>
Surfperches	<u>Embiotocidae</u>
Dover sole	<u>Microstomus pacificus</u>
Dungeness crab	<u>Cancer magister</u>
Speckled sanddab	<u>Citharichthys stigmaeus</u>
Pacific sanddab	<u>Citharichthys sordidus</u>
Eelpouts	<u>Zoarcidae</u>
Pacific cod	<u>Gadus macrocephalus</u>
Poachers	<u>Agonidae</u>
Pacific tomcod	<u>Microgalus proximus</u>
Rockfishes	<u>Scorpaenidae</u>
Pacific hake	<u>Merluccius productus</u>
Starry flounder	<u>Platichthys stellatus</u>
Buffalo sculpin	<u>Enophrys bison</u>
Rex sole	<u>Glyptocephalus zachirus</u>
Pricklebacks	<u>Stichaeidae</u>
Lumpfish/snailfish	<u>Cycloperidae</u>
Ronquils	<u>Bathymasteridae</u>
Spiney dogfish	<u>Squalus acanthias</u>
Gunnels	<u>Pholidae</u>
C-O sole	<u>Plueronichthys coenosus</u>
Surf smelt	<u>Hypomesus pretiosus</u>
Red brotula	<u>Brotulidae</u>
Threadfin sculpin	<u>Icelinus filamentosus</u>
Sailfin sculpin	<u>Nautichthys oculofasciatus</u>
Sablefish	<u>Anoplopoma fimbria</u>
Pollack	<u>Theragra chalcogramma</u>
Petrale sole	<u>Eopsetta jordani</u>

